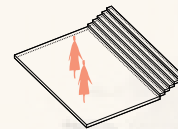
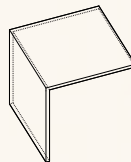
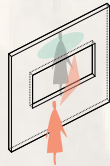
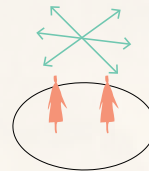
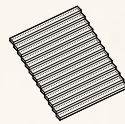


TRANSITIONAL SPACE

Spaces of Transition in Urban Environment



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CHALMERS
UNIVERSITY OF TECHNOLOGY

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Gothenburg, 2020

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CHAPTER 01

Introduction

- 1.1 ABSTRACT
- 1.2 BACKGROUND
- 1.3 DEFINITION
- 1.4 THESIS QUESTION
- 1.5 DISCOURSE
- 1.6 RESEARCH
- 1.7 DELIMITATION
- 1.8 METHODOLOGY

ABSTRACT

.....1.1



In the fast-paced society, people are busy with working or studying; they have little time to care about or perceive what is happening around them. This has caused society to become more and more indifferent. The city and architectures, as necessary containers for people's daily lives, have the responsibilities to provide people perceivable and interactive space. The transitional space which connects urban areas and buildings, could activate the surroundings and make people feel more engaged in the city or the buildings.

Transitional space is usually easy to be ignored by people. However, it is such an important space that could have an influence on the vitality of the city, as well as the popularity of the buildings. Urban designers and architects used to treat transitional space as an attachment to their design, and rarely consider it as the primary subject in their design. Transitional space is not just a leftover space; it has its unique value and plays an indispensable role in connecting the urban space with the buildings.

When people walk on the street, one of the best ways to eliminate indifference and activate social behaviour is to let them perceive the events happening around them. However, boundaries of the buildings are a kind of barrier to stop people

from sensing the atmosphere inside from vision and audition. The transitional space is then a tool which helps people to some extent communicate with the city and buildings. It is also the space that can give people a preview of the atmosphere in the building before they come in.

The thesis will focus on the study of transitional space, exploring the impact of transition elements on people and the environment. The purpose of this thesis is to understand what factors of transitional space will influence people's perception, and how to make them feel welcomed by transitional space and how to activate both inside and outside of that area.

The thesis will firstly find the elements of the transition space through case studies, and then understand the different attributes of various elements. Through several experiments, it will explore the interaction among different elements, their influence of transitional space with the environment, finally, get a conclusion of how could the transitional elements make the city and buildings coexistence.

Keywords: Transitional Space, Urban Environment, Coexistence

BACKGROUND

.....1.2

The transitional space refers to the transition from one certain space to another; however, it is a vague, ambiguous and undefined space itself.

[Social Inspiration]

Whenever I come to an unfamiliar place, I always enjoy observing the environment around me. If possible, I would like to walk into the building which is opened to the public and participant the event that is happening inside. At this time, I found that the transitional space of the architecture can let people perceive the atmosphere of the building in advance. If people can have a first perception of what is going on inside of the building, then more people will be attracted to enter the building, and the city life will be activated as well.

As I mentioned before, I like to feel the city from the streets or buildings. At this time, I found that some kinds of buildings are "welcoming" me. For example, large-scale canopies can make people feel sheltered by the building, or steps towards the entrance, opening facade of the building will make me feel that this building is "welcoming" me. On the contrary, although some buildings have public

functions inside, because of a closed entrance or fewer openings of the facade, I feel that I do not want to go into that building.

Therefore, hoping more people will be attracted by architectures is one of the reasons I want to study the transitional space between the inside and outside of the buildings.

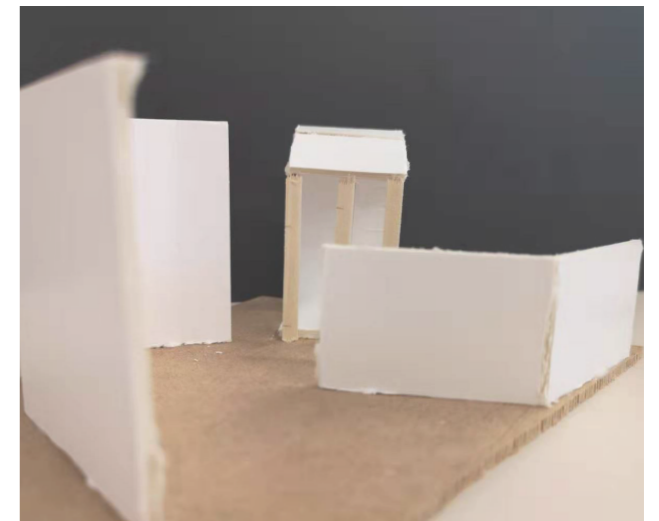
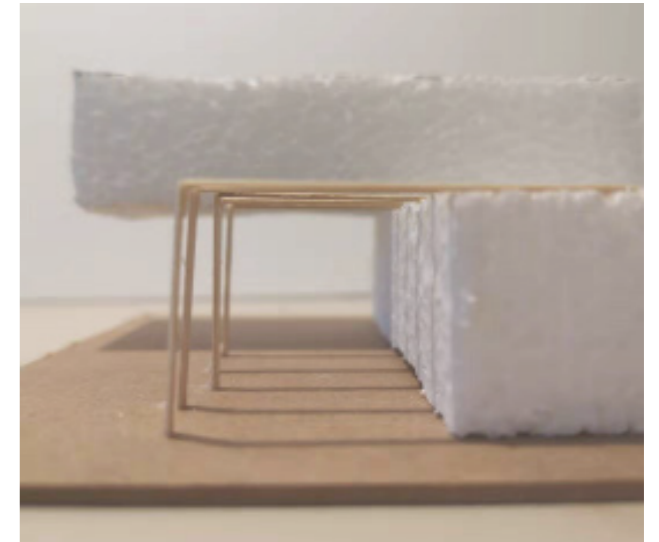
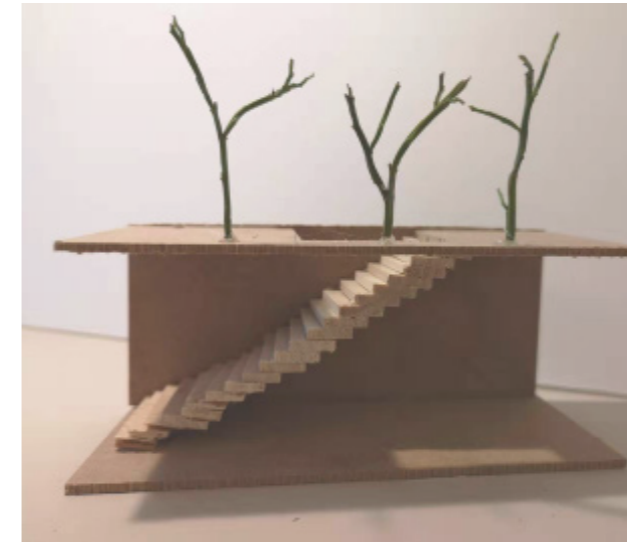
[Personal Preferences]

The other reason is that the uncertainty of the transitional space, which is very attractive to me. Such a vague, ambiguous space has many possibilities and has extremely plasticity.

Just like different people will have different views on the same thing, for the transitional space, it can have different functions for different people. Kisho Kurokawa saw the street in Asian as a transitional space between city and buildings, "The street has no clearly defined spatial function, but within the 24h of the day, it is at times used for private and at a time for public activities." (Kisho Kurokawa, 1987) The transitional space will contribute to different behaviours and feelings at different times.

BACKGROUND

.....1.2



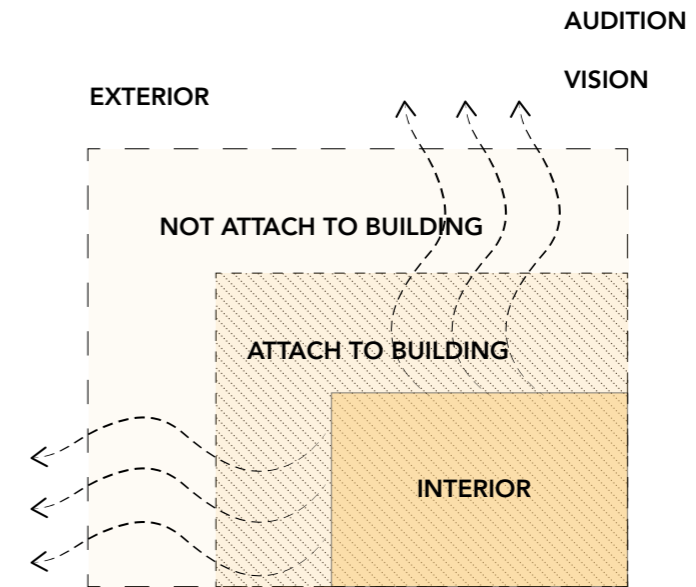
Models inspired by transitional space

DEFINITION

.....1.3

"Architecture that aims to be humane, must consequently devote special attention to the in-between; specifically to the architectural forms and transitional places through which people meet, and invite them to stay."

---- Aldo Van Eyck, 1961



inspired by Aldo Van Eyck

Transitional space (intermediate area, third area) is that space of experiencing, between the inner and outer worlds, and contributed to by both, in which primary creativity (illusion) exists and can develop ("Transitional Objects and Transitional Phenomena," Winnicott, 1951; further developed in Winnicott, 1971).

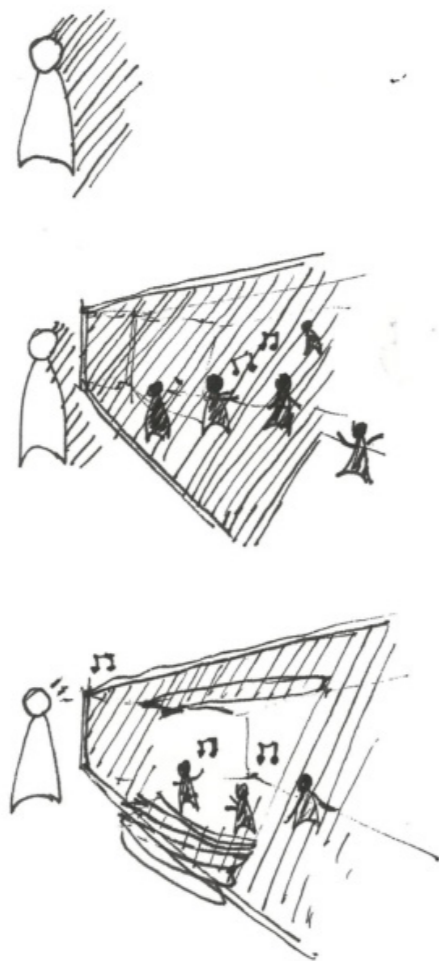
If we say the interior and exterior are two defined space, then other spaces in between are the transitional space belong to them. The transitional space always starts from the end of the interior space and end from somewhere outside the building.

In this thesis, I divided the space from inside to the outside of the building into four parts. The orange area is the transitional space I will mainly study with. Elements in transitional space are also divided into two parts; one is the element attached to the building, such as the steps, canopies and arcades; the other one is not attached to the building, such as pavement, squares and other nodes. Except for all of these, the human sensation of transitional space cannot be ignores, like the sounds, light and views.

QUESTION

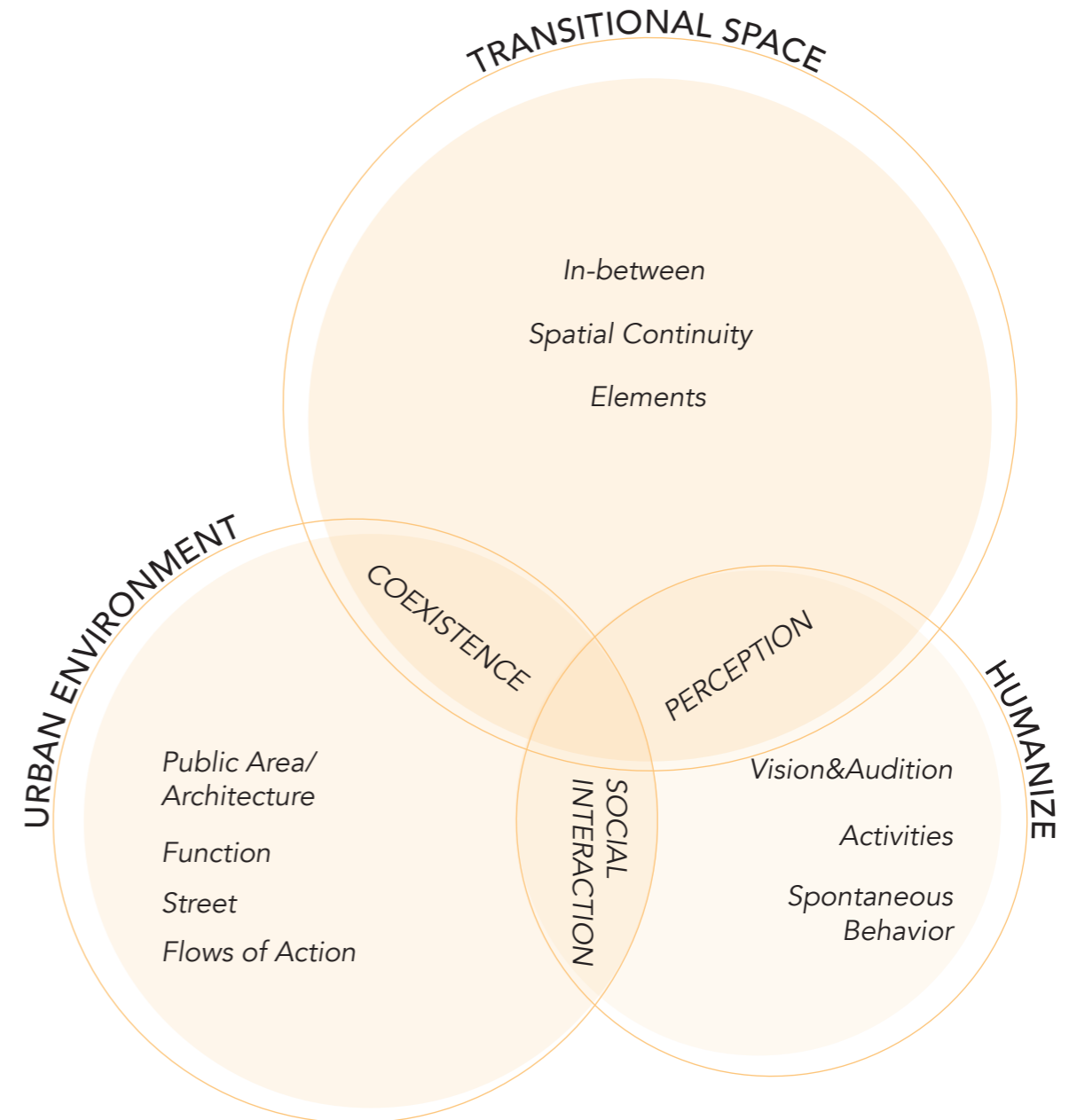
.....1.4

How does the transitional space work to activate the urban environment and also make the building which is connected to it more attractive?



DISCOURSE

.....1.5



The discourse of this thesis is mainly focused on three parts, which are the "the transitional space", "humanize" and "urban environment".

The first part of the discourse is to talk about the IN-BETWEEN space, learn the way how it achieved spatial continuity and focus on the elements that would have influences on the transitional space.

The second part is about the urban environment. The public area is the main point that focused on, as well as public buildings with different functions. The streets that people walked will also be mentioned

together with the flows of action.

For the third part of the discourse, the humanize will be taken into consideration. It would mainly focus on the vision and audition of people to evaluate how they sense the space. The activities and spontaneous behaviour of people are vital aspects of the thesis to relate the study with the human.

These three parts of discourse are inseparable. When they come together, the thesis would consider the topics of coexistence, perception and social interaction.

RESEARCH

Social Distance

1.6

Distance about 100 meters we can see movement and body language in broad outline. Between 50 and 70 meters, hair colour and characteristic body language can be read. At a distance of about 22 – 25 meters, we can accurately read facial expression and dominant emotions. Between 7 to 0 meters, all of the senses can be used, all details experienced and the most intense feelings exchanged. Social distance is described between 3.7 m to 1.2m, where one all daily conversation can be made and ordinary information can be exchanged. (Gehl,2010)



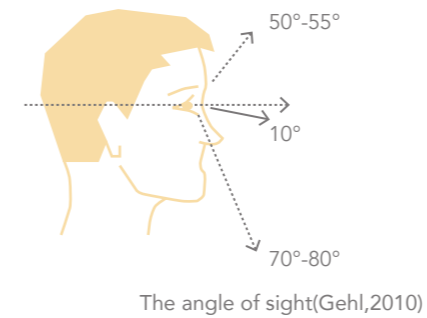
RESEARCH

Human Perception

1.6

The natural starting point for the work of designing cities for people is human mobility and the human senses because they provide the biological basis for activities, behaviour and communication in city space.

Eye level



Gehl(2010) explains that the human eye is frontally oriented and see up to 70-80 degrees below while 50-55 degree up to the horizon. While we are walking, we mostly see our surrounded environment by bowing our heads 10°. In the horizontal field of vision, the human eyes focus to contact and get attracted on ground floors when one is walking through the buildings. Visual communication establishes naturally on the first two floors between inside and outside, this level is the most important threshold on regulating privacy level inside. One can see easily from 6.5m and up to 13.5m.

Noise level

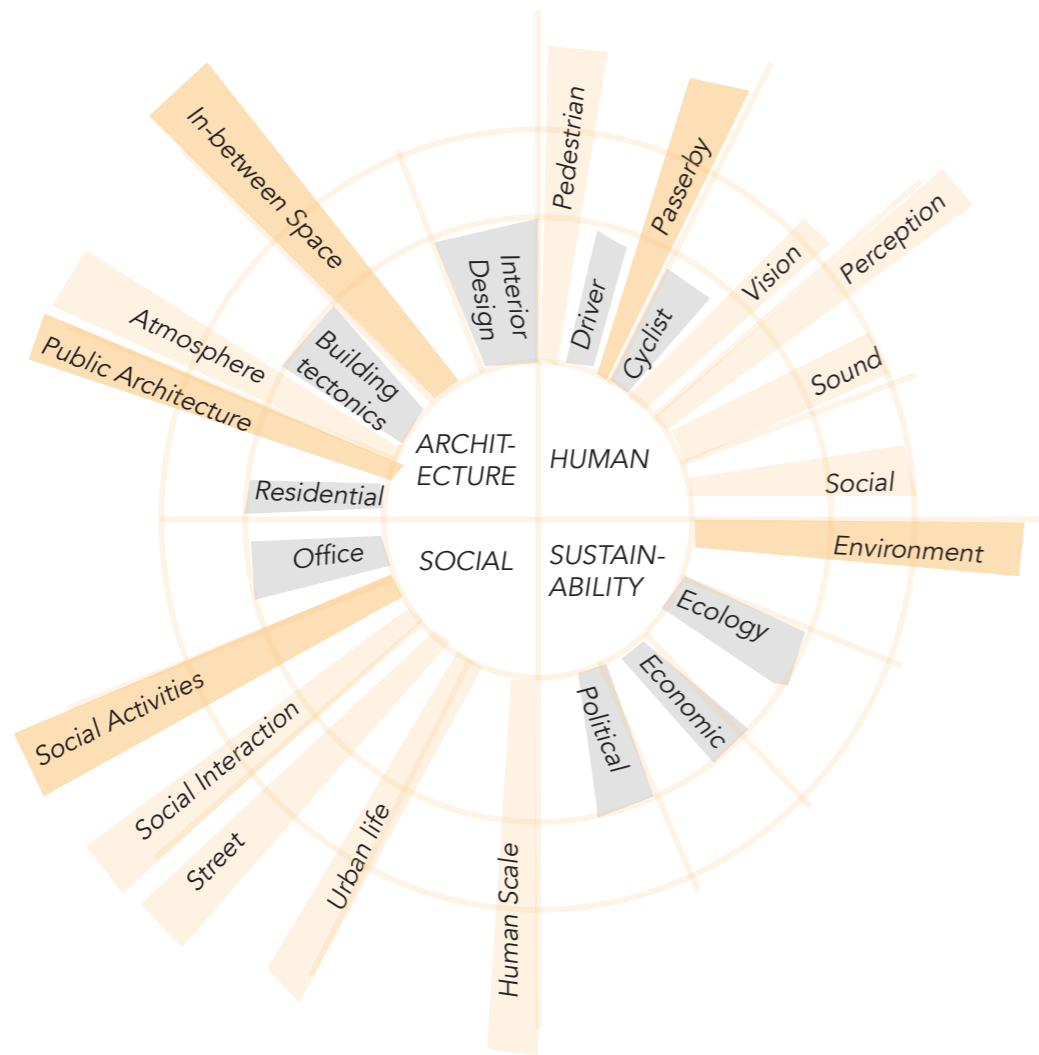


A person has long been within hearing distance: At 50 – 70 meters, we can hear shouts for help. At 35 meters one-way communication can be conducted in a loud voice like that used from the pulpit, stage or auditorium. At a distance of 20 to 25 meters, short messages can be exchanged, but the genuine conversation is not possible until people are within 7 meters of each other. The shorter the distance in the range from 7 meters to 0.5 meters, the more detailed and articulated the conversation can be.

Both in the space with 52 dB and that with 63 dB it is possible to carry on a pleasant conversation and often at quite a distance.

DELIMITATION

.....1.7



1. In terms of architecture design, this thesis will concentrate on the public area or public buildings, figure out different spatial effects of elements in transitional space. The atmosphere of the space will also be taken into consideration. The thesis will not focus on the interior of the building and building tectonics.

2. This thesis will explore how transitional space influence people's feeling by perception, such as vision and audition.

The target population will be pedestrian, instead of

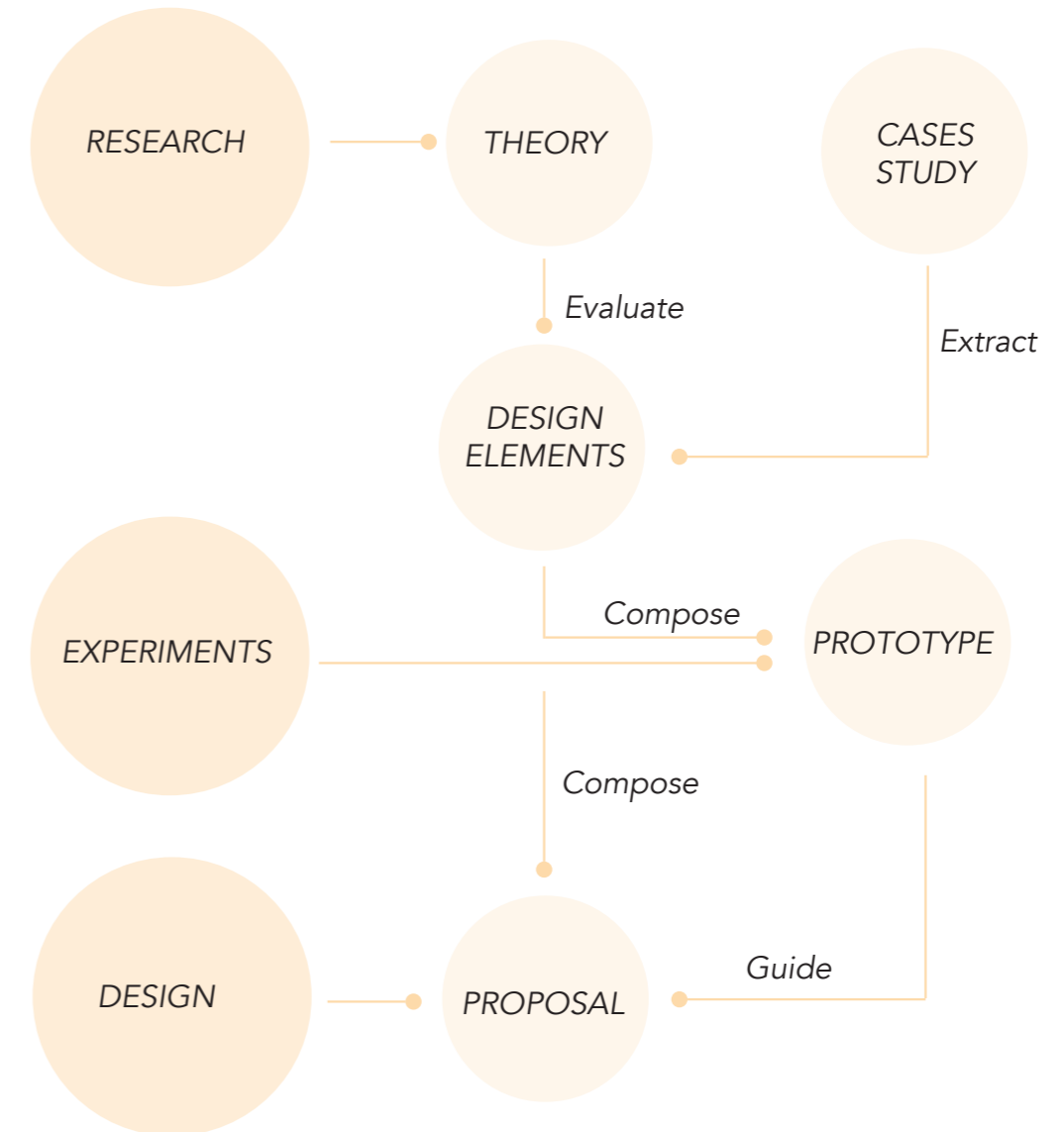
people who drive a car or ride a bike. It will study how the transitional space attracts passerby who comes to the place spontaneously.

3. From the perspective of the social environment, this thesis will focus on social activities and social interaction. The design will start from the human scale.

4. This thesis will consider sustainability. The social and environment will be the main topic it concerns, while it will not focus on the political and economic views.

METHODOLOGY

.....1.8



[Research]

The research phase is aimed to gain knowledge about transitional space, and dig into the architectural theory behind it. It includes literature studies and case studies, which will be the guidelines for the following design phase.

[Experiment]

After getting transition elements from case studies, the experiment phase is to test how the elements implement when they are combined. Then conclude

the design principle through the studies of the prototypes.

[Design]

The design phase includes the site analysis and design proposal. The site is seen as a complex background for a new experiment which is based on the results of the previous studies. The design is also a method to understand how transitional space works in an urban environment.

CHAPTER 02

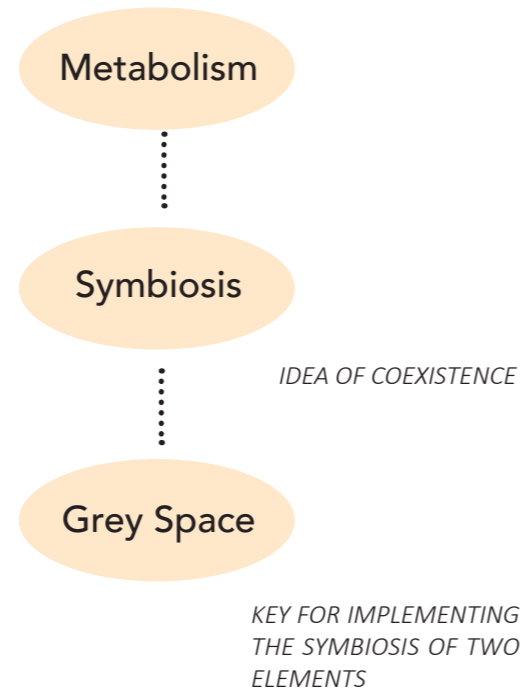
Research

- 2.1 THEORETICAL RESEARCH
- 2.2 CONCLUSION
- 2.3 CASE STUDY
- 2.4 DESIGN ELEMENTS

The Philosophy of Symbiosis



Figure 1: Japanese courtyard, CC-BY: Adapted with permission



Kisho Kurokawa, one of the founders of the Metabolist movement of the 1960s. His concept is always about adapting the natural systems and the life cycle of buildings to become a significant advocate for sustainable design.

[Metabolism& Symbiosis]

Kurokawa believed that cities and buildings are not static, but are in a dynamic process like metabolism. He also claims that the intermediary space and ambiguity are important to implement the philosophy of symbiosis both in architecture and urban design.

At that time, Kisho Kurokawa also raised a voice against modernism. The virtues of nebulous and undifferentiated space naturally exist between demarcated areas, while the function results in the articulation and concretization of space.

[Grey Space]

Rikyu Grey is used as a symbolic term by Kisho Kurokawa to describe the multiple meanings or ambiguity of Japan's open spaces. "My own interest in Rikyu grey is because it epitomizes the confrontation or collision of various contradictory elements and describes a condition in which those elements cancel each other out, thus achieving coexistence and continuity." (Kisho Kurokawa, 1987)

Kisho Kurokawa has talked about examples of intermediating zones, such as space under the eaves, the veranda, corridors, lattice-work dividers, all of them can make inner and out space to interpenetrate.

[Street]

"Street space becomes an ambivalent space—a medium in which individual living space and metropolis converge." (Kisho Kurokawa, 1987) The street has been seen as an intermediate space, which is the place to undertake social activities.

Hiroshima City Museum of Contemporary Art

Project: Museum
Architect: Kisho Kurokawa
Location: Hiroshima, Japan

Located on the top of Hijiya Mountain, sixty percent of the museum is built underground. The steps are the first elements coming into people's eye, which can be seen as the continuation of the mountain. It leads people directly to the circular space on the top through a cut notch. To memory the atomic bomb, the circular space at the center of the architecture is intentionally empty, the cut notch indicating the direction where the atomic bomb was dropped. The notch naturally connects the steps with the circular square and orient visitors to the entrance.

The entrance is under the eave of a circular colonnade. The space under the eave is considered neutral, where interior and exterior overlap with each other. It shows the level of openness clearly through transitional space, which will give people a rich experience.

The right and left side of the circular space is exhibition space, where many gabled roofs come together. The form of the roof looks like a village, which expresses Kisho Kurokawa's idea of symbiosis between part and whole. Using traditional materials of stone and tile, then combined with aluminium for a futuristic atmosphere also show symbiosis of past and future.

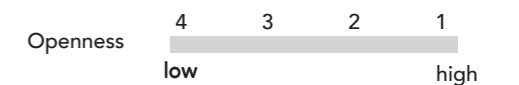
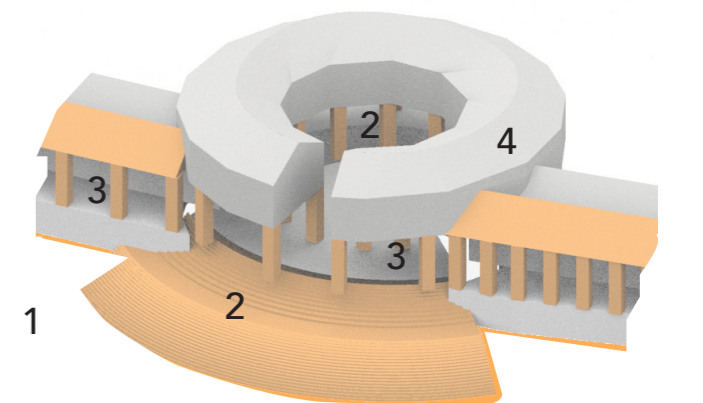
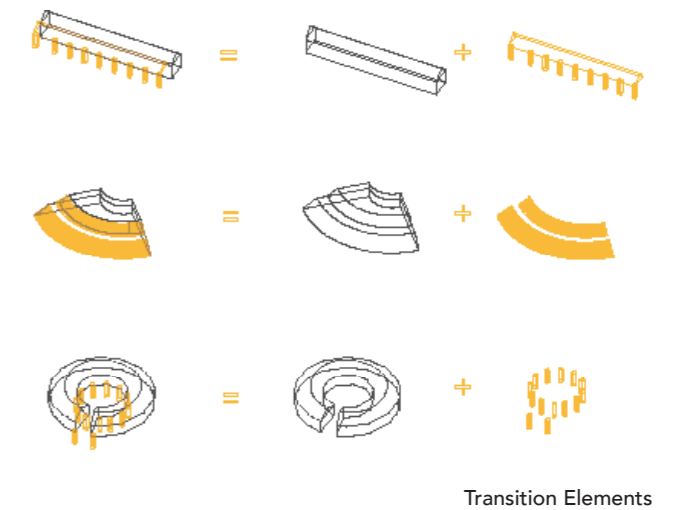


Figure 2,3: HCMoCA, Kisho kurokawa, CC-BY: Adapted with permission

THEORY

2.1

Aldo Van Eyck

Twin Phenomena

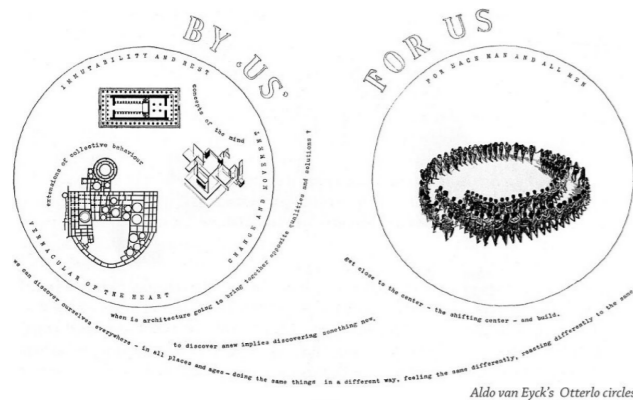


Figure 4: OtterloCircles, Aldo van Eyck, Reprinted with permission

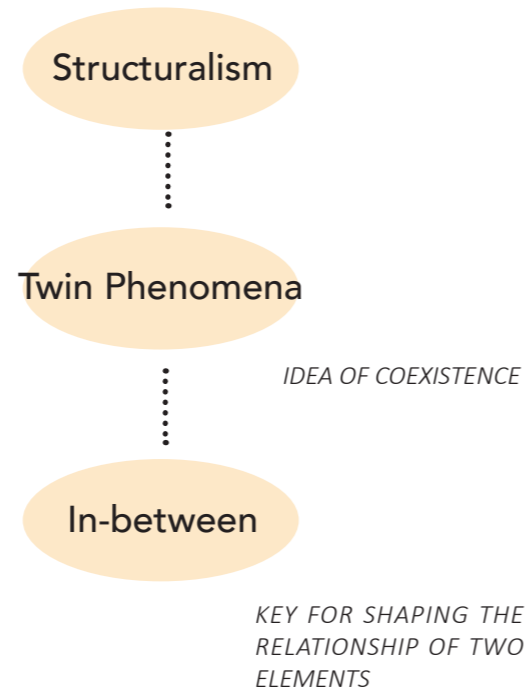
Dutch architect Aldo van Eyck was one of the most influential protagonists of the architectural movement Structuralism. He was convinced that **the form of architecture and human activities should be isomorphic**, they are similar and coordinate with each other.

[Structuralism]

The limitations of Modernism made Van Eyck reconsider the meaning of architecture. He believed that function and form can be completely separated. The pursuit of structuralism is to create a structural frame, as people are subjective initiative, they can change the use of the space in the way they want.

He showed the same opinion of the relationship between city and house. "A house must be like a small city if it's to be a real house, a city like a large house if it's to be a real city"(Aldo Van Eyck, 1962)

[Twin Phenomena]



Van Eyck showed his idea of coexistence in the theory of twin phenomena, stated that the opposites do not need to be taken to an extreme, they are two different halves of the same entity.

"The twin phenomenon, an original concept of Van Eyck's, stems from the insight that real polarities (such as subject and object, inner and outer reality, small and large, open and closed, part and whole) are not conflicting, mutually exclusive entities but distinctive components, two complementary halves of one and the same entity; while conversely a true entity is always twofold."(Francis Strauven,2007)

[In-Between]

In-between provides space for people to meet and stay, it shows a humane architecture. As Aldo Van Eyck mentioned, the best way to unite two opposing is to establish a third, an in-between.

THEORY

2.1

Case Study

Amsterdam Orphanage

Project: Museum
Architect: Kisho Kurokawa
Location: Hiroshima, Japan

The Amsterdam Orphanage creates an activity space for children, and its structure also becomes a play space. There are spaces such as city squares and streets in the orphanage, which give people a feeling that they are in a city.

It was originally an orphanage and then a school, now it was used as a corporate office. The function is always uncertain. People can adapt to the form, and a form can also adapt to different functions.

The rhythm of the space is very interesting, it always has a courtyard and transition space between inside and outside. There are also many other transformations between indoor and outdoor, including changes in the solid walls and glass on both sides of the corridor, which make the experience richer and more orderly.

Comments from Kisho Krukawa:
"Children's home in Amsterdam is a combination of basic spatial unit, but the architect has endowed his work with a theatricality that transcends its incremental structure. In some cases, the floor level changes; in others, the units are joined to produce a large open space that, in the dramatic play of light, dissolves into the whole." (Kisho Krukawa, 1987)

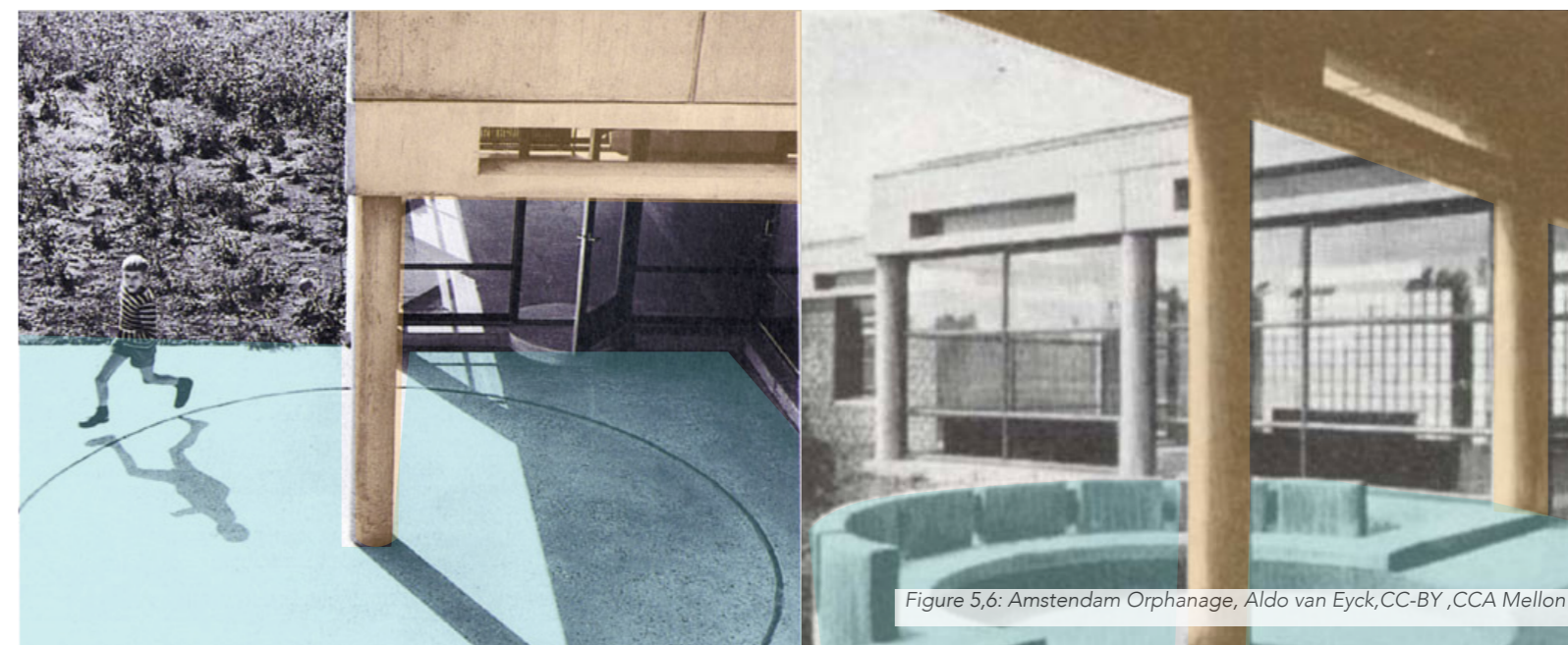
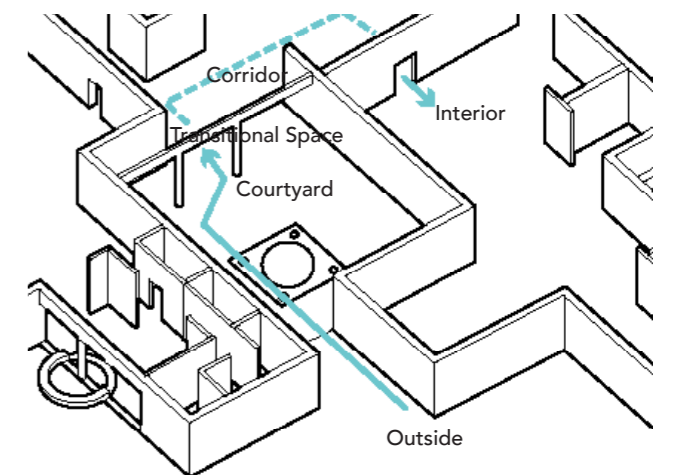
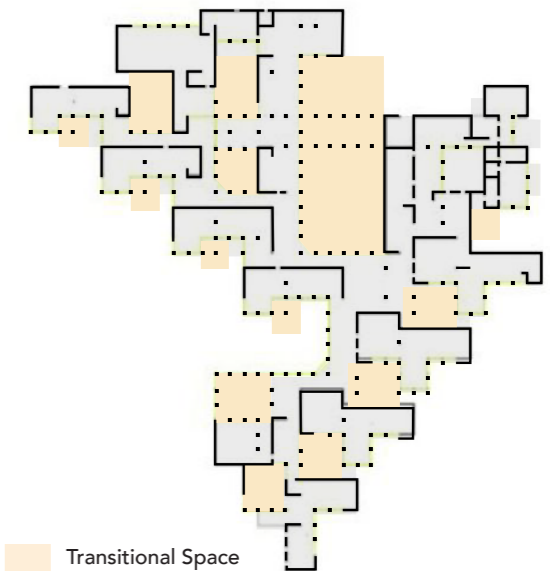


Figure 5,6: Amstendam Orphanage, Aldo van Eyck,CC-BY ,CCA Mellon

THRESHOLD SPACE

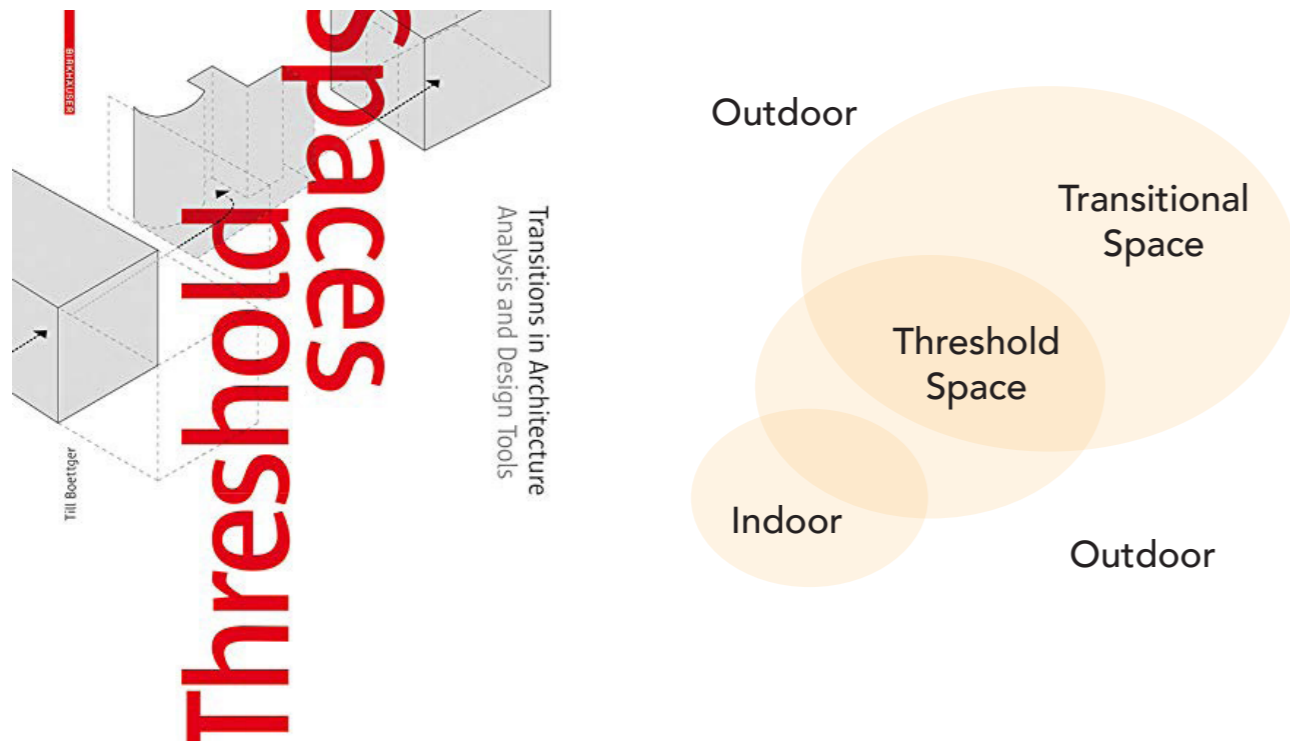


Figure 7: Threshold Spaces : Transitions in Architecture Analysis and Design Tools.

A word "threshold space" is frequently mentioned to describe the transitional space. Herman Hertzberger argues about the transition of space, using the term "threshold". He said, "The threshold provides the key to the transition and connection between areas with divergent territorial claims and, as a place in its own right, it constitutes, essentially, the special condition for the meeting and dialogue between areas of different orders." (Herman Hertzberger, 1991)

[Definition]

A threshold space defines the opening of spatial delimiters during the act of crossing them. (Boettger Till, 2014)

When people come from outside to inside, they have to cross spatial boundaries. Thresholds are the spatial boundaries, at the meantime, it also belongs to transitional space. "Thresholds open up spaces and organize transitions. At the same time, they are read as part of the boundary and can be perceived

as a barrier. A space that is delimited by thresholds and space defining elements can be termed a threshold space." (Boettger Till, 2014)

[Orientation]

"The approach toward the entrance determines, among other factors, the direction of the path taken. The visibility of the threshold space body is a guiding force. It allows the user to perceive the entrance to the threshold space from a distance and to make his or her way toward it. Identifying the point of access gives you an orientation and a sense of security; the path of approach is given direction." (Boettger Till, 2014)

The threshold place always connected with the entrance which can provide glimpses of what is happening inside, so threshold space can give people a preview of the indoor activities when they pass by, which became easier to orient way for people.

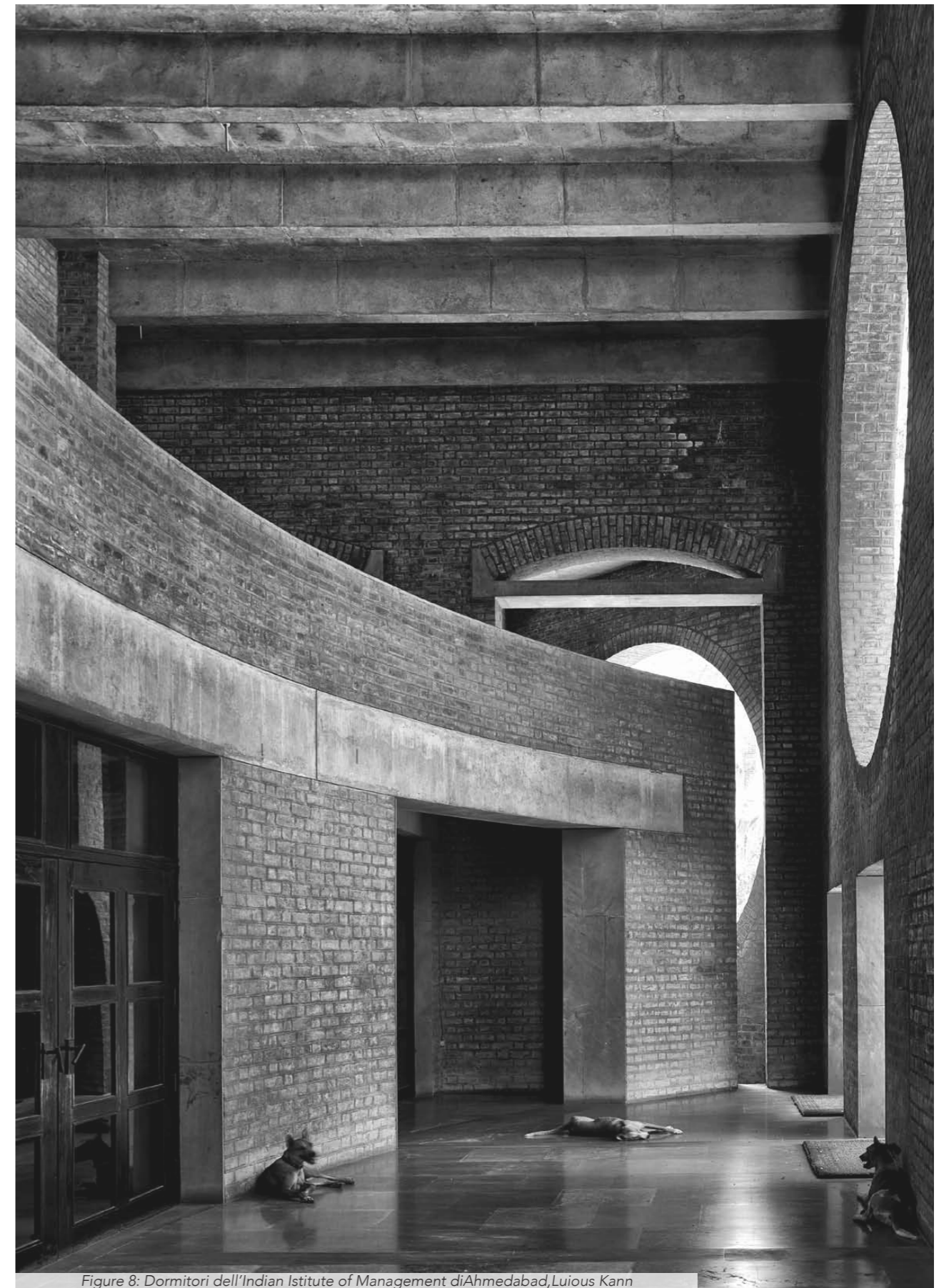
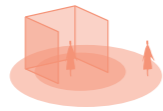


Figure 8: Dormitori dell'Indian Institute of Management di Ahmedabad, Luious Kann

CONCLUSION

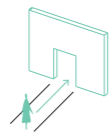
.....2.2

[Openness]



Openness is used to describe how much the transitional space belongs to outside or inside and the degree of privacy or publicity in transitional space.

[Orientation]



Orientation means abilities of the transitional space to lead people to somewhere, such as leading the way to the entrance of the building.

[Functionality]



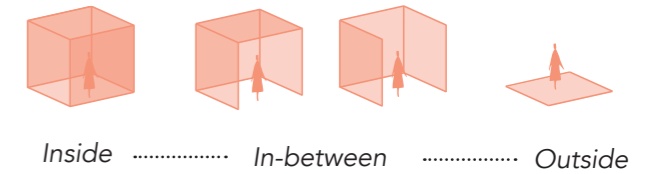
Functionality means except for the function that transfers outside to inside, the possibilities of other functions or activities that would happen in the space.

CONCLUSION

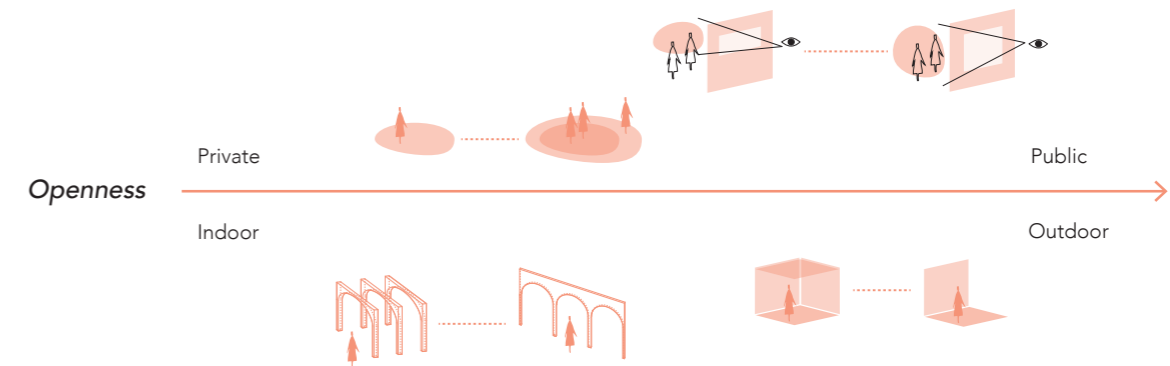
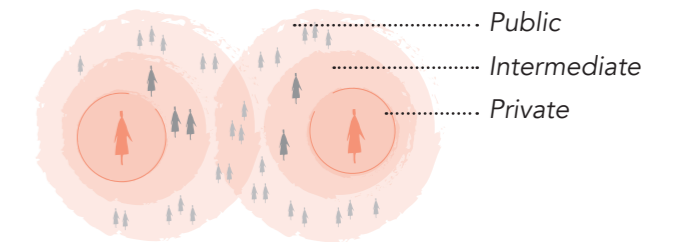
.....2.2

Openness

Transitional space is that space of experiencing, between the **inner and outer** worlds, and contributed to by both, in which primary creativity (illusion) exists and can develop (Winnicott, 1951). Since transitional space is defined as the space between inner and outer, openness is appropriate to show how much the transitional space belongs to outside or inside.



When encountering the transition between areas described by discrete degrees of accessibility and avoiding a sharp division between **public and private spaces**, that notion of the 'intermediate' is utilized. This kind of 'transitional' spaces, known as thresholds, are accessible to both spheres (Psillidis, 2006). Therefore, I also use openness to describe the degree of privacy or publicity in transitional space.



Architectures and access to them are utilized to demonstrate openness and the associated dissolution of the threshold (Boettger Till, 2014). In previous studies, both Kisho Kurokawa and Aldo Van Eyck created transitional spaces between inside and outside to provide semi-open spaces for people to have better experiences. The openness of transitional space can also demonstrate the capacity of the population. People are more likely to participate in those events when they can perceive the activities around them, such as view inside from the windows or attracted by sounds.

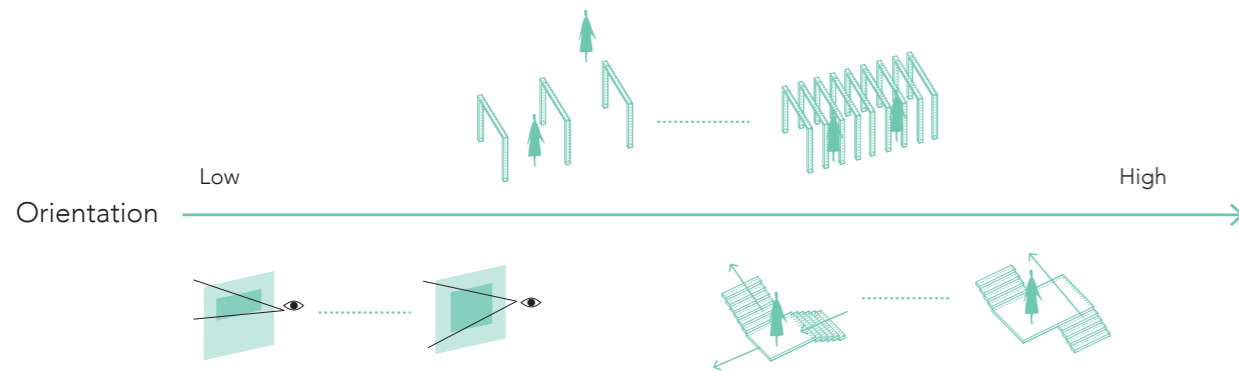
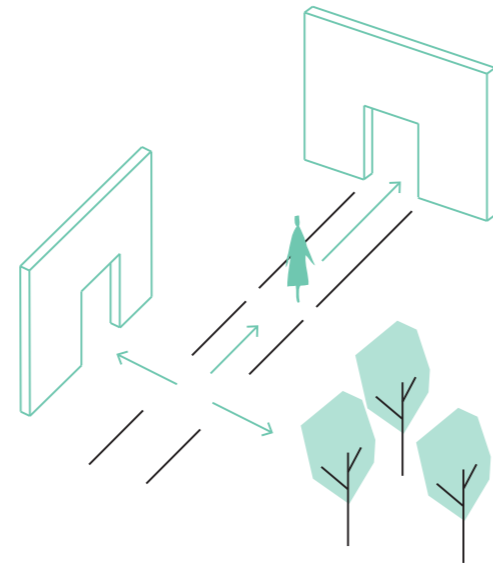
CONCLUSION

.....2.2

Orientation

We see threshold spaces as part of the transitional space, which lives on their double function: access control and opening. The threshold space provides orientation and facilitates, both literally and figuratively, access to space. In threshold spaces, people find themselves in a state of between-ness (Boettger Till, 2014). I use orientation to describe the abilities of the transitional space to lead people to somewhere, such as leading the way to the entrance of the building. Transition elements can help to emphasize the orientation.

It should be noted that transparent spatial boundaries that can genuinely be looked through can make a positive contribution to the orientation process because they provide glimpses of what is to come and in a very natural manner communicate necessary information (Boettger Till, 2014). Perceptions of human, like vision and audition, can be influenced by the transition elements that oriented the way.



Depending on how the sense organs have been trained, humans achieve an ability to perceive their environment and orient themselves in space. A deciding factor in this interaction of the sense organs is movement. Transition elements play an essential role in leading people from outside to inside. For example, the arcades or the steps are always connected to somewhere that people would go.

CONCLUSION

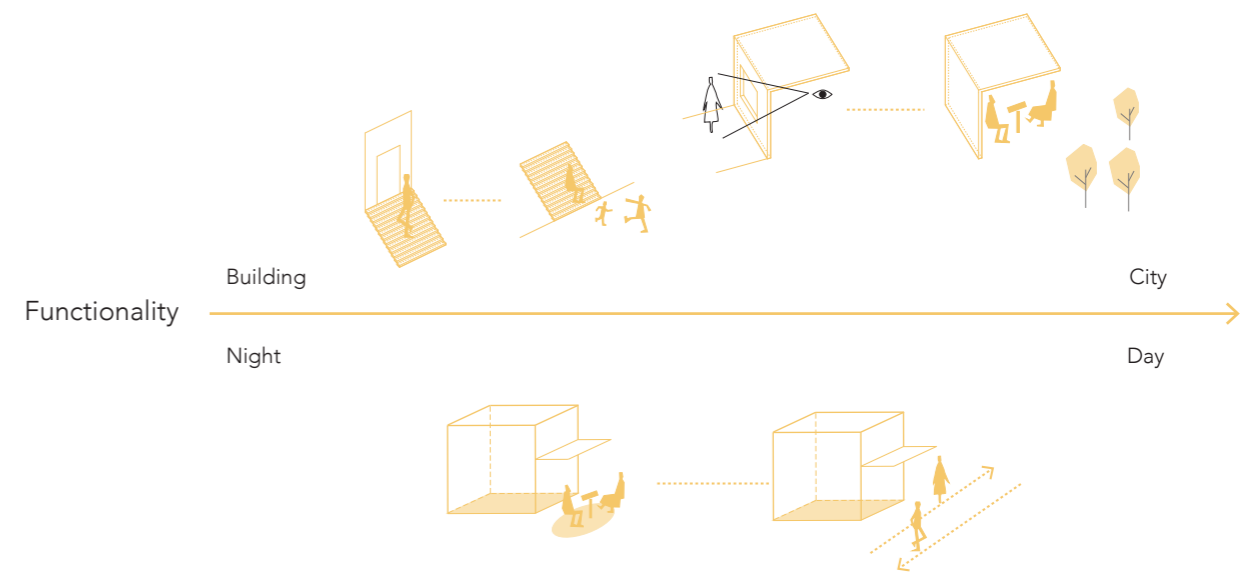
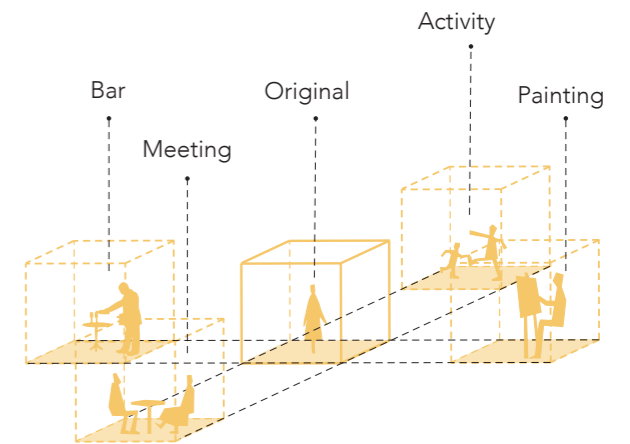
.....2.2

Functionality

The pursuit of structuralism is to create a structural frame; people can **change the function of the space** in the way they want. Aldo Van Eyck conceived of the 'in-between' as a place where different things can meet and unite, or more specifically, as 'the common ground where conflicting polarities can again become twin phenomena'.

The transitional space, as the connection between buildings and city, providing spaces for both buildings and city, which made it a multi-functional spaces. In this thesis, Functionality means except for the function that transfers outside to inside, the possibilities of other functions or activities that would happen in the space.

Kisho Kurokawa also mentioned that the transitional space served city may have different functions during days and nights.



In the previous study of Amsterdam Orphanage, Aldo Van Eyck used basic spatial units to contain different functions. The transitional space between each unit changed with different needs of people. Transitional space as an intermediate area served both inside and outside of the building. For example, the steps can be access to the inside of the building; it can also be a seat for people to view activities that happened on the street. The Functionality of transitional space can change with the time and people who use it.

CASE STUDIES

.....2.3

Barcelona Museum of Contemporary Art

Project: Cultural Architecture
 Architect: Richard Meier
 Location: Barcelona, Spain

The museum plays a vital role in restructuring the urban area and helps to consolidate this new arts quarter within the broader urban fabric.

The urban area is activated by the ramp and two sculptural elements. As the connection between the museum and plaza, the ramp provides visitors with spaces that not only leading them to the entrance but also accommodating various city events like skateboarding.

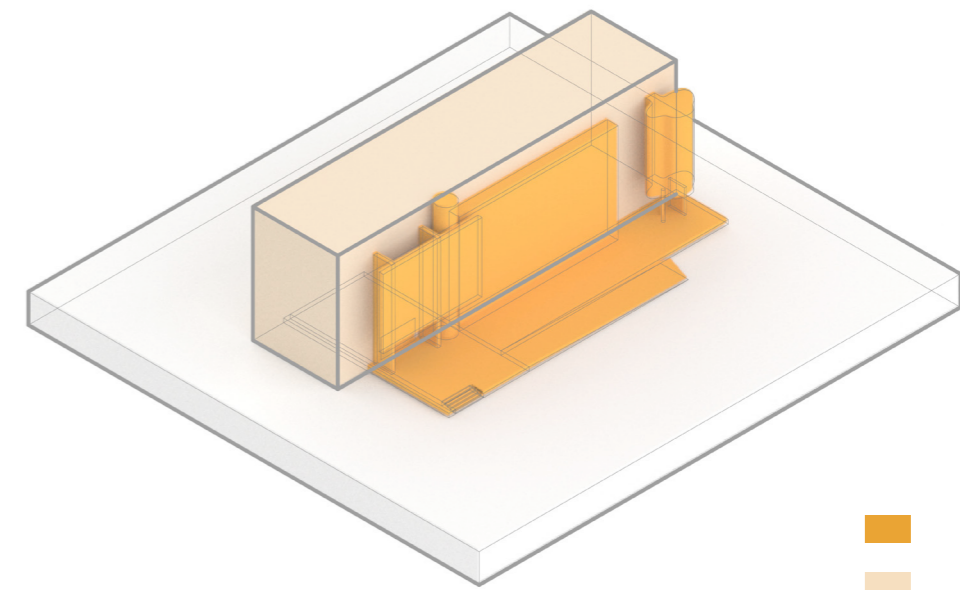
A cut-out plane is set in advance of the building

to emphasize the entrance, and together with a semidetached wing at the eastern end of the block, animated the plaza elevation.

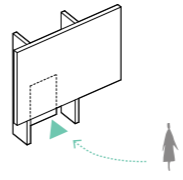
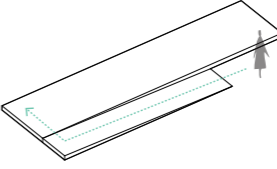
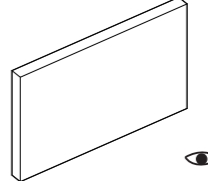
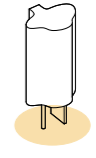
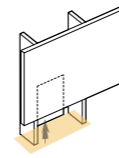
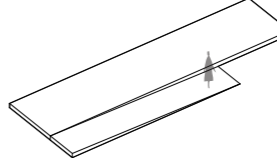
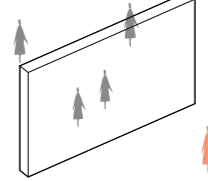
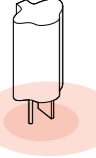
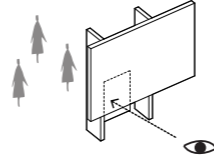
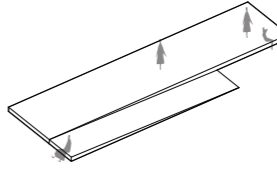
The building has much of its main facade glazed which transit the view between inside and outside. It gives people chances to view across the plaza and preview the interior galleries and allows sufficient natural light to illuminate the interior. Natural light combined with the whiteness of the interior surfaces expands and enlarges the perception of the space.



Figure 9: BMOCA, Barcelona. Author's own copyright.



Transition Elements

ENTRANCE	SLOPE	GLASS WALL	ADDITIONAL STRUCTURE
 Highlight Entrance	 Lead to Entrance	 View/Light	 Shelter
 Shelter	 Activities	 Preceive Inside	 Privacy
 Preceive Inside	 Stay		

CASE STUDIES

.....2.3

Portugal Pavilion

Project: Cultural Architecture
 Architect: Álvaro Siza Vieira
 Location: Lisboa, Portugal

The Portugal Pavilion is designed under the theme of the Expo, "The Oceans: A Heritage for the Future" and aimed to create an interactive space between the pavilion and the harbour.

The suspended overhead canopy is the highlight of this project, which create a shaded public plaza and connect the space with the view beyond to frame the vista of the water. Space underneath gives people a sense of peace and elegance.

In addition to being the structure supporting the

canopy, the porches themselves has also created a transitional space between the plaza and building. Each porch is composed of nine massive columns; the irregular but rhythmic arrangement of the columns create a beautiful sense of sequence. The doorway is cleverly hidden between the porches and unconsciously played a role in the transition of space.

The white arcade gives people chances to communicate visually with the water; the aspect ratio of the arcade creates a classically modern

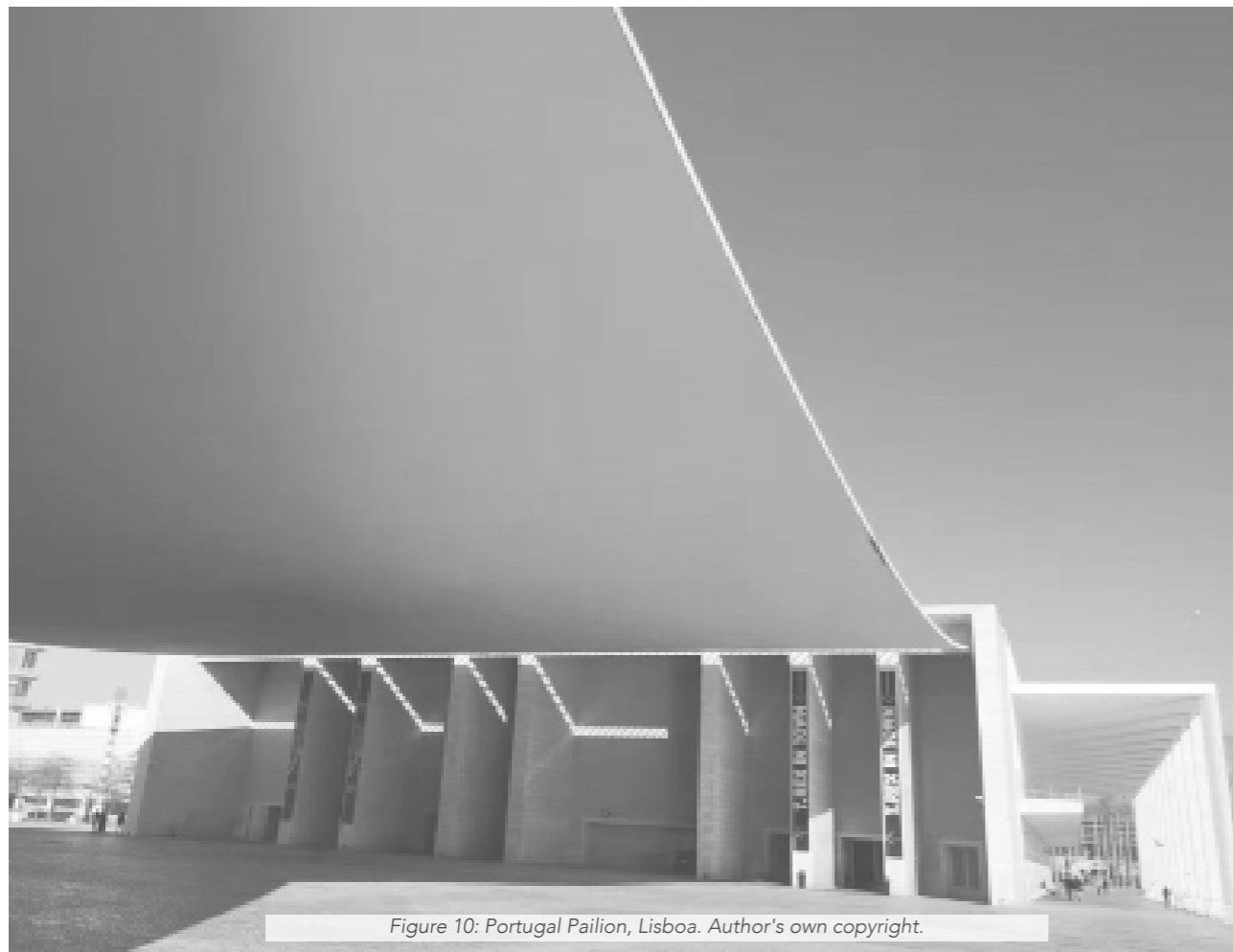
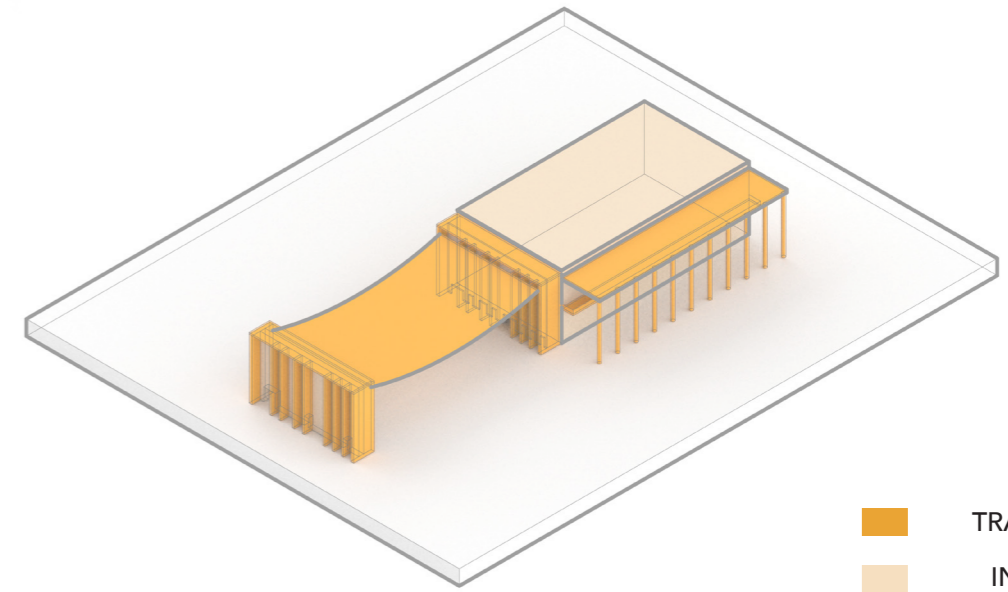


Figure 10: Portugal Pailion, Lisboa. Author's own copyright.



- TRANSITION
- INTERIOR
- EXTERIOR

Transition Elements

CANOPY	ARCADE	COLUMN	THRESHOLD
 Shelter	 Divide space	 Structure	 Entance
 Orient Direction	 Shelter	 Shelter	 Divide Space
 Activities	 Orient Direction	 Stay	 Orient Direction

CASE STUDIES

.....2.3

Apple Piazza Liberty

Project: Commercial Architecture
 Architect: Foster+Partners
 Location: Milano, Italy

The Apple Store in Milan is considered as a city public facility more than a store, which provides citizens with a vibrant city plaza. It is mainly composed of two fundamental parts, a stepped plaza and a fountain.

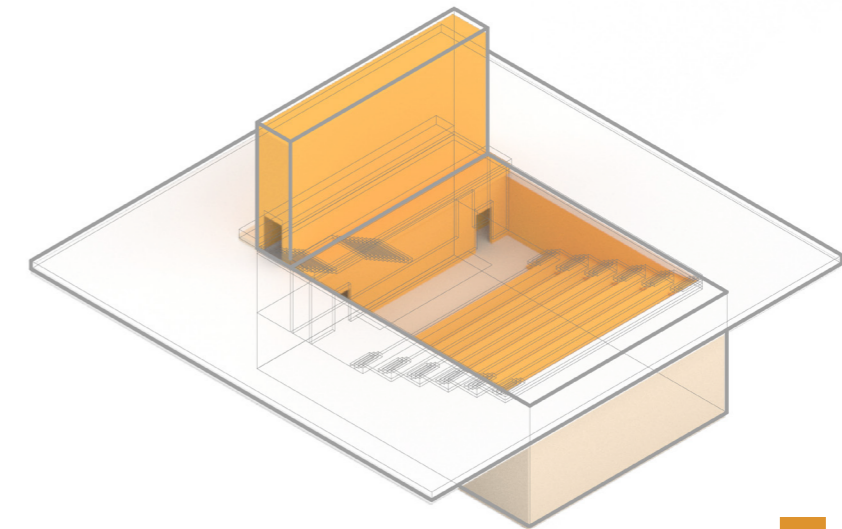
The only visible building on the ground is a glass box, which is combined with the fountain. Visitors enter the fountain through the glass-covered entrance enveloped by the sights and sounds

of vertical jets of water. The water feature gives people an interactive, multisensory experience and embodies the dynamic nature of the city.

The fountain flows down into the base of the amphitheater, forming a new social hub and an outdoor extension of Apple Store. It hosts special events throughout the year. The stepped plaza is also a second way to enter inside, hiding the retail area from the public.



Figure 11: Apple Store, Milano. Author's own copyright.

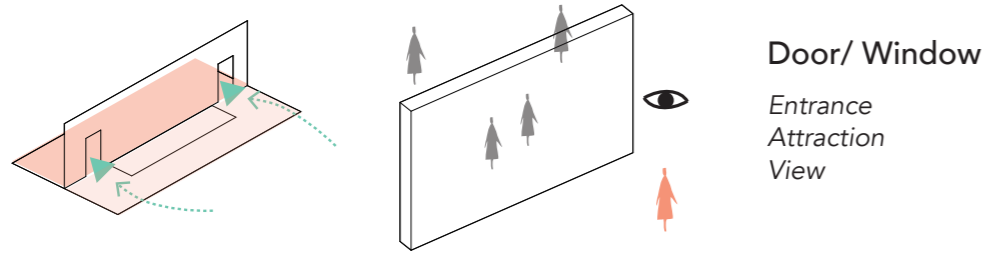


- TRANSITION
- INTERIOR
- EXTERIOR

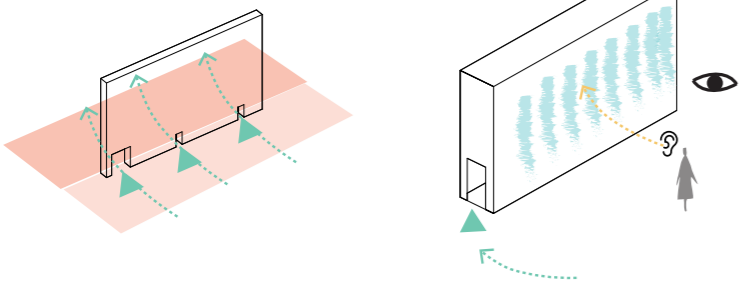
Transition Elements

STEPS	WATER POOL	GLASS WALL	SQUARE
Walk	Landscape Node	Highlight Entrance	Lead to Entrance
Stay	stay	Audition Attraction	Walk
Orient Direction		Visual Contact	Perceive Inside

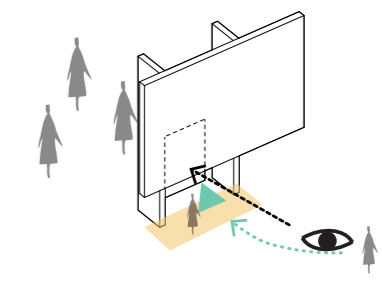
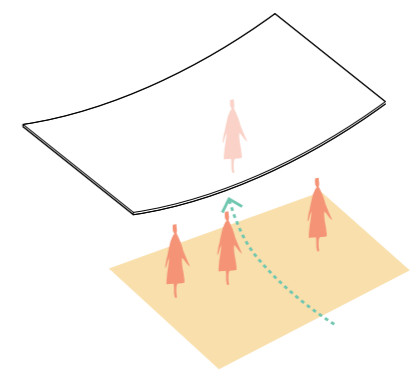
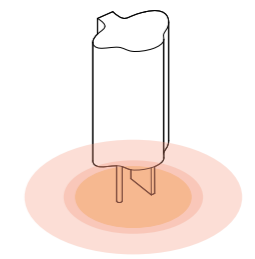
Transition elements extract from the references



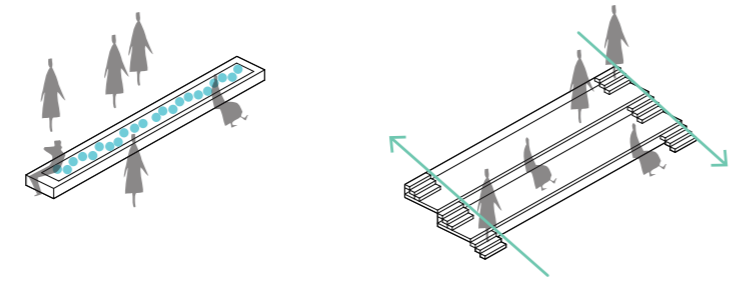
Door/ Window
Entrance
Attraction
View



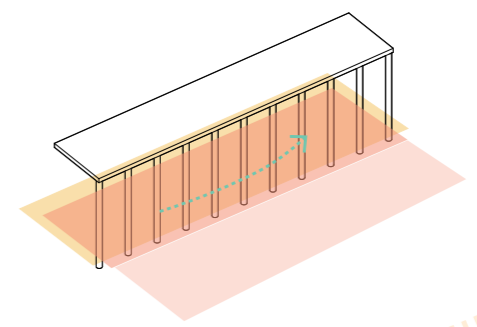
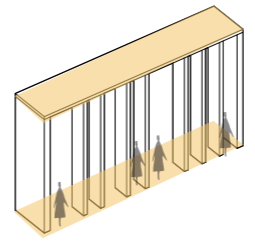
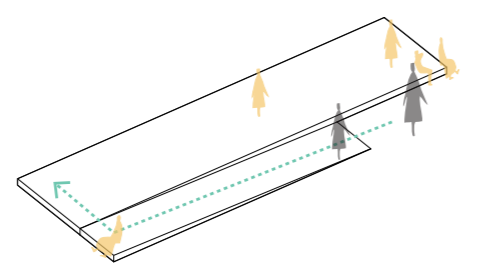
Canopy
Shelter
Stay
Entrance



Steps/ Ramp
Walk
Stay
Seat
Orientation



Arcades
Shelter
Stay
Orientation



"My concepts of intermediating space and intermediating elements are linked to the question whether we can't reintroduce a space that permits this kind of communication among people, unobstructed by any dualistic division between inside and outside, a space free of the divisions of walls, into architecture today, I have identified a variety of architectural details -- the space beneath the eaves, the engawa, corridors, and lattice doors among them ."

---- Kisho Kurokawa, 1987

CHAPTER 03

Design Elements

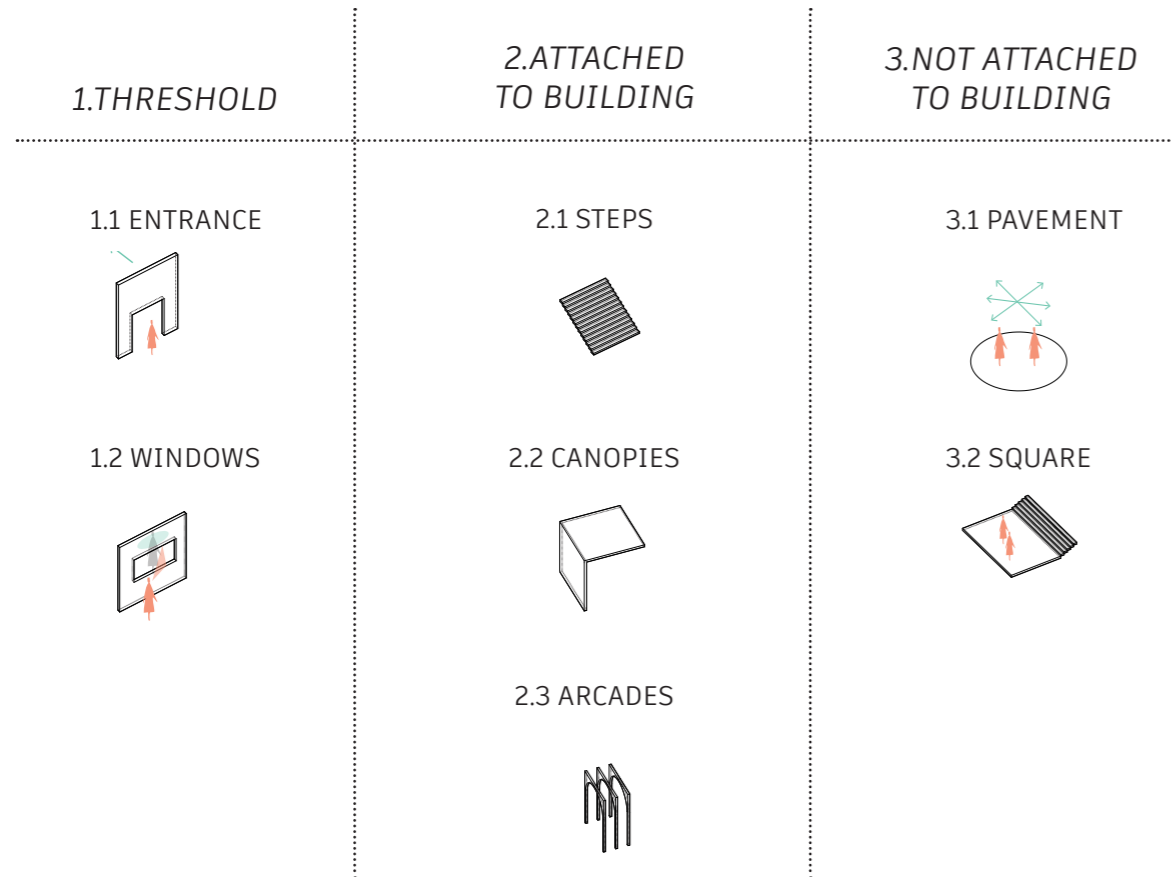
- 3.1 DESIGN ELEMENTS
- 3.2 CATALOG
- 3.3 PROTOTYPE

DESIGN ELEMENTS

.....3.1

CATALOG

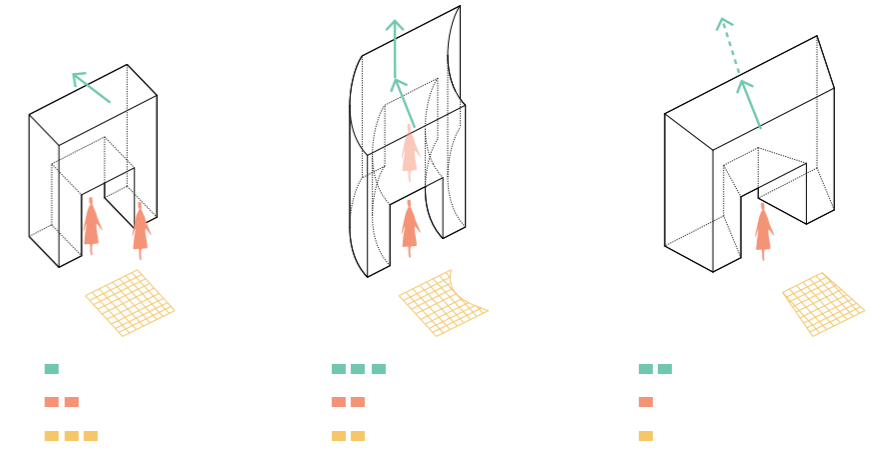
.....3.2



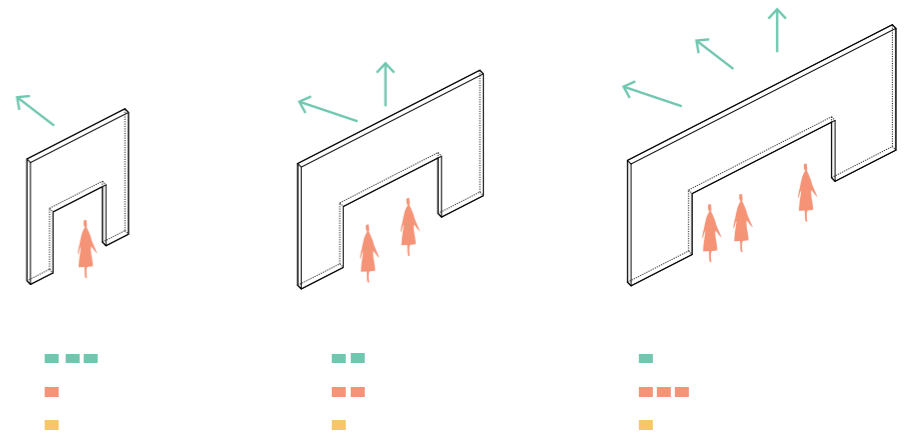
After doing the research of the transitional space and the study of cases, these elements were selected to be the components of my project. Each of them has different parameters; the combination of different parameters will be influenced by the three properties, openness, functionality and orientation.

Entrances

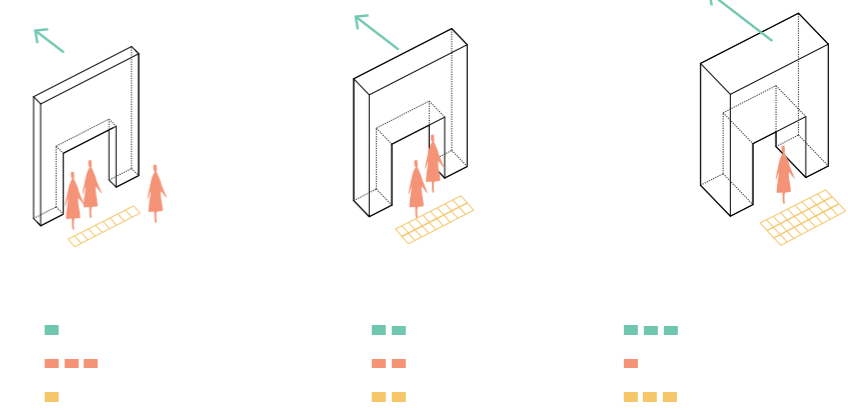
Shape



Scale



Thickness



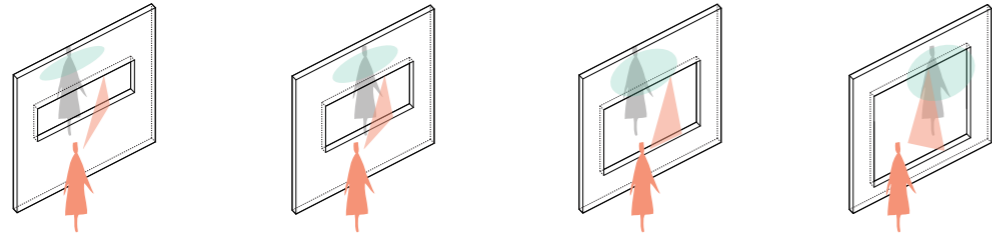
The entrance is somehow the first element people will meet when they come from inside to outside or opposite. It is the most natural element that can make people perceive the atmosphere inside the building. Different scale of the entrance will be adapted to different functions.

CATALOG

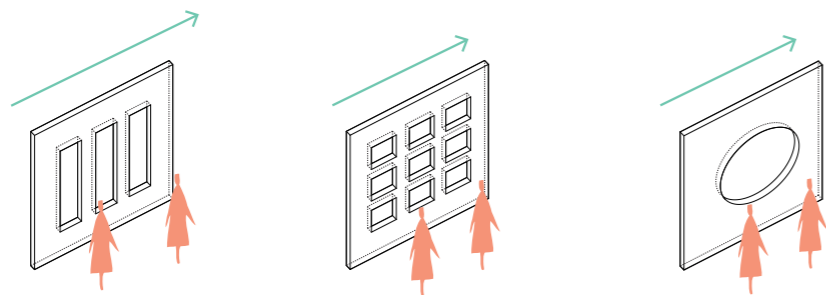
3.2

Windows

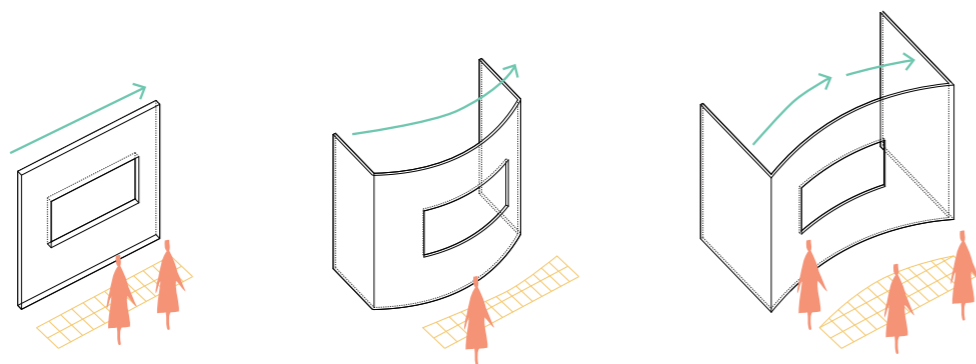
Glazing



Form of Openings



Shape of Wall



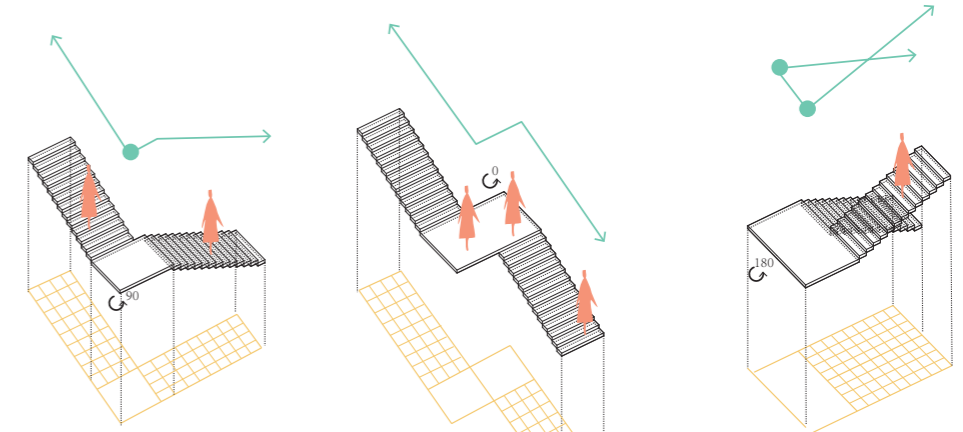
The window is the medium to have visual communication between the transitional spaces. It is the main element that can make people sense what is happening inside the building or start to feel the transitional space. Different shapes of windows have different sequences that will have different levels of orientation.

CATALOG

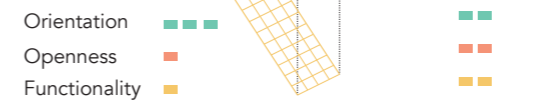
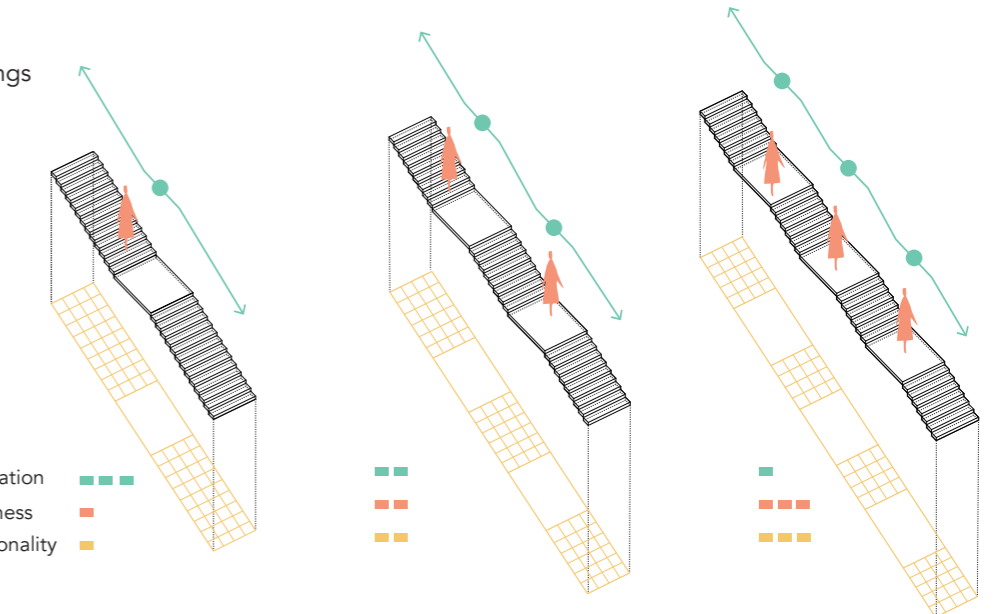
3.2

Steps

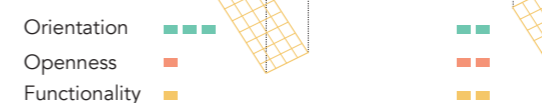
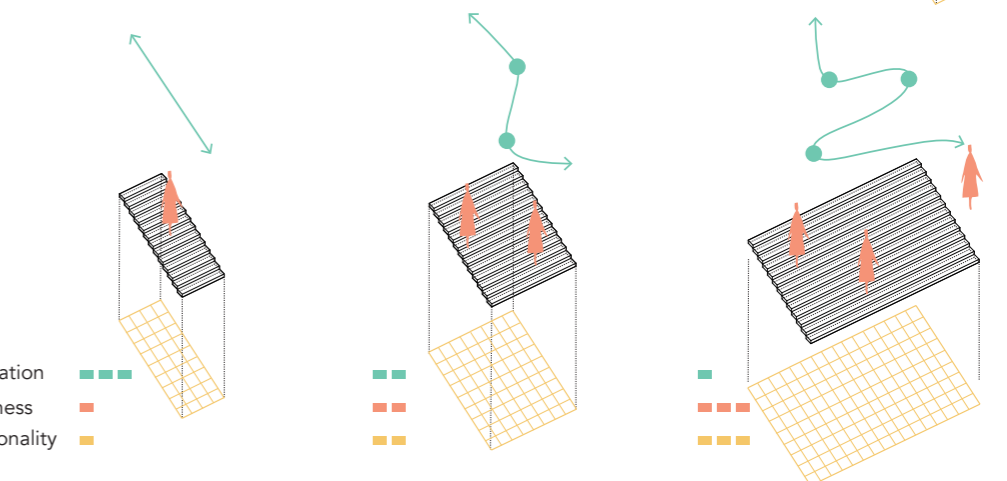
Angle of Turning



Number of Landings



Weight of Steps



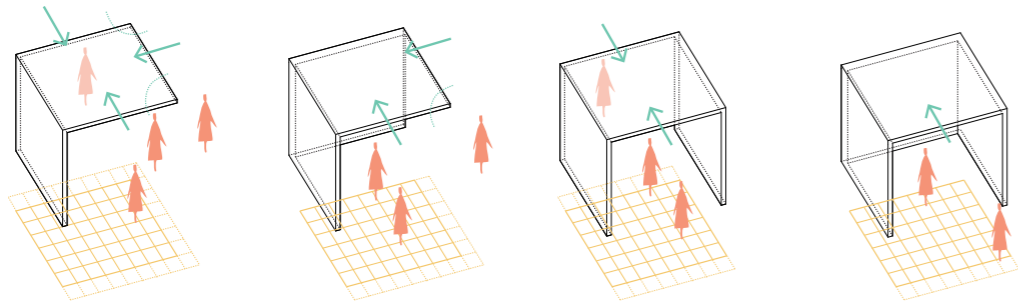
The steps are the elements that can transit spaces with different height; it can help people go up and down. Usually, it connects to the entrance or other functional area, when there is a height difference, space is emphasized, and it can easily give people an orientation. Different types of steps have different functions. For example, more significant steps could provide space to sit.

CATALOG

3.2

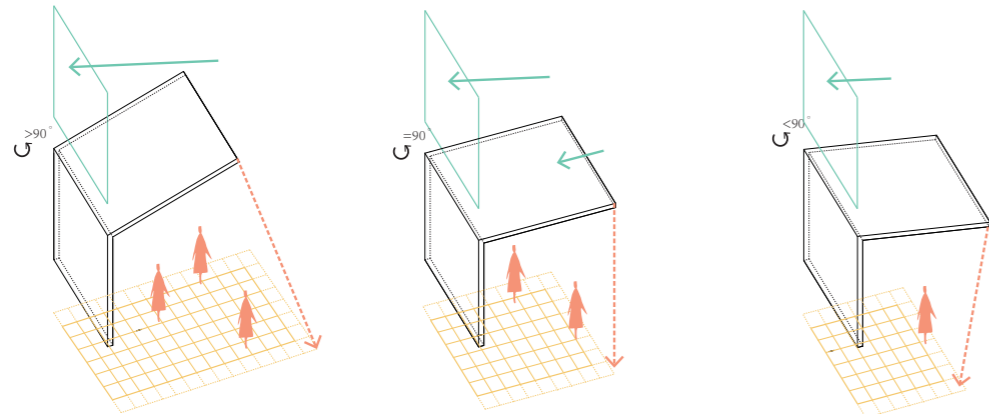
Canopies

Connections with Walls



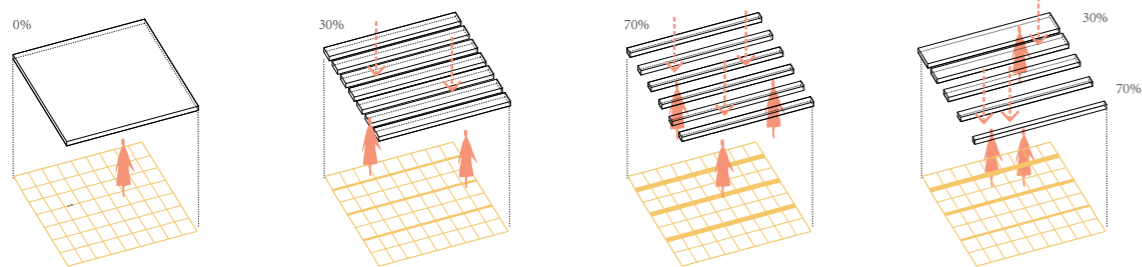
Orientation	■	■ ■	■ ■ ■	■ ■ ■ ■
Openness	■ ■ ■	■ ■	■ ■	■
Functionality	■ ■ ■ ■	■ ■ ■	■ ■	■

Angle



Orientation	■	■ ■	■ ■ ■
Openness	■ ■ ■	■ ■	■
Functionality	■ ■ ■	■ ■	■

Transmittance



Orientation	■ ■	■ ■	■ ■	■ ■
Openness	■	■ ■	■ ■ ■	■ ■ ■
Functionality	■	■ ■	■ ■ ■	■ ■ ■

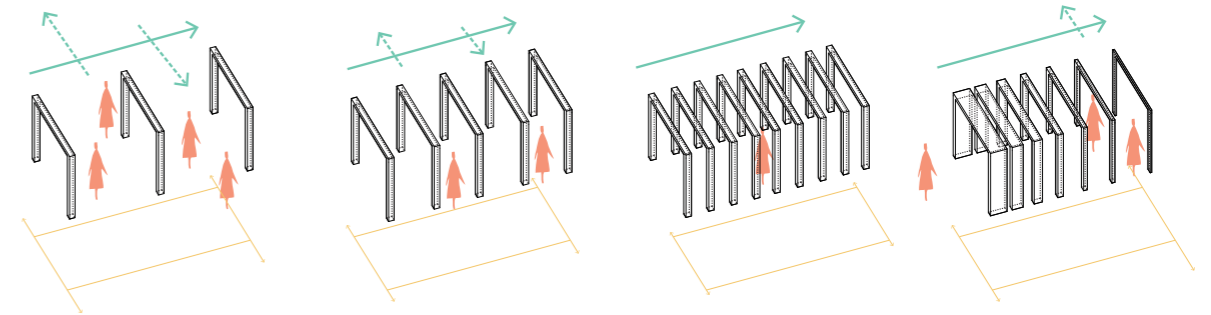
The canopies, which are the extension structure of the architecture, are usually connected to the building with the outside environment. They have opportunities to create an underneath space with extra value. It is part of the building and sheltering outdoor people. When they walk under the canopy, people can sense both interior and exterior of the building.

CATALOG

3.2

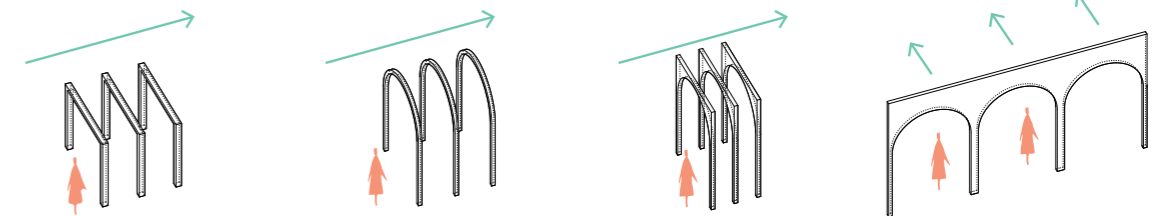
Arcades

Density of column



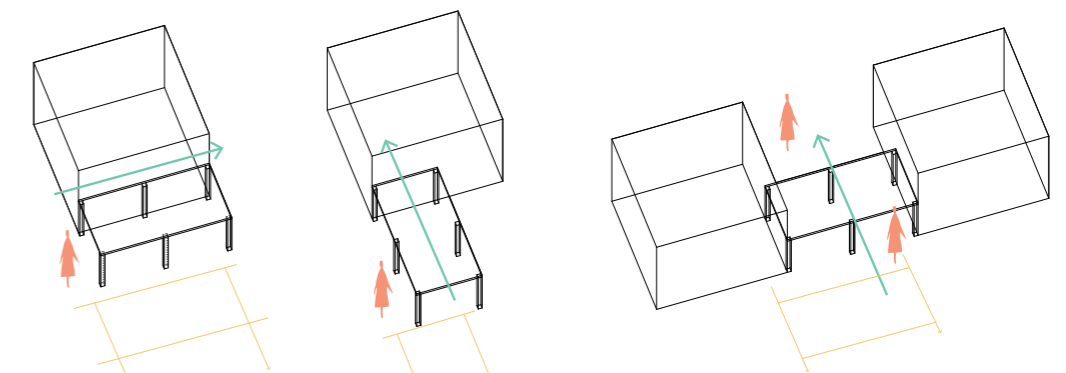
Orientation	■	■ ■	■ ■ ■	■ ■ ■
Openness	■ ■ ■	■ ■	■	■ ■
Functionality	■ ■ ■ ■	■ ■ ■	■	■ ■

Shape



Orientation	■ ■	■ ■	■ ■	■
Openness	■ ■ ■	■ ■	■ ■	■ ■ ■
Functionality	■ ■	■ ■	■ ■	■ ■ ■

Connections with buildings



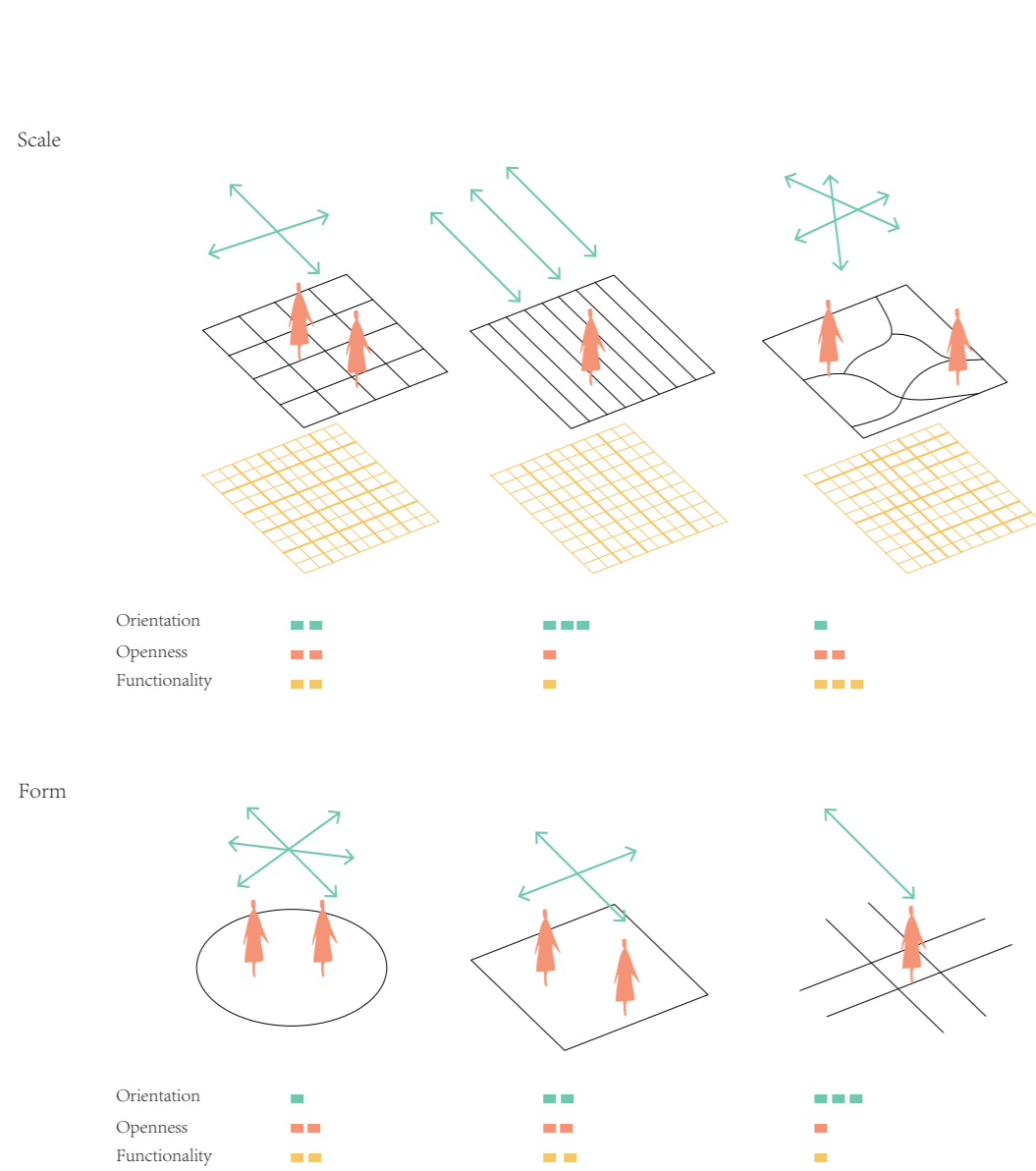
Orientation	■ ■	■ ■ ■	■
Openness	■ ■ ■	■	■ ■ ■
Functionality	■ ■	■ ■	■ ■ ■

The arcades are similar but different from the canopies, which can exist without the building. It provides people with an outdoor shelter and usually leads people to a destination where it connects to. The columns of the arcades are the main components that can give the arcades another function.

CATALOG

3.2

Pavements

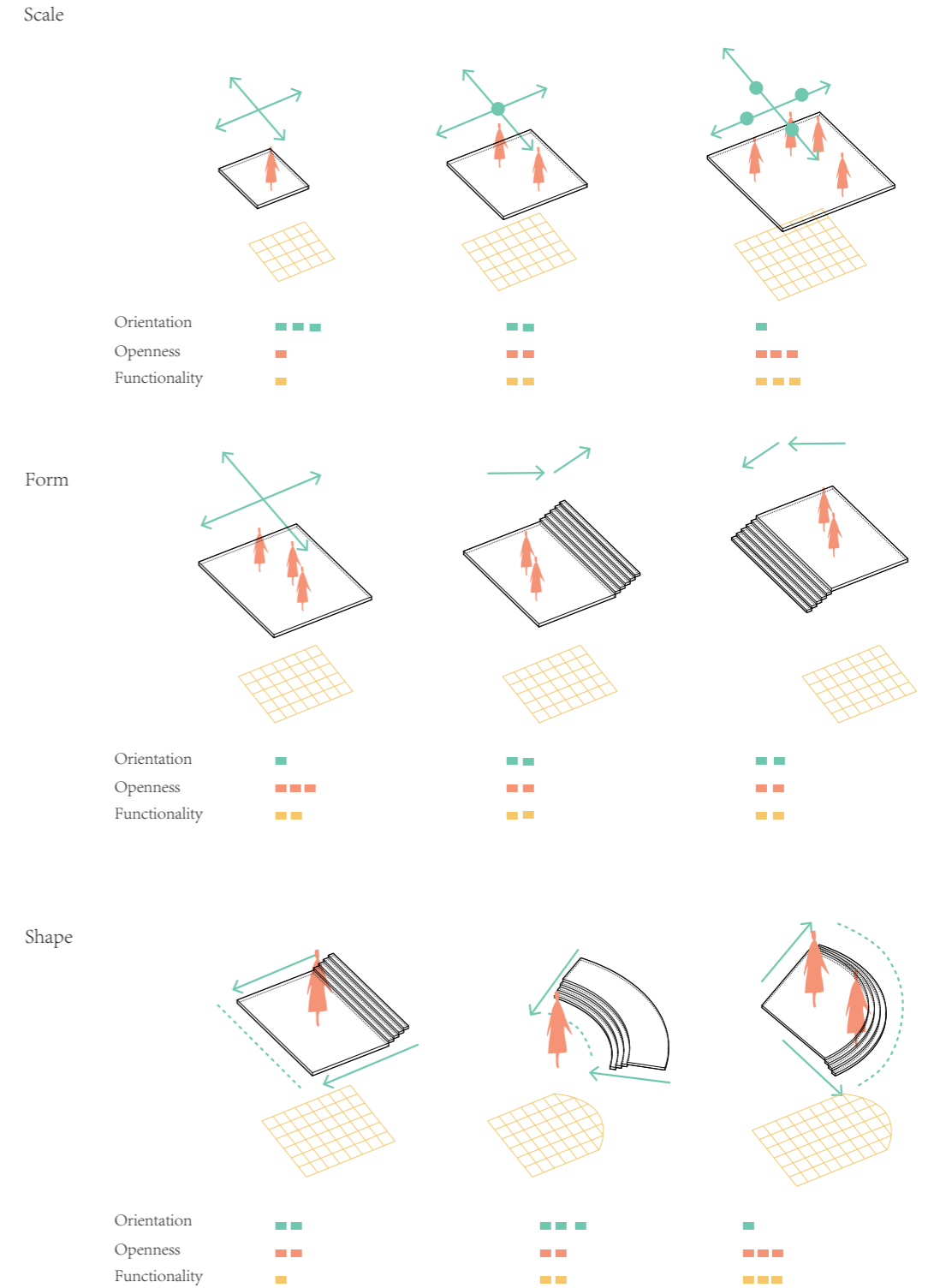


The pavement is used to divide the outdoor spaces visually. Different shapes and forms of pavements can have different functions, some can encourage people to stay, while some can drive people to move. It is an element that affects people from vision.

CATALOG

3.2

Plaza

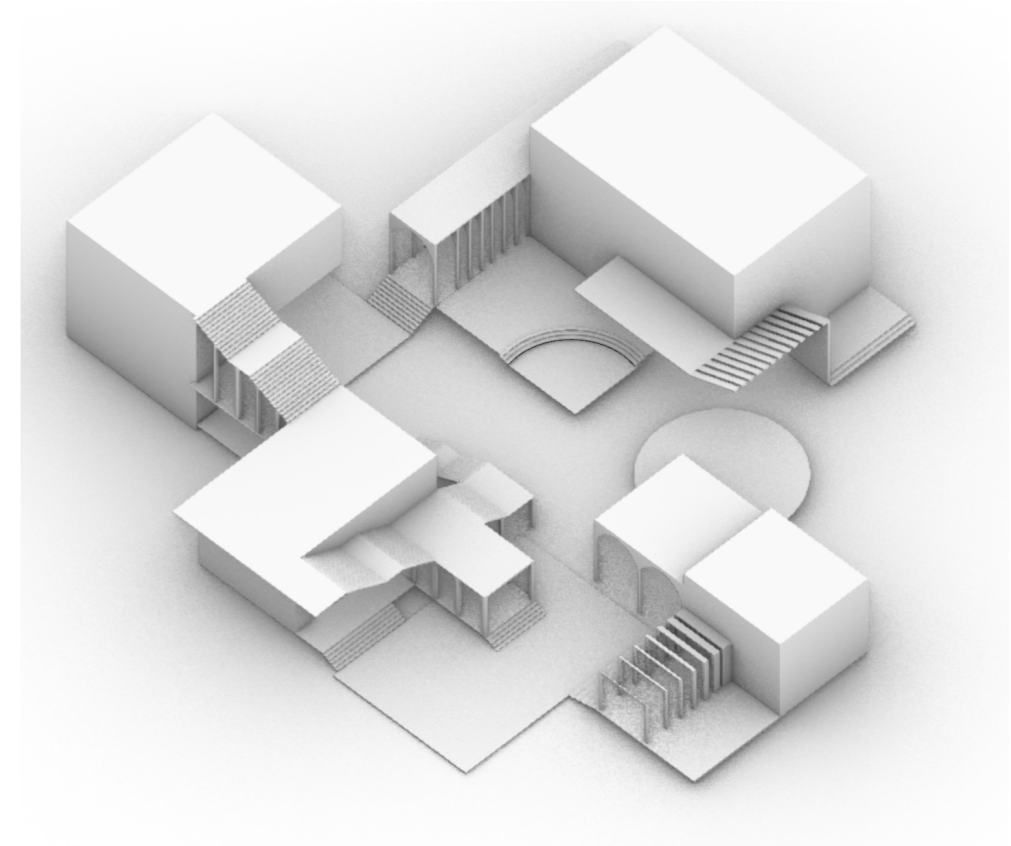


The plaza is a crucial element to provide space for people to hold different activities. It usually connects with the entrance of the building to both serve the building and people who want to go inside.

PROTOTYPE

.....3.3

Experiment on transition of architectural space



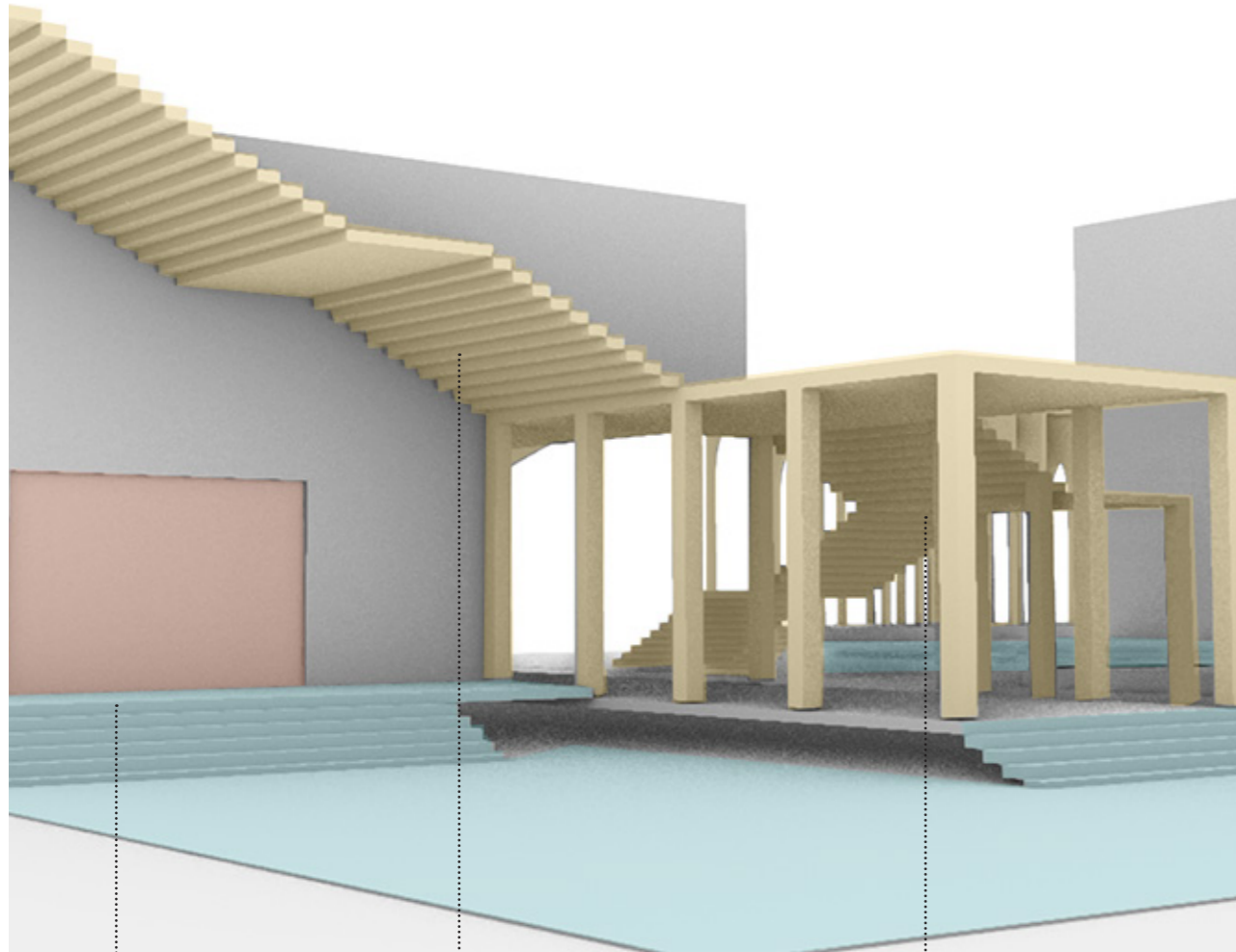
This prototype is the experiment on the transition of architectural space. The purpose of this experiment is to see the differences in the transitional space when they are combined with different transition elements.

The experiment is creating transitional spaces by adding transition elements among four separate buildings, and then trying to find out the transition rules when building; transition elements are combined.

PROTOTYPE

3.3

Scenario 01



The steps that connect with the entrance will highlight the entrance.

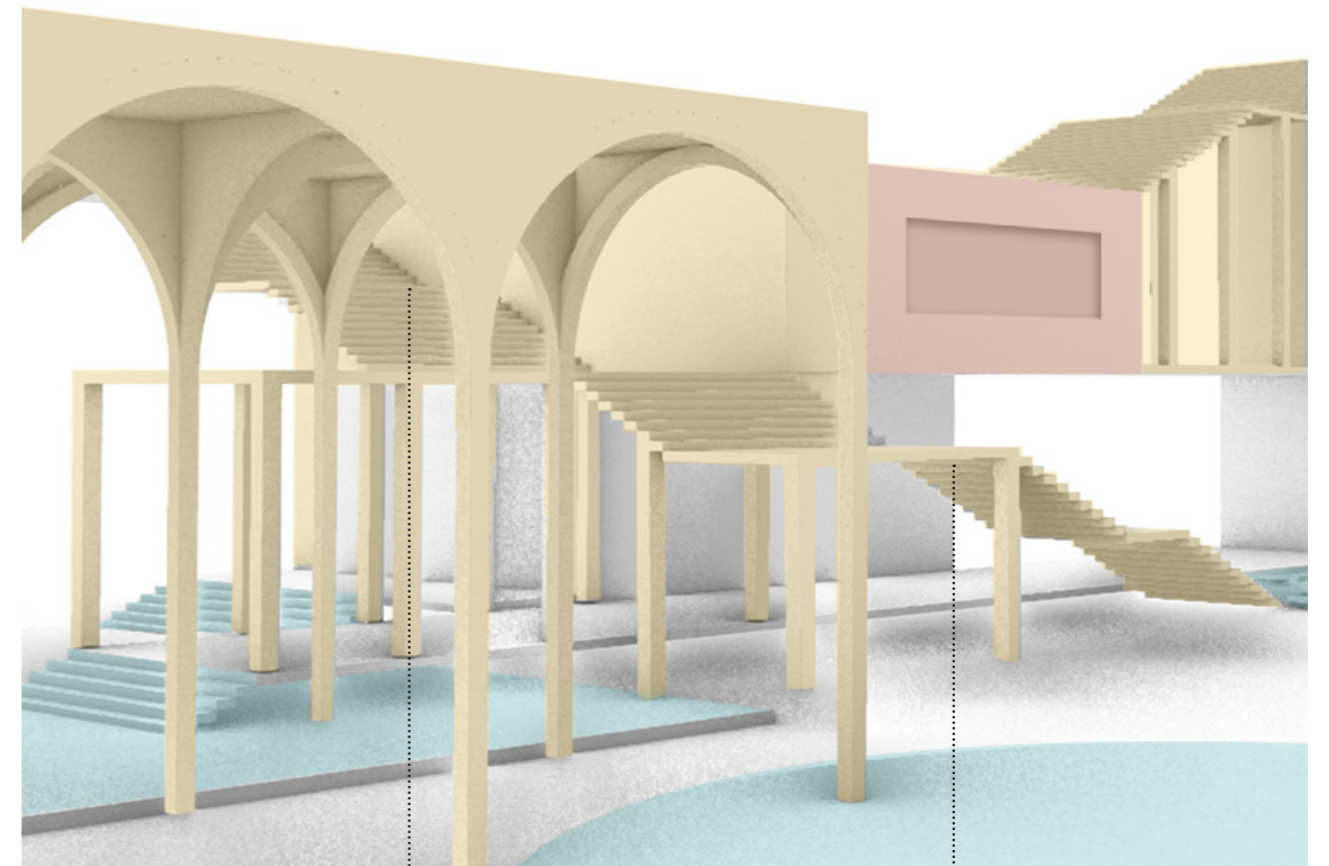
The step can be used to connect the ground with the roof. The roof here also become the connection of the steps.

The arcades lead the way to the entrance.

PROTOTYPE

3.3

Scenario 02



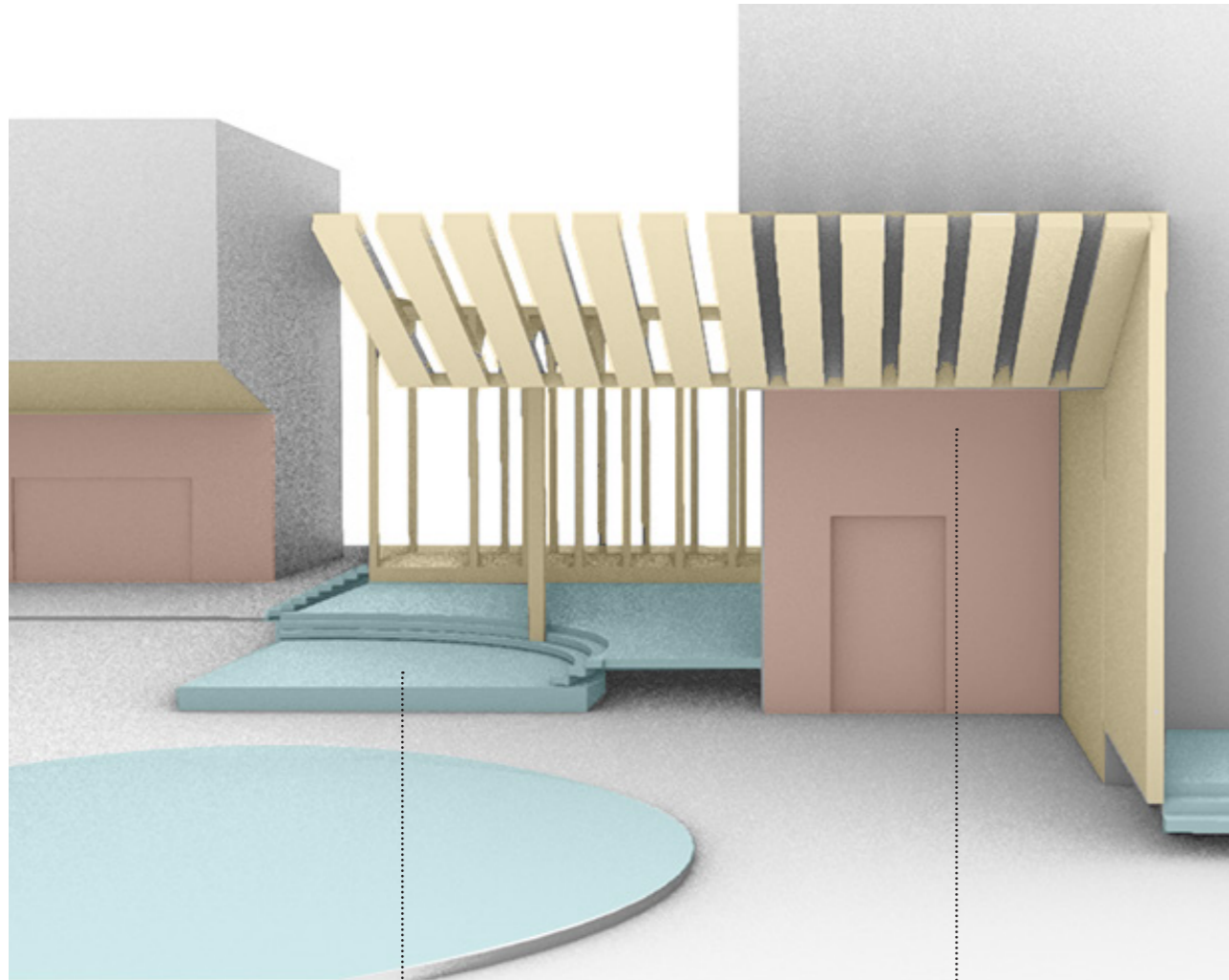
Arcades can give shelter for people to have different activities.

The connection of the steps and arcades can not only create a transitional shelter underneath but also a new path on the top.

PROTOTYPE

3.3

Scenario 03



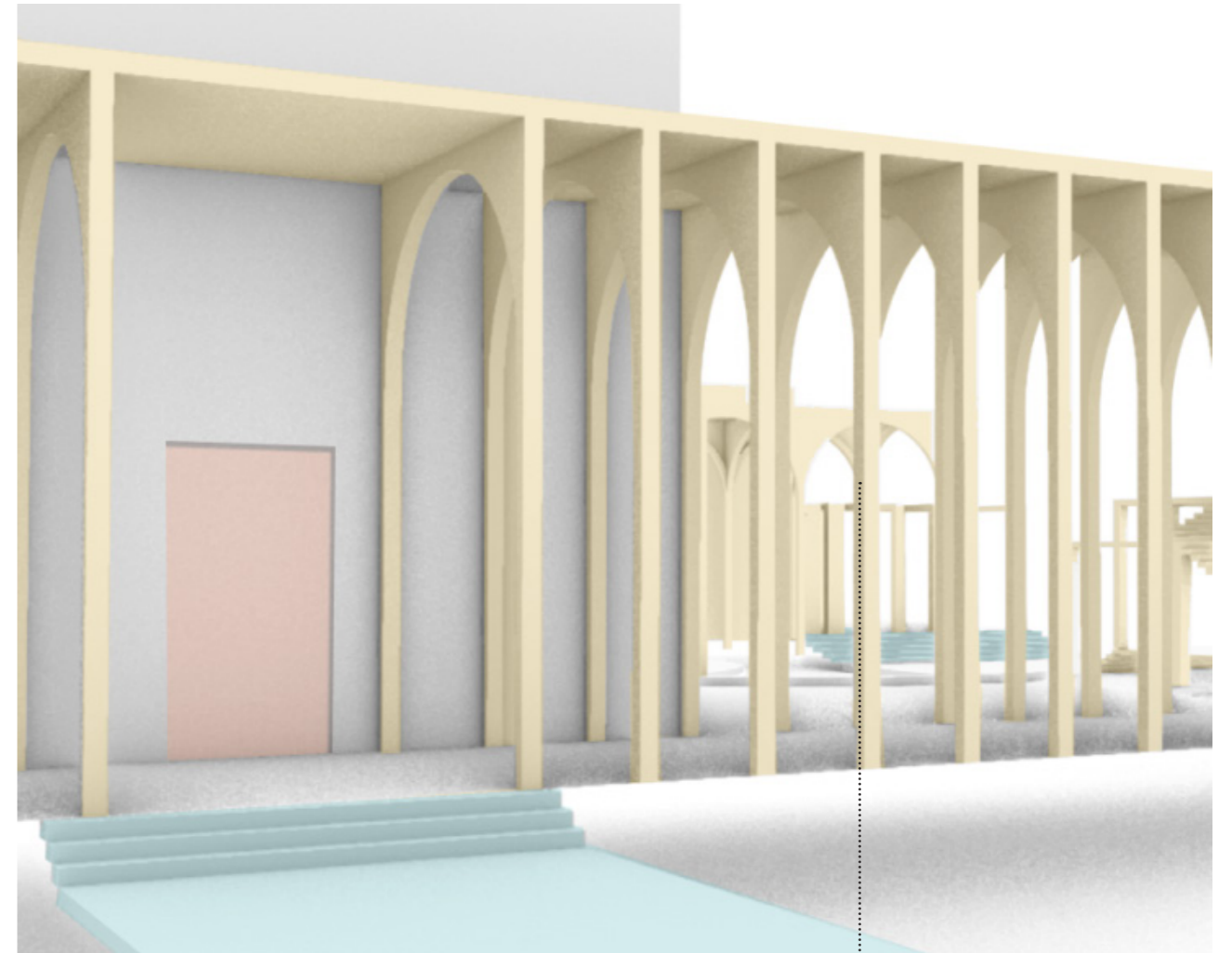
Adding elements with the plaza create a mixed space which transits from grey space to open space. When the element overlaps, space becomes more ambiguous.

The canopy can not only give a shelter for people but also highlight the entrance.

PROTOTYPE

3.3

Scenario 04



When the density of the column is low enough, the canopy could have an entrance which can provide a new path. The adding of steps emphasize this orientation.

CHAPTER 04

Site Development

- 4.1 CONTEXT
- 4.2 PROGRAM
- 4.3 *DESIGN LOOP*
- 4.4 PROCESS
- 4.5 PROPOSAL

CONTEXT

Future Planning

4.1



Götaleden is in a complicated urban context. It is located on the southern bank of the river in Gothenburg, between Nordstan and the Opera, surrounded by residential buildings and offices.

In the future planning of Gothenburg, the riverside will be activated to enrich people's daily lives. A new station will be built in this area which will bring a heavy flow into

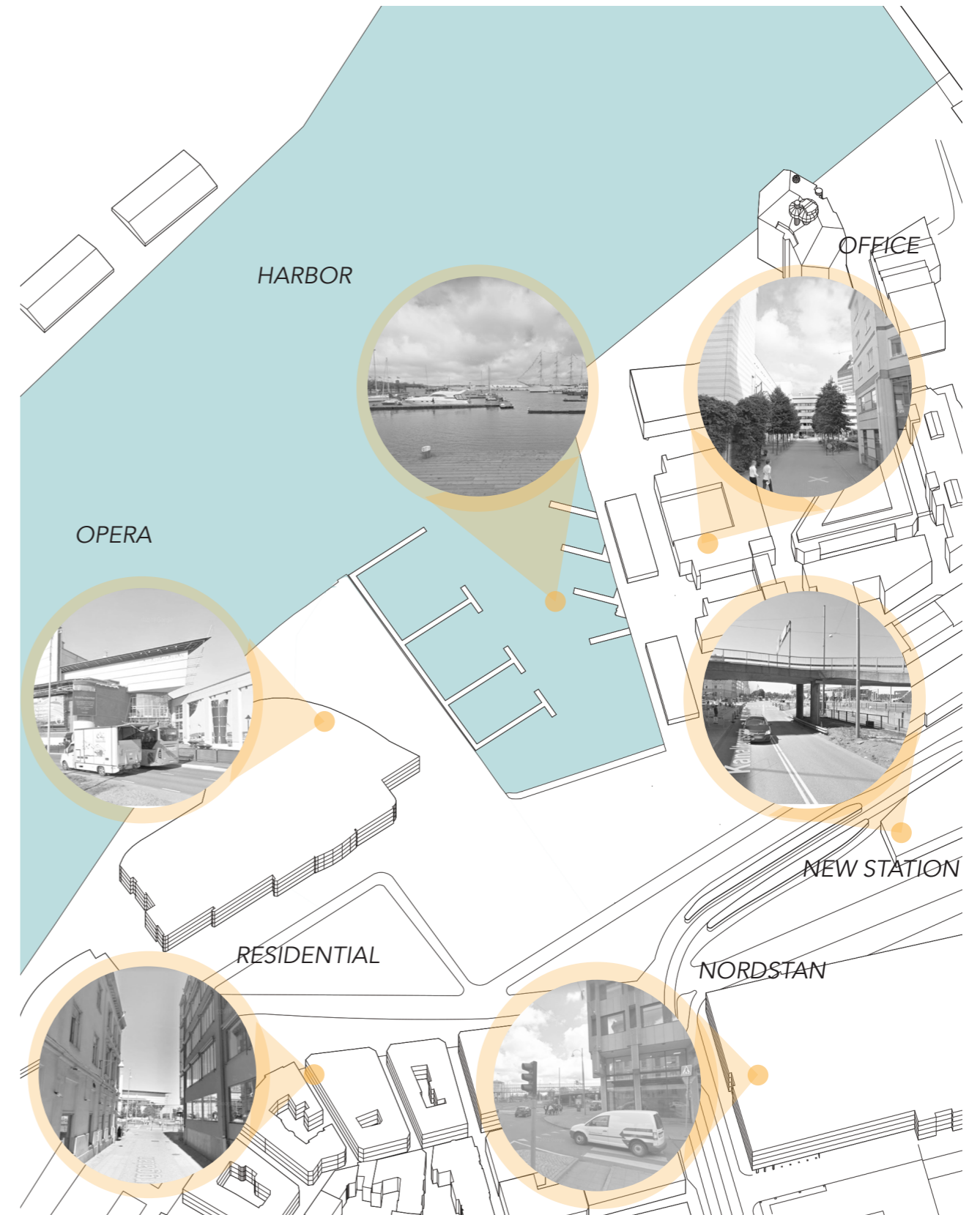
the site. This area in the future will provide pedestrian and cyclists with a welcoming environment. The north part of Nordstan will be developed into one attractive and integrated part of central Gothenburg.

This area will be an attractive, energetic and functional district and benefit residence, officers and passerby.

CONTEXT

Surroundings

4.1



PROGRAM

Urban Infrastructure

4.2



Figure 12: Central Park to Ho Chi Minh City, LAVA and Aspect Studios
 Figure 13: Xili sports and cultural center, MVRDV
 Figure 14: Gallery of Children's House, MU Architecture-10, CC-BY

In 2035, the population of Gothenburg will be increasing; many immigrants will settle in this city. This area will be the entrance of the southern part of the city. To help people get familiar with the city and also activate the surroundings, I will treat the site as public infrastructure.

The project will not be a whole building, but public space mainly focuses on transition, which

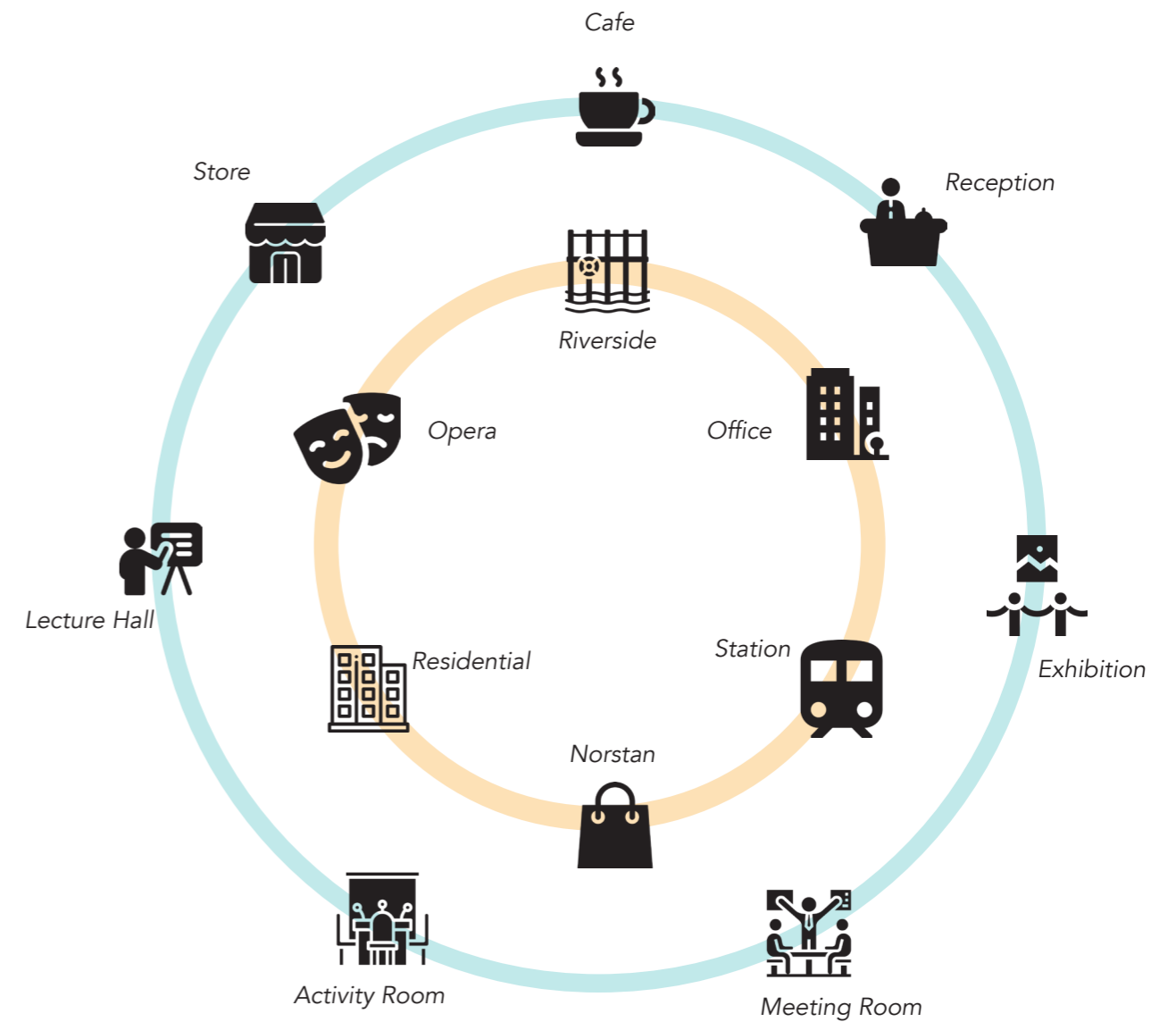
will transit from inside to outside, from city to river and from building to building. Different functions will be distributed in the whole site, which will also serve the surroundings.

Since this area will be an active urban site connect with the riverside, it will attract people to know more about the city.

PROGRAM

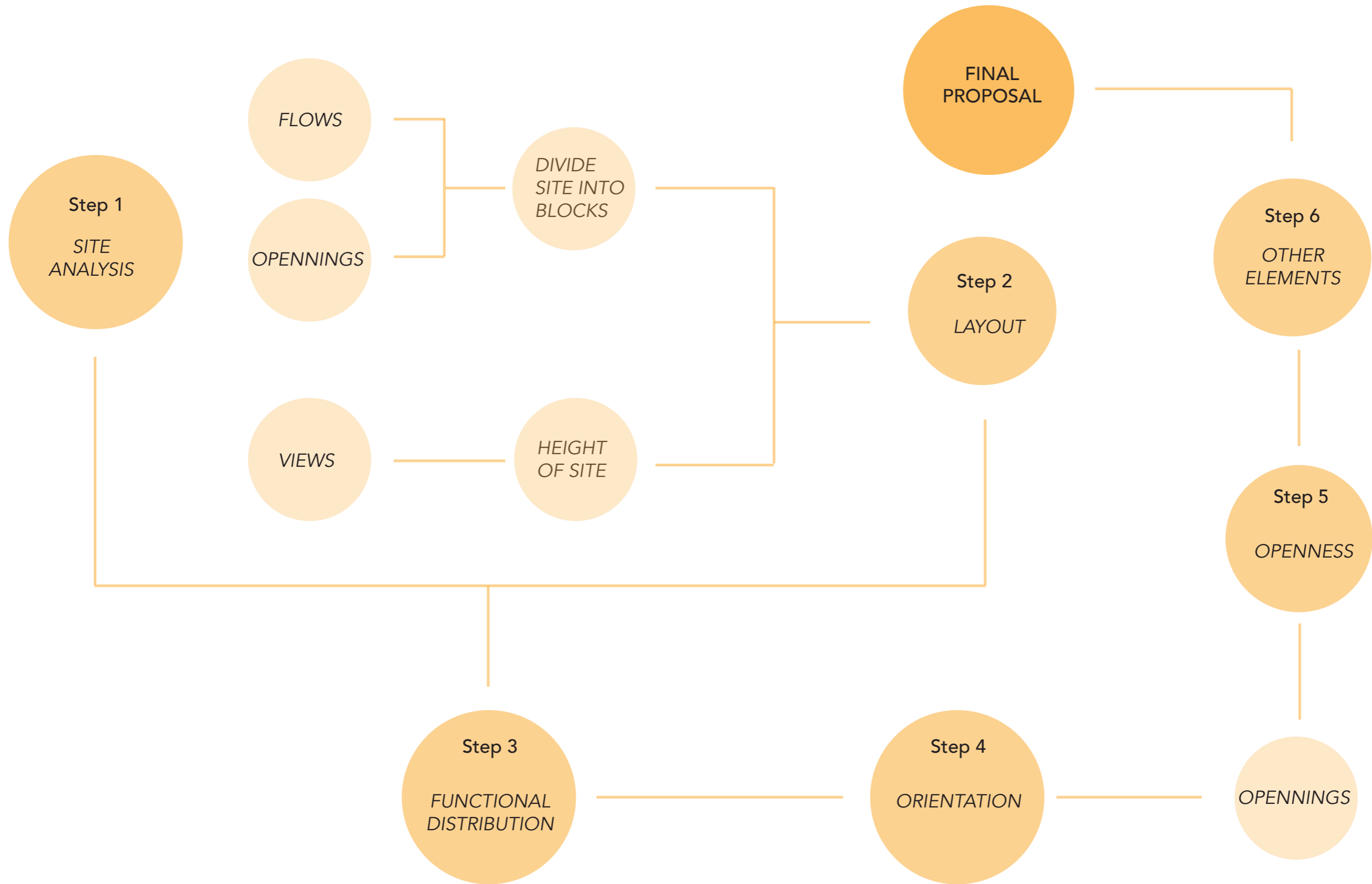
Urban Infrastructure

4.2



DESIGN LOOP

4.3



PROCESS

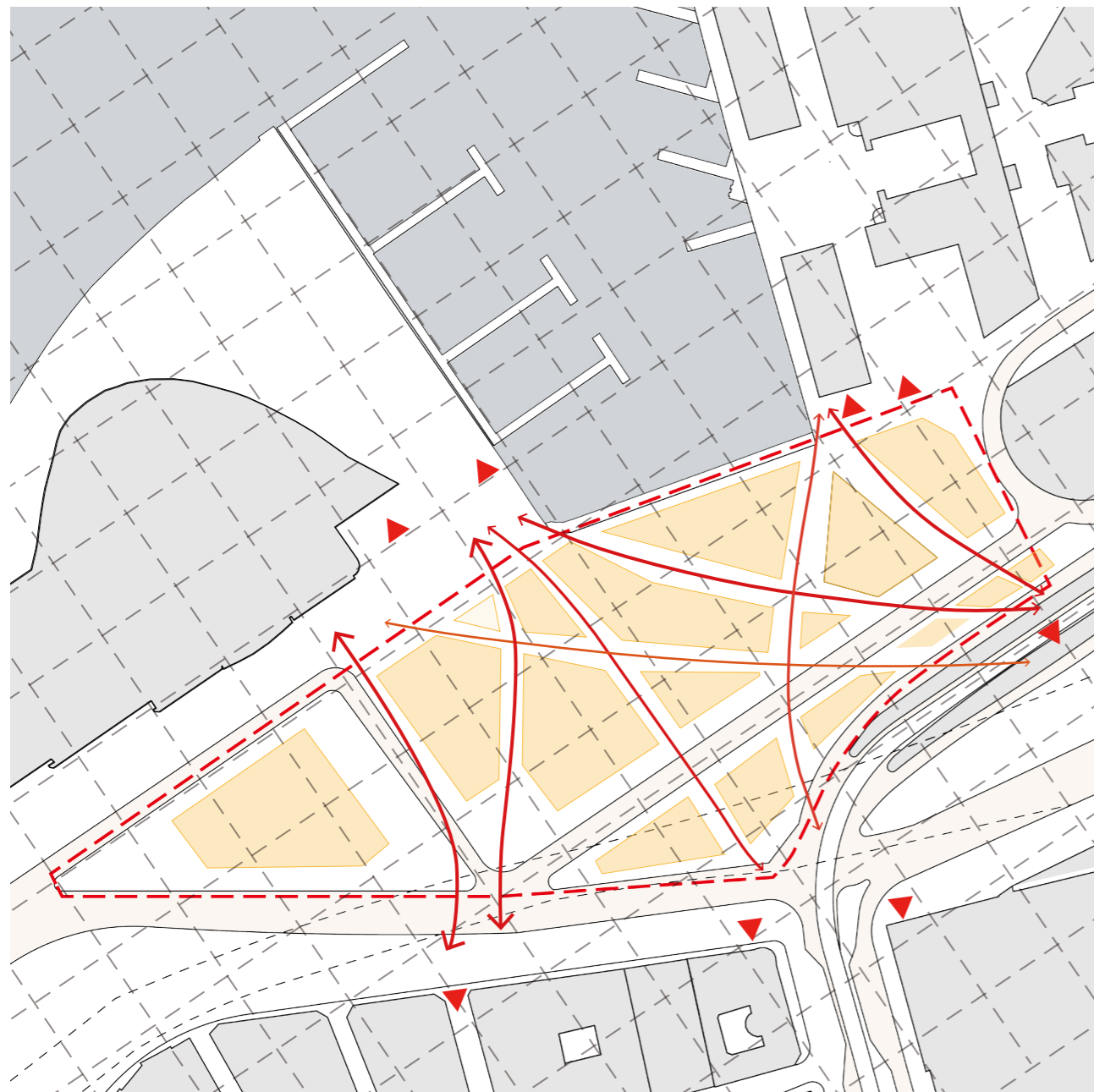
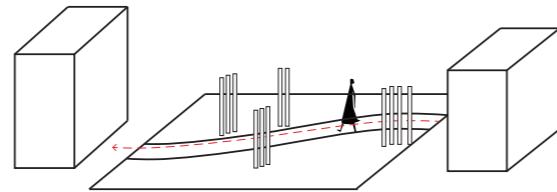
4.4

Site Analysis

[Site]

Divide the site with flows.

Simulate the flows of people between different destinations. At a distance about 25m, people can accurately read facial expression and dominant emotions, which is a comfortable walking distance for humans. Insert activity area into the site to make sure at least every 25m has attractors.



PROCESS

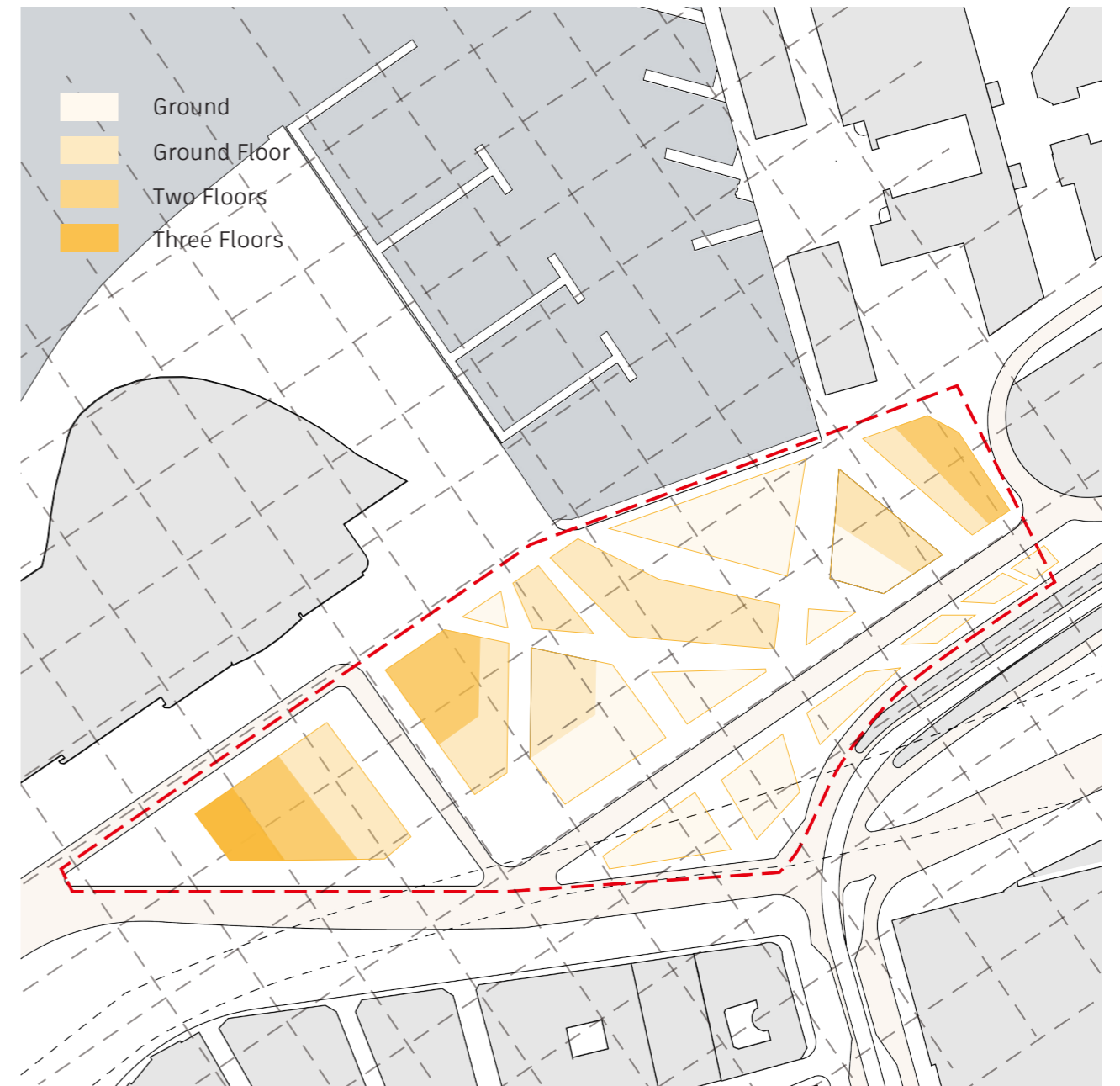
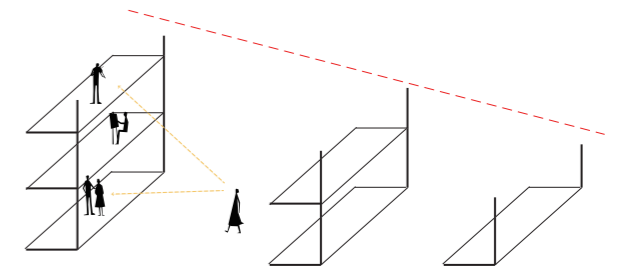
4.4

Site Analysis

[Eye level]

Limit the height.

According to Gehl, visual communication establishes naturally on the first two floors between inside and outside. To get better view contact, limit the site height within three floors. There is a height transition throughout the site.



PROCESS

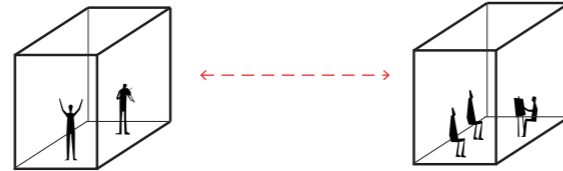
4.4

Site Analysis

[Functionality]

Insert new programs into the site.

The site is treated as transitional space for the whole area, according to Aldo Van Eyck's theory, in addition to its function, it also has the possibilities to serve the surroundings. The function can adapt to people's needs. Except for serving the surroundings, they also interact with each other.



PROCESS

4.4

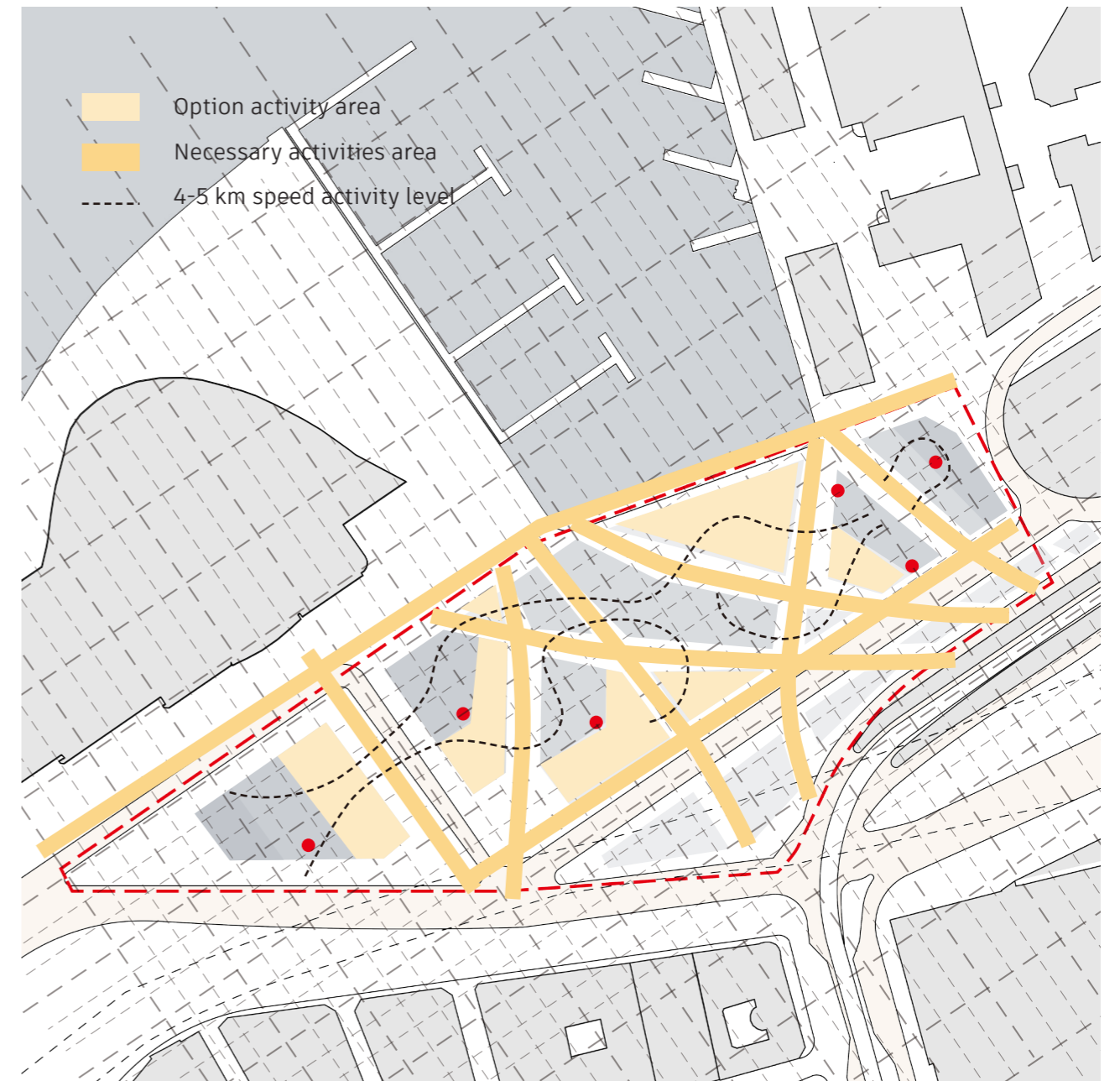
Site Analysis

[Orientation]

Design walking routes.

Gehl (2010) distinguishes activities into two categories: Necessary activities are the functional activities that one has to do during his daily life. The optional activities are recreational and social activities.

10-12 km/h	cycling on slow motion running
4-5 km/h	slow motion walking
0 km/h	communicating with other



PROCESS

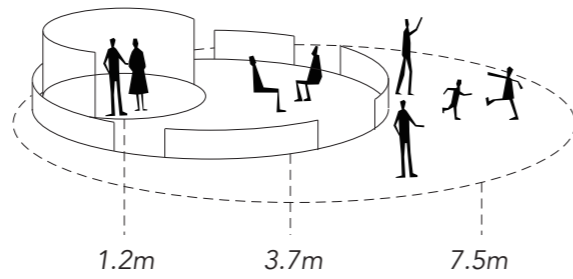
Site Analysis

4.4

[Openness]

Analyse the openness level of the site.

Distinguish the outdoor, indoor and in-between area of the site. The site is in 7.5m*7.5m grid, according to Gehl, 7.5m is a comfortable distance for conversation. Analyse the openness by different social distance 1.2m, 3.7m, 7.5m.



PROCESS

Layers

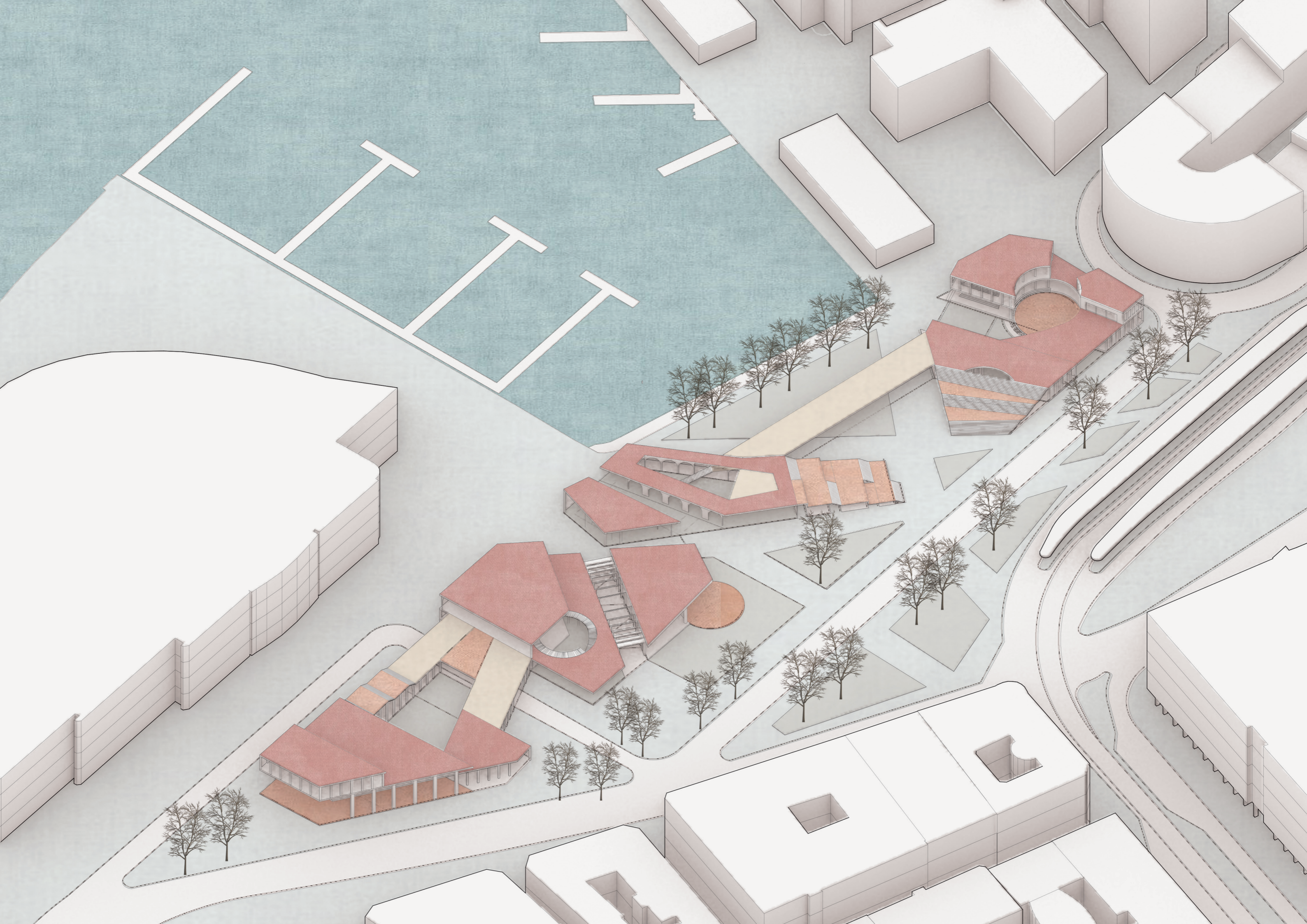
4.4

Steps

Arcades

Threshold





PROPOSAL

Meeting room

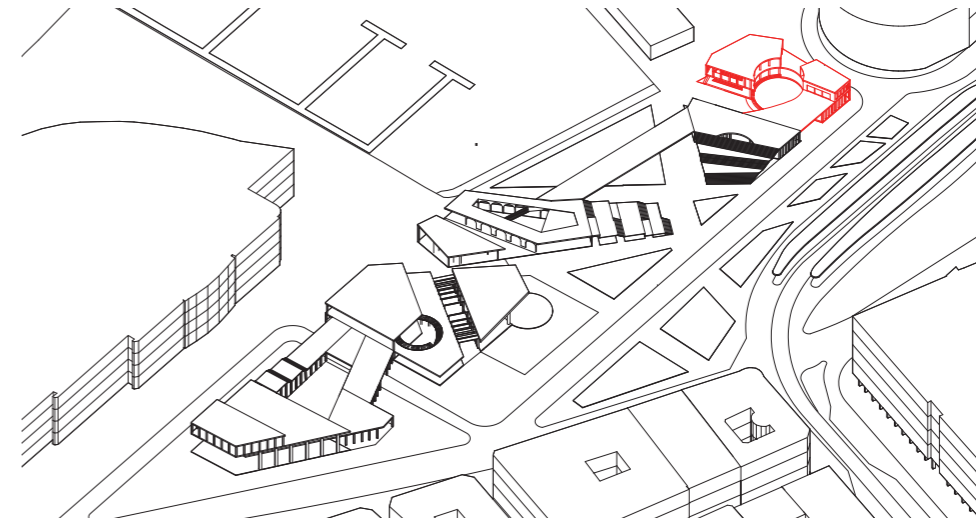
4.5



PROPOSAL

Meeting room

4.5



The meeting rooms are several single boxes, which are flexible to use. The volume of the meeting room is floating, and it surrounds the stairs, but it is still open. Instead of play the role of steps to connect different level, the big stairs also give chances for people to sit or stay. The U-shape around the stairs is narrow and long, which is good for people to have conversations or other activities.



The first scenario is in 3.7m interaction zoon where daily conversation can be made. The appropriate density of the columns creates a sequence of orientation.



In the next scenario When people walk outside, they are in 7.5m interaction zoon, which means they see and be attracted by the facial expression of people who stayed at the big stairs.

PROPOSAL

Exhibition area

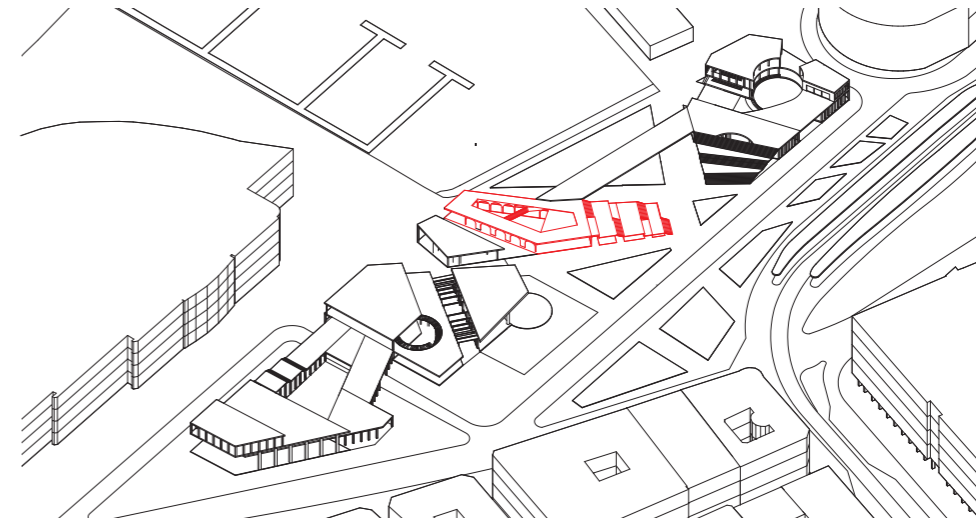
4.5



PROPOSAL

Exhibition area

4.5



The exhibition area is made up of arcades and canopy. There is a courtyard in the middle, providing spaces for people to have a rest. When people stay in the courtyard, they can still have a view connection with the exhibition wall. When people walk along the exhibition area, they can also sense the activity in the courtyard.



The first scenario shows an exhibition wall that combines with the arcades; the choice of the type of the arcade provides a space that people can stay.

From the second scenario, we can see the courtyard in the exhibition area. It is about 7.5m width, which makes a good conversation environment for people.

PROPOSAL

Reception

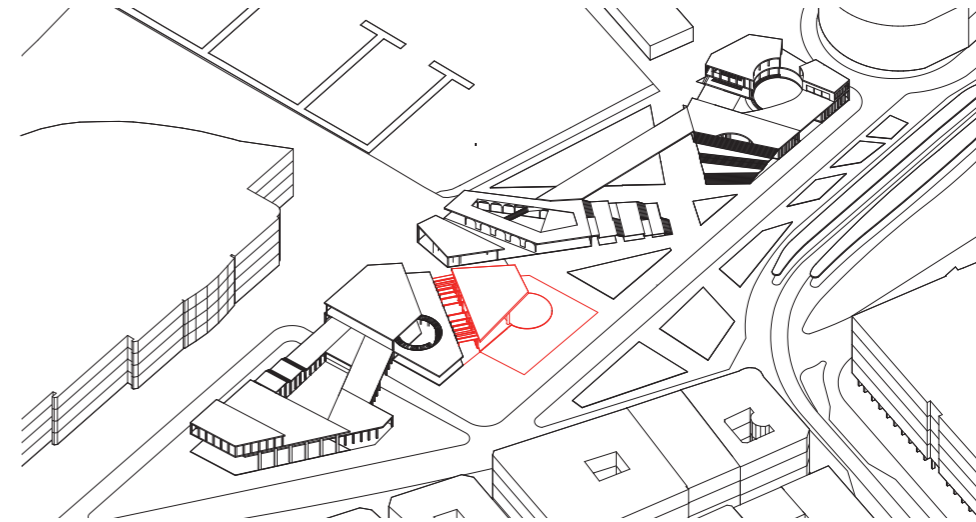
.....4.5



PROPOSAL

Reception

.....4.5



The curved entrance of the reception shows a welcoming atmosphere for people. It also has communication with the round square before it; people can stay or social before they enter the reception. The vast canopy creates a shelter for the visitors, the arcade and canopy are combined, and the transitional space they create lead the way to the opera.



The first scenario shows that the square creates a spatial continuity between different levels of openness of the transitional space.

In the next scenario, the entrance of this reception is over 3.7m with a curved shape, which shows the openness of this building and creates a welcoming atmosphere.

PROPOSAL

Activity area

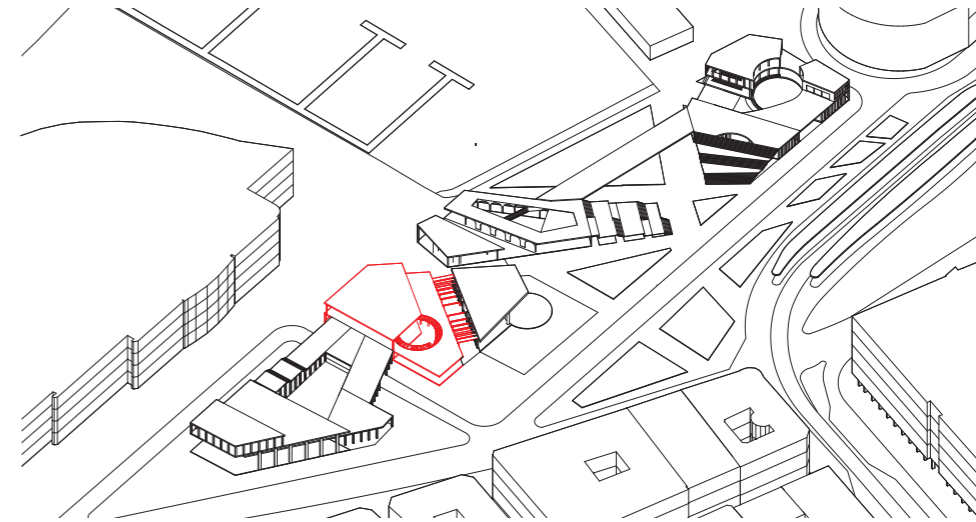
4.5



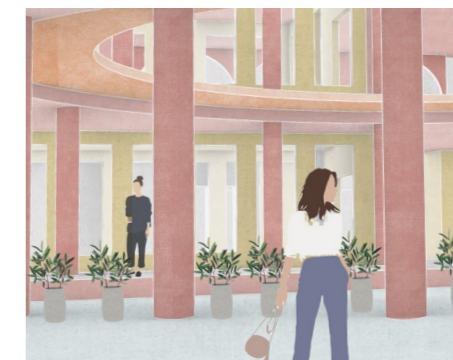
PROPOSAL

Activity area

4.5



The activity area is under a round canopy. People can walk along the column and walk up to the second floor by the steps. Different density of the columns creates a different atmosphere of the space with different openness level so that different kind of activities can happen in this area.



The activity area has two floors, the height is also controlled under 6.5m, so it is easy for people to communicate even they are on different floors.

The round columns correspond to the round courtyard. Spaces with different openness level are designed to adapt to different activities.

CHAPTER 05

Conclusion

CONCLUSION

The thesis has focused on the study of transitional space, tried to learn how the transition elements create a transitional space and how could it have an influence on both human and the urban environment.

Through the research, the author found that the coexistence of the city and architectures is crucial to achieving the spatial continuity, which means the transitional space should change with the urban context. As Aldo Van Eyck said, "A city is a small house, a small house is a city"(Aldo Van Eyck,1962) The boundary of the city and architecture is ambiguous, transitional space is such a boundary that connect the city and architectures. Indeed, all of the coexistence is based on humanity. The reason why the transitional space is always hard to define is that it concerns about human needs. As a result, transitional spaces usually have multi-functions and also change with time.

The author tried to understand the transitional space through several experiments to see how much potential the transitional space would have to adapt to human's needs. Through the study of transition elements, I got to know the possibilities of each element to combine with other elements. Even for a single element, it has the potential to become something else.

The experiment was to consider architectures with transitional space. When combined the transitional space with buildings, the orientation and the entrances of the buildings became crucial, because the openings of buildings would cause different levels of openness of the space, which would influence the design of transitional space. When there are architectures in the experiment, we could know from this prototype that for a similar transitional space, what different functions that space could supply.

In the final proposal, the transitional space is generated in a complexed urban context. If the experiment is about elements and space, this is about human. The surroundings bring flows to the site, which gave each part of the site a unique context. Different from the former study, this experiment concentrates on the atmosphere. From this experiment, the ambiguity of transitional space is much more apparent, because the city, building, human and transitional space continue to influence each other.

Transitional space as the connection between the city, buildings and human have a very closed relationship with each other. They are organically influenced by each other.

CHAPTER 06

REFERENCE

REFERENCE

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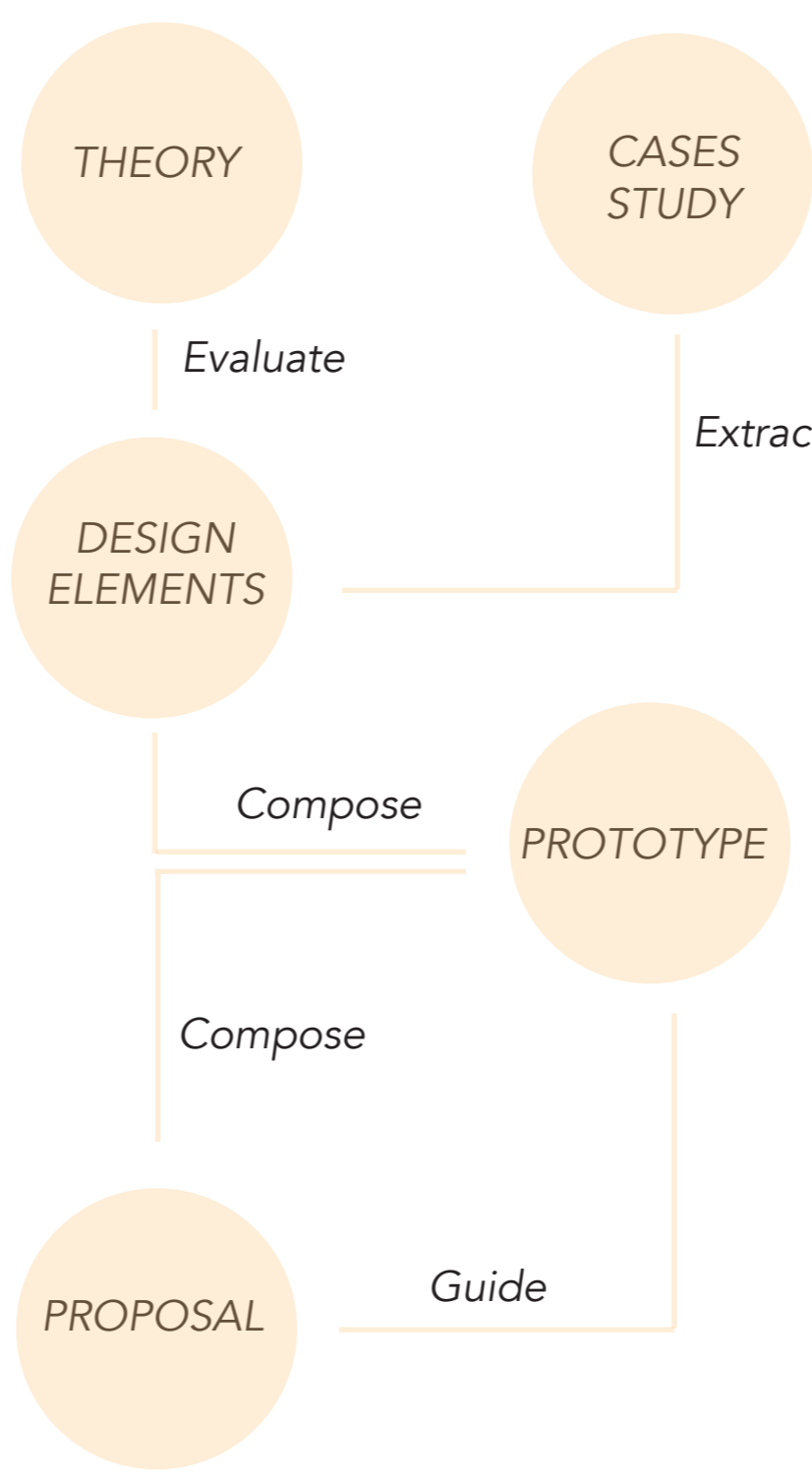
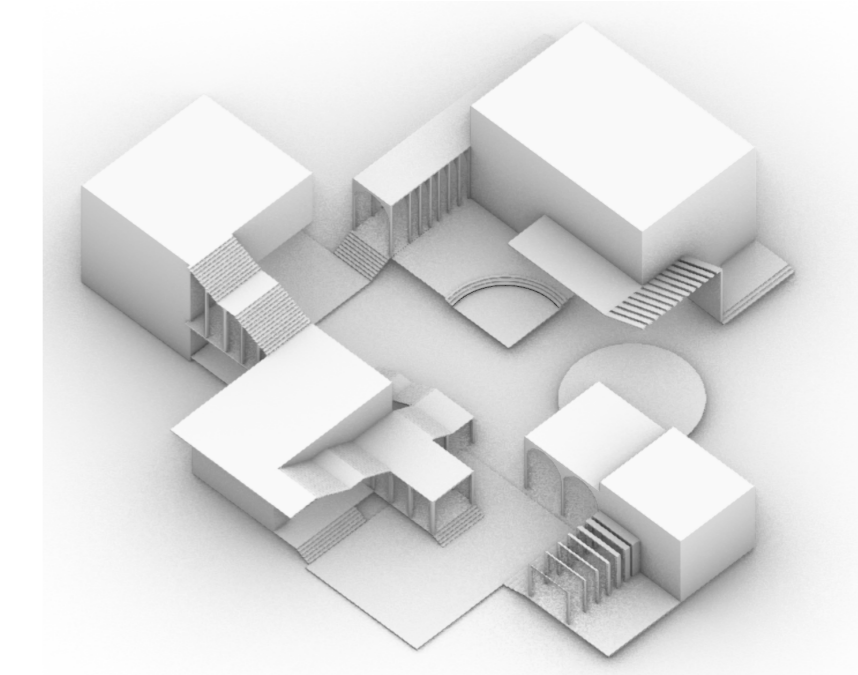
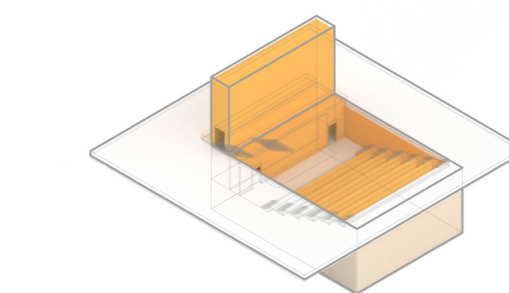
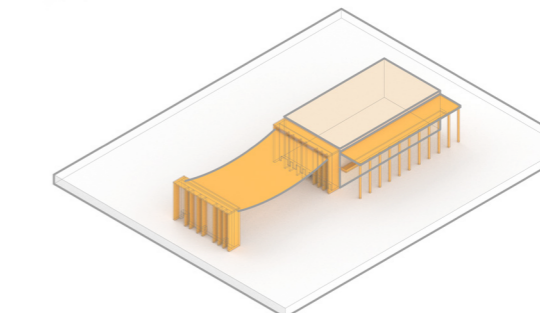
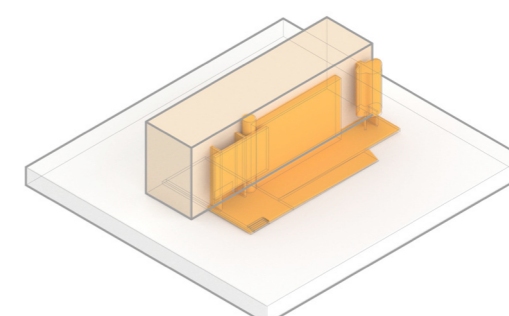
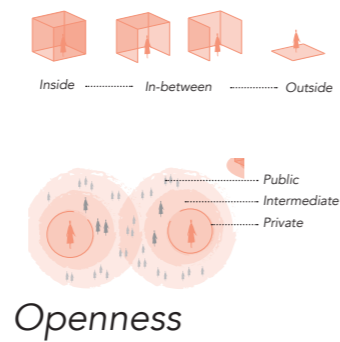
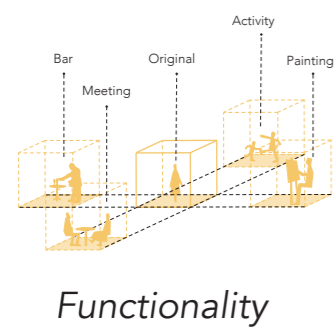
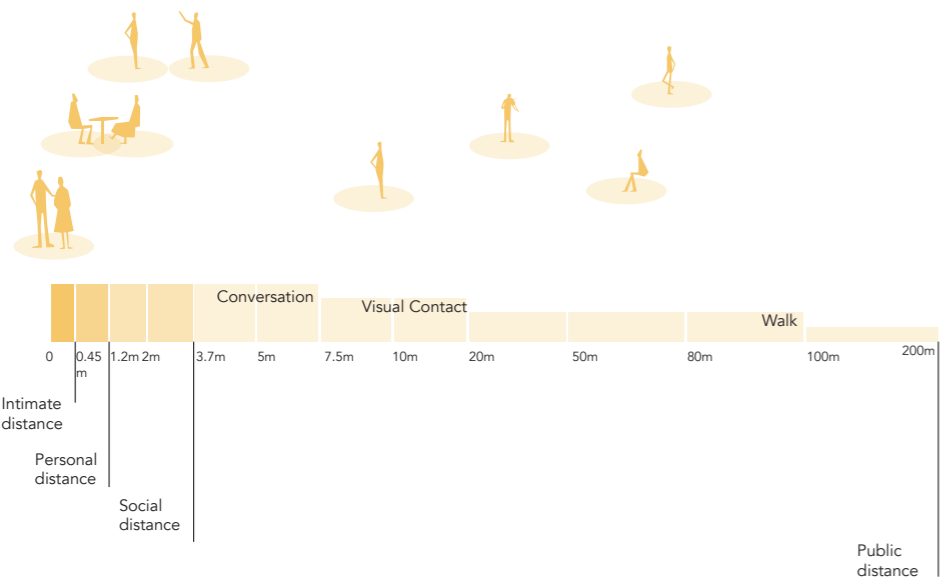
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Hiroshima City Museum of Contemporary Art, Kisho Kurokawa (1986-1988)
Amsterdam Orphanage, Aldo Van Eyck (1960)
Barcelona Museum of Contemporary Art, Richard Meier (1987-1995)
Portugal Pavilion, Alvaro Siza Vieira (1998)
Apple Piazza Liberty, Foster+Partners (2014-2018)

Figures:

Figure 1: Japanese courtyard
[online image] Retrieved from https://www.sohu.com/a/150270986_748743 (image modified to black and white)
Figures 2,3: Hiroshima City Museum of Contemporary Art,
[online image] Retrieved from <https://www.japanvisitor.com/japan-museums-art-galleries/hiroshima-moca>
Figure 4: Aldo van Eyck. Otterlo Circles Diagram, 1959
Figures 5,6: Amsterdam Orphanage, Aldo van Eyck,
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Figure 7: *Threshold Spaces : Transitions in Architecture Analysis and Design Tools*.
Figures 8 : Louis I. Kahn, dormitori dell'Indian Institute of Management di Ahmedabad, foto © Cemal Emden
Figure 12: Central Park to Ho Chi Minh City, LAVA and Aspect Studios
[online image] Retrieved from <https://drwong.live/art/design/lava-aspect-studios-central-park-ho-chi-minh-city/>
Figure 13: Xili sports and cultural center, MVRDV
[online image] Retrieved from <https://www.designboom.com/architecture/mvrdv-xili-sports-and-cultural-center-shenzhen-china-10-10-2016/>
Figure 14: Gallery of Children's House, MU Architecture-10, ©David Foessel
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CHAPTER 07
Final Composition



1.THRESHOLD	2.ATTACHED TO BUILDING	3.NOT ATTACHED TO BUILDING
1.1 ENTRANCE	2.1 STEPS	3.1 PAVEMENT
1.2 WINDOWS	2.2 CANOPIES	3.2 SQUARE
	2.3 ARCADES	

