# CENTER OF INTERACTIONS AS THE ANSWER TO ISSUE OF LONELINESS MARTA PAWLOWSKA AAHMIO: Degree Project in Architecture 2024, LTH Supervisor: Andreea MARCU Examinator: Per-Johan DAHL

#### Master Thesis Report

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Loneliness is a universal human experience that transcends geographic boundaries and cultural differences. It's a deep emotional state that can afflict individuals regardless of their age, gender, or social status. While Sweden may be known for its high quality of life, social welfare, and a strong sense of community, it is not immune to the pervasive issue of loneliness.

The intention of my project is to explore the problem of loneliness and translate the gained knowledge into spatial and architectural features. I believe that although the topic of mental health is starting to be talked about with increasing frequency, most of the knowledge can be gathered from books and the internet rather than from the environment. My project is an experiment in which I try to translate theory from behaviorism and sociology into architecture. By doing so, I want to start an important discourse on the role of architecture in spreading awareness about loneliness.

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#### WHY THIS TOPIC?

#### **WHY STRANGERS?**

"Strangers therapy"

As I've previously discussed, loneliness is something that impacts many of us. Being away from my home country and surrounded by people in a similar situation, I witness the issue of loneliness quite regularly. Immigrants, including myself, often feel disconnected from friends, family as well as familiar places and activities. The challenge of making new friends arises due to cultural differences, a multitude of unfamiliar experiences and language barriers. Various research studies highlight that the majority of immigrants encounter challenges when it comes to building relationships with native Swedes.

As architects, we may not have the power to completely eliminate loneliness from the world. Nevertheless, I'm willing to explore the extent to which our architectural creations influence interactions with strangers, which can be an attempt to reduce the feeling of loneliness.

"Stranger Therapy" describes the tendency for individuals to feel more comfortable sharing personal issues or emotions with strangers rather than with friends or family. This concept highlights how anonymity and decreased fear of judgment in interactions with strangers can provide a secure environment for people to express their thoughts, emotions, and worries. (The Swaddle, 2023)

Interactions with strangers can be a powerful antidote to loneliness. The issue often thrives in the absence of social connection and interacting among individuals who may be unfamiliar to one another, provides valuable opportunities to bridge that gap. Building new connections with strangers can lead to the formation of meaningful friendships and support networks, expanding one's social circle and offering a sense of belonging. Beyond the immediate benefits, these interactions can foster empathy and compassion as individuals encounter diverse perspectives and experiences. Moreover, engaging with strangers can break the monotony of daily routines, adding novelty and unpredictability to one's life. Overall, interactions with newly met people have the potential to significantly contribute to combating loneliness, promoting mental and emotional well-being, and enriching one's social experience.

# **DESIGNING METHODOLOGY**

ANALYSIS PHASE

I started the architectural process by acquiring information from behaviorism and sociology and translated this into spatial design questions. Then I made a series of analyses of the places where human interactions are most likely to take place. This stage was finished with a list of characteristics that a space should have in order to be sociopetal. In order to understand the potential users of my building, I conducted a survey, paying attention to the cultural background of the respondents and their social openness. I also analyzed my plot, noting the most common paths, viewpoints on nature and the city, and the architectural features of the neighboring buildings. The conclusion of the analysis phase was a list of design tips to help me design different spaces as their users differ.

DESIGNING PHASE During the design phase, I tried to work on both physical and computer models. In my design, I proposed several different spaces to bring users into interaction. These are designed with more and less socially open people in mind. Throughout the design process, I tried to think about how users would experience the space. Materiality and the visual relationship of the building's interior to the outside world were also important to me.

# PART 1 - CONTEXT

#### 1.1.1 BACKGROUND higher percentage of almost 78 percent in

#### Loneliness in Sweden

DIAGRAM ANALYSIS The chart shows the frequency of interactions with relatives and family as well as feelings of loneliness in Sweden between the years 2020 and 2022, categorized by age groups. Notably, the group least likely to engage with family members every week were individuals aged 16-29, accounting for only 34 percent. However, this same age group exhibited a significantly

higher percentage of almost 78 percent in weekly meetings with friends. The 50-64 and 65+ age categories showed comparable levels of engagement with both family and friends, ranging from 50 to 60 percent. Remarkably, fewer than 10 percent of individuals in all age groups reported not having a close friend. Chronic loneliness was most prevalent among young people aged 16-29, affecting 11.5 percent of this group. Conversely, this age group excelled in monthly social gatherings, with nearly 90 percent meeting with family

or friends for a meal at least once a month. In contrast, one-third of individuals aged 65 and older did not partake in such encounters. Encouragingly, there was an upward trend in this aspect between 2021 and 2022.

CONCLUSIONS Age influences how often individuals meet with their loved ones, but when it comes to loneliness, it impacts people across different age groups to a similar degree.



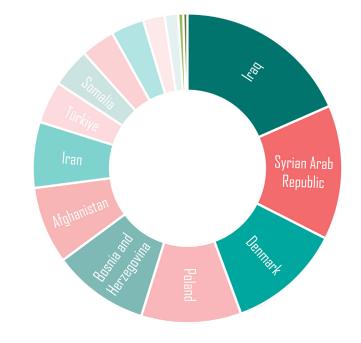
#### 1.1.2. BACKGROUND

Loneliness in Sweden - foreigner's perspective

Malmo is home to 186 nations, making it incredibly intercultural. While this diversity is a remarkable asset, it can also present certain challenges. When individuals from across the globe converge in a confined space, it becomes essential to make conscious efforts to ensure mutual respect.

As can be seen on the graph the biggest minorities are coming from Middle Eastern, Scandinavian and Slavic countries.

Diagram 2. Bigest minorities in Malmo, data for 31.12.2022 (data set: Statistics Sweden, ilustration: author)



#### 1.1.2. BACKGROUND

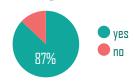
Loneliness in Sweden - foreigner's perspective

FOREIGNER IN SWEDEN Sweden is consistently placed among the countries considered less welcoming for international residents (The Local Sweden 2022) Numerous factors can contribute to foreigners not feeling welcome, such as experiencing a sense of alienation within a new society, facing adverse incidents during the search for housing or employment. or simply encountering language barriers. However, a significant portion of these challenges appears to be rooted in cultural elements. Swedish culture is often associated. with reserved social norms, where personal space and privacy are highly valued. This can sometimes be interpreted by newcomers as an aversion to forming close friendships. Swedes may have well-established social circles that can be challenging for newcomers to penetrate. Forming friendships within existing social groups can be more challenging for immigrants.

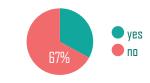
DIAGRAM ANALYSIS As can be seen in the diagrams, it is easier for people arriving from other countries to establish a relationship with another person in a similar situation. This may be due to shared experiences as newcomers, common language, cultural similarities or backgrounds that make it easier to relate to one another. Many immigrants participate in activities, events, or clubs specifically designed for newcomers. These gatherings often focus on common interests and can provide a natural setting for making friends who share hobbies or passions.

MY EXPERIENCE Having lived in Sweden for almost two years, I have noticed a division of society into 'Swedes' and 'non-Swedes'. In Malmo this is noticeable in the streets and neighbourhoods lived by certain minorities. I also found it easier to relate to immigrants.

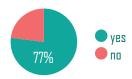
# Is it easier to make friends with other foreigners?



Did you make any Swedish close friends?



Did you make any non-Swedish close friends in Sweden?



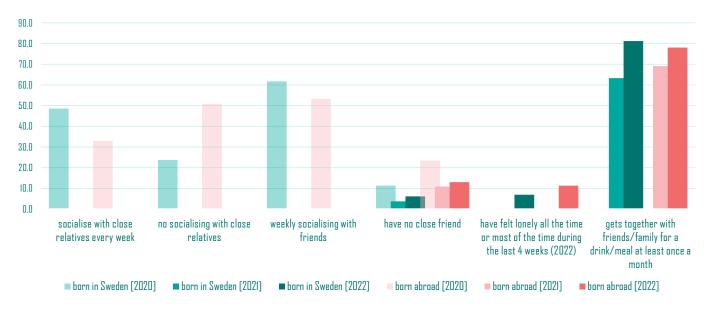


DIAGRAM ANALYSIS The diagram shows that people of Swedish origin were more likely to spend time with friends/family than people from abroad. This might be due to the need to leave relatives back in homecountry. 13 percent of foreigners and 6 percent of Swedes had no close friends in 2022. Dut of the foreign-born population, 11 percent face chronic loneliness,

whereas among individuals born in Sweden, the figure is notably lower at 7 percent. It's heartening to observe that approximately 80 percent of those surveyed, regardless of their backgrounds, maintain monthly meetings with their relatives. Nonetheless, this implies that up to 20 percent have less frequent physical contact with their family and friends.

**CONCLUSIONS** Examining the graph reveals that the frequency of meeting relatives or experiencing loneliness depends whether the individual were born in Sweden or outside its borders.

#### **1.2 LITERATURE REVIEW**

Sommer R. "Personal space. The behavioral basis of design"

WHY THIS BOOK? The project, which will be presented in the following sections, focuses on interactions between people previously unknown to each other. To understand how the space used by such strangers might work, one must first understand the subconscious behavior of people.

**ABOUT THE BOOK** "Personal Space: The Behavioral Basis of Design" by Robert Sommer explores the concept of personal space and its impact on human behavior and architectural design. Sommer studies how people establish maintain, and react to personal space boundaries in various social and environmental contexts. The book discusses the psychological and cultural factors that influence personal space preferences, the role of spatial design in shaping interpersonal interactions, and

practical considerations for architects and designers when creating spaces that respect individuals' need for personal space. Overall, the book offers insights into the complex relationship between human behavior. personal space, and the built environment.

MY COMMENTS The complexity of the human mind and the number of aspects on which human natural behavior and reactions depend. open up many possibilities but also make it impossible to find a solution that satisfies everyone. This thought accompanied me during the design process. A very important observation of the author is the dependence of human reactions on his intentions toward the other person.

#### ISSUES TO BE EXPLORED

- direction of approaching (front/side/back)
- predicting individuals' intension
- distance between people and objects
- relation between public and private
- a clear message concerning the use of the designed space
- luminosity, noises and time

builders. creators, molders, and shapers of the environment: we are the enviroment."

Sommer (1969)

approval seating motives - there is a girl sitting in a room. Sit to show her that you:

1) like her without telling that - 145 cm distance in average 2) you don't like her - 239 cm distance in average

#### four types of territories:

- A) **PUBLIC TERRITORIES** (ex. courtvard, parks)
- freedom of access not necessarily action:
- B) **HOME TERRITORIES** (ex. homosexual bar,) public areas taken over by groups or individuals,
- regural users have a sense of intimacy and control; 3) INTERACTIONAL TERRITORIES
- areas where social gatherings may occur, they have clearly marked boundaries and rules of access and egress
- 4) **BODY TERRITORIES** private space



000 00000

individual distance is shorter for inanimate objects than for people (people will freely come closer to an object than to a person)

"as far as possible fron distraction of other people?

ACTIVE DEFENSE POSITION



for people to remain long time: DIM LIGHTING, SOUND-ABSORBING SURFACES "if you want a table for yourself?" (carpets, drapes, padded ceilings)

The term "building program" is misnomer for preliminary analysis that should be more philosophical than technical, a statement of PURPOSE with round tables a person never knows where his territory ends and another's begin

rather than list of HARDWARE introverts kept people at a greater conversational distance then extroverts

All people are builders, creators, molders, and shapers of the environment; we are the environment. PERSONAL SPACE is NOT necessarily SPHERICAL in it is less stressful when person approach you from the front; side : CONTAMINATION



aproach gives bigger response than the back one; the reaction is stronger if person from oposite sex is aproachin

Designing functional areas or multipurpose space does not complete the architect's task. It is equally important to show the residents how to USE the space (...) and develop effective (...) policies governing space allocation and UTILIZATION .

(type of territorial impure with respect efinition and usage

Number of pairs sitting

Side by side

shape, NOR does it extend EQUALLY IN ALL DIRECTIONS. (People are able to tolerate closer presence of a

tranger at their **SIDES** than directly fron the front).

large open areas should be broken into smaller spaces, so each person could select one or two others with whom to interact

|                        | PERCENTAGE OF               | 28 CHOOSING INI              | 2 AKKANGEMENI              |                            |                        | I LICEITINGE OF             | a choosing mi                | 2 MYNAIAGEMEIAI            |                            |   |
|------------------------|-----------------------------|------------------------------|----------------------------|----------------------------|------------------------|-----------------------------|------------------------------|----------------------------|----------------------------|---|
| Seating<br>Arrangement | Condition 1<br>(conversing) | Condition 2<br>(cooperating) | Condition 3<br>(co-acting) | Condition 4<br>(competing) | Seating<br>Arrangement | Condition 1<br>(conversing) | Condition 2<br>(cooperating) | Condition 3<br>(co-acting) | Condition 4<br>(competing) | in a bar:                                     |
| ×                      | 42                          | . 19                         | 3                          | 7                          | x<br>o<br>o            | 63                          | 83                           | 13                         | 12                         | - 3 stools be<br>conversation<br>- two men ta |
| ×                      | 46                          | 25                           | 32                         | 41                         | ×°°°                   | 17                          | 7                            | 36                         | 25                         | one stool inb                                 |
| ×                      | 1                           | 5                            | 43                         | 20                         | ×                      | 20                          | 10                           | 51                         | 63                         | - men and we                                  |
| x x                    | 0                           | 0                            | 3                          | 5                          | TOTAL                  | 100<br>Fig. 4. Seating      | 100<br>Preferences at        | 100<br>Round Tables.       | 100                        | to women so                                   |
| ×                      | 11                          | 51                           | 7                          | 8                          | 7                      |                             |                              |                            | airs at Va                 | rying Distances.                              |
|                        |                             |                              |                            |                            |                        |                             |                              |                            |                            |   |

- 3 stools between people is the maximum distance for - two men talking - they will not a have a problem with

one stool inbetween (sitting next ti each other is too

- men and women - men would probably sit directly next to women so n oone will sit between them

more atractive

It soon became apparent that

if we wanted the ladies to

remain at the tables, we would

have make the ( ) Incations

Number of pairs sitting couches in feet

Table 1. Seating with Couches at Varying Distances.

| Seating<br>arrangement | Per cent<br>conversing<br>pairs (N = 74) | Per cent<br>coacting<br>pairs $(N = 18)$ |
|------------------------|--|--|
| Corner                 | 54                                       | 0  |
| Across                 | 36                                       | 32                                       |
| Side                   | 6  | 0  |
| Distant                | 4  | 68                                       |

Ilustration 1. Notes and quotes from "Personal space. The behavioral basis of design" (Data set: Sommer, 1969: ilustration: author)

Distance across = side-by-side distance Distance across > side-by-side distance

#### **18 CENTER OF INTERACTIONS**

#### 1.2 LITERATURE REVIEW

Hall E.T "The Hidden Dimensions"

WHY THIS BOOK? The problem around which my work is built is very broad and abstract. Dimensions and patterns are needed to translate fiction into the real world. As the project is located in Malmo, which is a multicultural city, it is important to bear in mind the differences in hehavior and perception of space depending on the culture an individual comes from.

**ABOUT THE BOOK** "Hidden Dimensions" by E.T. Hall explores the concept of proxemics, which is the study of how humans use and perceive space in their interactions. Hall delves into the cultural and psychological dimensions of spatial relationships, examining how people from different cultures have distinct preferences for personal space, communication styles, and spatial behaviors. He discusses the role

of spatial perception in shaping cross-cultural misunderstandings and sheds light on the significance of space in human interactions and its impact on intercultural relations.

#### ISSUES TO BE EXPLORED

- multisensorial space
- intercultural differences
- perception of space being dynamic
- pushing the limits of comfort

MY COMMENTS The author gives the reader many tips and dimensions that are based on studying people's behavior. However, I believe that these should be treated as quidelines and not immutable rules. This is because the studies are conducted on US residents, who are different from those living in Scandinavian countries or those raised in the culture of Fastern countries.

using their eyes."

- sociopetal spaces

"No two people see exactly the same thing when actively

> exactly the same thing when actively using

□(1)) β——β

□ 8-8--3

#### frequency of F-A = 2x C-BC-B = 3x C-D $C \longleftrightarrow B$ F-A across the corner C-B side by side C-D across the table

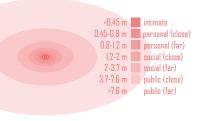
His [person's] perception of space is **DYNAMIC** because it is related to ACTION - what can be DONE in a given space - rather than what is **SEEN** passive viewing.

#### SOCIAL DISTANCE

Closest of the distances and For friends and family. The For interaction with strangers, Beyond easy For addressing a large group, originally divided into close and far distance of conversation and touching distance. The distances of but also a distance that impersonal business and normal to louder allows you to flee i one. For the most trusted and loved distances can more or less voice level. Often used by colleagues and necessary, Louder voice and ones. Maximum physical contact easily touch if they want to. people attending social gatherings. Moving vocabulary tends to be and were communication is carried Which phase people choose out into the far phase creates a more formal formal. Moving into far character. Height differences within these distance much of the out in other ways then vocalization. depends on their relationship Traditionally not so much used in or their feelings toward each distances creates power relations, conversation, body language However, it is usually not considered to be included. rude not to interact with another at this exaggerated to make a point.

#### PUBLIC DISTANCE

together



We can then begin to learn about human behaviour, including **PERSONALITY TYPES**.

PERSONAL DISTANCE

## RELATIONSHIP OF THE LAYOUT TO THE PERSON

phase as well but here merged into the persons within these

People from different cultures are used to different city patterns (grid, layout). For those who are not "at home

it is very easy to get lost.

INTIMATE DISTANCE

nublic spaces.

**VOICE VOLUME** 

"We shape our buildings and they shape us" - Sir Winston Churchill

#### spatial expirience is not just visual,

The Japanese and the Arabs have much higher tolerance for crowding in public spaces and in conveyances than

Americans and nothern Europeans.

Anyone who finds himself in the middle of people speaking a totally unfamiliar LANGUAGE knows an undifferentiated blur of sounds. Only later do the first crude outlines of a PATTERN begins to emerge.

contact between people

VISION and TOUCH are two main channels of information

"After all it's a public space, isn't it?"

2 types of TOUCH: ACTIVE touch (touching) PASSIVE touch (being touched)

VARIATION People's sense of space and distance is NOT static.

SOCIOPETAL spaces — designed to bring people

**SOCIOFUGAL** spaces — designed to minimise

Illustration 2. Notes and quotes from "The Hidden Dimensions" (Data set: Hall, 1966; illustration: author)

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#### **1.2 LITERATURE REVIEW**

Zhang Y. Master Thesis "Why not Strangers"

WHY THIS LITERATURE? The author skillfully examines spatial parameters with the aim of designing an urban public space that encourages interactions among strangers. In the subsequent section, I will highlight the author's most intriguing findings, which can serve as the basis for developing my design concept.

#### WHERE INTERACTIONS HAPPEN?



#### POINT OF INTEREST

People are naturally curious about others and tend to gravitate towards where the majority of people gather.



#### INTERSECTION OF TRAFFIC LINE AND OPEN AREA

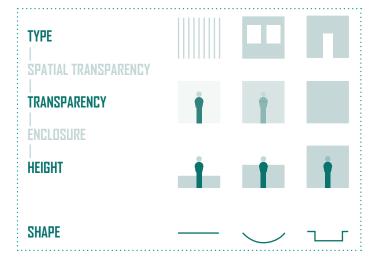
People prefer not to stray far from their original oaths of movement.



#### ENVIROMENTAL LINCERTAINTY

Increased environmental uncertainty heightens people's arousal levels, leading to improved interpersonal interactions.

#### **VERTICAL SURFACE** - WALL



The diagram above shows how the vertical partition can be shaped using the variables: wall type, transparency, height and shape. With these parameters in mind, numerous combinations can be designed.

#### DRIENTATION



#### STRANGERS INTERACTIONS:

\*mutually open\* level of intereaction



#### EYE CONTACT/SMILE

\*no talking



#### SHARED SPACE

no talking



#### **FUNCTIONAL CONVERSATION**

talking



#### SPONTANEOUS CONVERSATION

talking



#### ACTIVITY

talking

Unlike interactions with acquaintances, ones with strangers are often spontaneous and tend to remain at a basic level, avoiding more complex topics. However, the concept of "stranger therapy" suggests that many people find it easier to discuss personal problems with

newfound acquaintances, thanks to a sense of anonymity and reduced fear of judgment. Interactions with strangers can be categorized as illustrated above. The first two categories involve non-verbal communication, such as eye contact and body language, which, due to the absence of conversation or physical touch, are considered less intimate and occupy a lower level of interaction. Then there are functional conversations, such as seeking directions or exchanging sentences at a checkout. The highest level of interaction occurs during spontaneous conversations initiated by at least one of the persons, where the depth of the topics discussed depends on the individuals involved, as well as during joint activities that have the potential to foster closer connections.

#### TRIANGULATION

external stimulus



p



physical object people with kids/pets

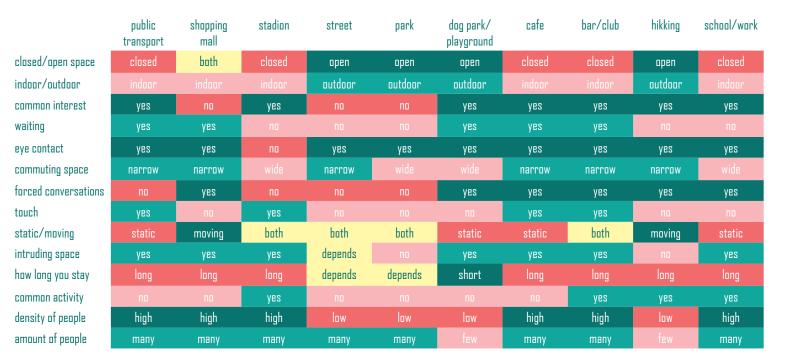
Often a common topic of conversation makes interaction with strangers easier. External triggers that serve as a starting point for initiating a discussion can be particularly helpful in this regard.

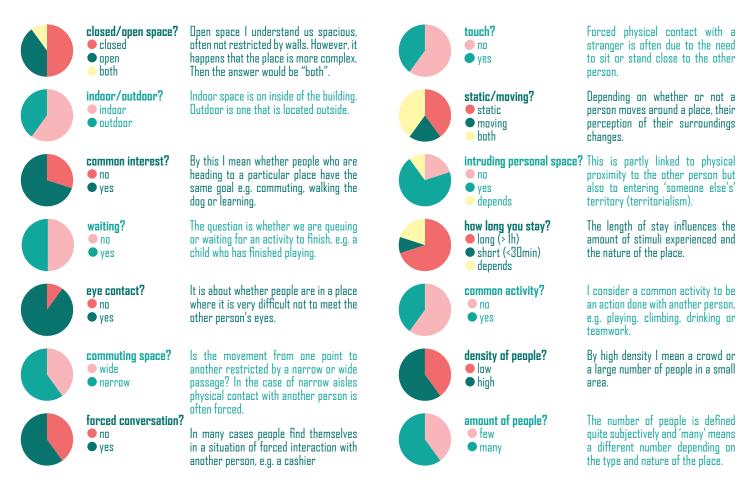
#### 1.3 SPACE ANALYSIS

#### Sociopetal spaces (def. designed to bring people together)

Based on numerous sources and my own experiences, I have compiled a list of 10 places where I believe there is a good chance of interacting

with strangers. After analysis, I came to the conclusion that there are 14 important factors that can determine whether a space is sociopetal.





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Table 1. Analysis of sociopetal spaces and their characteristics (author, 2024)

Diagram 5. Results of analysis of sociopetal spaces and their characteristics (author, 2024)

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#### 1.3 SPACE ANALYSIS

#### Sociopetal spaces - conclussion

As can be seen from the analyses, each sociopetal space has different characteristics. However, I have identified 14 factors that may account for the space's potential to maximise interaction with strangers.

Of the 10 pre-selected places, the closest to a "perfect match" are: cafe (13/14), public transport (12/14), shopping mall (12/14), bar/club (12/14), school/work (12/14)

What is important to remember is that these 14 features are only guidelines for the final design. It is visible that a space can have different set of characteristics and still be designed to bring people together.

#### "perfect match"











CUMMUNINTEREST



INTRIIDING PERSONAL SPACE



WAITING YES AND NO





CUMMUN VCTIVIJ

NOT NEEDED







OF PEOPLE



FORCED

CONVERSATION

#### CAVE

prospect: nature, landscape view refugee:

shelter

#### **VERANDA**

prospect view refugee: shelter

#### WINDOW SEAT

prospect view refuaee: cozyness, edge

#### PARK BENCH

prospect: natural surrounding refuaee: under the tree (refuge from sun or

#### VIEWPOINT

prospect: elevated view refuge from hikking and monotomy

#### COURTYARD

prospect: view refugee: refuge from sun or rain

#### PICNIC AREA

prospect: natural surrounding refuaee: henches

#### TREEHOUSE

prospect: elevated view, nature surrounding refuaee: closed space far from everyone

#### PATIOS

prospect: view on people, city and/or nature under the pergola or umbrela (refuge from sun or rain), edges

#### ROOF GARDEN/BALCONY

elevated view, nature surrounding refuaee: refugee from indoor spaces

#### 1.3 SPACE ANALYSIS

#### Prospect refugee spaces

PROSPECT-REFUGE theory suggests that spaces we find most acceptable to be in, present us with great opportunity, yet we must be in a place of safety at the time.

#### **Prospect** examples:

- a distant view
- an elevated view
- large natural wonders (ex. lakes, sky expanse)

#### Refuge examples:

- an interior space
- a bench seat with a wall hehind
- a cave or grotto
- a physical impediment to hide behind

definition

**EDGE** encourage to sit

**EXPANSIVE SPACES** discourage occupation, but invite surveying of the space

SIZE of spaces matter to the number of occupants able to use it

# PART 2 - RESEARCH

# 2.1 "Right to difference"

analysis of potencial users

When designing a building in such a diverse city, it is important to consider the demographics and cultural background that can influence the differences in perception of architectural space. The individual experience is determined by the character of the individual.

AFFORDANCE Affordance theory assumes that perception of the world goes beyond perceived shapes and spatial relationships. It reaches out to the potential use of an object (Gibson, 1979). This means that our perception influences how we interact with the environment around us. Many objects have an objective purpose, like a chair, which when seen immediately suggests to us the function of sitting. Some objects, however, seek to impose their function in less obvious ways. Non-objects are more influenced by an individual's personality, age and cultural background.

MY APPROACH I assume that the space designed by me will become one with great affordance. The forms, layouts and spaces I impose will be perceived differently because of the differences in potential users. By accepting the differences, I have to prepare myself for the difficult-to-predict effect my building will have. I will try to rely on many theories and

assumptions, but the feelings of the users are impossible to forecast.

FACTORS To gain a deeper understanding of human behavior, I conducted a survey. It was carried out on people living in Sweden. It included questions about the culture the people came from, their personality traits and to a small extent their age. Age turned out to be a less important factor after the analyses in the chapter "1.1 Background. Loneliness in Sweden".

"The architectural space itself might have a "personality" that is formed by the dynamics relationship between PHYSICAL, STRUCTURAL elements, and its EFFECT on people who use it."

Anwar (70117)

# 2.1.1 "Right to difference"

extroverts vs. introverts

**EXTROVERT** An extrovert is a person who tends to be outgoing, sociable, and energized by interacting with others. They typically enjoy being in social settings, thrive on external stimulation, and may seek out opportunities for socializing and group activities. They are often described as talkative, assertive, and enthusiastic in their interactions with others.

INTROVERT An introvert is a person who tends to be more reserved, reflective, and energized by spending time alone or in small groups. Introverts often prefer quieter environments, where they can focus on their thoughts and recharge their energy. They may find large social gatherings draining and may need time alone to decompress after social interactions. Introverts are often described as thoughtful, introspective, and independent in their approach to socializing and interacting with others.

However, a shy person should not be confused with an introvert and also a talkative person with an extrovert. Both of these personality traits are linked to whether you get more battery from interacting with others or from being in your own environment. These characteristics can influence people's intentions or behavior in public spaces. For example, introverts tend to keep more distance from their interlocutor than extraverts

# 2.2 "Personality" of space

The architectural space possesses a certain "personality" shaped by the interplay of its physical and structural elements, influencing people who use it. This "character" is not static but rather emerges from individuals' perceptions and experiences of the environment. The build environment is exposed to human interpretation and change.

**16 PERSONALITY THEORY** According to Cattell, there are 16 personality traits that can predict how a person will behave in a given situation. I decided to give my space these traits to make it possible to predict its impact on users. Their selection was determined by a survey.

- 1. Abstractedness Tendency to think in abstract or concrete terms.
- 2. **Apprehension** Level of anxiety and worry in response to stress.
- 3. **Dominance** Willingness to assert control and influence over others.
- 4. Emotional stability Level of emotional resilience and stability.
- 5. **Liveliness** Level of enthusiasm and energy in behavior.
- 6. **Openness to change** Willingness to embrace new experiences and adapt to change.
- 7. Perfectionism Striving for high standards and attention to detail.
- 8. **Privateness** Preference for privacy and introspection.
- 9. Reasoning Preference for logical or abstract thinking.
- 10. **Rule-consciousness** Adherence to rules and respect for authority.
- 11. **Self-reliance** Degree of independence and self-sufficiency.
- 12. **Sensitivity** Responsiveness to emotional stimuli and sensitivity to others' feelings.
- 13. **Social boldness** Confidence and assertiveness in social situations.
- 14. **Tension** Level of stress and discomfort experienced in daily life.
- 15. **Vigilance** Degree of caution and wariness in new situations.
- 16. Warmth Degree of friendliness and warmth in social interactions.

# 2.3 Survey

A survey was conducted between 12-16.02.2024 in A-huset (Faculty of Engineering). The only factor required to participate in the survey was residence in Sweden. The questionnaire aimed to superficially diagnose the characteristics of the groups I am interested in, i.e. introverts and extroverts, and people from Scandinavian, Slavic or Middle Eastern countries. My Master's thesis is not a research project, so the survey and its results should be seen as supporting elements for the design and the beginning of a possible extension of the thesis into doctoral studies. A total of 16 users participated in the survey. They divided according to the factor of interest as follows: Cultural background: 7 - Scandinavian 2 - Middle East 2 - other Social energy source: 10 - introverts 6 - extroverts On the following pages are the questions that were included in the conducted survey.

# 2.3. Survey

#### part 1 - age and culture related questions

| BASIC FACTORS:  . How old are you?  . <16  | CULTURE RELATED QUESTIONS (PART 1):  1. In what words would you describe the openness of the people and their willingness to forge new relationships in your country?                               |
|--|---|
| 2. Which group of countries are you from?  ☐ Slavic ☐ Skandinavian ☐ Middle East ☐ other  B. Do you consider yourself more of an introvert or extrovert? ☐ introvert ☐ extrovert  AGE RELATED QUESTIONS:  Is there specific age group that you prefer to avoid? If yes, what | 2. Do people from your country avoid contact with strangers in public places or they do not mind?  yes no  3. Do people from your country move around the city alone or in groups?  alone in groups |
| re they?   | 4. What characterises the architecture and public spaces in your country?   |
| !. Is there specific age group that you like to interact with? If yes, what are they?  | 5. What time of the day is the city you are from most lively (you can chose more than one)?  O morning (<12)  afternoon  evening  night   |

# 2.3 Survey

#### part 2 - culture and personality related questions

#### **CULTURE RELATED QUESTIONS (PART 2):** PERSONALITY RELATED QUESTIONS: 6. Chanse which ward would describe PEAPLE FROM YOUR COUNTRY 1. How often do you fell lonely? better? never/rarely at least once a week all the time Abstractedness: Imaginative / practical Apprehension: Worried / confident 2. Would you rather be alone or with a company in public spaces? Dominance: Forceful / submissive ompanv . Emotional stability: Calm / high-strung Liveliness: Spontaneous / restrained 3. Do you feel lonely sometimes being surrounded by people? Openness to change: Flexible / attached to the familiar on o L ves Perfectionism: Controlled / undisciplined Privateness: Discreet / open 4. Do you feel lonely sometimes being alone? Reasoning: Abstract / concrete on o \_\_\_ ves Rule-consciousness: Conforming / non-conforming Self-reliance: Self-sufficient / dependent 5. What kind of space makes you feel safe? Sensitivity: Tender-hearted / tough-minded Social boldness: Uninhibited / shy Tension: Inpatient / relaxed 6. Is it difficult for you to meet new people? Vigilance: Suspicious / trusting Warmth: Outgoing / reserved \_\_\_ ves 7. Do you prefer more closed or open spaces? □ closed ☐ both open 🗆

| 8. What is your favourite place?  | 13. In what place you see your  |
|---|---|
| 9. What do you like to do in your free time?  | 14. Choose which word would on Abstractedness: Imaginative / Apprehension: Worried / confi  |
| 10. Do you talk with strangers sometimes? If yes, where or on what occasion?  | Dominance: Forceful / submis<br>Emotional stability: Calm / hig<br>Liveliness: Spontaneous / res  |
| II. Is it easier for you to talk with strangers from your nationallity or race? If yes, why? (language barriers, common interest, fear, something else) | Openness to change: Flexible / Perfectionism: Controlled / ur Privateness: Discreet / open Reasoning: Abstract / concret Rule-consciousness: Conformi   |
| 12. Would you like to have more random interactions with strangers in public space?   | Self-reliance: Self-sufficient /<br>Sensitivity: Tender-hearted /<br>Social boldness: Uninhibited /<br>Tension: Inpatient / relaxed<br>Vigilance: Suspicious / trustin<br>Warmth: Outgoing / reserved |

2.3. **Survey** 

#### part 3 - personality related questions

urself interacting with strangers? describe YOU better? e / practical nfident nissive nigh-strung estrained e / attached to the familian undisciplined ete ming / non-conforming t / dependent tough-minded / shy

# 2.3.1 Survey results

Slavic person

As someone with a practical mindset, I approach life cautiously, preferring familiarity over change. I tend to keep to myself, valuing privacy and following to social norms. While I may appear reserved, I can be a warm person that becomes apparent to those who take the time to get to know me.

OPPENNESS of the people and their WILLINGNESS to forge new relationships:

sometimes open, mostly stick to already existing groups of friends, energetic

People in Slavic countries **DO AVOID CONTACT WITH STRANGERS** in public places.

They tend to move around the cities IN GROUPS.

SLAVIC PERSONALITY based on the survey results:

Abstractedness: imaginative / practical

Apprehension: worried / confident

Dominance: forceful / submissive

Emotional stability: calm / high-strung

Liveliness: spontaneous / restrained

Openness to change: flexible / attached to the familiar

Perfectionism: controlled / undisciplined

Privateness: discreet / open Reasoning: abstract / concrete

Rule-consciousness: **conforming** / non-conforming

Self-reliance: self-sufficient / **dependent** Sensitivity: tender-hearted / **tough-minded** 

Social boldness: uninhibited / **shy** Tension: **impatient** / relaxed Vigilance: **suspicious** / trusting

Warmth: outgoing / reserved

OPPENNESS of the people and their WILLINGNESS to forge new relationships: shy, cautious, having difficulties to open

People in Scandinavian countries **DO AVOID CONTACT**WITH STRANGERS in public places.

They tend to move around the cities ALONE.

SLAVIC PERSONALITY based on the survey results:

Abstractedness: imaginative / practical

Apprehension: worried / confident

Dominance: forceful / submissive

Emotional stability: calm / high-strung

Liveliness: spontaneous / restrained

Openness to change: flexible / attached to the familiar

Perfectionism: **controlled** / undisciplined

Privateness: discreet / open Reasoning: abstract / concrete

Rule-consciousness: **conforming** / non-conforming

Self-reliance: self-sufficient / dependent Sensitivity: tender-hearted / **tough-minded** 

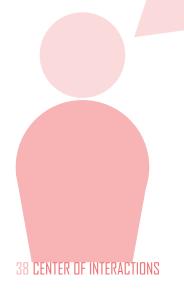
Social boldness: uninhibited / shy Tension: inpatient / relaxed Vigilance: suspicious / trusting Warmth: outgoing / reserved

# 2.3.1. Survey results

Scandinavian person

I'm shy and cautious, finding it hard to open up to new people. I prefer to explore cities alone. I value practicality and conformity, keeping my thoughts private but showing warmth to those close to me.





OPPENNESS of the people and their WILLINGNESS to forge new relationships:

open, hospitable, warm

People in Slavic countries **DO NOT AVOID CONTACT WITH STRANGERS** in public places.

They tend to move around the cities IN GROUPS.

SLAVIC PERSONALITY based on the survey results:

Abstractedness: **imaginative** / practical

Apprehension: worried / confident

Dominance: forceful / submissive

Emotional stability: calm / high-strung

.iveliness: spontaneous / restrained

Openness to change: flexible / attached to the familiar

Perfectionism: controlled / undisciplined

Privateness: discreet / open Reasoning: abstract / concrete

Rule-consciousness: conforming / non-conforming

Self-reliance: self-sufficient / dependent Sensitivity: tender-hearted / **taugh-minded** 

Social boldness: uninhibited / shy Tension: **impatient** / relaxed Vigilance: **suspicious** / trusting Warmth: **outgoing** / reserved

# 2.3.1. Survey results

Middle Eastern person

I'm someone who loves meeting new people and exploring new connections. I believe in being open and welcoming, always ready to extend a warm invitation and share some hospitality. You'll often find me moving around in groups, enjoying the company of others. While I might have a touch of apprehension, I'm still eager for new encounters.



# 2.3.1 Survey results

#### **Extroverts and introverts**

| QUESTION  | EXTROVERT                                  | INTROVERT  |
|---|--|--|
| How often do you fell lonely?   | 50% never/rarely, 50% at least once a week | 50% at least once a week, 30% never/rarely, 20% all the time |
| Would you rather be alone or with a company in public spaces?                   | 80% company, 20% alone                     | 80% company, 20% alone                                       |
| Do you feel lonely sometimes being surrounded by people?                        | 50% yes, 50% no                            | 60% yes, 40% no  |
| Do you feel lonely sometimes being alone?                                       | 50% yes, 50% no                            | 50% yes, 50% no  |
| Is it difficult for you to meet new people?                                     | 83% no, 27% yes                            | 50% yes, 50% no  |
| Do you talk with strangers sometimes?   | 67% yes, 33% no                            | 60% yes, 40% no  |
| Would you like to have more random interactions with strangers in public space? | 83% yes, 27% no                            | 60% yes, 40% no  |
|   |  |  |



**SUMMARY** To my surprise, most of the answers to the above questions have no correlation with being extroverted or introverted. This may be related to the fact that an introverted person should not be equated with needing to be lonely or shy, and an extrovert with being talkative and confident.

Significant differences can be seen in the sense of loneliness. Chronic loneliness was present

for several introverts. A correlation with age can also be seen here as everyone filling the survey aged 50-64 answered 'never/rarely'. Younger people are more likely to feel lonely.

The survey also shows that extroverts rarely have a problem making new friends. In introverts, the responses are unconvincing in either direction.

| TRAIT               | EXTROVERT           | INTROVERT          |
|---------------------|---------------------|--------------------|
| Abstractedness      | 60% imaginative     | 80% imaginative    |
| Apprehension        | 83% confident       | 80% worried        |
| Dominance           | -                   | -                  |
| Emotional stability | 80% calm            | 60% calm           |
| Liveliness          | 60% restrainted     | 70% restrainted    |
| Openness to change  | 83% flexible        | -                  |
| Perfectionism       | 80% controlled      | 100% controlled    |
| Privateness         | 67% open            | 60% discreet       |
| Reasoning           | 60% concrete        | 70% concrete       |
| Rule-consciousness  | 66% conforming      | 78% conforming     |
| Self-reliance       | 73% self-sufficent  | -                  |
| Sensitivity         | 100% tender-hearted | 80% tender-hearted |
| Social boldness     | 66% unhibited       | 70% shy            |
| Tension             | 66% relaxed         | 60% impatient      |
| Vigilance           | 66% trusted         | -                  |
| Warmth              | 66% outgoing        | 70% reserved       |

SUMMARY Most of the character traits can be considered as not dependent on a source of social energy. There are five categories of features that vary considerably.

APPREHENSION The vast majority of extroverts feel self-assured and unconcerned. A significant number of introverts are affected by feelings of uncertainty, worry and/or self-blame.

PRIVATENESS For the most part, introverts are characterized by being secretive, not revealing their thoughts or being diplomatic. Most extroverts are characterized by being direct and/or open.

SOCIAL BOLDNESS This category is very relevant to my project. It can be seen that introverted people are more shy and/or intimidated. However, in the case of extroverts, their sociability is not a characteristic of the vast majority of respondents.

**TENSION** A small majority of introverts are characterized by being time-driven and/or frustrated. In extroverts, calmness slightly prevails.

WARMTH Responses from this category confirmed the stereotypical view of extroversion and introversion. Extroverts were more likely to reply in favor of being outgoing than introverts.

# 2.3.2 Survey summary

#### most common people's traits and conclusions

I have selected ten features that are likely to have the greatest impact on how the designed space is used. Each of these is either an opportunity or a challenge to the idea of integration with strangers. However, the building I am designing should turn them all into spatial features that would maximise human interaction.

| MORE COMMON PEOPLE'S TRAIT<br>based on the survey |                 | ISSUES TO BE EXPLORED in the design  |
|---|-----------------|--|
| IMAGINATIVE                                       | <del>&gt;</del> | 1. The space should harness people's creativity. It ought to stimulate multiple senses. The designed architecture should encourage 'out of the box' thinking about space.  |
| WORRIED   |                 | 2. The space should evoke a sense of security both in the place and among the people.  |
| SUBMISSIVE  | <b>→</b>        | 3. The space should not have a hierarchy (by age, culture or character). Every user must feel equally welcome.   |
| RESTRAINED  | <b>→</b>        | 4. The building should have a clear and welcoming entrance area to encourage potential users to enter, despite their limited spontaneity.  |
| ATTACHED TO FAMILIAR                              | <b>→</b>        | 5.There should be architectural and spatial elements that users associate with their culture. The association with nature was frequently mentioned in the survey regarding favorite places and leisure activities. |
| DISCREET  | <b>&gt;</b>     | 6. There should be safe spaces within the building to open up and talk about deeper topics.  |
| CONFORMING  | <b>─</b>        | 7. The space can impose rules on its territory on the assumption that they will be respected.  |
| YHZ   | <b>──&gt;</b>   | 8. The designed space will push the limits of comfort to maximise interaction with strangers.  |
| SUSPICIOUS  | <b>──&gt;</b>   | 9. The space should have a clear intention.  |
| OUTGOING  | <b>─</b>        | 10. The building aims to use the openness to new relationships and maximise them.  |
| 44 CENTER OF INTERACTIONS                         |                 |  |

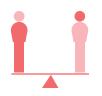
# 2.4 Design principles

"Personality" of the space



1. MULTISENSORIAL SPACE





3. EQUALITY





4. CULTURAL REFERENCES







2. SENSE OF SECURITY

7. SPACIAL RULES



8. PUSHING BOUNDRI



9. CLEAR INTENSION OF THE SPACE



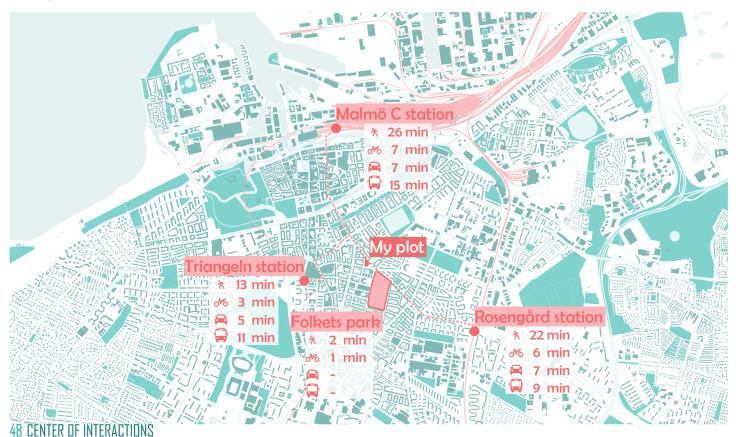
ID. MAXIMIZING STRANGERS
INTERACTION

MASTER THESIS MAY 2024 45

# PART 3 - DESIGN PROPOSAL

# 3.1 SITE ANALYSIS

City scale



#### LOCATION

The selected site is located between three important transit points (train stations: Triangeln, Malmo C and Rosengard).

#### 11GEBG

I assumed that, due to its proximity to Folkets Park, the proposed building would gain users who would enter the new building "by accident". In addition, another group of visitors are dog owners due to the dog park located on the plot.

#### SHAPE

The plot is shaped like a triangle, making it a form of an island in the neighbourhood. This also allowed me to design a building that is a spatial dominant placed in the middle of the intersection.







VIEW TOWARDS CENTER OF INTERACTIONS



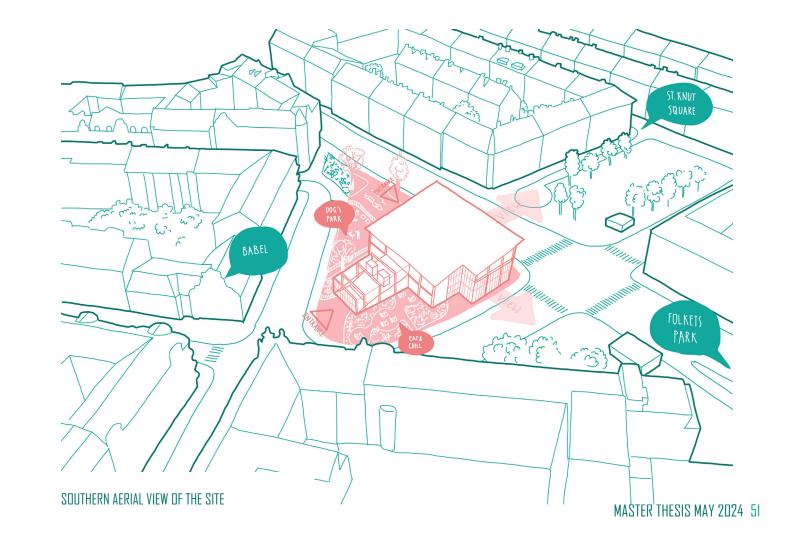
VIEW TOWARDS CAFE ENTRANCE

MASTER THESIS MAY 2024 49

# 3.1 SITE ANALYSIS

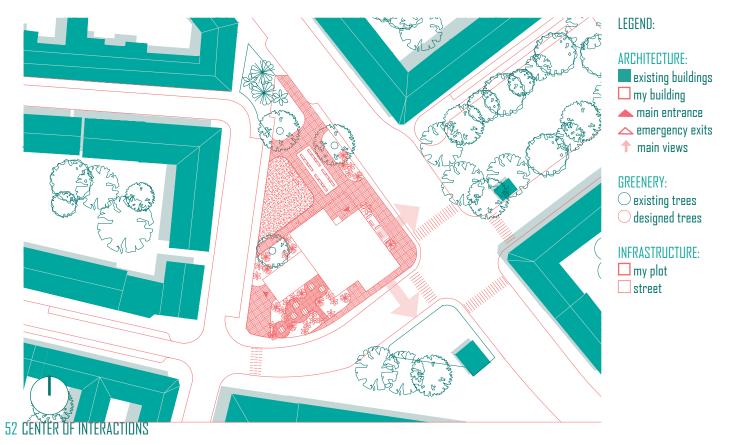
Neighbourhood scale

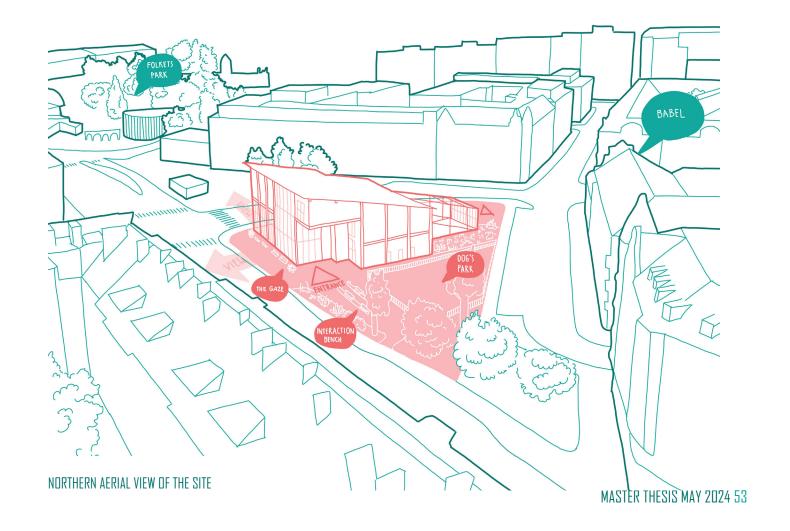




# 3.1 SITE ANALYSIS

My plot



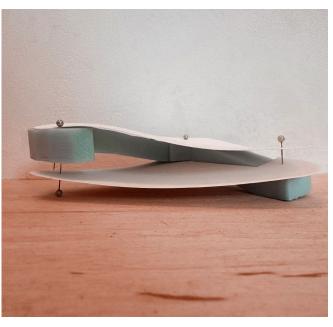


# 3.2 FORM DESIGNING PROCESS

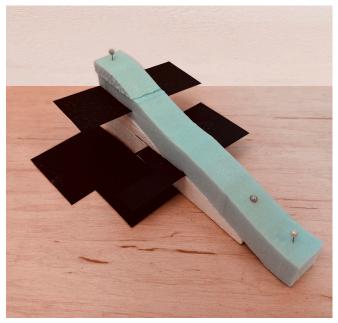
#### Sketch models



1. MAIN VIEWPOINTS



2. SHAPE AND STAIRCASE IDEA



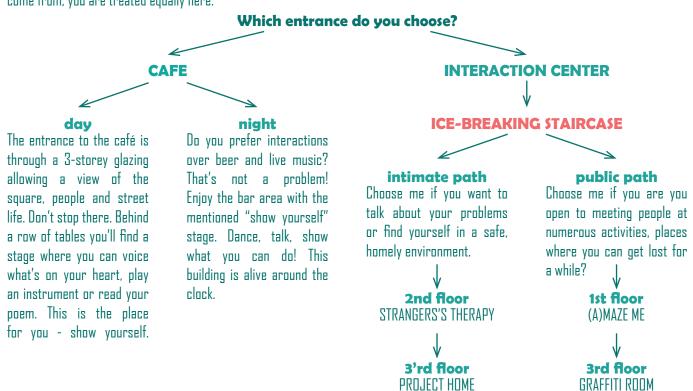
3. DESIGNING FROM INSIDE TO OUTSIDE

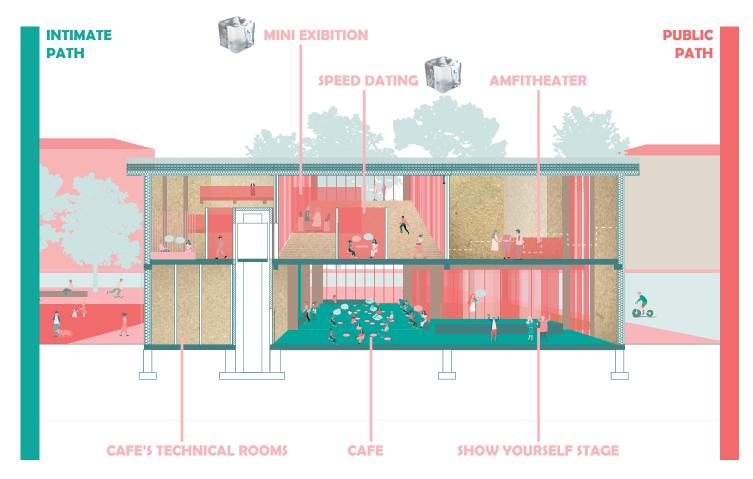
- 1. My first attempt was based on the most interesting view so every corner of this "butterfly" shape building was facing either nature or street view. It had a round closed staircase.
- 2. Then I tried to find a way to create multi-storeyed spaces. My aim was to create a wider staircase that was not only made for transit but had small rooms with activities in them. And that is how the "ice-breaking staircase" idea appeared.
- 3. In the third stage I made a list of the spaces that based on previous analysis could invite to interact. I have been experimenting with dimensions, and then began to analyze relationships between proposed spaces. In this way, the exterior of a building follows its interior.

#### **3.3 IDEA**



Welcome to the Center of Interactions - the place where you will experience a short adventure with others. Perhaps you've come here deliberately or maybe you've become interested in the vibrant and lively building on your way to the bus stop - whatever the reason, you're welcome. This is a place for the socially adventurous ones and those who want to observe others. No matter what culture you come from, you are treated equally here.





#### ICE-BREAKING STAIRCASE

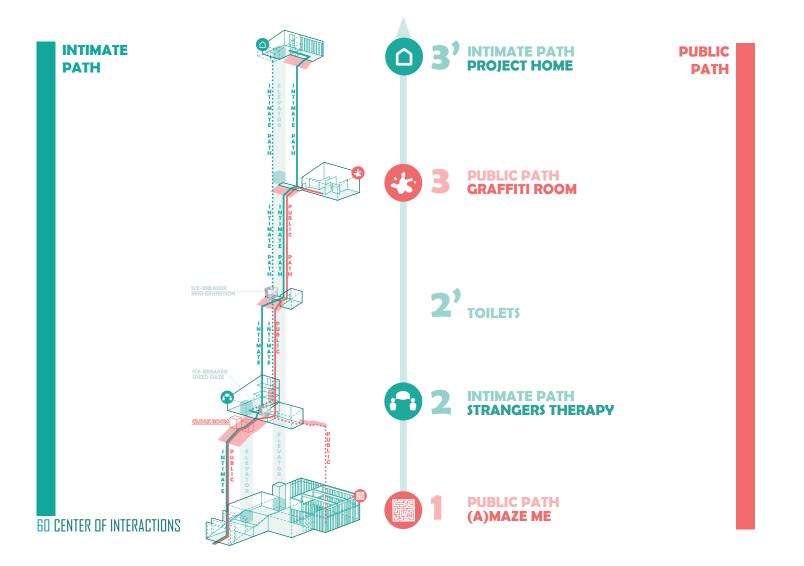
The main part of the building can be accessed via an 'ice-breaking' staircase, which is the backbone of the whole establishment. The staircase has numerous landings. On each of these, there is an entrance to one of the attractions and/or a small volume containing an ice-breaking element. As you enter the building you can leave your outerwear in the first boxes. From here, you can choose whether you want to have an intimate or public adventure or mix both.

#### MINI-EXHIBITION

The first ice-breaker is a temporary mini-exhibition. The works on display here, due to their small size, encourage you to come nearer and take a closer look. In this way, we can also get closer to the other person viewing the exhibition.

#### SPEED DATING

Quick meetings are held in this room. With the help of a screen displaying questions and topics for conversation, you can break through and establish relationships.



lce-breaking staircase divides the building into two parts: intimate and public. Exploring this building is up to you. When visiting the Center of Interactions, you can choose to try one path of the two or mix. You can also see just one room of your choice. However, the next section of the report is divided into an 'intimate path' and a 'public path' to make it easier for the reader to understand what they characterize.

#### **INTIMATE PATH**

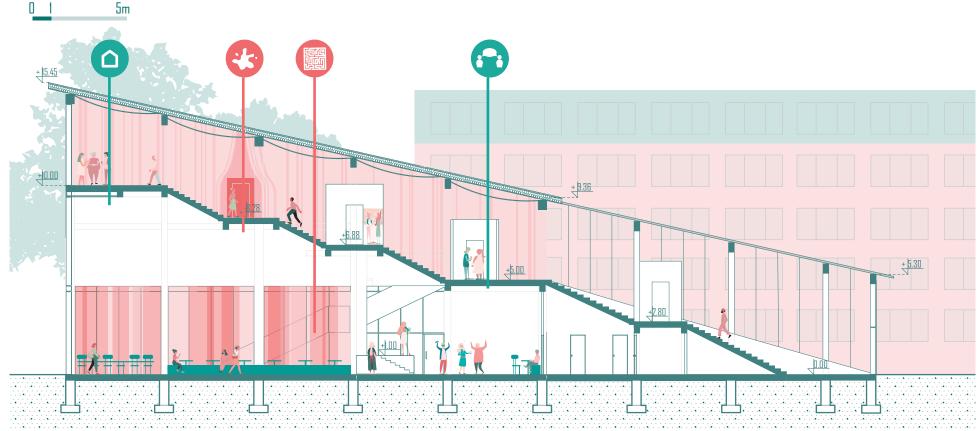
You entered through the main glass entrance, left your coat in the cloakroom on the first landing and found yourself on the second floor. This is where the Strangers therapy room is located. To visit the next room from the Intimate Path you can either still follow the Ice-breaking Staircase or use the hidden spiral staircase located within the Strangers therapy room. Whichever you choose, you will find yourself on the top floor of the building in Project Home.

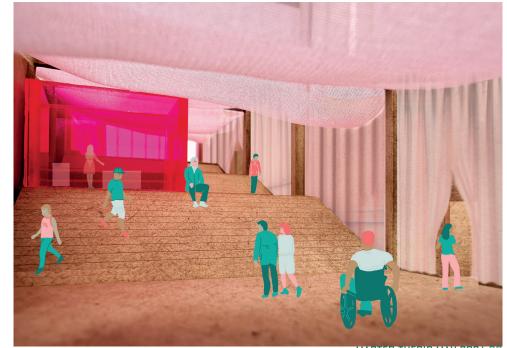
#### **PUBLIC PATH**

You entered through the main glass entrance, left your coat in the cloakroom on the first landing and found yourself on the second floor. However, you need to find the hidden staircase to find the first Public Path room. This is not an accidental design solution. The building is designed to encourage you to explore yourself and the space. (A)maze me can be found on the first floor by passing the amphitheatre and using the stairs. The Grafitti room from the Public Path located on the third floor can be accessed from the Ice-breaking Staircase.

#### **ICE-BREAKING STAIRCASE**

section 2-2, scale 1:200





# **INTIMATE PATH**

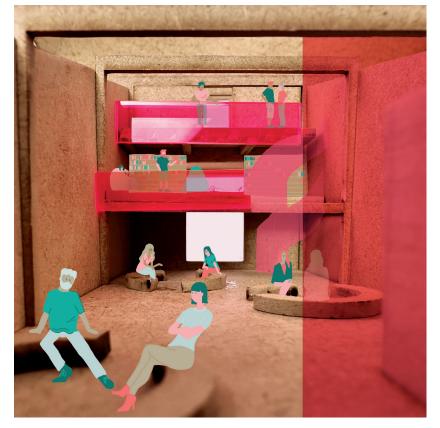
# 3.4 INTIMATE PATH section 1-1, scale 1:200

PROJECT HOME

INTIMATE PATH
STRANGERS THERAPY

As can be seen in the section, both rooms are connected with each other via a spiral staircase. There is a balcony that belongs to "Project Home" from which people can observe the "Strangers therapy". In between there is a hidden library located, for people who are overstimulated and would like to interact with people just by sharing a space with them.

# STRANGERS THERAPY



NAME: STRANGERS THERAPY LEVEL: 2 **SOCIOPETAL SPACE FEATURES:** 











closed, indoor, common interest, eye contact, forced conversation, intruding personal space, long stay, static

#### **LEVEL OF INTERACTION:**



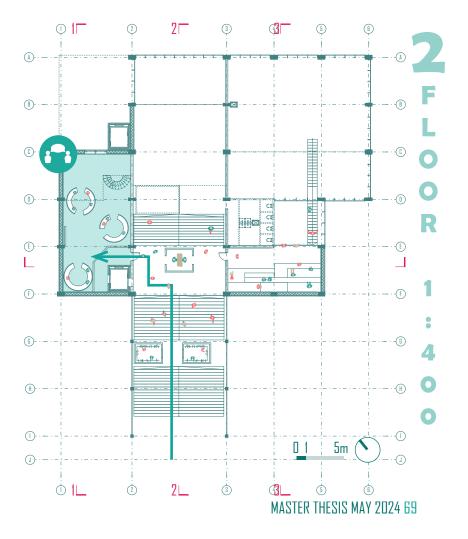




eye contact, shared space, spontaneous conversation

#### **DESCRIPTION:**

You decided to stay a while on the second floor and turned left. In this space you will find private separate rooms where you can sit and talk to others. In front of each room you will find information on what topic is being discussed and in what language. Didn't find anything for you? Suggest a topic for conversation in a free room and wait for others to join in.



# PROJECT HOME



NAME: PROJECT HOME LEVEL: 3' **SOCIOPETAL SPACE FEATURES:** 













closed, indoor, common interest, static, intruding personal space, long stay, high density of people

#### **LEVEL OF INTERACTION:**

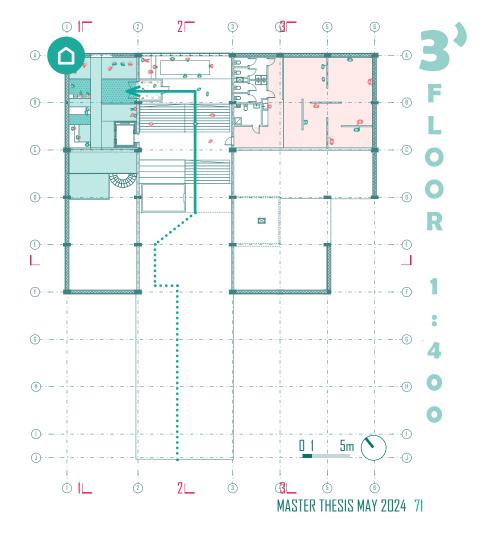




eye contact, shared space

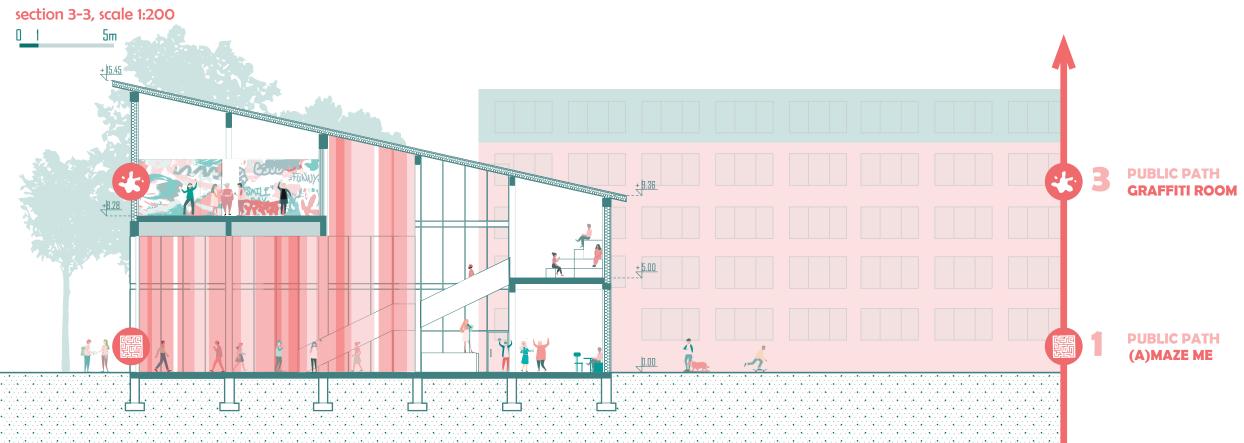
#### **DESCRIPTION:**

When asked about their favorite place, most people would indicate their home. Take off your shoes before entering and step into "Home" where you are both guest and host. "Corridors" are filled with sand so feel free to lie down. Explore "rooms" symbolizing f.ex. a living room or bedroom, designed for resting either sitting or lying down. Walk through to the balcony to discover a view, or head downstairs to find a reading corner perfect for solitude after socializing.



# **PUBLIC PATH**

### 3.5 PUBLIC PATH



In this section it can be seen that in order to visit "(A)MAZE ME" room you need to pass the amphitheater and use a hidden staircase. The Amfitheater can be used as an audience space for the public events happening on the "Show yourself" stage.

# (A)MAZE ME





NAME: (A)MAZE ME LEVEL: **SOCIOPETAL SPACE FEATURES:** 





closed, indoor, narrow commuting, no touch, movement, long stay, big amount of people

#### **LEVEL OF INTERACTION:**

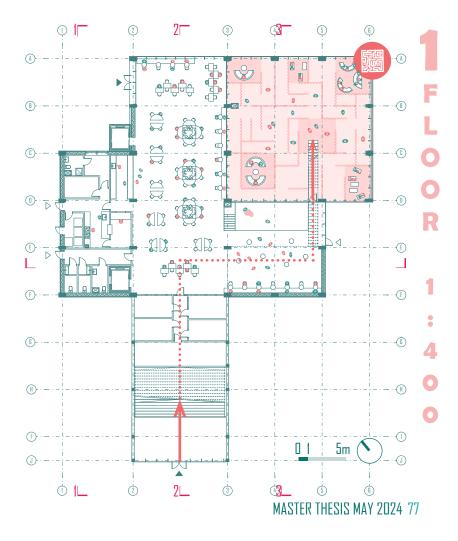




eye contact, shared space

#### **DESCRIPTION:**

You found yourself on the second floor and turned right. You passed the amfitheater. You found a secret staircase that led you to the largest space of the building you are in. It is here that you let yourself get lost, ask a stranger for directions and reach a place overlooking the outdoor garden. And all this with the help of light, gently translucent fabrics that will take away the fear and introduce a pleasant atmosphere.



# GRAFFITI ROOM 🚱



NAME: GRAFFITI ROOM LEVEL: 3 **SOCIOPETAL SPACE FEATURES:** 











closed, indoor, common interest, narrow commuting, no touch, movement, long stay, high density of people

#### **LEVEL OF INTERACTION:**



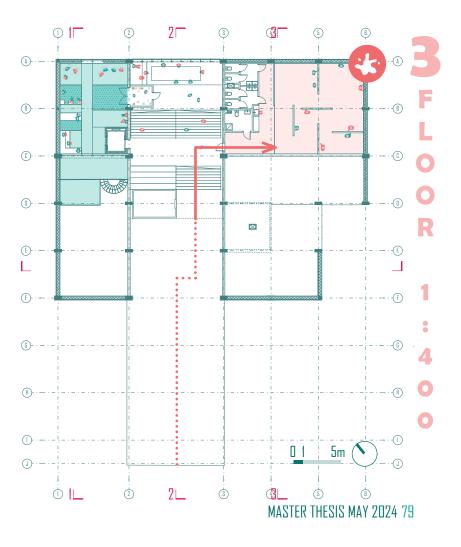




eye contact, shared space, activity

#### **DESCRIPTION:**

You reached one of the top floors and turned right. I hope you brought along a new friend or the desire to find one. With that enter the creative world of graffiti. Grab your brushes, sprays and start painting on the floor and walls.

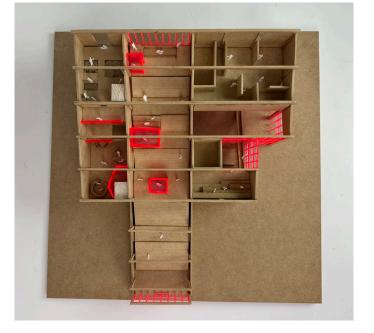


# 3.6 Physical model photos











# 4. Conclussion

The design process was incredibly inspiring and full of fascinating conclusions. However, it was not one of the easiest because of the difficulty in translating theory into practical application in architecture. Some theories were used by me more often than others.

**Prospect-Refuge:** In my design I tried to create many spaces for observation and integration with others. Through the choice of materials and the features of the space I wanted to achieve a sense of being welcomed and safe.

Right to difference: Differences in social openness were one of the main factors contributing to the division of the building into an intimate and a public path. The awareness that each user is different and perceives the space in various ways helped me to create a building filled with numerous activities. It may seem too maximalist to many, but I believe that my design is as different as its users.

Sociopetal space: The analysis of sociopathic spaces was key for me. These guidelines helped me to embark on an adventure into the theme of spaces created to bring people together. For example, 'Narrow Comutting' contributed to the creation of my favourite room (A)maze me

The project should be seen as an exploration of the use of issues from sociology and behaviourism in architectural creation. This building is an example of how I approached the attempt to create a place where people forget about the outside world for a while and go on a short adventure with others. The theme of loneliness is incredibly important because the problem not only exists but is likely to get more severe.

As architects, we have the opportunity to respond to social situations as our buildings serve their users. This project concludes my student exploration and with the knowledge gained during the process I enter the job market in architecture. I intend to continue to be curious, to not be afraid to uncover new building functions and to always put the user first.

# 5. References

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