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# Mountains Stories Experiences

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## **Abstract**

Urban structures are used by everyone in the city, and therefore they should represent collective memories and values. Making site-specific structures for an urban site in Bergen, inspired by the geography of Bergen is the main focus of this project. The project uses a combination of graphics and structures to tell stories about subjective and collective experiences within the city. Whilst I, as a foreigner, have attempted to discover the intersection points of Bergenser's memories and activities about Bergen's mountains, I have also created my own memories and experiences on this matter.

'7 mountains 7 stories 7 experiences' are urban structures which people can use for a short rest or protection from the rain. These objects are specialized for Bergen and designed by considering Bergen's nature, history and people. It aims to give people a new experience by using the mountains of Bergen.

## **Acknowledgements**

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## CONTENT

### 1. INTRODUCTION AND SUMMARY

Objective.....	7
Target Group.....	9
Main Goals.....	9
Personal Motivation.....	9
Social Relevance.....	9
Research Questions.....	10
Outlook.....	10

### 2. THEORY

Research Topics.....	13
Urban Environment.....	14
Space.....	15
Landmark.....	16
Nature.....	17
Emotion.....	19
Experience.....	21

### 3. METHODOLOGY

Methodologies.....	25
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### 4. PRODUCTION

Seven Mountains.....	29
Mountain Trips.....	31
Fløyen Tour.....	33
Sandviksfjellet Tour.....	35
Rundemanen Tour.....	37
Ulriken Tour.....	39
Løvsakken Tour.....	41
Damsgårdfjellet Tour.....	43
Lyderhorn Tour.....	45

Mountain Feelings.....	47
Mock-ups.....	51
Material and Object Observation.....	59
Workshops.....	71
Case Studies.....	77
Site Observation in Urban Area.....	83
One step before the final design.....	97
Visualisation of Fløyen.....	99
Visualisation of Sandviksfjellet.....	103
Visualisation of Rundemanen.....	107
Visualisation of Ulriken.....	111
Visualisation of Løvsakken.....	115
Visualisation of Damsgårdfjellet.....	119
Visualisation of Lyderhorn.....	123

### 5. CONCLUSION

Conclusion.....	129
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### 6. BIBLIOGRAPHY

Bibliography.....	133
-------------------	-----



# **1. INTRODUCTION AND SUMMARY**

## Objective

### Choice of objective

The first thing to consider in outdoor furniture design should be the environment. I believe outdoor furniture must have coherence with its surroundings. As a student living and studying in Bergen, I will use Bergen as my observable backdrop, my context, and it a perfect place to create my project in.

My main point is the environment.

This leads me to;

### “Public Furniture for Bergen”

To create furniture for Bergen I must explore my environment. I must categorize the things I see and feel in that environment and observe what other people feel in there.

### Very Stereotypical Bergen

These three photos were taken the first day I came to Bergen, and these stereotypical images commemorate that day. Fish, rain and fancy houses. The first image of the city for me was stereotypical. I have heard there will be rain, fish and fancy houses and here they are.



**Fish:** I found the fish market fairly naturally. Upon arriving at Bergen sentrum on the tram, the path and the crowd took me to the fish market area.

**Rain:** When one comes to Bergen for the first time, the first thing to greet you in this city will be rain. Not the fancy houses, not the fjords, not the perfect nature. Rain will slap you in the face. Once it starts, it may last for two hours, or it may last for two months. If I needed to describe Bergen with a few words, one of them would be definitely ‘wet’

**History:** It is always important to take a look at history when you want to get to know an environment. Luckily Bergen is one of the oldest cities in Norway and its history has a lot to teach me and has had much to do with shaping my project.

**Nature:** Bergen has a unique and beautiful nature aesthetic with the perfect combination of green and blue. If I was to define the city identity of Bergen I could not do it without involving its nature. The most eye-catching natural figures of Bergen are fjords, mountains, very tall trees on the mountains, berries and the moss created by the wetness of the city.

**The Mountains:** For my project I have tried to gather information about remarkable things in Bergen. I have observed the environment, visited the local museums, and read books about this beautiful city. But nothing gave me more information than having casual talks with the locals. I noticed at least one of the topics they bring up is the mountains. People from other cities or countries might think ‘there are mountains almost everywhere’ or ‘these mountains are not even that tall’. But let me tell you, local people are very proud of their mountains.

Mountains are very important for the people of Bergen. It is part of their daily life. Walking up one, or more, of the mountains, is for many a daily activity. People go up to mountains with their friends, with their dogs or by themselves alone. If you move to Bergen and meet with some people from Bergen there is a great chance they will talk with you about the mountains. For instance, they may ask you which ‘fjell’ you have climbed. After a while you might even feel a social pressure to be a mountain climbing regular.



Even though there are seven mountains in Bergen, these are the first 3 I have met when I first arrived, because these three are very visible from the place I live, as well as from my school. At first the mountains were just part of the landscape for me. Then they became the main focus of my project.

## Target Group

My user group is the people who live in Bergen and the people who visit Bergen. Best part about urban structures is that they are there for everyone, not just a certain class of people. Whoever nearby can just use them. While I make this project by using my personal experiences and perception, the result should be something that the people who use them can relate to.

## Main Goals

**Mental goals:** At some point in their lives, I believe most people who stay in the same city, or have the same routes in their daily life can become blinded to many things. It affects one's way of thinking and perceiving, and monotonous relation to the environment can become normalised.

A different city, a different journey, a different route gives people a different way of looking at things. I think when you are getting exposed to different visuals, this also changes the way your brain thinks. One of my goals for this project is visualising this situation via object/space design which has been experienced by many people before.

**Physical goals:** I would like to provide a space for people to get a short respite from the rain, as well as a short rest.

## Personal Motivation

As an industrial design and furniture design student, the studies and experimentation in furniture design most often focus on interior furniture. Sometimes it feels as though this field has reached its saturation point. On the other hand the outdoor furniture field is not considered and researched as much as the interior field and, one would think, is still very open to try new possibilities. Therefore I decided to explore the less explored field.

When I applied for a master thesis I knew what I wanted to do was something for the outdoor environment through which I can experience and study many subjects. Not only the urban environment but also human emotions and experiences.

## Social Relevance

What I would like to create will have two sides; the mental side is sharing my thoughts about a certain situation which people can relate to and maybe they can think about also even if they haven't considered this situation before. They might say 'Yes having thoughts about different places provides me different visuals and different angles of places which makes me think in a different way too'. But on the other hand people might not want to focus on the emotional part of the project and they might want to see a real utility. So this will lead me to the physical side; A furniture/space people can use physically in the urban area.

## Research Questions

In the beginning chapter I gathered my first topics mainly as nature and history. So I can start asking my research questions.

### Main question

How would a public furniture look like by using personal experience related to site and geography?

### Sub questions

How does storytelling work in a space? How is it relevant to Bergen?

How can I create a relation between site and geography?

How can I communicate on a site?

What is the role of subjective experience in a relation to a site?

What is my experience on that site?

What are other people's experiences on that site?

## Outlook

In the next pages I will tell more about how I constructed my thoughts about these issues.

2. Theory: I will address the topics I research about

3. Methodology: I will list the methods I used to gather data, gain knowledge, and experimented to gain more

4. Production: this is the part I will tell about the whole design process. This process is about my research, experiences, findings, solutions and mock-ups which shaped the project.

5. Conclusion Part I will tell what I have learned in that process. Consequences of my project and future possibilities.



## **2. THEORY**

## Research Topics

Inspiration, application and the human trio are my main topics in this project.

The inspiration comes from nature, the mountains of Bergen. One of my research topics is nature and human relationships.

Application of this inspiration will be in an urban environment. The design works will take up space in that environment. So what is space?

Some urban designs are remarkable and exceptional; they end up as landmarks. My other research area is landmarks.

What I do is for humans to use and I am also a human being, so human's emotions and experiences matter to design.

In the theory part explained how these terms are defined in the other people's research. Some of those definitions shaped my research questions and made me wonder how to apply those to my designs. After gaining knowledge about them I went out there and gathered my own data.

## Urban Environment

Even though my true inspiration is nature, the application of this inspiration, that is, my work, is the urban environment.

National Geographic (2011) defines urban environment as:

An urban area is the region surrounding a city. Most inhabitants of urban areas have non agricultural jobs. Urban areas are very developed, meaning there is a density of human structures such as houses, commercial buildings, roads, bridges, and railways. "Urban area" can refer to towns, cities, and suburbs. An urban area includes the city itself, as well as the surrounding areas. Many urban areas are called metropolitan areas, or "greater," as in Greater New York or Greater London.

There are a few questions I have to answer and experiment about;

How can I communicate in this environment?

How are the structures I make going to be used by people?

Which area fits best for installation?

How does this urban environment get perceived by people?

What are the activities people make in that environment?

I will try to find answers for these questions in the Site Observation and Material Observation chapters.

## Space

In order to understand how I can use a space in my design , I have read Yi Fu Tuan's book; 'Space And Place: The Perspective of Experience' . He is a geographer and especially has studies in the human geography field.

Tuan (2001, p.6 ) defines the relationship between space and place as:

The relations of space and place. In experience, the meaning of space often merges with that of place. "Space" is more abstract than "place." What begins as undifferentiated space becomes place as we get to know it better and endow it with value. Architects talk about the spatial qualities of place; they can equally well speak of the locational (place) qualities of space. The ideas "space" and "place" require each other for definition. From the security and stability of place we are aware of the openness, freedom, and threat of space, and vice versa. Furthermore, if we think of space as that which allows movement, then place is pause; each pause in movement makes it possible for location to be transformed into place.

How can I design the space my objects are going to take in their environment?

How can I choose the places I am going to locate my furniture in?

What do those places mean to people?

I explore these matters with the mock-ups and site observations.

## Landmark

Then I read about the urban planner Kevin Lynch's The 'Image of the City' book. This book gives knowledge about how people perceive urban environments. What I do in the project is getting inspired by nature landmarks and creating urban landmarks.

Lynch (1960, p. 48) define the Landmarks as :

Landmarks are another type of point-reference, but in this case the observer does not enter within them, they are external. They are usually rather simply defined physical objects : building, sign, store, or mountain. Their use involves the singling out of one element from a host of possibilities. Some landmarks are distant ones, typically seen from many angles and distances, over the tops of smaller elements, and used as radial references . They may be within the city or at such a distance that for all practical purposes they symbolize a constant direction. Such are isolated towers, golden domes, great hills. Even a mobile point, like the sun, whose motion is sufficiently slow and regular, maybe employed. Other landmarks are primarily local, being visible only in restricted localities and from certain approaches. These are the innumerable signs, store fronts, trees, doorknobs, and other urban detail, which fill in the image of most observers. They are frequently used clues of identity and even of structure, and seem to be increasingly relied upon as a journey becomes more and more familiar.

I think the mountains are a landmark for Bergen. Especially Fløyen and Ulriken. And some urban objects are so remarkable they might end up as a landmark for that city. I want the objects I make to be remarkable and noticeable for the city. In order to understand which public objects take the most attention, I observed the urban furniture of Bergen. And searched about the remarkable urban furniture examples from the other cities.

## Nature

Nature is my main inspiration. Getting inspired by nature and applying it to the urban area is what I would like to do. In order to do that I have to understand human and nature relationships.

Altman and Chemers (1984, p. 15-24) social psychologists, categorise the human and nature relationship in three categories.

### 1. People as Subjugated to Nature

Altman and Chemers describe this by giving examples from medieval stories of Western Europe and how people were afraid of forests and connote them with uncertainty. And similar feelings of the early Judeo-Christian community against desert and their feeling of fear or hate for it. Then he gives more current examples like people who live in earthquake regions like Los Angeles, Italy or Guatemala. Their life is getting controlled by natural forces and those forces were seen as God in prehistoric eras.

### 2. People as above Nature

This view perceives humans are superior to nature. Nature and humans are different beings. Nature is getting controlled by people. He states that bending the environment in accordance with human needs especially in Western cultures. Conquering nature, climbing to the top of Mount Everest. Mount Everest, walking on the moon, using pesticides, fertilizers on plants are examples of humans playing god and being dominant to the environment.

### 3. People as part of Nature

Altman and Chemers describe this view as belonging to nature. This view can be seen in Pygmies of Zaire and in many Native American groups. They see themselves as children of the forest no less so than the animals and plants. He thinks the modern ecology movement may also bring back the notion of harmony with nature.

After I go through these ideas, I think in the globalised world most every culture, in most every country acts according to the second category. We bend nature according to our needs. Even though this is the current trend, there are still some groups of people who would like to coexist with nature and work for it. I think the people of Bergen belong to the 3. category about their nature. They coexist with their mountains. I am not saying this by looking at their Tesla cars. I am saying this by looking at their history.

### Bare Mountains

Did you know the mountains of Bergen were bare in the nineteenth century? I discovered this fact while reading about the history of the mountains and I realised many locals aren't aware of that either.

Ådnades (2012) talks about this issue with the biogeography professor Ole Reidar Vetaas and he states that Scots pines are the only indigenous conifer tree in the west of Norway.

Norway's national independence process started after the constitution was adopted in 1814. Norway used to be one of the poorer nations of Europe at those times and the mountain tree coverage was reduced due to grazing animals and increased population. In order to cover their basic needs like eating, they needed fire, fuel and wood.

This started a movement in Norway. Nobel Prize winning author Bjørnstjerne Bjørnson put it as: "Cover the mountains with trees!" So Norway imported many different tree kinds from North America and Europe.

Reforestation continued until the 20th century. People were seeing this as putting money in the bank for the next generations so they could make money from logging. But after the oil discovery of Norway this was no longer necessary. Veetas says that people usually think they exist naturally but the mountains are actually big parks created by people and that's the result of nurture rather than nature.

Maybe their goal was not being environmentally friendly at the beginning but it ended up so. I think it is a good example of coexistence with nature in modern day society. This gives me a clue about observing people's perception about nature. In order to observe people's relationship and create my own relationship with the nature I took many mountain trips, as I shall discuss at the Site Observation.

## Emotions

How I feel and how others feel is important for me to consider in developing this project, because it is based on experiences and emotion. In order to understand emotions and understand how a design can affect them I used Donald Norman's Emotional Design book.

Norman (2005) divides the brain and the design into 3 categories these are

1. Visceral: Concerns itself with appearances, the responses to this level is mostly biological. affecting the primitive brain by colours, textures, shapes.

2. Behavioral: Pleasure and effectiveness of use is important in this level, appearance doesn't really matter, performance does. Function understandability, usability, and physical feel are the components of good behavioral design. Function comes first and foremost. and it is human centered

3. Reflective: Considers rationalization and intellectualization of a project. Does it also tell a story? This level concerned with self-image, personal satisfaction, memories, culture, meaning.

Reflective design interests with telling a story by that object. This level of design should fulfill people's emotional needs.

Norman (2005, p. 87) states that

Attractiveness is a visceral-level phenomenon, the response is entirely to the surface look of an object. Beauty comes from the reflective level. Beauty looks below the surface. Beauty comes from conscious reflection and experience. It is influenced by knowledge, learning and culture. Objects that are unattractive on the surface can give pleasure. Discordant music for example can be beautiful. Ugly art can be beautiful.

A good design has all these three levels. And I would like to apply all those methods in order to communicate better with people in a visual way.

What can I do for the visceral level design?

Which material and texture I can use?

What kind of forms can I work on?

What kind of colours should I prefer?

I explored the answers of these questions by mock-up making, researching other designer's work and observing the other urban structures in Bergen.

What can I do for the behavioral level of design?

What are my functional purposes?

Those are the questions I gave the answers before other questions because since the beginning we have been asked about these questions many times.

I explored people's physical need from an urban structure and these are:

-laying under sun

-protection from rain

-sitting

-need of watching sea, need of watching around

If a shelter doesn't protect from rain and if an urban seating unit doesn't provide you basic needs of sitting, then shape and story doesn't have enough support from the functionality side.

I would like to design my objects for short time usage so providing a perfectly comfortable space is not my aim. My aim is finding a balance between comfortable and uncomfortable so it would be just enough for short time resting, which is also a case for many urban structures.

At last what can I do for a reflective level of design?

How can I tell a story with a form?

How can I give an experience with a form?

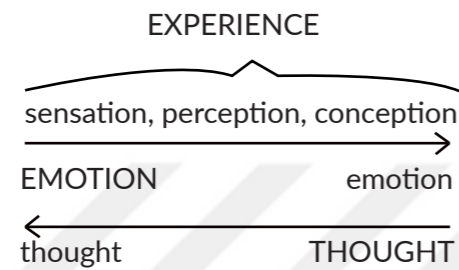
Before I reply to those questions I had to go on mountain trips and explore how I feel there, how other people feel there. Then I should define those feelings so I can work on visualising these feelings.

## Experience

Yi Fu Tuan's book; 'Space And Place: The Perspective of Experience' talks about a place experience which is what I need in my project if I want to give people an experience with urban structures.

Tuan (2001, p. 8-9 ) define experience as:

Experience is a cover-all term for the various modes through which a person knows and constructs a reality. These modes range from the more direct and passive senses of smell, taste, and touch, to active visual perception and the indirect mode of symbolization



Emotion tints all human experience, including the high flights of thought. Mathematicians, for example, claim that the design of their theorems is guided by aesthetic criteria— notions of elegance and simplicity that answer a human need. Thought tints all human experience, including the basic sensations of heat and cold, pleasure and pain. Sensation is quickly qualified by thought as one of a special kind. Heat is suffocating or prickly; pain is sharp or dull, an irritating tease or a brutal force. Experience is directed to the external world. Seeing and thinking clearly reach out beyond the self. Feeling is more ambiguous.

What kind of experience does a mountain give me?

What kind of experience does an urban environment give me?

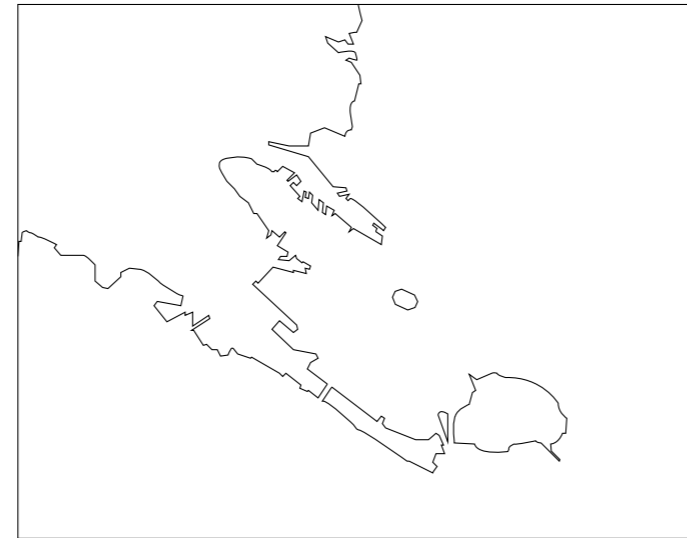
Can I design something with my experiences which other people can also relate to?

In order to answer these questions I created my own experiences in the mountain trips and site observations.



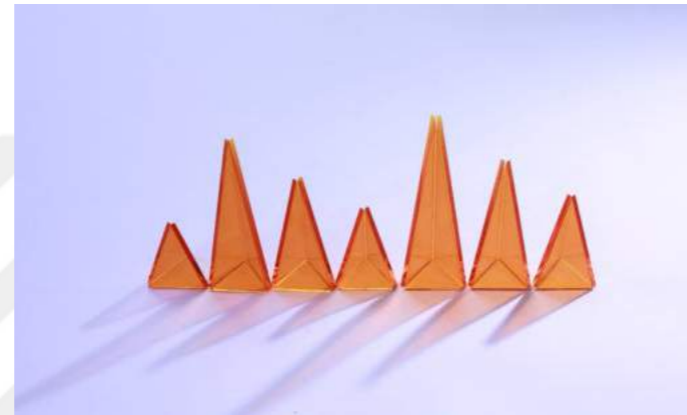
### **3. METHODOLOGY**

**Site Observation:** I have observed two different sites during my project. The first site the source of the inspiration, the mountains of Bergen.



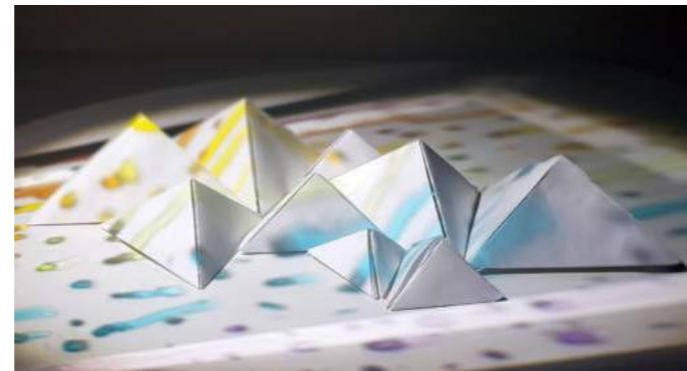
The second is the application of this inspiration which is the urban environment. I have taken trips in Bergen center to observe places to create my structures on.

**Workshops:** I have joined two workshops during the fall semester of 2020. One of them was a stop motion movie workshop which I have experienced about telling a story with movements of the objects.



The other one was the design thinking workshop of the park design in Bergen. I was an assistant and an observer in this workshop so I watched and learned how the professionals handle urban design.

**Mock-ups:** I made many mockups in order to visualise the things in my mind. Sometimes I thought with my brain and sometimes I thought with my hands and instincts. Mockups helped me to create a common identity for the project.



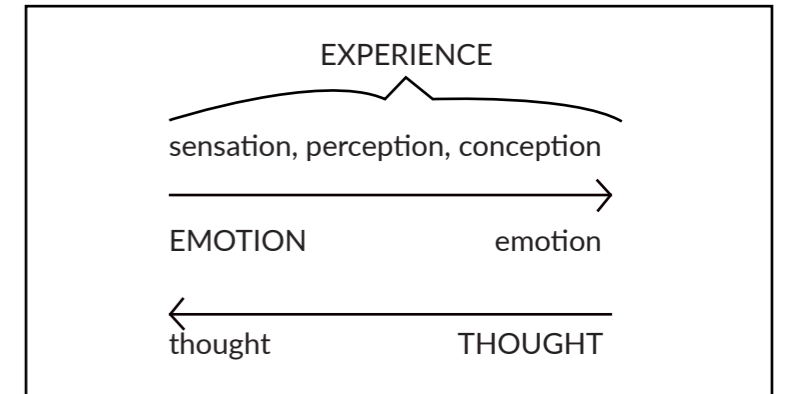
**Auto-ethnography:** Even if I made objective observations in my mountain trips I also made subjective observations. My feelings and experiences as a designer and creator of the project also matters. And my personal observations as a human being who feels and reflects is one of the main points of this project.



**Material and Object Observation:** I have taken a walk outside in central Bergen streets and I have observed the urban furnitures and structures of Bergen. This gave me knowledge about materials of those objects and their usage by local people.



**Literary Research:** Half of the books or articles I read were about Bergen's and its mountains' history in order to have objective knowledge about the site. The other half was about urban furniture design, urban design, environment, experience in a site, emotions about the urban objects.



**Case Studies:** I have examined the urban structures of the other designers to gain knowledge about their design journey and application of their thoughts to the object. Especially some of those other urban structures affected my design decisions.





## **4. PRODUCTION**

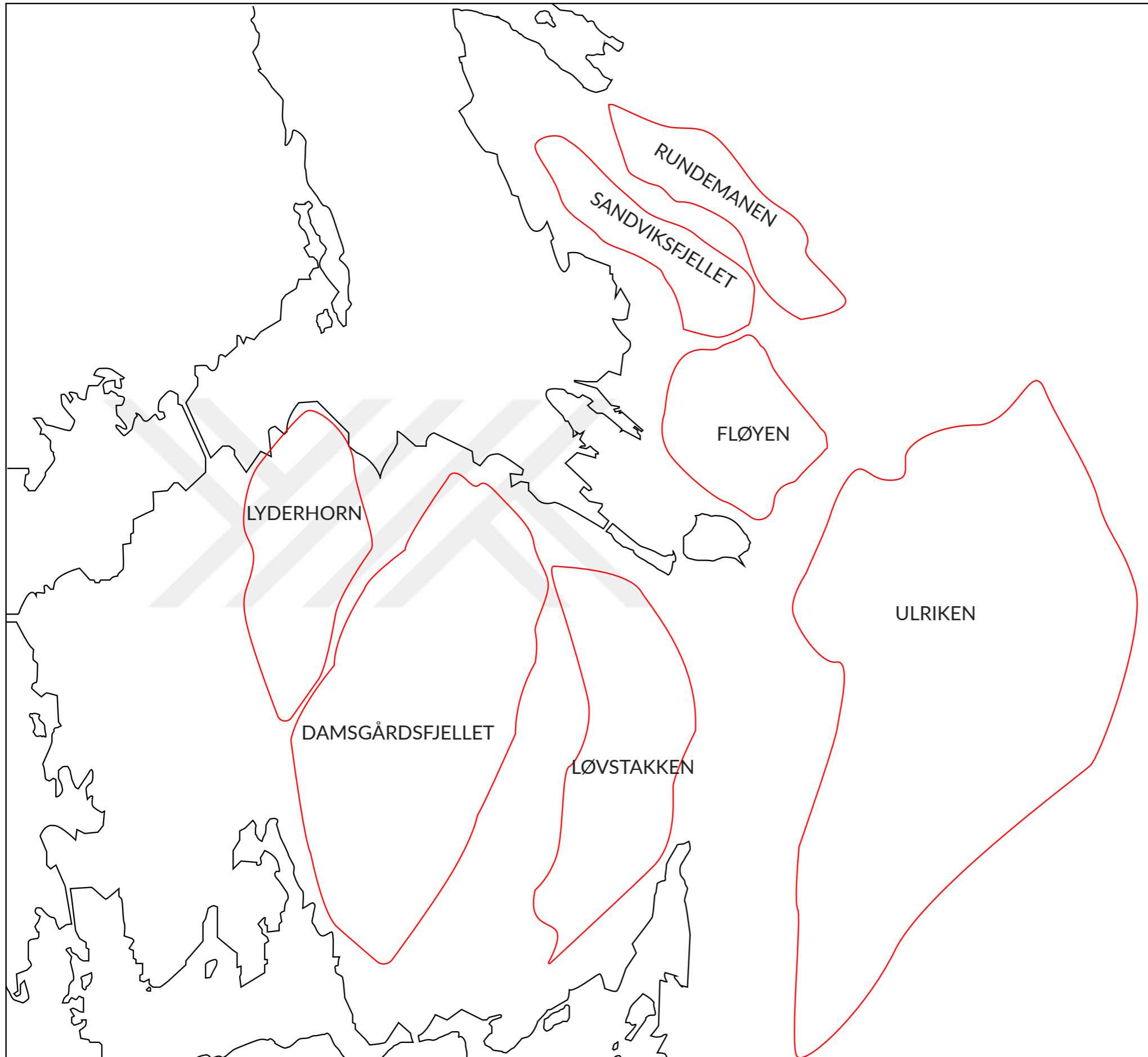


Fig. 1

## SEVEN MOUNTAINS

Bergen is a city built between seven mountains. There are actually nine mountains. According to Wikipedia (*List of cities claimed to be built on seven hills, 2021*) there are at least 93 cities claimed to be built on seven hills. The originally founded on seven hills refers to Rome but apparently many other cities were jealous including Bergen. There is an obvious charm in the number 7. It is a holy number of the Bible so this might be one of the reasons. This caused them to neglect the other two mountains and hold on to the other seven.

According to Pedersen (2016)

The term “the city between the seven mountains” was first mentioned by Ludvig Holberg. The best description of the number of city mountains, we can probably attribute to another poet who probably has not climbed the mountains either - namely Ole Paus. He created the expression “Bergen - the city between the approximately seven mountains”.

And according to Berntzen (2015, p. 42) Bergen, surrounded by mountains, fjords and other geographical difficulties, it could not communicate well with the east part of the country until Vossebanen in 1883 and the Bergensbanen in 1909 were opened. And the road connection between Bergen and Oslo has to wait until after World War II. Thus, with the influence of its geography, Bergen acquired its unique dialect and culture. The sea and the mountains made Bergen what it is.

Bergen og Hordaland Turlag (n.d) states that first planned seven mountain tour started at 1948.

Every year there are mountain tour challenges in Bergen to complete seven mountain hikes in one day. This makes me think those people are completely crazy or they should join the Olympics as the whole Bergen city and show their skills to the whole world. After they complete this seven mountain challenge one day, they win some trophies like medals or plaques.

These are the seven mountains they hike (Fig. 1). When they first arranged the mountain trips Askøyfjellet was part of the tour instead of Rundemanen. But they decided to change it. From what I have seen no one knows which seven out of nine mountains are the seven mountains. They basically randomly decide to neglect some of the two mountains depending on their mood. I decided to work on the seven mountains they do the annual challenge on which are shown on the map here.

## Mountain Trips

This (Fig. 1) is a picture from the first organised seven mountain trip in 1948. Even if there are even mountain challenges and annual competitions, seven mountain hikes are not staying empty in the rest of the year. Many people randomly walk up to mountains as a work out or as a family time. They started to do this way before the organised trip in 1948.

I haven't noticed the mountains even if they were included in some of my pictures. The story of my noticing the mountain is not a visual process but a verbal process. For example Himalayas are so huge and great you would notice them visually. but me as a person who comes from a country with many high mountains, the tiny mountains of Bergen are not noticeable at all.

For me personally the mountains of Bergen are not visually remarkable (well they are now, after working on them for 2 years) I haven't noticed the mountains by seeing them. I have noticed them by hearing . After the student meeting, Bergen hiking groups in Facebook, and the small talk with Bergensers I started to feel that social pressure about going to mountains. I was feeling like "yeah apparently I have to go up the mountains someday." This is like a duty to me.

It is not their appearances or shapes that gives meaning to them but peoples memories with them. When I first started to talk with people after moving to Bergen, they were asking me if I went to Ulriken yet. I was saying no but I will go for sure because this is my duty now. They start to tell me their memories about that mountain like they went up with this friend and ate that food and had camp. And I didn't have something to tell back. After I went up to the mountains I also made my own memories and started to tell them when they asked me about it again.

In each mountain I have experienced different routes and different views of the city. I had a chance of looking at the same view from different angles and in each one of them I had different emotions. I knew I wanted to design urban structures inspired by the most remarkable values of Bergen but now I am sure those values are the mountain trips!



Fig. 1 Photo: Bergen og Hordaland Turlag

# Fløyen Tour



Fløyen in winter

Fløyen is the closest mountain to the city center and its highest point is 400 meters above sea level. The plateau, to experience the city from above, next to the last stop of Fløibanen funicular is one of the 5 most visited areas in Norway. There are 3 main paths (Fløysvingene, Tippetue and Kamveien) from the city center to go up. If you ever see a picture of Bergen it is probably taken from there. Lake Skomakerdiket is on top of Fløyen. People can borrow canoes and paddles for free to enjoy in the lake.



Fløyen in summer

Fløyen is apparently the fanciest and the most famous mountain in Bergen. If you see pictures of Bergen, Fløyen is probably included in them. It is getting used a lot for commercial purposes. I think it is the easiest mountain to walk up thanks to its well maintained road with low incline. Fløyen is the most popular member of the mountain family.



you can see cute troll sculptures in the forest of Fløyen



Weather vane at the Fløyen



Fig. 2 Photo: Knud Knudsen, Bergen byarkiv



Fig. 1 Photo: Fløyen.no

The webpage of Fløyen gives these facts about the funicular of Fløyen which is called Fløibanen; funicular opened for passengers on 15th of January 1918. The two carriages have been red and blue since the early 1950s. The carriages are named Blåmann (Blueman) and Rødhette (Little Red Ridinghood). The last stop of Fløibanen funicular is located 320 meters above sea level.



City center from Fløyen



City center from Fløibanen

## Sandviksfjellet Tour



Sandviksfjellet from Nordness

Sandviksfjellet is 417 meters long and located in the north of Fløyen. It is close to the city center. There are 2 paths to go to the top; living nightmare Stoltzkleiven and relatively better Skredderdalen.

If you choose the Stoltzen path to go up, this mountain is a good option for feeling alive because it gives the perfect acrophobia. This path starts like there is no problem at all then stairs become random unbalanced rocks. It is difficult to walk here especially with other people. You have to wait for people who go up or back down most of the time. Road is too narrow. It doesn't let you share it. I felt acrophobia and danger and alone in this mountain



Fig. 3 Photo: Svein Harkestad



Fig. 2 Photo: Svein Harkestad

There is an anchor piece on top of this mountain which is very interesting and weird. You will never know what you find on top of a mountain.



Fig. 1 Photo: Bergen Kommune

According to Bergen Kommune (2020, *Bestefar trodde det var dommedag*), April 1944. The Dutch steam trawler "Voorbode" visits Bergen for minor repairs. It's located at the Fortress quay, in Vågen, which is in the inner harbour pool. 20th. of April, in the early morning twenty minutes past eight, smoke coming up from the cargo hold. No one, except the Dutch speaking crew, knows that the cargo contains more than one hundred tons of dynamite and more than 180 000 percussion caps. The harbour authorities were not informed. Many people died. Several ships were thrown on land and Voorbode's anchor was later found on the 417-metre-high) mountain Sandviksfjellet at a distance of 3 km away from the blast area.



View from Sandviksfjellet

Because of the acrophobia I couldn't continue hiking. This was the view I see when I sit down to calm myself.

## Rundemanen Tour



Rundemanen from Fløyen

Rundemanen is 568 meters high and the second tallest mountain. It belongs to the same mountain range as Ulriken and Fløyen. Easiest way to reach up there is first going up to Fløyen and then walking to the east. While the other 6 mountains are very visible from the center, Rundemanen is hiding behind Fløyen. In order to see Rundemanen you have to go up to another mountain.

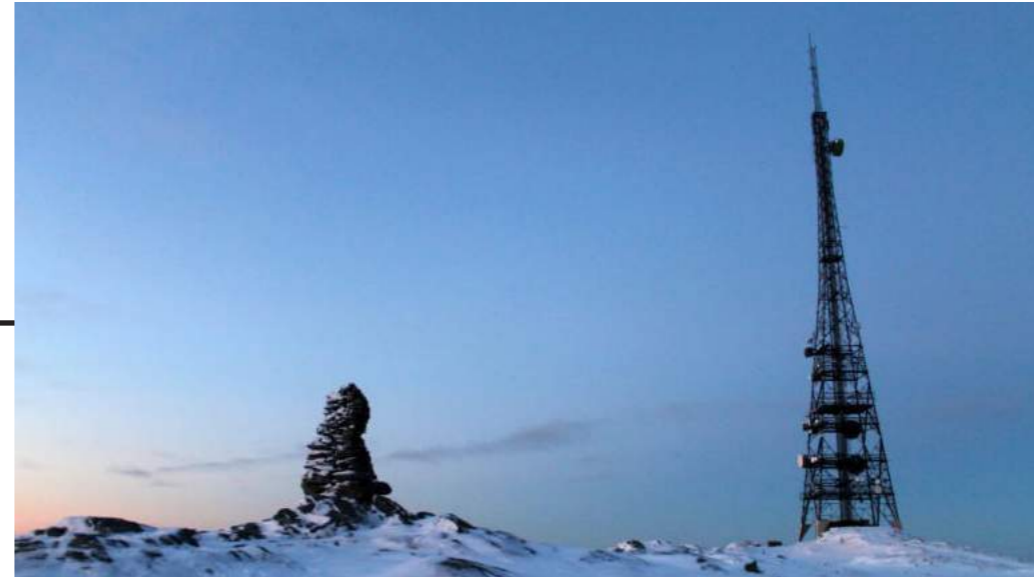


Fig. 1 Photo: Tinderange.no  
A cairn and the radio mast

Rundemanen is easily recognizable because of its 106 meters high radio mast.

According to Wikipedia (*Rundemanen*, 2020)

Bergen Radio was established on 1 September 1912, and thus became the first broadcasting station in Bergen. In 1922, the station was the first in Europe to receive a tubular transmitter. In 1923, a speech was given in Oslo, which was to be Norway's first broadcast. It went via the mast on Rundemanen. It was one of the most important coastal radio stations until the 1960s. It was closed down in the late 80's. The buildings are today owned by the Norwegian Technical Museum.

**A historical fact about the Radio Tower:** Grottdal (2006, p.95) mentions that the German occupying forces were quick to take over the facility at Rundemanen in April 1940, and what it was used for, both historians and telegraph experts can only speculate. When the station was taken over again on 19 June 1945, it had to be stated that a lot of equipment had been damaged or changed, while much else had been added. One mast was rusty, the exhibition building was in poor condition and the outdoor area was characterized by waste and rats. The Germans also built several bunkers and cannon positions in the area. These are partly as historical scars today.



Fig. 4 Up to 10,000 spectators at "Bergensrennet" in 1938  
Photo: Terje Eriksen

Bergensbakken is a ski jumping hill at Rundemanen. The hill was built in 1936/37 and was in use until 1948.



Fig. 3 Photo: Tinderange.no

I have been looking for a sign actually



Fig. 2 Photo: Tinderange.no

City center from Rundemanen

# Ulriken Tour



Ulriken from the Festplassen

Ulriken is the highest of the seven mountains. It is 643 meters long and it is probably the second most popular mountain after Fløyen. You can walk up there from Haukeland Hospital or Montana.



Fig. 3

In 1853 by a group of people from Bergen, including theater director Henrik Ibsen made a hike to Ulriken. On this occasion he wrote the poem called 'Vi vandrer med freidig mot' (We walk with free courage)

Henrik Ibsen, 1888.  
Photo: Jos. Albert/Oslo Museum



I can see my dormitory from here



Ulriken from Fantoft

This mountain is covered with houses almost until the half height of it. For me personally, I think it is the least interesting looking one from a distance. It has brown and gray tones on its body especially in winter. But it becomes interesting when you get closer.



After the stony road you will reach big wide stairs. There are stone chambers next to stairs for getting rest. Sherpa stairs of Ulriken has 1333 stair steps pretty wide and they are from Nepal



Fig. 2 Photo: Bergen og Hordaland Turlag

This picture is from 1917 from on top of Ulriken. Even if this is old, it is not the oldest activity in Ulriken



Fig. 1 Photo: Magne Turøy

The cable car of Ulriken called Ulriksbanen opened in 1961. Also you can see the city center in this picture

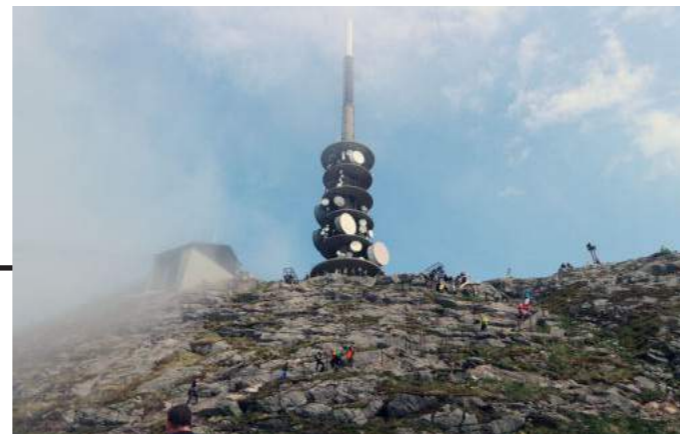


Fig. 4 Photo: Bergen Byguide

Here you can see the TV tower on Ulriken and sherpa stairs.



Every night the TV tower of Ulriken gets different colours of light, this art project, called 'Lysdans på Ulriken' has been a permanent installation in Bergen since the cultural city year 2000.

Fig. 5 Photo: Lysdans

## Løvestakken Tour



Løvestakken from Fantoft. Seems pretty quiet from here



Løvestakken from Fløyen. Seems different in this angle compared to from Fantoft



This is what I found on top, seems like a sea made of grass

Løvestakken is 477 meters tall and it is located on the western side of the city. The most common route to go up is from Danmarks plass but also reachable from Gyldenpris.

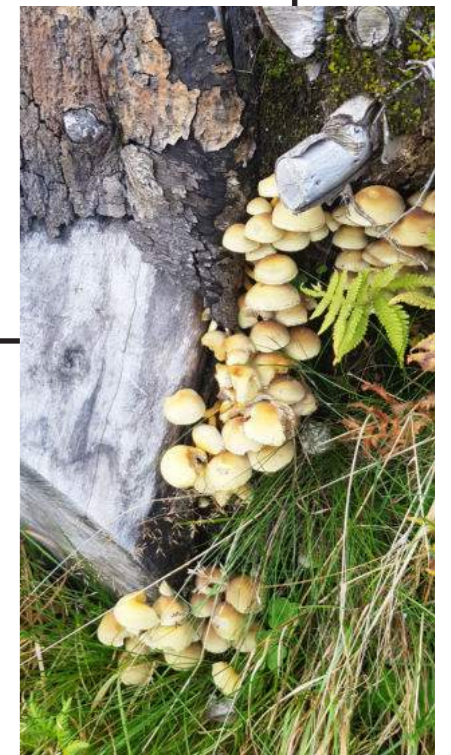


Fig. 1

Julius Röntgen, Frants Beyer og Edvard Grieg på fjelltur, Løvestakken, juni 1902.  
Photo: Bergen Bibliotek (Online)



This is how the city center looks from here. You can see the Fløyen at left and Ulriken at right and the Vidden plateau in the middle



Mushrooms at Løvestakken



Fig. 2

Photo: from the Hinrichsen (Peters) letter collection

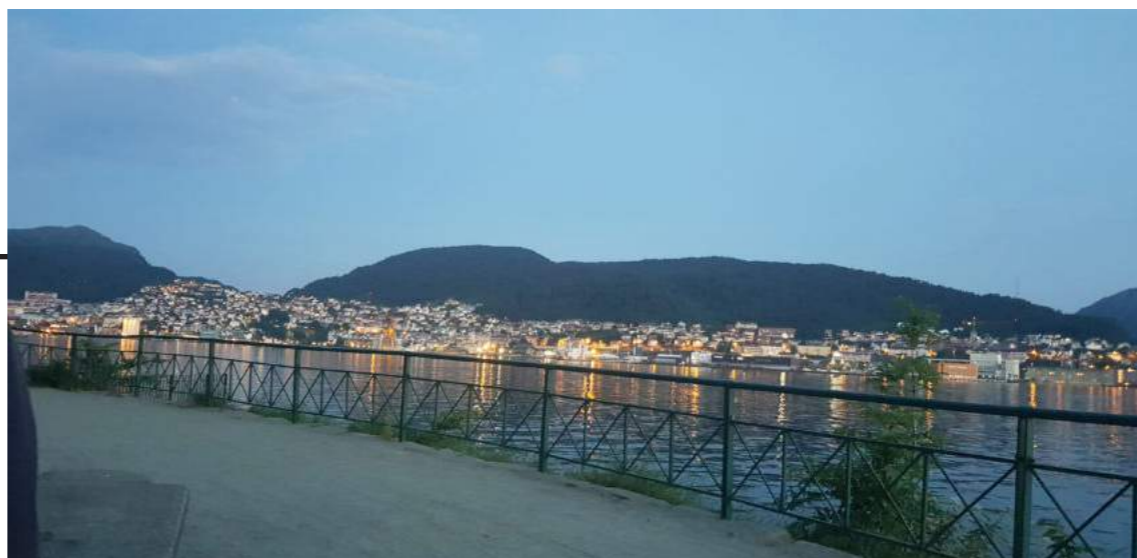
Famous Bergen-based composer Edvard Grieg was a great national romantic who was inspired by the wild untouched Norwegian nature and the mountains. Excited he claimed: "Yes, the mountains, the mountains! I feel for them as if they were human beings" The mountains and nature helped him go through many difficult periods in his life such as changing moods and melancholy. In addition to his more favourite trips to Hardanger, Sogn and Jotunheimen, he also loved hiking to city mountains. Grieg's favourite mountain was Løvestakken which he despite his poor health often climbed with his friend and hiking-buddy Frants Beyer. (Berntzen, 2015, p. 125)

## Damsgårdfjellet Tour



Damsgårdfjellet from Sandviken

Damsgårdfjellet is located between Lyderhorn and Løvstakken. It is 317 meters tall and the shortest mountain of the seven mountains. You can start your hike from Melkeplassen or Damsgård hovedgård.



Damsgårdfjellet from Nordnes



All the unbalanced stones on the path and I try hard to not fall and hit my head.

This is the shortest mountain in all of 7 mountains. The road up there was short but very tough. I had to be very careful and fully focused to go up and down and carefully take my step because there was no real route, just rocks.



This is something cylindrical and abandoned. I don't know what this is but I like finding interesting things on my mountain trips.



When I reached up I saw a big round rock and climbed to sit on it. It was basically like a tiny piece of stone on top of a big piece of stone. This seemed fractal to me. I went up there and sit on it. It was like a tiny mountain after the big mountain.

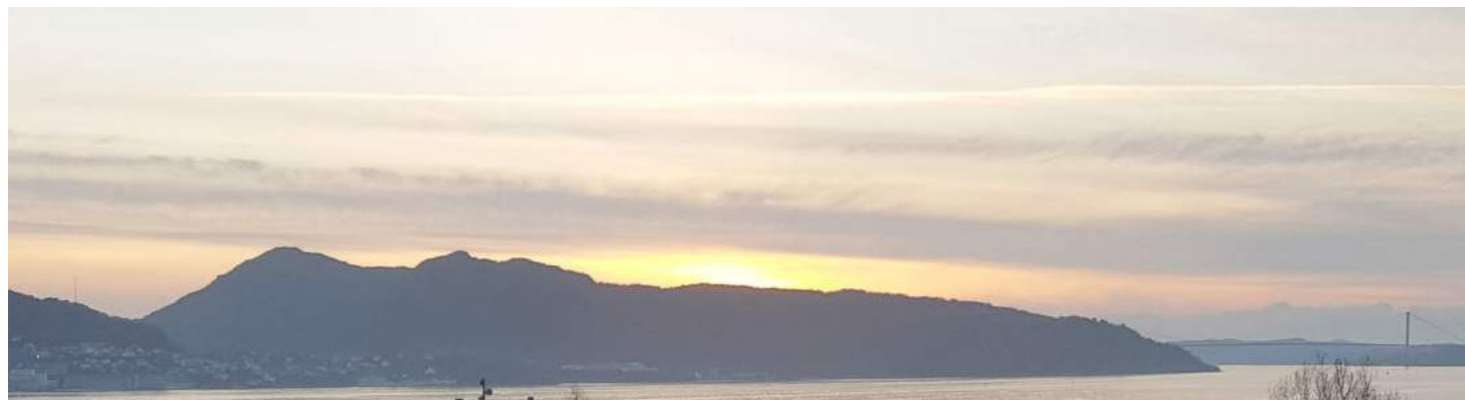


You can see the back of Løvstakken here.



This is how the city center looks from here.

## Lyderhorn Tour



Lyderhorn from Sandviken

Lyderhorn is the westernmost of Bergen's seven mountains and it is 396 meters high. You can go up from near Gravdal or from Lyderhornslien.

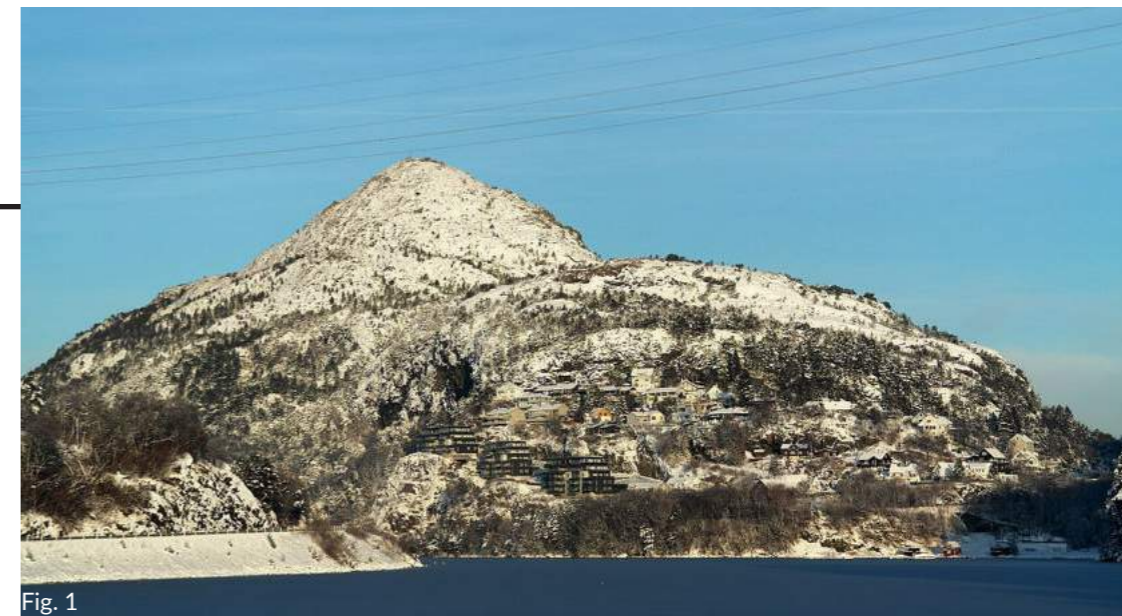


Fig. 1

Photo: Tom Rølvåg

This is the 'horn' of Lyderhorn.



Witch Stone at Nordness, Witch Stone was unveiled on June 26, 2002 near the place where Anne Pedersdotter was burned at the stake in 1590



Fig. 4

Anne Pedersdotter has become extra famous through plays, here under the auspices of the National Theater. You see the main character in the middle of the picture.

Photo: NTB / Scanpix

Old folklore says that Lyderhorn is a witch mountain. At Christmas time, midsummer night and Walpurgis night there were dates between witches and the Devil here. It was said the witches had plans to both set the city on fire and create a big tidal wave and sink all the ships that would visit the city. In 1582 Norway's most famous witch trial was brought against Anne Pedersdotter, the widow of Bishop Absalon Pedersson Beyer.

She was said to have flown to Lyderhorn on her broom stick to join the ceremony. She was burned at the stake in Nordnes accused of witchcraft. (Grotdal, 2006 p.200)



Fig. 3

Photo: Haakon Nilsen

Kvarven Fort: It is a military fort located north of Lyderhorn. Nowadays it is an open air war memorial.



Fig. 2

Photo: Bergen byguide

This is how the city center looks from Lyderhorn

## Mountain feelings

There are many feelings we have while we are on a mountain trip. I wanted to divide these feelings and refer to each mountain that was appropriate to my feelings. Most of these feelings might be common and not especially for those mountains but I tried to choose the best mountain which would represent that feeling best for me.

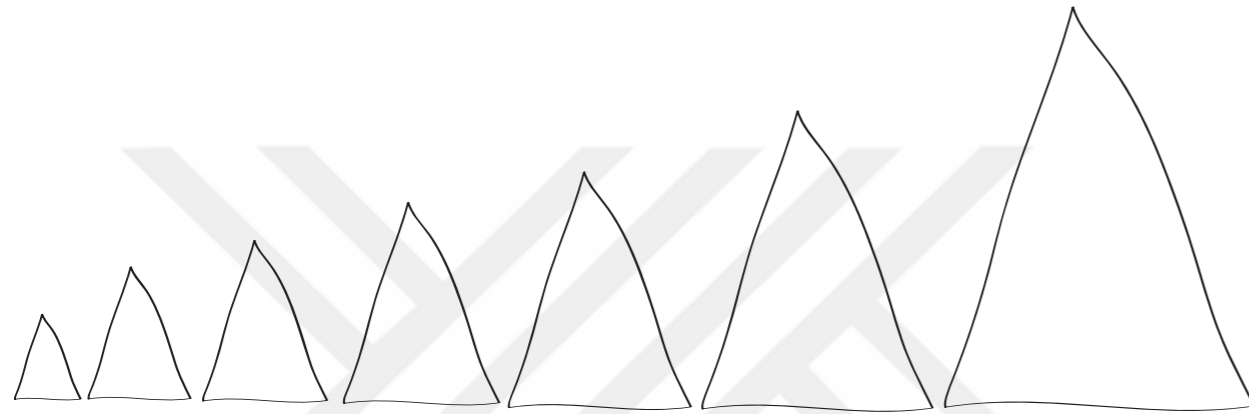


Fig. 1

### Feeling 1: Rhythm (Løvsbakken)

I was impressed by Grieg's passion for mountain walks and how he used these walks as inspirations for his compositions. I relate to this inspiration by nature and the applying of it to an art/design work. Also as a fan of Grieg I wanted to dedicate his favourite mountain to him: Løvsbakken.

Just like he used mountains to go through his tough times, I felt like I just did the same. During the Corona restrictions and uncertainty of my life I used mountain trips to ease my mind and create my design.

In order to visualise this feeling of rhythm, I sketched some triangles. They represent the elements of composition (Fig. 1). And I created a harmonic composition with them (Fig. 2). This composition represents both the rhythm of the music (for Grieg) and the harmony of the design (for me)

I want to appreciate the artistic creation the nature gives us.

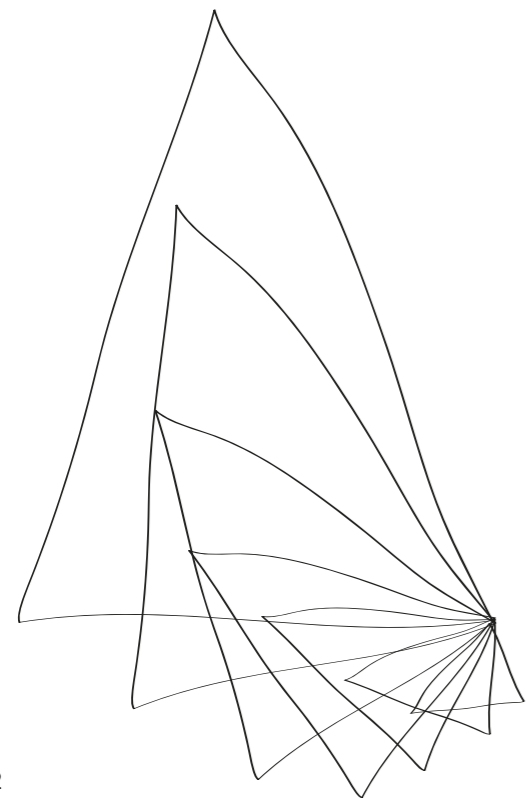


Fig. 2

### Feeling 2: Accumulating (Damsgårdsfjellet)

On top of the Norwegian mountains including the Bergen mountains, there are many cairns (Fig. 3).

Balancing the stones on top of each other has many meanings in many cultures but in Scandinavia it is usually used as trail or sea marks.

Seeing all those well balanced cairns on top of seven mountains made me want to do something about those. They give me feelings of accumulation, balance and togetherness.

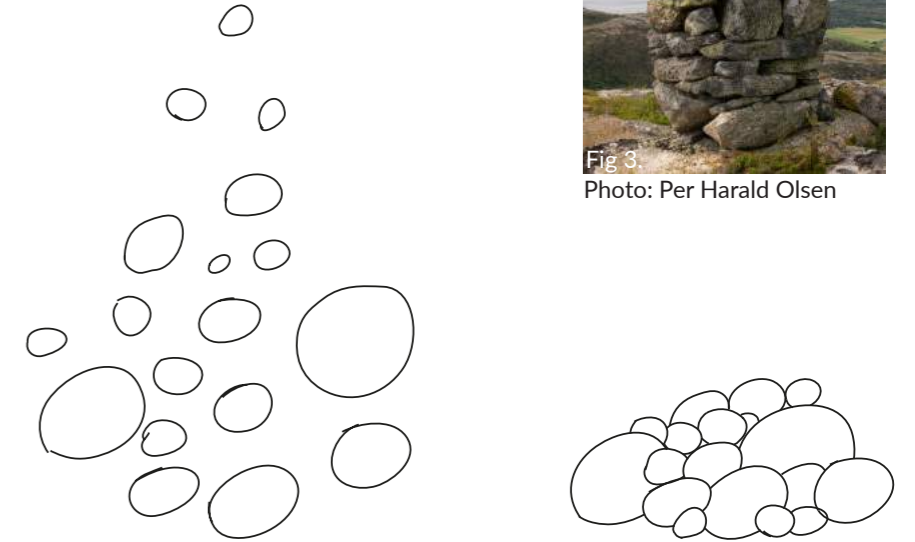
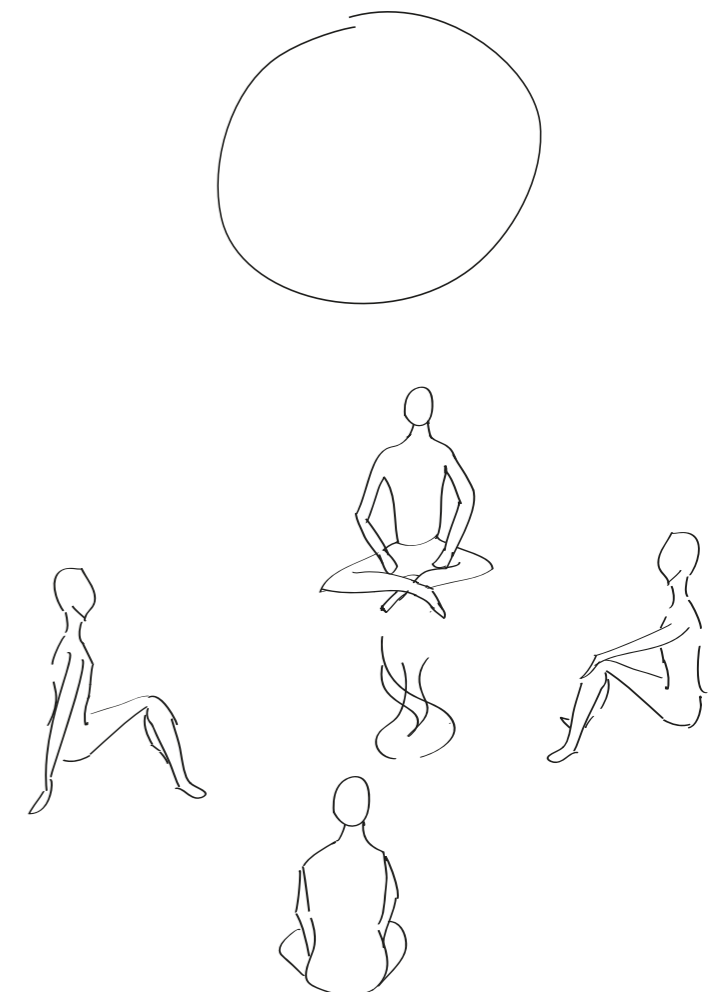


Fig. 3  
Photo: Per Harald Olsen

### Feeling 2: Circling (Lyderhorn)

I have felt a connection both to history as well as to the present age during camp gatherings on Lyderhorn.

Historically speaking, I want to honour ladies who have been burned for accusations of being a witch. Witch covens reminds me of circling. And even today there's many women circle groups. There is camp circling around fire also. All that makes me think about a circle and gathering around it.



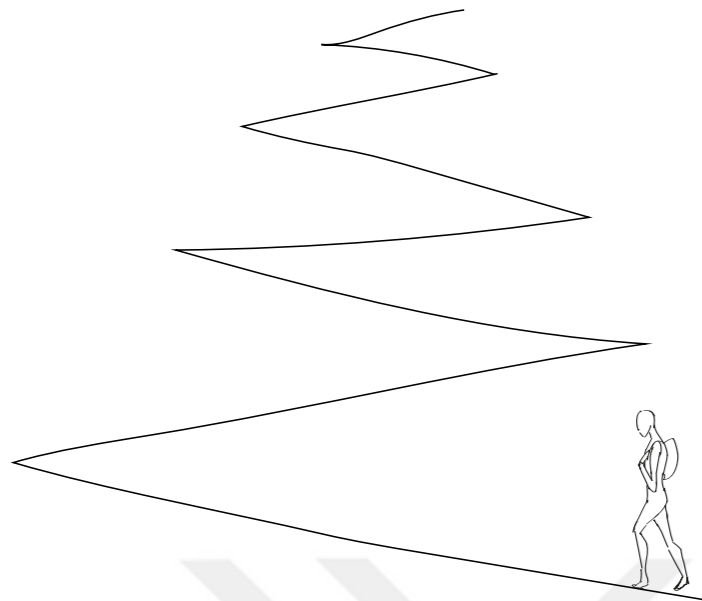
#### Feeling 4: Journey (Fløyen)

Mountain trips are a journey and an adventure. These are perfect places for you to live your own "Hero's Journey"

Wikipedia(Hero's Journey, 2021) defines Hero's Journey as:

In narratology and comparative mythology, the hero's journey, or the monomyth, is the common template of stories that involve a hero who goes on an adventure, is victorious in a decisive crisis, and comes home changed or transformed.

(Hero's journey is a concept explained in detail by Joseph Campbell.) Personally I lived my own hero's journey in Bergen by going through many challenges and difficulties. Mountains were maybe physically part of those challenges but mentally they were a source of relief and reflection. The Zig-zag path of Fløyen gives me this mental and physical journey feeling so I relate this feeling with this path.



#### Feeling 5: Protected (Ulriken)

Mountain trips give one not only a physical strength, also a mental strength. After each mountain hike I always felt not only exhausted, but stronger.

While my grandma can easily become fatigued by walking from living room to kitchen, a Bergenser grandma has the strength to run up to a mountain and then run down back without resting.

Mind and body function together. The mental and physical strength I receive from these hikes makes me feel protected. It makes me feel like I can handle everything now. Maybe not everything but many things.



#### Feeling 6: Hidden (Rundemanen)

Depending on the hours and days of my mountain hikes, in some of them I have felt like I am hiding from the whole world and my responsibilities.

While the other 6 mountains are observable from the city center Rundemanen is just hiding behind Fløyen. Also seeing the city center from there is less visible compared to other mountain tops. Even the city center is hiding.



#### Feeling 7: Alone (Sandviksfjellet)

In some of my mountain trips I was with my friends but in most of them I was alone. It was very interesting for me to go to a mountain alone because it is absolutely not a thing in my country. But after I have seen many people come to mountains alone, I noticed that it is apparently a thing here so I can do it as well.

Even if I felt togetherness in many mountains, I experienced being alone especially in Sandviksfjellet. The path of that mountain is extremely narrow and doesn't allow you to walk together with someone and gives you instant loneliness.

I don't think it is a bad thing, it is just an opportunity to listen to yourself and reflect more.



## Mock-ups

Making mock-ups helps me to visualise the things in my head and sometimes show me the details I haven't noticed before. And sometimes they show that this specific structure is not going to work. In the design world the verbal communication is pretty limiting on the other hand visualising the idea makes the communication easier.



This is the model I made at The Power Object course (Fig. 1). Power object was the first course we took and it was about examining an object on a larger scale. This course was asking questions like, How does that object make me feel? What does this object make me do? Does it make me act in a certain way?

I only knew I wanted to do urban furniture those days. But I haven't had any idea about what it would look like. I made this model as an open shape and then curved it and located it in different positions. I was thinking a form looks different when I open it and when I curve it. When I locate it horizontally or vertically.



These are the models I made at the Blow-up course (Fig. 2). This course was about quick model making or quick describing of thoughts. It aims to catch the thoughts very quickly. In doing so, one feels like one is thinking with their hands.

We have been asked to describe our project with mockups and focus on certain senses. The senses I focused on were seeing and touching. Those models are less about thinking and more about following the designer instincts.



Fig. 1

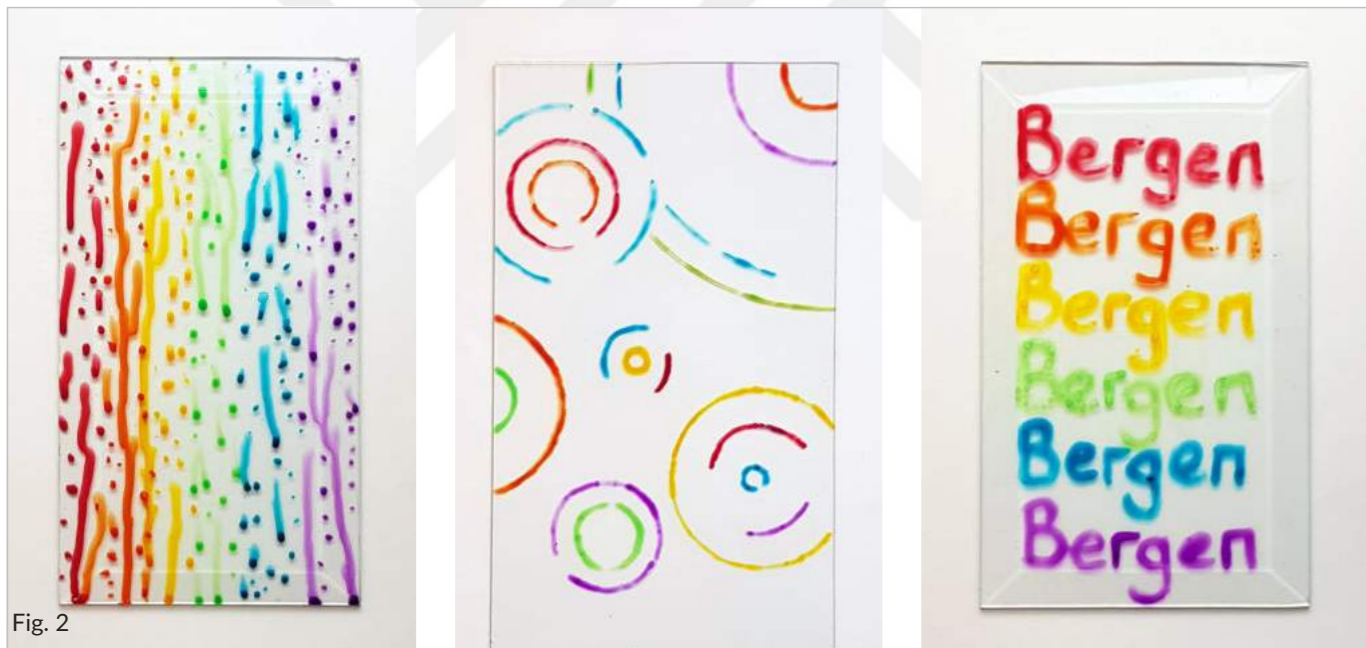


Fig. 2

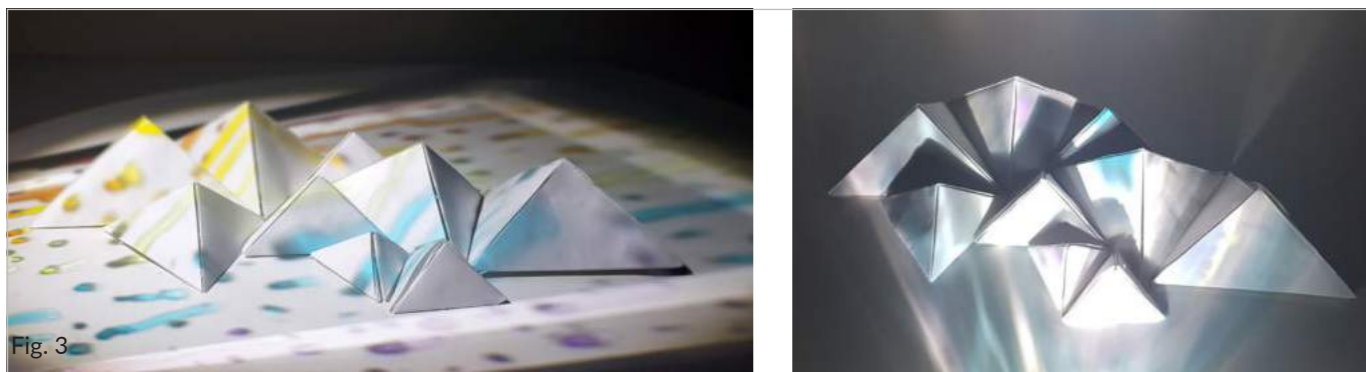


Fig. 3

## Trying to find common identity:

### Finding a common form

Though I did decide to base the design of my structures upon the seven mountains of Bergen, I did not attempt to make seven different models immediately. At first I only focused on one form. This was to be a common identity for them all. After finding this common form, I thought I can make differences in this form later on.

A triangle is a dynamic form. This form, this shape is the first that comes to my mind when thinking of the abstract form of a mountain. Accordingly I cut many triangle shaped papers and glued them together and created triangular prisms (Fig. 1).

A defined geometry is one of the elements which affect the user in visceral level. Also it is more consistent to create seven different forms from one well defined geometric form.

### Playing with the lights

I thought about differing the structures from each other by playing with the form but also differing them with the colours. There are two way of using colour:

first one using the colour as a paint,  
second using the colour as a light.

I choose the second option because I believe this might give me an advantage by using the light as an extension of the structure.

I obtained some glass pieces and painted them with glass paints (Fig. 2). Then I put a light in front of the glass and reflected these colours on the triangular prisms I made to see how it looks (Fig. 3).

But these were mixed colours of lights, later on I decided to use one colour on each structure because each mountain gives me a different colour feeling.



Fig. 1



Fig. 2

Fig. 3



Fig. 4

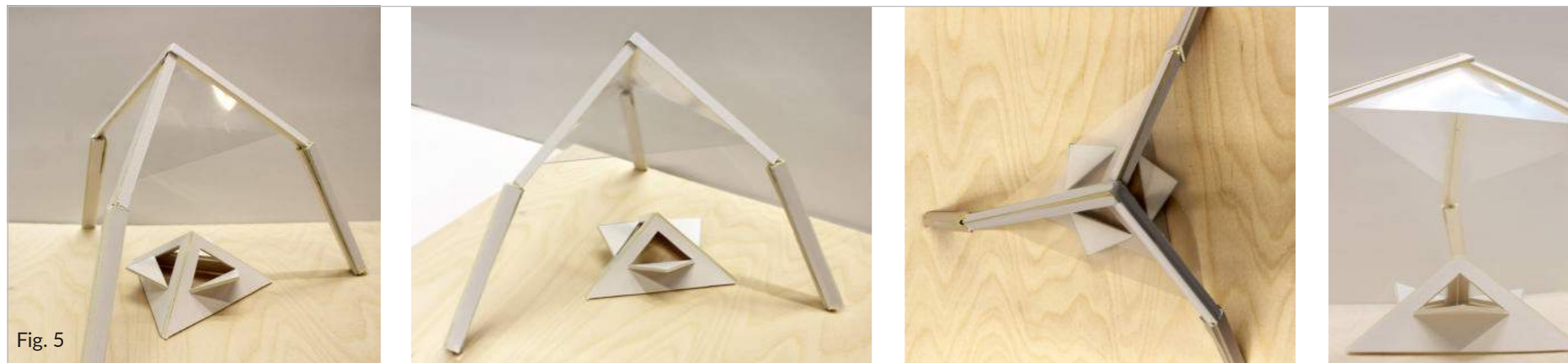


Fig. 5

## Trying Similar but Alternative Forms

After deciding to use triangular prisms as a common form I made new models (Fig. 1) This time I made them as open structures just to see how I can fill inside or maybe diminish some faces of the prism.

Even if I decided on a triangular prism I still made other forms to see if they have any advantage like this pink paper model (Fig. 2). In this one I tried to see designing one piece of structure and then locating it on different angles and getting different designs by actually using one design.

And in (Fig. 3) I put a prism inside of a prism to see if I can do something with it, like combining furniture and a shelter.

Then instead of using the three sides of a triangle, I instead used just two sides to see how it would look. (Fig. 4) This gives me more of a house like shape, so I moved on from this form.

These (Fig. 5) are my tries of bringing the furniture and shelter together. I bent the legs of prisms to see how it looks here.



Fig. 1



Fig. 2

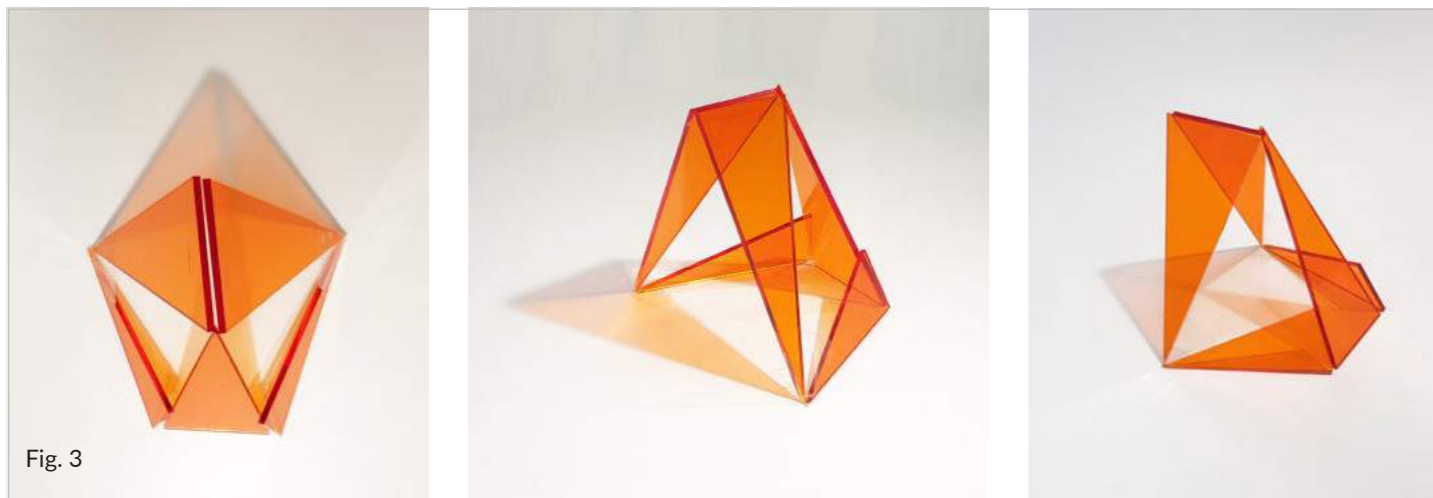


Fig. 3

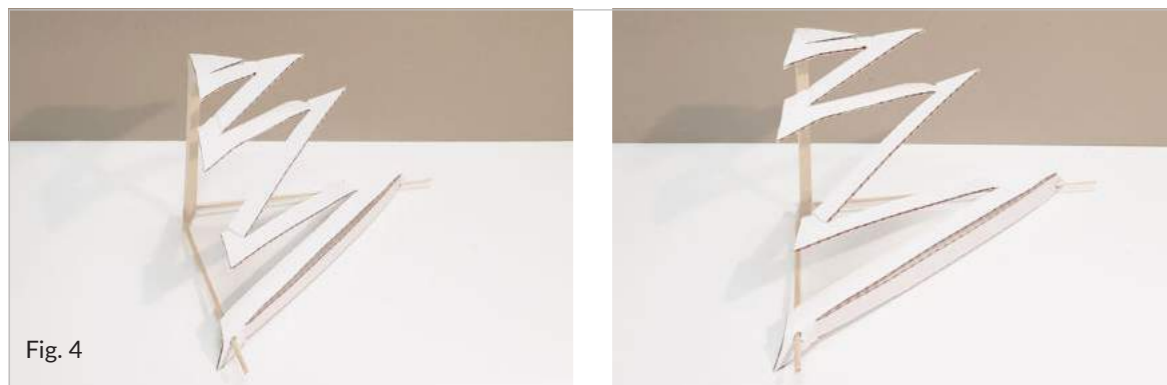


Fig. 4

I continued my forming attempts to bring shelter and furniture together because Bergen is a rainy city and a closed structure would be very useful in a city like this.

In (Fig. 1) I used colourful transparent material. The colourful shadow it created seemed pretty. This kind of structure would be made of glass and starting the glass from the ground wouldn't be very good, it might get smashed and break easily. Even if I would like to use glass in some parts of my furniture I don't want those parts to be very close to the ground.

I tried to locate the furniture outside of the shelter not inside in this model (Fig. 2). This didn't give me the right feeling. I moved on from this form

Even if the combination of furniture-shelter forms looks alright by themselves, I thought this would create a crowded feeling or would feel too much. I decided to design shelter and furniture separately.

I got some triangles and made this form (Fig. 3). I wanted to see the closed and opened sides of the structure which is both triangular shaped.

Instead of focusing on the outer shell I focused on the path (Fig 4). I tried making a path like shape in this one to see what focusing on a path would look like (inspired by Fløyen). I used this shape later on the final form of Fløyen.

## Material and Object Observation

I walked in the streets of central Bergen and observed the urban furniture and several works of urban art. I observed the place they were located, the material they were made of and if people use them or neglect them.

I aimed to observe the materials' reaction to the weather conditions of the city to decide which materials fit my project. Also, some of the objects have fallen out of use. I wanted to explore the reasons for it. It might be because of their location or their form or their material.

I categorized the objects I observed as,

- Plastic objects
- Metal objects
- Stone-concrete objects
- Solid wood objects
- Composite wood objects
- Light usage in the city

## Plastic Objects



This is the only plastic furniture I found while walking in the streets of Bergen (if I don't count the children's playground objects.) But I think a designer should not prefer to use non-biodegradable materials like plastics unless it is really necessary (like some components of the electronic objects). Or they should not use it if they have a choice. I had a choice so I eliminated this material immediately at the beginning.

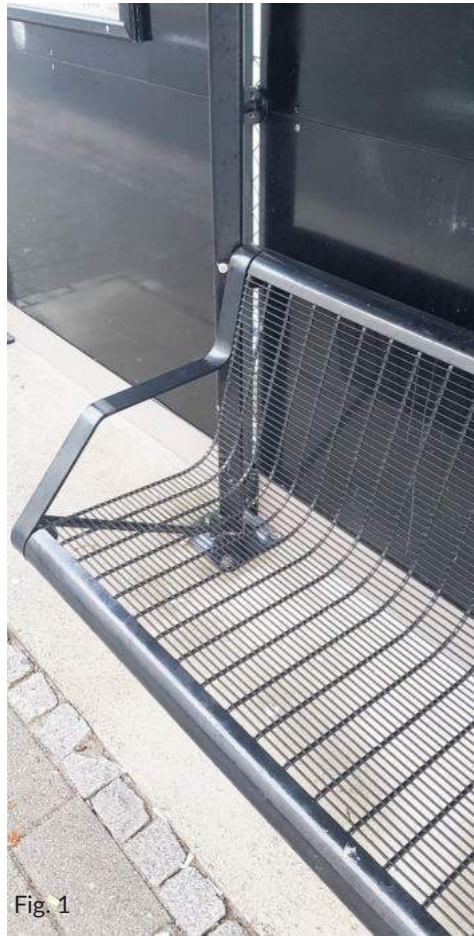


Fig. 1



Fig. 2



Fig. 3

## Metal Objects

The first metal furnitures I meet are some of the bus stops (Fig. 1)

While I observe the metal objects I met with urban art works also, such as the sculpture called Re-Sources by Thomas Nordström and Annika Oskarsson (Fig 2).

This high tower (Fig. 3) which is located at the Lagunen Storsenter has bird carvings on its body and it carries big spot lights at top. This made me wonder how I can connect the lights and the body in a smooth way.

Then I met with a sculpture (Fig. 4) which belongs to Marte Johnsen called 'Blindfold' at Byparken. This seems like a good combination of glass and metal.

These are the benches in front of the KMD faculty (Fig 5.) haven't seen anyone use them yet.

Metal seems like it deals well with the weather as long as it is stainless steel or painted. Metal furniture is too cold in winter and too hot in summer and it is not the feeling I want. Also it is not a good option for a temporary installation.



Fig. 4



Fig. 5



Fig. 6

I met with a very nice public art near Nonneseter (Fig. 6, 7). But this one was not about a material observation. This object made me realise something else. I have seen this object probably 100 times and without having any information about it I tried to figure out what it was perhaps supposed to represent. Sometimes I perceived it as a horse, sometimes I perceived it as a horse with a knight, sometimes it seemed like a howling wolf and sometimes like a bird. Then I realised I actually like having guesses and comments about it without knowing the artist's intention. I thought the same thing might also happen for the objects I design. I try to reflect on a feeling inspired by the mountains to the objects. Perhaps people will perceive it as another feeling which I haven't realised before. This is a good example of how the urban structures are open for commentary or interpretation. Well after I mentioned this idea to my tutor Mikkel Wettre told me this is a horse and the king of Norway, so now I know it is not a wolf or a bird. But look at it! It seems like a howling wolf in this picture (Fig. 6)



Fig. 7

(Fig 6, 7) Sculpture of Bergen's founder, the viking king Olav Kyrre on his horse by Knut Steen near Lille Lungegårdsvanet, Bergen

Fig. 7: Photo: Helge Sunde



Fig. 1



Fig. 2



### Stone Objects

This object (Fig. 1) is a chimney of the student centre of UIB and a sculpture at the same time, made by Arne Vinje Gunnerud in 1974 and called Metropolis. This shape and the geometric form of it gives satisfaction to my soul on a visceral level and I would like to do that for my furniture as well.

These pieces look like giant pebbles (Fig. 2), also very pretty and playful but their surfaces have slightly moss. I think it might be cause of the small pores on their surfaces

Stone furniture is one of my favourites with their classy look and durability. But they share some of the same problems with metal such as being cold in cold weathers or being hot in hot weathers. Very heavy, expensive and useless for temporary installation.



Fig. 1

Fig. 2

Fig. 3

Fig. 5

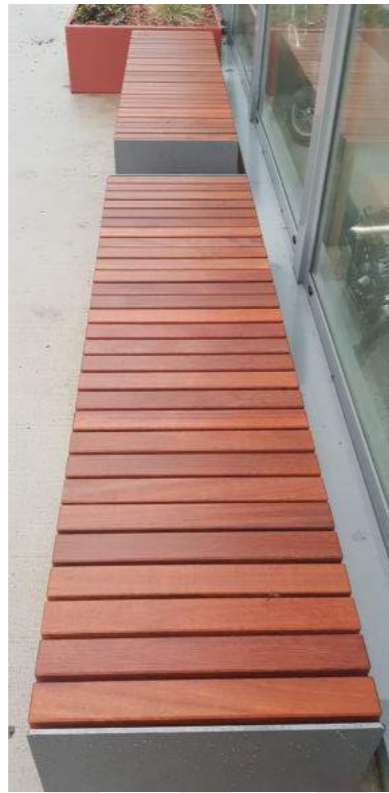
Fig. 4

### Solid Wood Objects

I focused more on wood to get the organic, alive feeling I need. It is a warm material and connects well with a human. I have seen many wood furnitures and structures in the city. Many of them were solid wood. Wikipedia (*Solid Wood*, 2020) defines the solidwood as,

Solid wood is a term most commonly used to distinguish between ordinary lumber and engineered wood, but it also refers to structures that do not have hollow spaces.

Half of them got some mold on their surfaces (Fig 2, 4). But if it is processed and dried well then it can handle the rain like (Fig. 5). Bad side is, it is not very possible to get big pieces of surfaces without using many pieces of wood and this looks causes the surface to look like it is sliced (Fig.1, 3). Also it is more expensive compared to composite wood.



These are the composite wood furnitures I observed painted, varnished or covered and they deal very well with the weather, they seem shiny as the first day.

## Composite Wood Objects

Processed, polished, painted or covered composite wood is not getting molded. It is stronger and denser than massive wood. It is perfect for temporary installation. It can get designed as a big piece so it doesn't have to be divided into separate pieces like a solid wood structure. Even though there is composite wood made of the mixture of plastic and wood, I prefer not to use that version. I prefer to use a fiber and wood dust mixture thus it can be more biodegradable. Wikipedia (*Solid Wood*, 2020) defines the engineered wood as,

Engineered wood products are manufactured by binding together wood strands, fibers, or veneers with adhesives to form a composite material. Engineered wood includes plywood, oriented strand board (OSB) and fiberboard.

After observing and comparing the furniture material types in the city I decided to use composite wood. The varnished plywood fits well to what I want to use.

## Light usage in the city

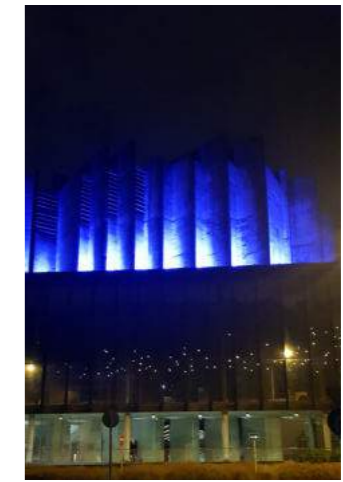
One of the elements I would like to use in my structures is the light. I would like to use light in order to differ and characterize my objects. Instead of relying on paint to colour my objects, I would like to emphasise lighting. Because it has physical utility at dark times to illuminate around and it gives the structure an interesting character at nights which is different from mornings.



There is an annual light festival in Bergen during which you can see thousands of people gather around the Lille Lungegårdsvannet and enjoy the music, the colourful lights, fireworks and carrying torches. As you can see in the picture they said 'see you in 2020' but we have never seen them after 2019 because of the pandemic. I only experienced this once but this gave an idea about the city's relationship with lights.



Global Rainbow is a laser light art installation belonging to Yvette Mattern's. It has been installed in many countries around the world like the US, UK, France and Germany. But last year(2020) it was here in Bergen on top of mount Fløyen. Even if this is a relatively simple installation it is unbelievably effective. It hypnotizes you and makes you want to look at it for minutes.



The outer walls of the Grieghallen (1500 seated concert hall) are being washed with different colours of lights almost every week. Makes me wonder which colour is coming next week.



Every year at Christmas time Festplassen is aglow with installations full of colourful lights.



The lights around Vågen combines well with their reflection from the sea.

## **Workshops**

The fall semester of 2020 shaped my project a lot, especially the two workshops I attended. These were really helpful for my project. I applied to both of them and I feel lucky to have been accepted by both of them.

One of them was a design thinking workshop which was about the planning of a park in Bergen, it was a perfect opportunity for me to observe how the professionals are doing it.

The other one was a stop motion movie workshop which taught me to communicate with movements, shapes and colours.

In this part I will tell about these two workshops

- Design Thinking Workshop, VARCITIES 2020 Project
- Stop Motion Movie Workshop



Fig. 1  
Photo: White Arkitekter



Fig. 2  
Photo: White Arkitekter



Fig. 4  
Photo: White Arkitekter

Scenario 1



Fig. 5

Scenario 2

## Design Thinking Workshop

VARCITIES 2020 Project  
27 November 2020

The VARCITIES 2020 project is a project funded by the EU which aims to create sustainable and modern parks in Europe.

The park around Store Lungegårdsvannet is one of the places which was chosen for this project. The competition for the park design of the area was won by White Arkitekter. It is called True Blue.

After they prepared the project they wanted to get feedback from users in order to improve the project and re-design some of the parts. Thus Design Thinking Workshop has been prepared and the hosts of this workshop were;

Institute of Design, KMD Faculty  
White Arkitekter  
OK Kontor  
Bergen Kommune

The idea was gathering people from different disciplines and discussing how it can be better and what kind of improvements it needs.

Steps of this workshop planned by Johann (Hans) Sagan Ph.D. by following 5 step design thinking. But because of the Covid pandemic restrictions it was on Zoom and the steps were changed to fit an online meeting. These steps are;

1. empathize
2. define
3. prototype (sketch)
4. testing/share

I worked at this workshop as the assistant of Johann Sagan and my duty was recording the meeting and gathering the data created by participants.

At the workshop I had a chance to observe how professionals are working on urban planning and urban furniture subjects. I realized that getting feedback from people is better when you design something and show them instead of showing an empty area and ask 'what should we do here?' In the empty area the options are endless and there are many restrictions you have to consider as a designer. Non-designer people might not be aware of those restrictions you have to consider. In order to get more specific and focused feedback, designers should apply those restrictions to their design and then share the result and ask for improvements.

I observed this working method in the True Blue Project and I would like to do this method for my project. I designed my project by getting feedback from many tutors and designer classmates in the school. So the next step is getting reactions from users, the non-designer people. That's why I would like to suggest my project as a temporary installation. Then those structures can stay there for a short time and receive people's reactions. If the reactions are positive they can stay or they might get improved.



Fig. 1

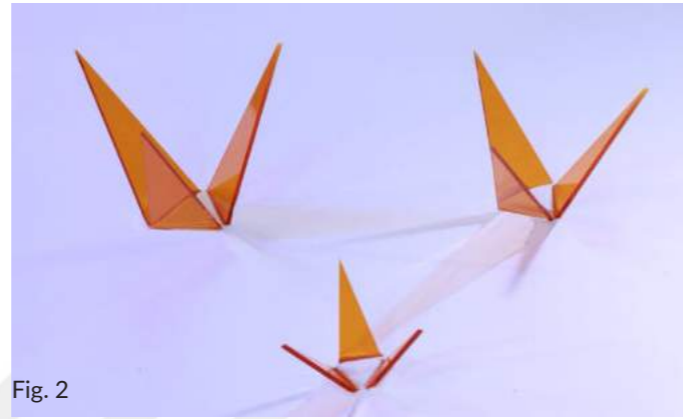


Fig. 2



Fig. 3



Fig. 4



Fig. 5

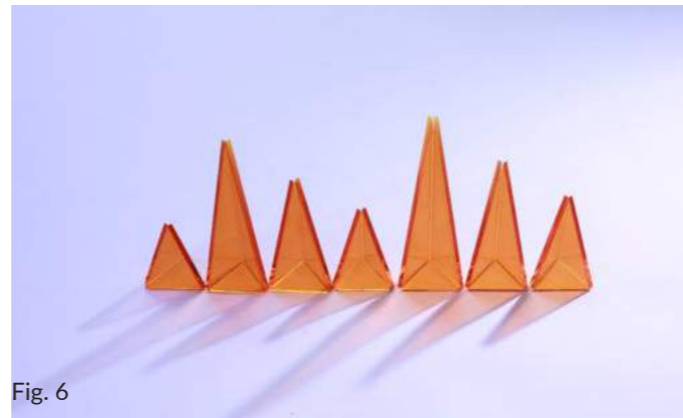


Fig. 6

## Stop Motion Movie Workshop

10 November 2020 (3 weeks workshop)

This was an experimental study with the collaboration of art, design and music students. Purpose was learning about the stop motion visualisation techniques and softwares and working with the art and music student in a movie project.

Workshop instructors were;

Gustav Kvaal

Herbert Eugen Wiegand

The participants were free to choose their movie subject. I chose to make a movie about seven mountains so I could experience working with visual elements to tell a story.

I made transparent orange acrylic prisms to represent seven mountains. Without any other material or text I tried to tell a story with only movements. I gave them movements inspired by nature. They dance in a harmonic way. The movements I tried are;

Blooming (Fig. 2)

Swimming (Fig. 3)

Walking as a family or a pack (Fig. 4)

Growing (Fig. 5)

Sea waves (Fig. 6)

I used this movie as a visual story telling method. It was a good practise before trying to tell a story with form.

## Case Studies

Even if I examined many urban art, installations and furniture not all of them affected my design decisions.

In this part I will discuss three urban structures that affected my design decisions and inspired me. The common threads running through these projects are that they are all inspired by their environments, they all tell a story and they all give users an experience. These objects are:

- SALT by Rintala-Eggertsson Architects
- Cosmic Room by Trondur Paturssons
- Pinecone by ATELIER SAD

## SALT by RINTALA-EGGERTSSON ARCHITECTS



Fig. 1

Photo: Baard Henriksen

SALT (Fig. 1) is four triangular outdoor structures designed by Rintala-Eggertsson.

It is inspired by Hjeller (Fig. 2) which is triangle shaped racks used for drying fish. Hjeller is a structure used in Nordic countries and especially in the north of Norway. Petter Bergerud defined walking in hjeller as walking in a fish catacomb which made me think about this experience. I think this tells a story and it made this object interesting for me.

These four Salt structures are in Oslo (Fig. 3, 4) and they are used for many things including art exhibitions, sauna, sitting and concerts.

Initially, the “nomadic art project SALT” was to showcase art that would raise people’s interest in the sea and Norwegian coastal culture. I find this idea very close to what I am doing with my project. I would like to get people’s attention about the mountains of Bergen. Just as SALT honored the sea and fishing culture of Northern Norway, I would like to honor the mountain trip culture of Bergen.

But Salt was not always in Oslo first; it was first built on a beach in Sandhornøya outside Bodø (Fig. 5, 6). But it was badly affected by the coastal climate. Now it is safe and secure on a concrete ground in Oslo.

The problem this structure had with its site made me reconsider my site choices for my structures. I came up with 4 site options to build them and even if all options might end up as wrong choices they might still find themselves safe and secure places just like SALT did.

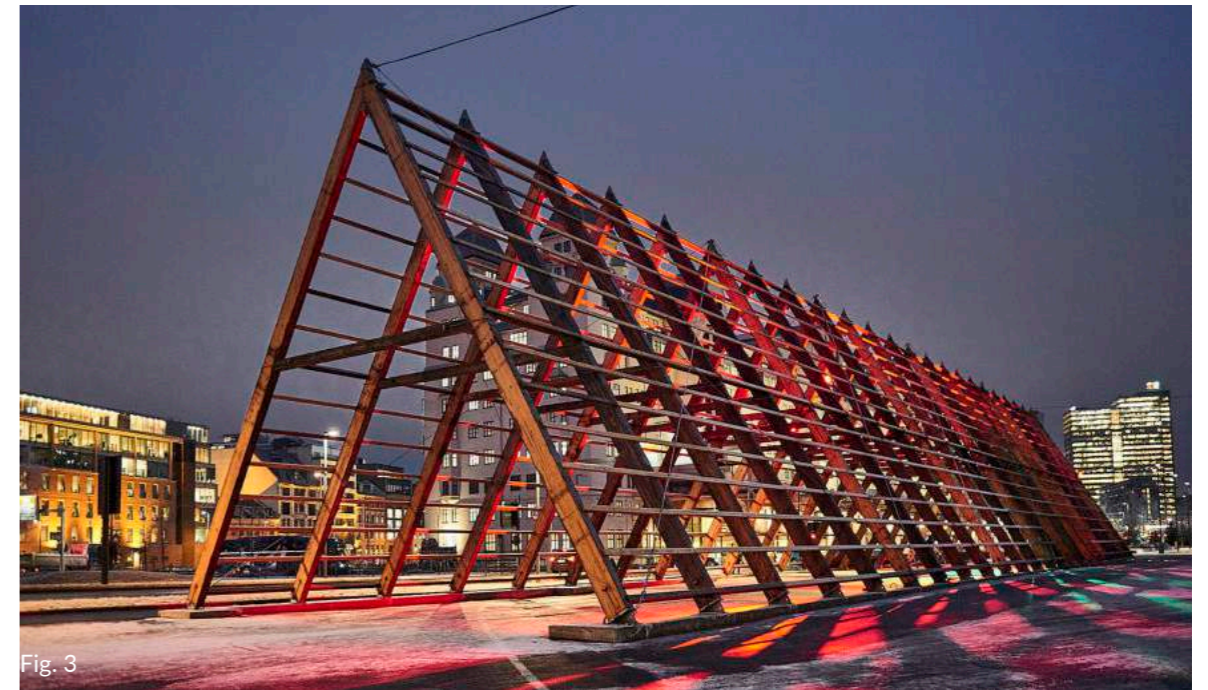


Fig. 3

Photo: Baard Henriksen



Fig. 4

Photo: ri-eg.com



Fig. 2

Hjeller (Fish Flake) at Lofoten. Photo: Ole Bendiksen



Fig. 5

Photo: Gunnar Holmstad

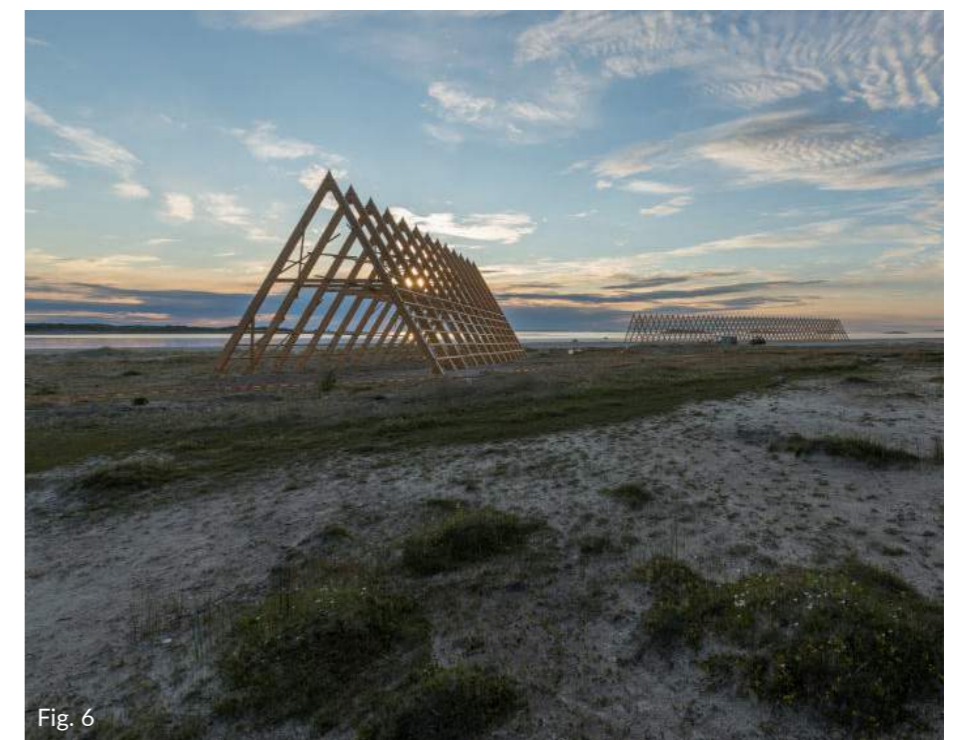


Fig. 6

Photo: Gunnar Holmstad

## Cosmic Room by Trondur Paturssons



Fig. 1

Photo: Shrinidhi Hande

Cosmic Room are igloo shaped urban structures designed by Trondur Paturssons in Copenhagen (Fig. 1). They are nature inspired and experience based structures and that's why they are perfect as a case study. It is made by coloured glass hexagons and the colours of it are inspired by the North Atlantic Ocean. After it gets hit by daylight the colours seem more alive and the mirrors inside play well with the reflections of colours (Fig. 2). This gives you perfect sea and sky experience and also makes you think of many things. Using colours and lights in my project was something I wanted to do and this project is a good example of it. But this structure is so closed it is very open to get occupied by homeless people and a friend who visited there told me that it smells like urine. I don't want an object I designed to get occupied or used as a toilet and that's why I avoided creating very closed structures. I especially made open sides.

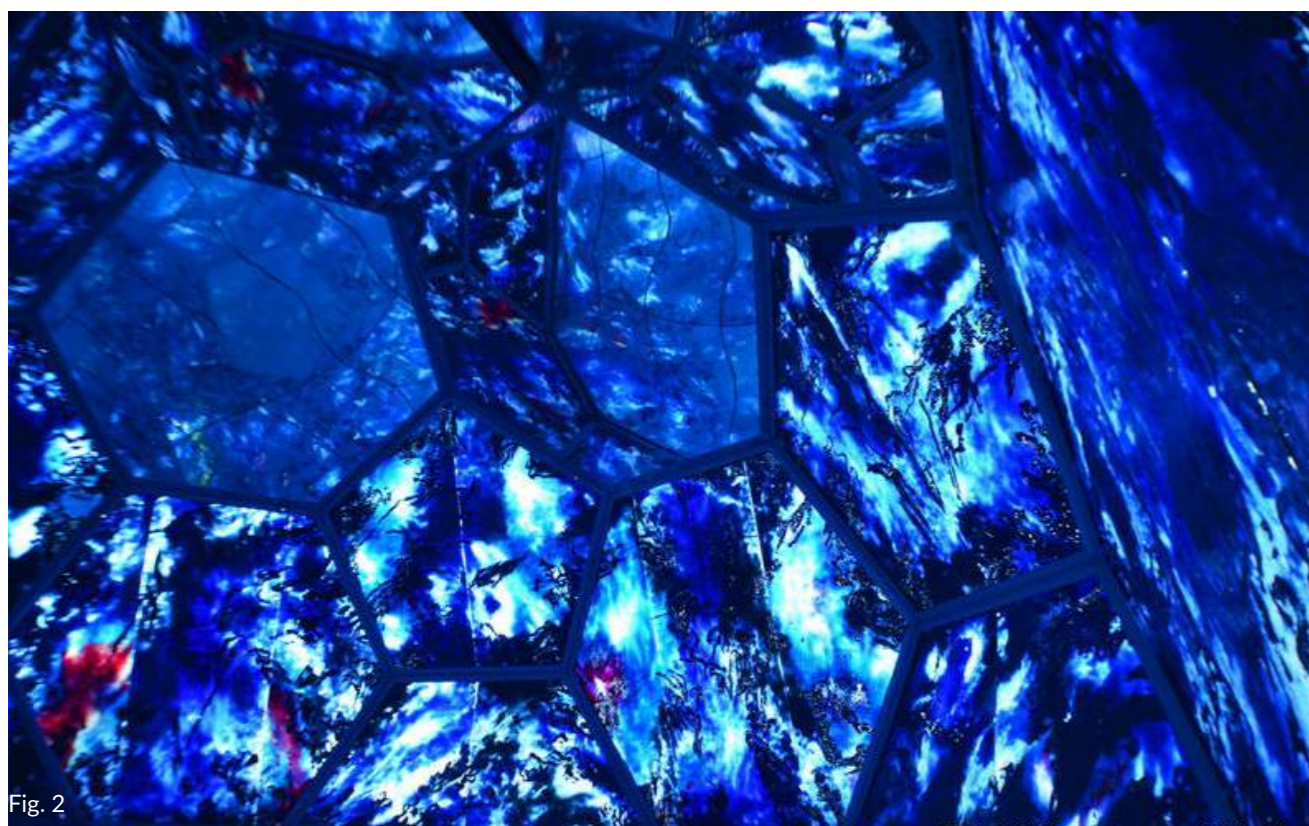


Fig. 2

Photo: Shrinidhi Hande



Fig. 3

Photo: Mmcite

## Pinecone by ATELIER SAD

Pinecone is an urban installation made by using 109 pieces of plywood designed by Atelier SAD .

It has many purposes like a playground for children, meditation spot for adults or it might give you a gathering place around a campfire. It took my attention by being an outdoor object inspired by nature and affords experience.



Fig. 4

Photo: Mmcite

But its effect on my project was material based. After I walked in the Bergen streets and did my observations I decided to use composite wood. But I wasn't sure which kind to use.

Mmcite (n.d) mentioned the material they used in this structure:

Scales made of waterproof plywood treated with durable varnish are connected to each other with galvanized steel joints and bolts with stud nuts. The lower row of scales is anchored to a base frame made of steel profiles, placed using adjustable feet on the concrete foundation.

Plywood seems like a good option and it allows me to create big pieces. Varnishing the plywoods make them durable for weather conditions. And so I decided to use the same material.



Fig. 5

Photo: Mmcite

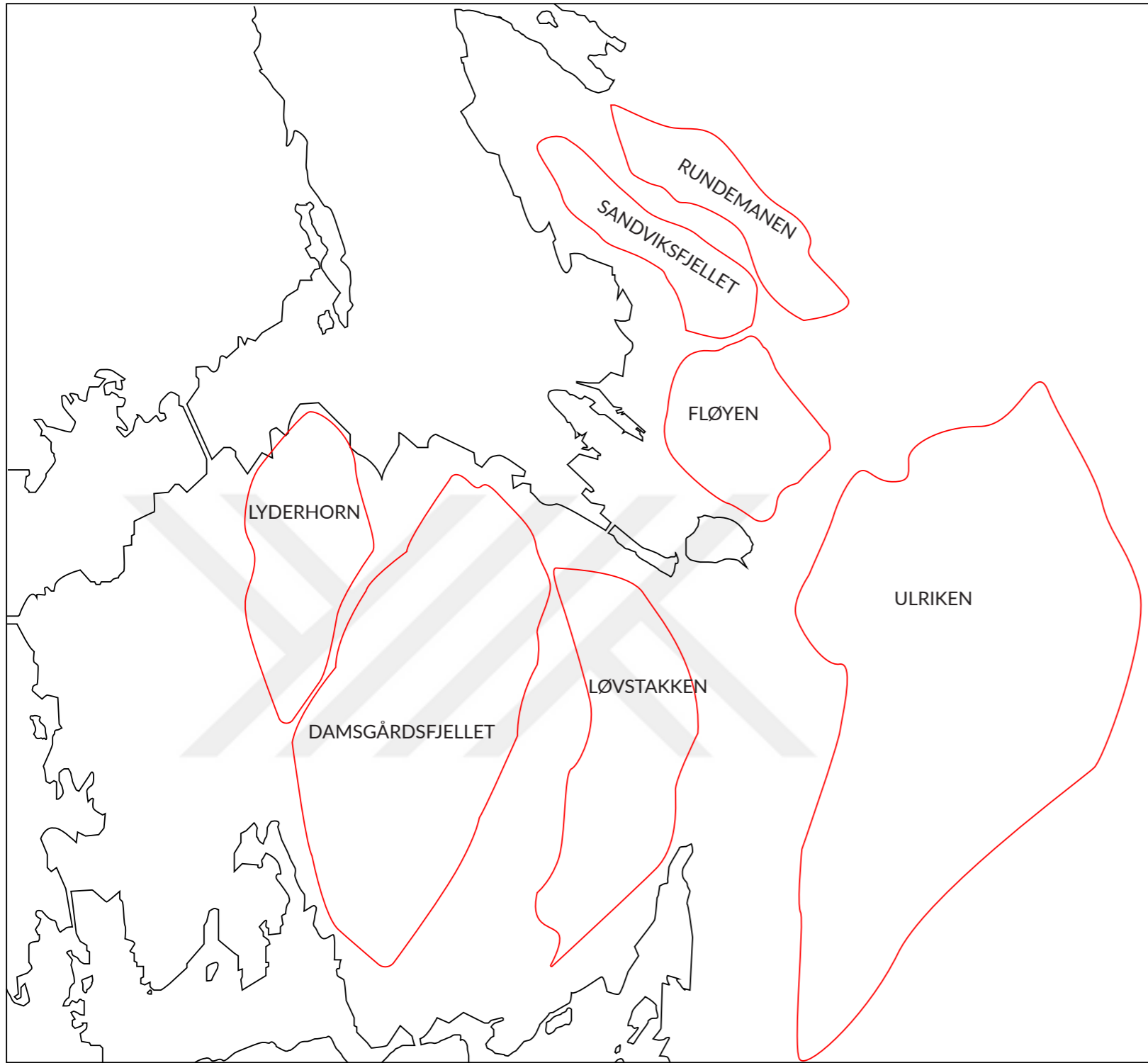
### Site Observation in Urban Area

After finishing the mountain observations, visualising and describing my feelings, working on mock-ups, examining other people's works and researching it was time for wandering in the Bergen streets and finding spots to locate my structures. I observed the crowd, historic facts of the environment and the view that site has.

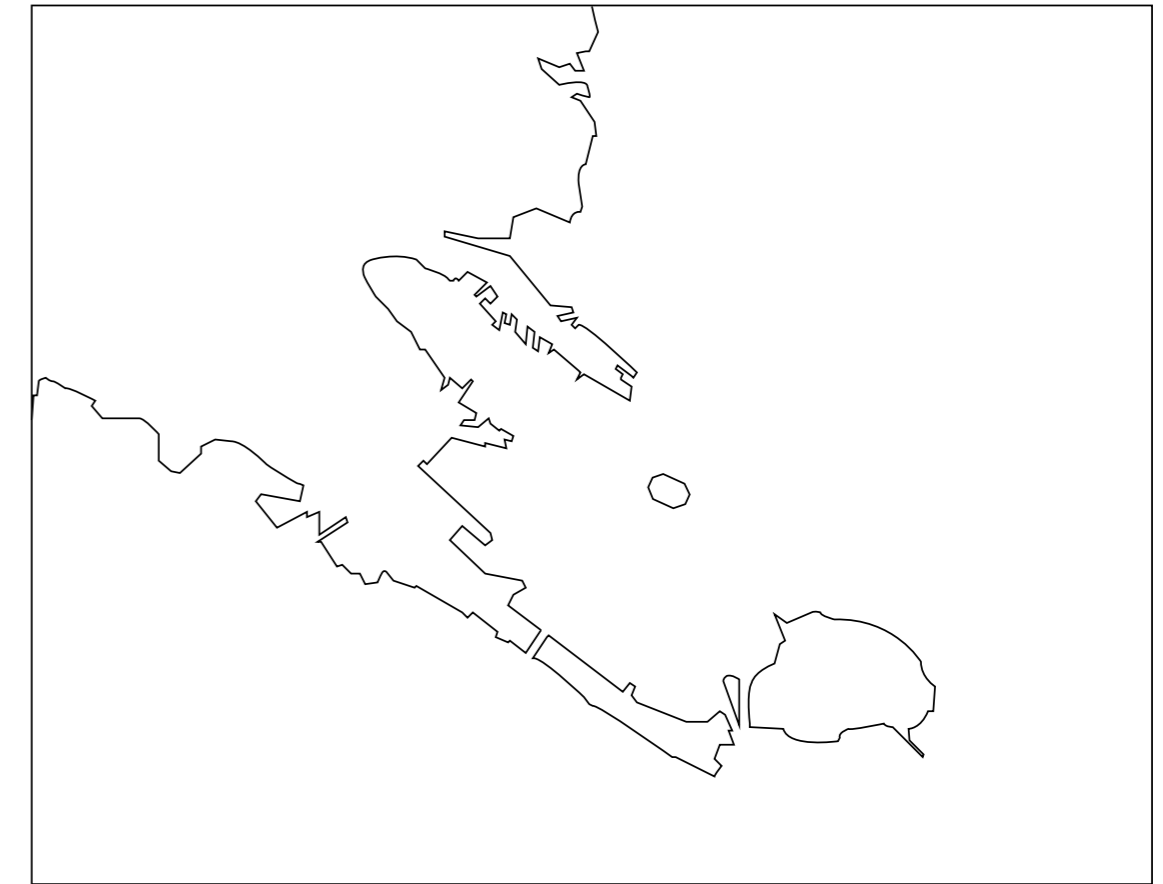
At the pages 87-88 I compared four choices of place by showing their location at map.

Then at the pages between 89-96 I showed how those locations look like by adding their pictures.

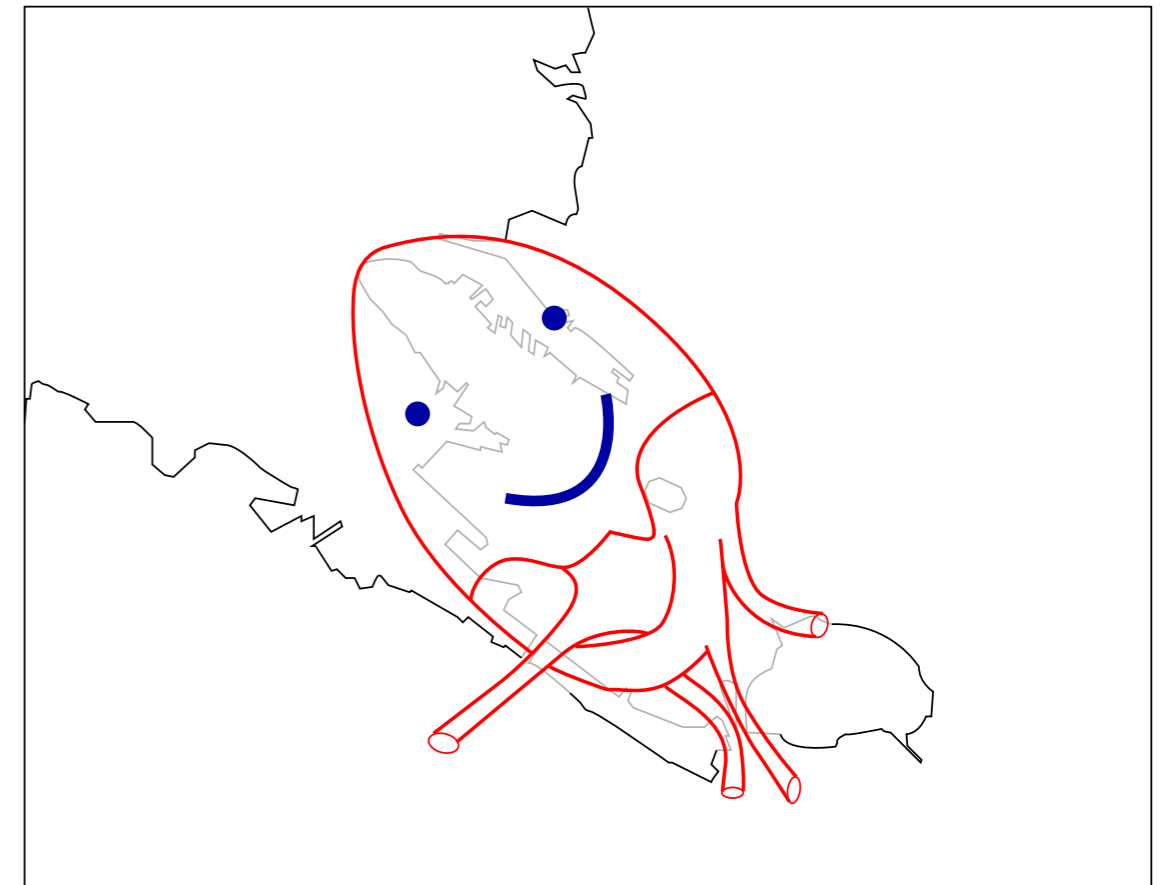




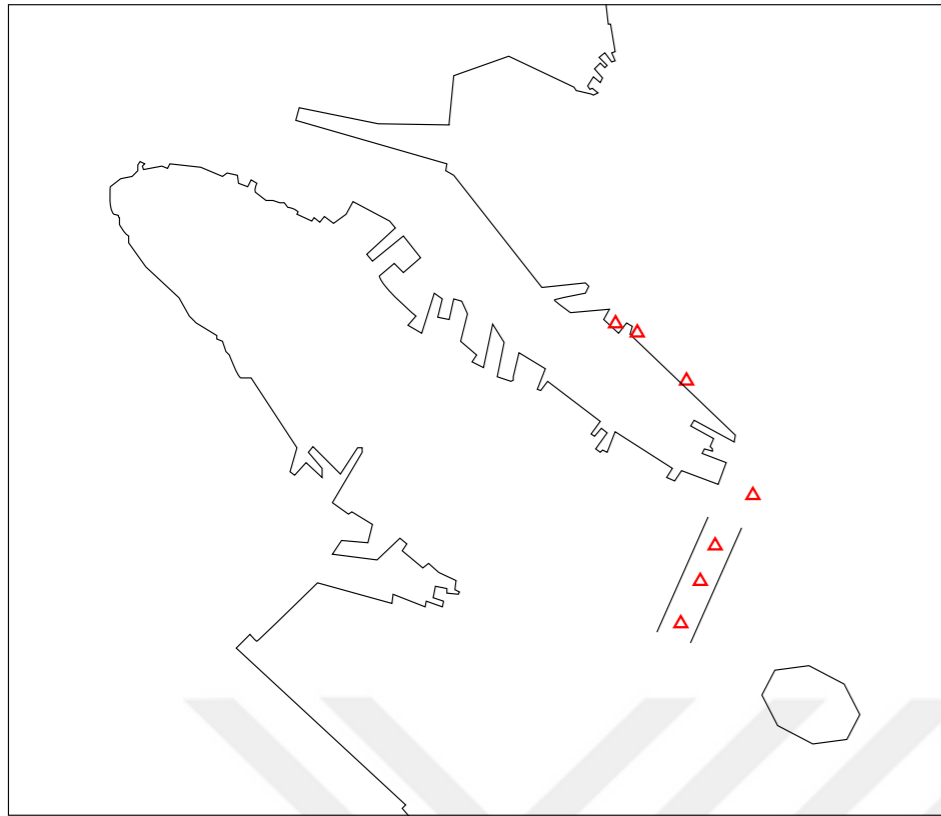
This is where the mountains are as a reminder. The application area, the place I would like to choose for my structures is the center of them which is the Bergen Sentrum.



This peninsula is the Bergen Sentrum. Middle of all the mountains. I found for alternative places to put my structure at this peninsula.



Bergen Sentrum is the heart of Bergen. Almost every interesting thing happens here.



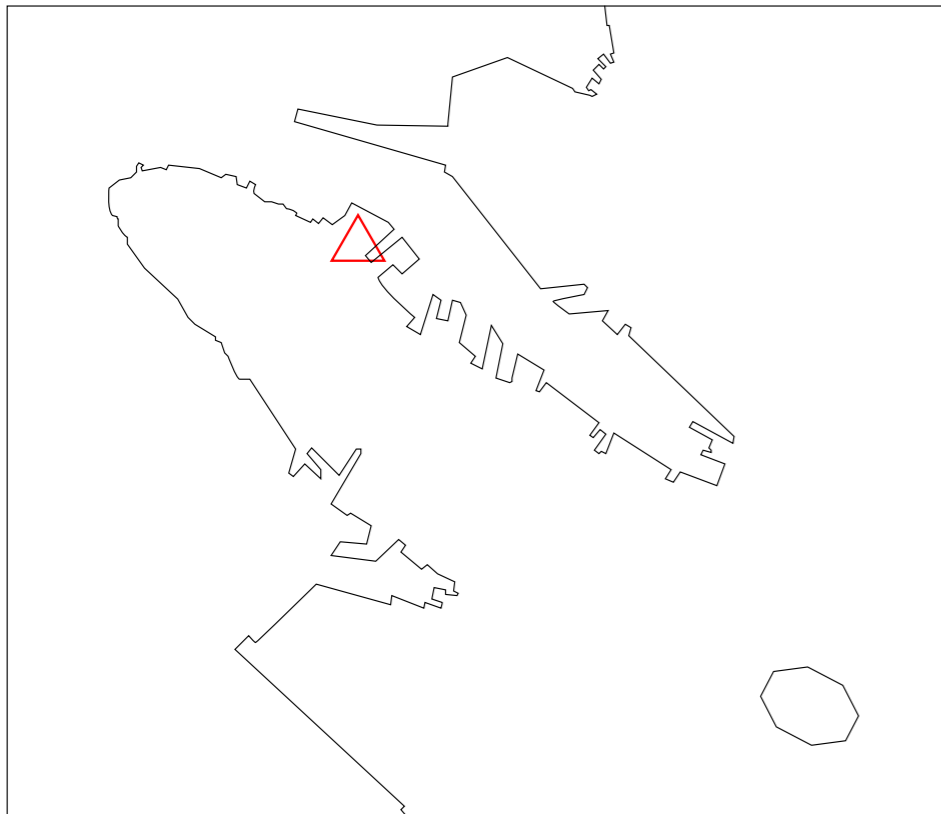
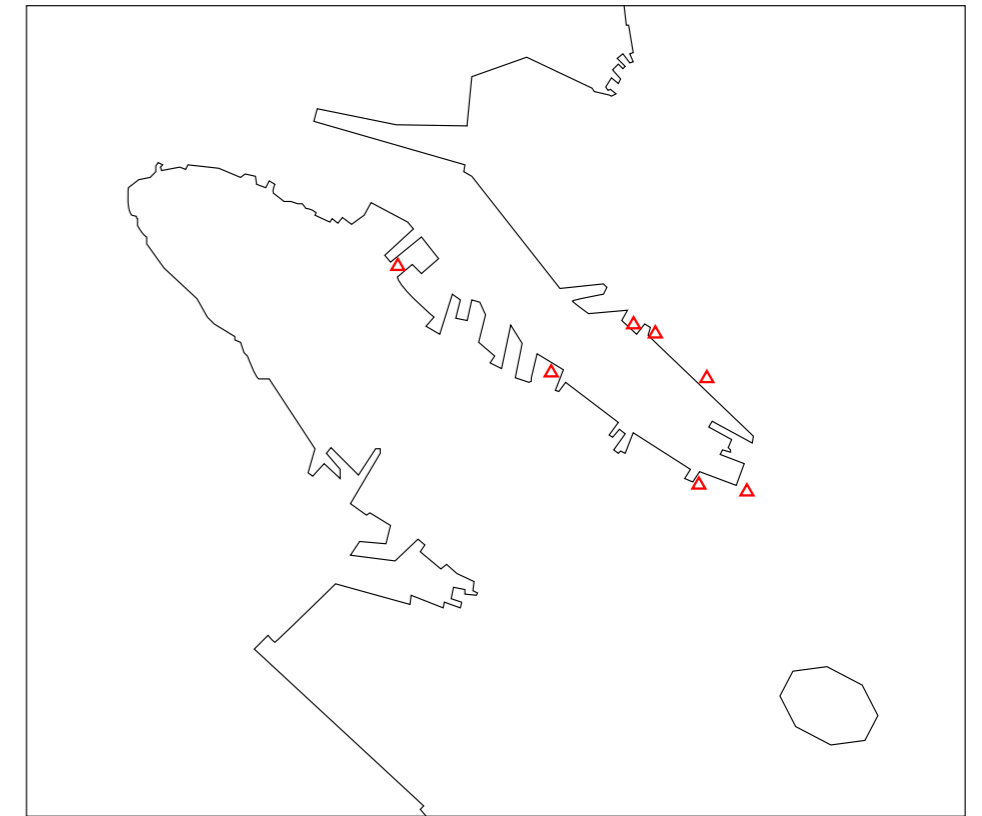
**Tourist Path (From Dreggekaien To Torgallmenningen)**

Following this path is a bit safer option and more focused on tourists than locals. Because when a tourist leaves their ship at the harbour this is the path they would follow to the center and they would see all of the installations

**Around Harbour (Vågen)**

This harbour has a very important place in Bergen's history. Bergen was a trading city and that activity was focused on this area. Also many war incidents of Bergen history happened in this harbour. And today it is still very important and the center of attention.

Gro and Eva, (1992, p. 11) state in their book, Art historian Robert Kloster defined Vågen as "It was like a theatre, with Vågen as the main stage, The orchestra seats' closest to the stage were occupied by the wealthy merchants in company with the highest in the land and in the town"



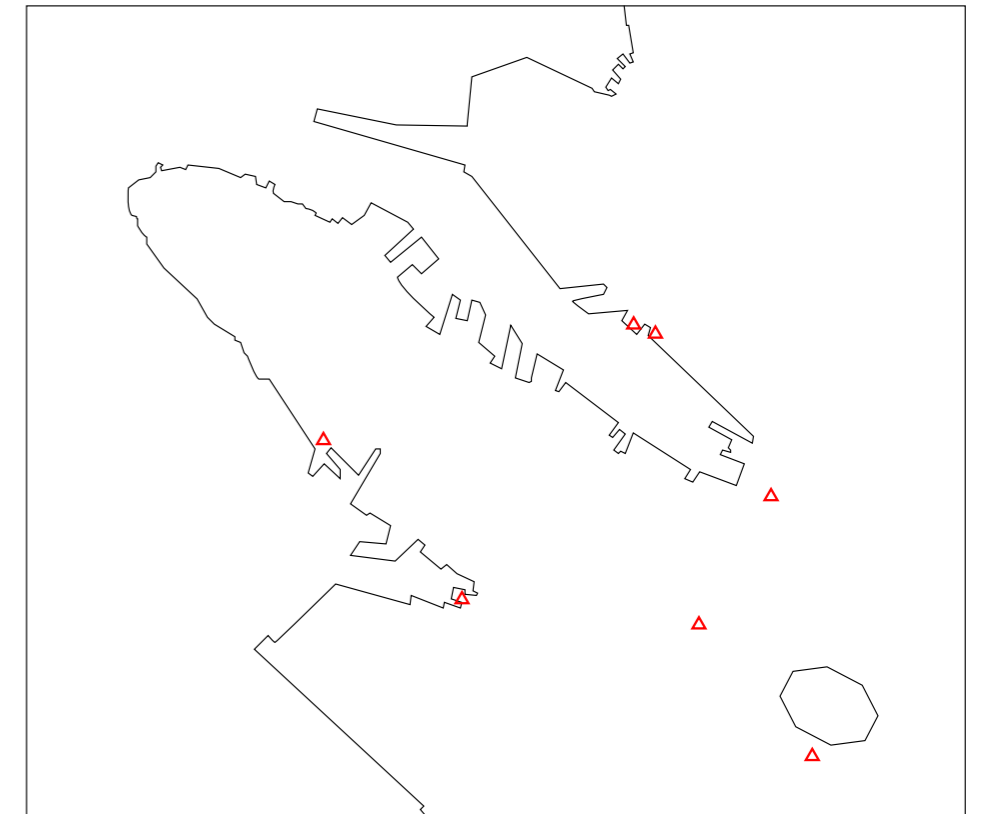
**All in one place (Tollbodkaien)**

This is a nice large spot next to the sea. It has a nice view of Ulriken, Fløyen and Sandviksfjellet mountains. It is getting used as a car park at this moment. It is big enough to fit all the seven installations. Good thing about this option is the ability of seeing them all together will make it much easier to experience them all and compare them with each other.

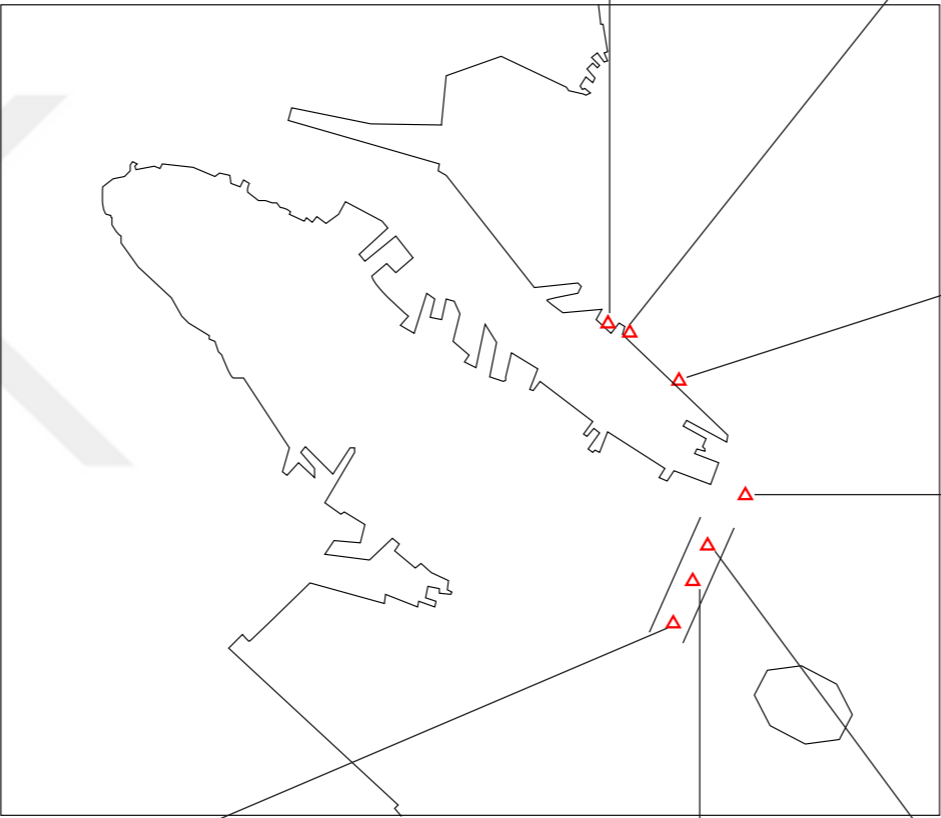
**Pointing at their mountains**

Putting them all over the center peninsula makes it a bit difficult to find them. You start from Vågen path and here installations are closer to each other, more easy to find, then they get more far away and you have to try to explore them in the center peninsula.

Also I think this is more playful and people have some clue how to find them. Because each installation is closer to their own mountains and stands parallel to the way in front of them.



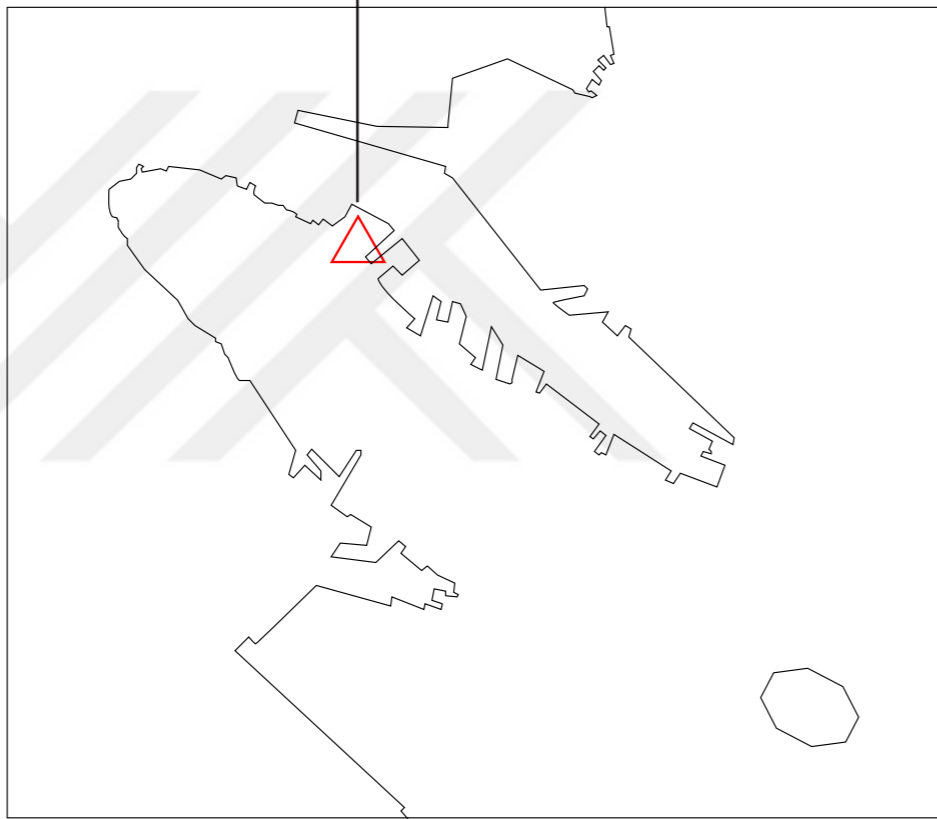
**Tourist Path (From Dreggekaien To Torgallmenningen)**



Around Harbour (Vågen)

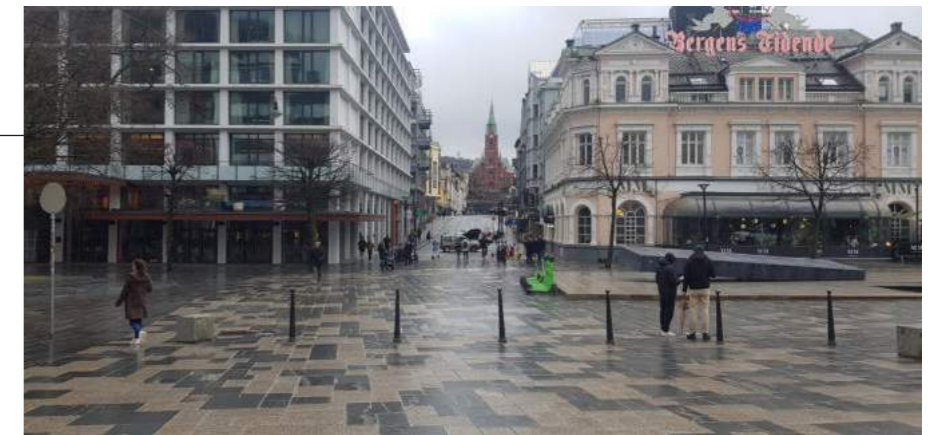
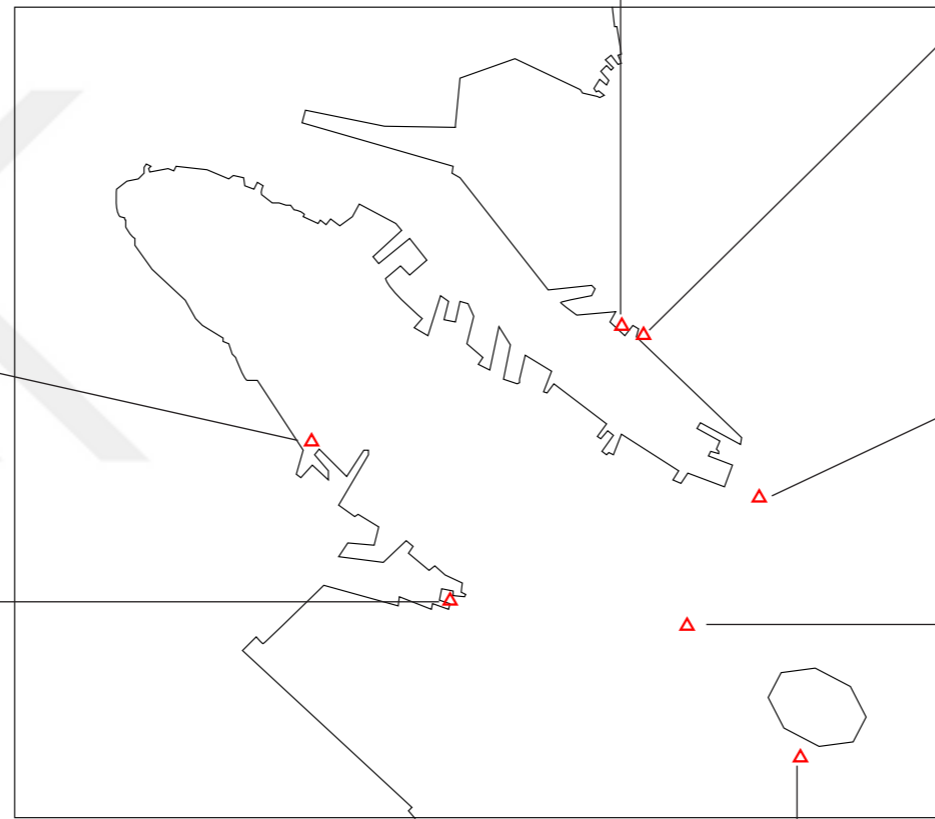


All in one place  
(Tollbodkaien)



## Pointing at their mountains

At the end these are the locations I decide on. It has the advantage of harbour, historic areas, both includes places for tourists and locals. All the furniture in front of their own mountains. Even if the route starts easy from the harbour (Vågen) then it gets more complicated and requires more wandering in the city which is more playful.



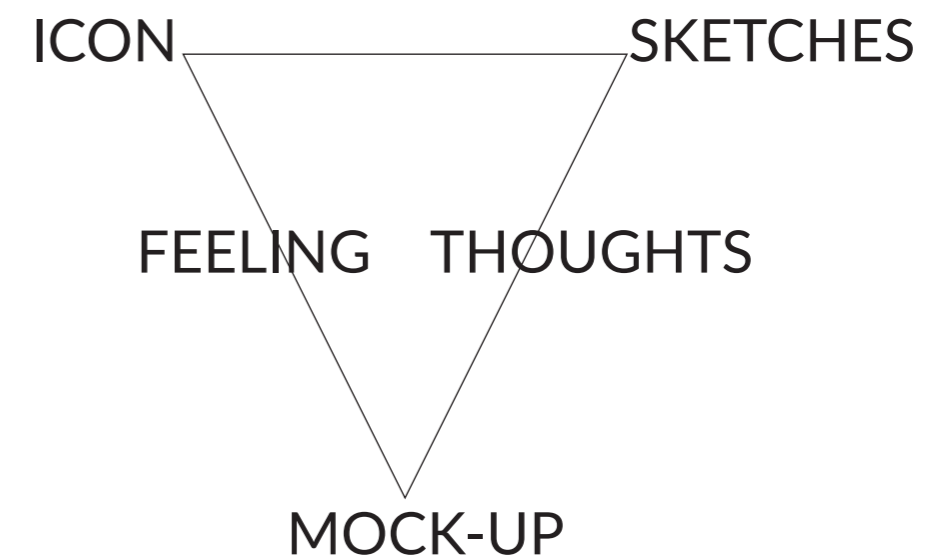
### One step before the final design

In this last chapter, I brought together the sketches and models. These are not the final form of the designs but very close. I updated some of the forms later on, I kept some of them the same.

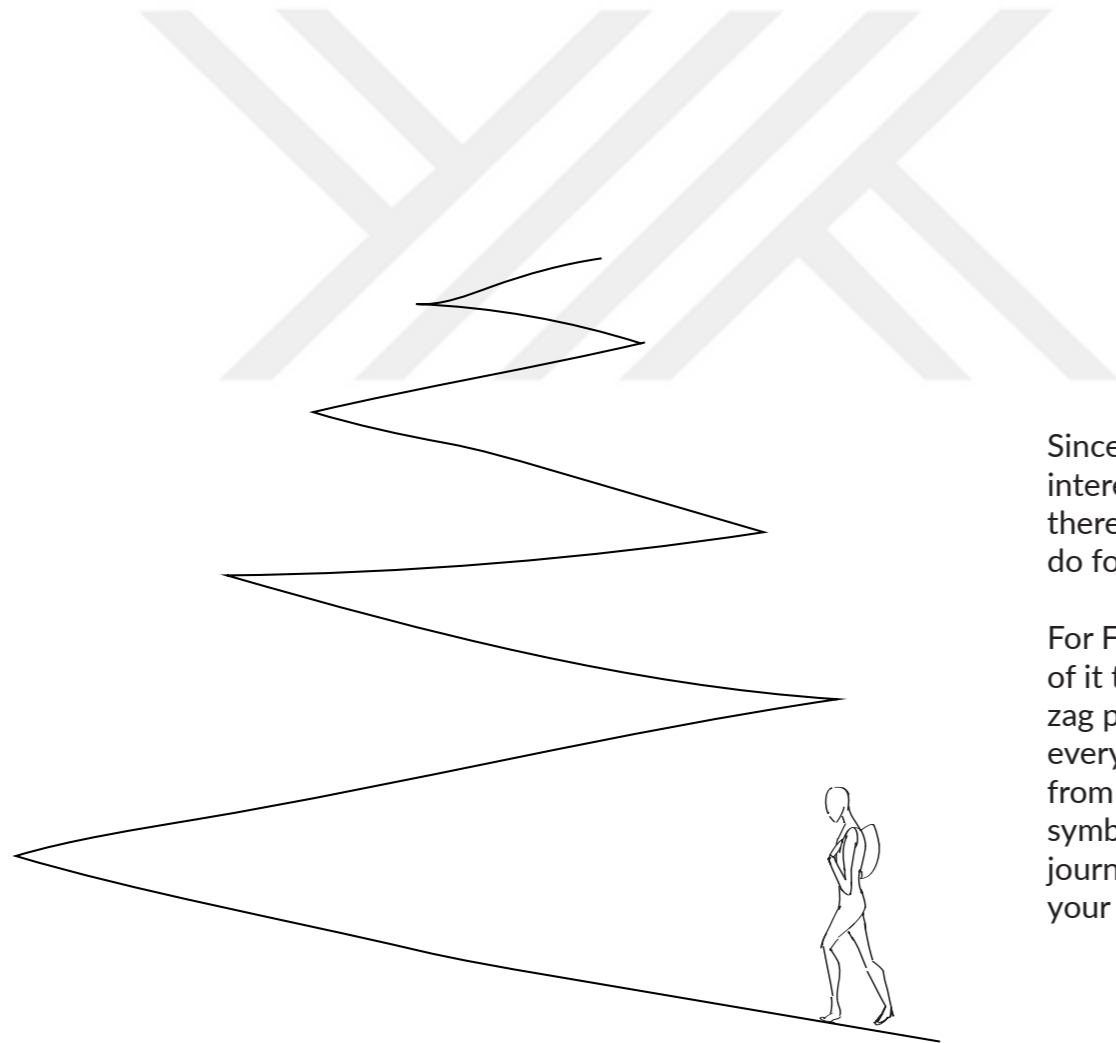
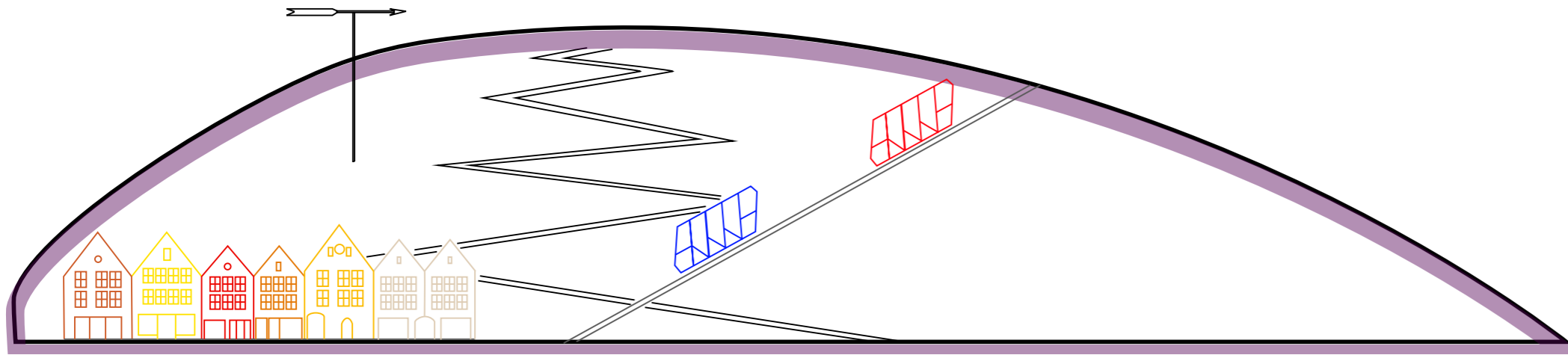
First I drew minimalistic illustrations of the mountains by using remarkable symbols about them, like path, cairn, transportation vehicle, tower etc. Those are my mountain icons and a visual summary of the mountains. I also differed them by colours.

Then I brought my 'feeling drawings' and keywords. I made some sketches which fit that feeling. For each mountain I updated my sketches by noticing the mistakes or finding better solutions.

With the updated sketches I made the mock-ups. Some models just fit perfectly to what I imagined, some of them got a few small changes.

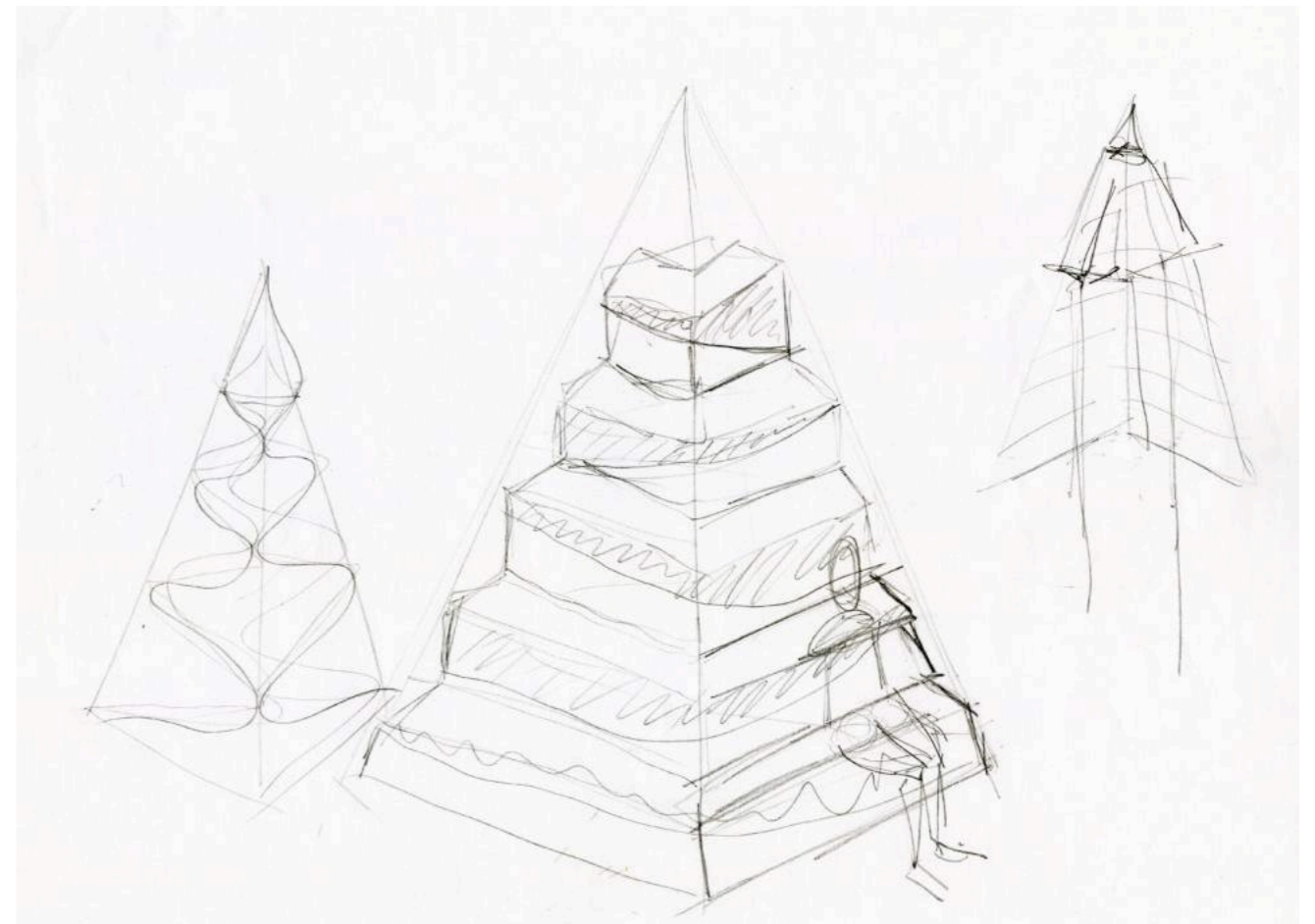


# VISUALIZATION OF FLØYEN



Since Fløyen is the most interesting mountain of all, there are many things to do for this mountain.

For Fløyen I chose the path of it to work on. That zig-zag path is something that everyone can recognize from Bergen. This path symbolises the journey, journey to nature and into your mind.

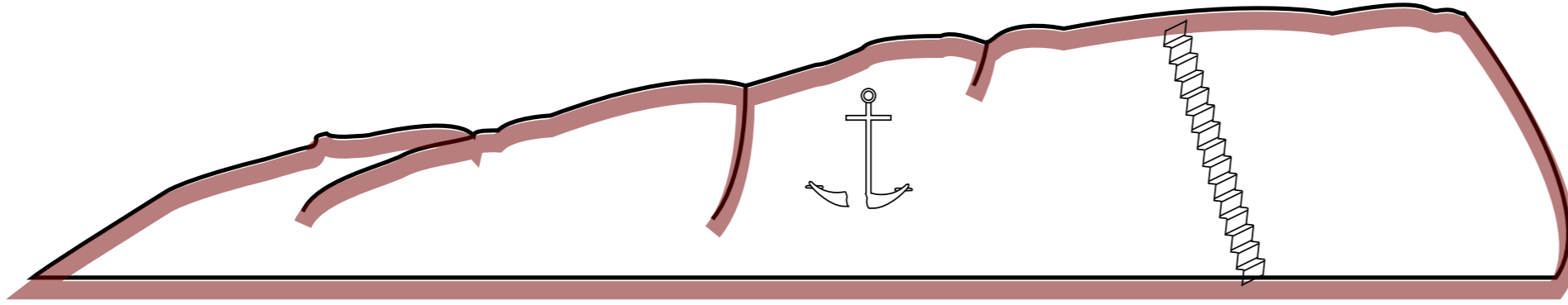


I was not sure how to combine a path with a triangular prism at the beginning so I tried stair shapes and this cardboard mock-up.



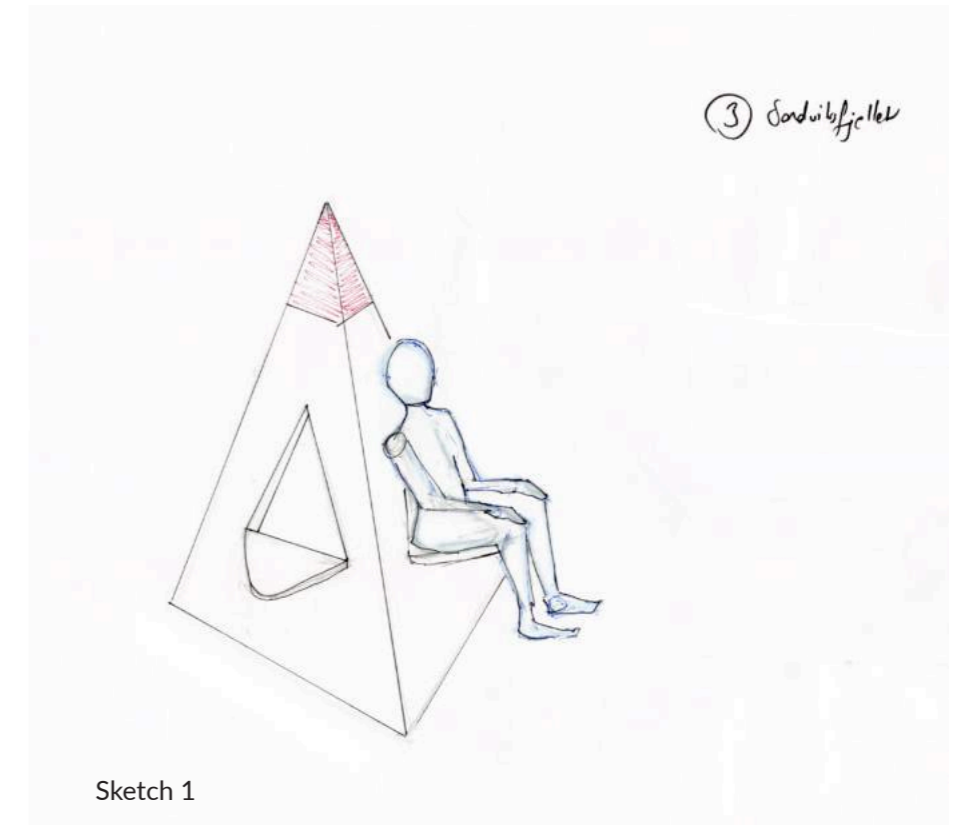
Then I decided to use the vertical half of the triangular prism as it is. Then I put the zigzag path to the other vertical half. This seems like someone pulled and stretched the shape. This mock-up doesn't have the seating parts yet but it has the empty spots for them which you can see in this angle.

## VISUALIZATION OF SANDVIKSFJELLET

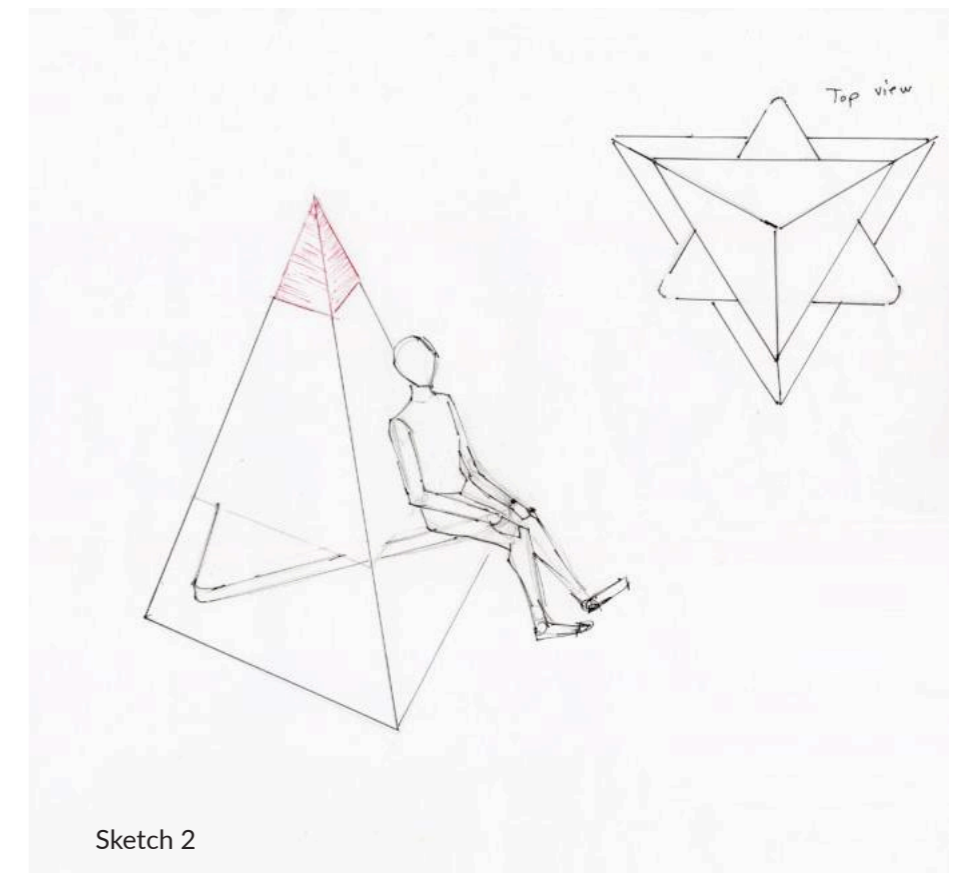


Unlike the togetherness feeling I tried to create in Damsgårdsfjellet and Lyderhorn, there should be a piece that refers to being alone. Because going up to a mountain is not always a group activity. Many people including me go to the mountains alone.

I thought Sandviksfjellet is a good mountain to relate with this feeling because if you choose the notorious Stoltzen path you will not be able to walk with your friend side by side. You will walk alone and will try not to die. You might feel a bit of danger too like you are standing on edge of cliff.



Sketch 1



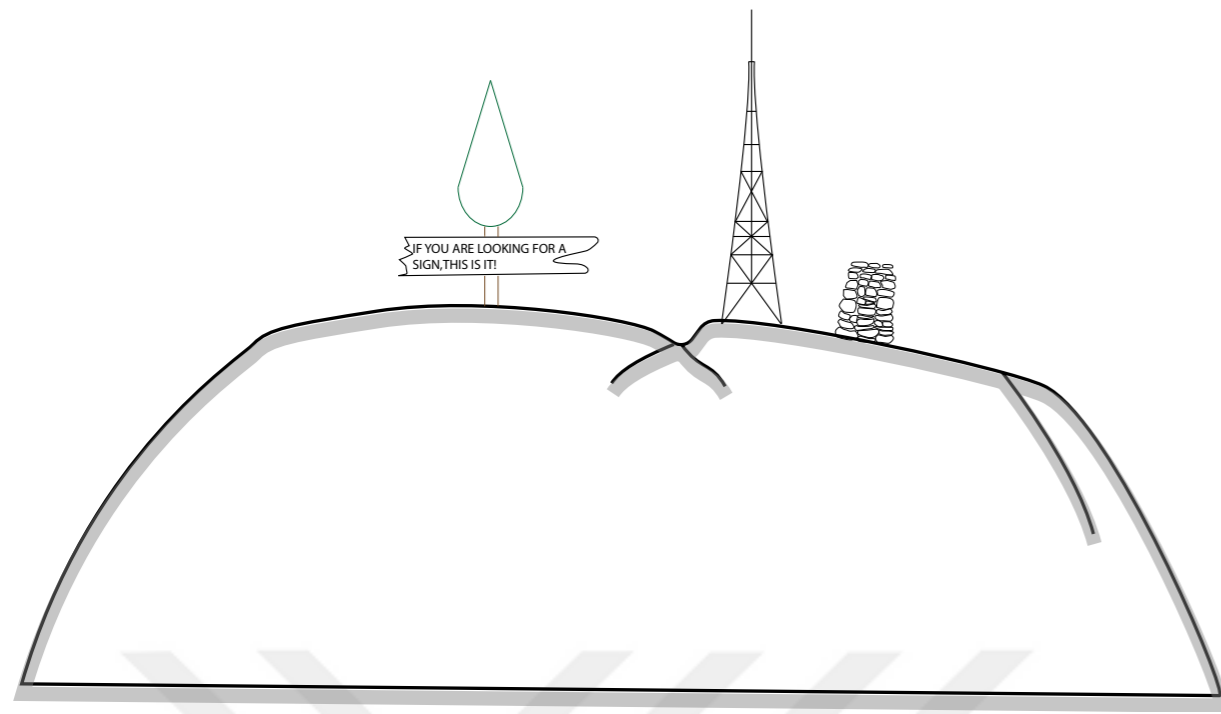
Sketch 2

In the sketches I drew a triangular prism and then added a triangle piece in the middle of it for seating. This piece will make you sit alone and a little uncomfortable but not extremely uncomfortable then this would be an art project. But this is a design project.



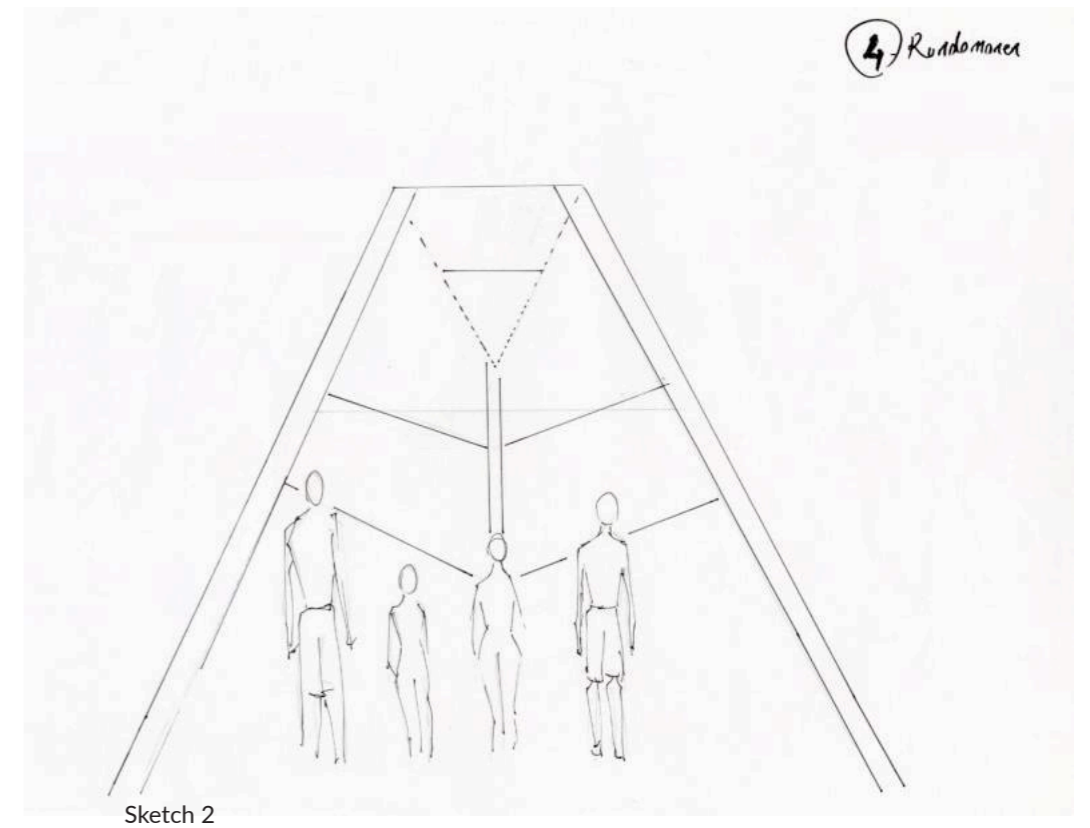
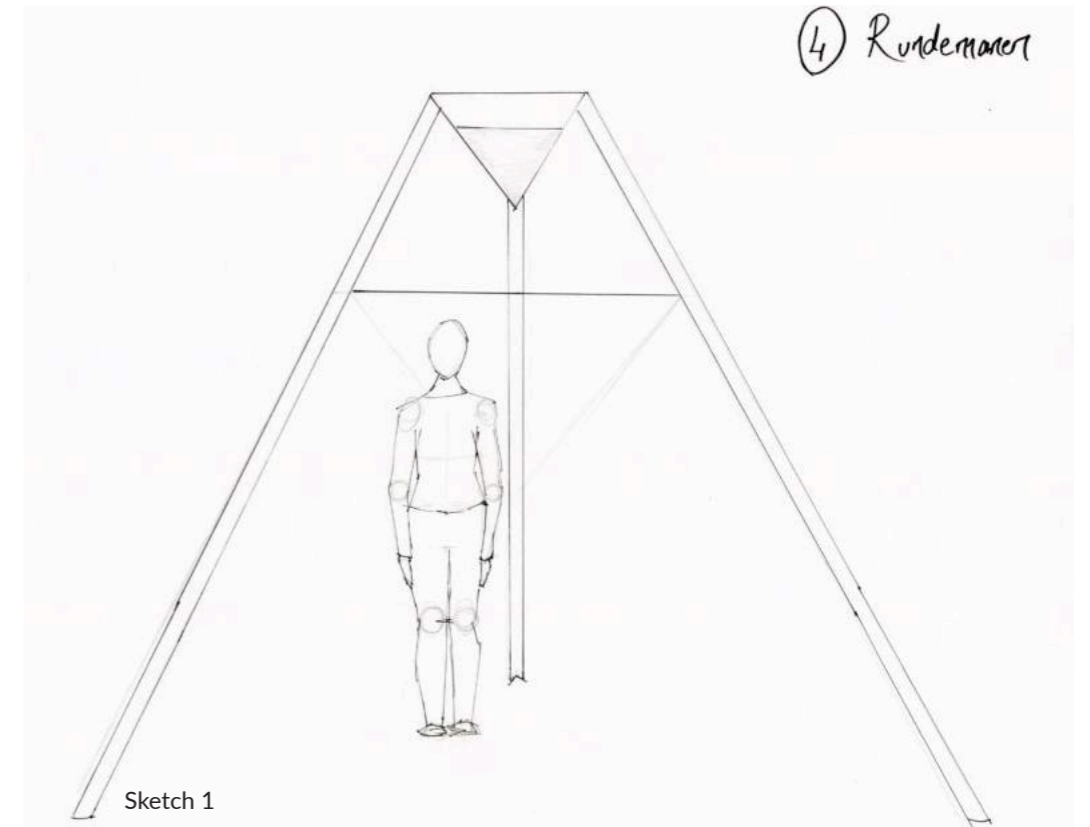
I am satisfied with the general shape but I thought this shape can be a bit taller so it would look more similar to the other members of the family. Maybe the seat can be a bit higher so most of the users feet wouldn't touch the ground. This might give the feeling of sitting on the edge of a cliff.

## VISUALIZATION OF RUNDEMANEN



While the other 6 are visible from the city center, Rundemanen is hiding behind Fløyen. Hiding feeling is a bit similar to protection. I think like hiding behind a surface or hiding under something. I used rain again for the similar feeling but I covered the sides so you can hide under. I used the light source upside down in this one, it is hidden inside. You can not see Rundemanen from the center, you have to go up to see. And you can not see the light source of this structure, you have to go under it to see.

④ Rundemanen

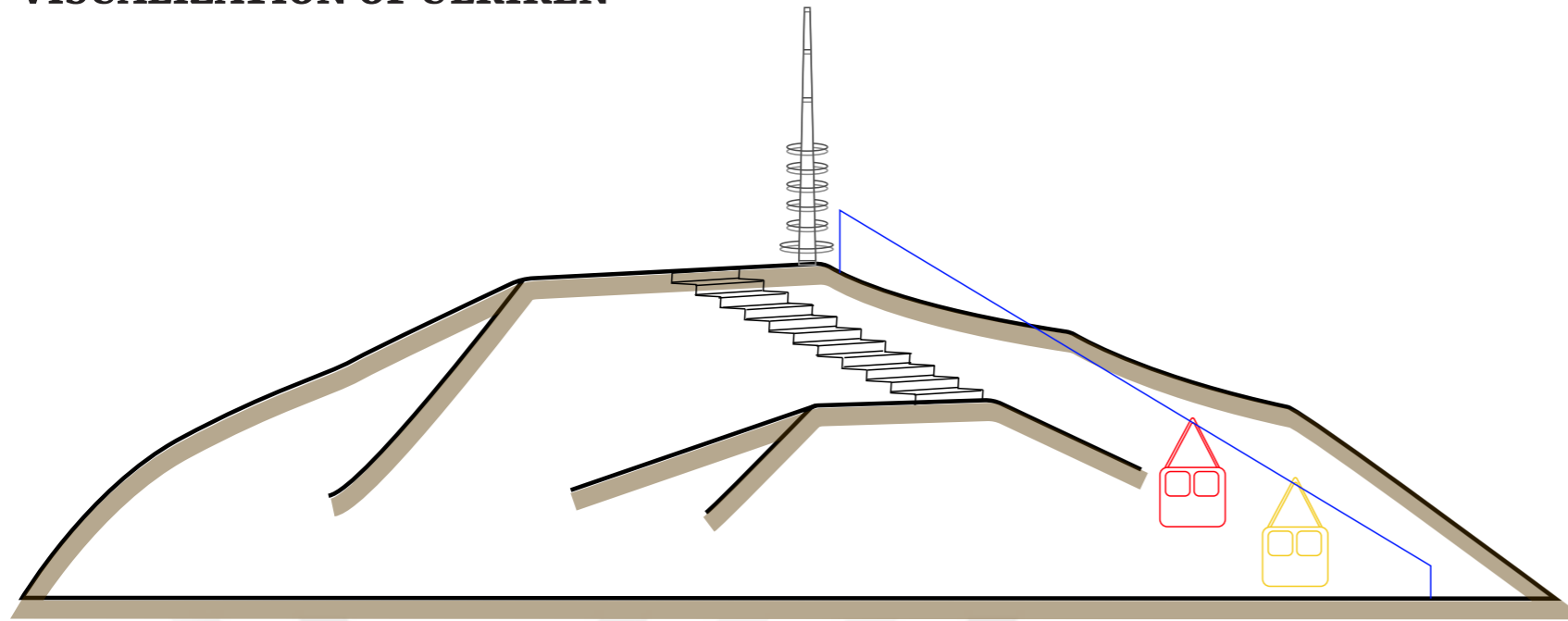


Just like Ulriken first I drew the form very short. It was for 1 or 2 people. Then I made it bigger in the second sketch.



At the beginning, I was not sure if my structures would serve as furniture or a shelter. Then I decided to do both but in different structures. The feelings like "hidden" (Rundemanen) fit well to create a shelter form. First I hid the light source inside upside down and used glass on the side to see if this gives me the feeling of hidden. For the final form I removed the glass sides and put larger plywoods on the sides.

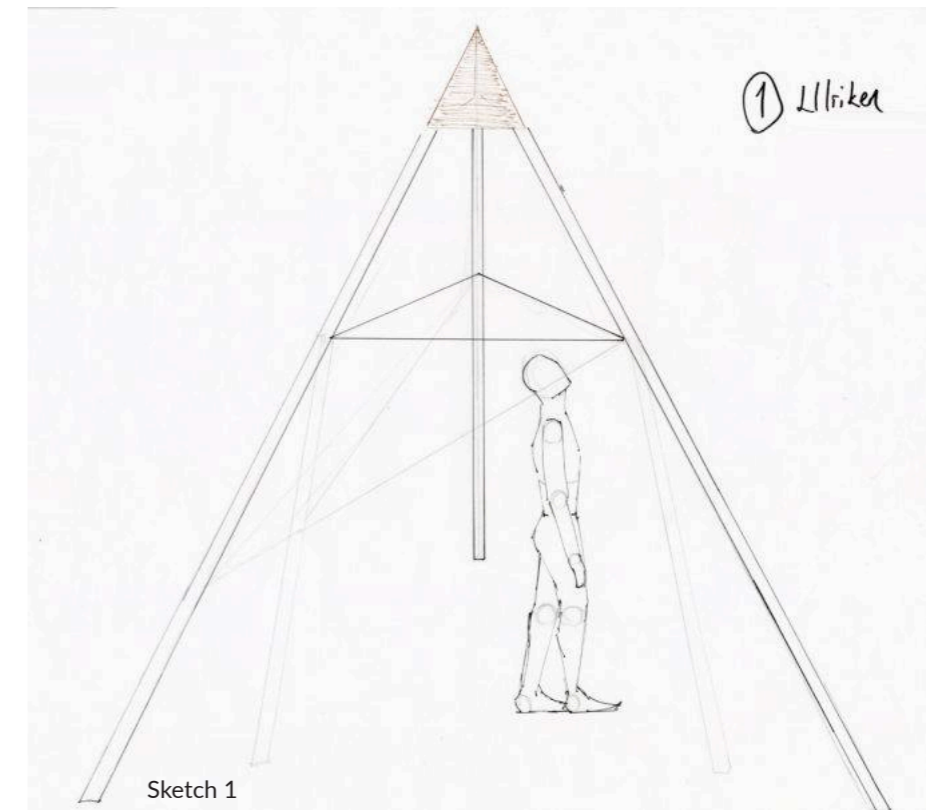
## VISUALIZATION OF ULRIKEN



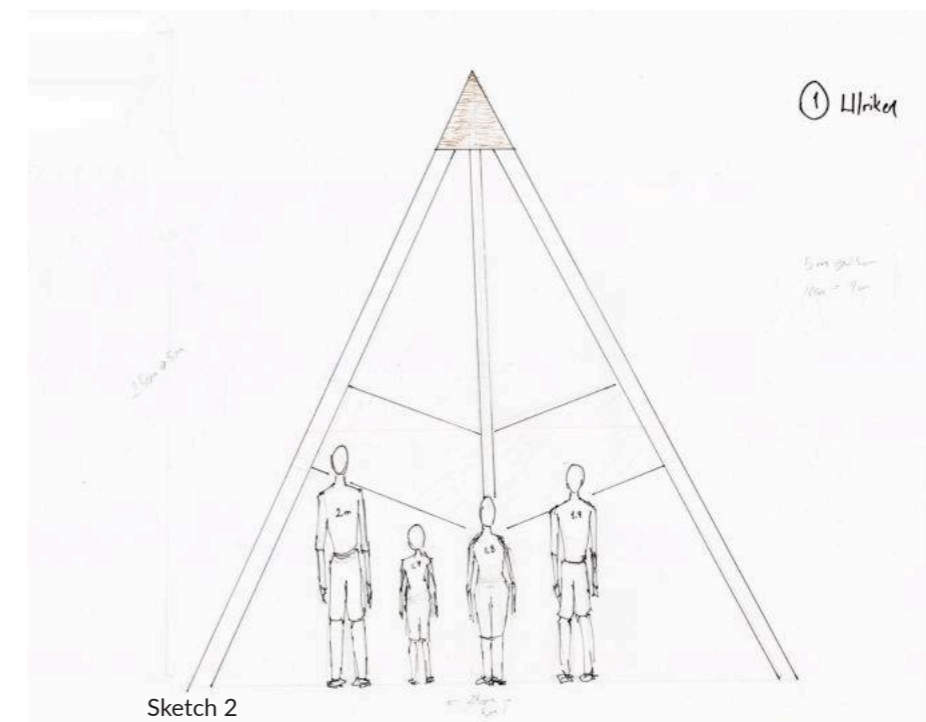
Protection, is one of the feelings I want to work on. Going up to the mountains makes me feel physically and mentally stronger. This creates a protection feeling for me. I feel durable in both ways.

When I think how I can create this protection feeling physically, creating a closed structure and making people get protected from the notorious rain of the city seems like a good choice. I wanted to represent this feeling with the biggest mountain.

Ulriken seems like the father of the mountain family to me.

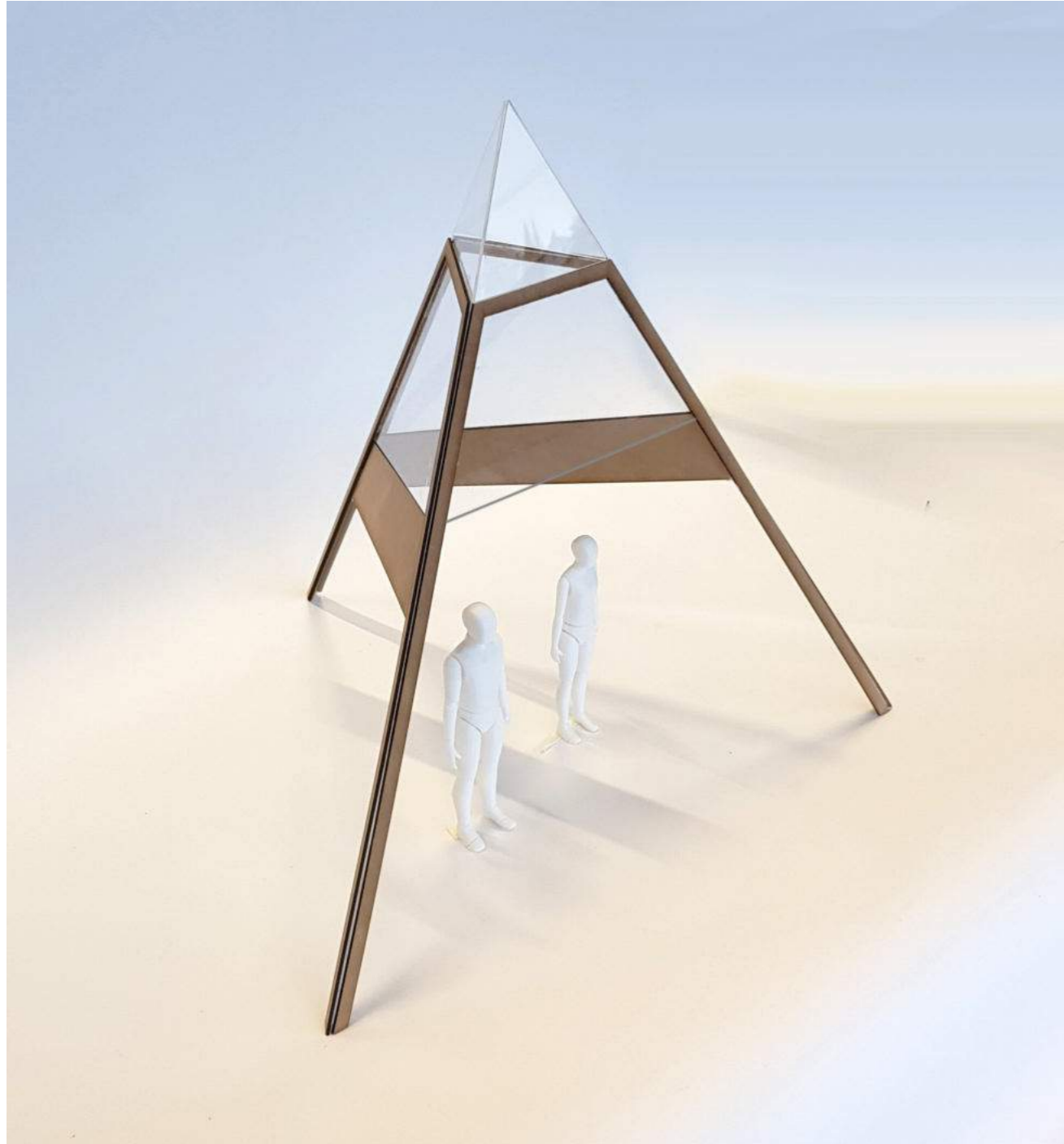


Sketch 1



Sketch 2

At my first sketch attempt I made Ulriken relatively small. Because working with big structures were something new to me. I studied industrial design before and the biggest object I designed was a car. I saw that it is not enough for more people and made it bigger.



At the beginning, I was not sure if my structures would serve as furniture or a shelter. Then I decided to do both but in different structures. The feelings like "protected" (Ulriken) fits well to create a shelter form. So I wanted to make something to make people feel protected from the rain.

# VISUALIZATION OF LØVSTAKKEN

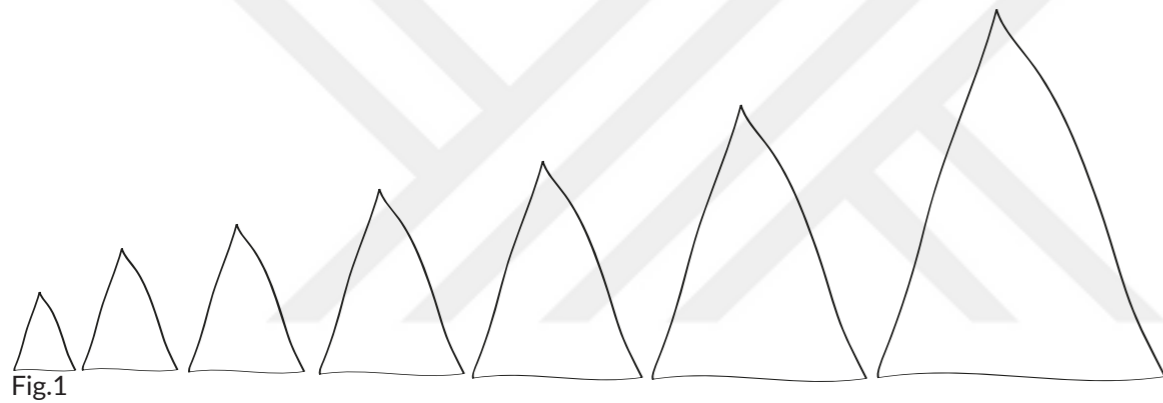
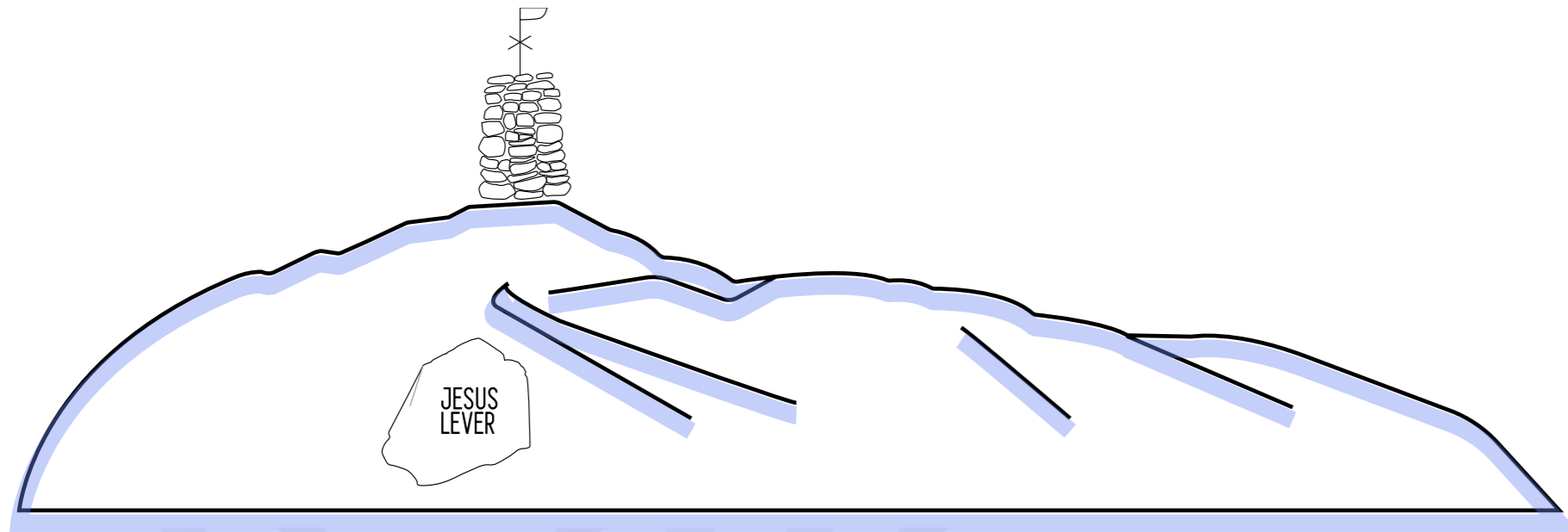


Fig.1

I was impressed by Grieg's passion for mountain walks and how he used these walks as inspirations for his compositions. I relate to this inspiration by nature and the applying of it to an art/design work. Also as a fangirl of Grieg I wanted to dedicate his favourite mountain to him: Løvstakken.

Just like he used mountains to go through his tough times, I felt like I just did the same. During the Corona restrictions and uncertainty of my life I used mountain trips to ease my mind and create my design.

In order to visualise this feeling of rhythm, I sketched some triangles. They represent the elements of composition (Fig. 1). And I created a harmonic composition with them (Fig. 2). This composition represents both the rhythm of the music (for Grieg) and the harmony of the design (for me)

I want to appreciate the artistic creation the nature gives us.

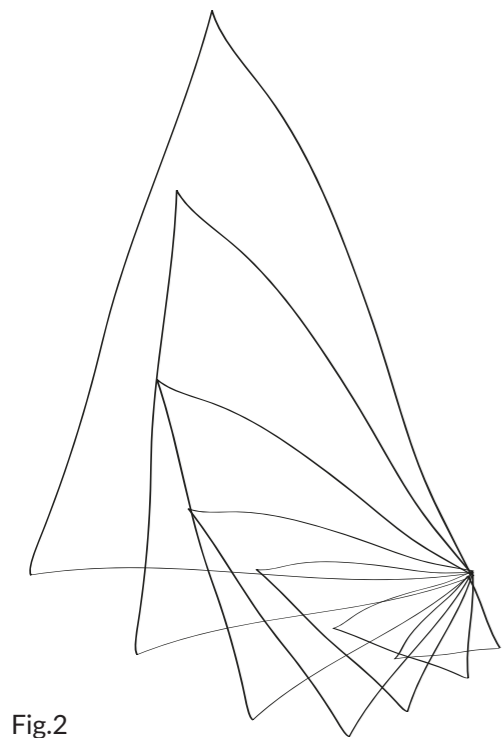
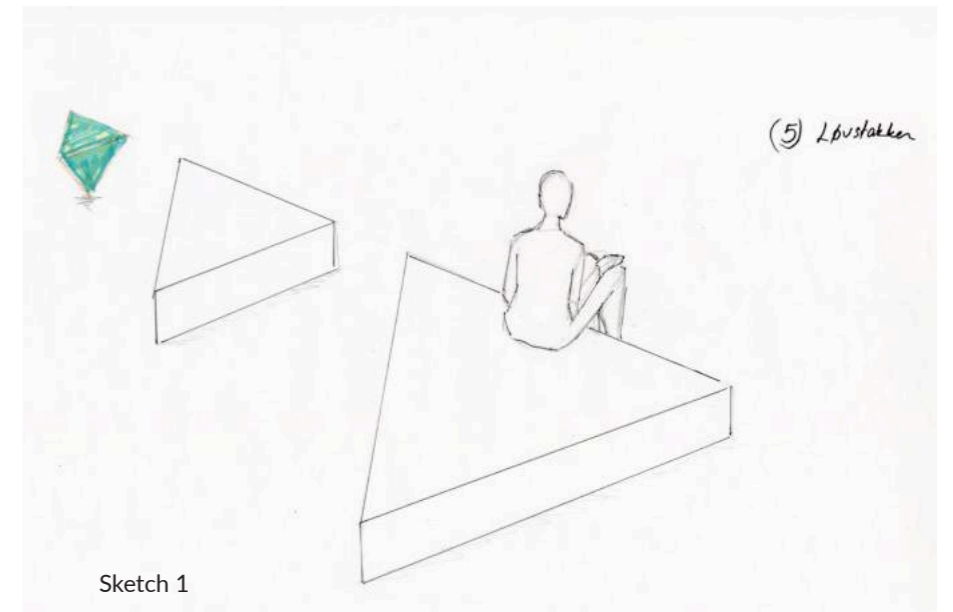
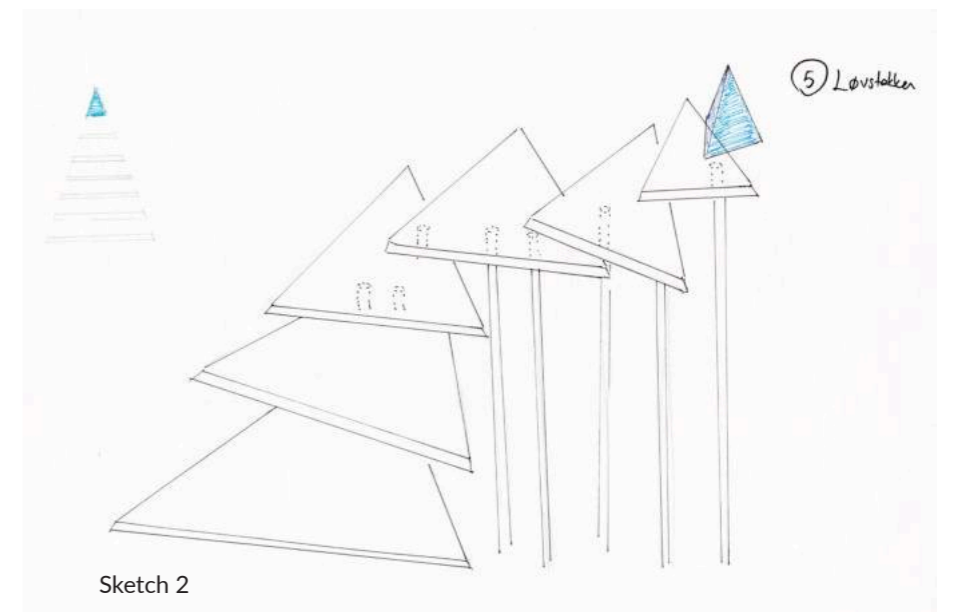


Fig.2



Sketch 1



Sketch 2

I tried a few different ways of creating a rhythm composition in these sketches (Sketches 1, 2), neither of them gave me the right feeling.



Fig. 3

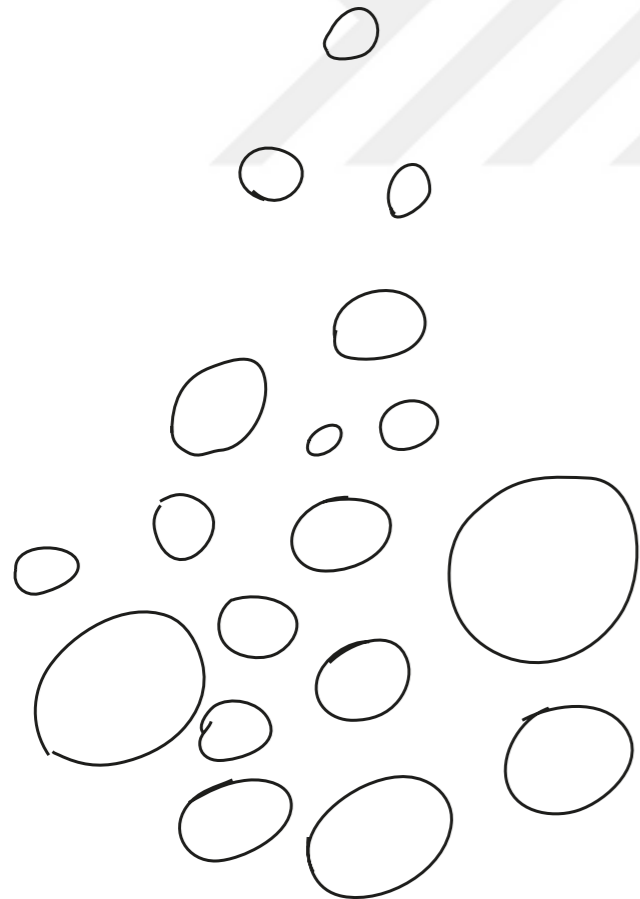
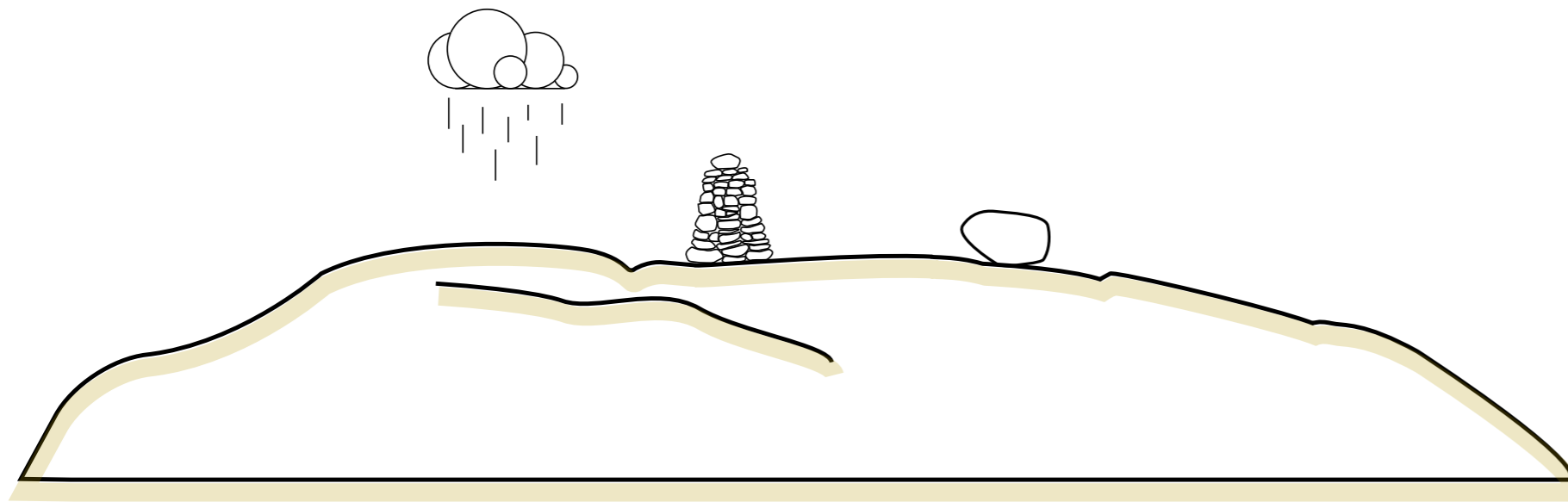


Then playing with the shape of these white cardboard pieces felt closer to what I want (Fig. 3).

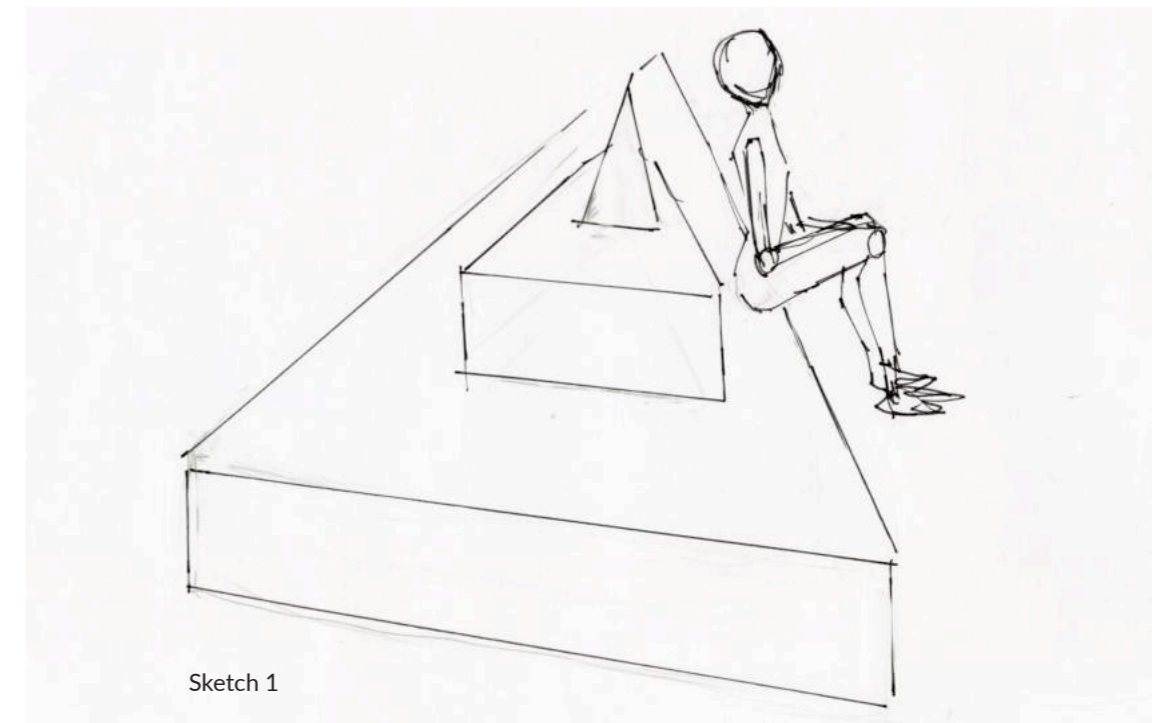
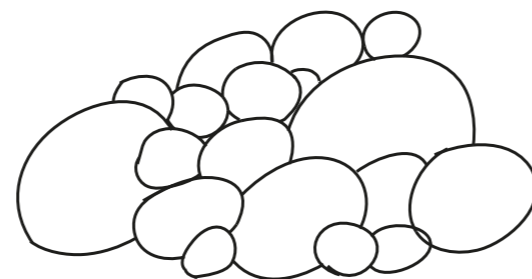


In this model I did not create the stairs from the top part; it has physical reasons. I didn't want people to go that much up and maybe accidentally hurt themselves.

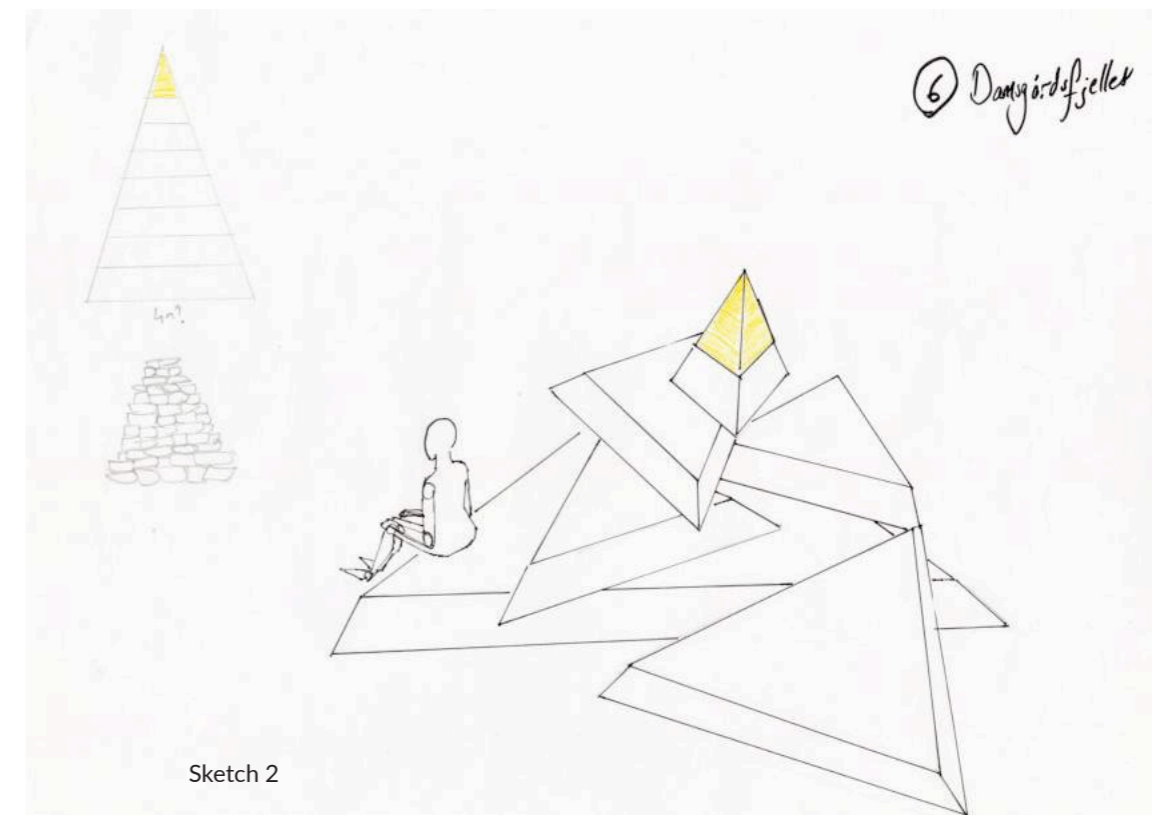
# VISUALIZATION OF DAMSGÅRDSFJELLET



I got inspired by cairns which are very popular on top of Norwegian mountains. Damsgårdsfjellet has one. I wanted to refer to this symbol in the installation I make. I find this piece more playful because it is referring to accumulation of stones and also allows people to accumulate in its very wide space.

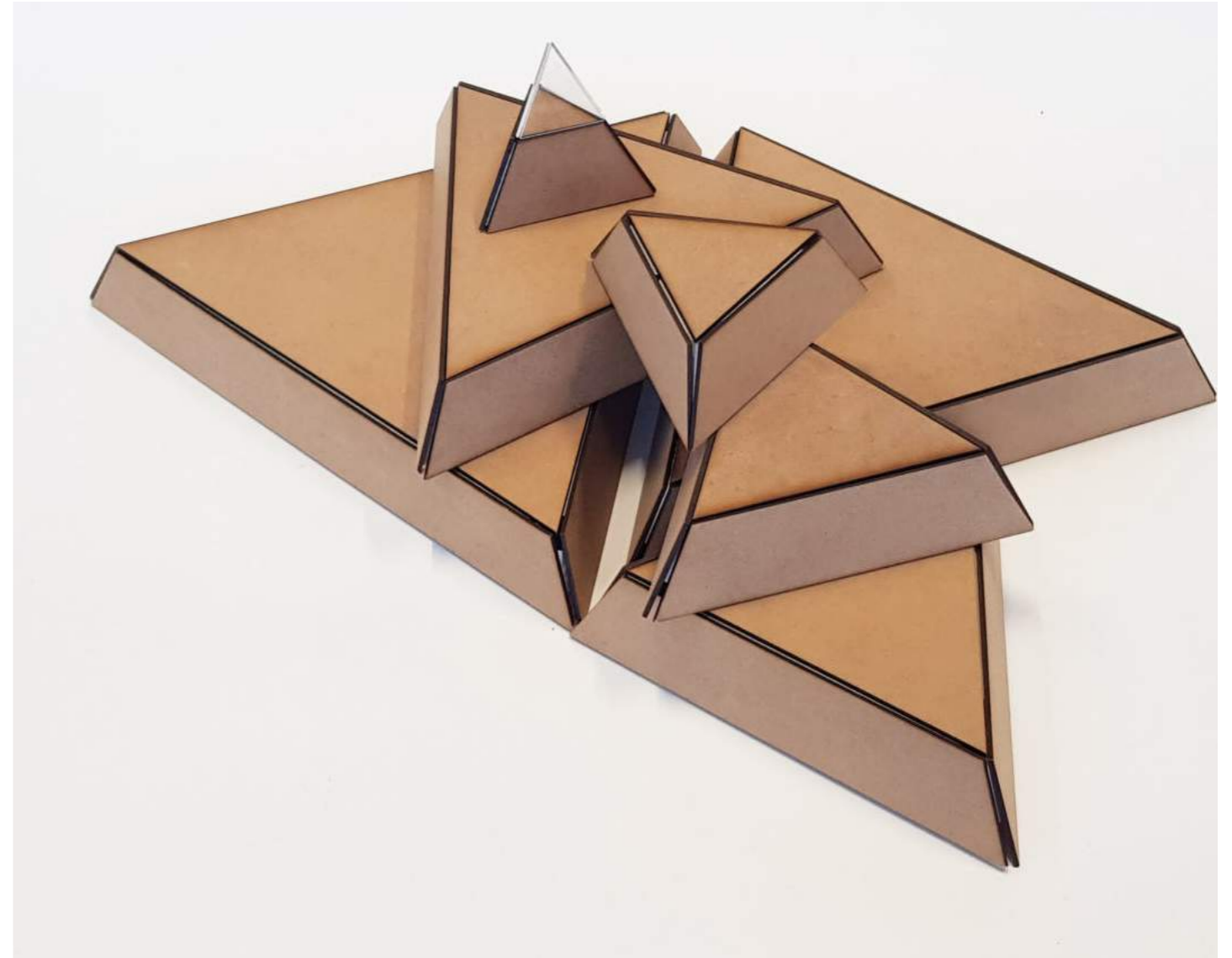
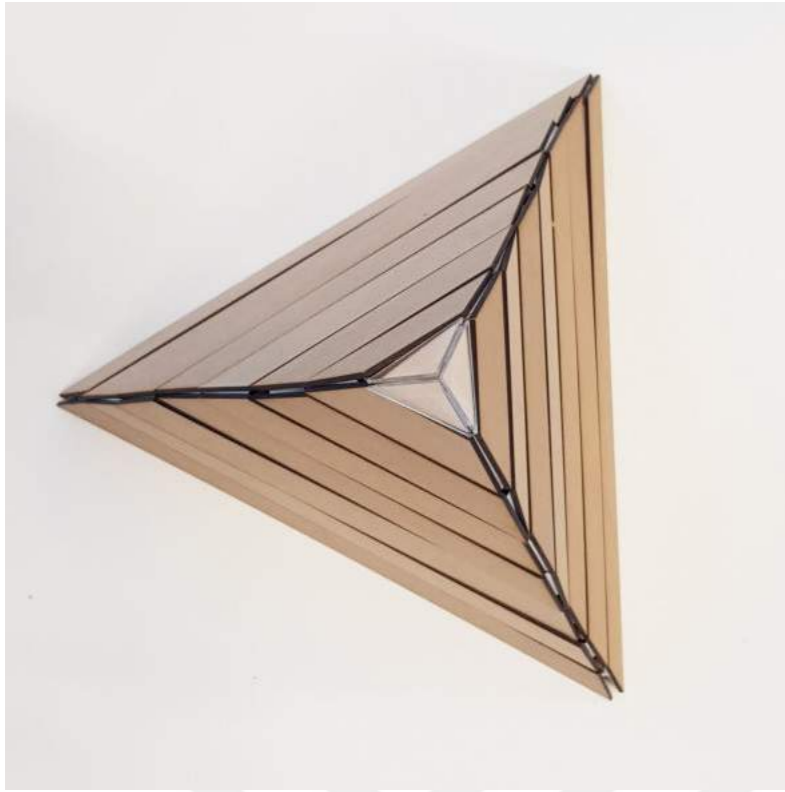


Sketch 1

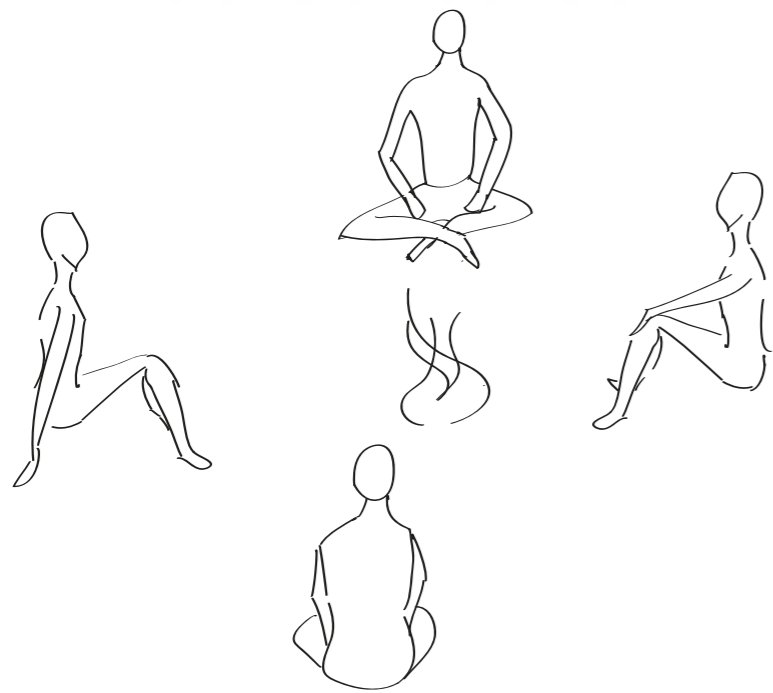
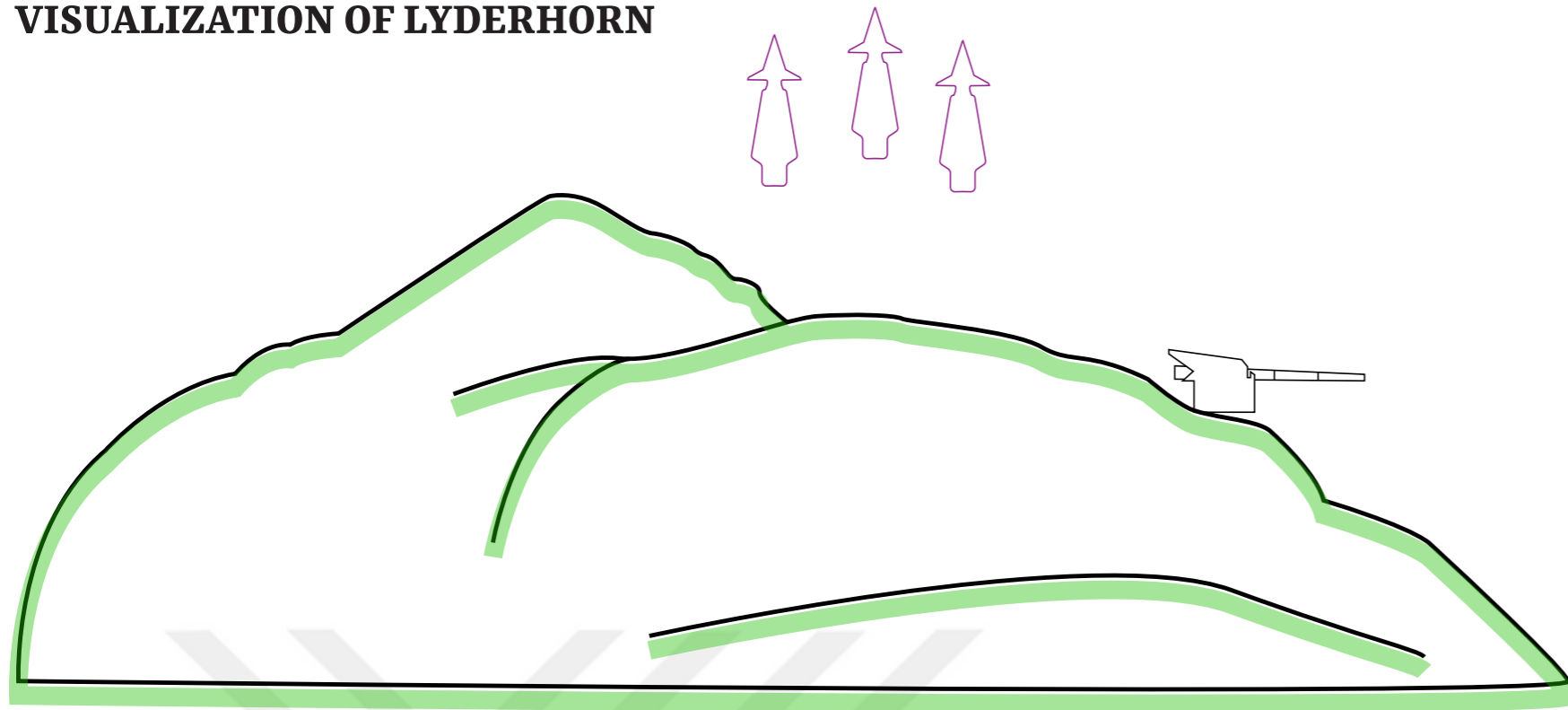


Sketch 2

In the first sketch I got rid of some pieces of the prism and drew 3 pieces on top of each other, this might be more balanced but didn't give me the feeling I want. I sliced a triangular prism parallel to the ground and put it a bit randomly on top of each other.



# VISUALIZATION OF LYDERHORN

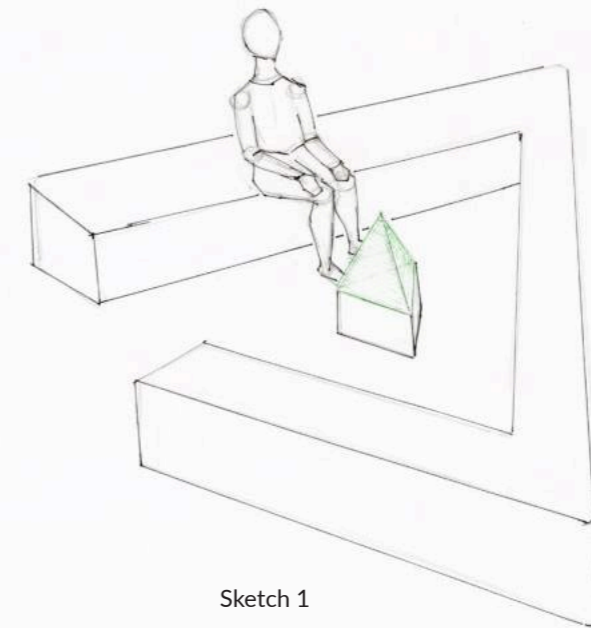


I wanted to refer to a history fact in this piece. The women who burned at the stakes over the rumour of practising witchcraft were rumored to gather at Lyderhorn mountain.

There is 'Hekse Steinen' at Nordnes for the memory of those women. I wanted to do the same and dedicate this piece to them. So the keyword I used was 'Coven'. This reminded me of how the witch gatherings were represented in a 'circle'. Also still there are many women circle groups in today's society.

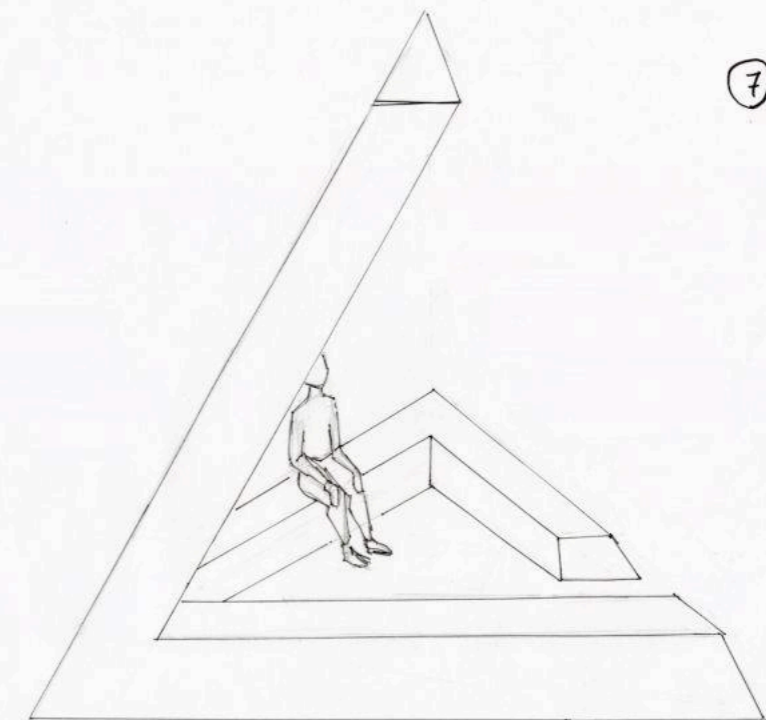
And, it is very common today to make a campfire and gather around it, sitting on logs, upon the mountains

⑦ Lyderhorn



Sketch 1

⑦ Lyderhorn



Sketch 2

In the first sketch I only used the bottom circumference of the triangular prism and the top tip of it. Then I tried the second sketch which gave a more circular feeling and better construction of the shape.



For the final form I would like to close the open bottom part and cut that part in a smoother way. The vertical edge length which carries the light source should be thinner to look more consistent with the Rundemanen and Ulriken models.



## **5. CONCLUSION**

## Answering the Research Questions

After finishing the project I went back to the beginning and looked at the research questions. I wanted to reply to them in this concluding section. Some of the questions need more research and work, some of them have their answers. But as we all know design never ends. All the design work is always open for more improvements.

I had my experiences both in mountains and in urban sites and visualised them with 2d and 3d methods. A public furniture designed by using my own personal experiences related to site and geography looks like the visualizations above at this moment.

Mountains have many stories, experiences and history. I tried to tell how I feel and what I experienced in this thesis by using many different methods. But the resulting objects communicate mainly with their forms. This might be understandable by people or perhaps perplexing. This requires a real observation on a site after building at least one of these objects on a real scale.

Even though we are all unique and different human beings, many human feelings we experience are similar. Well maybe except for the sociopaths with very low or non-existent empathy skills. But the feelings I defined as hidden, protected, circling, together, alone, journey, rhythm are observable even if they are not "feelable". These feelings don't require a high level of empathy. So I think even if they started as a subjective experience many people can relate to them.

I created a relationship between the mountains and the location of objects by putting them between the mountains and in front of their own mountains.

In my casual talks with Bergensers I tried to understand their experiences. I designed the objects by getting feedback from my tutors and my designer classmates who have been on the seven mountains. After I show them what I do and tell them 'This is what I feel and this is how I visualise, Are these making sense to you?' I received much positive feedback and if there was a part they thought I should change they told me and I tried to apply their ideas too. But still these objects need to get installed in their real scales and get experienced by users. Then I will surely know if this was successful or not.

At this level of my project I am communicating with the form, colour and the material. But I would like to improve this in the future. In the section below I suggest future improvements.

## Learnings for me

I believe we were all born to live meaningful moments, those moments and experiences all we have at the end. I am very happy to choose a subject that gives me a chance of exploring those meaningful moments deeply and share the result with other people. This project gave me a chance to experiment in many fields, and through this I have gained much knowledge. But especially I mastered my skills at reflective design.

## Future improvements

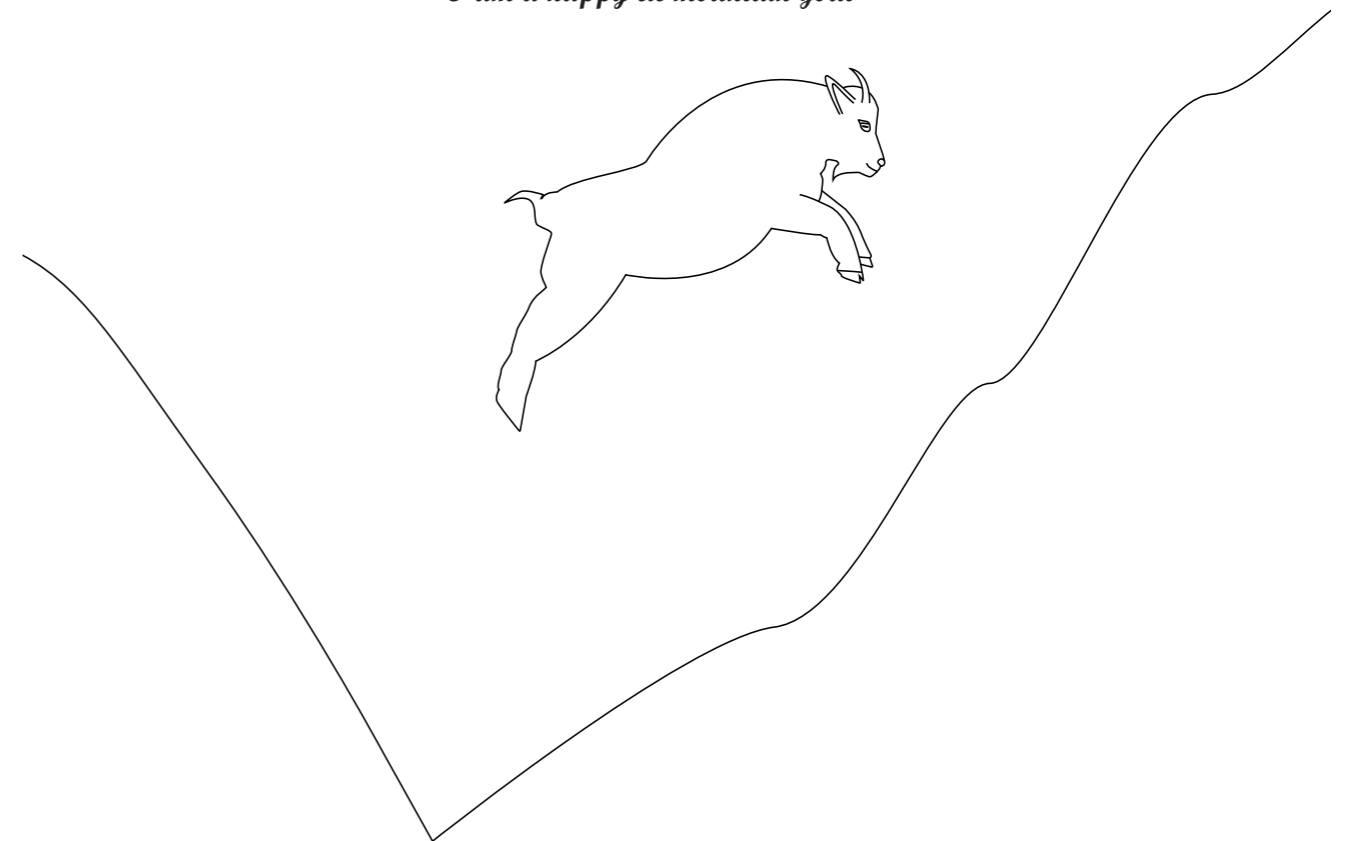
Even if I worked hard for a long time in this project it is still open for improvements. In the near future I would like to produce at least one of these structures and put it into their chosen location to observe people's communication with it. A partnership with Bergen Kommune could provide me that opportunity.

Another improvement I consider is giving some information about the mountains with these structures. This might be possible with

- QR codes
- additional screens
- or carvings on the body

I think this would be helpful for representing the mountain culture to foreigners.

*I am a happy lil mountain goat*



## At the end of this project

I ended up talking about the mountains more than a Bergenser, and now I am the person who never shuts up about the mountains. And I am the person who goes up to the mountains like a happy little mountain goat whenever she has time.

Local people of Bergen and the people from other parts of Norway honoured and showed their love to the mountain climbing culture in many ways. But I am the first one to do it by visualising and creating urban structures from those experiences and tried to take attention to the matter in this way. So this project is a first step of appreciation of mountain culture in an urban design way.



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Citation	Page
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Fig. 2: Photography Credit to Svein Harkestad	35
Fig. 3: Photography Credit to Svein Harkestad	35
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Citation	Page
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Grottdal, S (2006), <i>Byfjellene på Bergens tak</i> , Cox Forlag, Oslo	45
Fig. 1: Photography Credit to Tom Rølvåg	45
Fig. 2: (Online), (Accessed 30 March 2021) Available from: <a href="https://www.bergen-byguide.no/magasin/item/gravdal-lyderhorn">https://www.bergen-byguide.no/magasin/item/gravdal-lyderhorn</a>	45
Fig. 3: Photography Credit to Haakon Nilsen	46
Fig. 4: <i>Riksteateret på turné med forestillingen "Anne Pedersdotter" av Hans Wiers-Jenssen</i> , Scanpix (Online), (Accessed 30 March 2021) Available from: <a href="https://snl.no/Anne_Pedersdotter">https://snl.no/Anne_Pedersdotter</a>	45
Fig. 3: Photography Credit to Per Harald Olsen	48
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Fig. 7: Photography Credit to Helge Sunde	62
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Citation	Page
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Fig. 1, 2, 3, 4, 5: Photography Credit to White Arkitekter	73
Fig. 1: Photography Credit to Baard Henriksen	79
Fig. 2: Photography Credit to Ole Bendiksen	79
Fig. 3: Photography Credit to Baard Henriksen	80
Fig. 4: (Online), (Accessed 30 March 2021) Available from: <a href="https://www.ri-eg.com/norway-sandhorny-salt-2014">https://www.ri-eg.com/norway-sandhorny-salt-2014</a>	80
Fig. 5, 6: Photography Credit to Gunnar Holmstad	80
Fig. 1, 2: Photography Credit to Shrinidhi Hande	81
<i>Pinecone</i> , n.d, viewed 30 March 2021, < <a href="https://www.mmcite.com/en/pinecone">https://www.mmcite.com/en/pinecone</a> >	82
Fig. 3, 4, 5: <i>Pinecone</i> (Online), (Accessed 30 March 2021) Available from: <a href="https://www.mmcite.com/en/pinecone">https://www.mmcite.com/en/pinecone</a>	82
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