# DESIGNING FOR INTERACTION

## - A Youth Interaction Centre in the Central Parts of Gothenburg

Erik Brundin, Master Thesis at Chalmers School of Architecture, Architecture and Civil Engineering, Supervisor: Kengo Skorick, Examiner: Joaquim Tarraso


CHALMERS
UNIVERSITY OF TECHNOLOGY

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Master thesis at Chalmers School of Architecture
Spring Term 2018

Master program in Architecture and Urban Design
Chalmers University of Technology
Gothenburg, Sweden



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***“Det är ej hunger, ej kärlek, ej könsbegärelse och icke verksamhetsdrift - det är något bortom alla drifter, det är drifternas urdrift, det är samhörigheten.”***

Poul Bjerre (Bjerre, 1926, p.151)

*“It is not hunger, not love, not sexual covet and not business drive - it’s something beyond all urges, it’s the primal urge of all urges, it is the affinity”*

(Authors own translation)

# ABSTRACT

Many young people are today living their lives in their own, often segregated, city district of Gothenburg. Some of the young look to their local leisure centre for different activities usually meaning only interaction with others of the same age and from the same district. The purpose of this thesis is to create a centrally situated place that facilitates interaction between young people from all city districts and other residents. The thesis is based on the idea of society's continued technological development and that social media enables social networking that allows people to form groups due to mutual interests and not geographical location. There is however currently an experienced shortage of facilities for these groups to meet. Bringing these groups and other residents together at one central location increases the chances of social interaction beyond the borders of cultural background, gender and age.

The study has been made by interviews with Frilagret (an open cultural venue for young), literature studies and a research by design approach. As a theoretical foundation for the design the theory "Distances in man" by Edward T. Hall has been used.

The proposal uses these distances in creating different spaces suitable for different degrees of interaction according to Hall, to bring each visitor the opportunity to find a space that they feel comfortable to be in in relation to other people.

The chosen site has been Kanaltorget in the central parts of Gothenburg next to the city's opera house located close to the waterline and several public transport hubs. The site is now set to undergo major changes due to construction projects in the area under the upcoming years and the proposal relates to the planned future design. The result is a design study exploring how the theory can be turned into physical form and work as an infrastructure for social interaction on the site.

The aim of the final proposal is to give all visitors on the site a chance to interact with others at a level of their choosing, whether they are passing by alone or if they already have agreed to meet with others. The thesis implements theory into the proposal and explores one way of dealing with spaces that might be used spontaneously by many people for many different activities.

# ACKNOWLEDGEMENT

Although this thesis carries my signature, it would never have been completed without all supporting people around me. I would therefore like to give prominence to:

Kengo, my supervisor, for his total dedication, constant encouragement, technical support, for seeing all connections in my project so clearly and occasionally reminding me of what I've been doing the last semester.

Joaquim, my examiner, for encouragement and valuable comments and for the help to prioritize when time was running short.

Anki and Susanne, at the Salvation Army, for taking the time to help me see the current situation for many young people in Gothenburg and for their own commitment to help others.

Emma, at Frilagret, for her time during a fast interview that turned into more of a discussion and for her commitment to the young people in Gothenburg.

To my fellow students in the studio of Urban Challenges, mainly Freja, Gheorghe, Julius, Lisa, Roberto and Valentina, for ideas, discussions and for making me feel like a part of a team.

And last but not least, friends, family and my partner Josefin for managing the many challenges during this spring.

**I owe you all a big THANK YOU!**

# STUDENT BACKGROUND

I was born and raised in a suburb of Gothenburg, Sweden. After my first degree I have been working with health care for more than six years before applying for architectural school at Chalmers Architecture in 2013. My bachelor's degree was finished in 2016 and I started my master, Architecture and Urban design, at Chalmers Architecture that very same autumn. What now awaits me is something I'm excited about, because even the smallest of careers must start with a big leap into the unknown...

/Erik Brundin, Chalmers Architecture 2018

READING INSTRUCTIONS Unless otherwise is stated, the author is the creator of drawings, diagrams and photos.

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*“If, however, one sees man surrounded by a series of invisible bubbles which have measurable dimensions, architecture can be seen in a new light.”*

Edward T. Hall (Hall, 1966, p.129)

# 01. INTRODUCTION

# 01. Introduction
# 1. BACKGROUND

This thesis finds its background in the society of Gothenburg, the second largest city in Sweden. Gothenburg is today a city struggling with growing segregation (Holmberg, 2017). According to the dictionary (Nationalencyklopedien) segregation means different groups of people living in different parts of a city, which means that the people are mostly spending time with people that share equal conditions (www.ne.se). Historically this has almost always been the case in most cities (www.bra.se). However, research is showing that this means great differences in health and life conditions depending on where you live in Gothenburg (Holmberg, 2017). Thus, children and youngsters are today growing up in the same city but with different conditions for living the life they want and that risks leading to social alienation. The consequences might be growing up feeling like you cannot participate in society on equal terms which can create feelings of hopelessness, frustration and might lead to bad habits, depression and rage for instance. Worst for the individual herself of course, but also for society, meaning a failure for humanity and increased costs. It is therefore vital for society to strive for equal opportunities for all young people when it comes to, for instance, participation and influence but also culture and leisure activities (UNICEF, 2018). Further research has also stated that connections across different borders are important to people, young as well as old. These connections don't need to be deep or intimate because these so called "weak ties" still brings knowledge from other contexts than people themselves have experience from and bridges the gap between different social contexts. And that is important for the feeling of being part of something bigger than yourself (Olsson, 2018).

When it comes to activities for the young, the current situation in Gothenburg is that leisure centres (fritidsgårdar) can be found in all of Gothenburg's city districts. The location leads to that they mostly target local youths. There are also three so called youth houses (ungdomsgårdar) in the city but the same thing about placement applies to them (www.goteborg.se). A leisure centre is a place for organized leisure activities and offers different activities for the young, like rehearsal rooms, sports or discussion forums, and are mainly targeting teenagers, give or take a few years. The leisure centres are usually being run by the municipality but can also be run by local associations and denominations (www.ne.se).

Some alternatives can be found, like Fryshuset and Frilagret. From being more or less a leisure centre, Fryshuset is today a national network working with young people. Their values states that they work for the young ideas to be taken seriously to enable changes in society. This is made possible through trust and responsibility but also encouragement of the young to take on their future seriously. However, Fryshuset is also situated on a 15-minutes distance from the city centre by tram (www.fryshuset.se). Frilagret is another organization located in Gothenburg. Their goal is to make it possible for youths and young adults to arrange their own cultural events using Frilagrets flexible facilities that are free to rent. The difference between Frilagret and a leisure centre is the focus on culture. Frilagret is run by the municipality and is situated in the city centre, close to Järntorget (www.frilagret.se). The website www.fill.nu has the idea to gather information about all free activities occurring in the city in one place. The information is divided into the areas; culture, music, sport and more (www.fill.nu).

A big part in many young people's lives is to liberate themselves from their parents and to create enough space to develop their own personality and to find out who they are as individuals and how they want to live their own lives (www.1177.se). In that sense, the examples mentioned above have an important part to play as gathering points for young people to meet and share experiences and activities. However, young people are also part of society and it is therefore likely that there also might be a need for a space where the young people and the rest of the city's residents can interact due to mutual interest. A gathering point that can bring people together and join them across different borders, like gender, age and culture.

The media occasionally highlights that teenagers sometimes are using gallerias in the city as a place to hang out (Lega, 2016). However, young people might also want to be in the city centre since it brings a time out from their usual social context or perhaps boundaries and offers a place of anonymity (Lidholm, 2007). Living in a society will always lead to interaction between people of different ages and of different backgrounds. More people are also moving through the city centre daily and it is here that you, with good public transport, have access to most of the things that the urban city has to offer. People coming from different cities are also likely to end up in the city centre due to the different transportation hubs in the area. A central location for a project that aims to facilitate social interaction is therefore of great importance. Not only will it be in a place that already attracts the young, it will also bring easy access for people to meet and use a facility so that an interaction can occur.



*Figure 1. Different social media (coffeebeansworks, 2017). CC0.*

## 2. THESIS QUESTION

So, what is social interaction? Social interaction is a multifaceted concept that simply put is about how humans socially interact with each other. How we act and react on how the other part is acting. It can therefore be considered as a social exchange and a dynamic sequence. Through interaction people form social structures, culture and rules for how they should live their lives (norms) (lib.umn.edu, 2016).

But being at the same place at the same is not a requirement for social interaction and many people are also living a social life through modern technology, not at least young people. The future for society is likely to contain new technologies that will shape it and its residents. It is therefore safe to say that more people will probably come to interact through social networking (online platform used to build social networks) and in this “shrinking world” people will easier form groups and bonds based on mutual interests. If these groups are to meet for activities out in society today- where do they go? Finding a space for these activities and a place to meet and interact might create conditions for increased social interaction, but also creativity and evolvement of ideas. It is believed that cities originally were created for trading and that the modern society also trades in ideas. So, wouldn’t it be logic for a city to provide a space for this kind of “trading” as well?

*What if there was a space, in the central parts of Gothenburg that could be used for many different activities and that could facilitate social interaction between the young and the rest of Gothenburg’s residents through mutual interests. What would that space look like?*

*Figure 2. Objective diagram*

# 3. DELIMITATIONS

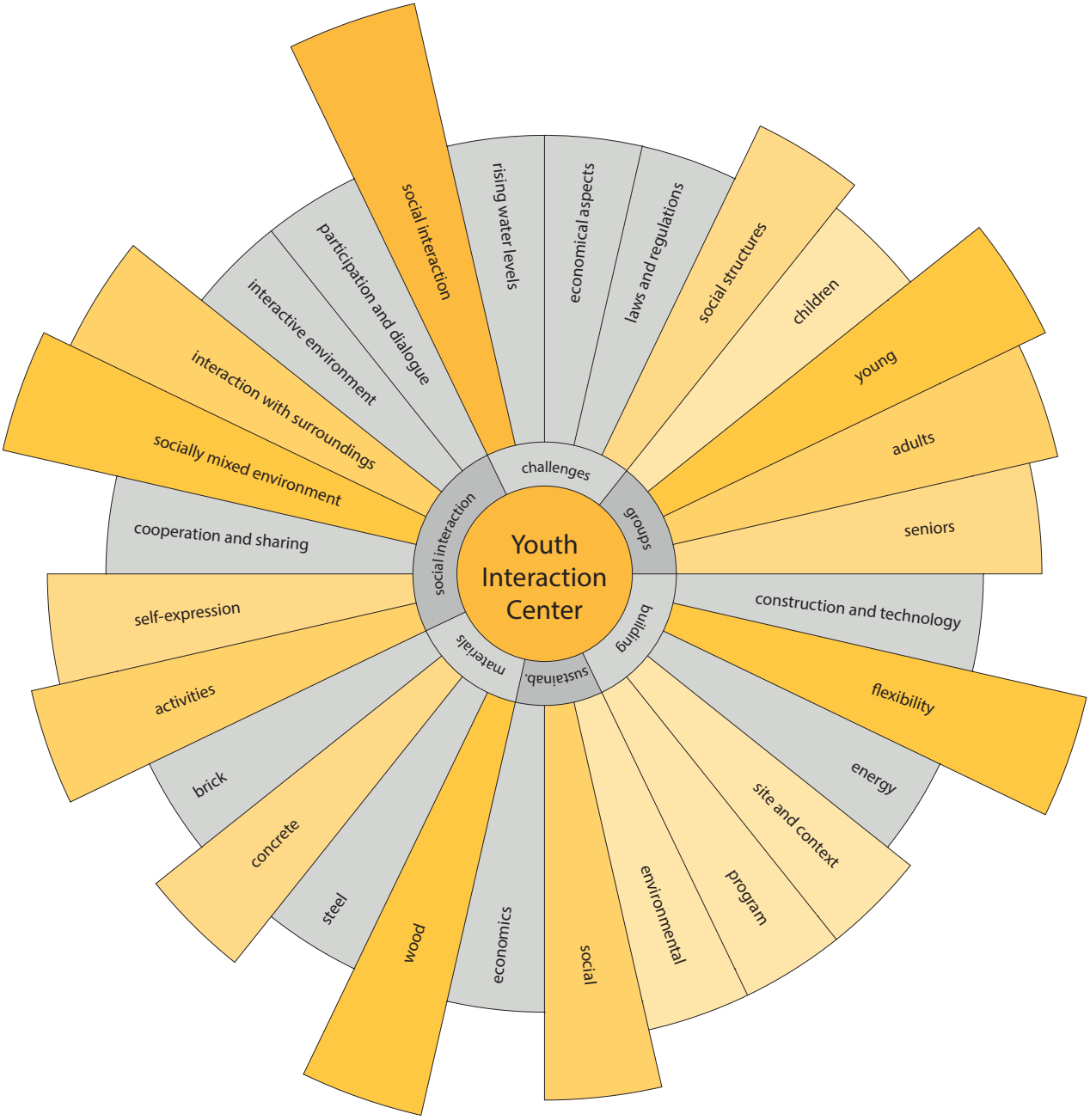



*Figure 3. Delimitation diagram*

TARGET GROUP

As shown before the major target group for this thesis has been identified in the use of the term “the young”, but what does that mean? Living in different city districts means that the distance to the city centre differs. Children are almost always protected by their parents and at what age they are “let loose” to go into the city centre probably differs even more depending on several reasons ranging from economical resources and use of social media to whether they are going alone or together with friends.

This makes it hard to specify the ages of the presumed target group. However, to be able to go in to the city centre alone to meet up with a group formed through the use of social media it is assumed likely that the young are at least teenagers. So, the main target group is therefore considered to be between the age of 13 and up 25. An age when many companies end their youth discounts.

# 4. SYSTEMS FOR PROPORTION

Since ancient times, the word proportion has been important to architects but also sculptors and artists. And the search for an objective truth, to ensure beauty in both art and architecture, has been searched for ever since. Using that truth, it would be possible to create environments that would be appealing and accessible to all people for eternity. The key was believed to be found in the proportions of the human body. Since then, several attempts have been made trying to capture this very essence of the human body.

One of the most famous is Marcus Vitruvius Pollio, the Roman architect famous for his “The ten books on architecture”. Vitruvius used man’s proportions as the starting point of architecture to bring symmetry and proportions to his buildings. During the renaissance these ideas were once again picked up and became very influential, and Leonardo da Vinci made his famous painting “The Vitruvian man” based on the proportions described in Vitruvius’ books (Henry, 2011).

Perhaps not as influential with his own built architecture, it is safe to say that Ernst Neufert has influenced many architects during the years with his book “Architect’s Data”. It was originally developed for students during Neufert’s time teaching in Weimar and can be described as a book of standardization used in architecture. Central in this series of books are the dimensions of the human body (de Graaf, 2017).

Famous architect Le Corbusier, developed his own system several hundred years after Vitruvius. This system was also meant to bring beauty and rationality to the proportions of architecture. The system is called “The Modulor” and was presented in 1948. It is a measuring tool that simply put, combines the human body with math in the search for harmonious measurements.

However, with all the differences within mankind it is an impossible task to design for everyone for eternity. Most people, if anyone, don’t even look like the archetypes described by Vitruvius and Le Corbusier. The awareness of this has made modern architects search for one equal solution to meet all our diverse needs. An impossible task because in the end, all people do not need the same environment. Equality instead means that everyone should be given equal opportunities to meet their own needs (Henry, 2011).

But man is more than limbs and perhaps is not the use of their measurements the only thing that makes us use a space or not. We are humans, individuals and even though our bodies are of the greatest importance to us, so are our minds. And in a more holistic view of man our embodied dimension can not be separated from our psychological one.

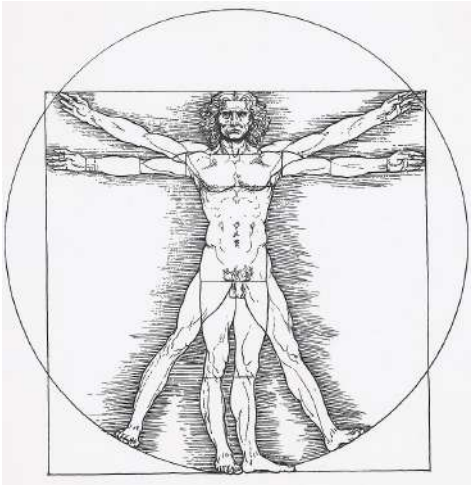


*Figure 4. The Vitruvian man (Schnobby, 2010). CC BY-SA 3.0.*

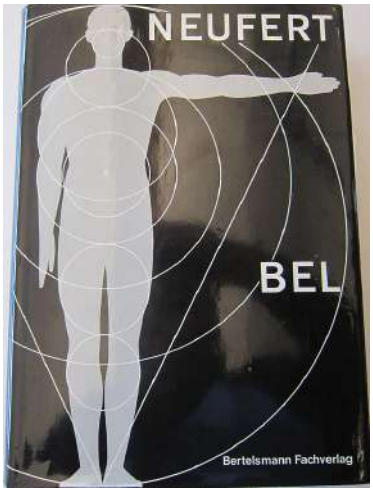



*Figure 5. Architect’s Data (Wasily, 2015). CC BY-SA 4.0.*

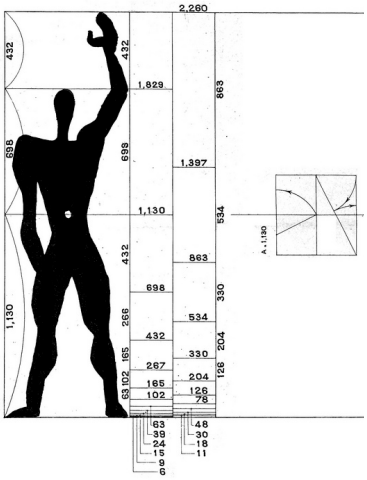



*Figure 6. The modulor (Forgemind ArchiMedia, 2005). CC BY 2.0.*

# 5. THEORETICAL FRAMEWORK

Edward T Hall (1914-2009), was an American anthropologist. Anthropology is the science of humans and their physical characteristics but also studies of diverse types of cultures and societies. In 1966 he released his book "The hidden dimension – an anthropologist examines man's use of space in public and in private" where he talks about the invisible distances we all carry with us and that this is one of the key dimensions in our modern society. The book also talks about how these distances might affect different fields, one of them being architecture. Central in the book is the focus on what we perceive with our senses and the importance of culture. How culture shapes us as individuals and how that also has an affect on our personal distances.

Since his studies were carried out in North America and stating that culture is a major influence on our personal distances, one can ask if these fairly exact distances are also valid in Gothenburg. Hall, that personally had most experience from Japanese and Arabic culture, in addition to the American, mainly makes comparisons between these but also points out the great similarities between north Americans and Scandinavians. Stating that there are larger differences between Scandinavians and southern Europeans. Yet, he argues that the results only can serve as the truth for the participants.

So, what about living in a more multicultural society of today, are these things at all relevant? The book reports the discoveries of Hall's research and even if the exact distances might vary between diverse cultures it also varies from individual to individual. In an example from a hospital Hall states that *what is desirable is a space with flexibility creating a variety of spaces so that people can be involved or not depending on situation* (Hall, 1966). Hence, the assumption was made that a structure in a multicultural society of today should be a structure that holds a variety of spaces and distances for a variety of people.

*"THE HIDDEN DIMENSION - AN ANTHROPOLOGIST EXAMINES MAN'S USE OF SPACE IN PUBIC AND IN PRIVATE". Some notes taken:*

- Culture highly affects how we interpret space
- Space perception is not only a matter of what can be perceived but what can be screened out
- Man's will to orient in a space is connected to survival
- How people feel for each other determines the used distance
- Perception of space is dynamic and connected to action- what can be done in the space and not what can be seen
- People have different personalities for different distances
- Not considered to be rude to not interact within social distance far phase
- A height difference in the social distance creates a power relation
- Many of the modern cities are designed to keep people apart since the car is being prioritized instead of people
- Man is designed to move through a landscape in around 8 km/h
- Screening prevents interruptions in social relationsand we get it from different rooms. If a room gets crowded the screening effect disappears and instead pushes inwards

*Figure 7. Edward T Hall´s theory about distances in man transferred on to the floor in the studio. A quick research using fellow students gave the impression that the numbers seems pretty accurate (Author's own photo, 2018).*

# 5. THEORETICAL FRAMEWORK

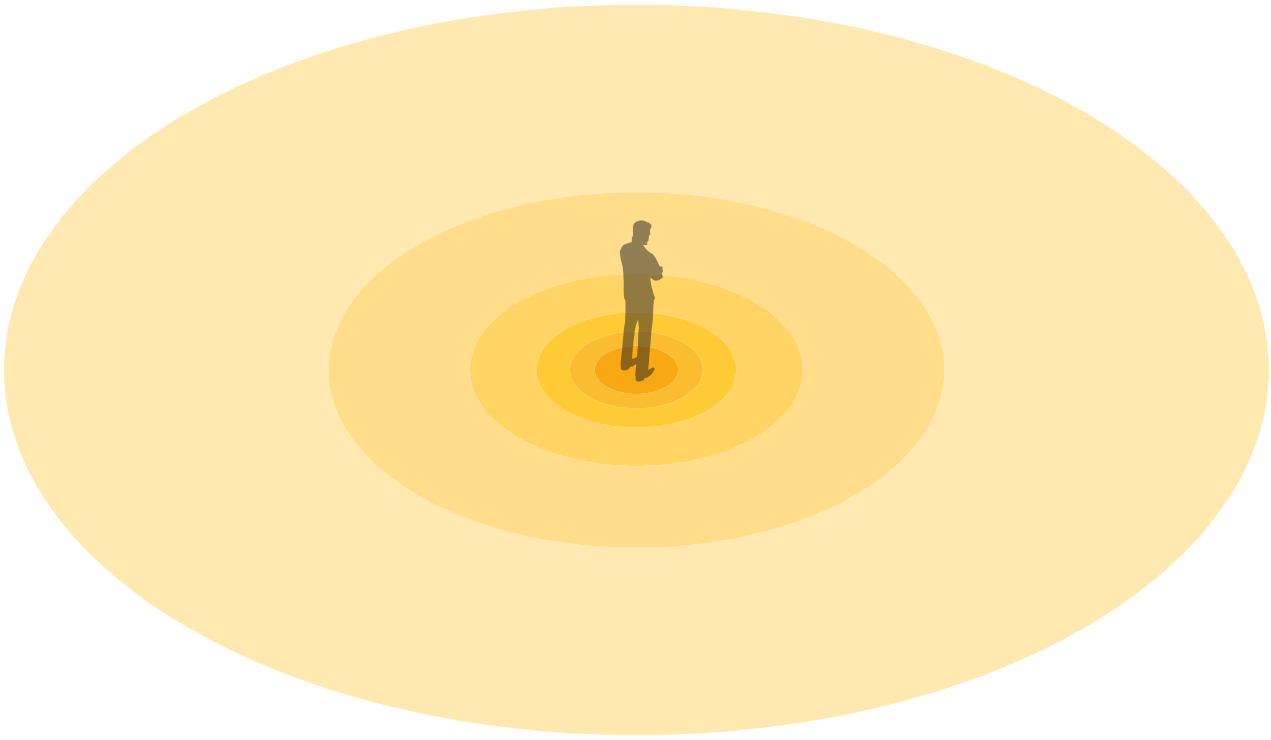


*Figure 8. "The distances within man" according to Hall*

| | | | |
|---|---|---|---|
| Intimate distance | -0,45 m | Social distance - close phase | 1,2-2,0 m |
| Personal distance - close phase | 0,45-0,8 m | Social distance - far phase | 2,0-3,7 m |
| Personal distance - far phase | 0,8-1,2 m | Public distance - close phase | 3,7-7,6 m |
| | | Public distance - far phase | 7,6- m |

*Intimate distance:*
Closest of the distances and originally divided into close and far phase as well but here merged into one. For the most trusted and loved ones. Maximum physical contact and were communication is carried out in other ways then vocalization. Traditionally not so much used in public spaces.

*Personal distance close and far phase:*
For friends and family. The distance of conversation and the persons within these distances can more or less easily touch if they want to. Which phase people choose depends on their relationship or their feelings toward each other (Hall, 1966).

*Social distance close and far phase:*
For interaction with strangers. Beyond easy touching distance. The distances of impersonal business and normal to louder voice level. Often used by colleagues and people attending social gatherings. Moving out into the far phase creates a more formal character. Height differences within these distances creates power relations. However, it is usually not considered to be rude not to interact with another at this distance.

*Public distance close and far phase:*
For addressing a large group, but also a distance that allows you to flee if necessary. Louder voice and vocabulary tends to be formal. Moving into far distance much of the conversation, body language included, must be exaggerated to make a point (Hall, 1966).

# 6. STUDY VISITS

SALVATION ARMY

After a study visit to one of the Salvation army's centres an amazing commitment to humanity was found. But it turned out that the Salvation army's work with young people mainly targets young homeless people. Armed with sandwiches and hot beverages they frequently visit Nordstan and the area of Rosenlund. Standing in the centre of the mall many young people showed up for food and small chats. One guy, surprised that everything was for free, said "I've been in Sweden for 6 years and this is the first time anything comes free". Standing there the need for an indoor space for people to seek shelter in during cold and bad weather became obvious.

On the other hand, watching the police going through the indoor plants in search of drugs it is easy to see that the mall is perhaps not the best place for young people to hang out in during night time. However, this project will not address these issues. Partly because these people are living somewhat outside society, but mainly because this project is trying to promote social interaction and not what they are most in need of, food and shelter (A. Thunberg, personal communication, January 29, 2018).

However, these groups could of course use an infrastructure on Kanaltorget, but it would have felt petty to start talking to them about what they want from an interacting point of view when it was all too obvious that they were struggling with bigger issues. Therefore, no interviews were carried out. But as a resident of the city it was valuable seeing what the mall is like during those hours of the day when most people never visit it and heart warming to see the work that some voluntary workers do, in silence, to help out others less fortunate.

FRILAGRET

Talking to Emma, head of Frilagret. The questions along with the answers can be found as an attachment further back in this booklet and what now follows is a summary.

Frilagret is an organisation with people working professionally with turning young people's ideas into reality. The place was founded in 2012 and had some 500 events during 2017, which means more than one every day. Their facilities are highly flexible to be able to meet the needs for whatever is currently asked for. Working with ambassadors they reach their target group (people aged 13-30) from "the inside". The answer given to the question "What are you lacking?" was "more flexible rooms" for recurring visitors. Apparently, there are many people out there that meet in groups.

However, there is a shortage of facilities around Gothenburg that can offer meeting places for these groups. There are also facilities dedicated for associations (föreningslokaler) but to gain access to these you need to turn your group into an association and that is something that takes time and is governed by statutes. Another interesting aspect was mentioned talking about what the young might need, *"try to think humans and not young people because the diversity that exists among people also exists between young people"* (E. Brattgård, personal communication, February 1, 2018). Simply put, it is all about creating spaces for people.

Fryshuset was also asked for an interview but chose to refrain

# 7. ASSOCIATIONS

An association is a group of people that commonly works with a specific purpose, a common interest or idea. Associations are common all over the world and are traditionally divided into two groups, voluntary and economical. In Sweden many people are members in one or more of the approximately 200 000 different associations which exists today. Associations are democratically structured to allow the members to influence the association and its cause. Its members decide its regulatory system and decisions are made at annual meetings. The structure also calls for a leading board consisting of a chairperson, a cashier, a secretary and auditors for example. This board is then running the business between the meetings. Since most associations deals with money in one way or another they must also conduct bookkeeping and annually declare their economic status to the Swedish Tax Agency. If the association is registered at the municipality it can receive different benefits. This can mean financial contribution or being able to rent the municipality's different facilities to have a place for their association meetings (förening.se, 2018). There is currently a shortage of facilities for associations. In Gothenburg, the municipality will give economic support to associations working with children, young, seniors or disabled (goteborg.se, 2018).

However, there are reasons for people not forming associations and during the interview with Emma at Frilagret a few likely reasons were given. Perhaps the legal commitments or the additional work in a board feels a bit overwhelming and the fact that you also need to be over 18 to be a part of the board might also be something that might prevent young people from forming associations. At Frilagret they felt a need for facilities that could meet the demand for people that would like to meet to exercise their common interests without being an association (E. Brattgård, personal communication, February 1, 2018). *This project will therefore try to provide such facilities.*

# 8. LITERATURE STUDIES

"SVENSK MILJÖPSYKOLOGI". *Some notes taken:*

- Old experiment showing that faces on pictures was considered happier if they were shown to a person in a nice room than an ugly room
- Social participation arises, among other things, from the physical and social environment of the place that promotes individuals' sense of site
- Children will be playing everywhere whether the environment is designed for it or not
- Prospect-refuge theory: places should have lookout points as well as places to "hide"
- Elderly prefers more open landscapes whilst the young prefers more closed
- However, in the reference list I found the book "Personal space" by Robert Sommer (Küller and Johansson, 2005 ).

*"PERSONAL SPACE - THE BEHAVIOURAL BASIS OF DESIGN". Some notes taken:*

- Architects knowledge about the behavioural effects their buildings have is based on intuition and anecdotes
- A personal sphere is not necessarily spherical, and do not extend equally in all directions
- A test revealed an average distance of 145 cm from each other when people were trying to make friends. And a distance of approx. 240 cm when people in the same room wanted to avoid each other
- Long benches are usually only being used at its ends. If divided with armrests in between it could invite more people to sit down
- People prefer to have conversations sitting opposite to each other
- Large rooms tend to make people sit closer together
- People like sitting with their backs against a wall for an increased feeling of protection (Sommer, 1969).

*“Generally speaking, “the young” reflects society as a whole, so try to think “humans” and not “young people”.”*

Emma Brattgård, Frilagret (E. Brattgård, personal communication, February 1, 2018)

# 02. RESEARCH BY DESIGN AND ANALYSIS

# 02. Research by design and Analysis
## 1. DESIGN ITERATIONS USING HALL'S THEORY

The method of this thesis has been driven by a research by design approach. Hall's theory has been interpreted into physical form and different iterations, going from 2D to 3D. When new knowledge has been gained along the way, this can be seen in the improved and more complex iterations.

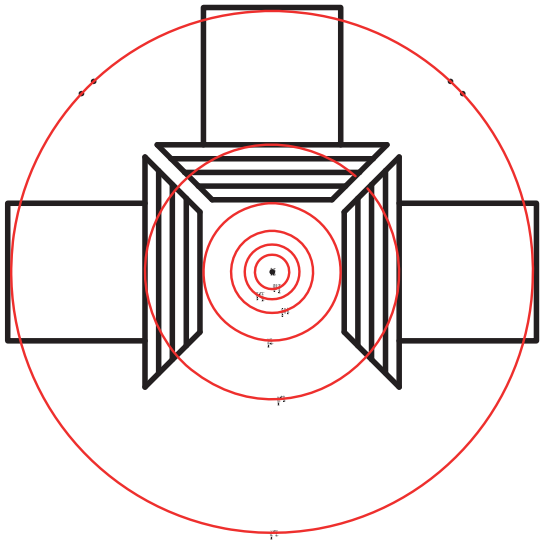


*Figure 8.* Hall's distances implemented in a design using modules combined with the addition of sitting stairs. The users end up in the social far zone and those closest to the middle almost in the social close distance. Still making it possible to avoid interaction without being considered rude.

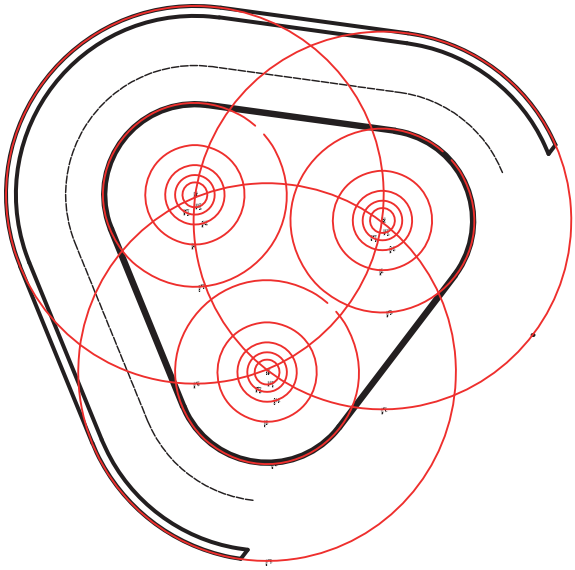


*Figure 9.* Iteration showing an idea about moving in and out of interaction. In the middle is a flowerbed. The line in between the walls and the flower bed represents the line between social close distance and social far distance. AIM: enable a voluntary degree of interaction while walking.

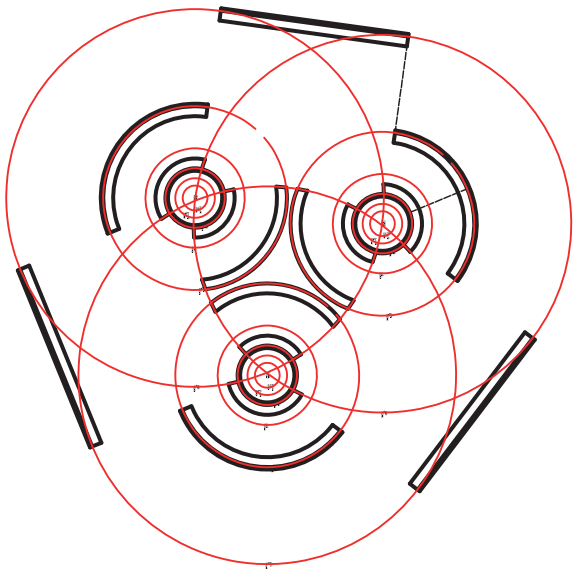


*Figure 10.* Three smaller units in social distance. AIM: creating a space for social interaction where different distances reinforce each other.
The straight benches is in a public distance from the smaller units making them visually interacting but not socially. But also creating "protection" for the smaller units.

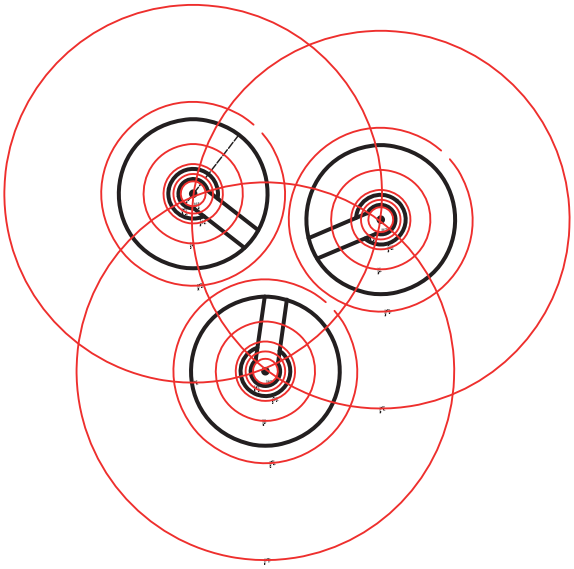


*Figure 11.* Small islands within social close distance. AIM: removing a certain distance of interaction. The distance social far is almost removed directly going to public distance. But entering from the middle means people being pushed into social far distance before reaching the social close.

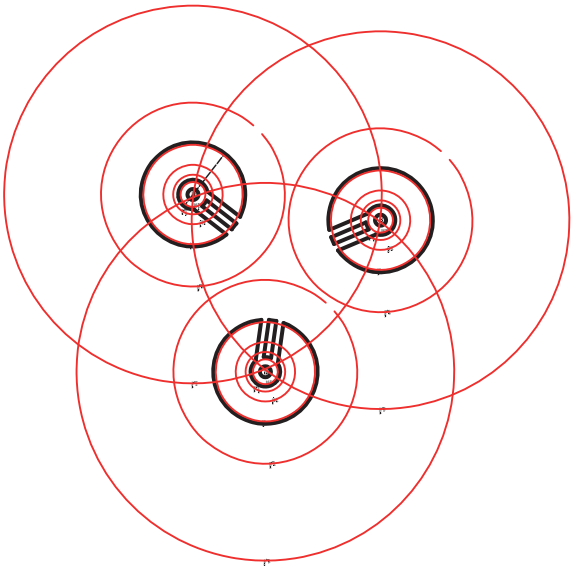


*Figure 12.* Like previous but without seating. The centre is a round conference table removing intimate distance. AIM: create screening affect without using walls. A perimeter around in a different material creates awareness.

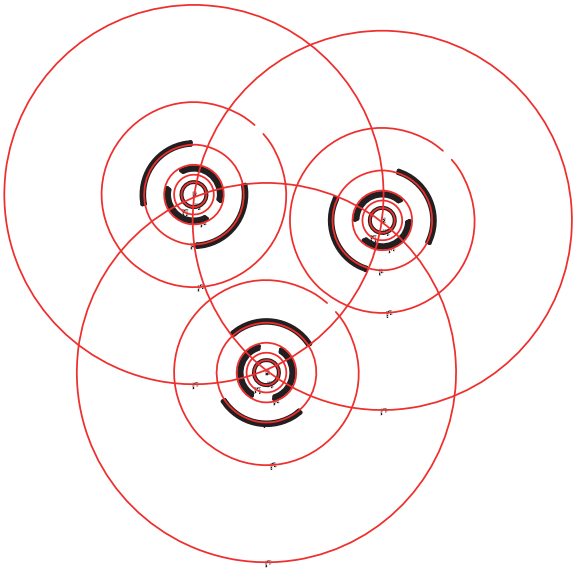


*Figure 13.* Intimate islands. AIM: creating an intimate space. High shielding walls blocking views and turning focus to the intimate interaction.

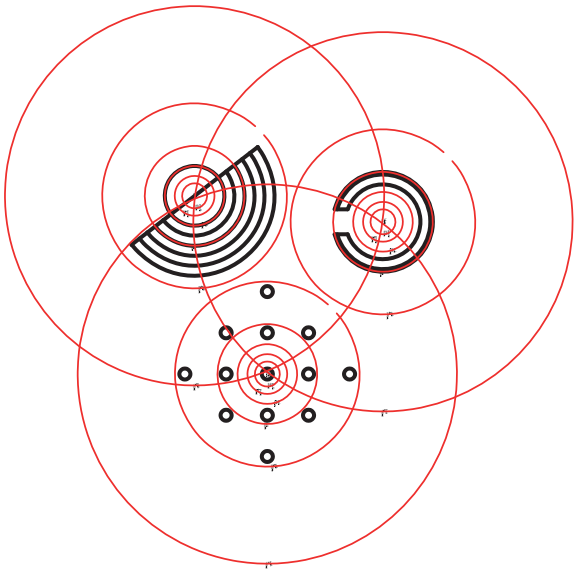


*Figure 14.* One screened off seating area with all seats within social far distance. AIM: a place to sit feeling part of something without the "need" to address everyone.

An amphitheatre with a small stage and the audience from the distance of social close distance. AIM: making it possible for many to socially interact but also brings hierarchy into the interaction.

A set of conference tables all within social close distance from the nearby tables and all within social far distance. AIM: Everyone standing at a table can interact in the conversation at a nearby table, still aware of everyone in the "room"

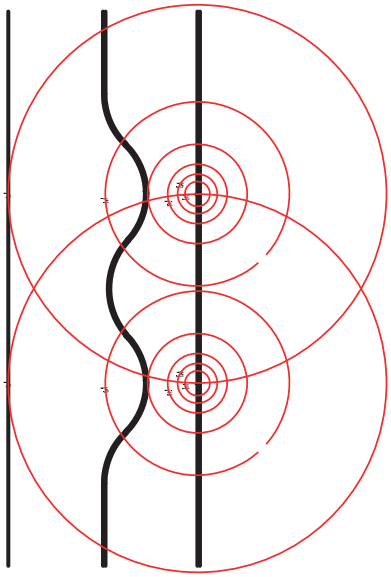


*Figure 15.* A passing road, to the left, allowing for people passing by to make intrusion in to the social distance of the people of the centres. AIM: to promote interaction with people just passing by. The round shape is also likely to slow down the pace making people more aware of one another.

*Figure 16.* M.C. Escher, Dutch artist and graphic artist, famous for his impossible figures and his use of "tessellation". In the picture next the same geometric figure forms positive and negative spaces with no air in between (Ribeiro Simões, 2017). CC BY 2.0.

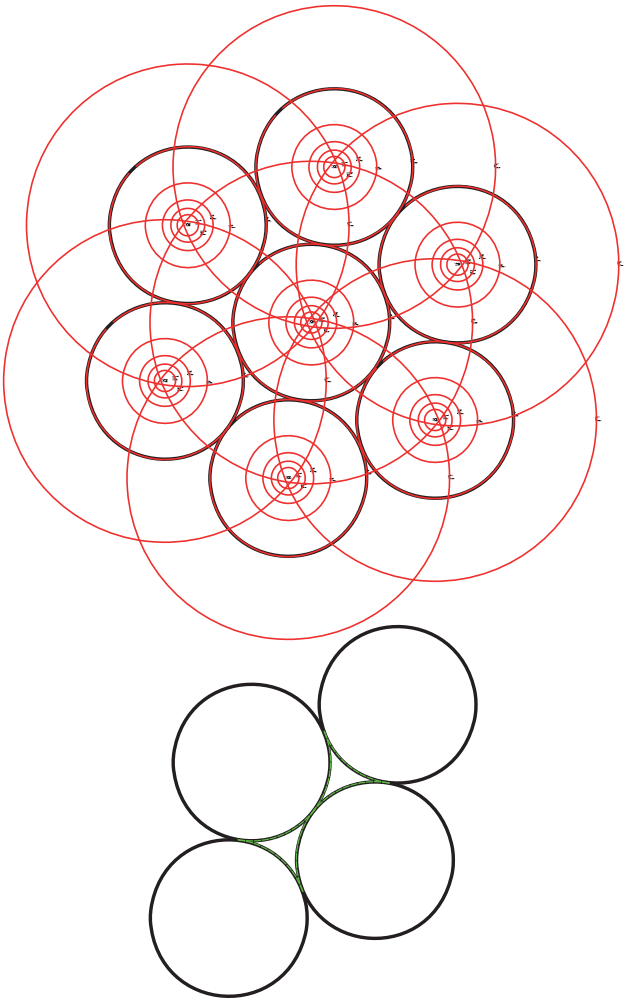


*Figure 17.* Even if not the same geometric figure is being used two different geometric figures can if repeated build up the "shape" of the distances from Hall's book. Preferably, the green areas turns into positive forms. AIM: to create a repeatable pattern that can be applied to the site.

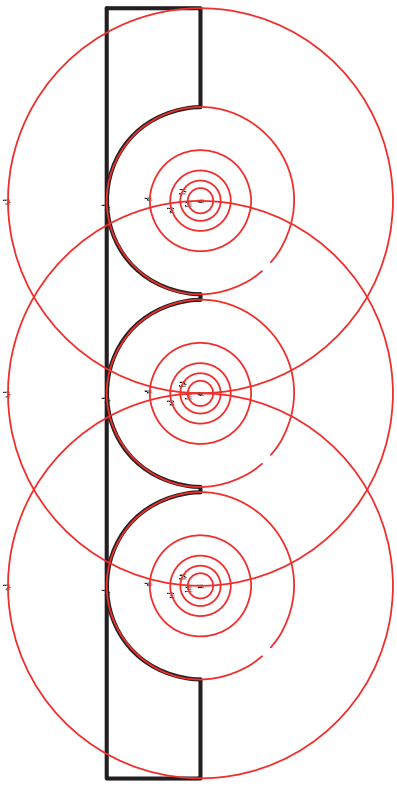


*Figure 18.* Different iteration showing positive and negative spaces

# 02. Research by design and Analysis
## 1. DESIGN ITERATIONS USING HALL'S THEORY

Some of these iterations was inspired by Aldo van Eyck, the Dutch architect in the movement of structuralism and perhaps most famous for his Orphanage, but also Sonsbeek Pavilion in Arnhem and his many playgrounds for children in Amsterdam. The latter were often based on simple geometric shapes to stimulate the mind and fantasy of the children.

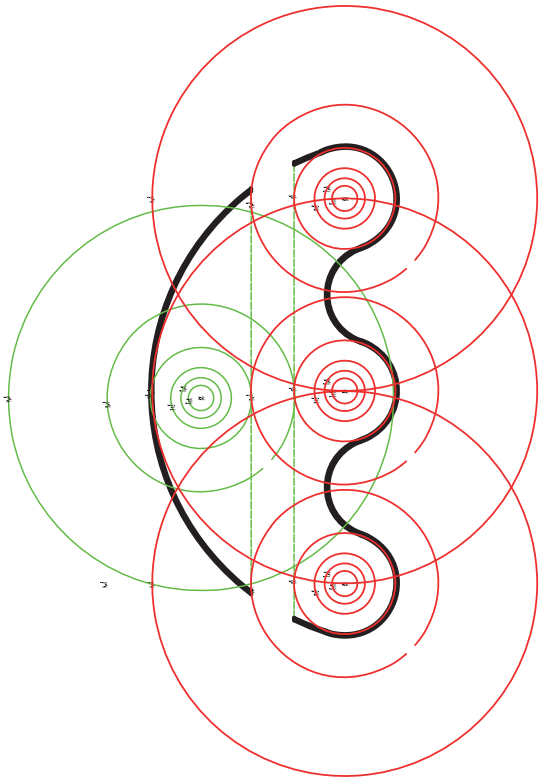


*Figure 19.* Smaller social corners in a space with a public distance. AIM: to create one large room with different interaction zones.

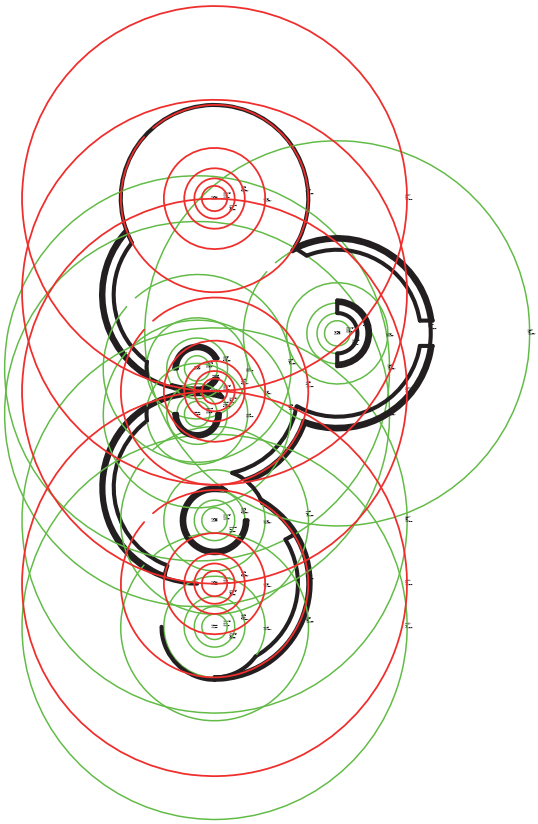


*Figure 20.* Several different distanced rooms following on each other. AIM: to create spatial sequences and multiple entering points using the distances.

CONCLUSION:
After doing several iterations of the use of Hall's distances one big question remains. Will people simply start interacting if they are put into different rooms of the right dimension? The answer is, of course, that one can't know for sure. We come from different cultures, have different backgrounds and carry different experiences that makes us act the way we do. So being a unique person also makes it likely that you have somewhat different personal distances.

All these iterations are simply based on the idea that the different spaces created by the distances increases the opportunity for people to interact. And since the idea is not to force anyone into interaction but offer an opportunity to, that is enough. Sitting on a bench in itself makes it possible for people to come into a intimate distance with someone you don't know, no matter if someone sits in front of you or not.

Another "problem" encountered is the fact that no-one "needs" to be standing in the centre of the "circles", that's been used to create the spaces, since these follow each person as they move. And if this happens, people will simply end up in an different zone which makes it hard to control the flows. It is therefore easier to control these distances in really narrow spaces, when people are seated or occupied with activities that binds them to a certain spot. Because things quickly gets complicated when people starts to move...

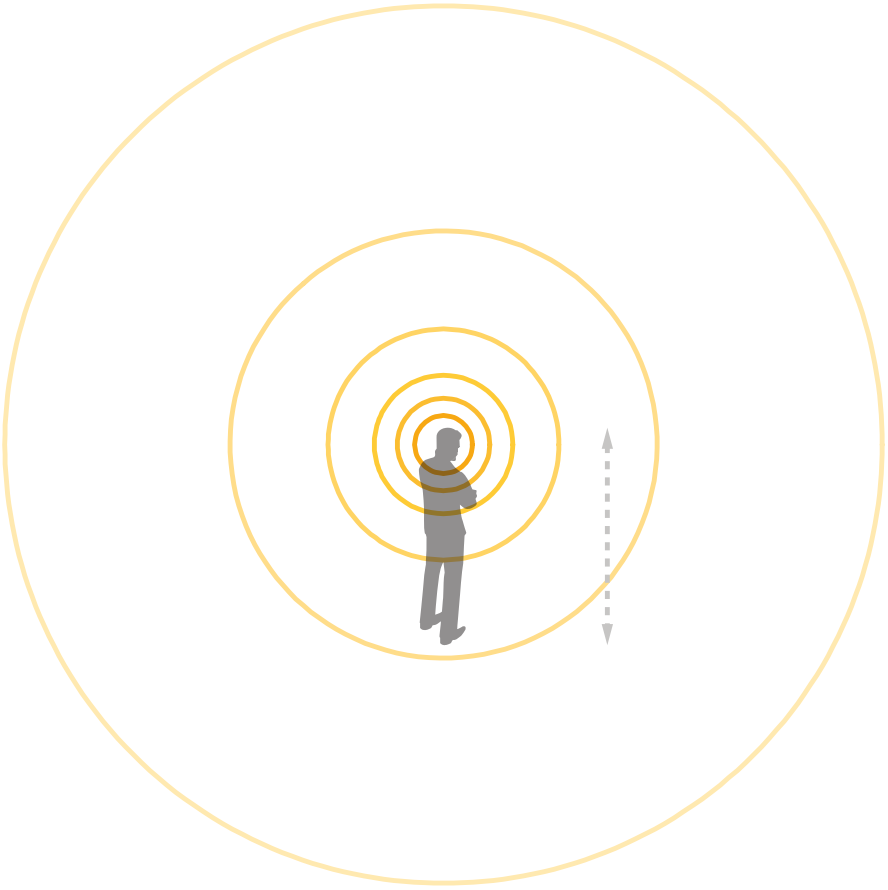


*Figure 21. The following iterations uses varying starting points to "Hall's distances" in the vertical direction*

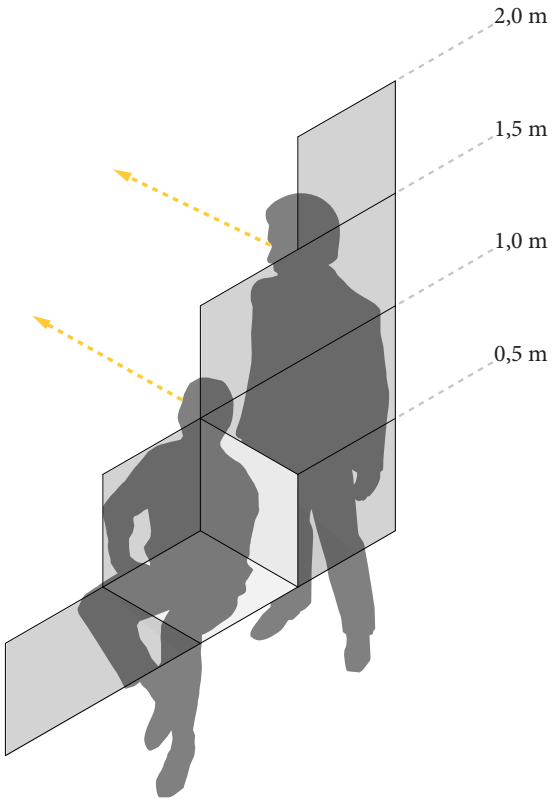



*Figure 22. Idea for the heights used in the screening walls*

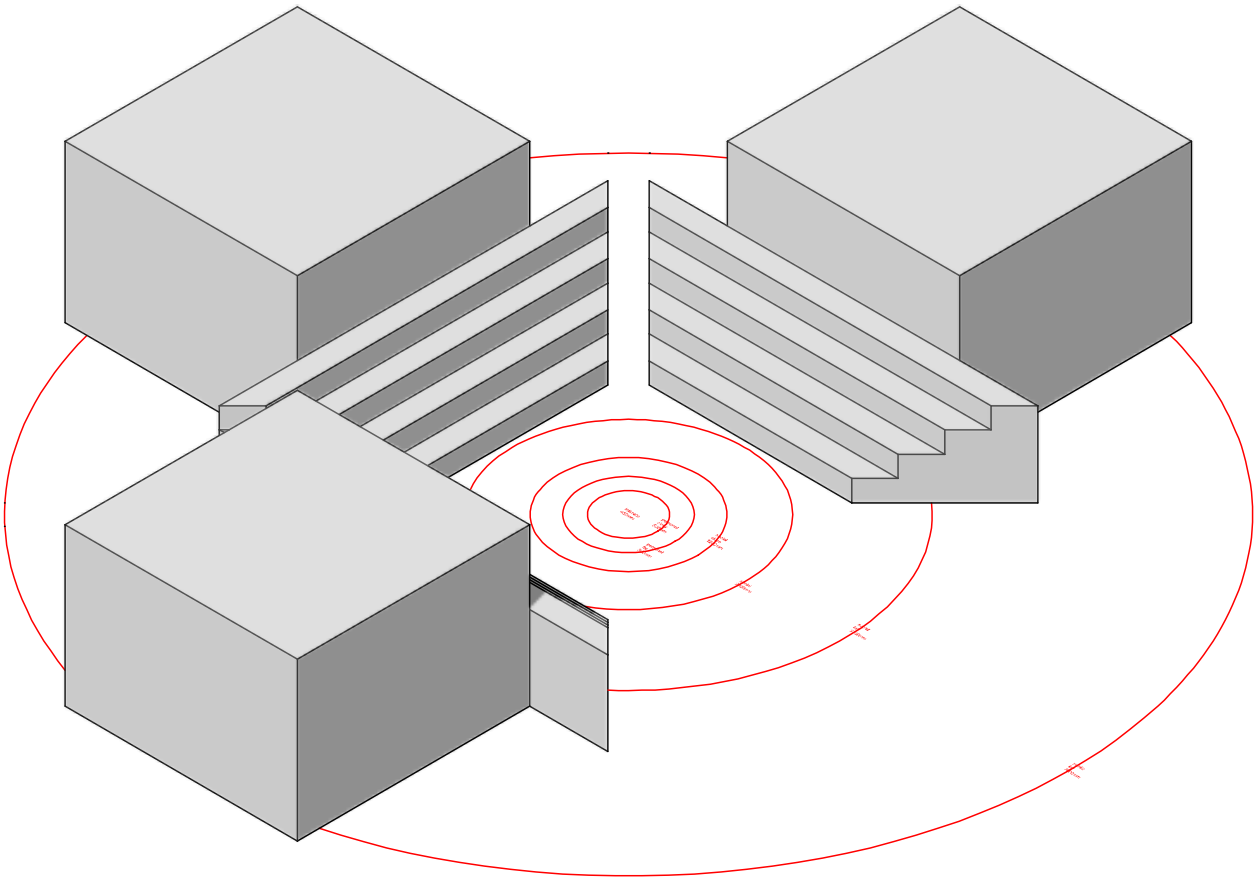


*Figure 23. Axonometric view*

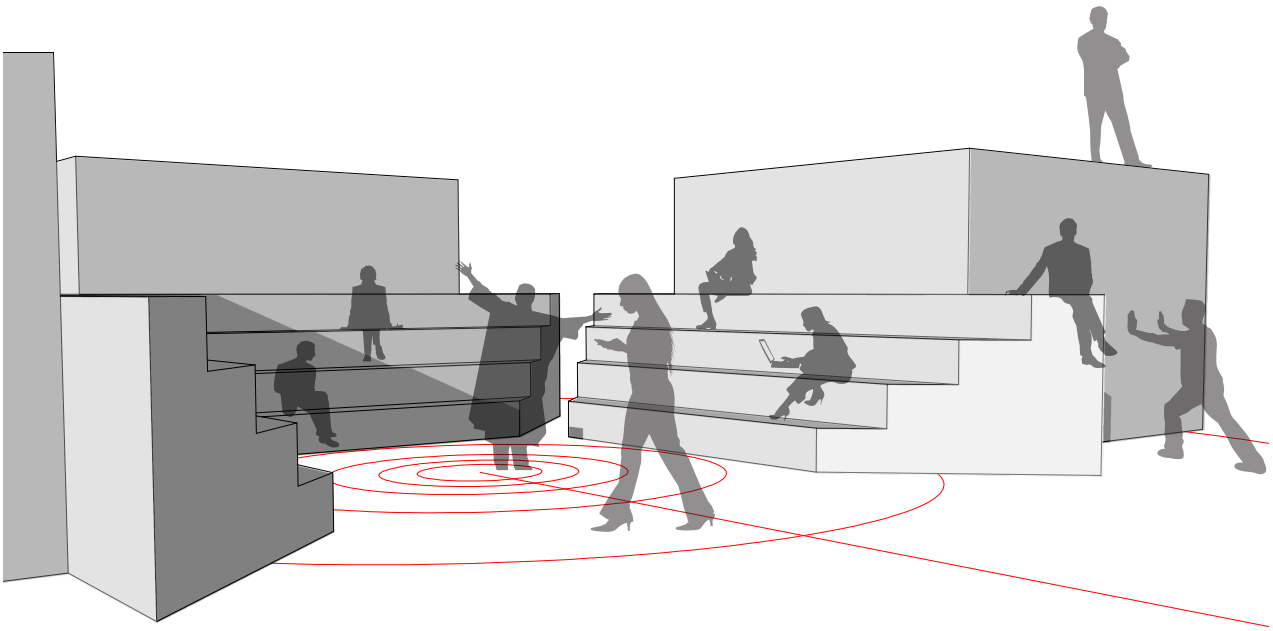


*Figure 24. Perspective showing modules forming a space and with stairs attached to them*

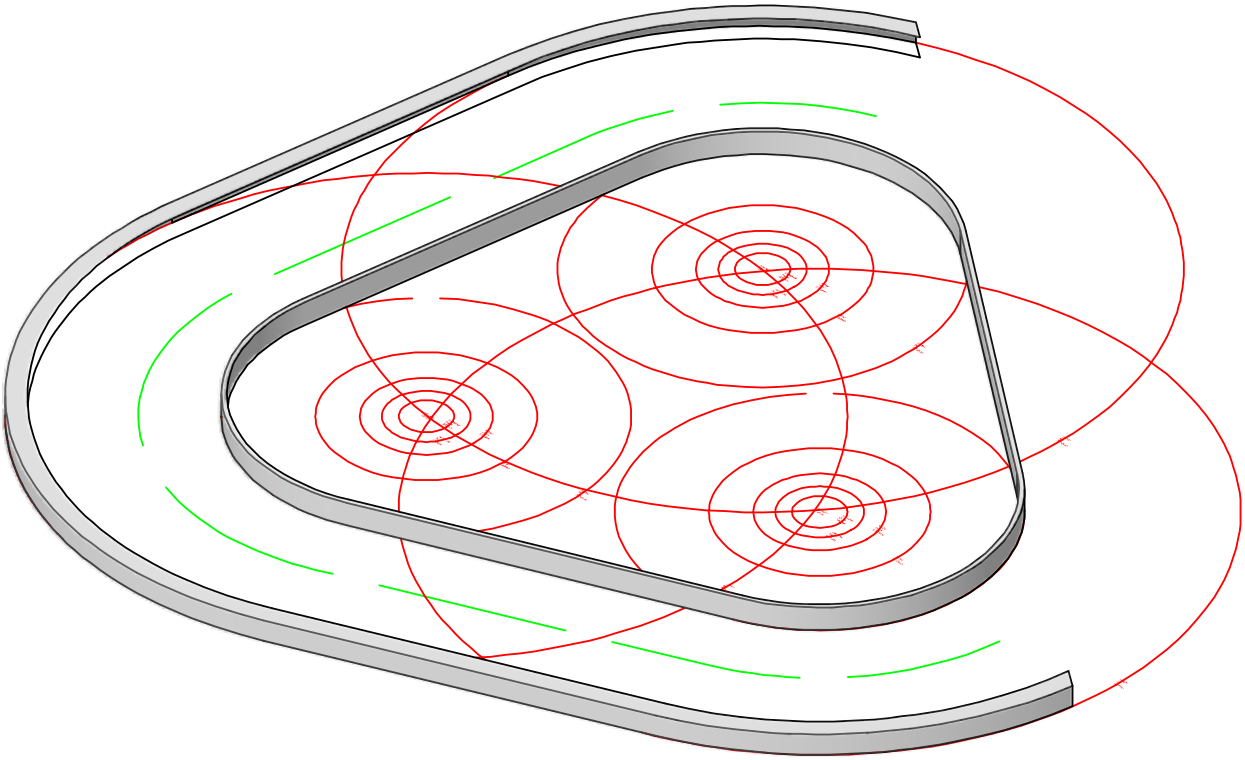


*Figure 25. Axonometric view*

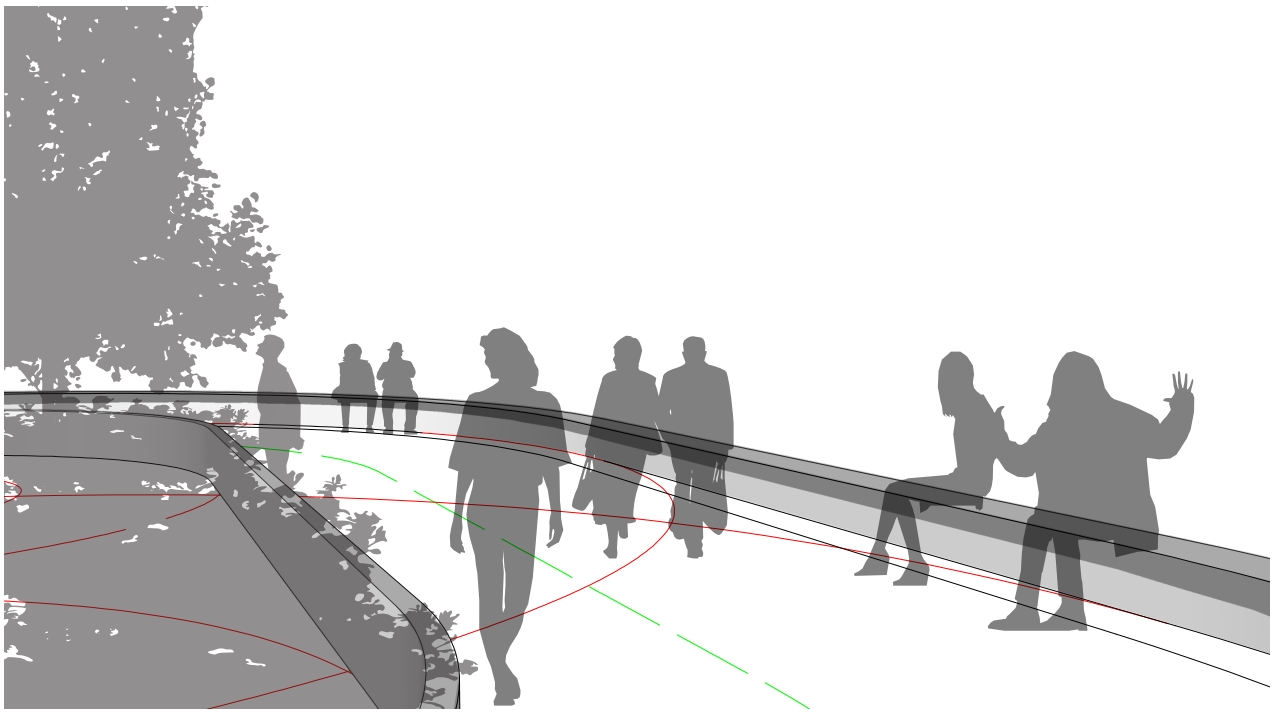


*Figure 26. Perspective from the structure showing the middle part as the natural gathering point*

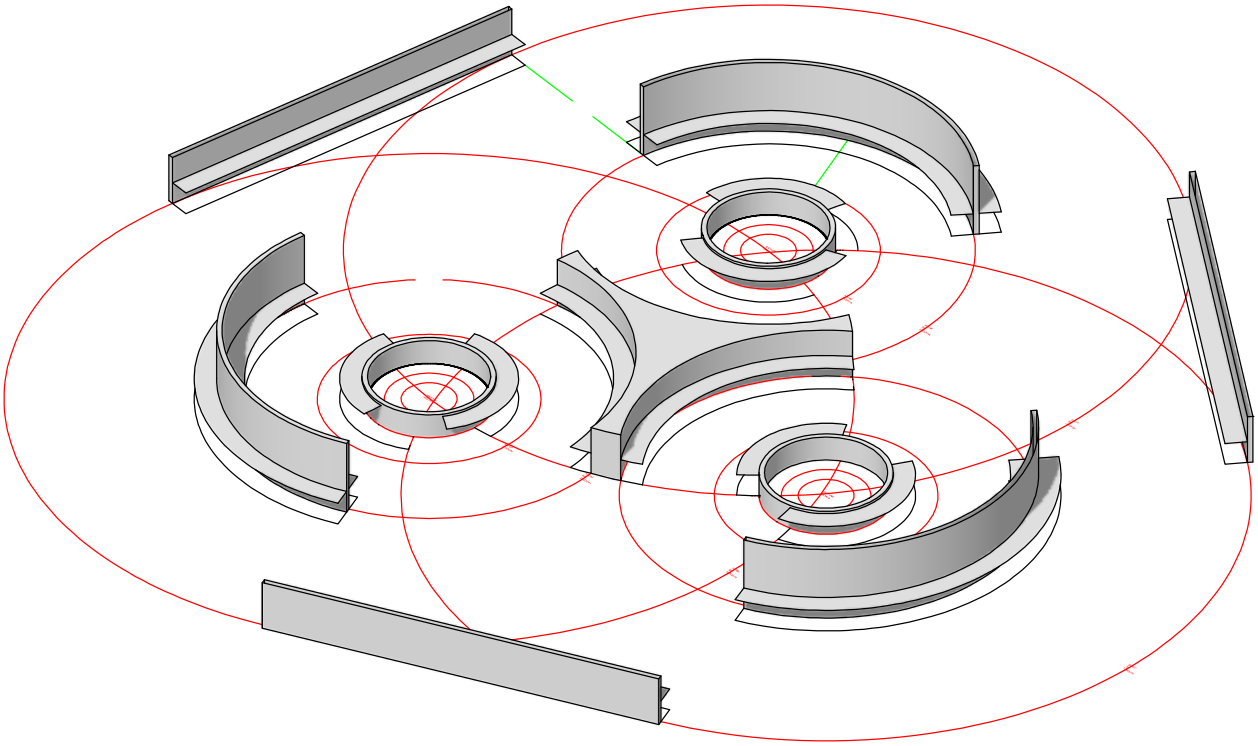


*Figure 27. Axonometric view*

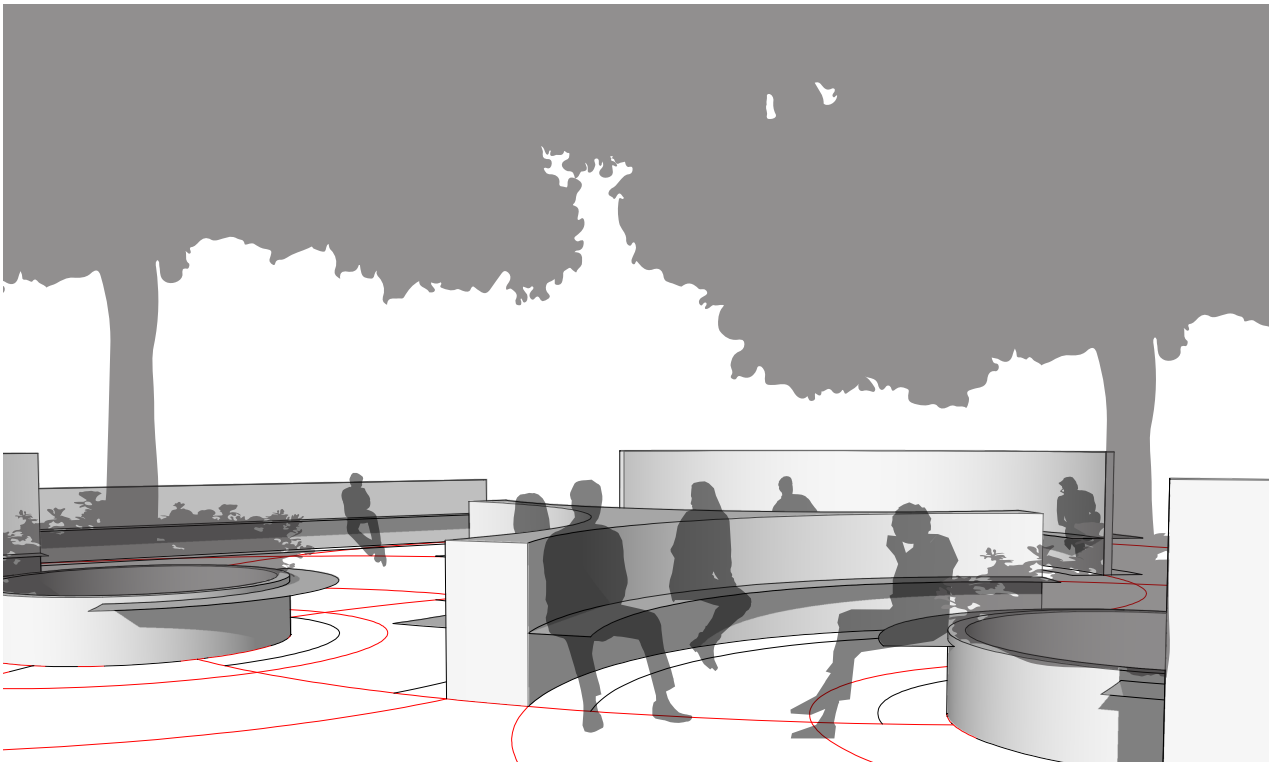


*Figure 28. Perspective from the structure showing the interaction in a glade inspired environment*

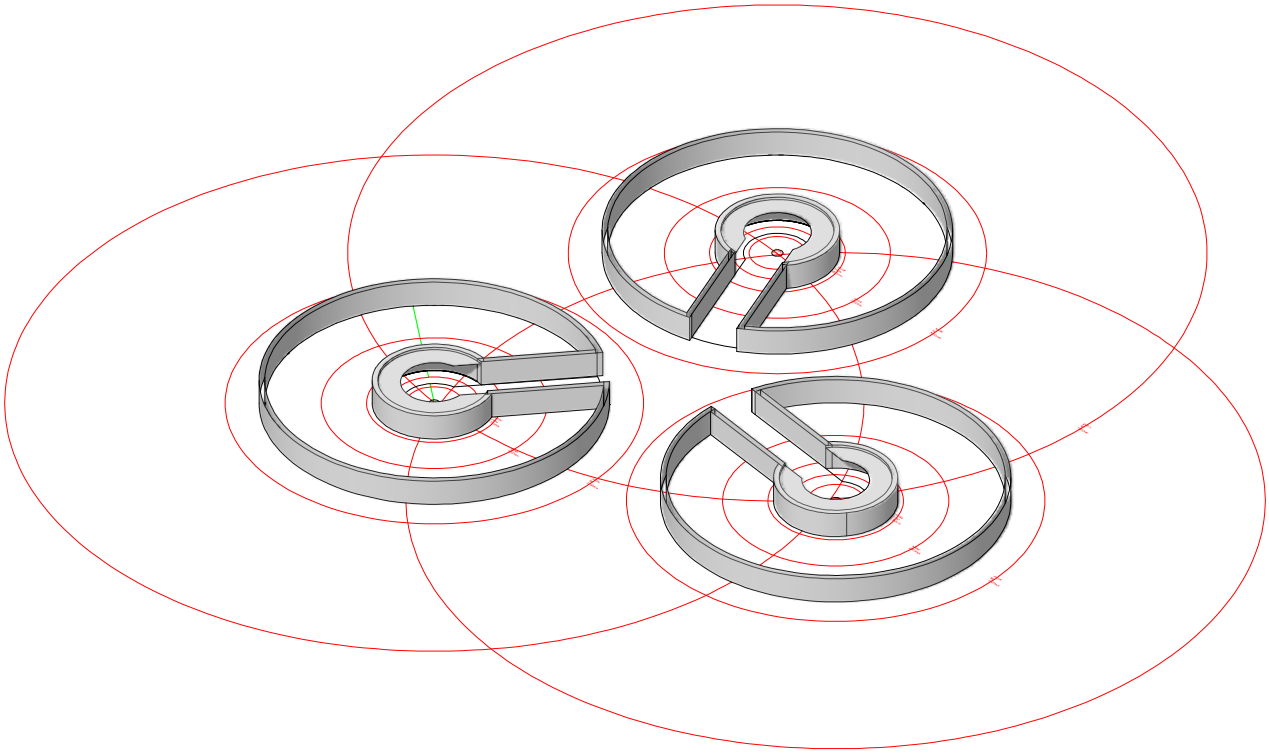


*Figure 29. Axonometric view*

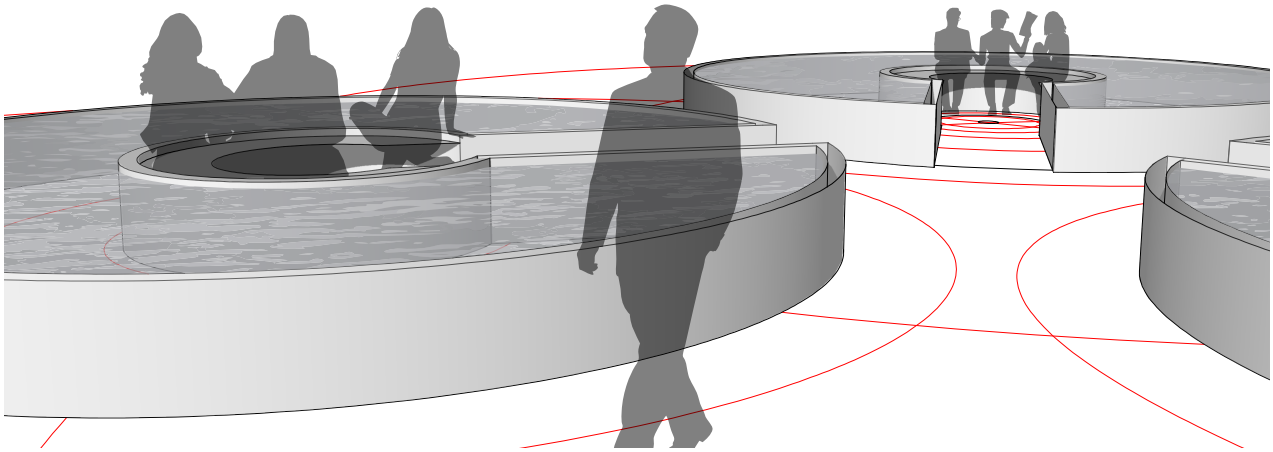


*Figure 30. Perspective showing the structure "removing" a certain interaction distance*

## 3. 3D ITERATIONS - THE MOAT

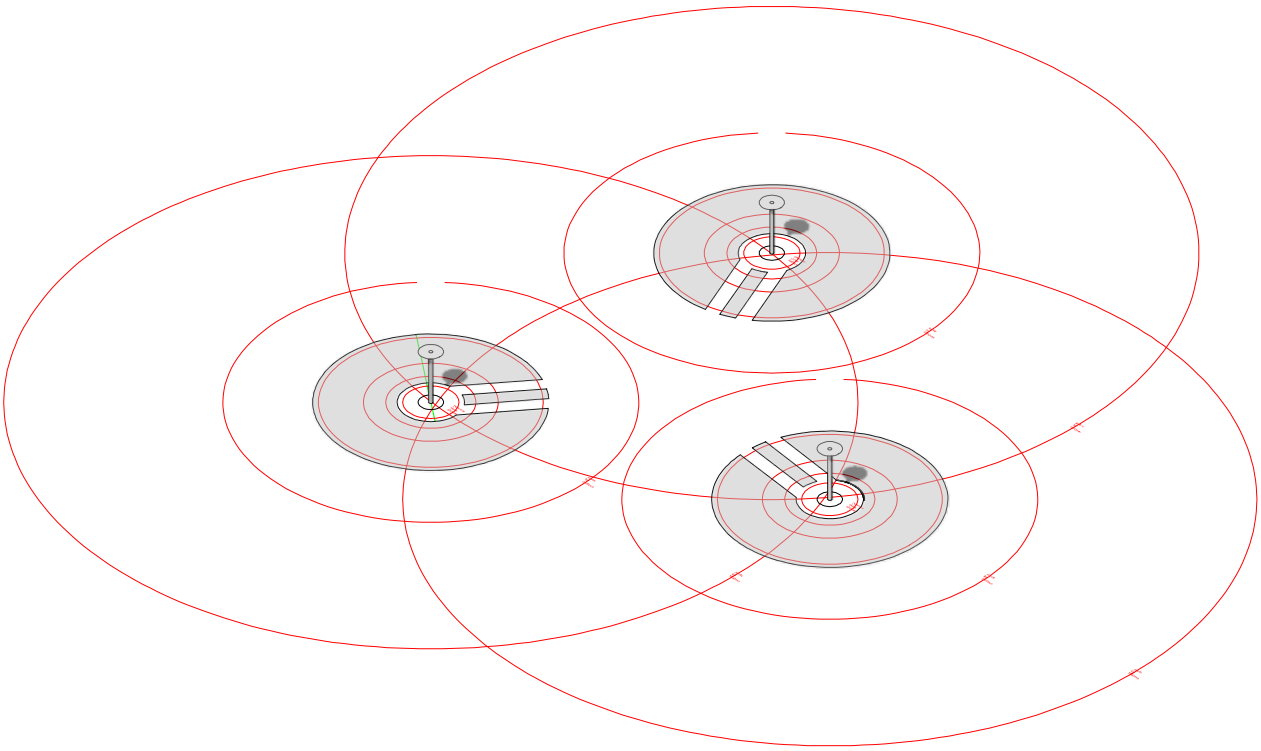


*Figure 31. Axonometric view*

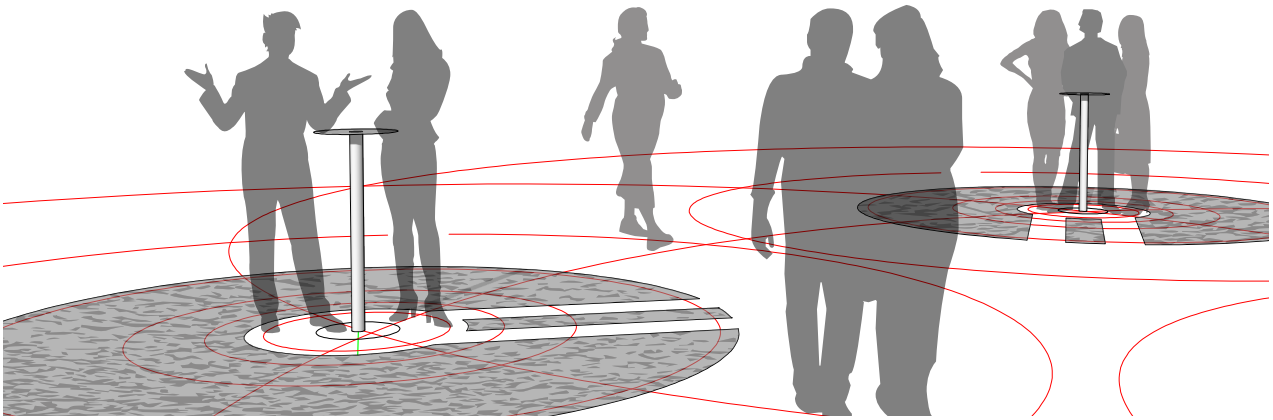


*Figure 32. Perspective showing an interaction point "isolated" with a moat in a different material*

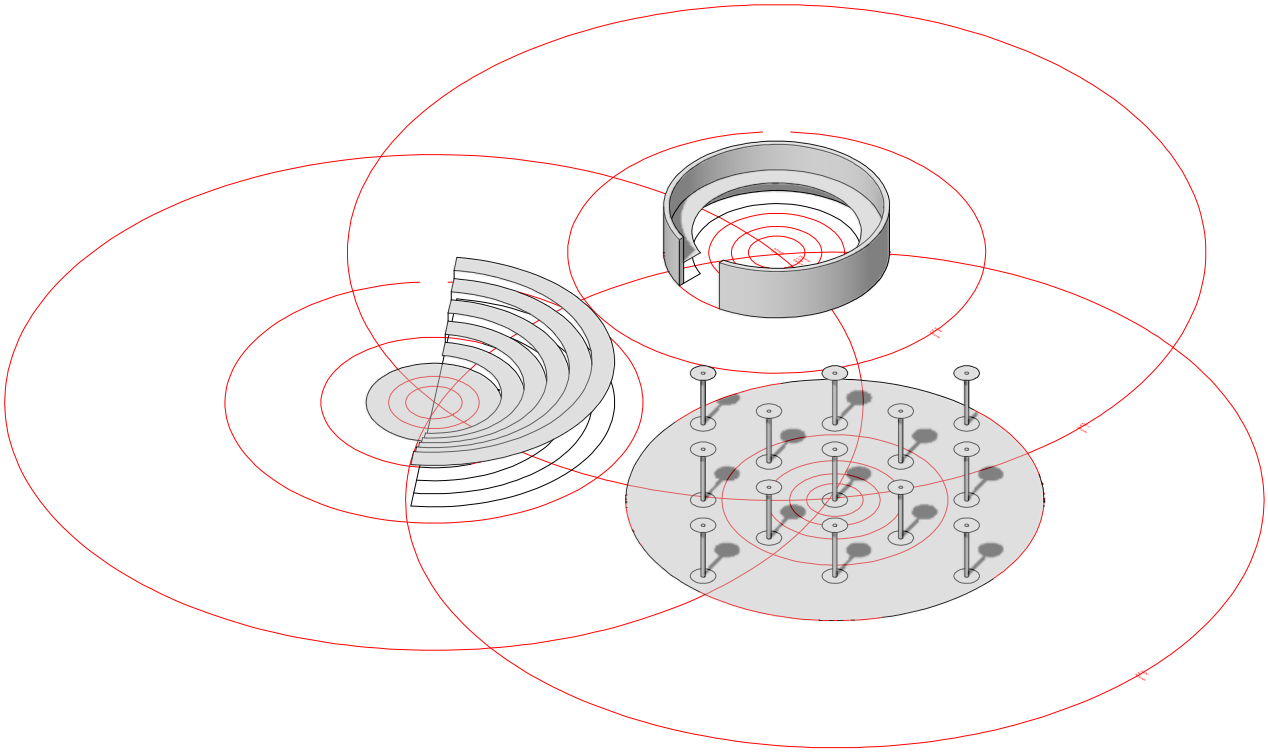


*Figure 33. Axonometric view*

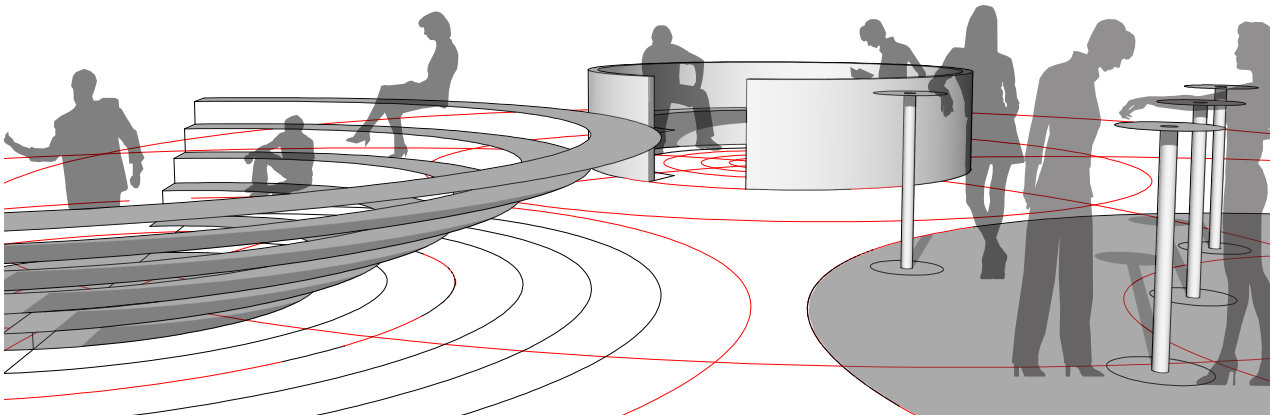


*Figure 34. Perspective that shows the different parts being used*

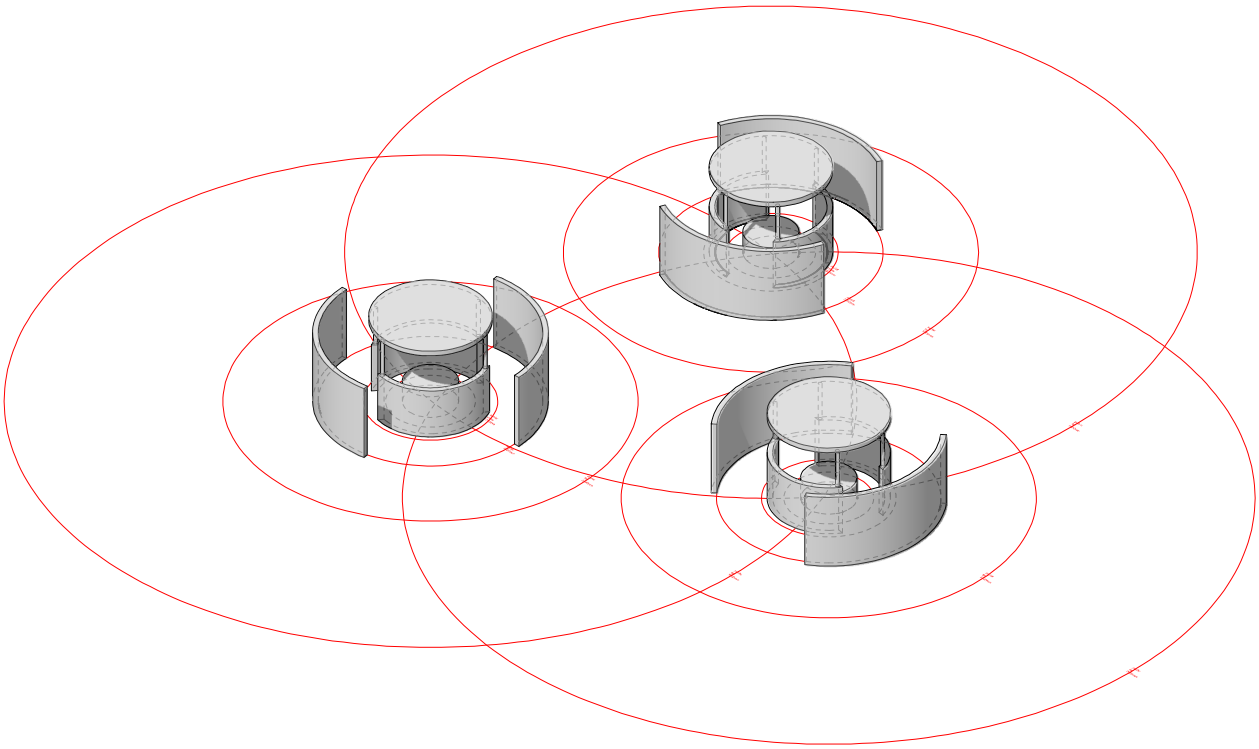


*Figure 35. Axonometric view*

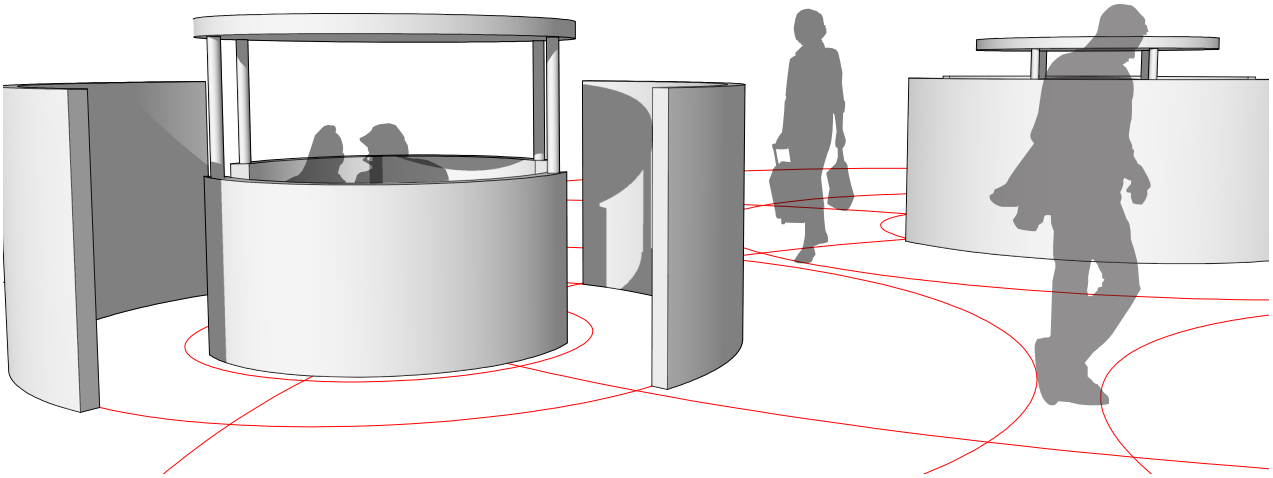


*Figure 36. Perspective that shows the intimate space with its "two layers" of screening walls*

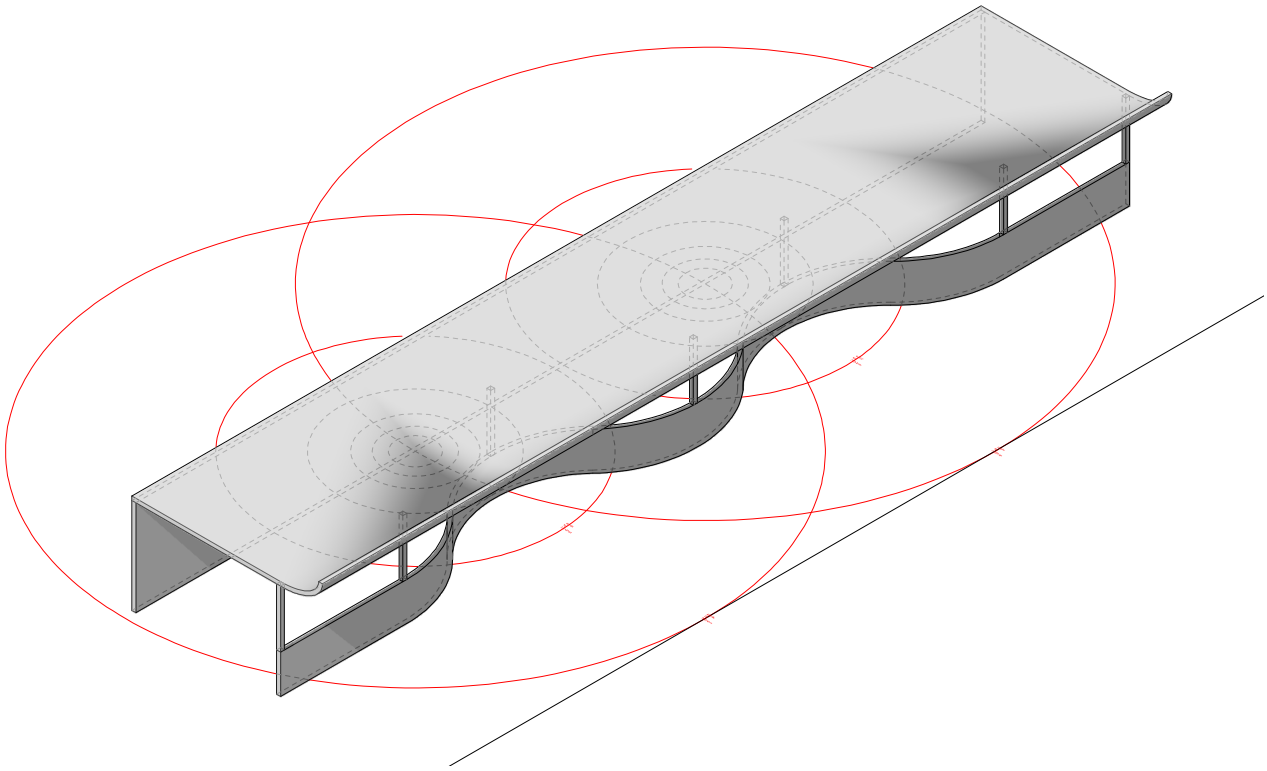


*Figure 37. Axonometric view*

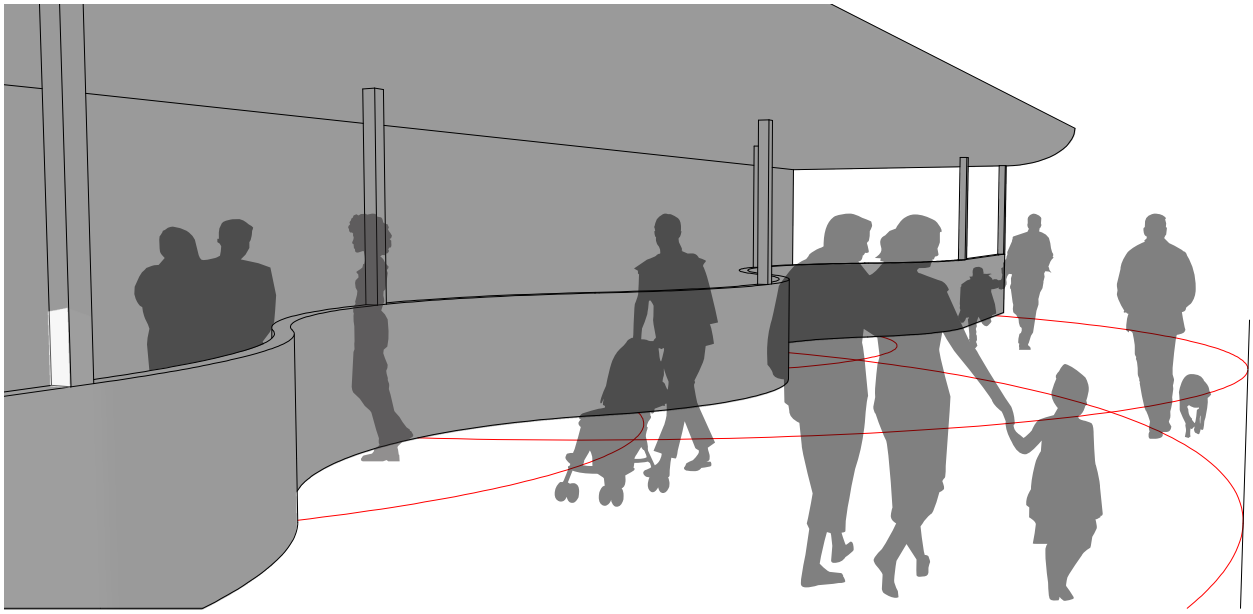


*Figure 38. Perspective from outside the structure showing the walking path intruding in the spheres of the people inside the structure*

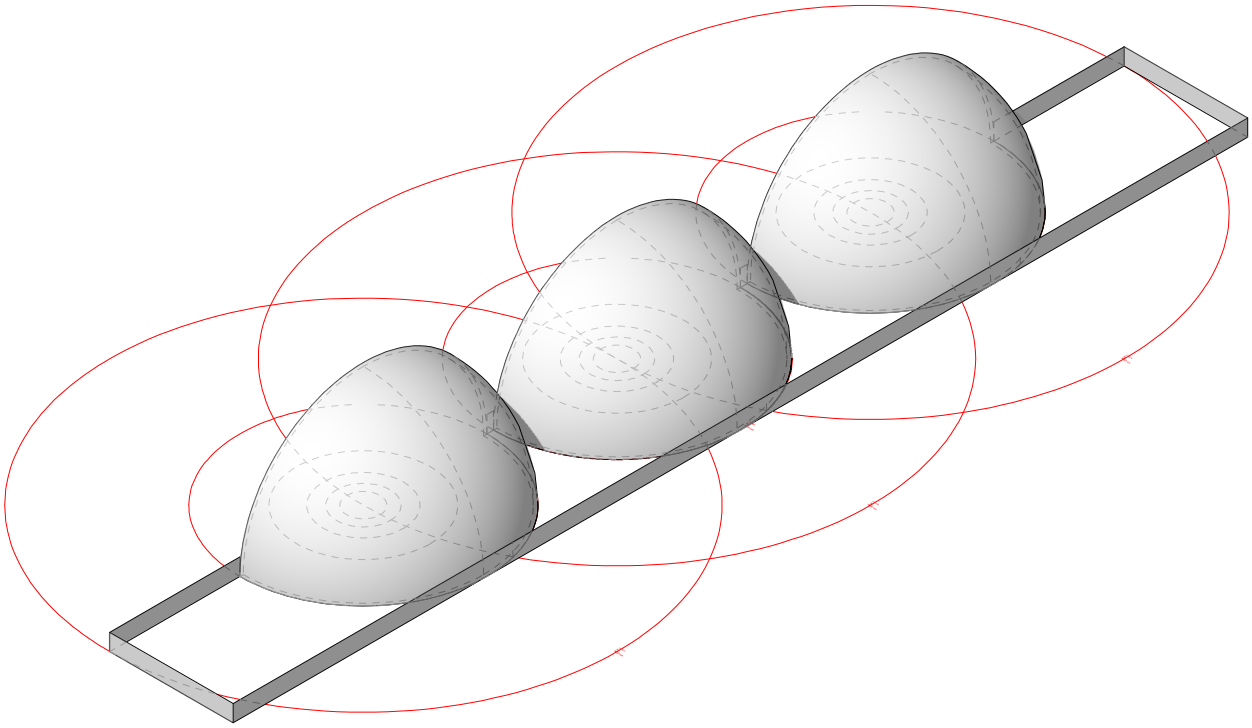


*Figure 39. Axonometric view*

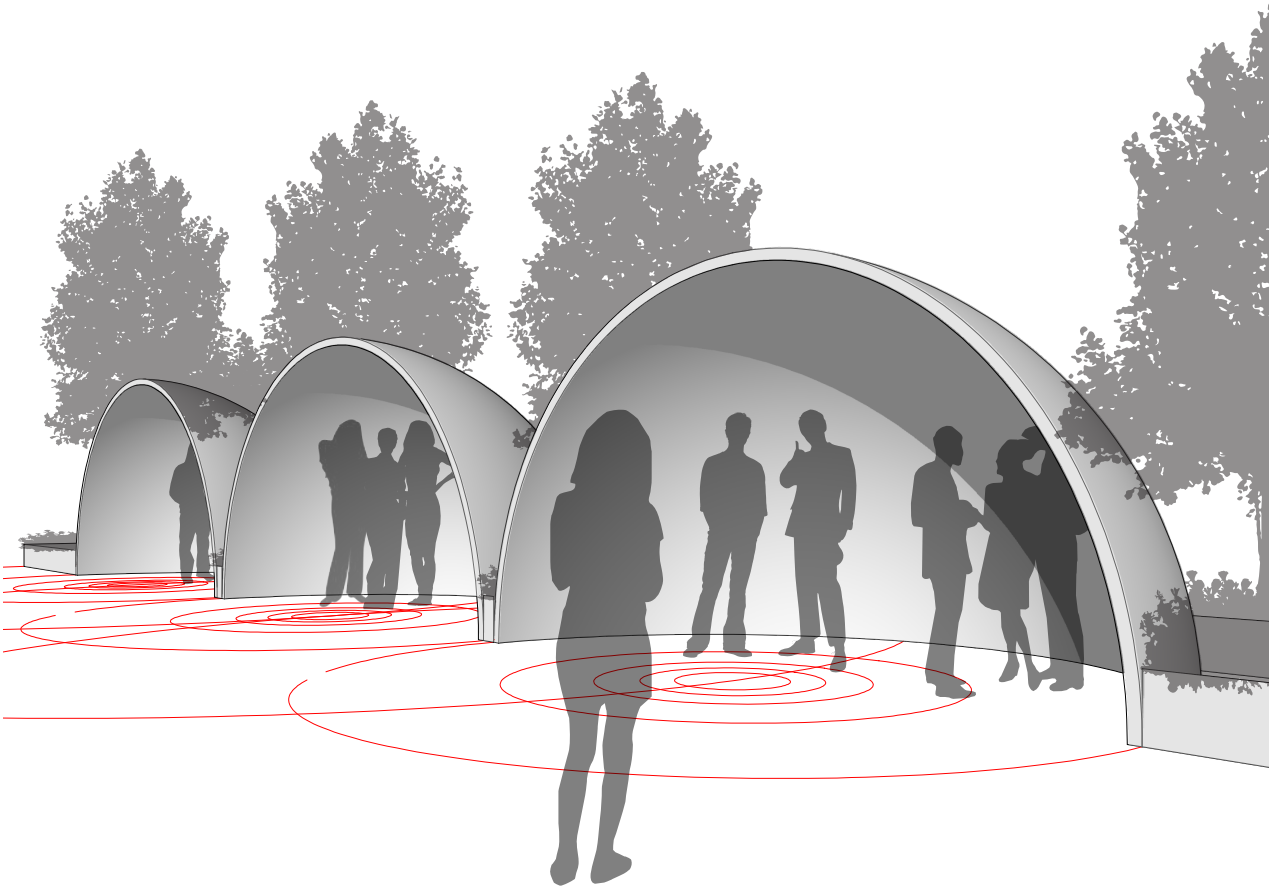


*Figure 40. Perspective showing the structure and spaces it can form*

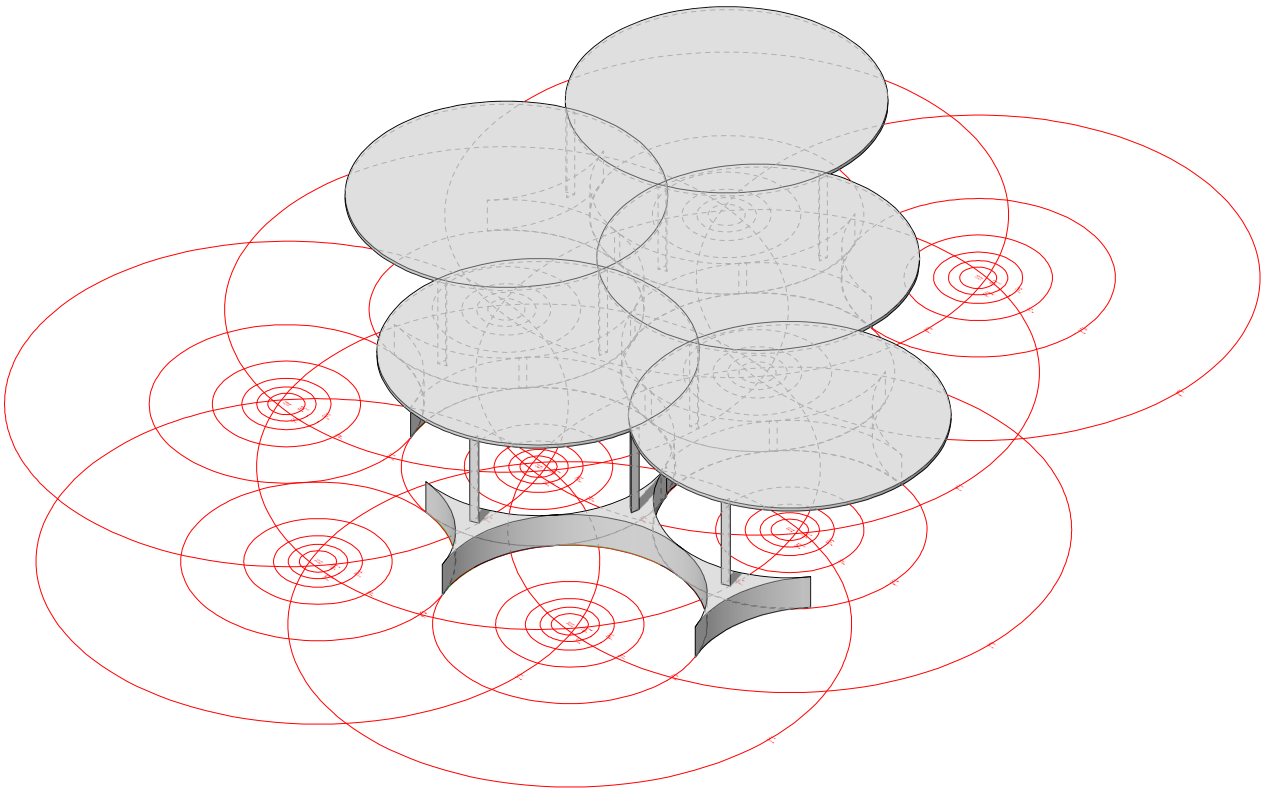


*Figure 41. Axonometric view*

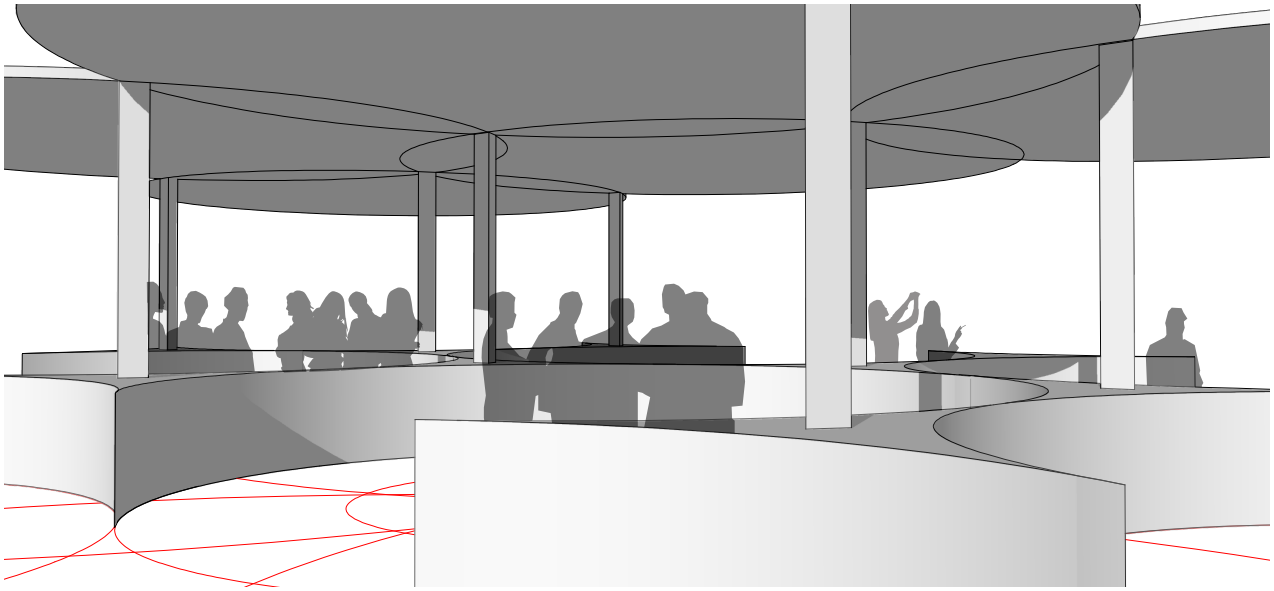


*Figure 42. Perspective showing the structure and spaces it can form*

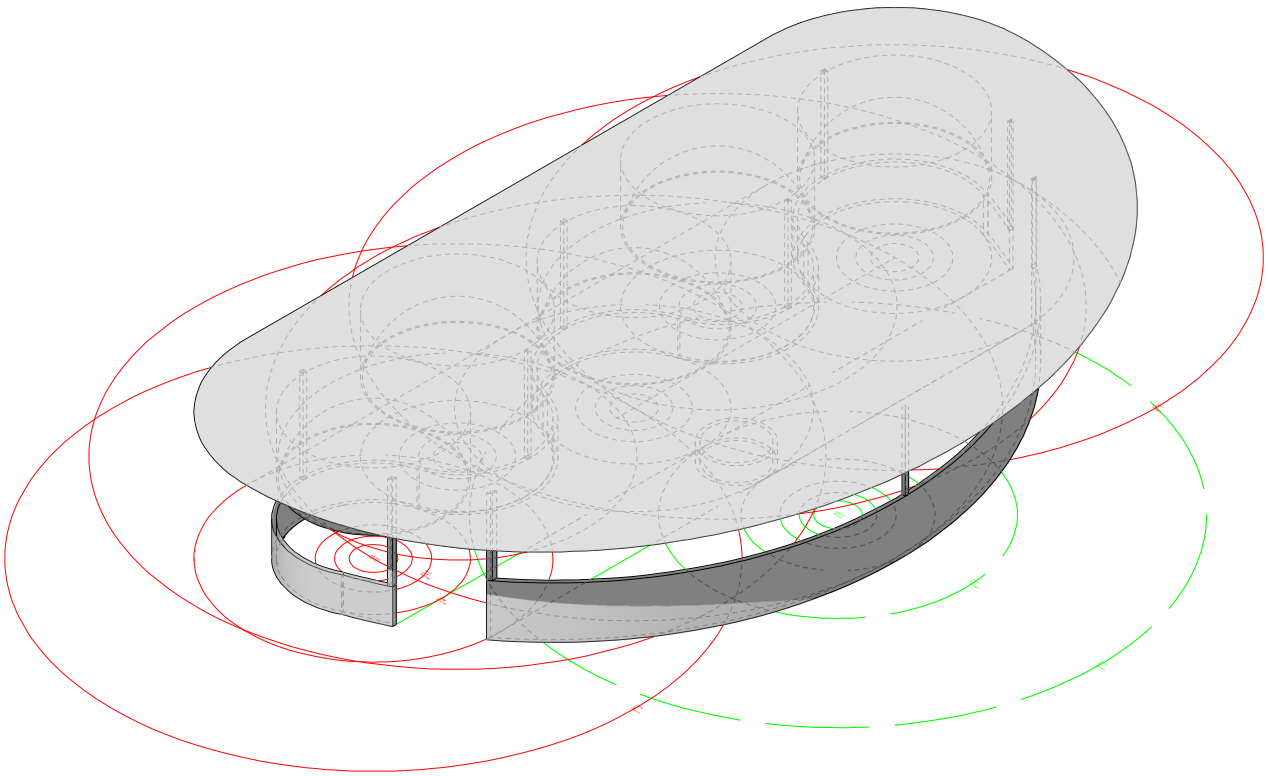


*Figure 43. Axonometric view*

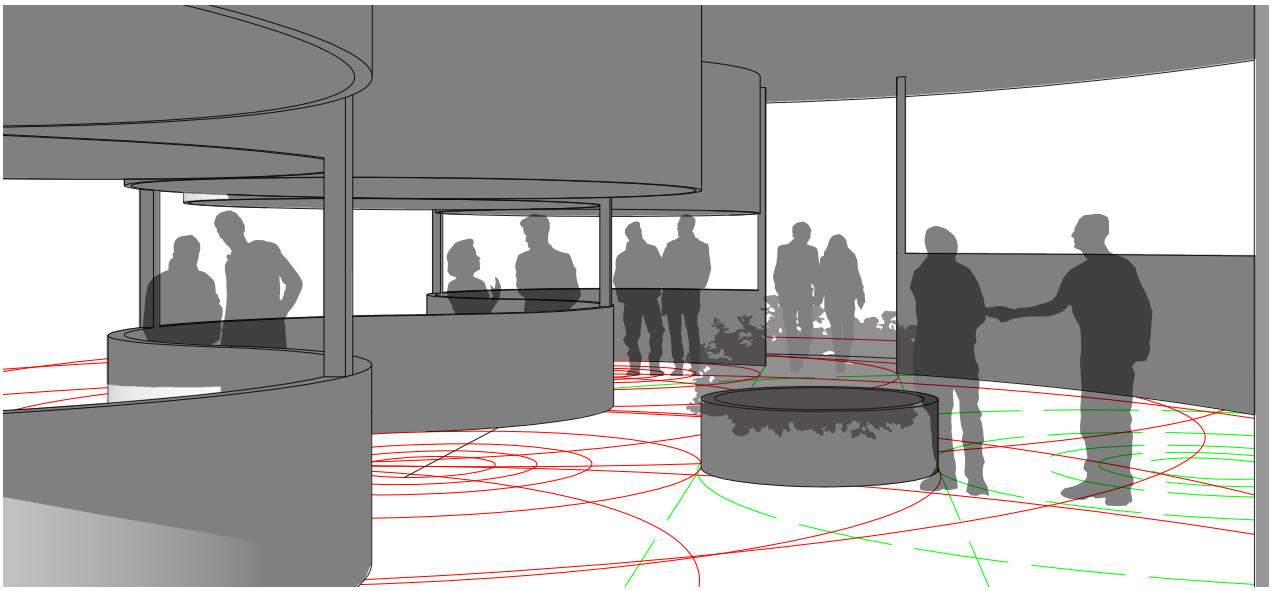


*Figure 44. Perspective from inside the structure showing the "different rooms" being used*

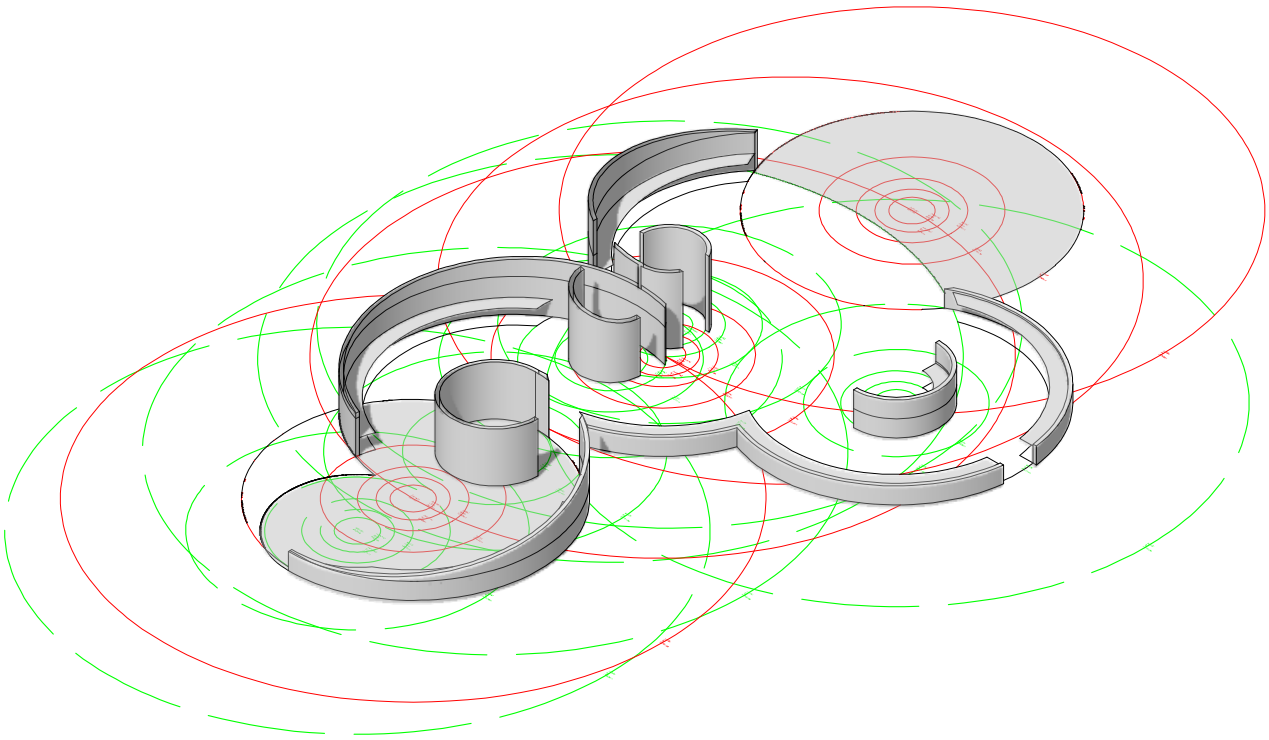


*Figure 45. Axonometric view*

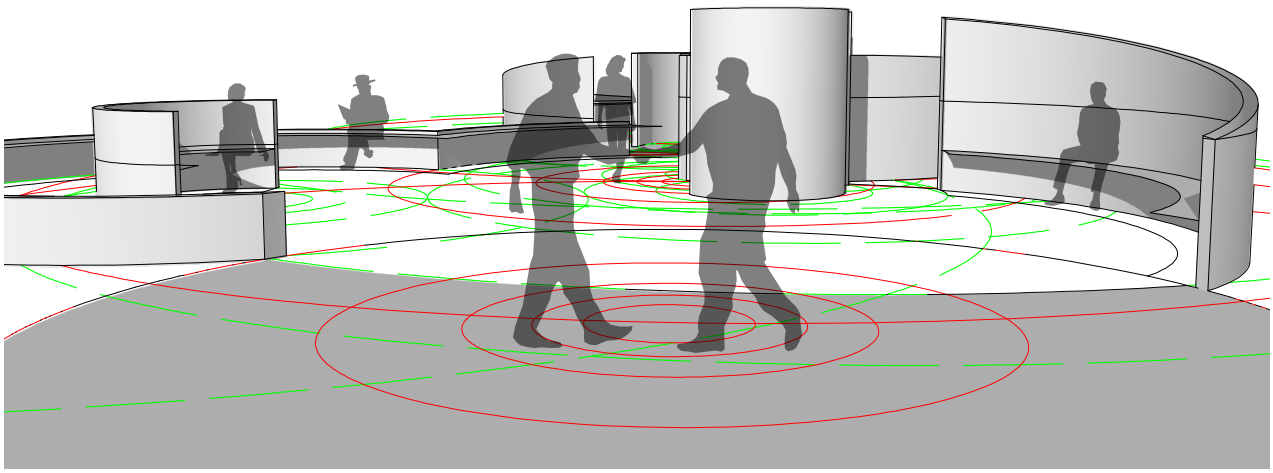


*Figure 46. Perspective from inside the structure showing the different heights of the screening walls*

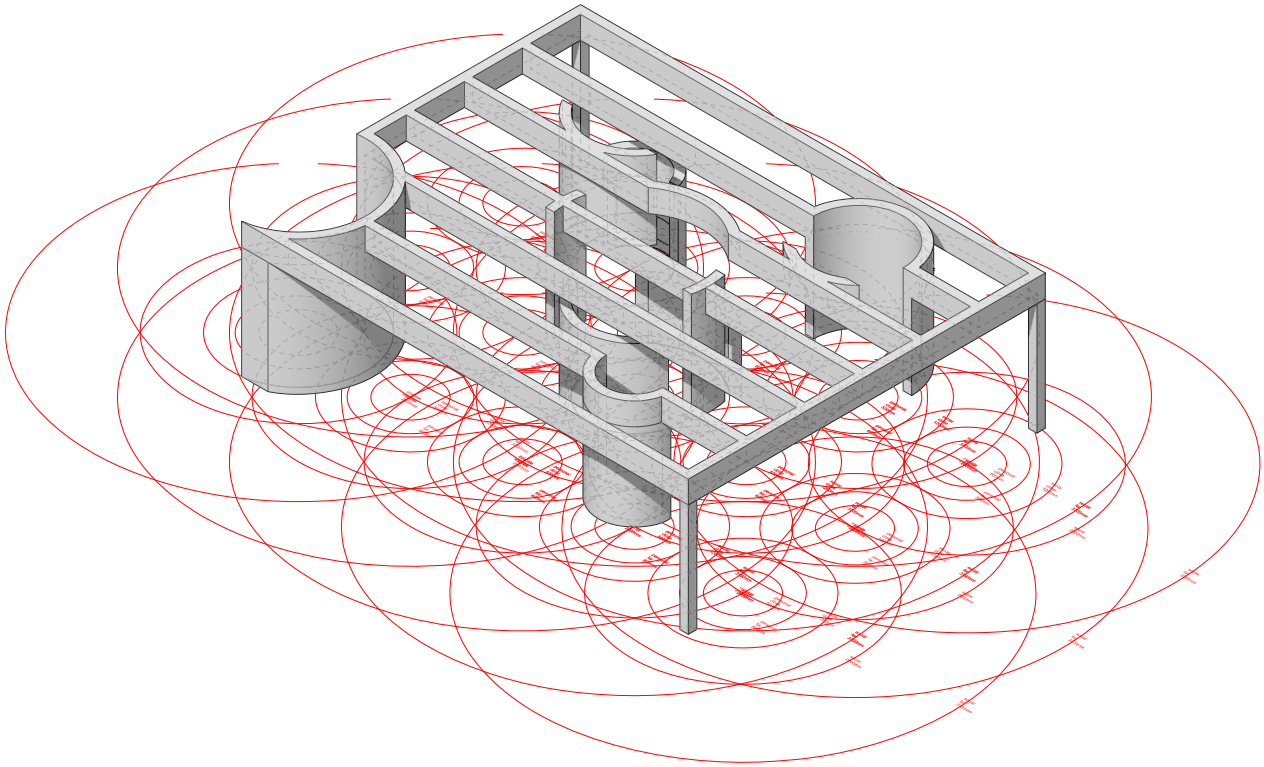


*Figure 47. Axonometric view*

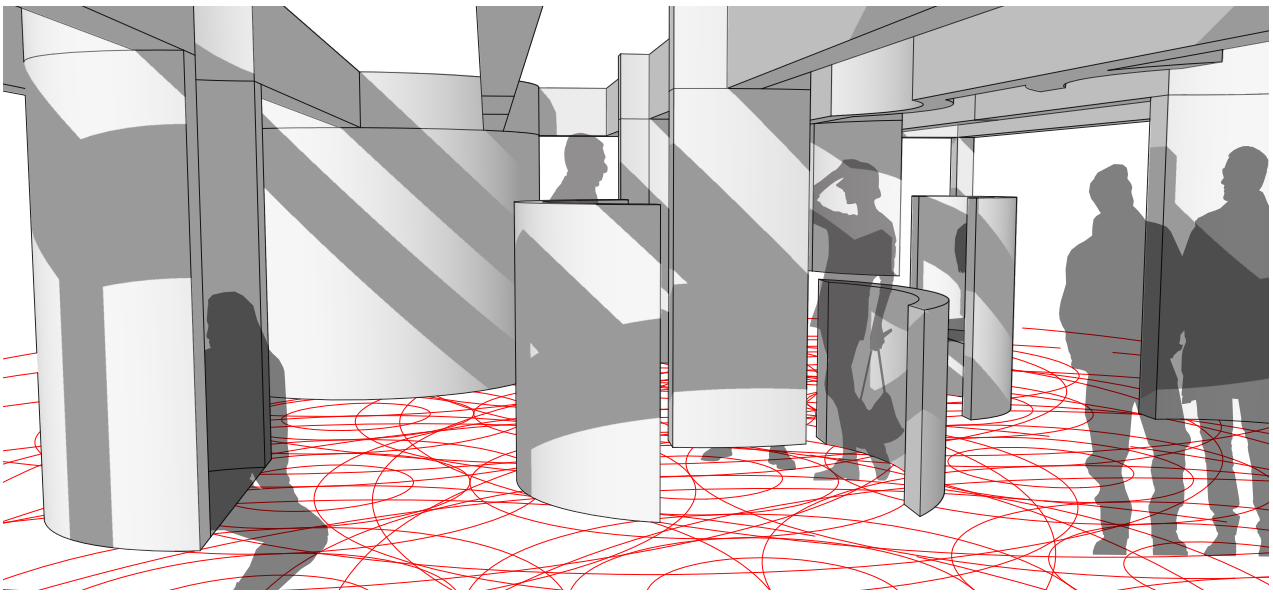


*Figure 48. Perspective showing how the rooms are defined by structures in the floor and by the beams in the roof*

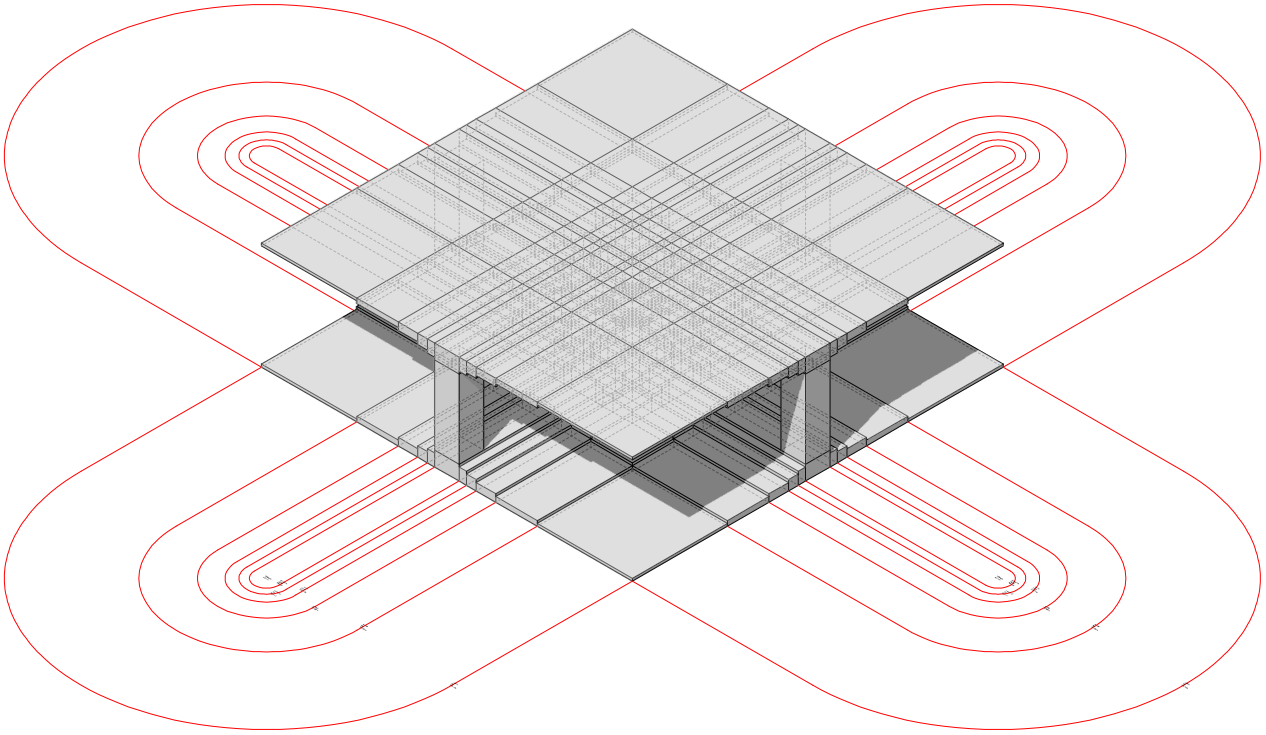


*Figure 49. Axonometric view*

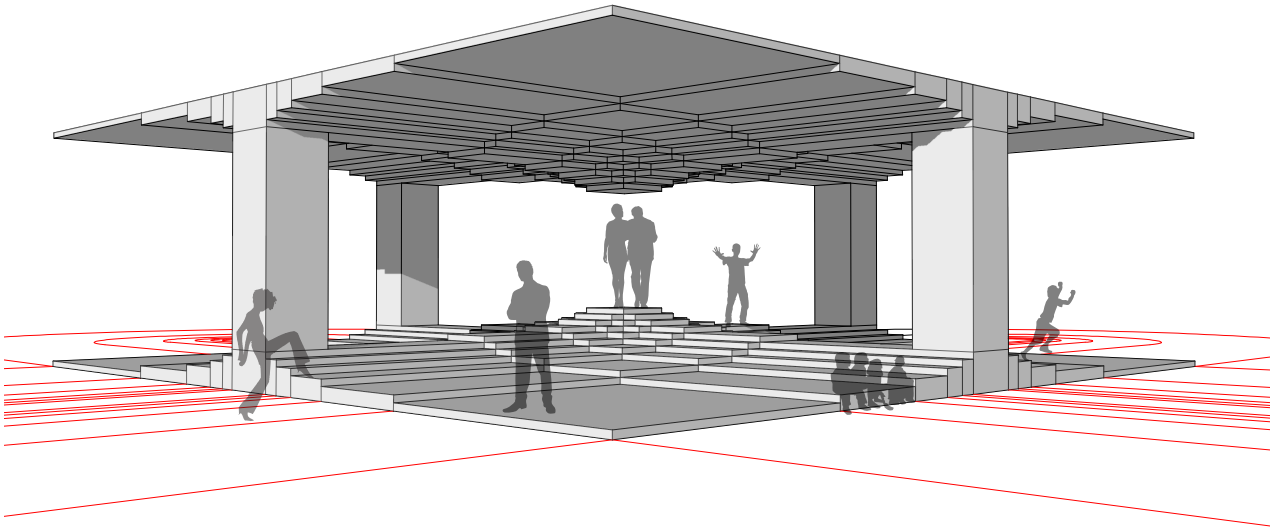


*Figure 50. Perspective showing the stairs and the somewhat "pressing" effect of the flipped roof*

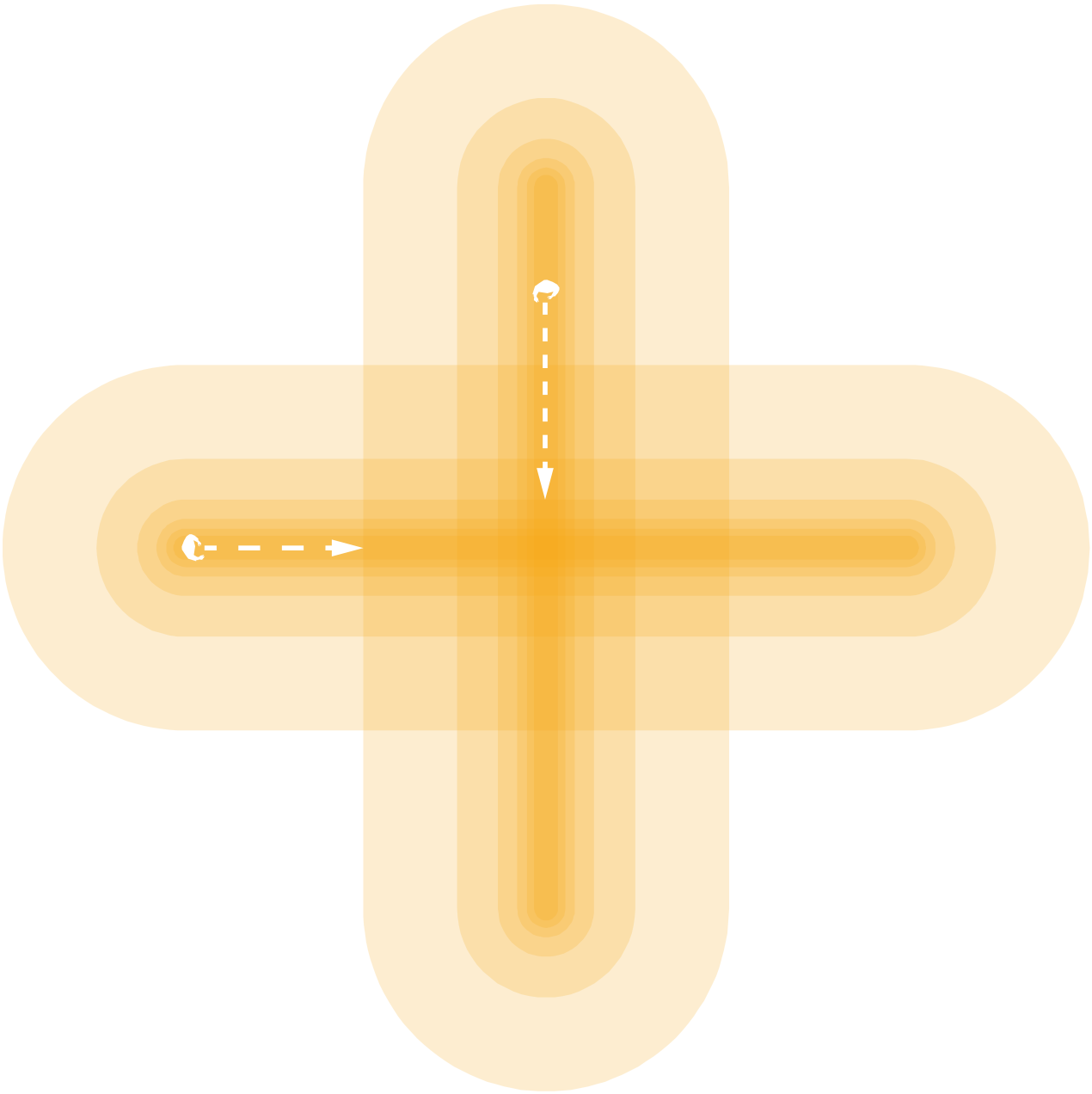


*Figure 51. An attempt to foresee how likely it is for an interaction to occur. By stretching the personal spheres and making them intersect, one could divide the covered area into different zones. The darker the area the more likely an interaction occurs. The darkest area in the middle represents the moving person.*

CONCLUSION
The different iterations were basically added with walls and benches but all referring to the distances of Hall. Adding verticality increased the complexity since the spheres range very differently if they are set to start from the feet or from the head on a person for instance. The iterations can be seen as a linear development where one idea gives birth to another.

Starting all iterations by adding spheres, things very quickly gets cluttered. It is however assumed that it is within this chaos of lines that the most potential of creating a space for everyone can be found and that is why complexity is considered good and not for the sake of complexity itself.

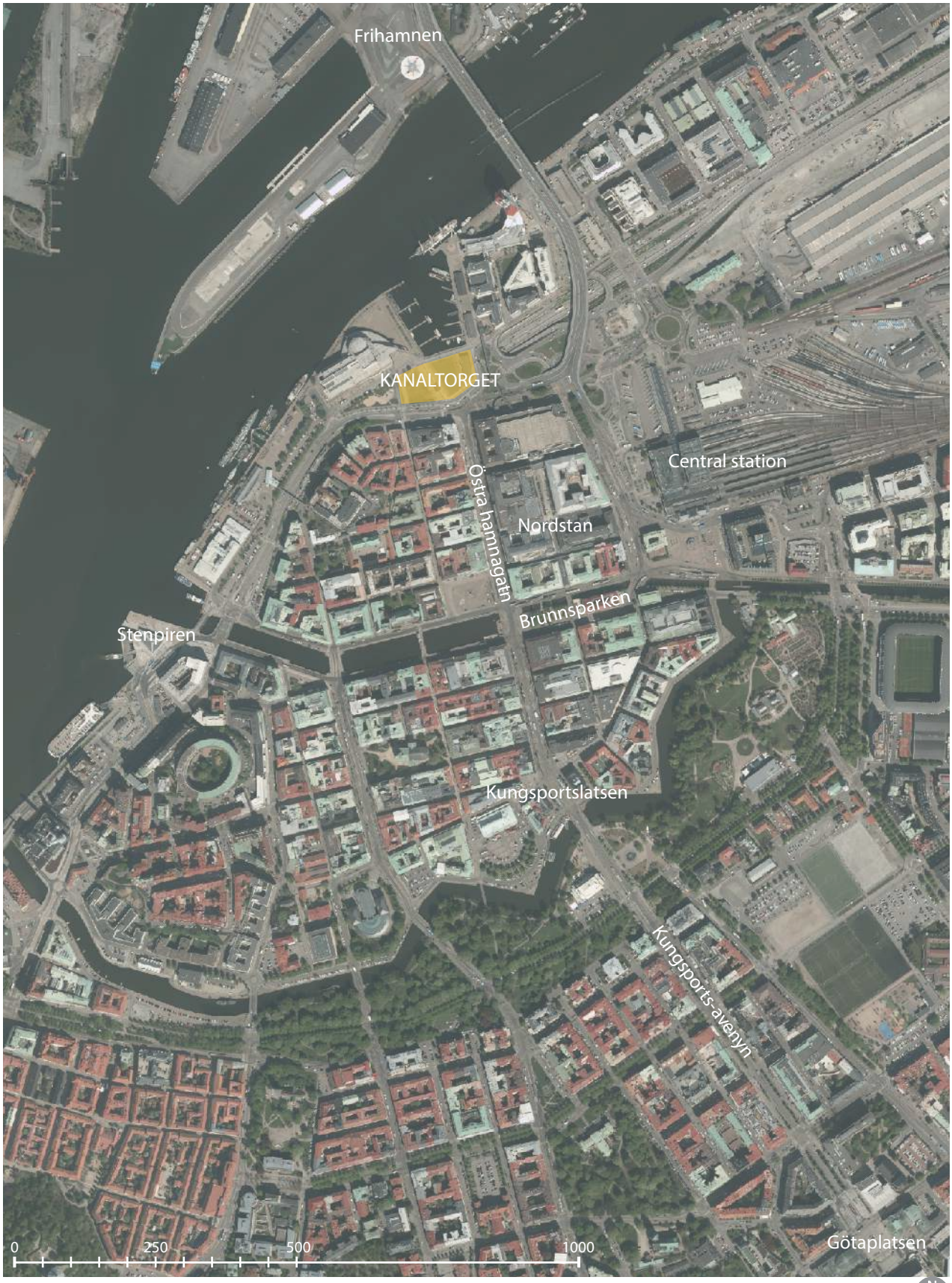



*Figure 52. Kanaltorgets location within Gothenburg, scale 1:10 000 (Image underlay: © Lantmäteriet I2018/00069)*

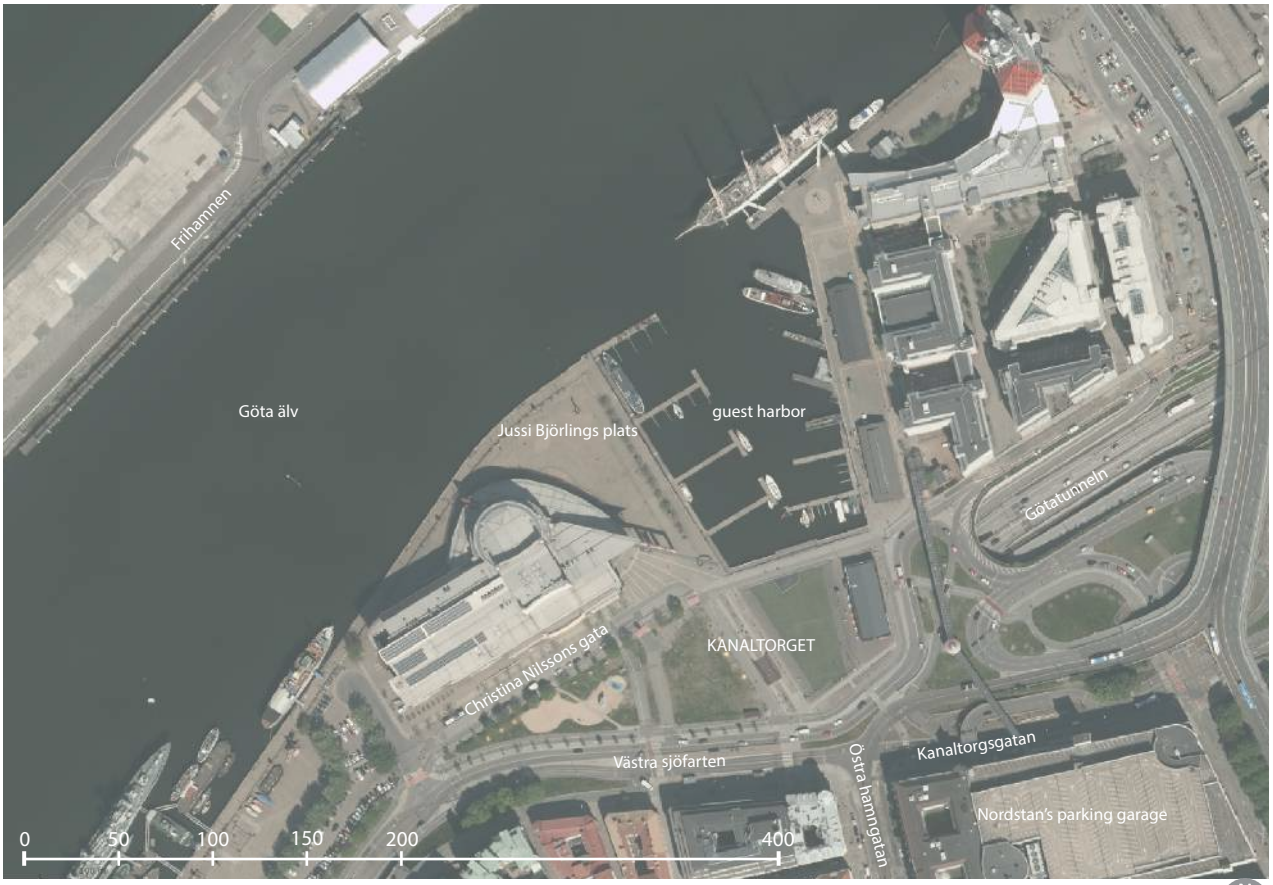



*Figure 53. Kanaltorget, until recently, seen from above. Scale 1:4000. (Image underlay: © Lantmäteriet I2018/00069)*

*Figure 54. Kanaltorget, in june 2018, seen from the east (Author's own photo, 2018)*

# 5. THE SITE, KANALTORGET

YESTERDAY

The original square Kanaltorget was placed a little differently compared to today. Until 1936 Östra hamngatan was a canal in Gothenburg called Östra hamnkanalen connecting the moat in the south and Göta älv in the north. Thus, it passed through the place of today's square. The old Kanaltorget was situated were the shopping mall Nordstan's parking garage is today. Östra hamnkanalen was filled in from the south from the late 1800 and the northern part was finally filled in 1936 as a part of the work with the bridge, Göta älvbron. Kanaltorget was then left untouched until the eastern parts of the city district Nordstaden was torn down and the shopping mall Nordstan was built and completed in 1972. During the construction of Götatunneln, finished in 2006, an open area in front of the opera house was created and given the historical name Kanaltorget. The area around Kanaltorget is called Lilla Bommen and is the major part of the harbour for visiting boats and guests. This harbour was finished around 1860 but ships have been sailing here since the city was founded. Then serving as one of the city's gates for transportation of goods in and out of the city (Carlsson, 2018).

TODAY

Kanaltorget connects the city's parad plaza Götaplatsen in the southeast to the waterline through the boulevard "Avenyn" and Östra Hamngatan, two of the main streets in the city. This is also the place where the central parts of Gothenburg meet the river Göta Älv, becoming the port city it was once founded as. The current situation is however that the streets are ending up in a strained traffic situation and a flat public space that lack some definition. The area is however frequently used by people in the city when it is good weather conditions and seems to attract all kinds of people that want to get in contact with the water and perhaps the feeling of Gothenburg being a port city. Most of the central parts of the city is "well programmed" and therefore, in one way, closed for uses beyond what it was built for. An open space on the other hand brings the possibility to do something more relaxed and without the cost of money and can therefore be considered to be a somewhat more democratic space. If you look at all the public spaces in the city as a whole, this site brings a unique mix of an unprogrammed central location with access to the waterline.

TOMORROW

The area is now considered to be a part of "centralenområdet" (the central area) that is planned to undergo great development until 2027 and continue being affected until 2035 when the two big infrastructure projects Hisingsbron (the new bridge across the river) and Västlänken (new underground railway tracks) have been completed. In the plans for the area the current idea seems to be going back to the roots that are implied by the name Kanaltorget and to create a meeting point for the residents of Gothenburg. On the other side of the river the development of the all new city district Frihamnen is being planned. At the moment, there are plans for a footbridge from Jussi Björlings plats, on the quayside next to the opera, and to Frihamnen. This would create a walkway from the central parts of the city to Frihamnen and further on towards Backaplan that is passing by Kanaltorget (Göteborgs stad, FOJAB arkitekter, 2015).

KEY ASPECTS OF THE SITE

1. Attracts people in itself
2. History, as an entrance to the city and a harbour
3. More easy access in the future, access to Frihamnen
4. Where the central parts of the city meet the river
5. Open, undefined flat space
6. Götatunneln passes below

# 5. THE SITE, KANALTORGET

KEY ASPECTS OF THE SITE PROBLEMATIZED

1. Not much is built on the site today. Yet, it seems to attract people, at least during pleasant weather conditions. Perhaps it is the connection to the water or perhaps the lack of program that makes the site attractive? *The infrastructure should not block the site, trying to leave space for what it is that people find naturally appealing with it today.*

2. As mentioned before, this is where former city canal Östra hamnkanalen, poured out into the river and one of the old gates to the city, and as such always a place for a harbour. *The infrastructure will not try to cut off the harbour but rather try to complement the site by improving the interaction between its visitors.*

3. With new plans being made for the area the site will become more public in the future. With a new location of the nearby tram stop and the shorelines on either side becoming more public more people are expected to pass by the site. If the footbridge gets realized the site will be given a new direct link with the other side of the river. *The infrastructure should be placed in a way so that it won't become an obstacle for pedestrians or biking commuters and will try to welcome everyone from all approaching directions.*

4. With the slogan Älvstaden (the river city) the city of Gothenburg wants to give the city and its residents a connection to the water. This calls for easy access to the water line itself but also for a visual connection between the central parts of the city and the river. *The infrastructure should be placed in a way, so it doesn't block the sightlines from the street leading down to the water, Östra Hamngatan.*

5. The current look of the site is a flat space lacking some definition of the room. There was however a half pipe and a sunken lawn with artificial grass that was being used until recently. The proposal for the site made by FOJAB arkitekter, aims to define the space in a new way by dividing it into different zones and by giving people more easy access to the waterline. The proposal is also showing a new building on the site, where Älvrummet was placed until recently. The area is however mostly kept flat not adding to the landforms of the area. *The infrastructure should relate to the plans but not seeing them as absolute and add to the landforms of the site.*

6. Since 2006 Götatunneln is located a few meters under the site. This also means that a construction placed on top cannot be too heavy due to the tunnel underneath. Wood might provide that light construction and has a natural connection to the harbour and the material ones used in the boats. *The infrastructure cannot be sunken down too much into the ground and wood is a preferred material for the construction.*

# 6. FOJAB ARKITEKTER'S PROPOSAL

This thesis is based on FOJAB's proposal presented in 2015, and parts of it are therefore shown as context and background in many of the figures used to describe the proposal of this thesis. This has also been approved by FOJAB arkitekter.

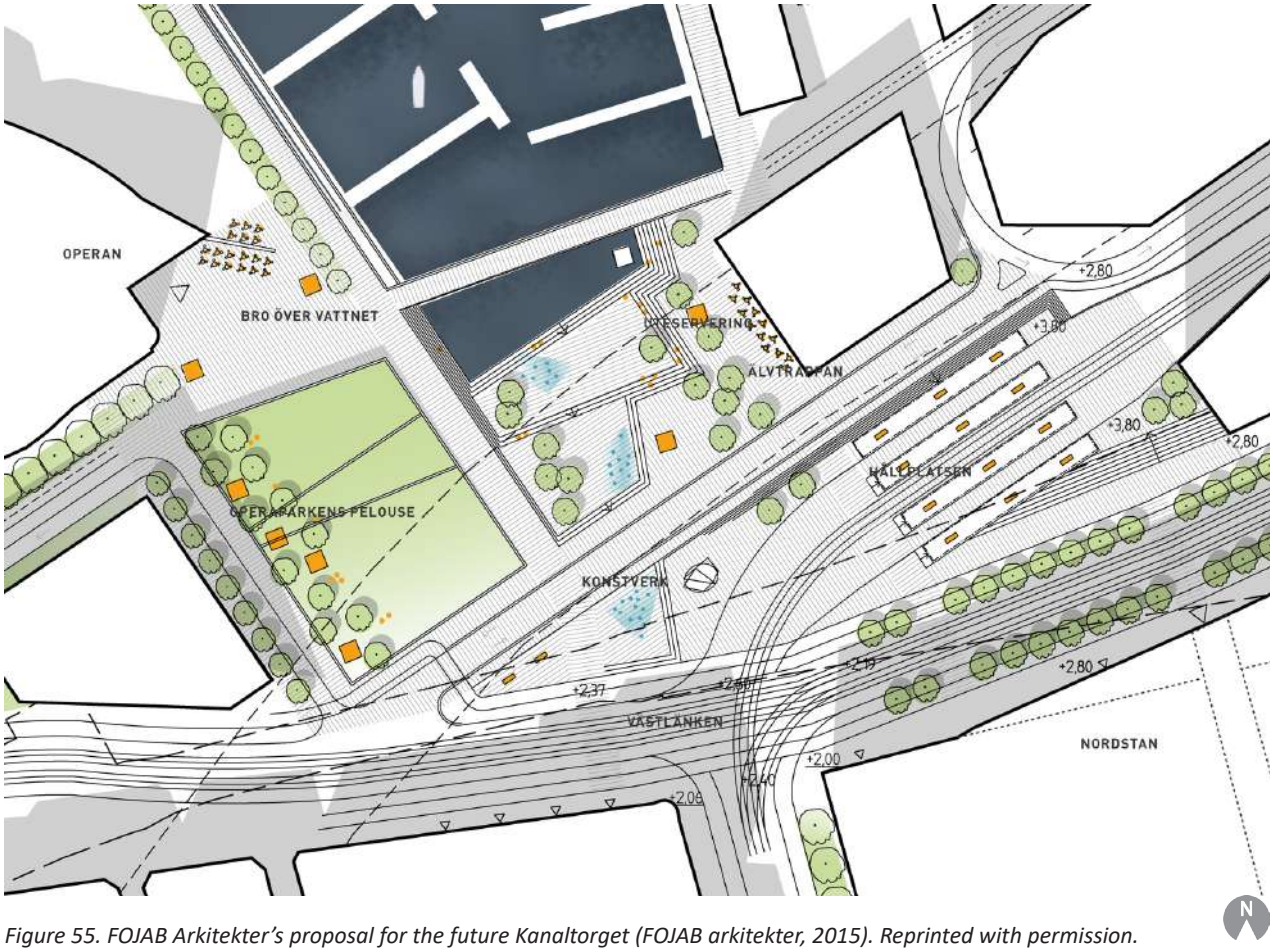



*Figure 55. FOJAB Arkitekter's proposal for the future Kanaltorget (FOJAB arkitekter, 2015). Reprinted with permission.*


*Figure 56. FOJAB Arkitekter's proposal for the future Kanaltorget (FOJAB arkitekter, 2015). Reprinted with permission.*


*Figure 57. An attempt to see what parts of the site that is more suitable for different degrees of interaction in order to design accordingly. Sun, wind, noise, major walkways but also important sightlines. (Image underlay: FOJAB arkitekter, 2015).*

With knowledge about the theory and several iterations made, how do one find a solution that also works with the different site conditions and are there places more suitable for different types of interaction? Using the future plans for the site, different conditions were then applied. The factors are assumptions based on facts that were available at the time. Wind direction for example is based on the wind directions most common in the city and not based on measurements on the specific site. How it will be affected by the buildings already on the site and, even more so, by the buildings being planned has therefore not been taken into consideration. Expected noise sources are based on what can be found out from the city's program for the future development of the areas around the site.

Same thing applies to the major walkways in the area. Just outside what can be seen in the image and down to the right, a stop for the train tunnel Västlänken is being planned. It is therefore assumed that more people will be moving through the area in the future compared to today. Sightlines may not affect the level of interaction but was applied as well since it is also a factor to have in mind when designing on the site. More sightlines can be found but the two shown are considered important for finding and navigating on the site. The yellow circles showing different degrees of interaction have then been placed according to how the factors are assumed to affect interaction on the site. The basic principle is that less crowded and noisy equals better conditions for more private interaction.

*Figure 58. The architecture allows for people to use the whole building at the same time, on the inside as well as on the outside (Roopeank, 2016). CC BY-SA 4.0.*

LÖYLY - AVANTO ARCHITECTS

Initiated as a way to activate a developing area, Löyly is kept low, so it won't block views from future dwellings. As the heat treated pine turns grey it is meant to become more like a rock on the site. The design consist of a black box were saunas are located and it is then covered in a wooden cloak that has been more freely shaped and creates different rooms and uses, like stairs and look out points (archdaily, 2016).

CONCLUSION

Löyly is interesting for several reasons, it's placement close to water but also because of its construction. The rational cubes on the inside are hidden in a more interesting façade. A façade that then can take on any shape and within its system allow for vertical movement. The façade is also defining the spaces between the cubes and allows for visual contact outside.

*Figure 59. Despite its undefined surfaces, people find their spot according to their activity (Forgemind ArchiMedia, 2013). CC BY 2.0.*

FINAL WOODEN HOUSE - SOU FUJIMOTO

Sou Fujimoto wanted to create the ultimate wooden house and in 2006 the final wooden house was completed. It is a house constructed out of lumber, 350x350 mm of varying lengths, but still using the versatility of wood by giving one surface many functions. "A chair" might be "a table" or "a stair" as your positions changes while you move around in the house. A space where the plan becomes not to plan too much, a flexibility beyond moving walls (Sou Fujimoto architects, 2008).

CONCLUSION

Rigid but at the same time so flexible it doesn't need to change, still being an experience to be in. It can adapt to its users ever changing body positions or perhaps it is the other way around...

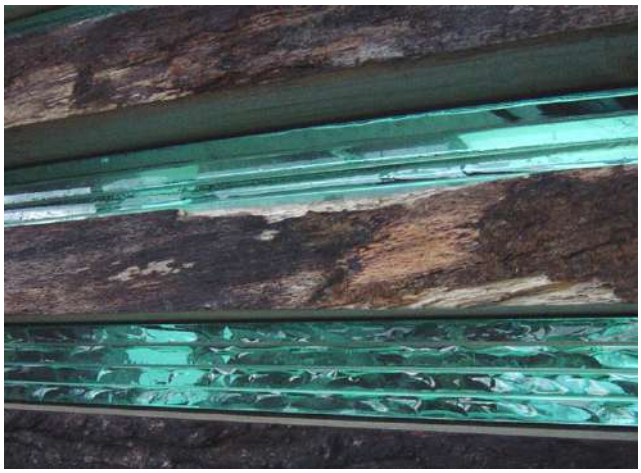


*Figure 60. The layers of laminated glass blocks and wood (Skene Catling de la Peña, 2009). Reprinted with permission.*

THE DAIRY HOUSE - SKENE CATLING DE LA PEÑA

The project used as a reference for the use of laminated glass has been The Dairy house and is an extension to an old dairy. Built in local oak, the wooden slats have a rough surface on the outside and a fine sanded surface on the inside. The wooden slats and the laminated glass blocks have then been stacked upon each other both working as load bearing structures. The idea was to combine seclusion and openness towards the landscape (Skene Catling de la Peña, 2009).

CONCLUSION

Glass serving as a load bearing structure gives the potential of a construction of a simple shell. A shell that can be used to bring light to the inside and still becoming a structure that allow for people to move vertically.

# 9. A ROOM FOR MEETINGS

Like in Löyly, one square unit could be placed in the middle to form a shape around. Retractable furniture brings the possibility to change the room according to your needs without additional storage. However, the idea is that the room will be bookable on the Internet by anyone who want or need a space to meet due to mutual interests.

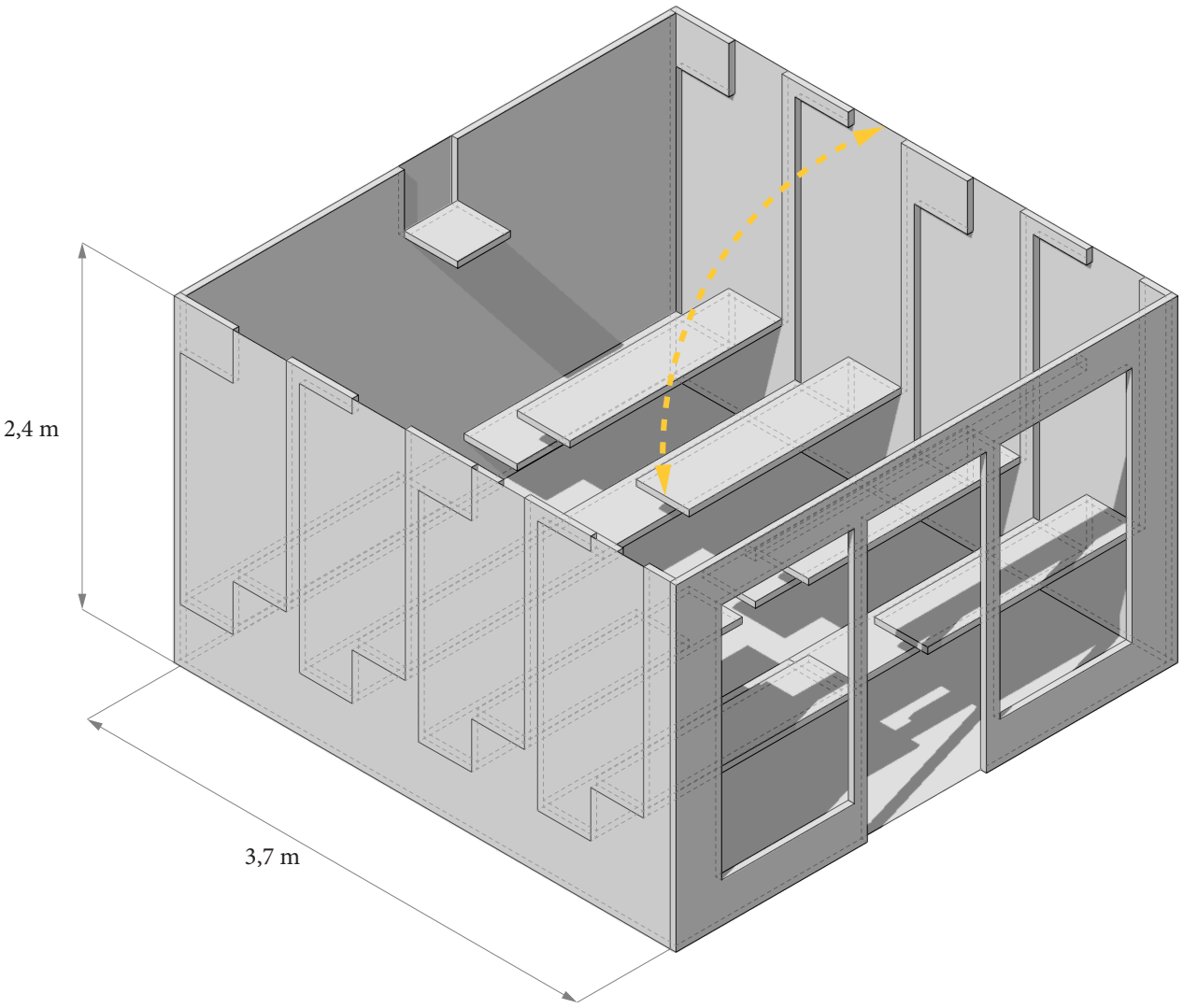



*Figure 61. The dimensions put everyone in social distance from each other according to Hall's theory*

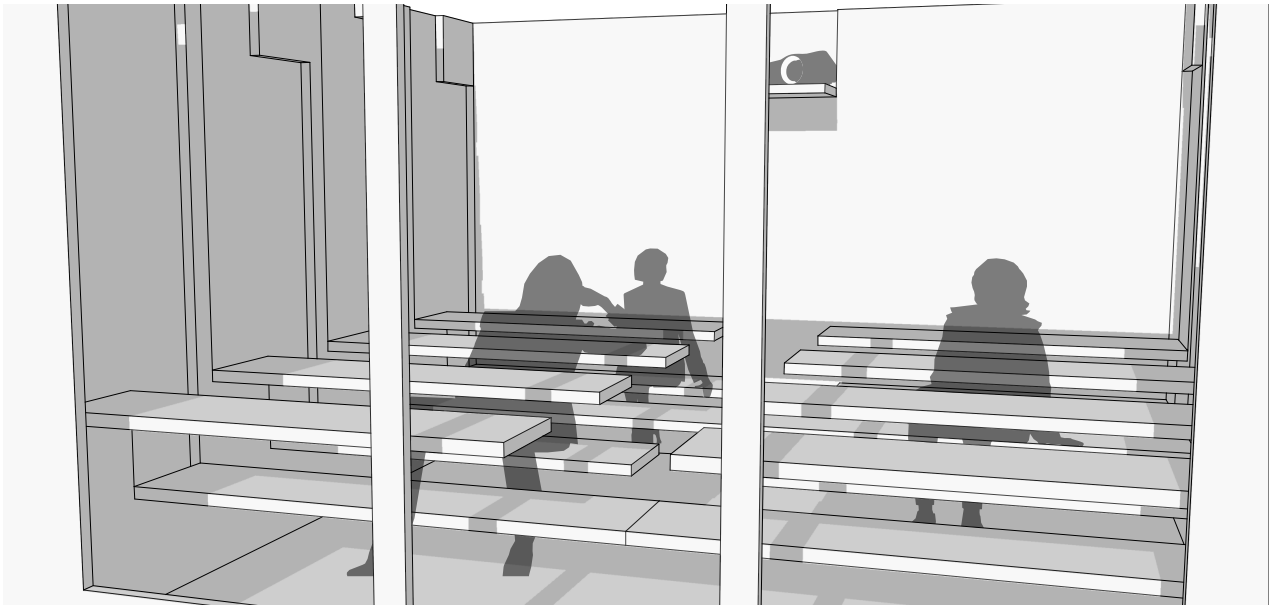


*Figure 62. In the background, a projector brought by the group but placed on a retractable surface*

# 10. “PRIMITIVE FUTURE” AND FLEXIBILITY

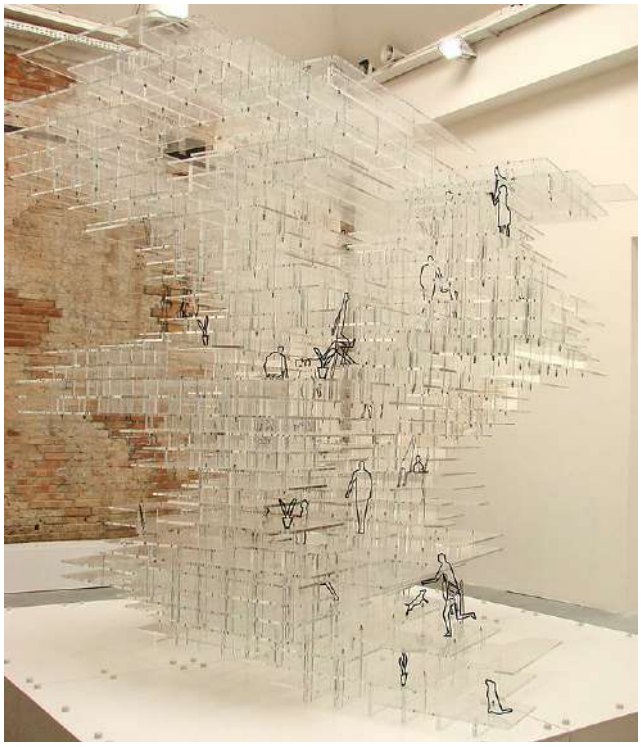


*Figure 63. “Primitive future house” by Sou Fujimoto. A project Fujimoto uses in his book as an example of how to do architecture as a cave (Dalbéra, 2010). CC BY 2.0.*

PRIMITIVE FUTURE- SOU FUJIMOTO

In primitive future, Sou Fujimoto, states that the future of architecture should be primitive. He talks about the nest and the cave, two diverse ways of doing architecture, and advocates for the cave. Fujimoto means that a nest is designed to be comfortable whilst the cave is not designed for comfort and change. It is the way it is, and man has adapted to it. He gives the example of his project House O that he says is a cave since its irregular architecture creates a variety of spaces for people (Fujimoto, 2008., Harvard DSG, 2011).

*Figure 64. The idea about the uneven surface of a cave that people can find their own space in reminds of basalt columns, creating different uneven patterns in nature. (ogannes, 2015). CC BY-SA 2.0.*

The word flexibility traditionally means that something can be adapted to different situations (ne.se, 2018) However, Hall states that the personal distances are affected by culture but also, of course, of many other things and not at least each person’s own personality. So, what is true one day doesn’t necessarily need to be true the next even with the exact same people present. The proposal should address this by creating many different spaces with varying distances. Even though static as a built infrastructure the proposal will try to allow for everyone to find a place that currently suits them. And just as Sou Fujimoto mentions, flexibility can also come from man itself. Or as fellow student Freja Elmsjö so eloquently put it: “you don’t end up with a backache after sitting down in the forest or on the cliffs. You simply find the spot that’s suits you and makes you feel comfortable for the time being”. It is therefore assumed that a not too planned area might facilitate more free and spontaneous use and in doing so occasionally facilitate spontaneous meetings and interaction.

# 11. THE NEED FOR STAIRS?

*Figure 65. Paphos Amphitheatre (Jpatokal, 2007). CC BY-SA 4.0.*

*Figure 66. The Spanish steps (Jenoptik Digitalcam, 2010). CC0.*

The old amphitheatres, the Spanish steps and lecture halls all have at least one thing in common, the architectural element of stairs. It seems like stairs occur when people are to interact with each other in one way or the other. The amphitheatres are designed for good hearing and focus, to be able to take part of what is happening and to receive a message, so also the lecture halls. The Spanish steps are more of a classical stair when it comes to use, enabling people to move between different height differences. However, the stair is perhaps most famous as an interaction point with people sitting instead of walking up or down. Perhaps that is one of the reasons for stairs taking on a social dimension in modern architecture (Lutyens, 2013). To "step up" seating areas might also be a way of letting more people participate in an event. Instead of people seeing no further than the two rows closest to them, a sloped seating area involves everyone in a more democratic way. In other words; it just might facilitate interaction.

*Figure 67. A modern lecture hall (Theonlysilentbob, 2008). CC BY-SA.3.0*

# 12. BASALT COLUMNS

The iteration “Space sequence” with stairs derived from all the intersecting circles. Giving these intersecting surfaces different heights creates a variety similar to the ones of basalt columns. The ramp is a way of dealing with accessibility using a circular system.

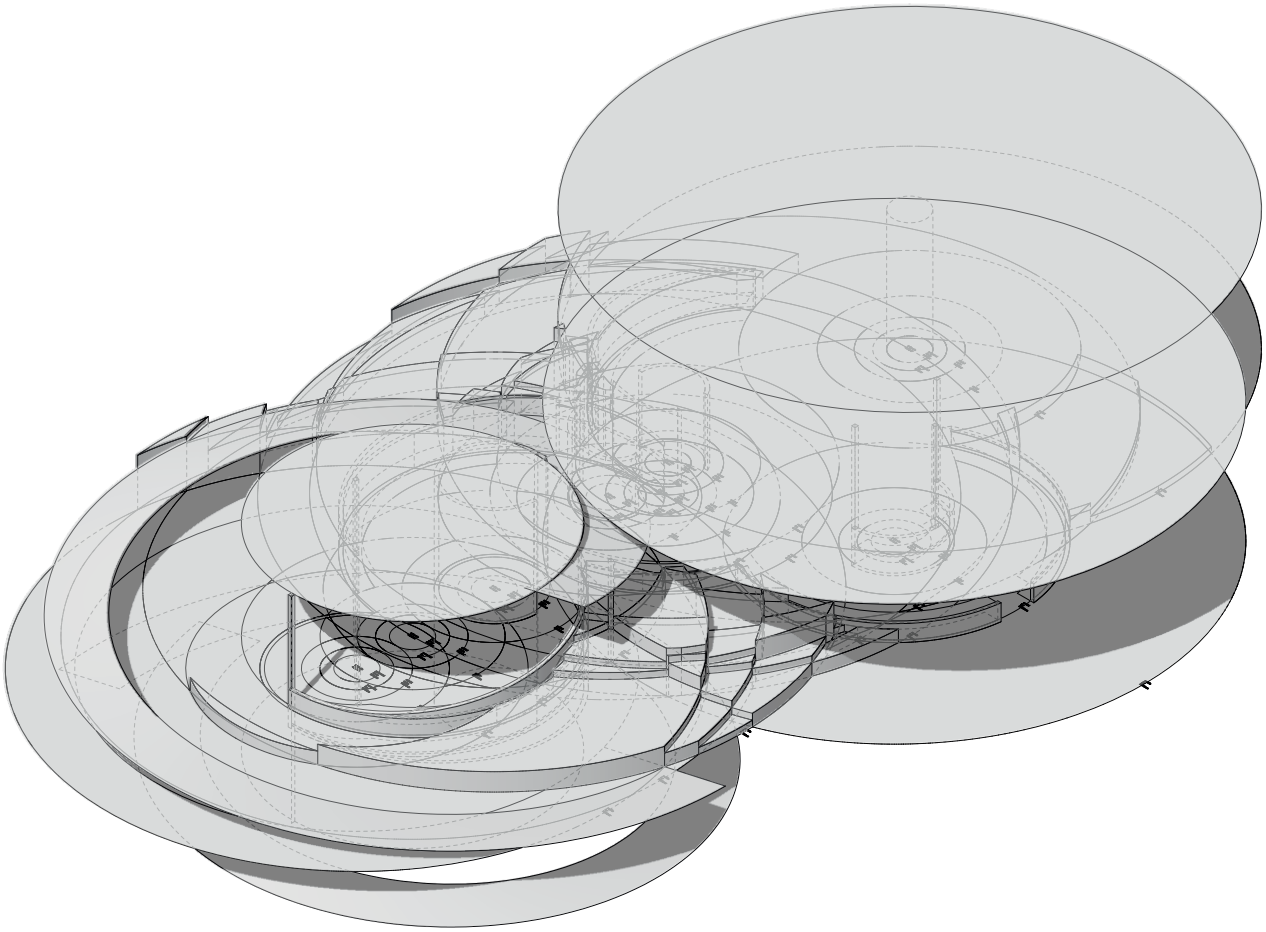


*Figure 68. Axonometric view*

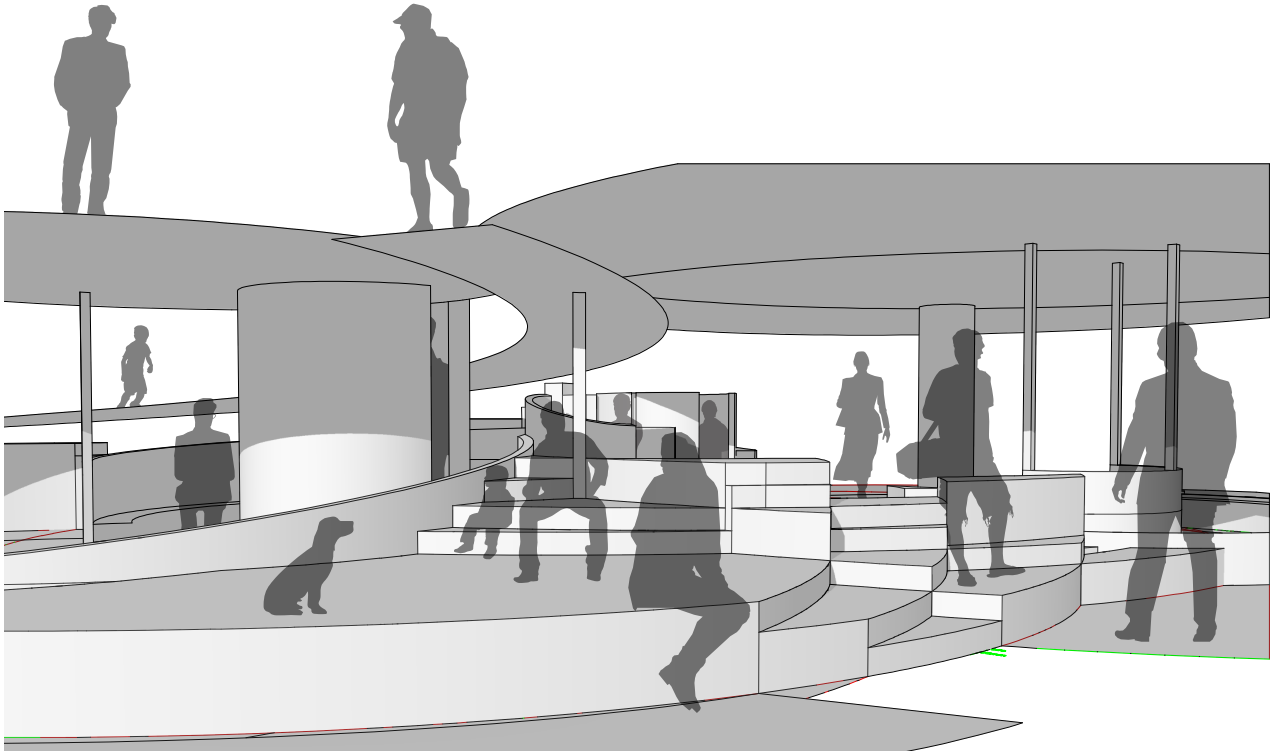


*Figure 69. Perspective showing the basalt column inspired stairs and the way they could be used*

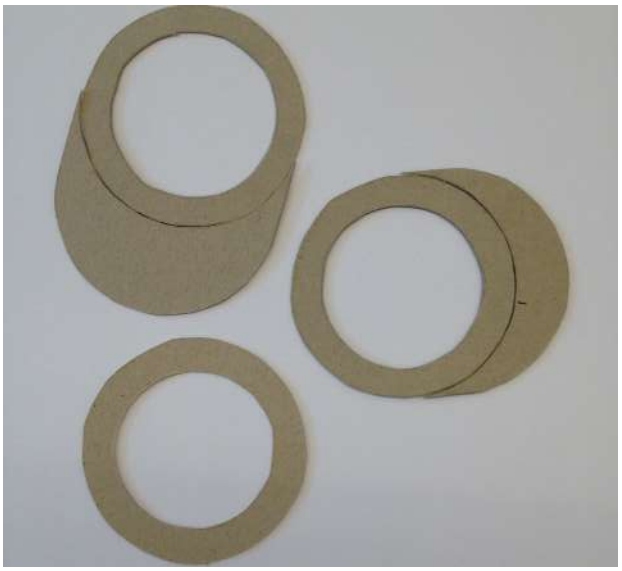



*Figure 70-71. Reading "Primitive future" gave the idea of circles that can be "stretched" to create different levels and stairs when placed on top of each other. Indoor spaces can then be "carved out" (Author's own photo, 2018).*

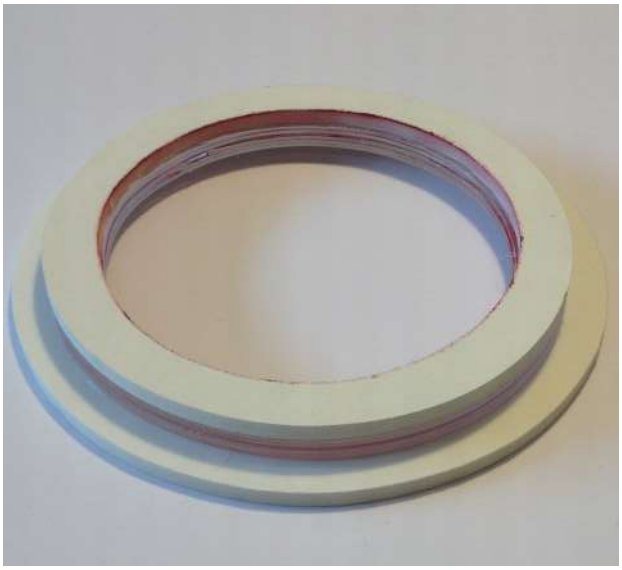
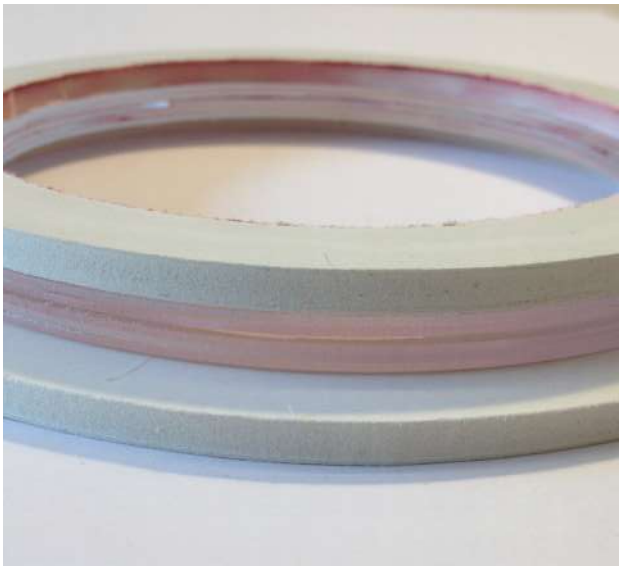



*Figure 72-73. The result of the development of the circles showed above. After finding the reference project "The dairy house" the structure principle became stacking materials on top of each other (Author's own photo, 2018).*

## 14. TRANSPARENT STAIRS

A structure that is somewhat transparent, showcasing the interaction on the inside while bringing privacy. The whole structure becomes a stair for interaction where people can find their own spot and becomes a landform of the site. Digging down into the ground are stairs in the shape of an amphitheatre. Entrance to the structure is from the smaller sphere that directly gets you into a space of public distance that also works as a ramp for entering the higher parts. The higher up in the structure the more private.

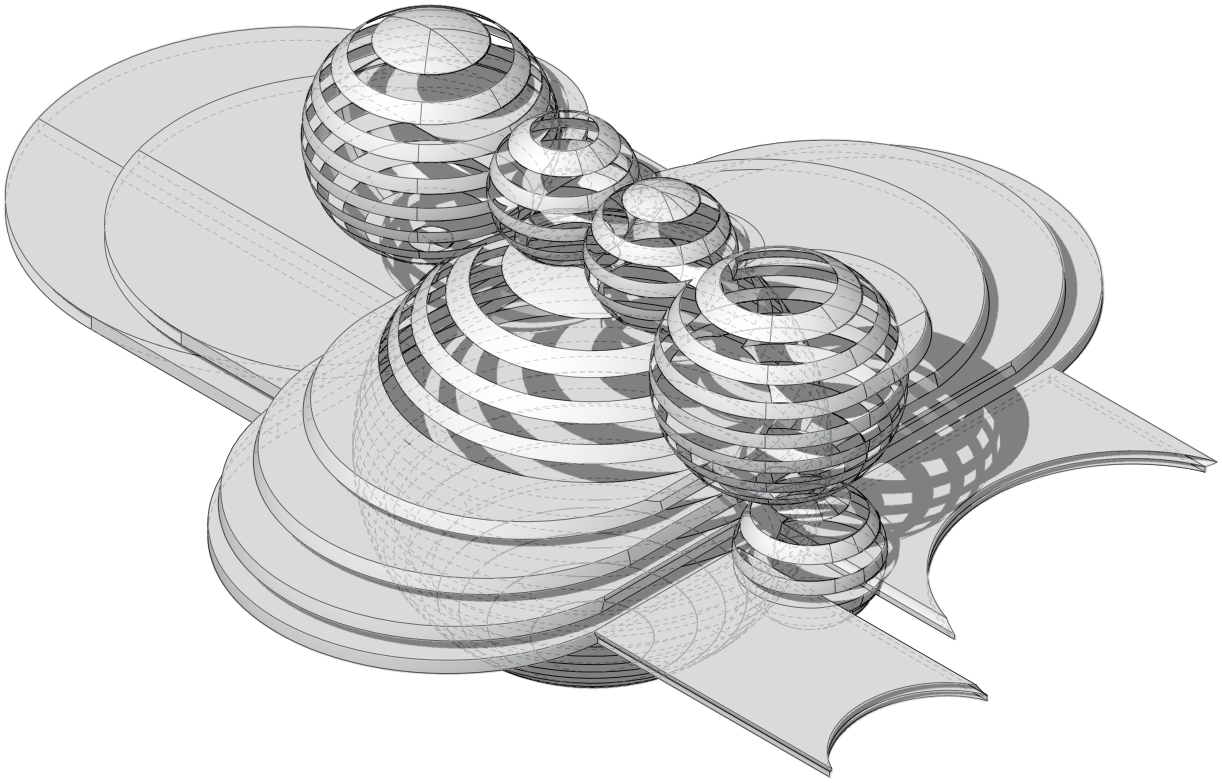


*Figure 74. Axonometric view*

*Figure 75. Perspective showing a part of the structure and the way the structure becomes stairs for interaction*

# 15. CHOOSING A DESIGN

CONCLUSION

As mentioned before it is assumed that it is within the rich and more complex iterations that the most potential of creating a space for everyone can be found. The last two iterations both have this complexity and richness, or at least the potential of becoming it. So, when a decision must be made about which iteration to continue working with it naturally comes down to a choice between those two. The “basalt columns” has many interesting elements. One way to address height differences using Hall’s theory, are shown in its ramps. The basalt columns themselves creates pleasant spaces that brings variety and the opportunity to find your own spot that you like to use. But these features are also very much just additions to an older design, the “space sequence”.

The “transparent stairs” brings other qualities. Qualities like visibility, weather proof areas and an idea about the rentable rooms mentioned by Emma from Frilagret. But also, an idea for how to take on the site with its projecting platforms. It is also within this iteration that the potential to make use of the learning outcomes from the previous iterations can be found and from a visual point of view it really shows off an interpretation of Hall’s distances with its spheres. The choice was therefore made to continue to work on the “transparent stairs” iteration.

*“Architecture is to generate various senses of distances.”*

Sou Fujimoto (Fujimoto, 2008, p.32)

# 03. A PROPOSAL

# 1. LOCATION ON KANALTORGET

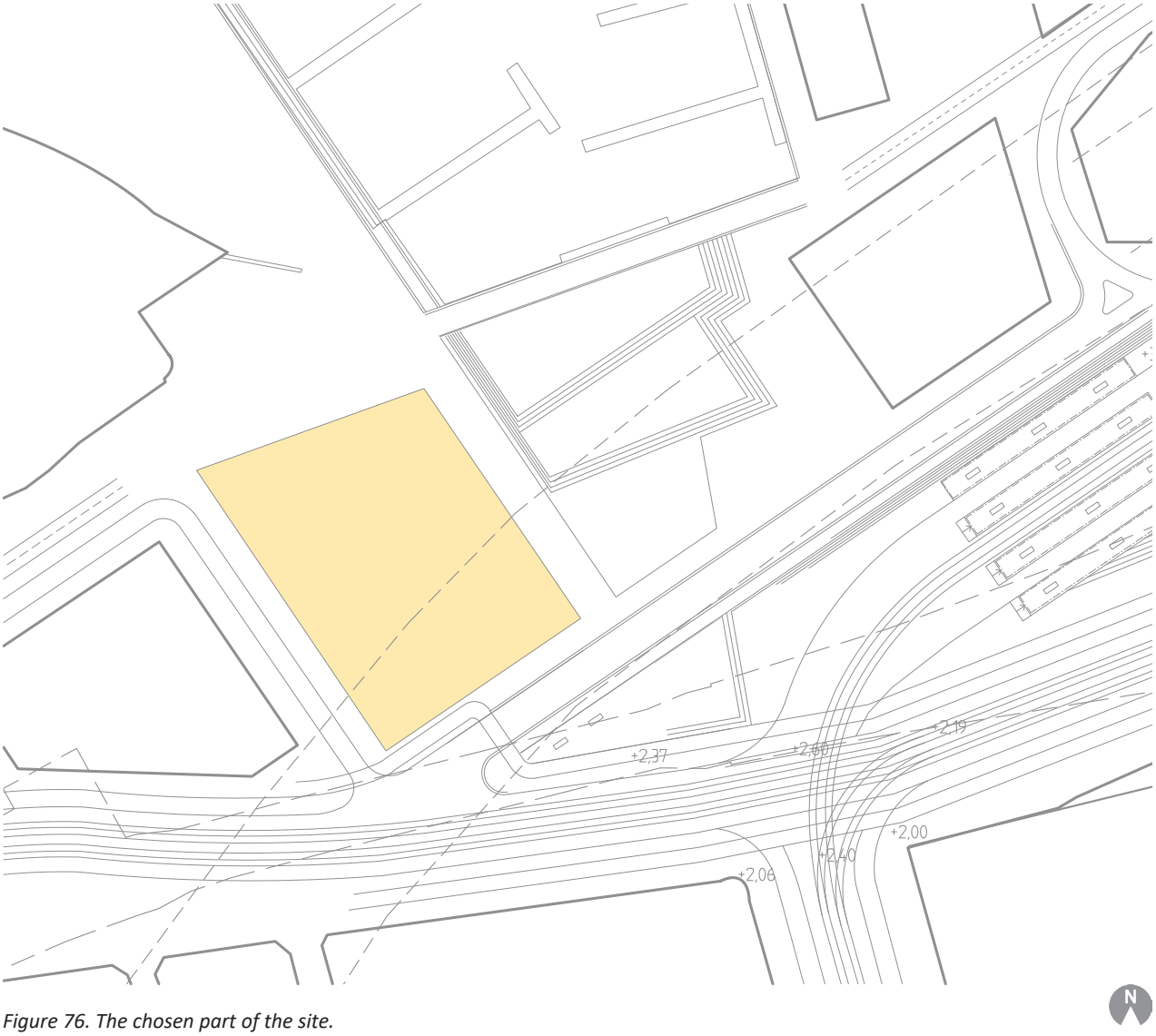



*Figure 76. The chosen part of the site.*

With the decision made to further develop the iteration “transparent stairs” the iteration was broken down into its components. First thing to pay attention to was the placement of the structure. Following the guides set up by the site analysis the placement of the infrastructure was chosen to be the lawn in FOJAB’s proposal. A placement to the south means problems in digging down into the ground due to the tunnel passing underneath.

Placing the structure in the middle along with perhaps more sculptural shapes means it can create a “universe” of its own and the protruding parts can be used to define smaller spaces within the bigger one. The decision was therefore made to place the structure somewhere in the middle of the site.

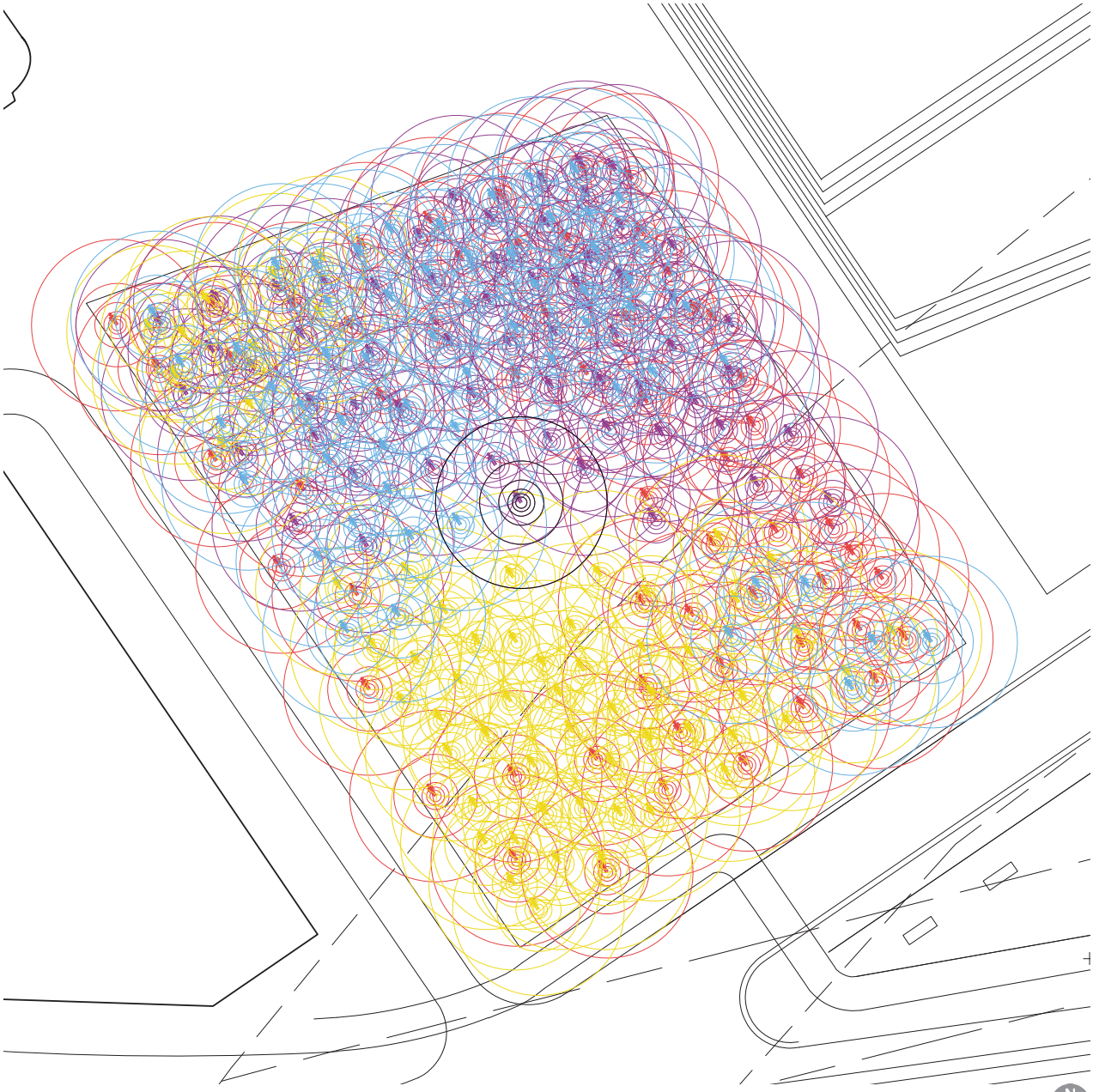



*Figure 77. The final result of the mapping. The stamped people and their spheres according to Hall's theory applied and "the one" chosen as the starting point of the structure clarified.*

Easy to watch people

Less windy

More sunny

Less noisy

Based on four of the factors used in the site analysis the site was spontaneously mapped with 60 stamps each referring to 60 visiting people and where they might want to stay with regard to each factor. Assumptions were made that people like to watch other people, that they prefer less windy and noisy places and that they would like to be in the sun. A higher concentration of stamps in an area is therefore considered to be a place with more qualities and a higher chance of interaction.

The pattern that appears tells the story of better qualities in the northern parts of the site except when it comes to sunlight. In the middle of the site there is a lesser concentration of stamps. Placing the infrastructure with its spherical base here uses the qualities found in the outer parts of the site. Letting them mould the protruding platforms so that they facilitate the utilization of the qualities, hence, increasing the chance for interaction.

# 3. PROGRAM

DEFINING A PROGRAM

Defining a program for an infrastructure is hard- especially if it aims to attract the young but also other residents and wants to facilitate many different activities. However, in search for the flexibility similar to the one advocated by Sou Fujimoto the question rises, is a program even needed? In this context it is assumed that the ultimate flexibility is born out of the possibilities that people can use the space intuitively, so that even if people's references are changed over time, the structure can still offer a space for intuitive use. This argumentation advocates for a non-programmed structure. However, interviewing Emma at Frilagret, it was learned that there is a lack of rooms for those groups that would like to meet once or twice a week. The decision was therefore made to add a small program to be able to meet this specific demand still keeping most of the structure "intuitive" but of course, still base it in the universe of Hall's theory.

THE CHOSEN PROGRAM

*Three rooms with varied size*

Free rentable rooms open 24/7 to meet the need Emma was addressing

*One room within public close distance*

Creating a meeting place that can also serve as a forum where discussions between the different groups can occur and that creates the possibilities to arrange smaller exhibitions to showcase potential work being done.

*Toilets and access to electricity and water both on the inside and outside*

A hands-on tip from Emma who has been taken part in organizing exhibitions on Kanaltorget before.

In the search for an intuitive space the rooms have been designed by a number of listed characteristics.

*The weather proof area of interaction is designed so that it:*

- has a dimension according to Hall that facilitates interaction between people visiting on the inside as well as on the outside
- is walkable on the inside and outside
- creates the possibilities to host different activities on a larger scale, like an exhibition for the work done by the groups or visiting or public lectures
- becomes the starting point of vertical communication within the structure
- have access to toilets and water
- shows a part of the activity taking place on the inside to the outside still bringing a sense of privacy to the people on the inside

*The three rooms for groups meeting to share their interests are designed so that they:*

- have a dimension according to Hall that facilitates interaction between people who want to interact
- offer a space that can be used intuitively
- show a part of the activity taking place on the inside to the outside still bringing a sense of privacy to the people on the inside

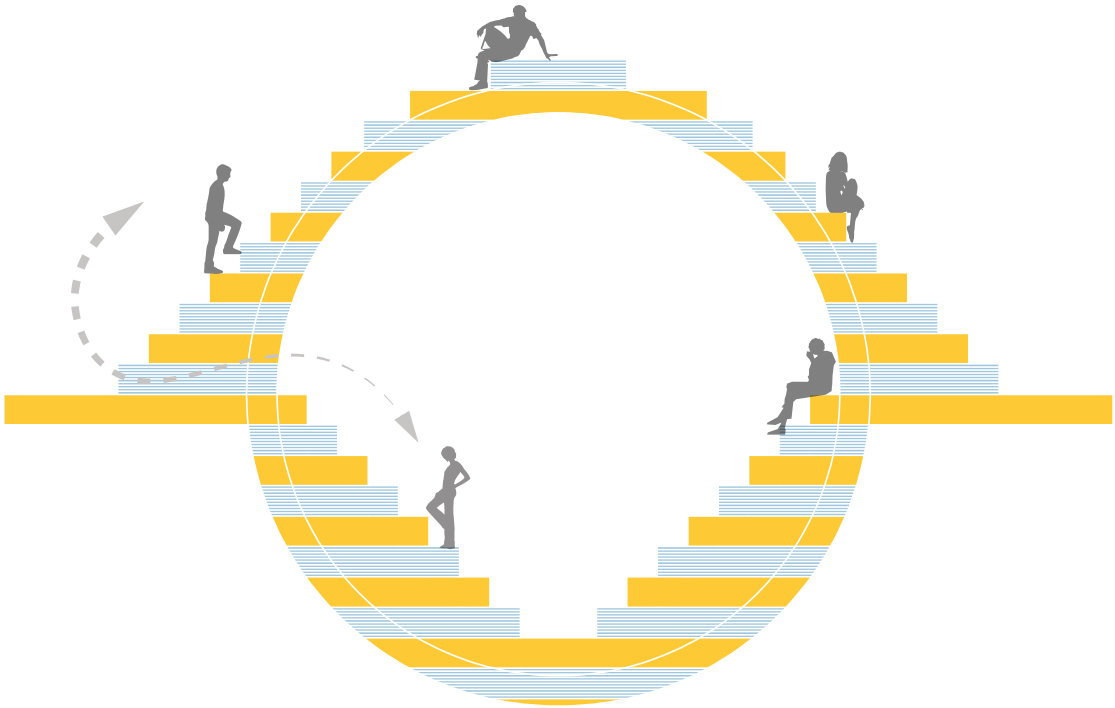


*Figure 78. Diagram of structural steps for activities and movement. The walls are protruding into whatever is needed, in this case a stair to facilitate movement but also interaction*

The iteration “transparent stairs” shows a structure bringing privacy as well as showcasing some of its content. The iteration shows only sliced walls of spheres and the way they grow into each other forming the spaces needed for interaction. This is where the idea of a structure becoming whatever is needed was born. The walls become the spaces but also the stairs for movement and the protruding platforms. Hence the same DNA can be found in all the structural components just looking different in order to provide what’s necessary in that specific place.

In order to create transparency but also provide shelter and weather protection the negative parts of the iteration “transparent stairs” needed to be turned into glass. However, adding a load bearing structure underneath would interfere with the interpretation of Hall’s theory and the experience of a sphere. The solution was to be found in the reference project “The dairy house”.

As an infrastructure it has been an objective trying to make it walkable almost everywhere. And to, during this walk, end up in different spaces dimensioned so that they might facilitate social interaction according to Hall’s theory. The basic strategy to achieve this has been the use of stairs for vertical movement. The infrastructure is therefore based on the measurement of 400 mm that can function as a place to sit but also serve as steps. Additional steps of 200 mm can then be added here and there in order to further ease movement.

A stepped sphere means the lower part cannot promote vertical movement on the outside. This brought the need to walk on the inside as well as on the lower part of the spheres and makes the movement from ground level and up to the look out points on the top, a climb on the outside as well as on the inside, experiencing the sphere called the dome. So, does that mean that the building is accessible for everyone? No, not yet. The focus of this thesis has been the spaces created by Hall’s theory and that this might lead to a chance of increased social interaction but also the experience of these. However, the system used to meet this challenge also has the potential of dealing with ramps, which is shown inside the dome. It can therefore be assumed that a solution can be reached, given more time for development.

*<Figure 79. Iteration showing only external movement. The space between the four spheres also needs to be given access which generates a second slope underneath. The gap height in between however, then becomes less than 2 m.*

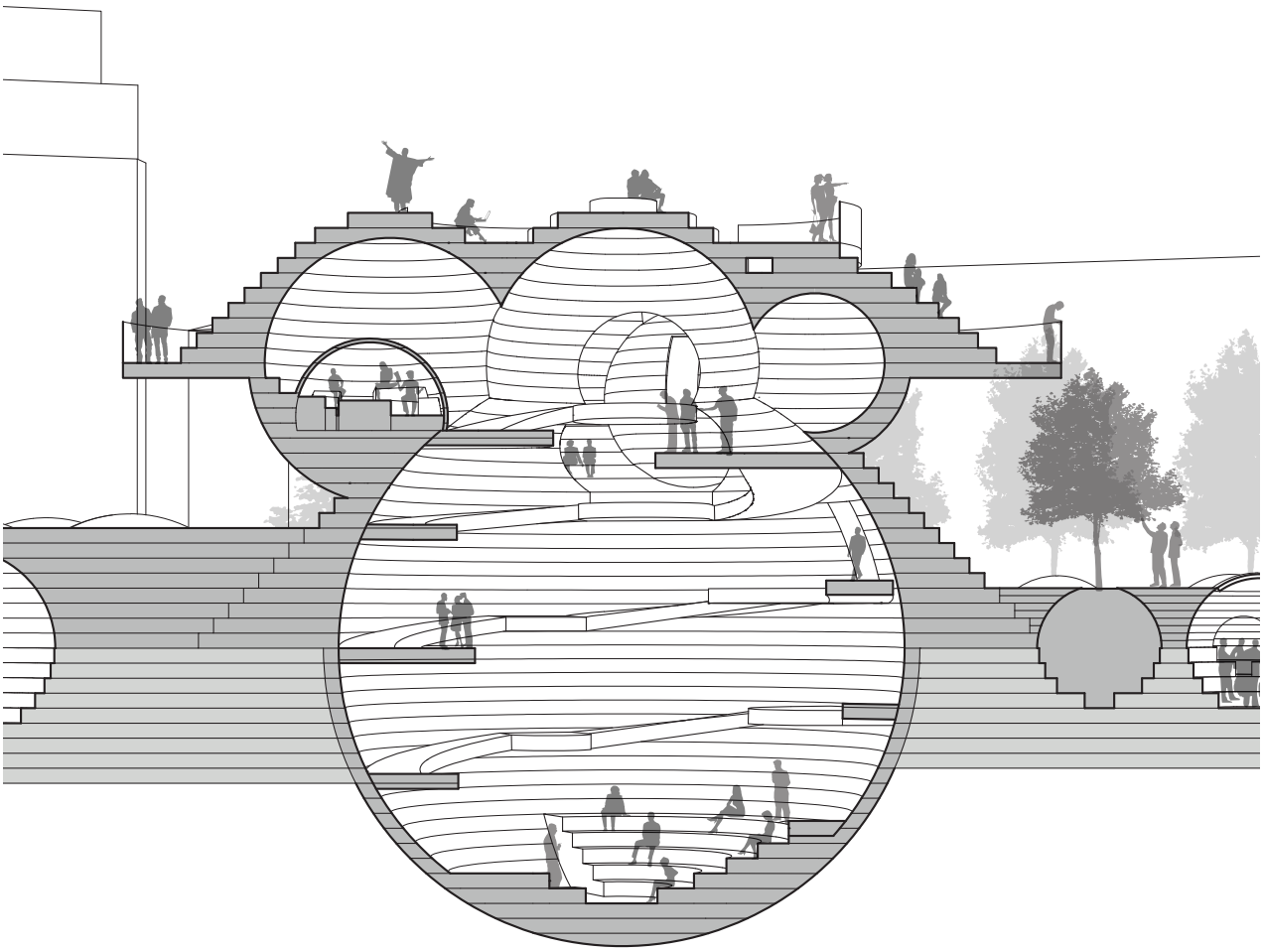
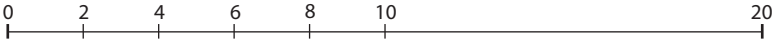


*Figure 80. Zoomed in section of the infrastructure. Scale 1:200. Please note the ramp, landings and amphitheatre protruding out from the walls as well as the platforms on the outside*




The dome like structure gets its proportions from Hall’s theory and the criteria defined in the program. The dome reinforces the sense of spherical space, with the movement around the sphere and with its many look out points from it. In the bottom is an amphitheater located and toilets can be found inside the northern platform, still accessible from inside the dome. Vertical movement is made possible through the social close distanced ramp formed by the walls. The ramp’s landing areas are also turned into spaces for interaction according to Hall. During this vertical movement the top of the platforms can be reached through doors.

It is also through this ramp that the visitor can reach the stairs inside the lower parts of the smaller spheres of the dome, making it possible to continue the climb up to the highest lookout points on the outside. The ramp ends up in the middle one of the smaller spheres placed on top of the dome. However, it is also from the ramp that the rentable rooms are accessible. The placement of these rooms creates a hierarchy within the structure with more public parts at the ground and more private higher up.

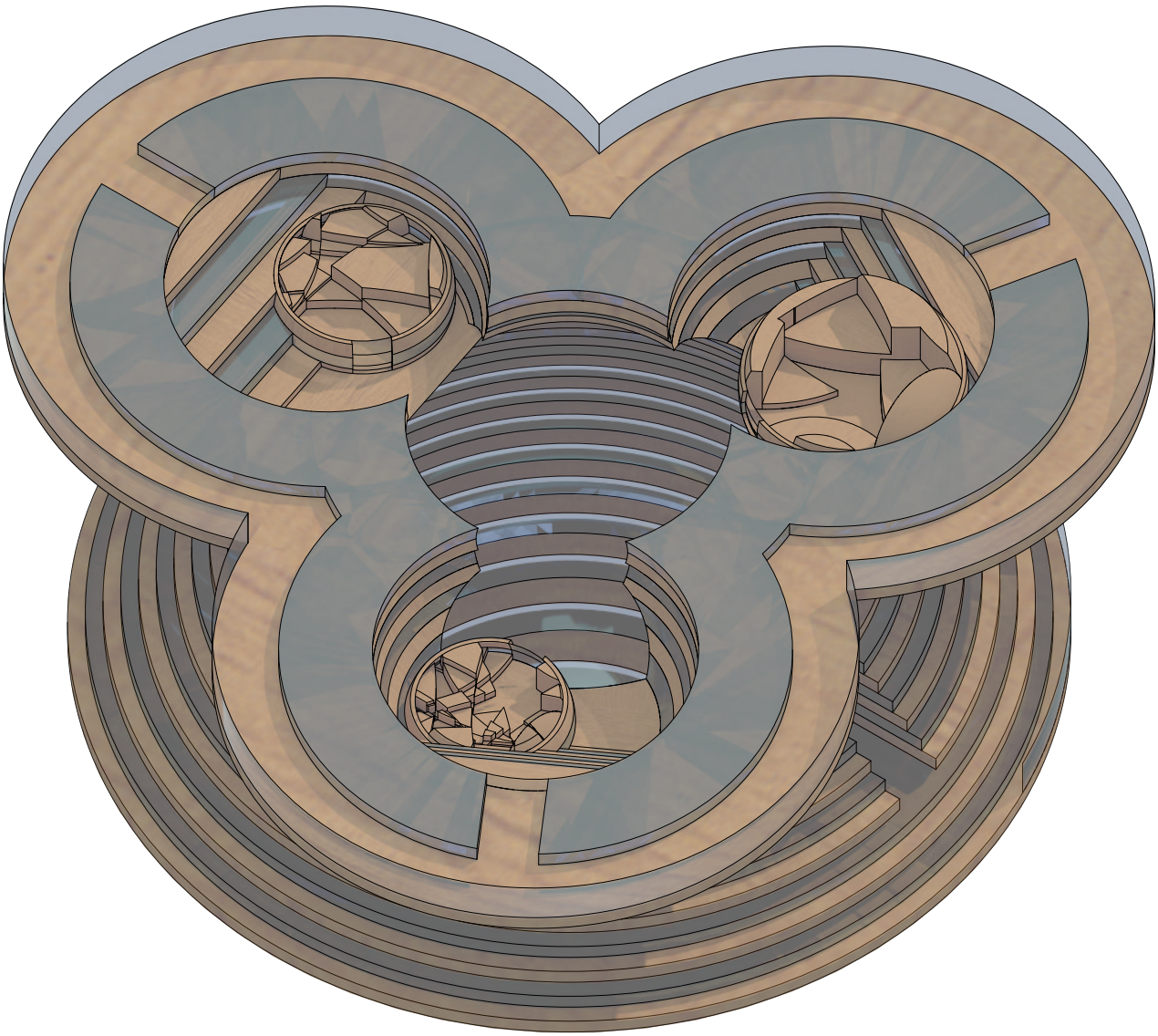


*Figure 81. "Section" trough the three attached spheres on top of the dome and the rentable rooms showing their design and placement. Also shown is the structure and function of the attached spaces as a part of the movement up and down the dome. Please note that the ramp inside the dome, that tangents the floors, has been removed in this picture*

The rentable rooms, the only space that can be called private in the infrastructure, mainly target groups addressed by Emma at Frilagret and groups formed by social media. Simply put, groups that share a mutual interest. The idea is that these rooms are bookable on the internet and that's where the users get a pin code for the doors locking devices. The rooms are designed for intuitive use and vary somewhat in sizes but also in "intensity" depending on the amount of "basalt columns" inside. The smallest room is the most intense and the biggest the least with more coherent and calm surfaces.

The shape of the "basalt columns" comes from the number of intersecting circles below the rooms in the mapping of the site. These intersections have then simply been projected up to the rooms from underneath and there turned into different extruded levels. The walls have the same structure as the rest of the dome, only thinner, to allow for light and visual connection that might make people passing by interested in the subjects on the inside and hence increasing the chances of an interaction. The glass door following the room's spherical shape simply slides to the side when opening.

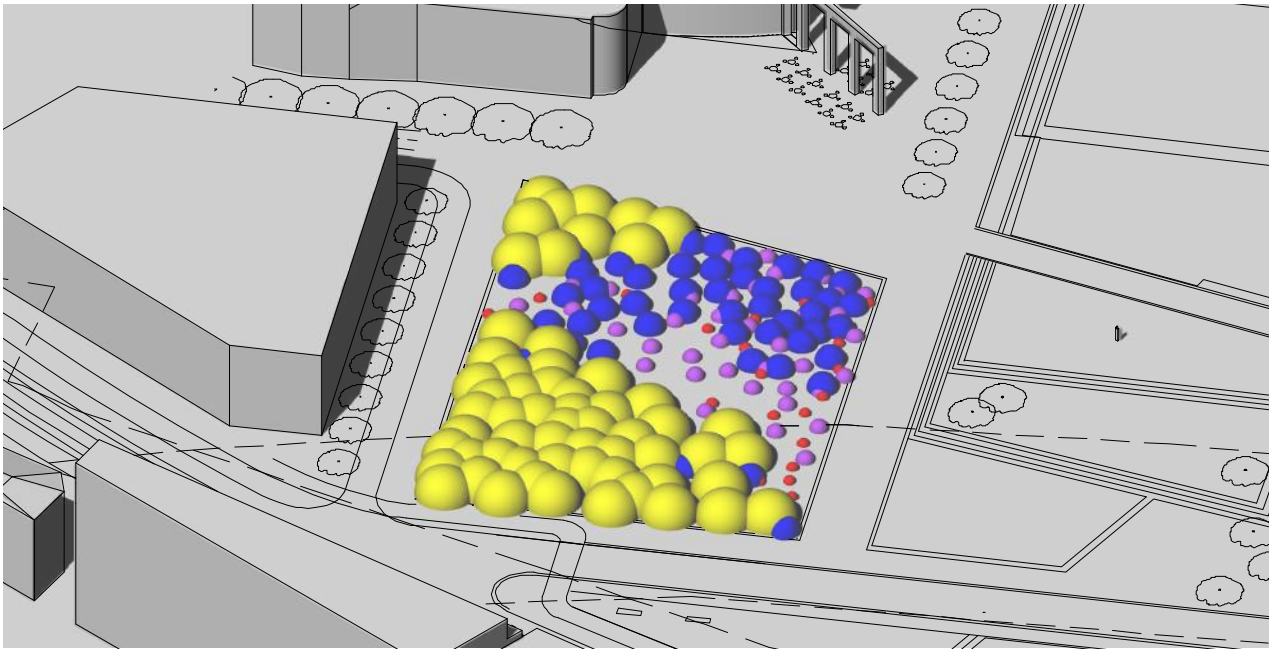


*Figure 82. Spheres added to all stamps on the mapped site*

Radius 0,8 m  Radius 1,2 m  Radius 2,0 m  Radius 3,7 m

So, with the aim of creating a true infrastructure and not just a building, the site needed to be addressed. As mentioned before, Hall's theory talks about the distances in man from the perspective of how close people will be standing when addressing each other depending on their relation for instance. Directly translated into architectural space that means that partners can use a smaller space than colleagues. But the purpose of this thesis is to use the theory trying to promote social interaction between people that are not all that familiar with each other. A smaller space might in this case risk leading to one person sitting alone with reduced chance of interaction since the space will be considered taken for someone approaching. The decision was therefore made to flip Hall's theory. Using the site mapping's four factors, a hierarchy between the various factors was created and then turned into spaces still using the measurements of Hall. The subjective assumption was made that the sun might be a factor bringing more people together and that this creates the need for a large space, hence giving it the dimensions of public distance. Sitting in a space sheltered from the wind was considered promoting more close conversations and was given social distanced dimensions. Even better conditions for more close interaction was considered to be found in a place that is quieter, hence giving this space the dimensions of personal distance.

Finally, the smallest dimensions were given to the space were people sit to just watch other people. These spaces were therefore given the dimensions of intimate distance. The latter are also interesting as a metaphor for digital society and the way you can be physically alone and still socially interact with someone on the other side of the earth using digital solutions.

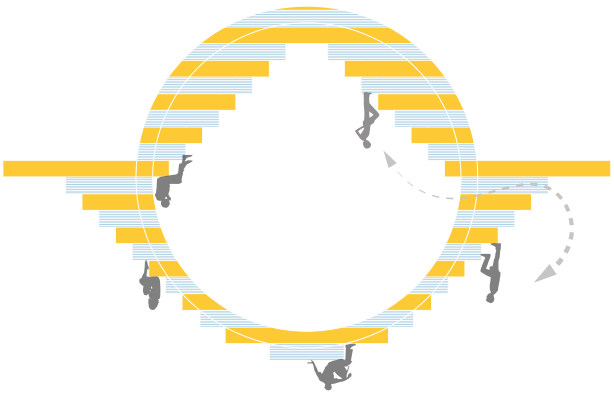


*Figure 83. Hall's theory flipped also meant flipping the structure diagram generating smooth spherical roofs that closes some of the spherical carved out spaces in the landscape outside the dome*

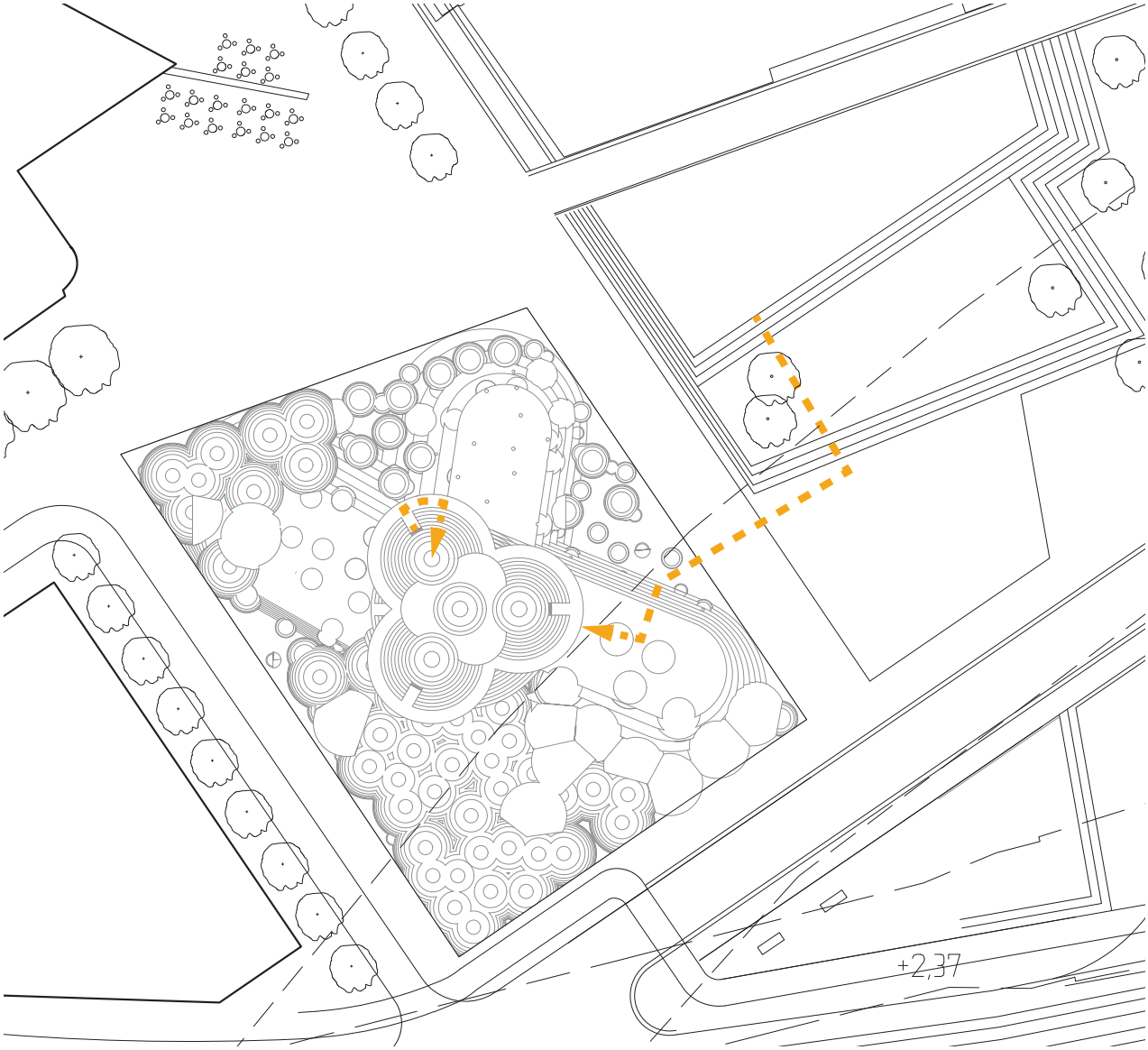



*Figure 84. Zooming out on the "landscape of Kanaltorget" as a whole, it now offers a topography and a stepped path from the water line and up to the views of the "mountain top".*

The dome like structure in the middle of the site creates enclosed spaces that are public and private. On the outside the infrastructure creates public and private spaces as well but all open. The cavities create a distinguished pattern that clearly makes its mark on the site. Within its borders the entire landscape relates to Hall's theory in one way or the other. Also, being walkable more or less everywhere makes it an infrastructure for social interaction. The platforms find their direction on the site from the site mapping as well, stretching out to the three most dense parts of the site, providing shelter from bad weather conditions. Most of these carved out spaces are intersecting with each other, giving the possibility to reach further into the "caves" and find different sized spaces. This also means finding one's way through other spaces that might be occupied by others, hence increasing the opportunities for social interaction.

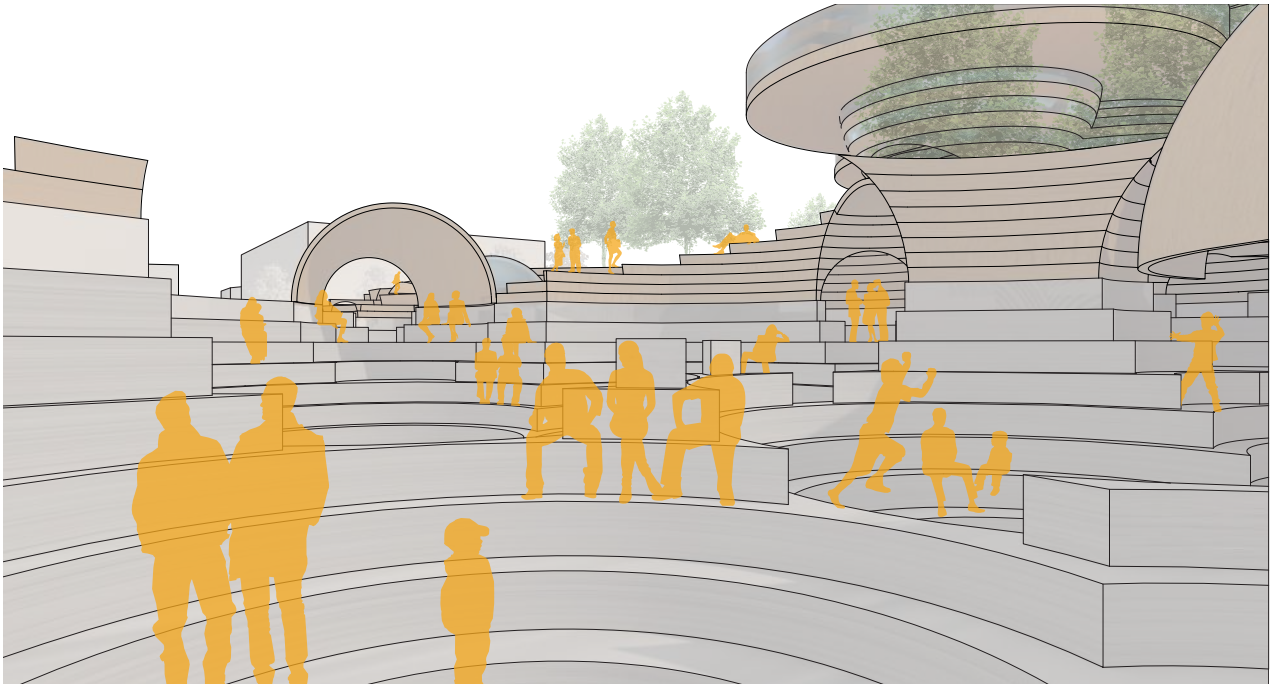


*Figure 85. Perspective towards the east showing the smooth roofed weather shelters and two entrances into the spaces underneath the platforms in the landscape outside "the dome"*

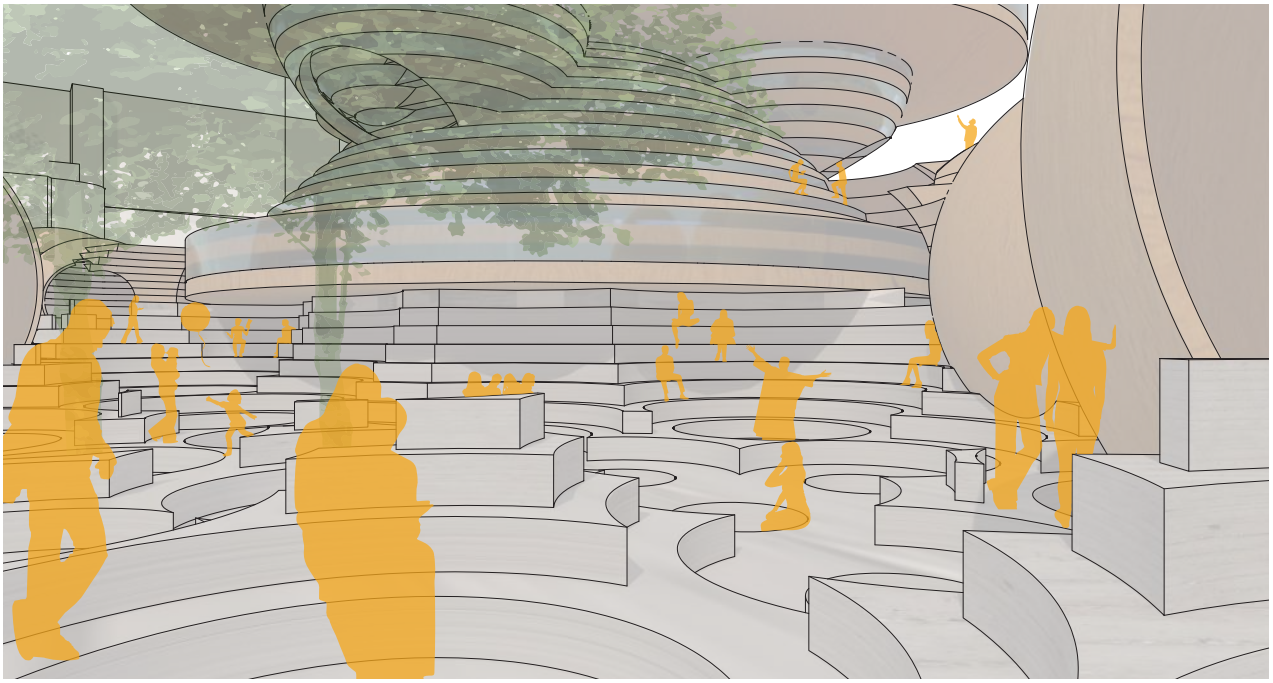


*Figure 86. Perspective towards the north showing "the dome" protruding into a weather protected area in the landscape outside*

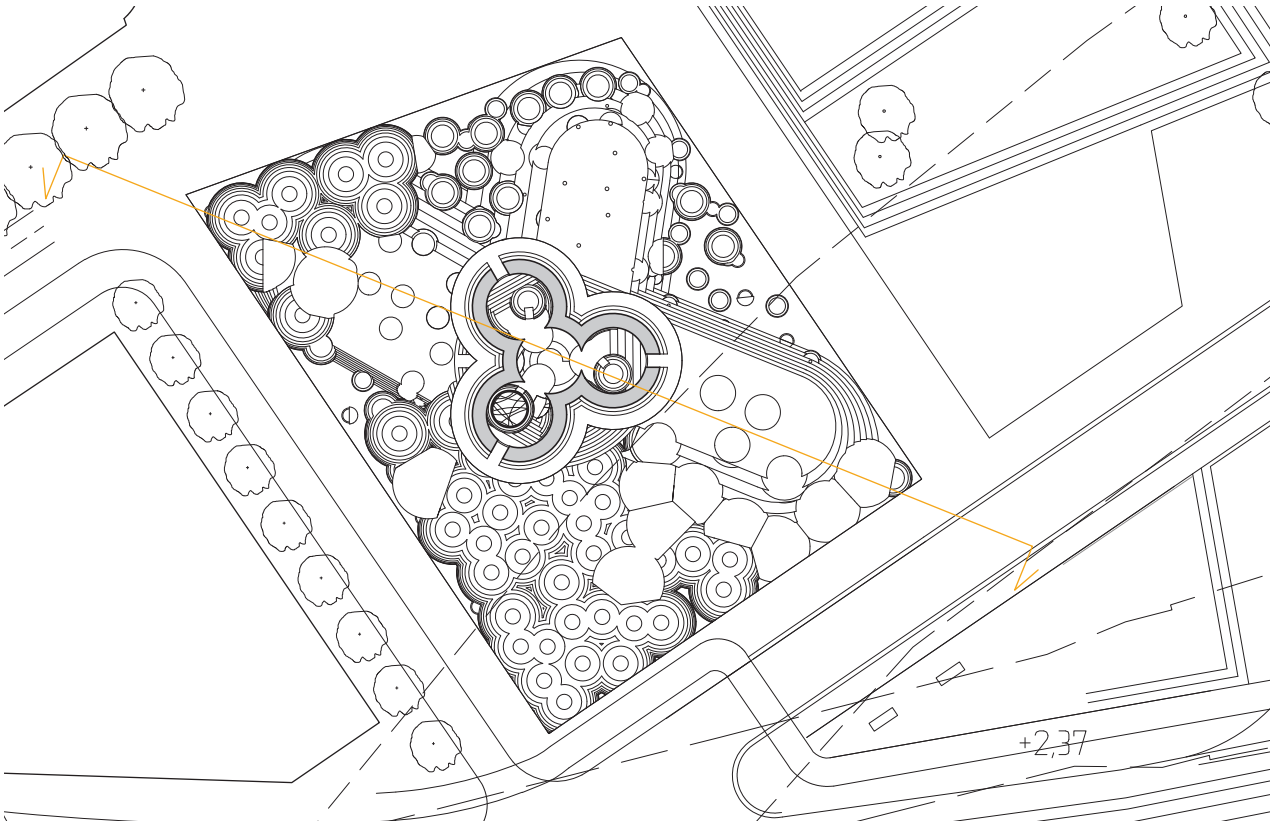



*Figure 87. Plan, scale 1:800. Plan showing the relation between the top four spheres. Cut taken approx. 8,8 m above surrounding ground level. Yellow line represents section cut.*

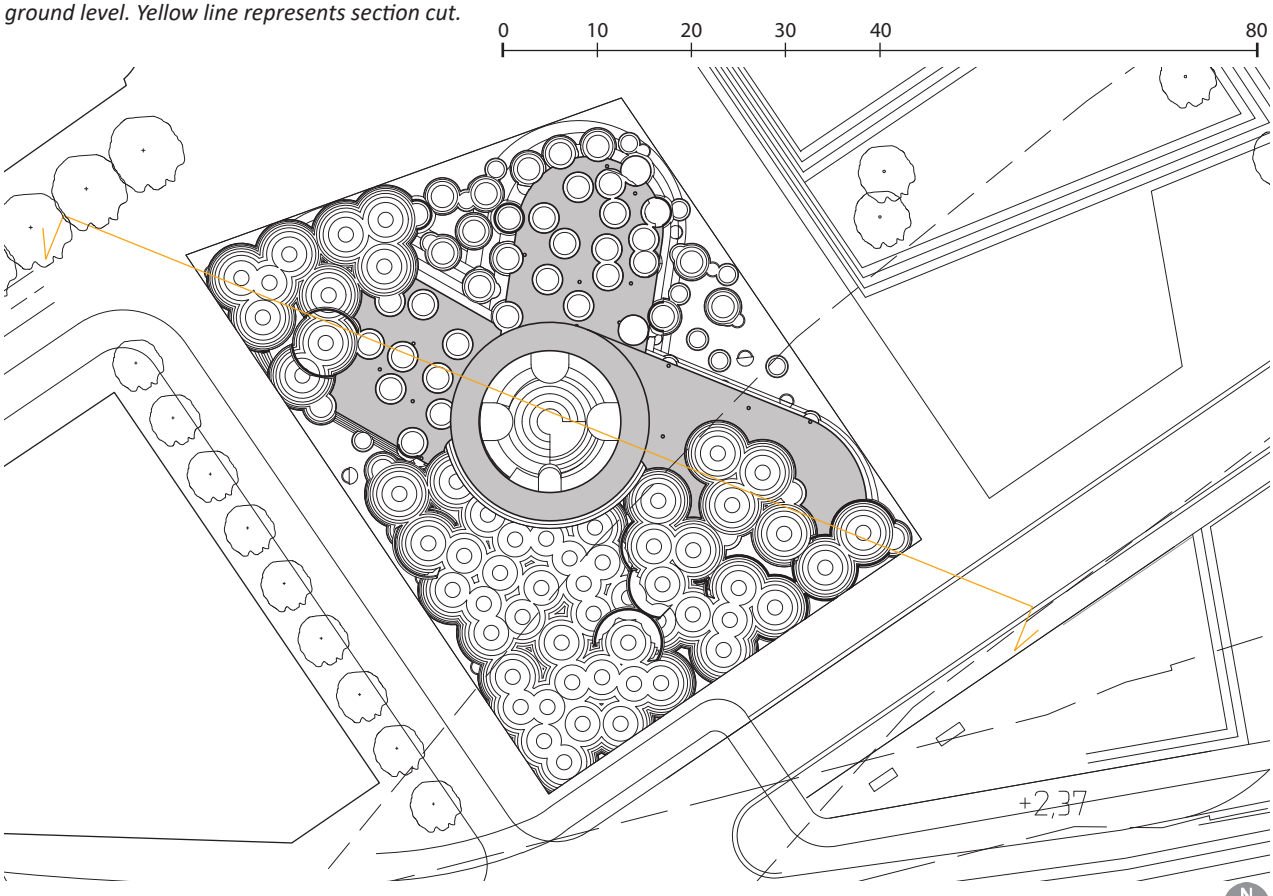



*Figure 88. Plan, scale 1:800. Plan showing the dome and the protruding platforms and the relation to the surrounding landscape. Cut taken approx. 1,2 m above surrounding ground level. Yellow line represents section cut.*

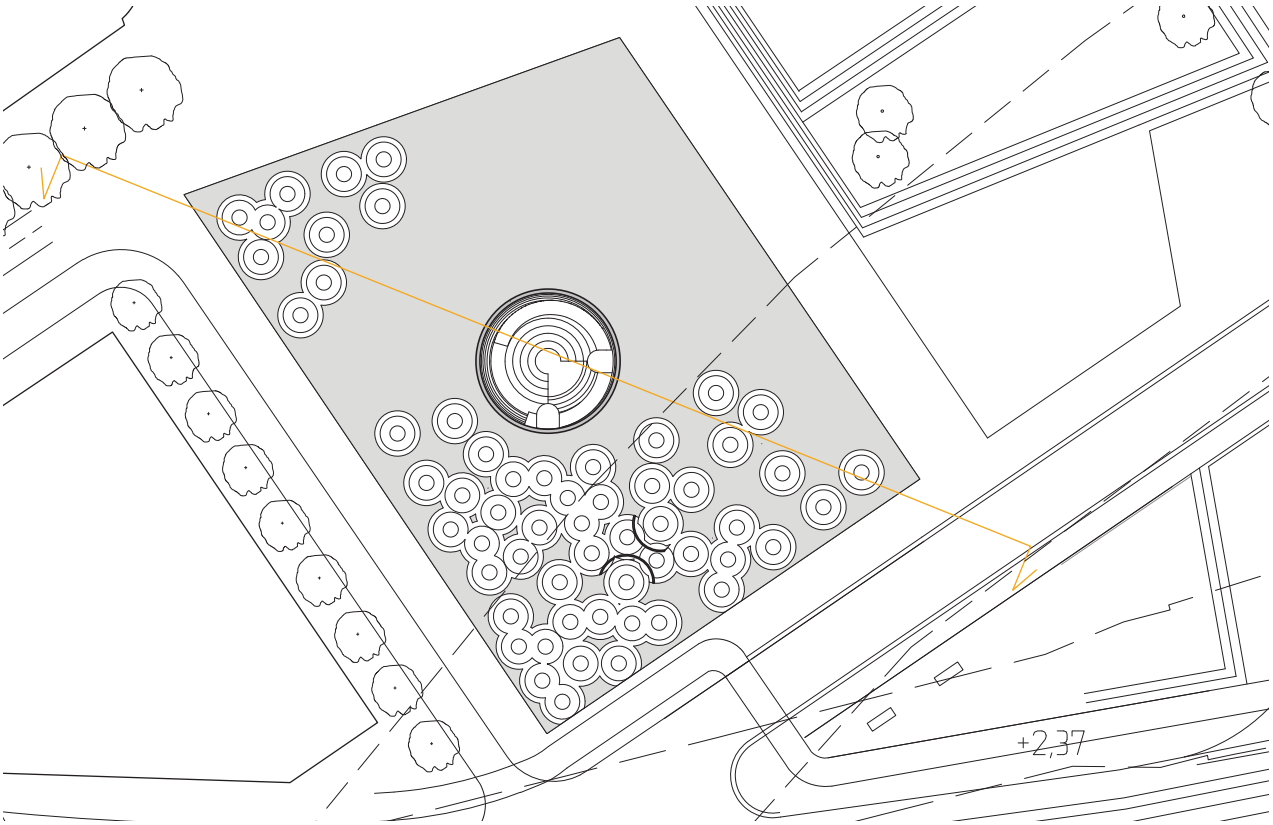



*Figure 89. Plan, scale 1:800. Plan showing the lower part of the dome and the lower parts in the surrounding landscape. Cut taken approx. 2,4 m below surrounding ground level. Yellow line represents section cut.*

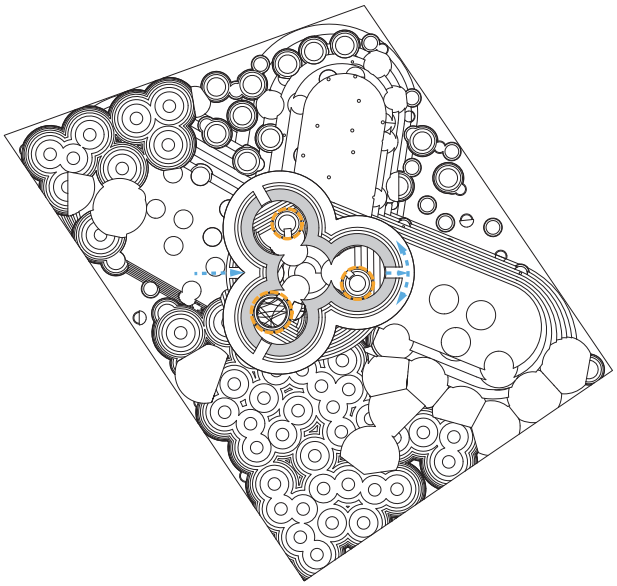


*Figure 90. Diagram showing the location of rentable spaces and examples of two entrances, on different levels, to the structure*

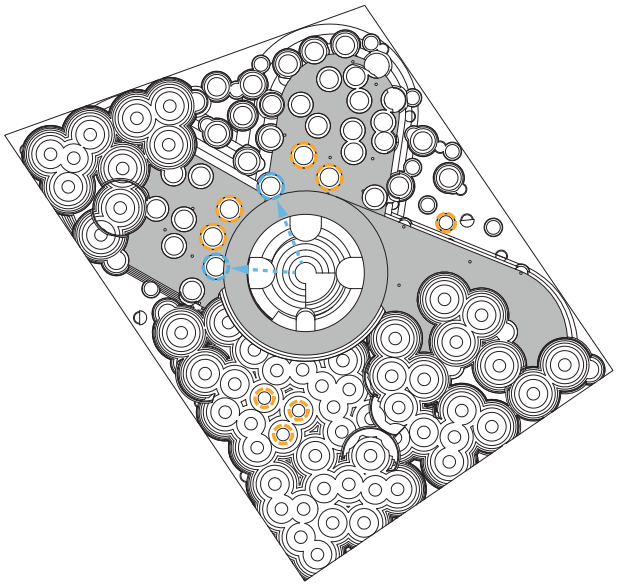


*Figure 91. Some carved out spaces lack connections to others. Two are turned into toilets and storage that can be reached from inside the dome and four are filled with soil and get trees planted inside. Four more cavities get trees planted as well.*


*Figure 92. Axonometric view over the site showing the infrastructure in its context*

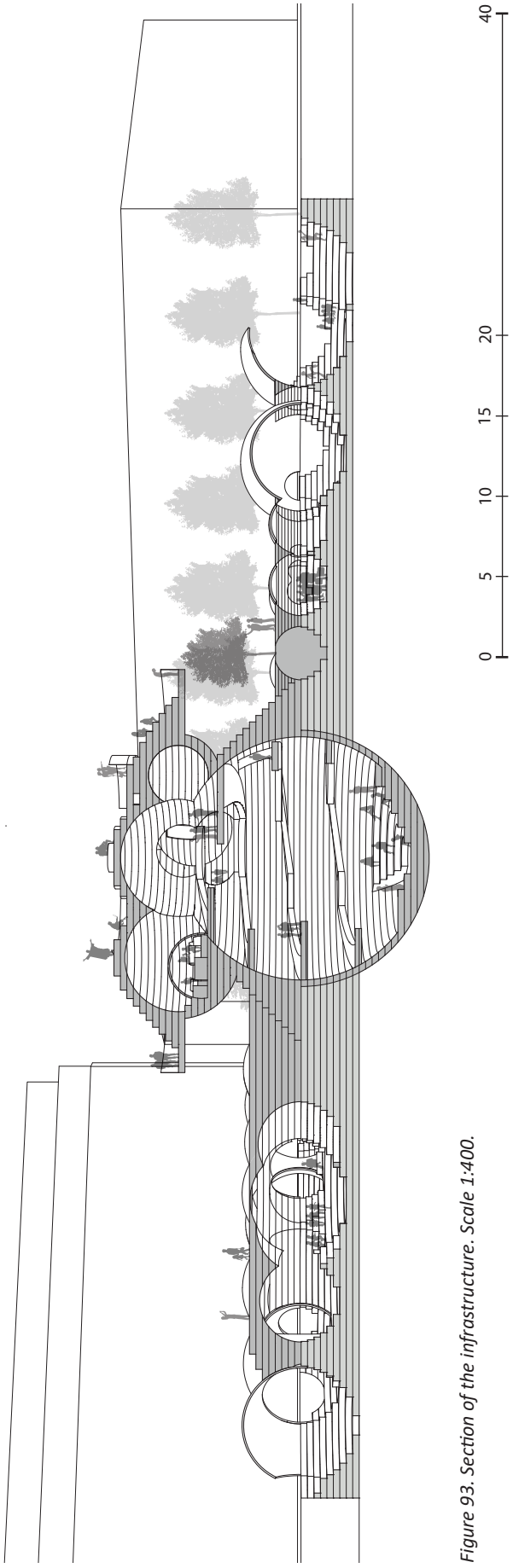
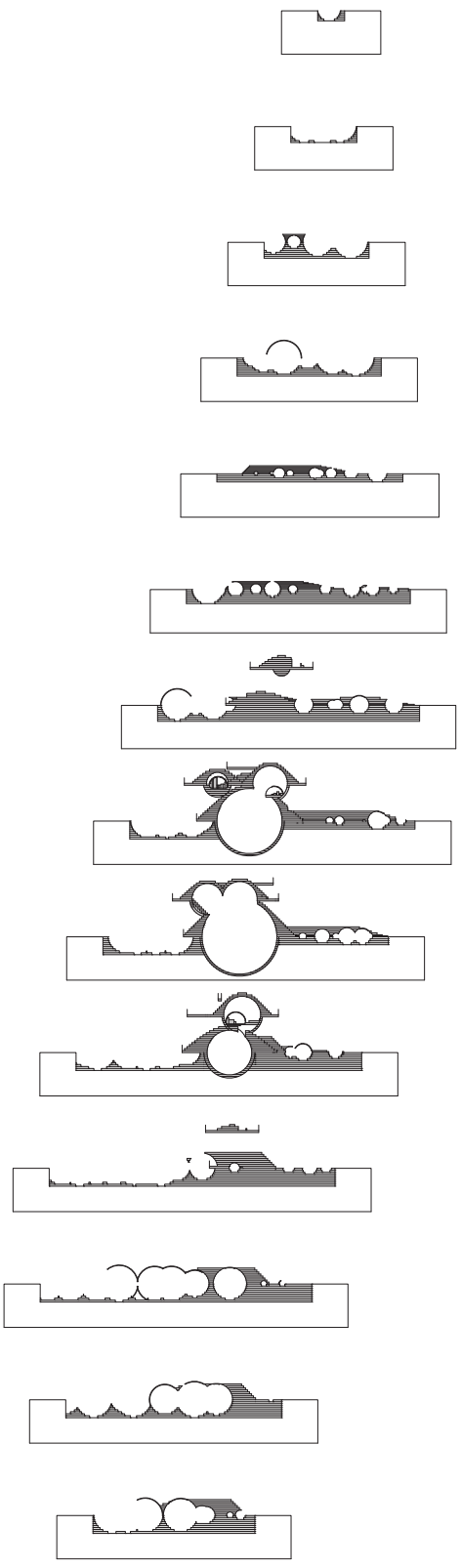



*Figure 93. Section of the infrastructure. Scale 1:400.*

# 12. SECTIONS



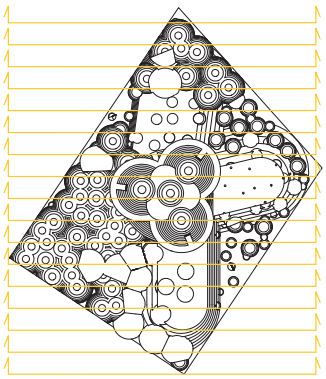


*Figure 94. Plan showing where the multiple sections have been taken*

*<Figure 95. Diagram of multiple sections showing mass vs void ratio*

# 13. SOME IDEAS ABOUT MATERIALS

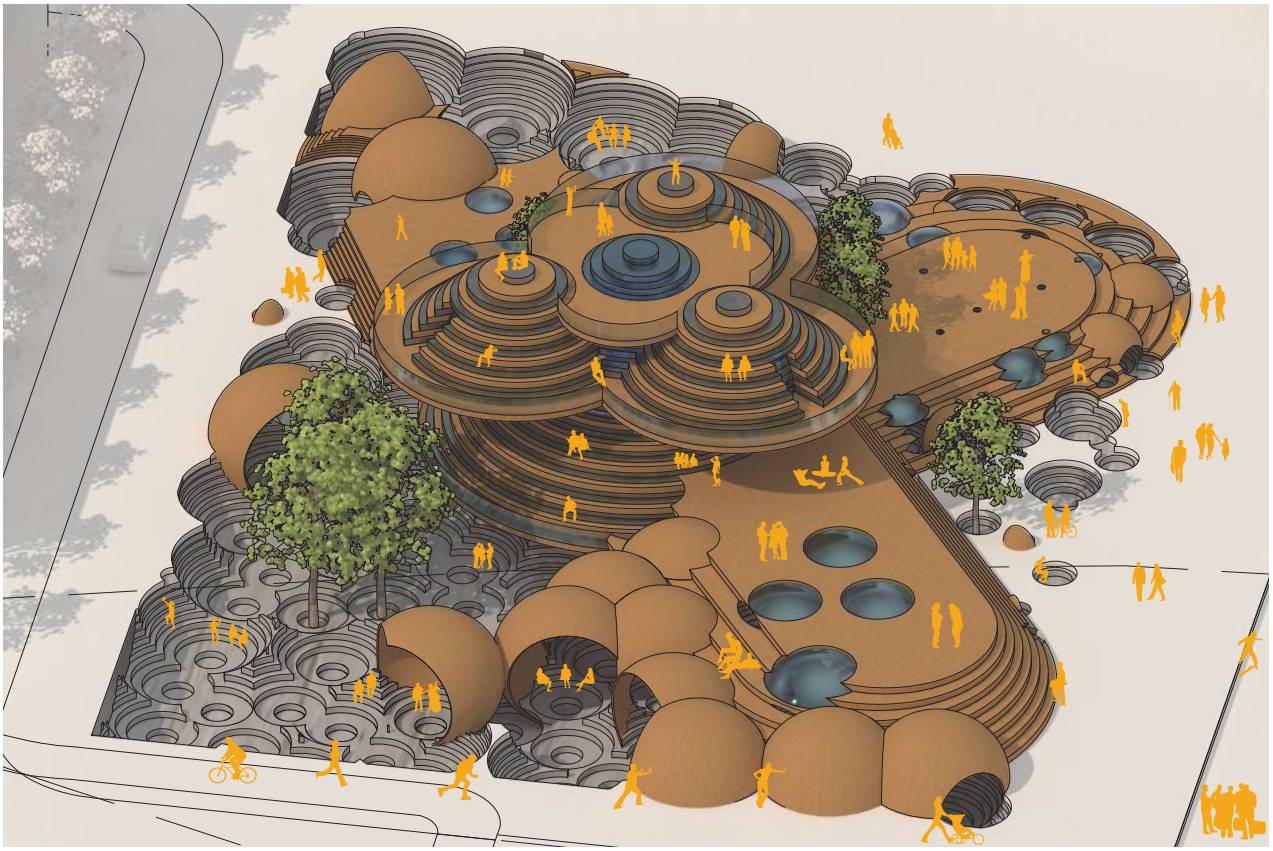


*Figure 96. Axonometric view showing the proposal*

As a conceptual infrastructure the proposal shall not be considered “done” when it comes to detailing or materials, but as mentioned and motivated before, wood has been the main material of choice. Wood comes in many different variations and colours and the proposal, deliberately, does not specify specific characteristics. The idea is however, that a heat-treated wood in time will add another layer to the proposal as well. It will, like reference project Löyly, become more and more grey with time turning the structure into a rock, which is one of the characteristics of the coast around Gothenburg. However, as shown the proposal contains a lot of protruding parts and cavities that will keep some areas more protected from the weather. This will generate a more “fresh wood” look at many places and inside the platforms making some areas more preferred by the users than others. It is assumed that this might mean contributing to a variety of intensity in the different parts of the infrastructure.

Laminated glass plays almost an equally important role to wood as this is also part of the load bearing structure. Just as in the case of wood, no specific characteristics are given to this material either. However, the smaller middle sphere placed on top of “the dome” is entirely made out of laminated glass to bring down as much light as possible into “the dome” but also to serve as a look out point from the inside.

It is also this part that will spread out the most light from the inside during those dark hours that are so many in the winter time. A lighthouse placed near the waterline and harbour symbolizing a navigation point from those arriving to the city by boat as well as trams or buses.

However, the proposal also contains carved out cavities in the landscape outside the dome. Not shown in the pictures, the idea is that the horizontal surfaces in this landscape are turned into grass. Soft and tactile, that also can absorb the rainwater. Some exception could be made creating spaces that could potentially be filled with water on special occasions. The landscape’s cavities also have vertical surfaces as well and these are turned into concrete. Inside the platforms, where no grass can grow, the horizontal surfaces are also turned into concrete. The spaces within the platforms are then turned into two semicircles where the upper one is constructed in “fresh wood” and the lower one is carved out in concrete.

*“People are spontaneously inspired and attracted by activity and the presence of other people.”*

Jan Gehl (Gehl, 2010, p.65)

# 04. CONCLUSION

# 04. Conclusion
# 1. TO SUM UP

What has this project been about? Well, its core cannot be found in the soul of Kanaltorget, nor is it a particularly realistic project from an economical point of view and it is not even about architectural detailing. Let me now start the last chapter with explaining my view on the proposal and how it relates to some key aspects of thesis question.

Despite its goal to facilitate interaction, it is not about forcing people to interact. It is about providing a space for people to find their own spot that they feel comfortable to be in in relation to other people. As founded out in the interview with Emma from Frilagret, it didn't turn out to be about finding specific youth features to apply to a building either. It is instead about creating a space that appeals to people in general and that they feel can be used to interact with others whether it is planned or not.

Therefore, the structure has also been designed to deal with movement and wherever an interaction occur it tries to provide a frame for it, enclosed or open. A space for interaction also invites for different activities and I soon realized that all activities cannot be predicted and designed for specifically, so the proposal is about creating a space for spontaneous use. As Jan Gehl points out in the quote in the first page of this chapter, activities might lead to more people visiting the site and the proposal is therefore about letting people see and hear these activities.

So finally, what I consider to be the core of this proposal is spaces that simply put might facilitate interaction between young people and people in general.

So, is my proposal for the young, is it flexible and does it facilitate social interaction? I think so. Because what I came to realize was that it is not about anticipating everything, it is about creating opportunities.
This thesis has been a process and the result are not what I imagined it to be when I started out. There are several reasons for that, like research and tutoring but mainly due to the theoretical framework added in the beginning of the process, the theory of Edward T. Hall. As I hopefully have shown social interaction is a complex concept and I've criticized older ways of dealing with proportions of space but have almost exclusively used another one myself. A theory that doesn't hold all the truths to designing for social interaction, and this is something Hall very clearly points out. However, as mentioned earlier Hall's theory considers the psychological dimension of man. In my opinion this is a superior approach, when it comes to designing for social interaction, since this deals with how we actually perceive and how we, more or less consciously, interact with each other. And isn't that one of the key aspect for how and IF we chose to use a space or not? Using a theory like this has been of great value to me and to enter the universe of a theory and to explore the possibilities within it has been a challenge. Halls theory was published in 1966 and others have followed and today the knowledge in the field has increased and more theories are available. However, with more people researching the field and adding more knowledge to the theory also means more interpretations of the original theory. By using the original theory, I gave myself an increased freedom to interpret it myself, trying to bring it into physical form.

How is the proposal then designed for my pronounced target group, the young? When it comes to this I'm relying heavily on the words of Emma Brattgård at Frilagret. "Try to think of humans and not young". In my interpretation this means that no features can be added to a design saying: "this is now for the young", and my proposal has therefore been about creating spaces for people. As mentioned before, interpreting something like a theory always leaves room for subjectivity and I have no idea what Hall himself would say about the proposal. My proposal is inspired by the theory and perhaps that is within the very core of architectural work itself, the architect's interpretation of the needs that's been shown to us. When it comes to the mapping of the site however, things get a little bit different since this is highly subjective. I use myself as reference and where I think people would like to be due to the listed factors and the final proposal is almost entirely based on this. Of course, there will be sunlight all over the site and not just in the south, the wind will at some point have come from all directions and the site is absolutely not entirely quiet in the north compared to the south. However, using the facts that were available to me this was what I came up with and I would like to see this as a part of a method. A method to relate the proposal to the site and taking as much advantage of it as possible to justify my design. Working in the field I believe that more accurate data will be provided by many preliminary studies and this will hopefully make things more objective. However, I can then use the same method as shown here but with more scientific and accurate data.

So, what about social interaction then? As seen in the thesis social interaction is an important corner stone in our lives and society. The need for places for social interaction is vital and as I see it now it can hardly be underestimated. It can take many different forms, digital or physical, but this is where people can meet and get to know and learn from each other. This is at least a part of the foundations on which we base our society and it is in these places where values can be tested, and misunderstandings, prejudices, fear and values can be challenged. Even though this also means providing forums for the opposite, the dark forces that thrive in the corners, this is also where ignorance can be discouraged. Social interaction will always occur and even though the digital dimension probably will continue to grow I believe, as a future architect, that not providing well designed physical forums for it as well would be a mistake. Because no matter how much we use the digital world, more will probably always be able to be said in the physical dimension. And for a society that strives to be democratic the common spaces will always be an important space.

Flexibility was another concept that needed to be addressed in this thesis. Again, these things turned out differently than first expected. Sou Fujimoto's Primitive future gave me new ideas about flexibility. It is, in many ways, beyond the discussion of flexibility vs generality and plays a vital part in this proposal. I also realized that I don't need to list all potential activities that can take place at the site. So, the rentable rooms, are they flexible? In the usual meaning of the word- no. But this is my interpretation of Sou Fujimoto's "cave"- a space that can be used intuitively. The overall infrastructure should also be seen as a cave, providing spaces to hide, open spaces, usable seating areas and cavities. Now, I'm not saying that my proposal shows the only or the ultimate way of providing spaces for social interaction, but I would like to think that I have contributed to show the possibilities for interesting spaces that in themselves can facilitate social interaction, hopefully bringing people to the site for the will to investigate the architecture itself. If that is the case, then I think it has become a true infrastructure for interaction. What the future holds in store for society is hard to know but one thing is for sure, technology is here to stay. Perhaps this will mean that digital forums for interaction

has made most physical meetings secondary in the future. If that is the case I believe a physical forum for interaction might have to attract people with something unique. I also hope that I have showcased one way of uniting people over segregating borders. In that case, more people are likely to visit the site when they see that it attracts others, hence increasing the chances of social interaction even more. So, what the proposal boils down to is an attempt to let the social networking groups find a place to share their mutual interests, letting visiting people see this and to let all people be able to find a spot that they currently would like to use AND THEN, if they want, perhaps start to interact with the person sitting next to them.

Finally, I would like to go back to the very first quote in the thesis and its author, Poul Bjerre. He was a Swedish psychotherapist contemporary with Sigmund Freud. Unlike Freud, Bjerre advocated affinity as the main strive for humanity saying that our longing for affinity is the primal urge that finally will unite mankind in peace. I find comfort in these words and if there is such a force out there, *I think it calls for good forums for social interaction…*

# 04. Conclusion
# 3. ATTACHMENT 1- INTERVIEW WITH EMMA BRATTGÅRD, FRILAGRET

Left column shows the questions that the author brought to the meeting. What followed was a discussion that more or less answered the questions without the need to ask all of them.

1. How would you describe your “business”?

2. How do you work with young people?

3. From your own experience, how do you describe the situation of many young people today?

4. What do you think they need and do you believe that society today meets these needs?

5. What would you say is lacking and how could that be complemented?

6. What do you consider to be your role in this? How are you trying to meet these needs?

7. How do you work with interaction between the young and others?

8. Can you identify some trends for the future about the way young people live their lives?

9. When it comes to new technology and the digitalization of society?

10. Are you happy with your facilities? Pros/cons
If you were to create new facilities the way you wanted it- what would they look like?

11. You’ve probably heard of “Nordstansfenomenet”, young people hanging around in the city galleria. What do you think is the reason for this? What would it take to make them go to a different place?

12. What do you think architecture can contribute with and how can architecture support you in your work with the young?

13. My idea is trying to take advantage of the digitalization of society to facilitate interaction between the young and the rest of the city’s residents through mutual interests. Do you think is could be a complement? Reactions/ideas?

1. Gothenburg’s more targeted work with young people started with the trauma of Backabranden, in 1998. The municipality realized that they needed to provide safe facilities for young people to prevent something similar from ever happening again. The leisure centres in each city district was targeting younger children but a few places were created targeting older children. However, a central meeting point was needed and in 2010 a dialogue was initiated with the intended users and led to the creation of Frilagret in 2012. Frilagret is equipped with flexible rooms to be able to deal with all different sorts of activities. Frilagret is defined as a culture centre and its targeting group is young people, between 13-30, who can get help to host their own events and the secondary target group is the audience visiting these events. Frilagret is still almost unique in Sweden today.

2. Contact is initiated by the young initiator through filling out a form on Frilagret’s website, were the idea is presented. The young person is then called to a meeting were the idea is discussed and steps are taken to realize the idea. Frilagret pays no gage to any visiting artist but will apart from that fund the event. To stay up to date Frilagret works with ambassadors from each city district. The ambassadors help promoting Frilagret and listens to understand what is currently desired within the target group.

3. Young people is not ONE single target group, such a belief will only discriminate. Generally speaking, “the young” reflects society as a whole, so try to think “humans” and not “young people”. However, there are of course big differences among young people when it comes to engagement, economic and social conditions.

4. Electricity, water and toilets must be in the meeting/event space and perhaps the possibility to charge different technical equipment.

5. The current trend- using own initiatives from people. Frilagret tries to combine this with a professional approach, trying to give each event the best support. What is lacking is facilities for the recurring people that want to meet once a week to discuss or share a mutual interest. There are too few association facilities and not everyone wants to form an association, due to several reasons which gives them no access to that type of facilities.

6. Culture is a wide term

7. Even though the people that can host the events should be between 13-30, everyone is welcome to the events. That means that the young initiates the interaction.

8. The gaming idea but this is affected by the current situation in the world.

10. Could have had bigger facilities, but happy with the diversity and participatory working methods

11. More flexible rooms

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