TA I TRÄ

Exploring the tactility of wood for a restaurant environment

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Abstract

"Ta I trä" is the Swedish translation of "Knock on wood". A direct translation would be touch wood. The saying "ta I trä" or "knock on wood" is said in order to avoid bad luck.

Touch is arguably a very important sense in architecture. Touch is a huge part of how we experience and navigate the world. Our ability to touch helps us understand and explore our environment, as well as connect with people. There is a gap in today's architecture, where touch and tactility are undervalued and a bias toward vision predominates. Limiting architectural design to only its strongest visual moments gives a one-dimensional experience.

Architecture is far from just a visual experience. It is an extension of nature in our built environment. In a similar way to a forest, architecture engages all our senses, creating a richer experience of space. As with the forest, food is an experience that involves all the senses. Sight, touch, smell, taste, and hearing all influence each other in a complete sensory experience.

The design proposal is a wood building and a multisensory restaurant, which is a concept that focuses on treating all the senses to create an immersive experience that enhances the flavor of the food. It is located at Kungstorget in Gothenburg which has a history connecting it to both wood and food. The thesis works with textural investigations and iterations exploring a variety of technics that can change the visual and touchable tactility of wood. The thesis explores both tactility and design with the goal of making a more tactile and touchable architecture.

Some research suggests that wood, tactility, and touch potentially could affect emotions and mental health. The design proposal is made with the focus on making a more tactile and touchable architecture with the knowledge that it potentially could have deeper effects than just spatially.

The first conclusion made for this thesis is that you can use closeness in design by either working with the material to human or human to the material, as a way of creating opportunities for touch. The second conclusion made is working with surfaces we naturally touch and surfaces we naturally don't touch. Because we explore with touch, we can use more complex or unique textures on surfaces we naturally don't touch which potentially could invite touch.

Keywords : Tactility, Touch, Wood, Restaurant

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Student background

2016 - 2019 Chalmers University of Technology
Architecture bachelor

2021- Intership at White architects
Architectural intership in Gothenburg

2019 – 2022 Chalmers University of Technology
Master of "Architecture and Urban Design"

Material & Detail
The task was to design a lightweight construction using 3D printing (additive manufacturing) on the roof of a building in Woppertall, Germany.

Spatial Morphology
With the use of space syntax and scientific references I made a project using densification as a way of framing and shaping streets and public spaces in Biskopsgården.

Mater, Space, Structure
I was investigating the possibility to use small scale traditional wooden joints in large scale structures and how these joints would translate in terms of aesthetics and structure.

BACKGROUND & CONTEXT

Aim
The aim of this master thesis has been to explore tactility in wood and its relation to touch in the context of a restaurant and dining experience.

Question:
How can spaces be designed in a way that invites touch through material tactility in wood, and how can such an approach be applied to a restaurant environment?

Tactility

Touch is strongly connected to tactility which often is described as a two-dimensional vision. Tactility is not only important for what we touch but for all senses. Humans have five basic senses, touch, sight, smell, hearing, and taste. Touch is arguably one of the most impactful senses, and the first sense we develop. It is how babies explore the world and interact with humans, and it is still a big part of how we experience and navigate the world as we get older. (Skedung et al., 2013).

Tactility is can be described by combining geometry, texture, and light/shadow. The overall geometry or shape of the surface is the most visual aspect. An object's geometry can impact our perceptions of its tactility. Texture can be visual but is above all a touchable property. A surface texture can be smooth, rough, bumpy, and glossy among others. The texture can affect how we feel about an object, but the science is not clear-cut. Light and shadow are of great importance to the tactility of space. Neither light nor shadow is purely a visual sense. Light is what changes space through time and a well-lit material creates warmth that welcomes our touch (Pallasmaa, 1996).

Multisensory Dining

There are a lot of different types of restaurants and some of them use a theme to enhance the experience beyond what a normal visit to a restaurant would be. One theme that is rising in popularity is multisensory dining. This is a concept that focuses on treating all the senses to create an immersive experience that enhances the flavor of the food. It is designed around giving extra focus on all the senses in unique ways that not only affect the food but the environment the meal is eaten in. In multisensory dining, it is more than just the food. Customer's opinions are very much affected by the atmosphere of a restaurant. And touch is not only limited to the food consumed but also to the ambiance offered by the design of the restaurant (Peter 2017).

The first multisensory restaurant in the world was Ultraviolet in Shanghai. It uses sight, sound, and smell to create a sensory experience enhancing the food. The dining area is designed to have no windows and no paintings on the walls but instead uses scent projectors, UV lighting, wall projectors, beam speakers, and a multi-Channel speaker system. These are used in different ways depending on the course being served (Rae 2020).

Wood

Wood is a porous and fibrous structural tissue found in the stems and roots of trees and other woody plants. Humans have used wood for centuries as fuel, tools, and structures. As a construction material wood has been important ever since humans started building shelters and boats. In modern construction engineered wood is becoming a bigger part of the industry. Natural and engineered wood can be used as both structural and aesthetic materials. Wood is often used as cladding, interior, and roof construction even when the structure is not wood. Wood has a lot of qualities like sustainability, strength, flexibility, mental health, and speed of construction and in the time of climate change wood is the only renewable construction material worth mentioning.

Wood can be reused and recycled. For example, doors or windows can be reused as-is or as pallets or packaging. Once the wood is no longer reusable you can still grind down the material for use in fiberboards or other sheet materials, and if this is not possible you can always generate energy through incineration (Swedishwood.com).

Manufacturing

Wood naturally has a range of tactile finches, different types of wood, plywood, cork, and MDF among others. It also exists a large variety of surface treatments that effects the tactility of the wood, paint, burning, sanding, and CNC.

There are a lot of possible ways to produce tactility in wooden surfaces. Some techniques are new, and some have been around for hundreds of years. With new digital tools and construction methods wood has more possibilities than ever and, in some respects, more possibilities than any other conventional construction material.

NOMA 2.0 / BIG

Noma 2.0 is an award-winning restaurant designed by BIG and Studio David Thulstrup, situated in the community of Christiania. Noma 2.0 is a 1290 square meter highly tactile experience where each of the 11 spaces uses the finest materials best suited for their functions. Each of the buildings is connected by a glass roof making the natural environment a part of the experience.

Noma 2.0 has been the main reference where it has a similar size and a tactile atmosphere throughout the building. (Castro, F. 2018)

Restaurant Tori Tori Santa Fe / Esrawe Studio

Tori Tori Santa Fe is a 720-square-meter restaurant in Mexico City, Mexico. It was built in 2020 and was designed by architects Esrawe Studio. The restaurant has a monochrome atmosphere inspired by Japanese craftsmanship.

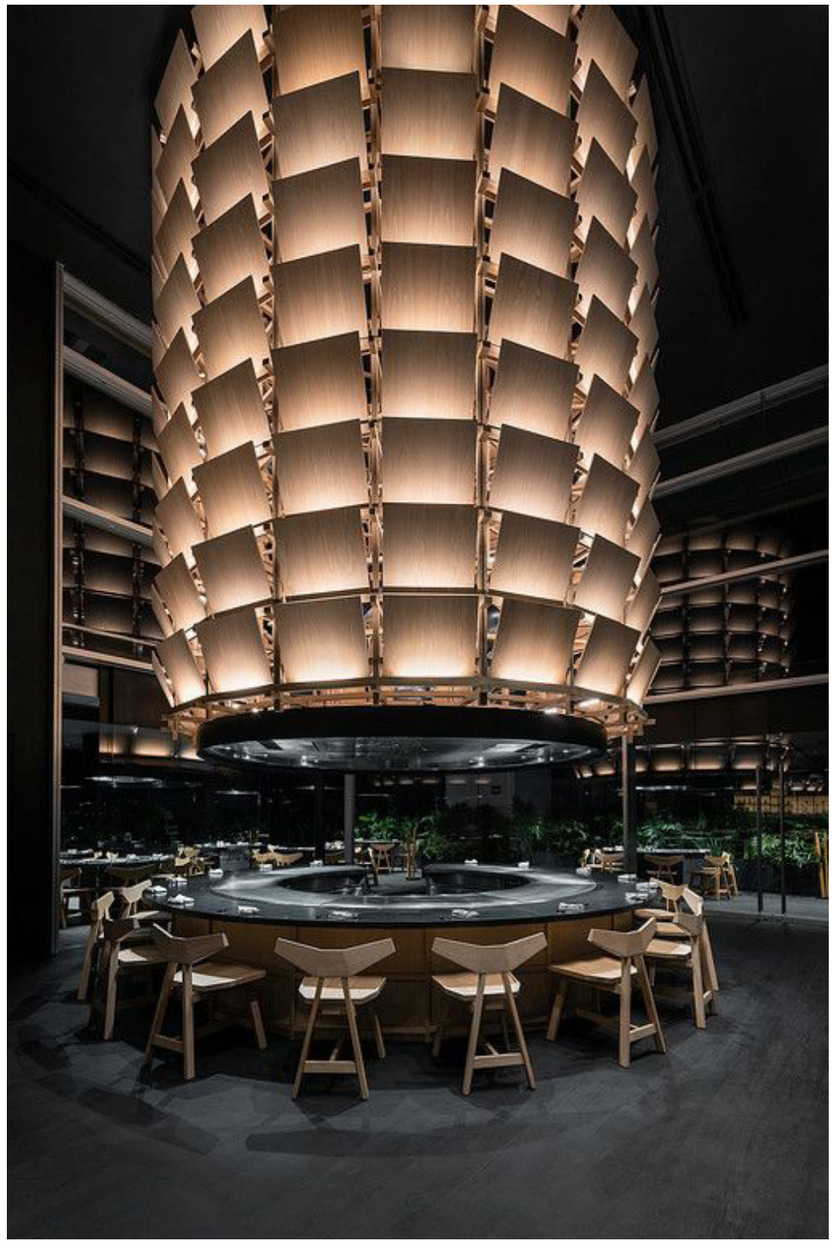
This has been a reference for both size and the wide use of wood in its design. (Ott, C. 2020)

Edition Coffee Roasters Haymarket / YSG Studio

Edition Coffee Roasters Haymarket is a smaller Scandi-Japanese-inspired 110-square-meter cafe in Darling Square, Sydney designed by architects YSG. The design is an all-back very tactile environment using materials such as rendered rock, Shou sugi ban, and granite.

This project has inspired the use of natural tactility and closeness to materiality. (YSG. 2018)

NOMA 2.0 / BIG



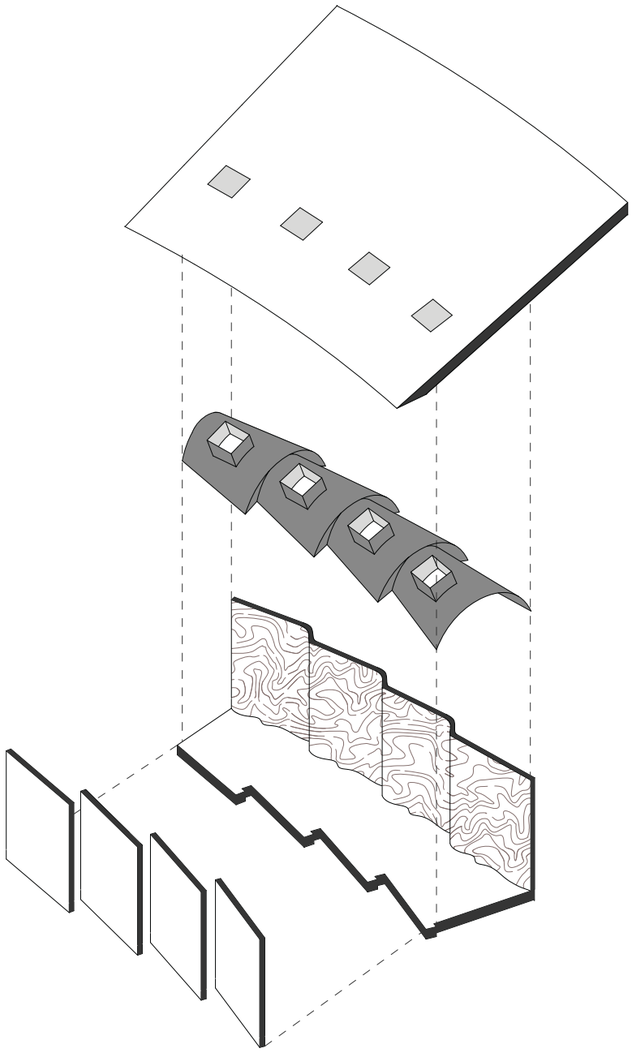
Restaurant Tori Tori Santa Fe / Esrawe Studio

Edition Coffee Roasters Haymarket / YSG Studio

CASE STUDIES

The thesis explores five different case studies on spaces based on references to similar restaurants. The cases chosen are a corridor, façade, private dining room, main dining room, and lounge. The point of these case studies is to explore how design can invite touch and how a material can be closer to the people using the building. It is also a way of testing and exploring how different levels of tactile wood textures can be used in a restaurant environment.

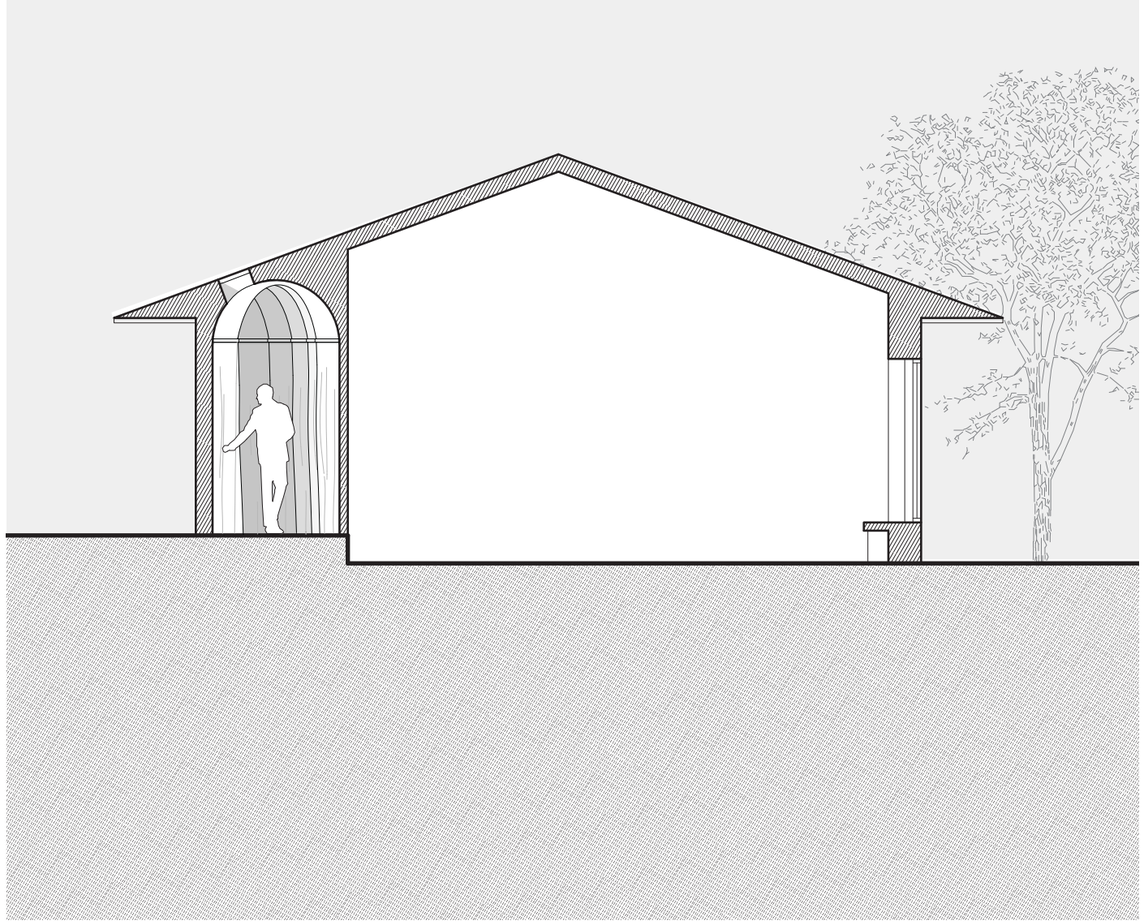
Corridor



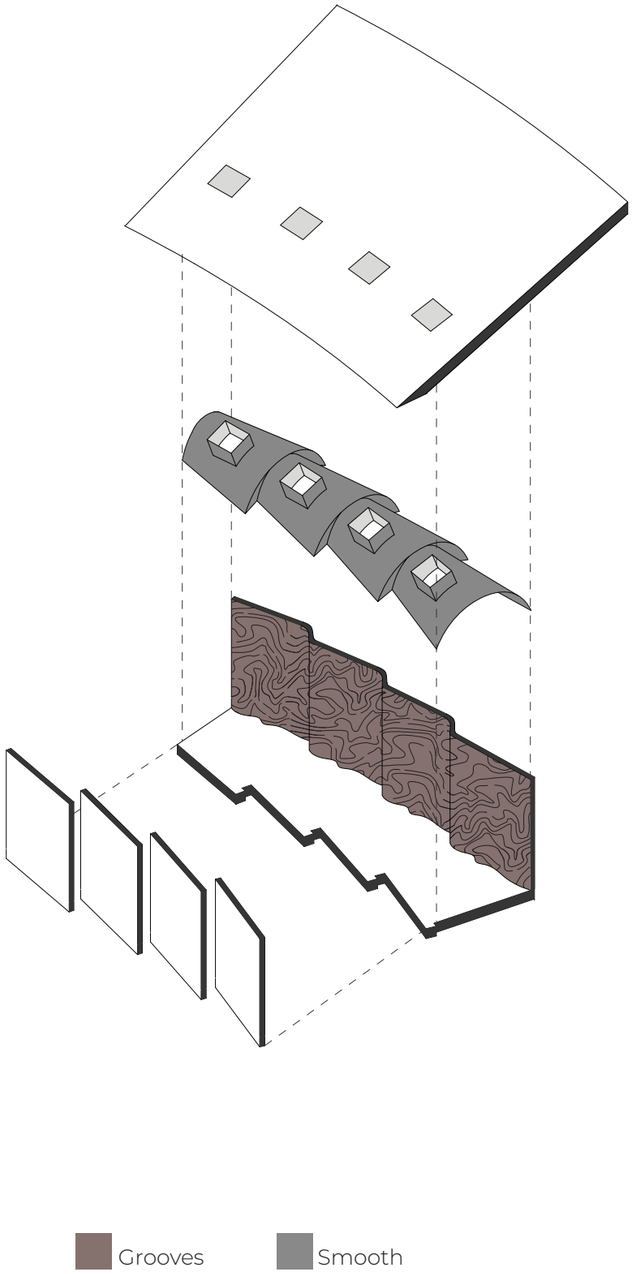
Angled wall for closeness

The wall of the corridor is angled to get the wood closer. The angle gives a space that is both close but open to not make it feel cramped. This shape also hides doors and windows during the journey to dining, giving as much focus as possible to the wood and textures.

To maximize light and warmth to touch windows are placed both on the wall and on the ceiling. To get even more light the ceiling is rounded to reflect light. The geometry used in the corridor is based on tests done with patterns that could potentially affect our emotions. The result used in the final design is the surface that both gave the longest unbroken touchable surface and at the same time creates motion and depth for shadows to give life to the object in light.



Corridor



Wave geometry

Fabric shaped geometry

Smooth surface

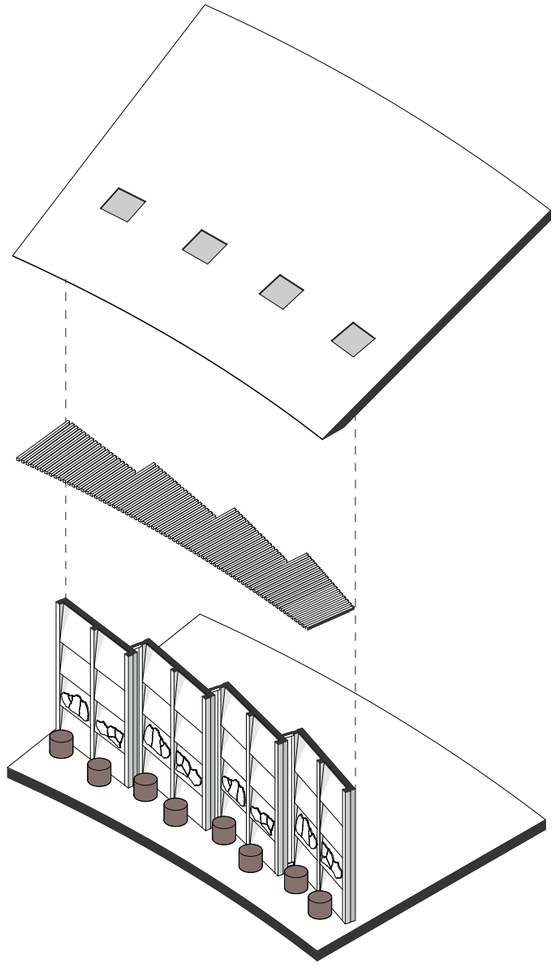
grooved surface

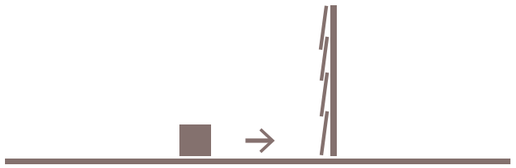
Corridor

Prominence

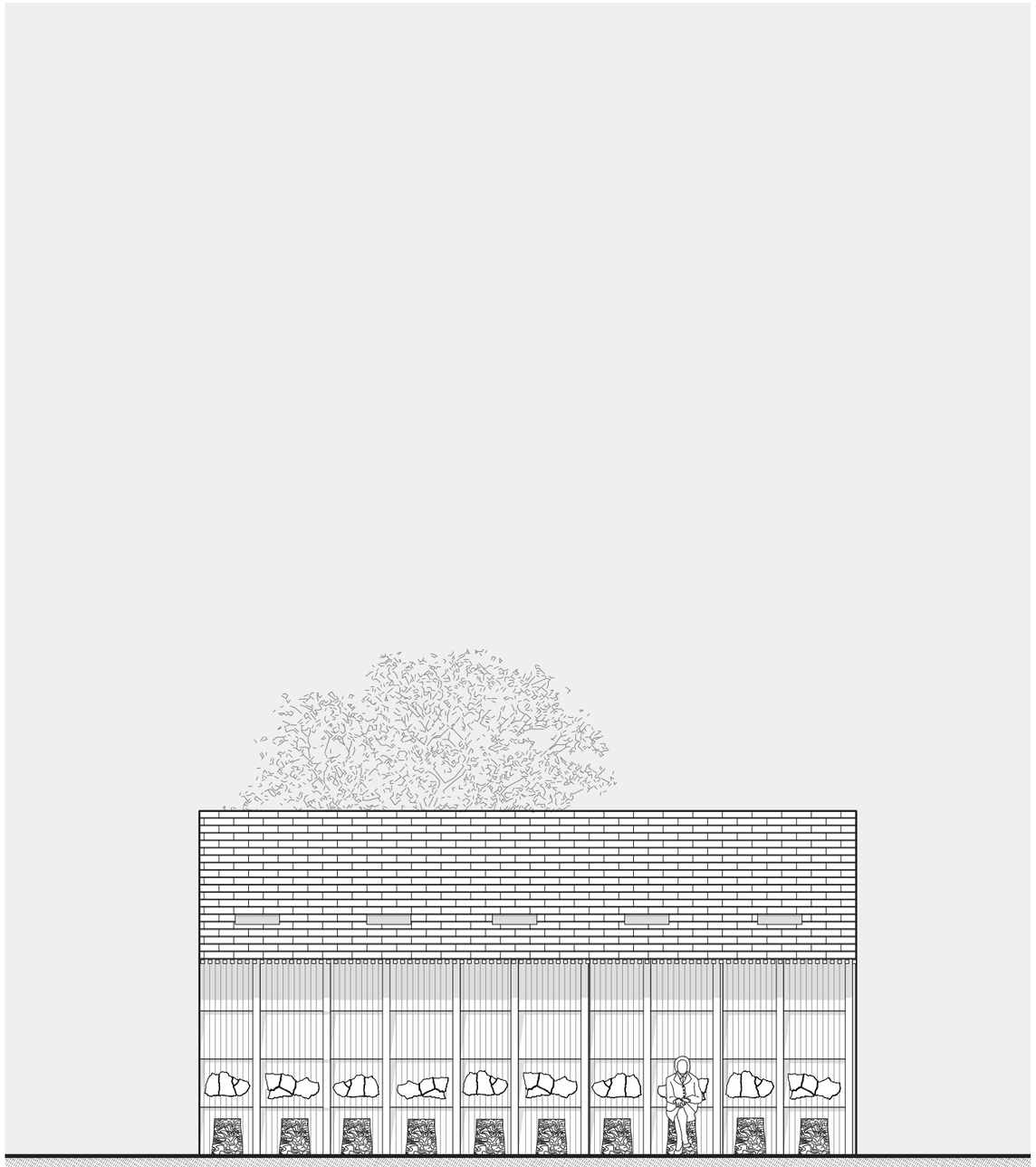
The walls have a natural and uncoated surface to emphasize the wood texture. The wall uses a slight CNC grove surface to both hide dirt and create friction heat when touched while walking giving the touch sensation another dimension. Both grain and CNC angles are vertical to create give more friction when touching than if the grains were going horizontal. The surface on the ceiling is smooth maximizing reflecting light.

Facade



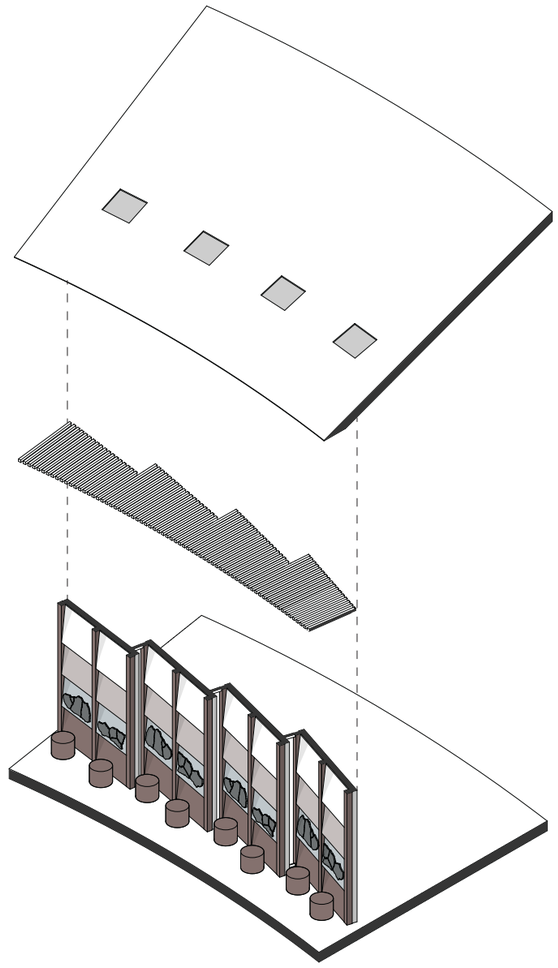


Bring seating to the facade



The design of the façade is inspired by the visual and tactile properties of the burnt surface. To make a division between the surfaces and symbolize the distance from wet areas a burning material fade is used, being strongest on the ground and on the roof. Placing seating along the façade invites more eating guests than just the ones of the restaurant. The seating along the façade is a way to invite closeness and opportunities to touch the surface.

Facade



Charred

Bruned and brushed

CNC Carved

Lightly burned

CNC Carved

Lightly burned

burned and brushed

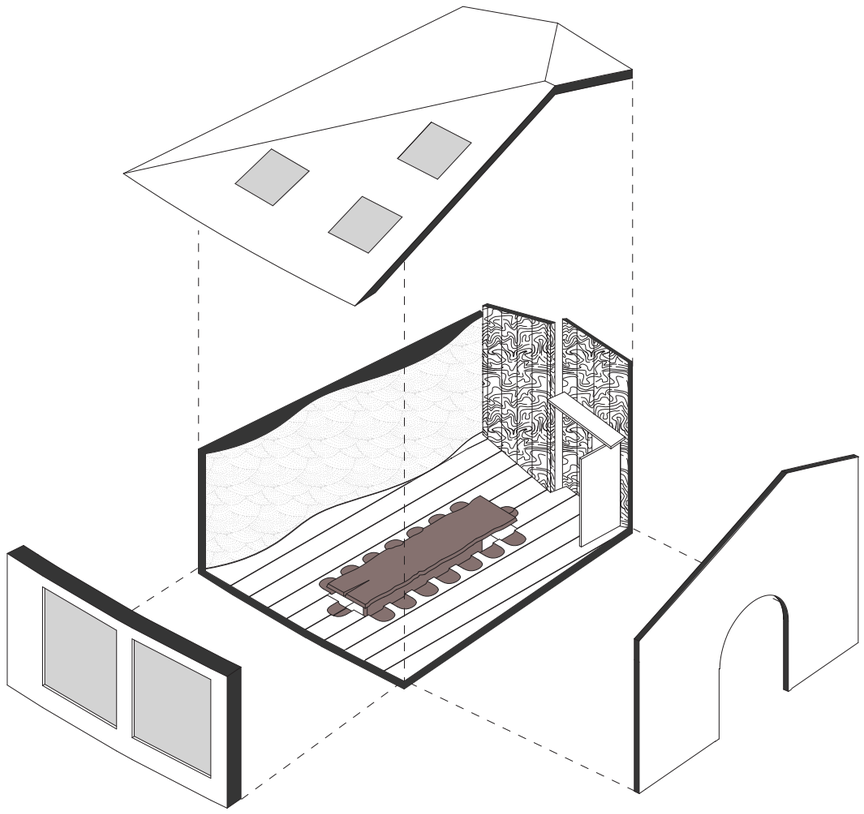
Charred

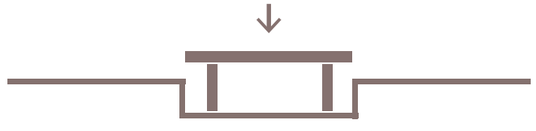
Facade

Weathering

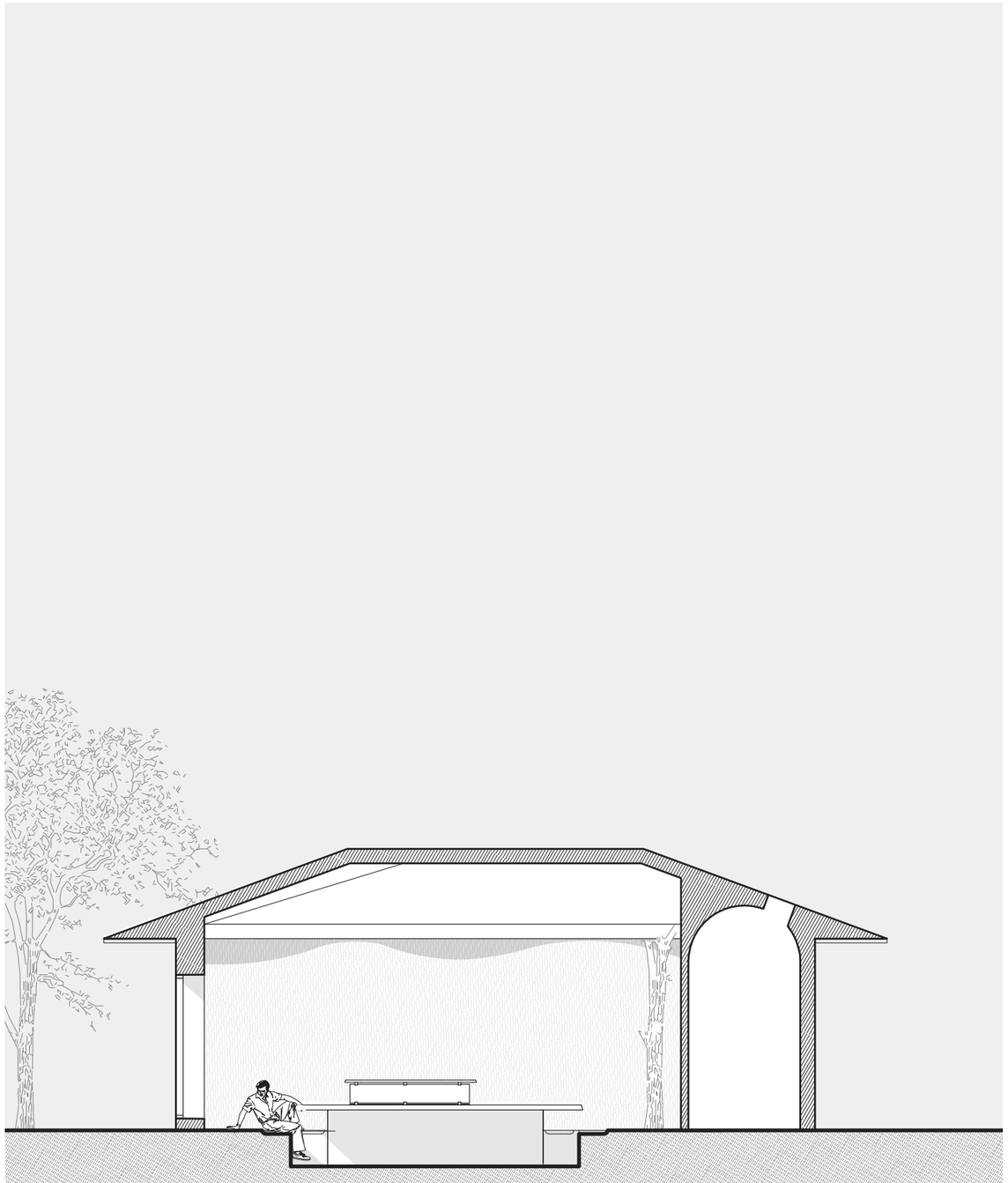
Burning is interesting because it visually can change both visual and touchble tactility. In some cases burning even reduces the tactility of the surface. The technique of burning wood might not mainly create a touchable tactility but rather gives visual tactility that can affect our perception of how it will feel to touch. The backrest has a carved surface giving it a tactility that can be felt even if just used as a backrest.

Private Dining



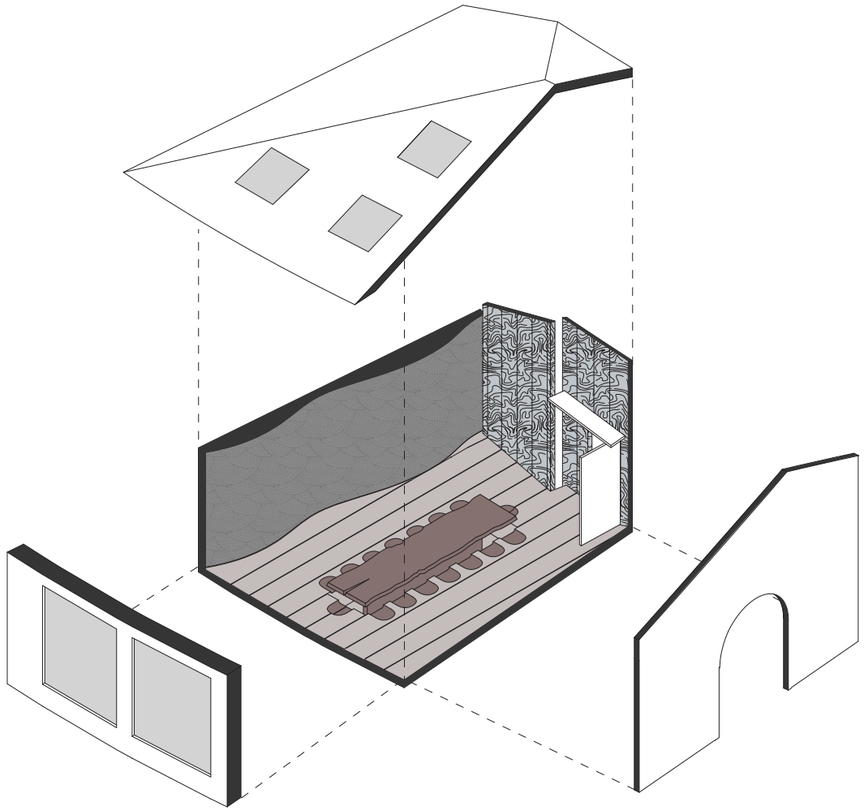


Lower seating and table



This concept of the private dining room is based on brushed wood which has similar properties to an old wood floor. To create a natural way of coming closer to the material the seating is moved to the floor and the table is an extruded part of the floor. The soft shapes of the wall are inspired by nature and the forest.

Private Dining



Hand-brushed
Carved
CNC Bark
Machine-brushed

Hand-brushed

Machine-brushed

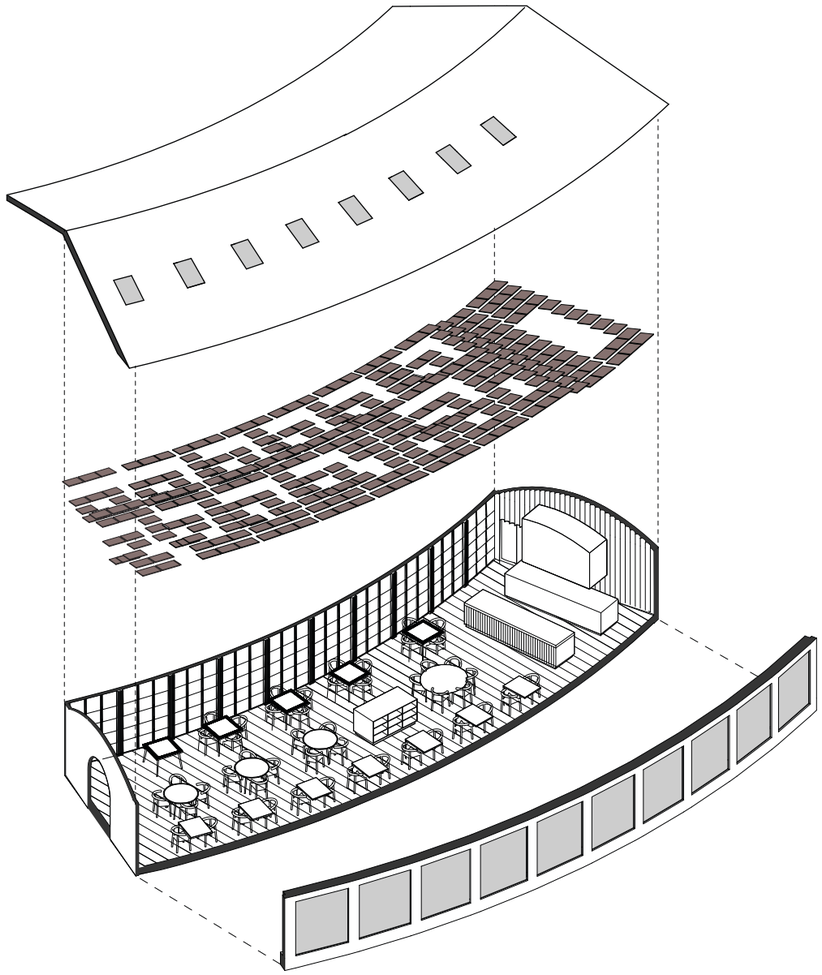
Carved

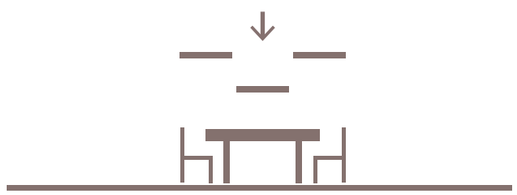
CNC Bark

Cleanability

The placement of texture is a scale of complexity, going from surface naturally touched to more unnatural places to touch. The table and seating have a more natural surface that is brushed and will bring out the wood texture to touch. It is also a surface that is easy to keep clean. The floor has a similar texture but is harder brushed This is a surface ta doesn't need to be the same level of cleanness as the table. It is also an area a lot of people will touch. Then walls use some more complex textures. This is to both avoid forcing touch but also invite touch on areas normally not touched.

Main Dining

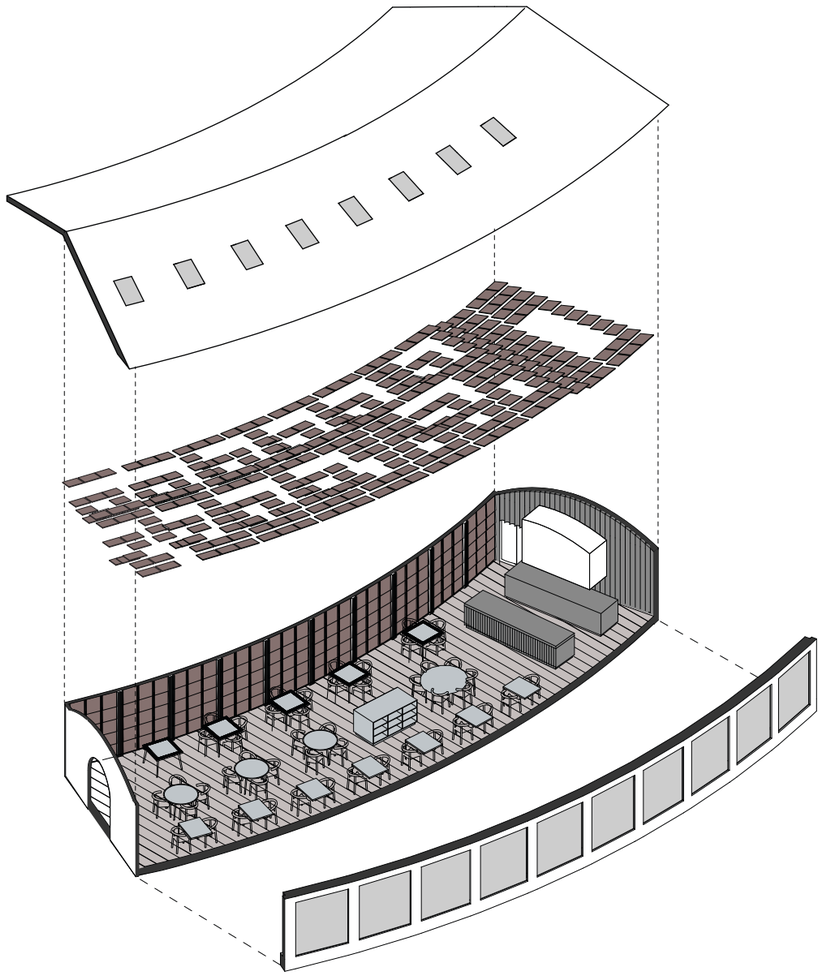




Lower ceiling to table

The boards in the ceiling are a way to bring the material closer, reduce the scale of the room, and give better acoustics. The ceiling board's height placement is not random but is made to feel like it, much like the result of a lot of carving surfaces. The use of big open windows and ceiling windows is to let in light to give warmth to the surfaces and welcome our touch.

Main Dining



Carved medium
Carved small
Carved burnt
Carved big

Carved small

Carved medium

Carved big

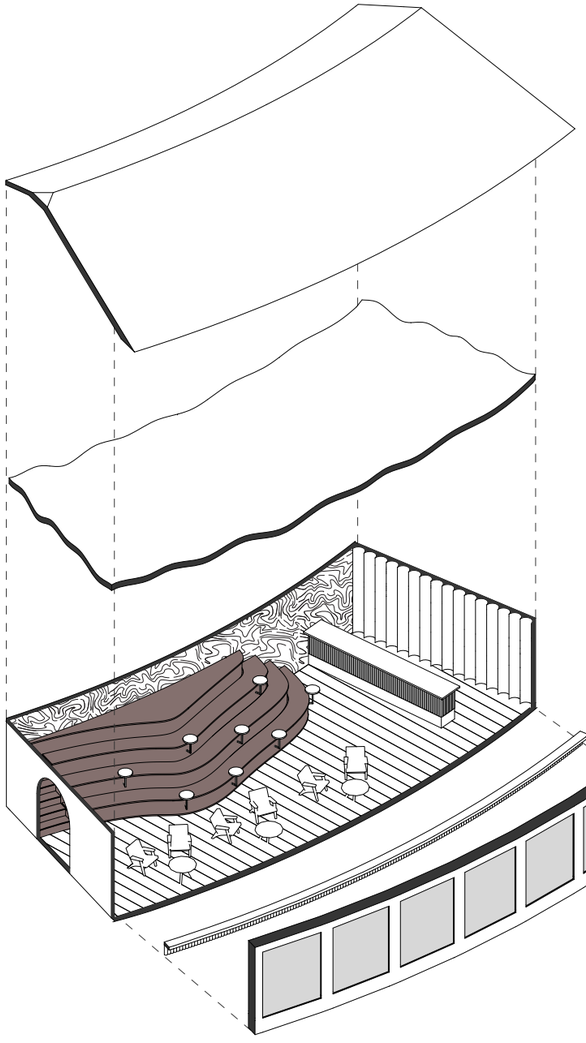
Carved burnt

Main Dining

Scale

The way of working with touch in the main dining was to work with what part of the body or what object will touch the surface. On furniture, a smaller scale of carving is used to give more impressions when touched by hand. On tables, it is also important to have a smaller scale to make sure cutlery will not be affected. These playful elements intend to create a more personal connection through touch. The floor has the biggest scale of carving because the feet should feel the change. The main dining mainly uses carving as a technique to limit the visual distractions and put focus on the food.

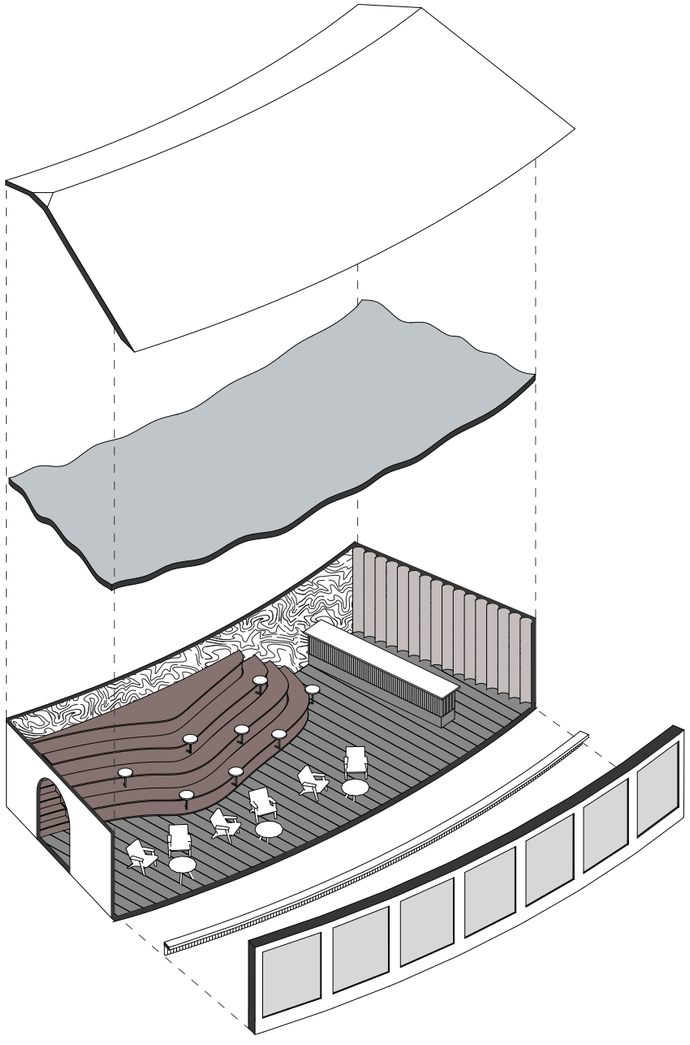
Lounge



Stairs to the ceiling

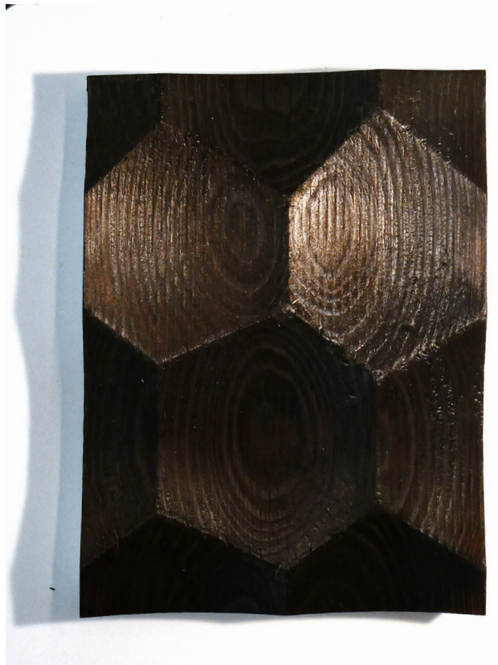
The lounge is based on the idea of using a sitting stair to create a more relaxed environment. The use of the stairs is a way to come closer to the material both the ones used on the stair and the way it allows the possibility to touch the ceiling. The shape of the stair of taken from the idea that nature and trees have a soft flowing shape. The ceiling uses a soft wavy shape to create something unique that doesn't usually is see as a ceiling.

Lounge



CNC bark
Burned & stained
Carved & burned
Carved, burned, & stained

CNC Bark burned



carved and burned

Burned and stained

Carved, burned, stained

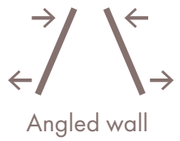
Lounge

The main textures used in the lounge are combinations of earlier textures used. The floor which is a combination of carving and burning is made to both have an interesting surface to walk on but also be weather resistant as it is one of the first rooms visited when the guests arrive. The ceiling is a combination of burning and staining giving it a unique look that is really seen making it more likely to be touched. In the lounge, the bark surface is placed close and accessible to make it more likely it will invite touch. The lounge is a more relaxed room that allows for tactile distractions. Lastly, the material that is a combination of carving, burning, and staining is placed behind the bar. It is not as accessible, but it gives a visual tactility almost resembling traditional tiles used in bazaars.

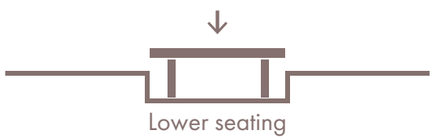
Summary Design

The result of the case studies of space and tactility has given the design for the corridor, facade, private dining, main dining, and lounge. They all have a unique feeling that reflects a different atmosphere in each room. The explorations resulted in a variety of ways of working with geometry and textures in relation to touch in the context of the restaurant.

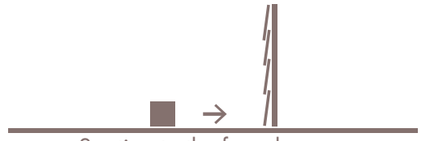
Geometry



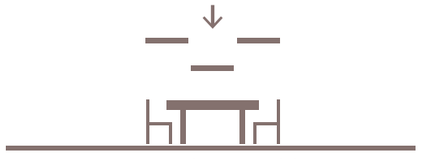
Angled wall



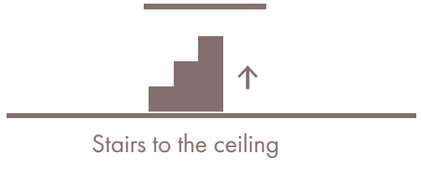
Lower seating



Seating to the facade



Lower ceiling to table



Stairs to the ceiling

Texture

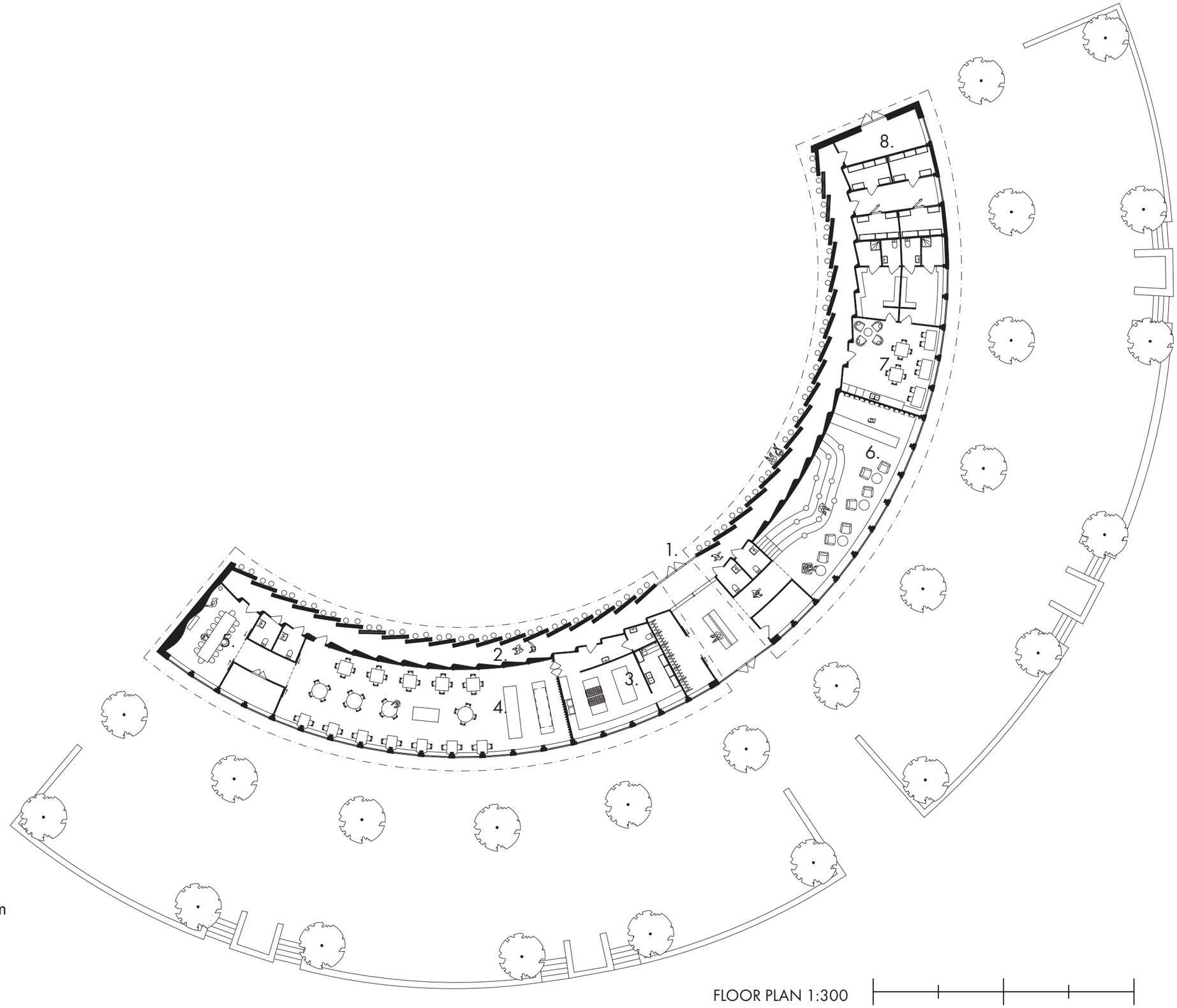
Prominence

Weathering

Cleanability

Scale

Complexity



1. Entrence
2. Corridor
3. Kitchen
4. Main dining room
5. Private dining room
6. Lounge
7. Staff
8. In-Out

FLOOR PLAN 1:300

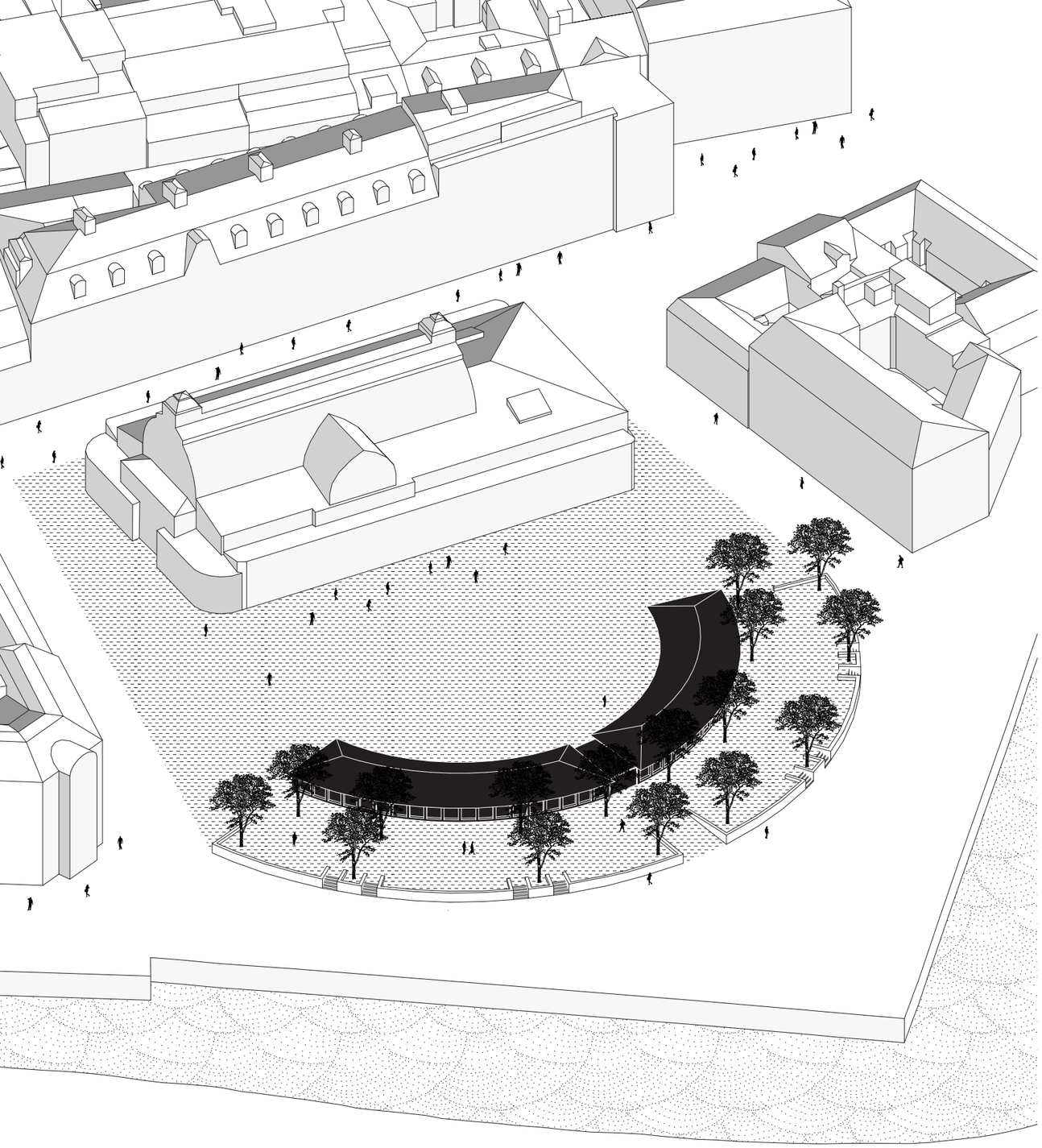
0 10 20

Kungstorget is a square located in the center of Gothenburg. Kungstorget Is home to Stora Saluhallen since 1889 which is the largest and oldest market hall in Gothenburg. Kunstorget was not built until 1847 and is not one of the original squares of Gothenburg. Before its time it used to house the bastion Johannes Dux. Kungstorget was until the middle of 1870s the city's only market square. It used to be called Trätorget because of its initial use which was trade of timber.

Basargatan was then laid out as a semicircle between Vallgraven and the square. To separate the street from the square elevation was built. In the 1850 the bazaar was built as a semicircle following the shape of the street. It was initially framed by the market hall and two wooden arches divided in the middle. This was a bazar with 76 different shops located on both sides of the arch. Due to hygienic reasons the arch use to frame square but was later torn down. The bazars were supposed to be torn down many times, but the demolition of the wooden arches was not completed until 1966.

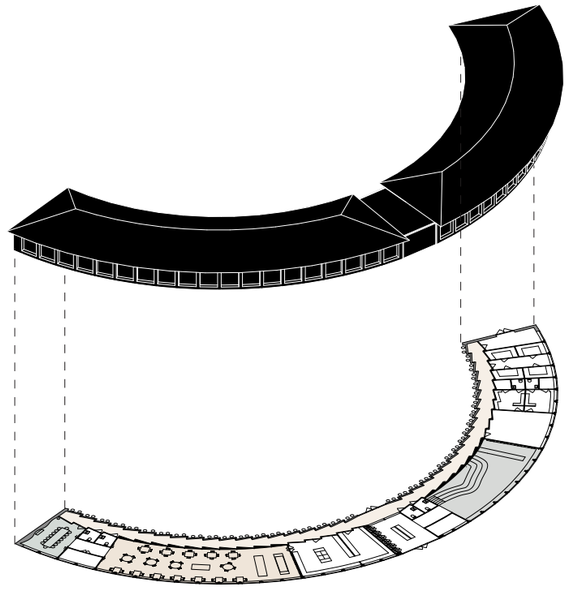
Kungstorget have had many plans to be built with everything from an art hall to hotel and under¬ground parking, but anything has yet to be done. Today the square is used for parking and is home to a few food trucks. (vartgoteborg.se)

Kungstorget / Present and Past



Building Program

The outer shape is inspired by the old bazaar that used to house the square. To leave the square untouched and fit the program of the restaurant it is slightly iterated compared to the original placement of the bazaar.



The shape of the building embraces the square and the main entrance is located at the end of the cove that is created by the building shape. The program is designed to divide private staff areas on one end and public guest areas on the other. The basic idea of the plan is that it should create a journey through the building, going from the cove to the lounge and from there to one of the two dining rooms through the long corridor.

The five results of the five explored rooms have different atmospheres and properties.

Corridor
The corridor is a space where a big part of the journey is located. It is touchable and radiates motion and variation.

Facade
The façade is welcoming, weather-resistant, and can stand through time.

Main dining
The main dining room keeps the visual changes limited to give the visual spotlight to the food.

Private dining
This room is a cozy and intimate dining experience.

Lounge
The lounge is inviting but with strong contrast and unique textures to make a big impression.

Corridor
Facade
Private dining
Main dining
Lounge

METHOD & PROCESS

This thesis has followed the assumption that touch is a very important sense in architecture and that it is undervalued in design today. The aim of this master thesis has been to explore tactility in wood and its relation to touch in the context of a restaurant and dining experience.

The thesis has used research by design approach. With a starting point in a chosen site and building program, the different case studies were chosen. Throughout the process, material tests were done and tested on several iterations of each case study.

Material process

Tactility can be divided into geometry and texture. A variation of basic geometry and more complex was done. To be able to effectively produce the more complex shapes the use of CNC was needed. The textural result of CNC generated further investigation of textural possibilities.

The textural properties created by CNC milling ignored the gain of the wood. This resulted in tests with techniques that exaggerated the wood grain. The first test was done by staining which visually works but gives no touchable difference. To try to get this result both visually and touchable the Japanese method of Shou sugi ban was used. This in combination with brushing gave a tactile difference.

This then leads to tests with just brushing leaving out the burning of the wood. The result of the brushing wood gave an aged look and feel to the texture. To see if aging could be done in other ways a test with vinegar and steel wool was made which resulted in no tactile difference but did change the wood visually.

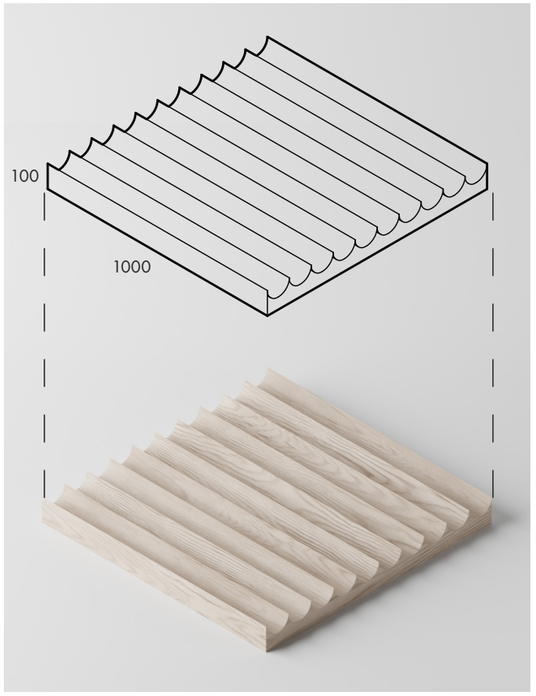
To try to get an even more tactile result caving was used. In contrast to brushing which removed the soft parts of the wood, the carving techniques have the possibility to remove the hard parts. The idea that aging wood is something deteriorating going back to nature felt interesting. Tree bark is wood that is part of nature and very aged. This resulted in tests made by the use of photogrammetry and CNC.

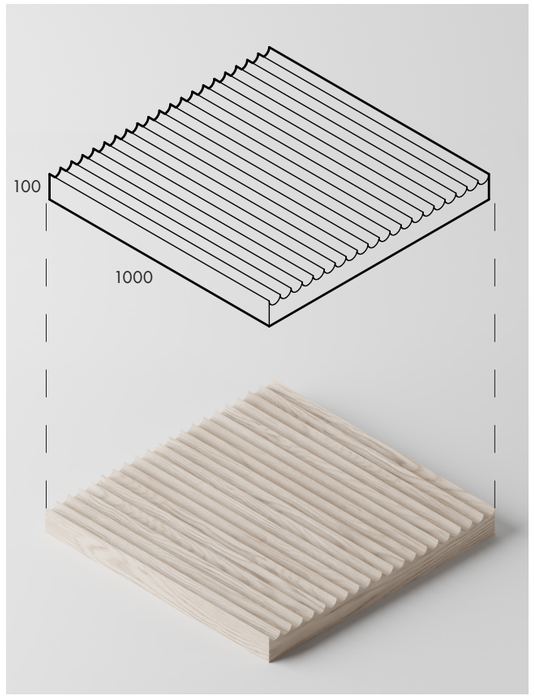
The dept texture made by carving led to more caring tests produced both by chisel and imitation made with the use of CNC.

Delimitations

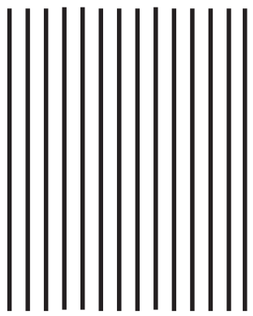
This thesis has the goal to explore tactility and touch in relation to wood as a design method. The use of a site and building was a way to aim and limit the scope of the design research. With this considered, this does not go in-depth in this specific building design. Nor does it consider economic, structural, or accessibility aspects. Tactility and touch have a clear and interesting connection to psychology and mental health aspects, this will not be explored in depth.

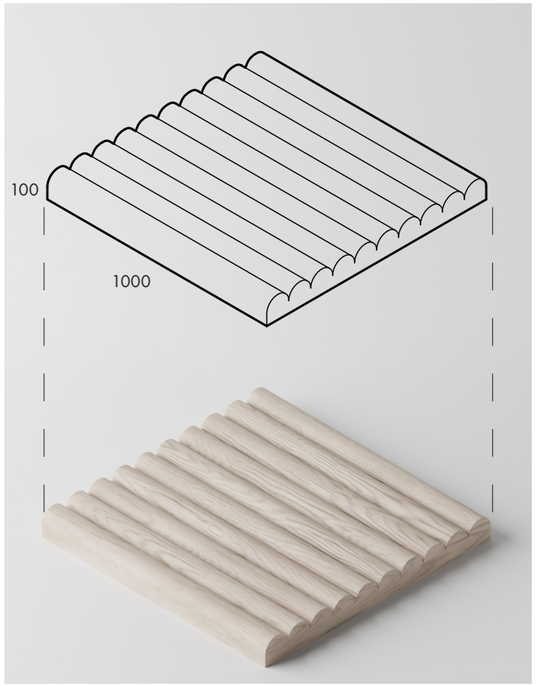
MATERIAL EXPLORATION

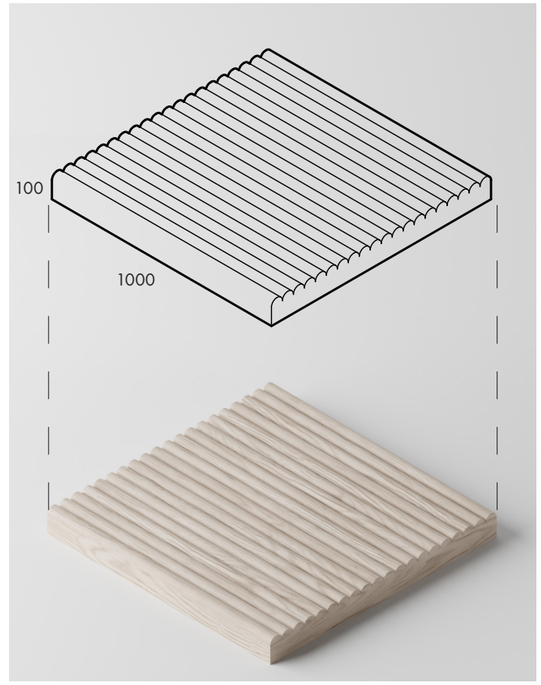




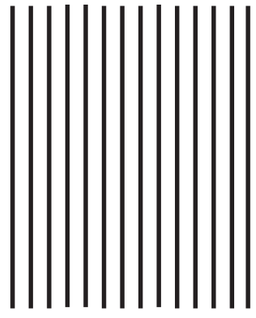
The first shape that was explored is concave stripes. It is a very popular and widely used design element in architecture. The diameter is 50 mm and 25 mm. Visually they make a nice symmetric pattern that is easy to predict. The surface has sharp edges which can give sharp shadows. The stripes can also give the space appearance of height or width depending on the angle used.

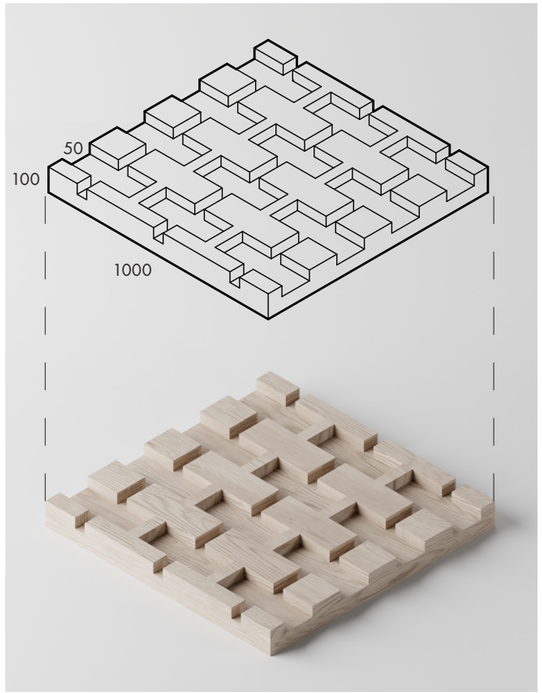


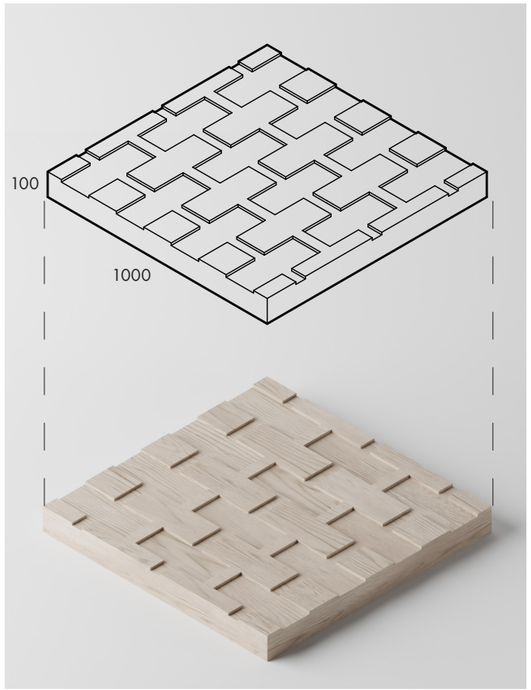




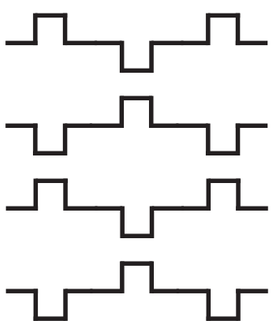
The convex stripes are also a popular pattern in architecture. Compared to the concave stripes it gives a softer appearance both shape and shadow. The diameter is 50 mm and 25 mm. As which the concave stripes this is a predictable pattern that can give height and width to a space. The biggest difference between the concave and the convex pattern is how easy the textured surface is to touch, where the convex surface is extruding and the concave is not.

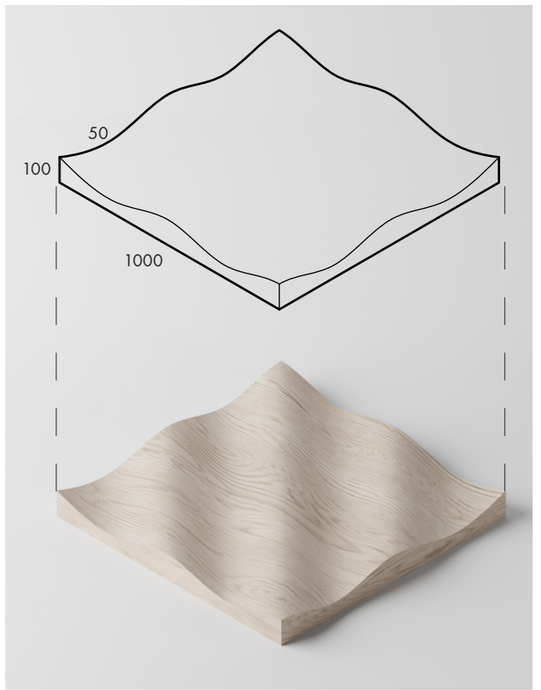


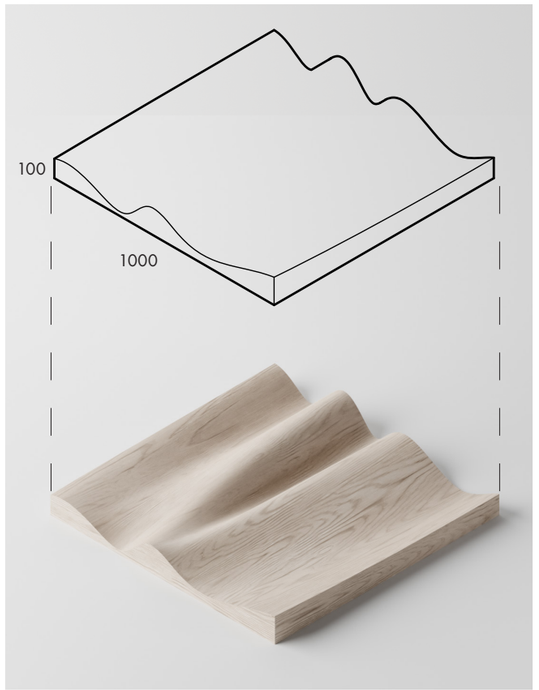




The next geometric shape is the base of a research exploring emotions evoked by patterns. The patterns are based on another research on the effects of mood lines. This specific line was associated whit feelings like logical, planned and orderly. There are a lot of mood lines, some smooth and some whit harder edges. The decision was made to use a hard edge in the design with this type of line. The visual result is interesting and almost brick-like. The depth of the surface is 50 mm and 10 mm. With a deeper surface and shape like this could be used as a sound-reducing surface. This 50 mm surface dose naturally creates a lot more areas with deeper shadow.

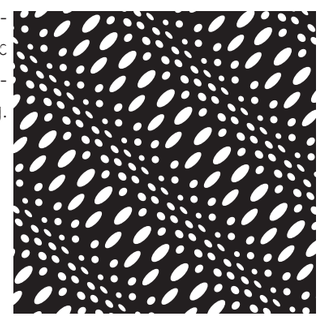






This next shape is also based on the research about emotions evoked by patterns. The original geometry is an oval circle. Combining multiple ovals in a variety of sizes it will make an optical elution look like waves. This type of pattern way associated whit a feeling of calming, airy, and eternity. The surface created base of this pattern is an interpterion of the waves rather than the ovals making it.

Inspired by the wave pattern a similar shape but more organic wuc created. This surface is a lot like fabric and is perfect for CNC milling.



CNC milling

CNC stands for computer numerical control and includes techniques like drills, lathes, mills, and 3D printers. The CNC machine works with coded programmed instructions and is not directly operated by a human. This technique together with photogrammetry and 3d-modeling can give endless opportunities. (Hess, B. 2017)

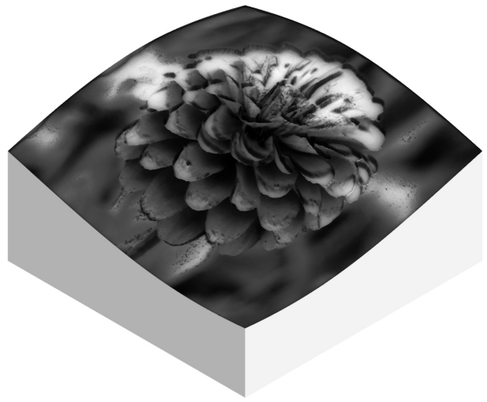
The first CNC-milling test is based on the wave-shape from the geometry explorations. The result of model 1 is very smooth surface to touch and model 2 more of a slightly rough and almost fabric-like texture to touch.

Model 1: 200*200 mm CNC cut model. This model used a 16 mm steal with a round tip and a 2.5 mm stepover. This model is also sanded down to a P 240 paper making it very smooth.

Model 2:200*200 mm CNC cut model. This model used a 16 mm steal with a round tip and a 2.5 mm stepover. Stepover is the measurment that show how much the steal moves in Z direction and also what makes the cruves on the surface. The result is almost fur-like.

Model 1

Model 2



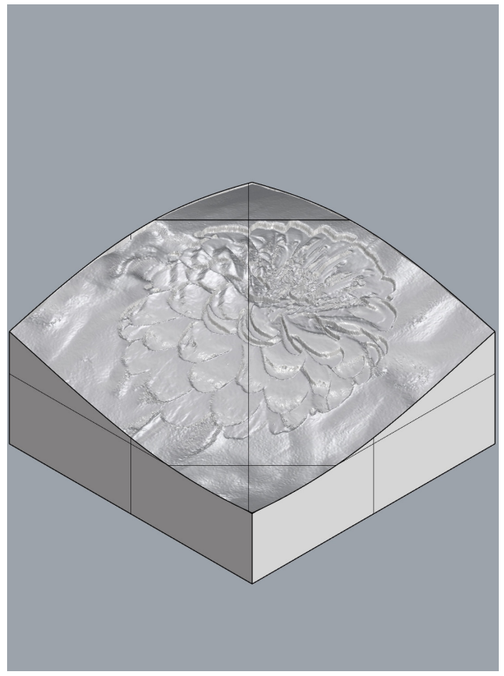
CNC milling and displacement

This next test is made by using a picture to project and displaced on a 3d-model. This model is then CNC-milled with different settings giving a variety of tactile results. Model 1 and 2 have both clear prominences to touch but are still smooth. Model 3 is in contrast with this very rough and not as pleasant to stroke.

Model 1: 200*200 mm CNC cut model. This model used a 5 mm steel with a round tip and a 4 mm stepover.

Model 2: 200*200 mm CNC cut model. This model used a 5 mm steel with a round tip and a 2 mm stepover.

Model 3: 200*200 mm CNC cut model. This model used a 5 mm steel with a round tip and a combination of 2 mm and 4 mm stepover.



Model 3

Model 2

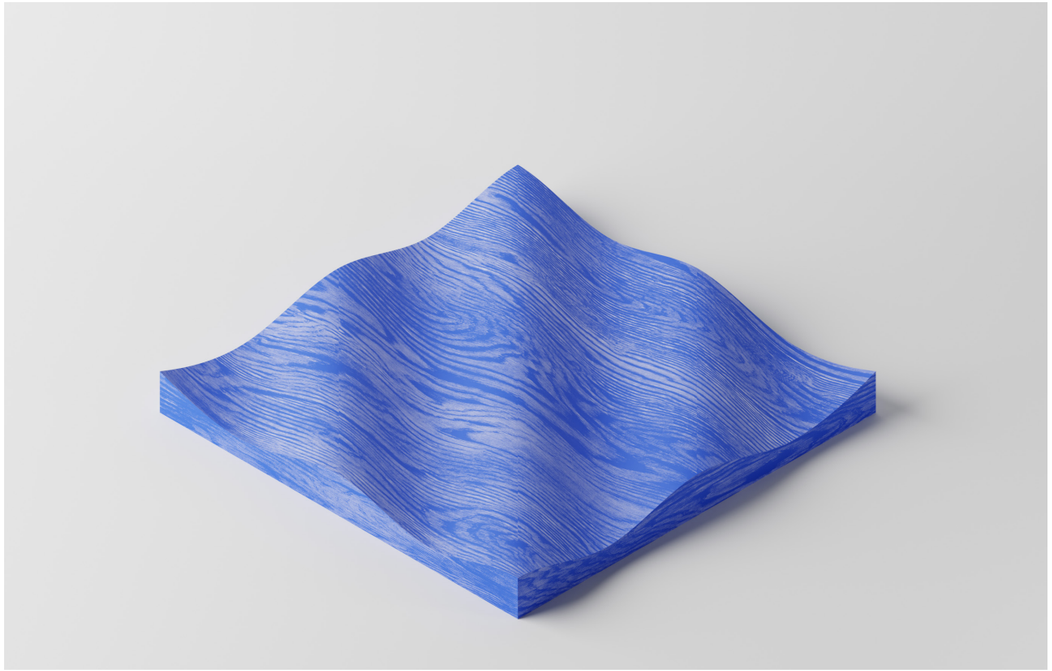
Model 3

Staining

To test staining three techniques are used. Digital, store-bought stain, and homemade. The digital test makes the grain more pronounced. The homemade also gets a similar result. The store-bought is not as pronounced but is likely caused by the use of line which is a very tight grain wood.

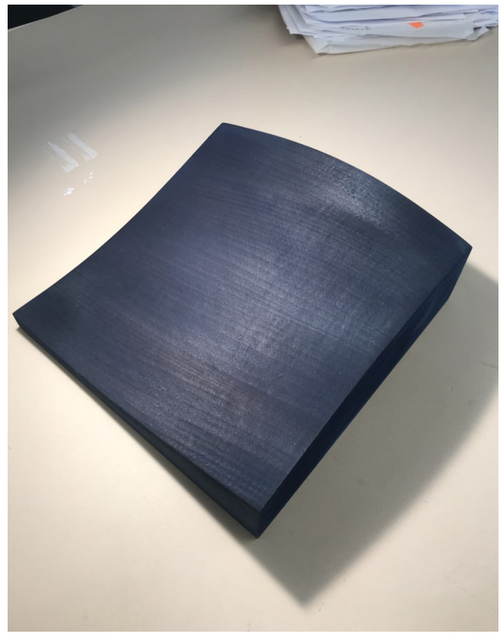
Model 2: This model is a homemade stain color combining wood oil and oil color. This gives a result that visually enhances the wood grain.

Model 3: 200*200 mm CNC cut model. This model used a 16 mm steel with a round tip and a 2.5 mm stepover. This model is also sanded down to a P 240 paper. This model was stained in blue color. This made the grains come out more even though they turned out darker than I wanted. It also got a lot rougher due to the water reacting with the surface.



Model 1: Render

Model 2



Model 3

Shou sugi ban

Shou sugi ban is a technique originally from Japan dating back to the 18th century. By slightly charring the wooden surface, the wood becomes waterproof, protects against insects, and fire redundant. The techniques have recently become a popular treatment for both interior and exterior use. (Cooper, K. 2017)

Model 1: a lightly burnt surface that is then brushed. This result is visually interesting but not that different from just a brushed surface.

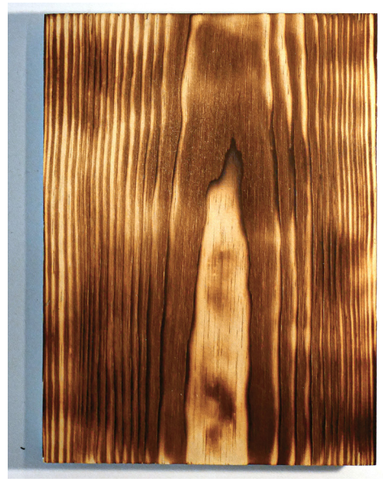
Model 2: A completely burnt surface without being charred. Changes the tactility a little bit by removing moisture from the surface making the harder parts extrude slightly.

Model 3: Completely burnt and then brushed. Gives a very nice visual and tactile result. The grains really protrude making it very wood-like to touch.

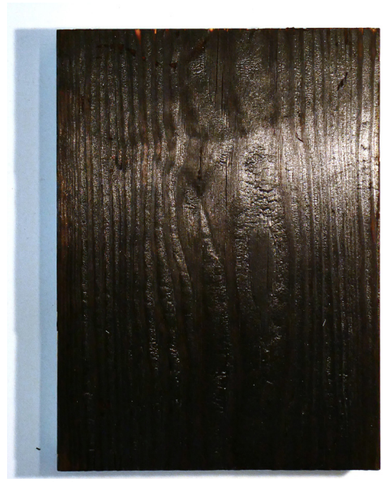
Model 4: A charred surface that creates a lot of crackling that can be clearly felt to touch.

Model 5: This piece is burned then brushed and finally stained. This gives a similar tactility as a burned and brushed surface but gives an interesting visual result.

Model 6: Brunt bark. Changes how it looks visually but doesn't change the feeling when touched. Very natural feel to touch.



Model 1



Model 2

Model 5

Model 6

Model 3

Model 4

Brushing

The patina on materials implies a change of a surface through age and exposure, but not necessarily deterioration or degradation. The aging of material can be seen as negative but, in many cases, the effects are desirable and can be constantly be made. Techniques casing aging includes brushing and oxidization among other. (Hoepf, T. 2016)

Model 1: The result of a hand-brushed surface is that the soft parts of the wood gets removed making the gaind stand out. This gives the wood a exadurated wood surface.

Model 2: The machine-bruched surface gives a similar result as the hand-bruched but more exadurated. The gives a rougher feel when touched making it feel like aged barn wood.

Model 3: This is a combination of bruching, hitting, and cutting the sruface to make the feeling of aged wood even further. The result is a very rough to touch surface.

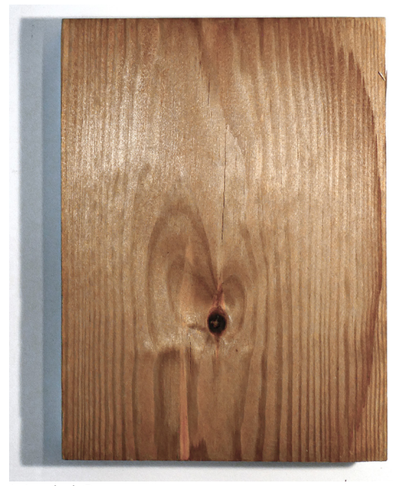
Model 1: This is the result of staining the wood with a combination of steel wool and vinegar which only gives a visual result.

Model 2: This is the result of staining the wood with a combination of steel wool and vinegar followd by bruching. Visully the wood gets grayer maning it look old by the tactilie differnece is no differnet than just brushing.

Model 1

Model 2

Model 1



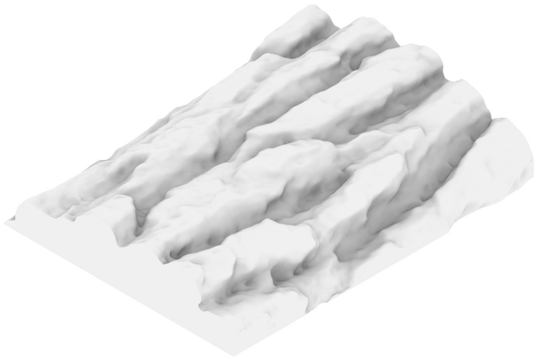
Model 2

Model 3

Photogrammetry and CNC milling

These models are a test when combining the technique of photogrammetry and CNC milling. By taking a collection of photos and importing them to the program called Metashape a mech of the photos will be made into a 3d mesh model. This mesh is then imported to the CNC mill.

The result is a very tactile surface both visually and touchable. The second test is the same model but with a burnt and brushed surface which enhances the surface and the grain of the wood.



Hand-Carving

Wood carving is a form of woodworking where the use of a chisel is the main tool. The use of Carving can be seen in figurines or ornamentals on wooden objects. (schaaftools.com, 2021)

Model 1,2,5,7, and 8 is all a variation of carving that give an interesting result that is very pronounced when touched. Using carving also gives an interesting visual result that changes with the light.

Model 4: When combining aging techniques and carving you can get this exaggerated wood grain with the opposite effect of brushing. Interesting to touch and an exaggeration of the wood texture.

Model 3: This is a combination of model 1 and burning which gives an interesting result where carving almost disappears after burning. The burning makes the texture rougher which overpowers the shallow carving texture.

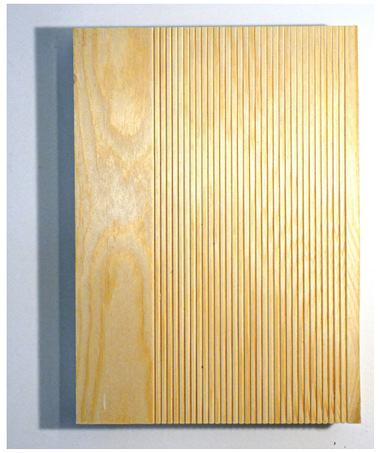
Model 6: The surface is first carved then stained and last burned. This gives an interesting result that is both very tactile and visually different than the initial wood.

Model 1

Model 2

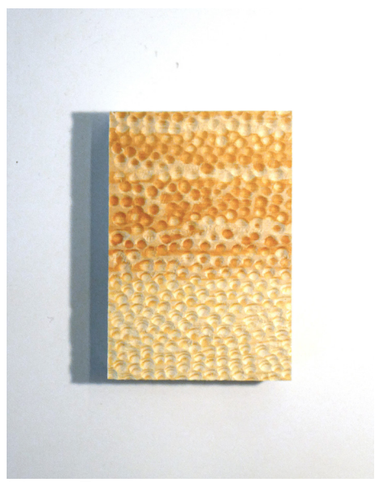
Model 3

Model 4

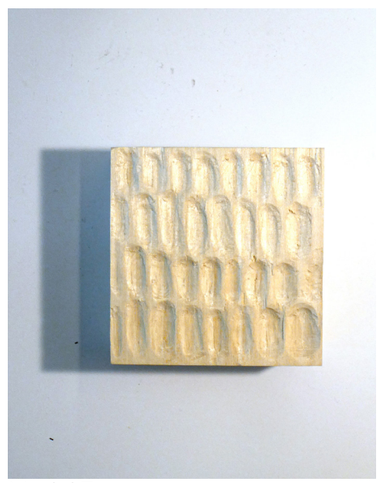


Model 5

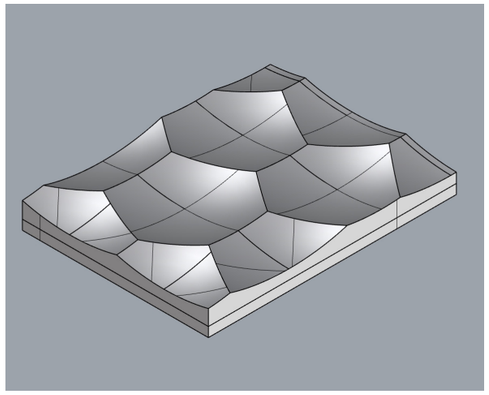
Model 6

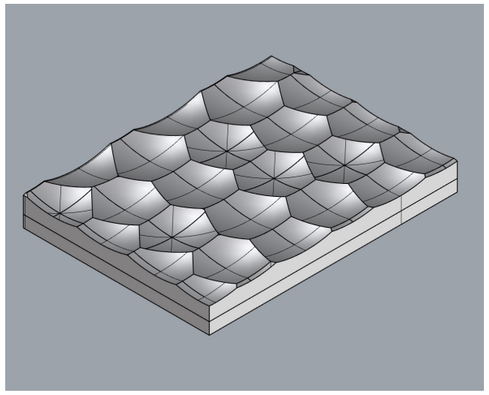


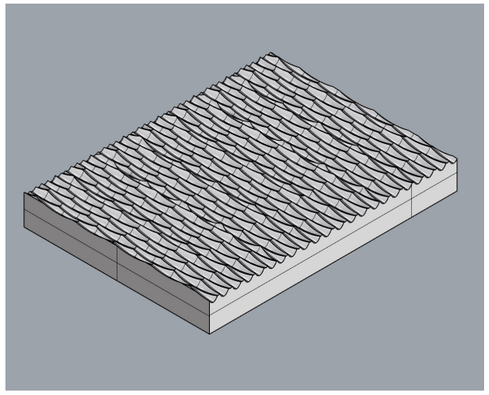
Model 7



Model 7

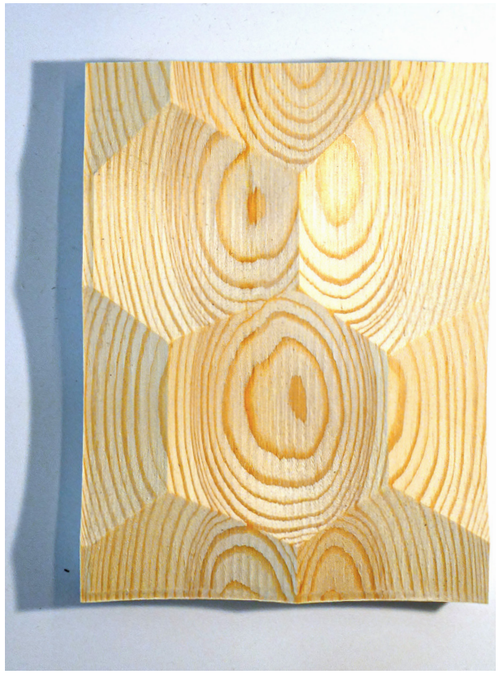


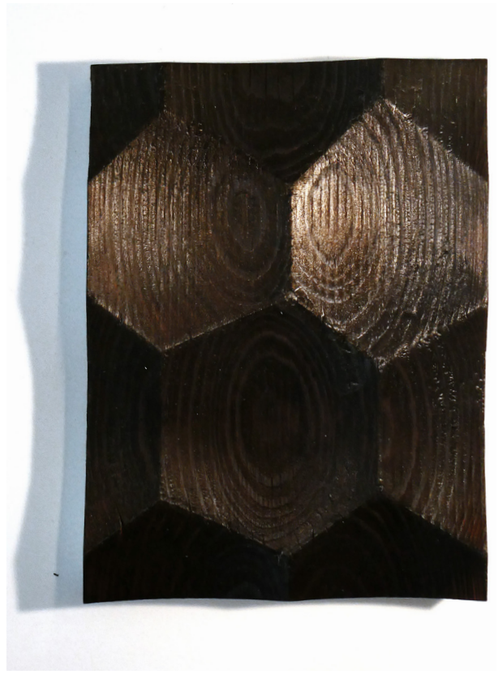


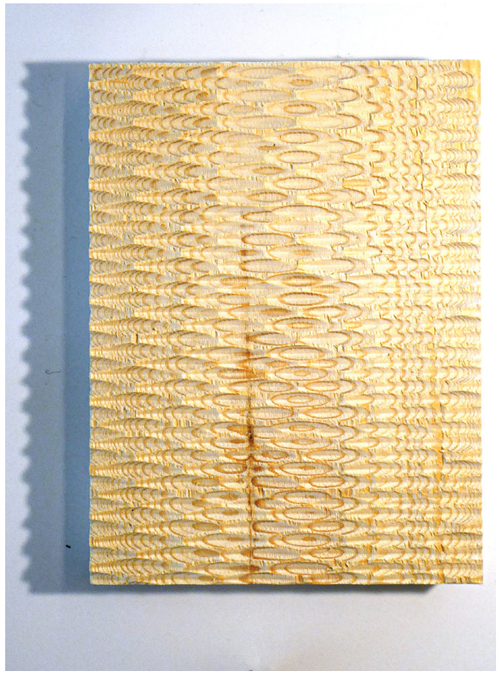


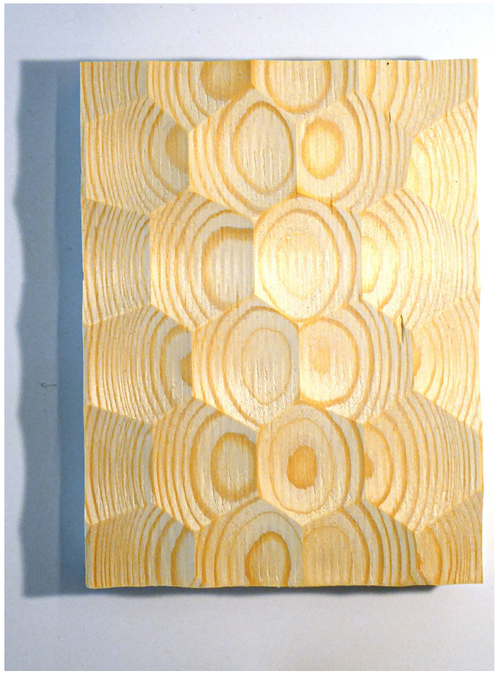
CNC-Carving

These models are all an interpretation of carving created digitally. This surface is very tactile and gives a deep result that can be felt both by hand and also when walking and leaning on the surface.







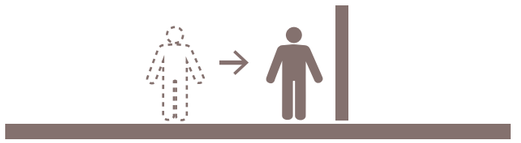


Reflection and Conclusion

I started this thesis on the premise that wood, tactility, and touch potentially could affect emotions and mental health. I decided to rather focus on making a design project with the focus on making a more tactile and touchable architecture with the knowledge that it potentially could have deeper effects than just spatially.

When working with this topic the research on tactility and touch in architecture is very limited, in contrast to product design where it is very thorough. In product design, touch and tactility have gotten a lot of focus because it's possible to influence the tendency to purchase a product. Consumers can be influenced merely by the sensory experience of contact, even when it provides no information about the functionality of the product (Klatzky & Peck, 2012). Some research suggests that touching enhances the feeling of ownership of a product which increases the price consumers are willing to pay.

Even if the research on tactility and touch in architecture is limited there are indications that texture, temperature, and weight of materials can affect our emotions and feelings. This is correlated to the general feeling that concrete is brutal, unlike wood which is considered warm and comforting. The research on this phenomenon is limited and largely neglected in our built environment. Research about other researches on the psychological effects of wood concludes that there are indications that the effects of wood are measurable by psychological outcomes.



Human close to material

Material close to human

The conclusion of this is two main points. The first is how to work with closeness. There are a lot of ways to create this closeness, but the findings show a variety connected to the context of a restaurant. This idea of creating closeness in design is described with two methods. The first is human to material, this can be seen in the result of the façade, private dining, and the lounge. These three rooms all work in different ways of inviting people to come closer to the materials. The second way is to design for material to humans. Examples of this are the corridor and main dining where it is the material that comes nearer to the people using these spaces.

Natural places of touch

Unusual places of touch

The other method of working with touch in design is to work with natural surfaces we touch and surfaces we usually don't touch. Because touch is a huge part of how we experience and explore our environment it is important to consciously use texture in the right places. The idea is that more unusual and complex textures would be better to use on these surfaces we naturally don't touch. This has two reasons, the first being that they can have a more visually tactile experience at a distance, and the second being because we explore with touch having a unique texture increases the possibility for exploration of the surface.

Important to keep in mind when designing with tactility and touch is that everyone's experience of a texture is different, and it is almost impossible to know how they will affect emotions. But I hope this thesis could start a discussion on why touch in architecture potentially could be important and elevate the experience of architecture.

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