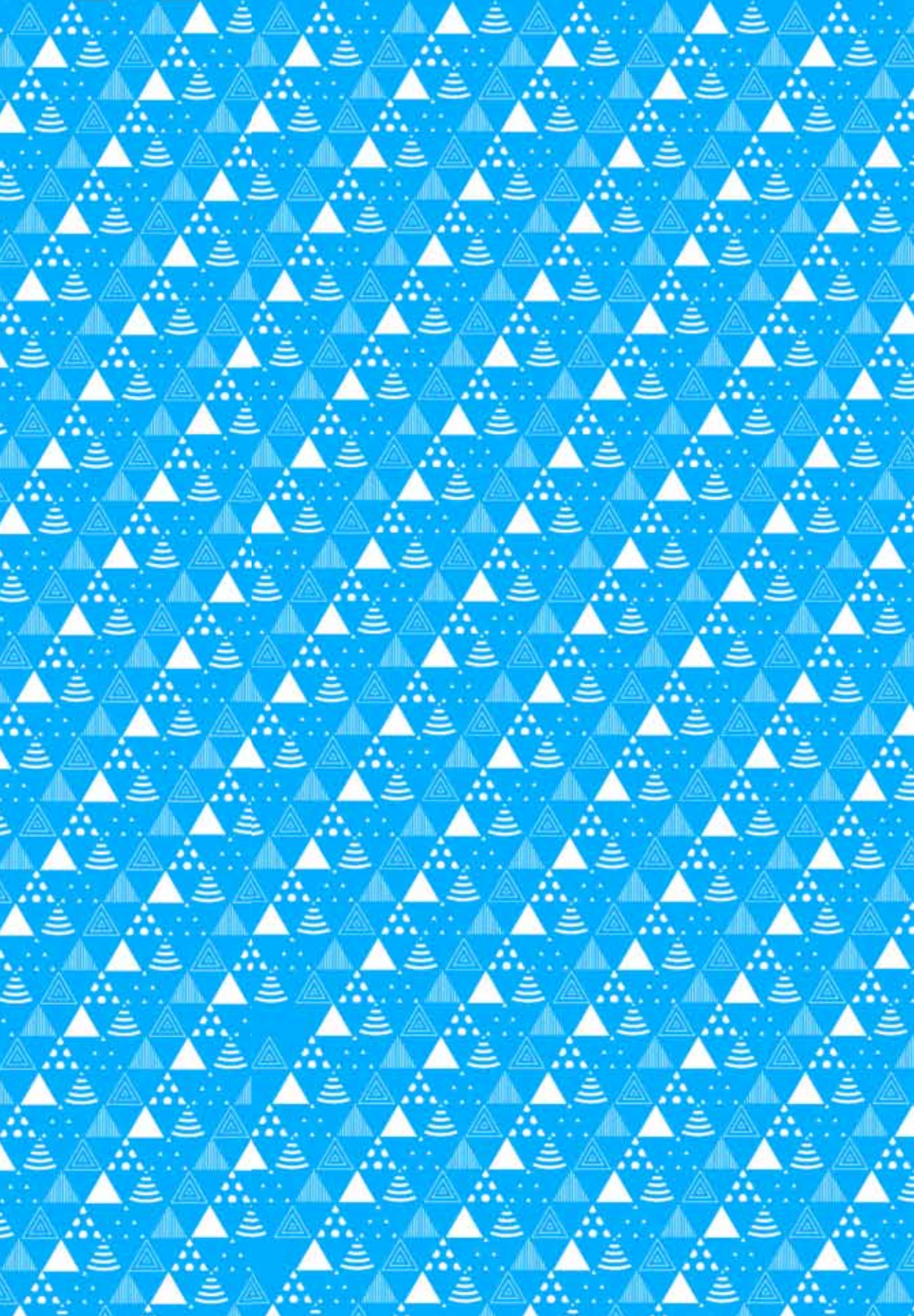




ARCTIC VARIETY



MARJO LAUKKANEN & MARKKU HEIKKILÄ



The Arctic is a state of mind.

*It means business and opportunities,
climate change and potential conflicts,
co-operation and competition.*

*The Arctic is an open, infinite landscape.
It means a vulnerable, unique, beautiful and harsh environment,
reindeer and berries from Lapland,
ice and the ocean.*

It is a home for some and a destination for others.

*The Arctic means icebreakers moored at Katajanokka in downtown Helsinki,
it means hundreds of miles on a dark road to the nearest maternity hospital,
and tourists flying direct from Munich to Kittilä.*

The Arctic means researchers at work and officials in meetings.

This is Finland, an Arctic country, celebrating its centenary.



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PRINT ISBN 978-952-281-463-0

PDF ISBN 978-952-281-464-7

Printing: *Lönnberg Print & Promo Oy*, 2016



Arctic Centre
University of Lapland
www.arcticcentre.org



Europe Information
Ministry for Foreign Affairs of Finland
www.eurooppatiedotus.fi

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Introduction

PHOTO PERKA SAHO



The Reindeer Herding Area covers all of Northern Finland, comprising 36 per cent of the total area of the country. ►

The Earth rotates on an axis that is not quite perpendicular to the disk of its solar orbit. This inclination has consequences, with the northern top of the planet sometimes illuminated and sometimes in shadow. The Arctic Circle defines the latitude north of which the sun does not rise in the deepest winter, nor set in the heart of summer.

This book was written in Rovaniemi, almost exactly on the Arctic Circle. We can see the routes to the north and east from our study window, with major rivers flowing from both the north and east, and a background of forested hills with a flight path between them for the aircraft that land to bring tourists. There is always snow in winter, and it is light by day and night in summer. The Santa Claus Village is a few kilometres away. If we came to work on a clear and dark winter's night, then we might see the aurora borealis blazing in the northern sky or over the building. There are no reindeer right here, but they are not far away. A small herd roams by the home of one of the authors every now and then, though the location is just a few kilometres from downtown Rovaniemi. Even elk have visited her yard.



PHOTO: ANTTI KUROLA



Though very exotic for many people, for the authors this is ordinary life—even though we are not originally from this area. We work at the Arctic Centre without stopping to think that the name of the centre actually comes from the starry sky. It dates from a time when people looked at constellations in the dark sky, reflecting on their meanings. They discovered the Great Bear and the Little Bear. The Greek word for bear is *ἄρκτος*, or *árktos*, which also means the constellation of the Great Bear, or Ursa Major. The meaning of the word has evolved from these Greek origins to denote the entire northernmost part of the world, the Arctic, which is why the Sámi, for example, are referred to as an Arctic indigenous people. Even though the ancient mythology of these people had quite different constellations with entirely different names in the starry sky, the Sámi are now also defined under a concept created by the classical Greeks.

The brightest star of Ursa Minor, the Little Bear constellation, is Polaris. This North Star maintains a constant presence over the North Pole, and it has special importance for the Finns. The name of the North Star is associated with books and songs that are part of Finnish folk memory. Finland is a country that lives ‘Under the North Star’, as the title of the classic Väinö Linna novel proclaims. Many people in Finland lead an Arctic everyday life without thinking about it. The cycle of the seasons, the white nights of summer, the darkness of November, and all of the physical conditions that accompany this geographical location mean that there is no Finnishness without the northern character in the broadest sense of the word. But these northlands are not called Arctic in everyday speech, even in Lapland. What looks very Arctic viewed from somewhere else is often quite commonplace here: the snowfalls, the aurora borealis, the reindeer, the white summer nights, the

icebreakers, the snowmobiles, the studded winter tyres, the safety reflectors.

Finland’s Arctic Strategy understands the whole of Finland as an Arctic country, and this Arcticness will be a key theme in 2017 when Finland celebrates its centenary as an independent nation. Arctic character has come down from the Olympus of classical Greece to the mainstream of contemporary economics, politics and research to be debated by many people, though the tempo of discussion may vary.

There are many ways to define the Arctic. It is one thing for biologists and another for politicians. The Arctic has been marked on maps with a series of lines that mostly run north of the Arctic Circle, but occasionally also extend to the south of it. There is no clear-cut boundary to the Arctic in practice, and still less is there any border that would neatly demarcate all of the territories where people are interested in Arctic matters. Interest in the Arctic is not tied to geography. Depending on the speaker, ‘Arctic Finland’ may therefore refer to the northernmost, or most Arctic reaches of the country—meaning Lapland—but it may also mean the entire country.

Finland will chair the Arctic Council over the period from 2017 to 2019. This is also an important reason for writing this book, where we discuss the Council and Finland’s role in it, together with links to the European Union and international relations in general. We talk about global warming, new sea routes and the interest of major powers in the north. Our key figures and guests of honour at the table of Arctic variety nevertheless remain the people who create the Arctic character of Finland with little or no concern for the machinations of the Arctic Council and other official forums, or for the fine points of various strategic instruments. They simply lead an Arctic life in the here and now, thereby ensuring that Finland truly is an Arctic country.



The Arctic Region ▲

There are many ways to draw the boundaries of the Arctic region. The Arctic Circle is one of these, but working groups of the Arctic Council and other stakeholders apply their own definitions.

- Arctic Monitoring and Assessment Program
- Conservation of Arctic Flora & Fauna
- Arctic Human Development Report



Everyday Life in the Arctic

PHOTO: JAN-ERIK PAALDAR



Language and culture

eastah-uv taam seehâ? Tinja taarbâš purrâmuš.
We are sitting in an Inari Sámi language nest in the village of Inari, in the far north of Finland. Inquiringly, a small girl hands a bag of toys to Ritva Kangasniemi, the children's instructor in charge of the language nest. Kangasniemi opens the bag, and the girls charge happily into another room.

Kielapierval is one of eight Sámi language nests in Finland. They provide immersion-based group day care in the Inari, Skolt and North Sámi languages. Though most of the children attending the language nest are not native speakers of Sámi, the language is spoken by their kinfolk. Besides language nests, there are nine Sámi day-care centres in Finland that are primarily intended for children who speak Sámi as their first language.

Of the three Sámi languages spoken in Finland, Inari and Skolt Sámi are extremely endangered, with only a few hundred native speakers remaining. The survival of Inari and Skolt Sámi is in practice the responsibility of Finland alone, as these are only spoken as native languages in the municipality of Inari. Although the Sámi living on the Kola Peninsula still spoke Skolt Sámi at the end of the Second World War, the great majority of these were subsequently evacuated to Inari so only a handful of speakers nowadays remain in Russia. North Sámi is similarly endangered, even though it is the Sámi language with the most speakers and the widest geographic distribution, spoken as a first language in Norway, Finland and Sweden. This book has also

been translated into North Sámi, but not into the other Sámi languages.

Sámi-speaking children are entitled to day care and teaching in their native language if they live in the Sámi Area. The region covers the entire territory of the Utsjoki, Inari and Enontekiö municipalities, together with the northern part of Sodankylä. About 10,000 Sámi live in Finland, but they mostly (over 60 per cent) reside outside of the Sámi Area, so North Sámi language nests have also been established in Rovaniemi, Oulu and Helsinki, and there are already plans for new ones.

How different are the Sámi languages in fact? They developed from the same parent language, so they are closely related. Some words are similar, while others are completely different. Each language has its own orthography. There is little translated literature, but the French novella *The Little Prince* has been translated into all of the Sámi languages spoken in Finland. It is *Bas prinssáš* in North Sámi, *U'cc priinsâž* in Skolt Sámi and *Uccâ priinsâš* in Inari Sámi. As a fairly new word of foreign origin, "prince" is similar in the three languages.

FROM ALIENATION TO A NEW BOOM

Some 6,800 people live in the municipality of Inari, with Sámi making up almost a third of the population. The village of Inari boasts the Sámi Cultural Centre Sajos, a stately building that is the home of the Sámi Parliament of Finland. The Siida Sámi



PHOTO: JAN-EERIK PAADAR

Museum is nearby, as is the Sámi Education Institute. Conditions for language revitalisation are optimal.

When the association for the Inari Sámi language, Anarâškielâ servi, launched language immersion in 1997 there were only a few preschool-aged speakers of Inari Sámi, and pupils could not study the language at school for more than two hours per week. The future of the language hung in the balance at that time, but its prospects are much brighter now. Inari Primary School has classes with Inari Sámi as the language of instruction, and pupils can also study most subjects in Inari Sámi at Inari Lower Secondary School.

“The language nests have contributed crucially to the revitalisation of the language,” Ritva Kangasniemi says.

Language nests have encouraged the parents and close relatives of the children to use or learn Inari Sámi. Adults have studied the language on language courses arranged by the Sámi Education Institute. Learning has been boosted by a mentoring programme in which students speak only Sámi with volunteer native speakers of the language while engaging in practical work such as making reindeer skin boots. The revitalisation of the language and culture is visible in everyday life.

“You can hear Inari Sámi in the village every day.”

Ritva Kangasniemi has been involved in language nests since the beginning. She is an Inari Sámi for whom Inari Sámi is “a native language which has nevertheless not been the mother tongue”. As the youngest in a family of seven children, she was the only

Utsjoki is the only municipality in Finland with a Sámi majority population. Most pupils at the bilingual Karigasniemi School study in Sámi. ▼



PHOTO: JAN-EERIK PAADAR

child with whom the parents spoke Finnish. Their decision was influenced by the bad experiences of her elder siblings at school and at the dormitory where they had to speak Finnish, but Kangasniemi still gained a passive knowledge of Inari Sámi at home.

The Inari and Skolt Sámi in particular have been strongly alienated from their native language and clothing traditions. This has partly been a result of compulsory education that was expanded to include all children in 1946, even those living in sparsely populated areas. Many schoolchildren in Lapland had to move into dormitories at this time to avoid long and difficult school journeys. Only Finnish was spoken and only Finnish culture was taught at these schools. Although the Sámi culture and language began to

regain strength in the 1970s, the number of native speakers has nevertheless slumped. About 75 per cent of the Sámi spoke Sámi as their first language in 1962, but only 26 per cent did so in 2007.

Ritva Kangasniemi was already an adult by the time she found the courage to attend a course in Inari Sámi. Although this was intended for native speakers, Kangasniemi discovered to her surprise that she could understand almost everything on the course.

"I took all of the courses that were available, and finally I just started speaking the language, and that's how it began."

By that time Kangasniemi had already taught her own children Finnish as their first language, but she only speaks Inari Sámi to her grandchild.

A UNION OF LANGUAGE AND CULTURE

Pictures of everyday activities and objects adorn the walls of the language nest. Poossâđ kiedaid. Sikkod kiedaid. Washing hands. Drying hands. The language is learned through naming and continuous repetition. Language nests are a form of language immersion, so some of the children may have Inari Sámi as their mother tongue while others may not speak the language at all. The children can easily revert to Finnish in such conditions, but the staff only speak Inari Sámi. The children understand this speech when it is combined with expressions, gestures and pointing. A set daily rhythm in which things always happen in the same way contributes to understanding.

During our visit a herder brings a sack of reindeer meat to the language nest. The meat is stored in a freezer in the corner of the room. Local food has an important role to play in education and upbringing. The language is retained when a child learns it as part of a culture. The annual rhythm of the language nest reflects the annual cycle of the Inari Sámi. Fish are caught with nets or spring-loaded hooks from under the ice, with gill nets, or by jigging.

“You can't separate a language and culture,” explains Siiri Jomppanen, the Office Manager at the Sámi Language Office of the Sámi Parliament who also monitors respect for the language rights of the Sámi.

“The topic alone may determine which language is used,” says Hannu Kangasniemi, the Learning Materials Secretary of the Parliament.

It may be easier to talk about handicrafts, reindeer herding, fishing and even the weather in Sámi. You can sometimes describe a phenomenon with a single word in Sámi that would take several words to describe in Finnish. For example, the Inari Sámi word *cuápci* means firm snow conditions under which the reindeer's hooves do not slip when you drive it. Some words have equivalents in old Finnish. The Sámi language similarly evolves, both for the better and the worse. A language becomes poorer as old words disappear, but new words are being

Population in the Arctic

- Approximately four million people live in the Arctic
 - The figure is expected to remain roughly constant in the near future: the number of residents is decreasing most rapidly in Russia and the fastest increase is in Alaska
- There is also a strong trend towards urbanisation and concentration of population in the Arctic
 - About $\frac{2}{3}$ of residents currently live in major population centres

SOURCE: ARCTIC HUMAN DEVELOPMENT REPORT (2015)

created at the same time.

It is impossible to describe new phenomena and politics using old Sámi words alone. New words must also be continuously created when creating teaching materials. People of old only needed names for the animals that they found locally, but the educational vocabulary of animal species now covers the entire world. The same applies to many other vocabularies. In the case of North Sámi it would be sensible to use the same teaching material across international borders, but this is not so easy, as terminology and curricula differ by country.

“Our goal is to harmonise terminology with the Norwegian Sámi,” Hannu Kangasniemi says. Most North Sámi teaching material is indeed created in Norway. The situation concerning teaching material in Finland has improved a great deal in the past few years, but with respect to the small Sámi languages there is a dearth of people with knowledge of both the language and pedagogics who could work on such materials. There are currently just two teachers working in Skolt Sámi in the whole of Finland: one in Sevettijärvi and the other in Ivalo. Together they have fewer than ten students who are native speakers of Skolt Sámi.



GOLF-RÁVDNJI, OR THE GULF STREAM

We are observing a fourth grade geography lesson at Karigasniemi School. The topic is the Gulf Stream, which is Golf-rávdnji in North Sámi. There are seven pupils in the Sámi-speaking class – the second highest figure in the school. The teacher Merja Nillukka speaks Sámi, and the pupils answer her in Sámi. The textbooks are also in Sámi, but the globe that the teacher uses as teaching aid is in Finnish. To balance this, there are two atlases in North Sámi, Skuvlla kártagirji and Sámi Atlas. The teacher has an effective method of making the class speak Sámi.

“I don't react unless they speak Sámi. I prefer not to teach by prohibition,” Nillukka says.

The pupils mostly speak Sámi when advising one another, switching to Finnish only when the teacher pops out of the room. Last year they still had “language cops” in the classroom who saw to it that everyone spoke Sámi. At the end of the school day these language cops would assess whether the goal had been achieved. After a successful day the class got a star, and after ten stars they were rewarded with something they wanted, like a day with no homework.

Of the 52 pupils in Karigasniemi School (school-year 2015–16) 41 study their subjects in Sámi and 11 in Finnish. Karigasniemi, or Gáregasnjárga in Sámi, is a village of a few hundred residents in the municipality of Utsjoki on the border between Finland and Norway. Utsjoki is the only municipality in Finland with a Sámi majority population, although the number of residents is not very high at a little over 1,200. About half of them speak Sámi as their first language. North Sámi is also the mother tongue of Merja Nillukka and her child. Nillukka translates her thoughts continually from Sámi into Finnish as we talk.

Language and culture are intertwined in many ways in Nillukka's teaching. There is woollen yarn in various colours on the radiator, from which pupils weave bands with traditional patterns. Similar

Arctic indigenous peoples

- About 10 per cent of the population of the Arctic comprises indigenous people
- There are over 40 indigenous peoples living in the Arctic, for example
 - the Sámi in Northern Europe
 - the Nenets, Khanty, Evenk and Chukchi in Russia
 - the Aleut, Yupik and Inuit (Iñupiat) in Alaska
 - the Inuit (Inuvialuit) in Canada
 - the Inuit (Kalaallit) in Greenland

SOURCE: SETTLEMENT IN THE ARCTIC, WWW.ARCTICCENTRE.ORG

bands, or laces, are used in the traditional boots of Lapland made from cow leather or reindeer skin. Sámi handicraft or duodji is a key element of Sámi culture. Nillukka has also attended a reindeer round-up and fishing expeditions with her class.

“Nature is an essential component of every subject.”

The wall of the classroom is decorated with the family trees of the pupils. On the branches each assembles a network of his or her family and kinfolk. Family is of great importance in Sámi culture.

“Your family means everything. It's a resource and a source of security. It means that the person over there is of the same blood as I am: we are one,” Nillukka explains.

A LANGUAGE NEEDS A COMMUNITY

Torkel Rasmussen from Norway has studied Sámi-language education by comparing a monolingual school in Tana, Norway, and a bilingual school in Utsjoki, Finland. Rasmussen's study indicates that children speak Sámi much more frequently and fluently in the monolingual than in the bilingual school, and he recommends that from the point of view of language it would be a good idea to establish



PHOTO: JAN-EERIK PAADAR

The Sámi

- The only indigenous people in the European Union
- The Sámi population is 75,000–100,000, depending on how it is counted
 - The number of Sámi is highest in Norway and lowest in Russia
 - A great many Sámi live outside their traditional home region of Sápmi
- There are currently eight Sámi languages spoken, the most common of which is North Sámi

SOURCE: SÁMI PARLIAMENT, WWW.SAMEDIGGI.FI

monolingual schools in Finland as well. This would be difficult in practice, as even now the number of children attending small village schools is low.

The solution might also place further strain on the charged atmosphere associated in particular with ratification of the ILO 169 convention on indigenous peoples. An ongoing debate in politics, the media and even the academic world has focused on such issues as who is a Sámi and how Sáminess is defined. Merja Nillukka shuns the continual controversy.

“Multiculturalism is a treasure. A child should not feel that Finnish is better than Sámi or vice versa. The child is of equal value regardless of linguistic or cultural background,” Nillukka stresses.

The everyday life of Karigasniemi is enriched by Norwegian culture. Many villagers work over the border in Karasjok, and Norwegians come to shop in Finland. There is a common Finnish-Norwegian library bus that visits Karigasniemi every third week. Nillukka borrows Sámi-language textbooks and other books from it. The nearest public swimming baths is in Norway, but the long-awaited village gym is now being built by the school. A small step for mankind is a giant leap for Karigasniemi.

Merja Nillukka's pupils still spoke Sámi during their breaks last year, but their language is now shifting towards Finnish. The language spoken at break time is Finnish almost without exception in the upper school grades. The language spoken with friends easily shifts into the dominant language precisely at puberty, which emphasises the influence of the family.

“A home where only Sámi is spoken is the best possible support for the Sámi language and its use at school,” Siiri Jomppanen says.

Even when a child has several mother tongues, only one of them can be entered officially in the population register. About 2,000 Finns have regis-



PHOTO: JAN-EERIK PAADAR

tered Sámi as their mother tongue, but two or even three languages are spoken in many families if the parents have different mother tongues. Hannu Kangasniemi's children, for example, speak Ukrainian, Sámi and Finnish. The essential thing for learning a language is that it is spoken by those with whom the child is regularly in contact.

"There is cause for concern if language skills depend only on a day care worker or teacher. You need a language community," Hannu Kangasniemi says.

The revival of the Inari Sámi language is an excellent example of the buoyancy that a language can be given through correct measures and commitment. The Skolt Sámi now hope that their language will

Culture lives with the times: a fresh interpretation of the traditional symbol for the sun. ▲

also experience such buoyancy. It is impossible to say at this point what the fate of these small languages will be. According to Hannu Kangasniemi, the worst will be over when children who have attended language nests speak Sámi to their own children.

"If a new generation speaks Inari Sámi as their first language, it will really have become a mother tongue again."

Well-Being

Reindeer antlers stretch out towards the sky, slightly eroded but still stately. Behind them, we see a majestic white church. We are standing in front of a shop in the centre of the municipality of Salla in Eastern Lapland.

“This is where we’ll have to move eventually,” Raili Lehtola says.

“When our feet won’t carry us anymore,” Terho Kylli adds.

Raili Lehtola, Terho Kylli and Maija-Leena Nurmikumpu are on a shopping trip that is no quick jaunt, as the trio live in the village of Hautajärvi, some 45 kilometres south in the direction of Kuusamo.

“A hundred kilometres is nothing here,” Kylli says.

The services provided by their own village have gradually diminished. The village used to have two shops, a school and a nursing home. Now there is only a café.

“We barely get the mail now,” they laugh.

The circumstances in the village of Hautajärvi are typical of Salla, and also of Lapland and rural areas in general. People move from small villages to the municipal centre and beyond, usually going south. With no jobs, houses are left empty

and services further removed, which again fuels emigration.

A third of the residents of Salla are over 65 years of age. Unemployment is nevertheless high in the municipality at 22 per cent (Statistics Finland, November 2015). Indeed, the rate of unemployment in Salla has long approached or reached the highest level in all of Finland. Salla is categorised as a problem municipality with socio-economic challenges that are difficult to tackle (study on well-being in Eastern Lapland called Itä-Lapin seutukunnan hyvinvointibarometri, 2013).

Statistically the prospects of the municipality are gloomy. How do people even manage in small villages like Hautajärvi? One important feature is co-operation. Whenever someone makes a 100-kilometre shopping trip, others may jump in the car. Common activities such as gymnastics and volleyball are arranged in Hautajärvi, though right now there is a break in volleyball because of the elk hunt. We do not get the chance to discuss the situation of the village at greater length, as everyone starts to get cold standing around. The trio get in the car and head south. It will be a while before they return to their home patch.



THE CHANGING PICTURE OF HOME CARE

The everyday lives of home care workers in Salla are also characterised by long distances as they tour the small villages to care for elderly folk living at home. They can easily end up driving over a hundred kilometres a day.

“We invest in home care in line with both national and municipal strategies,” explains Terttu Hannula, Head of Senior Citizen Services in Salla.

Home care is currently provided for some 160 residents, 60 of whom have an alarm phone. If the alarm goes off at night, then the signal goes to a night nurse in the centre of the municipality while relatives receive the alarm in smaller villages. There are several alarms every week, quite often due to feelings of insecurity and loneliness.

The municipality of Salla is introducing a sys-

tem of optimisation that will deploy new technology in home care. Home visits are arranged according to the situation of the day. The programme plans the route of the home care worker, allowing for the daily needs and schedules of clients and the work shifts of home care workers and public health nurses. Reports are submitted through smartphones or tablets.

“Pressure to save money has grown this autumn, but things are still on a good footing,” Hannula says.

At the beginning of 2016 the municipality will get a physiotherapist, who will also formulate rehabilitation programmes for old folk living at home. There is anyway no risk of conspicuous consumption in Salla. People here are used to cutting their coat according to their cloth. At the time of our visit the workers engaged in senior citizen services and home care are waiting to see what will happen. It is early November 2015, and far away to the south the government is in crisis because of a plan to restructure social welfare and health care services in Finland. The reform will probably alter senior citizen services in Salla, but nobody knows how.

A great deal has changed since Aila Raatikka-Metsänen, the leading home care worker, began her career as a nursing home assistant in 1976. At that time home care workers took care of old folk, houses, animals and children. It is no longer possible to get a special degree in home care. This work is now done by practical nurses who, for example, bathe the elderly, help them to take their medication, do maintenance cleaning and make coffee. They may also clear snow from the yard or even heat up a wood-fired sauna. Home care workers still prepare food in some cases, but meals in the centre of Salla are delivered by the Food Service or taken in the dining room of the nursing home.



PHOTO: ANNA-LEENA MUOTKA



PHOTO: ANNA-LEENA MUOTKA

It's not only the job description that has changed. The clients have changed too. Raatikka-Metsänen and Hannula find that they are in poorer health nowadays. There is more medication and practical nurses also change medical dressings nowadays, for example, as public health nurses have too much work to do. The thin skin of elderly people is easily broken. Senior citizen and home care services in Salla are now experiencing a busy period that is expected to last until 2020. Despite the challenges, many things are fine according to Hannula and Raatikka-Metsänen.

"The clients are cared for. We have time to stay and chat for a moment."

Terttu Hannula, Head of Senior Citizen Services in Salla, helps Vilho Kellokumpu to the cafeteria. ▲

FOUR OUT OF FIVE LEFT

Senior citizen services in the municipality are mainly provided in the municipal centre of Salla where the Hopeaharju Nursing Home and Out-patient Centre and other serviced housing units are located. The centre provides day activities for elderly people and support for carers. There are four terraced houses by the main building that function as sheltered housing for the elderly. One resident is

Laina Loisa (née Kallunki), an 86-year-old woman who formerly lived in Hautajärvi.

A holder of a Women's Auxiliary Forces medal, Loisa attends rehabilitation at a home for war veterans. Her spouse worked as a border guard like so many others in this area – though fewer now than earlier. He passed away in the spring of 2015. Of their five children, one has stayed in Salla and four have moved south.

“That’s just a good thing. They’ve escaped both hunger and unemployment.”

97-year-old Vilho Kellokumpu also has five children of whom just one has remained in Salla. Kellokumpu was born in the village of Kelloselkä in the district of Kuolajärvi. Kuolajärvi was renamed Salla a few years before the Second World War, and its eastern part known as Vanha Salla or “the Old Salla” was ceded to the Soviet Union in the war.

Kellokumpu is a war veteran and former elite infantryman who has witnessed both the period of boom and the years of emigration in Salla. He was granted a small war veteran's estate in the village of Isohalme in 1960. Since peaking at over 11,000 during the following decade, the population of Salla has been in decline. By 2012 the population was less than 4,000, and the figure decreases by approximately one hundred annually.

But not everyone is leaving, and each family with children that moves to the municipality is a small shot in the arm. Vilho Kellokumpu presently lives in sheltered housing by the nursing home. He is happy with the assistance provided by the municipality.

“This is a good place. The apartment is in good condition and I get all the services I need.”

IN THE CENTRE AND IN THE MIDDLE OF NOWHERE

Migration researcher Timo Aro explains that there is a tradition of forced migration in Finland. For decades people living in certain areas – such as Eastern Finland – have moved elsewhere to earn their living. Aro says that people move in all parts of Finland, but migration in Lapland and Kainuu is more often real migration that changes the whole sphere of life. Where 30-year-old residents of the southern province of Uusimaa have moved an average of 31 kilometres from their childhood homes, the corresponding

Lapland ▼

- Cities
- Municipalities





PHOTO: ANNA-LEENA MUOTKA

residents of Lapland have moved 204 kilometres (Helsingin Sanomat, 11 August 2015).

Emigration is also a gendered phenomenon, with young women moving more frequently and further than men. Many people also leave Salla to study or work elsewhere. From the perspective of the future of the municipality, it is important to attract young adults back once they have completed their studies or gained some work experience.

Tourism is a major employer in Salla, and it is hoped that expansion of this field will open great prospects for the area. The municipality has efficiently branded its remote location, marketing itself as being “in the middle of nowhere”: a place where “nothing happens”. At the same time Salla is nevertheless in the centre, as Monica Tennberg and Hanna Lempinen note in their article “Sosiaalista kestävyttä etsimässä: Tapaustutkimuksena Salla” (“In search of social sustainability: The case of Salla”; *Kosmopolis*, 3/2015).

“The circumstances and future of a small, northern municipality and its residents are intertwined

The working clothes used in home care are laundered frequently. An epidemic of influenza or gastroenteritis can be fatal to the elderly. ▲

with the trends and flows of international tourism, as well as with plans for extensive projects such as those concerning mining activities, railway connections and an agreement on visa exemption between the EU and Russia,” Tennberg and Lempinen write.

Major projects are nevertheless not crucial for the fate of Salla according to these researchers. Forestry, reindeer herding and smaller-scale economic activity will remain important sources of livelihood for the local population. Tennberg and Lempinen use the words persistence and toughness to describe how the local people get by. Everyday life in the Arctic is sustained by a strong local identity and a belief in one’s ability to cope. The surrounding forests and fells are also a source of well-being that many people take for granted.



Sanna Valkonen

Associate Professor
Sámi Research
University of Lapland
Rovaniemi

1. **What is the first thing you associate with the word Arctic?**

“The polar bear; it symbolises many things, such as the vulnerability of the environment to human impacts and the indigenous ways of life in the Arctic that are based on natural processes.”

2. **What is Sámi research?**

“Sámi research is a multidisciplinary field that studies Sámi society and culture, both from their own perspective and more broadly through various academic discourses. Its mission is to analyse Sáminess as a social, cultural, political, economic and legal phenomenon. Sámi research also builds indigenous consciousness and subjectivity. It should benefit the Sámi, and they should serve as information providers rather than study subjects.”

3. **What are the core issues of Sámi research right now?**

“Key themes include the survival and vitality of northern communities with the growing importance of Arctic natural resources and of the social and political status of people living in the far north. For example, how can we reconcile indigenous cultures with Arctic natural resource policies? What kind of political participation and activity does this call for? The purpose of Sámi research in the social sciences is to provide information that helps to strengthen Sámi society, culture and well-being. This does not exclude a critical study of the various operations, practices and structures of the Sámi community and society. For example, it's currently important to examine issues pertaining to the rights, traditional social models and self-determination of the Sámi.”

4. **What kind of Nordic co-operation is there in Sámi research?**

“Sámi research essentially transcends national and many other boundaries. We co-operate in research and development projects, in education and through various networks and events. An important common objective is to formulate ethical guidelines for Sámi-related research. It's also important to foster cross-border support and solidarity between researchers and ensure the common view that it's important to develop the Sámi academic community.”

5. **What is the status of the Sámi in Finland?**

“The Sámi are recognised under the Constitution of Finland as an indigenous people with a right to their own language and culture. The right of the Sámi to cultural autonomy in their native region is guaranteed by law. This autonomy is exercised by the Sámi Parliament and many aspects are fine, at least in theory. The Sámi are citizens of a welfare state, and enjoy a social and economic status that is good compared to that of many other indigenous peoples. Sámi culture is also generally held in high esteem. Substantial challenges nevertheless arise when implementing these rights. For example, socialisation into the Sámi-speaking community remains a challenge at least outside the Sámi Area due to a lack of Sámi language instruction and nursery school services. The ability of the Sámi Parliament to influence national government policies concerning the Sámi is minimal. The distinct relationship between the Sámi and the natural environments that they use is not recognised by legislation.

The Sámi are not considered legally competent or sovereign subjects who are capable of deciding their own affairs. This is evident from the behaviour of Finnish policymakers on questions such as amending the Sámi Parliament Act or ratifying ILO Convention No. 169 on the rights of indigenous peoples. Public debate on the Sámi is also sometimes crude and brutal.”



In the Field of Arctic Research

PHOTO: KASIA SIEŃ





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and watch a video
on the theme

Climate Scientists

Researcher Juha M. Karhu fills a weather balloon with hydrogen at Tähtelä in Sodankylä. ►

We stare at the computer screen and the graphs appearing slowly on it. Just under six minutes ago sonde operator Markku Ahponen launched an ozonesonde into the sky. It is now over 1.8 kilometres above us, still climbing and drifting southeast on the wind. We are at Tähtelä in Sodankylä, in the facilities of the Finnish Meteorological Institute. It is a September afternoon and the temperature outside is +8.6 degrees Celsius. The sonde, in turn, is ascending in slightly colder conditions, at 1.7 degrees below zero.

Though a unique spectacle for visitors, the ascent of the sonde – more popularly known as a weather balloon – is daily routine for staff at the Meteorological Institute, and this was their 50,489th launch. The ozonesonde is the only type that is launched manually. Two ordinary weather balloons also rise into the atmosphere every day from an automatic launch station.

“Ninety-nine per cent of automatic launches are successful,” Ahponen tells us.

This is not bad, although the success rate was one hundred per cent when all balloons were released manually by employees working in three shifts. Usually the sondes ascend to an altitude of 30–35 kilometres. The diameter of the hydrogen-filled balloon grows from 1.5 to 12 metres during

this ascent, until the balloon finally bursts. The measuring equipment is attached to a polystyrene box hanging from the ball. These boxes eventually fall to ground and about half of them are returned to the Meteorological Institute, especially in the autumn when people roam outdoors picking berries and hunting.

GREENHOUSE GASES ARE BREAKING RECORDS

True to its nickname, a weather balloon continuously measures the air temperature, the wind direction and speed, and the atmospheric humidity and pressure. An ozonesonde, on the other hand, measures the amount of ozone in various atmospheric layers. Ozone sounding has been done at Sodankylä continuously since 1989, which is as long as at the Antarctic Marambio Station, for example. Regular measurement continually increases our knowledge of ozone depletion and its effects.

“Ozone depletion in the spring increases the likelihood of greater UV radiation in the summer,” explains Special Researcher Rigel Kivi while noting the latest results.

The ozone layer protects organisms from damaging solar ultraviolet radiation. Ozone is also a greenhouse gas, with an increase in the lowest



PHOTO: KAISA SIREN

atmospheric layer raising temperatures near the ground. This makes it important to measure concentrations at various altitudes. The ozone hole over the Antarctic was discovered in the 1980s, leading to the construction of a broad ozone research network in the circumpolar areas of both the southern and northern hemisphere.

A record thin ozone layer at an altitude of 20 kilometres was measured at Sodankylä in March 2011. This was only about one third of the average for the month. Other greenhouse gases are also breaking records. The monthly average atmospheric carbon dioxide concentration exceeded the limit of 400

parts per million in March 2015, which is the highest reading in 800,000 years. We know the history of the earth's climate well from ice core drillings. The carbon dioxide concentration can be measured from air bubbles trapped in the ice cores.

"Variations in atmospheric carbon dioxide have been measured with a spectrometer at Sodankylä since the beginning of 2009. These measurements suggest that carbon dioxide concentrations have increased by approximately 2.4 ppm annually," Kivi says.

Ppm (parts per million) is a relative unit used for describing the concentration of substances in the air, soil, water and other materials.

An ozone sensor flies into the sky attached to a weather balloon. The sensor will fall to ground when the balloon bursts. ▼

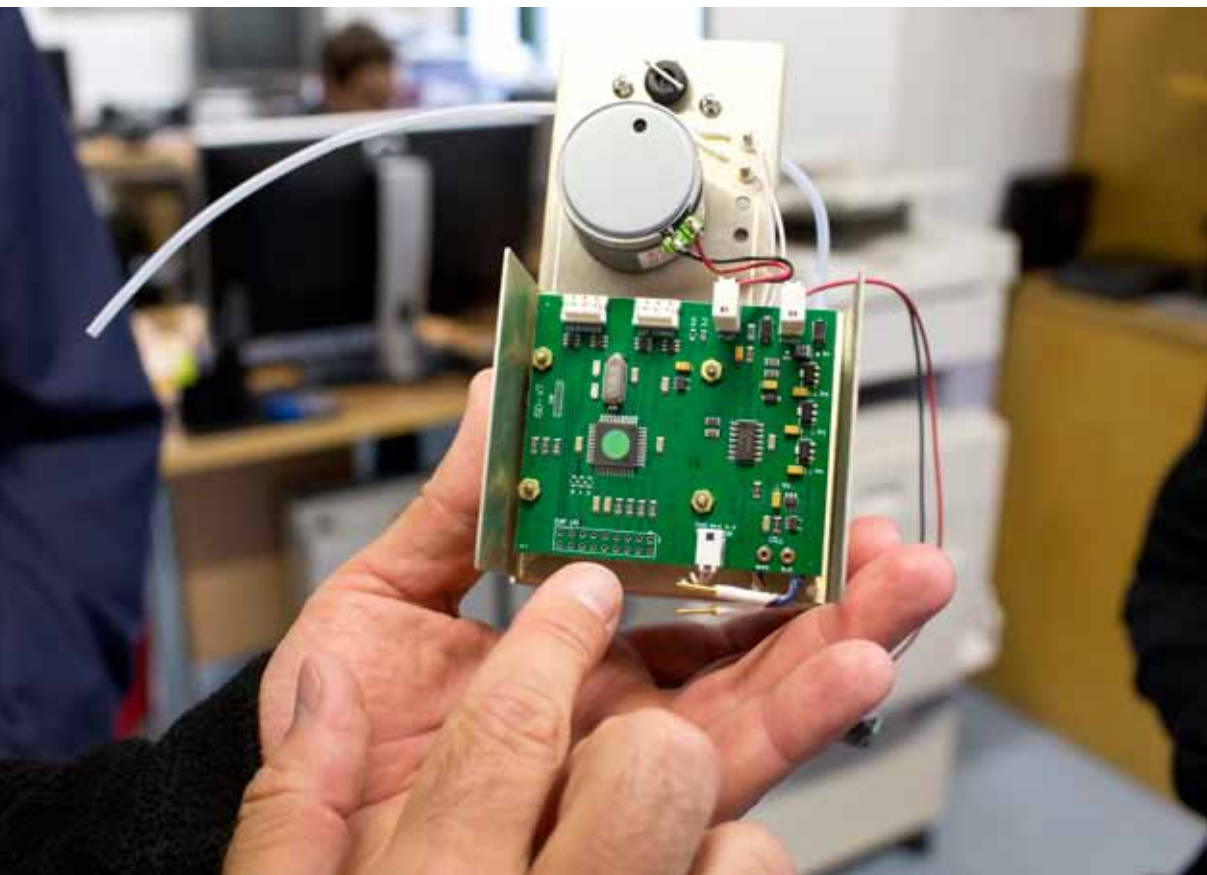


PHOTO: KAISA SIRÉN

FROM SODANKYLÄ OUT INTO THE WORLD

Moving from one measuring point to another in Tähtelä, Sodankylä, is also a tour of a measuring and observation area with the best equipment in the entire continental Arctic. The data collected here provide the world with significant information on global climate and atmospheric processes. Sodankylä Geophysical Observatory, a part of the University of Oulu, is also in Tähtelä. Its aurora borealis camera transmits a real-time online broadcast of these heavenly lights.

The skies are also scanned by the parabolic antenna of the Meteorological Institute, which extends high above the trees, receiving data from the satellites flying over the polar regions in near space. The dish antenna is currently turned towards the north horizon.

“It will soon return to its resting position,” remarks Timo Ryyppö, Head of Satellites and Observation Operations.

Indeed the antenna soon starts moving. It turns towards us and then stops to wait for the next over-

Timo Ryyppö explains that a parabolic antenna has just received data from a satellite passing over the polar regions. ►



PHOTO: KAISA SIRÉN

flight. Shortly after this we are standing in a satellite data processing centre in front of large humming computer cabinets. The screen displays a list and the overflight times of the monitored satellites. The results of the most recent antenna scan have been saved here. The national Satellite Data Centre in Sodankylä also distributes data from satellites under the EU Copernicus programme.

Studies at the Meteorological Institute seek to improve the reliability of satellite data interpretation. Sodankylä and Pallas together form a GAW station (Global Atmospheric Watch) that studies atmospheric compounds and physics. Its precise, high-quality measurements are used for development and quality control of satellite algorithms.

TOWARDS MORE RELIABLE DATA

Though based in Helsinki, researcher Juha Lemmetyinen visits Sodankylä several times a year. Right now he is testing measuring apparatus together with his colleague Anna Kontu. Various measuring devices are fenced off in an enclosure. The largest of these – a device equipped with an almost two-metre horn antenna – uses microwave radiation for indirectly measuring snow cover by detecting emergent radiation from the ground.

“Snow dampens the natural microwave radiation of the ground,” Kontu explains.

The radiation measurements therefore enable us to calculate the thickness of snow cover. This measuring method is suitable for the Arctic polar night, as it requires no visible light and is not disturbed by cloud cover. In practice the devices in the enclosure are reference equipment. They work like the instruments carried by satellites, but provide more detailed measurements of a smaller and better-known area.

The edge of one pixel in a satellite image may correspond to tens of kilometres, including mire, lakes and settlements. Satellites have two important advantages over field research: their data can cover the whole of the Arctic every day, and they can help in charting regions that would be difficult, or even impossible, to reach over land, water or ice. It therefore pays to invest in research on improving the accuracy of the remote sensing data from satellites.

Arctic research in Finland

The *Arctic Finland* portal is a source of updated topical information on Arctic research done in Finland, providing news, reports and other materials.

<http://www.arcticfinland.fi>

Many Views on Change

Moving from the research station grounds to think about the bigger picture for a while, what are the characteristics of Finland's Arctic research? At least according to the Arctic Strategy (2013), the objective is far-reaching: "Finland's ambition is to set an example as an Arctic expert, both in research and in the responsible commercial exploitation of such expertise."

True to this goal, research into the Arctic or northern character is already being conducted at almost

every Finnish university. This focus has special significance for the universities of Northern Finland – the universities of Lapland and Oulu – which also play a major role in the international University of the Arctic co-operative network.

The leading common theme characterising research at the University of Lapland is precisely international Arctic and northern research, which is being conducted in such fields as the arts, social sciences, pedagogics and law. The Arctic Centre of the University of Lapland is the only expert institute specialising in Arctic issues in Finland, and it plays a national role in Arctic research and science communication. The University of Oulu is a centre of Arctic expertise in such fields as bio and engineering sciences, and in aspects of health, the environment, natural resources and well-being in the north. Its Giellagas Institute is responsible for research and studies of the Sámi language and culture in Finland.

Lapland has a dense network of research stations and institutes that carefully monitor the Arctic atmosphere, soil, waters, flora and fauna. Many units engaged in Arctic research are nevertheless currently struggling with financial challenges due to expenditure cuts in national research and educa-

ARKTIKO (2014–2018)

- The Arctic research programme of the Academy of Finland
- Boosts Finnish Arctic research funding by EUR 15.7 million during the term
- Themes
 - Good life in the north
 - Economic operations and infrastructure in Arctic conditions
 - Northern climate and environment
 - Cross-border Arctic policies



tion. The impact of these changes can also be felt in the north, where the workforce has been scaled back and offices have been closed.

FROM HARD TO SOFT FIELDS

With cuts in research funding investment affecting Arctic research, the University of Helsinki has compiled a comprehensive report on its work in this field (Arctic Research in the University of Helsinki, 2015). This report shows that most of the University's Arctic research is carried out in the field of science and relates to climate change, but researchers are also increasingly interested in the potential of Arctic research in other fields.

The Academy of Finland is an important source of funding for Arctic research. It seeks to study and understand elements of change influencing the development of the region and the dynamics of change in relation to its future. Global warming makes it easier to exploit certain natural resources, increasing interest in the commercial usefulness of Arctic research such as studies of cold technology. Reports from the Meteorological Institute's ice service are used by commercial ships and icebreakers. VTT Technical Research Centre of Finland is involved in developing vessels that can navigate in icebound waters, with a special focus on their structural strength, ice loads and the performance capacity of ships in icy conditions. Arctic technology is one of the most important research areas of Aalto University School of Engineering, which is engaged in such fields as improving ice mechanics and winter navigation.

Besides commercial innovation, Arctic research is expected to participate in social discussion. One of the objectives of the Arctic programme of the Academy of Finland is to actively provide research data for policymakers, stakeholders and the general public.

Professor Maria Lähteenmäki reflected on the

situation of Arctic research at the seminar Hyinen tiede ("Chilly Science") at the University of Lapland in January 2016. Lähteenmäki observed that Finnish Arctic research has been dominated by natural sciences and technological fields since the 1800s. The underlying profit motive is evident from the bias in mainstream research towards knowledge of "hard" instead of "soft" science. Lähteenmäki suggested that it might be beneficial for Finland to invest more in research on the human dimension in such fields as history, the arts and culture:

"This would allow Finland to strengthen its position as a country with broader scientific expertise in cold conditions."

SNOW THAT MELTS RAPIDLY

On learning more about Arctic research it soon becomes evident that it is difficult to talk about the Arctic character of the region without referring to climate change. This is hardly surprising, as research has estimated that the rise in average temperatures in the Arctic will be at least double or even four times the global average.

Let us return to Tähtelä in Sodankylä: we learn that as an indicator of climate change, snow is as important as sea ice. The Meteorological Institute has drafted global maps on the water equivalence of snow for 35 years. These measurements enable us to estimate the springtime flood risk, for example, so that hydroelectric power plants can predict the need to release excess water.

The ground is still bare in September, but the first snowfalls may cover the sandy ground and low shrubs surprisingly soon. Our tour ends with an opportunity to watch satellite images and graphs on the computer screen. Studies show that the coverage area and mass of snow are declining ra-



PHOTO: JAN HIJORT

pidly. Some research scenarios predict that the total mass of snow will decrease by approximately one third between the 1960s and the 2100s, although forecasting models always include many elements of uncertainty.

“Observations suggest that snow cover may diminish even faster than this,” Lemmetyinen says.

Both Lapland residents and tourist industry entrepreneurs are very keen to know the future snow conditions of Lapland.

“It’s easier to predict the snow situation on a global scale than regionally,” Kontu tells us.

The amount of snow may increase in some areas while decreasing globally. For example, the

Fieldwork forms part of the coursework at the University of Oulu. Students map formations caused by frost in Kilpisjärvi. ▲

melting of marine ice will have an impact on rainfall and thereby also on snow formation. Water that vaporises over open seas may come down as snow in some places, so the future snow conditions of the Lapland winter remain a puzzle.



Paula Kankaanpää

Director
Marine Research
Centre at the Finnish
Environment Institute
Syke
Helsinki

1. **What is the first thing you associate with the word Arctic?**

“Snow and ice, open landscapes – and my own work.”

2. **What kind of new developments do we need in Finland’s Arctic research?**

“We need to understand Arctictness in a new way. A great deal of research done in Finland on cold northerly conditions and the environment could well be represented explicitly in international co-operation as Arctic research. I also think that Finland should work more prominently in the High Arctic, meaning the Arctic Ocean, icesheets and tundra. We need more global studies on the High Arctic, and Finnish researchers are both interested in this topic and well placed for studying it.”

3. **You introduced the idea of a European Union Arctic Information Centre. Why do we need this?**

“Even though the Arctic is evolving rapidly, we still don’t have as much information available on it as on densely populated areas. The EU Arctic Information Centre seeks to respond to this need for information by gathering Arctic data rapidly and efficiently from various European institutes in order to meet the diverse requirements of policymakers, enterprises and society. It also endeavours to ensure interaction between local people and various branches of public administration where information is concerned. Sustainable development in the Arctic can only be guaranteed through decisions based on balanced information, and here the Arctic can set a global standard.”

4. **Is the whole of Finland an Arctic country?**

“There’s no clear definition for the southern boundary of the Arctic. Finland is one of the world’s northernmost and coldest countries, and its Arctic character is reinforced by the fact that conditions in Lapland include certain features that are characteristic of the High Arctic, such as thin tree stands, large snow volumes and dark winters. Lapland is also the homeland of the Sámi, and a reindeer-herding area. Arcticness can become a Finnish brand for marketing many special products, ranging from outdoor clothing to solutions in building and technology. We can also use Arctic character to attract tourists to the delights of our beautiful scenery and surroundings. So yes, Finland is naturally an Arctic country.”

5. **What is the Arctic role of the Finnish Environment Institute Marine Research Centre?**

“Syke’s Marine Research Centre studies the Baltic Sea. This marine area is at least partly icebound every year, so many studies made in the Arctic Ocean are of interest to the Centre. For example, we study the ecology of marine ice, the harmful algae of cold waters and the development of Arctic oil recovery methods. The Centre also studies maritime spatial planning, which is increasingly needed in the Arctic. We are involved in reviewing international policy in the Arctic and in the accompanying social debate. The Finnish marine research vessel Aranda is an ice-reinforced ship that is well equipped for research, and capable of winter operation in the Baltic Sea and also in polar waters.”



In Search of Arctic Form

PHOTO: KASIA SIREN





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Arctic Design

February: Yippee! Exhilarated cries cut the silence and powder snow flies. A short while ago a small group of mates were climbing the fell slope on snowshoes. On their backs each had a rucksack and a board that resembled a snowboard from a distance, but with no bindings and a different shape. Actually the board looked more like a small surfboard, but why would anyone carry a surfboard up the snowy slopes of a fell?

June: Biocomposite is being worked in the workshop of a design company in Rovaniemi. This light

A snowboard without bindings is the handiwork of carpenter Jan Leutola (left) and designer Maxim Narbrough. ►

and durable material is ideal for the product under development – the same one that you can use for surfing down a snowy slope, crying in exhilaration.

Ilahu, the bindingless snowboard for powder, is the result of R&D at the Treeform design company in Rovaniemi. While the proprietors, carpenter Jan Leutola and designer Maxim Narbrough, have been actively developing the board together with professional and amateur snowboarders for two years, R&D is based on their own experience already began at a much earlier stage, as Leutola and Narbrough have been part of the worldwide community of snowboarders ever since boyhood.

After living abroad for long periods, Leutola and Narbrough both independently decided to return to Rovaniemi at the turn of the current decade, and in 2011 these men – who had become acquainted in the circle of snowboarders – founded a joint company.

“Our road as entrepreneurs has been long and rocky, but now the idea is starting to take off,” Leutola explains.

Major customers, such as Finavia which manages Finland's airports and Metsähallitus which manages the State-owned forests, enable Treeform to focus on interesting and challenging commissions. The enterprise is also now developing two products of its own: a wooden dome structure and a snowboard for powder surfing.

Will this be Arctic, Nordic or Lappish design? ▼



PHOTO: KAISA SIRÉN



PHOTO: KAISA SIREN

ATTITUDE IS IMPORTANT

Jan Leutola spent ten years living near good surfing waves in Spain. Waves are hard to come by in Lapland, but at least for the time being there is plenty of snow. This led to an idea: what if you could combine the grace and freedom of surfing with snowboarding? What if you were not fastened to the board with bindings?

Other factors also stimulated the men to start developing their board. Backcountry riding is on the upswing globally as people look to get away from crowded slopes and enjoy peaceful surroundings. The community of riders now includes an increasing number of adults with jobs and families who find it easier to make day trips to a nearby area than week-long outings to northern Norway. Younger snowboarders also do not always have the time or money to travel far.

Besides the actual ride, many other aspects are of equal importance in freeriding, as the climb takes more time than the ride itself. Here, attitude also plays a role.

“Riders want to earn their ride down,” Narbrough comments.

As the board has no bindings, even experienced riders will face a challenge – and may feel as excited as beginners if they succeed on a ride.

“We’re not selling a product, but the experience that the product will give you of the big outdoors, clean surroundings, freedom and joy,” Leutola says.

The raw materials used in manufacturing the boards are 100 per cent Finnish and 90 per cent renewable. Treeform is aiming this product directly at an international market: initially at Finland and the near-abroad, meaning Sweden, Norway and Russia. This brings us to the key question: is this new type

of snowboard an Arctic design?

“Northern design, yes, but Arctic...” Leutola hesitates.

“Arctic design is still a young concept. The words northern, Lappish and Nordic say more about us than the word Arctic,” Narbrough continues.

By Lappish they do not refer only to Finnish Lapland, but to an area that transcends international boundaries in the same way as Sápmi, the land of the Sámi.

ARCTICNESS IS ABOUT HOPE

Treeform has been involved in producing the Arctic Design Week in Rovaniemi. Although Leutola and Narbrough see a great deal of potential in Arctic design, the term “Arctic” remains remote as a word, more often associated with glaciers and polar bears than with the forested fell sceneries of Lapland.

“If I had to describe the Arctic character in one word, then it would be extreme. Conditions are mostly tough. Living and getting around in the Arctic is a fight for survival,” Leutola says.

“Rovaniemi is just the gateway to the Arctic,” Narbrough adds.

The hesitation arises in part from the strong industrial stigma of the word Arctic, which is often associated with oil prospecting, mining and sea routes. But for snowboarders, it means clean natural surroundings, seasonal variation and a real winter. The Arctic is characterised by open landscapes that are still devoid of industry and settlement, and an area that has not yet been irrevocably altered by climate change.

This means that for Leutola and Narbrough Arctic design primarily represents soft values: something ecological and simple. For example the future lies in high-quality bioproducts fashioned



PHOTO: KAISA SIRÉN

from renewable materials. Leutola and Narbrough have discovered more about trends in the field through involvement in a University of Oulu project that seeks to improve their own biocomposite.

“For people, Arcticness is primarily about hope,” claims consultant Tuija Seipell, a regular guest of the northernmost design week in the world. Seipell views



Arctic character as an opportunity to do things in a way that is different from previous practice in most of the world. But for how long will we have this opportunity, and how is it associated with Arctic design?

There is no better person to tell us about the potential of Arctic design than the originator of the

Making a snowboard from Finnish birch veneer and biocomposite. ▲

concept: Päivi Tahkokallio, a design thinker from Rovaniemi. She finds that Arctic design arises on three levels.

Firstly, it means promoting good life in the Arctic through design. Designed products, whether glasses or icebreakers, should be optimal in both functional and ethical terms.

Secondly, services will be designed to suit Arctic conditions. Services tailored for cities do not work in a sparsely populated region with long distances. Service design can help to keep the north inhabited and vigorous.

Thirdly, Arctic design has a strategic dimension. In Tahkokallio's opinion, the tools of designers should not be left for use by designers alone, but their know-how should be spread over other fields as well.

"The most recent and challenging aspect of design thinking is figuring out how design can promote the strategic goals of enterprises and public agencies," Tahkokallio notes.

TOOLS FOR THE EUROPEAN UNION

Päivi Tahkokallio argues that the expertise of designers could benefit both the Arctic Council and the European Union. For example, comprehensive management and visualisation of a planning process can be useful in situations involving a range of

views, languages and cultures. Tahkokallio suggests that Arctic design should be intertwined with the work of the EU.

"European competitiveness is still the lodestar of the European Union. Over the past few years the role of design has grown in the innovation policy of the EU. Arctic design is part of the design policy of the Union, but should also be part of its Arctic policy."

Design could play a role in developing the reindeer husbandry, tourism and heavy industry, for example. Tahkokallio feels that we should not rule out any line of business.

"The mining industry, for example, is a challenging field both socially and in terms of the environment. Design could help us find solutions for these operations that would be optimally sustainable."

The Faculty of Art and Design at the University of Lapland plays a big role in developing Arctic design, for example by providing international master's degree studies in this discipline. Tahkokallio hopes that Rovaniemi will remain an active player in Arctic design, and that the phenomenon will also spread across the entire Arctic region. What will happen to the grand plans? Maybe we should do as Tahkokallio proposes: re-examine the issue in 2030 when Arctic design has been developed for 20 years. With the trip only beginning, everything remains possible.

Arctic Design Week elected Treeform as the 2016 Arctic Design Enterprise of the Year. The jury praised the ecological solutions of the company. ►



A drastic change in the global economy has eliminated jobs from Kemijärvi. Northern timber is now processed in the municipality for a market in the Far East. ►

Wood from the Top of the World

Kemijärvi in Eastern Lapland is a region of Finland that has had desperately little economic good news for years, but things are happening there now. You notice it from a road that for a long time only commanded a view of a disused pulp mill. Tractor-trailers are now taking this road to haul timber to one of the newest sawmills in Europe. Keitele Group has invested in a wood product factory in Kemijärvi, where Keitele Lappi Timber saws logs and Keitele Wood Products manufactures gluelam.

And it's not just any old sawmill. It is the world's northernmost woodworking facility of its scale: an extremely modern factory that applies the finest expertise in the field. Tractor-trailers bring timber from a region covering a radius of 150–200 kilometres. On arriving at the sawmill the timber is measured, sorted, sawn, debarked, dried, classified, planed and glued. The process line extends over two kilometres and is monitored by 68 cameras. One would not immediately think of a sawmill as a place for applying new technology, but that is exactly what it is.

"This is technology that has been applied for working with timber from the north. We must be

able to work at temperatures of 38 degrees below zero. That's not a problem – we just have to have certain things in order," says local Managing Director Pekka Tuovinen.

There is forest both south and north of the Arctic Circle: an immense greenness. It is the sheer volume of forest at such northerly latitudes that gives Finland its unique character as an Arctic country. We are sure to meet the timberline as we go higher on the fells and further north, but looking down from the open or treeless top of a fell, we tend to see forest.

Lapland's natural surroundings and landscapes are so unique that they have been protected to a great extent. The top three national parks of continental Finland are clearly located in Lapland, and specifically in its northern reaches. Much of the protected area is nevertheless fell country, so the northern forests are largely commercial forests, which says in itself that they are centres of active forestry—at least when wood is in demand.

The new sawmill in Kemijärvi directly provides almost a hundred jobs in the area, and indirectly generates income for 200–300 people in lumbering.

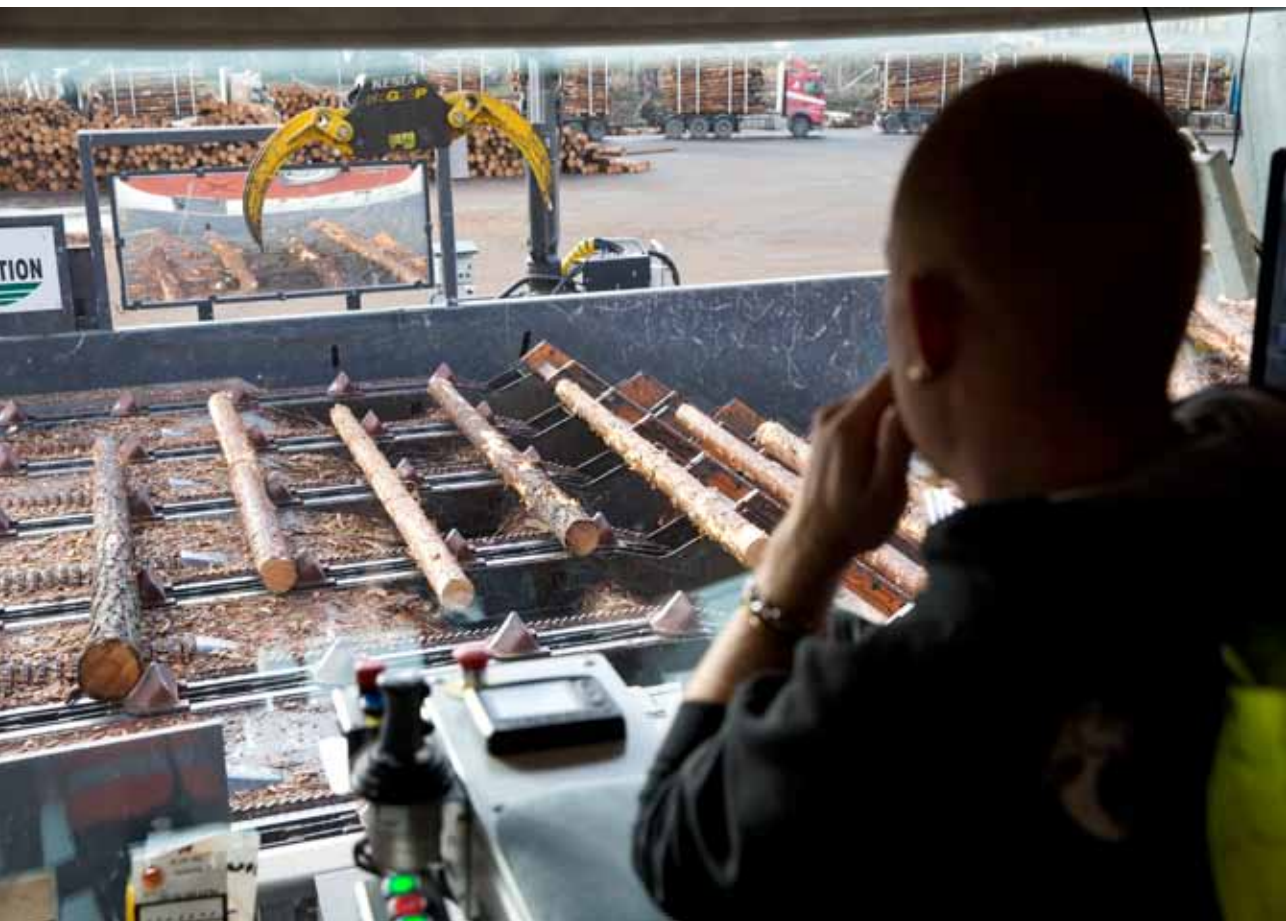


PHOTO: KAISA SIRÉN

These are huge figures in an area that has suffered from severe unemployment for a long time, and the launching of new operations now ensures good future prospects here. Historically, Kemijärvi has been an industrial city, but the drastic change in the global economy ravaged its textile and electronics factories and pulp mills alike as production shifted to cheaper countries.

But the surrounding forests cannot be shifted so readily and they, too, are part of the global economy. Pinewood from Lapland turns into the Aurorazai brand in Japan: a name derived by combining the aurora borealis and the Japanese word for material – zai. This is the way to sell wood from Lapland to Japanese families.

THE CLIMATE WARMS AND THE FORESTS GROW

Launching a sawmill in Kemijärvi was not a foregone conclusion. The reputation of the city was burdened by the confusion that arose after the pulp mill closed. Things began to move forward rapidly in 2013 when Pekka Tuovinen secured the interest of the family company Keitele Group, which makes sawn timber and woodworking products, and by as soon as December 2014 the first log had traversed the sawmill line.

“The need for wood processing is obvious here. The forests of Lapland have been managed well and grow fast. They are about to reach the stage at which their harvesting is profitable,” Tuovinen explains.

Ilkka Kylävaio, who chairs the board of directors

of Keitele Group, chimes in: "The investment decision was influenced by the huge untapped potential of the Lapland forests."

Under Finland's Arctic Strategy, a good four million cubic metres of wood is logged every year from the forests of Lapland, mostly for use in industry. This corresponds to almost 40 per cent of annual growth. These statistics do not yet include the Kemijärvi sawmill, which uses about 700,000 cubic metres of wood annually. The proportion of young forests that grow well has risen, and the annual growth of forests is increasing in Lapland. Global warming brings an extra 20 thermal days, or growth days, to the region. A study published in December 2015 by the Natural Resources Institute of Finland suggests that global warming will accelerate the timberline advance in Lapland and considerably increase coniferous volume growth.

Kemijärvi has an electrified railway connection, and a new loading terminal is being built by the sawmill at the time of writing. These facilities would enable fairly extensive operations to commence. There are plans to build a major bioproduct mill next to the sawmill that would use local wood as raw material. The remaining pulp and paper mills in Lapland are located in Kemi on the Bothnian Bay, hundreds of kilometres away from Eastern Lapland.

Northernness is also a marketing asset for wood. Northern timber grows slowly and is strong, though short. It cannot be used for everything, but is highly suitable for the Japanese building approach, for example.

"We couldn't have such a package in Kemijärvi alone, but it fits beautifully into the present Keitele combination," Kylävaio says.

When the company gets visitors to Kemijärvi, tourism in Lapland will ensure that the sawmill makes an impression.

"This is the world's northernmost major sawmill. It quite literally supplies wood from the roof of the world."

LANDSCAPES ARE A SENSITIVE QUESTION

Although forestry provides employment and livelihood opportunities, it leaves traces like all industrial activity. Finland's Arctic Strategy repeatedly refers to promoting growth and competitiveness with due regard to the Arctic environment. Lapland mainly responds to these issues precisely at the point of land use. The protection areas of Lapland are a key component of Arctic conservation. There are many such areas, though the precise figure is actually not so easy to determine. Metsähallitus, the agency that manages State-owned lands, cannot supply this figure without checking the day-to-day status from its records, because many categories and many aspects of protection are subject to preparation and policymaking. Yesterday's figures are not necessarily accurate today.

We have to differentiate between protection areas that have already been established in legislation – and there is some variety here as well – and areas covered by protection programmes that are mostly nearing completion and are thus also about to become official protection areas.

There are also many statutory wilderness areas in Lapland that are not nature preserves or national parks as such, but are kept almost in their natural state. They may be used for nature-based occupations. A map indicates that most of Northern Lapland, the Sámi homeland, is protected by some form of legislation, and that most of this region is fell country. The only broader area of economic forest is southwest of Lake Inari. The forests of Central and Southern Lapland primarily comprise private



Finland has invested in hiking services for its national parks. This is also appreciated by local wanderers. ▼

or State-owned commercial forest, but they also include lands that are part of protected areas or conservation programmes.

At the end of 2015 protection areas and programmes covered approximately 30,000 square kilometres out of a total area of some 100,000 square kilometres in Lapland. The Natura areas of Lapland comprise all the national parks, nature preserves, wilderness areas, protected mires and herb-rich forests, and almost all areas included in nature conservation programmes.

This means that the area of territory protected in Lapland is large, but the same also applies to commercial forests. So something for everyone, and all is

well? Not quite, says Seija Tuulentie, Senior Researcher at the Natural Resources Institute of Finland, who leads a research project called Socially Sustainable Use of Natural Resources.

This Institute study has extensively surveyed the views of various stakeholders and players on the frequency of environmental conflicts and their underlying causes. Clearly the most frequent conflicts are those associated with use of the forest, followed by issues arising from wind power and mining.

“Clear cutting of forests has been the most passionate issue,” Tuulentie says.

Clear cutting has the greatest impact on reindeer husbandry and tourism. Old forests are



PHOTO: TEA KARVINEN



PHOTO: TEA KARVINEN

better pastures for reindeer than logged areas, and clear-cut commercial forests also do not encourage tourism, damaging snowmobile and dogsled trails and the landscape as a whole. On the other hand, some recent examples from the Inari and Muonio areas show how conflicting parties can settle their disputes on use of the forest.

Often the issue specifically concerns use of the landscape as a whole. For example this aspect arises when discussing wind turbines that can be seen from afar in a natural landscape.

“We come to the question of what tourists want to see in terms of landscape. Even quite deformed scenery can be acceptable in winter, while a clear-cut area can be a problem in summer. Some studies suggest that tourists would even be willing to pay for scenery, but this never happens in

Unspoiled landscapes are increasingly valued. ▲

Finland,” Tuulentie says.

According to Tuulentie, there are no signs of conflicts between forestry and mining, while there are still some disputes between reindeer herding and forestry. Conflicts between tourism and land use have been on the rise, and though they are mainly triggered by forestry, issues arising from mining have become more and more prominent in the present decade. There has been concern about the impact of mining on the environment and landscape.

“Image plays a major role in tourism,” Tuulentie says.



Read the QR code
and watch a video
on the theme

People also come down to Levi from the north. The Nilsen family from Kirkenes in Norway appreciate the good slopes and diversified services of the Finnish ski resort. ►

Arctic Tourism

Thomas Nilsen is a Norwegian living in Kirkenes, a small Norwegian border town on the Arctic Ocean. In late winter he packs his car full of skiing equipment and heads south with his family. 370 kilometres, five hours and one service station lunch later the car turns into the yard of a hotel in Levi, a skiing resort in the municipality of Kittilä, Finland.

"We've spent our winter holiday in Levi twelve times in a row, and I can't see why we won't continue to do so," Nilsen says.

The Levi resort has expanded a great deal since the Nilsens had their first holiday here. The family has no strong views on the expansion, but the chair lift that was completed recently for the south pistes earns their praise. Three other factors also influence their choice of holiday destination.

Firstly, the place has to be suitable for families.

The Nilsens have three children, and another family with children has always accompanied them here. Secondly, they want to visit best pistes not too far from their home. If the Nilsens lived further south, then they would also have great slopes available in Sweden and Norway. The third criterion is that the destination should have all of the services that they need, such as restaurants, shops and various types of accommodation.

"In the beginning we used to rent an apartment, but nowadays we stay in a hotel. The price includes breakfast and dinner, so we don't need to think about making food or doing dishes after a long day on the slopes."

Thomas Nilsen has observed the tourist industry for a long time, not only as a consumer but also as the editor of an online news service on the Barents Region. He feels that the Norwegian and Finnish



PHOTO: KAISA SIRÉN

tourist industries could learn a great deal from one another.

“There are great ski resorts further south in Norway, but there doesn't seem to be any money available for major investment in Tromsø and the province of Finnmark. In Northern Norway we could follow the example of Lapland by appreciating that you don't need to build big right away – you can also proceed one step at a time.”

Nilsen feels that there are also things that Finns can learn from their northern neighbours.

“Exploring! A growing number of Europeans, Asians and Americans want to set out on an Arctic expedition of their own. They don't want to be stuck in a line together with fifty other people on some snowmobile or dogsled safari.”

Nilsen feels that the Lapland tourist industry could benefit from investing in customised services

for small groups. He believes that some tourists would be willing to pay an arm and a leg for a private Arctic expedition in the wilds. Overnight stays in the wilderness, for example, are commonplace for local people – something relaxing and a bit toilsome – but a unique adventure for many tourists.

QUALITY OVER QUANTITY

Rauno Posio has run a tourist enterprise in Lapland for more than twenty years, and he shares this opinion. If he had to sum up his most important lessons in two words, they would be “quality” and “co-operation”.

“Quality over quantity! We don't need to attract the masses, but people who appreciate the same things that we do.”

Posio feels that the key component is an unsul-





PHOTO: KAISA SIRÉN

lied environment and the benefits that this brings. By co-operation, he means co-operation between businesses, and with national and local authorities, and institutes of research and education. Co-operation is especially important in Lapland where businesses and other operators are fairly small.

Rauno Posio is a tourist industry veteran who has learned everything the hard way. He has no training in tourism, but ended up in the field “by sheer coincidence”. As an adolescent, Posio dreamed of becoming a dancer and choreographer, and he studied sports and leisure management at the Santasport Institute in Rovaniemi. He attended a course on sports and tourism, acquainting himself with the Lapland Safaris business, and then began working as a safari guide while still studying.

One meeting redirected his career dreams. Posio served as a private guide for a man of over 80 years of age, and visited various destinations with him.

On the last day he got a call from the reception of the hotel. The man wanted to meet his young guide. When Posio came to the lounge, the old man handed him a hat, gloves and a book that contained an article on Alzheimer’s disease. He thanked Posio for a great adventure and told that this would be his last trip.

“By May 1992, I was an entrepreneur and up to my ears in debt.”

IMPLEMENTING SUSTAINABLE DEVELOPMENT

Rauno Posio has gradually shifted from promoting his own business to developing the entire region. He is now Vice-President of the Lapland Chamber of Commerce and a member of the Arctic Economic Council, which seeks to promote sustainable economic growth and environmental protection, and consolidate social sustainability.

His focus on the development of the region has

Ranua Zoo is the only place in Finland where you can see polar bears. They are the best-known tourist attraction of the district. ◀

Thomas Nilsen also believes that Arctic tourism will succeed by focusing on quality over quantity. ▲

also changed the course of his career. Posio sold his share of Lapland Safaris in 2014, becoming project leader of the Visit Arctic Europe project in autumn 2015. This EU-financed project seeks to make northern Scandinavia a high-quality, internationally competitive tourist destination.

Tourism to Lapland has been promoted through numerous, often small projects. Arctic Europe has never before been marketed as an integrated area. Posio suggests that joint marketing is a natural option for the region, as the northern reaches of Finland, Sweden and Norway have a great deal in common. All of these countries have tourist industries comprising numerous small enterprises operating on limited resources. Common attractions include the aurora borealis, clean natural surroundings and local food. Northern Scandinavia is also the homeland of the Sámi. Each country also has its own strengths from the point of view of tourism.

“Norway has the Arctic Ocean and the fjords, Sweden has the broadest wildernesses, and Finland has the most advanced service culture and the home of Santa Claus,” Posio explains.

POSITIVE ENERGY

The Visit Arctic Europe project has three main goals: networking, improving accessibility, and marketing. Networking allows enterprises to learn from one another and establish joint tourism products. With respect to accessibility, the project seeks to improve the road for travellers to the north and enhance mobility in this region where communications are currently restricted and travelling is often expensive.

The tourist industry of Lapland generates revenues of about EUR 630 million annually, providing year-round employment to about 5,000 people. Thousands of seasonal workers are also employed in



PHOTO: VELI KOURI

the field. Internationality is a distinct feature of tourism in Lapland, with overnights by foreign tourists making up approximately 40 per cent of the total.

The Tourism Strategy for Lapland (2015) neatly summarises this topic: “Tourism is a significant field in Lapland, as it also provides employment for people outside the regional and municipal centres, helps to maintain communications and accessibility, and brings positive energy to the countryside.”



Tourism also has an impact on its environment, for example through the use of natural surroundings and resources, and through emissions. The Tourism Strategy therefore notes that sustainable development and responsible tourism play a crucial role in the Arctic precisely because of the vulnerability of the environment. Rauno Posio is also keen to develop tourism in a way that enables local people to have a good life in the Arctic. This is the same goal as Päivi

The ice on the Bothnian Bay off the coast of Kemi has become a tourist attraction. The icebreaker Sampo makes a private swimming pool for customers. ▲

Tahkokallio seeks to attain through design.

“We need to do everything in harmony with sustainable development,” Posio stresses.



Tero Vauraste

CEO

Arctia Ltd

Helsinki

1. **What is the first thing you associate with the word Arctic?**

“Cold, ice, Lapland and Finnish expertise.”

2. **You are involved in the Arctic Economic Council AEC. What is the main goal of the Council and how is it pursued?**

“The primary objective is to enhance conditions for sustainable business operations in the Arctic, and this is pursued through five main themes. The first of these is dismantling trade barriers and fostering solid market connections between the Arctic countries. The second is developing infrastructure based on public–private partnerships, as it is not possible to finance the necessary infrastructure in a sparsely populated area solely through tax revenues.

The third theme is stable, high-level regulation. To guarantee equal business opportunities, this must be optimally proactive and uniform throughout the Arctic. The fourth theme is co-operation between universities, research communities and the business world. So far there has been rather little dialogue between these three quarters. Finally the fifth theme is to support small and medium-sized enterprises and thereby develop a spirit of enterprise among indigenous and other local populations.”

3. **What does the Arctic mean for the Finnish economy?**

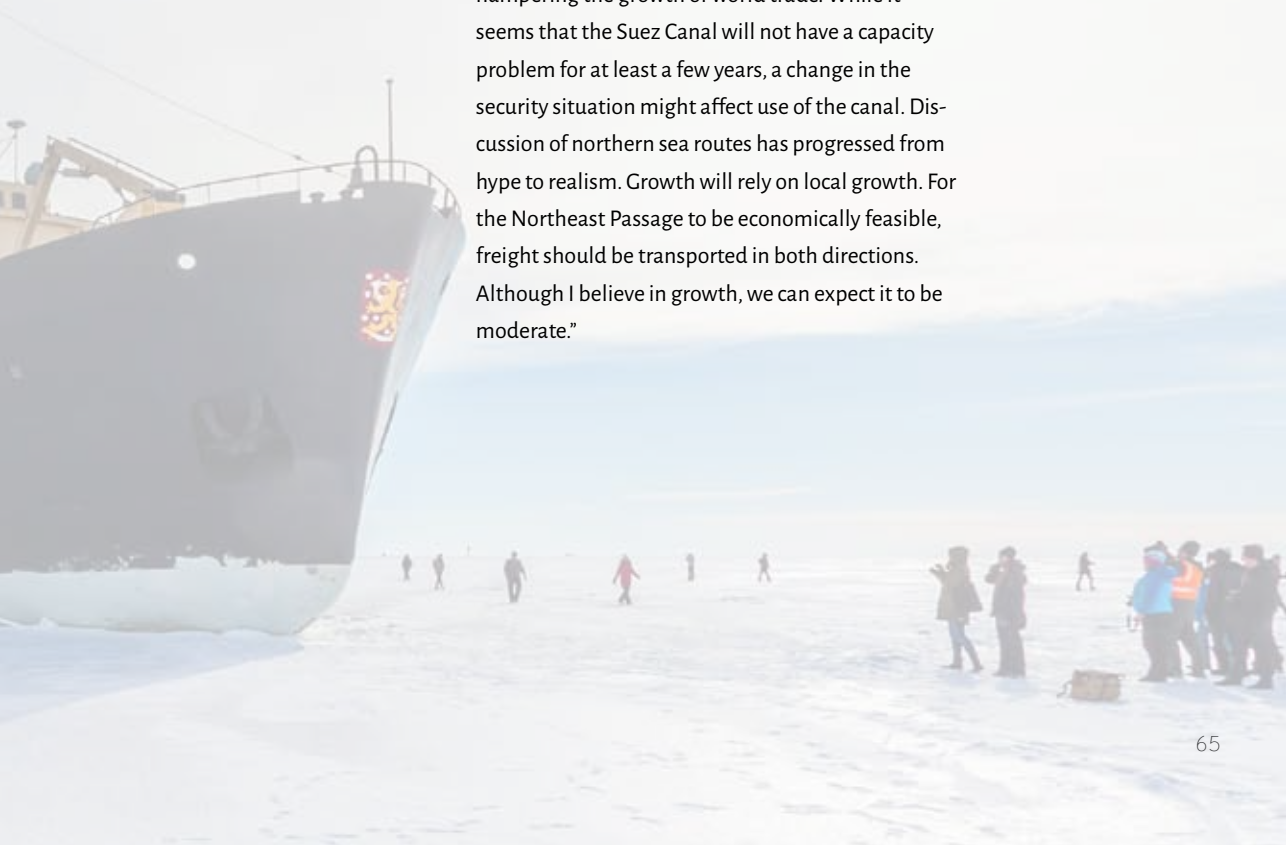
“It has great potential for growth. We tend to forget that almost all Finnish solutions are Arctic. For example, Finnish tourism expertise is a good export product. The manual of the annual Arctic Business Forum organised in Finland illustrates the huge potential of the region.”

4. **Sixty per cent of the world's icebreakers come from Finland. What is the future role of Finland's Arctic marine industry?**

"We are world champions, and we should keep it that way. Even though icebreakers remain the jewel in the crown of Finland's Arctic marine industry, Arcticness is also an opportunity for the entire Finnish marine cluster. We have world-class component manufacturers, for example in technology relating to the use of biofuels."

5. **Will the Northern Sea Route become an alternative to the Suez Canal?**

"There's no simple answer to this extremely broad question. The evolution of world trade and the geopolitical and local situations are of key importance here. An unstable geopolitical situation is already hampering the growth of world trade. While it seems that the Suez Canal will not have a capacity problem for at least a few years, a change in the security situation might affect use of the canal. Discussion of northern sea routes has progressed from hype to realism. Growth will rely on local growth. For the Northeast Passage to be economically feasible, freight should be transported in both directions. Although I believe in growth, we can expect it to be moderate."





Working for the Cherished Home Region

PHOTO: KATSA SIREN



The Voice of Local People

First by bus from Sodankylä to Rovaniemi and then by night train to Helsinki. Riikka Karppinen, a sixteen-year-old girl, was terrified. Not just because she was on her way to meet the Minister of the Environment and the Permanent Secretary to the ministry, but also because she was not sure how to find the Parliament building from the railway station. Nevertheless, Karppinen was absolutely sure that her cause – defending the mire protection area of Viiankiaapa against mining – was worth all of this.

“The fact that I’m so sure about my cause has always carried me. I know what I’m talking about, even if I’m nervous about presenting my views,” Karppinen says.

We meet Karppinen, now 21 years old, at the Rovaniemi Airport. Now a local councillor for Sodankylä, she has started studying at the University of Helsinki but travels at least once a month from the Finnish capital to Sodankylä to attend council meetings. The airport is a natural place to

meet this seasoned traveller. She has travelled a great deal since she was a teenager, often on her own, including long lonely periods on the overnight train worrying about meeting people in prestigious positions in Helsinki the following day.

Viiankiaapa is a majestic aapa mire near the village of Kersilö in Sodankylä. The area is protected under the European Union Natura programme.

“My brother and I were the only children in Kersilö, and we used to go fishing and picking berries in Viiankiaapa.”

Karppinen was eleven years old when people started talking about prospecting for ore in the mire. While worrying about this as a schoolchild, she could not have imagined at this point that mining operations would really start there. It was only a few years later that local residents learned the true scale of its ore deposits. The British mining company Anglo American wanted to revoke the protection of the area and begin mining copper and nickel there.

“I realised that if no one does anything, the mine will definitely come.”

Karppinen remembered how, as Governor of Lapland, Hannele Pokka had inaugurated the hiking and duckboard trails of Viiankiaapa. Now Pokka was Permanent Secretary at the Ministry of the Environment, so the young woman from Sodankylä contacted her and Minister Paula Lehtomäki, who



PHOTO: KAISA SIRÉN

Duckboards are covered by snow in winter, but you can easily get anywhere you like using off-track skis. ◀



PHOTO: KAISA SIRÉN

Riikka Karppinen from the village of Kersilö is ready to fight for her home region. ▲

invited Karppinen for a serious audience in Helsinki. Karppinen then set about bombing the media with messages about what was happening in Viianki-aapa. The first media outlet to smell a good topic was the newspaper Lapin Kansa.

“This led to a snowball effect, with people from surprising quarters getting in touch and asking me to speak.”

Der Spiegel, the largest weekly magazine in Europe, published an impressive article on Karppinen and filmmakers began shooting a documentary on her with a view to collecting material over several years.

THE TRADITION OF THE FUR HAT DELEGATION

Southbound train journeys from Lapland bearing news of local attitudes to decisions that affect the far north are by no means new. The most famous of these “fur hat delegations” resulted from decades of frustration. The post-war period saw hydroelectric damming of the river Kemijoki in Lapland, bringing an end to salmon fishing and many people’s livelihoods. For decades, no compensation was paid to the residents of the area, and in 1979 more than forty men who had grown tired of waiting finally headed south to occupy the Ministry of Justice. Many of the men wore the fur hats that came to provide a name for this phenomenon. Lengthy negotiations ensued and some Kemijoki river valley residents were finally compensated, but the river

Karppinen often goes to sit at a campfire on the Viiankiaapa mire. Hikers can build a fire by the lean-to shelter on the nature trail. ►

A snowmobile trail from Sodankylä to Inari cuts through the mire. ▼



PHOTO: KAISA SIREN

still lacks the promised fish ladder and the salmon have yet to return.

Since then people have travelled south to express their views on various issues, such as harnessing the river Ounasjoki and preserving a night train service to Kemijärvi. These actions have attracted media attention and promoted the case of the demonstrators.

When Riikka Karppinen turned 18 municipal elections were held in Finland. Though initially feeling that it might be wiser to refrain from party politics as a means of promoting the cause of Viiankiaapa, Karppinen studied the party political programmes and realised that one party – the Greens – had been lobbying for the very issues that were important for her.

In finally deciding to run for election to the local council, Karppinen was no novice. Her father had served as a councillor for the Left Alliance, and her grandfather had also been involved in local politics. Karppinen had chaired a youth council that worked locally, and she had been active in a students' union. Having come to personify the struggle over Viiankiaapa, she was nervous about running as a local election candidate. If she attracted no votes, then opposition to the mining project could be dismissed as the stubbornness of a small group. This fear proved groundless, as Karppinen secured the third highest vote in Sodankylä and became the municipality's first Green Party councillor.

"Participating in the work of the local council is a learning experience. You must have a viewpoint on a wide range of issues. At the same time, you become aware of channels of influence, and the work brings responsibility in a positive way. You cannot merely criticise, but must also think about solutions."

Now this young green political activist is sitting in the airport café and talking passionately about



PHOTO: KAISA SIRÉN

conservation, even though she now lives in Helsinki. She remains a resident from Lapland who has served in the army and enjoys fishing and hunting. The latter pastime is relevant when opposing mining.

“Maybe some people will listen to me just because they know I hunt.”

These are the kind of people who will laugh and say that there is enough mire here. Nor is it a bad thing that Karppinen is capable of listening and is quite a good conciliator. She has held discussions with proponents of the mine and with representatives of the mining company.

“You need good connections with other people when working on the margins of party politics in your local region.”

Karppinen is not opposed to all mining. Her

father works at the Pahtavaara gold mine, for example. Obviously Viiankiaapa is part of her cherished home region, but this is also about larger issues. What is the point of protection under the Natura programme if it can be revoked as soon as mineral deposits or other natural resources are found in an area? This is a question that Karppinen is ready to ask again and again.

THE SOCIAL IMPACT ASSESSMENT

The guidebook *Hyvä kaivos pohjoisessa* (“A Good Mine in the North”; 2013) points out that mining projects are always individual due to their location, the ores to be mined, and the methods applied. This book was an outcome of the “Different Land-Uses and Local Communities in Mining Projects” project

conducted at the University of Lapland, the University of Oulu and the Finnish Forest Research Institute Metla. This study suggests that local attitudes towards mining are influenced by how communities are informed and heard.

“The attitude is largely favourable or at least acquiescent if people feel that they can express their opinions on the mine openly, that they have enough information on the mining scheme, that the mining company operating in the area can be trusted, and that it has been easy to participate, for example, in the social impact assessment process,” the guidebook explains.

The positive expectations of municipalities and local communities are often associated with better prospects for the economy and employment, but global economic trends can make mining unprofitable overnight. For example, this was noted in Pajala on the Finland – Sweden border when the Northland mining company went bankrupt just two years after starting operations at the Kaunisvaara mine. The notorious Talvivaara mine, in turn, is a concrete example of the kind of environmental problems that mining can cause for neighbouring areas.

The planning process for opening a phosphate mine in Sokli, Savukoski, has now continued for decades. The project has been vigorously opposed by such quarters as the Kemin-Sompio Reindeer-Herding Co-operative and the popular movement Sokli erämaana (“Sokli as a Wilderness”). The herding co-operative argues that the mine would destroy key reindeer pastures and break the grazing cycle of the reindeer. The Sokli project currently remains pending, but not forgotten.

The mining process for Viiankiaapa has also been long and tortuous, and Riikka Karppinen has spent a ridiculous amount of time and energy on it. She feels that the toughest aspect is that the situa-



PHOTO: KAISA SIRÉN

tion will continue to be unclear. It isn't easy fighting the world's fourth largest mining conglomerate.

“This is very much a game of cat and mouse. We don't know what the next moves of the international company will be. There can always be surprises, and of course we're haunted by the thought of losing this struggle.”

Despite such an outcome, Karppinen would not for one moment regret the fight that has now gone on for almost half of her life. It is hard to describe how awful it would feel to have been a bystander following the progress of plans to open a mine without ever doing anything or defending one's values.



So what does the local councillor and civil activist study at the University of Helsinki? Surely something associated with politics.

“The Finnish language. I’ve always had a passion to read and write, though I have considered taking some political studies as an additional subject.”

Living in the south has not made the issues of the north feel remote to Karppinen – quite the contrary.

“It’s sometimes hard to see the richness when you view it up close.”

Karppinen continues by bus from the airport to Sodankylä, where she will attend a meeting of the

What will be the ultimate fate of the Viiankiaapa mire protection area? Local people closely monitor every move of the mining company. ▲

local council and spend some time on an excursion to where so many things once started: hiking and sitting by a campfire on the Viiankiaapa mire in the midst of the autumn blaze.

To the Arctic Ocean, with Rails Screeching

A trainload of containers speeds through fell country to the harbour at Kirkenes on the Arctic Ocean: a loading and unloading point for ocean liners plying the Northeast Passage from the Far East.

This is a vision for which Timo Lohi, Development Manager of the Northern Lapland regional co-operation body Pohjois-Lapin alueyhteistyön kuntayhtymä, has worked for a long time. Despite this, something is still missing: slightly over 500 kilometres of new railway line to form the Rovaniemi – Kirkenes leg of the journey – together with the calculations that would prove the connection to the Arctic Ocean profitable.

This is the traditional dilemma of the chicken and the egg. Which should we have first: the present, proven demand for the connection, or confidence that we are creating the future and its opportunities?

So far the train only reaches Kirkenes in marketing videos, and this will not change anytime soon. Arctic visions suggest a northern route providing a new global sealane between Europe and Asia. There are solid grounds for this scenario. The northern route will shorten the voyage between some of the most important harbours on various continents by about a third in terms of both distance and time taken. Global warming is changing ice conditions and facilitating commercial transport.

A railway from Finland to the Arctic Ocean, a tunnel from Helsinki to Tallinn and a railway to Central Europe through the Baltic countries. This vision would make Sodankylä an intermediate stopping point along a new pan-European transport route.

Such scenarios have been referred to by prestigious veteran politicians, ministers and ambassadors, and they have been noted in reports, but they have not yet been referred to by any of the bodies that can make clear investment decisions.

It remains reasonably quiet in the northern sea area – a fact that is also reflected in Timo Lohi's workroom in Sodankylä. Will he one day board the train at a station in Sodankylä?

"I have to believe in it," Lohi says.

Japan is an important market area for the new sawmill in Kemijärvi. Its gluelams now travel from Kemijärvi to Kotka on the south coast of Finland for shipping in containers to Japan. The process takes them through the Suez Canal and past the southern tip of India on a trip of approximately seven weeks.

"Goods don't bring in a profit while they are packed in containers. Reduced shipping time means that we cut our costs and those of our customers," says Ilkka Kylävaio, who chairs the board of Keitele Group.

So what will happen if the Northern Sea Route, also known as the Northeast Passage, is really opened to traffic?

"Of course we have an interest in this. There will be a need for a working logistical solution, either in Norway or Russia," Kylävaio responds.

EYES FIXED ON THE HORIZON

Lohi is not the only activist lobbying for a railway. Four alternatives for the link to the Arctic Ocean have been submitted in the debate taking place in



PHOTO: HEIKKI KETOLA

Finland. One of these is to continue the railway east from Salla in Eastern Lapland and connect it to the railway leading to Murmansk. This is a reasonably economical option, as the need for new railway track is much smaller than in the other alternatives, but its implementation would completely depend on the interests of Russia. The second possibility is to build the railway directly north from Rovaniemi or Kemijärvi, via Sodankylä and Ivalo to Kirkenes in Norway. The third line would run from Kolari in Western Lapland through the north-western part of Finland – referred to as the arm of Finland – to Skibotn in Norway, and the fourth alternative would use the Narvik Railway in Northern Sweden. Each alternative has its proponents, but so far everything stubbornly remains on the drawing board.

The global, European and Finnish visions all rely initially on plans for the railway. We would need to choose one of the possible options and set out a plan for it on maps. This will be concerned not with traffic through the Northeast Passage, but

with things like reindeer herding and landscapes, whole communities and dogsled routes. Policies are already being set out in the provincial zoning plans of Lapland in case the railway is built via Sodankylä one day. This would bring major changes to the villages along any such route.

Talk of railway connections is strongly linked to both the Arctic boom and the mining boom, both of which have been affected by economic fluctuations, world market prices and the other aspects of the real world.

“It has been difficult to combine long-term lobbying with the short-term goals,” Lohi says.

Global transport lanes in the long term run through the Arctic, but the short-term discussion revolves around money and investment decisions. A railway became a serious topic of debate in 2008 when the Kevitsa nickel and copper mine was opened and transportation volumes increased. The railway to the Arctic Ocean was included in programmes and strategies, with finance granted





PHOTO: KAISA SIRÉN

for the associated surveys. Lohi found himself talking about the railway in places like Brussels, Korea, China and Japan. Brochures were translated into the main languages of the Far East. The response was most enthusiastic in Japan, whose ambassador has visited Lapland frequently.

Companies and other stakeholders everywhere, and especially in Asia, are preparing for the real opening of the Northeast Passage, though the number of ships navigating the route will probably remain reasonably low for a long time. The volumes of global transport are nevertheless so enormous that even a minor change may be significant for many countries and players.

Traffic on the Northern Sea Route has so far mainly consisted of domestic Russian transport from the estuaries, energy fields and industrial plants of Siberia. Even though global warming has reduced the volume of long-term ice and opened sections of the Northeast Passage, the real transport season only lasts for part of the year. The winter north of Siberia is still dark, cold, stormy and icy. Russia collects considerable charges for icebreaker convoys,

knowing that the nuclear-powered icebreaker is an incomparable tool for navigating Arctic waters. A direct route via the North Pole remains just a line on the maritime chart with no relevance to the present.

People in the north are very familiar with the paradox of the climate change. The effects of global warming on the Arctic environment are huge and severe, but they will also open up the area to increased economic exploitation.

Both Riikka Karppinen and Timo Lohi are prepared to work hard for their home regions. Though these two people from Sodankylä aim at different goals, both hope that the region will remain robust.

Timo Lohi is confident that a railway will be built to the Arctic Ocean. ▲

Various alternatives for the railway link to the Arctic Ocean are being drawn on maps of Lapland. One of these would follow Route E75 from Sodankylä at the bottom of this map to Kirkenes in Norway. ◀



Maria Jauho
Editor-in-Chief
Pohjolan Sanomat
Kemi

1. What is the first thing you associate with the word Arctic?

“Wonderful. Home. My mental landscape. Snow and ice. People, courage, perseverance.”

2. What is the main mission of the Pohjolan Sanomat newspaper?

“Pohjolan Sanomat keeps local people reliably informed about regional affairs. The paper edition, web service with videos, and the digital edition provide coverage of news, topical issues and stories from Lapland and the entire northern region. We are part of people's lives from morning to night, delivering services and content for all aspects of life from ordinary occasions to special celebrations. Together with the newspaper Lapin Kansa, we are the voice of Lapland – and as such we are stronger than ever.”

3. How does the proximity of the international border affect your paper?

“I doubt that any other newspaper in the world is delivered across an international border in the early morning while it's still dark. This means that the other side of the border is evident in our readership and content, meaning both advertisements and articles. We feel that Northern Sweden and Northern Norway provide regional news, even though the other media view this as news from abroad. The international border is not a boundary line for us.”

4.

Is Arcticness a topic in Sea Lapland?

“Sea Lapland is part of Lapland, of the northern region, and even of the Arctic. It also forms part of the Bothnian Arc and the former area of Peräpohjola, which is the northernmost territory of the historic region of Ostrobothnia, serving as the gateway to Oulu. Sea Lapland is concerned with industry, services, tourism and communications, and the Arctic forms a part of all of this. To give one concrete example, the Bothnian Bay is icebound for most of the year, and without this ice we wouldn't have our unique vessel Sampo, a former icebreaker that now serves the tourist sector.”

5.

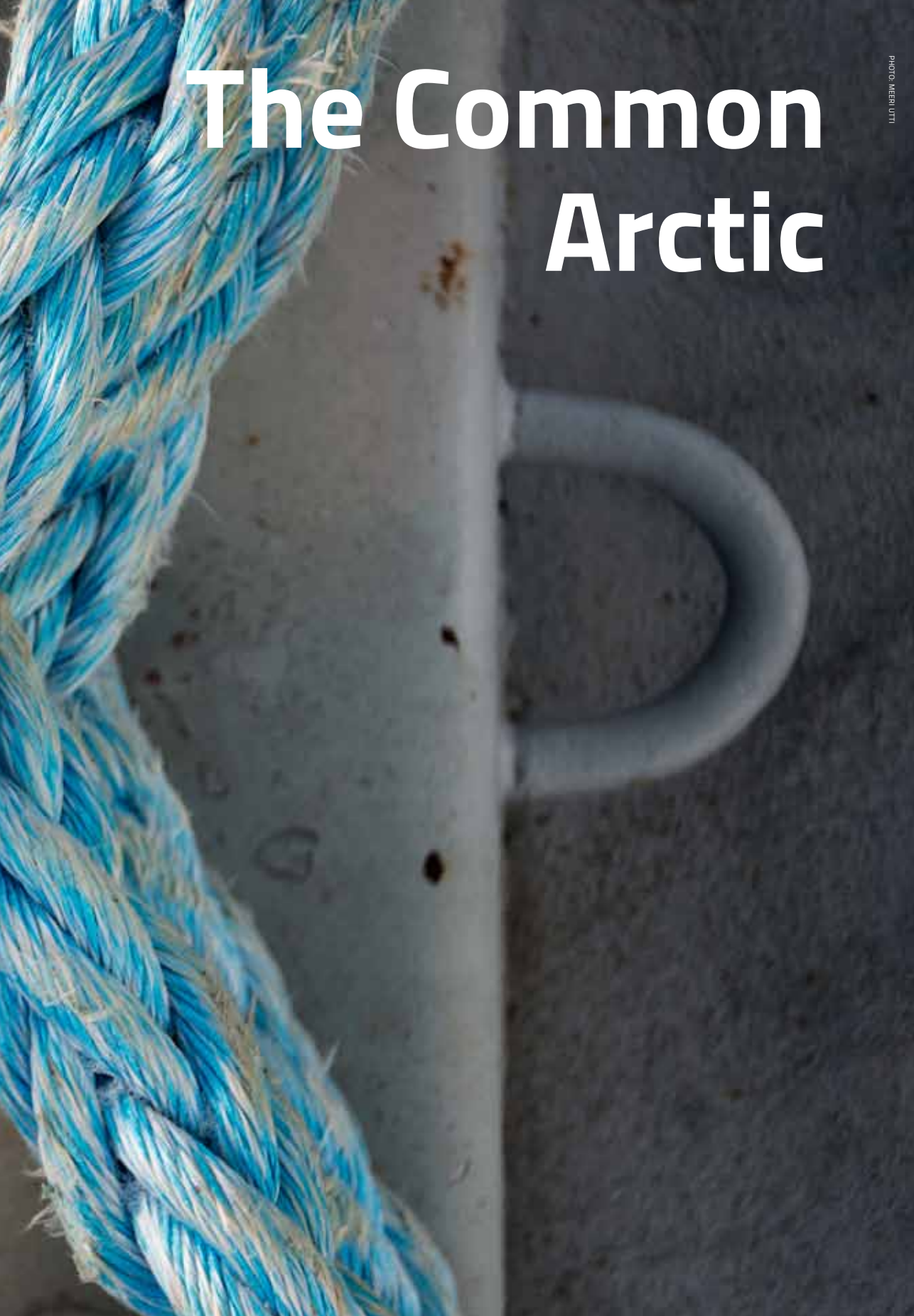
How does Sea Lapland differ from the rest of Lapland?

“With three large industrial plants, it's obvious that industry is more important in this area than in the rest of Lapland, but this is not the only difference. The notion of a marine area already indicates that the sea, the rivers and other waterways define the lives of local people more than in the fells. When people from this area take their holidays further north, they specifically say that they're going to the fell country, or to Lapland.”



The Common Arctic

PHOTO: MEEH UTI





Read the QR code
and watch a video
on the theme

Breaking the Ice

Teemu Alstela, Master of the icebreaker Otso, has a mobile job that can take him to the coast of Greenland, the Bothnian Bay, or a spell in port. ►

was surprised every day at how different it was there. The ice is completely different. The waves do not resemble those that we see in these waters. The clouds look different. You constantly get this feeling that things are not the way they should be.”

Teemu Alstela, master of the icebreaker Otso, has just returned from a job off the coast of northeastern Greenland in the waters around Île-de-France. Despite its grand name, the island is completely uninhabited. There are few signs of human life in the region, except during late summer when Otso helps a seismic surveyor ship to navigate ice-filled waters.

60 per cent of the world's icebreakers are made in Finland. ▼



PHOTO: MEERI UTTI

Alstela's work trip is an example of how Finnish Arctic expertise finds employment in the wider world. Some people promote Arctic issues at conferences and negotiating tables, while others do it by breaking ice. Operations in icy seas are often the specific subject of those discussions where maps are studied and rules are debated. The discussion focuses on what can be done and what is worth doing in the northern seas. Where will we navigate in future and what will be transported? But nothing will happen unless something is done in practice.

Teemu Alstela is now at home in Oulu, Finland, even though his icebreaker is still on its way back from Greenland to its regular mooring at Katajanokka in downtown Helsinki. This is the icebreaker base from which the Otso embarks on its duties in the Bothnian Bay in the northernmost reaches of the Baltic Sea when winter begins. Alstela made his own way back from Greenland by catching a crew rotation service vessel for the 30-hour journey to Svalbard and then flying home. His tour of duty had lasted for four weeks.

“It's so much fun. You learn new things all the time,” Alstela says.

His Greenland adventure opportunity began way back when he signed on as a deck hand in 1991. You have to work hard to become master of an icebreaker, but once you have made it you will get to see a great deal.





PHOTO: MEERI UTTI

FLAGSHIPS OF ARCTIC EXPERTISE

About 60 per cent of the world's icebreakers were originally built in Finland: indeed at one special shipyard in Helsinki. And even the remaining 40 per cent contain a great deal of Finnish technology. It is therefore very unusual to find an icebreaker that has nothing to do with Finland. The history of the shipyard in Helsinki dates back more than 150 years, and icebreakers have been built there since 1910. Only the owners have changed. Since 2011 the business has continued as Arctech Helsinki Shipyard Inc. under the principal ownership of the Russian United Shipbuilding Corporation. Icebreakers have also been built at the shipyard in Rauma, Southwest Finland.

Icebreakers have provided a platform for many enterprises and industries, generating a great deal of expertise in the field. The sea cluster is definitely a cornerstone of Finland's Arctic strategy, and it assumes a variety of forms. There are ice laboratories and ship design operations, research is conducted in universities and businesses, parts are manufactured and developed, new innovations such as propeller models are emerging, and there is expertise in cleaning up oil spills in icy conditions. An entire Arctic offshore field has arisen.

Public announcements on the radio in winter provide information on icebreakers working to assist vessels approaching Finnish ports and advice

Icebreakers are part of the summer scenery in Helsinki. Their regular moorings are right next to the headquarters of the Ministry for Foreign Affairs. ▼



on the reporting requirements for commercial vessels intending to use them. Only ice-strengthened ships may enter Finland's territorial waters in winter. Good icebreakers have been a condition for Finnish trade, serving quite literally as a lifeline. Finland is the only country in the world where all of the national ports are usually icebound in winter. This was a guaranteed occurrence in earlier years, but global warming may now keep parts of the Gulf of Finland open. Much of the country's heavy export industry nevertheless still relies on the seaports of Northern Finland, and the Gulf of Bothnia has yet to experience a winter with open waters. Indeed drifting ice floes can also pack onto

the shoreline, hampering navigation even in a warmer winter.

The State-owned company Arctia Ltd provides most Finnish icebreaker services in the Baltic Sea in response to orders placed by the Finnish Transport Agency. The company has five regular icebreakers, two multipurpose icebreakers and one harbour icebreaker. The Arctech Helsinki Shipyard is due to build and deliver a new icebreaker commissioned by the Transport Agency in 2016. This next-generation ship will be powered by liquefied natural gas, and an announcement made at the time of writing indicates that the vessel will be called *Polaris*—a reference to the North Star.

WEEKS AT SEA WITHOUT DOCKING

Otso is a model example of Finnish Arctic technology. Originally launched in 1986 for service on the Baltic Sea, it was modified in 2015 for operation in ocean conditions by incorporating an anti-rolling tank. Otso's hull was also reinforced and the ship was fitted with a helideck and lifeboats that meet the latest international standards. Changes in the air bubbler system and rudder angles also enable the vessel to open wider lanes in the ice. Otso won an international award for these modifications.

Working off the Greenland coast, the icebreaker



PHOTO: MEERI UTTI

Originally built for Baltic Sea service in 1986, the Otso was subsequently modified for navigation in the Arctic Ocean as well. ▲

must navigate slowly at about 4–6 knots, which is less than eleven kilometres per hour. It opens a straight line, clearing and pushing ice away for the survey ship sailing behind. It operates from eight to fourteen hours in one direction and then turns, with a longer stop every two weeks. The operating time is only two months in late summer, and all of the work must be done during this period.

Global warming seems to increase the need for icebreakers in Arctic waters. Formerly it was common to have a buffer of first-year ice for the multi-year ice, but now that this buffer has largely disappeared, drifting ice moves more freely and the need for icebreaker assistance is bigger. The icebreaker cannot deal with floes of multi-year ice. These must be pushed away, which limits the available speeds.

A ship like the Otso can operate for up to two months without docking, which is handy as there are no harbours in the region.

“You could see the silhouettes of the islands. They were 20–30 miles away,” Alstela says.

Even so, there were no opportunities to go ashore even if you wanted to, as Northeastern Greenland is part of a vast national park and conservation area. For occasional company, you see polar bears every week and other sea mammals such as seals every day. Alstela feels that the polar bear is a sea mammal for all practical purposes, as it spends so much time in water, swimming long distances.

“There’s a huge number of birds around you all the time, and when the ship flips an ice floe over, then the side of the vessel is black with small fish that plummet into the water.”

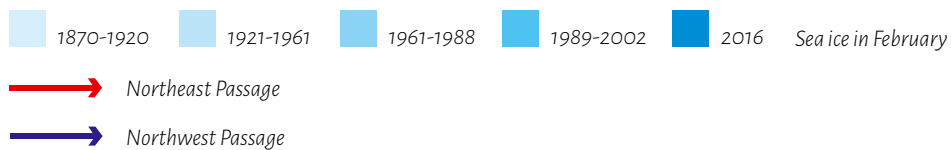
Once they also saw something quite different. Lights started glinting and a lot of movement could be discerned on the horizon.

“We thought that they were UFOs,” Alstela laughs.

There was a large-scale Arctic military exercise taking place somewhere far away.



Arctic sea routes ▲





Pentti Malinen

Region Mayor
Joint Authority of
Kainuu Region
Kajaani

1. **What's the first thing you associate with the word Arctic?**

"For me, Arctic refers to climate: a long, cold winter with special natural features. The term is also used in a political sense that seems to be highly flexible and relative."

2. **How does the proximity of the international border affect life in your region?**

"Invisibly. People living near the border are accustomed to it, so we don't get the kneejerk reactions of people who are less familiar with border regions. Instead of the 'phobias' of the past, people now base their lives on a kind of realism in these areas. National frontiers hamper co-operation even when movement is reasonably free, as with the border between Sweden and Finland. We hope that cross-border economic activity will increase."

3. **You are Chair of the Barents Regional Committee. What does it do?**

"The Regional Committee is a drafting committee for the Barents Regional Council. Kainuu is presiding over both the Council and the Committee for the 2016–17 term. Our mission as Chair is to ensure that the Council, the Committee and the numerous working groups of Barents co-operation stimulate cross-border activities that bring concrete results and benefits for these areas. Our Chairmanship programme is based on the Barents Regional Programme and specifically highlights contemporary challenges and goals. Our ongoing challenge is to modernise and strengthen the operating methods of Barents co-operation, for example through effective communication. One important new opportunity will involve effectively benefiting from European Union external border programmes that are due to open up at the end of 2016. Barents co-operation at regional level currently has a special role to play in the tense international climate that exists particularly between the EU and Russia."

4.

What does Barents co-operation do for ordinary Kainuu residents?

“The impact of co-operation on the entire Kainuu region will probably become obvious in the long run, but its immediate concrete effects will be felt by people and businesses engaged in concrete collaboration in various fields. I hope that local people in our region will form a clear idea of the meaning of Barents co-operation. It is important for the population to appreciate the huge economic prospects of the region and how local enterprises and employees can benefit from these opportunities.”

5.

What are the differences between Barents co-operation and Arctic co-operation?

“From my point of view and from the perspective of the Joint Authority of Kainuu Region, Barents co-operation is more concrete precisely because it is implemented by organisations that represent the areas. Arctic co-operation seems to be a much more generalised intergovernmental process with a stronger focus on political themes.”

Arctic years ▼



International Arctic co-operation began with the Rovaniemi Process, and the city continues to host various Arctic conferences. ►

Arctic Co-Operation

There was a time when military vessels moving both on and below the surface were almost the only ones to navigate Arctic waters. The superpowers watched each other sullenly, with the shortest route for intercontinental ballistic missiles running over the Arctic Ocean. This region abounded in massive radar systems, bases and submarines watching one another during the Cold War. And then the world changed.

The security policy interests of States have obviously not disappeared and there are still bases and military exercises in the Arctic. There has even been growth in such activity lately, but nothing is like it used to be.

The Arctic world has grown together and Arcticness has turned into something global. Various



PHOTO: MARKO JUNTILA

Arctic meetings are held in Korea and Singapore, and in Paris, Madrid and Warsaw. One after another, States and stakeholders have become involved in Arcticness, with continuous multilateral communication. It is not uncommon to send messages from Rovaniemi to Shanghai and Vancouver about when to meet in Reykjavik.

Arctic co-operation typically involves various networks, with Arctic meetings and conferences attended by policymakers, researchers, NGOs, public officials, experts, lobbyists and business community representatives.

The origin of Arctic co-operation depends on your point of view. As leader of the Soviet Union in 1987, Mikhail Gorbachev made a speech in Murmansk introducing the prospect of co-operation

in the Arctic for the first time at this level after the murky years of the Cold War.

The appropriate starting point for the purposes of this book is the beginning of international Arctic co-operation as such in Rovaniemi at the end of the 1980s. A Finnish initiative skilfully nursed through diplomatic channels by officials from the Finnish foreign affairs and environment ministries eventually brought their counterparts from the Arctic countries to Rovaniemi for the first conference in summer 1991. This "Rovaniemi Process" launched official environmental co-operation between the Arctic countries. The resulting Arctic Environmental Protection Strategy AEPS in turn introduced structures that are still visible in the work of the subsequently established Arctic Council.

Arctic Council

- Member States: Canada, Denmark, Finland, Iceland, Norway, Russia, Sweden, USA
- Permanent representatives: the Aleut, Athabaskan, Gwich'in, Inuit and Sámi; Russian Association of the Indigenous Peoples of the North
- Observers: 12 States from Europe and Asia; certain NGOs and international organisations
- Permanent Secretariat in Tromsø, Norway

Barents Euro-Arctic Council

- Members: Denmark, Finland, Iceland, Norway, Sweden, the European Commission
- Barents Regional Council: Nordland, Troms and Finnmark (Norway), Västerbotten and Norrbotten (Sweden), Kainuu, Pohjois-Pohjanmaa and Lapland (Finland), Murmansk, Karelia, Archangel, Komi and Nenetsia (Russia)

THE FINNISH CHAIRMANSHIP OF THE ARCTIC COUNCIL IN 2017

Founding a new international co-operation forum often involves grand ceremonies and the crackle of flashlights, but none of this was seen in 1996 when the Arctic Council was set up in Ottawa. Naturally there were speeches, but the occasion was a simple meeting held in a side-room of the Canadian Parliament Building. There were no international headlines. The Arctic boom was yet to begin.

The Arctic Council is a co-operation forum of the Arctic countries that does not make binding decisions. It is based on six working groups that focus particularly on various environmental issues, and it has also assisted in negotiating permanent conventions on maritime rescue operations and combating oil spills. Security policy considerations do not fall within the scope of the Council's mandate. Organisations representing the indigenous peoples of the Arctic are permanent participants on the Council, and are thereby guaranteed a stronger role than they enjoy in any other international forum.

The Chairmanship of the Arctic Council rotates through the eight Member States, changing every two years. The presiding Member State leads the work and arranges the numerous meetings and events of the Council. Finland will take over the Chairmanship from the USA in spring 2017. Over the subsequent two-year term, Arctic character will be made tangible in Finland in various ways. Despite its quiet beginnings, the Arctic Council has become a prominent forum that is closely monitored.

THE BARENTS REGION AND THE NORTHERN DIMENSION OF THE EUROPEAN UNION

The Arctic Council is not the only northern co-operation forum in which Finland is involved. The Barents Euro-Arctic Council promotes co-operation over a

huge area extending from the Lofoten Islands on the Atlantic Arctic coast of Norway to the western slopes of the Ural Mountains in Russia. Russia took over the Chairmanship of this inter-governmental body from Finland in 2015 just as the Kainuu region of Finland began its Chairmanship of the Barents Regional Council.

Practical co-operation in the Barents Region also involves working groups covering a range of fields from the economy to health. Transport is an ever-present topic, as the Barents Region is an enormous area in which effective internal communications are minimal. These have mainly consisted in recent years of an air service from Oulu via Luleå in Sweden to Tromsø in Norway. A Russian minibus departing three times a week from Ivalo has been the only public transport link between Finland and Murmansk. Everyone involved in Barents co-operation must be prepared to make long and difficult journeys.

In 1997 Finnish Prime Minister Paavo Lipponen proposed a special northern dimension policy for the European Union. The initiative was successful, and the Northern Dimension is nowadays a policy shared by the European Union, Russia, Norway and Iceland, covering the territories of Northwest Russia, the Baltic region and the European Arctic, including the Barents Region. The core activities of this co-operation consist of partnerships in the fields of the environment, communications, culture and social and health policies. The environmental partnership in particular involves financing mechanisms that have enabled many practical projects.

European Union agencies have drawn up several reports and communications to guide the Arctic operations of the EU since 2008. Arctic activities fall within the purview of several Directorates-General of the European Commission, including

those concerned with external relations, the environment, and maritime and regional policy. The EU is a significant financier of Arctic research, and its funding programmes are important for cross-border co-operation and regional development in the northernmost reaches of Europe.

ARCTIC STRATEGIES

All of the Arctic countries and a group of nations outside of the region have their own national Arctic strategies. After adopting its first strategy in 2010 with a focus on foreign policy, Finland soon began preparing a new Arctic strategy that would incorporate all of the country's Arctic activities. The 2013 strategy and its updates now provide guidelines for national operations during the Finnish Chairmanship of the Arctic Council.

The strategy is based on a view of the whole of Finland as an Arctic country. Arctic interests covering the spheres of economy, research and public policy affect the entire country, even though geographically speaking the Arctic territory of the country only comprises a part of Lapland. On the other hand, the people of Finland make up about one third of all human beings living north of the 60th parallel: a latitude that roughly demarcates the south coast of the country.

The strategy mainly focuses on Finland's Arctic population, education and research, Finland's Arctic business operations, the environment and stability, and international co-operation in the Arctic. One common thread running through the strategy is the environmentally sustainable promotion of economic activity. While setting dozens of practical goals for Finland's Arctic operations, the strategy provides no new economic resources, and will be implemented as part of the normal work of government and other stakeholders.



Barents region ◀



Barents Euro-Arctic Region



Observer at the Barents Regional Council



Capital cities of Arctic Region States



Capitals of administrative areas

THE ARCTIC AMBASSADOR AT THE HUB OF THINGS

It is practically impossible to draw up a comprehensive list of all of the operators and networks that are active in the Arctic, but we can identify the key players. The Arctic Ambassador of the country holding the Chairmanship of the Arctic Council is naturally one of these. Aleksi Härkönen is an experienced Finnish diplomat who assumed responsibility for preparing the Finnish Chairmanship in 2015. The greatest novelty of his work as Ambassador is its perspective.

“Finland is no longer a fringe player in the theatre of operations, but lies at the hub as a Member State of the Arctic Council, the Barents Council and the EU. We view the world from a different position,” Härkönen explains.

As Chair of the Arctic Council, Finland belongs to a very small and select group.

“This is a one-of-a-kind experience for Finland. The group has only eight countries, but includes the USA and Russia. Finland is a member of this group, and will even serve as its Chair for two years. This doesn't happen anywhere else. It gives Finland and its political leaders a great opportunity to create contacts with both the leadership of the United States and that of Russia.”

The political leaders of Finland have under-



PHOTO: KAISA SIRÉN

Aleksis Härkönen is Finland's Ambassador for Arctic Affairs. ▲

lined the importance of Arctic character during various interviews and occasions. The Arctic Ambassador is asked every day to comment officially on whether the whole of Finland is an Arctic country. For Härkönen it is.

“Our Arctic expertise and experience of the north extends over the whole country,” he says, comparing Finland with Iceland.

“Iceland is also an Arctic country, though it barely reaches the Arctic Circle and the land mass of the country is actually slightly to the south.”

Even countries that are nowhere near the Arctic Circle have now become aware of Arcticness.

These countries are found in Europe and Asia alike.

“Arcticness is something new for these countries that they have never really considered before. Many of them become interested when they realise that this is a changing area that calls for some kind of policy response,” Härkönen says.

There are two basic points of view. One of these is that the Arctic Ocean is a regional sea with operations to be determined by its coastal States. The other approach compares the Arctic Ocean with the vast marine expanses of the Earth where operations fall under international law, and in particular under the UN Convention on the Law of the Sea. Finland is not a coastal State of the Arctic Ocean.

“Finland used to have a strip of this coastline, and we have historical memories of this period. Nowadays the lack of Arctic coastal areas is compensated by Finland’s world class maritime expertise.”

The Arctic Ambassador has no personal Arctic mission or message.

“Maybe it’s better that way. I have to look at these things from a reasonably broad perspective and allow for the fact that the Arctic is only one sector of Finnish foreign policy, and comparable to many other regions of the world.”

Härkönen nevertheless offers one personal message: “When building Arctic co-operation, we must guarantee good conditions for the people who already live in the area.”

A NEW ARCTIC HOUR

The manuscript of this book was finalised in December 2015 when the temperature in Helsinki was several degrees above zero and rain was washing the last remnants of snow down the drains of Oulu. Only north of Rovaniemi did the ground take on the

whiteness that people expect at this time of year, and even here the lakes and rivers were not properly frozen. The entire winter was seriously overdue.

An international climate agreement had just been adopted in Paris. Many speeches at the conference had referred to the Arctic: to the fact that it was warming up at twice the rate of the rest of the planet and that the escalating melting of its icesheets and subsequent rise in sea level threatened numerous large coastal cities.

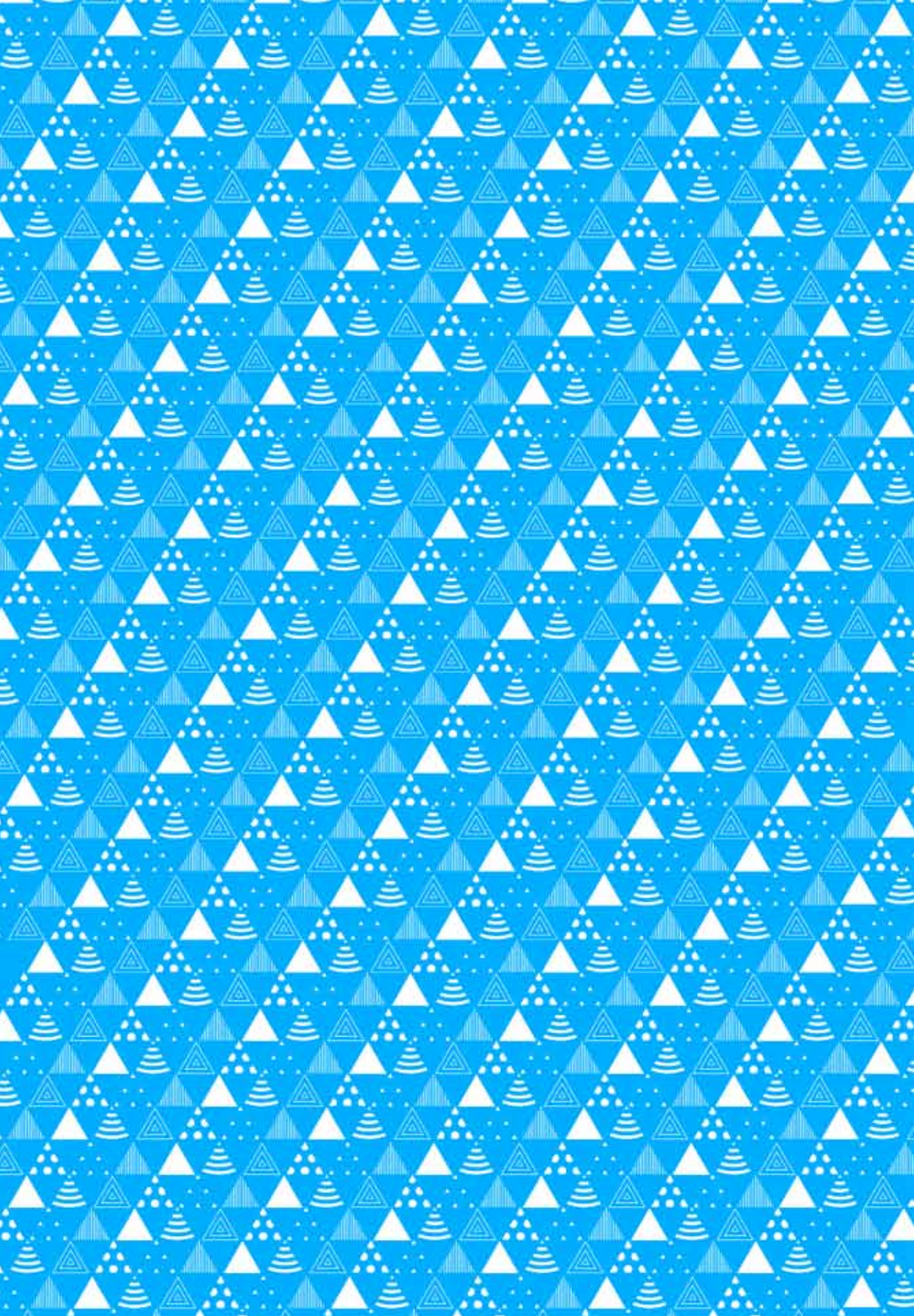
While we were writing this book thousands of people seeking asylum quite unexpectedly arrived at the northern frontiers of Finland from Sweden and Russia. International politics no longer only referred to places far away.

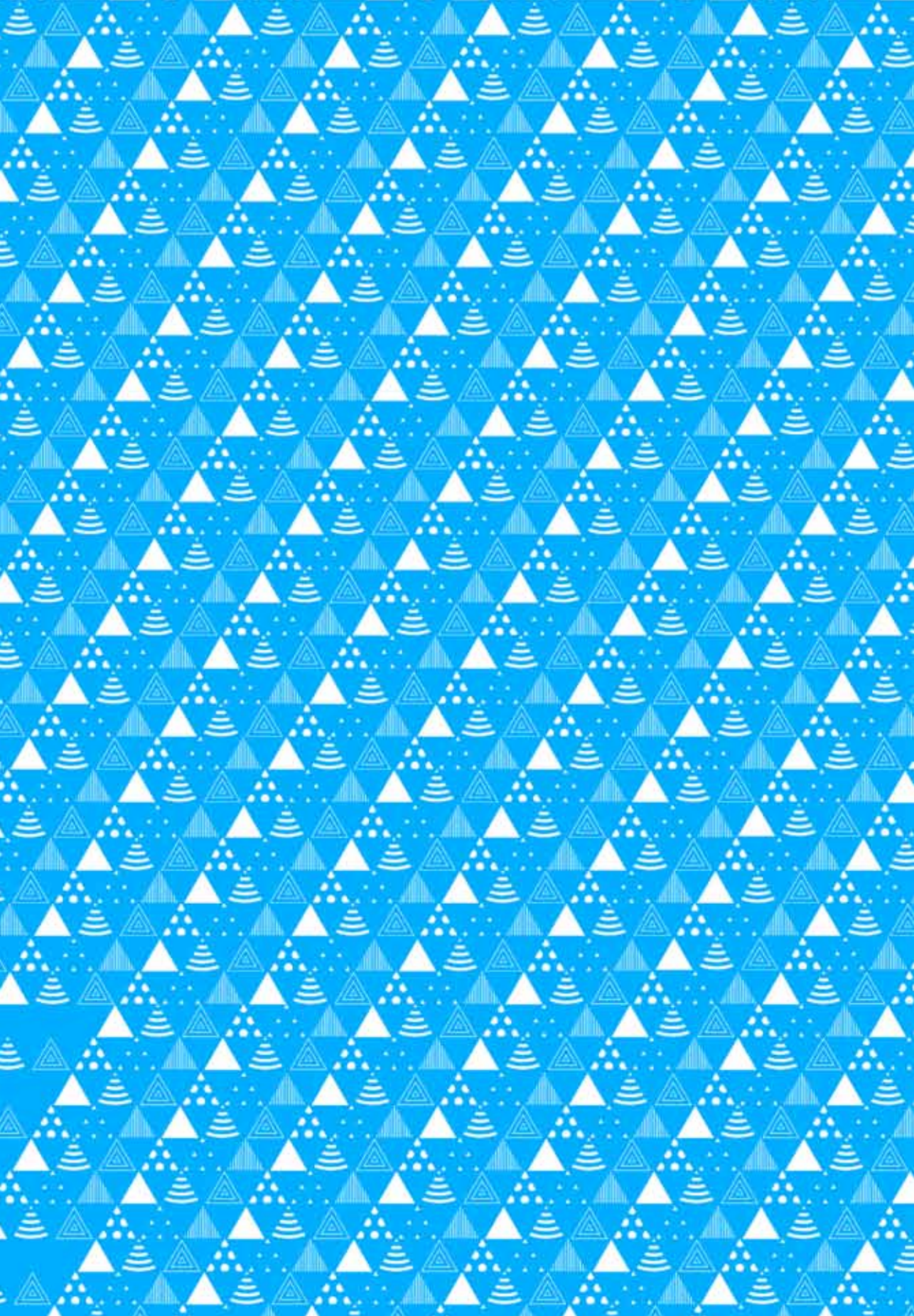
The price of oil continued to fall, going well below the level required for profitable exploitation of new fossil fuel sources in the Arctic. The world market prices of minerals were also low, reducing the urgency of any discussion of new mining operations. Expectations and prospects had been completely different just a few years earlier, as had the global political situation.

The march of progress never stops, and by the time that this book becomes available it is very likely that something described here will already have changed. We have elevated the people who create everyday Arctic character as honorary guests at the table of Arctic variety. We could have invited many other people to join us, and in a few years the honorary guests will include people whom we were not able to consider at this point.

The winds of change always bring surprises, but fortunately the residents of the Arctic are accustomed to windy conditions both nowadays and in former times. We are always in the middle of a new Arctic hour.









Arctic everyday life in Finland emerges from people engaged in a wide range of occupations and official positions all around the country. These are the people making Finland an Arctic country in its centenary year – with joy, expertise, pride and wisdom.

The Finnish Chairmanship of the Arctic Council: 2017–19.

PRINT ISBN 978-952-281-463-0

PDF ISBN 978-952-281-464-7



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