# **Cohousing furniture**

Encourage shared activities in common rooms by improving function and flexibility in furniture



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Cohousing Furniture

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Encourage shared activities in common rooms by improving function and flexibility in furniture

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Cohousing residents, class mates, supervisor, examiner, friends and family - Thank you!

# **Abstract**

A cohouse is a house with private apartments as well as shared areas and they can be organized in different ways.

The purpose of the project was to learn more about cohousing. How the common rooms are used and what kind of furniture is preferred.

My method was to read about the topic and then visit cohouses in Sweden and Germany to do interviews and study the use and function of the shared spaces. The houses I studied had between 30 and 100 residents.

I found that in most cohouses people had common meals, meetings and parties with dancing. Sometimes the rooms were used for exercize and play. I often noticed a lack of flexibility in using the furniture in shared areas. In some places it was messy and unpractical.

The result is a proposal of foldable furniture for a flexible use in the common spaces. It includes a folding table, a folding bench and a serving table that doubles as a storage for the other two.

My conclusion is that there is a market opportunity for thought through solutions for the furniture in common areas. Existing folding furniture often lacks storage solutions, looks too technical or are made for outdoor use.

#### **Key words:**

Cohouse, flexible furniture, folding table, serving table, common activities

# Sammanfattning

Ett kollektivhus är ett hus med lägenheter och gemensamma ytor, och de kan vara organiserade på olika sätt.

Syftet med projektet var att lära mig mer om kollektivhus. Hur används de gemensamma rummen och vilka slags möbler är att föredra.

Min metod var att läsa om ämnet och sedan besöka kollektivhus i Sverige och Tyskland för att genomföra intervjuer och studera användningen och funktionen i de delade ytorna. Husen jag undersökte hade mellan 30 och 100 boende.

Jag upptäckte att man i de flesta kollektivhus hade gemensamma måltider, möten och fest med dans. Ibland användes rummen för träning och lek. Jag noterade i många fall en brist på flexibilitet i användning av möbler i de gemensamma ytorna. I vissa rum var det rörigt och opraktiskt.

Resultatet är ett förslag på fällbara möbler för en flexibel användning i gemensamma rum. Förslaget inkluderar ett fällbord, en fällbänk och en serveringsbänk som också fungerar som förvaring för bord och bänkar.

Min slutsats är att det på marknaden saknas genomtänkta lösningar för möbler i gemensamma rum och att befintliga fällmöbler ofta ser för tekniska ut, är gjorda för utomhusbruk eller saknar förvaringslösningar.

#### Nyckelord:

Kollektivhus, flexibla möbler, fällbord, serveringsbänk, gemensamma aktiviteter

# Summary

# A flexible furniture system to encourage and simplify shared activities in cohouses

There is an increasing interest in coliving, both in Sweden and around the world, and the forms of coliving vary.

A cohouse is a combination of private apartments and shared areas, and can be organized in different ways. As a complement to your own fully equipped apartment you have access to spaces such as a large kitchen, living room, garden and sometimes workshop, sauna, gym or library.

Cohousing is a way of living sustainably by sharing certain areas and things, while still keeping the privacy of your own apartment.

The surroundings affect us and are important for our quality of living. The shared areas are often used for several different activities, and need to be functional and flexible enough for this.

As a part of my research I visited seven cohouses in Sweden and Germany, with 30 to 100 residents. I did observations and interviews in the houses, and also talked to other people who didn't know of this way of living.

I was surprised by the fact that so few people were aware of what a cohouse is and thought it was the same as a collective, where you share most areas except your bedroom.

My findings were that a majority were interested in cohousing when they understood the conditions and the combination of privacy and shared areas.

I found that in most cohouses people had common meals, meetings and parties with dancing. Sometimes the rooms were used for exercize and play. I often noticed a lack of flexibility in using the furniture in shared areas. In some places it was messy and unpractical, difficult to move furniture or not cozy with currently unused furniture stored in a messy way.

I decided to address the need of using the same space for different things, and still maintain a "homey" feeling.

My ideas started with multifunctional furniture of different kinds. Then I moved on to look at the room as a whole and the basic needs for the different activities.

The result is a proposal for foldable furniture for flexible use in the common spaces, aiming to encourage and facilitate common activities in cohouses. It includes a folding table, a folding bench and a serving table that doubles as a storage for the other two.

The furniture can be used in cohouses but also in other spaces where there is a need to rearrange furniture without getting a storage like environment.

My conclusion is that there is a market opportunity for thought through solutions for the furniture in common areas and that existing folding furniture look too technical, are made for outdoor use or lack storage solutions.

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# Introduction

# The topic

The topic of *sharing* interested me when choosing subject for my degree project. People share all sorts of things, and sharing services, means of transport, tools and homes are all growing phenomena. - For the sake of the environment, economy, space or convenience. But what works and what doesn't? Is there something in this that could be improved by a designer?

When looking into the area I was led to housing and coliving. Cohousing (kollektivhusboende in Swedish) is a way of sharing some areas and activities but maintaining privacy. You have your own apartment.

I was interested in this way of living and why it was still quite unknown and limited. What do people want to share and what do they not want to share? Why aren't there more cohouses in Sweden? What about the idea is idealistic and what is more realistic?

I had experience from visiting a friend living in a cohouse. I had seen what they did together, but not any other examples.

When looking into the area more, I found that a cohouse is very far from a collective, and you still have privacy and can choose more when to interact in a cohouse.

There are many single households in Sweden and a lot of people are involuntarily lonely. Social relationships and interactions are important for our wellbeing.

We also see rapidly growing and overpopulated cities with lack of housing, and overconsumption. Could cohouses solve some of these issues? When sharing more areas and equipment you get access to more at a lower cost, and can connect with people on a more relaxed basis, with less loneliness as a result.

# Collaboration and social anthropology

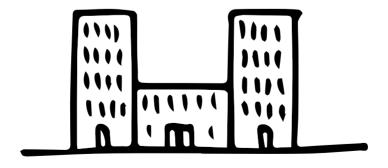
In the beginning of the project I looked into the possibilities of a collaboration, preferably a transdisciplinary one. I discussed this with a student just starting her master degree project in social anthropology at Lund university, and she got interested in my topic of sharing and coliving.

We decided to start off and do the research together, then see what we could make out of it - either a joint project all the way or possibly separate projects based on our research within this field.

In social anthropology you study the human being in a social and cultural context. You look into social processes, structures and behaviour, and have a holistic view of the society where ecology, economy, politics, religion etcetera is all connected and affect each other.

Field studies and interviews are important parts of the research, and this is beneficial for industrial design. In social anthropology you can also benefit from testing out ideas/design ideas "live" so the two subjects can be connected and have something to gain from each other.

We decided to start together, do some of the visits and interviews together and then make a decision on how to move forward based on our findings.



Private apartments + shared areas + common activities = Cohouse

### What is a cohouse?

#### Private apartments & shared areas

In a cohouse, unlike in a more general collective, you have your own apartment fully equipped with kitchen, bathroom, living room etcetera, but also common areas shared with the rest of the residents in the building.

This means you have more privacy than in a collective or a student corridor, and you can choose more when to interact with other residents. There are about 50 cohouses in Sweden, and it is also a building type that exists in for example Denmark and Germany, and it is becoming more popular in several countries.

#### Orientation and age

The people living in these houses are of all ages, but some of the houses have certain orientations such as a specific age group, one example is cohouses for people 40 years or older and with no children in the household. Other cohouses promote a multigenerational house with a mix of families with children, singles, couples, older people an everyone in between.

#### Common activities and duties

Most houses have communal cooking as a mandatory duty. This means you and your team cook for the rest of the residents once every third-sixth week. It is voluntary to eat the communal meals.

Another thing common to organize together is cleaning of shared spaces and work groups responsible for garden, library and some activities. Other houses buy cleaning services instead of doing it themselves.

Often there are monthly meetings to discuss matters and organize shared work.

You can also have movie nights, exercize, reading groups etcetera and every cohouse does this differently.

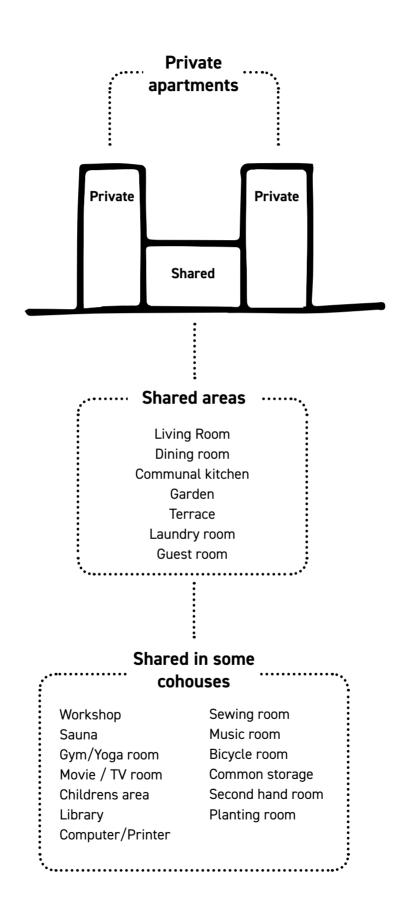
The communal cooking can save you a lot of work, shopping for groceries, cooking and doing the dishes most of the days, but in return you have to sacrifice a bit more time when it is your time to cook. This works well for people who can influence their schedule a bit themselves, but is harder for people who work a lot and are rarely at home.

Since you have your own apartment, and the shared areas are a bonus, this way of living can work for more people than just students or "hippies", and is a more permanent way of living. This is why I find it interesting, in a time when lack of housing is increasing and a lot of people are lonely.

#### Some benefits

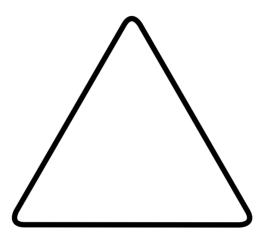
- Shared household work. The unpaid household work becomes visible, and is shared between the residents. Every resident is treated the same in regards to their role in the cooking and cleaning part, no matter their gender. There are exceptions for children or elderly or in other ways unable.
- Shared equipment that you only use once in a while, like printer, garden tools, sewing machine etcetera (can save you both money, space and environmental impact).
- Room for big dinners/parties even if your own apartment is small. Generally 10% smaller apartments, in exchange for more common areas.
- There are always people close by you can ask for help or hang out with.

# **Cohouse** $\succeq$ **Collective**



# **Sustainability**

#### Social



**Ecological** 

**Economical** 

#### **Ecological**

Living in a cohouse entails that you are able to use some resources in a more sustainable way. It is more energy efficient with communal cooking instead of everyone shopping for groceries, using their own kitchens etcetera.

You can have a more organized recycling, less food waste, and also share kitchen equipment you don't need every day. You can also share other equipment that is suited for this, like garden tools, printers, magazines which leads to a reduced consumption overall.

#### **Economical**

Today there is a lack of housing and an increasing population in large cities, and housing area is expensive.

Sharing areas and equipment like gym, room for parties and events, workshop, tools, library, magazines and logins to newspaper sites

etcetera saves you money compared to buying it all individually or renting facilities for a birthday party. Not everyone can afford to live large enough to fit a lot of people in their own home.

This way you live a bit smaller, but get access to more. Normally the apartments in cohouses are 10-15% smaller compared to normal apartments, compensated by access to shared spaces.

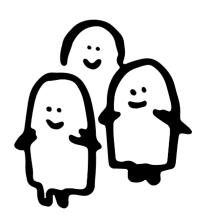
#### Social

Sweden has a very high amount of single households, many people are involuntarily lonely and don't have a natural network of people. This is a social issue and a health problem.

Living in a cohouse you can still have the privacy of your own apartment, but without the loneliness of living completely by yourself. Have dinner with neighbours if you want to, borrow things and get connected to people.

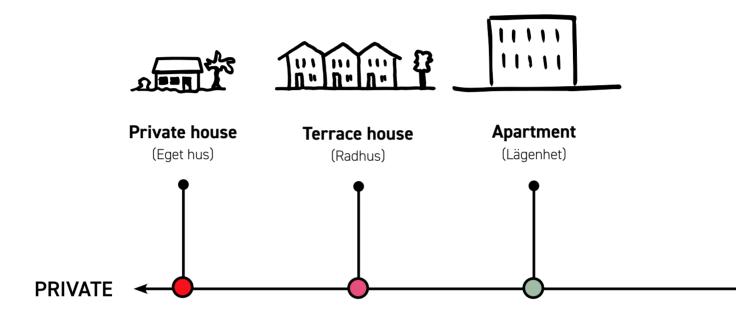


Privacy without loneliness



### Private or shared

Degree of individuality in different kinds of housing



This is a general mapping of the degree of individuality in different kinds of housings. - Areas, activities, equipment and decisions. There are of course other forms as well, and variations within these forms. The ones presented here are the most common ones in Swedish cities.

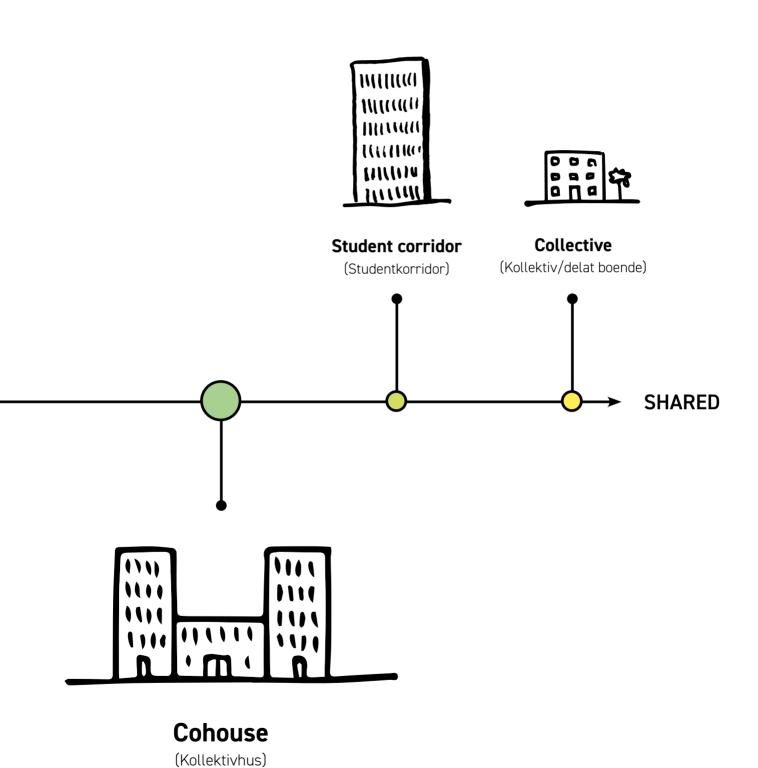
I didn't include building groups since it is mainly a form of building process, and it varies how much common area you plan for.

When living in your own house you have most things private/individual. Maybe you share responsibility for road maintenance. In a terrace house, you might share some more things, like a playground and taking care of garbage.

In an apartment you usually have access to a common laundry room, bicycle room, sometimes a garden. Some rentals have more common areas and activities than others, some condominium associations as well, but there you also organize and decide some things together, like economy, cleaning of shared areas etc. In some types of apartment buildings there is a common room that can be booked or rented for parties, but this is usually mainly for private occasions and not with the rest of the residents.

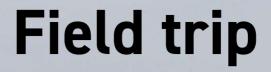
In a cohouse you have more shared areas, activities and organisation and decisionmaking, but at the same time your own apartments.

In a student corridor you share kitchen, and sometimes showers and toilets. In a collective you have the least degree of privacy, usually sharing most areas except your bedroom.



#### (Nottentivina)





## Cohouses in Sweden and Berlin

After reading about cohousing I felt the need to get a more practical experience, and to see more of the cohouses for myself. How do the different houses organize the common areas and what are they used for? I decided to go and visit a number of cohouses, in Sweden and Berlin. I thought it would be interesting and useful to compare the Swedish ones with cohouses in a different cultural and historical context, and Berlin was an accessible choice for this.



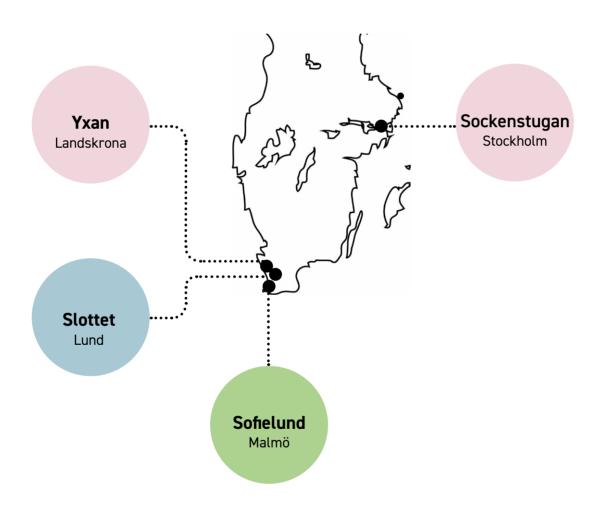
### Overview of the visited cohouses

#### Sweden

The field trip included visits to four cohouses in Sweden; three in Skåne and one in Stockholm. Two had been cohouses since the 1980s, one from the 1990s and one quite recently built (in 2014). They show the diversity of cohouses in both size, age, organisation, residents and tenure.

Two of the houses have rental apartments, one is a cooperative and in one you buy your

apartment. The number of residents varies from around 30 to 100, and with people of all ages. In Sockenstugan you have to be 40 years or older, and in Slottet some of the residents have been a part since the start in the 1980s and they were also involved in the creation of the cohouse and the planning and renovation of the building.



#### Rental house

Residents rent apartments from a housing agency, but the cohousing organisation conducts interviews and decide who can move in.



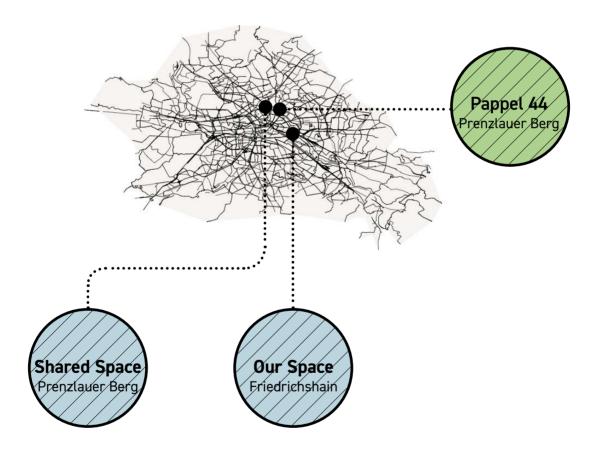
#### Individually owned

You buy your apartment and there is sometimes both a cohousing organisation and a home owners association. Interviews before deciding who gets to buy and become a member.

#### Germany (Berlin)

In Berlin three cohouses were studied. For logistical reasons the choice was smaller and the result was two similar houses (building groups) with private, larger and more luxurious apartments and only one shared room plus the garden. The third one was a cooperative with more common facilities and activities, and more

similarities with the Swedish ones - but still less "cohouse-feeling" than the Swedish ones. They didn't have common cooking or that many scheduled common activities. But a common lunch once a week for the residents working from home and some parties and concerts.





#### Cooperative

The cohousing organisation rents the whole house from a housing agency, OR owns the building, and then you rent from the cooperative. The cooperative conducts interviews to find new residents and are responsible for the rents.



### **Building group**

A way of planning and building together, quite common in Germany and it is growing in Sweden as well. You go together with other people, plan and build a house for yourselves. Not all building groups are cohouses, but the three visited German cohouses are.

### **Sofielund**

#### Malmö, started 2014

In Sofielund we met with resident and architect Kajsa Börjesson. She has been a part of the planning group from the start and is now a member of the interior group. Around 100 people live in the cohouse, of different ages and of which 20% are children. There are 45 apartments of varying sizes, from one room to six rooms.

They have communal cooking three days a week, and sometimes brunch or coffee during the weekends. Every adult has a cooking shift of three-four hours once every three weeks. Meat is served sometimes but not every day, they want to live sustainably but not decide for everyone - it is more important that more people want to eat than a strict vegetarian/vegan/more sustainable menu.

Partaking in communal cooking is mandatory, but it is voluntary to eat the common meals. It is also mandatory to be part of the cleaning of shared areas.

In Sofielund they have a lot of different shared areas: A common kitchen and a large dining room with a folding wall in the middle which can divide the space.

# "The common areas are an extension of your own home"

They also share a garden, library, playroom for the children, activity rooms for yoga, movie room, workshop, bicycle room, a loom for weaving, guest room and more.

They have exterior corridors<sup>1</sup> from which you enter the apartments, and this is the only entrance. This means you pass by the windows and the apartments of your neighbours. This can be experienced as less private than the houses where you access the apartments "normally"

1 Loftgångar





Exterior corridors with terrace space for the residents where you pass by your neighbours, but have less privacy than with a private balcony. Kajsa likes this setup though, she thinks it is nicer to stop by a neighbour than send an email for example.

The common dining room on the entrance floor, where all the main common areas are located: Kitchen, dining room and library/living room.

through an entrance and stairwell.

They are still quite recently moved in, this is just 1,5 years after the building was finished. Kajsa mentions that they need to make it cozier in some areas. But one thing that is difficult according to Kajsa is to find the balance between flexibility and functionally furnished areas.

## "It is hard to find the balance between flexibility and a more functional furnishing"

There are many benefits of living in Sofielund, but if you don't spend a lot of time at home or have time to be home much, it might not be for you, Kajsa says.

The hardest part with coliving, according to Kajsa, is the communication and decision making. They have meetings every month, and

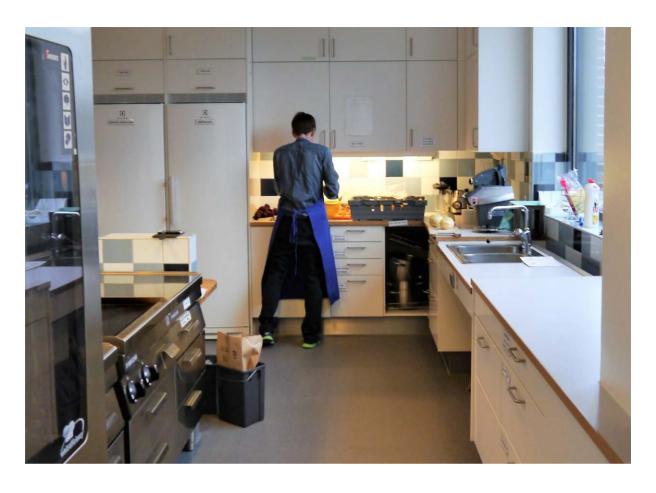
vote, but if there is a more controversial issue they discuss it more.

The consensus for the residents in Sofielund is that you can differentiate a person from a subject, and still live in the same house and have activities together even if you disagree in a matter.

Mårten is preparing todays dinner in the common kitchen. In the cooking teams you can have different responsibilites, like grocery shopping, cooking or doing the dishes. There are 6-8 people in one team, and you have a 4 hour shift every third week.

The common library and hang out zone on the ground floor. The glass wall makes it easy to see if it is used, and has an inviting function.







# Sockenstugan

Stockholm, started 1999

In Sockenstugan I meet Mona who has lived in the building for a few years, and one woman who is there visiting. She was renting an apartment that was sublet for a year, and she would have wanted to move in permanently if she could. But, they have a long line of people wanting to move in and not many apartments become available.

When an apartment becomes available they conduct interviews to decide who fits in better at that time considering age, gender and personality, and the time waiting in line is not crucial.

Approximately 60 people are living in the 44 apartments, varying in size from one to three rooms. The house is only for people over 40 years old without children in the household, but most of the residents are in their sixties or seventies.

A majority of the residents are women but their goal is to have at least 25% men.

They have several shared areas. Apart from the common kitchen and dining room/living room with TV corner, they have a library, gym, sauna, workshop, sewing room, plant room, two guest rooms that you can book, computer room, toys for visiting children and a joint library.

Outdoors they share a terrace and a garden, with alotments for the residents who want to grow their own plants and vegetables.

They cook together according to a schedule every dinner Monday through Friday, except for summers and holidays. Every day at 3pm those who wants to join drink coffee together. Some residents eat together during Christmas.

In the dining room there is a piano and they have music evenings and "concerts" occasionally.







Stacked chairs in the hallway in the common area.

There is a book circle, and sometimes they invite authors for reading nights. They even have their own literature prize that they award a writer every year.

The large main common area - the dining room/living room - is often booked for private dinner parties and celebrations during weekends.

It is quite clear that they have thought through the function of the spaces and worked with furniture and decorations to create a cozy, inviting and relatively flexible house.

The tables are quite small, rectangular ones used both as single ones or put together to create longer tables.

Something they are struggling a bit with is the acoustics, it can get noisy during dinners. They also lack a designated storage space for currently unused furniture, as you can see in the picture with stacked furniture in the common hallway.







In the garden you can also find several seating areas, a hammock, a fountain and a terrace.

The conversations continue after dinner, while a few people gather around a Friday show on the TV and the dishes are taken care of by the person on duty this evening.

### **Slottet**

#### Lund, started 1984

Interview with Lennart Nord, resident in Slottet since the start.

Slottet is located close to the center of Lund, and it is the second smallest cohouse in Sweden with its 32 residents.

The house has a long and interesting history starting in the 1920s as a so called "barnrikehus" for poor families with several children. After that the city of Lund administered the building and had plans on making it into a house for the elderly, but it would be too expensive to build elevators.

In the eighties an organization formed to create a cohouse and Slottet was rebuilt a bit and the move in was in 1984. The 16 apartments are individually owned<sup>1</sup>, with 32 people living, of which approximately 6 are children/youths.

They share a big garden and terrace, a kitchen, dining room, living room, a sauna, workshop, movie room, laundry room, storage rooms, 2 guest rooms and a "give and take"-room.

1 The swedish word is bostadsrätt.

They have communal cooking 3-4 dinners a week.

There are three mandatory duties for residents. 1. Take part in communal cooking. 2. Take care of the house, includes cleaning and small repairs. 3. Take part in montly meetings. You cook 4 hours 6 times per semester. There is one cleaning day per semester. Maintenance and repair is done through a rotating schedule with different areas of responsibility.

# "Every new house should have a common area on the ground floor"

One difference from the larger cohouses is that they don't have to organize as much, many things can be done without planning ahead. The schedule for cooking duty and signing up for eating is done week by week. The laundry room is used when you need it, without booking.

So there are benefits of having a smaller



The shared living room on the top floor.



The workshop

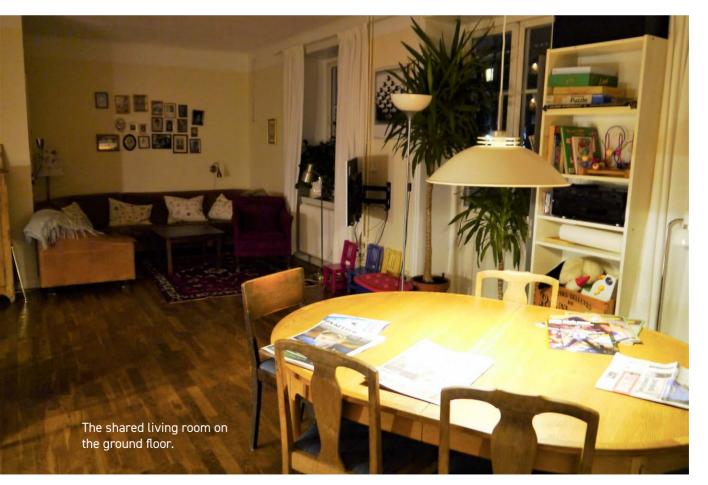
cohouse, but they don't think it would have worked well if it was even smaller than it is. They want a good mix of ages and people so that the house doesn't become a retirement home.

The families with children get a lot of help from each other and the children also play with other residents.

On the top floor they have one more shared living room, and two rooms they rent out to young people, mainly exchange students.

Since the cohouse consists of condominiums there is one board for the cohouse and one for the condominiums. They can have long discussions during the meetings to reach consensus, otherwise they make decisions with 3/4 majority.





### **Yxan**

#### Landskrona, started 1983

Yxan is a cohouse with 20 rental apartments from the 1980s. They have a shared open area for dining, living room and a kitchen. At the moment they don't have any shared cooking on a regular basis. They do however also share a garden and terrace and a basement with sauna, laundry room etcetera.

There is a folding wall to open or close off between the dining room and living room.

In the dining room they use drop leaf tables¹ which are functional for this room, and seem to work since they have a quite large area. In the living room area there are low and soft padded sofas and chairs, working both as seats and for relaxation as well as for the children to play in. The furniture is easy to move around and repurpose.

Klaffbord

They have a piano in the living room and when the resident I visit, Anna, plays and sings the children of the house gather around and joins in.

They have meetings once a month, take turns to clean shared spaces and also have four different groups of responsibility: Garden, activities/parties, childrens activities, and repairs.

She definitely thinks there are benefits with cohousing, but right now she experiences that there are many tasks and a lot of responsibility which maybe not fits her family at the moment.

She couldn't plan her time so well due to her work and family situation.

There are a few children in the house and they can easily run around and go to neighbours asking to play.









# Pappel 44

### Prenzlauer Berg, Berlin, started 2012

Interview with three residents, Inga, Tina and Elvira.

#### The building

The planning phase started 2009, an architect searched for members/residents. The building was built and ready to move in 2012.

They have 30 apartments and one small guest room, and approximately 80 residents. The architect decided most things, with a basic design in the apartments, then residents could change specifics and for example pay extra for other flooring than the standard.

They have a high energy efficiency with solar cells, good insulation and low cost for heating, and it is always warm enough, even in the hallways during winter.

It is a cooperative, so they are not allowed to make profit.

#### Common areas and tasks

In Pappel 44 they share several areas, the main one is a living room with dining area and kitchen on the ground floor. Glass doors lead out to the shared garden, which is not that large but used a lot. They tell me it is a natural meeting point in the afternoons and they often drink coffee together.

They also have a rooftop terrace, which is not used that much, and mostly by adults. Furthermore there is a laundry room, game room, workshop and they have a projector and a grill.

They have movie nights and concerts in the "living room", sports class once a week and sometimes arrange clothes swapping.

The shared cooking they have is lunch once a week for the people working from home. But also Christmas dinners together. The common



Three of the residents, Elvira, Tina and Inga.



The garden, with playground and patios. The apartments above the ground floor have balconies.







room is used a lot, and you can also book it for private events.

They have a schedule for cleaning of the common areas, and if you don't do your shift you pay instead.

The main shared room (shown to the left) is furnished with lightweight and flexible furniture, easy to rearrange and move around. It seems to work quite well for the purpose, even if it looks a bit "simple" and maybe not very cozy/homey. It is of course a balance between furnishing and feeling of a home, and not making it look to set or private. It needs to be inviting for everyone in the house.

The stacked tables by the wall are very flexible in use, for serving, as a kind of shelf, for children to sit on etcetera. For movie nights more comfortable seats would be preferable.

Apart from the more seldom communal cooking this is more similar to Swedish cohouses than the other two I visited in Berlin.

### Organization and decisionmaking

They make decisions through monthly meetings with discussions and voting. Not everyone joins, even if the point is that they do.

They think that in a larger cohouse like this it is harder to come to decisions, but on the other hand you can be more anonymous. Here there is a balance between rules and spontaneity. Everyone living here knows it's necessary to compromise.

But, not everyone clears up after themselves after using common areas, which is a problem. Another issue is disturbing noise from the common room to near by apartments.

Inga, Tina and Elvira perceive it like there is one group in the house who wants to arrange common activities, and around 2/3 of the residents take part. People have different amount of time to spend in the house.

The three women I talk to feel very safe here, they always have people to call if they need to.



Activity and game room.

The shared living room with dining area and kitchen (above) and sofa corner (below).

### **Shared Space**

### Prenzlauer Berg, Berlin, started 2015

Shared Space is a new cohouse in Prenzlauer berg, with owned apartments. They have 22 apartments, regular ones and some duplex apartments<sup>1</sup>.

The entrance from the street is through a glass wall into a two story lobby, with a shared area on the second floor/balcony as shown in the pictures.

They also share a garden, a small rooftop terrace with solar cells, and bicycle storage and garage. When they planned and built the house they discussed a shared laundry room, which the architecht found a bit strange, so now they have one for the four people who want to share. The other apartments have their own washing machines.

The architect who designed this house, and is also a resident in it, shows me around, Christoph

Wagner. They used raw concrete, wood and many details in metal.

The shared room is used a lot in the afternoons when children get back from daycare or school. There are 25 children in the house. They also use it for parties, they have had a movie night there together with refugees, they do Christmas crafting there and New Year's parties.

As shown in the pictures to the right it is quite small and only furnished with a table and some chairs and a small sofa. They lack storage space for the extra table and chairs, now stored in a cart

The apartments are spacious and beautiful, and this house is quite different from Swedish cohouses.

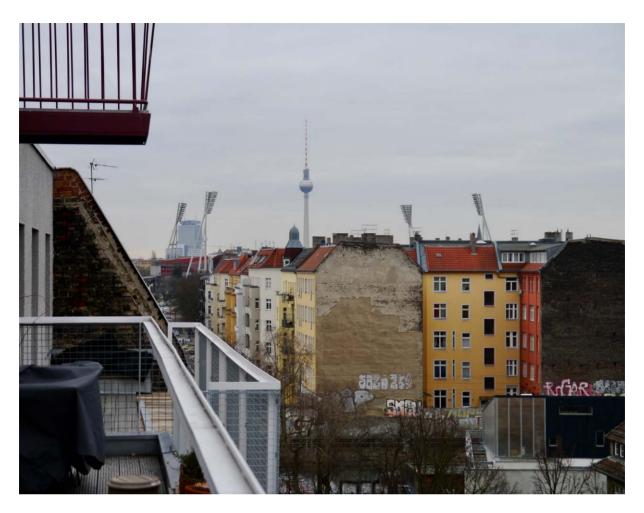
1 Etagevåningar



You enter the lobby from the street, with the shared room on the balcony and a glass wall to see straight out into the garden.







The view from one of the balconies.



### **Our Space**

Friedrichshain, Berlin, started 2013



We interviewed Andrea, resident in Our Space, we visited him in his apartment on the third floor that he shares with his boyfriend.

### The building

Our Space started as a building group with a planning phase and then building of the house. They moved in 2013. There are six floors, with twelve apartments in total, but one of them is rented out. They share one common room with terrace on the highest floor, and a garden.

The apartments are bought and owned by the residents. It is an energy efficient building, keeping the temperature well.

### Common areas and tasks

They share a garden, a common room with a terrace and a bicycle room.

Taking care of the garden is their only shared

task, but it is not organized. Cleaning the stairs is something they pay a company for instead of doing themselves.

The common room (on the top foor) is quite small and not used that much except for a couple of residents who use it, one for rehearsing the cello. Perhaps the fact that it is located on the top floor and furnished mainly with a daybed contributes to the lack of use.

Andrea points out that the shared areas in the building are important and that they wanted more shared areas, but housing area is expensive and they prioritized larger apartments instead. But they don't want to just share a house together, also share time. It is a social concept, neighbours can help each other out or just hang out together.

He loves living like this, also because of the location - that the house is situated in the city.







The two cats are shared between the residents, wandering freely in the building.

### Organization and decision making

They are relying on the rules in the contract. In the beginning they thought they could improvise more and make decisions as they went along. Now their decisionmaking is done through voting but the residents can always put in a veto.

A while ago they discussed renting out the small apartment on the top floor to refugees. Most residents agreed but two families "blocked" the decision. It is now rented out to other people.

Andreas boyfriend is an architect and most residents share an interest for architecture.

When searching for new residents the put ads on a housing website. Then they do interviews, "castings", and meet every candidate several times before they decide who gets to buy an apartment in the building. He adds that a feeling more than clear criteria decides who gets to buy an apartment in the building and become a resident.



### List of common areas



### **Comments**

I found interesting solutions for different areas and rooms, more or less furnished and used.

A shared garden and terrace was something all of the seven cohouses I visited had in common, and most of them had a living room or main shared area.

There were some issues or discussions related to several areas but what was most significant, and that I found most interesting, was the living room or main shared area in the houses. It seemed to be the most used one, and with the

most need for flexibility in use. But it occurred to me that these rooms were the least flexible, most messy and not cozy.

There were examples of very furnished and decorated rooms, but then lacking flexibility and ability to easily move away furniture when more floor space is needed.

The rooms with more moveable furniture and flexibility lacked the feeling of a home.

Some houses had stackable or foldable furniture but no good solution for storing them.

# Conclusions from the field trip

### More opportunities than I had expected

I interviewed residents in seven cohouses and building groups in Sweden and Berlin. It gave me an understanding of how people live and how different ideas the cohousing residents have on their housing and what to share and not.

The visits and interviews showed me some very different kinds of cohousing. For example the ones built especially as cohouses were not always better adjusted for cohousing than the older buildings that had other purposes before they were remade for coliving.

I found interesting examples of benefits in two of the houses, in one a resident was a nurse who helped a couple of neighbours with IV (dropp) and changing bandages so they didn't have to go to the hospital as often. And in another house a person with an illness felt much safer since she always had several people close by to call if something happened.

There were of course also many other examples, like neighbours helping out with walking dogs, playing with children, borrow things from each other, and undemanding or unconditional company and new connections and friendships.

The comfort in not having to plan and make dinner every day, seemed to outweigh the work

you have to do during your shift in the shared cooking every third-sixth week, in the cohouses implementing communal cooking.

In some of the houses you can choose to pay a fee instead of doing your part of the cleaning, I guess this could be problematic if it were to segregate the residents between the "rich" and "poor" but I didn't hear of it being a problem.

I noticed some similarities between the residents of the Swedish cohouses I visited, the majority were interested in helping other people, often with an interest for culture, and an interest in and feeling of responsibility for the environment and a more sustainable lifestyle.

Overall I found that there were larger physical differences between the houses than I had imagined, and that the common rooms were very differently planned and furnished, some were messy, not inviting, not structured or thought through at all.

For this project it meant that there were more issues or practical needs to work with than I had thought. It strengthened me in my idea on working with improving the physical environment in cohouses.

### Today and the future

### "The outsiders"

After interviewing people living in cohouses, and observing the shared areas and their functions, I also found it necessary to talk to people NOT living in cohouses. So I did, and I also did a survey.

I was surprised by the fact that only a few people knew this kind of housing existed, and I had to repeat that *a cohouse is not the same as a collective*.

But when they became aware of this way of living, a majority were positive to the idea of sharing areas and things and curious to know more. So I asked them what they would want to share. Many people were interested in sharing things like a workshop that's harder afford and fit into your own home, and a movie room or area for parties.

This was the substance of the main responses I got: "I think I would want the common space as "an extra" but have everything private as usual too". They thought the idea of shared areas was nice, knowing they had the possibility to withdraw or retire to their own living room when they felt like it. This corresponds well with how a cohouse works.

### **Increased interest**

There is an increasing interest for co-living in the society, not only in Sweden. Many people are in queues wanting to move into the existing cohouses, and new organizations and groups have started wanting to build new cohouses.

According to Kollektivhus NU (a Swedish organisation connecting cohouses and supporting groups who want to start cohouses)

there are approximately 45 cohouses in Sweden that are members of Kollektivhus NU, new groups are forming rom Skåne to the North looking into building new ones and hundreds of people are queuing for some of the cohouses where apartments rarely become vacant.

This is not unique for Sweden, several countries are researching this area and are already planning and building cohouses, some examples are Japan, Canada, Gemany, The Netherlands, Denmark and England. (kollektivhus.se)

### IKEA investigating co-living

This is also a trend that IKEA has gotten on board with. They have started a project for designing a better and more sustainable way of living, which is now an online research about future shared living spaces.

(http://onesharedhouse2030.com/).

### Comments

I think different ways of living with more or less shared areas is going to increase in the future, as we can already see. Mainly due to population growth and lack of housing, but also because it can be a more attractive way of living since you get access to more areas, activities and equipment than you may afford on your own.

It can be a way of influencing your housing situation more than in a regular apartment that you rent. Building groups are also on the rise, and if you have the privilege of being able to partake in one you can plan and influence the housing through the building process as well.

I think I would want the common space as "an extra" but have everything private as usual too.

### Issues and design opportunities

I found several issues in the cohouses, both regarding organization, agreeing and compromising and practical problems with spaces, furniture and acoustics. I also considered the growing interest in coliving and what people want to share and not share. I summarized my findings and considered what could make for an interesting design project. These were the three areas I found most interesting for my thesis.



### **Disturbing noise**

Both issues with disturbing noise from common areas to surrounding apartments and bad sound environments in common dining areas, when a lot of people are eating together.



### Messy & unflexible

The issue with mess and lack of flexibility in common areas. Some were not inviting, well planned or thought through for the activities performed there, or the change between them.



### **Unknown & uncommon**

The fact that this is a quite unknown way of living, and uncommon despite the increased - and increasing - interest in it.

# Decisions and moving forward

I chose to continue with the issue of lacking flexibility and function in the common rooms, because I found it most interesting and with the largest design potential.

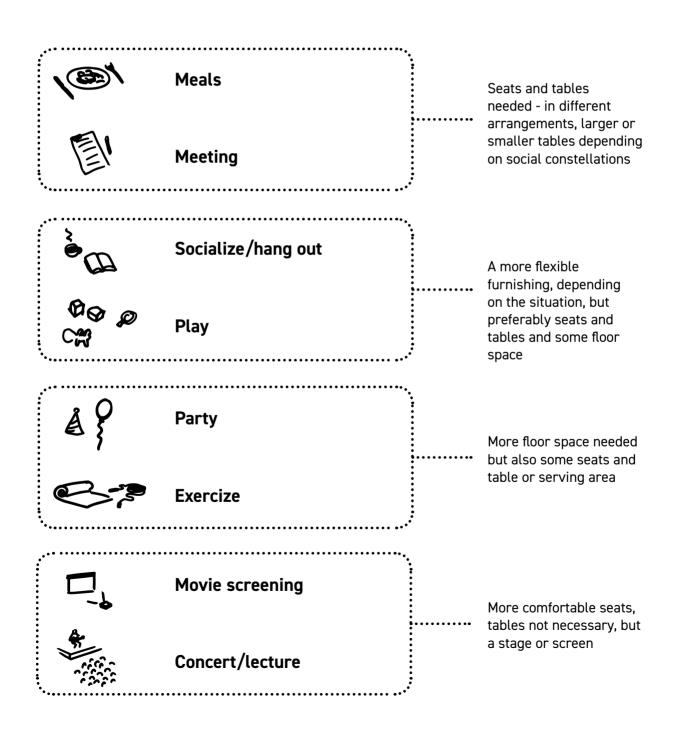
I wanted to investigate other solutions, and preferably find a more functional one, than the ones I had observed.

The social anthropology collaboration ended here after the field trip, and we continued with separate projects.

### **Activities - in the common rooms**

These were the activities most common in the cohouses, according to the cohousing residents, but also the activities the "outsiders" I talked to wanted to do together in a main common area: meals, meetings, exercize, concerts/lectures, parties, movie screenings, socialize or just hang out, play.

Not included here are activities with more specific needs for facilities or equipment like workshop activities, sauna etcetera. I focused on activities that you do in a living room or dining room, with some kind of seats and tables.



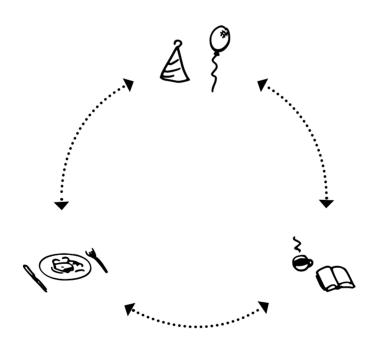
### Chosen activities

Out of all the activities, I chose to look more into three of them, to make the project more graspable: Dinner/meals, party and socializing/just hanging out.

My idea was to make it easier to switch between these activities in the same room.

I only looked at the basic needs in these activities, I didn't go into lighting or sound equipment, but only the basic furniture needs such as seats, tables, serving and floor space.

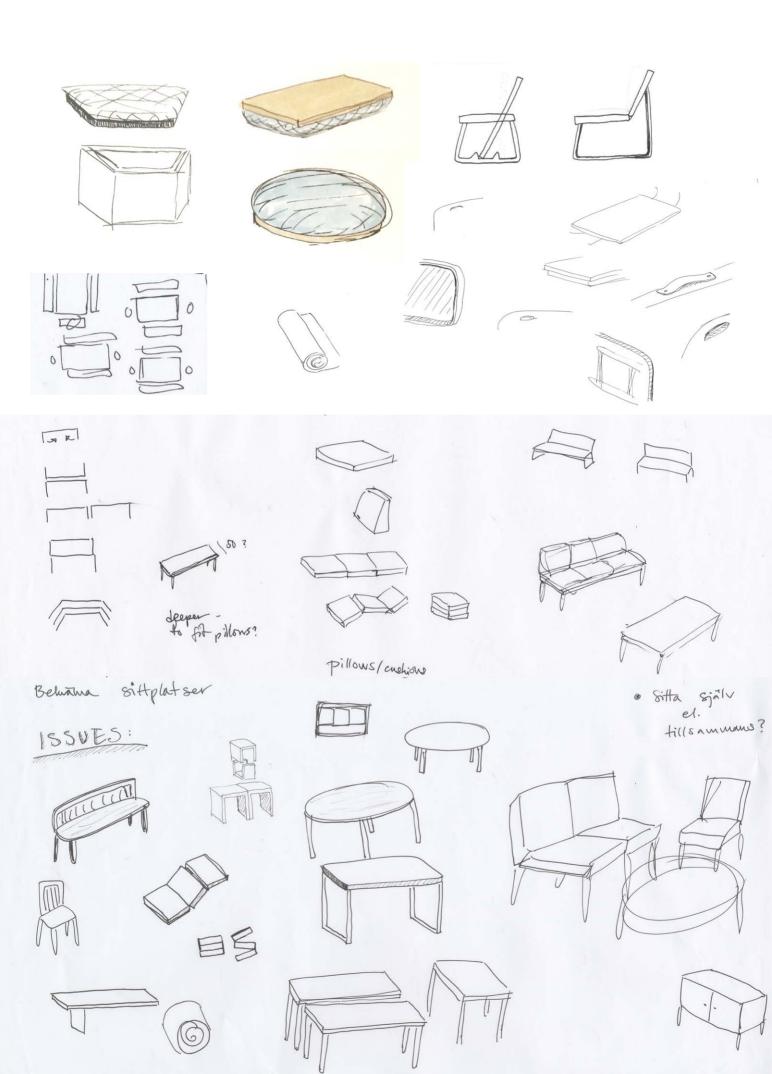
I chose these ones because they are common, have different furnishing needs, but also because the furnishing for these activities can also be used for other activities. If you have seats and tables for a dinner, you can of course also use it for meetings, or if you are able to get rid of some furniture in order to get more floor space, you can probably play with children or maybe do some exercize there as well.



### **Brief**

Encourage shared activities in common rooms by improving function and flexibility in furniture, in order to switch between activities - meals, party and hanging out.

# **Ideas**



### Testing ideas in mockups





Stackable sofa

Foldable sofa/table/shelf









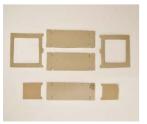






Change angle of backrest

Modules to change between furniture







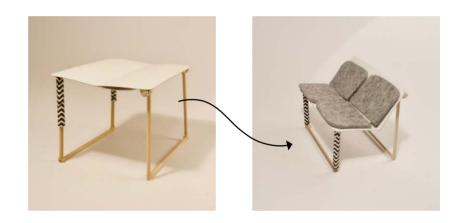


Smaller tables, and seats with cushions





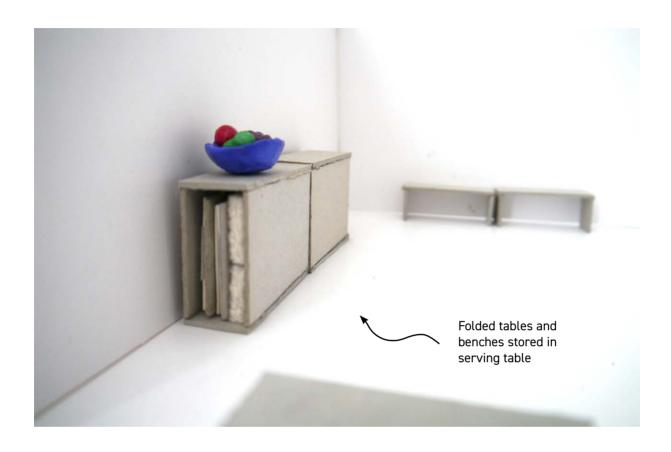
Fold table into sofa



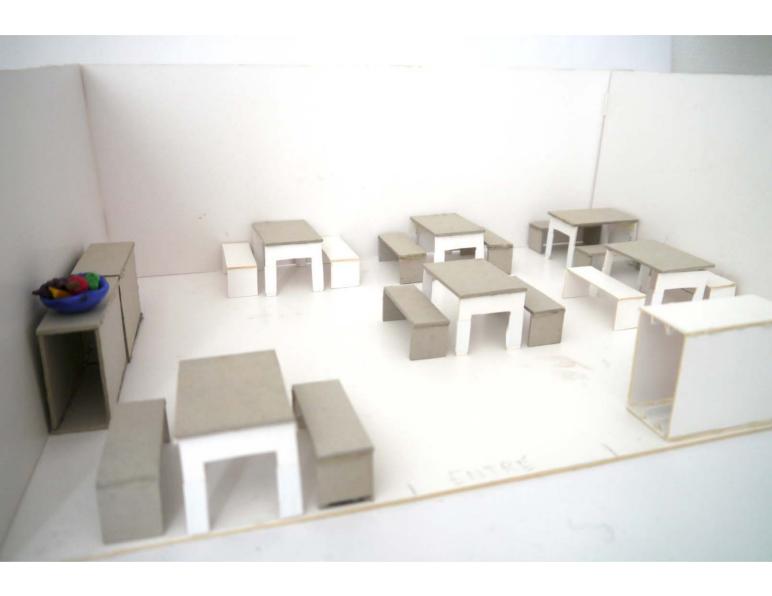


### Room concept

With tables, seats and serving tables with storage space







From the single furniture pieces with several functions I continued with the room as a whole, instead of focusing on one piece of furniture.

I started with the basics such as simple tables

I started with the basics such as simple tables and benches and then some side board/area. I tried different furnishings for different activities. This helped me to go further in the process.

### Scale model of a shared room

### Meals

Example with 6 tables and 2 seating benches for each table - which gives at least 36 seats.

3 serving tables with storage inside.



### **Party**

All tables folded together and placed in the serving tables.

A few seating benches left out by the walls.

This set up could work for dancing.





### Hanging out

Some of the tables and benches folded together and stored inside the serving tables.

Some more floor space but also tables and seats.



### Cleaning

When folding and stowing the tables and benches into the serving tables, the floor is free from furniture - easier to clean.

## Final brief

Encourage and facilitate shared activities in common rooms by improving function and flexibility in furniture, through a system of durable, foldable and sustainable furniture. A foldable table, a foldable bench and a serving table also working as a storage for the other two.

### **Flexible**

Not too heavy

Moveable
Integrated storage

### Main features

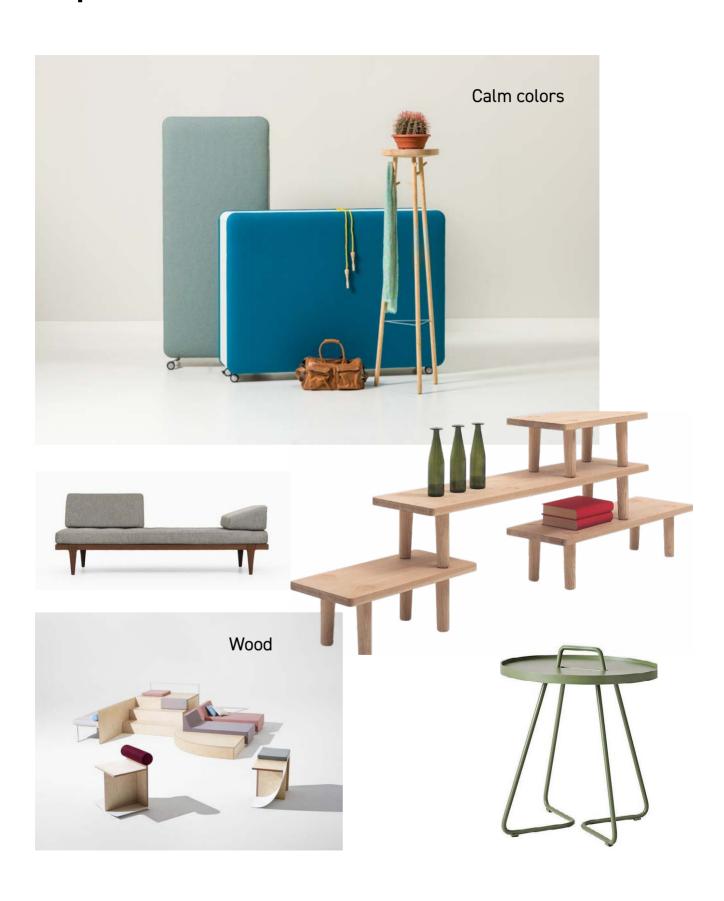
### **Simple**

Aesthetics
Construction
Easy to understand
Easy to use

### Sustainable

Materials
Possible to repair
/ change parts
Durable

### **Inspiration board**











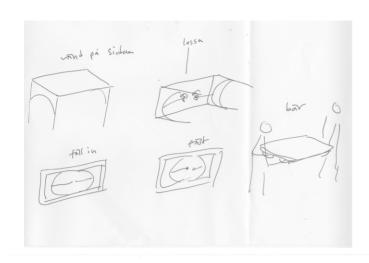


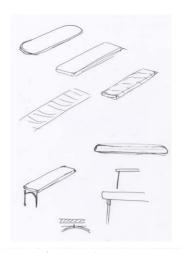


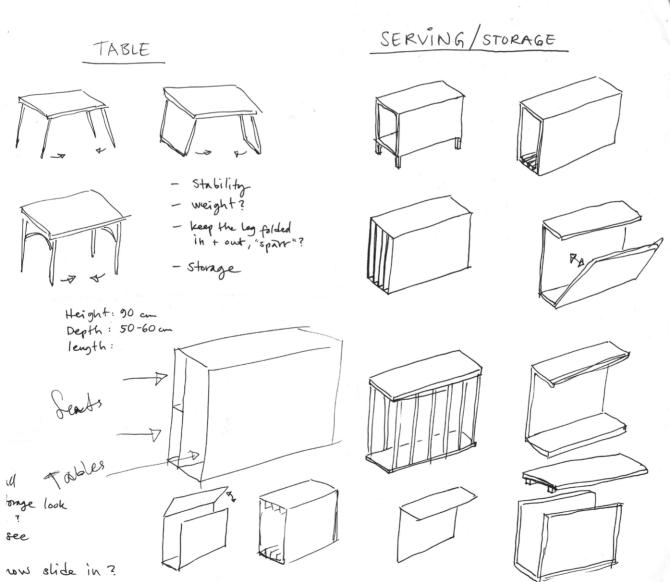
Transparent construction

### Ideas on folding furniture and storage









### **Existing folding furniture**













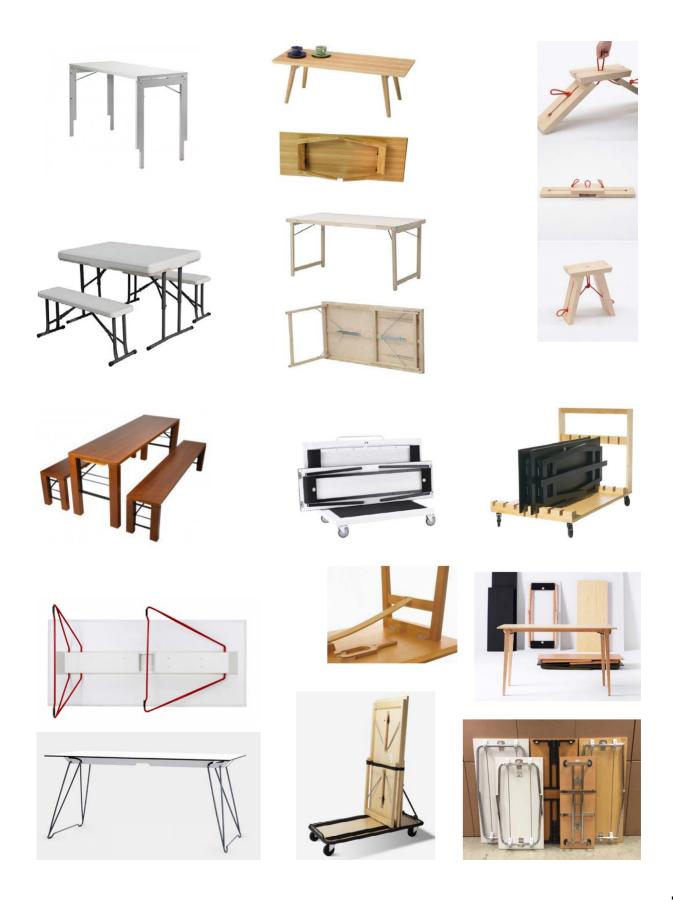




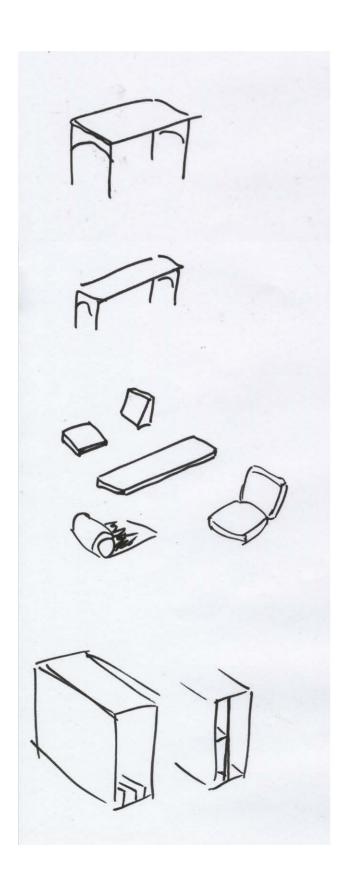








# Final concept



Folding table

Folding bench

**Cushions / pillows** 

Serving bench with storage



Even though my concept included three pieces of furniture, I eventually had to limit it and decided to focus on the table since it felt like the main part of my concept.

I continued working on the folding table in order to create a prototype, and keep the folding bench and serving table with storage on a conceptual stage with sketches and 3D models.

## Testing the folding table in scale 1:1



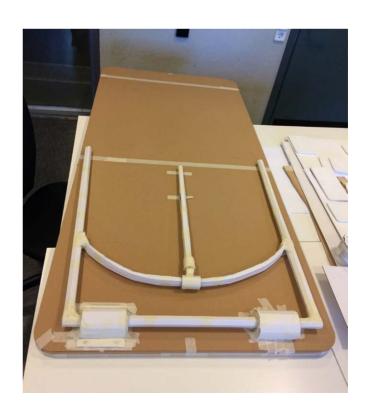
Testing width of the table top, to fit plates and glasses comfortably without sitting to far away from each other.



Testing space for sitting by the table legs with the arc shaped piece.



Testing folding part and hinges.



How to fit folded legs under table top and decide length of the table.

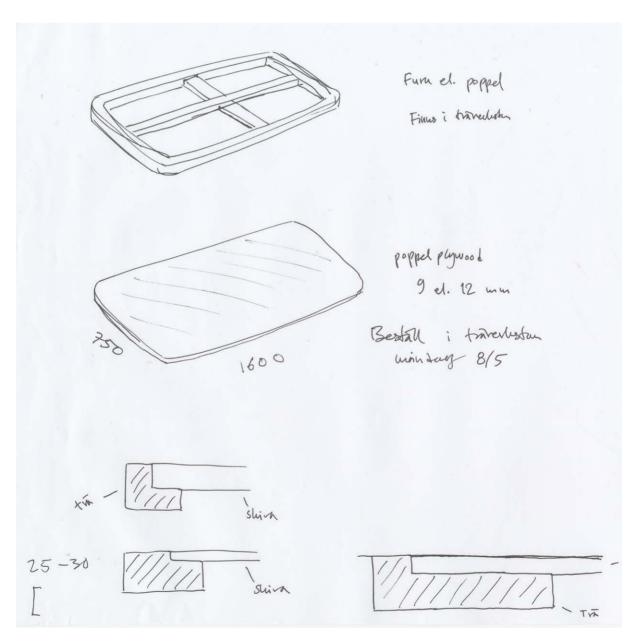
## **Detailing and construction**

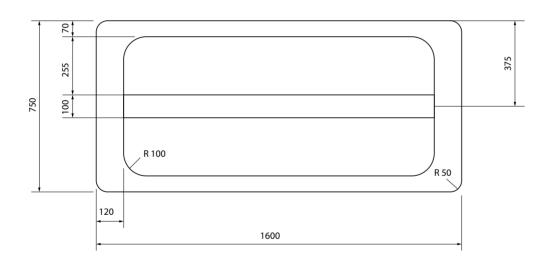
## Table top

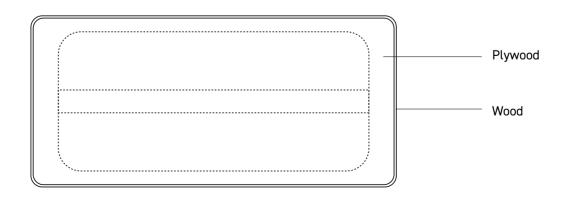
The main challenge here was to make it stable and durable but not too heavy. A table top completely made of solid wood could become too heavy and counteract the purpose of flexibility and moveability.

After some research, tests and discussion

with supervisor and workshop engineers I decided for a frame in solid wood, with a plywood in it. Then the most exposed and visual parts, such as edges and corners, would be solid wood, and only the top in plywood.







## Legs - shape and construction

### Material

I chose between steel and aluminum. When testing different dimensions of aluminum and steel tubes, comparing the stability/yielding, it was obvious that steel was preferable because it was more stable, although heavier.

### **Shape**

I wanted it simple but with a bent part for stability and a less sharp look.

### Angle/stability

Table legs bent outwards a few degrees for better stability and reduced risk of it unintentionally folding together while in use.

### Construction

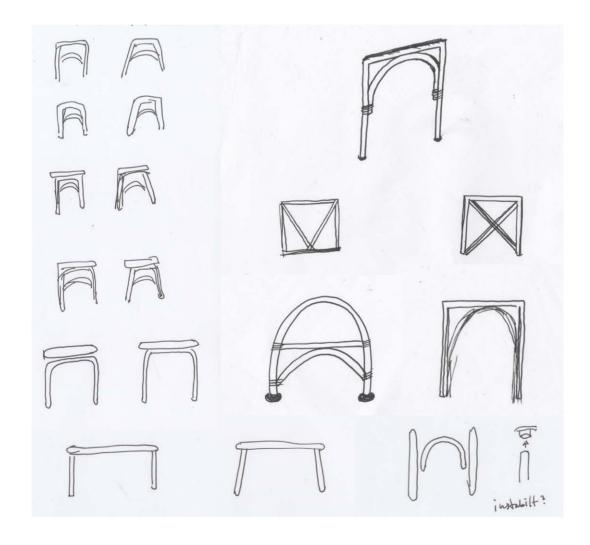
Welded together.

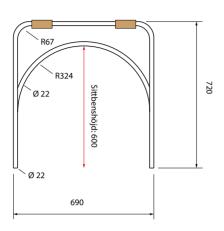
### **Dimensions**

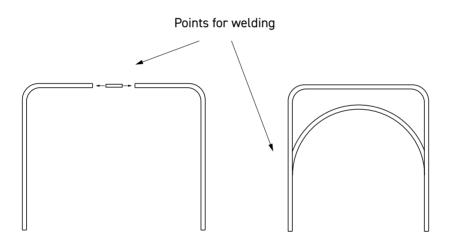
The dimension of the steel tubes were decided by testing dimensions with the diameters 15 mm, 22 mm and 25 mm, comparing stability and aesthetics. The steel tube with a diameter of 22 mm were stable enough for the purpose, and didn't look as heavy and clumsy as the ones of 25 mm.

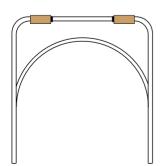
The height was decided by standard table height. The height of the arc shaped part - to fit human measurements according to anthropometric data and standards for designing furniture, so that you can sit with your legs under it. 600 mm height from the floor to the arc fits most people, but not everyone<sup>1</sup>.

1 Sittmöblers mått, page 16.





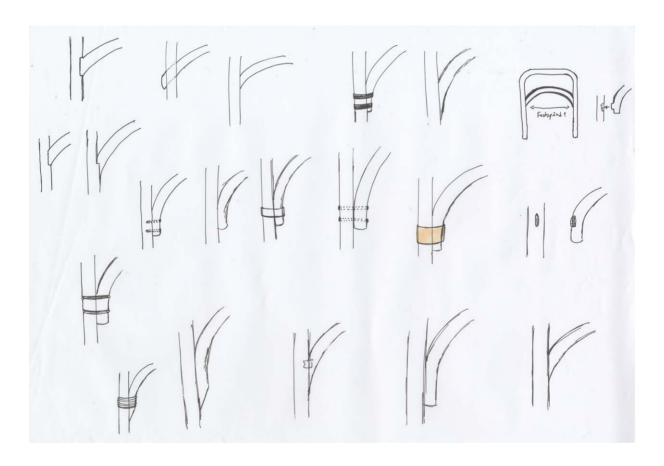




## Joining the bended part with the leg

How was the bended part supposed to be joined with the rest of the table leg? First I thought of making them in bent wood and I was in touch with furniture making company Gemla about making them, but in the end it didn't work out

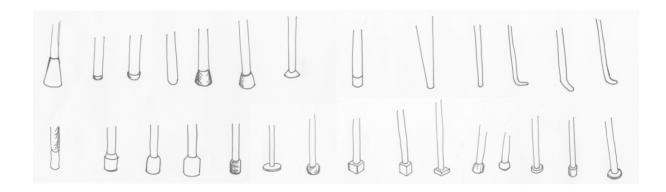
considering the sharp radius so I decided to use steel tubes instead. That made the joining part different as well, so it was made in three parts and welded together.

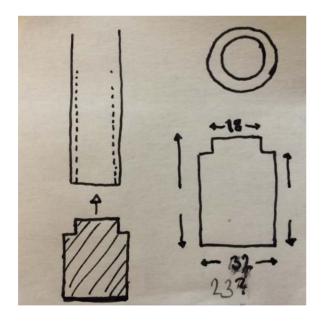


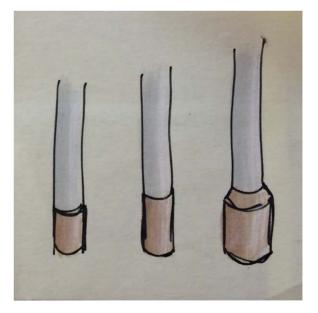
## Feet/endings of the legs

To create a visual ending of the legs and also to protect the floor from hard and sharp steel parts, the table legs needed some sort of "feet".

I considered different materials but chose wood, the same as the table top and hinges for the legs. The shape was a simple and cylindrical one with a small radius at the bottom.

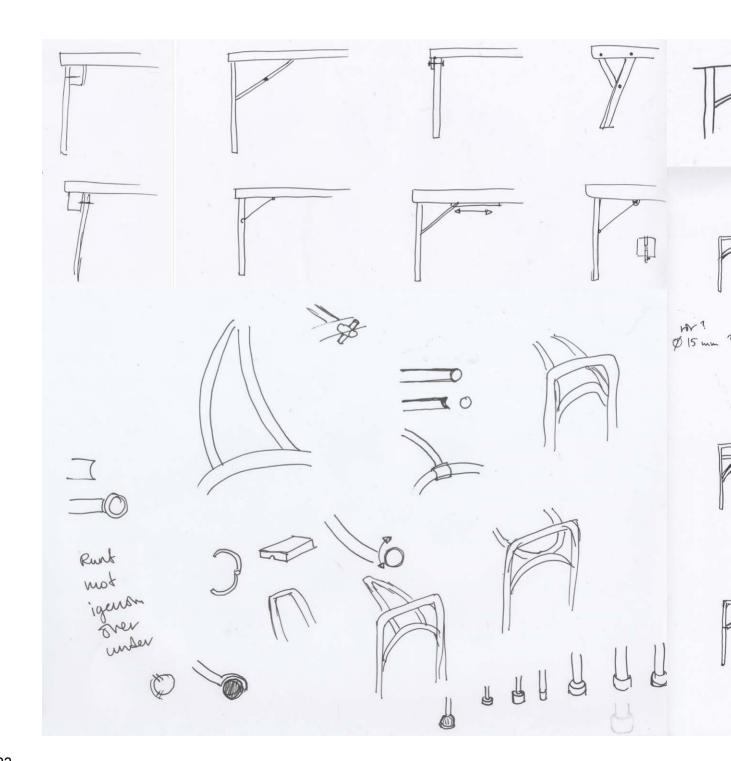


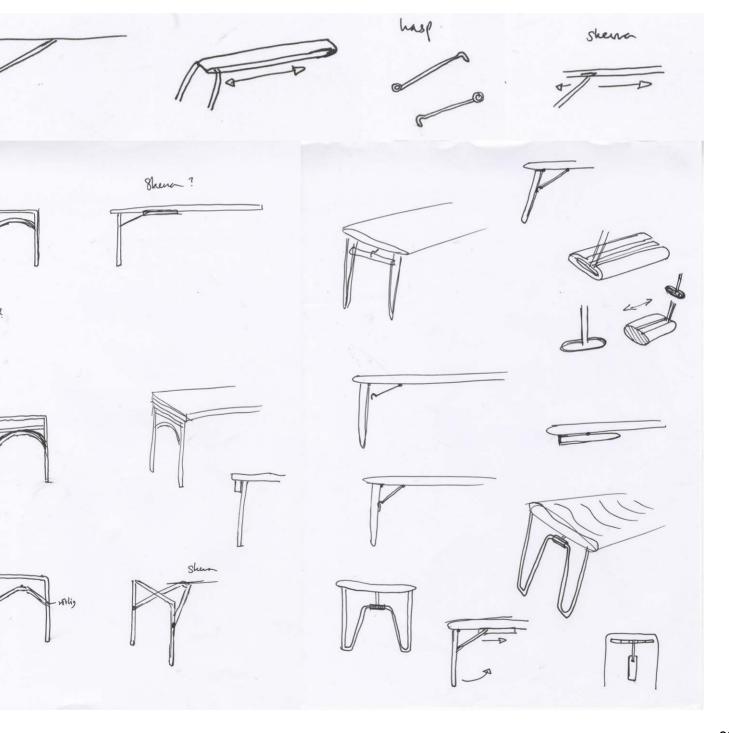




## The folding part

This was the most challenging part, to make the folding function simple, not too technical looking and easy to understand and use, safe to handle, and stable enough. I looked at a lot of different kinds of existing solutions, and how they worked, and tried to explore other and new ways. Eventually, together with the workshop technicians, I found that a rail of some kind would be a smooth way of folding it.





## Hinges and fittings/mountings

The legs needed to be attached to the table top but with rotation ability, not to tight and not too loose. You should be able to fold the legs without using too much force, but they shouldn't just fall or fold together too easily either.

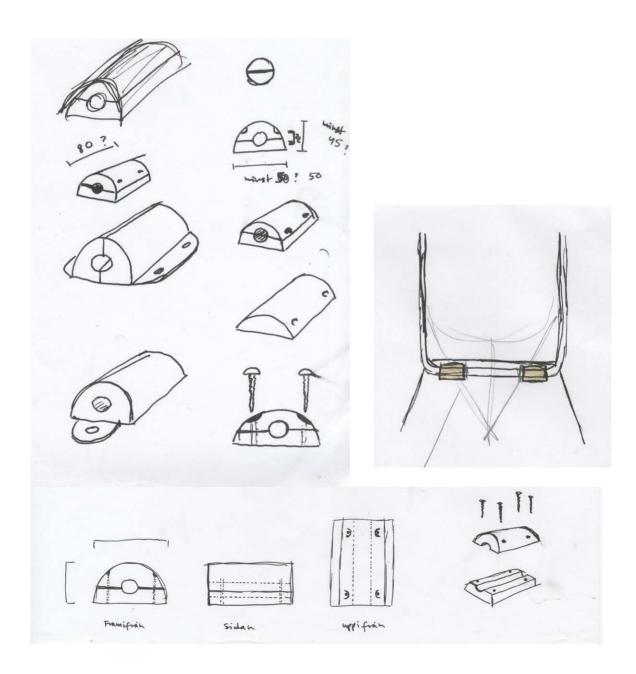
The supporting rod had to be attached to the bended part of the leg, also with rotation, and attached to the rail where it should move back and forth without coming loose.

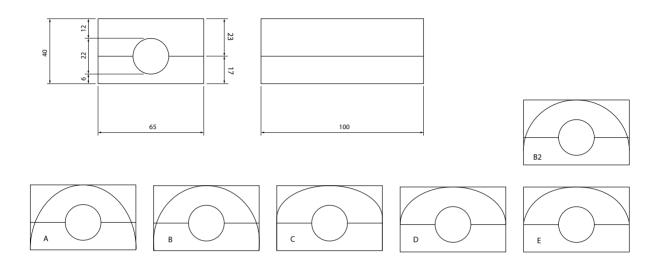
These parts were quite difficult. I didn't find

any existing parts that worked in this project so I had to make all of them, which made them quite basic and more functional and not always so refined aesthetically.

The hinges for the legs were made in a two piece wooden part, drilled in the middle and screwed together.

The attachment for the supporting rod was made in steel, powdercoated and screwed together.





## **Surface treatment**

The main factors for the wood was to keep it durable, maintainable and to let the wood look like wood.

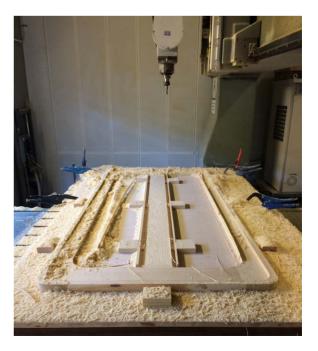
Pine wood has a tendency of yellowing with time, but this can be avoided with the right treatment. I used Osmo hardwaxoil with some white pigment in it to keep the wood from becoming yellow with age.

The metal parts were powdercoated since it is a durable surface treatment which protects the steel parts from scratches and rust.

# **Building the prototype**









### Table top

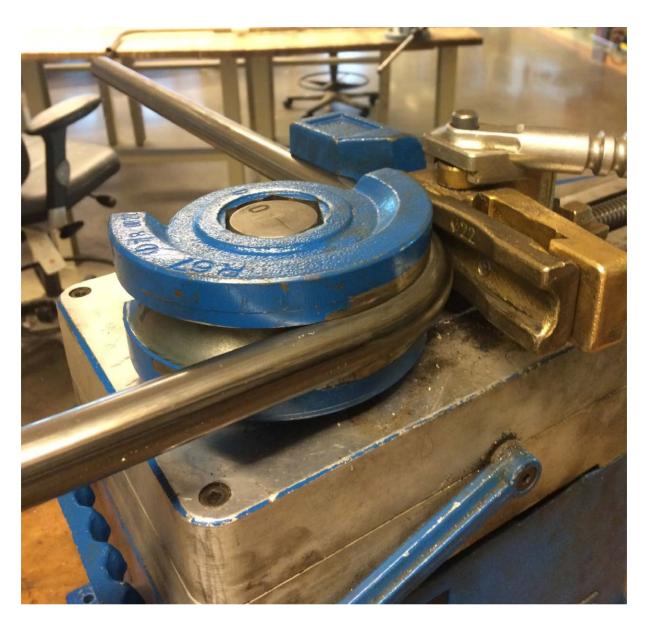
The frame for the table top was built in pine wood, and then CNC-milled to get the radii and the part where the plywood would be placed. The plywood was also cut out in the CNC-mill to get the exact right dimensions on the radii.

When using a CNC-mill you make a 3D-drawing and then program the computer controlling the CNC-mill, and then position the piece on the X, Y and Z axes.

Holes were drilled for attaching the plywood in the frame, with threaded inserts<sup>1</sup> and fasteners.

The edges were milled with a corner rounding tool, and after sanding the frame and the plywood, they were treated with a layer of Osmo hardwaxoil with some white pigment in it, to avoid yellowing of the pine with time. Finally a layer of transparent hardwaxoil was applied for protection of the wood.

1 Gängade beslag / rampamuffar



**Metal parts**The steel pipes for the table legs were bended, cut and welded together.











**Mounting and attaching**Hinges and mountings were adjusted and mounted.



## **Color alternatives**















I tried out different colors in the renderings and found that a dusty light green or blue was a good choice for the purpose. It would work in many surroundings without taking over, or be too sharp or cold. However, the right colors were hard to find

for powdercoating in this small volume. Hence the chosen color for the prototype was a more neutral one, an almost white, very light gray. In a larger production it would be different and more colors would be available to order.

















Safety and safety of children
The folding mechanism is quite safe,
and hard to hurt yourself on. The angle
of the legs make it hard to accidentally turn the table over, or fold together unintentionally.





### Sustainability

3D model of the table in exploded view showing the different parts. Since every part is removable you can replace pieces and maintain it, for it to last longer - a more sustainable option than replacing the whole table when it gets worn down.



## The whole concept



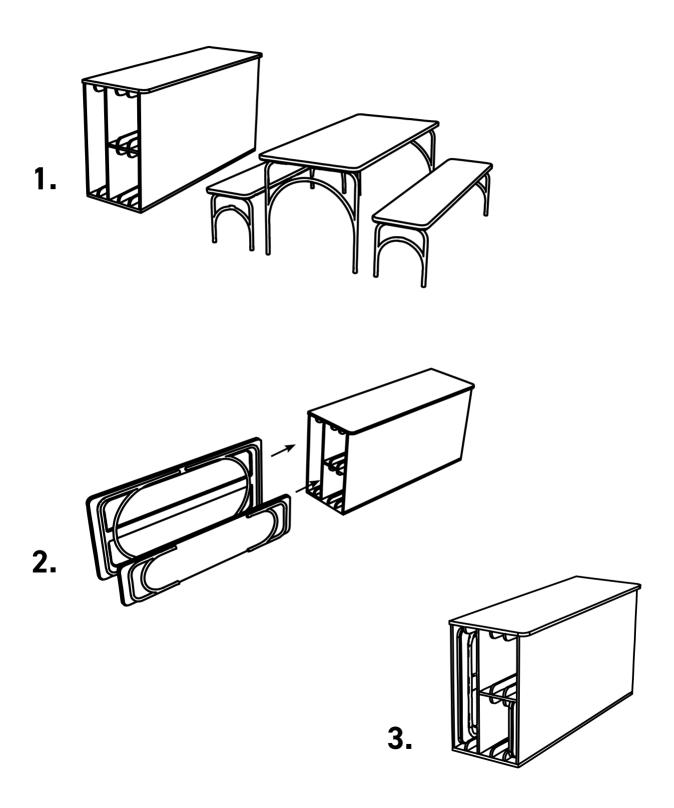






This shows the serving table used to its full capacity, with two folded tables, four folded benches and four cushions stored inside.

## The folding steps



## **Technical info**



### **Table**

Length: 1600 mm
Width: 750 mm
Height: 750 mm
Folded: 70 mm thick

Weight: 19 kg

Materials

Tabletop: Pine wood and pine plywood Legs: Powdercoated steel tubes

Feet: Wood

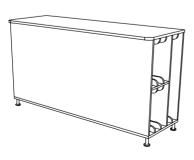
Fittings: Brass and steel



### **Bench**

Length: 1600 mm Width: 375 mm Height: 440 mm

Fits 3-4 people



### Serving table

Length: 1650 mm Width: 600 mm Height: 900 mm

Fits 2 tables, 4 benches and 4 cushions.



The folding table is a prototype and there are improvement possibilities if it would be developed further. Both regarding aesthetics and shape, construction and material choices.

If it would be produced industrially there are ways of doing both CNC-milling and industrial bending and welding of steel parts. For an optimized production some changes in construction are desirable.

The dimensions were decided by certain practical and functional needs. Keeping it from

getting too big and heavy when moving it and folding it, but suitable to eat on. The legs needed to fit underneath when folding it, that's why it is quite long. I also wanted it to be long enough for three people sitting next to each other. There are other ways of fitting the legs, next to each other or so in order to have a smaller table.

If I were to develop it further it could be an idea to make it  $800 \times 1600$  mm instead of the actual measurements which are now  $750 \times 1600$  mm. There could also be smaller versions

in 800 x 800 mm, to have even more flexibility when furnishing in different ways, and optimize transport and storage.

The corners of the table top are rounded with a radius of 50 mm which gives the table a less sharp look and can be quite comfortable when using and moving around the table.

There is however a point in having rectangular tables without radii, if you want to put more tables together to create longer or larger ones etc. This is something to consider for a further development, and would have to be tested. One benefit of having a radius, creating an opening in the corners when putting tables together is that you get some space for cords and charging of laptops or other.

The short end of the table is made with the purpose of fitting a person sitting there, with legs under the bended part of the table legs. This height is approximately 600 mm which works if you use a chair that's not too high etcetera, but optimally there would be more space here.

The issue with this construction is that the bended part could not be placed further up to give more space for sitting, since the stability was depending on this height. It is a compromise between the function of sitting and the stability of the table. If developing the table further I would reconsider this and look into other ways of keeping it stable.

The welded point joining the table leg with the bended part of the leg required some work and finish to get a good result, and for the prototype this was done manually. In an industrial setting it would be different, but I also looked into other ways of joining the parts and would like to investigate this further. A simple and stable joining method without welding would be prefered.

The table top was developed to be strong but not too heavy. The construction with a frame and plywood works quite well for this since the use of material is reduced. The pine is a light not too dense type of wood which was chosen due to these requirements, but there are other choices if you want something a little less sensitive to scratches or with another look of the material. I considered birch, ash, maple and also a board in linoleum instead.

Since the construction consists of a frame and a board placed in it, it would be easy to have this as a choice when ordering your table. You choose material and finish of the frame and board, and color for the powdercoated legs.

My aim was to create a more homey folding table, mainly for the cohouses which plan and have a budget for a long term use of furniture. According to estimations they wouldn't have to be that expensive, but not in the cheapest section either. It is made to be durable and with a possibility to change or repair parts after some wear and tear.

It could of course also work in a home or other area than a cohouse, where you want flexibility, are lacking space, or just want to have extra furniture without them taking up too much space or create a messy look.

My perception is that there is a market for this type of furniture, because not that much exists. Existing folding furniture is often quite "rough", technical looking, office like, or lacks storage solutions that work in a daily life. There is a also a market of folding furniture for outdoor use, which doesn't work as well in a home.

In this case the aim was something that works every day, and feels homey but still easy to take care of.





## References

### Literature & reports

Sittmöblers mått, Erik Berglund, Möbelinstitutets rapport nr 50, 2012

Gemenskap och Samarbete i kollektivhus och bogemenskap, by Elsa Grip, Kerstin Kärnekull and Ingrid Sillén, Migra förlag, 2014

Ägodela. Köp mindre - få tillgång till mer, Naturskyddsföreningen, Bonnier fakta, 2015

Att bygga för en ökad jämställdhet exempelsamling om jämställdhet i den byggda miljön, Boverket, rapportnummer 2015:23, 2015

Rätt att bo kvar, en handbok i organisering mot hyreshöjningar och gentrifiering, Koloni förlag, 2016

*Kollektivhusfoldern*, Föreningen Kollektivhus NU, Migra grafiska, 2008

Individualizing Utopia: Individualist Pursuits in a Collective Cohousing Community, Esther Sullivan, Journal of contemporary Ethnography, Sage Publications, 2015

### Web

www.kollektivhus.se

http://onesharedhouse2030.com/

### The visited cohouses:

Sofielund

http://www.sofielundskollektivhus.se/

Sockenstugan

www.sockenstugankollektiv.se

Slottet

http://slottet.org/

Yxan

http://www.landskronahem.se/sok-ledigt/dettakan-du-hyra-hos-oss/kollektivboende/

Pappel 44

http://www.innerstaedtisch-wohnen.de

**Shared Space** 

https://www.cohousing-berlin.de/sites/default/files/assets/Projekte/1065/expose.pdf

Our Space

https://www.cohousing-berlin.de/de/projekte/ our-space

# **Images**

All images by Ylva Granström, except for the borrowed ones on pages: 66-67 and 70-71, as referenced:

### Inspiration p. 66-67



www.cascando.nl\_news-archive.jpg



https://www.pinterest.com/pin/409264684866580608/



http://www.pascalhien.com/ projects/housewarming.html



https://www.miliashop.com/ en/coffee-table/4205-oak-tablemodule-coffee-tables-cappellini. html



https://www.designboom.com/design/scholten-baijings-moroso-ottoman-06-07-2015/



https://www.svenssons. se/p/b%C3%A4nkar-pallar-ochstegar/b%C3%A4nkar/georgb%C3%A4nk-ek-obehandlad-inklgr%C3%A5-dyna/02707002011



http://www.chrisliljenberghalstrom.com/wd1-desk



http://www.lisahilland.com/portfolio/bow



https://doweljones.com/products/half-hurdle-chair



https://www.lannamobler.se/ utemobler/soffbord-och-smabord/ cane-line-sidobord-on-the-move-44-cm-olive-green/



https://inredningshjalpen.com/wp-content/uploads/2015/12/Dining-Theatre-Note-Design-Stockholm-Interior-Table\_dezeen\_936\_1.jpg

## Existing folding tables p. 70-71



https://charles-constantine.com/ folding-breakfast-table/69605/ folding-breakfast-table-beautiful-afolding-dining-table-side-view/



http://susansilverantiques.com/product/folding-bench/



https://www.mayflyvintage.co.uk/product-category/seating-2/





https://www.archiexpo.com/prod/campeggi/product-57169-1260127.



https://static.dezeen.com/ uploads/2011/07/dezeen\_Folding-Stool-by-Jack-Smith\_01.jpg



www.rescuesalvage.com.au\_wpcontent\_uploads\_benches-greenvintage1.jpg



https://cdn.apartmenttherapy.info/image/fetch/f\_auto,q\_auto:eco,c\_fit,w\_960/https%3A%2F%2Fstorage.googleapis.com%2Fgen-atmedia%2F2%2F2014%2F05%2F202ac5e066ee71b52c071f116153efc3544f1f02.jpeg



http://www.belowtheclouds.com/uploads/2009/11/imo01.jpg



http://online.auktionsverket.se/1304/182229-fallbank-/



https://cdn10.pamono.com/ p/g/7/8/78505\_QH5279A4Nv/ foldable-industrial-wooden-worktable-1930s-2.jpg



https://garsnas.se/wp-content/uploads/2016/02/GARSv\_0154-1440x1080.jpg



http://prairiehillsmc.com/ wp-content/uploads/2018/02/ tempting-portable-picnic-table-setfolding-camping-outdoor-campparty-chair-natural-to-inspireyour-home-decor-chairstemptingportable-picnic-table-set-foldingcamping-outdoor-camp.jpg



www.bafab.se.78953187-origpic-86164a.jpeg



https://beergardenfurniture.net/ wp-content/uploads/2018/04/beergarden-table-bench-milan-nutbrown-1.jpg



http://www.arcoirisdecoracion. com/folding-side-table/enchanting-folding-side-table-with-best-25-folding-coffee-table-ideas-that-you-will-like-on/



https://www.pinterest.com/pin/427560558365195086/?lp=true



http://lervik.se/lucy-folding-table/



https://www.pinterest.ca/pin/ 208221182755198477/?autologin =true



https://www.karl-andersson.se/ Images/1/1/1074\_14.jpg



https://www.karl-andersson.se/ Images/1/1/1012\_11.jpg



https://www.karl-andersson.se/ Images/1/1/1012\_19.jpg



https://www.karl-andersson.se/ Images/1/1/1074\_11.jpg



https://nomart.fi/wp-content/ uploads/2018/08/Balzar\_ Beskow\_B-310\_table\_folded.jpg

