

Window from Within

Investigating an architectural element through designing an artist studio collective

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CHALMERS

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Abstract

*Hus, vägar, skyar
blå fjärdar, berg
öppnade sina fönster.*

*/Houses, roads, skies
blue coastal inlets,
mountains
opened their windows.*

- Tomas Tranströmer,
from the poem Resan,
1962

What is a window and what does it do? This thesis aims to explore the window as a functional device from an interior perspective when situated in a certain program. The main question is how the form, placement and functionality of the window affect the sensation of an interior space.

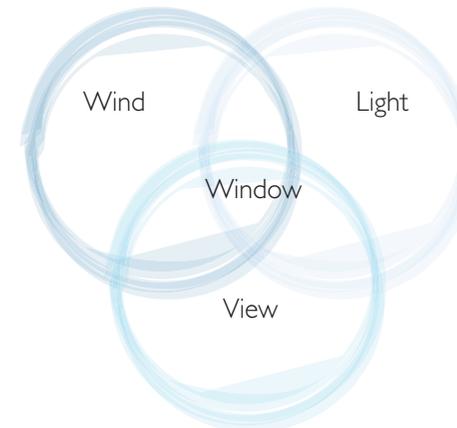
A window is not inseparable from a house; whereas walls, floor and roof might be the essentials of a shelter, windows are not fundamentally necessary for protection. However architecture is more than protection and in a society where we spend a big part of our days indoors light intake and visual connection with the world outside affects our wellbeing. Dense cities are challenging the admission of day light into buildings and visual connections ought to be planned with integrity in mind. On a stylistic level though; is it possible to separate the window from the house, the detail from the whole? Windows can be controversial and provoking and has been a source of conflict between architects and in society.

Whether essential to create a space or not; the window contributes to the sense of space. It is a connection between two spaces, an interface between interior and exterior through admission of light, wind and view. Looking it up in a dictionary it can even be explained as a space in its own right.

This thesis will be carried out through reading, making case studies, making site mapping and trying out different shapes and placements of windows digitally as well as in physical model. The aim is to find a design proposal for a studio collective for painters at an urban site, using this as a vehicle for learning about window design.

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Thesis Questions

How to shape and place windows to achieve purposeful light intake as well as integrity in an artist studio collective?

How can windows generate placeness?*

How is the meeting between inside and outside by the window shaped and how does the design affect the sensation of space?

*see Theory and Background

Delimitations

In the project the element window has not been investigated from a technological perspective in terms of for example its energy saving capacity. Neither has existing regulations of glass thickness due to security etc been taken into account. The project has also not researched the window from outside as an element of the facade or a rhythm in the cityscape nor the way interior materials interact with light and thereby helps with light distribution.

Method and Process

In “Architecture from the Inside Out” authors Franck and Lepori (2007) stresses the perspective of the architect to be not as a spectator but as experiencing the architecture with all the human senses from within the structure. In the SVT-series *Hemma hos arkitekten* architect Martina Eriksson is shown designing with such careful attention to the surroundings; she traces the path of the sun, the wind and climbs the trees to understand where a window should be situated to give her house a view of a distant church. The ambition in this thesis project is to work with spatial design from a within perspective. This will be carried out with following methods and process.

The aim is a design proposal of an artist studio collective where I think three main functions of the window (light intake, air intake and visual connection) can be highlighted and explored in different spaces (exhibition hall, separate studio, common spaces etc.). The project will develop iteratively and be set within an urban context and the site will be chosen and studied early on in the process. What will change is the window design, their shape and placement, their relation to the surroundings and to the internal space, their function, materiality and mechanisms.

Site studies

By visiting, taking pictures, sketching and writing the site will be mapped. Lightstudies of building suggestions and surrounding conducted in Rhino and through observations/painting/photos.

Case studies

Investigating references through making models, sketches, plans and/or sections. Trying out findings in the thesis project's design.

Digital and by hand

Mixing digital tools (Rhino/Photoshop) with analogue techniques such as drawing.

Interviews

Asking questions about what people working in studios prefer and need when it comes to fenestration.

Background and Theory

Daylight - Characteristics and impact on health and urgency of window design

Picture 1.
"The Little Street"
Oil painting
Johannes Vermeer, c.1657-58

Picture 2.
"Girl Reading a Letter at an Open Window"
Oil painting
Johannes Vermeer, 1657-59

Daylight varies in terms of direction, colour and intensity over the lapse of a day and over seasons. In a report from Folkhälsomyndigheten (2017) concerning daylight in buildings and its relation to health it is stated that daylight is important for several vital mental and physical processes. The report brings up the issue with scarcity of daylight in densified cities and an awareness of designing with light in mind is motivated for architects. Further on a visual connection to nature is claimed to improve health. The report also brings up the benefit from an environment perspective of taking maximal advantage of daylight. Moreover, from that perspective, the consideration of window design is important for reducing energy loss. In a news clip from 15 december 2020 researcher Arne Lowden comments on the remarkable scarcity of light during the last days and suggests working nearby a window to get health benefits in a period of darkness.

A model for describing daylight

There are several different ways of describing the quality of daylight in a space, one can measure it or use visual perception. Architect and professor Anders Liljefors developed a method for describing light by sight in seven variables; level of light, spatial distribution of light, shadows, reflections, glare, colour of light and colours. Through assessing these different aspects in a space the light condition can be described, discussed and planned.

Level of light refers to the understanding of the space's darkness or lightness. This could be an overall impression of the room but also concern different areas within it. By Spatial distribution of light one assesses the overall variation of shadows and light in the space. The light situation in a space could be characterized for example as even or dynamic. By the variabel Shadows one describes the character, such as brightness, colour and sharpness but also location and direction of the shadows in the space. "Reflections" consider how the light bounces more or less on the surfaces of the space. Reflections make the space

more animated since they change with our movements and show the variation and character of materials and light (Dubois et al., 2019).



Photography Rijksmuseum



Photography Gemeldägalerie

Brief history of the window

The english word window has its origins in the nordic word vindöga, literally wind-eye. The vindöga was a small aperture free of glass that could be closed by a wooden hatch. If the opening was bigger other organic, translucent materials could be used to cover them. Using glass for windows was a luxury and rare in the homes of common people until the 1700-century. The advancement of building technique has also naturally changed the design of windows, from the small apertures in the heavy walls of romanesque stone churches to the high and big windows of gothic cathedrals to the possibility with todays digital tools to create openings in the most complicated, curved surfaces. From about 1930s electrical lighting entered and architecture didn't have to rely on daylighting.

Conflict I. Landscape or portrait - The format of the window

As stated the formation of windows has changed along history with technical development. With the modernist movement, the steel frame structure and armed concrete the ribbon window was made possible. In the manifesto "Toward an Architecture" Le Corbusier, front figure for the modernist movement writes:

"The surface of the temple or factory is, most of the time, a wall pierced by holes that are doors and windows; these holes are often the destroyers of form; it is necessary to make them into accentuators of form."

And further:

"Surfaces, pierced due to practical necessity, should follow the accentuators and the generators of these simple forms. These accentuators are, in practice, the checkerboard or grid..."

Le Corbusier advocated the horizontal window, the continuous ribbon window, which he meant will distribute light evenly in the space. At the same time architect Auguste Perret, pioneer within developing reinforced concrete as a modern building material, argued for the classical vertical window. The two shapes create different paths for the eye; a panoramic or a up-and-down movement. Although the portrait shape might be stereotypical some of the earliest windows, the ones in ancient Assyria, were most commonly of landscape format, however divided by constructional elements.

Conflict II. Mullions or not - Politics of beauty?

New technology not only allows freedom of window format but also changes the necessity of functional details. If a certain element has become functionally obsolete could it still be relevant? In the book Window Scape (2010) editor Yoshiharu Tsukamoto claims indeed that certain features of the window that would be deemed unnecessary from a mass production point of view generates a sense of the world and

Picture 3 and 4.
"House in Nakameguro"
Tokyo, Japan
Yoritaka Hayashi Architects,
2010

Here is a contemporary version of the modernistic ribbon window. According to the architects this kind of **light intake** dissolves the borders of the interior space. Apart from the continuous ribbon window that perhaps can be understood rather as a wall there are also windows that are apertures, that creates **view** points and pierces the wall. What I think is interesting here is this blend of the functions of the window.



Picture 5 and 6.
The MK Gallery,
Milton Keynes, England
6a architects, 2019

"We've made this very large window that's in the shape of a semicircle. This circle sort of **frames the landscape** in a completely different way to a square window. It makes you very aware of the view, and it's like you're looking out at the landscape from a cave. It has this almost natural form. It's about 10 meters long x 5 meters high semicircle. It's a very impressive, kind of monumental window." - Tom Emerson, 6a architects from an interview by Window Research Institute 2019



Photo 6a Architects

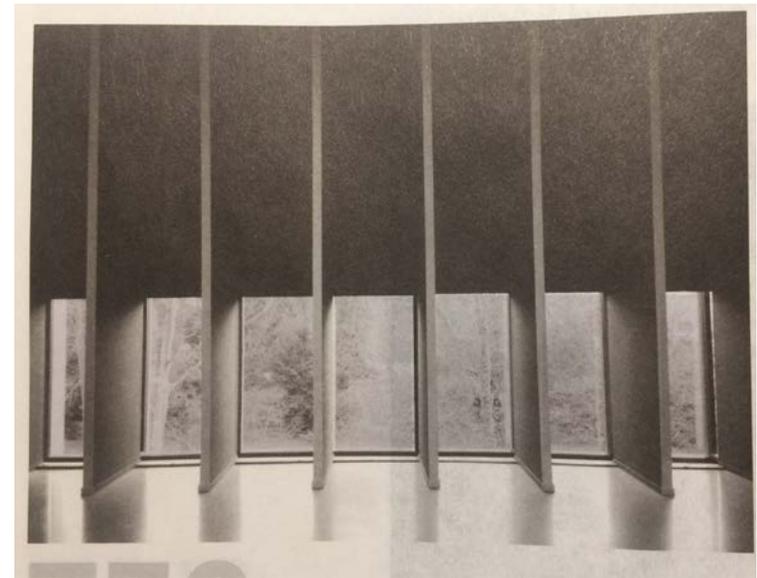


Photo Johan Dehlin

enable behaviours. Therefore they have value. In “Folkhemmet's estetik” by filmmaker Martin Rosengren the questions of aesthetics, style and pastiche within architecture are brought up. Newly produced windows with mullions are part of in this architectonic battle that seem to be about beauty and taste but perhaps originates in a clash between political opinions and values and a questioning of the role of the architect.

The window as location and space - Generating placeness

Early in their history windows were more valuable since they were the only light source, an exclusive weakness in the wall and might consist of a costly material. Could windows of today generate such a place and sensation? A look to another space, a sense of the other space. But also a form in itself, not just a passage. A place to meet up at, or do something at. In “Elements of architecture”, in the chapter of window, Yoshiharu Tsukamoto of Atelier Bow-Wow tells about the window as both a functional device and a location, somewhere people are active, perhaps they look or they feel the wind or they do something else. This placeness of the window is also described further on in the chapter. For example a remodeling of Boijmans Van Beuningen museum in Rotterdam where partition walls were added in front of a panorama window created several niches and thereby suddenly several small locations, little places or nooks defined partially by the window. Reading on there's an interview with Mattias Schuler, professor at Harvard Graduate School of Design, who also define the window as a place but that easily could be reduced to a visual connection by discarding its other functions such connection with exterior through air and sound. The glass curtain wall is not a place in the same sense as the punctuated window.



Photocopy from book Elements of Architecture by R. Koolhaas

Picture 7.
Boijmans Van Beuningen
museum
Rotterdam, Netherlands
1849

Picture 8.
Oil painting Night Windows
Edward Hopper, 1928



Photo MOMA, New York/Scala, Florence

Picture 9.
Still from film Rear Window
Alfred Hitchcock, 1954



Hitchcock, A

Picture 10.
Oil painting Nighthawkes
Edward Hopper, 1942



The Art Institute of Chicago

Picture 11.
Oil painting Morning Sun
Edward Hopper, 1952



Columbus Museum of Art

View through windows

In her essay *The Lonely City. Adventures in the Art of Being Alone* author and critic Olivia Laing dedicate a chapter to american artist Edward Hopper. His paintings often depict windows in New York and seemingly lonely people in relation to these. Laing refers to Carster Foster, curator of Whitney museum, who states that spaces where people are physically close but still distant through several barriers are recurring in the paintings. An element contributing to this is the window, where you have a visual connection with each other but might not get any further contact, a combination of exposure and isolation. Laing continues with an analysis of the painting *Nighthawkes* and points out spatial elements generating the feeling of urban alienation; the greenish electrical light, the triangular shadows and shapes, the lack of entrance and exit to the café and the contrast between the light inside it and the darkness of the street. In particular Laing notice the solidness yet transparency of the window and suggest it rather be called a glass wall. In relation to the art of Hopper Laing further bring up the movie *Rear Window* by Alfred Hitchcock who also depict the contrast between living close together in a

city yet lack contact to each-other except from a one-way visual spionage on the neighbours, an escape from intimacy as Laing express it.

Light intake without view

For the eleventh century Abbey Church of Saint Foy in Conques, southern France artist Pierre Soulages made 104 glass windows that breaks with the traditional style of cathedral windows. In an interview he says that he wanted to make an exterior impression of the windows as a continuation of the wall. He also wanted the perception from within the church to be undisturbed by an exterior view and at the same time allow white light to enter the church to make visible the range of natural colours of the zTexas, states in an article that these windows seemingly does not do what windows normally do in sense of connecting interior and exterior. From the outside the windows seem opaque, as if they neither let in or let out light, rendering a closed down feeling to the church. By this Loia draws a parallell to the current pandemia and the state of closed down public buildings, the opaque windows a symbol for this. He also reflects on the contradiction of a church being closed or giving a closed impression.



Photography Cazaux, M

Picture 12 and 13.
Stained glass windows in the
Abbey Church of Saint Foy
Conques, France
Pierre Soulages, 1987-94



© Photo: JAUBERT French Collection / Alamy Stock Photo. Artwork: ©Adagp, Paris

Windows of the present

Windows as apertures

Picture 14 and 15.
Zollverein School of Management and Design
Essen, Germany
SANAA, 2006

Windows without explicit framing and with varying sizes intended to blend interior and exterior. The positioning is well thought through according to the specific interior spaces need of daylight. The windows are accumulated to the north east and south west. In the interior picture a dance performance takes place.



© Photography Merin, G.



Photography Sohuller, C.

Windows as objects

Picture 16 and 17.
“Your planetary window”
Tate Modern, London,
England
Studio Olafur Eliason, 2019

Olafur Eliason explores the window, or aperture, and its role as link between inside and outside. At the same time he also seem to treat the window as an **object**, for example by making it visually appealing and readable as a geometrical image in itself. By **distorsion of the outward view** the window looses its function of device for orientation of the surroundings and gains more of the function as light intake. Someone looking out of the window in “Your planetary window” gets a kaleidoscopic view of the exterior which changes as they move. By fragmentation the exterior becomes unreadable in an informative manner.



Photography Ziehe, J



Photography Berg, A.S

Picture 18.
Algae window
Kunsthaus Zürich, Switzerland
Studio Olafur Eliason, 2020

This is both a window to the outside of the art gallery as well as a symbolic window to the underwater world by formwise resembling a sort of algae.

In “Algae window” the several facets make up a sort of window which also make up a **picture** resembling a type of algae. The function as **light intake** remains but the **view is distorted** and seemingly the visual effect of the window is most important here.



Photography Candrian, F.

Windows of the past

Windows protecting from insight

Picture 19, 20, and 21
"DL 1310 Apartments"
Mexico City, Mexico
Young & Ayata, 2019

In order to deal with closeness to lot lines the architects solved the windows by twisting them, making them rotate into the facade. This create less unwanted direct insight, niches in the interior and unusual views. Also making the building more dynamic from the outside.



Bové, A., Buzali, R. & Gamo, R.



Bové, A., Buzali, R. & Gamo, R.



Bové, A., Buzali, R. & Gamo, R.

Picture 22. Pantheon
Rome, Italy
Ca 115-125 AD, emperor
Hadrianus

In the cupola of Pantheon in Rome there's an oculus through which sun and rain fall, letting outside inside.



Photography Heller, D.

Picture 23.
Church of the Light
Ibaraki, Japan
Tadao Ando, 1989

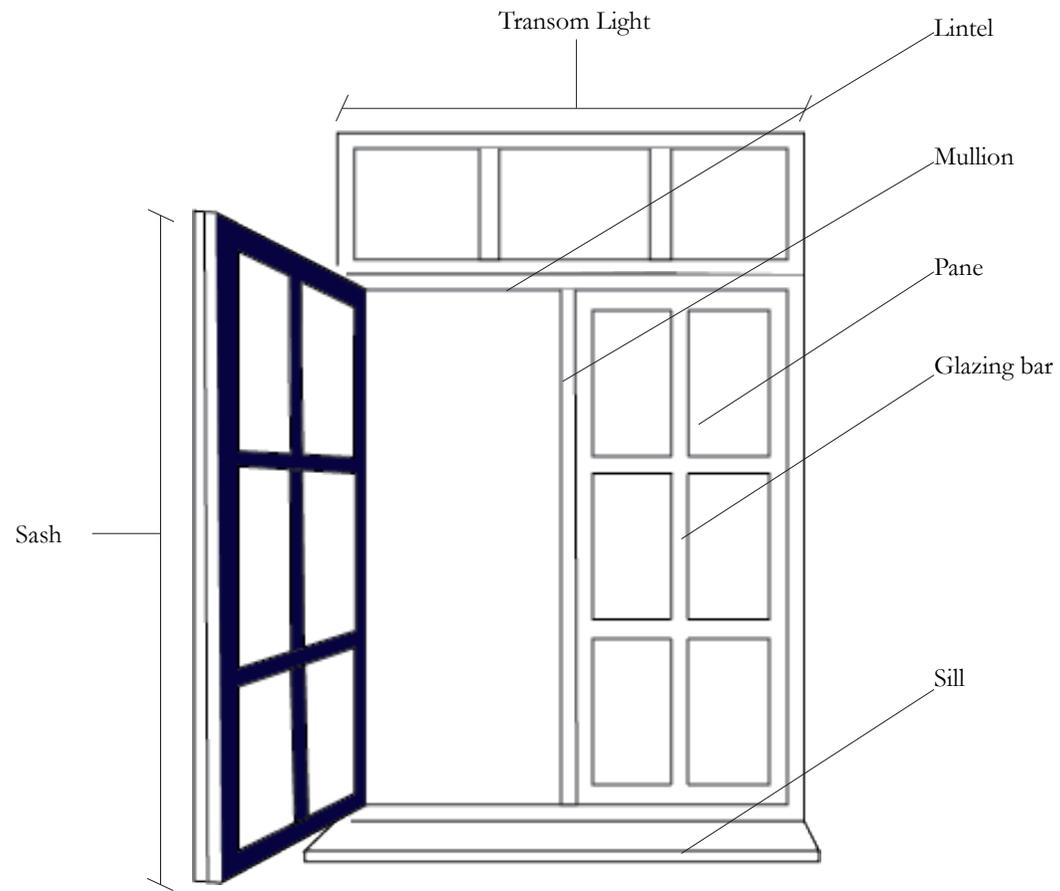


© Copyright Richard Pare

Window Words

Window	“A space usually filled with glass in the wall of a building..., to allow light and air in and to allow people inside the building to see out”. (Camebridge Dictionary)	Shutter	Opaque screen to shield aperture or window when needed.
Aperture	“An aperture is an opening, often to view or for literal passage, through a surface - the discreet moment at which there is a visible passage from one side to another. Not all windows and doors are apertures. “ (G. Lynn)	Triple glazed window	“Windows... made with double or triple thicknesses of glass separated by air space for insulation” (Britannica Academic)
Window frame	What holds the window in the aperture of the wall.	Skylight	“Roof opening covered with translucent or transparent glass or plastic designed to admit daylight” (Britannica Academic)
Window recess	The space between interior/exterior wall and window.	Transom light	Window above a door or another window. (wikipedia)
Sash/Casement	“A frame that holds the panes of a window in the window frame” (tyda.se)	Sash window	“A window in a vertically sliding frame” (Britannica Academic)
Sash pulley	A mechanical device mounted on the window frame to allow sash windows to move up and down by rope or chain.	Casement window	“Opens sideward on a hinge” (Britannica Academic)
Pane/Light	“A sheet of glass in a window or door” (tyda.se)	Ribbon Window	“A series of windows set side by side to form a continuous band horizontally across a facade” (Merriam- Webster)
Sill	The horizontal plane attached to the lower part of the window frame.	French Window	“In this type of casement window the opening is long—frequently extending down to the floor—and comparatively narrow and is glazed with two large, hinged, wooden sashes, arranged to swing in, each subdivided into three or more lights of comparatively large size.” (Britannica Academic)
Came	“Strips of lead...to separate the different pieces of coulered glass.” (Britannica Academic)	Rose Window	“In Gothic architecture, decorated circular window, often glazed with stained glass.” (Britannica Academic)
Tracery	“Bars, or ribs, used decoratively in windows or other openings” (Britannica Academic)	Bay Window	“A window that sticks out from the outer wall of a house and usually has three sides” (Camebridge Dictionary)
Mullion	“A slender vertical division between adjacent lights or subdivisions in a window or between windows in a group.” (Britannica Academic)	Shop Window	For displaying goods. Online shopping is a competitor.
Transom	“Horizontal supports” (Britannica Academic)	Glass	“1 : any of various amorphous materials formed from a melt by cooling to rigidity without crystallization: such as a : a usually transparent or translucent material consisting typically of a mixture of silicates b : a material (such as obsidian) produced by fast cooling of magma” (Merriam- Webster)
Glazing bar	“...a strip of wood or metal separating and holding panes of glass in a window.” (wikipedia)	Interface	“The overlap where two theories or phenomena affect each other or have links with each other.” (tyda.se)
Stay	“Window stays are items which support open windows and also maintain the security of closed windows.” (tbks.co.uk)	Window relatives	Glass curtain wall Screen Arch Mirror Hatch
Fastener	Used to secure window.		
Espagnolette	Used to secure window at its top and bottom with help from a rod (wikipedia)		

Window Anatomy



Main Material

Program

A way for describing the quality of daylight based on visual observations:

- Level of light
- Spatial distribution of light
- Shadows
- Reflections
- Glare
- Colour of Light
- Colours

(Alenius et al, 2019)

Four individual studios for painting

Measuring and cutting canvas and mounting it on board/wall
Mark area for painting, sketch on canvas and/or sketching in pad
Preparing and blending colours
Moving back and forth to view work and reference alternately on distance and close up
Sitting down to observe work actively or passively
Taking a break; resting, eating/ drinking or talking (could be in other room)
Looking in reference literature/ references on computer (could be in other room)
Cleaning brushes, letting them dry (could be in other room)
Cleaning work area, disposing solvents and oil and storing material and tools
Storing paintings

Shared spaces for the artists

Making coffee/ tea, cooking, taking care of dishes
Eating, talking, reading, watching something on screen
Resting, caring for plants
Computer work, printing
Working together, discussing, planning
Sawing panels, rough sand, gluing, crafting
Moving between different spaces, storing

Bathroom
Cloakroom

Public space: exhibition, lecture and croquis

Entering, leaving
Viewing, on distance and closer, moving around
Sitting observing
Sitting waiting, pausing
Lecture, listen
Talking
Drawing croquis, dressing, resting

Lavatories
Cloakroom

Outdoor space

Sunbathing, painting and sketching outdoors, taking fresh air and light, resting, eating and drinking coffee, entering, leaving

Light and View Program

What do the artists and visitors need in terms of light and darkness and how to achieve this?

Overall light concept

Appropriate light conditions for painting, exhibition and moving between different spaces. In the work spaces time, as revealed by light, is standing still. In the common spaces the passing of time is visible through shadows changing.

Studio space:

As much light and as steady and even light distribution as possible. Mediating a distant or close view out with a level of privacy.

Common space:

A degree of contact with external world. Visible how time moves with changing shadows. Light during breaks in morning, noon and evening important.

Exhibition space:

Even, abundant light. Avoiding direct light and sharp shadows.

Croquis space:

Important with no view from outside.

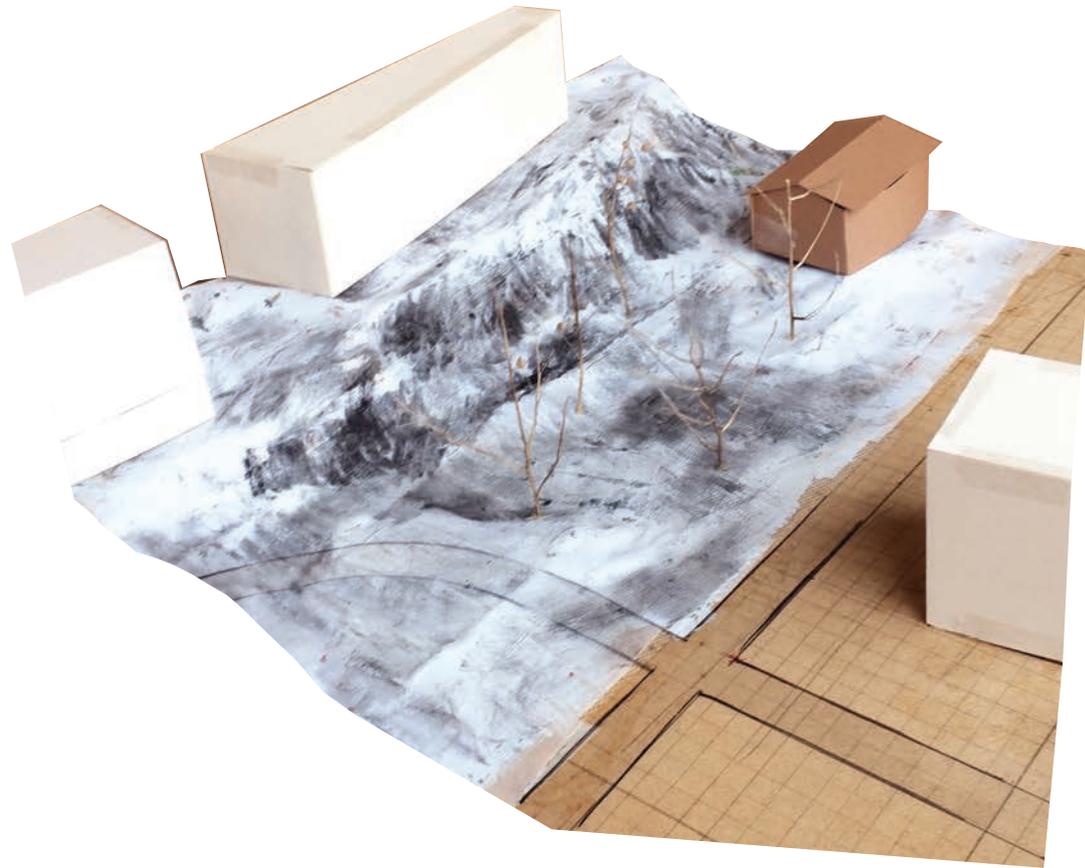
Bathroom:

No view in, not too much light but sufficient.

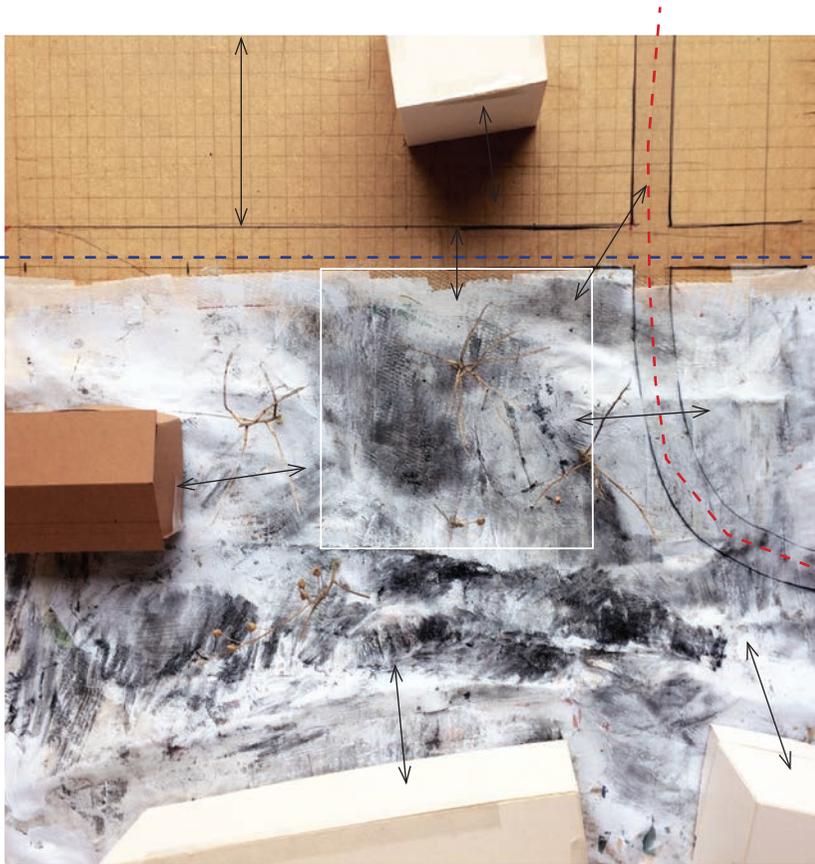
Entrance:

Darker than the exhibition space but light enough to make the transition from outside to indoors undramatic for the eye. Welcoming and open.

Site



Picture of the site looking south respectively west.



Flows, directions and heights

Visual connections



Less movement

More movement

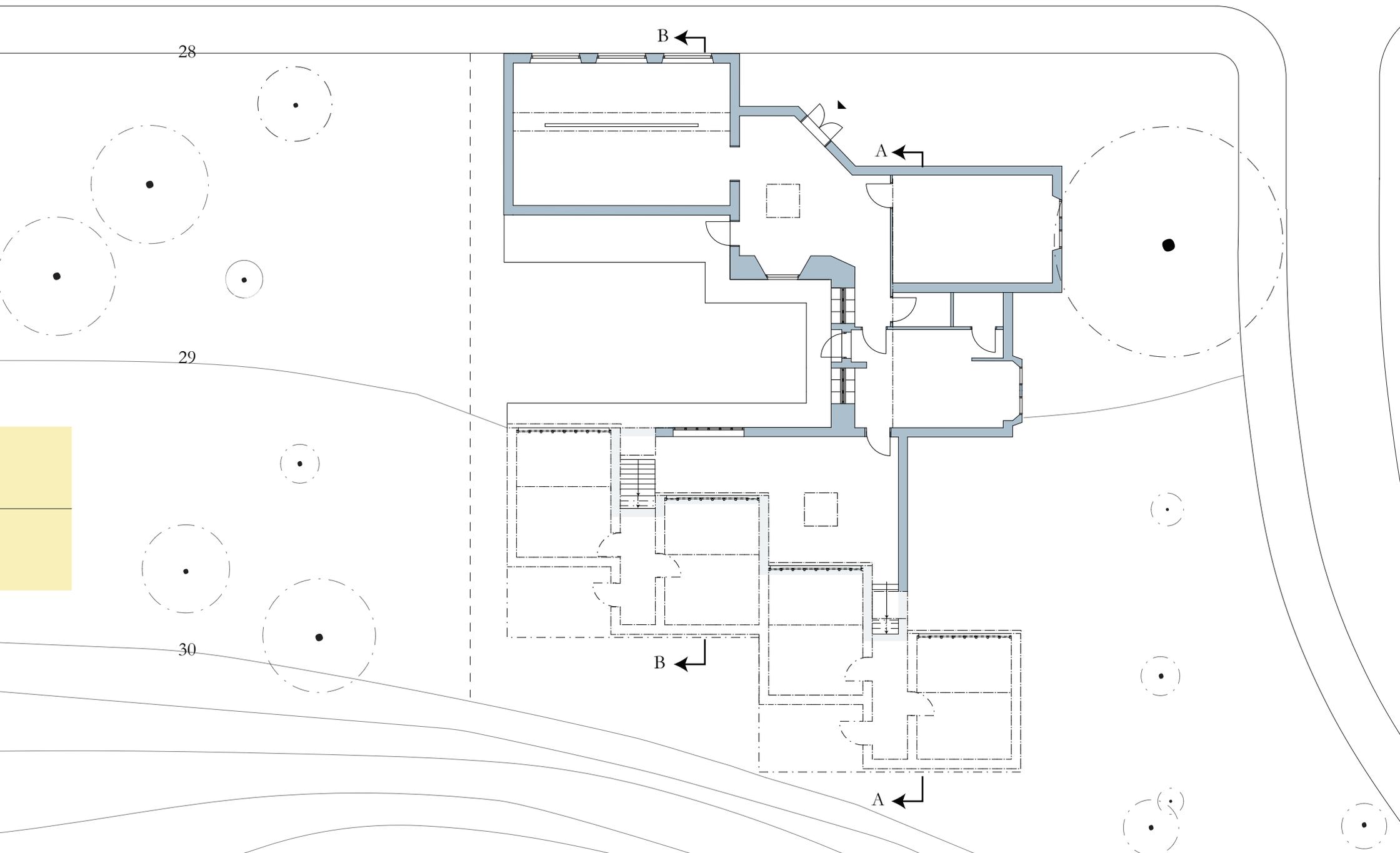




Light studies on site

January 29 2021 at 08.00,12.00 respectively 16.00.

Site Plan 1:200



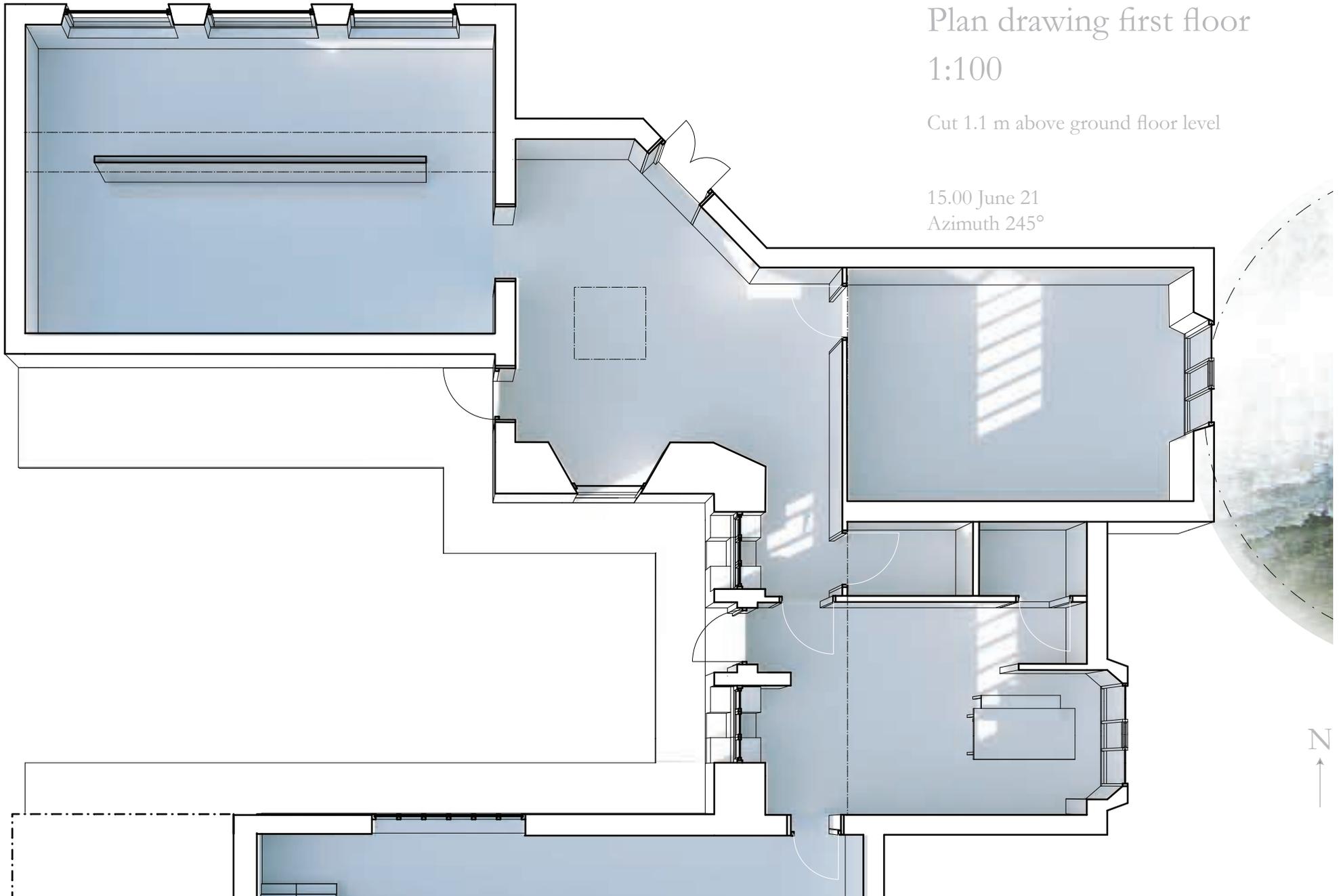
Plan drawing first floor

1:100

Cut 1.1 m above ground floor level

15.00 June 21

Azimuth 245°

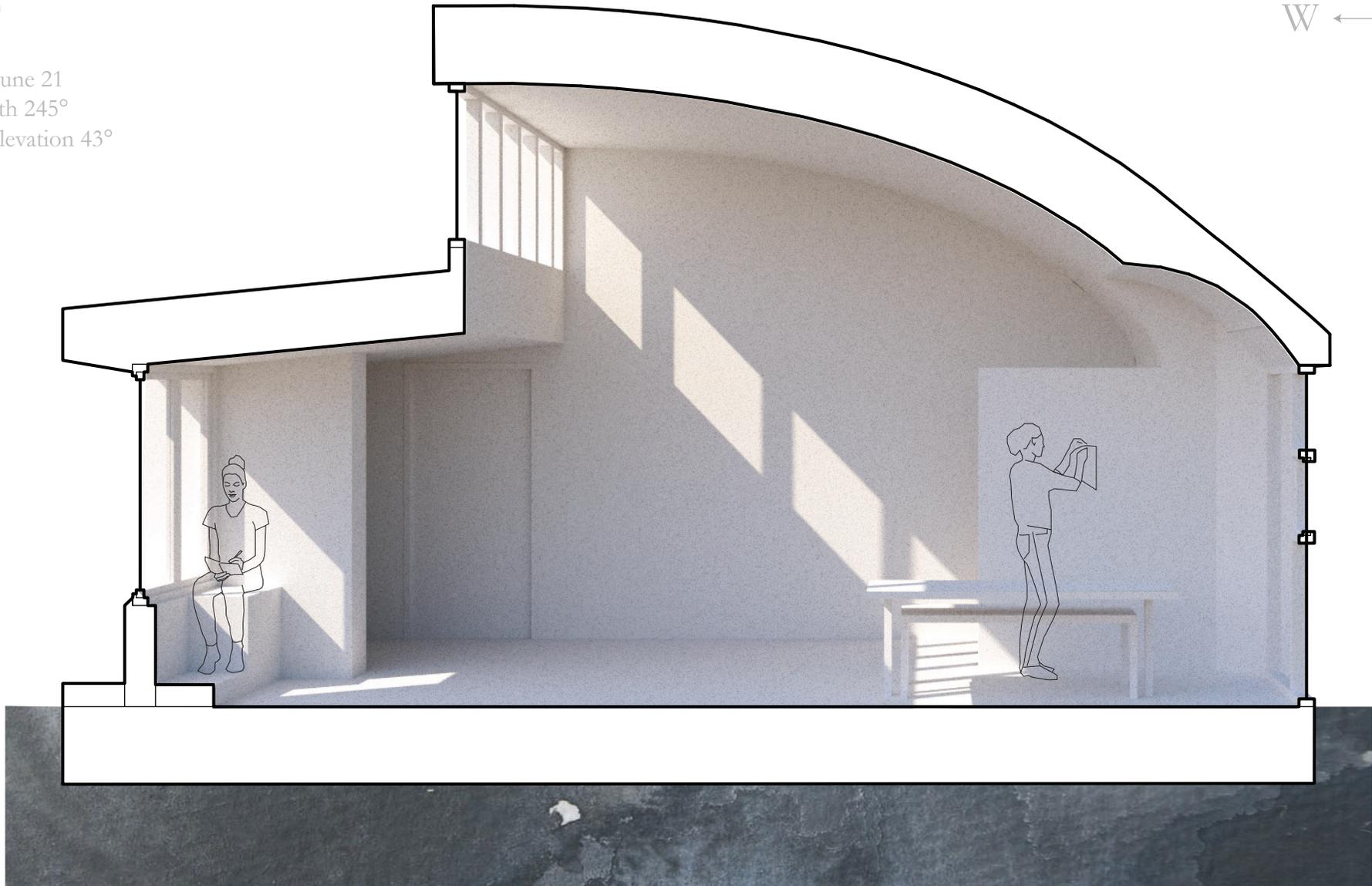


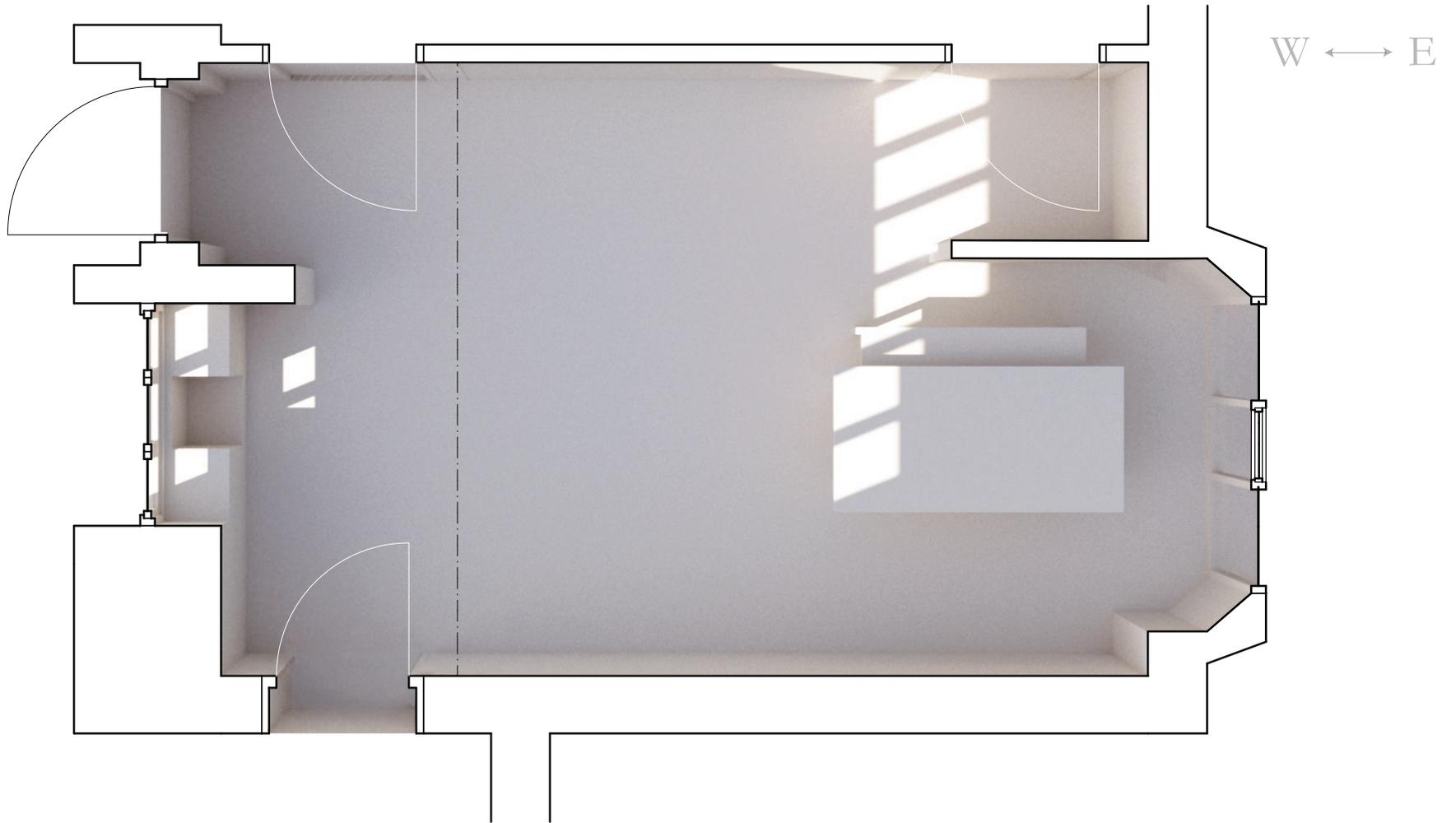
Spatial Window

1:40

15.00 June 21
Azimuth 245°
Solar elevation 43°

W ↔ E

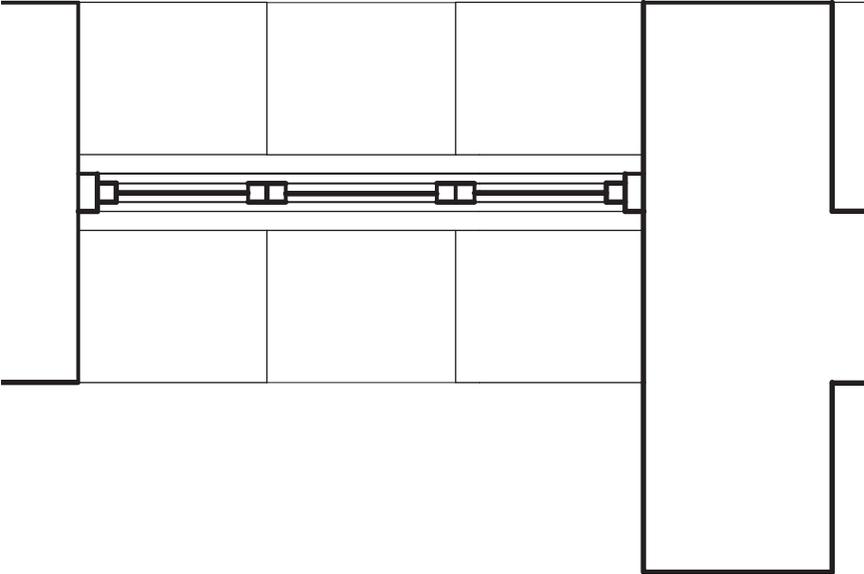
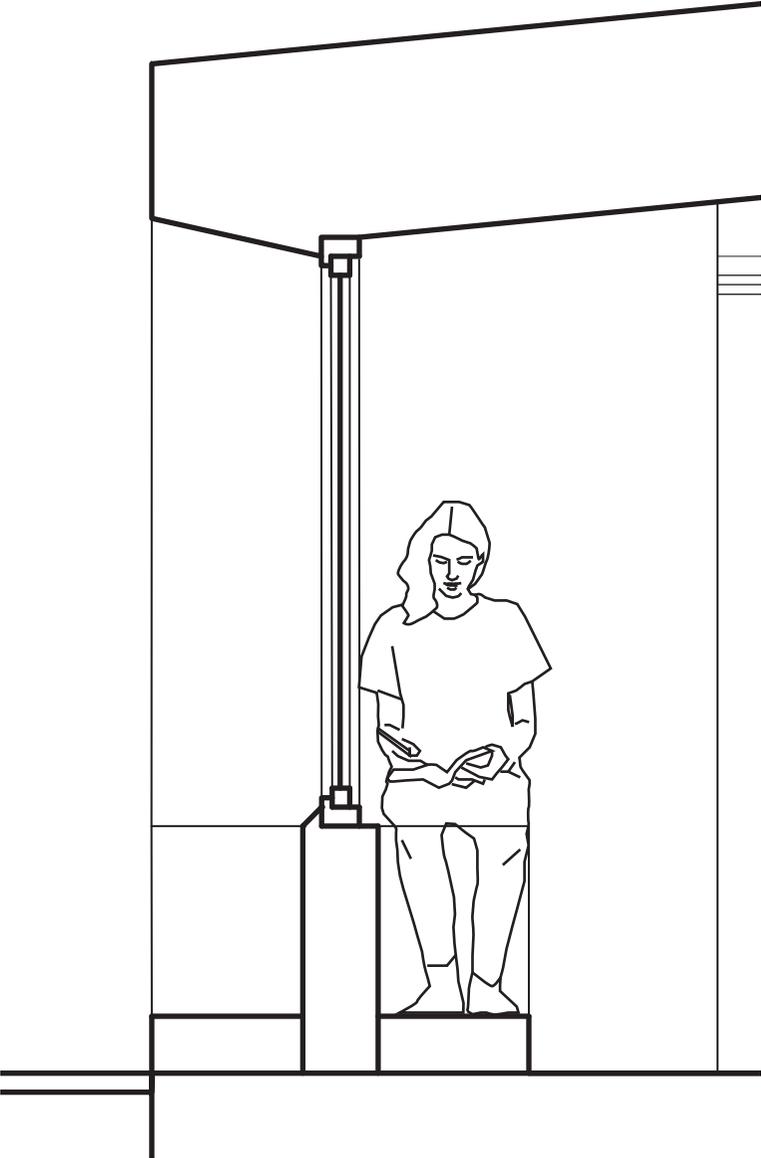


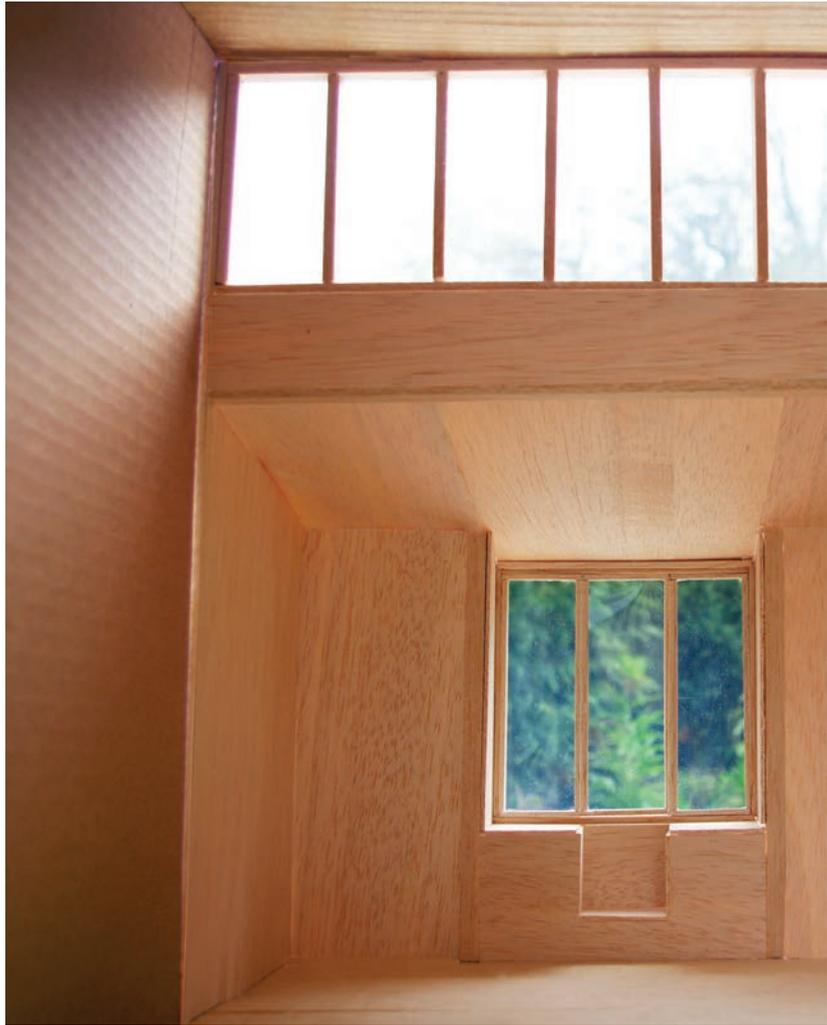


1:40

15.00 June 21
Azimuth 245°
Solar elevation 43°

1:20





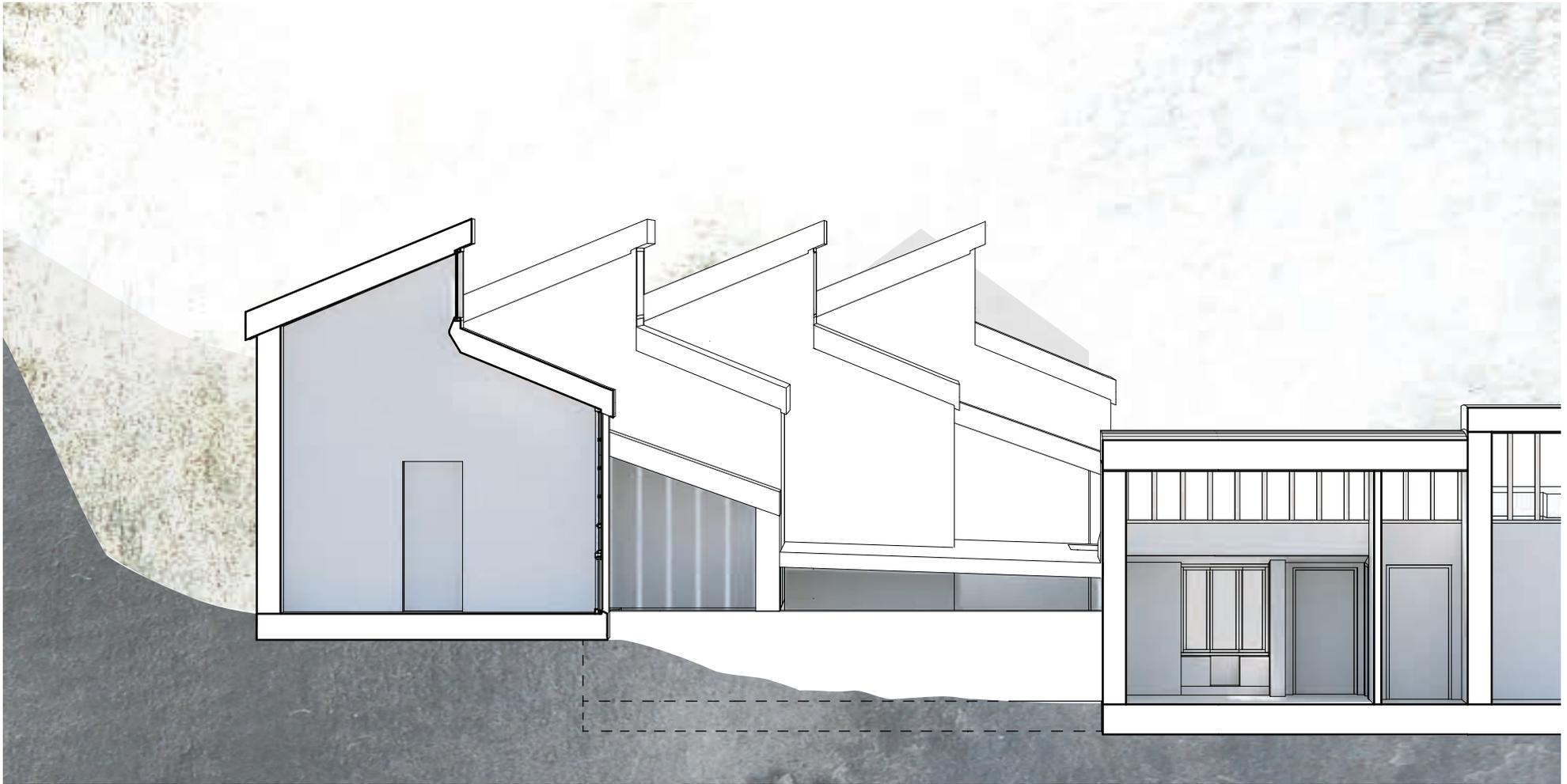
Model 1:10



St. Petri Church
Klippan, Sweden
Sigurd Lewerentz,
1962-1966

Plaster model to study
proportions between
window and seats. A
step up from floor.
Seats opposite of each
other.

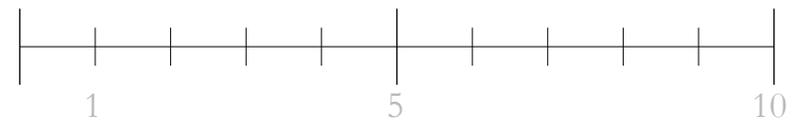




Section AA 1:100

S ↔ N

Meter



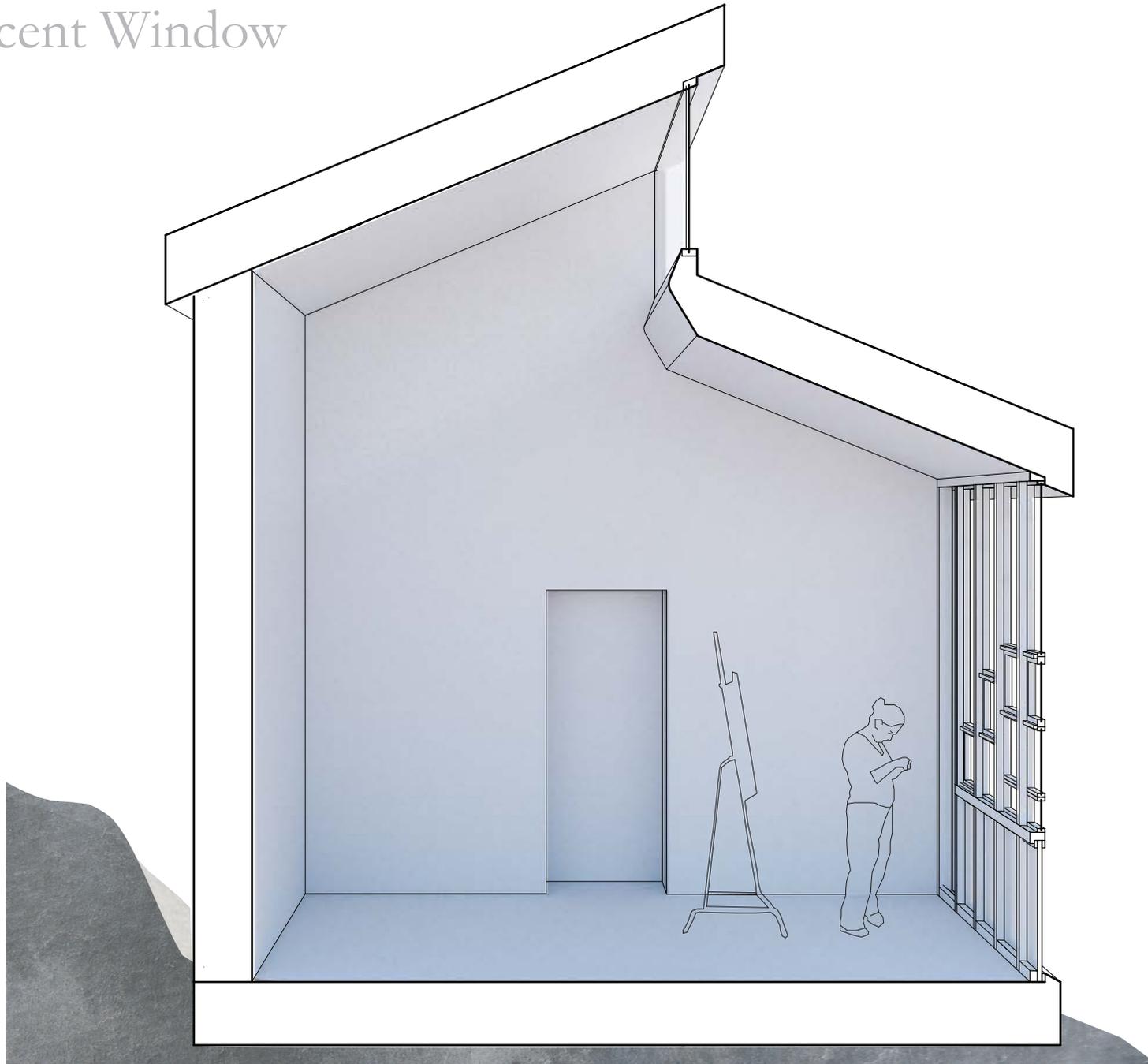
15.00 June 21

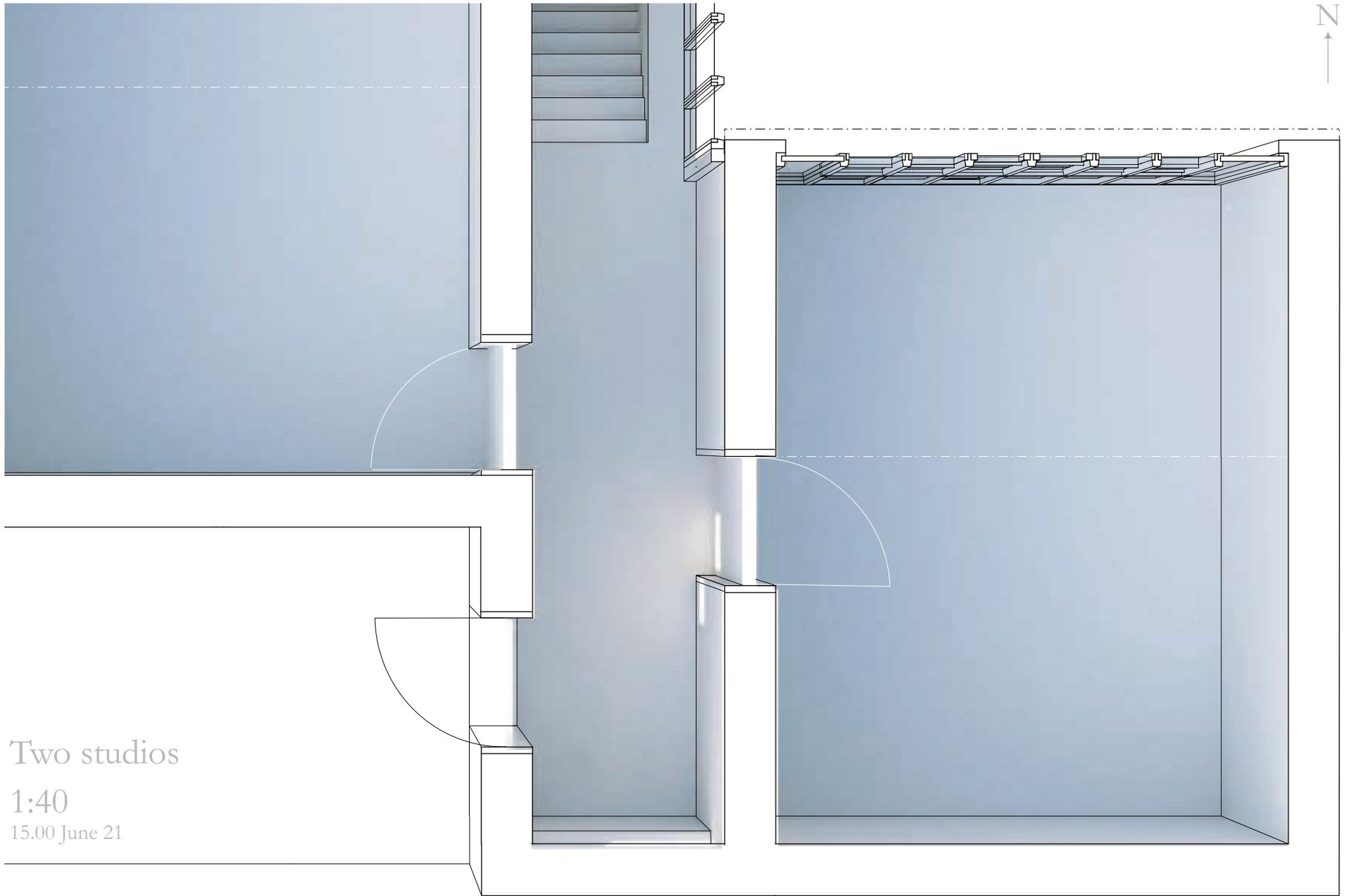
Translucent Window

1:40

15.00 June 21

S ↔ N





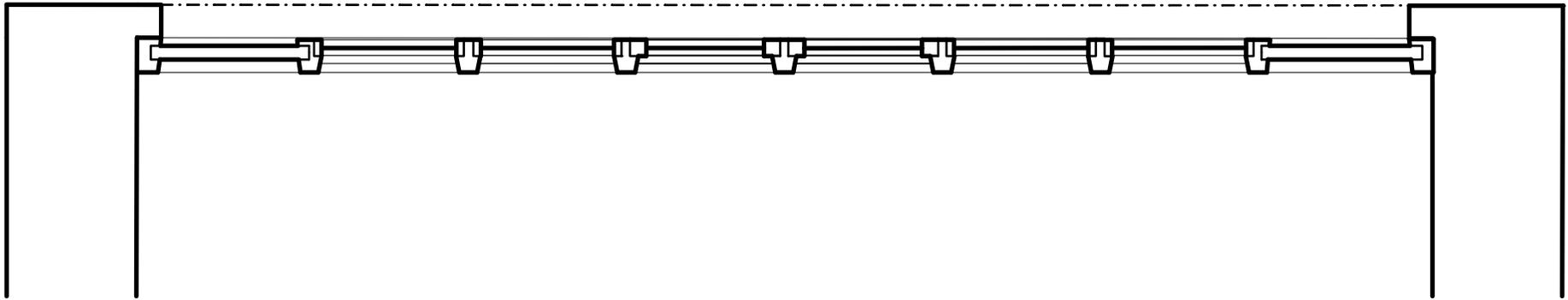
Two studios

1:40

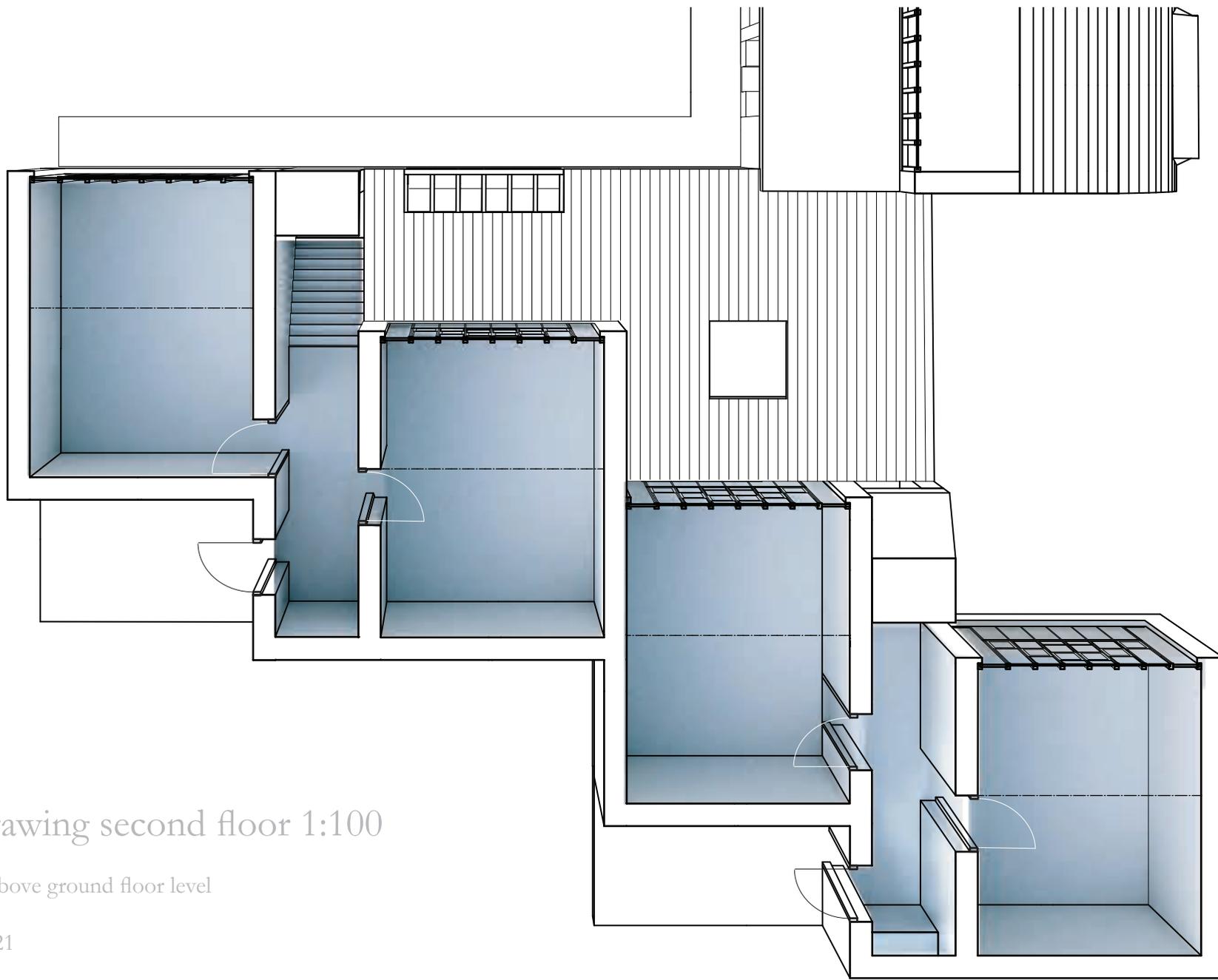
15.00 June 21

Model 1:10





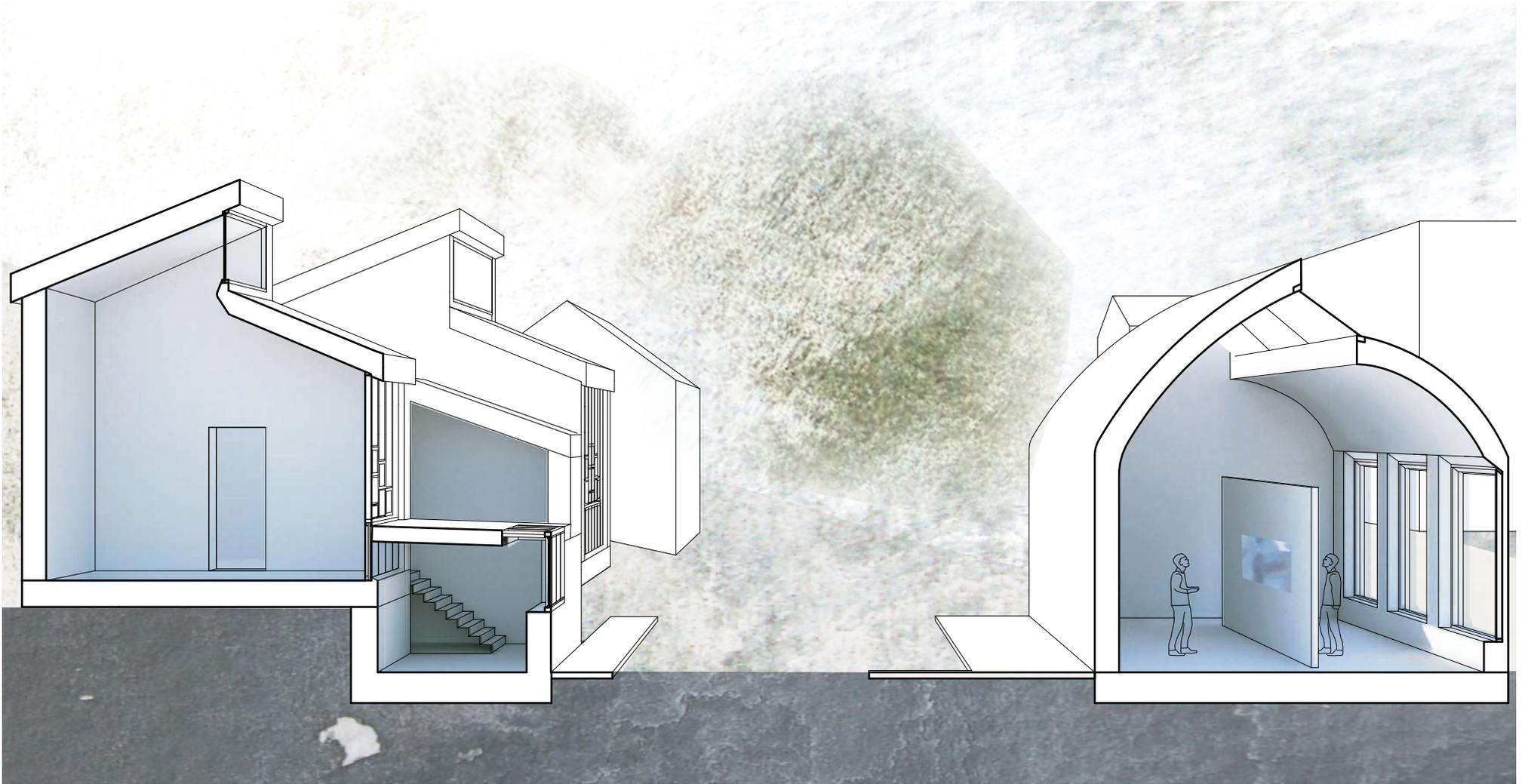
Translucent window 1:20



Plan drawing second floor 1:100

Cut 3.9 m above ground floor level

15.00 June 21

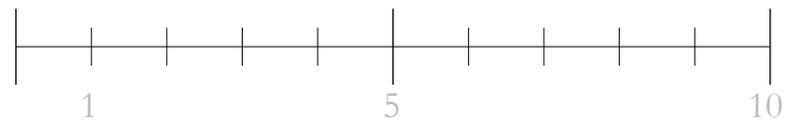


Section BB 1:100

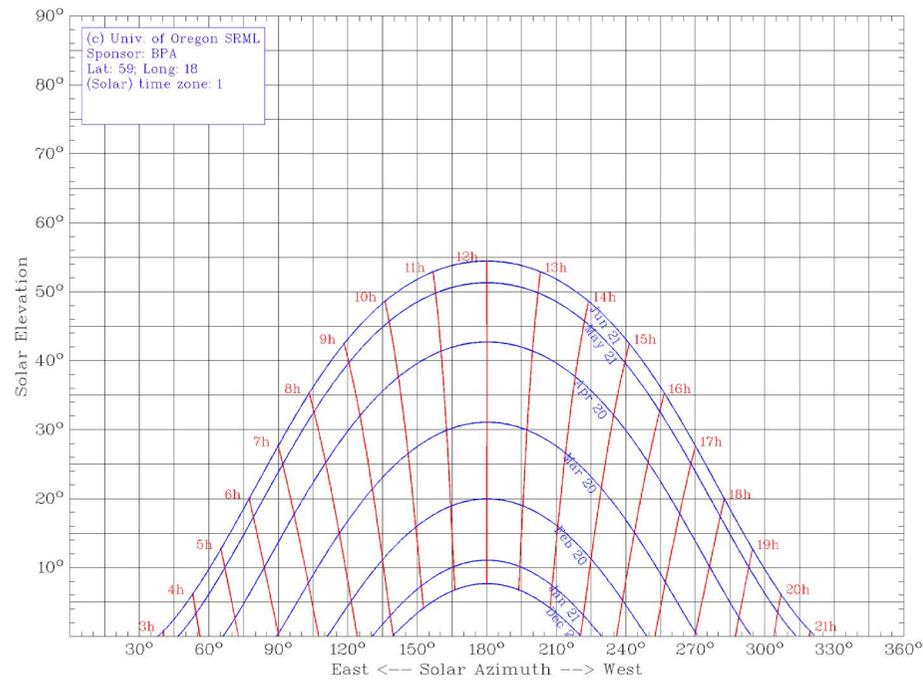
S ↔ N

Meter

15.00 June 21



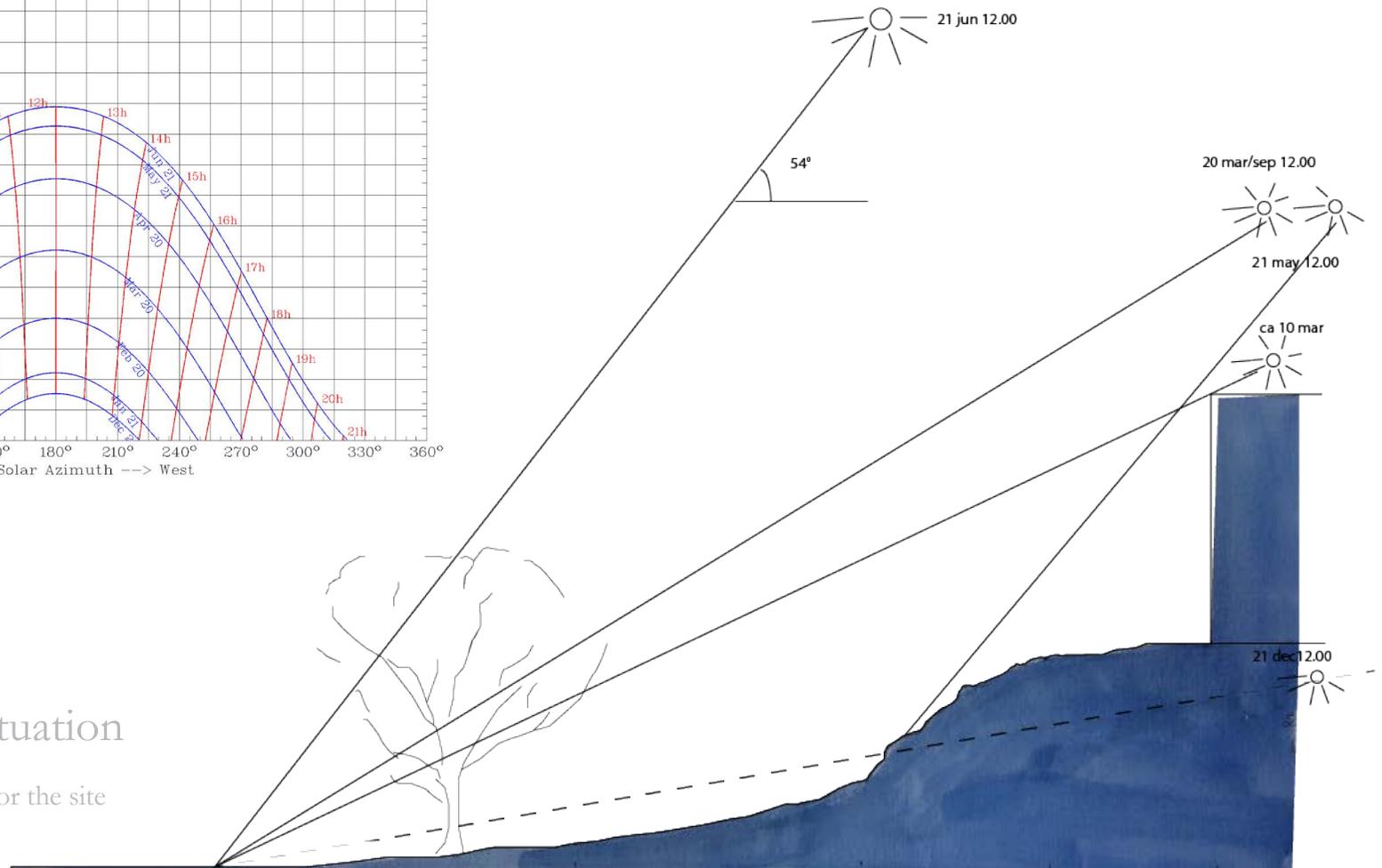
Process



Picture 24.

Investigating light situation

Annual changes of the sun path for the site



- Public space/ exhibition space etc.
- Semi public space/ shared spaces
- Private space/ studios

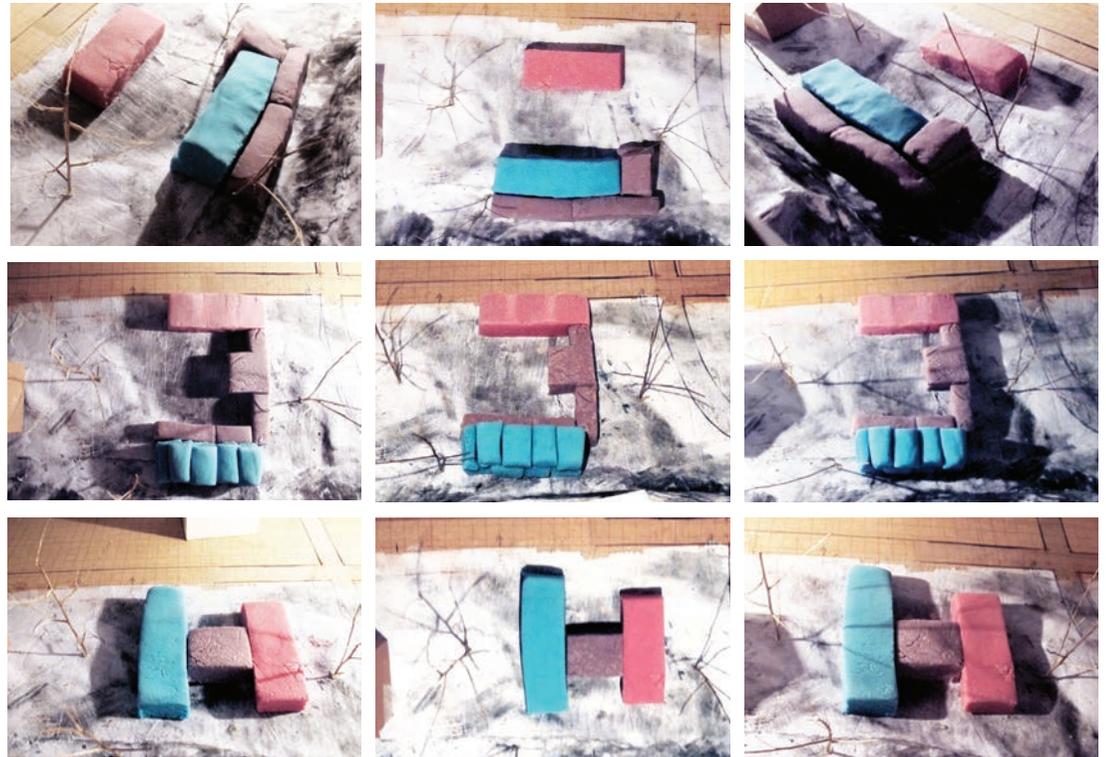


June 21 2021

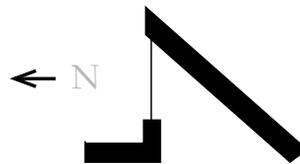
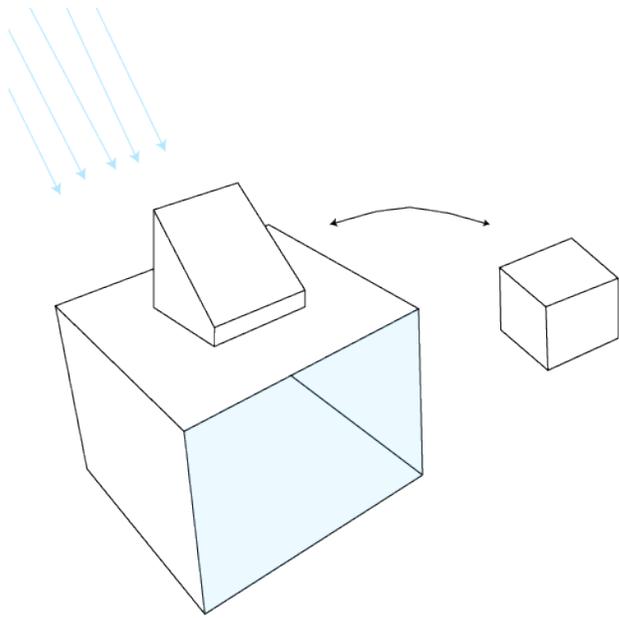
08.00

12.00

16.00



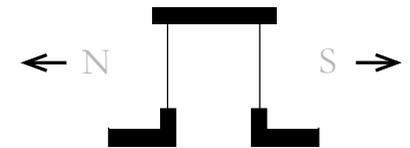
Volume studies



Sawtooth



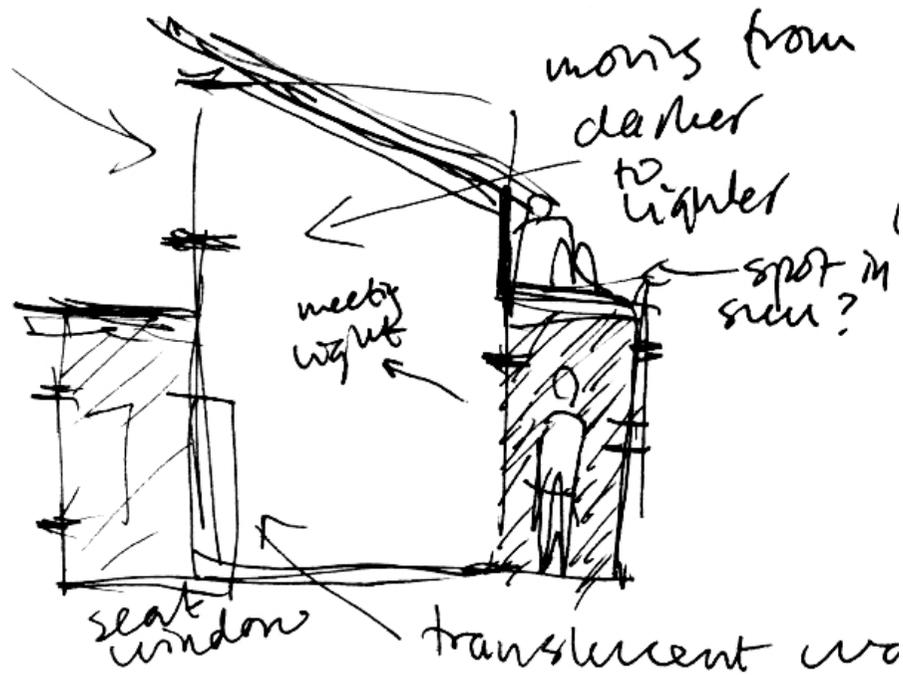
Clerestory



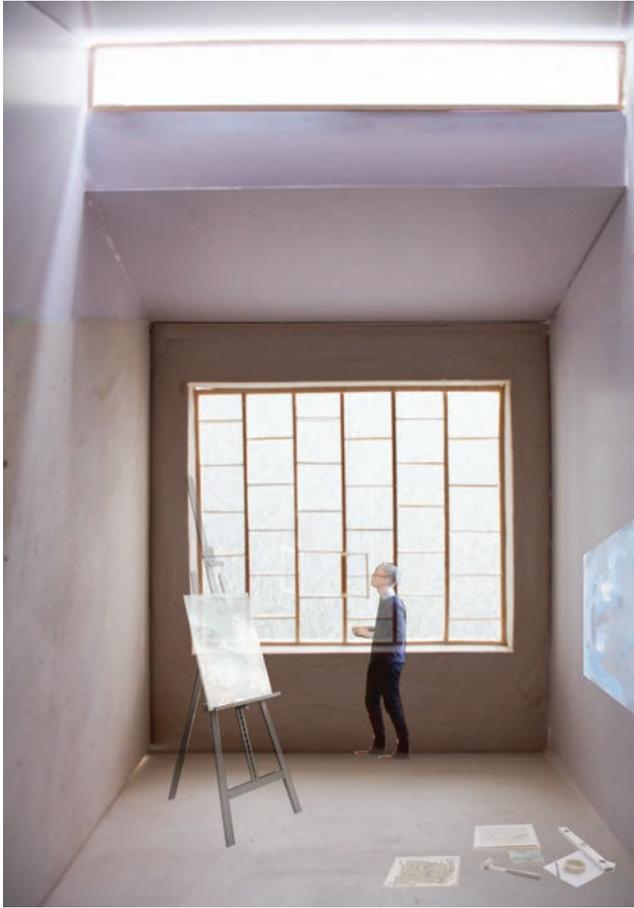
Monitor

Shape of roof window

Aiming to investigate if and how the roof window opening affects light situation in room. Illustration of model where blue arrows indicates light from north.



Sketches and models



Asking an Artist 1

Asking artist Patrick Kretschek about preferences of light, windows and spatial layout in a studio space:

I visited the studio collective Telefonplan studios to ask artist Patrick Kretschek about light conditions and spatial layout for a studio. His studio, originally not designed for this purpose, had windows toward south west meaning it could become very warm during summer and the possibility to open them was important. Since some placed so high up they are difficult to manage and the blinds often remains down because of that. Even though he don't particularly use daylight actively in his artistic process he considered the generous light intake important for the sense of space. Also, he noticed it creates a good environment for plants which contributes to a living atmosphere in the overall collective. From his studio there is a wide view of Konstfack and Patrick says he imagines one could take the view for granted but miss it if there is none. He has a low seat beneath the window from where one only sees the sky. The desk is placed away from the windows to avoid glare on screen. We move out in the corridor. The studios have glass walls to this side but many artists renting have put up curtains or such for securing privacy. Patrick says they have considered etched glass instead. Transit residence for artist is a studio collective adjacent to Telefonplan studios, its layout is the opposite to its neighbour with an open office landscape and no corridor. I talked to a woman working there, and she thinks this openness looks very nice but creates some problems of noise and lack of focus, and that a creative environment also must allow for concentration and working uninterrupted. They have some smaller rooms for group work and also a small space for resting. Here they also notice the many windows create very warm spots during summer and very cold ones during winter. They have a very close view to the people living in the house just next to them.

Asking an Artist 2

Asking painting artist Rogerts Bondesson about preferences of light and windows in a studio space, this is his response:

“There is really only one thing to do to create good daylight in a studio. Big windows towards north and skylight. That will make the room bright enough without direct sunlight. Because if it is anything you want to avoid it is direct sunlight. It is devastating both when it comes to work in as well as view paintings in. The roof window is important, because without it the room can get to dark.

Now, few people have the privilege to have a painter's studio with these properties. In most studios there used to be some other business previously. My studio at Konstepidemin used to be a doctor's residence in past times. It is spacious and good in many ways, but the windows turn towards west, which cause inconvenience during afternoons and a bit of the evening on sunny days, especially during the summer half-year. I have tried to solve it with light coloured window blinds but it still don't get quiet good. So, as stated, with windows turned towards north one avoids this problem. Considering the specific design of the windows, frames and such, I don't know what's best, but that they are somewhat big and easy to open is of course a benefit.

Some painters really can't think of working in any other light than daylight. Personally I am not as dependent on that, but do alright with fluorescent lamps with the proper daylight temperature. During the winter half-year it is by the way absolutely necessary with electric lighting in my studio. It gets too dark other wise.

Even in a studio with optimal daylight conditions I think one should also have good electrical lighting. Perhaps one sometimes wants to work when it is dark outside. A ceiling lighting, that gives a good general light is to prefer both when it comes to painting itself and other type of work.

In an exhibition room it is also important to avoid direct dunlight on the walls. A skylight can contribute to a beautiful general light, which is always better than more or less good spotlight lighting, which use to be the usual.

In the middle of the eighties, after the Valand years, me and a friend arranged an exhibition in an old missionary tent he had bought. This was in Småland, out on a quiet marshy meadow to where we lead the audience on a wooden footbridge. It was not easy to hang the paintings inside the tent but they came out in a fantastically beautiful light! A general light that varied with how the clouds travelled and sometimes hid the sun. The absolutely best light I have shown my paintings in. “

Adding: It is also good with a lot of free surface on the walls that have no windows, i.e all the walls except the ones turning towards north.

Studio Windows



Studio of Carl Milles
Stockholm, Sweden
Karl M. Bengtsson 1908, additions 1919 by Evert Milles.

Northfacing, high situated windows. Bays and curved ceiling transferring the light. Remodelling of windows and ceiling to maintain heat as well as due to fashion changes.



Studio of Carl Eldh
Stockholm, Sweden
Ragnar Östberg, 1919

Windows form an offset grid pattern. Some frames can be opened.

Discussion

In this project I wanted to explore the architectural element window from an interior perspective as a device affecting a space through its functions. The main focus has been on the function of letting in light. The exploration has been made through the design of a studio collective for painting artists. The thesis question: “how to shape and place windows to achieve purposeful light intake as well as integrity in an artist studio collective?” has been used to drive the project forward. Position, recess and translucency has been used as categories for exploration and considered in relation to the program of the project.

The subject of fenestration is relevant to the field of architecture not only because of health benefits of daylight when life is lead increasingly indoors. It can also be motivated with consideration of environmental change, understanding how to work with natural resources such as light and air to reduce use of for example electrical power.

The thesis questions was answered by designing a building and specific windows found in it, through considering the sun path, desirable light effects in relation to program, and investigating references. The thesis question of concrete character acted as a vehicle for the project and was helpful in its specific formulation.

I think the from within perspective of the project adds to the discussion about style within architecture. It can be interesting to strive to look at something from a functional angle to motivate ones design in contrary of motivating the form decisions from aesthetical preference, something that is not unimportant but risks to become hollow and loose its original appeal if only reproduced and applied. The ambition was to break away from the image of the window and let the form materialize through functional needs. However this proved easier said than done as preferences and inclinations inevitably seemed to colour the choices and the way I used the references could have been less literal. The design of the specific windows could have been more experimental and incremental.

The within perspective can also be thought of as the attempt to put one self in the position of the user of a building, an ambition I think is fundamental but also easy to lose when working with planar drawings that seem to easily become an abstract picture. Working in digital model ,with the possibility to zoom into the space, as well as physical model

helped me to think spatially as did visiting the site. Speaking to artists about windows and light was also a way to understand the user.

For me, the project was successful in the sense that I put an effort in working with space, the relations between elements, between the windows and the rooms, rather than with form from the outside and by so avoiding architecture to become sculpture. Understanding and representing interior light was a big part of the project and using a computer programme to accomplish this was efficient to understand how light would fall through the windows. However I found it more difficult to describe the character of the light by this method. I had wished to show the light with more texture and liveliness. It was also an issue to describe this in the light program to know what to look for, since light seem both subjective and diffuse.

The operability and complexity of a window gives it a technical character that also made me unsure to make up my own windows and during the process I though myself sometimes restrained by reality, perhaps it would have been better to let imagination flow first and then try to research what's possible.

I think a careful consideration of the design of a window can change the sensation of an interior space not only due to supply of light and air but also in the way the exterior is exposed and involved with the interior, how the world outside is presented and framed.

This project has given me as architect student insight in my own process, reflections in what informs design decisions and practical experience in possible ways to work with daylight and fenestration in mind.

Student Background

Degree of Bachelor of Fine Arts in Architecture
Umeå School of Architecture

Master studies

Chalmers University of Technology
Within program Architecture and Urban Design:

Matter, Space, Structure 1
Spatial Morphology Studio

Sustainable Development and the Design Professions
Nordic Architecture
Architectural Competitions
Body, Space, Image
Masters Thesis Preparation Course 1 and 2

Other courses

Churches and Monasteries, Towns and Castles - Stockholm University
Architecture and Gender: Introduction - KTH
Landscape as Memory, Representation and Construction - Stockholm University

Preparatory art school

Elementary year
Painting

Photography by author.
Part of bachelor's project -
light intake for a building in
Dharavi, India.



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