

KRISTINA KEIL  
BACHELOR PROJECT

OBJECT WITH A  
SEATING FUNCTION

## **object with a seating function**

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4  
5  
6  
7

### **one. where to start?**

my thoughts behind the project  
starting the thinking process  
brief  
moodboard

9  
10  
11  
12  
13  
15  
16

### **two. design process**

material  
ergonomics  
first sketches  
digital models - mono material  
digital models - duo material  
sketches  
digital models

18  
19  
20  
22

### **three. building models**

model — scale 1:10  
quick and dirty sitting model  
wood sitting model  
how to combine metal and plastic

24  
25

### **four. final model**

measurements  
final model — rendering

**ONE. WHERE TO START?**

TWO. DESIGN PROCESS

THREE. BUILDING MODELS

FOUR. FINAL MODEL

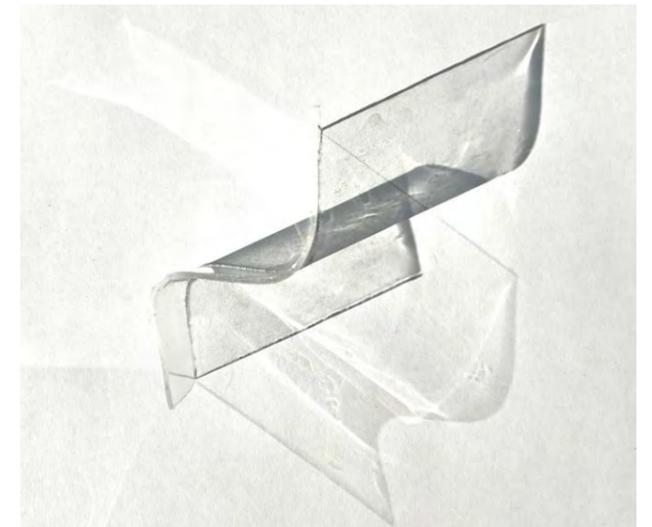
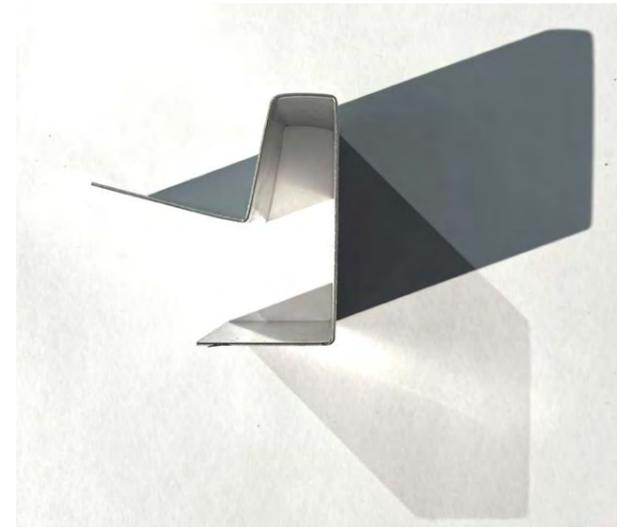
# my thoughts behind the project

I wanted to have fun in the process, play with forms, elaborate my design language and learn/see new things. In the design process, the space around the object is as important to me as the object itself. Only through the right place/light/surrounding objects, the object works properly. It should be itself but at the same time one with its environment.

I thought a lot about materiality and immateriality. On the one hand, my object is there, you can sit on it. It exists, occupies space, and makes a statement. But on the other hand, it doesn't.

I have designed a chair, which is first and foremost not a chair. It is an object with a seating function. What not meant to be particularly comfortable, ergonomic, or inviting to spend a whole evening on it. But to invite to look at it, to perceive the space around it, to ask questions, to stimulate discussions, to think. I wanted to translate emotions into a form while using a minimalistic design language.

It is also about contrasts, from existing to not existing, round to angular, transparent to opaque, reflective to matt. Because just by comparing extremes we perceive our environment, and set what we like and whatnot. We all form an opinion about everything. Some are important, others less.

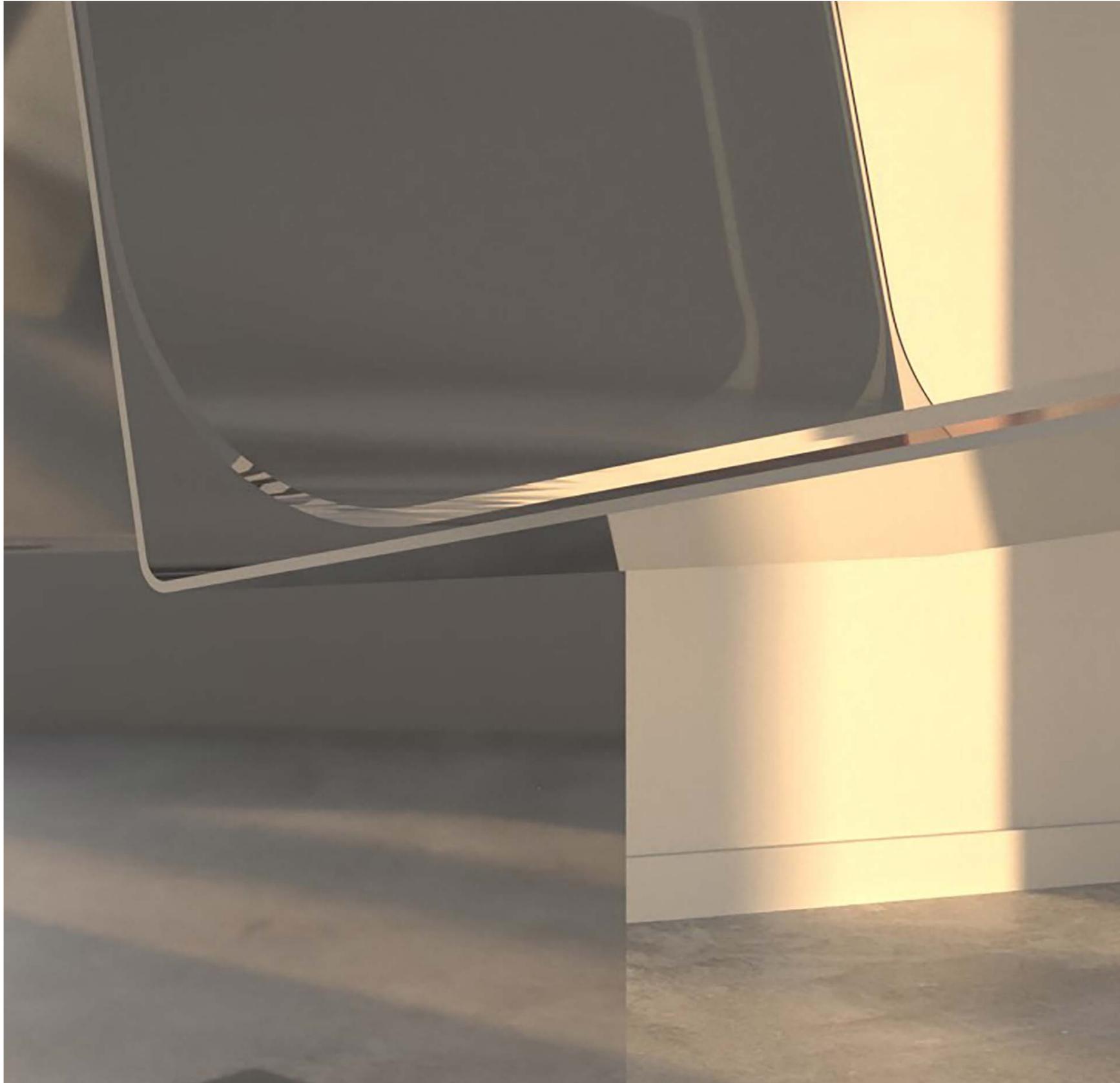


reflections + shadows from metal and plastic

## towards the inspiration

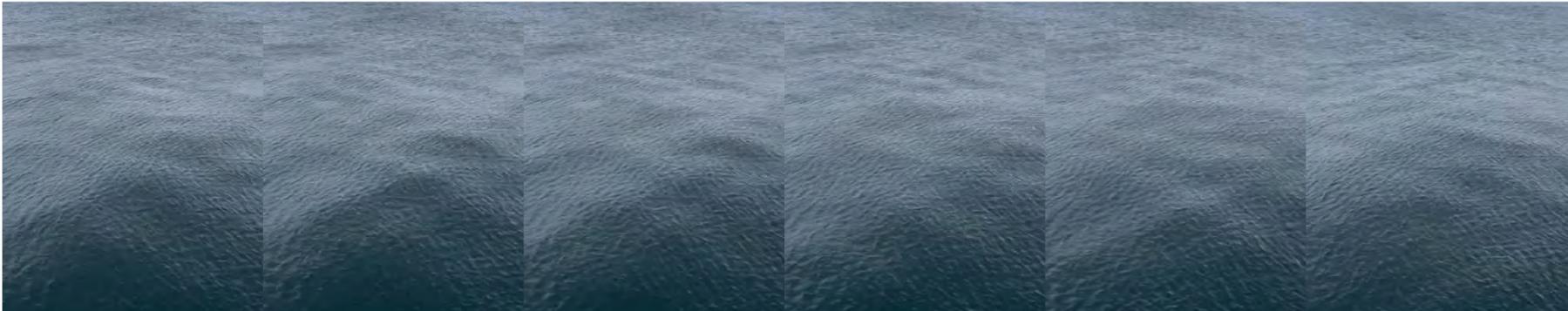
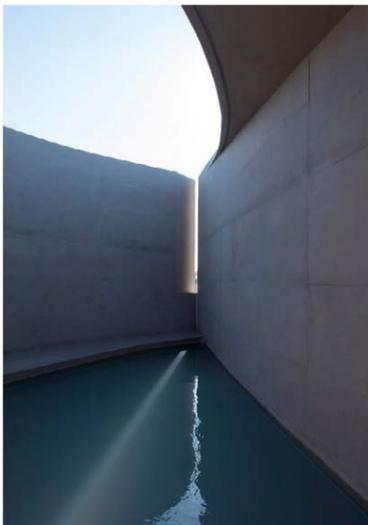


## brief



Create an object with a seating function. It should take up more space in the room beside the material part, but at the same time integrate into the room.

moodboard



ONE. WHERE TO START?

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# Material — why metal and plastic?



material samples

One of the most important parts of my design besides the form is the material.

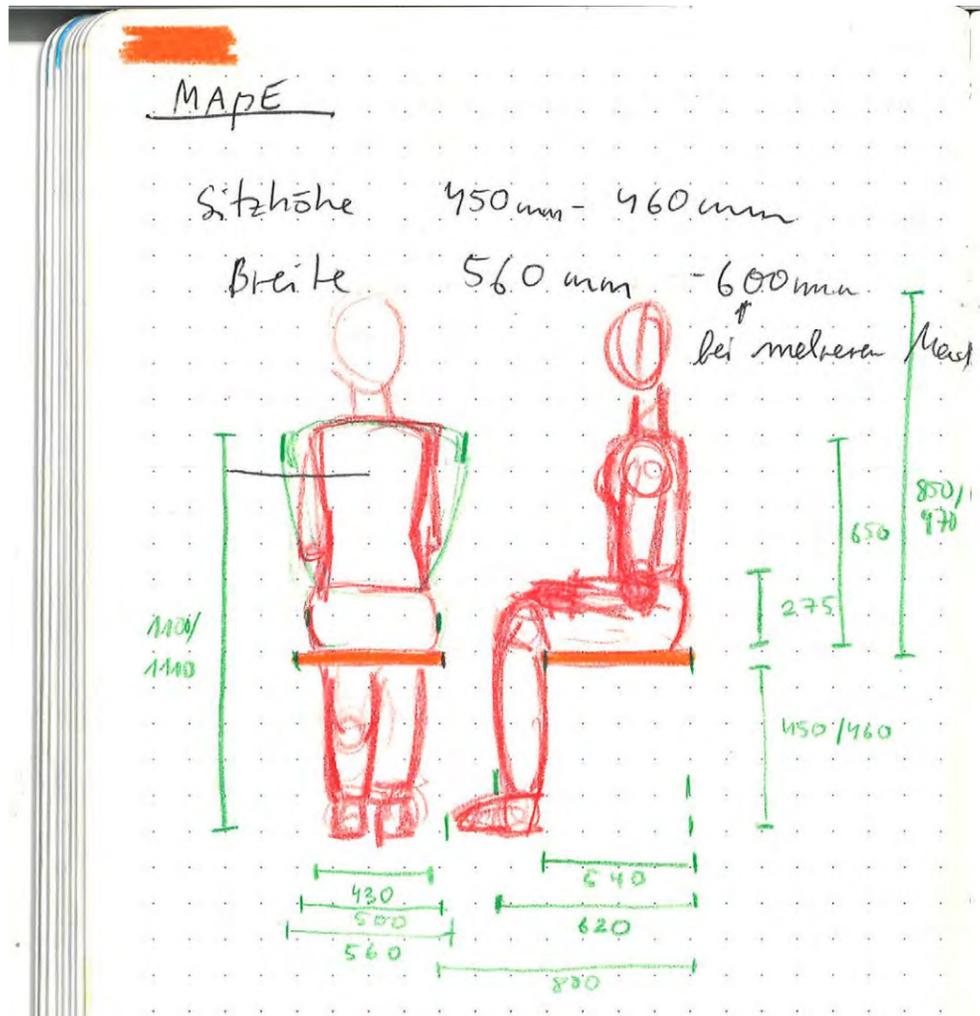
I asked myself, which materials would translate my intention best into the material. How do I present my thoughts in such a way that others can understand and read them. In conclusion, the material with its visual and physical properties plays an essential role.

Next to the object is always the space with all its elements. These should be integrated into the chair. Based on this consideration, the model should have a transparent part. Thus there is a surface on which users can sit, but at the same time, the view is not blocked and the surrounding is integrated into the object. After consulting the workshop guys and doing some research about seethrough materials I choose polycarbonate.

The second part, that the object takes up more space in the room, happens through shadows and reflections. Which are moving, depending on the light source. In that way, the object gets a living component. Therefore, the second material is highly polished stainless steel.

**seethrough polycarbonate  
+ polished stainless steel**

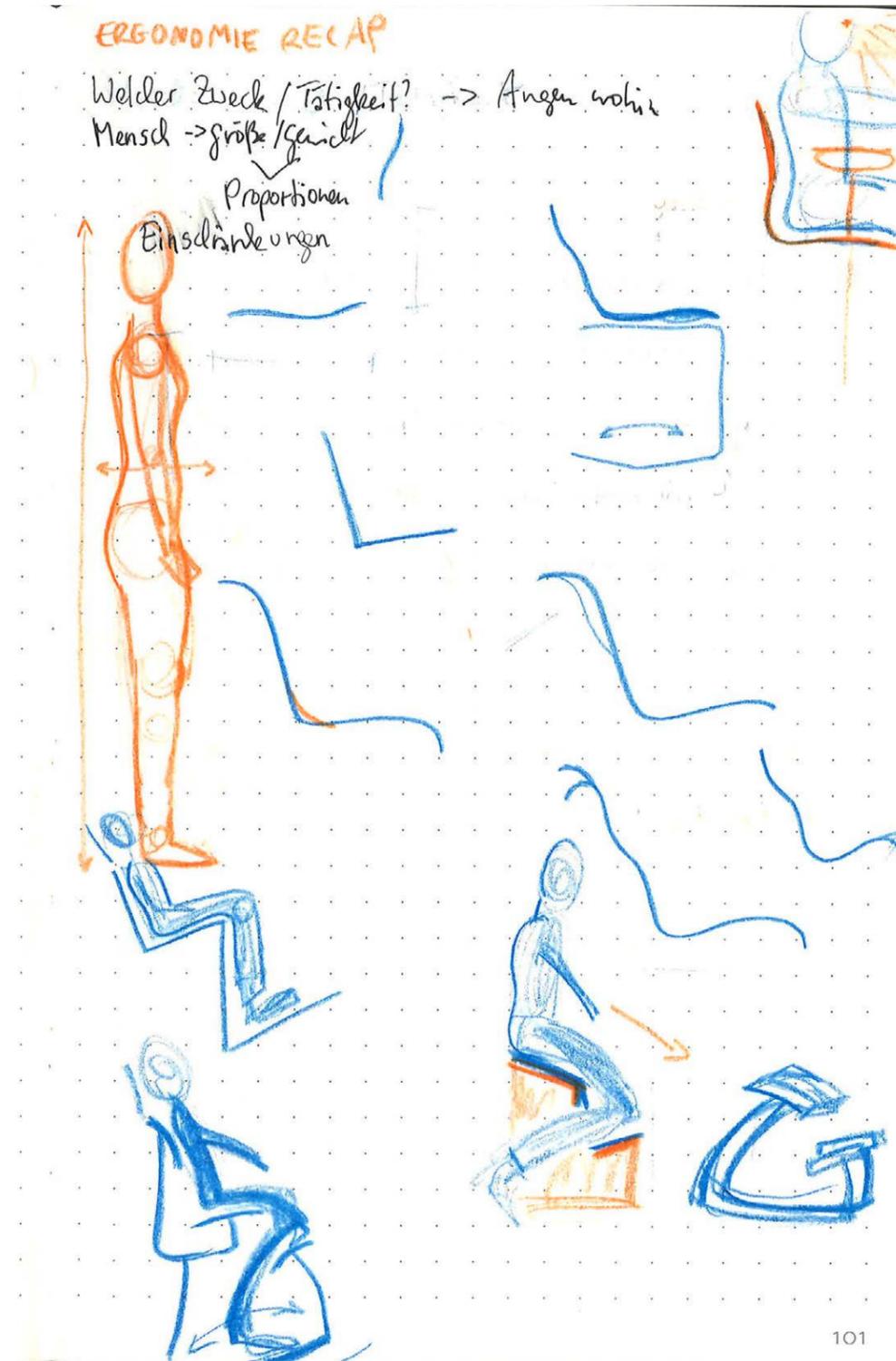
# ergonomics — sketches



sketches common chair measurements

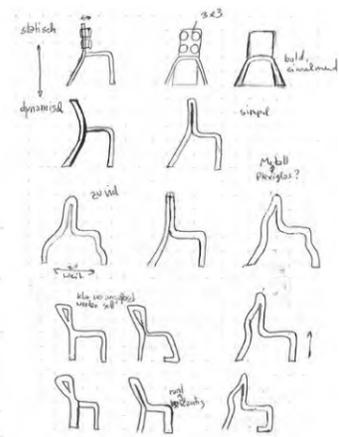
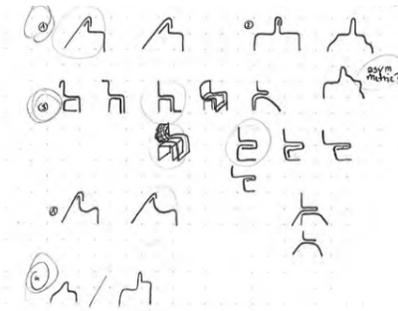
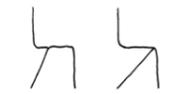
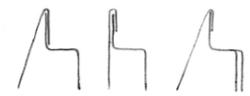
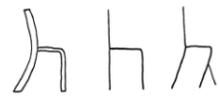
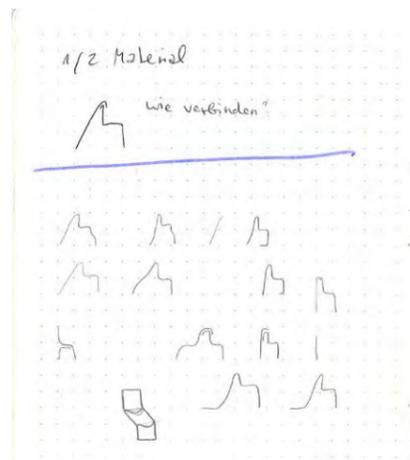
## how to sit

To not completely neglect the seating function in the final model, I also looked at the human body and our proportions while sitting. To understand how different shapes and angles affect our sitting. I sketched a lot of different existing chairs and people sitting on them, to understand the form. Which in the end helped me to find the right proportions and angles in my final model.



sketches leaning silhouette

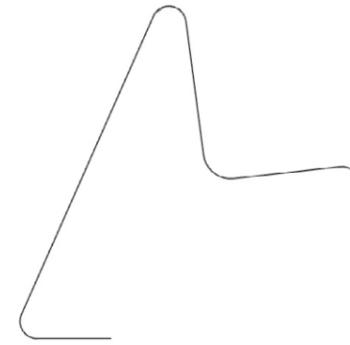
# first sketches



I started my design process by sketching countless models. I had a lot of ideas, but it took me a while to come up with designs I could imagine to realize.

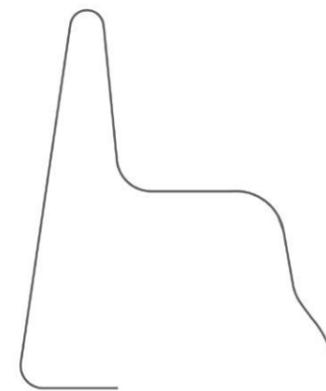
In the next step, I created 3d models.

# CAD models — process

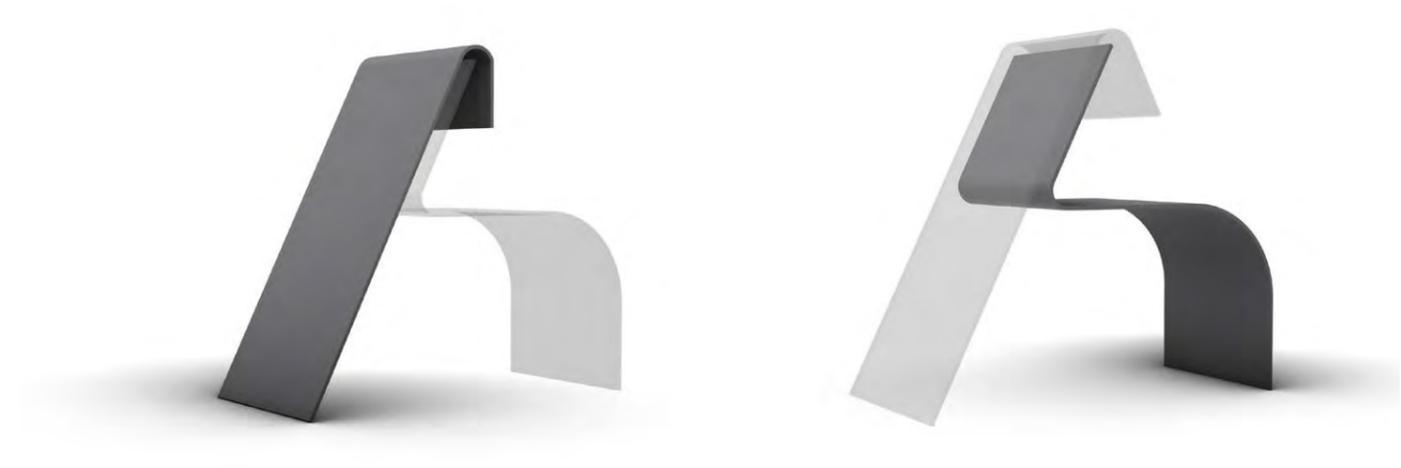
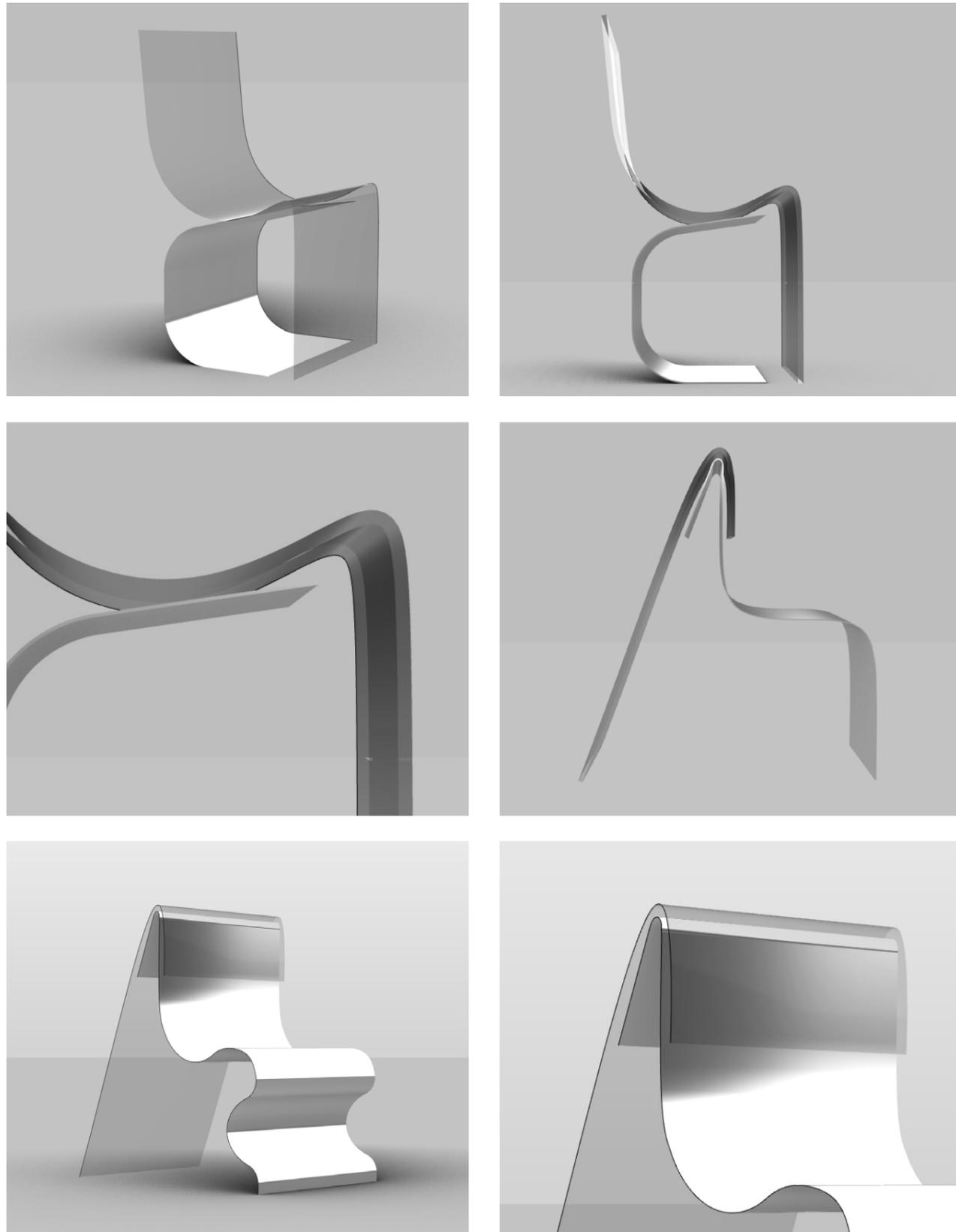


## mono-material

I made a little detour with mono material concepts. Which captured lightness and fluidity, but I decided to not continue working with them. Because they were not fitting my concept of two combined materials with different perceptions. For my design, they were still important, and I can see some ideas of them in the final model.



## CAD models — process

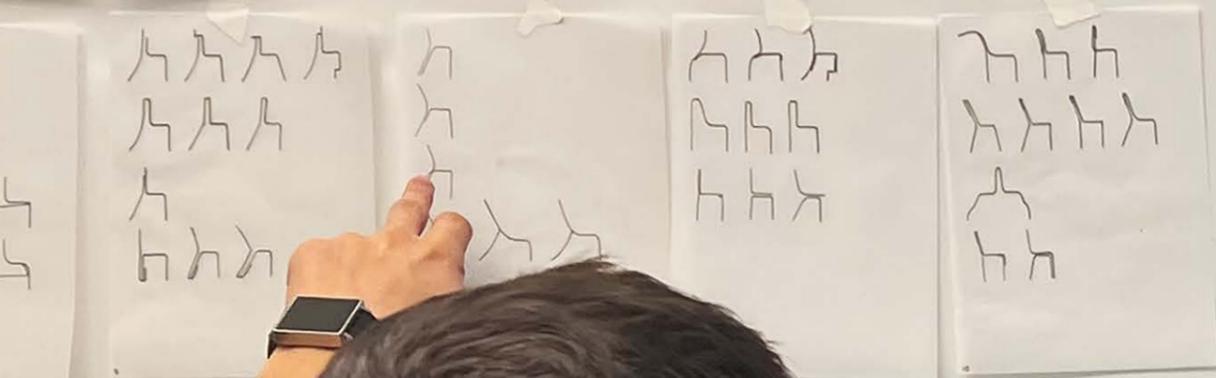
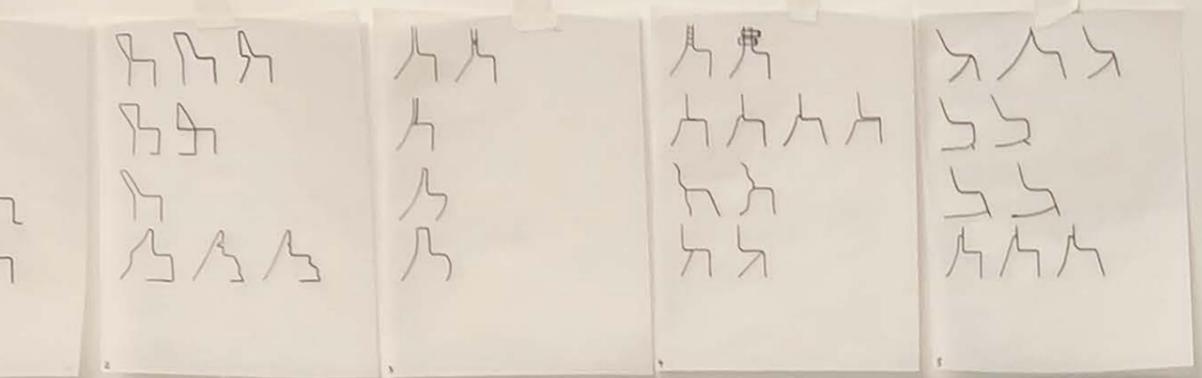


## duo-material

Maybe your first thought about these models is that you dislike them. My supervisor had the same opinion. In my supervising meeting, we had quite an interesting discussion about weird shapes, and it makes no sense why I arranged it that way.

In retrospect, I understood my design all the better. You can see contrasts. It's not smooth, has rough edges. You probably need some time to understand and eventually start liking it.

But I was still not fully satisfied and had to think further.



VIBE



TRANSPARENCY

MATERIALITY



IMMATERIALITY

Reflection



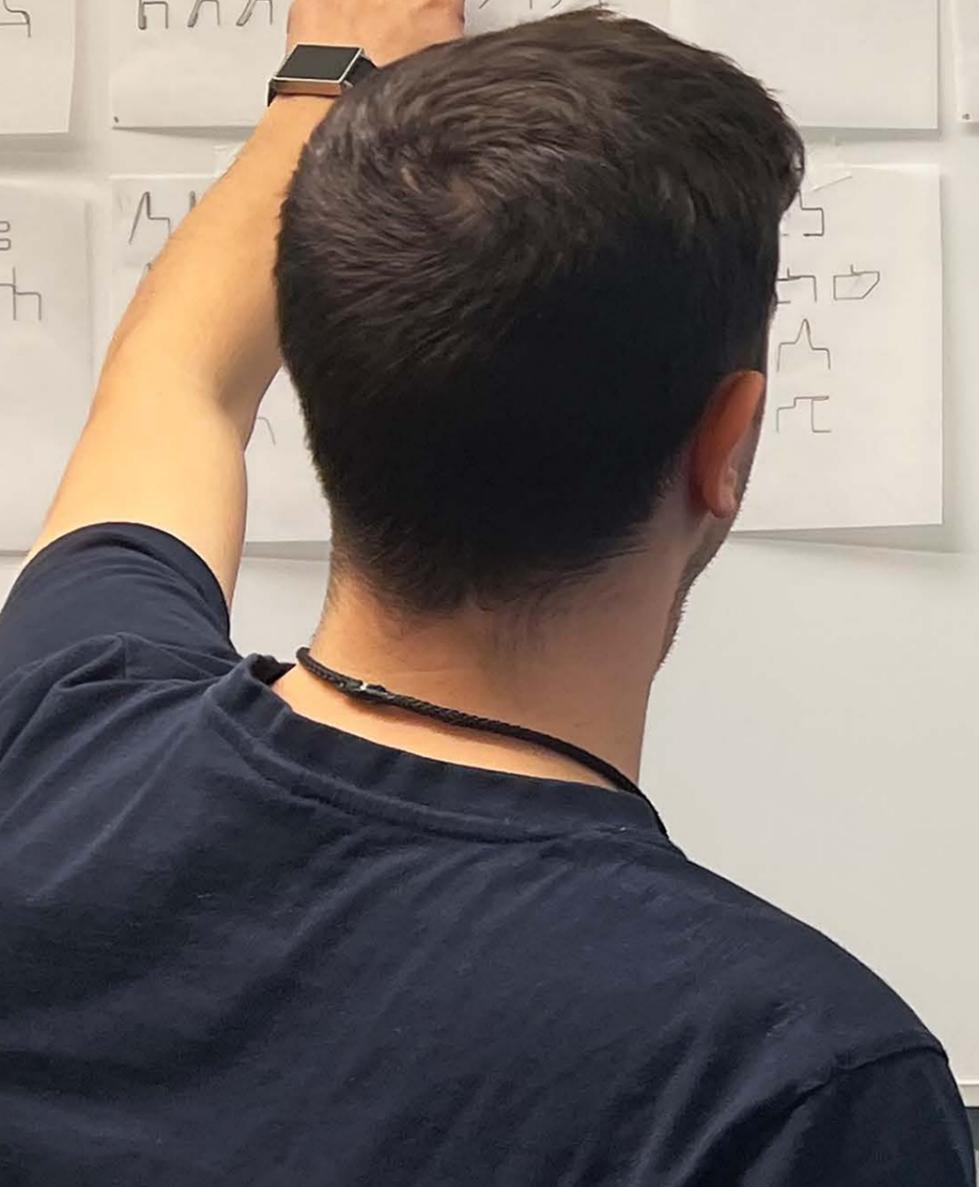
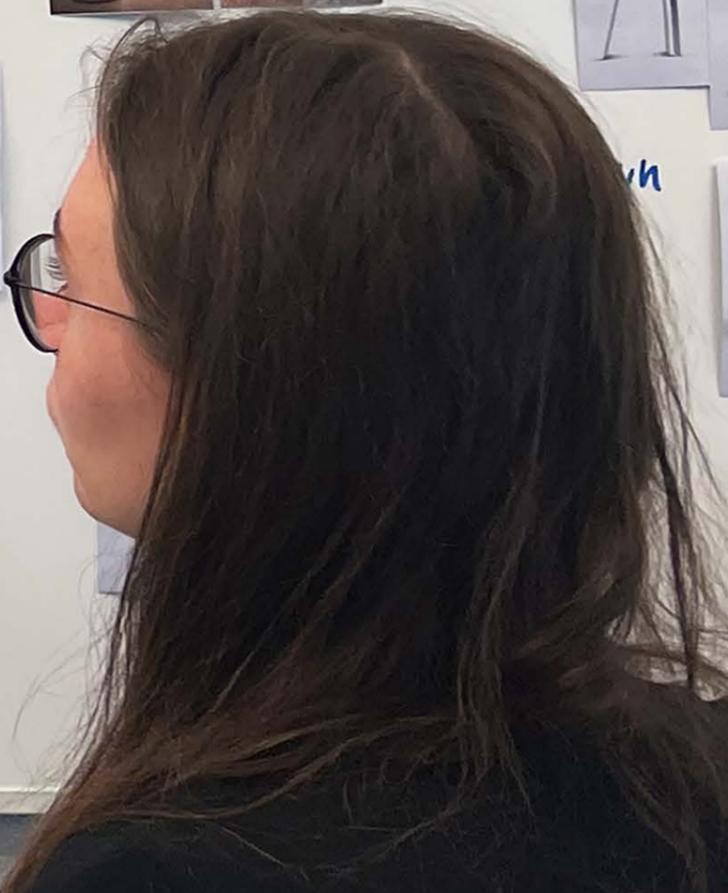
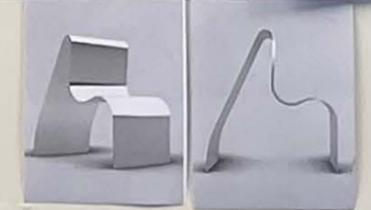
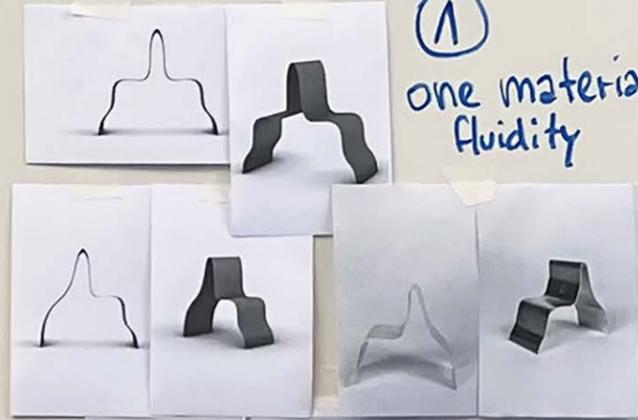
acryl glas



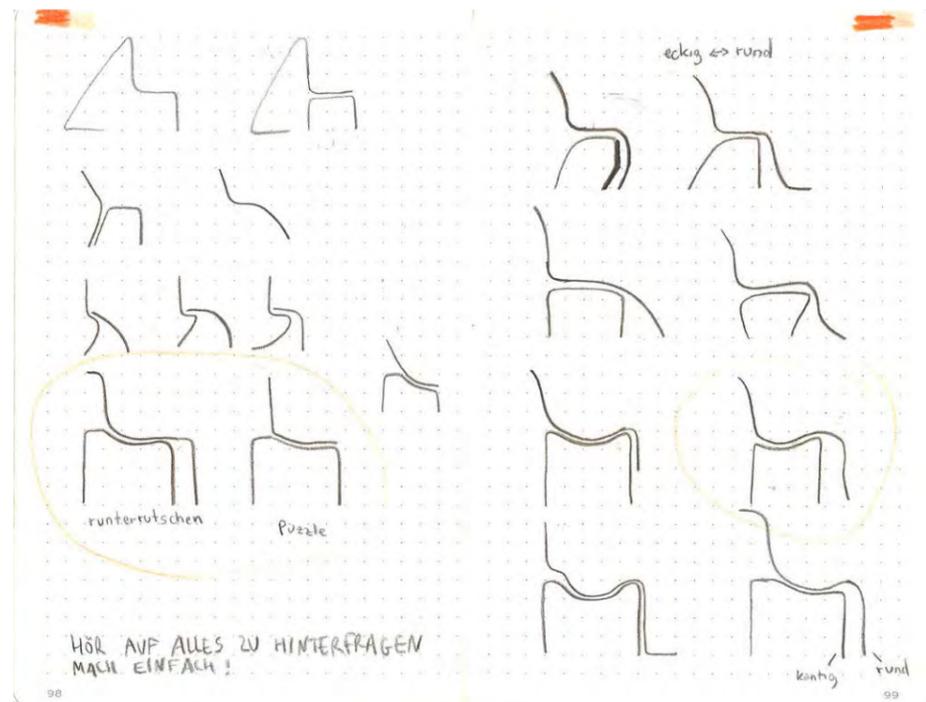
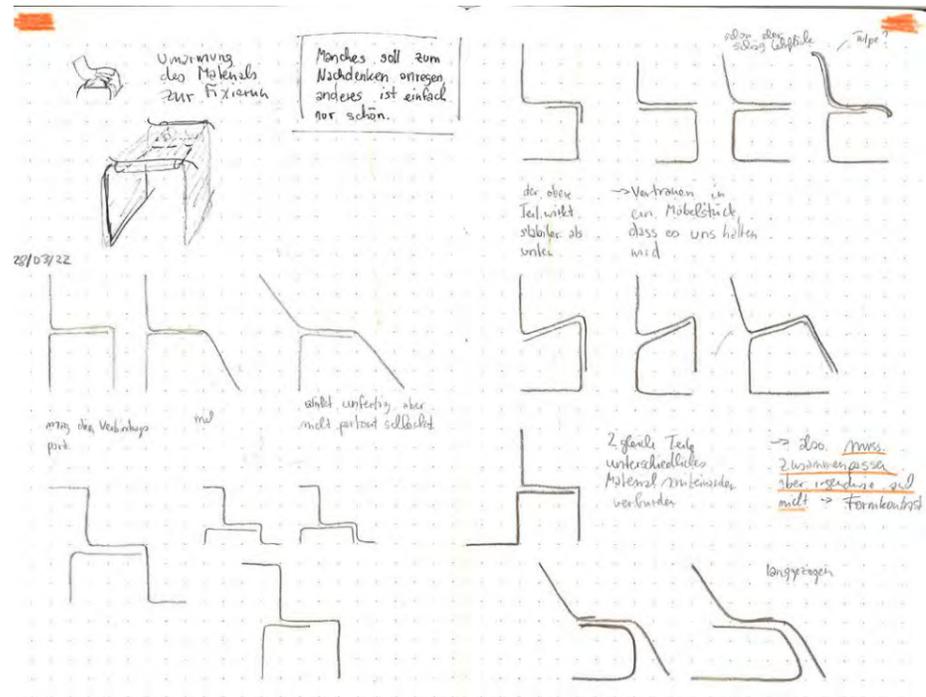
WATER-MOVEMENT



① one material fluidity



# process — sketchbook scans



I started to sketch again. But this time with all of my previous models in mind and a better-defined goal, of two parts that should complement each other.

# process renderings — formfinding



I translated my sketches into 3d models. And after some time I found my form, which you can get a glimpse of on this side. The next steps were to figure out the right dimensions and how to sit on them.

ONE. WHERE TO START?

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# model — scale 1:10



model plastic+metal one



model plastic+metal two

In order to see how my design is looking with the chosen materials, I built two variations of my final design. One with an inclined footrest and the other one with a straight one.

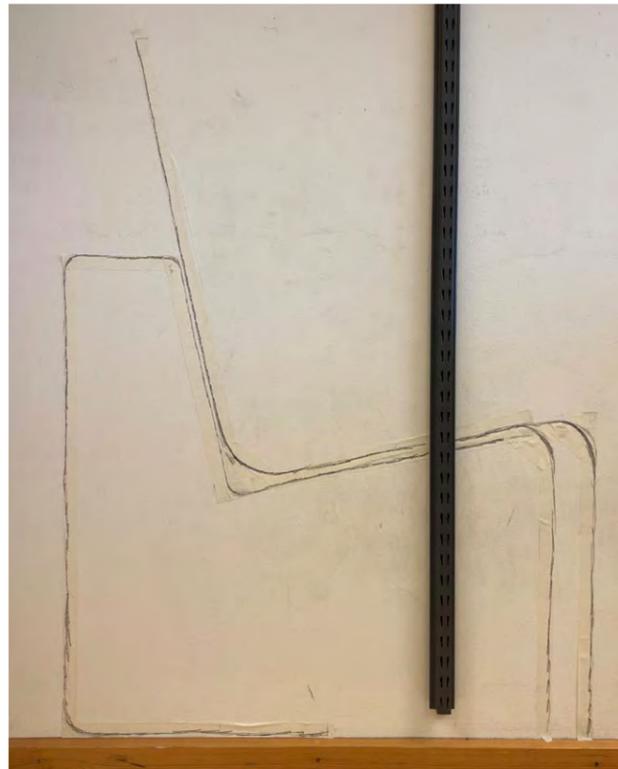
# 1:1 quick and dirty models



cardboard model one, Tim



cardboard model two



tape model on the wall, with 1:1 measurements

## size adjustments

The final design is ready. Now I had to determine the right dimensions. To achieve an object a person could sit on and at the same time not distort my silhouette in mind.

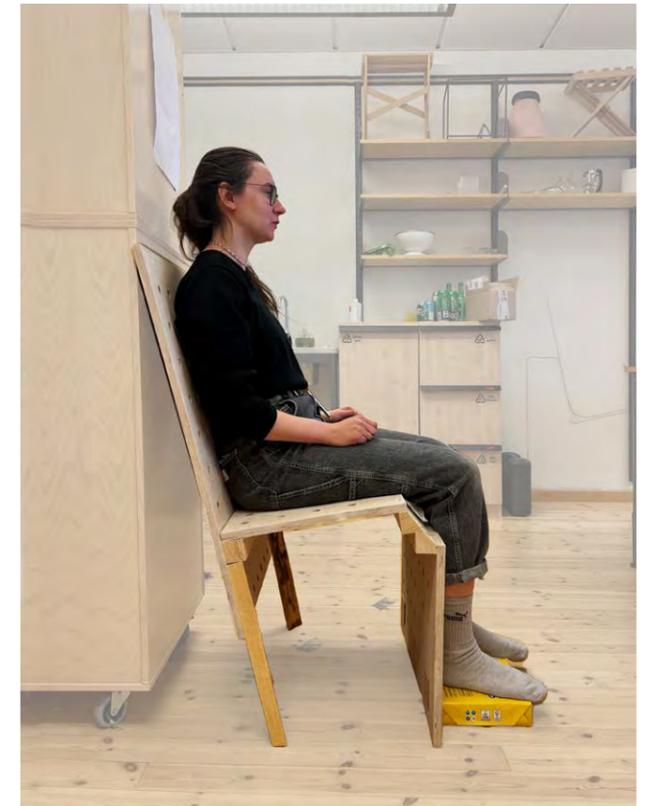
To get a three-dimensional impression, I copied the shape quick and dirty in a 1:1 ratio using materials I found at the university. The silhouette consisted of a long cardboard sheet, as this allowed me to make quick changes using a cutter and tape.

I quickly found out that I had to change some measurements. But to be very sure about it I needed to have a more robust model.

## wood model —



Valentin



me

## scale 1:1

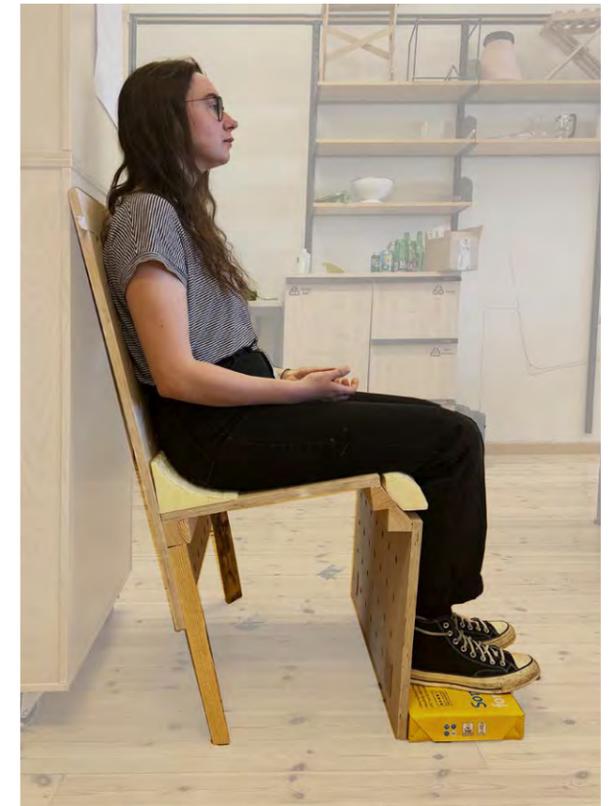
This I built in the next step in the workshop out of wood. The fillets I carved out of foam and attached them to the model.

Afterward, a lot of people were allowed to try it out. The feedback I received was good. People were sitting longer than needed on them. I only had to change the height of the sitting surface and the height of the reclining surface.

# wood mockup with fillet —



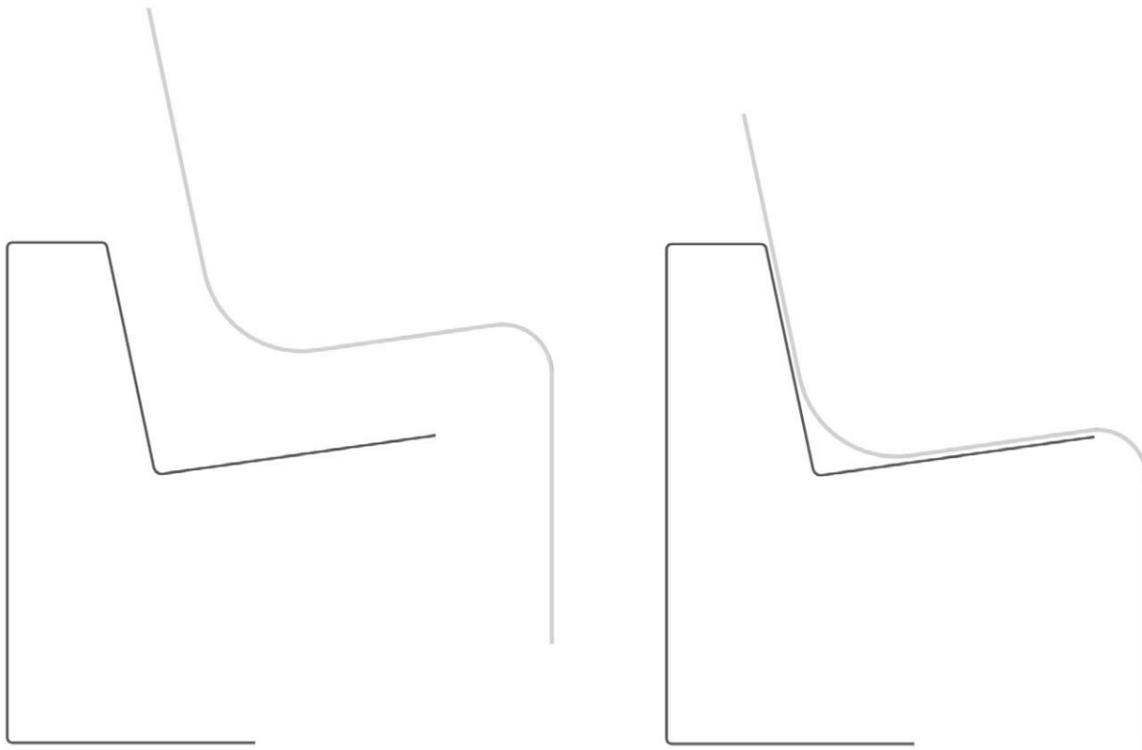
Lino



me

test sitting/usertests

# How to combine metal and plastic —



## mechanical/glue/none?

I thought a lot about how to combine both materials and came up with three different options. One could be a mechanical connection by screws or bolts. But I discarded that quickly because that would take away too much of the lightness and simplicity.

The second possibility would be to glue both materials together with special glue. The advantage of this is the invisible connection. The disadvantage is that both elements can no longer be taken apart. But it's still a good option if the end user wants a secure connection of both parts.

The third option is not to connect both parts, by only laying them on top of each other. As it has been shown in many models, due to the arrangement of the angles and that both parts rest on the ground, they both support each other.

This way both parts are separable from each other, though it could be that end users can create more friction with the help of small anti-slip stickers.

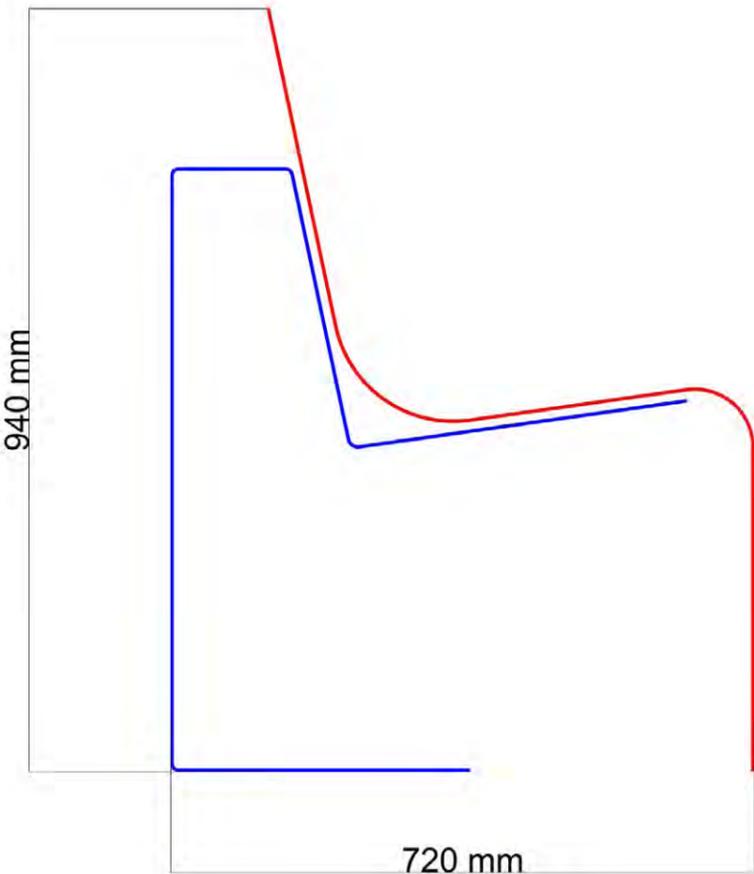
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**FOUR. FINAL MODEL**

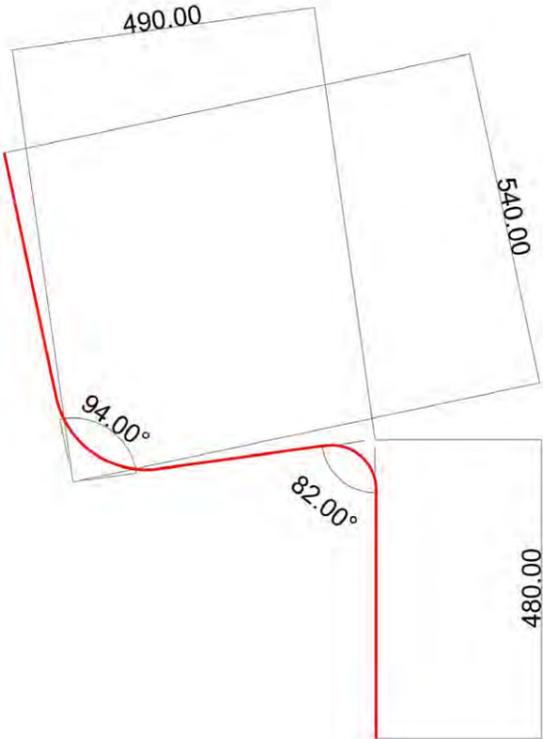
# final model measurements



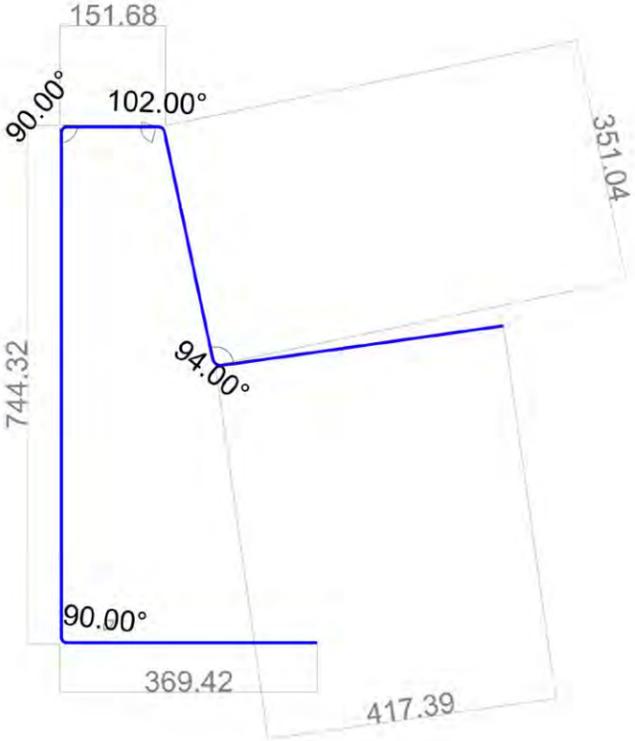
depth: 520mm

polycarbonat sheet length: 1414.071 mm

steel sheet length: 2017.709 mm



polycarbonat part



metal part

# final model



This project is an object with a seating function. It invites you to sit but is not only designed for sitting. At the same time, it's a sculpture, which occupies the space and is also taken up by the room. It should affect the viewer and perhaps provoke the question: Can I sit on it? Do I want to sit on it? Is it safe?

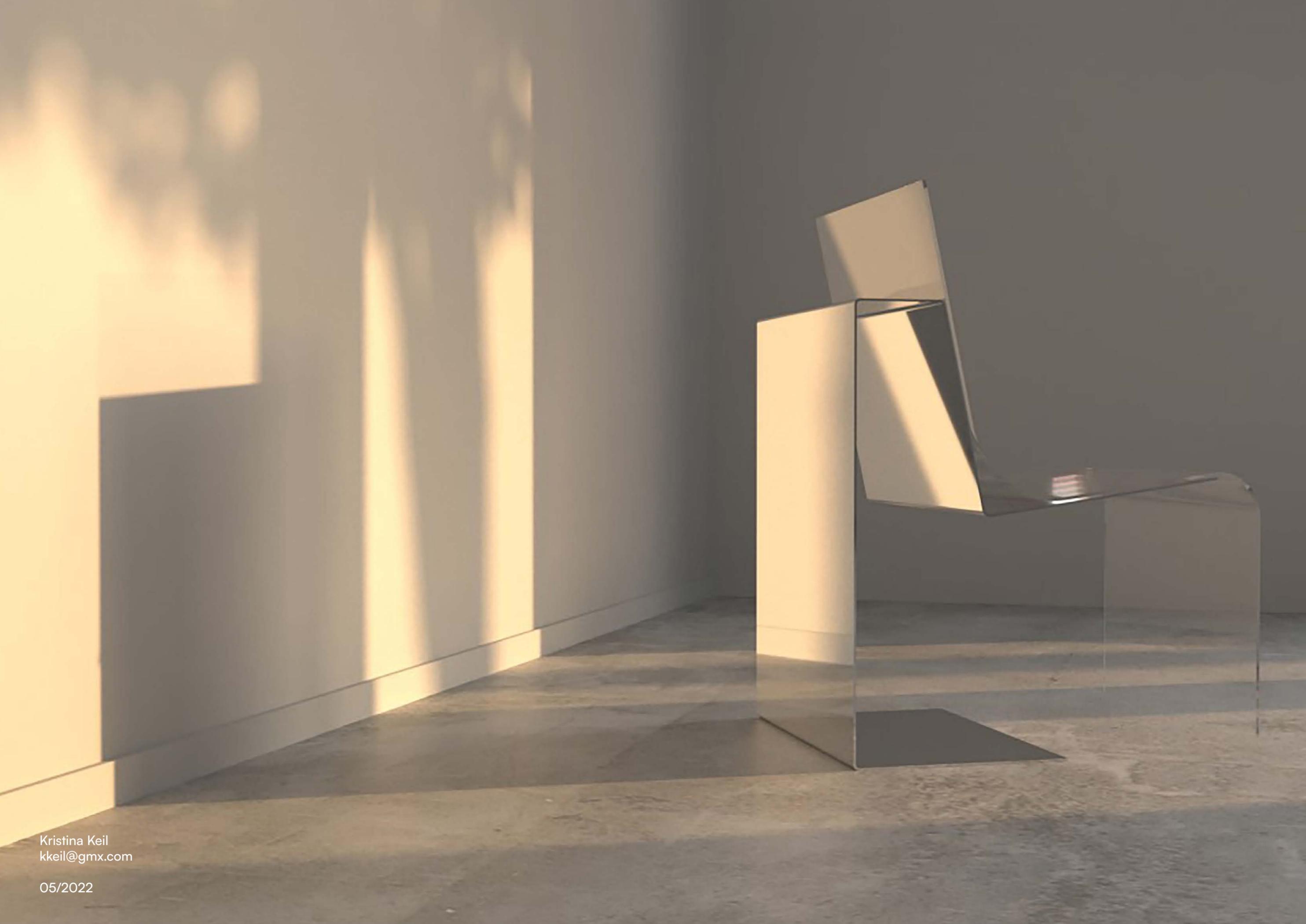
It is a performance piece. Through sunlight falling through the windows, the object becomes alive, as the reflections move throughout the day.

I aimed to create an object which is there but at the same time not. Which integrates softly and calmly in the room, but at the same time stands by itself. It is changing its appearance depending on which view you are looking at it. From one side it is more visible than from the other.

It consists of two hard materials but seems soft, fluent, and light.

My favorite part is the contrast between the round edges in the plastic part and the more sharp edge in the metal part. In between, it's creating a space, where the eye gets interlocked.





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