

HIDEAWAY

A MICROCLIMATE ON WHEELS



Soft Architecture HS2020

Designing (with) microclimates.



FIELD RESEARCH
Walenstadt – Quinten, Camping & Hike



1. Task – Find a material that changes over time

On the hike from Walenstadt to Quinten, we collected material that changes over time.

I picked many different berries on the way. Because of the heat and the friction in the plastic, the fermentation process has already started. The change of these materials is the fermentation process, which ends in the final result, the alcohol.



Picture: Two of my fellow students at the exercise.

2. Task – Blindfolded

On the way to Quinten, we teamed up in pairs and one person was blindfolded, the other person led. The aim of this exercise was to draw our attention to the surroundings and to perceive the sounds, smells and atmosphere differently. We later documented these impressions as a drawing.

I was particularly struck by the sounds of the surroundings and the uneven floor. The balance was relatively strongly influenced by the blindfolded eyes. During the whole five minutes I heard again and again the cracking of branches. So I thought there were people in the near surroundings and I thought someone would come every second. After the exercise I asked my group partnering if there were many other people, but she did not see anyone else.



Picture: Lake Walen – My view on the task

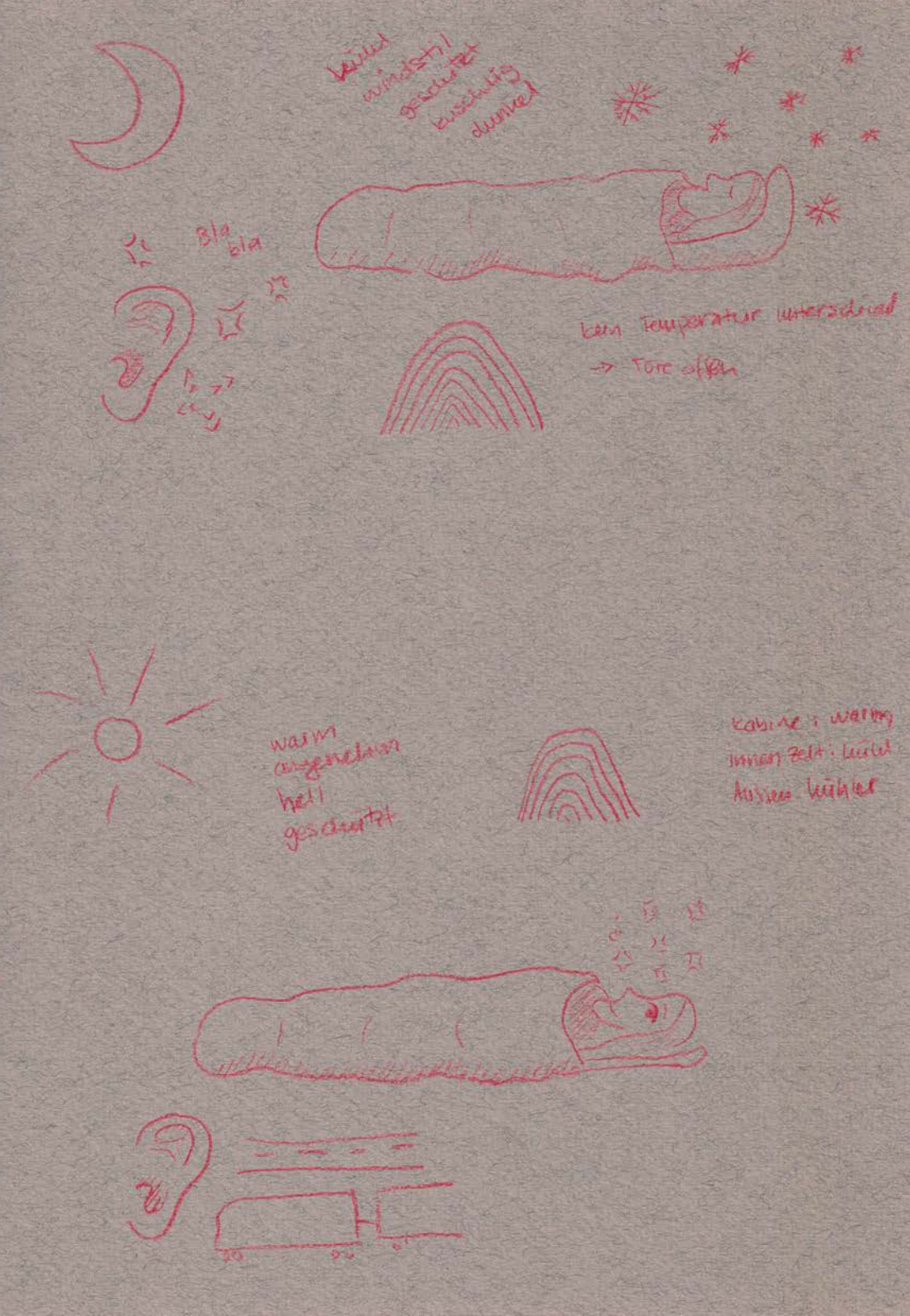
3. Task – feel the environment

In the middle of the hike we arrived back at Lake Walen and after a refreshing swim, we concentrated on the moment of silence.

The surroundings had something very calming, it felt balanced. It was very quiet for a while, you only heard the waves and a few birds singing.

After a while shots came in the distance. The water made everything around it sap and soft. The stones were rounded off and the driftwood faded.

In the air there was the smell of apples.

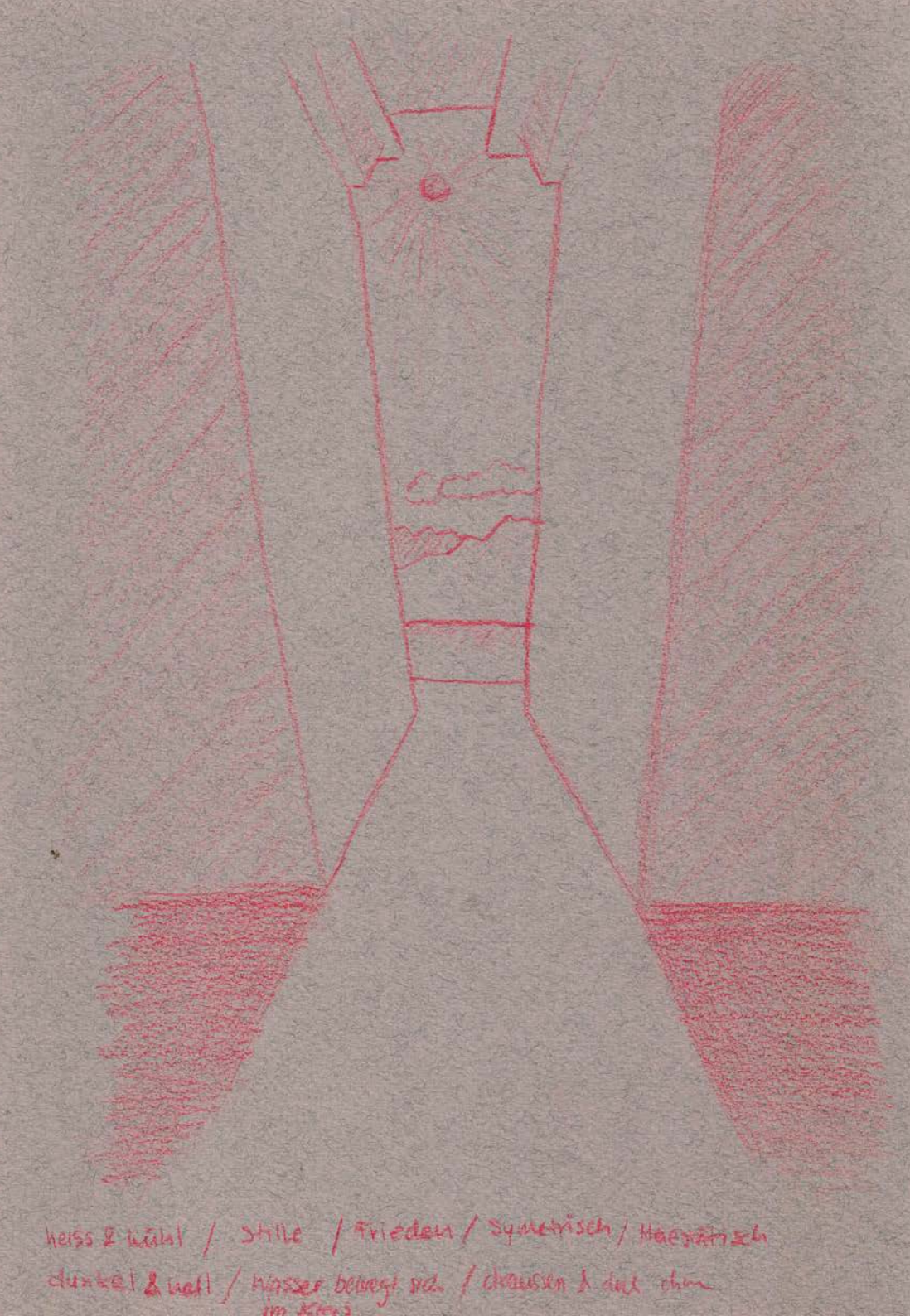


4. Task - Observe

Back in Walenstadt we spent the night in a tent.

We should focus on the interaction between the outer surface and the tent. Since we left our tent open for ventilation, the temperature inside the tent and outside was somewhat the same when I went to sleep. But the sleeping bag provided nice warmth, so only the tip of my nose was a bit cool. I felt protected like in a cocoon, I experienced the room in the darkness as small and narrow. Through the wall of the tent, I was still connected to the outside world. So I could hear the voices of the others.

In the morning I woke up very early by the cargo trains that passed by nearby. The room was now much bigger and I felt protected again and the temperature was very pleasant.



Picture: View from inside the temple

5. Task - Paxmal

On the second day of our excursion we visited the Paxmal. Karl Bickel built this building as a temple of friendship and a place of contemplation. It is situated on the alp of the Churfirsten high above the Walensee.

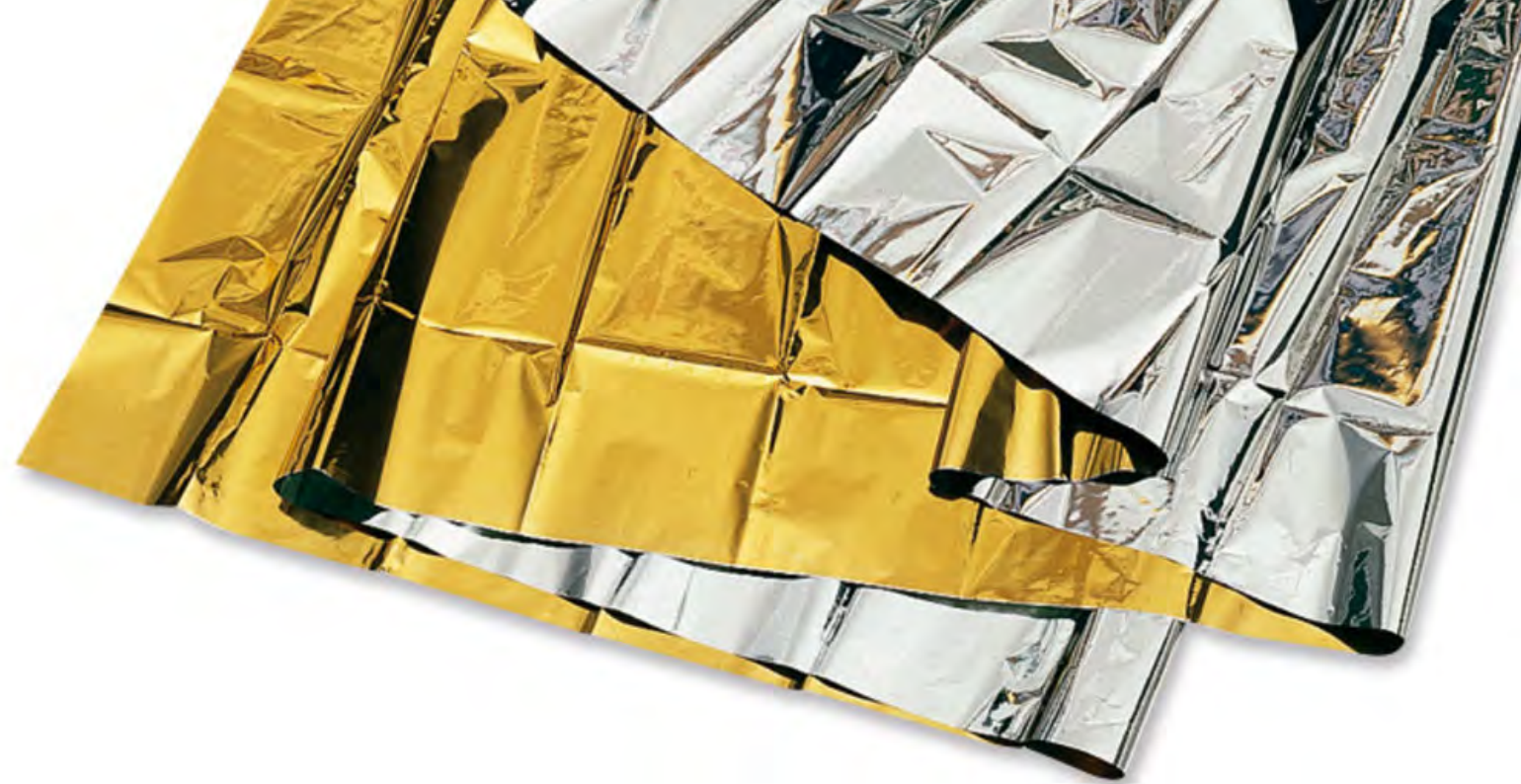
On this day it was very hot, but surprisingly it was very cool in the temple. But if one sat down between two columns the heat came into the room through the sun's rays. I was very interested in this effect.



PAXMAL



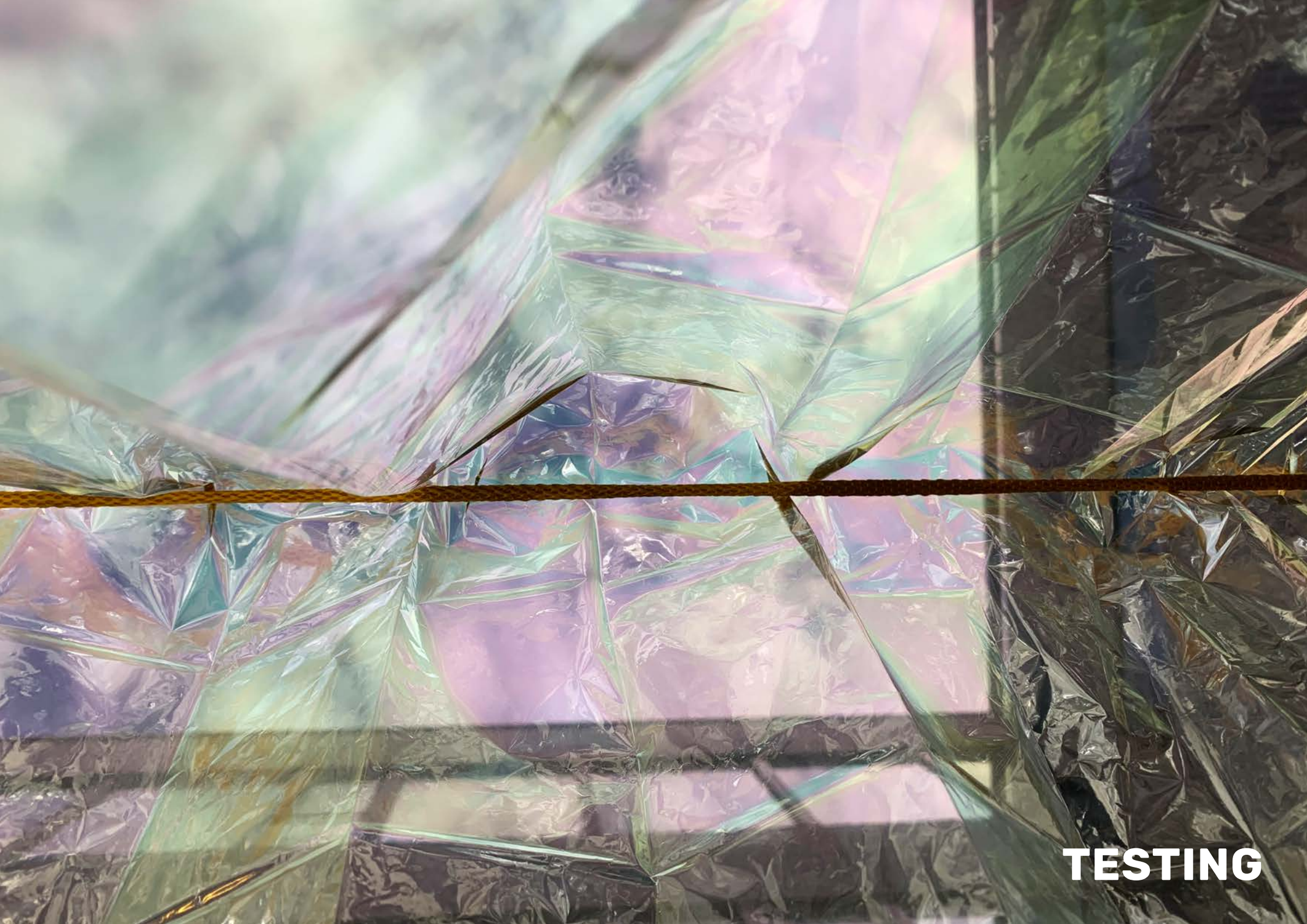
Video (printscreen): Small pond in the middle of the Paxmal, it moved with the wind.



Desk Reserach – Rescue Blanket

After the experience at the Paxmal, I went in search of a way to regain the effect of heat and cold and came across the rescue blanket as a material. If the golden side is facing outwards, the blanket has a warming effect, if the silver side is facing outwards, it has a cooling effect.

The ceiling consists of a polyethylene terephthalate sheet coated with a thin layer of aluminium. It is a multifunctional tool and prevents hypothermia. By reducing thermal convection and reducing heat loss through evaporation and heat radiation. The heat conduction is increased with direct body contact. The silver side promotes cooling, through radiation barrier and provides shade. The film is waterproof and wind-proof (vapour barrier).



TESTING

Warming



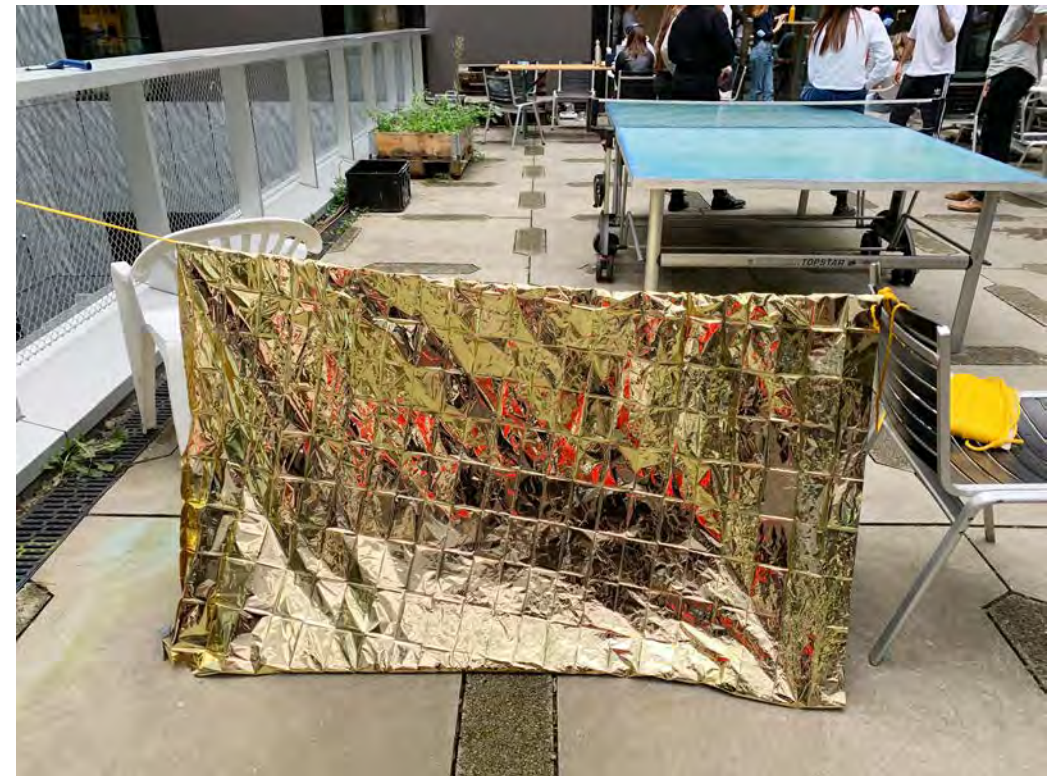
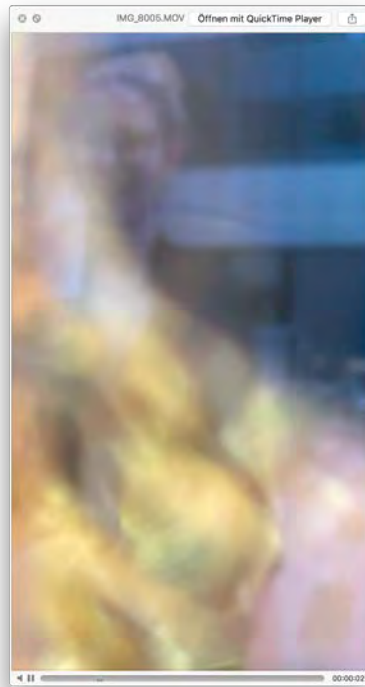
Cooling





Experiments with the heat

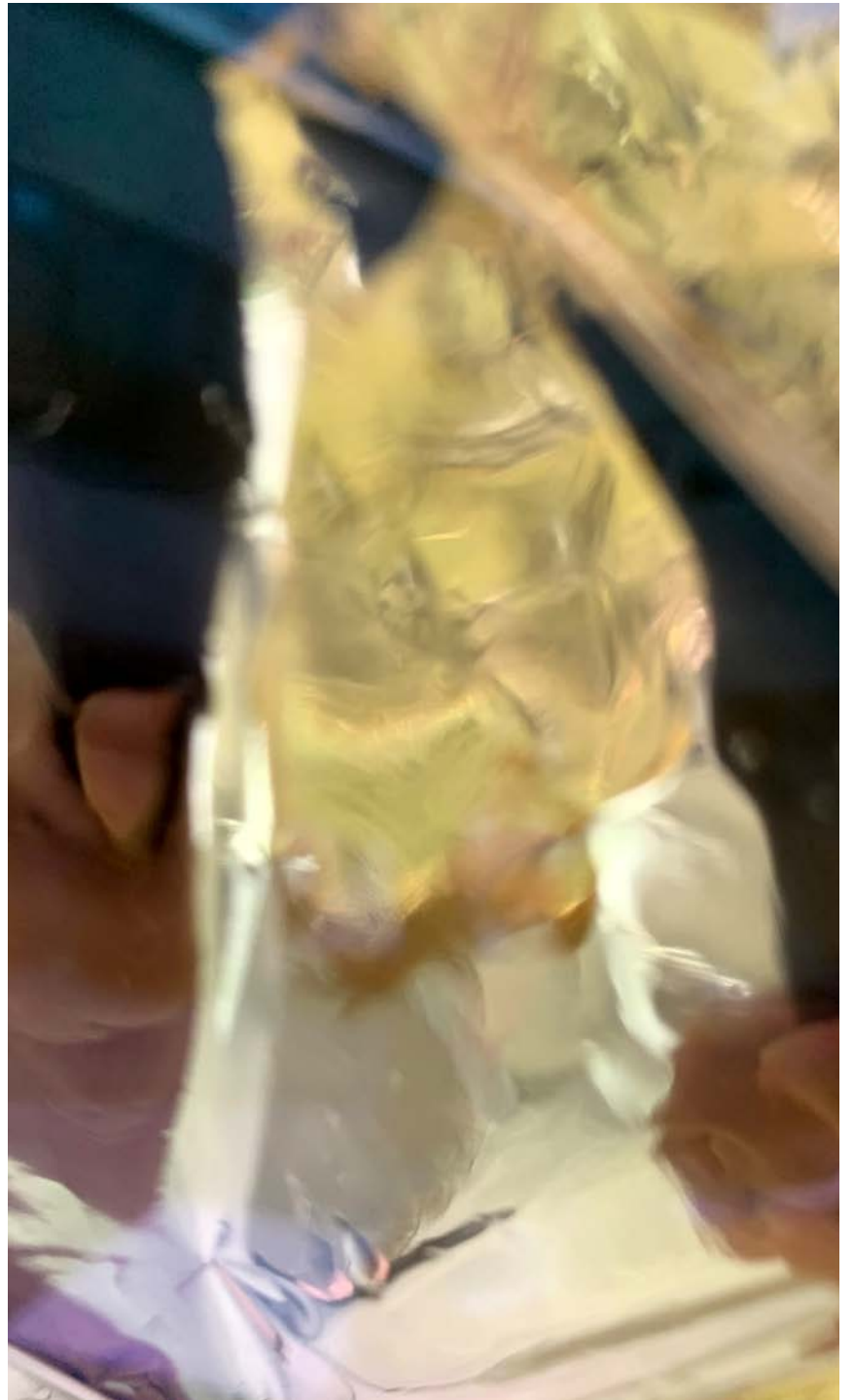
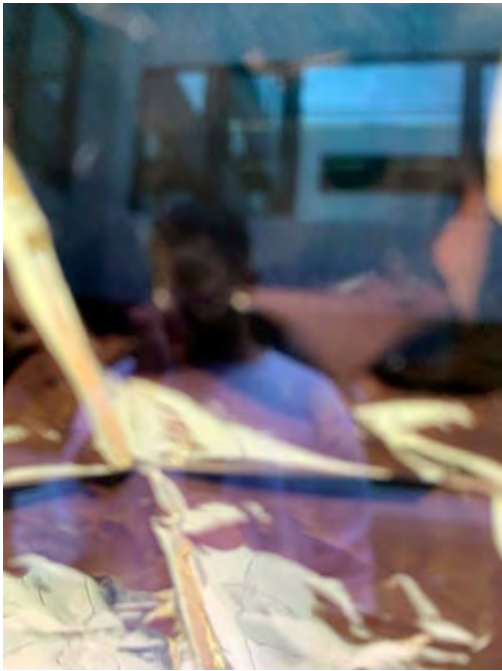
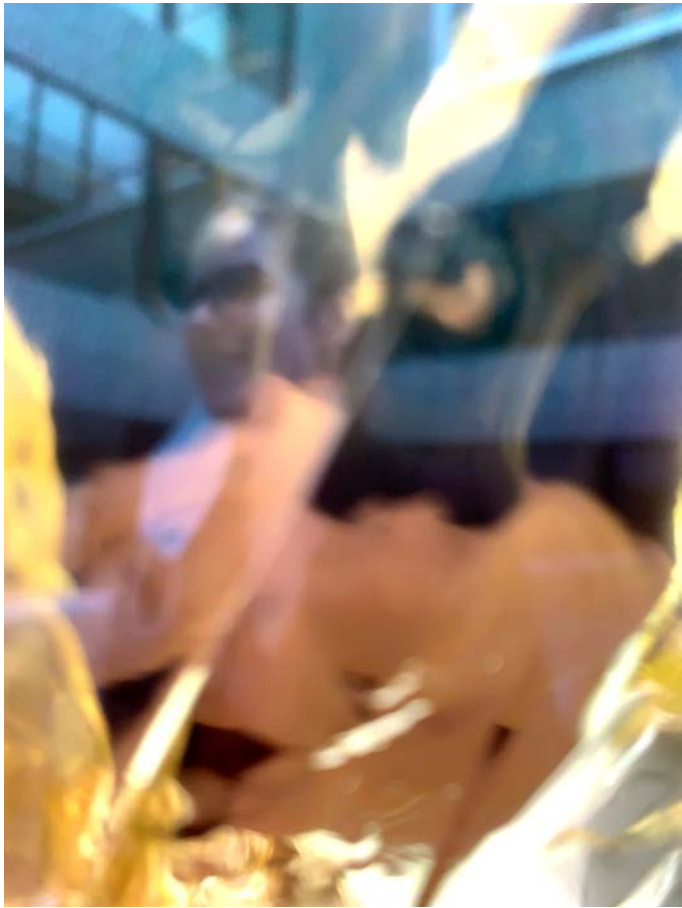
To make further, more intensive experiments with heat, I use a heat lamp. Here I could really establish the theory I was researching earlier about the rescue blanket.

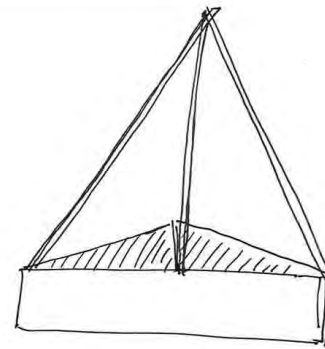


Transparency

When building a tent from the rescue blankets, I quickly realised that you could see through the material. You can't see through it from the outside, but from the inside out. I was extremely fascinated by it. Transparency works best when the golden side faces outwards. If the golden side is on the inside, there are special mirroring effects. (See pictures on the next page)

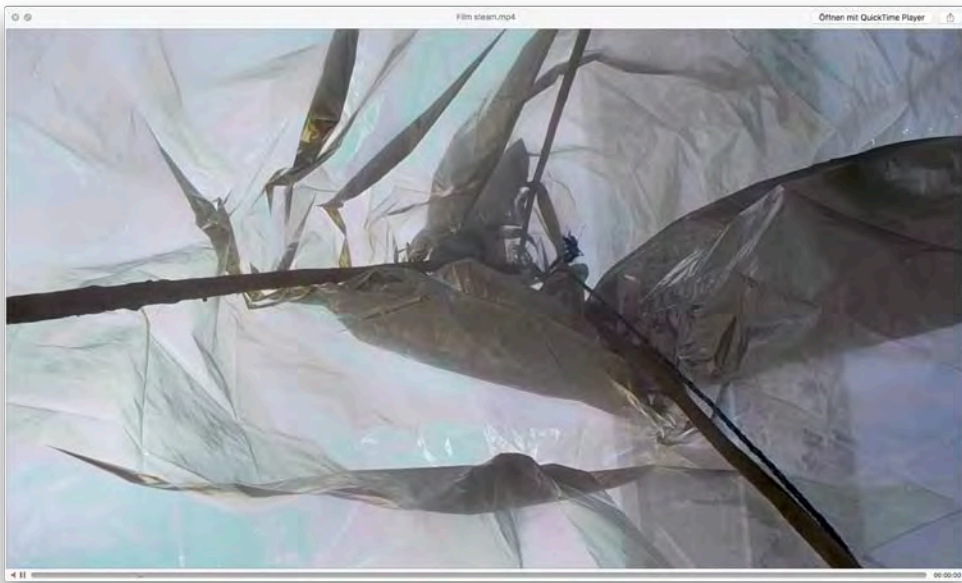
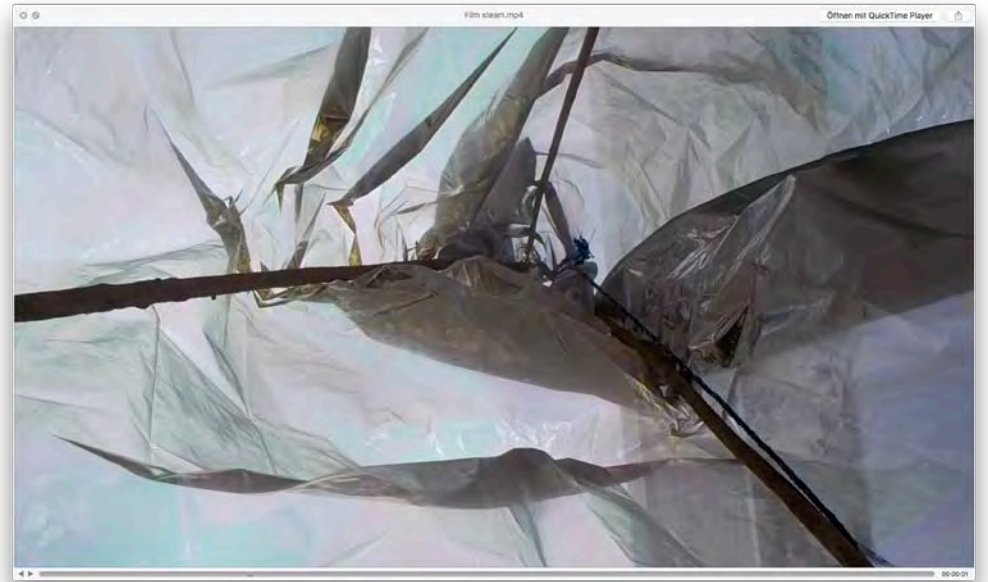
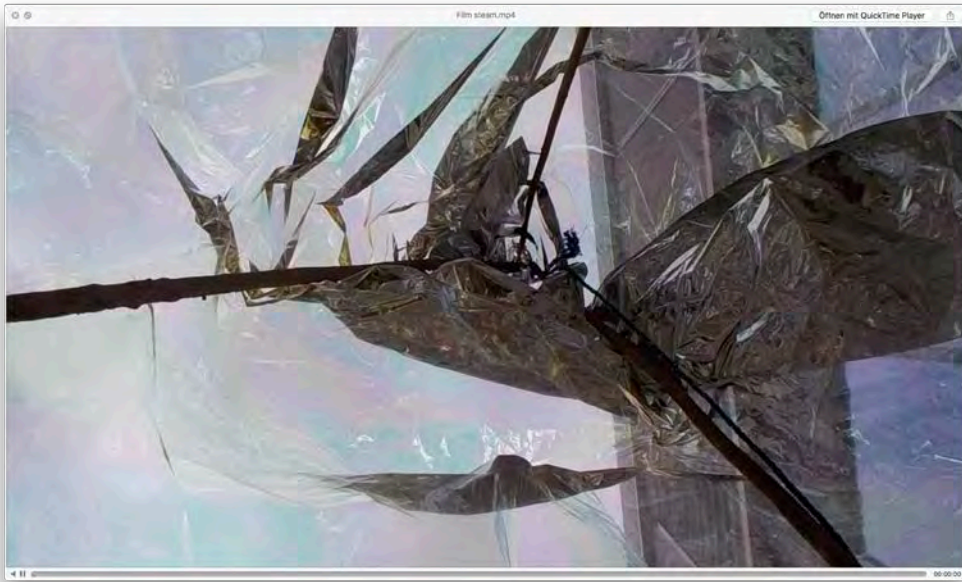
Video (printscreen): Material testing





Steam tests

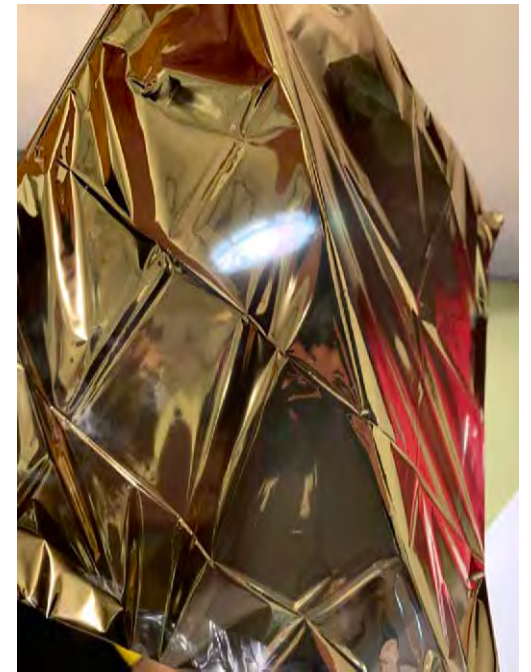
To carry out further tests, I built a small teepee to get a closed room. I used a kettle to generate steam and observed the microclimate in the teepee. The steam and heat rose as expected. The transparency of the material disappeared completely over time as the vapour stuck to the material.



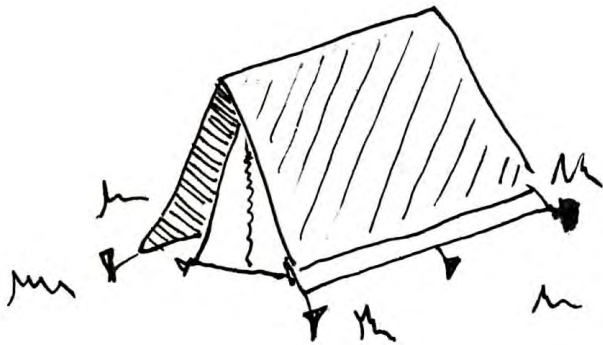
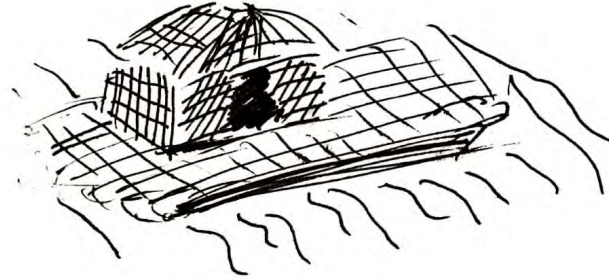
Video (printscreen): Teepee steam testing



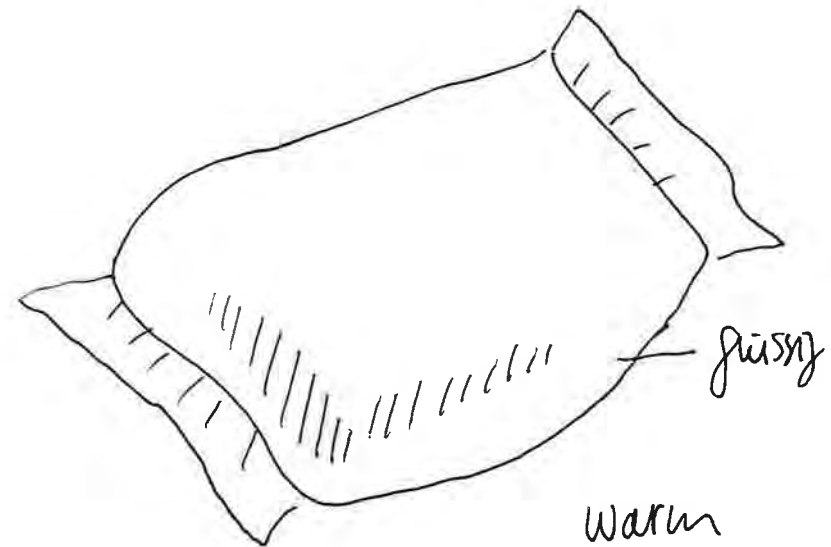
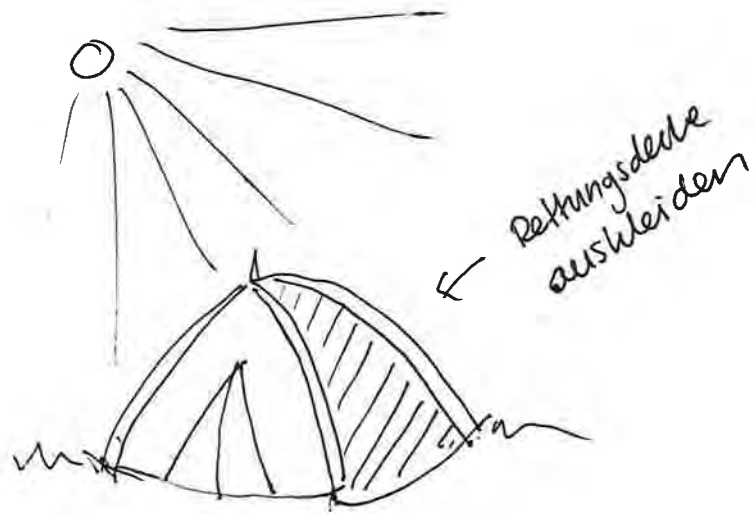
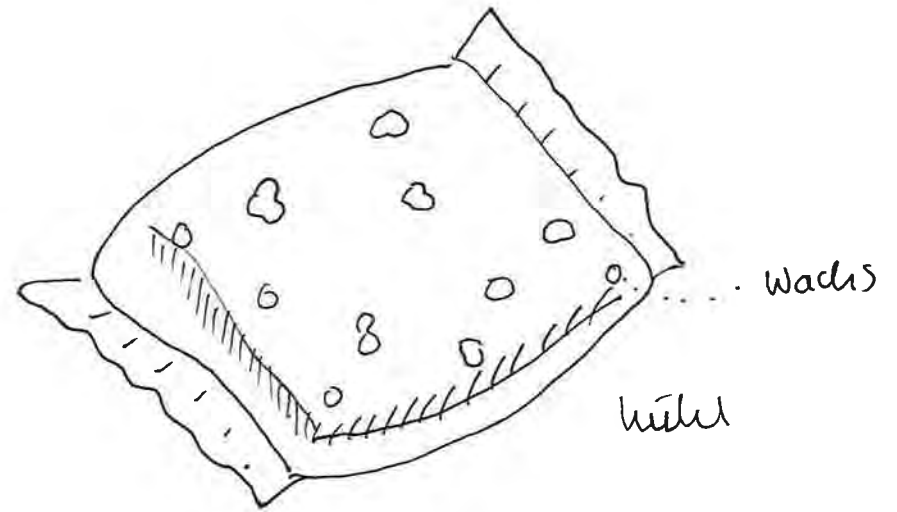
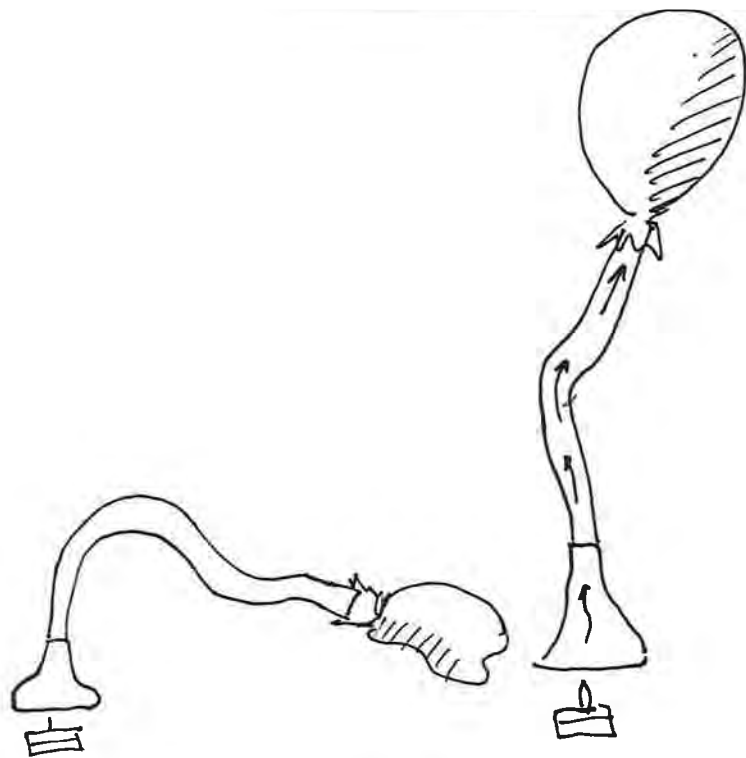
Pictures: Tests with different layers of the rescue blanket. The transparency is lost in the process.



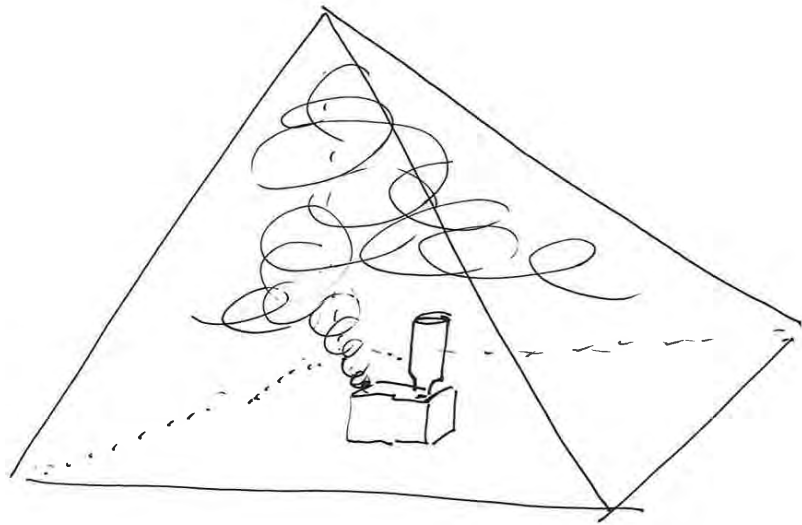
Pictures: Test with indoor lighting, in darkness and strong light, the interior becomes visible.



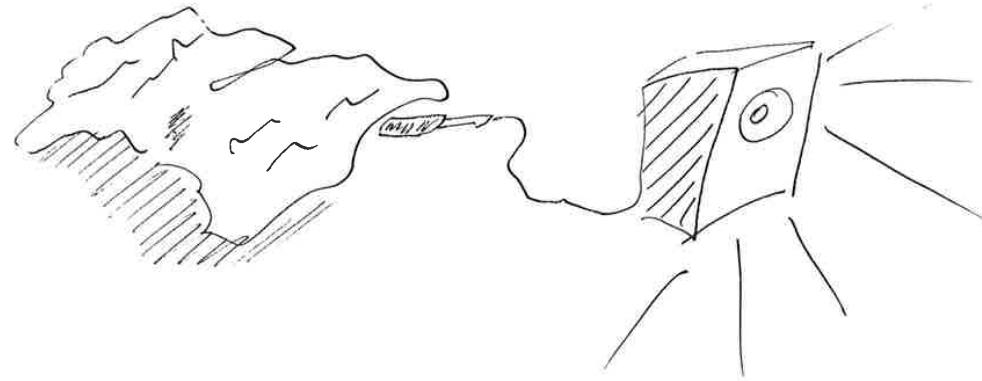
IDEAS AND SKETCHES



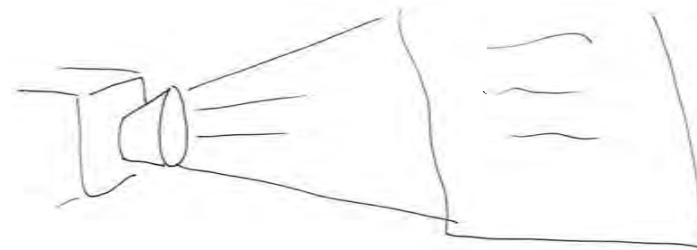
Picture: some sketches to ideas with fluids and the rescue blanket.



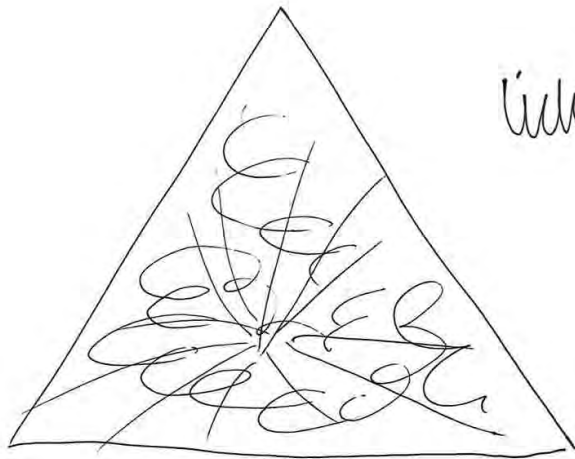
Seuchigkeit



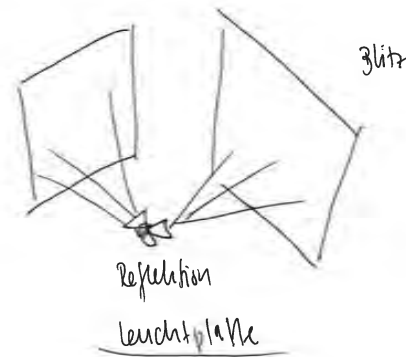
licht → wärm?
→ kalt (LED)



← Bild
Wasser / fluid

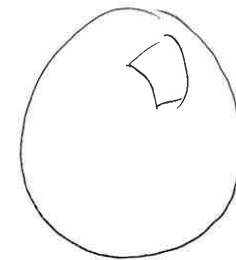


licht & Rauch



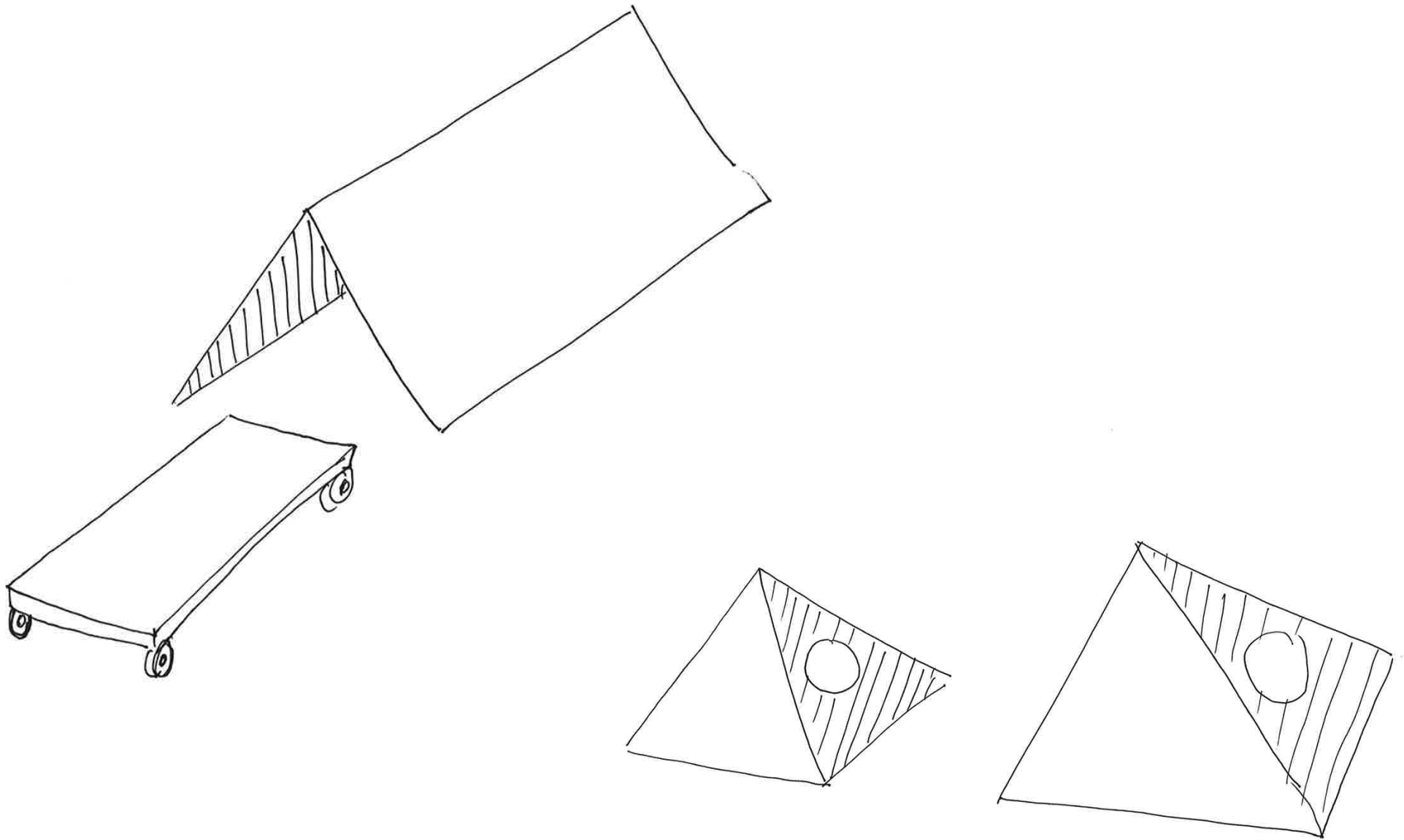
Blitz

Reflexion
Leuchtplatte

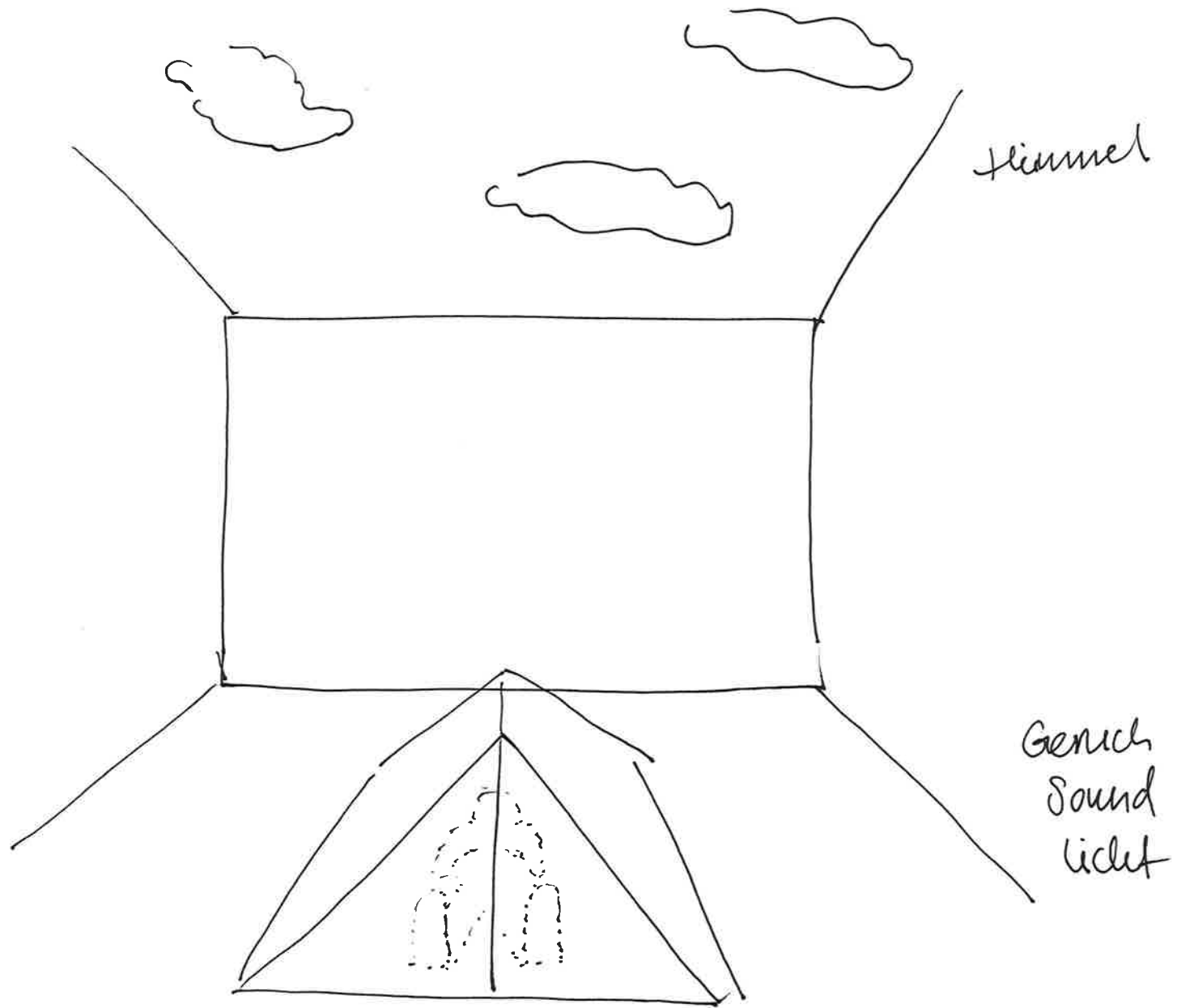


Seifenblase
Interferenz

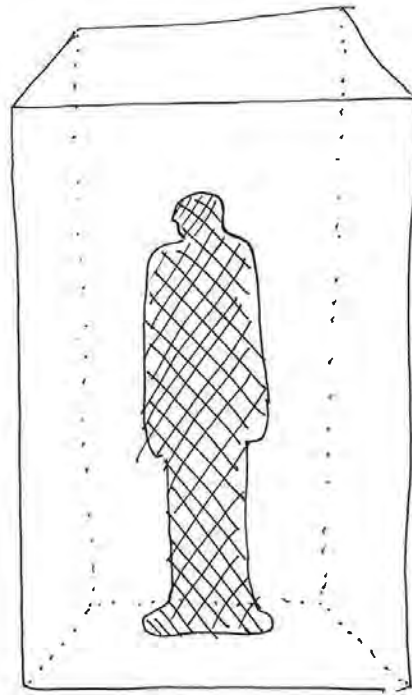
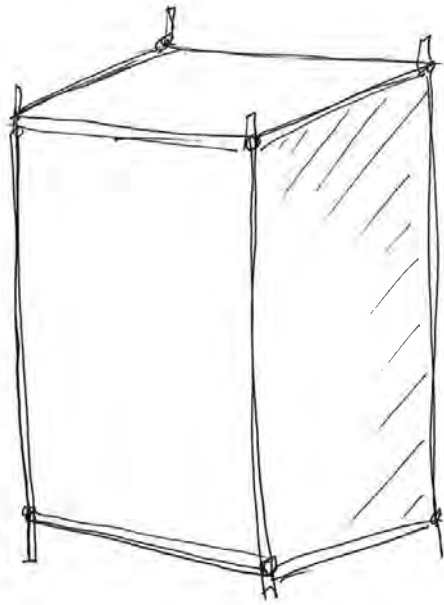
Picture: some sketches of ideas with light, smoke, steam, water and sound.



Picture: Some sketches for finding a form for room with the rescue blanket.

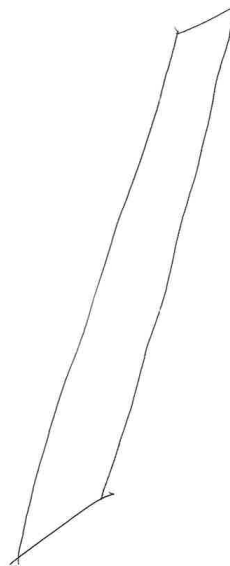
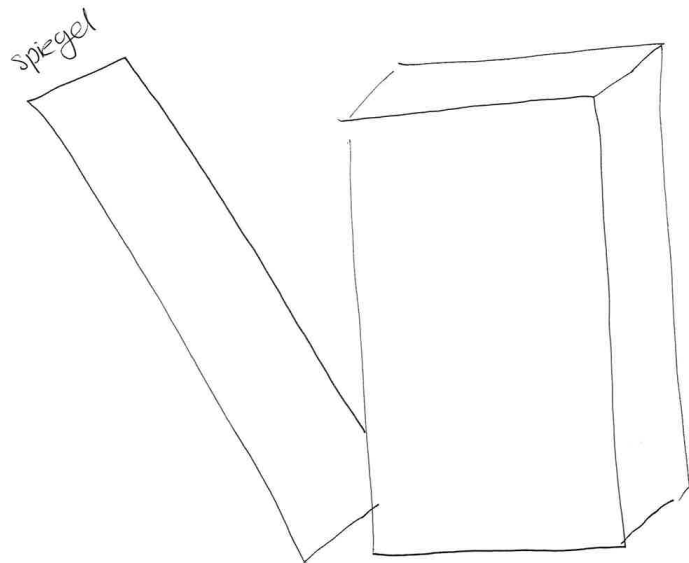
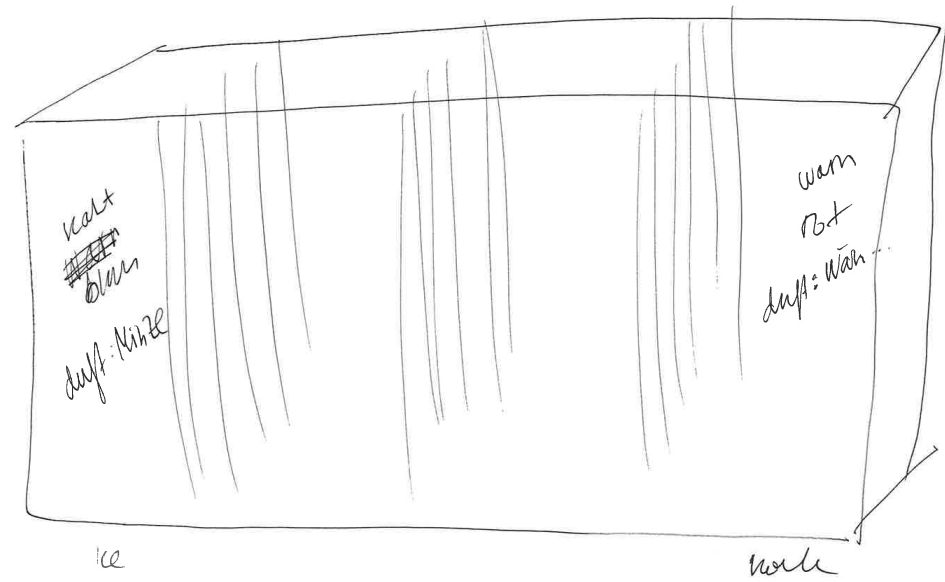
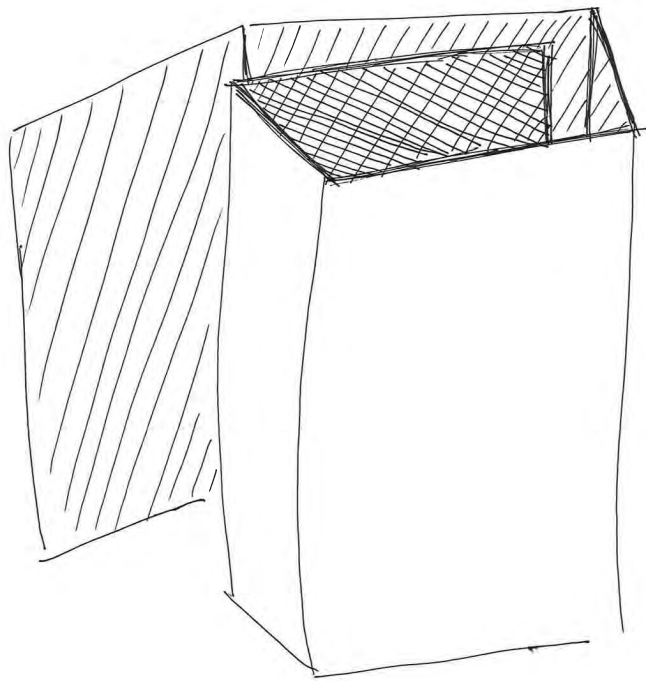


Picture: A sketch of a room installation and the rescue blanket.

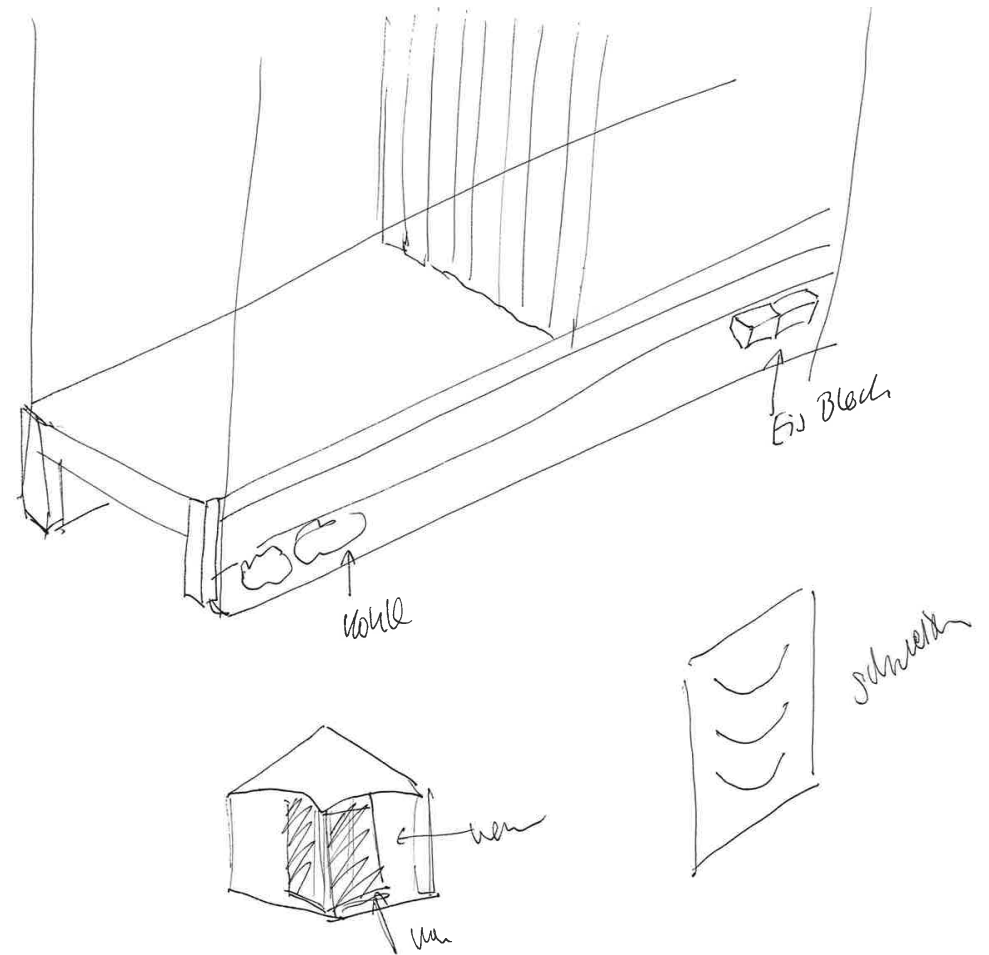
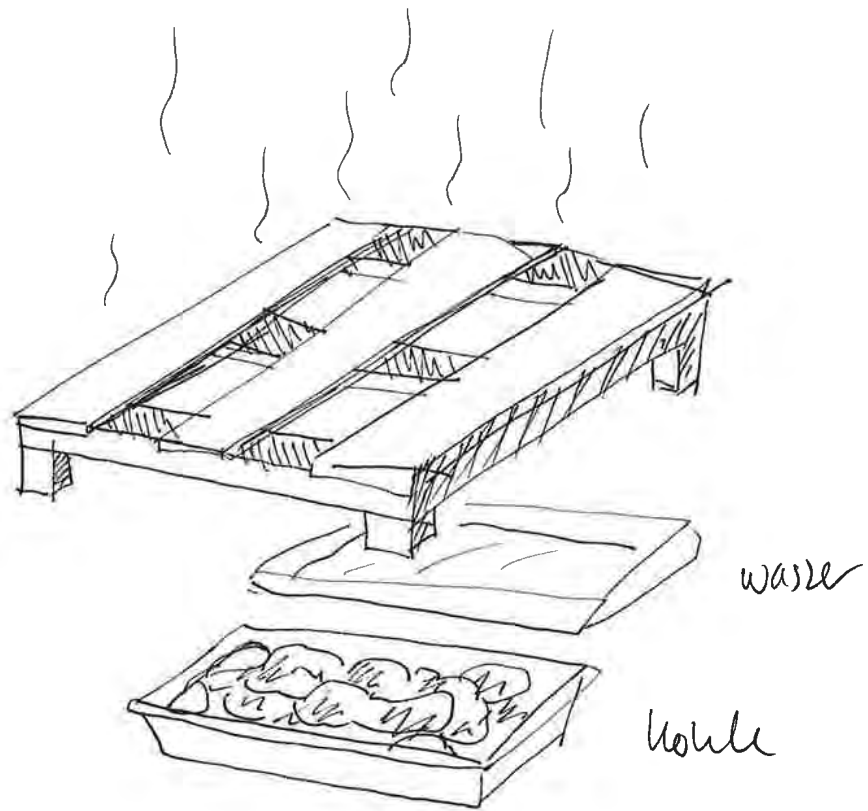


sicht verändert sich
es wird warm

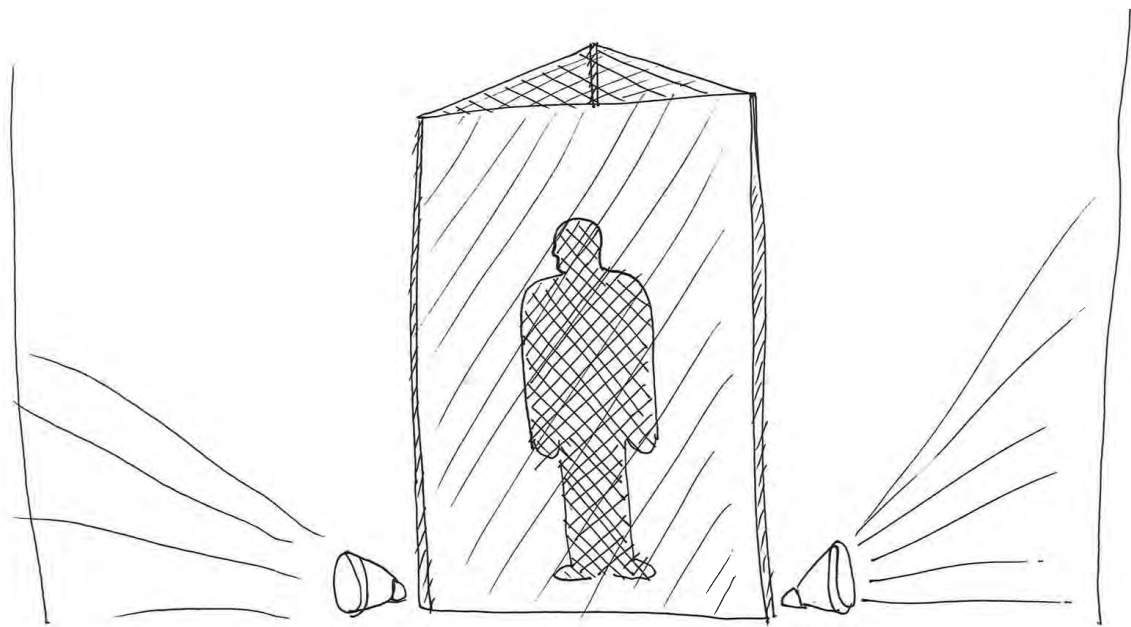
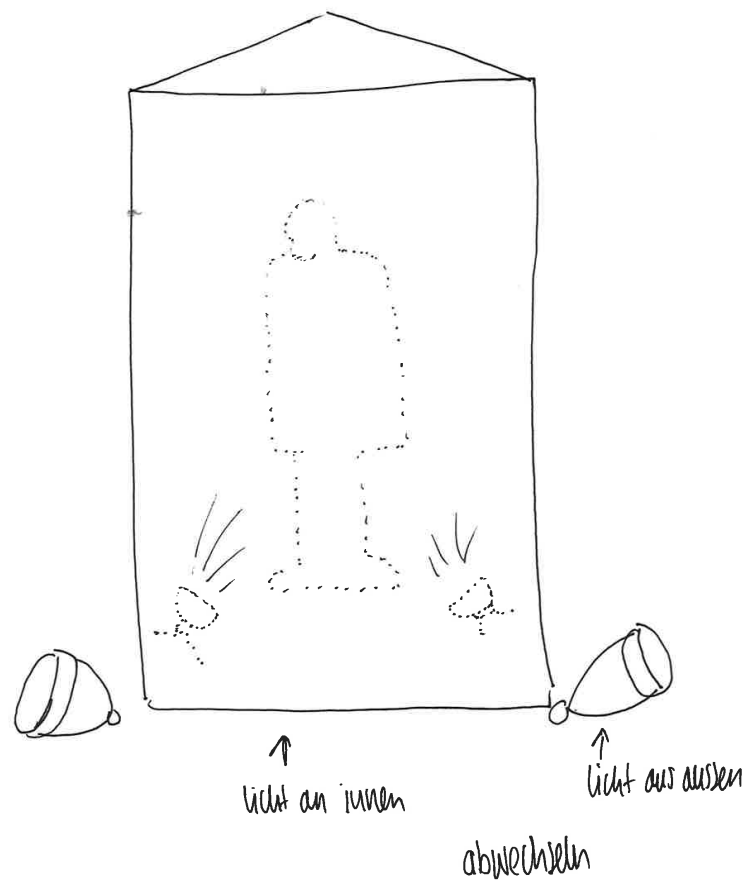
Picture: Some sketches of a closed cabin, covered with the rescue blanket.



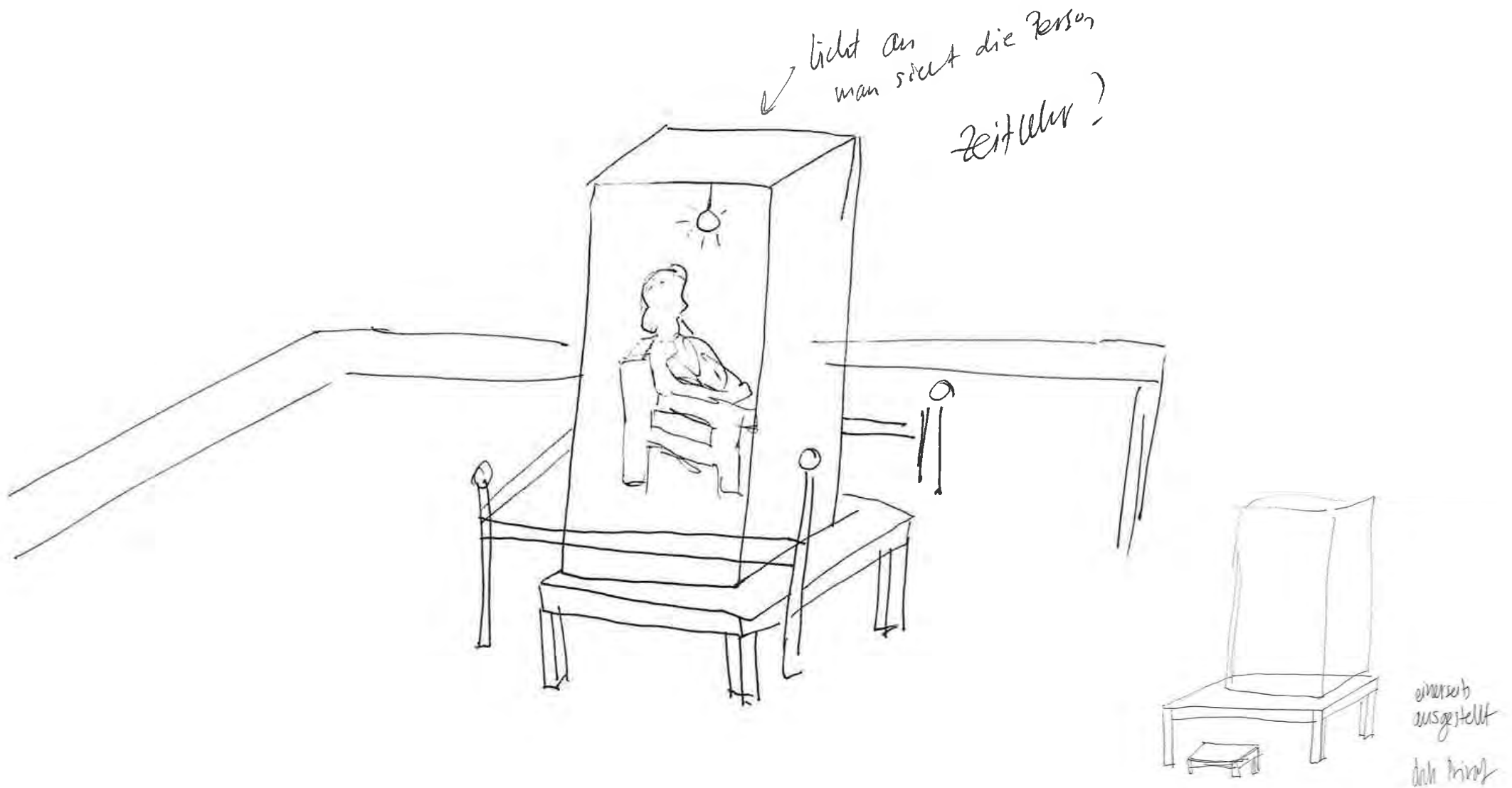
Picture: Some sketches of a closed cabin, covered with the rescue blanket.



Picture: Sketches for considerations of microclimate creation. With coal, water and ice.

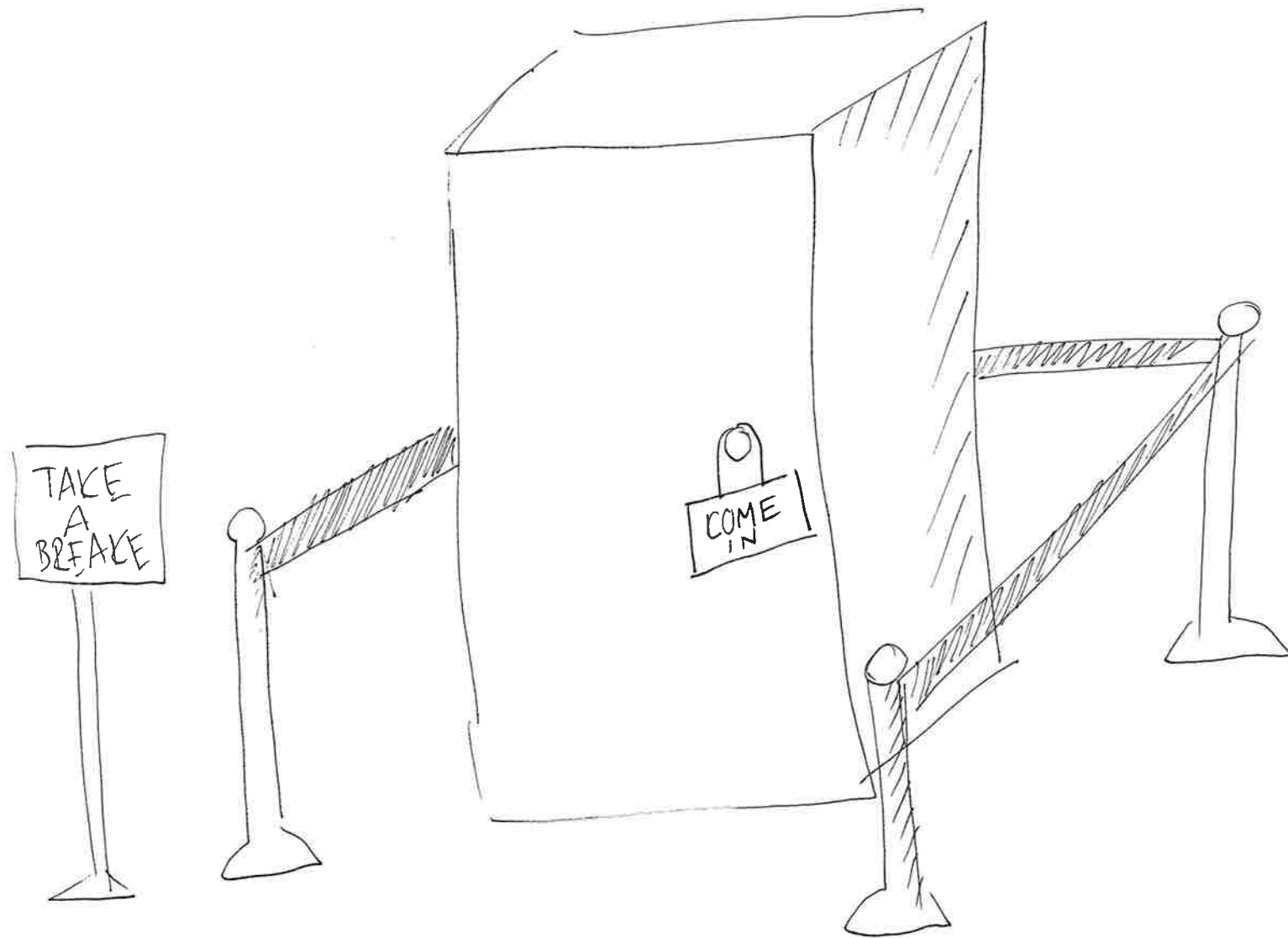


Picture: Some sketches of a closed cabin, covered with the rescue blanket and the play with light. Transparency and not transparency, the play with light. If the light is bright enough, it allows the person in the cabin to see from the outside.



Dampf → nichts mehr sehen wollen

Picture: A sketch of the idea to place a closed cabin at the main entrance of the ZHdK to observe the arriving and leaving persons. In order to strengthen the Paradox of the golden material concerning the attention, defying the hiding, I put the cabin on a platform and fenced it in with a personnel guidance system.



CONCEPT / BACKGROUND

During the COVID 19 conditional lockdown, the whole lesson took place via zoom, every encounter was only virtual. Very soon I felt constantly watched and very soon I got tired. After consulting my colleagues, I quickly found out that it was not only me. There is even a term for it: "Zoom Fatigue".

This zoom fatigue comes from the high performance that the brain has to perform during a zoom meeting. When interacting with people, the brain unconsciously perceives non-verbal signals from the other person. This non-verbal communication, such as facial expressions or movement, is also being searched for during a zoom meeting. Because of the partly blurred, small pictures and the fact that you often only see the head, this observation becomes difficult or impossible. However, this becomes even more difficult and exhausting when several people are participating in a meeting. Often you only see a wall of faces. So we always observe, but we are also observed and start to analyse our behaviour. This is a high-performance sport for our brain. The constant feeling of being watched makes you tired, zoom fatigue. (Hensler, 2020)

During the experiments, the rescue blanket gave me an unexpected opportunity to hide, symbolically the camera can be turned off to the observers, but one can still participate in the events outside without being observed.

So I wanted to build a small room, which would be placed in an outdoor space at a place of encounter. A paradox for hiding is the conspicuousness of the rescue blanket. This makes you curious and invites you to take a closer look at the room.

Through security measures at the ZHdK, I was forced to rethink and finally placed the room on wheels. This offers the possibility to place the room at different locations and to observe different environments.

Due to the function of the rescue blanket, the microclimate in the small room is very pleasantly warm and calm. The chair invites you to linger in a comfortable way and allows you to look in every direction. The surprise effect is huge when a person is in the room for the first time. Nobody expects to see the outside world through the rescue foil.

References:

Hensler, S. (2020) «Zoom Fatigue»
Podcast SRF, 100 Sekunden Wissen



REALIZATION



Building

Since my project would pose a safety problem for the school, the idea of building the box on wheels came up during the mentoring. So you can simply drive away with it at any time. The advantage is that you can also observe the surroundings while driving and can park the vehicle anywhere, whether indoors or outdoors.

For the frame I used a tube frame, which you can build individually from single parts. I fastened this with cable ties to the trolley.



Comfortable sitting

The next step was to line the trolley and frame with the rescue blanket. In order to create / maintain warmth inside, I chose the golden side for outside.

For the seating I used a comfortable chair to make the stay inside as comfortable as possible and because of the lightness of the chair, it is easier to move the vehicle.



Picture: testing on the way

Building and testing

I carefully clothed the vehicle with the rescue blanket and sometimes had to wear sunglasses, the reflection was very strong and caused headaches.

In between I tested my plan and it worked smoothly.

With a lamp I also tested if I could illuminate the interior from inside and thus make the person visible from the outside. It would work, but it would need a very strong light and the heat of the lamps would heat up the vehicle. As it had no relevant meaning for my concept, I did not want to install a lamp in the vehicle, as it would also distract. The effect of looking out was completely sufficient and is a strong surprise effect.



MOODS

TONI-
AREAL







#immernohässig









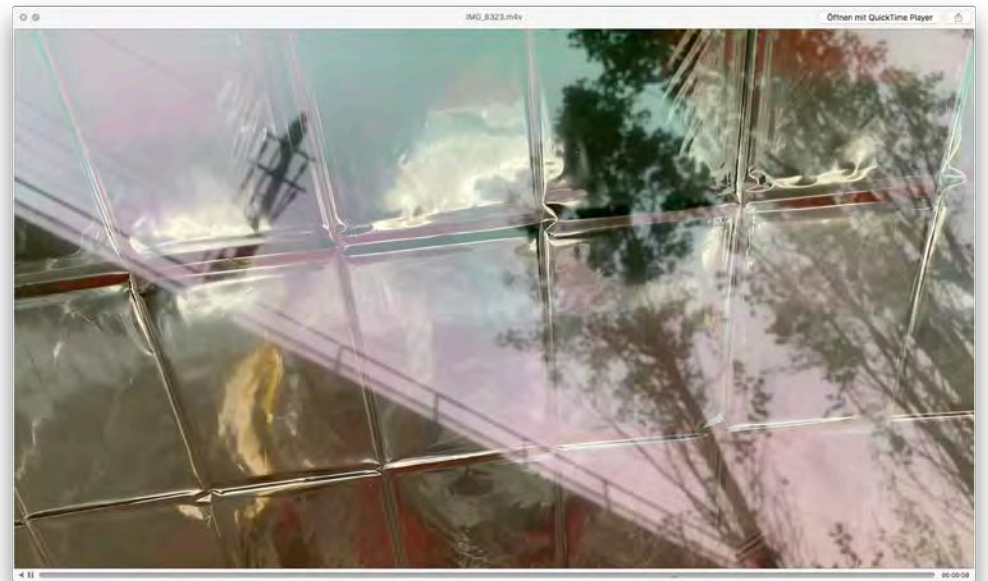
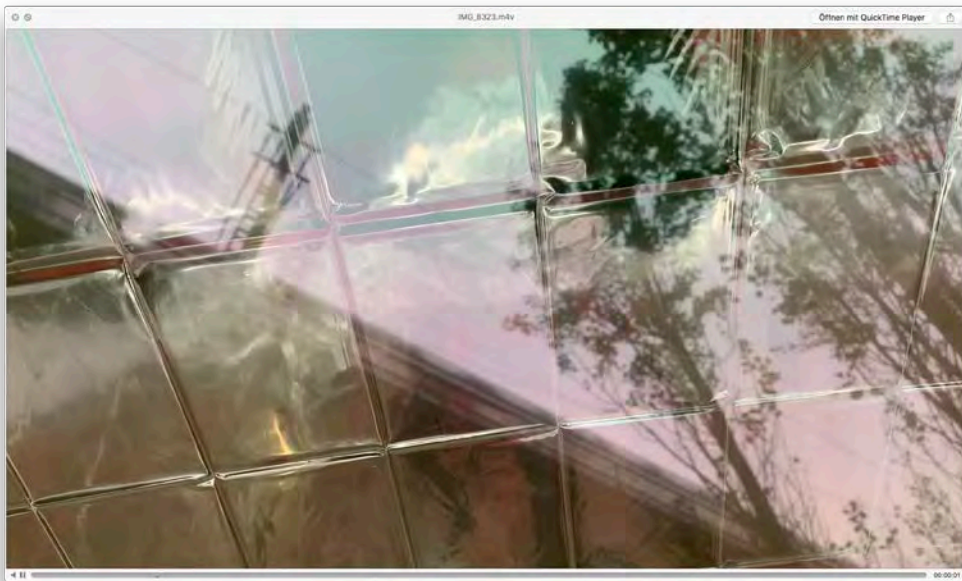




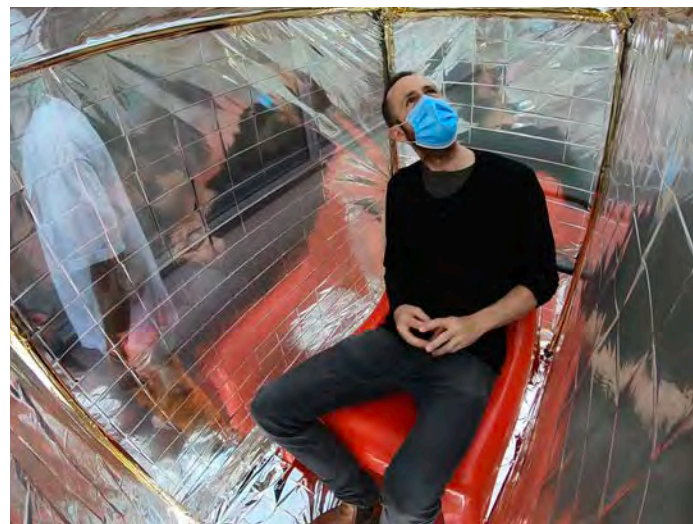


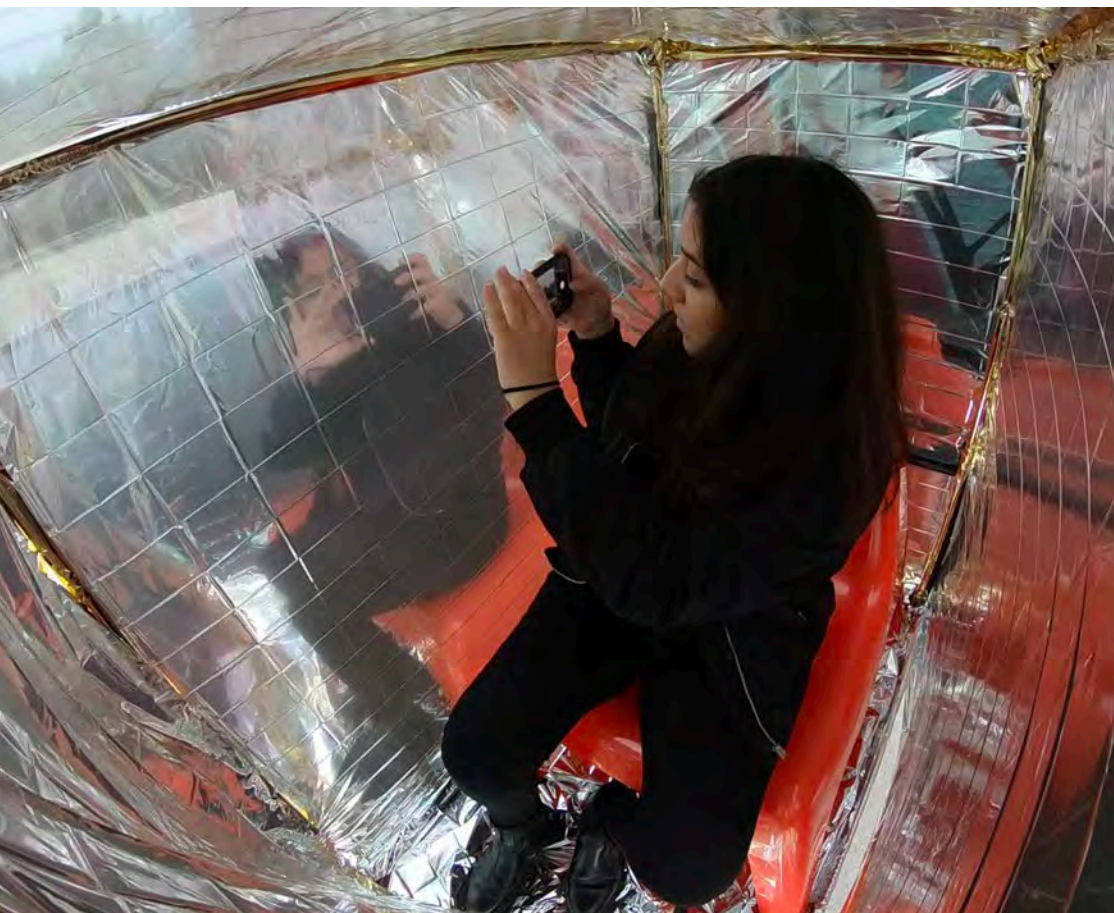


Video (screenshot): A video filmed inside the vehicle.



Video (screenshot): A video filmed inside the vehicle.



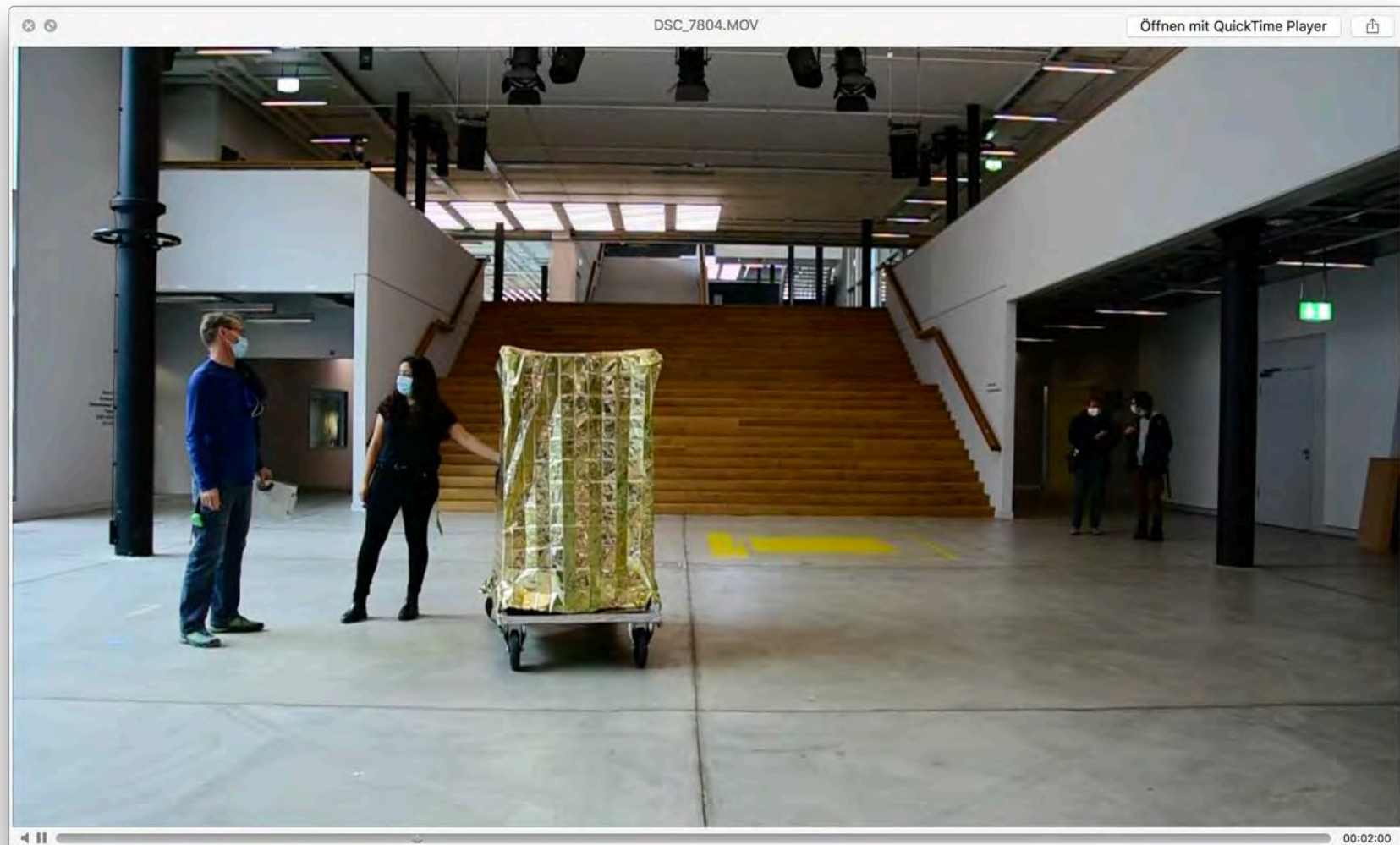








Pictures: Introduction of the vehicle at the presentation. On site and virtual.



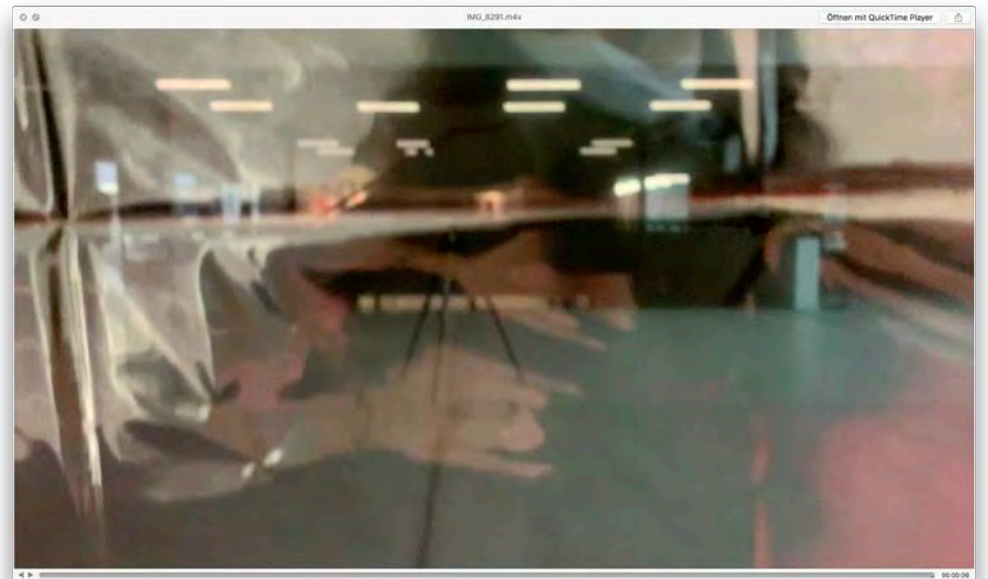
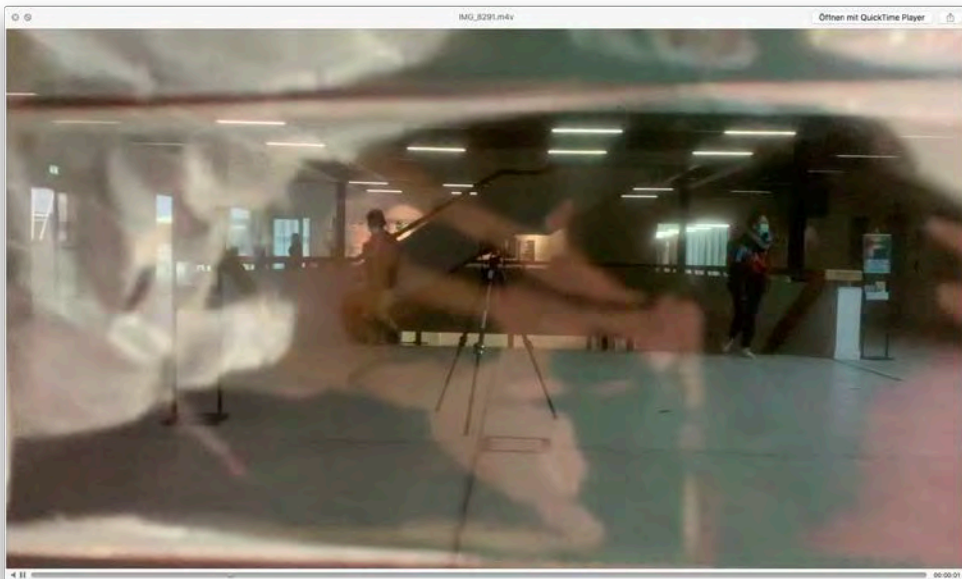
TESTING / FEEDBACK



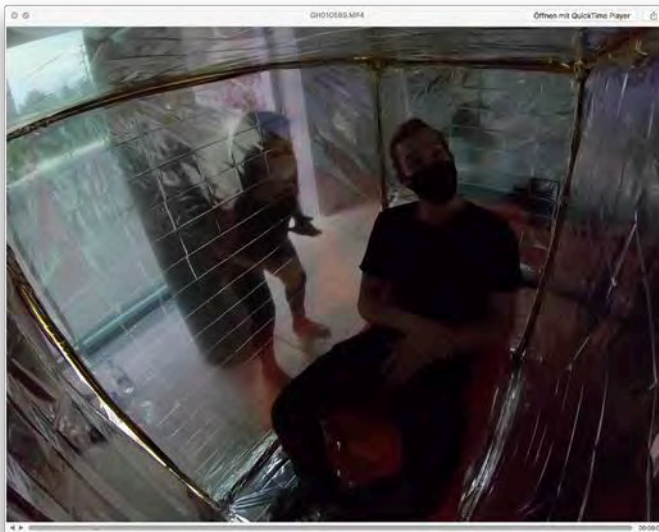
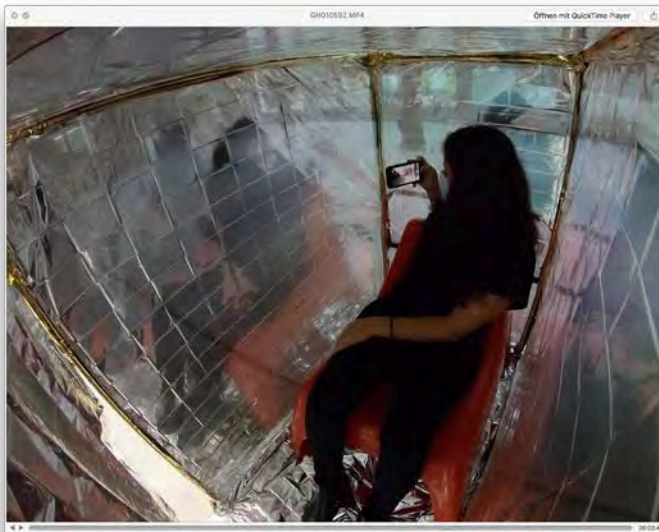
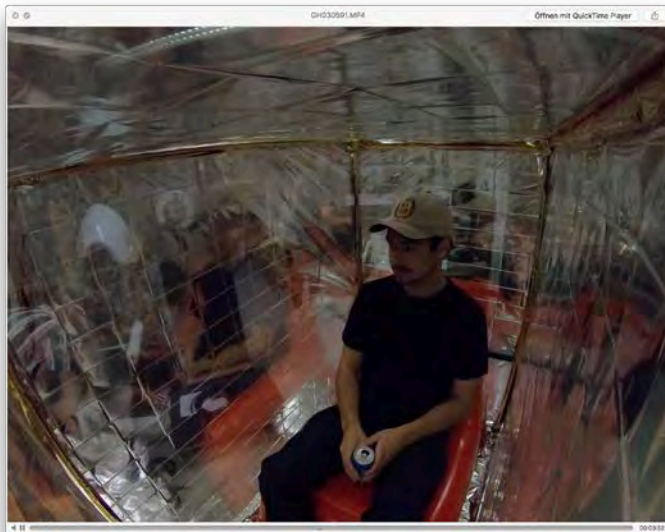
Everybody who got into the vehicle was very surprised and fascinated by the transparency and would not have expected it at all.

I tested the vehicle at different places in and around the Toni area. The effect remains the same, from the inside you can look out.

While filming, I happened to meet the man who had explained the rules and bans of the exhibitions in and around the ZHdK to me. He enjoyed my project and, thanks to the wheels, had no objections.



Video (printscreen): A video filmed inside the vehicle.



Even if the pictures here appear dark, the effect remains the same for the inmates of the vehicle.