P5 REFLECTION

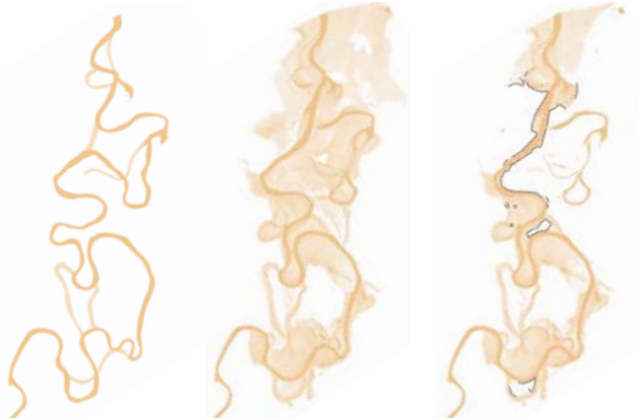
Using short explanations, I account for the preliminary results of my research and design. This reflection paper aims to examine the initial goals, research and methods undertaken throughout my graduation. I also discuss the relevance of this project within a larger social context.

RESEARCH & DESIGN

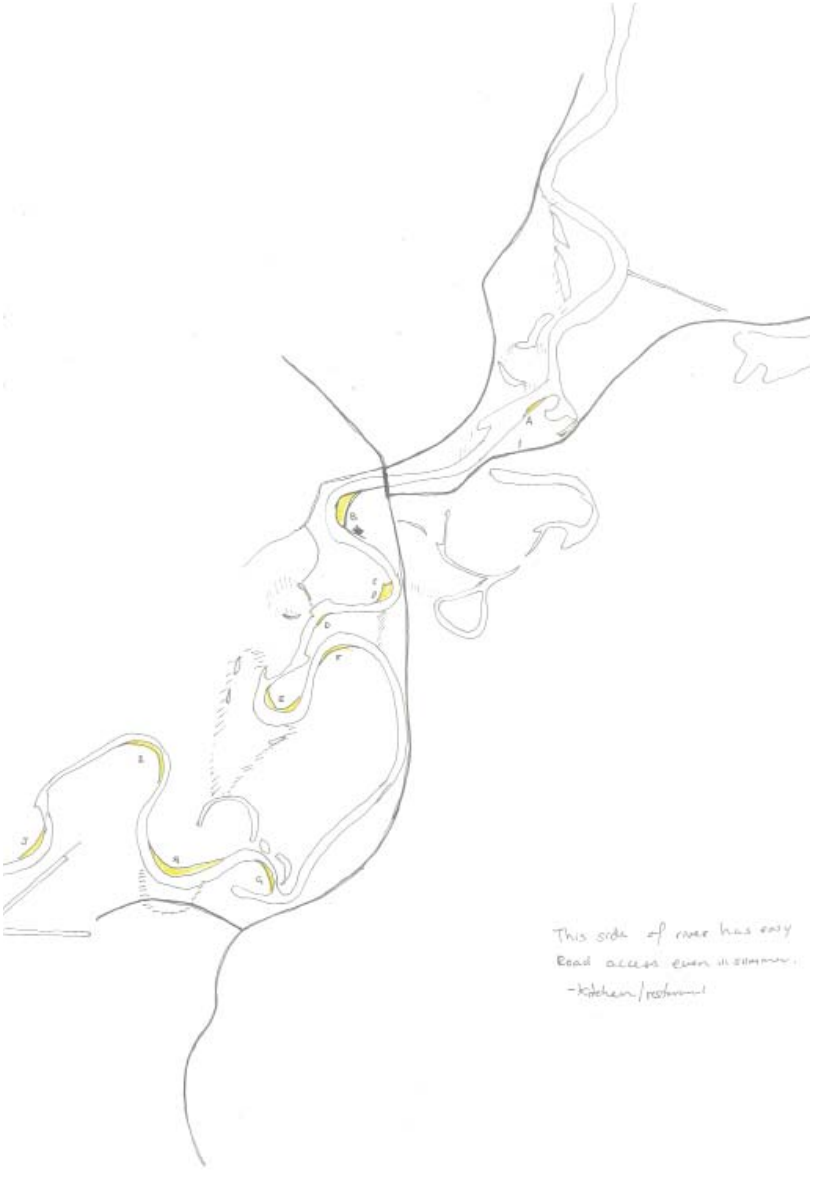
Early Research

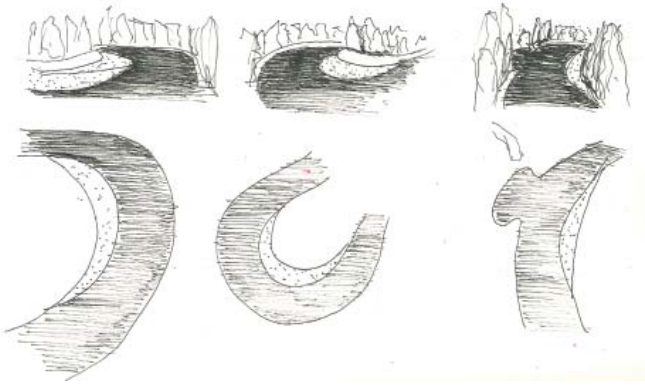
Since Ivalo was a place I had never visited, my research began with the very basic need of understanding this location, its history, ecology, seasons, and culture. Two papers, written specifically about these issues became the basis for my understanding of this place: Vuojala-Magga and Turunen, “Experiences with an Arctic River.” and Tennberg, Vuojala-Magga, and Turunen, “The Ivalo River and Its People: There Have Always Been Floods - What Is Different Now?” Both of these papers offered a comprehensive look into the case in Ivalo – its history, ecology, territory, people and current issues. Without this work, I would have found proceeding with a design intervention in this situation almost impossible.

As part of the Delta Interventions lab, a layer analysis of the site became the starting point for formulating a narrative. Using the research I had gained from the papers mentioned above, websites, flood maps etc., I drew maps at three different scales, three different time periods and three different layers (occupation, infrastructure, and landscape). The largest scale allowed for me to begin to understand Finnish Lapland and the context in which Ivalo was situated. When working in an unfamiliar place, this is extremely important. The town and regional scale helped me to understand the relationship between the rivers and lakes and the settlement. Through this exercise, it became clear what the important issues were within this situation. Translating words from research papers into spatial maps was not always 100% accurate, however in making educated guesses, I was able to identify main themes and issues. Placing this information on a map allowed issues to be seen clearly in one glance. It also gave direction to the next steps in the research as well as in the design.



In addition to the understanding of the territory as an academic study, I endeavoured to understand it also as an experiential space. I used drawings of maps, and views in order to construct an understanding of the movement and nature of this river. The turns of the river particularly interested me in the way each bend revealed a new image. The direction of the river flow also began to suggest an architecture that revealed a different nature from either an upstream or downstream view. The idea of protecting against a rushing flood also tied into this idea, with a heavier mass to the current. All this led to imagining a series of buildings which, each in turn, occupied their own bend in the landscape and which directly responds to the flow of the river.


This side of river has easy
Road access even in summer.
-kitchen/restroom



Excursion

All of this research carried me through to the P2 presentation. Although this research told me about the place, my instinct was that this unique Northern landscape could not be understood through descriptions alone. In February I travelled to Ivalo with the mindset that in order to understand this landscape, it was important to experience the place for myself. The phenomenological understanding of place needed to be incorporated within my design sensibilities; in Ivalo, this understanding was directly related to the tangible experience. During the trip I was able to spend time on the frozen river, both on skis and on foot and also during day and under the Aurora Borealis. Even in this once season the contrasts between light and dark were striking. The landscape and vast expanse of snow which covered everything imparted emotions which were not acquired through photographs alone. It is these unique phenomena that define the character of the place and which any architectural design should respond to.

In addition to the experience of the place, I also made note of the existing materials in the landscape and used in the buildings. Birch and pine trees appeared to be the most prevalent species. There was very little stone architecture and most buildings were built from wood. Fireplaces were built of stone.

I walked through the town in order to understand the typology of buildings in this location. Most buildings were pulled back from the road quite a distance. There were large pedestrian walkways, streets and space on the side

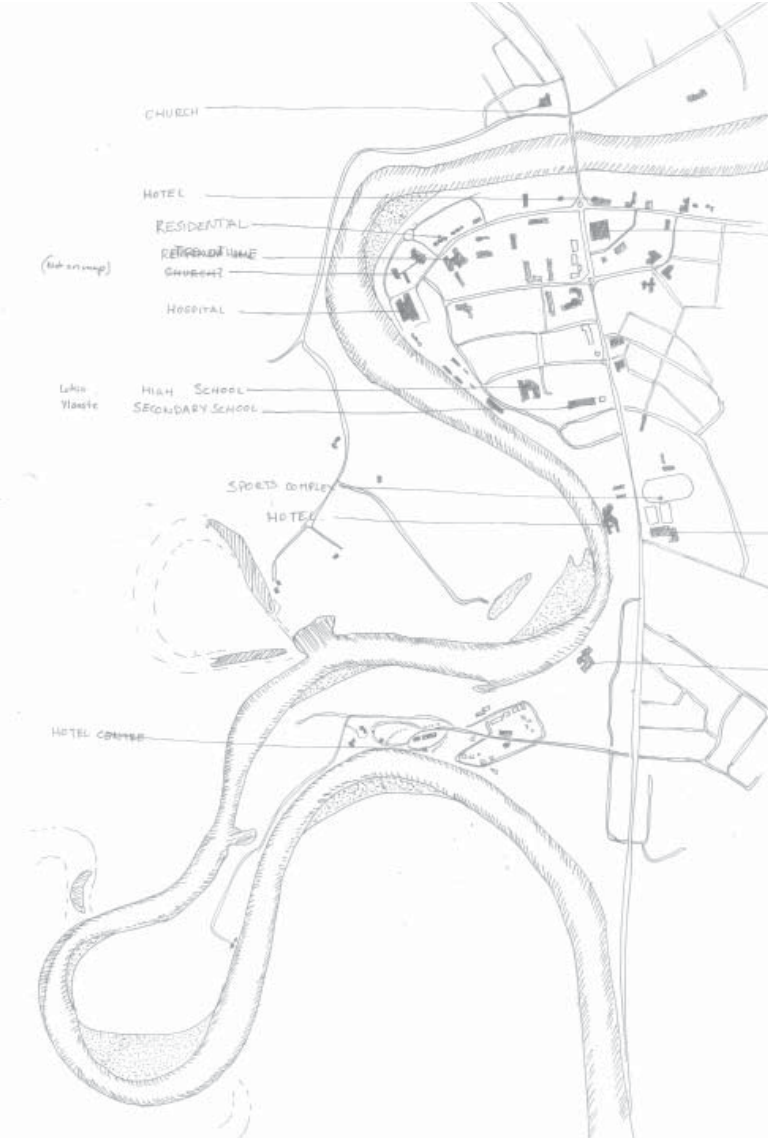
which could accommodate piles of snow in the winter. Often there were small roof structures built to cover cars, garbage bins and what looked like bus stops. This also kept the snow off these objects and would minimize the need for snow daily snow clearing.

I visited the Library in Ivalo. Although there was some confusion, due to the language barrier, I was able to get plenty of books about the Ivalojoki (Ivalo River), the Sámi people, and the Northern landscape in general. I was particularly taken by the book, Three Northern Views written by Hannu Sinsalo and Raimo O. Kojo. It contrasted the way in which various populations see and perceive the North. This more complete understanding of the landscape enabled me to engage with the environment as more than just a tourist. Explanations of the landscape through the eyes of someone who lives there reveals a more multi-layered understanding of a place. I found that the descriptions particularly enabled me to access knowledge I already had – my own experiences in the landscape in Canada for instance. By linking my understanding of one place to another, I was able to draw on the depth of knowledge that I had already accumulated through my own life.

In addition to this, I met with Terhi Vuojala-Magga (one of the authors of the papers listed above), an anthropologist, reindeer herder and researcher at the University of Lapland. We took a brief tour of the town and areas where flooding is possible. We visited typical housing styles that responded to the flooding and the cold environment. I borrowed the concepts of these

simple local solutions in the design of my project. This contact remains open for more collaboration and she was quite interested in contributing to my research.

Upon returning to Delft, the challenge was to take all the information gained from this trip and translate it into a tangible object. The experience of this landscape and town was so tangible, the way in which to best explore this was through tangible means. Physical models and drawings became very important in distilling an architectural idea.



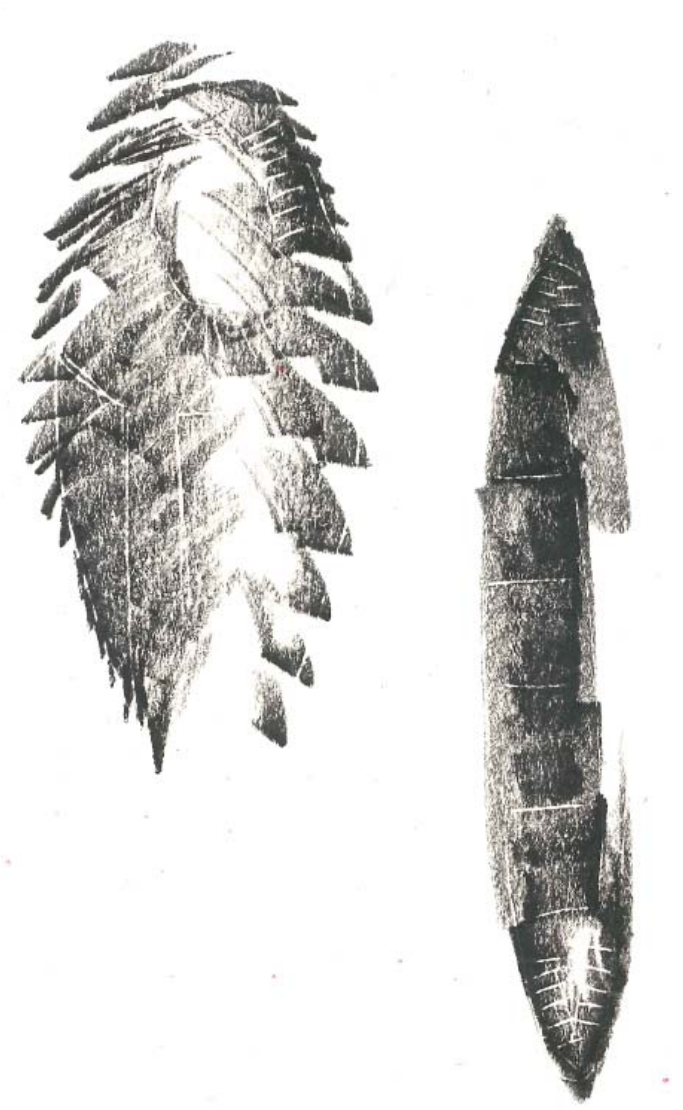
METHODS

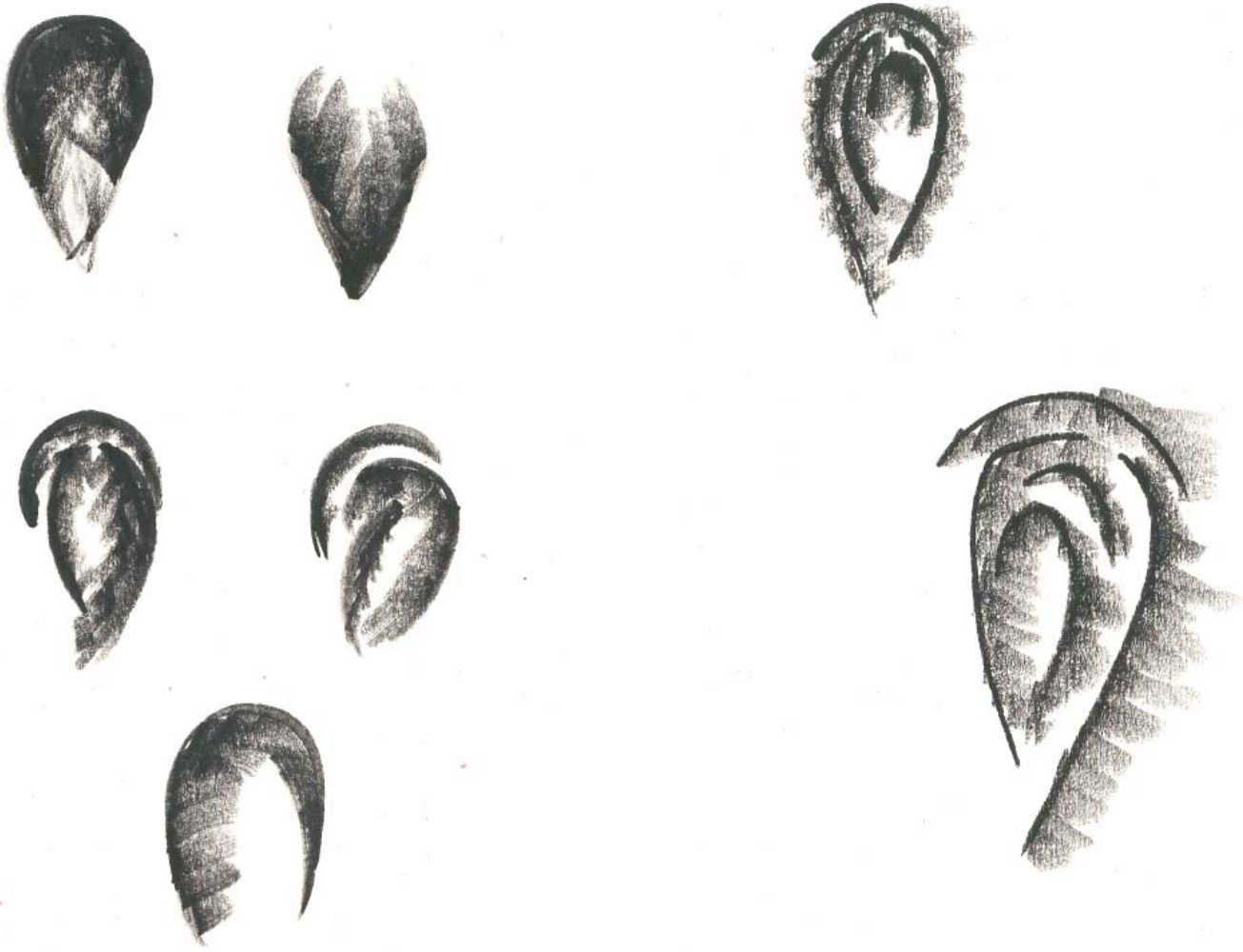
Drawings

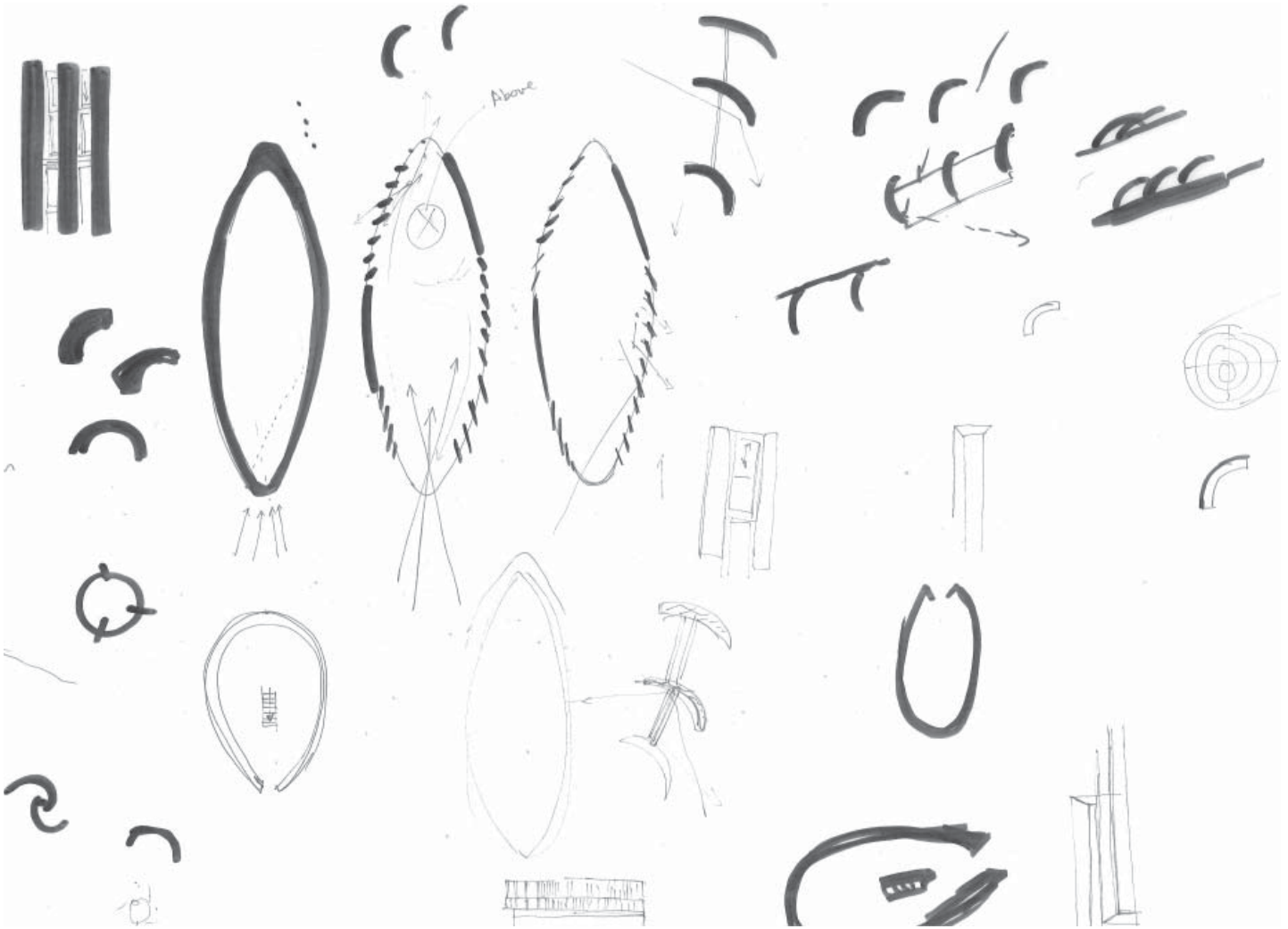
I began to try various methods of drawing which would help me in the design process. Early on in the process I used Photoshop to create very quick photo montages. I also began to use CAD and other computer drawing programs to help me compile images and draft buildings. These methods had potential, however, at the beginning of the design stage relying too heavily on this form of representation limited my ability to think with my hands.

Hand drawings reflect the tangible spirit of the place in Ivalo. They also gave me ample freedom to sketch over and over without fear of precision. Lines could be drawn with confidence or with hesitation. Both plan, section and elevation drawings as well as atmospheric drawings became instrumental in pushing my design forward.

Atmospheric drawings which tried to capture the variations in light and openness. These drawings began to form a character of their own, which in turn provided feedback and inspiration to myself. By freeing myself from the constraints of computer drawings, the looseness of the hand drawing created a dialogue between myself and my work.



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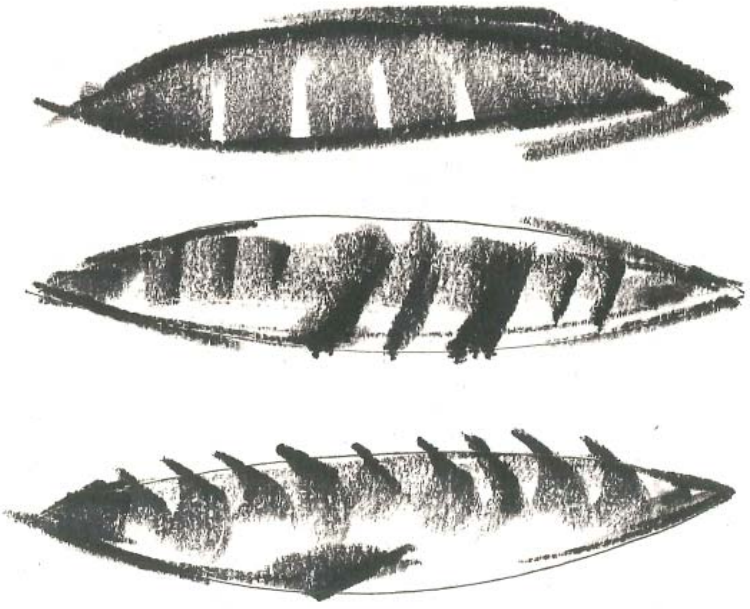
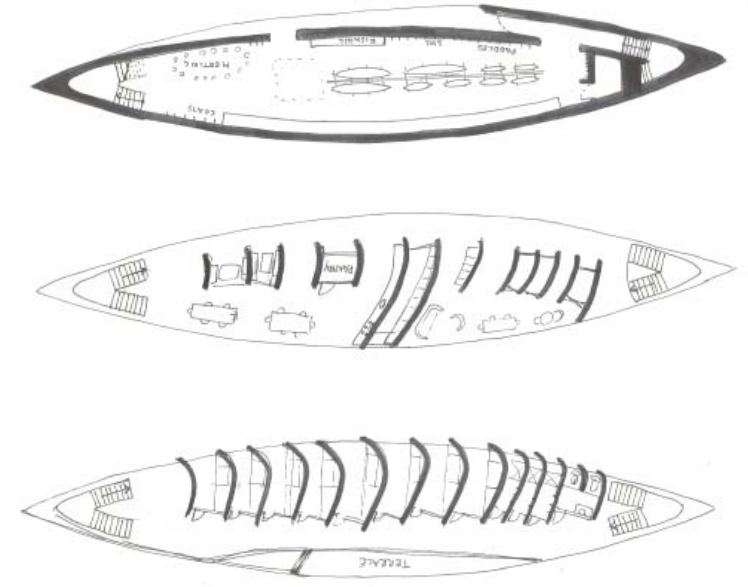




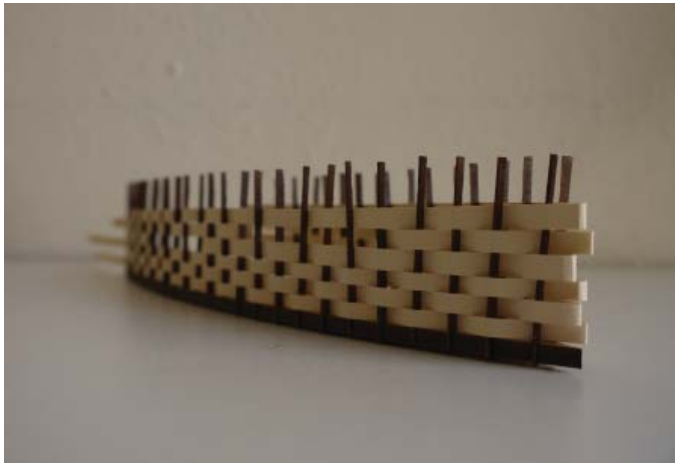
Ivalo River Sandbanks - *Laura Langridge*

Modelling I

At the beginning of the project, I constructed a site model in order to better understand the situation and context. The model itself helped me to understand the scale of the site, however it was abandoned due to tiny size of the building in relationship to its surroundings. It also brought up the issue of modelling a landscape which changes every season. The model showed a static point in time, however it did not cover the variations in season, water and snow. Finding a way to show this in a model will be a valuable tool to have.

In addition to this, I began to do models of the shape and materiality of the building. I began with laser cut models the base and upper portion of the building. This was a very useful starting point for making models. By using a combination of the laser cut MDF and paper, i examined possible intentions for a bent wood screen. I wove or wrapped the paper through the laser cut material. This was a very nice way to combine the structured base of the building and the handwork of the weaving. This process required a back and forth between computer drawings (CAD) and physical hand built drawings.

Models have also been helpful in determining texture, materiality and form. Using clay moulds and plaster, I made very simple models of stone or concrete textures. I pressed stones into clay and then poured plaster into this form. The texture of the real object was then imprinted into the plaster. This gave me more insight into what I did not want as opposed to providing a finished version. The stone wall mock-ups were much too textured for what I



wanted. The idea of using natural materials for the form-work of a concrete structure grew out of this process. I tried using twigs to create a simulation of making the form-work out of large logs cut from the surrounding site. This method of working closely resembles the act of forming concrete and lead me to make decisions about the construction of the building.

The materials I used imparted a character into the objects I was making. In particular, I began to be interested in the use of copper as part of a facade screen. Using a combination of copper, wood, paper, and twigs I searched for family of screen systems that would be used throughout the project. The technique of weaving became the unifying factor and in each iteration, various shapes and sizes of materials were used. Copper is a malleable material and is very good to bend and tie, however, it is not a very structurally stable material. Wood

has a shorter lifespan and needs to have the ability to be replaced. These models helped to highlight these issues and gave a good awareness of the specific materials and the construction appropriate construction techniques. The properties of the materials helped to shape the design.

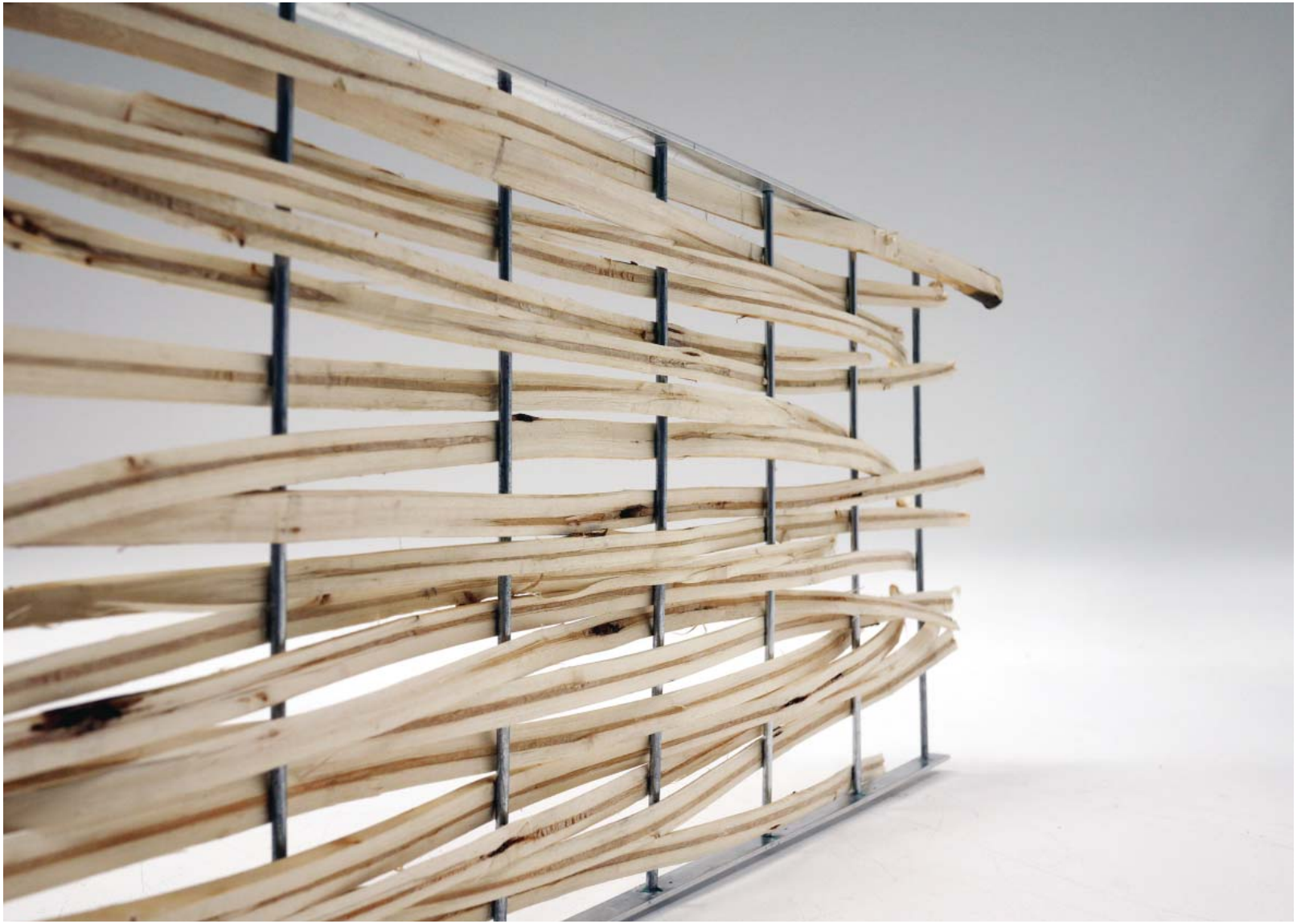
Plaster models, woven paper or wood and copper and other hand made methods reflect the tangible nature of my project. Although laser cutting was useful, the exact nature of this form can be restricting and make the illusion of a finished product before decisions have been made. In addition to this, the pristine nature of the laser cut model creates a tentative attitude towards changes. Although this method was effective and helpful, it did not allow for the integrated work of the hand within the modelling process. I believe this is an important aspect of this process and reflects the tangible nature of this northern environment.

Modelling II

The next stage of modelling focused on refining ideas (instead of generating them) and bringing them into a resolved prototype. The ideas of the screen which i has started with presented opportunities and challenges. Through the use of the genuine materials, i determined copper would be too heavy to compose the majority of the screen and not structural enough to support the wooden components. Jan van de Voort brought me clippings of his willow tree that I could use to weave prototypes. The willow branches were used while the wood was still green and flexible. This allowed it to be easily woven, but not so easily cut. After waiting a few more days, the wood was less green, easily split and still easily woven. Once the bark was removed however, the small pieces of wood dried in a couple hours and became brittle. In the construction of the actual building, the wood could be split, and stored in the river until it was woven into the facade. Once the wood dried on the facade, it became permanently bent in shape, and was very difficult to remove.

Various thicknesses of branch were experimented with, as well as split and whole wood. In the actual building, split pine will be used instead of willow, but the renewal of the woven facade every 10-15 years would provide the opportunity to use any material required.

The flexibility in material left the variations to be constructed in the metal grid. The spacing of the rods, as well of orientation will give each building a unique character

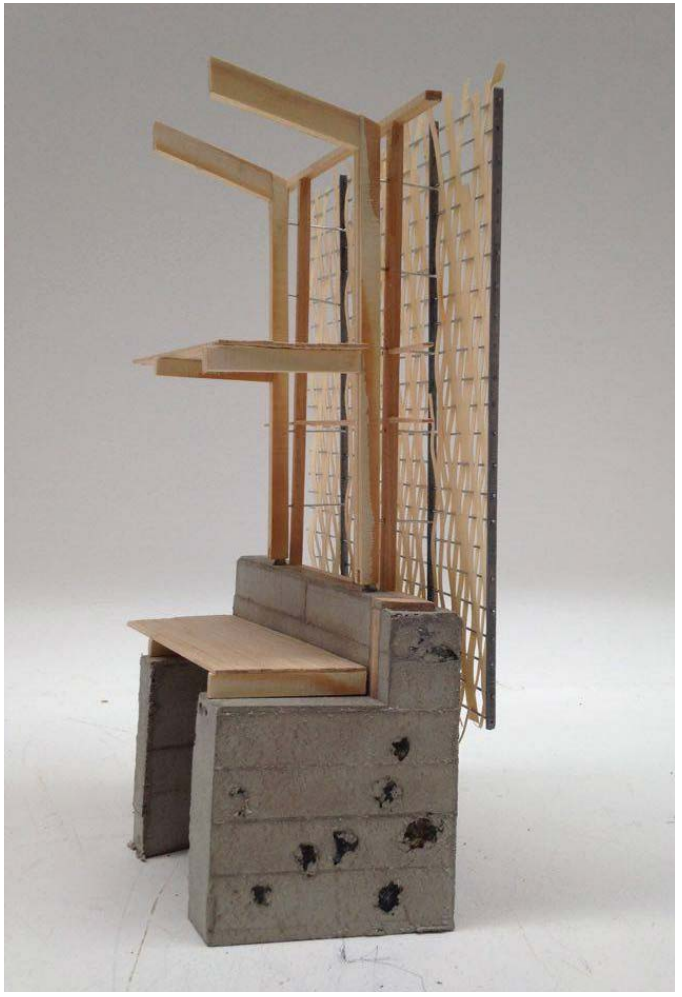


In addition to exploring the screen, a cast of the concrete was made to simulate the texture of the base. Using the knowledge from previous plaster casts, I was able to set up a concrete form-work with split stones and simulate the various layers of form-work. The effect turned out well to imitate the same technique which Héctor Fernández Elorza and Manuel Fernández Ramírez used to construct stone and concrete walls for Venecia Park. The uses of site specific materials will change the appearance of this construction in each new situation.

Original

Coloured

Poured Concrete



RELEVANCE

Flood Protection

Ivalo, as previously stated is a very small community. It may be difficult to see the relevance when compared to large urban cases such as those location studied in the Netherlands this year. As designers learn more about the environment, proposals to live with flooding instead of fighting against it are becoming more and more common. The proposed trend towards living with water instead of fighting against it would be easily examined in Ivalo.

Ivalo was a community that was accustomed to living with water. The inhabitants are always on the river in both winter and summer and flooding is a reality. The culture of living with flooding was readily accessible. However, in the 1980s, new flood embankments were built around Ivalo which cut the town off from the river and its natural cycles. As the community insulates itself from the river the connection between the river and the daily lives of the people is in danger of being lost – and with it – their ability to adapt to floods.

The possibility of examining life within a flood plane could be extended to urban centres as well as more southern situations. As ocean levels rise and extreme weather events are becoming more common, finding ways of existing in and surviving these events is crucial. These dynamic situations have the potential to enrich daily life and should not simply be viewed as a menace.

My proposal attempts to examine how people can live in a dynamic environment. The proximity to flooding demands a special attention to design and materials.

This technical challenge however is worth the trouble because it provides a social benefit. By bringing the public into close proximity to flooding, awareness and understanding of these situations is increased; it is through this understanding that the resilience or adaptive capacity of a community is strengthened.

Tangibility

In addition to the very practical concerns of flooding, this project also endeavours to address architecture through a tangible and experiential means. Pallasmaa, in his book The Thinking Hand, highlights the importance of the link between a designer and their hand process. I believe this is an important area of research within the field of architecture. As computer imaging becomes more and more simple, the tendency to loose touch with the unique power of the handmade(drawn) article is more prevalent. Finding a way to include this process within any architectural project in conjunction with modern technology is crucial to being able to design tangible objects in an increasingly digital and abstract world.