



A ROOM WITH A VIEW

View Quality Assessment
A Pilot Study of Field Methods
Trondheim 2022



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Cover image shows the view from the second floor of the Café To Tårn by Claudia Moscoso

View Quality Assessment: A Pilot Study of Field Methods

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Preface

This paper presents findings from a workshop evaluating a series of views in a variety of settings by a group of daylighting experts. An explorative approach was used to identify issues and testing methods that might be useful in future research. The workshop was carried out on 15-17.06.2022 in Trondheim, Norway, and was supported by Daylight Academy. The participants visited nine rooms with views of varied content (streets, buildings, water, garden, and forest), complexity and viewing distance. They used a wide variety of methods, survey with quantitative and qualitative questions, hand drawings and photography. Subsequently, daylight simulations have been made. In addition, neurocognitive tests have been carried out in two of the rooms.

While this booklet presents the results at the level of a single location, the forthcoming research paper with the same title will include more results across the locations, academic discourse about the view quality and will include the results from cognitive tests done during the second day of the workshop.

Workshop participants

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Barbara Szybinska Matusiak
Claudia Moscoso
Marzieh Nazari
Anna Maria Palsdottir
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Window View Quality Assessment - A Pilot Study of Field Methods

How important is the window?

To reflect about this question, consider the window (or windows) in the room you are in at this moment when you are reading this text, ... imagine that exactly this window is no longer there. You see the wall instead, the same wall as in the rest of the room. To be clear, don't imagine that the window is covered by anything, e.g. a thick curtain, no, imagine that the window is removed, and the "hole" left by the window is repaired to become a wall.

Would you be happy with such a change? Will you accept it?

It is not without reason that people have always built living spaces with different types of openings.

The need for a connection with the outdoor environment was always there. We can imagine that there were periods when openings were particularly important for spotting of potential enemies, but on a daily basis the need for information about changing weather and times was probably dominant. Perhaps the beauty of the landscape had made an impression on certain persons at certain moments, perhaps a loving person approaching the house appeared in this landscape?

Does the quality of the view matter?

To consider this question, imagine that the municipality allowed someone to build a wall in front of your window, a few meters away. Such cases occur more often today due to densification. If the new wall has windows, the privacy of your living space will be restricted. If it does not, the monotony of the wall will dominate your view.

Would you be happy with such a change? Will you accept it?

If the quality of the window view matters, how to assess it? Which tools and methods could be used?

Photography is very often used to record views, but a photo can contain huge amounts of information that we are not aware of or contain information that does not matter. Typically, an image contains an abundance of visual information collected in an "objective" manner, meaning that any person taking a photo from the same viewpoint in the same direction with the same camera and with the same settings will take exactly the same photos. A hand drawing, on the other hand, is completely subjective. It contains only those elements which the observer notices and which have some significance for him. A weakness of hand drawing as a registration tool is that the drawing skills influence the result in terms of the drawing composition, legibility of objects, forms and proportions. Perhaps using photography and hand drawings together could be a good method?

The view can be described in words. Adjectives can represent generally accepted quality attributes, such as beautiful, distant, chaotic, friendly, etc... Adjectives that have the opposite meaning, e.g. close - distant or chaotic - ordered, may constitute the poles of a scale used in science to collect more precise answers, which makes the method quantitative. However, there may be other words that are not included in quantitative assessment but that the viewer may want to use when evaluating the view. They can be recalled from memories, linked to associations, or can express feelings, e.g. excitement about certain elements or disappointment. To give the viewer the opportunity to write them down, the survey must contain open questions, such as: Notice any associations and/or thoughts coming to your mind when looking at the view. Such qualitative evaluations result in a collection of words and expressions that can be arranged in a word cloud. The size of the letters in a cloud represents the frequency of appearance.

The space from which the view is seen was built for certain reasons that determined its location, the size of the space and the design of windows. It is well known that a high-quality view increases the monetary value of the space. We also consider the inverse relationship between

a room and a view, namely the possibility that the way the window(s) are designed and the way the window frames the view can affect the perceived quality of the view. For this reason, the present study includes evaluation of the room and the view simultaneously.

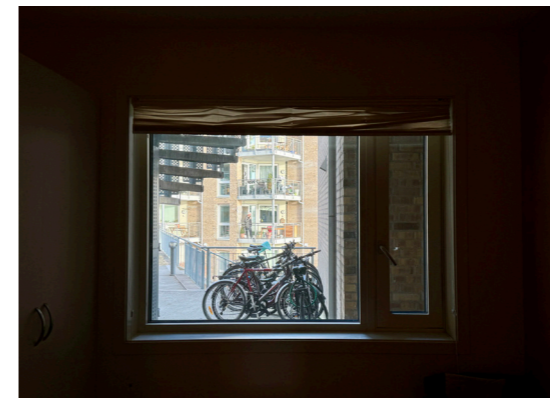
The procedure of the workshop contained both verbal and visual tools, and was equally repeated at each location. After coming into the room and being acquainted with the place, the participants were asked to choose a viewing place (preferably a sitting one) and a view direction. Then, they were asked to take photos with the aim to record the character and the qualities of the room and the preferred view out. Participants were neither instructed regarding criteria for the choice of the viewpoint and the view direction, nor regarding inclusion of view elements and people in photos. Participants used private smartphones with default settings.

The visual communication continued with hand sketches. First, participants made small plan sketches of the room showing their sitting place and marking the most interesting view direction(s) with lines or pillows. Those sketches show individual place and view preferences. Later, they made hand drawings of the view with a pen (black or blue). Just as in the case of the photos, they were not in any way instructed regarding how to draw and what to include. Still, we may be sure that those sketches show the most interesting view for each participant and includes view elements which the participants noticed and evaluated as valuable to show. Finally, they made a sketch drawing using crayons to register dominating colours in the view. The choice of crayons was limited to black, blue, green, red, orange/brown and yellow.

The verbal quantitative evaluation of the room and the view was done on 7-point Likert scale for the nine following attributes of the room: ordered, comfortable, beautiful, playful, familiar, open, large, varied, and friendly, and for the following attributes of the view: ordered, natural, beautiful, inviting, familiar, distant, varied, and exciting. The results are analysed using the MATLAB R2023b program <https://www.mathworks.com/products/matlab.html> and are presented with monochromatic colours.

The qualitative evaluation resulted with a plethora of words referring to Room and View, as well as to most liked and disliked elements, the view elements that attract attention or create associations. The software <https://www.wordclouds.com/> was used to create word clouds. After the workshop the measurements of rooms were taken, and daylight simulations were made to illustrate the daylight level and distribution in the respective rooms. The simulations were done with Daylight Visualizer <https://www.velux.com/what-we-do/digital-tools/daylight-visualizer> for the 21st of June at 12:00 and the overcast sky model.

Barbara Szybinska Matusiak
Project coordinator





Locations in Trondheim

- 1 **Mellomila 95/97**
 Room; A room for social gatherings for the local community.
 View; A view to the street and apartment blocks, with narrow openings to the fjord on the right side of the block.
- 2 **Rockheim**
 Room; A café at the top floor of the museum of the rock music.
 View; A panoramic view to the harbour, fjord, and a small island and partly towards industrial and residential areas of the city stretching out on the distant hills.
- 3 **Café To Tårn**
 Room; A modern café/shop for tourists visiting the cathedral.
 View; A view to the square in front of the west facade of the mediaeval cathedral and the bishops residence.
- 4 **Skistua**
 Room; A small ski lounge on the outskirts of the town.
 View; The view to the evergreen forest, both near and far view.
- 5 **Café Løkka**
 Room; An extension of an old café located in the city centre.
 View; A mixture of urban elements, including old and new brick buildings pedestrian bridge, trees, and a lawn.
- 6 **Kaffebrenneriet**
 Room; A small café located in a 200-years old wooden house in the old part of the town.
 View; Near view to the pedestrian street in the old town characterized by wooden houses painted in a variation of colours.
- 7 **Café Ni muser**
 Room; A rather small café room in a 100-years old brick building.
 View; View towards a patio garden with very high trees, a small pavilion, and a fountain.
- 8 **University library**
 Room; A study room located in the basement, a part of the library.
 View; Very short distance view toward a narrow internal alleyway without greenery.
- 9 **University Café Realfagbygg**
 Room; A very large cafe at the NTNU campus.
 View; The view dominated by closely located trees, partly distant view to the other side of the city.

The locations were selected from public spaces in Trondheim easily accessible during the two-day workshop program. Particular attention was paid to generating a variety of view features: panoramic or narrow, far or near, dominated or not by greenery, with and without a historical value, crowded or not, large or small rooms in new and old buildings.



TRONDHEIM

63°25'47"N 10°23'36"E

Shortest day
 Sunrise 10.49 Sunset 13.34
Longest day
 Sunrise 03.02 Sunset 23.08



1. Mellomila 96

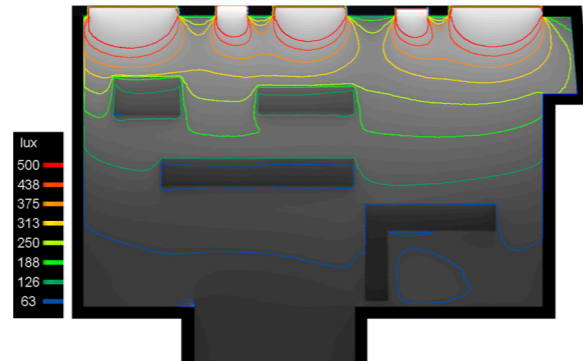
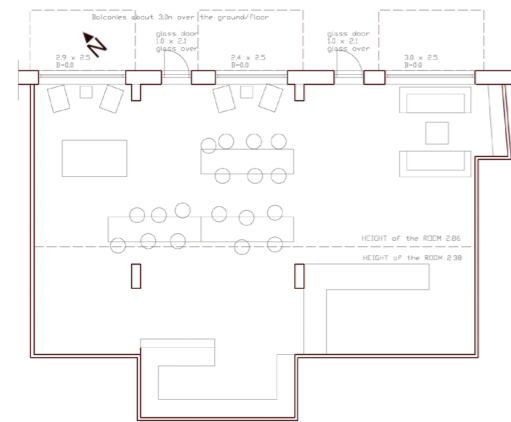
The space is a room for social gatherings for the local community. The room has entrance directly from the street. The room windows are oriented towards the north-east. Due to the presence of two large apartment buildings in front of the room windows, the outside view consists of the street, the two buildings, and a narrow portion of the fjord in between the buildings. Daylight simulations testify about low daylight level in the room even in close vicinity of windows which is mainly the effect of the balconies located above the windows.



Aerial view



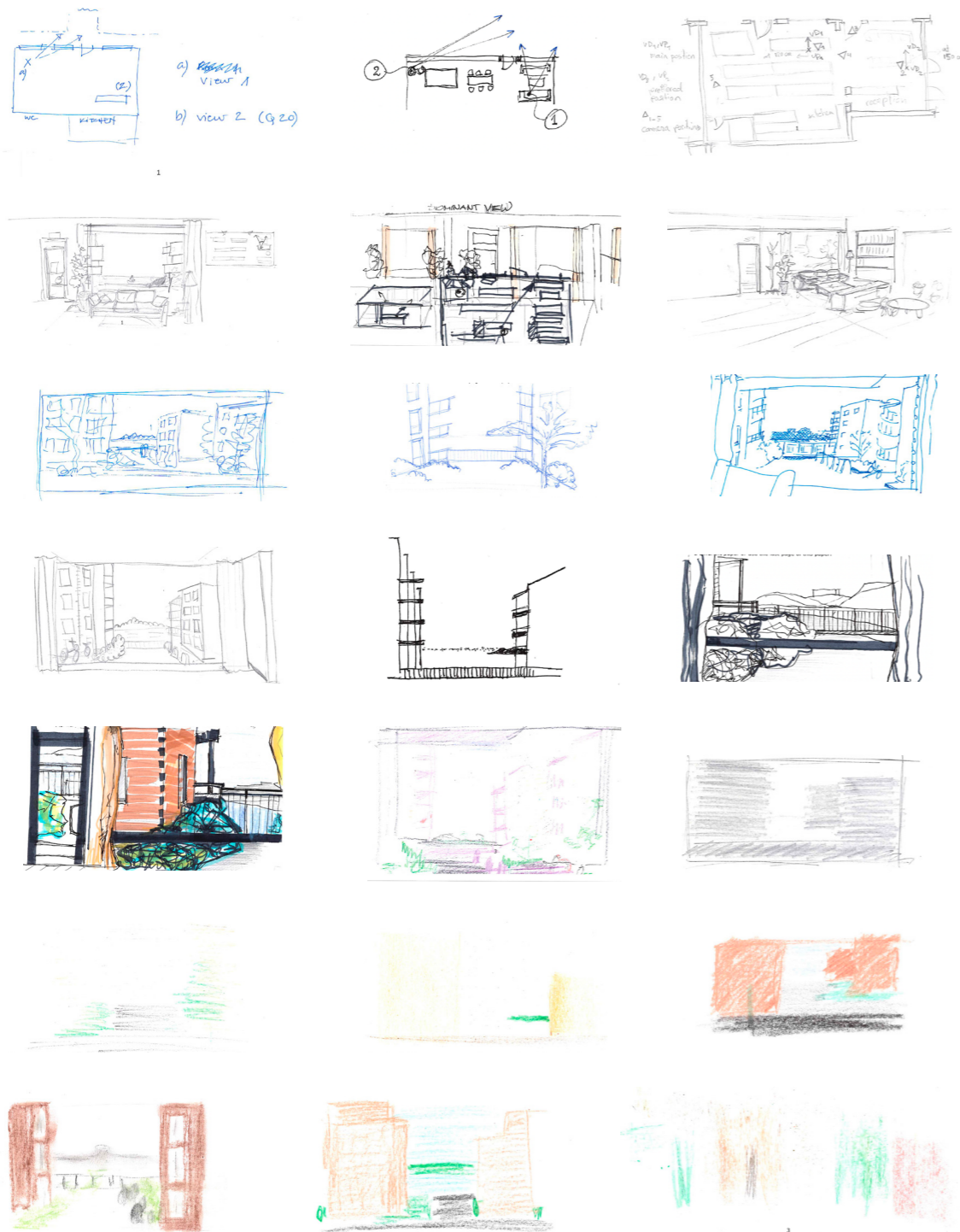
Street view



Photographs by participants

The large windows of Mellomila room are like images with a view into a space. The open space in the direction towards the sea attracts the view the most. The door and the small window separate the room from the outside.





Sketches

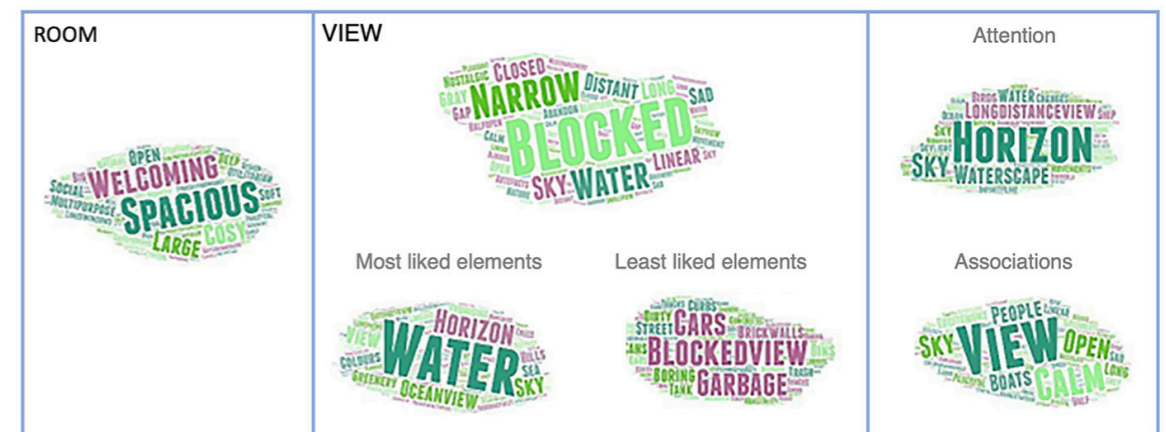
The plan sketches show some viewpoints by the window wall, but sketches of interior testify about few participants sitting at a distance from the windows. Nobody has chosen the view toward the apartment block, the distant view to the fjord was preferred by all. The balconies framing the view were included in many drawings, which testify about the importance of borders (emphasized by the luminance contrast). More attention is paid to elements on the border. Brown and grey dominated the coloured sketches, green was also included.



Quantative Evaluation

The room got highest scores for attributes ordered and large. It was evaluated as more open, friendly and familiar than the opposite. The room was experienced neither beautiful nor ugly, uniform nor varied and neither official nor playful.

The view got the highest score for attributes ordered and familiar. The scores of distant, exciting, inviting, and beautiful were a bit higher than the middle value.



Word clouds describing the room and the view, as well as the most and least liked elements from the view. Further, words describing once association to the view and what features caught one's attention.

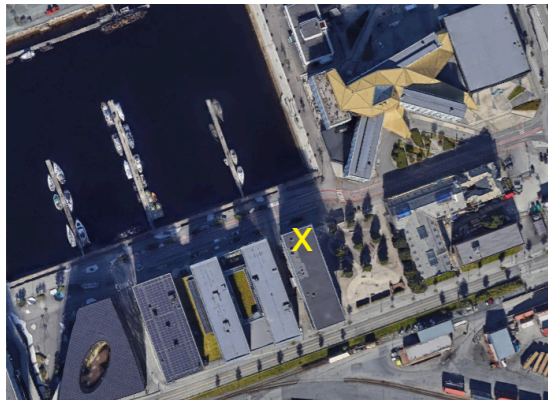
Qualitative Evaluation

The room makes an impression of being spacious, large, and welcoming. The view is described as blocked, narrow, and closed. Also, the words water, horizon and sky are also there testifying a certain degree of presence of those natural elements. The water and the sky are the most liked elements of the view while cars, garbage and blocked view are the least liked. It is the horizon with a long-distant view that catches the attention and that people make an association with.

2. Rockheim

The studied space consists of a restaurant/café that serves the visitors of this Rock Museum “Rockheim”. It is located just beneath the glass box constructed on top of the brick section of the building. A large glazing area of the restaurant is oriented towards two directions: north-west and north-east. A panoramic view unfolds toward the harbour, the fjord, a small island, industrial and residential areas of the city, and distant hills.

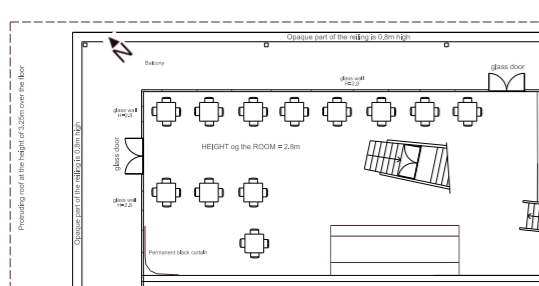
Daylight simulations testify about very even level of light along glass facades, but the illumination level in the close vicinity of the glass wall is not as high as could be expected, the effect of the protruding glass box.



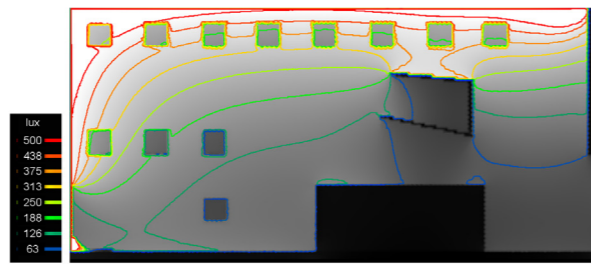
Aerial view



Street view



Plan drawing

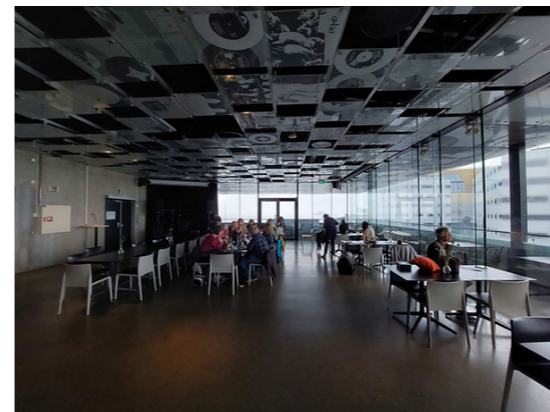


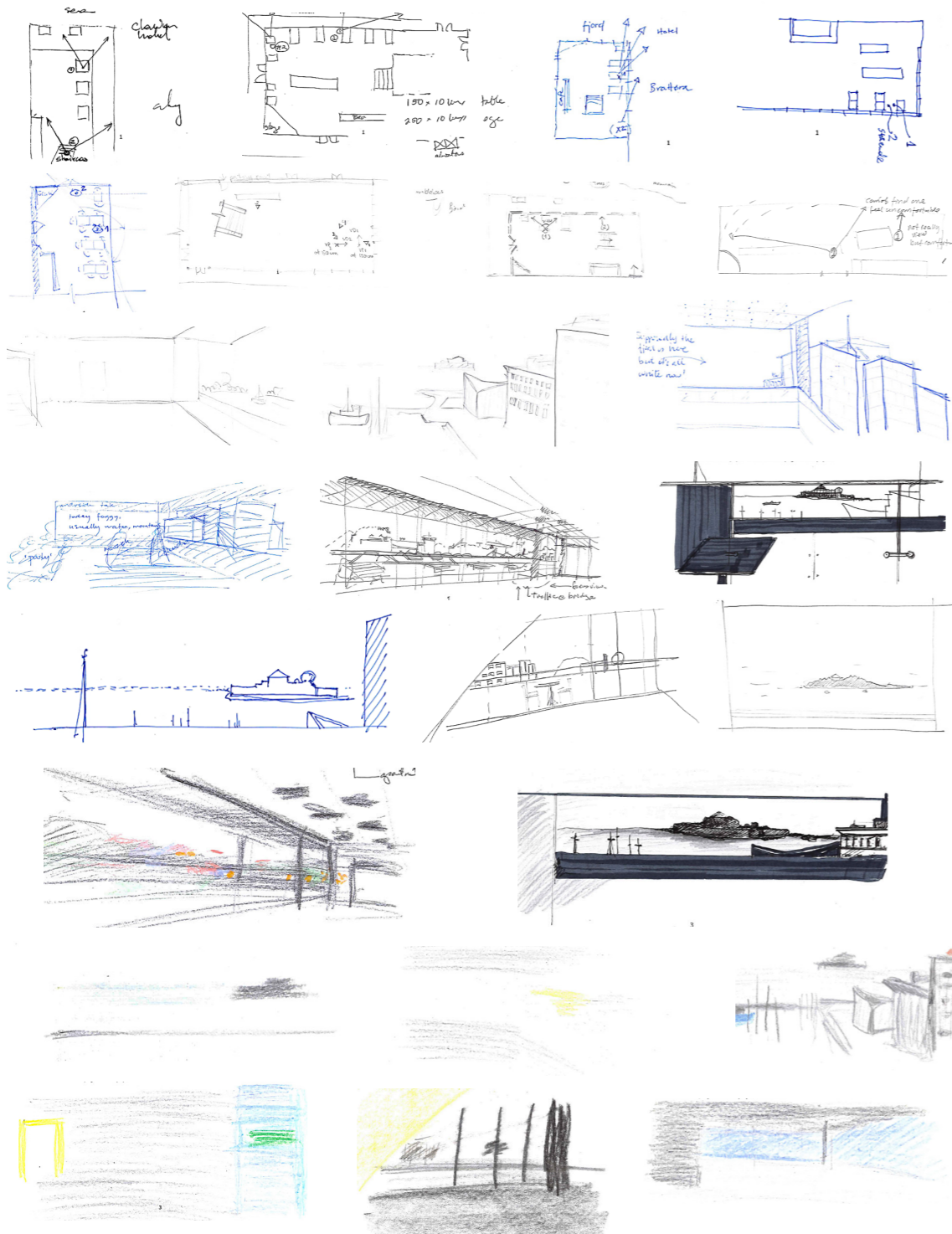
Daylight simulation for 21 June, 12.00 AM. CIE, Overcast sky.



Photographs by participants

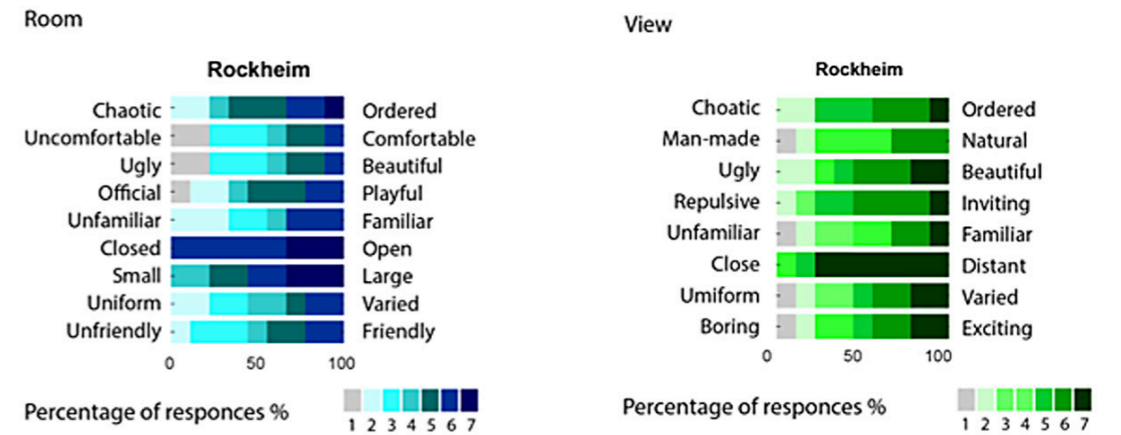
The top floor and the perfectly transparent glass façade (glued glass) allow a view into the distance, the horizon, and the neighbourhood. At the same time, the view is cut from the top and the bottom by the roof protruding about 3m in front of the glass façade, and the terrace with the opaque balustrade located about 1,5m in front of the glass wall. The viewing opening has a horizontal - panoramic form encouraging you to look repetitively left and right.





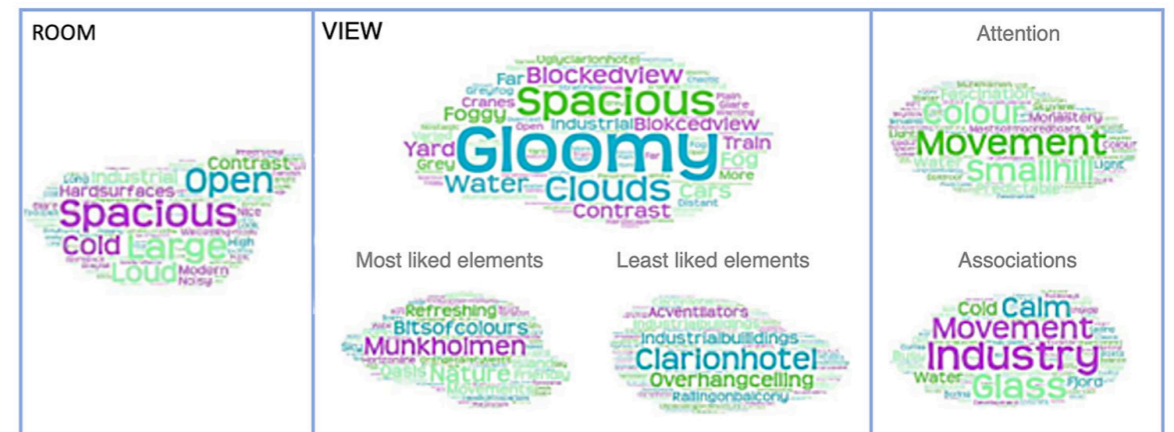
Sketches

From the plan sketches we learn that most participants have chosen a place by the glass façade. Few participants added names of view elements to clarify their view direction. One participant added the comment “cannot find one place, feels uncomfortable” near the dot showing her sitting place. Most view sketches show a view towards the fjord, a little island, and the new hotel on the right-hand side. The dominant colour was grey. Blue and yellow also appeared in two sketches.



Quantitative Evaluation

The room got highest scores for attributes open, large, and ordered. The other attributes got close to middle scores. Interestingly, few participants gave only one score for comfortable, beautiful, and playful, while others gave next to highest scores, which indicate vastly different opinions. The view got the highest score for distant. Other attributes that got also high scores were ordered, beautiful, inviting, varied and exciting. The lowest scores were for natural and familiar.



Word clouds describing the room and the view, as well as the most and least liked elements from the view. Further, words describing once association to the view and what features caught one's attention.

Qualitative Evaluation

The Rockheim room was evaluated as spacious, large, and open, but also as cold, loud and with hard surfaces. As the sky was totally overcast and foggy this day, the view appeared as gloomy, with clouds, but also as spacious. The most liked element was a little island with an old cloister building called Munkholmen, the least liked was the Clarion hotel – a large new hotel build in the American style and dominating the neighborhood. The attention was toward movement, coloured spots, and small hills in the distance. The view was associated mostly with industry, movement, and glass. It was commented on as both calm and cold.

3. Café To Tårn

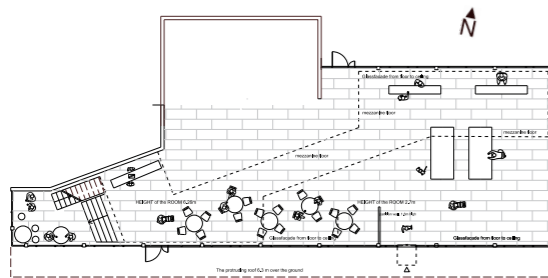
The space consists of a modern and rather small two-story café and giftshop serving tourists visiting the Nidaros cathedral. The café is constructed as a glass box, presenting large glazing area across both floors. The largest glazing facade is oriented towards the south, with the view towards the cathedral square and the west front facade of this medieval cathedral. The other glazing area is directed north towards green areas of the cemetery in the surrounding of the cathedral. Daylighting simulation shows very high daylight level at the ground floor along the glazed facade.



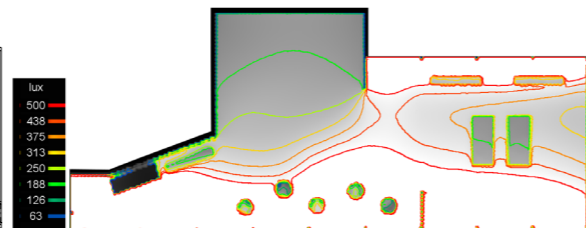
Aerial view



Street view



Plan drawing



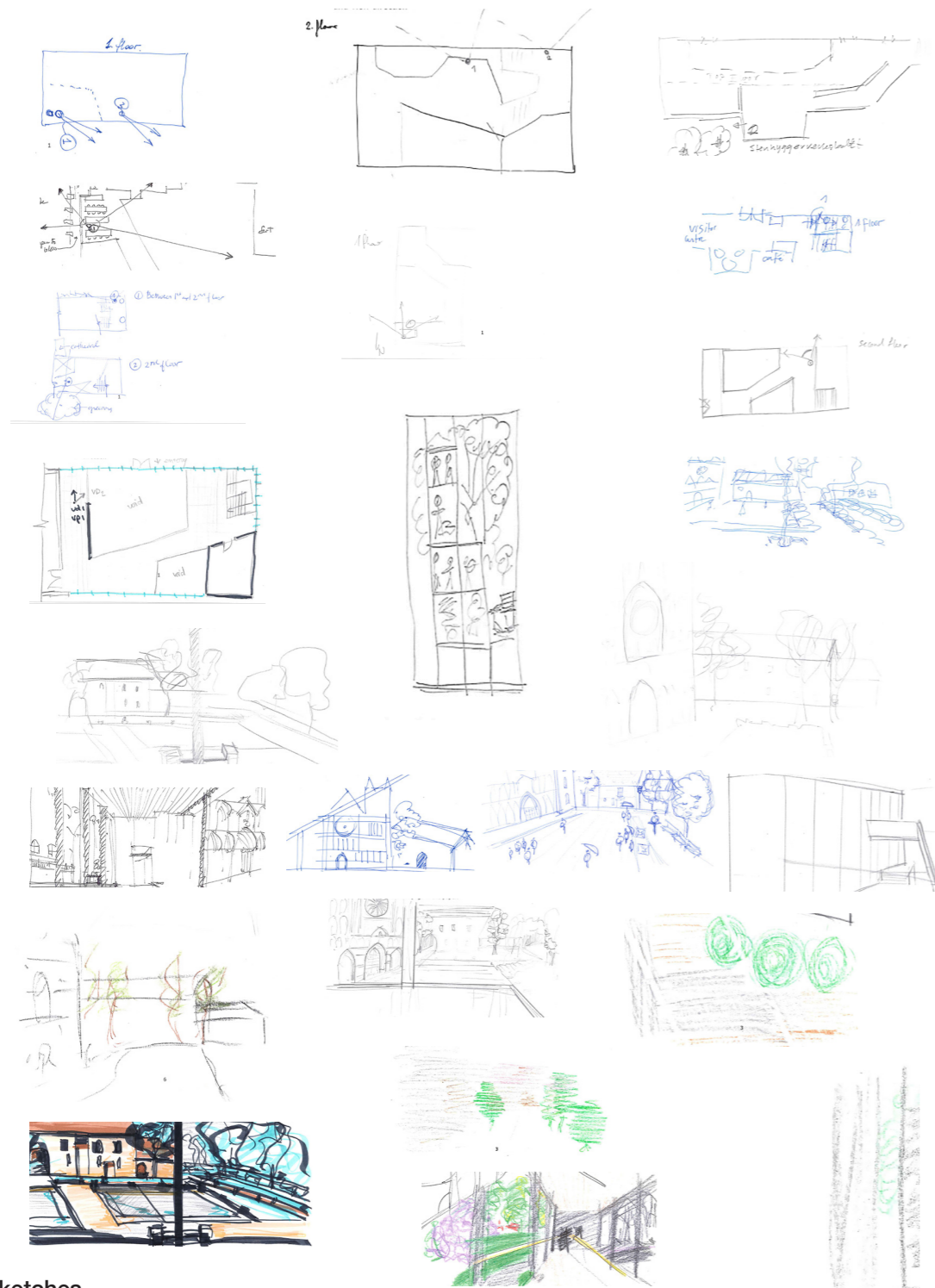
Daylight simulation for 21 June, 12.00 AM. CIE, Overcast sky.



Photographs by participants

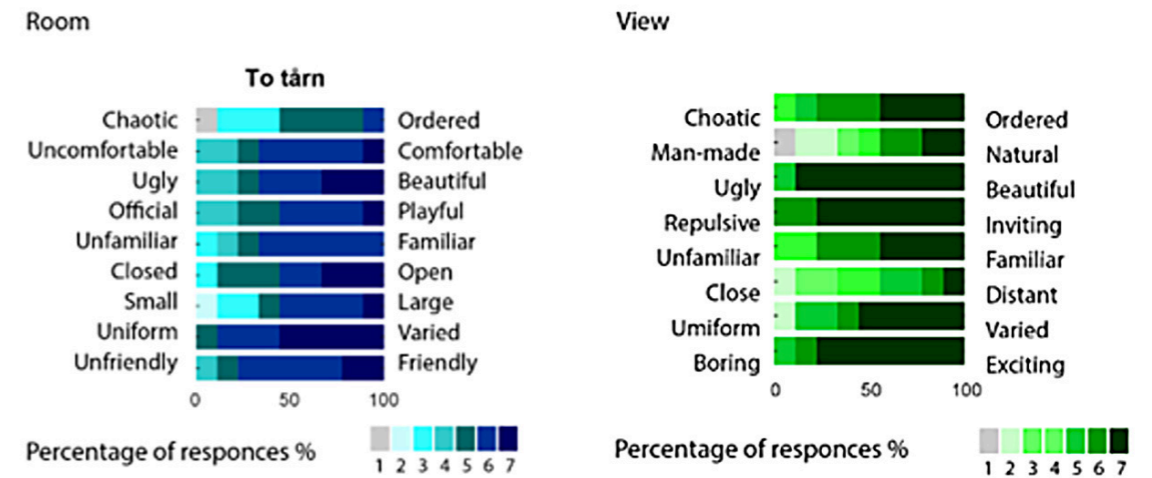
The cathedral offers an impressive scenery. Also, the uninterrupted view from the floor to the ceiling to the large square. The photos give a feeling of being very close to the cathedral. The glass wall construction, due to their dark colour and good visibility, creates a distance. The view gives a lot of information concerning the outside, even from the distance.





Sketches

From the plan sketches we can learn that participants were equally distributed between ground and second floor. The view direction was toward cathedral square, besides of one who has chosen the view in the opposite direction to the high trees of the cemetery. The cathedral appears on most view sketches, also the large square with people and trees, and a stone building on the other side of the square. The dominating colour is grey, the second one is green.



Quantitative Evaluation

The room got very high scores for all attributes. The room was evaluated as ordered, comfortable, beautiful, playful, familiar, open, large, varied, and friendly. The view got also very high scores for all attributes. All participants agreed that the view was very beautiful, inviting, exciting. The attributes ordered, familiar and varied got also very high scores. The lowest scores, right enough, were given for distant.



Word clouds describing the room and the view, as well as the most and least liked elements from the view. Further, words describing once association to the view and what features caught one's attention.

Qualitative Evaluation

The room appeared for most of participants as large, high and noisy. The view was characterized mainly as historic and made of stone. The words greenery, trees and park were also used testifying their importance in the meeting with the stone. Other words were green, greenery, park and trees. The cathedral with its details was the most liked view element, while scaffolding, cars, fence and blocked view were liked least. The cathedral with its sculptures catches the most attention. The view was associated with historical, old and religion.

4. Skistua

Skistua is a ski lounge located at the outskirts of the town with the view to the evergreen forest stretching from nearby to the horizon. A playground is located next to the building on the south side. The studied room was the café of the lounge, containing windows oriented towards the south on its larger facade, and a small corner window towards the east.

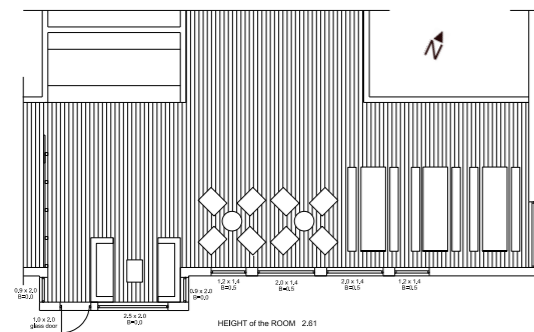
Daylight simulations testify uneven daylight distribution. The highest level near the bay window protruding from the wall, the lowest in the bar. Due to the large depth of the room, the average light level in the room is moderate with high level of daylight only in the window zones.



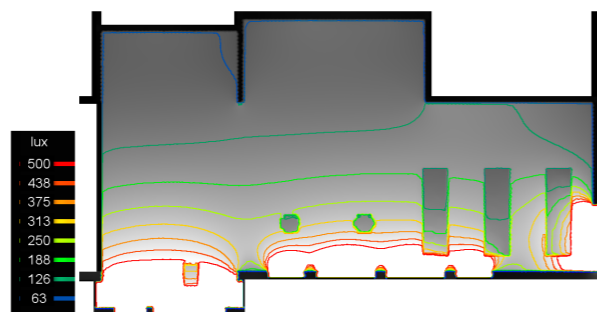
Aerial view



Street view



Plan drawing

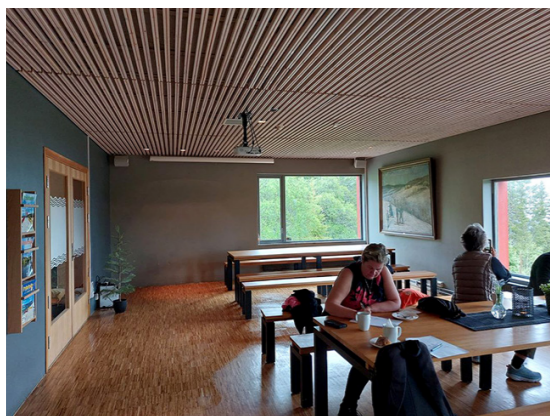


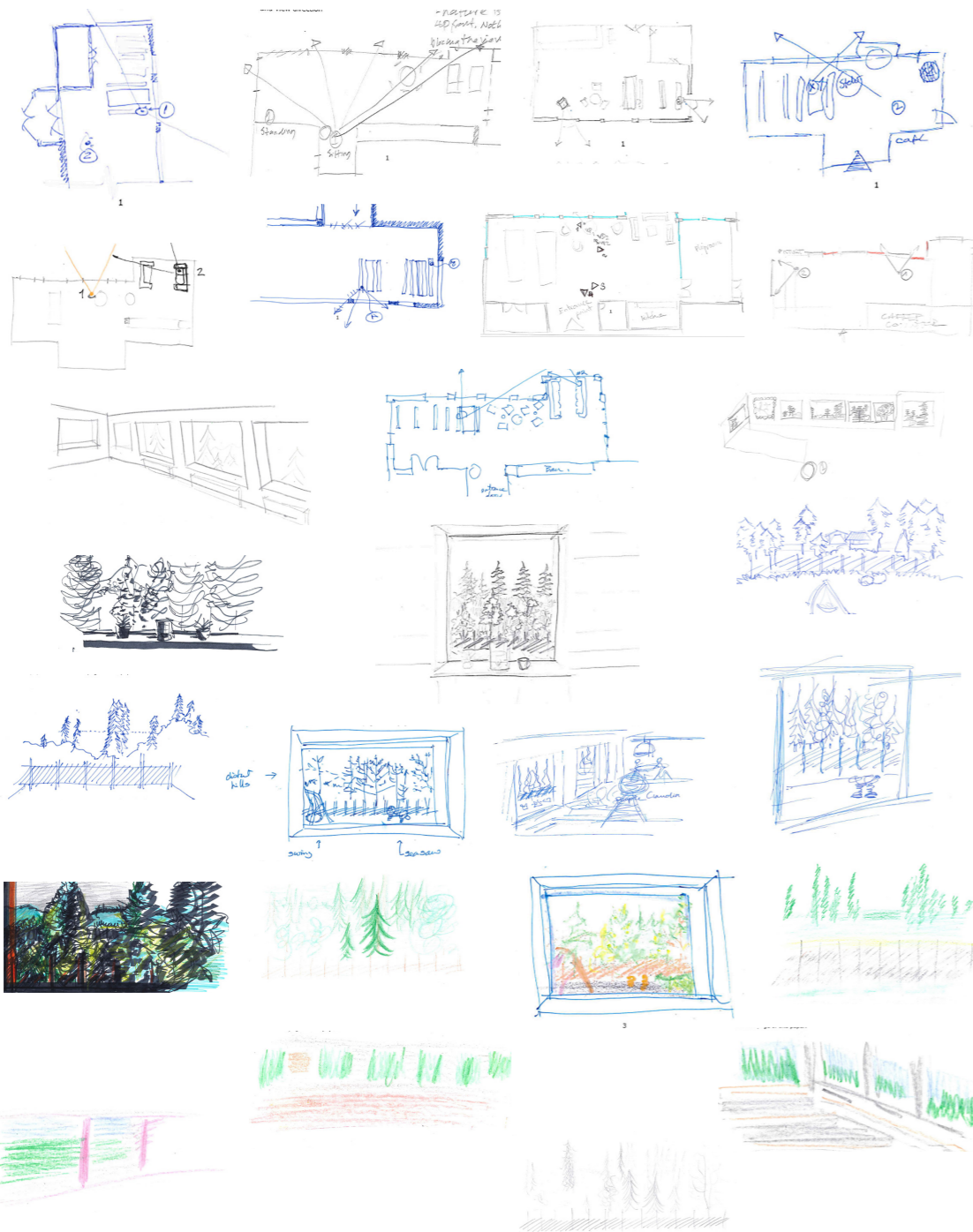
Daylight simulation for 21 June, 12.00 AM. CIE, Overcast sky.



Photographs by participants

the windows of Skistua are like images. From a place close to the window, the view is into the space outside. From behind, windows are more like pictures. Like in a gallery – one picture (with nature) beside another. This effect is also due to the low position of the windows in the wall, something that is more typical for pictures than for real windows. The impression is also a little bit like cinemascope.

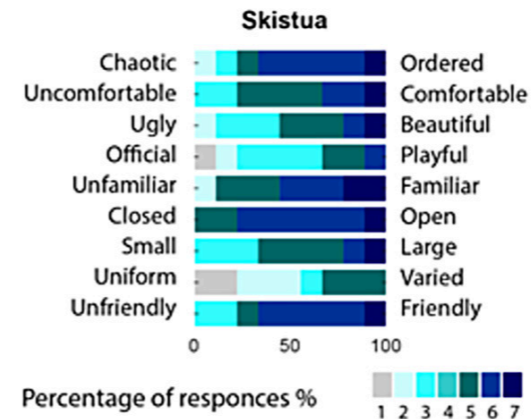




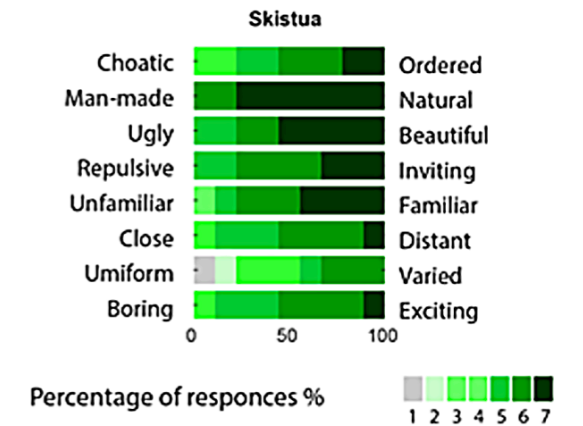
Sketches

From the plan sketches we may learn that places by the windows were preferred. From interiors sketches we may see how the windows are located and learn about the big thickness of the window wall. Half of participants has drawn a frame around the view, which may be understood as a desire to depict the view as a picture. Trees are the most repeating elements of the drawings, together with the characteristic for the Trondelag district wooden fence and some playground elements. The colour green dominates in coloured sketches.

Room



View



Quantative Evaluation

The room got highest scores for attributes ordered, familiar, open and friendly. It was neither small nor large, neither ugly, not beautiful. It also gave impression of being more official than playful and more uniform than varied, which are not positive results for a ski lounge. The view got the highest score from nearly all participants for natural. The other attributes which got high scores are beautiful, familiar, and inviting. The lowest were given for varied.



Word clouds describing the room and the view, as well as the most and least liked elements from the view. Further, words describing once association to the view and what features caught one's attention.

Qualitative Evaluation

The room appeared as welcoming, open and cozy. The view was characterized definitely as green with trees, shades of green and nature. Trees were also the most liked elements. Some participants also mentioned the word relaxing saying that the forest may have such impact. On the other hand, the playground and manmade elements were liked the least. It was green and green trees that catches attention, and the view is associated with peace, exploration and mountains.

6. Kaffebrønneriet

This is a small café located in about 200-years old wooden house (renovated and extended a few times) in the old part of the town, called Bakklandet, characterized by narrow streets with wooden, two-story houses. The house is located on the street corner. The view is toward one of the pedestrian streets with houses painted in different chromatic colours and people sitting in front of the cafés. The windows are oriented south and south-east.

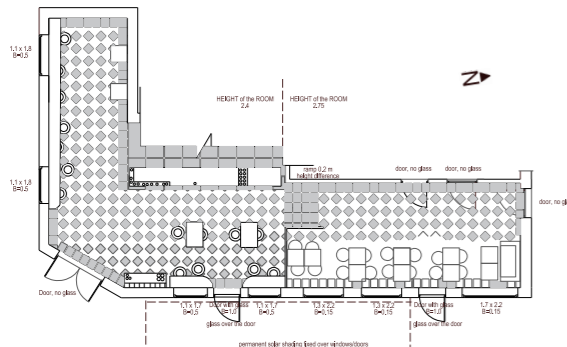
Daylight simulations show significant variation of daylight along the window wall and quite high average daylight levels, as would be expected in narrow interiors with a small distance between the window wall and the rear wall.



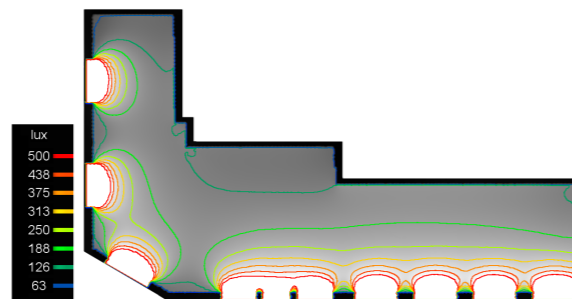
Aerial view



Street view



Plan drawing



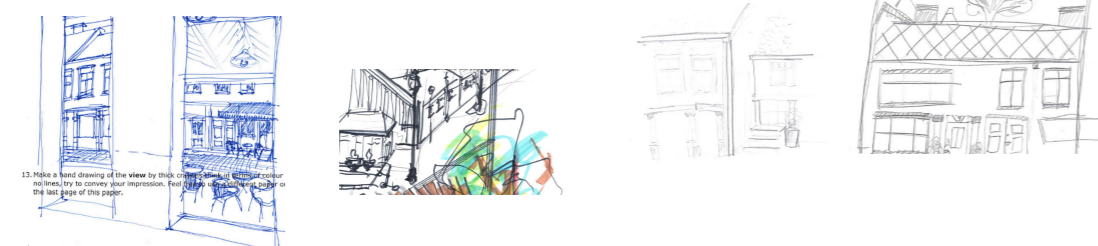
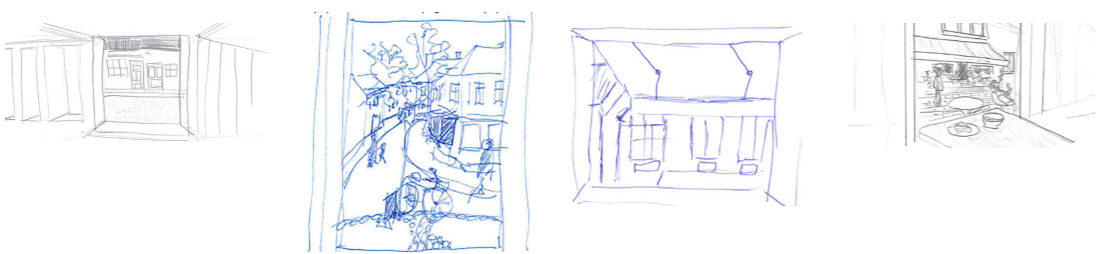
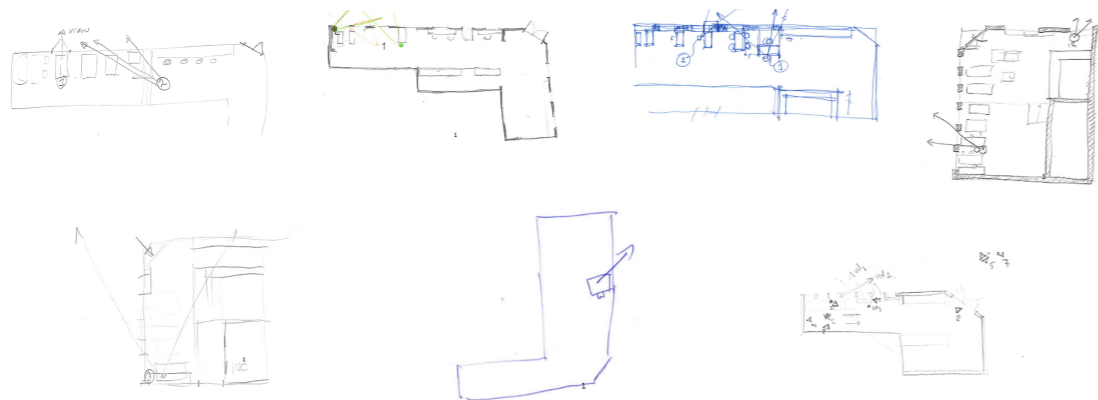
Daylight simulation for 21 June, 12.00 AM. CIE, Overcast sky.



Photographs by participants

Different window types, two windows are just closed doors with a glass. As Kaffebrønneriet is a long and narrow room with tables near the windows, it looks as if the room is a little bit part of the street. Apparently, there is consistency between interior and exterior as the materials, colours, details, and textures in the café are very similar or equal to the ones outdoor.

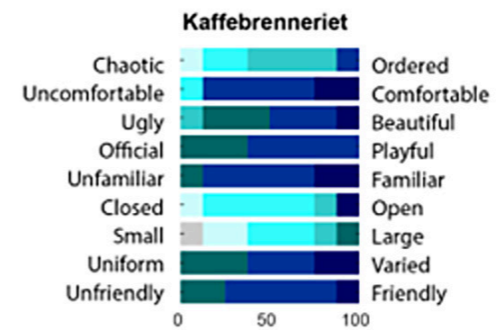




Sketches

Plan sketches show sitting places very close to the windows. Most view sketches show the wooden buildings on the other side of the street (or the street corner), people socializing in different ways, and even elements of greenery, which are very sparse in this area. Most of views are framed as the participants wanted to express the difference between inside and outside. The coloured sketches contain many colours, red-brown, yellow, green, grey and magenta.

Room



Percentage of responses % 1 2 3 4 5 6 7

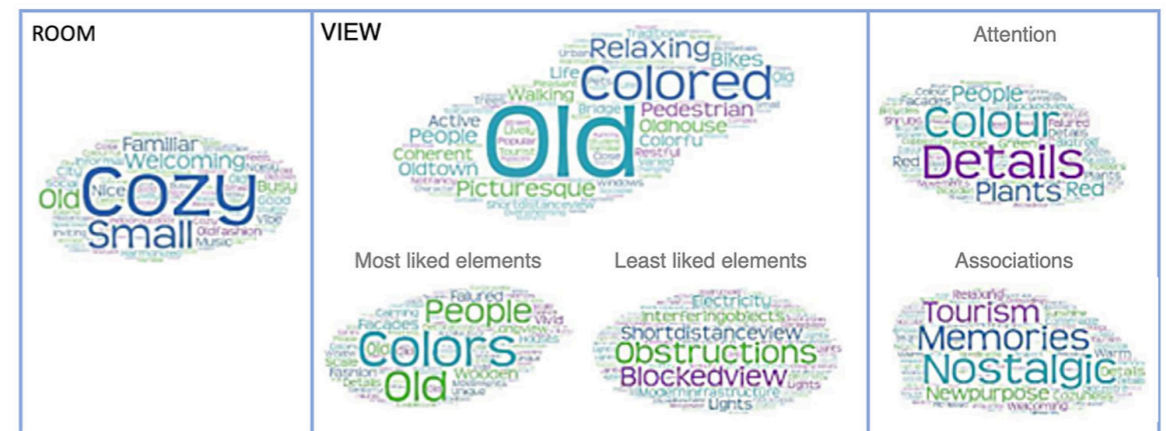
View



Percentage of responses % 1 2 3 4 5 6 7

Quantative Evaluation

The room got very high scores for comfortable, beautiful, playful, familiar, varied, and friendly. On the other side very low scores for large, open, and ordered. The view was evaluated highest as inviting, familiar, beautiful, varied, and exciting. The lowest scores were for natural and distant.



Word clouds describing the room and the view, as well as the most and least liked elements from the view. Further, words describing once association to the view and what features caught one's attention.

Qualitative Evaluation

The room is characterized as cozy, also small, welcoming and familiar. The most repeating word describing the view is old, followed by coloured and relaxing. Colours, together with old and people are the most liked view elements. Obstructions that blocked view are the least liked elements. Interestingly, details and colour catch attention. In general, the view is characterized as nostalgic, brings memories, and is associated with tourism.



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CREDITS

Maps and Aerial views are from Google Earth
Site photographs and Layout: Alex Booker
Plan drawings: Barbara Szybinska Matusiak
Daylight simulations: Carlo Volf
Figures for quantitative evaluation: Mandana S. Khanie
Figures for qualitative evaluation: Anna Maria Palsdottir

All sketches and project photographs are reproduced by permission of the participants.

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