Sounding silence

(re)evoking the riverscapes of Kemijoki

Bergen School of Architecture 2022

Diploma program of Atso Airola

Tutors:

APP: Alberto Altés

DAV: Vibeke Jensen

1:1: Vibeke Jensen & Bernice Donszelmann

Sustainability: Nancy Couling

Also thanks to:

Alina Mäkynen

Leon Hidalgo

Luna Scéau

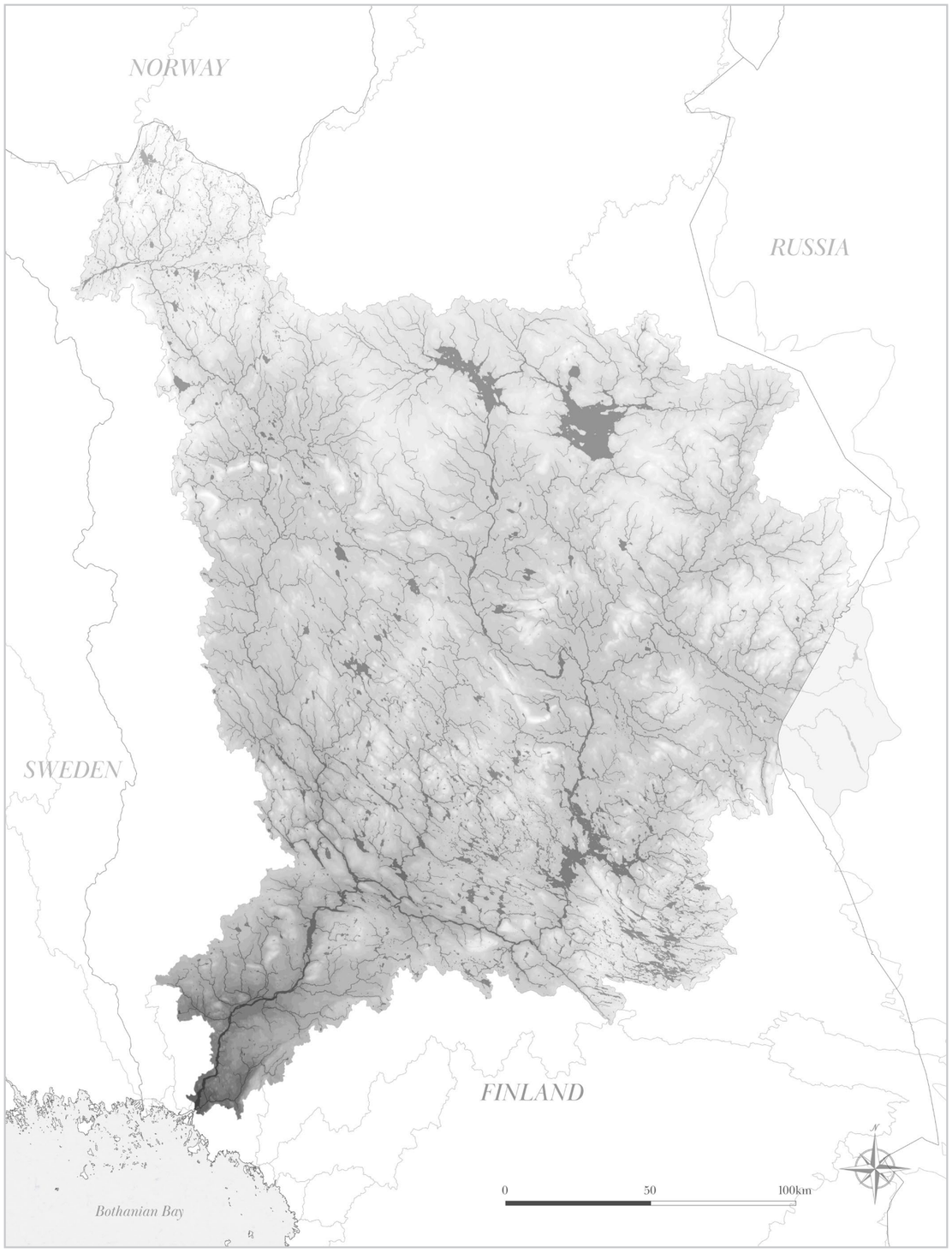
Mats Edal

Olli Laine

Sarah Streitenberger

& everyone I met by the river

Contents:



Where? - *in/on/by the silenced river*

The site of this diploma is the river Kemi (in Finnish: Kemijoki, in North Sami: Giemajohka) - a river in northern Finland, with a basin covering most of Finnish Lapland. For centuries the great Kemijoki has provided food, wealth, and livelihood, and in the past, it used to be “the best salmon river in Europe”. For its rich resources, the river has been exploited by fishing, timber and energy, and mining industries, and in just a couple of centuries, the river has possibly gone through more changes than any other river in Finland.

One of the most extensive and most recent changes for the river and its inhabitants was the postwar construction of hydropower. Hydropower changed the riverscapes dramatically as it flooded large areas under reservoirs and reshaped the riverbanks to concentrate the water to the power plants. As a result, forests, swamps, and meadows were left underwater, and parts of the river dried. People and animals lost their homes, habitats, and herding grounds.

Due to hydropower, also salmon, a species long important to the region, went extinct. With salmon gone, many depended on fishing, lost their livelihood, and the collective cultural traditions of salmon fishing faded. Hydropower construction provided short-term jobs for locals, but as the control of power plants was automated, the liveliness around the hydropower sites also soon declined.

Hydropower also changed the rhythm of the river. The river that used to change according to the seasons gradually answered now to the fast-changing electricity consumption needs. Rapid and extreme changes in water level height created unsteady ice conditions and made the river more difficult to use.

The changed landscape, loss of salmon, and highly regulated waters left many disconnected from the river and created voids in the space, culture, and biotic life of the watercourse. To produce electricity, the generators now rumble day and night, but the roaring of the old rapids, the chatter of past cultures, and the sounds of lost species are gone - today, the river Kemi is silenced.

Kemijoki offers an interesting setting to dive into the interrelations of the built and natural world, humans, and non-humans. By choosing a river as a site, this diploma aims to better understand the complexity of factors that shape the built environment and how ecosystems and landscapes are affected in the process.

The river basin of Kemijoki and the three eras of river Kemi: fishing (top), timber (middle), and hydropower (bottom)

How? - *by listening and researching*

To better understand the vast landscape of Kemijoki and its complex dynamics, throughout this semester, I have entered the site from multiple directions, listening to and following the stories that resonated and spoke to me.

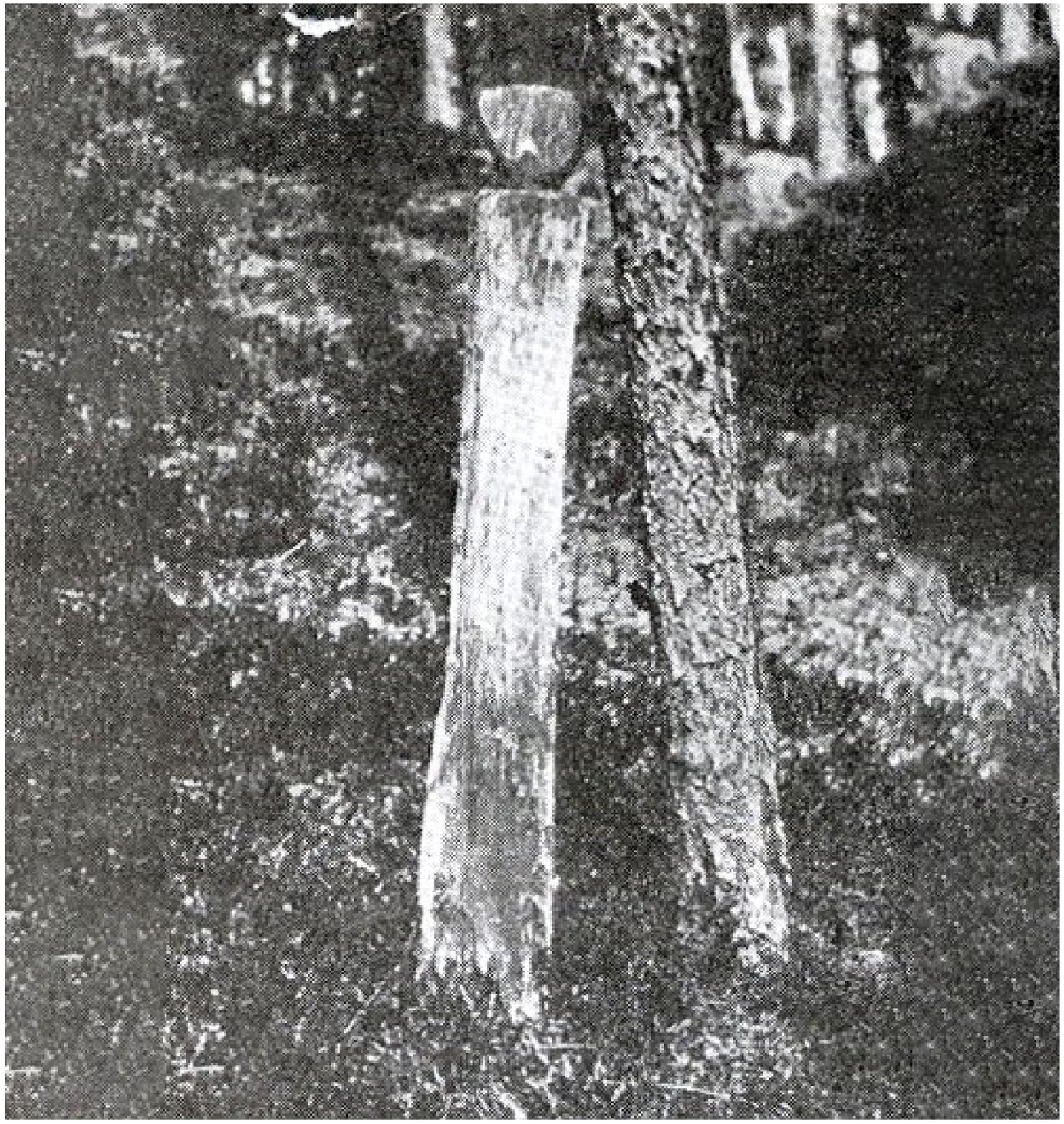
First, I started the diploma journey by reading and writing about rituals. Around the same time I was writing, I came across an annual protest along the river, Blessing of Sieriniemi, that opposes plans to build a new powerplant. I found the protest interesting, and in my essay, I ended up analyzing how the event could be understood as ritual behavior. From the protest, I found it especially fascinating how salmon as a symbol was used in the visual language of the protest and how in 5 years, it developed from representing loss and damage into a symbol of resistance and collective joy.

This, as my first entry to the river Kemi, I continued the diploma journey and, like salmon, traveled the river upstream, stopping at many of the hydropower sites. Over two weeks, I collected hydrophone recordings from under the ice of the river in order to explore what sound can tell about the present and what lies beneath the surface of the river. I also used sound and the act of fishing (sounds) as mediums to discuss with locals to better understand how people experience the river and to see what memories sounds can evoke.

Throughout the semester, I've also mapped and analyzed the river and its inhabitants. I've looked into the river's past by analyzing river from its primary modes of extraction: fishing, timber, energy, (and mining). By analyzing the main industries, I've aimed to understand better how the extractive processes have shaped the river and what infrastructure they've produced. To ask how non-humans have been affected by the industries, I've also looked into some of the river's endangered species: sand martin, blunt leaf sandwort, freshwater pearl mussel, and hydropsychidae. Studying the species, I've also aimed to broaden my views on the different ways of inhabiting the river and how the river and its inhabitants change according to seasons. By also seeing what qis data is available, I've tried to get an overview of the life and processes around the river.

In addition to examining the river as an entity and as a result of the journey along the river, I've focused more deeply on three hydropower sites along the river: Isohaara (damscape), Pirttikoski (dryscape), and Porttipahta (floodscape). These sites I selected because they represent the landscape types most dramatically altered by hydropower and locate on different parts of the river, close to the start, middle, and end of the main branch, thus allowing a diversity of approaches for the final project.

Recording sound from under the ice of the river with hydrophone.



What? - *disruptions and echoes*

The final project consists of three interventions proposed for the three selected sites damscape, dryscape, and floodscape, and a website, an open archive of the research from this semester. The three interventions, constructed mainly from decommissioned electricity parts, draw from the research in order to explore the following questions:

How to visualize and create awareness of past and current processes of extraction, their impact on the river and its various forms of life?

How to understand, reanimate and promote various ways of living with, around, and within the river?

How can the spatial and cultural erasure created by hydropower exploitation, the loss of salmon, and other extraction processes be digested, and its voids reactivated or filled in with new life?

How to gain back a sense of ownership from the industries and hydropower?

How could alternative architectures of/along the river encourage inclusivity and care, hosting and nurturing instead of focusing on control, domination, and extraction?

How to change the perspective from the river as a resource to the river as a network of life?

How to live and die well with the river and the life it supports?*

How to think like a river?

*Terms used by Donna Haraway - see references for more

Lapland's statue (in Finnish: Lapinpatsas, keripää, or kalapatsas)
Type of standing wood statues found in southern Lapland. Statues were used to mark and memorize a succesfull fishing or hunting ground.

Source: Paulaharju, S. (1932) *Seitoja ja seidanpalvontaa*

Why? - *to sound*

As humans struggle to free themselves from fossil fuels, the demand for sustainable energy is on the rise. In the Finnish context, Kemijoki is one of the major sites of ”green” energy production. It is the biggest single hydropower producer site and the only place where a new hydropower plant is still being planned. Mineral searching for technologies and bio-industries are also increasingly present in the river basin and pose new challenges for life below and above water.

In a world with increasing demand for green energy, the history of Kemijoki raises important and critical questions about the production of energy. Is it environmentally sustainable if energy production leads to the extinction of a species' ecotype? Is it socially sustainable if hundreds of people and animals lose their homes for it? Is it economically sustainable if positive economic effects for the locals are only temporary?

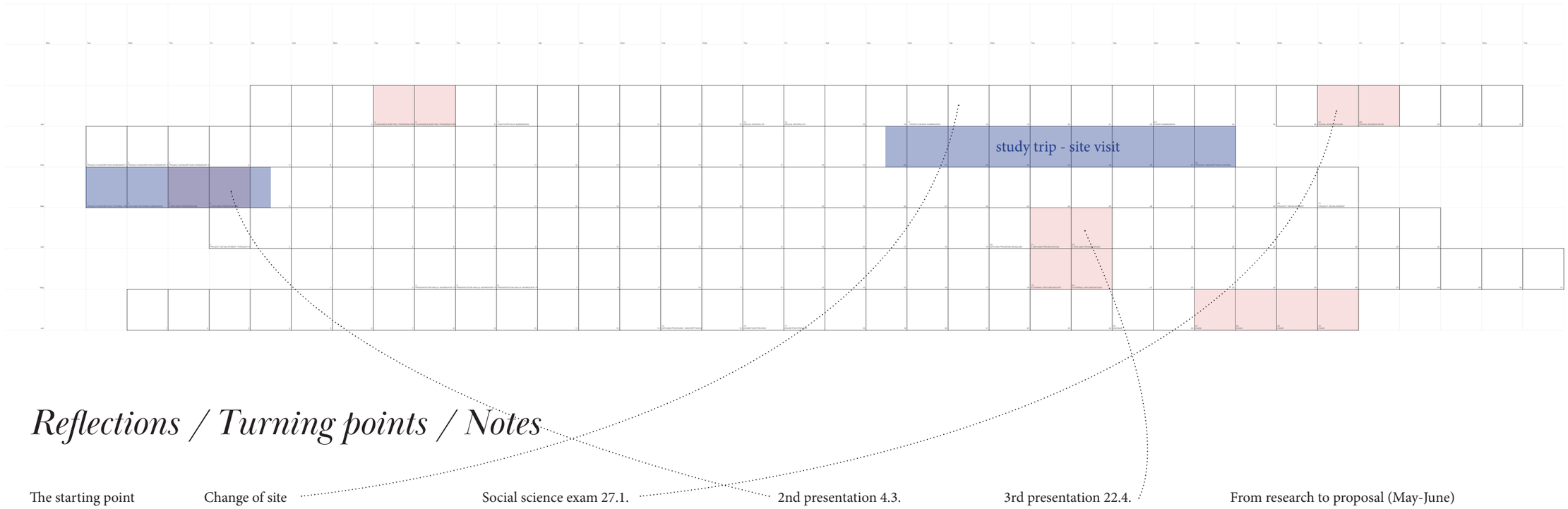
Alternative forms of energy are needed in order to get rid of fossil fuels. But most likely also a re-organization of life and coexistence that turns to less energy-avid dynamics. So-called green energy is a response to the energy crisis that is primarily focused on producing more energy otherwise. A similar approach is often followed within the building industry, and the architectural profession, where building more is usually the prevailing 'mantra'.

I believe it is important to develop alternatives to these dominant discourses and practices, and instead of always proposing 'more', carefully investigating the possibilities of a 'lesser' mode, focusing and shining light on the 'how'.

The diploma project has therefore been a journey to investigate the potential of architecture as a tool to explore and address bigs issues such as energy production and extractive practices, but also modalities of memory, remembrance, mourning rituals, spatial and cultural healing, coexistence, and life, as sites and threads of intervention for engaged and inclusive architectural practices.

Extract of a painting by Outi Pieski
Deatnu, máttožan / Deatnu River, Our Ancestor (2018)

Timeline



Reflections / Turning points / Notes

The starting point

With the diploma I wanted to investigate a relationship between man-made and nature, and how architecture can positively influence how we position ourselves to others, both to other humans but also to nature. As a site I decided to choose a river to continue investigations about water started in the previous master course Ocean Space. As a starting point for the project I chose a river Aura from my childhood city Turku as the site.

Change of site

Researching about Aurajoki I became to notice that many of the "problems", that I remember from my childhood, of how city relates to the river, have been started to been address by the city and its citizens much more than I was aware. I found out that multiple grass root organizations work on the well being of the river and the city is actively participating people in how the water could be better accessed and how river used more as a public space. Some of the foundations and directions I had considered for the project seemed to be "solved" already. I became to question wheter I should take part in the movement that already is happening along the river, or consider changing site.

While researching about Finland's rivers in general one river stood out - Kemijoki. Not only Kemijoki was the longest river in Finland and the biggest producer of hydropower, it also seemed to have gotten more media coverage than other rivers. On the river locals and hydropower company seemed to have an active debate on wheter and how a salmon could be restored in the river. The discussion had surfaced as ELY keskus had recently demanded the hydropower company to install fish ladders on many of the their dams to fix damages caused for the migrating fish. The company had taken the demands to the court as it considered them unrealistic to execute.

For the essay I had chosen to research rituals, and from Kemijoki I also found a suitable context to situate those readings. I decided to compare Blessing of Sieriniemi, an annually held rowing protest that opposes new hydropower plant, to the anthropological understanding of a ritual.

Combination of all of the above made me change the site to Kemijoki, as I felt it could allow more diverse and pressing directions for the diploma.

Social science exam 27.1.

I presented the social science essay where I compared anthropological understanding of ritual to 'Blessing of Sieriniemi', an annually held protest/event that has taken place on the river site of the diploma for the past five years. Key findings/learning outcomes of the essay included better awareness of the effects of rituals on people and understanding of what kind of actions could be considered a ritual.

By looking into the protest, I found out that the extinction of salmon, which happened almost 70 years ago, might still be unprocessed by some locals, and the protest had some aspects of a griefing ritual. Salmon as a symbol was very present in the imagery of the protest, and I found it especially interesting how, during the five years, the symbolism of salmon had developed from being a symbol of loss and death to being a symbol for resistance and local community.

In addition to presenting the essay, I presented a concept model. My concept model was a balancing object composed of two carefully joined wood branches. I had also collected a collection of threads (memories of past projects) that I had found from the school property. For the duration of the presentation, the object was hung from the auditorium ceiling, and the threads were passed around. People were then tasked to choose a thread that resonated with them. After the presentation, we had a small ceremony where people placed the threads on the branches of the object.

Discussion after the presentation focused on ritual and grief. Ritual was discussed in connection to protesting and anarchy. It was mentioned (maybe by Tord?) that protesting often includes the dissolving of norms that, in an extreme situation, can lead to an "anarchistic" state. If the re-establishment of norms doesn't happen, society or condition might be left in a liminal state that might not serve the purpose of protesting. About grief, I was suggested to look into the five stages of grief to compare how those relate to the situation in the site.

2nd presentation 4.3.

I presented the research so far. The presentation focused mostly on the two-week long study trip and key findings from it. For me the presentation took place online as I was still on the road. Rest of the group were physically at BAS. Presenting online did not serve the situation in the best possible way as I couldn't participate so well for presentations of others, but online participation allowed me longer time on the site which turned out to be very useful in the end for collecting information.

Discussion and feedback after the presentation focused a lot around mythology. At the time, I found that a bit unhelpful. I was in a state where I had collected vasts amount of information and feeling a bit overwhelmed by it struggling to organize it. Mythology was not a topic I had focused on so much during the trip so pointing to a new direction added to the feeling of confusion. Afterwards I came to realize it was still an important direction to point out to, and maybe already much more present in the material collected so far, that I had realized. Connection of place naming and mythogoly was also discussed briefly.

Another aspect that was brought up in the discussion was "river as a client", and what it means if an (a) bioting "being" is a client? This was discussed in connection to the audio recordings I had collected during the trip. Connection/relationship of pitch and depth in audio was also pointed out as a possible way to represent and expolre futrther different conditions and locations along the river.

3rd presentation 22.4.

The final project at this moment I imagined to be a "space to reflect about space", a collection of the research weaved together with imagined future scenarios on hydropower sites. I had started designing site-specific audio walks/experiences that would challenge the understanding of the sites and a booklet that would include the collection of the research together with visuals and stories of possible futures. Together, the booklet and audios I imagined as space/map/tools for imagination that would draw attention to the voids created by hydropower and challenge how to perceive the selected sites.

For the presentetation, I wanted to test out this idea, so I presented the collection of research (sites of interest, species, river basin mapping, sound recordings), and ended the presentation by playing and reading an audio sketch for one of the sites.

So far, I had primarily focused on researching/observing, and clearer comment was hoped for. As feedback, it was questioned whether a 'state of mind' / 'tools for imagination' is enough for a diploma project. It was also questioned to whom the audios would be meant for - for locals or for outsiders visiting somewhere by the river? Also, some light/hope was hoped for. It was pointed out that maybe one should also emphasize more the other life around the river rather than focus on the extractive cultures (fishing, wood industry, and hydropower).

From research to proposal (May-June)

To take the project further, I aimed to focus on defining' the comment' and finding ways of pointing towards a future – still with regards to the past. I realized that due to the past of the river and how industries had behaved in the river basin, I had hesitated to come up with an architectural proposal that would propose something actually built. I challenged myself to try this still (instead of prosing only audioscapes and a booklet) but by trying to still keep the sensitivity towards the sites, people, and biotic life.

Being slightly stuck with the selected sites, temporarily, I challenged myself to look again at the river more as an entity and think of the type of""-scapes" there are along the river. I realized that during my journey, I had come across, and based on the research, at least the following landscape types were present in the river basin: floodscape (flooded areas and reservoirs), dryscape (dried parts of the river), damscape (most constructed hydropower sites), bushscape (previous flood meadows that have now been overgrown), damnedscape (possible future damscape), canalscape (canal connecting reservoirs), survivalscape (areas that have battled and won against hydropower development). I decided to focus on the first three ones: floodscape, dryscape, and damnscape, as I realized that these types could be found out by or next to the sites, I had already been focusing on.

Around the same time, I found out that the substation next to one of the sites was being removed, and parts of that would be demolished. Inspired by this finding, as an idea, I started to test out if parts of the substation could be used to build structures, could that method be a statement against the culture of erasure, and could that work to highlight the connection of

Looking back at the research, especially the audio recordings (spectograms), and findings related to the past fishing culture (Lapland's statue, siedi/hiisi), combined with the efforts of imagining structures from reused electricity parts, I started to find strategies and connections that could possibly be used to weave together an architectural proposal with the findings from the research. I began to imagine a strategy of vertical structures - structures that would reinhabit the riverscapes and, like markings on the spectogram landscape, create moments, and like the Lapland's statues, remind of the past.

Important references

Autti, O. (2013). *Valtavirta muutoksessa, Vesivoima ja paikalliset asukkaat kemijoella*

Autti, O. (2019). *The Wise Salmon That Returned Home In Räsänen, T. (Ed.) Syrjämaa, T (Ed.), Shared Lives of Humans and Animals, Animal Agency in the Global North (pp. 179-191).*

Haraway, D. (2016). *Staying with the trouble, Making Kin in the Chthulucene*

Krause, F. (2012). *Managing floods, managing people: A political ecology of watercourse regulation on the Kemijoki*

Krause, F. (2013). *Seasons as rhythms on the Kemi River in Finnish Lapland*

Morton, T. (2010). *The Ecological Thought*

Mustonen, K., Mustonen, T., Aikio, A. & Aikio, P. (2010). *Drowning reindeer, drowning homes: Indigenous Sámi and hydroelectricity development in Sompio, Finland. [Snowchange].*

Viikuna, K. (1974). *Lohi, Kemijoen ja sen lähialueen lohenkalastuksen historia*

Contact information

Atso Airola

+358-400365295

airolaatso@gmail.com

CV

EDUCATION

Tampere University (2015-2019)

B. Arch - 180 credits

Bergen School of Architecture (2018-2019, 2021-2022)

Master in Architecture

Limits of Control (2018)
Vanishings (2019)
Explorations in Ocean Space III (2021)

WORK

Architects Frondelius+Keppo+Salmenperä (11/2019-6/2021)

City Planning Department of Kajaani (6/2019-9/2019)

LPR Architects (5/2018-8/2018)

COMPETITIONS (public art)

Pinnan alla (2017)

Idea competition for a mural - 1st prize

Suovillat (2020) - collaboration with Olli Laine

Public art competition - 1st prize