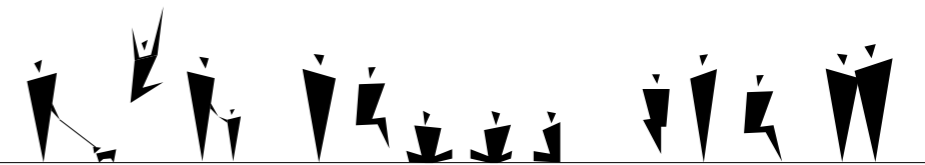


POSITIVE OUTDOOR SPACE

STOP, SIT, EAT, PLAY
AND SO ON...



Introduction: 'Dutch Housing'

Living in metropolitan city with its diversity of both social and functional aspects together with the constant coming and going of people, makes dwelling there a worldwide experience which is completely different from residing in the suburb. The question that rises is how to match the configurations of architecture to suit the demands of the dwellers, with changing patterns of everyday life?

'At home in the city' is always the best way to describe perfect quality of living in any cities. However, due to changes in the urban economy, shifting social patterns and new emerging technologies in housing, we are obliged to rethink of the existing architectural concepts for residential complexes and their built environment. The worldwide population has been rising and aging but on the other hand our resources are being used up rapidly, thus the era that lies before us will be of inner city transformations and smaller scale interventions, which have been replacing such large scale urban extension.

Interestingly, our research group members are from complete different parts of the world from Bangkok, Nicosia to Wuhan, and study together in Delft, the Netherlands. While Thailand and China has already been going toward dense vertical livings, Cyprus still expanding the area with detached houses. The public and private domains are not considered the same at all, since different countries have different culture, people and living patterns. Thus it is interesting to add our diverse backgrounds as an introduction, in order to understand more on how we dwell and compare it with the Dutch condition.

Bangkok, Thailand

One of the world's busiest and hectic capital city within a rough geographical area of 514,000 sq. km. This makes Thailand roughly equivalent in size to France or Texas. The vast majority (roughly 80%) of Thailand's nearly 65 million citizens are ethnically Thai. The remainder consists primarily of peoples of Chinese, Indian, Malay, Mon, Khmer, Burmese, and Lao descendants in which around 7 million citizens live in the capital city, Bangkok. There is also a greater diversity of ethnicities, including a large number of expatriate residents from across the globe.

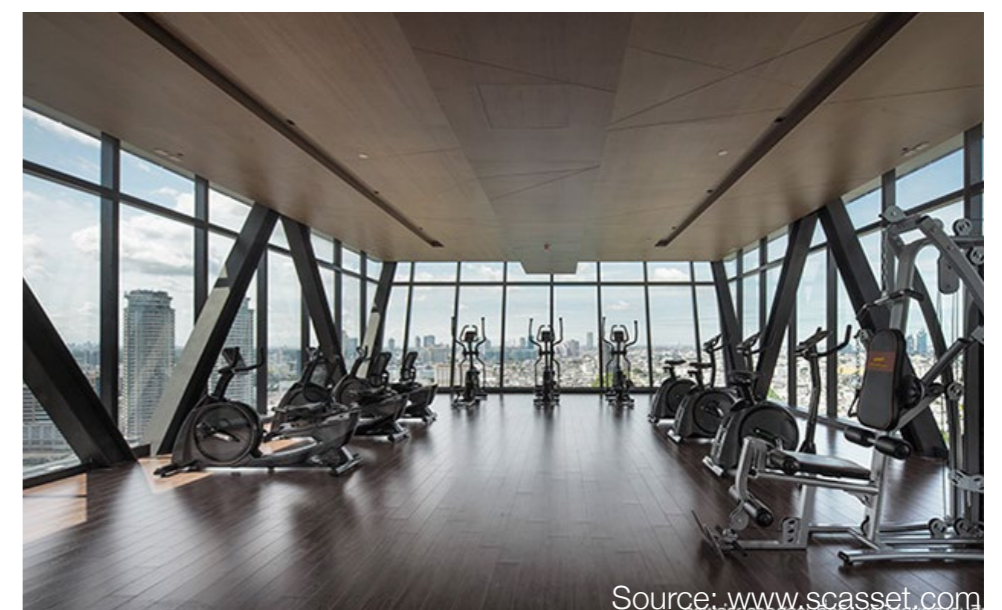
With this large amount of people living in Bangkok, there are not many choices to accommodate low density residential buildings, but to opt for living in high rises. A lot of high rise residential buildings or what we call, condominiums, are being built along the only two elevated train tracks, which is considered a prime location. Although there are various high rise residential buildings in Bangkok, but other than different ways of designing architectural masses and facades, most of them have the same spatial organizations between private and public domains. Ground floor with lobby and commercial functions, an outdoor pool on top of the podium and a fitness space on the roof top. These three functions are more or less the only communal spaces where residents can meet up. Most of the time, our public and private lives are completely separated.



Source: Christophe Archambault/AFP/Getty Images



Source: www.tandemarchitects.com



Source: www.scasset.com



Source: www.straytable.com



Source: www.tandemarchitects.com

Wuhan, China

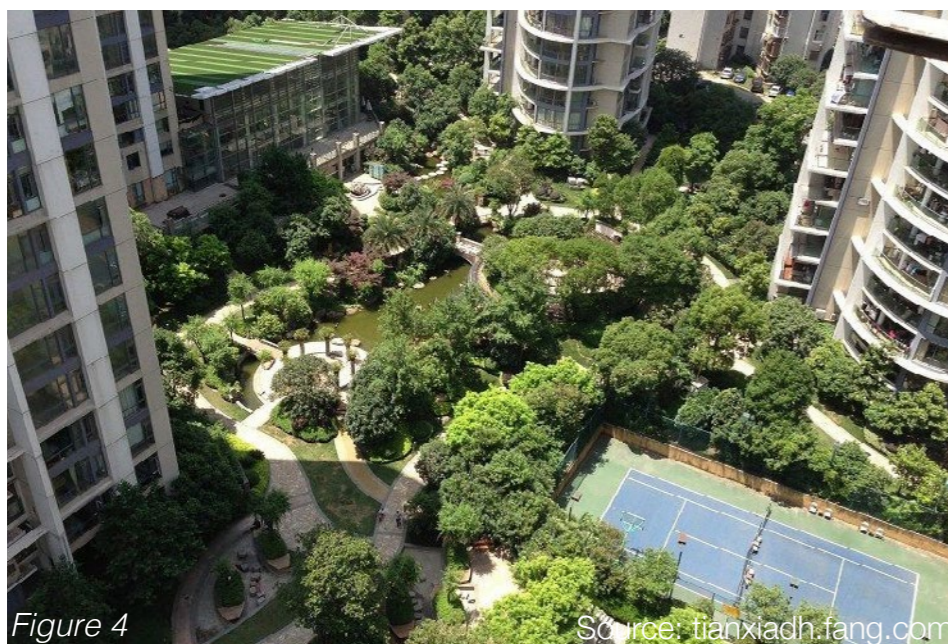
Wuhan is China's third largest city and its economic in mainland cities is ranked eighth. Wuhan's population is half the total population of the Netherlands. Due to the high density of population, not only the city center, but even the suburb began to build highrise residential buildings. However, housing is still in short supply. The initial development of highrise residential is mainly about 12-storey, but now, a large number of high-rise residential is about 30 layers. Building's height is increasing, but the contact with the ground is increasingly weak.

Figures 2 and 3, are reflecting the Wuhan's old community 30 years ago. The residential height is generally low, mostly around 3-storey. Residents always put their plants before their frontdoor, they themselves would play chess, drink tea and chat with neighbors at the door. The community atmosphere is nice there.

Figure 4 shows the outdoor space between highrise residentials nowadays. Architects began to design upscale residentials and abandon the traditional residential life. They always introduce the club including fitness, entertainment into community. But these activities still give less chance to people to communicate with neighbors. This community is more high-end, but gradually lost the breath of life.

Figure 5,6 reflect the more successful new highrise residential in Wuhan in this years. Because it is connected with commercial, which attracts a large number of people to come, and has been developed into another new center in Wuhan. Commercial part of the building are two layers and its scale is generally small, which can recall people's memory of old communities.

High population density of course will bring high building density. So to deal with the scale of public space is important, in order to bring back the old community's feeling.

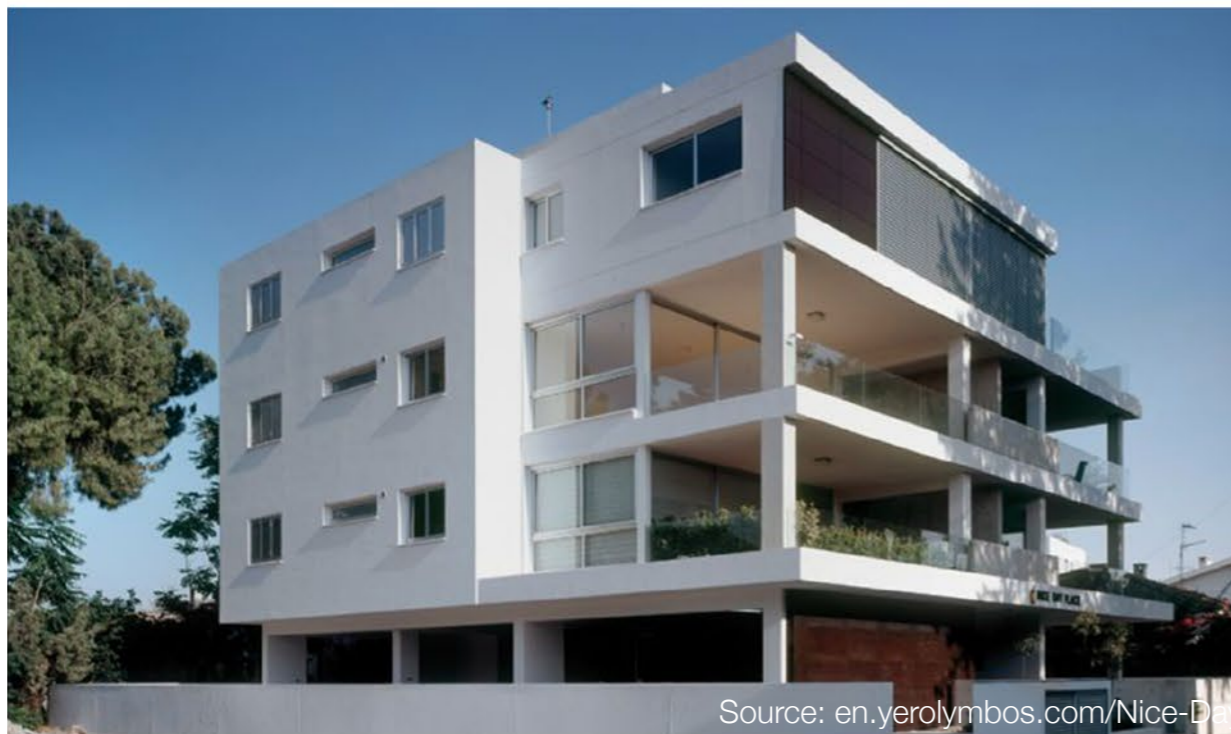




Source: [nl.wikipedia.org/wiki/Nicosia_\(Cyprus\)](http://nl.wikipedia.org/wiki/Nicosia_(Cyprus))



Source: www.luminary.com.cy/philippou



Source: en.yerolymbos.com/Nice-Day



Source: like.philenews.com



Source: www.worldbuildingsdirectory.com



Source: www.niceday.com.cy

Nicosia, Cyprus

Nicosia is the capital and largest city on the island of Cyprus, with 310,355 inhabitants. As a low density city, it is not necessary therefore not common to build high rise buildings. It is somehow difficult to compare Nicosia's urban settlements with Bangkok and Wuhan since it is smaller in size, both in area and population.

Most of the areas in Nicosia that are not in the old city centre consist of detached buildings, single-family dwellings or low rise apartments. There is no typological continuity or strong urban synergy between the buildings as their architecture is self-referential and of various aesthetic references. In most areas the maximum number of storey's allowed for apartment buildings is 3 to 4, and a distance of 3 meters must be left between any boundary of the plot and any part of the building. Most of the apartment blocks reserve the ground floor for parking by raising the building on pilotis, since it does not count as a floor and is not included in the building ratio. Part of a typical living space in Cyprus, are also the 'covered verandas', which are used more than any other room for at least 6 months of the year due to the warm weather. Even though it is technically outside the house, it is deemed to be part of the building blurring the clear definition between interior and exterior space. Apartment blocks in Nicosia don't include any common spaces for the residents and are designed in such a way to provide maximum privacy for each one of them.

Abstract

This theme research is a part of the 'Dutch Housing' graduation studio under chair of Architecture and Dwelling, faculty of Architecture and the Built Environment, Delft University of Technology. Consequently, the end result will shape the basis foundation and concept of each team member's design project, which will be a housing project situated in a highly complex urban area of Amsterdam, the Netherlands.

The research goal is intended to understand what architectural elements could support the communication between the residents, specially in their outdoor communal spaces. Therefore, the people interaction within the architecture and built environment and how the outdoor spaces were designed will be the main subjects to discussed and analyzed. This is made possible by literature review and analysis of case studies. Finally, our gratitude goes out to assistant professor Birgit Jurgenhake and assistant professor Paul Kuitenbrouwer, which guided us through the research process.

Enjoy,

Olivia Mavros
Quan Phitakraxanti
Xiaoyu Yuan

CONTENTS

RESEARCH FRAMEWORK

PROBLEM STATEMENT

RESEARCH QUESTION

RESEARCH GOALS

DEFINITIONS & CRITERIA

METHODOLOGY

BIBLIOGRAPHY

THEORETICAL FRAMEWORK

LITERATURE REVIEW

CASE STUDY

1. HARBOUR ISLE APARTMENTS

2. TIETGEN DORMITORY

3. CHARLOTTEHAVEN

4. MARIAPLAATS

5. PASWERK

6. DE GROTE HOF

COMPARISON & CONCLUSION

INDIVIDUAL CONCLUSION

LITERATURE

RESEARCH FRAMEWORK

PROBLEM STATEMENT

The topic of outdoor public, communal or collective spaces are often being brought up by architects, but always being created wrong. The individual owned and independently maintained outdoor spaces lap around the house, the bare unused islands of grass serve only the myth of independence. (Chermeyeff and Alexander, 1965) Either it is too small to accommodate any activities or too big that it does not bring people together at all. Not to mention other architectural elements that are equally vital. This theme research aims to observe, understand the problems why an outdoor space is not being used, and subsequently help us create such places where people can actually come together and communicate. As Jan Gehl said in *Life between buildings*, it is possible through planning decisions to influence activities patterns, to create better or worse conditions for outdoor events and to create such lively or lifeless cities.

“The courtyards built in modern buildings are very often dead. They are intended to be private open spaces for people to use - but they end up unused full of gravel and abstract sculptures.”¹



1. Dead courtyard (source: Alexander C, Ishikawa S, Silverstein M. *A pattern language*[J]. Ch. Alexander, 60.)



2. The whale housing / de Architekten Cie, Amsterdam, The Netherlands (source: <http://openbuildings.com>)



3. Housing in Carabanchel / Aranguren + Gallegos Architects, Madrid, Spain (source: <http://www.archilovers.com>)

RESEARCH QUESTION

The theme for our research is ‘foster the positive communication’, which can be approached in two ways. First, through outdoor spaces typologies, defined by literatures as framework for building masses. Second, through spatial elements which support the essence of the outdoor spaces. These bring us to the following research question:

‘What outdoor space and spatial elements can foster the positive communication between the residents of a dwelling complex?’

Furthermore, its subquestions are what is positive/ negative space? And also which outdoor space arrangement can promote visual and auditory contact between residents?

RESEARCH GOALS

The theme research intended to achieve two main goals:

1. To investigate relations between the spatial elements and the positive/ negative activities.
2. To improve the design strategies for designing outdoor spaces for a dwelling complex.

In this sense, not only the result can be put to use with our own graduation design project, but also the fact that major cities including Amsterdam are getting even more dense with locals and especially expats which means the public and private space need to be integrated and interweaving each other. Cities need good public spaces and they should be designed to serve the changing habits and living patterns of this generations.

DEFINITIONS & CRITERIA

'Outdoor space' or as Christopher Alexander called, common land, has two specific social functions. First, the land makes it possible for people to feel comfortable outside their buildings and their private territory, and therefore allows them to feel connected to the larger social system - though not necessarily to any specific neighbor. And second, common land acts as a meeting place for people. In this research, we focus on the outdoor space within the residential complexes which acts as semi-public and semi-private spaces.

'Outdoor spatial elements' are the architectural components that contribute to the outdoor space, which in this research scope is only within the residential complexes. The examples of such were taken from the Pattern Language book e.g. stair seats, public outdoor room, outdoor room, arcades, building edge, seat spots and etcetera.

'Positive communication' is the outcome of people that dwell in the positive spaces. People feel comfortable in spaces which are positive and use these spaces. Therefore, the best way to discriminate between negative and positive spaces are that we move through negative spaces and dwell in positive spaces. (Alexander, 1977)

'Positive communication' is the outcome of an activity happening between people sharing a positive outdoor space, which contains patterns and positive qualities such as sitting areas or arcades. In general, spaces where people feel comfortable to congregate.

The methodology of how we research is mainly focusing on studying the case studies by first visiting and experiencing each one of them, by observing how each space is being used by the residents and public and subsequently analyzing and comparing their outdoor qualities and spatial elements. Thus, the criteria of choosing each project need to be clearly elaborated. On basis of the book 'A pattern language; towns, buildings, construction' we can defined some a few outdoor space typologies, which according to the book, there are 4 kind of outdoor spaces; common land, accessible green, private terrace on the street and six-foot balcony. Not only that, each project's location should be situated within European continental and in the city center or along its boundaries so that the research outcome could be compared, and still related to the graduation design project of the Dutch dwelling studio.

Concerning the research process, it would follow several main fundamental analysis. The main part is based on Jan Gehl's theory ² where he addresses the public space functions into spaces for walking, standing, sitting then seeing, hearing and talking all together. While Christopher Alexander ¹ elaborates some significant spatial elements that should also be integrated in the outdoor space, and his theory can act as underlying details of elements within the element.

¹ Alexander C, Ishikawa S, Silverstein M. A pattern language[J]. Ch. Alexander, 60.

² Gehl J. Life between buildings: using public space[M]. Island Press, 2011.

METHODOLOGY

Foster the positive communication; the outdoor space and building itself would not be the only reason that trigger the conversation between people. It is a combination between those aspects together with the presence of other people. As Christopher Alexander said that the occurrence of social activity depends on the presence of other people; children at play, greetings and conversations, communal activities, seeing and hearing other people. It is indirectly supported whenever the necessary and optional activities are given better conditions in the public spaces. However, we believe that the uncontrolled conditions could lead to positive social activities with the proper articulations of outdoor spaces and spatial elements. Therefore, this research aim to study those successful precedents. The case study research contents are in following order:

1. Project overview
2. Building composition:
 - Figure ground
 - Figure ground and outdoor space
3. Seeing :
 - Contact on ground level
 - Contact between upper storeys and ground level
 - Balcony arrangement
 - Balcony types/ dimensions
4. Walking:
 - Contact on ground level
5. Sitting:
 - Seating arrangement
6. Standing:
 - Contact on ground level

Starting with each project's introduction and location overview in order to have a grasp of each project's nature and condition. Then the analysis on building composition corresponds to the theory of positive and negative space from the Pattern Language book, which focuses more on urban morphology for instance, how the building mass shape up the outdoor space. Then the deeper analysis would be based on theory from Life between buildings book with seeing, walking, sitting and standing. While most of the analysis concentrates on ground level contact, except the seeing part which could foster the communication between upper storeys and ground level with the help of deliberately designed balconies.

In order to provide valid outcomes of the analysis result, each case study is compared with outdoor space and spatial elements relevant literature, which are used as both supporting facts and critical argumentations. On top of that, it is important that we have visited the predecessors themselves in person to experience and observing of if the spaces are actually being used extensively and if yes, what are their roles to the community. Thus, the research cannot only include the objective aspects of analyzing but should also integrate with qualitative elements of each case study e.g. the atmosphere.

BIBLIOGRAPHY

ALEXANDER, C. 1977. *A pattern language; towns, buildings, construction*, New York, United States of America, Oxford University Press.
CHERMEYEFF, S. & ALEXANDER, C. 1965. *Community and Privacy: Toward a New Architecture of Humanism United States of America*, Anchor Books.

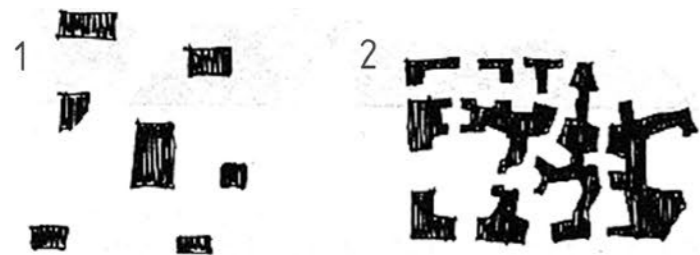
THEORETICAL FRAMEWORK

LITERATURE REVIEW

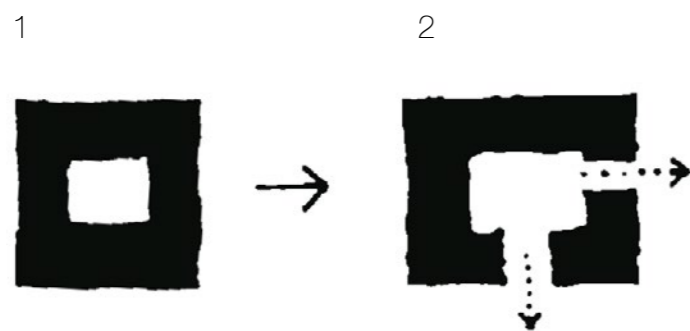
- Positive and negative space
- Inhibiting and promoting contacts
- Outdoor space
- Outdoor spatial elements
- Communication between residents

POSITIVE AND NEGATIVE SPACE

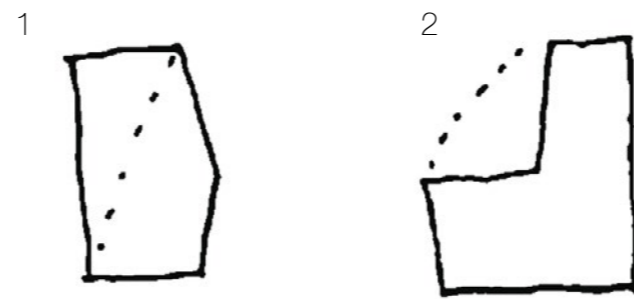
' We move through negative spaces and dwell in **POSITIVE SPACES.**'



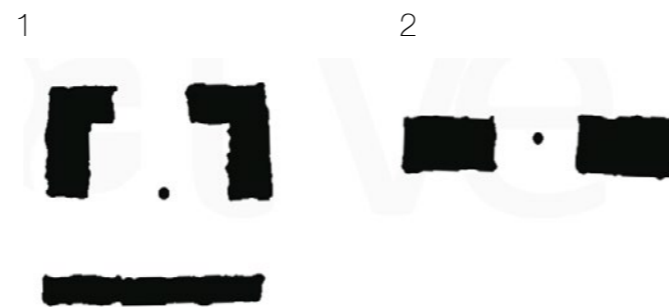
The shapes and qualities of architectural space greatly influence human experience and not the solid walls, roofs, and columns that shape it. Positive spaces are almost always preferred by people for lingering and social interaction. Negative spaces tend to promote movement rather than dwelling in place.



When an existing open space is to be enclosed, it may be possible to break a hole through the building to open the space up.

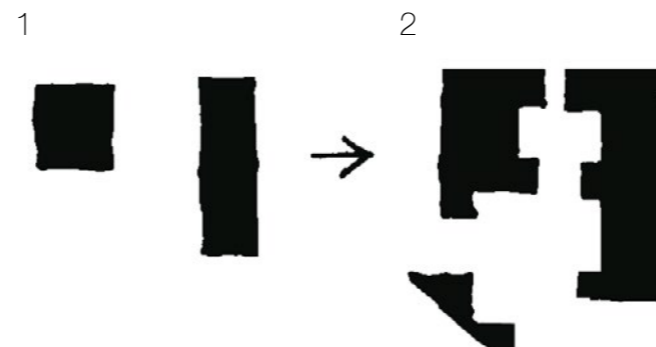


1 Convex - positive squarish space
2 Nonconvex - negative squarish space

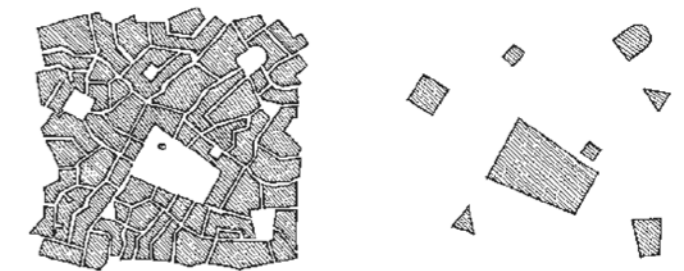


1 This space can be felt: it is distinct and convex
2 This space is vague, amorphous, "nothing"

Positive spaces are partly enclosed, at least to the extent that their areas seem bounded, and the "virtual" area which seems to exist is convex.

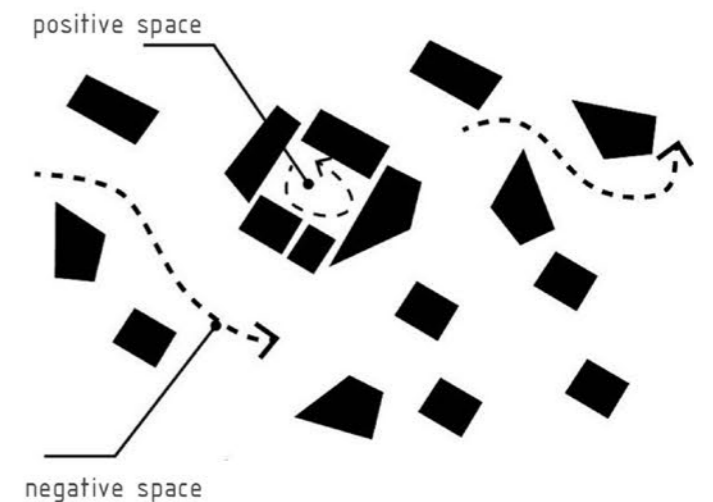


When open space is negative, for example, L-shaped- it is always possible to place small buildings, or building projections, or walls in such a way as to break the space into positive pieces.



1 Medium-century city map
2 Contemporary 'suburb' city map

'Suburban' buildings are freestanding objects in space. Urban buildings are often designers of space

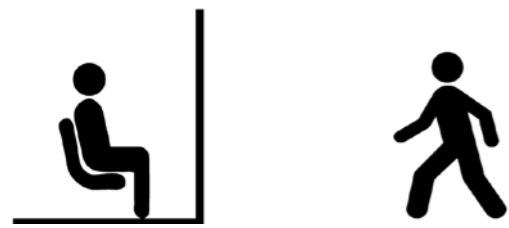


1. Buildings that create negative, leftover space
2. Buildings that create positive outdoor space

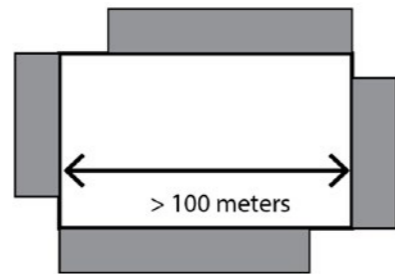
Source: Alexander C, Ishikawa S, Silverstein M. A pattern language[J]. Ch. Alexander, 60.

Frederick M. (2007) 101 Things I Learned in Architecture School. Cambridge: MIT Press.

INHIBITING AND PROMOTING CONTACTS



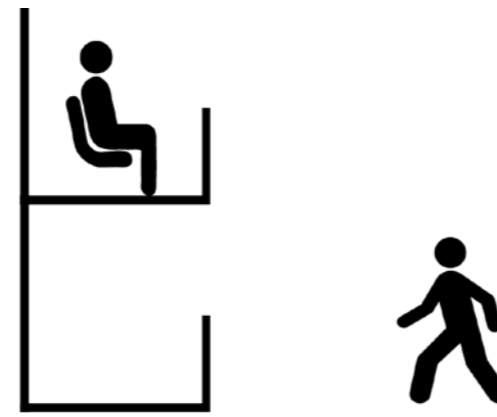
Walls



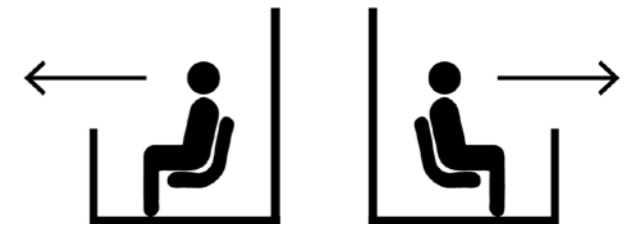
Long distances



High speeds



Multiple levels

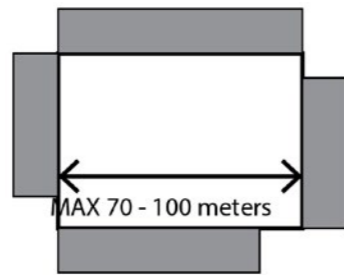


Back-to-back orientation

INHIBITING CONTACTS



No walls



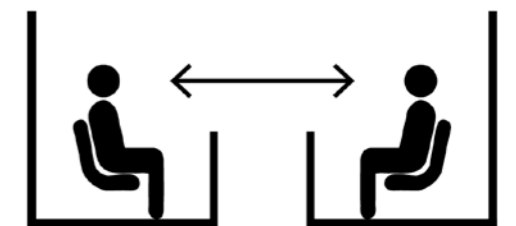
Short distances



Low speeds

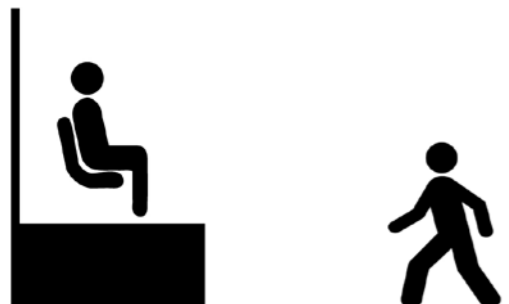


One level

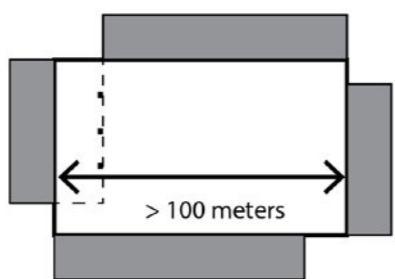


Face-to-face orientation

PROMOTING CONTACTS



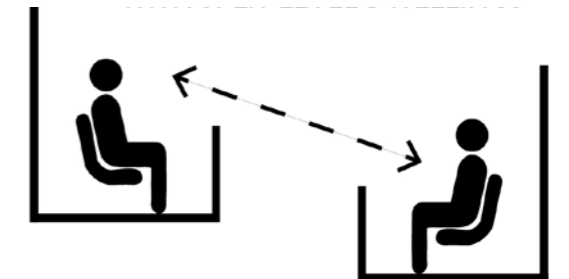
Semi-elevated floor



Long distances with arcades



Multiple levels with split level dwellings



Shifted face-to-face orientation

PROMOTING CONTACTS ALTERNATIVES

OUTDOOR SPACE

Common land



Common land is a kind of outdoor space, which can 'act as a meeting place for people', meanwhile, can 'make it possible for people to feel comfortable outside their buildings and their private territory, and therefore allows them to feel connected to the larger social system - though not necessarily to any special neighbor.'

Accessible green



Accessible green is a kind of outdoor space, which can fairly often provide a place for people who live in 3 minutes walk to get relaxation. 'It must be large enough so that, at least in the middle of it, you feel that you are in touch with nature, and away from the hustle and bustle.'

Private terrace on the street



Private terrace on the street is a kind of outdoor space, which is connected with common rooms, rised 'slightly above street level and protected by a low wall'. 'You can see over the wall if you sit near it, but which prevents people on the street from looking into the common room.'

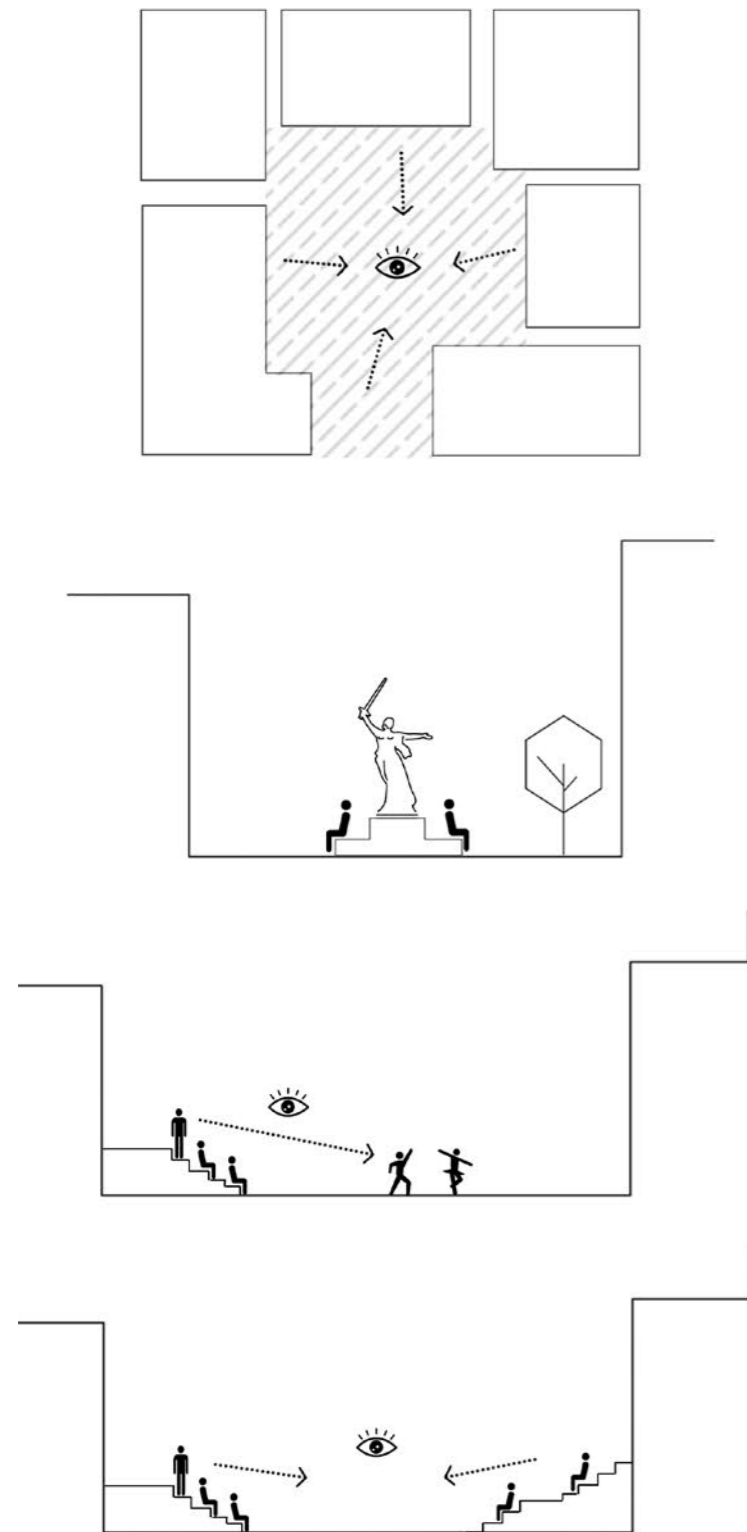
Six-foot balcony



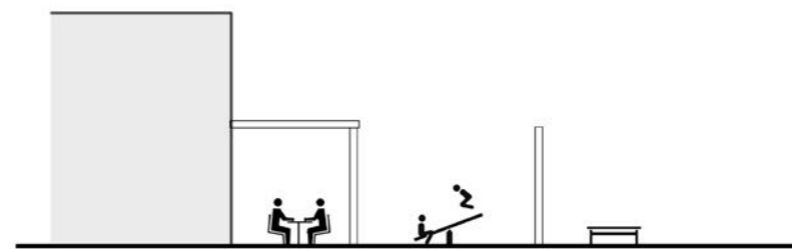
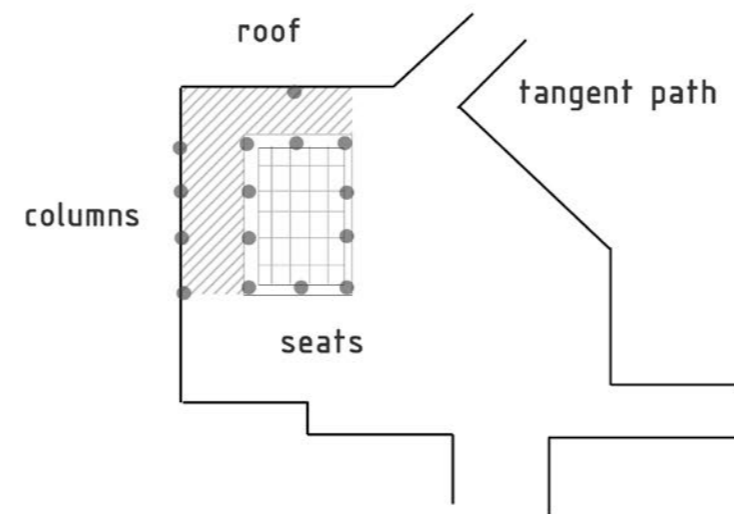
Six-foot balcony is a kind of outdoor space, which can 'manage to gather life to people or to get used'. If possible, a part of the balcony is enclosed partially and recessed 'into the building so that it is not cantilevered out and seperated from the building by a simple line.'

OUTDOOR SPATIAL ELEMENTS

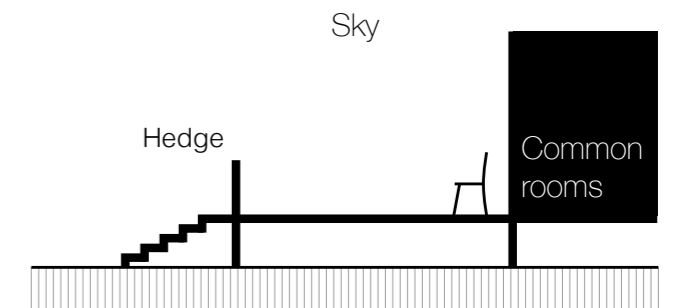
Stair Seats



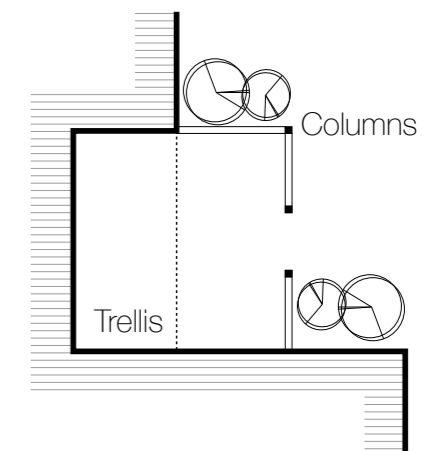
Public Outdoor Room



Outdoor Room



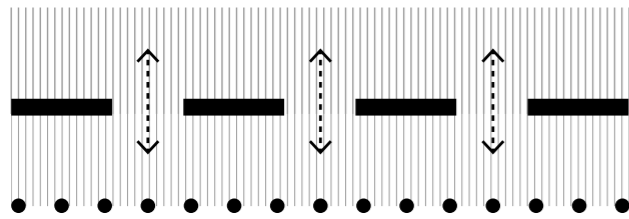
An outdoor space becomes a spatial outdoor room when it is well enclosed with walls of the building, walls of foliage, columns, trellis, and sky



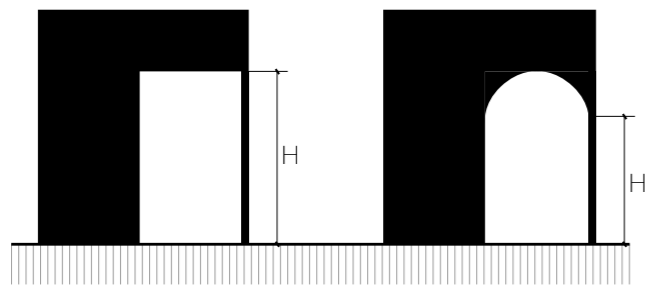
Having so much enclosure round it. It takes on the feeling of a room

OUTDOOR SPATIAL ELEMENTS

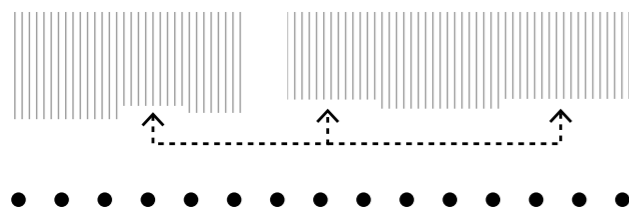
Arcades



With openings into the building

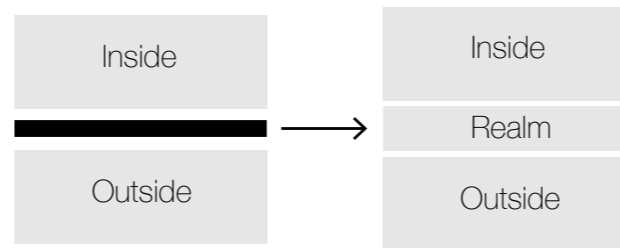


The edge of the ceiling shouldn't be too high

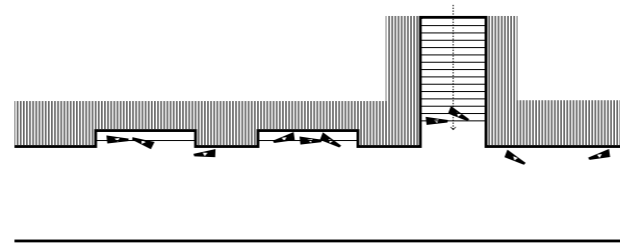


Connecting up building to one another

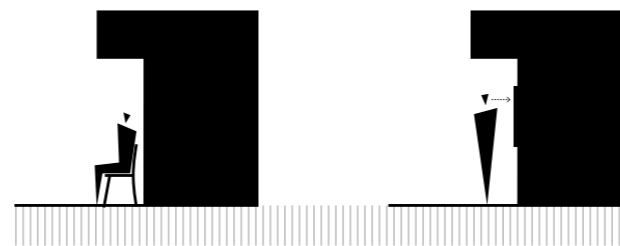
Building Edge



From edge to realm

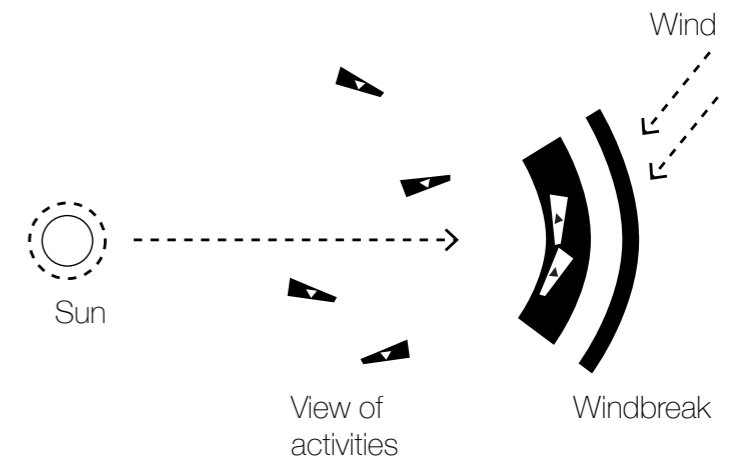


Walls should wave in and out



Roof could extend over to create little places for benches, posters.

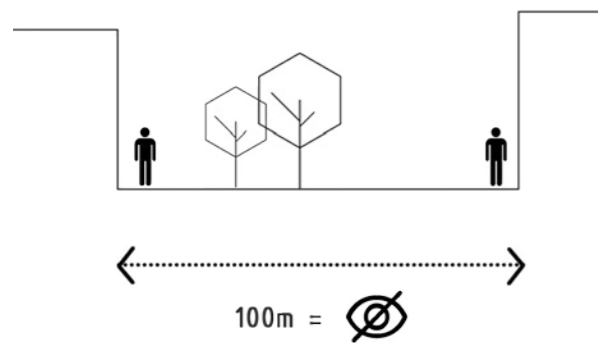
Seat Spots



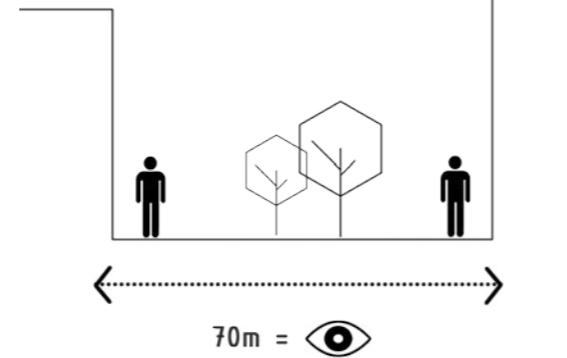
In cool climates, choose them to face the sun, and to be protected from the wind; in hot climates, put them in shade and open to summer breezes. In both cases, place them to face activities.

COMMUNICATION BETWEEN RESIDENTS

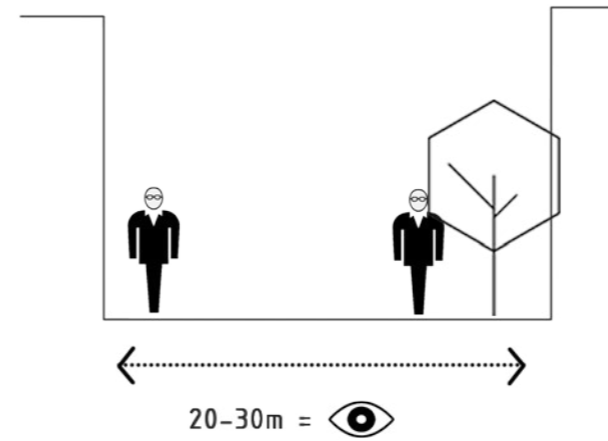
Seeing



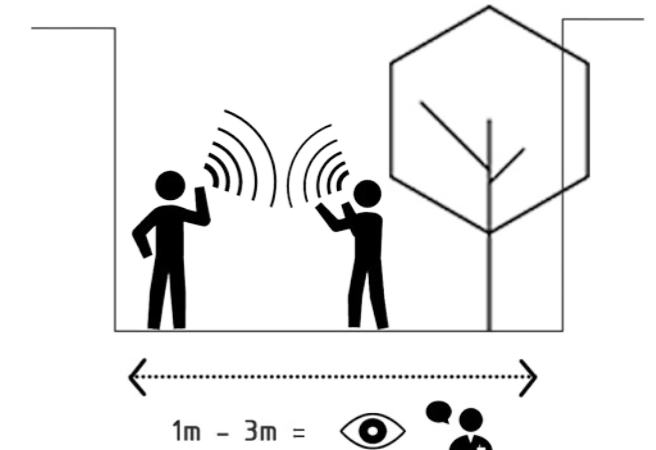
The social field within one can see others and perceive that they are people at distance vision - 0 to 100m. At approximately 100 meters figures that can be seen from far become human individuals but not recognisable.



At a distance of between 70 and 100 meters, it begins to be possible to determine with reasonable certainty a person's sex, approximate age, and what that person is doing. At this distance it is often possible to recognize people one knows well on the basis of their clothing and the way they walk.

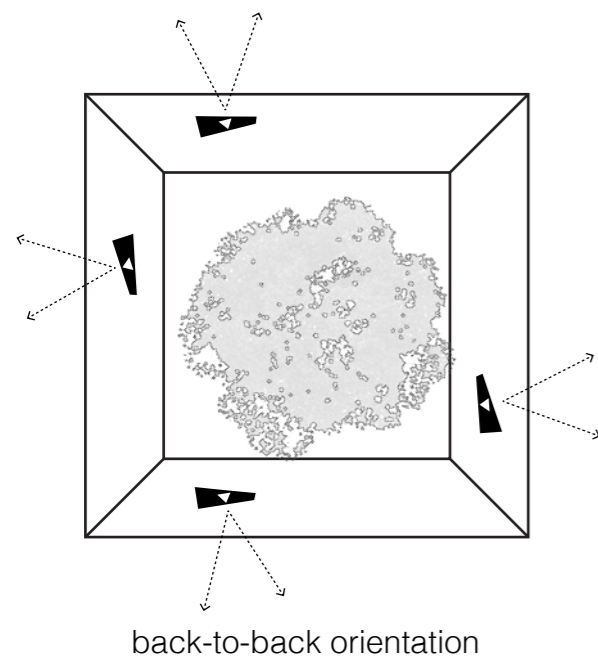


At a distance of approximately 30 meters, facial features, hairstyle, and age can be seen and people met only infrequently can be recognized. When the distance is reduced to 20 to 25 meters, most people can perceive relatively clearly the feelings and moods of others.

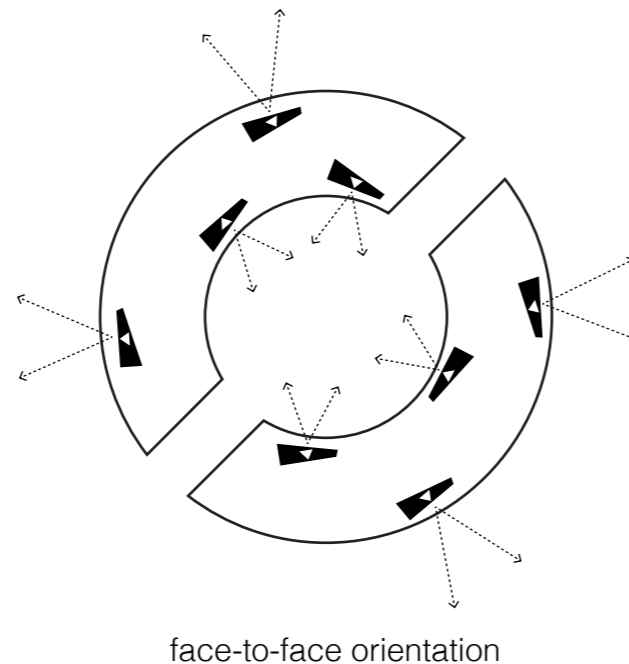


At distances of 1 to 3 meters, at which normal conversations usually take place, the experience involves the degree of detail, necessary for meaningful human contact.

Sitting



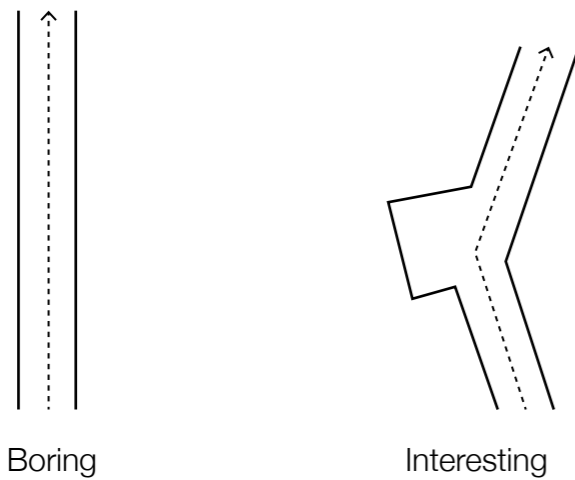
Choosing between sitting in a private backyard or in a semi-private frontyard with a view of the street, people will often choose the front of the house where there is more to see.



A choice of seats in sun or shade can make all the difference in a place's success, depending on its climate and location. Allowing people to sit near a playground or within view of other activities is also crucial.

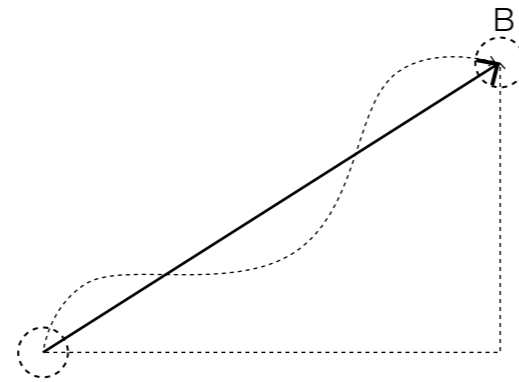
COMMUNICATION BETWEEN RESIDENTS

Walking

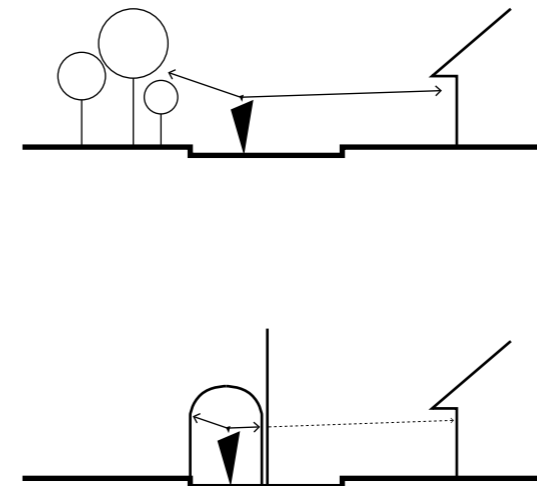


Boring **Interesting**

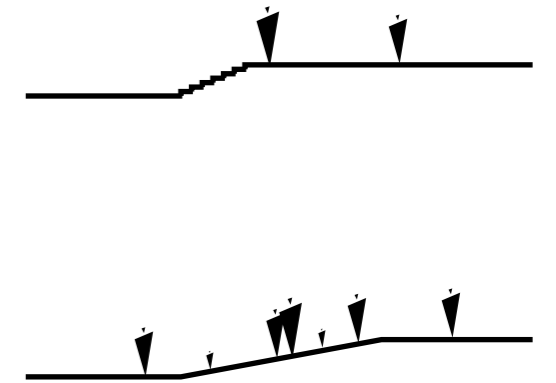
Physical distance is the same. But the experienced distance is different. A walking network with alternating street spaces and small squares often will have the psychological effect of making the walking distances seem shorter.



Whenever people walk, they prefer direct routes and short-cuts. Only very great obstacles, like dangerous traffic, extensive barriers, and so on seem to be able to interrupt this pattern.

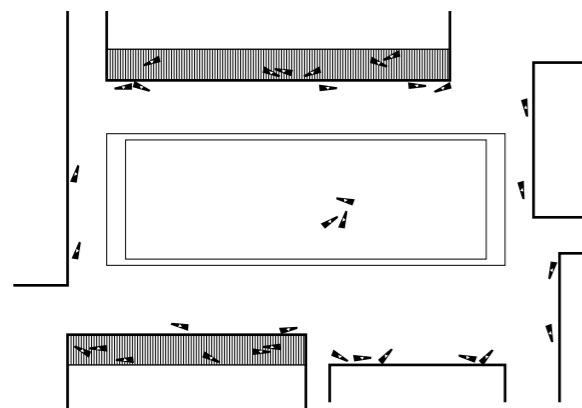


When walking routes are placed at the edge of an open space, pedestrians may enjoy the best of both worlds: closeness, intensity, and detail on one side; on the other side, a fine view of the entire open space. Walking routes placed in the middle of a space most often provide neither detail nor expanse of view.

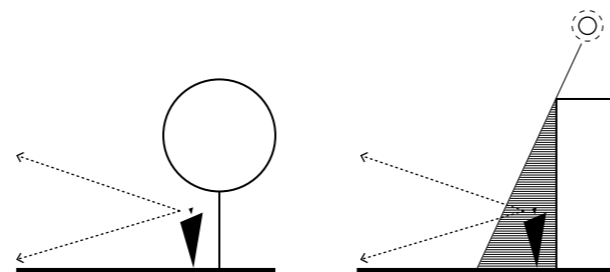


In situations in which pedestrian traffic must be led up or down, relatively flat ramps are generally preferred to stairs.

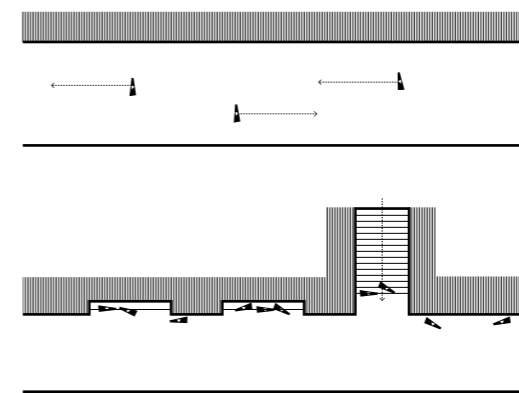
Standing



the edge effect
Popular zones for staying are found along the facades in a space or in the transitional zone between one space and the next, where it is possible to view both spaces at the same time. activities grow from the edge toward the middle



To be partly hidden in half shade while at the same time having a fine view of the space-halfshade space will attract people to linger and to observe while remaining unobserved. Protection is provided, but there is still a good view.



If spaces are desolate and empty - without benches, columns, plants, trees, and so forth - and if the facades lack interesting details-niches, holes, gateways, stairs, and so on - it can be very difficult to find places to stop.

CASE STUDY

CASE STUDY

1



Harbour Isle
Apartments



Copenhagen, Denmark
Lurdgaard & Tranberg Architects

2



Tietgen
Dormitory



Copenhagen, Denmark
Lurdgaard & Tranberg Architects

3



Charlottehaven

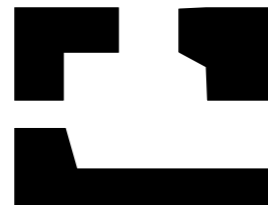


Copenhagen, Denmark
Lurdgaard & Tranberg Architects

4



Mariaplaats



Utrecht, the Netherlands
AWG

5



Paswerk



Haarlem, the Netherlands
Herman Hertzberger

6



De Grote Hof



Pijnacker - Nootdorp, the Netherlands
Architectenbureau Rapp+Rapp

CASE STUDY 1: HARBOUR ISLE APARTMENTS

Lurdgaard & Tranberg Architects, Copenhagen, Denmark



The project builds on the master plan for the transformation of Copenhagen's Havneholmen area from industrial port to an integrated modern residential and commercial development, which put greater emphasis on the port's proximity. The building comprises of 236 exclusive apartments, consisting of two U - shaped blocks with inner courtyards, both of which open towards the harbor view. The building heights vary from 5 to 8 storeys sloping down in order not to block the view. Its volumetric disposition of the complex effectively reduces the size of the buildings to a human scale.

The overarching landscape theme is comprised of shore vegetation and slender, pruned trees, while the quay edges and promenades draw on the teakwood of the window profiles. There is a wide variety of residential units within the complex; gate houses, townhouses, garden houses, canal houses and tower apartments – all of which are legible in the facades, balconies and bays.



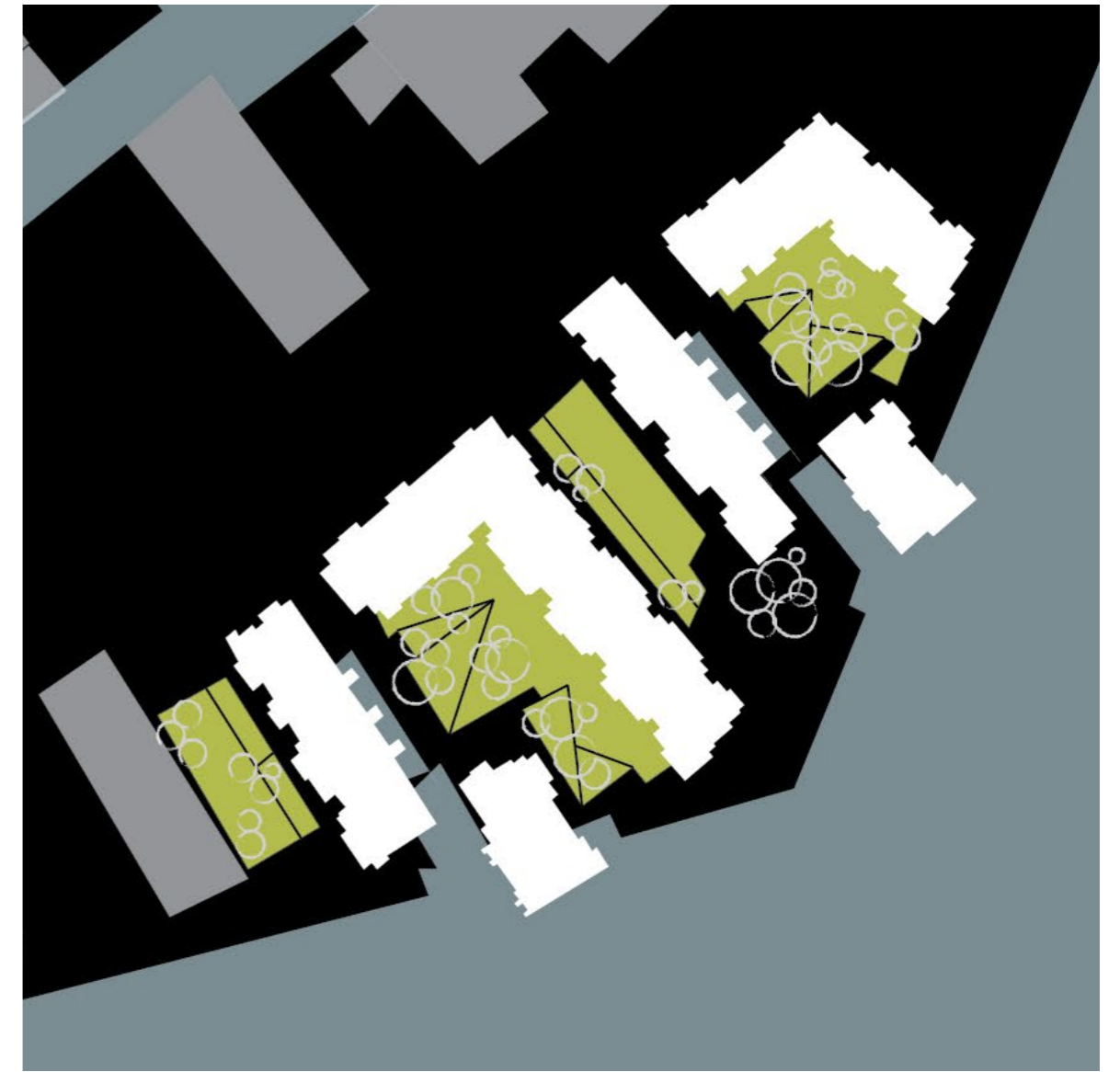
BUILDING COMPOSITION

positive and negative spaces



Positive and negative spaces:

The Harbour Isle Apartments consist of 6 buildings in which two of them have U-shape form, therefore creating the central communal gardens in the middle. The architect divided the project into 2 communities; both are identical in the urban composition and design but with slightly different sizes. Each building is organized in a perpendicular manner to the bay, so that the majority of dwellings could get the waterside view.

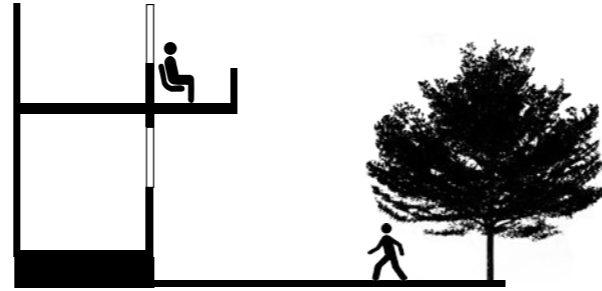


Semi-public spaces:

The two communal gardens are defined by the U-shaped buildings filled with various vegetations from trees to slender bushes that create privacy for people sitting on the benches provided on the wooden deck. The public circulations are kept out of the communal garden. While another type of garden is simple grasses mainly used as pathways.

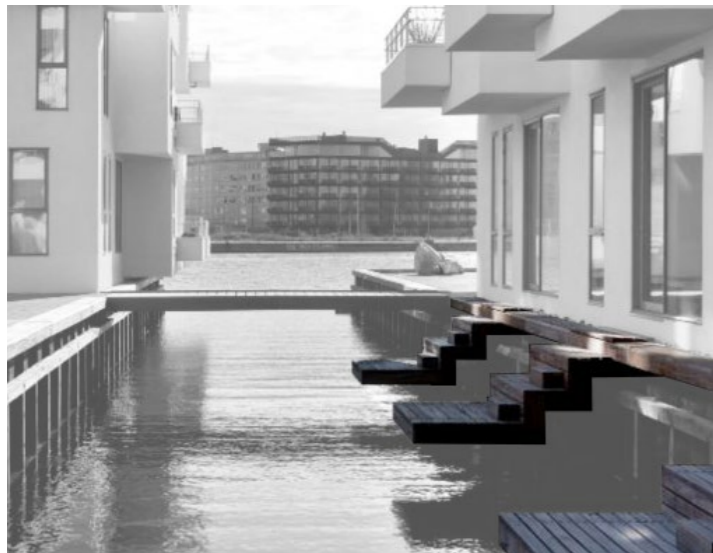
OUTDOOR SPACE

Six-foot balcony

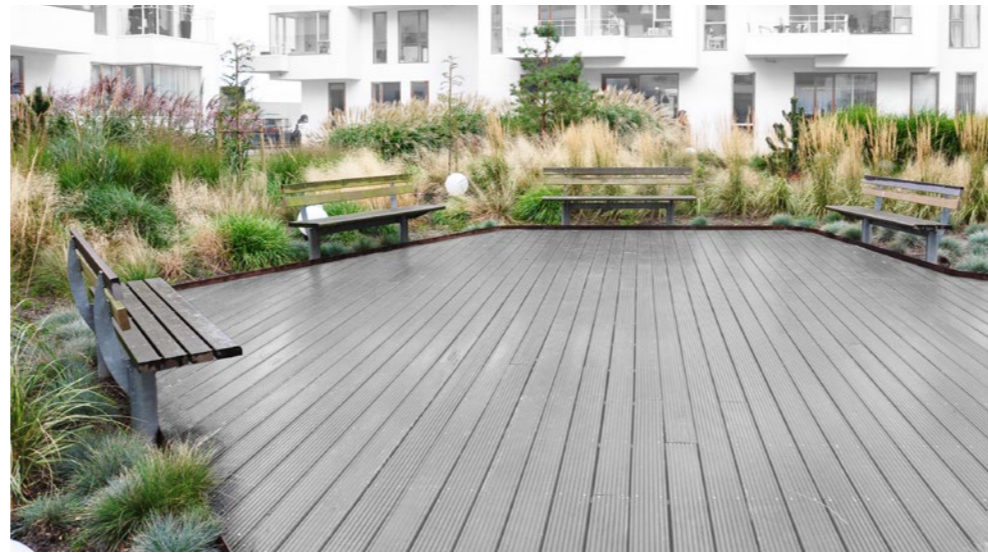


OUTDOOR SPATIAL ELEMENTS

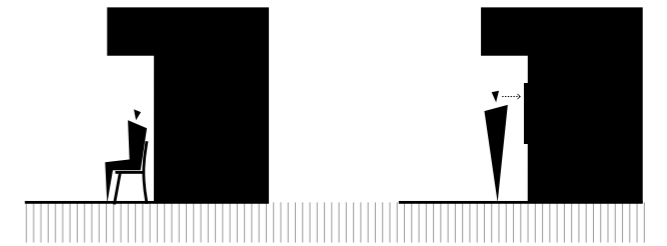
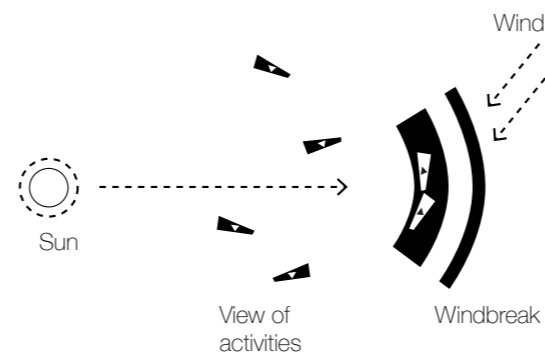
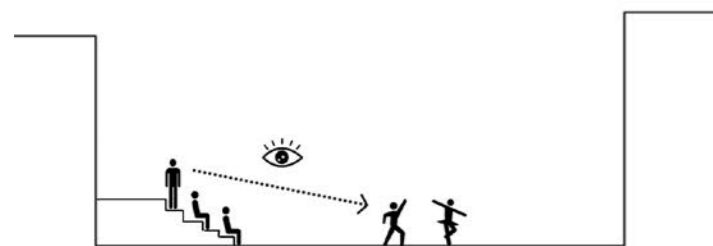
Stair Seats



Seat Spots

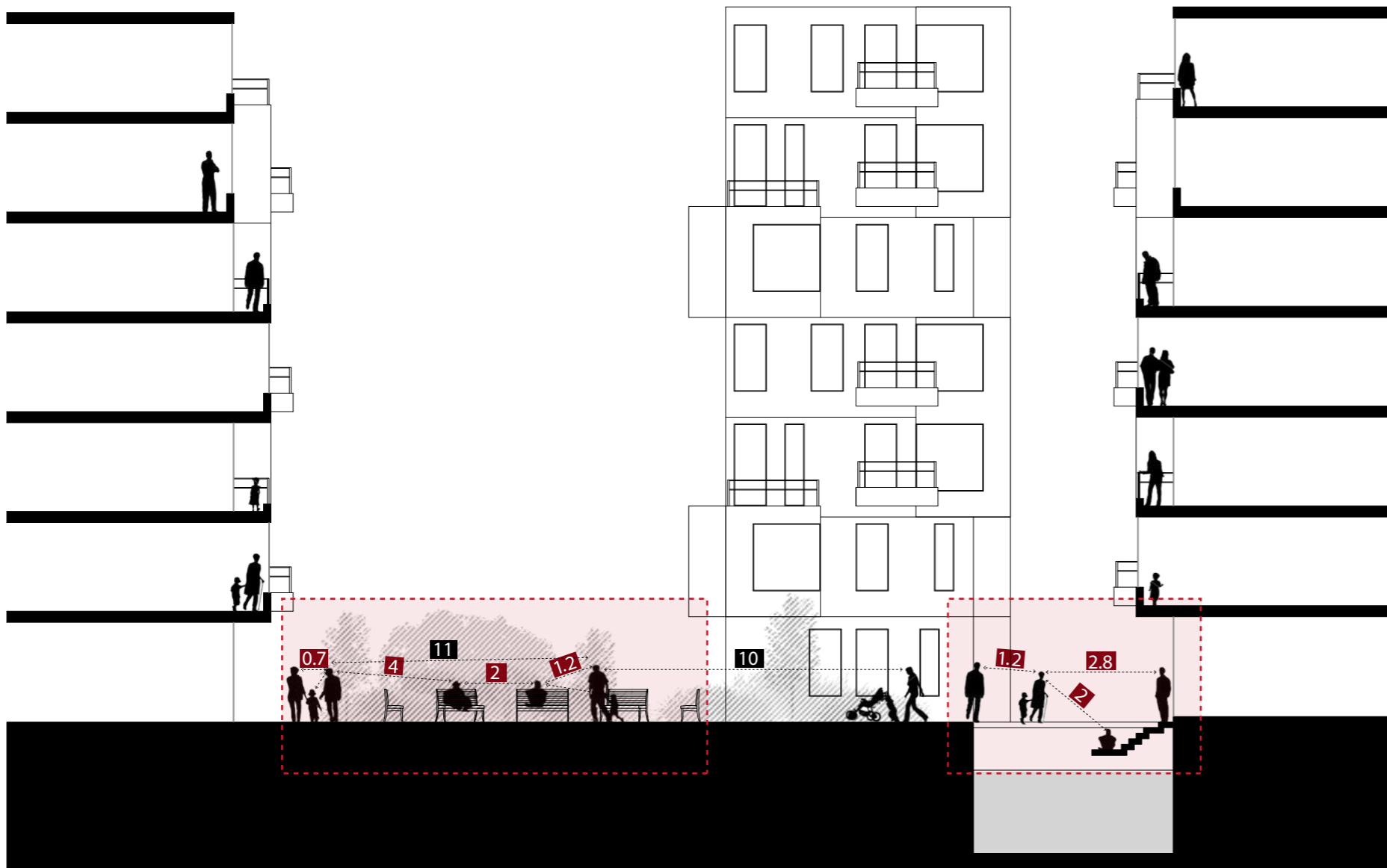
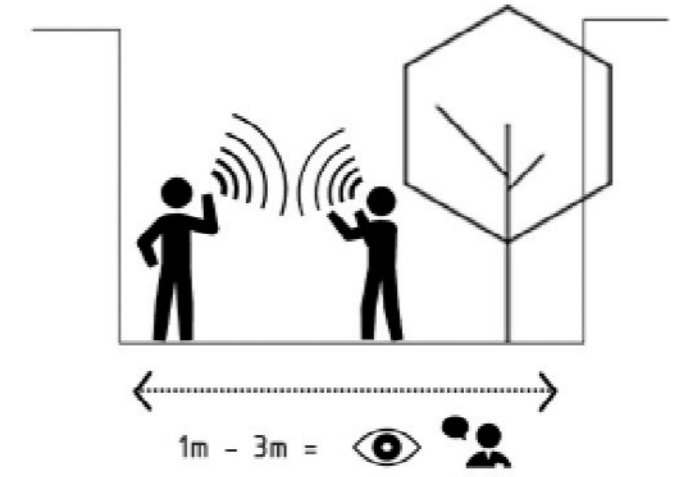
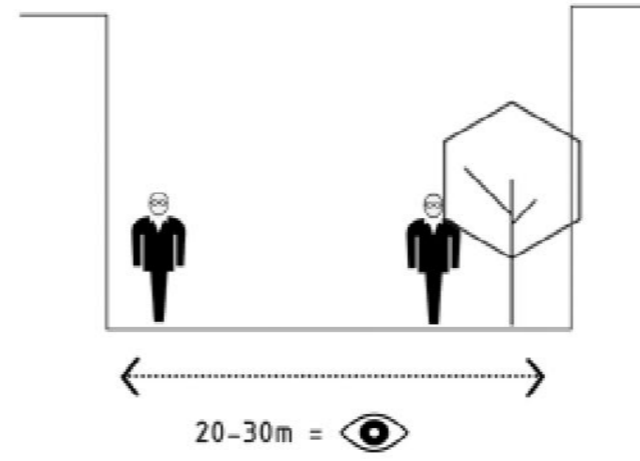
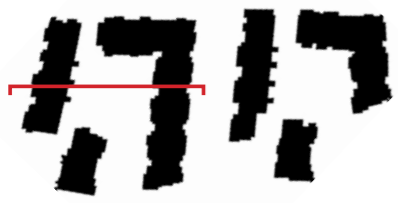


Building Edge



SEEING

contact on ground level

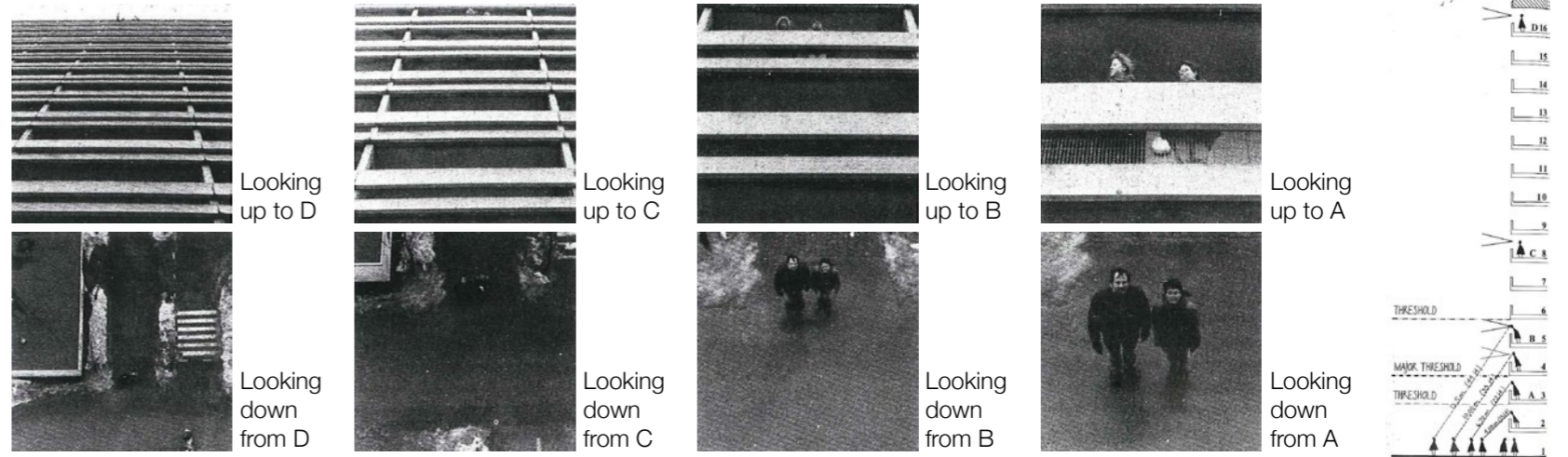
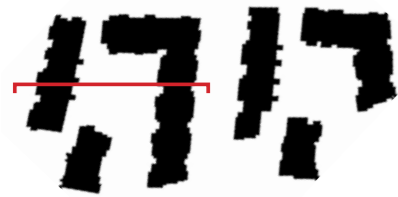


As there exist space with circle benches and private outdoor water platform, more people stay there, at distances of 1 to 3 meters. These spaces create more chances for people to communicate.

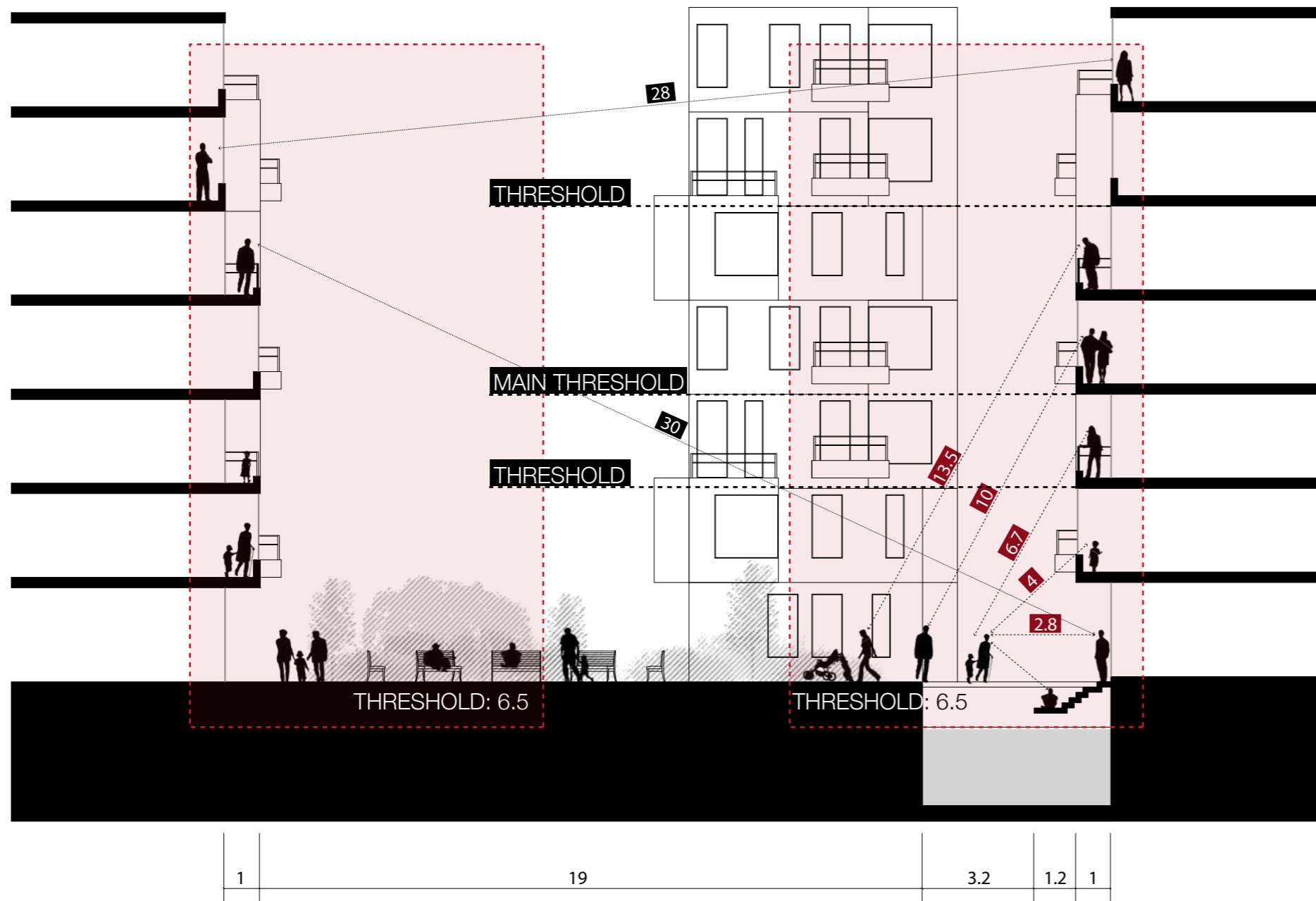
- Positive Communication
- No Communication

SEEING

contact between upper storeys and ground level



Source: Gehl J. *Life between buildings: using public space*[M]. Island Press, 2011.



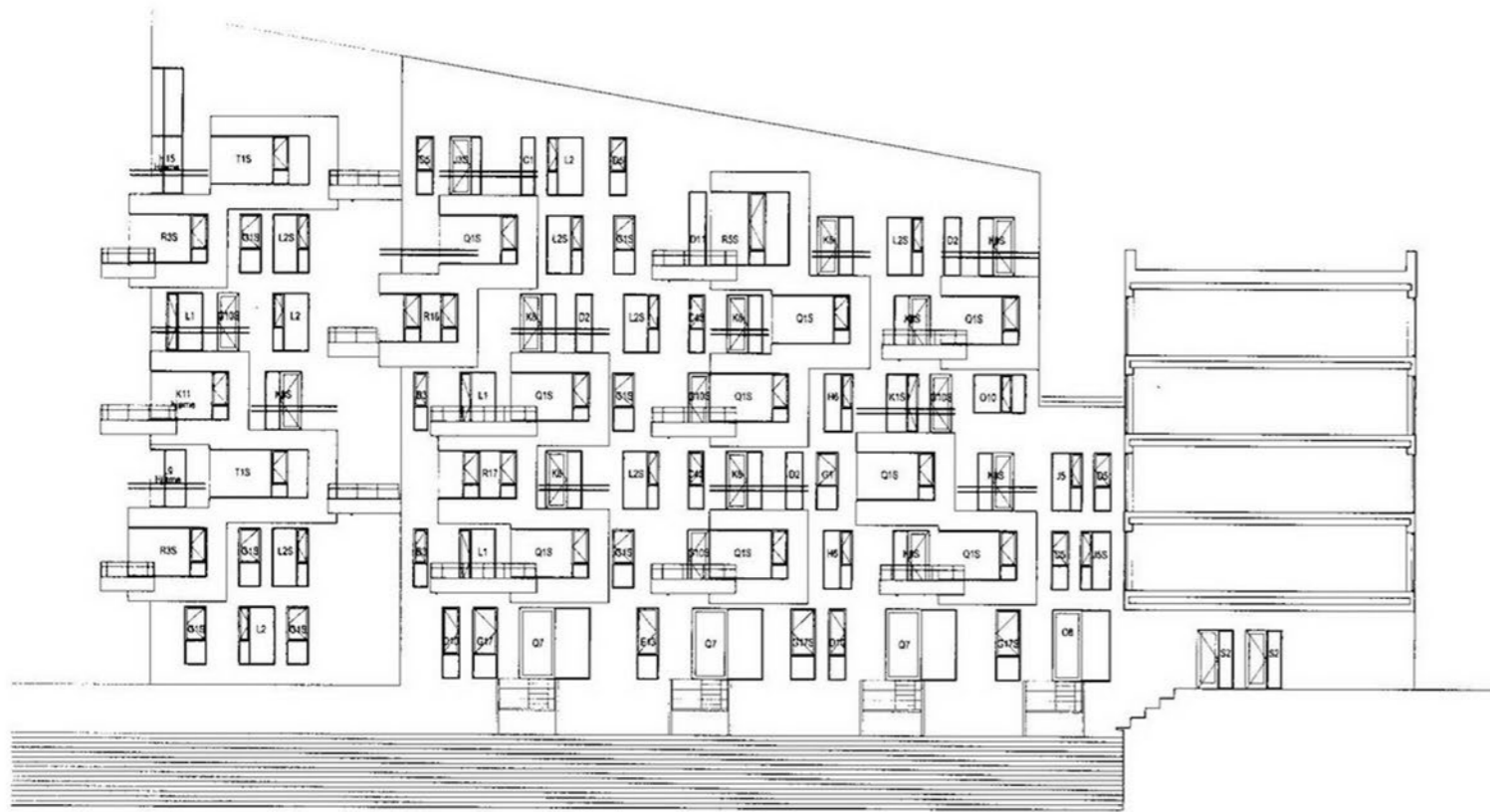
The building storeys in this project varies from 5 to 8 height, whose majority have contacts with ground level events.

The maximum length of the courtyard is around 23 meters, and its edge zone of 6.5m associated with the building on sight.

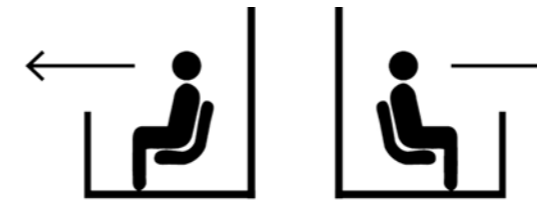
■ Positive Communication
 ■ No Communication

SEEING

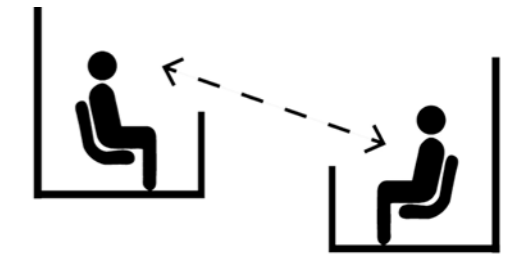
balcony arrangement



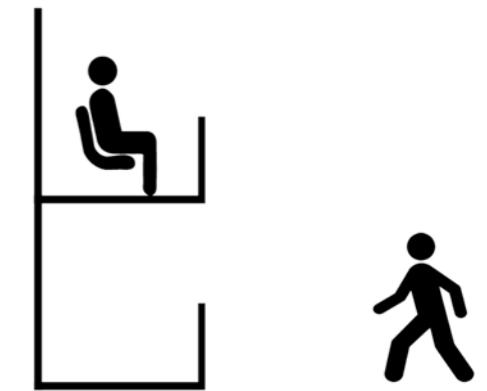
Source: <http://www.eeetop.com>



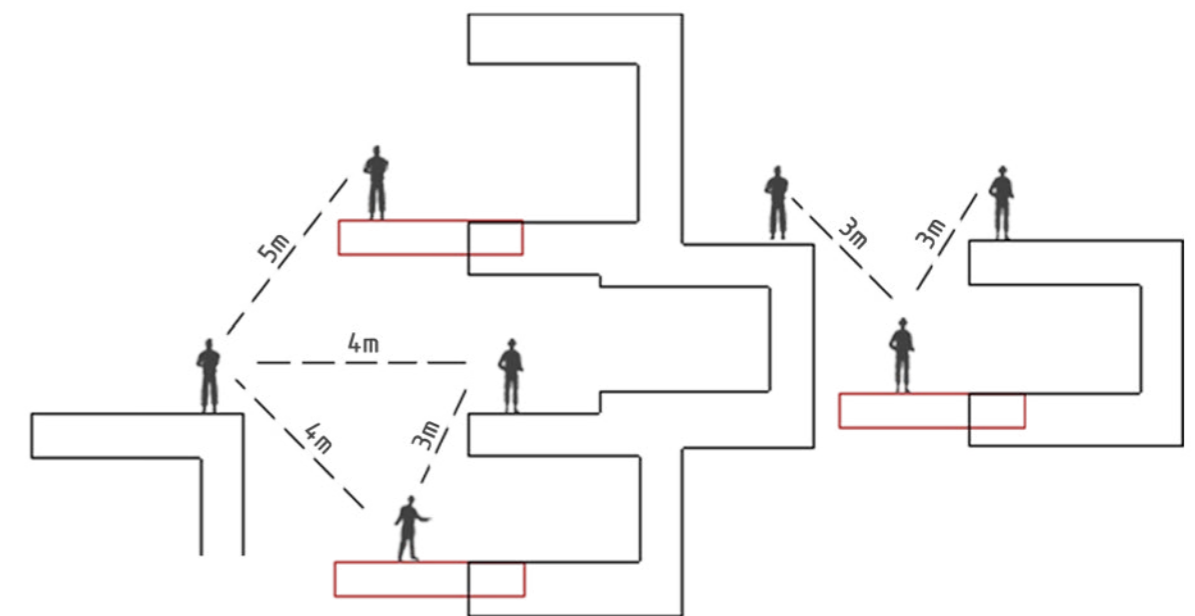
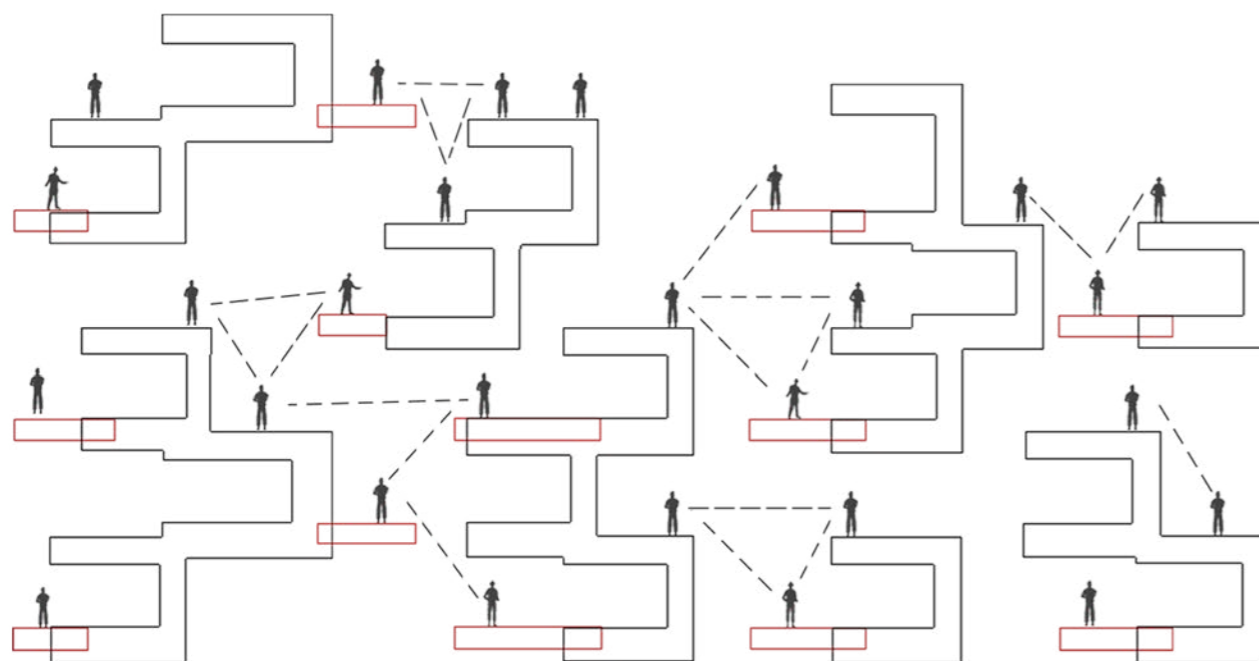
BACK-TO-BACK ORIENTATION



SHIFTED FACE-TO-FACE ORIENTATION

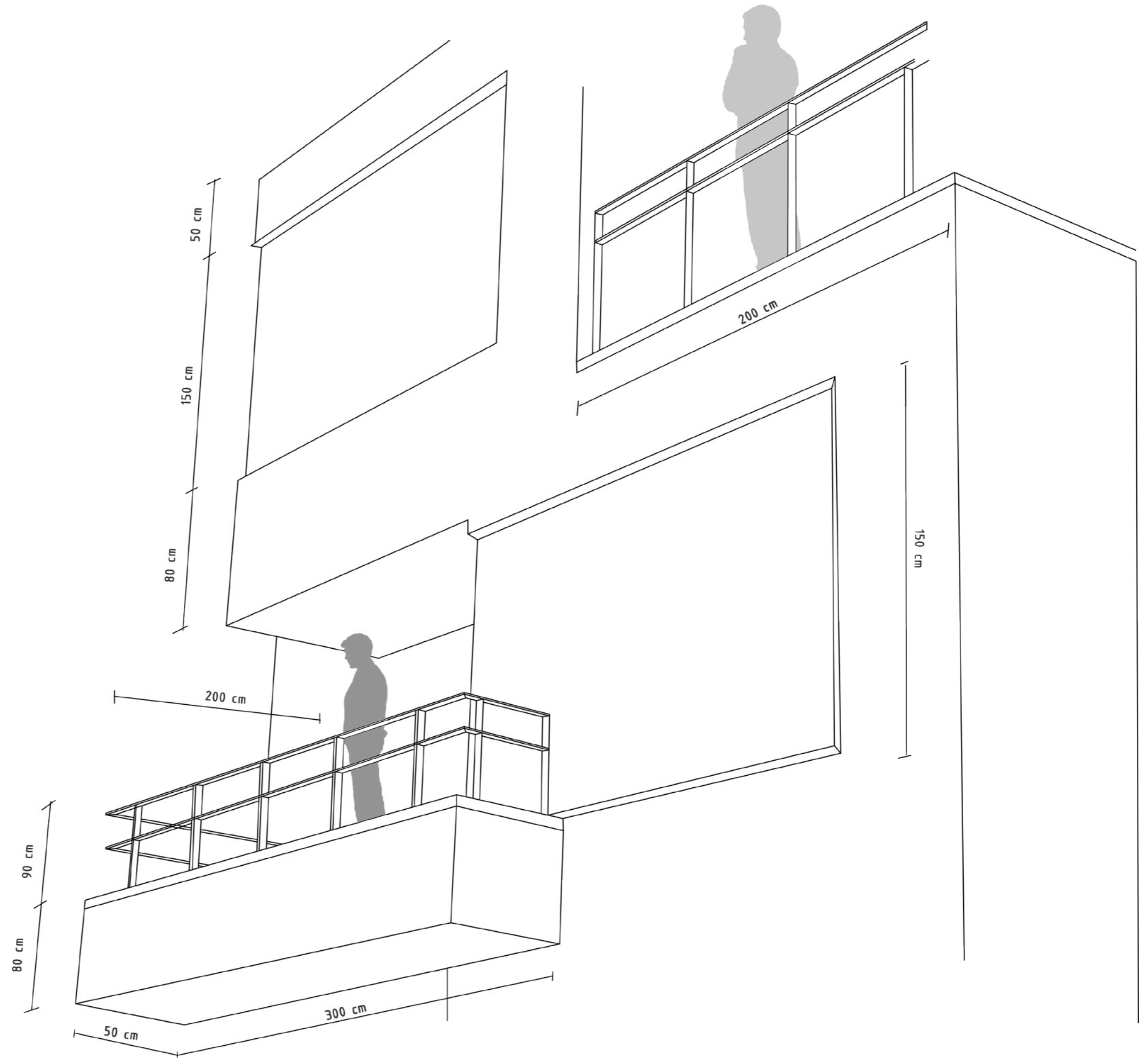


MULTIPLE LEVELS

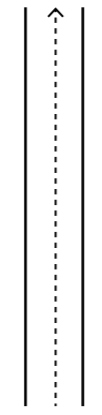


SEEING

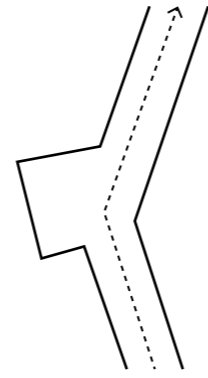
balcony types/dimensions



WALKING

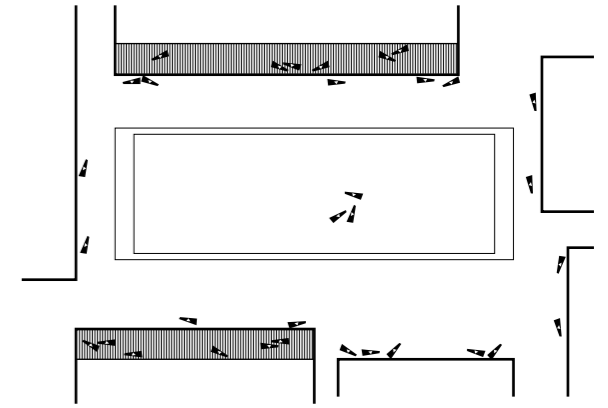


Boring

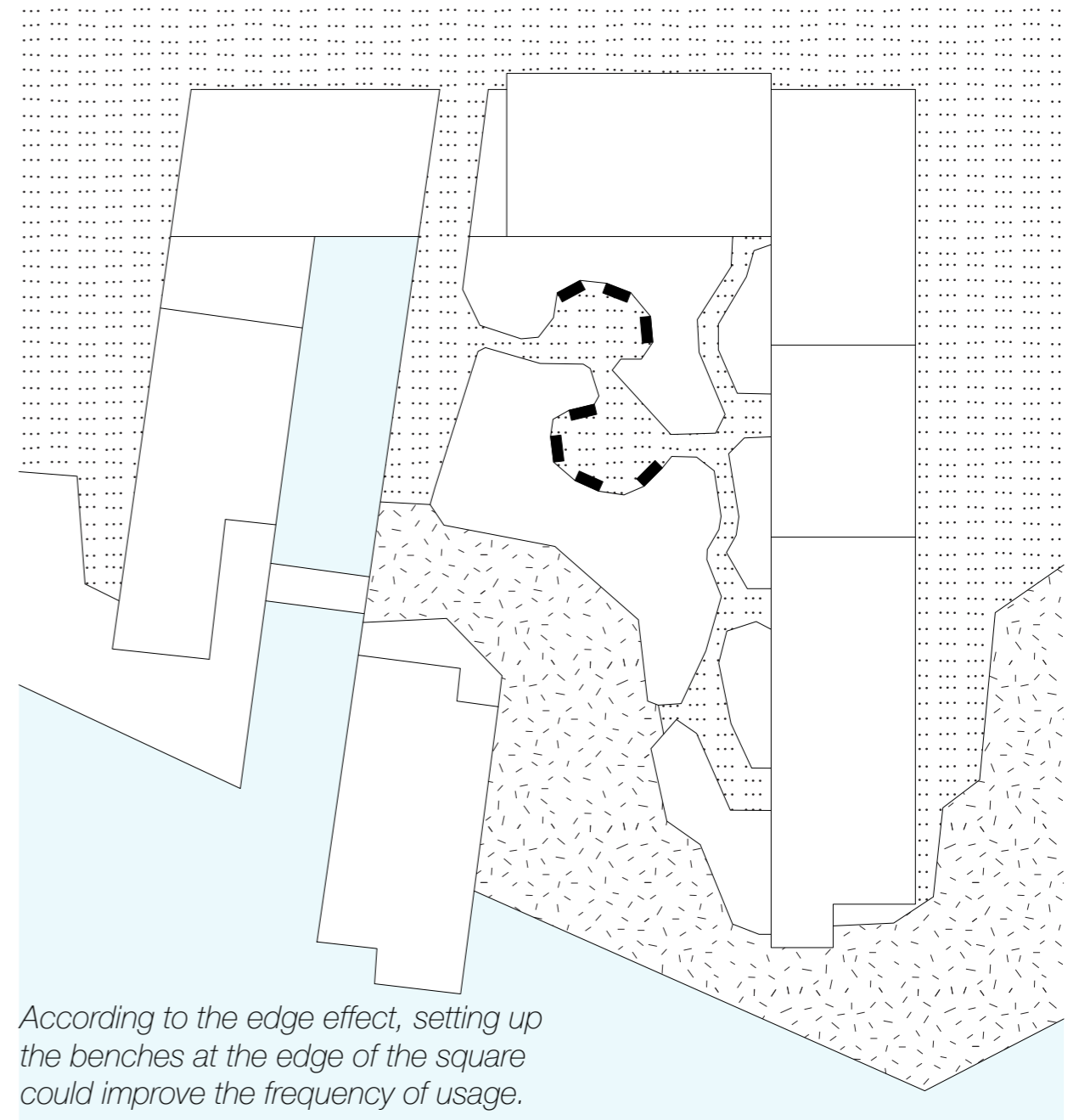


Interesting

SITTING

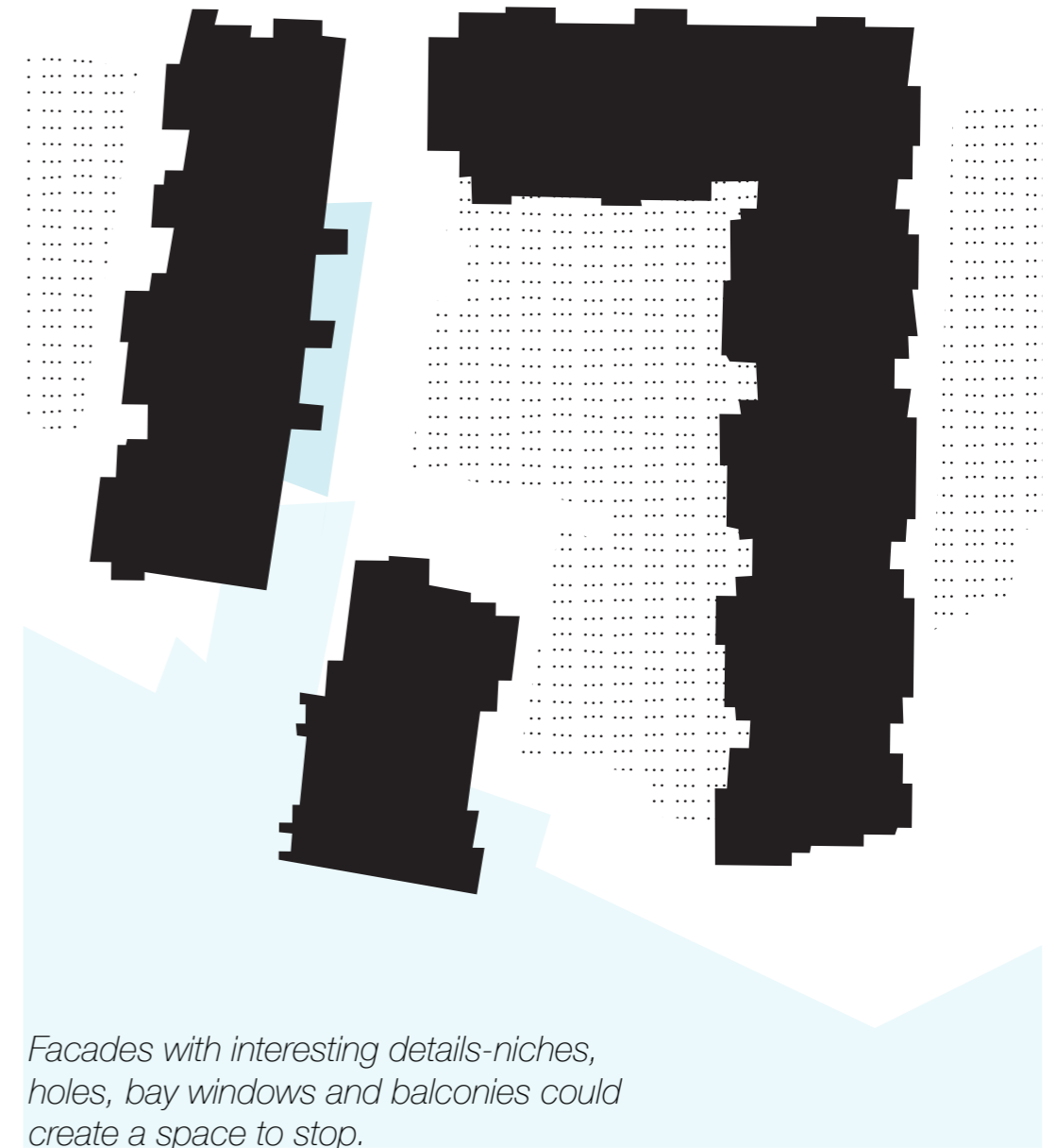
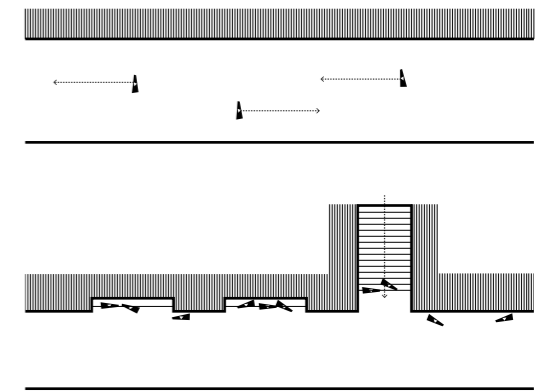
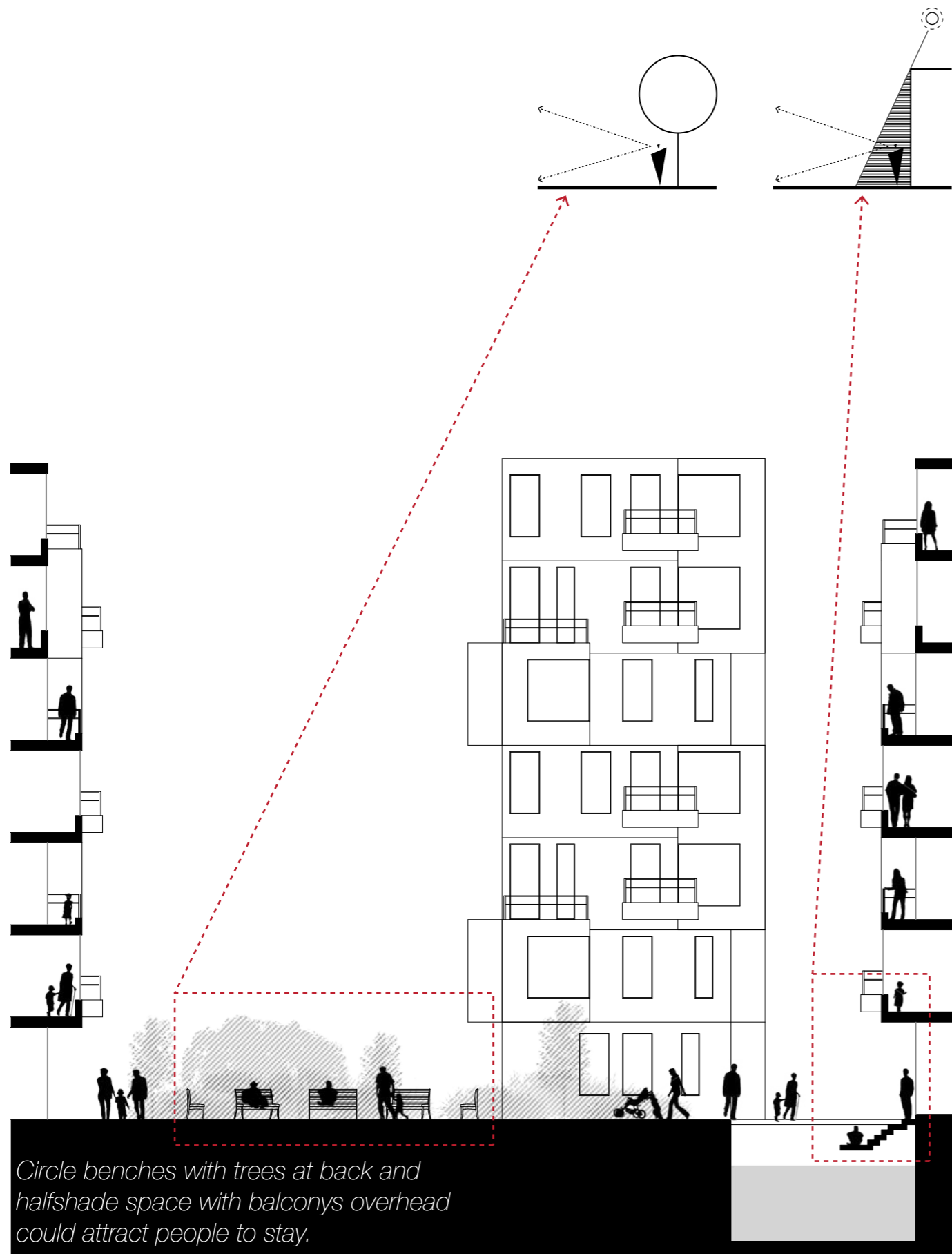


A walking network with alternating street spaces and small squares often will have the psychological effect of making the walking distances seem shorter.



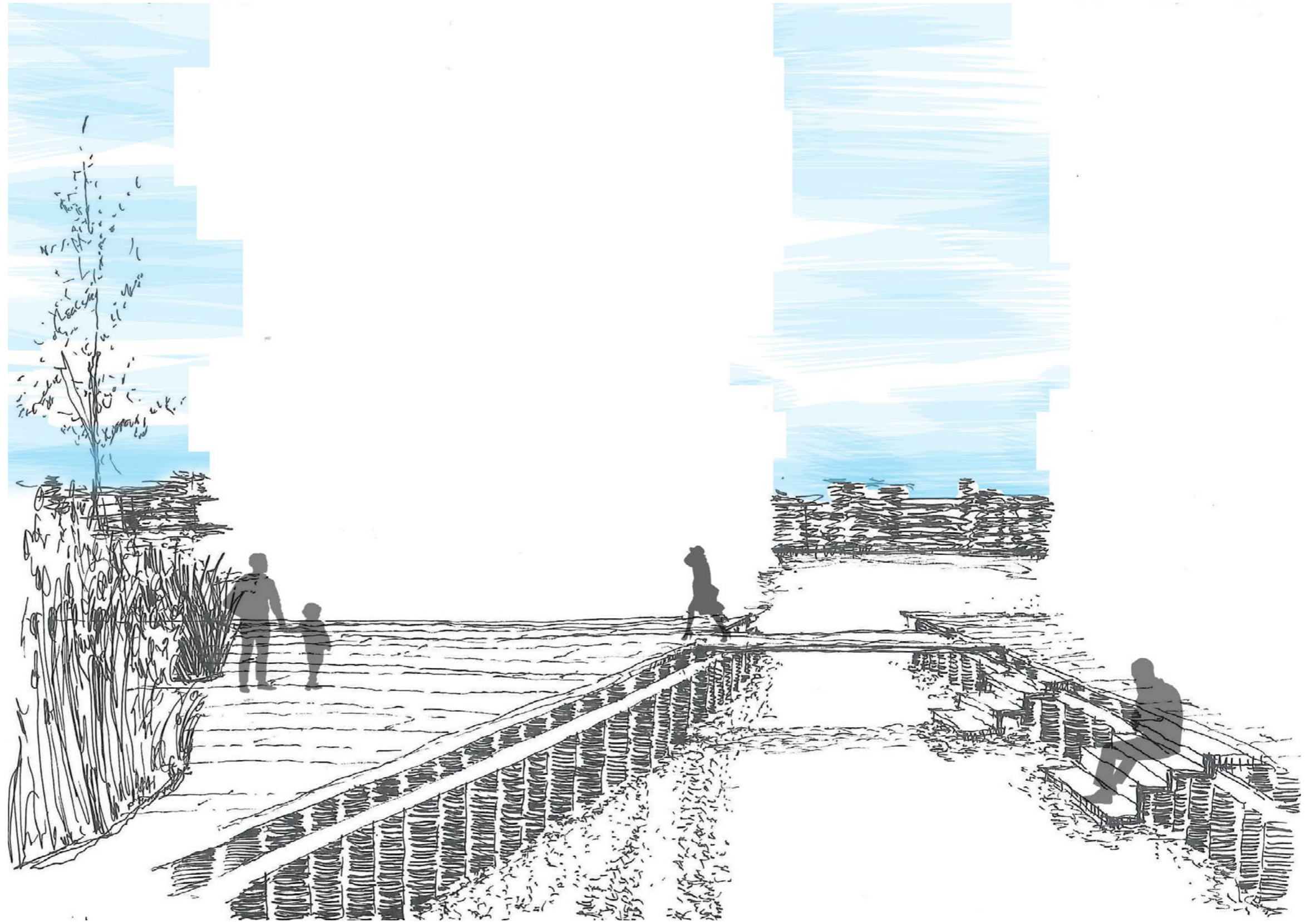
According to the edge effect, setting up the benches at the edge of the square could improve the frequency of usage.

STANDING



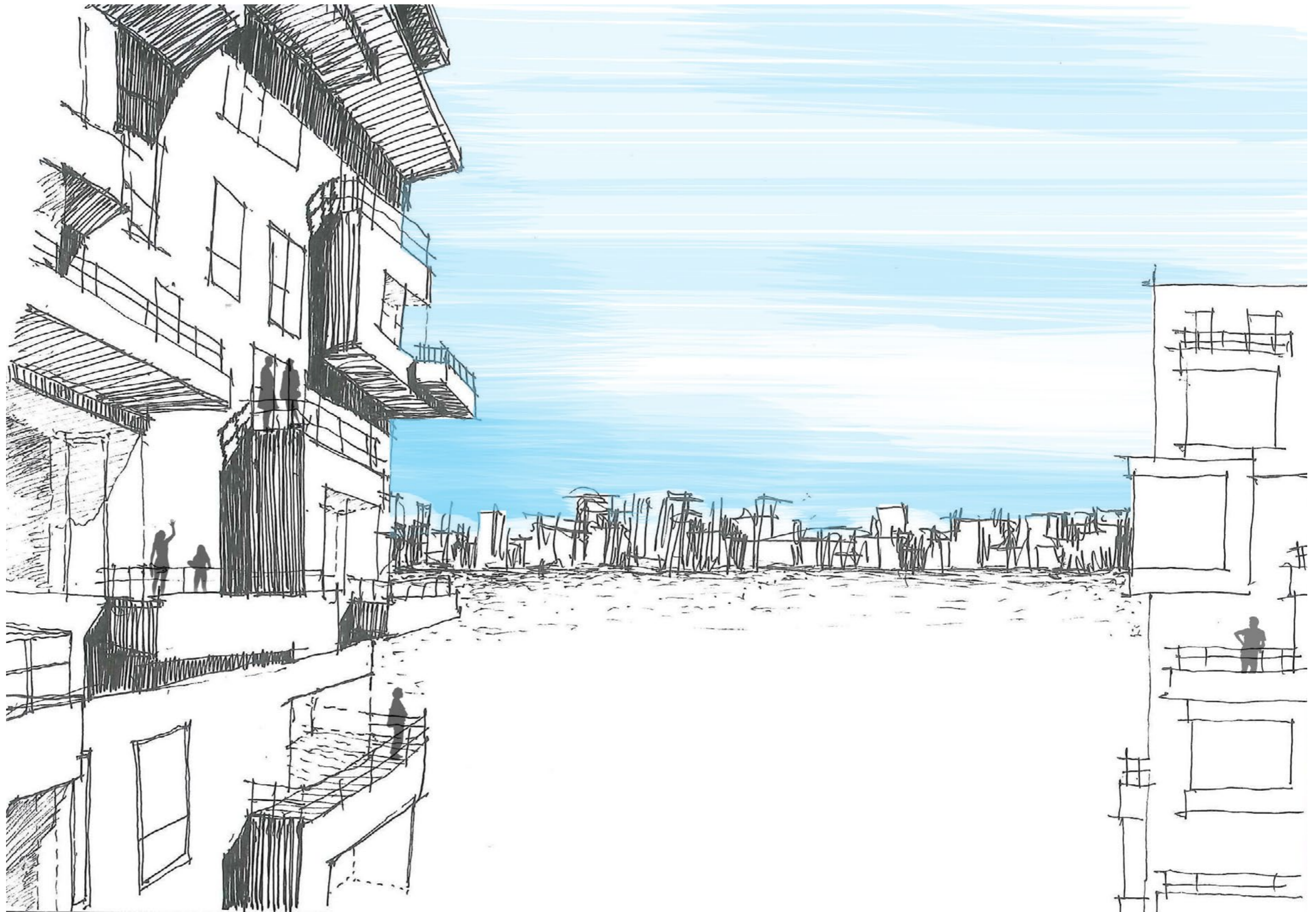
ATMOSPHERE

*outdoor semi-public vs.
semi-private space*



ATMOSPHERE

*outdoor semi-public vs.
semi-private space*



CASE STUDY 2: TIETGEN DORMITORY

Lurdgaard & Tranberg Architects, Copenhagen, Denmark



The Tietgen Students' Hall Residence project designed by Lundgaard & Tranberg Arkitekter, is located near Copenhagen University in Ørestad North. The hall of residence is a seven storey structure in an area of 26,800 square meters, containing 360 rooms set up in blocks of 12. The main characteristic of the building is its circular shape, symbolizing equality and community, with close relationship between private and communal spaces.

The facade is contrasted by projecting volumes expressing the individual residences. Five vertical cuts intersect the building, which both visually and functionally divide the building into sections, providing outdoor access to the central courtyard and the building's floors. The courtyard space is in the centre and provides a natural unifying midpoint for the residents; the courtyard has both physical and visual contact with every part of the building.



OUTDOOR SPACE

Common land

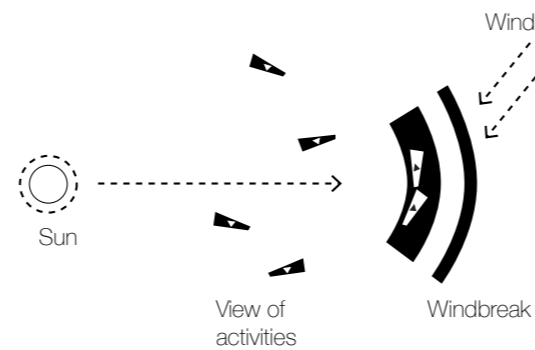


Six-foot balcony



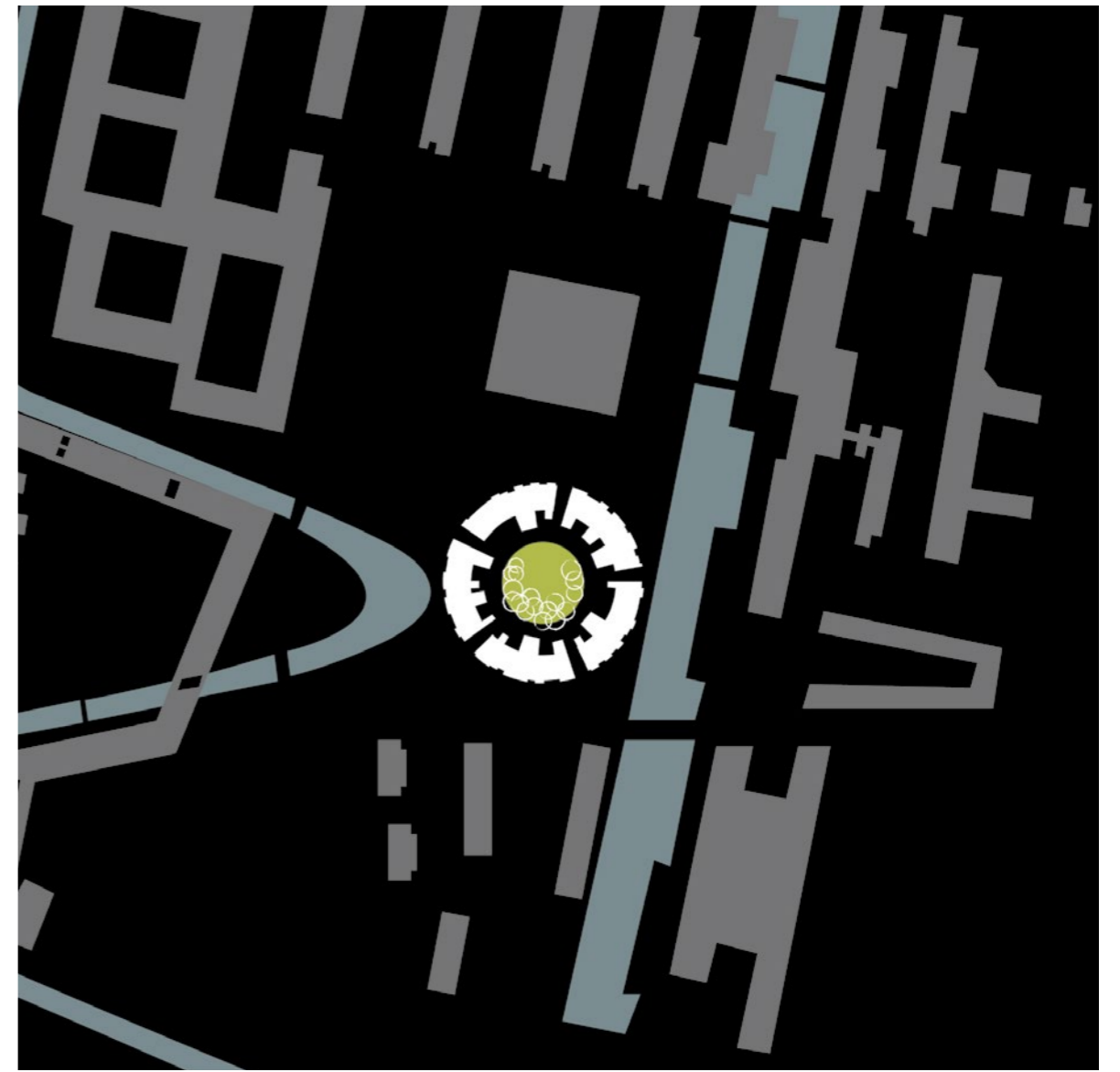
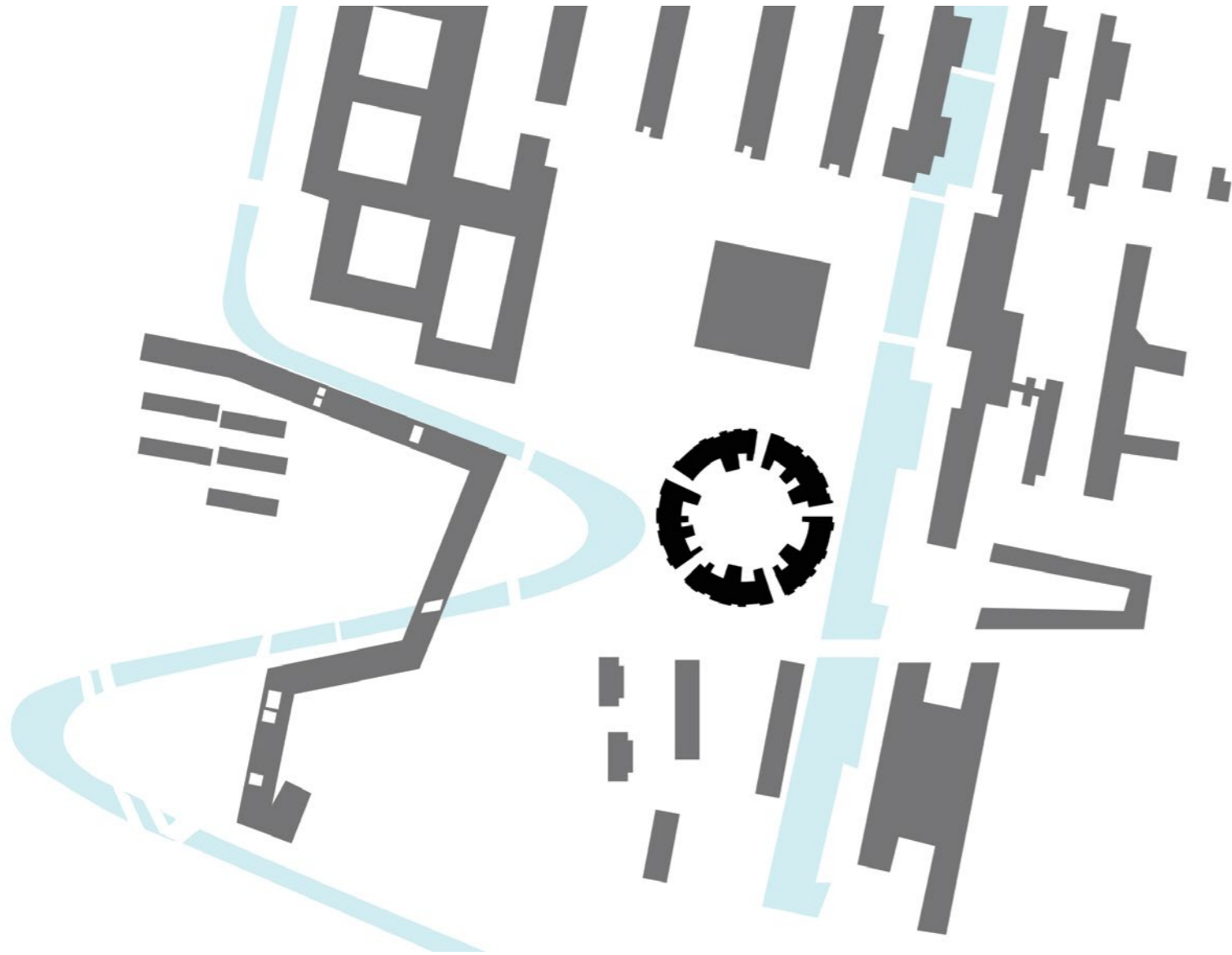
OUTDOOR SPATIAL ELEMENTS

Seats spots



BUILDING COMPOSITION

positive and negative spaces



Positive and negative spaces:

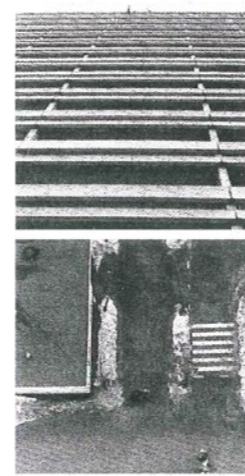
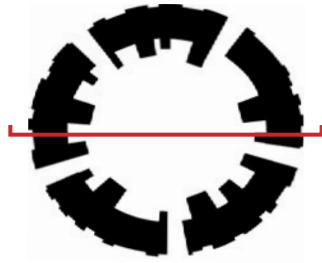
The Tietgen dormitory has a distinct building composition compared to its surrounding contexts. Public accesses are through 5 passages which lead to the central circular courtyard. The courtyard space is being shaped by extruding boxes of corridors and shared facilities such as kitchen, dining room, balconies, working room.

Semi-public spaces:

Its courtyard has a clear and simple design with grasses and group of trees in the center and surrounded by wide wooden benches that students can sit or lay down while enjoying their companies. The main circulation is on the most outer ring surrounded by glass facade of communal facilities on the ground floor.

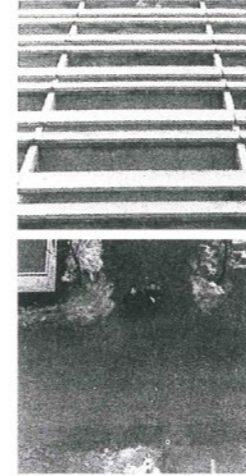
SEEING

contact between upper storeys and ground level



Looking up to D

Looking down from D



Looking up to C

Looking down from C



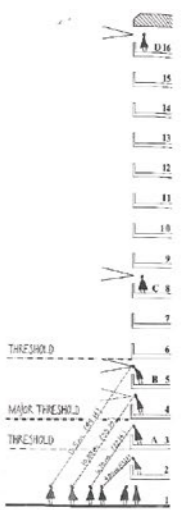
Looking up to B

Looking down from B

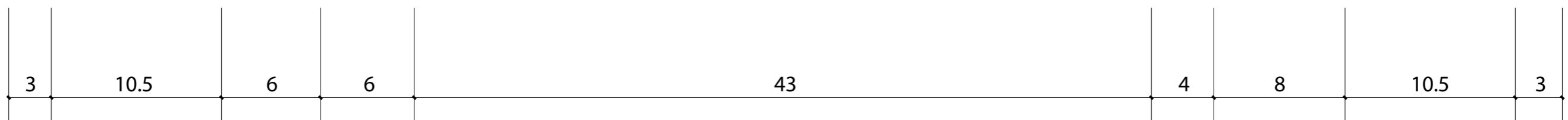
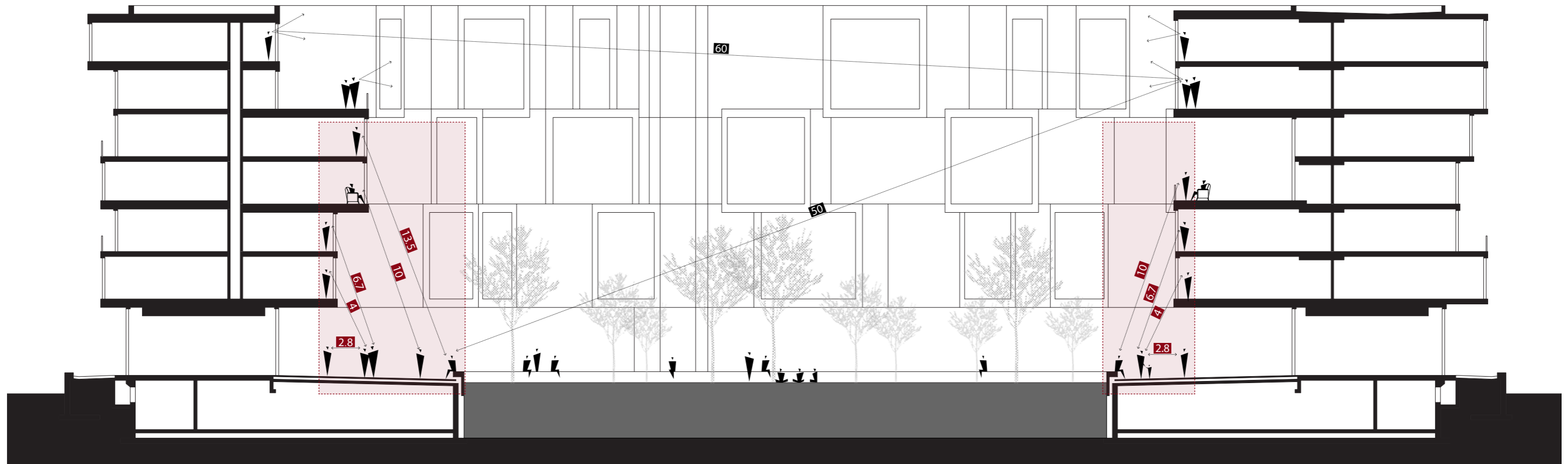


Looking up to A

Looking down from A



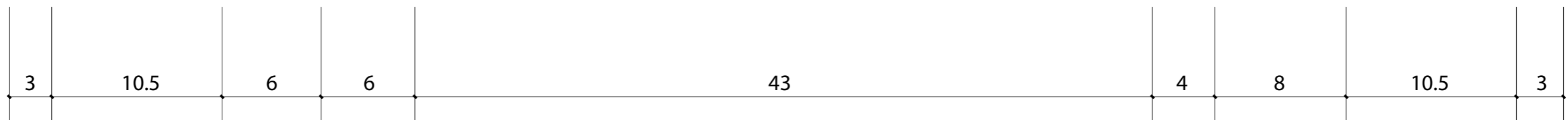
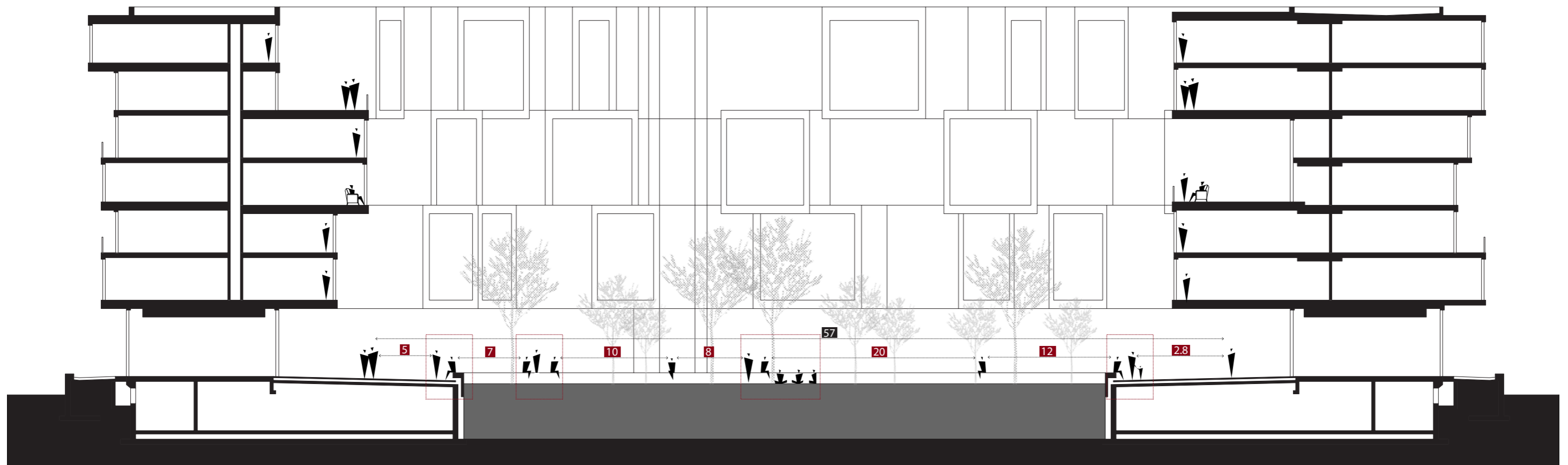
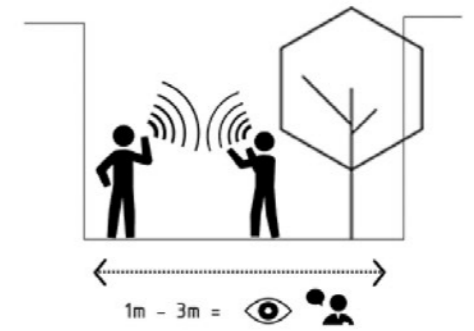
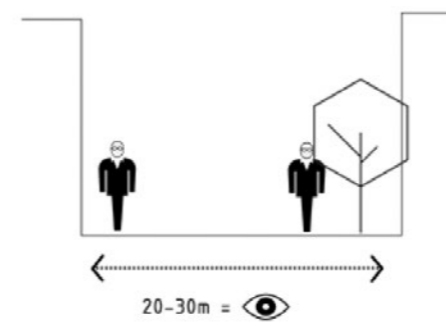
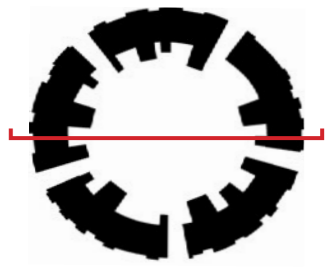
Source: Gehl J. *Life between buildings: using public space*[M]. Island Press, 2011.



Positive Communication
No Communication

SEEING

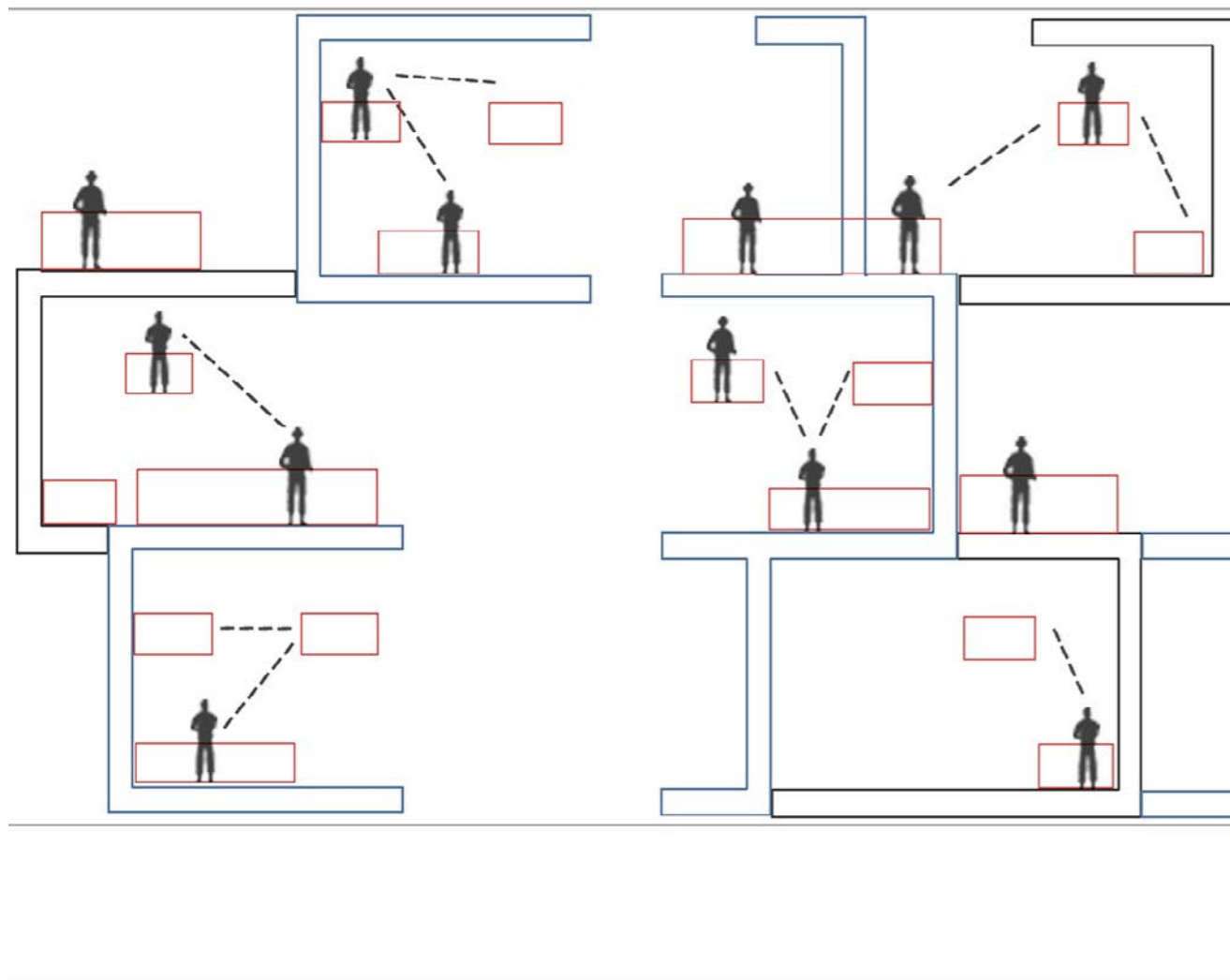
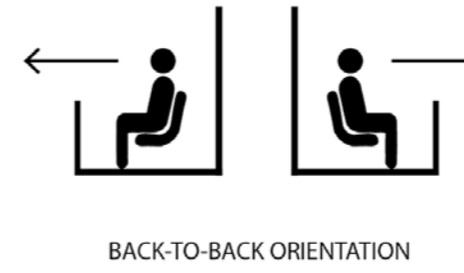
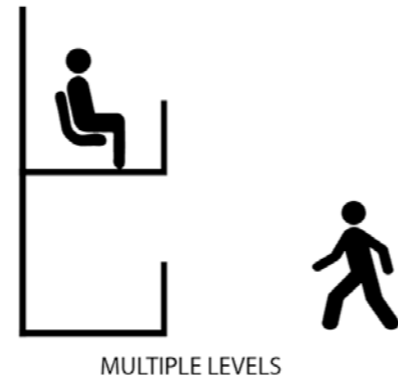
contact on ground level



Positive Communication
No Communication

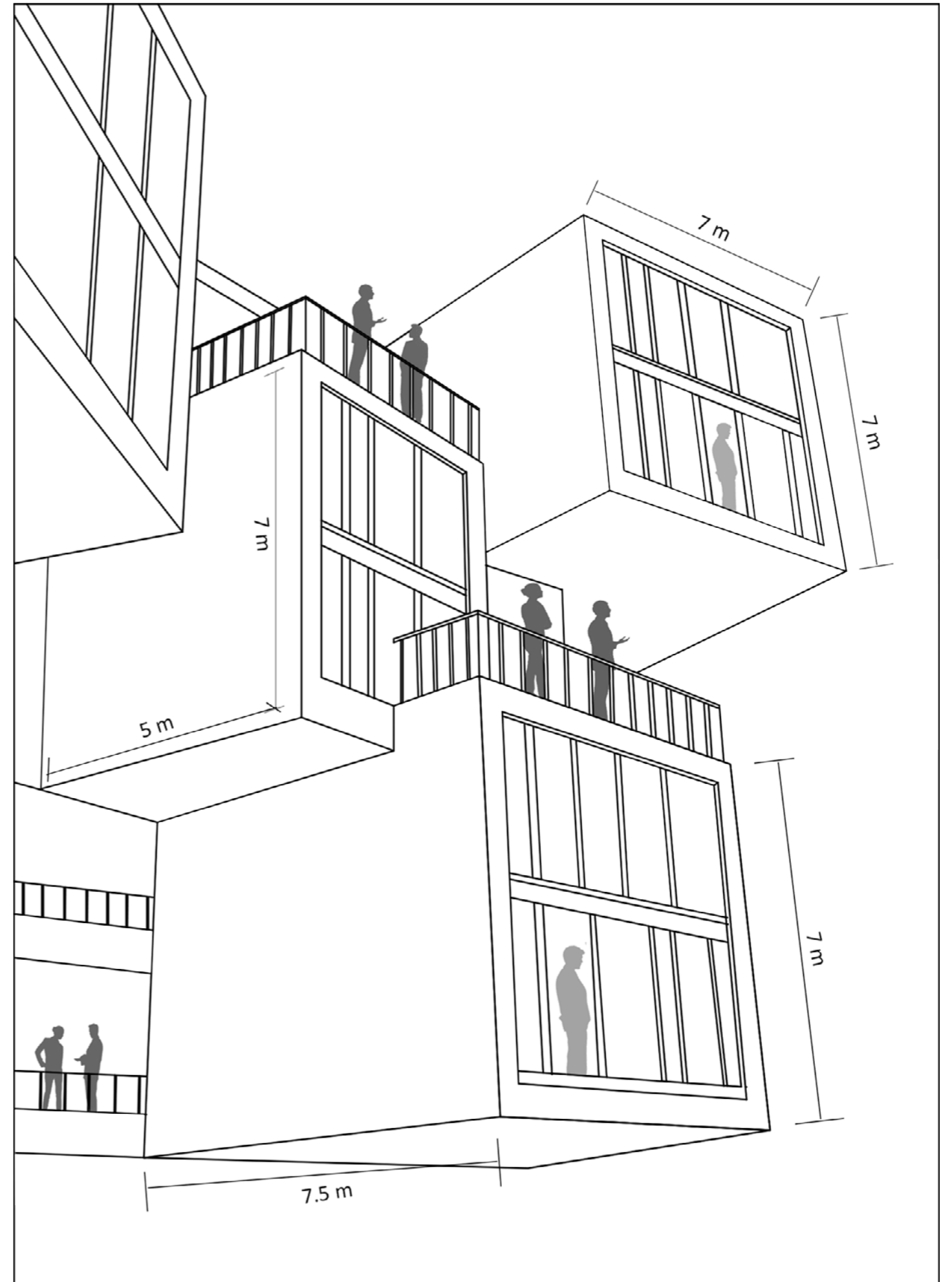
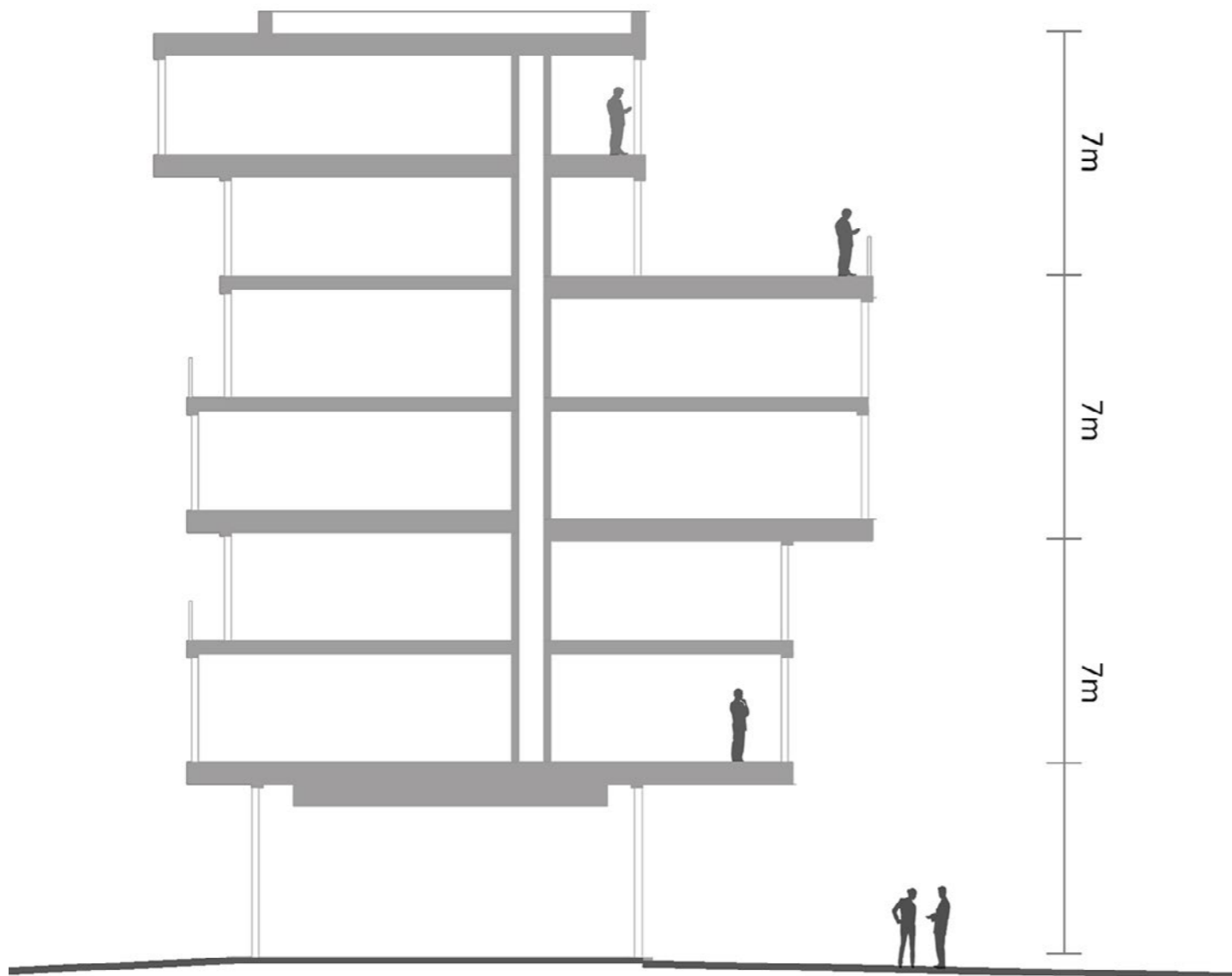
SEEING

balcony arrangements

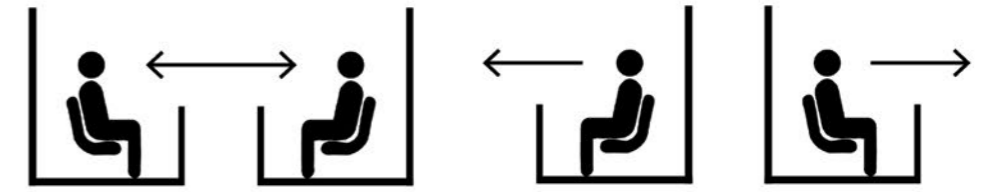


SEEING

balcony arrangements

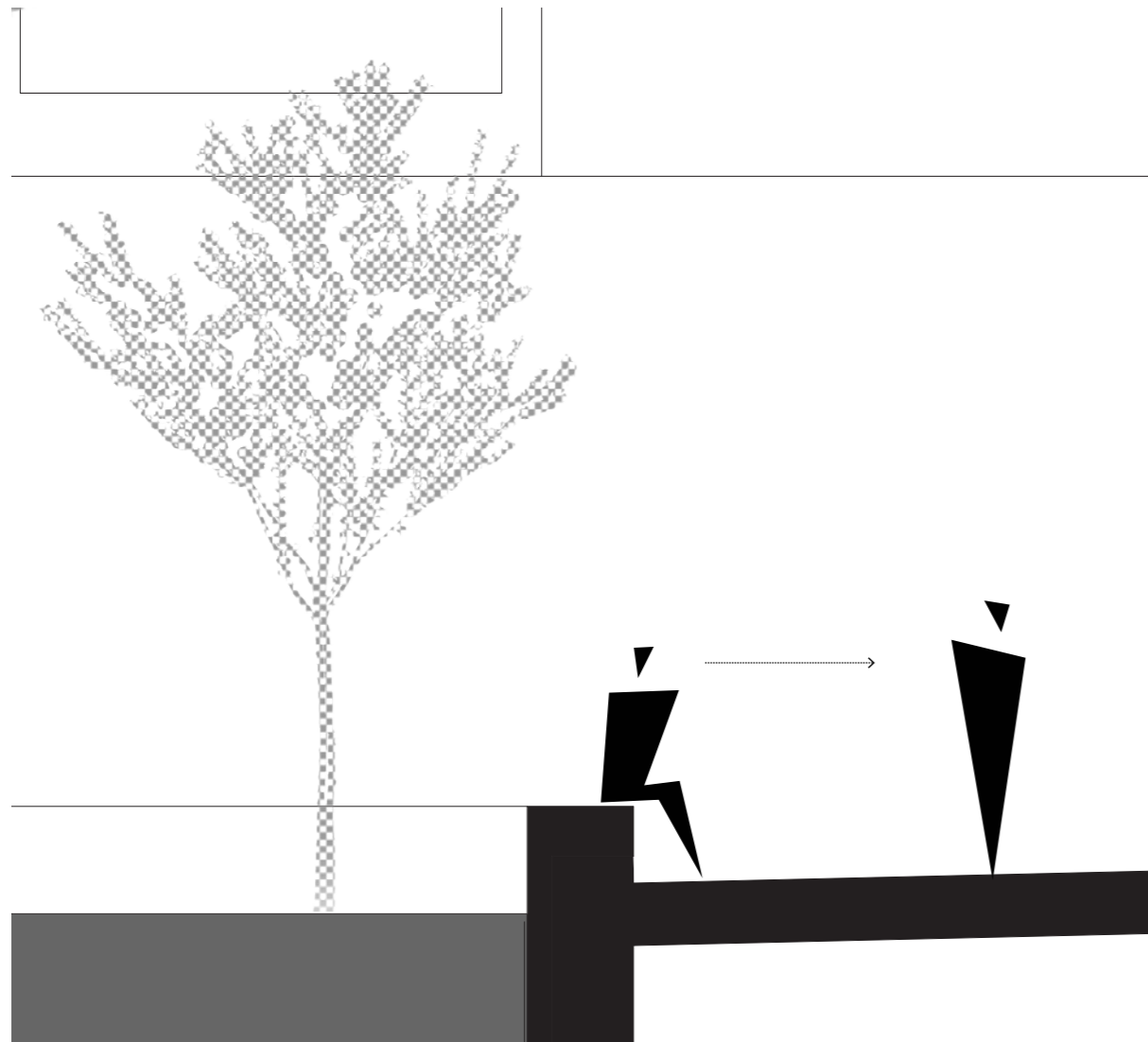


SITTING

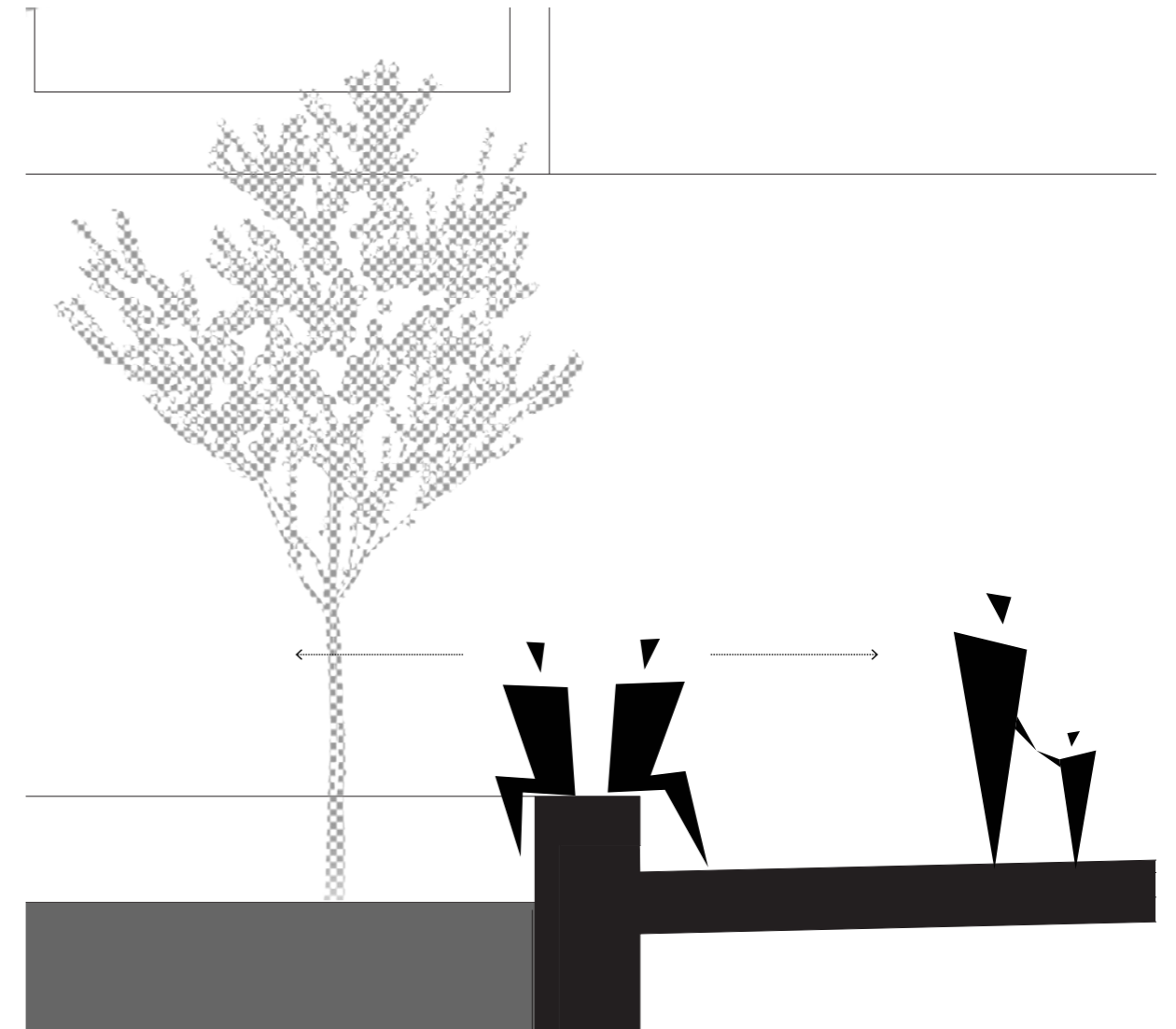


FACE-TO-FACE ORIENTATION

BACK-TO-BACK ORIENTATION

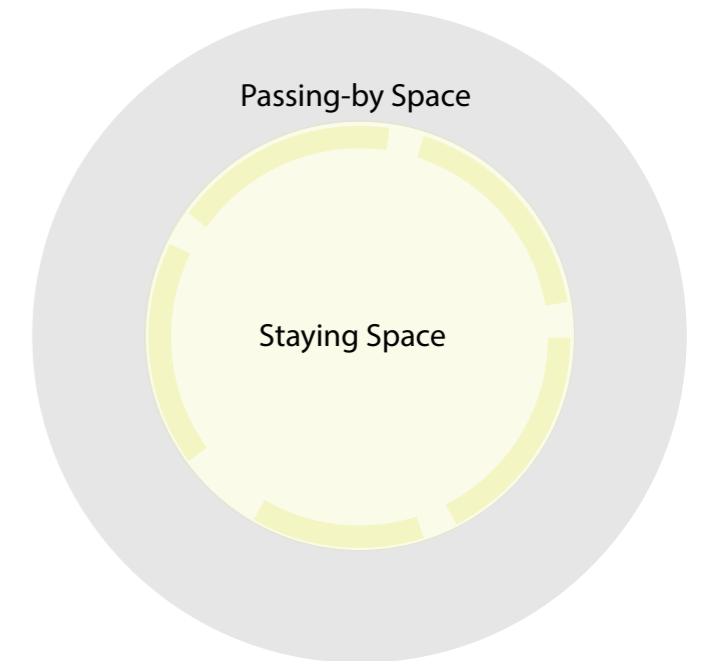
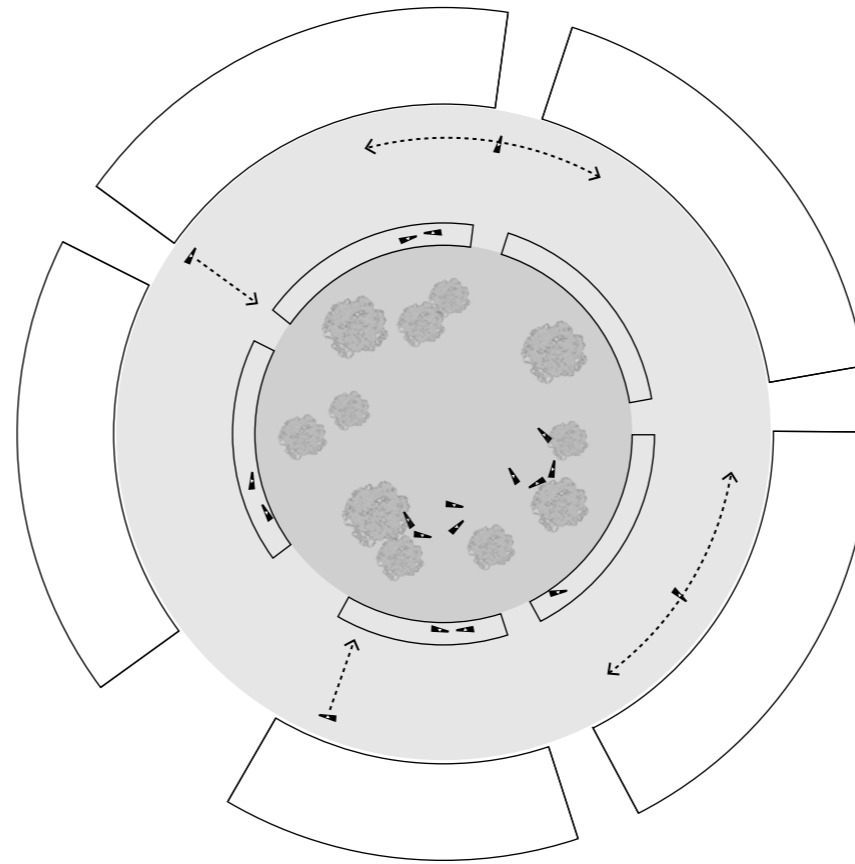
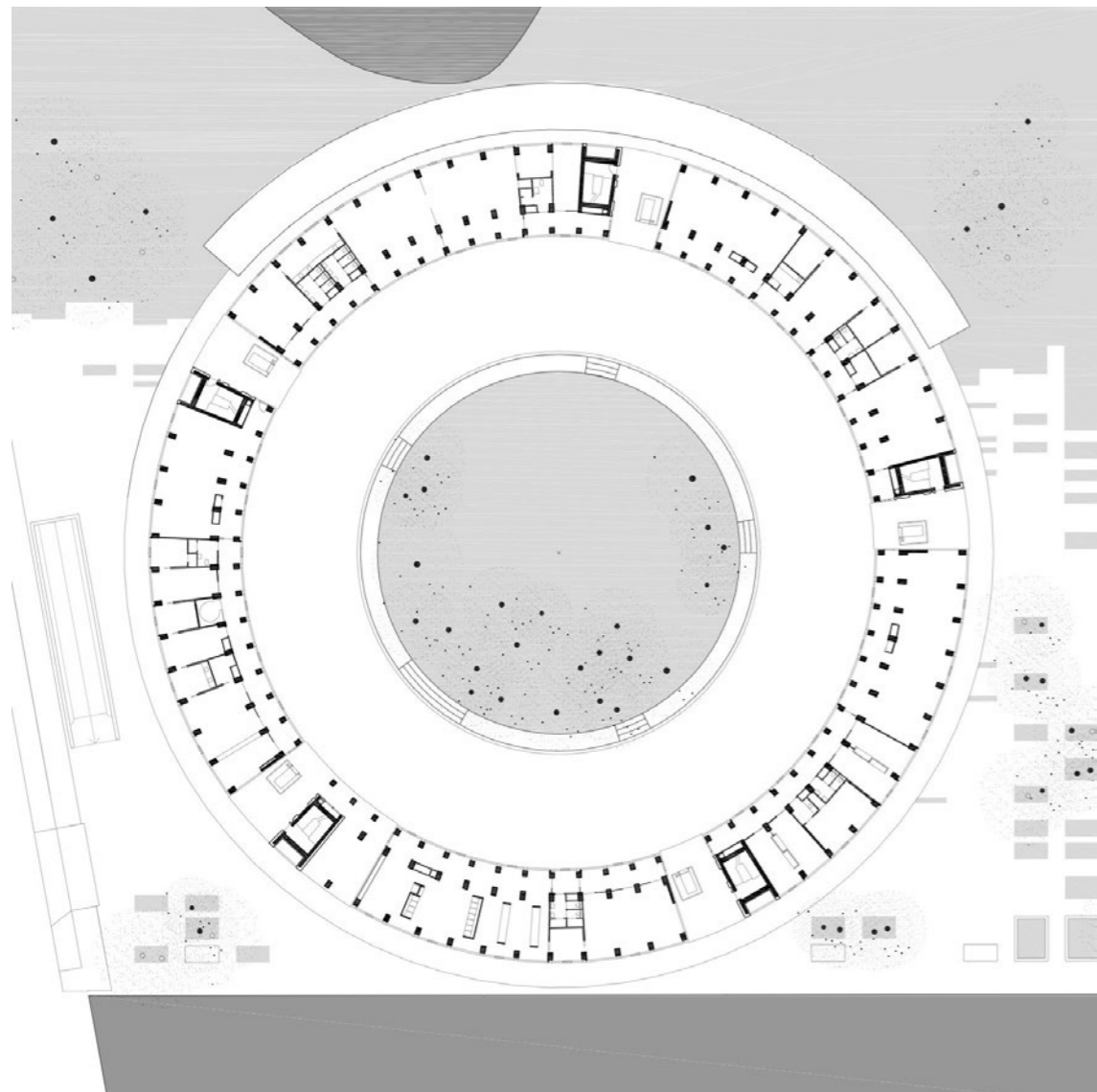
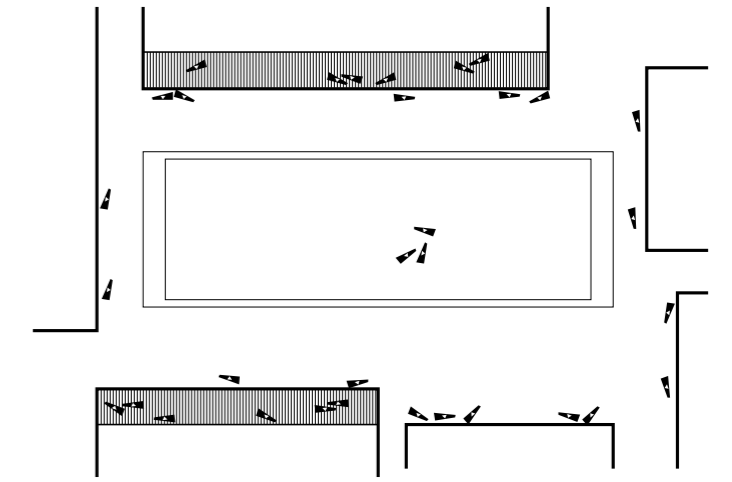


Face-to-face Orientation



Back-to-back Orientation

STAYING & WALKING



ATMOSPHERE

outdoor semi-public space



ATMOSPHERE

indoor common space



CASE STUDY 3: CHARLOTTEHAVEN

Lurdgaard & Tranberg Architects, Copenhagen, Denmark



Charlottehaven, is a modern residential complex completed in 2004 by landscape architect and Lurdgaard & Tranberg Architects [building], containing 178 apartments with glass-enclosed balconies, penthouse apartments, and roof terraces. The building follows the familiar Copenhagen block structure, with a black/blue brick facade providing a good interplay with the classical apartment buildings of the Østerbro quarter.

The complex offers common spaces such as the health club, swimming pool, café, and municipal kindergarten which are located in a service building in the large courtyard. The distinctive central courtyard uses a wealth of different materials and types of vegetation offering a pleasant common green space to the residents.



OUTDOOR SPACE

Private terrace on the street

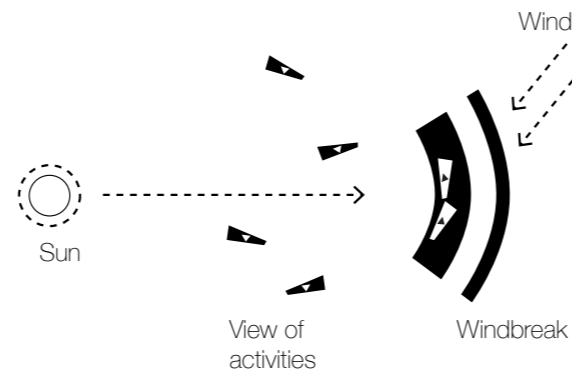


Six-foot balcony



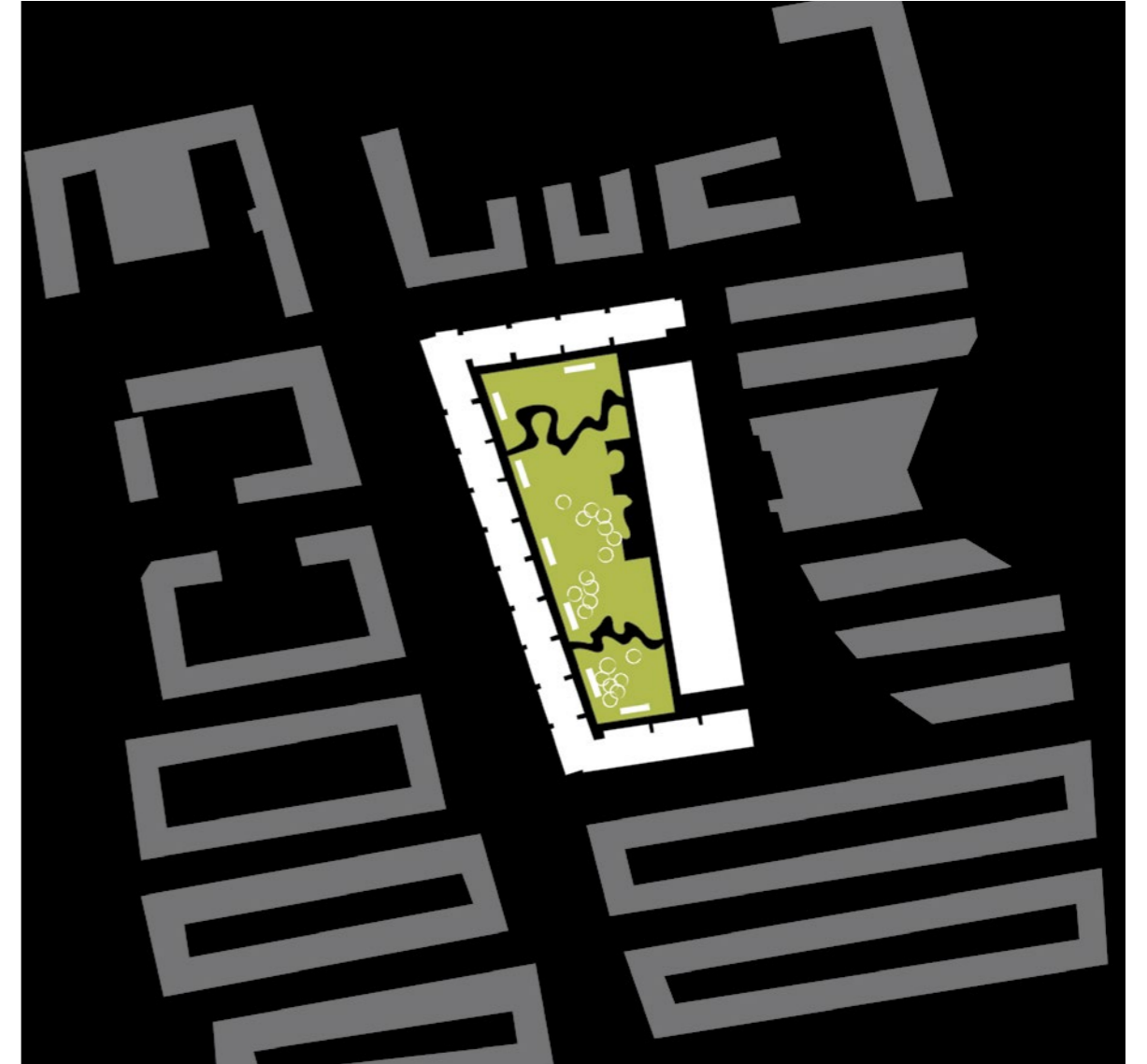
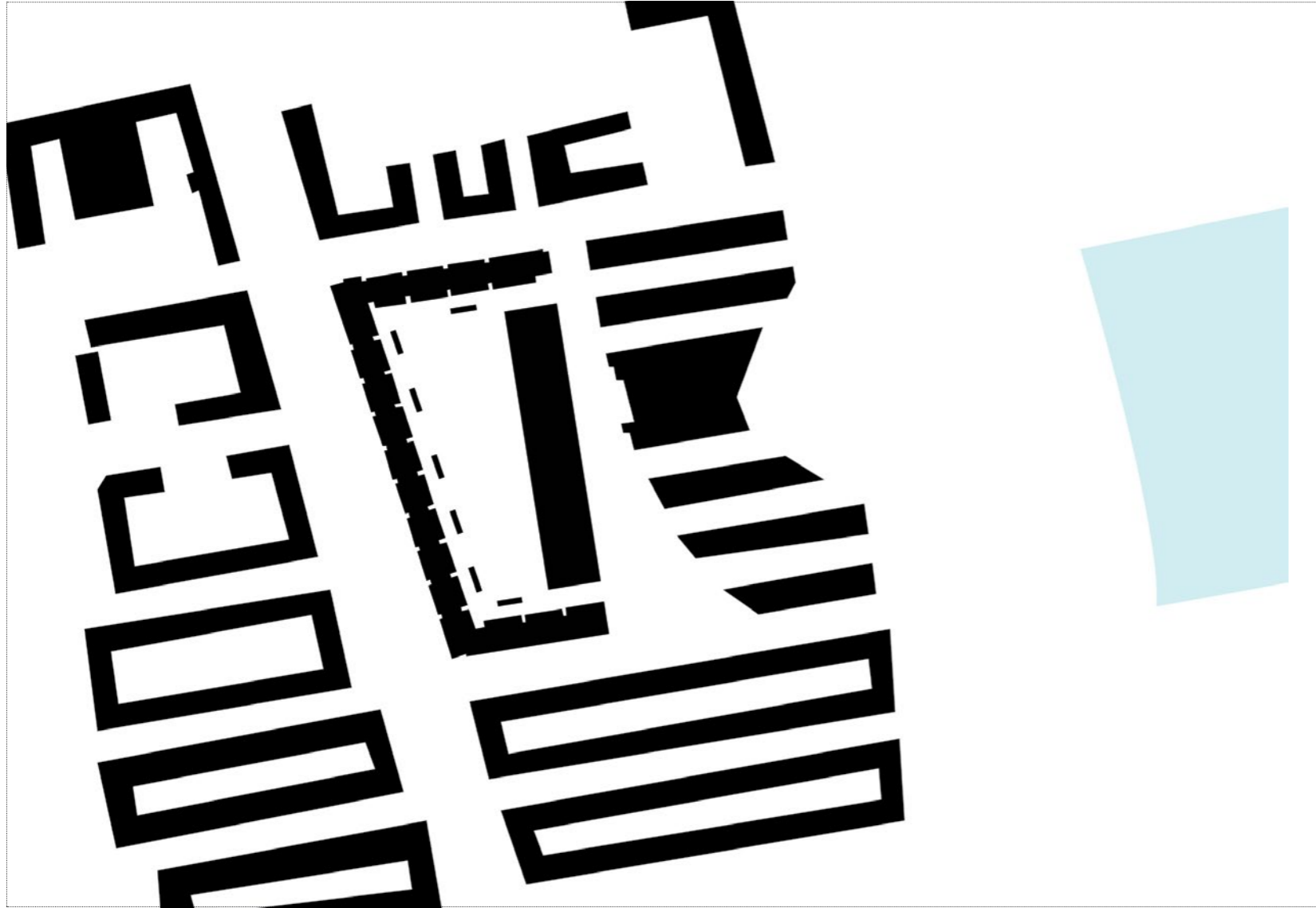
OUTDOOR SPATIAL ELEMENTS

Seat spots



BUILDING COMPOSITION

positive and negative spaces



Positive and negative spaces:

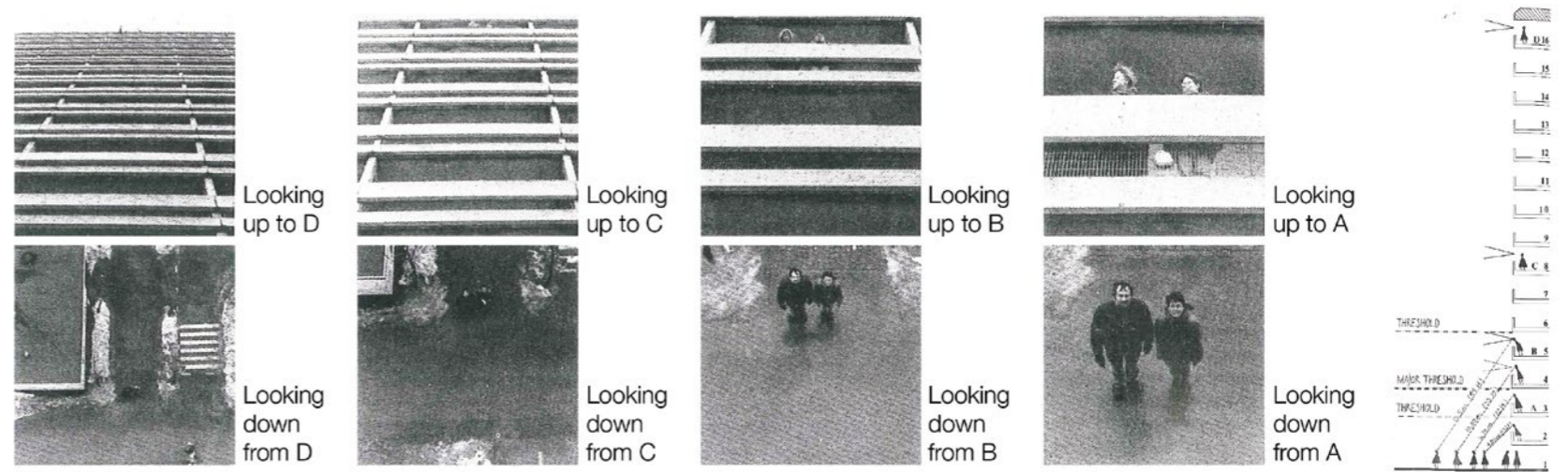
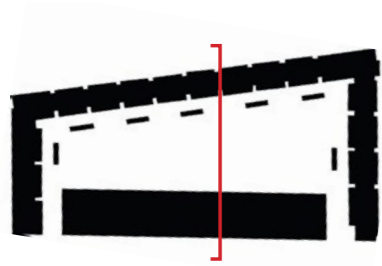
The Charlottehaven consists of housings and hotels and the two functions are being separated in a u-shaped and elongated rectangular form building respectively. Its overall composition are similar to those surrounding blocks with internal courtyard, but in this case there are two public accesses that lead to the gigantic semi-public courtyard which separating the housing and hotel buildings.

Semi-public spaces:

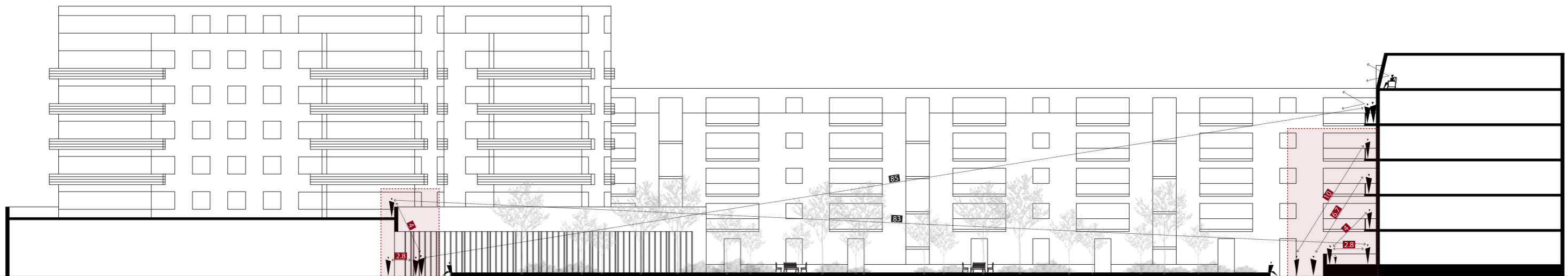
The courtyard is filled with various type of vegetation, trees and grasses where people can sit on, the two visual and actual greeneries are mixed up in curvy organic pattern. While the circulation for each dwellers are surrounded the perimeter of the courtyard, there are two walkways which cut through the space but also designed in organic route as well.

SEEING

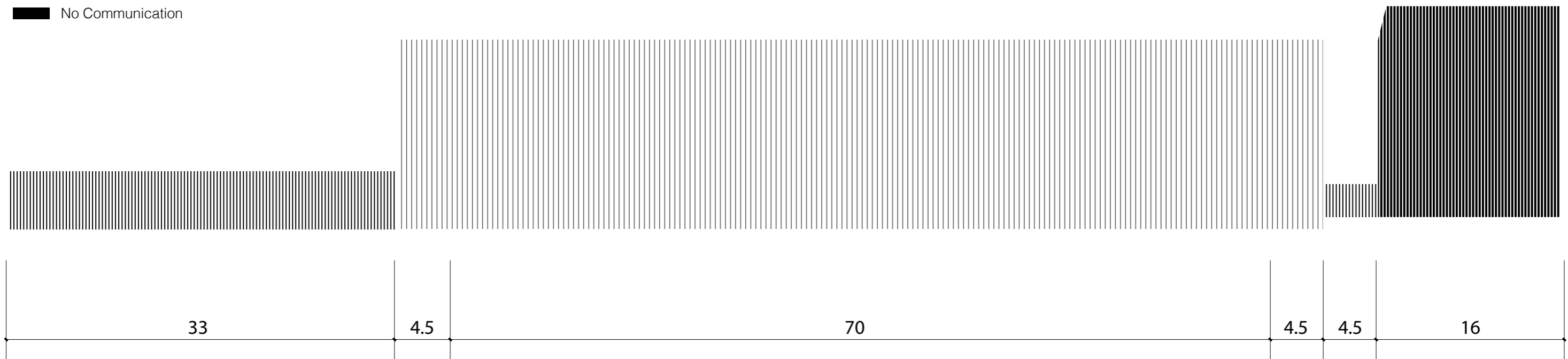
contact between upper storeys and ground level



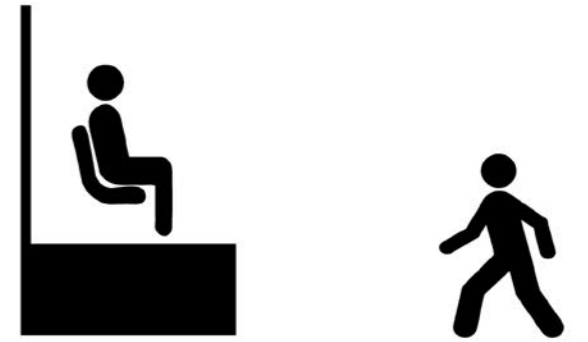
Source: Gehl J. *Life between buildings: using public space*[M]. Island Press, 2011.



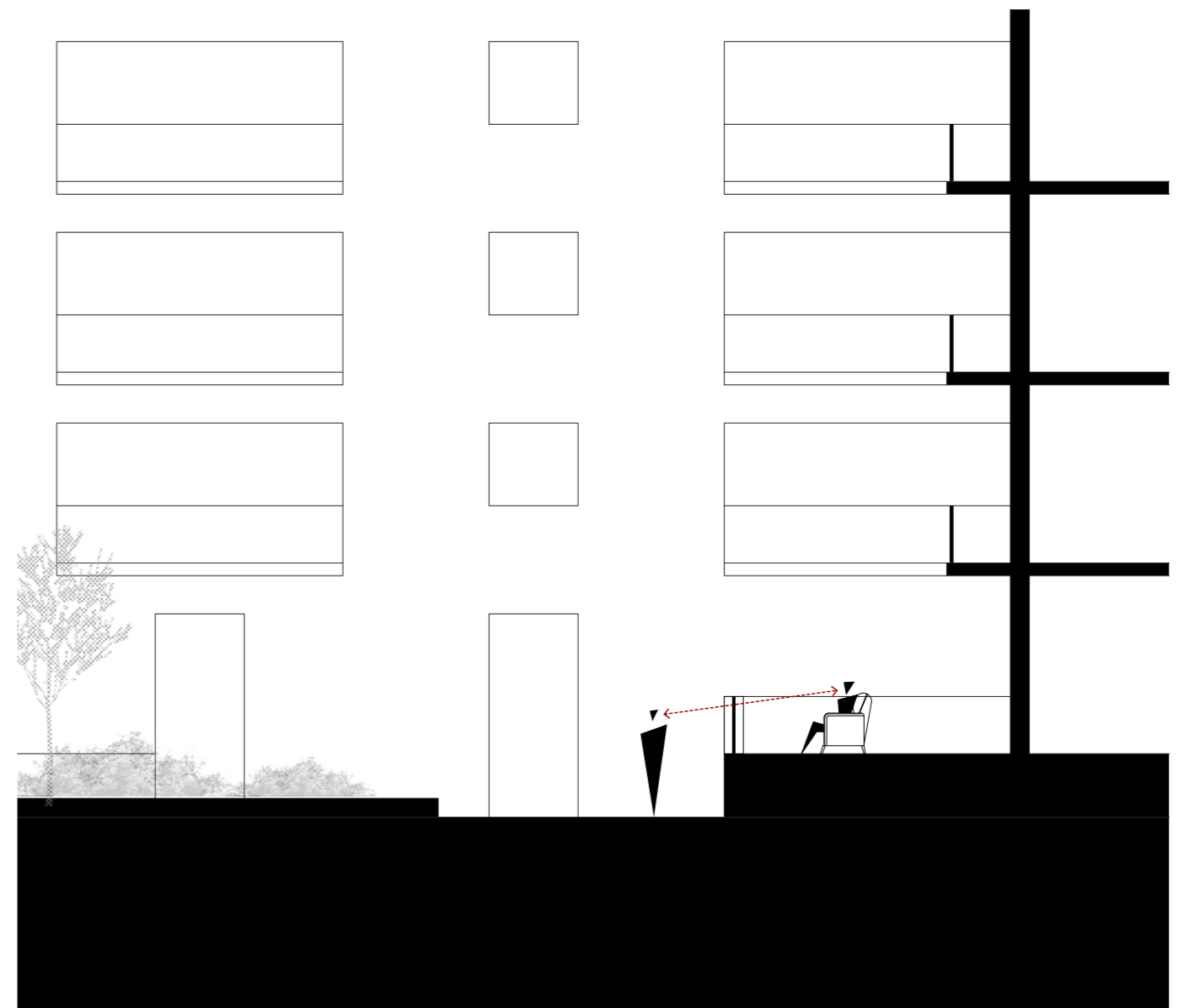
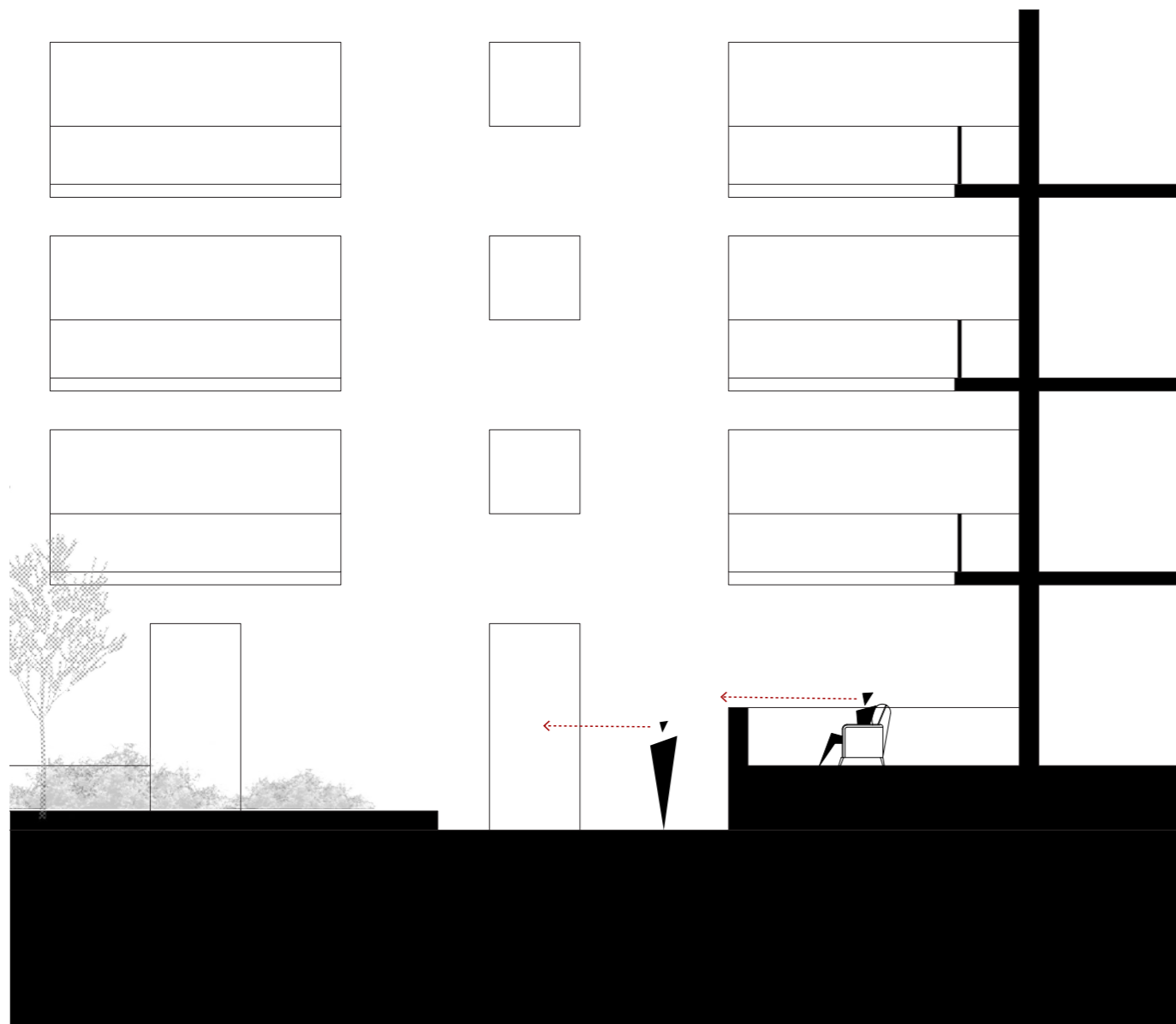
Positive Communication
No Communication



SEEING

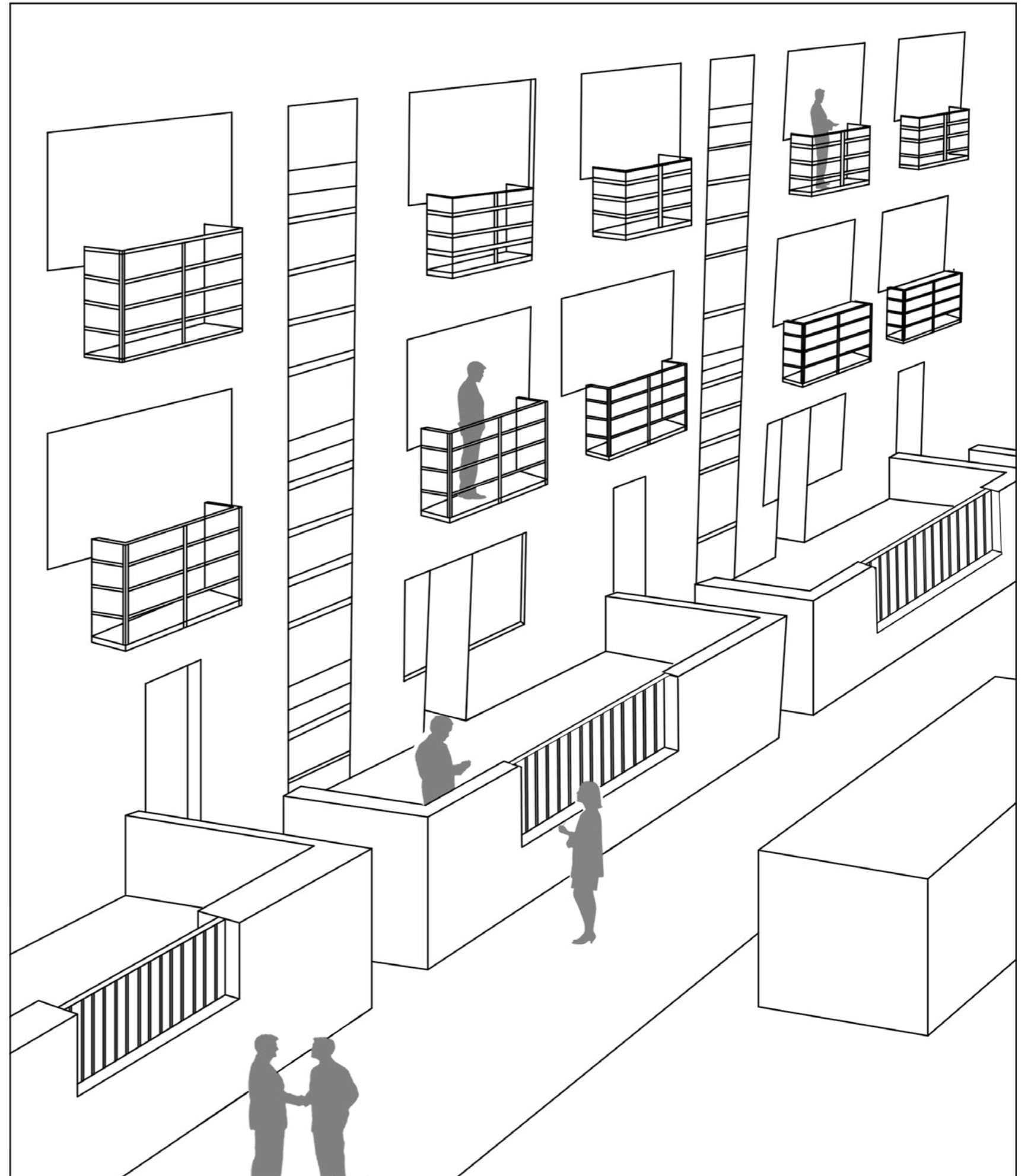
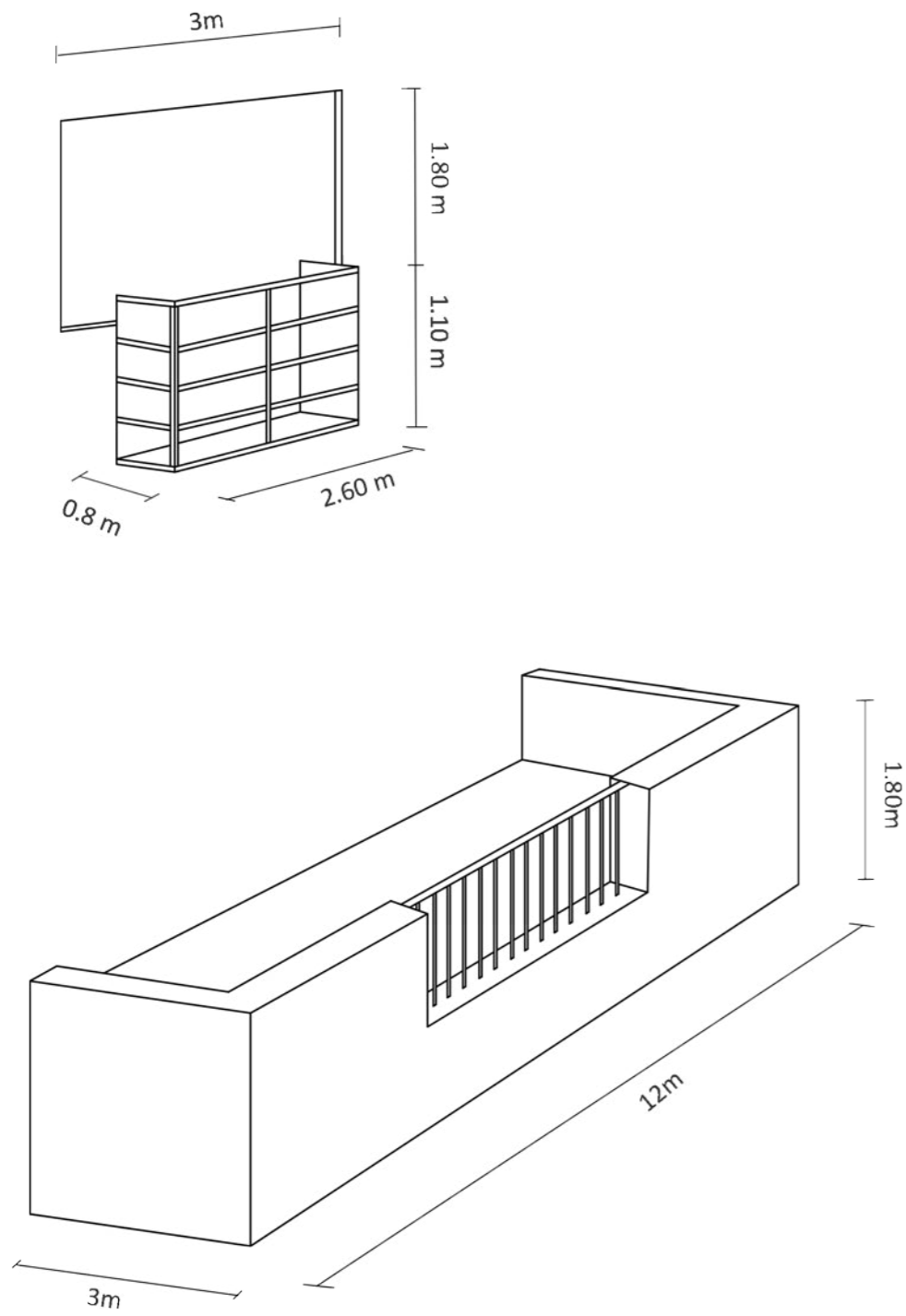


Semi-elevated floor

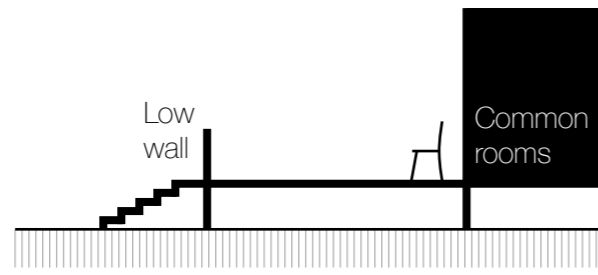


SEEING

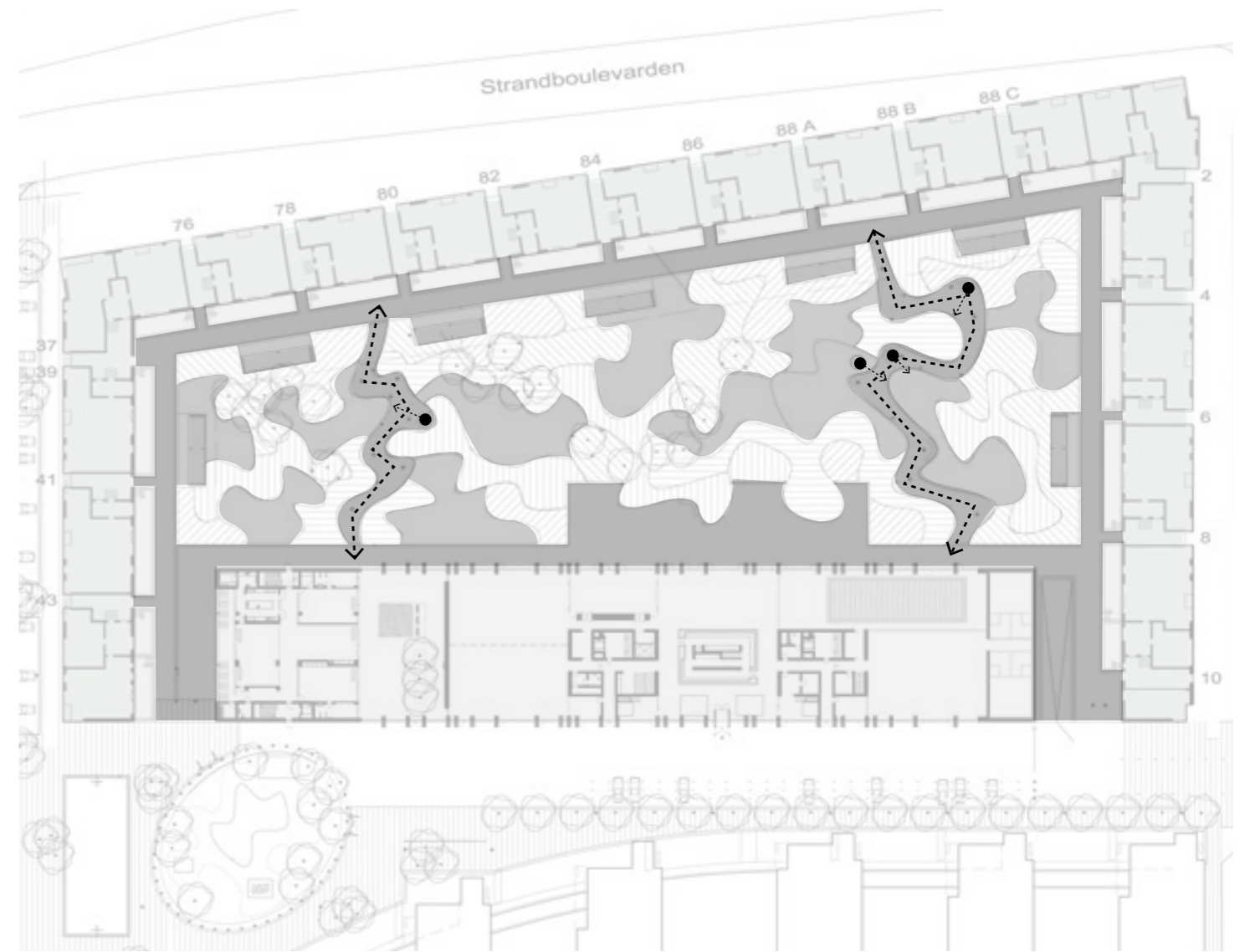
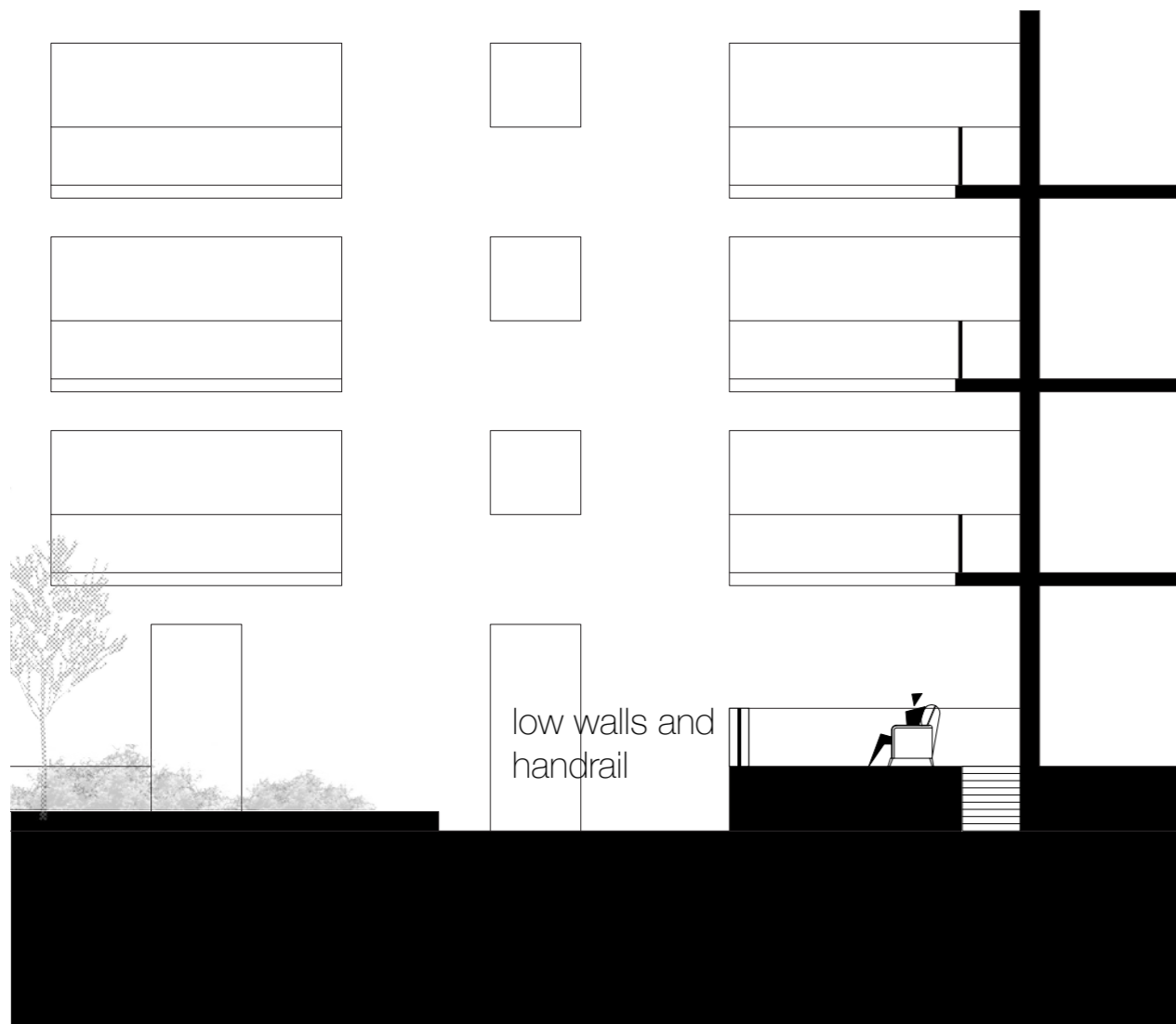
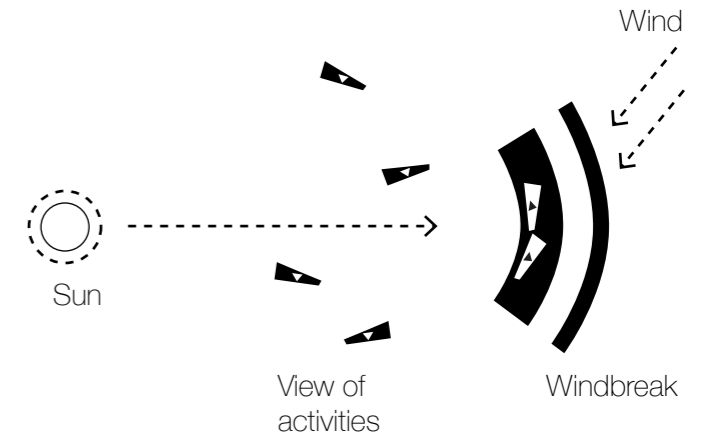
balcony arrangements



SITTING



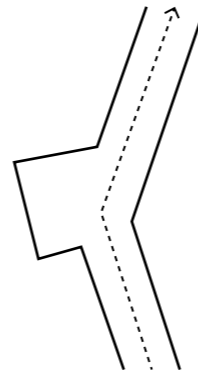
An outdoor space becomes a spatial outdoor room when it is well enclosed with walls of the building, walls of foliage, columns, trellis, and sky



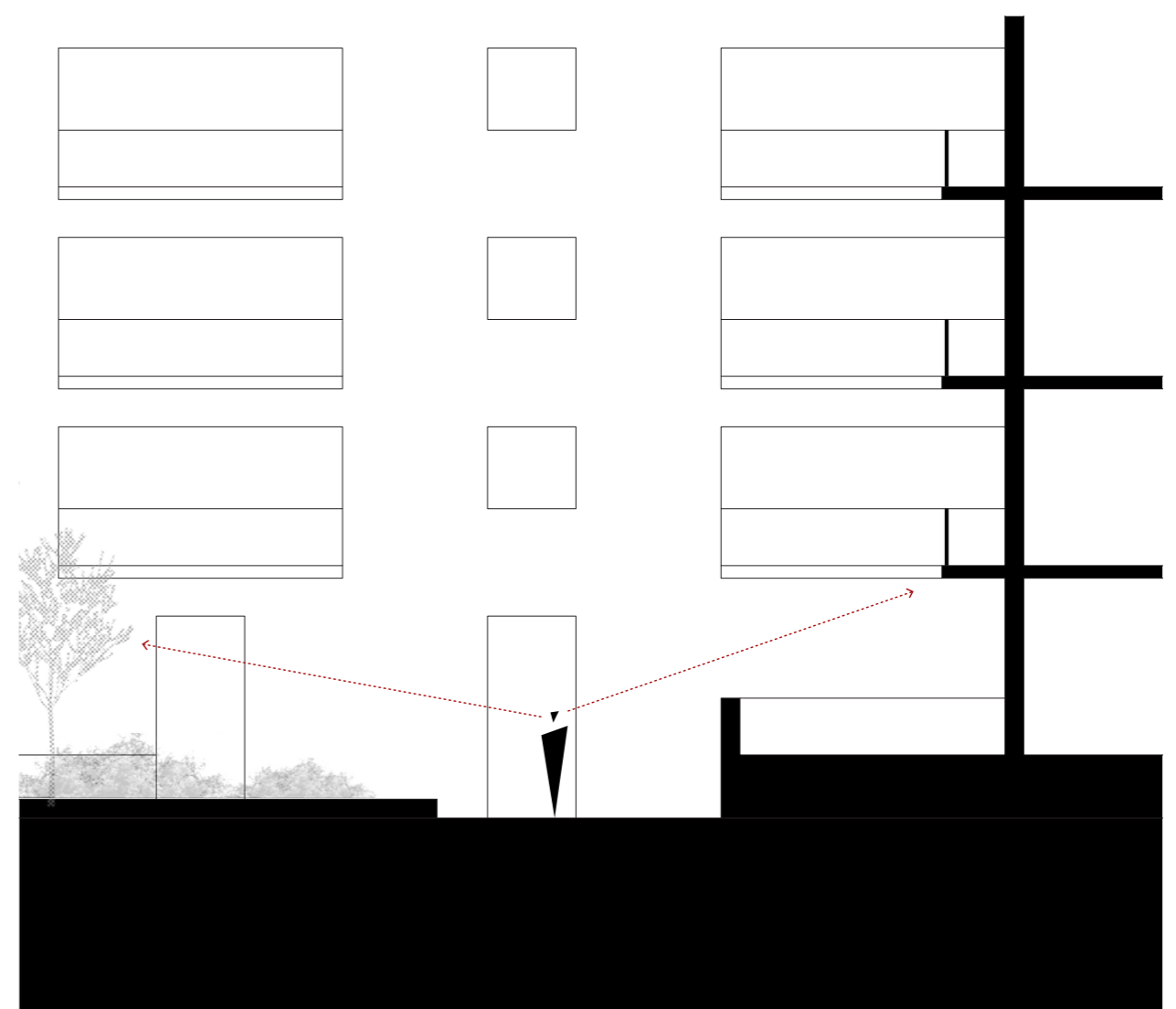
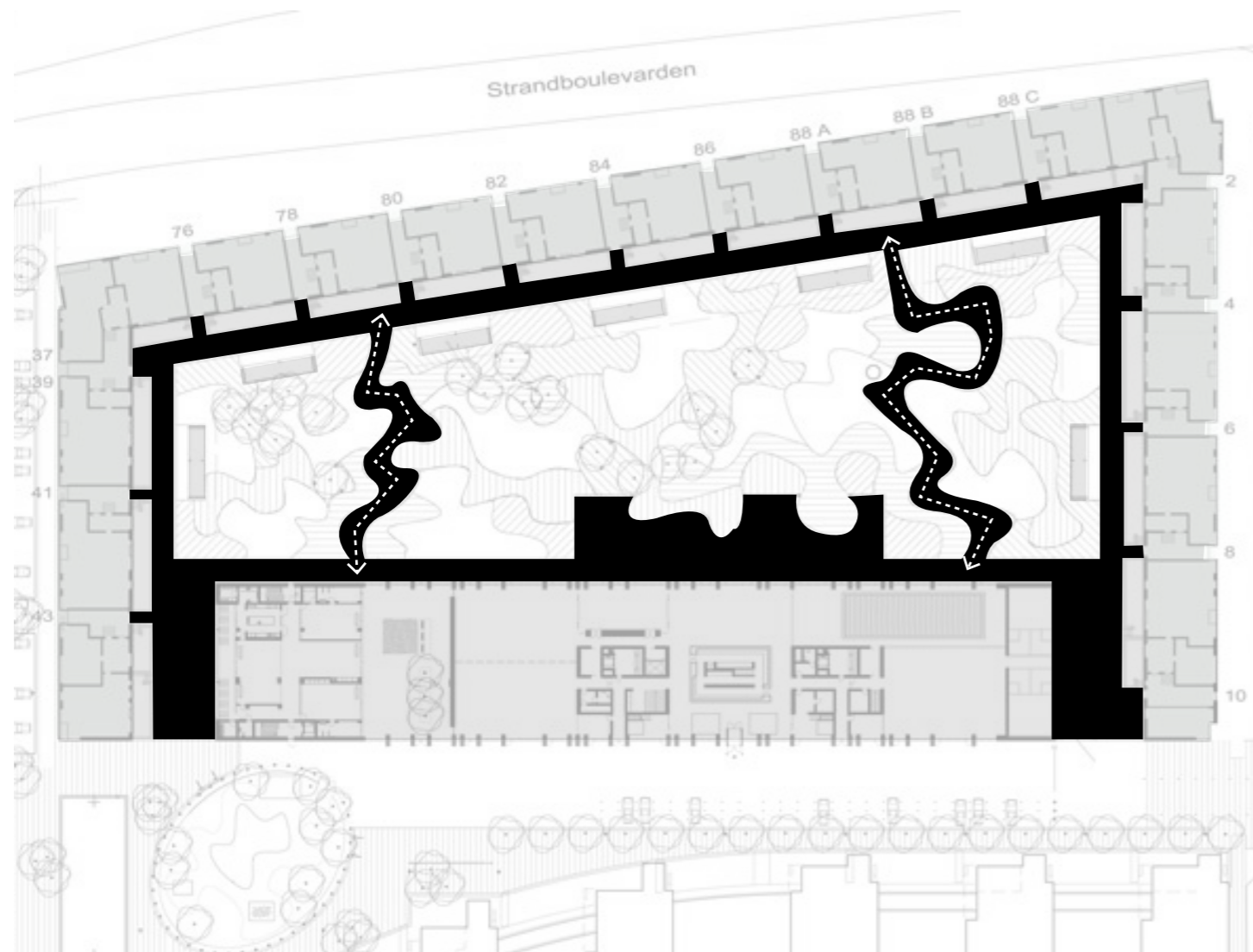
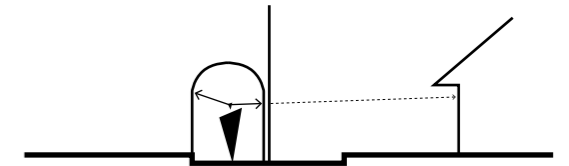
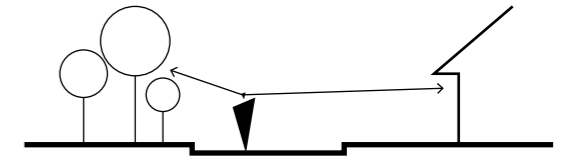
WALKING



Boring



Interesting



ATMOSPHERE

outdoor semi-public space



ATMOSPHERE

*outdoor semi-public space vs.
semi-private space*



CASE STUDY 4: MARIAPLAATS

AWG, Utrecht, The Netherlands



The Mariaplaats residence project is designed by Bob van Reeth of the AWG Architecten, located in the center of Utrecht city, the Netherlands. There are 54 dwellings consist of various housing typologies; urban villas, patio villas, townhouses and apartments. The architect designed the project deliberately to fit in within the existing 16th century urban and architectural condition. Its layout is a configuration of squares and narrow alleyways with a closed, formal facade with stepped gables that complements the existing buildings along Mariaplaats.

The central square is in higher level and surrounded by three white plastered facades, which stands out from the uniform red brick walls and paving of the whole project. While the tallest building of five storeys sit at the heart of the area and enclosed by three and four storeys blocks. These varying heights and positions of each blocks create both enclosed and open spaces with some clear view of the surroundings.



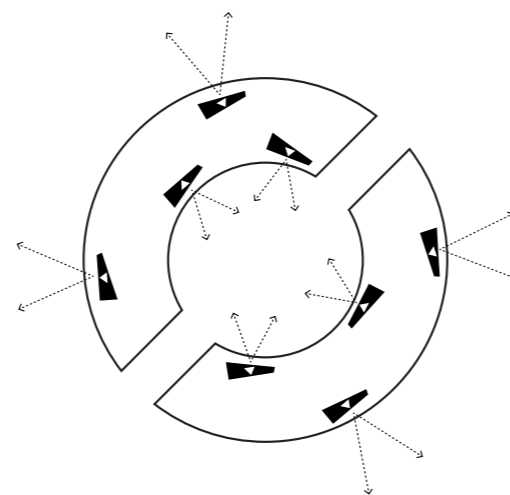
OUTDOOR SPACE

Common land



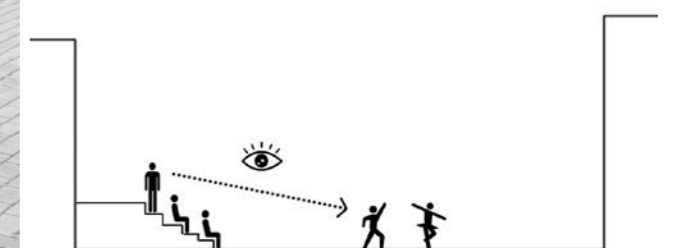
OUTDOOR SPATIAL ELEMENTS

Seat Spot



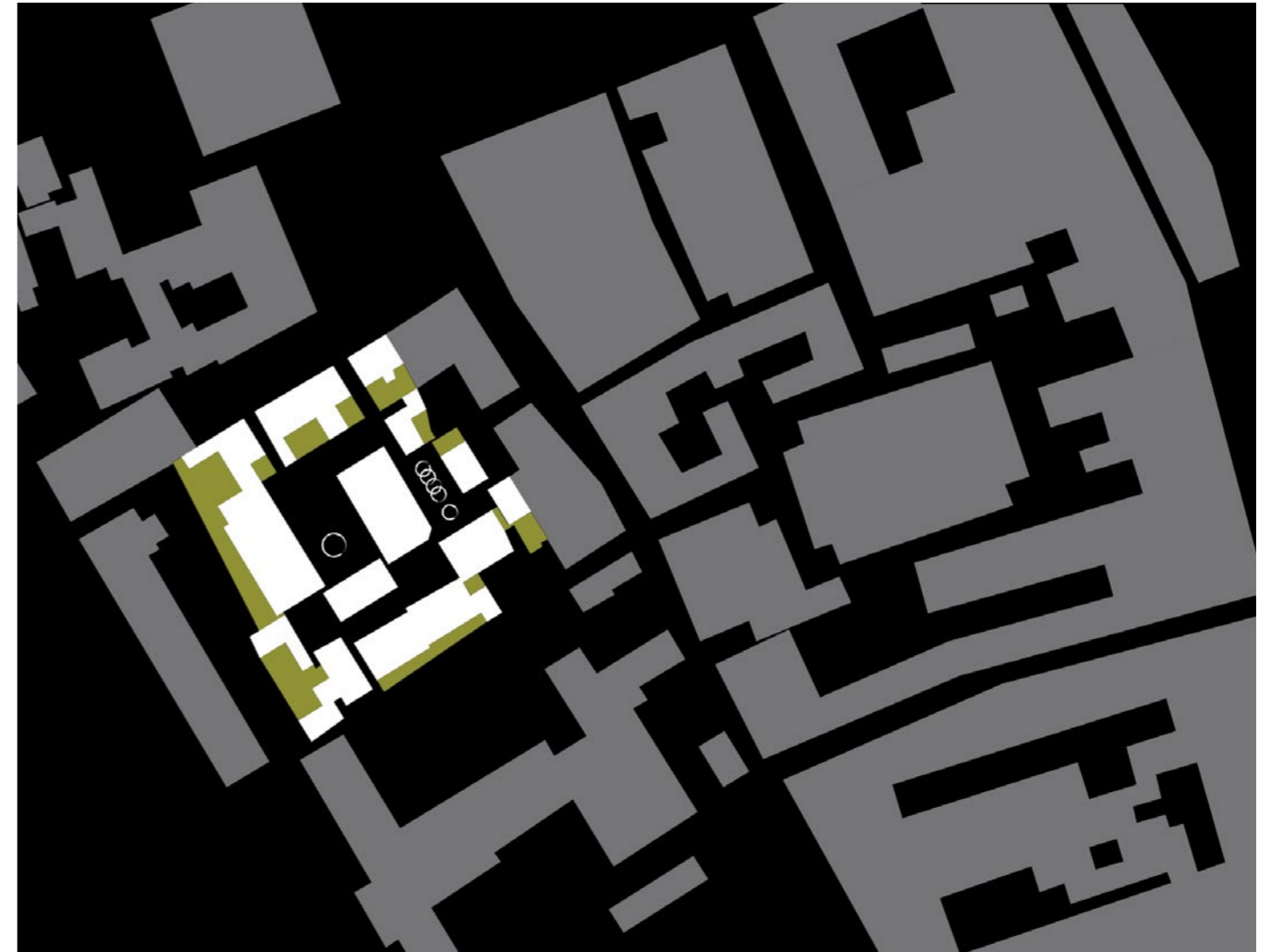
face-to-face orientation

Stair Seats



BUILDING COMPOSITION

positive and negative spaces



Positive and negative spaces:

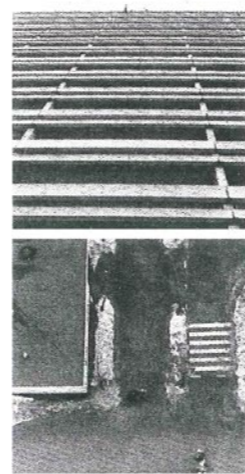
The Mariaplaats is a small inner city project with many different inner spaces. Its layout is not immediately obvious with a configuration of squares and narrow alleyways. This particular project composition creates a lot of small convex shaped spaces, but also fragmented.

Semi-public spaces:

There is no semi-public greeneries in this project. Only on the larger, slightly raised square can people sit on a bench. Other than that, there are no outdoor facilities.

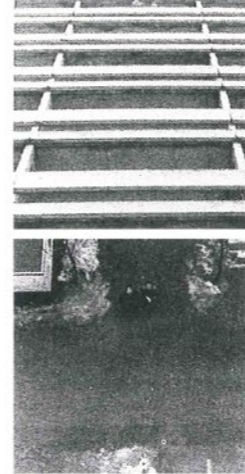
SEEING

contact between upper storeys and ground level



Looking up to D

Looking down from D



Looking up to C

Looking down from C



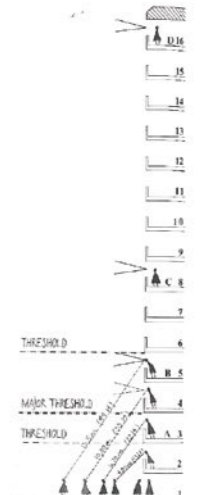
Looking up to B

Looking down from B



Looking up to A

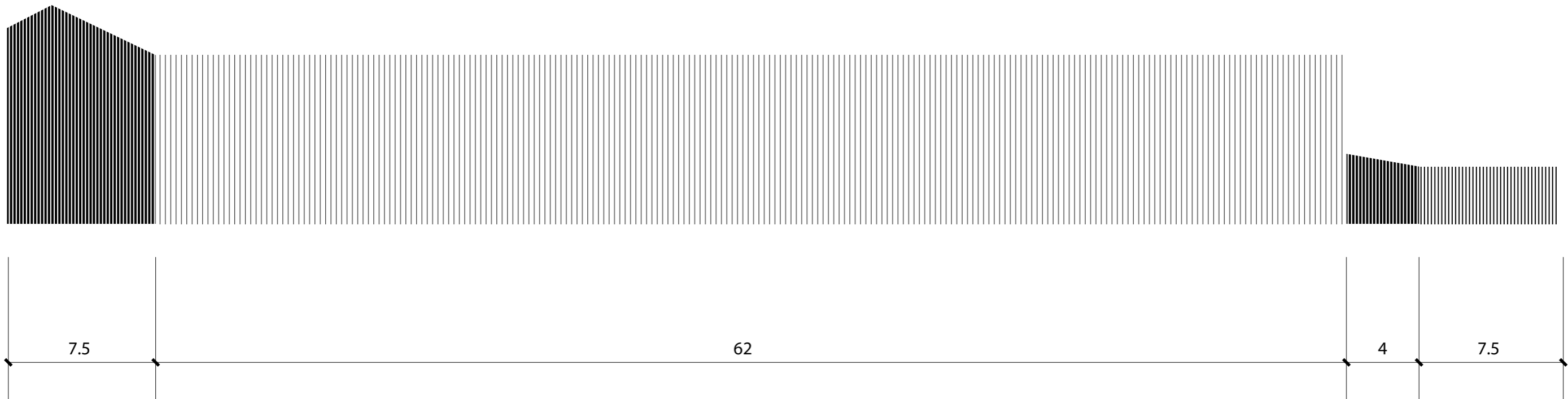
Looking down from A



Source: Gehl J. *Life between buildings: using public space*[M]. Island Press, 2011.

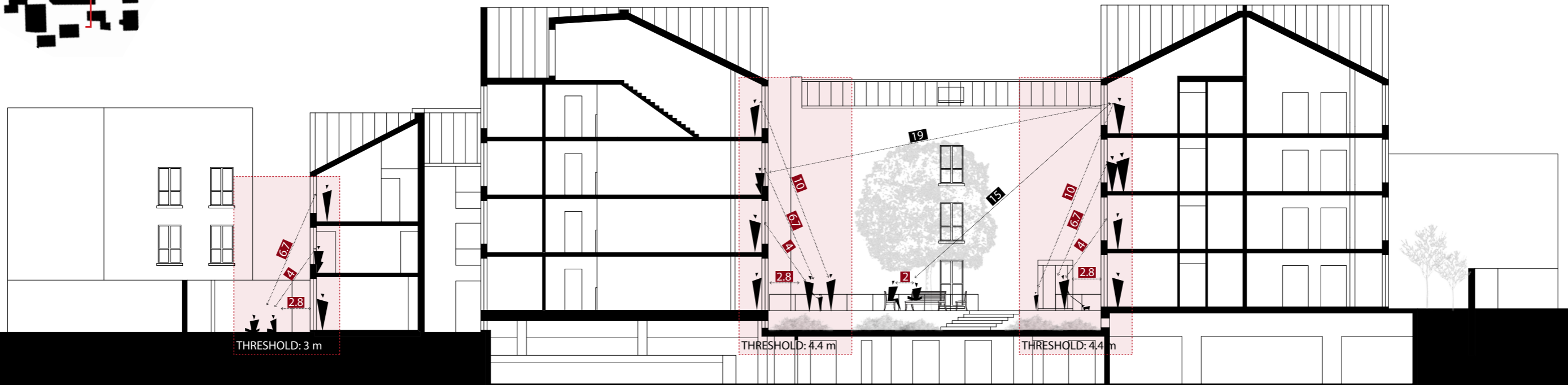
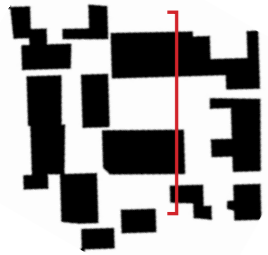


Positive Communication
No Communication

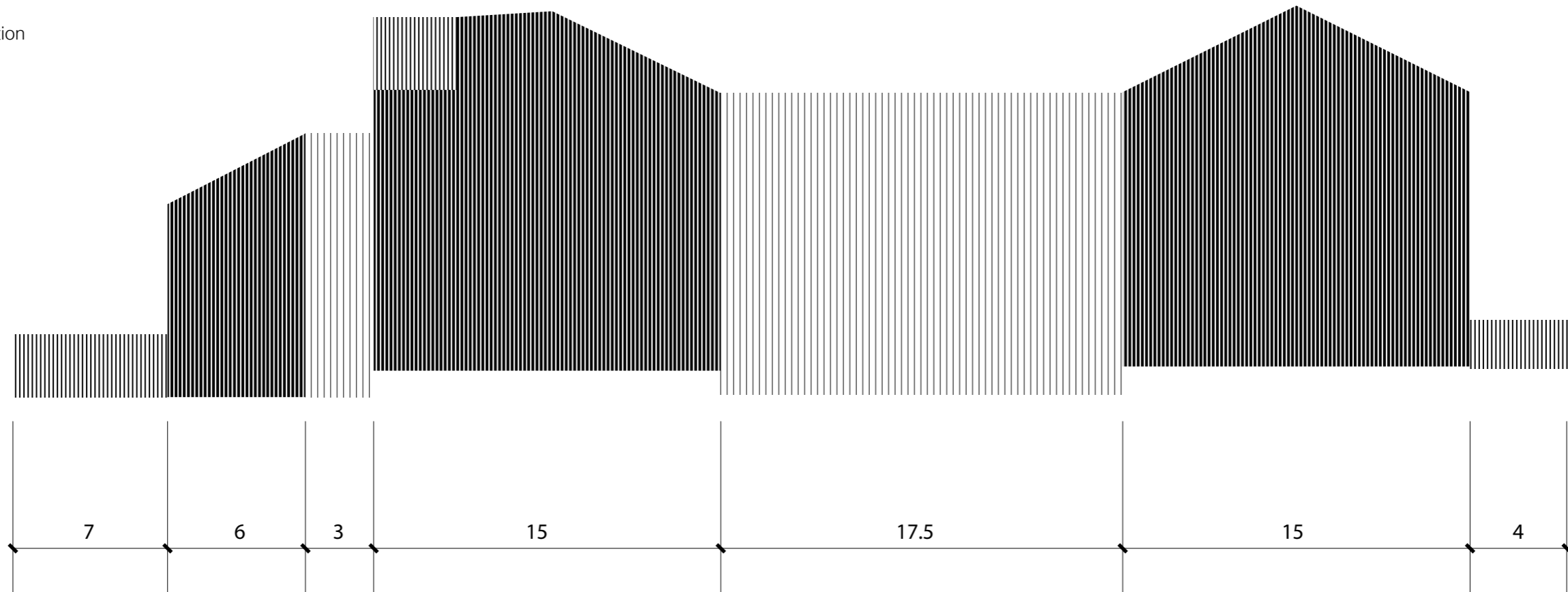


SEEING

contact between upper storeys and ground level

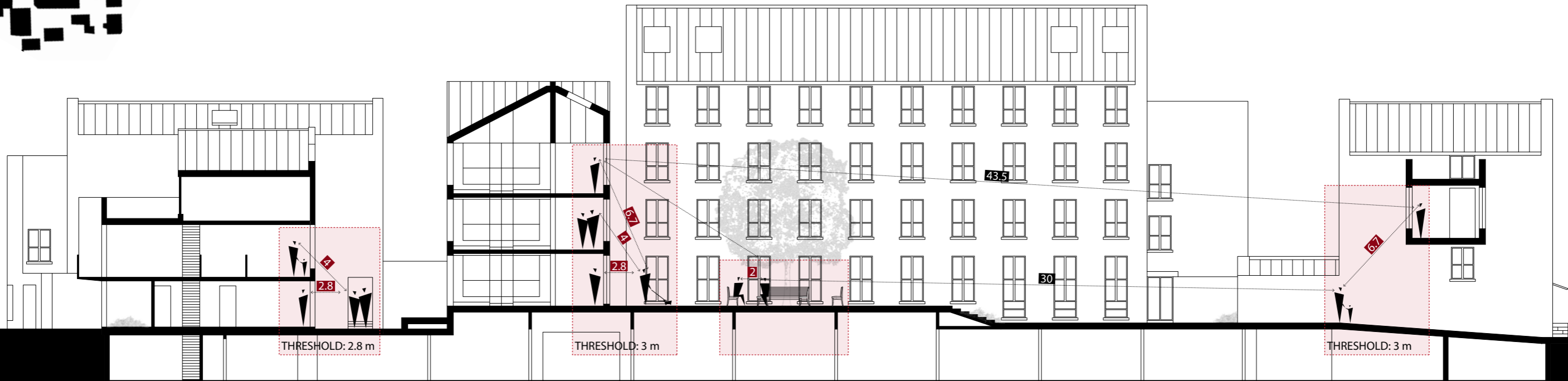


Positive Communication
No Communication

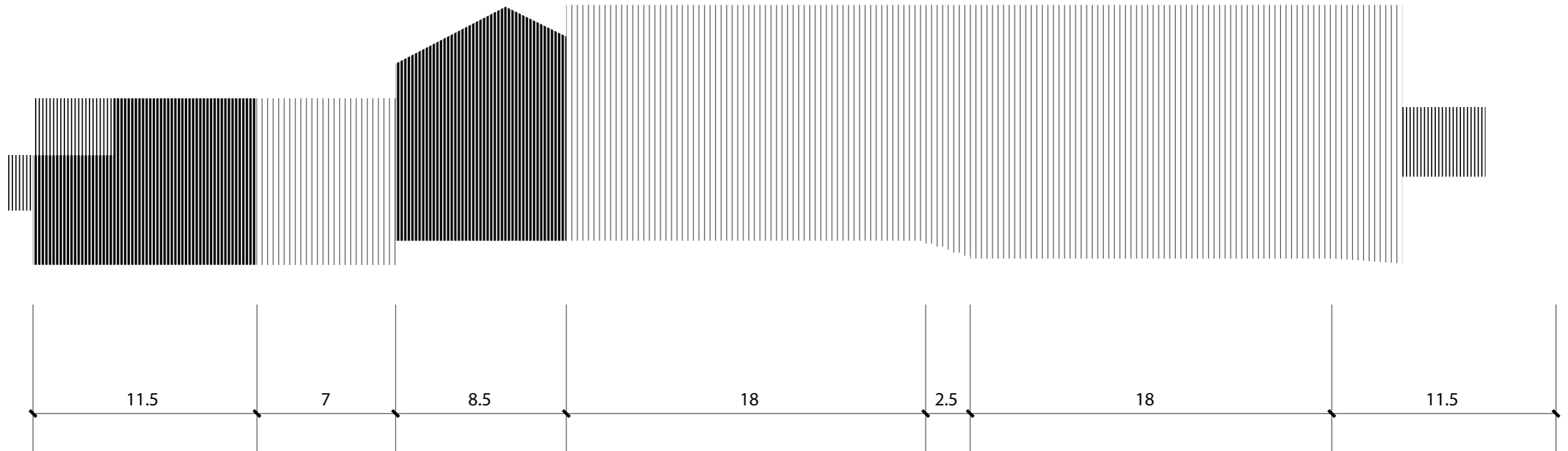


SEEING

contact between upper storeys and ground level

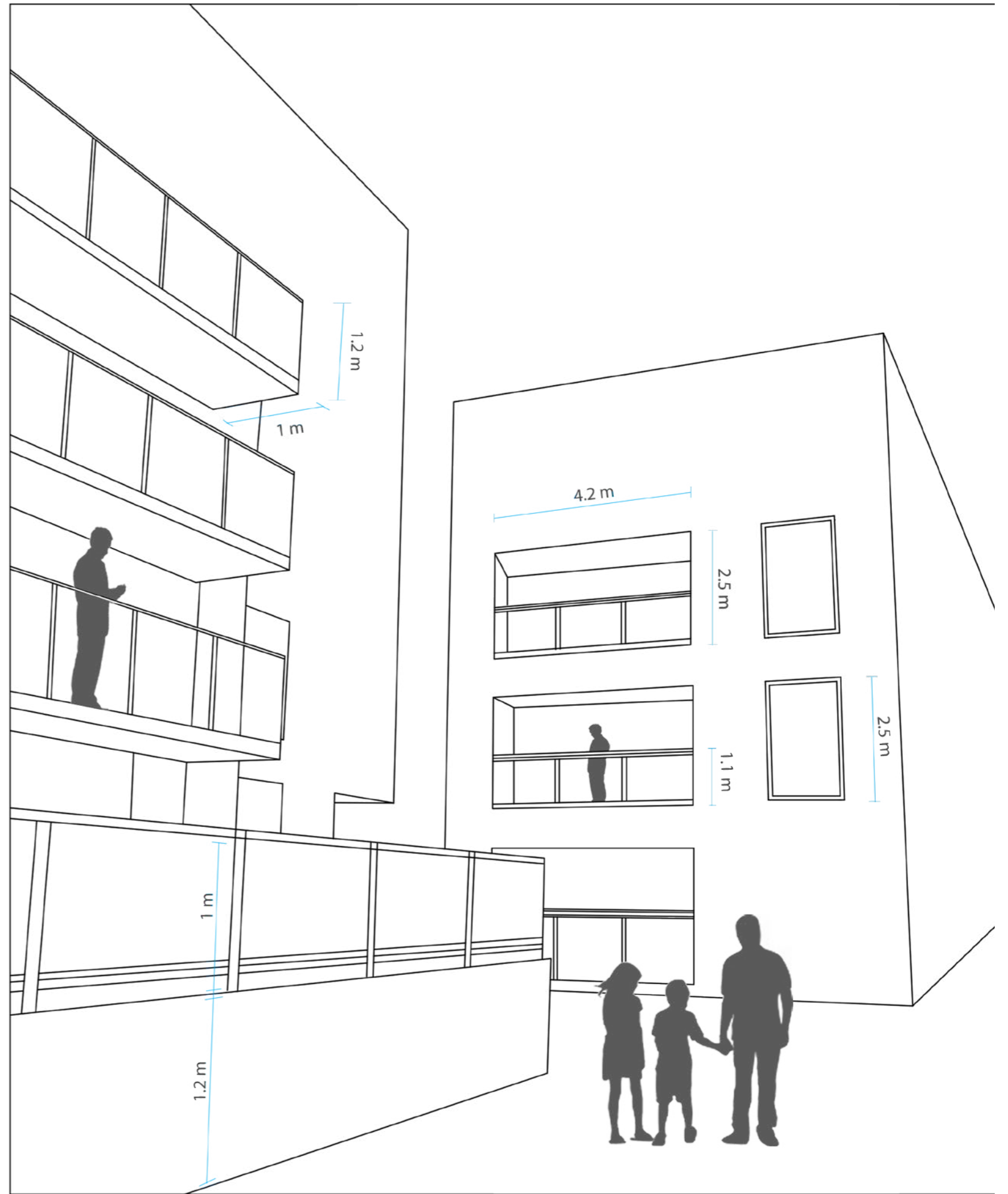
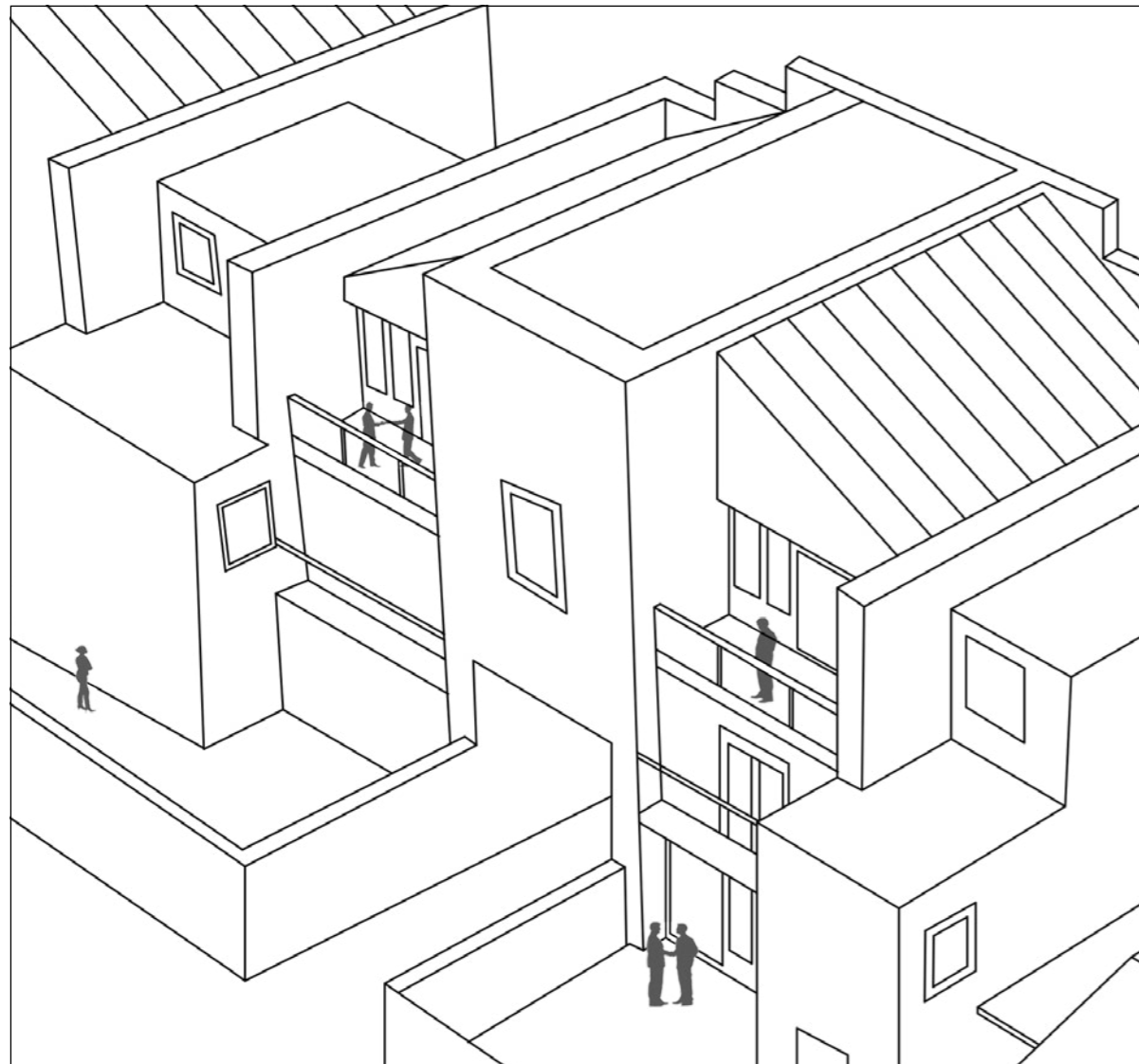


■ Positive Communication
■ No Communication

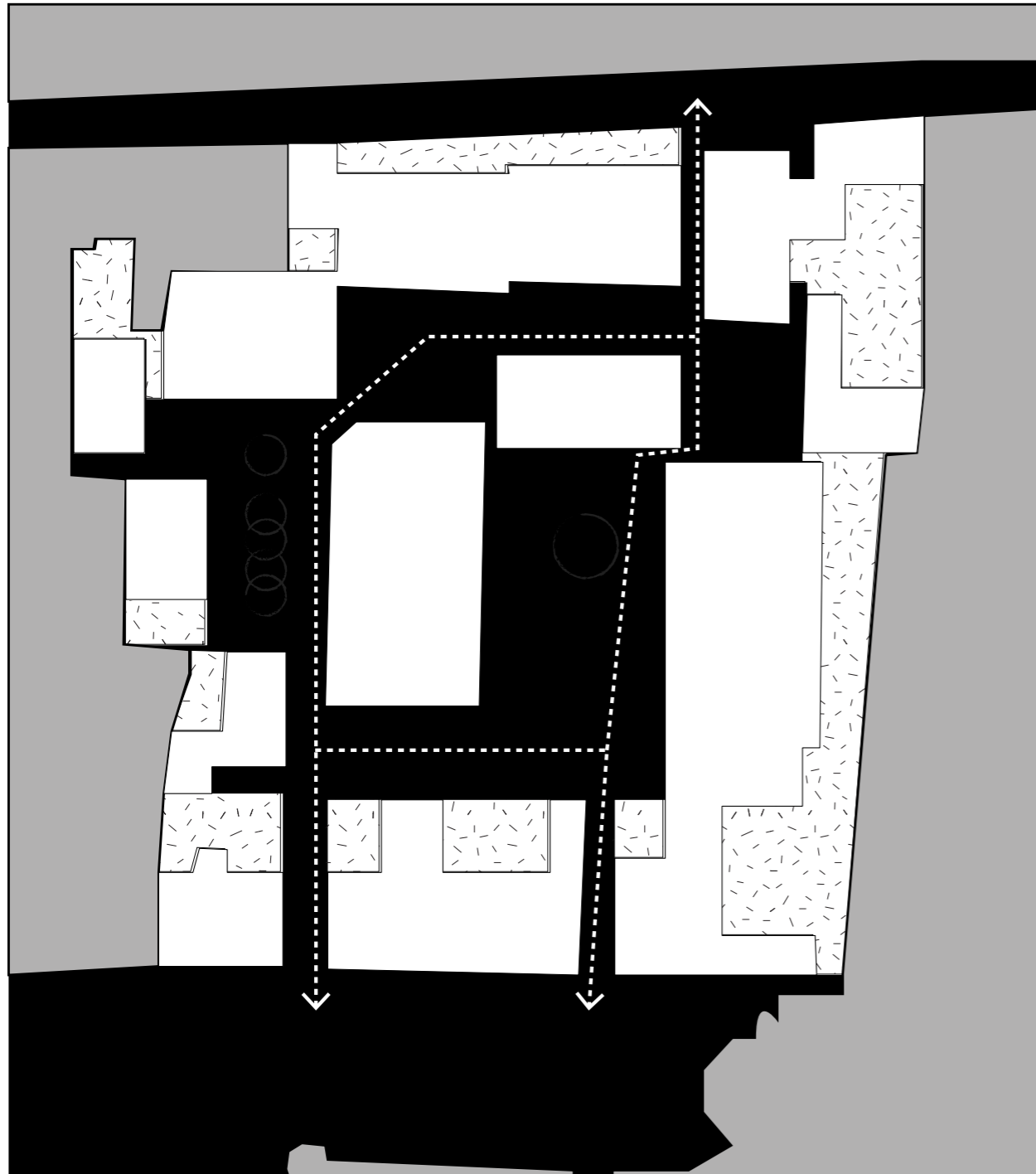


SEEING

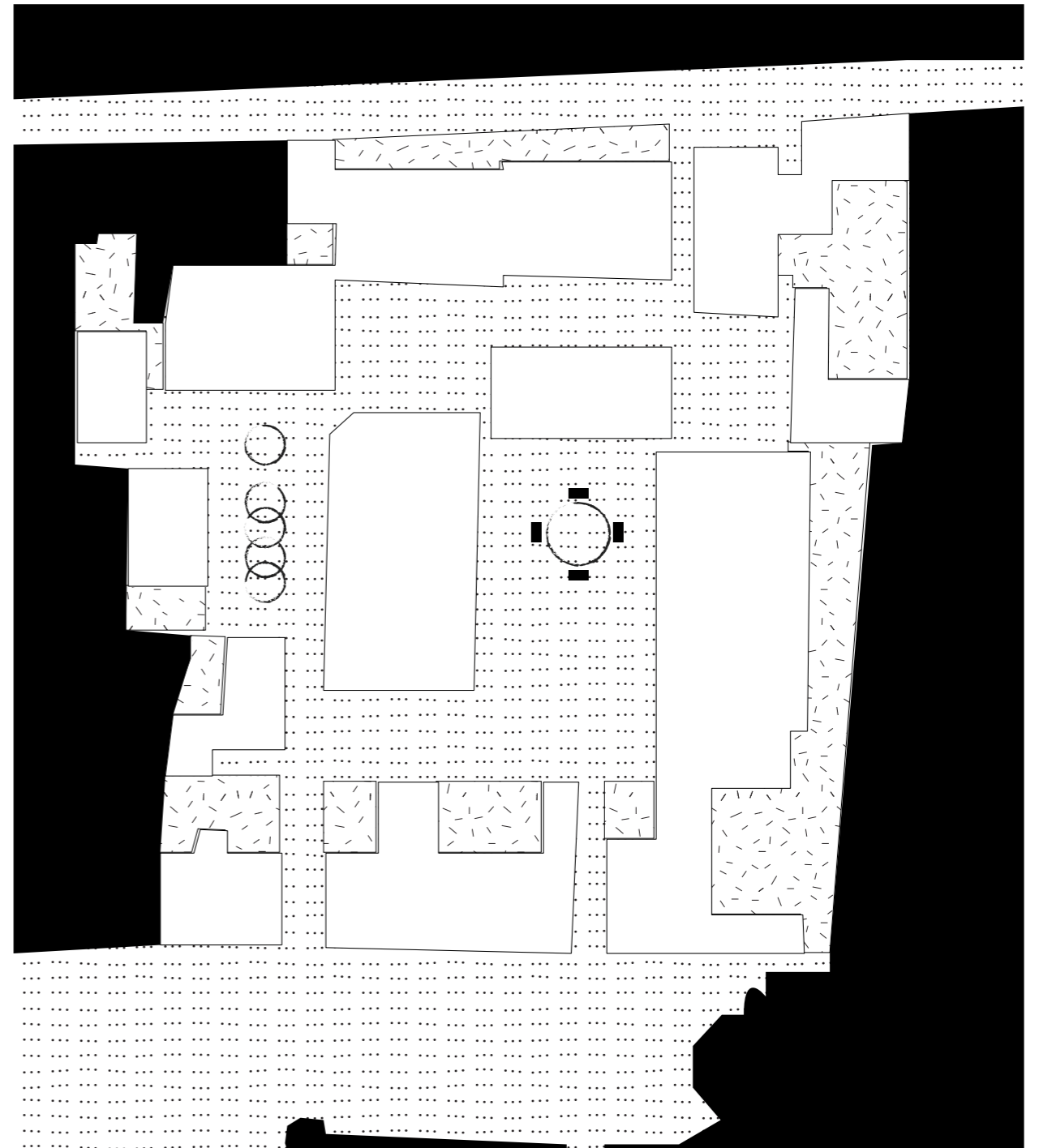
balcony arrangements



WALKING



SITTING



ATMOSPHERE

outdoor public space - the main courtyard



ATMOSPHERE

outdoor public space - the secondary courtyard



CASE STUDY 5: PASWERK

Herman Hertzberger, Haarlem, The Netherlands



The Paswerk residential buildings project designed by Herman Hertzberger is situated in Haarlem, the Netherlands. It consists of 119 dwellings in total, which 78 are patio houses and 41 are canal houses and townhouses. The single storey patio houses have roof gardens and terraces. Its layout is extremely flexible with a number of basic options that can be extended in various ways. Furthermore, the public recreational land mainly consists of green strips planted with trees on the banks of water.

All the houses face south with plenty of semi-private space; the townhouses have large facades and conservatories on the south side, while the patio houses have their living area on the north side, creating an outdoor space on the south side. The architect wanted to preserve the parkland identity, therefore there is no ground level parking virtually in the plan since they are located underground.



OUTDOOR SPACE

Six-foot balcony

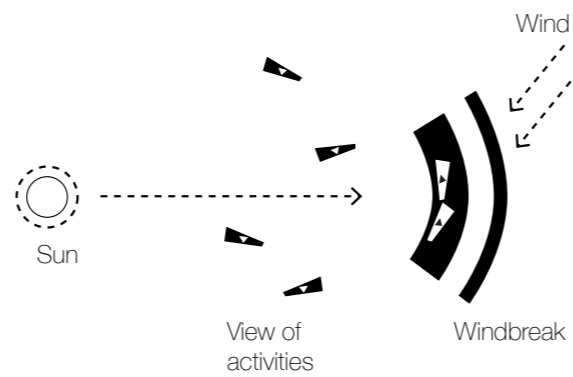


Accessible green



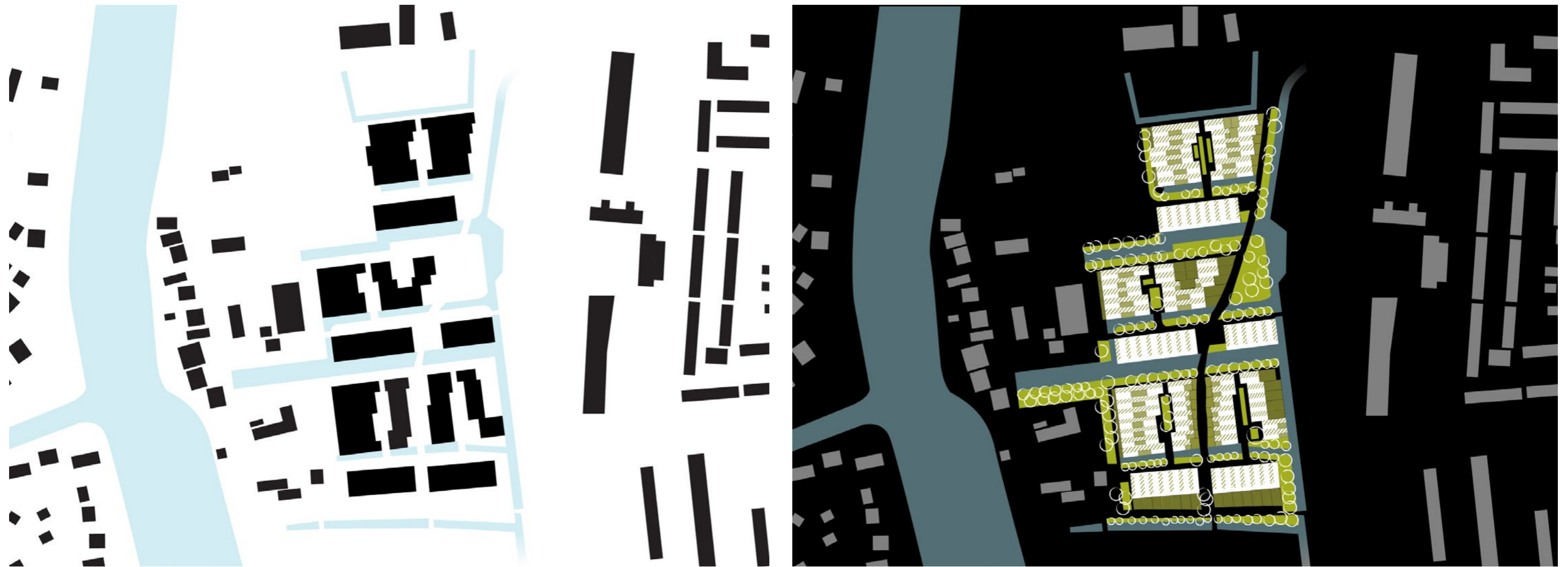
OUTDOOR SPATIAL ELEMENTS

Seat Spot



BUILDING COMPOSITION

positive and negative spaces



Positive and negative spaces:

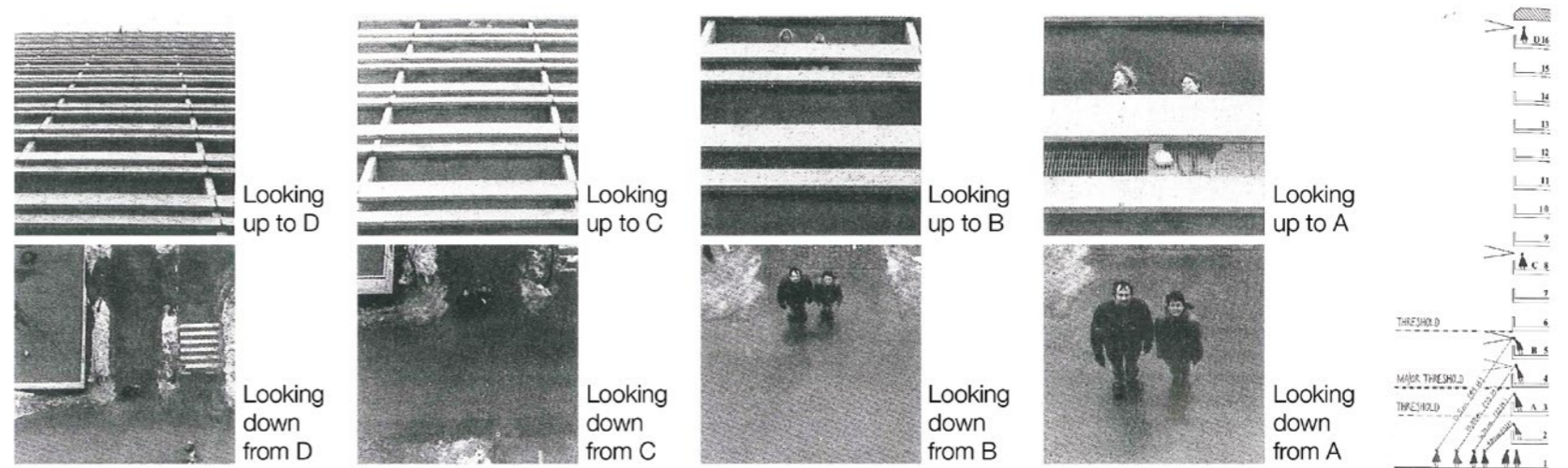
The Paswerk is located on a less dense suburban area of Haarlem. Therefore, the complex has its own building configuration along the canals. With 2 different housing typologies; one with its own communal courtyard and another without any communal spaces but with front or backyard.

Semi-public spaces:

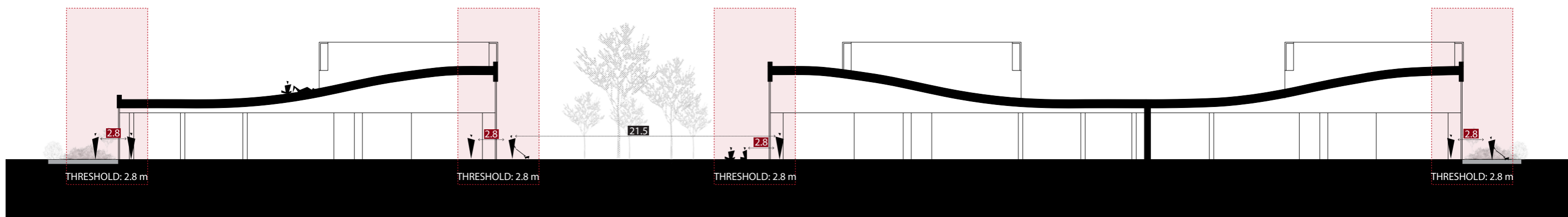
In this project, there is only one type of semi-public space, which is a communal courtyard facing dwelling fronts. However, there are various types of greenery such as front yard, backyard and the green roof which is only for visual purpose. Each greenery type serves different activities and privacy.

SEEING

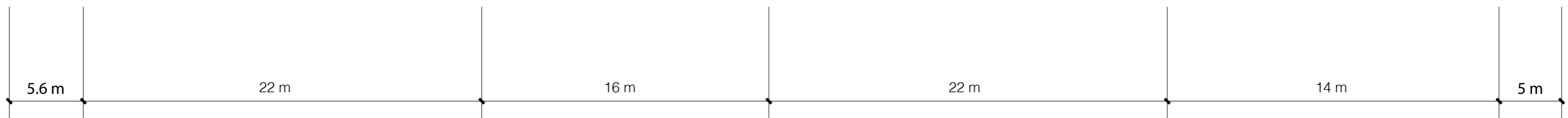
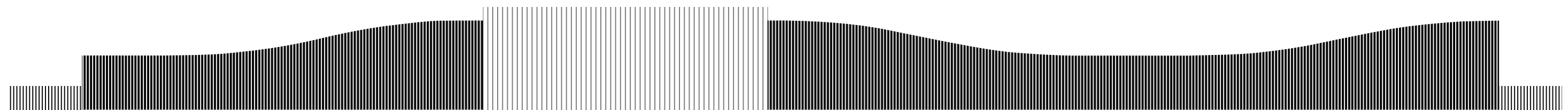
contact on ground level



Source: Gehl J. *Life between buildings: using public space[M]*. Island Press, 2011.

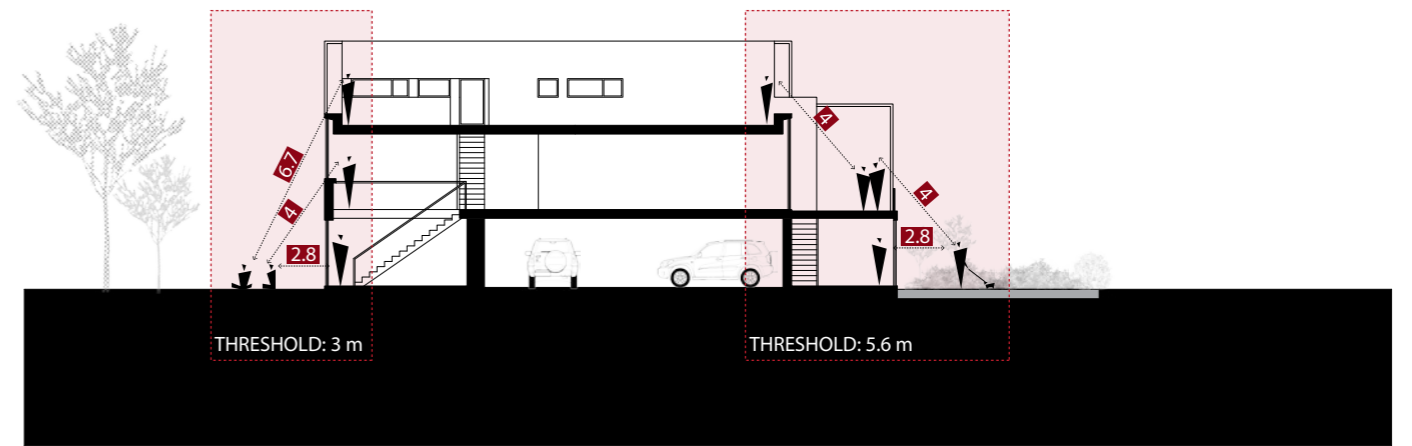
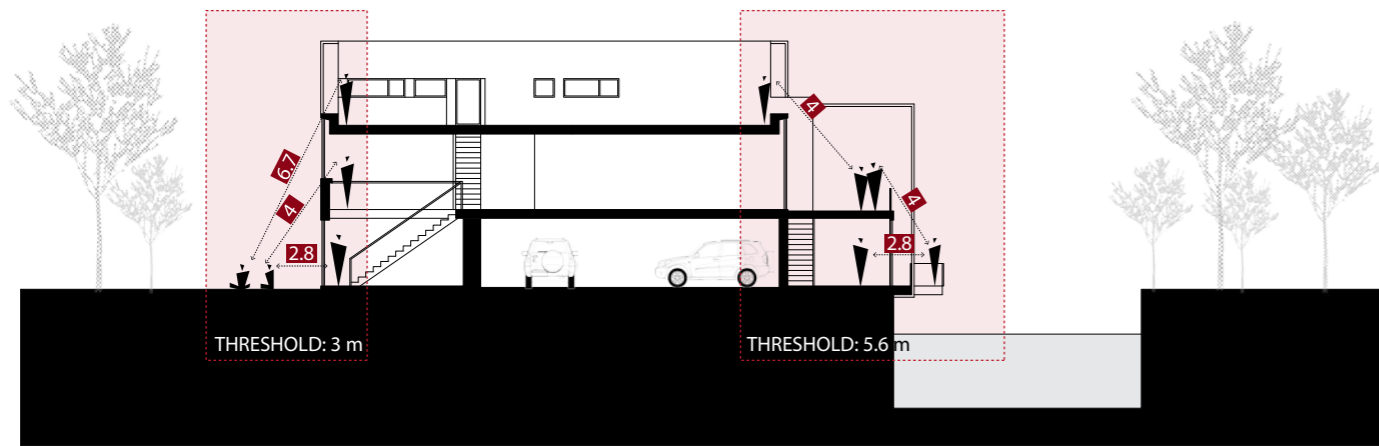
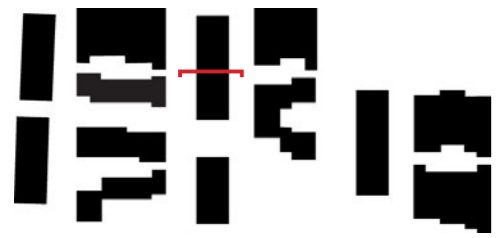


Positive Communication
No Communication



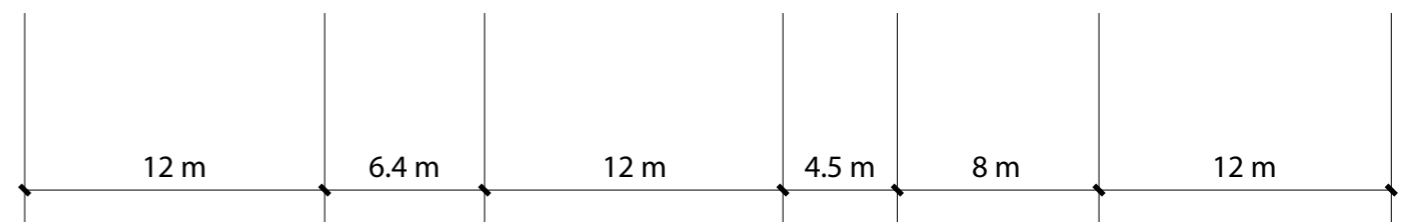
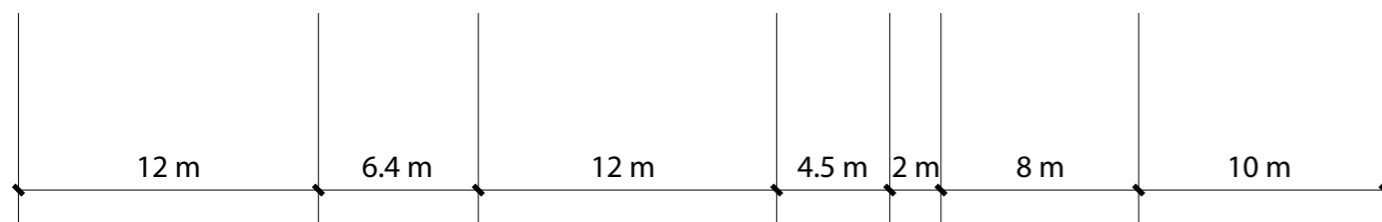
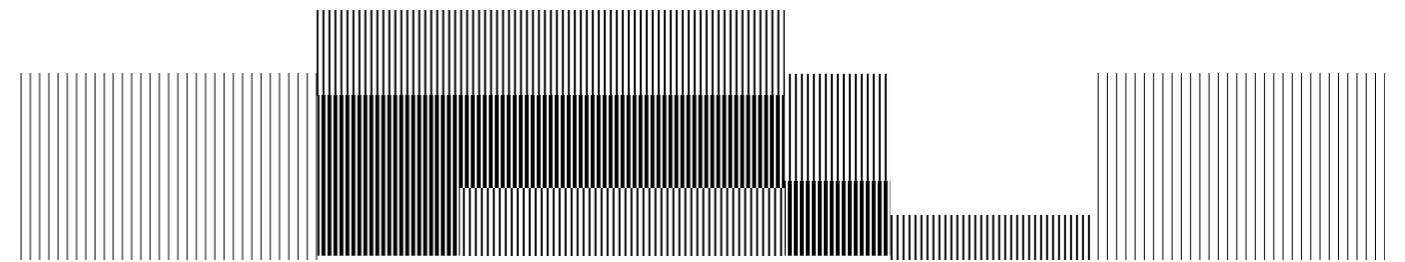
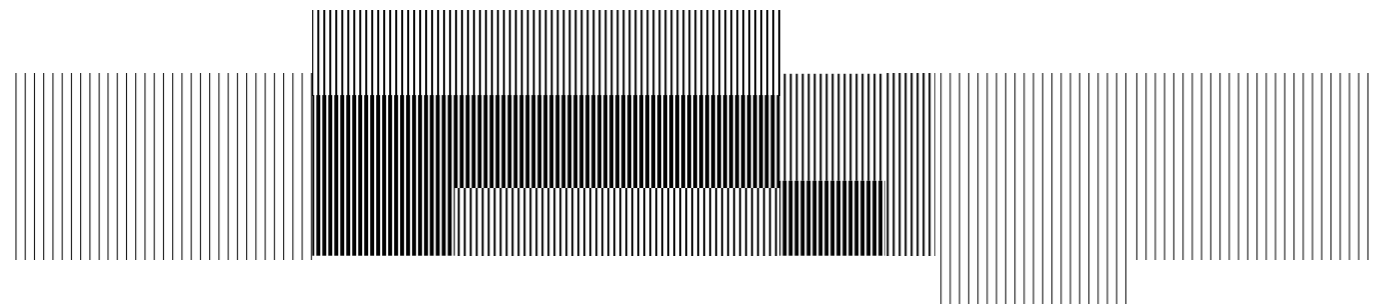
SEEING

contact between upper storeys and ground level



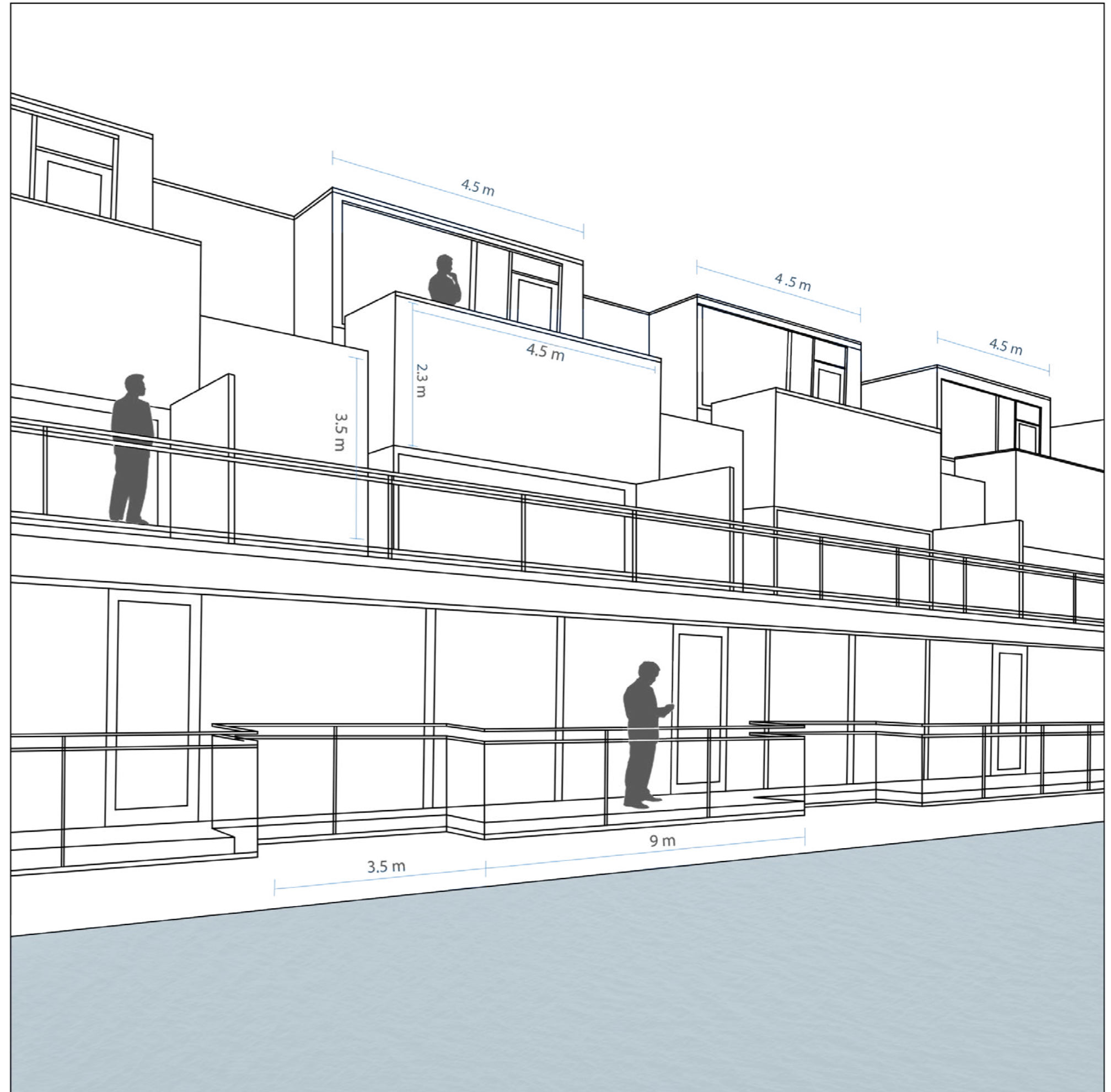
Positive Communication

Positive Communication



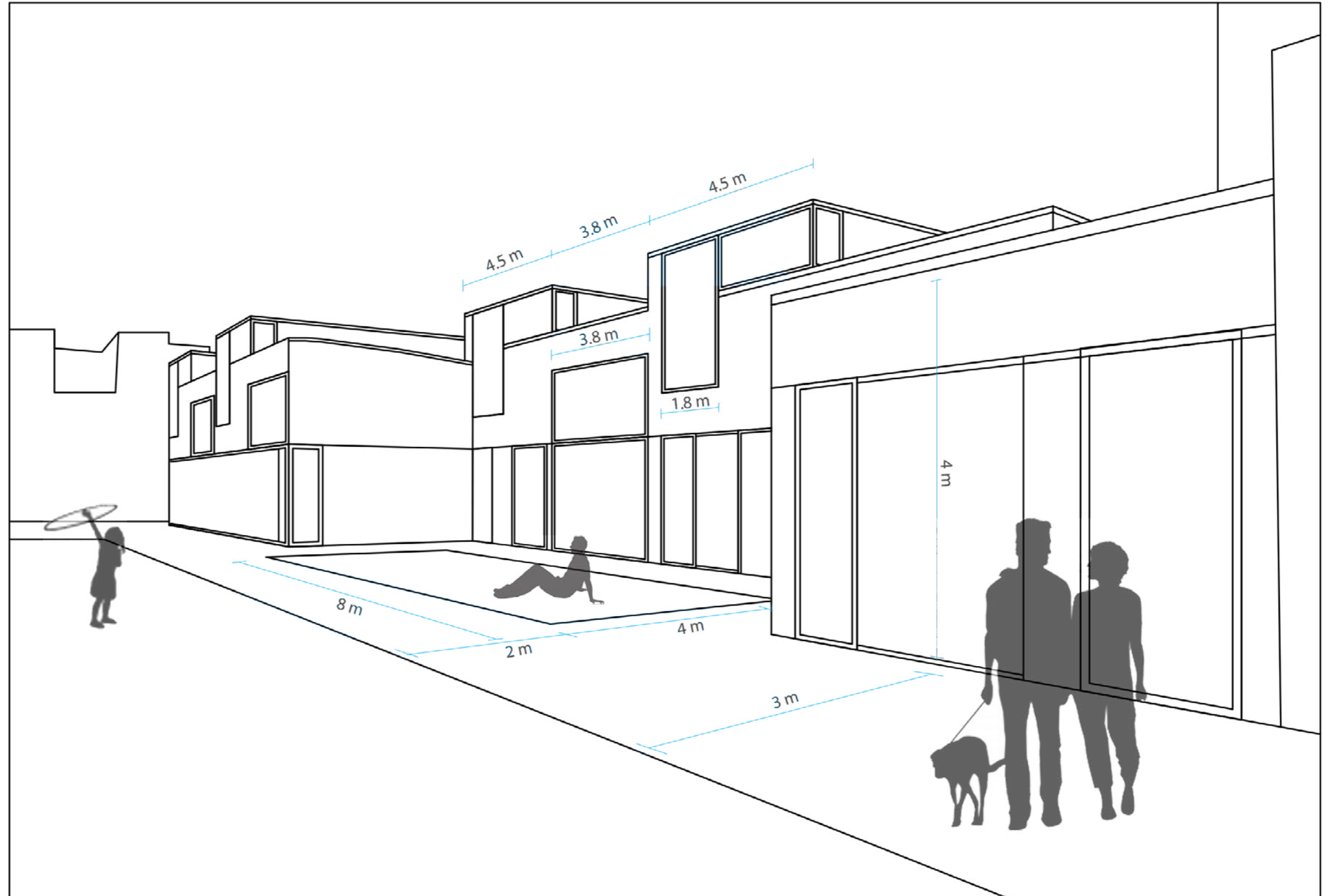
SEEING

balcony arrangements

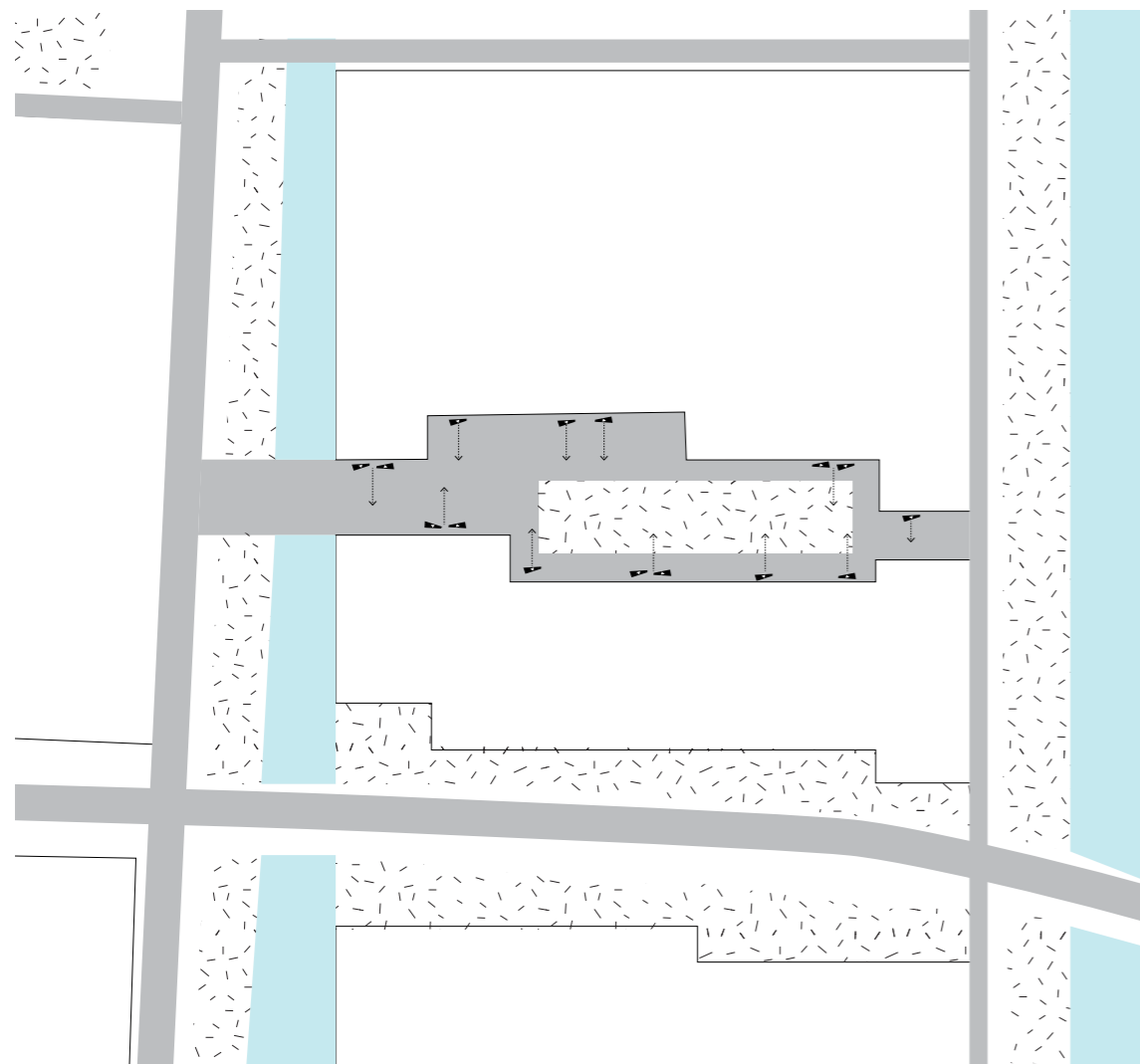
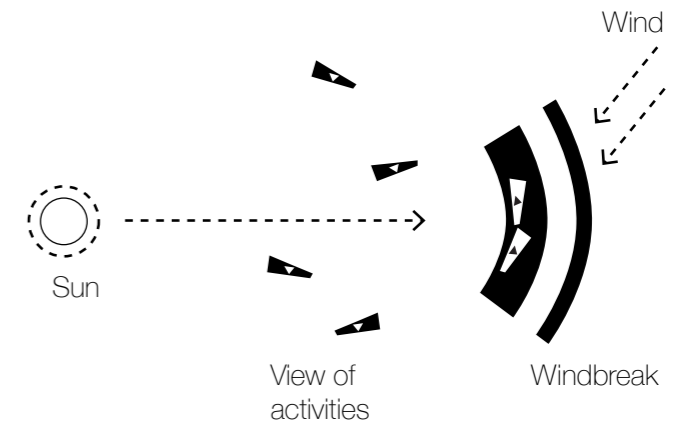


SEEING

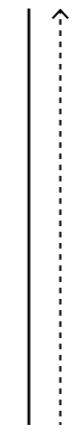
outdoor semi-private space



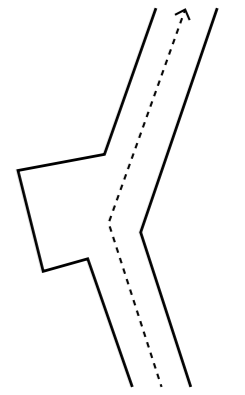
SITTING



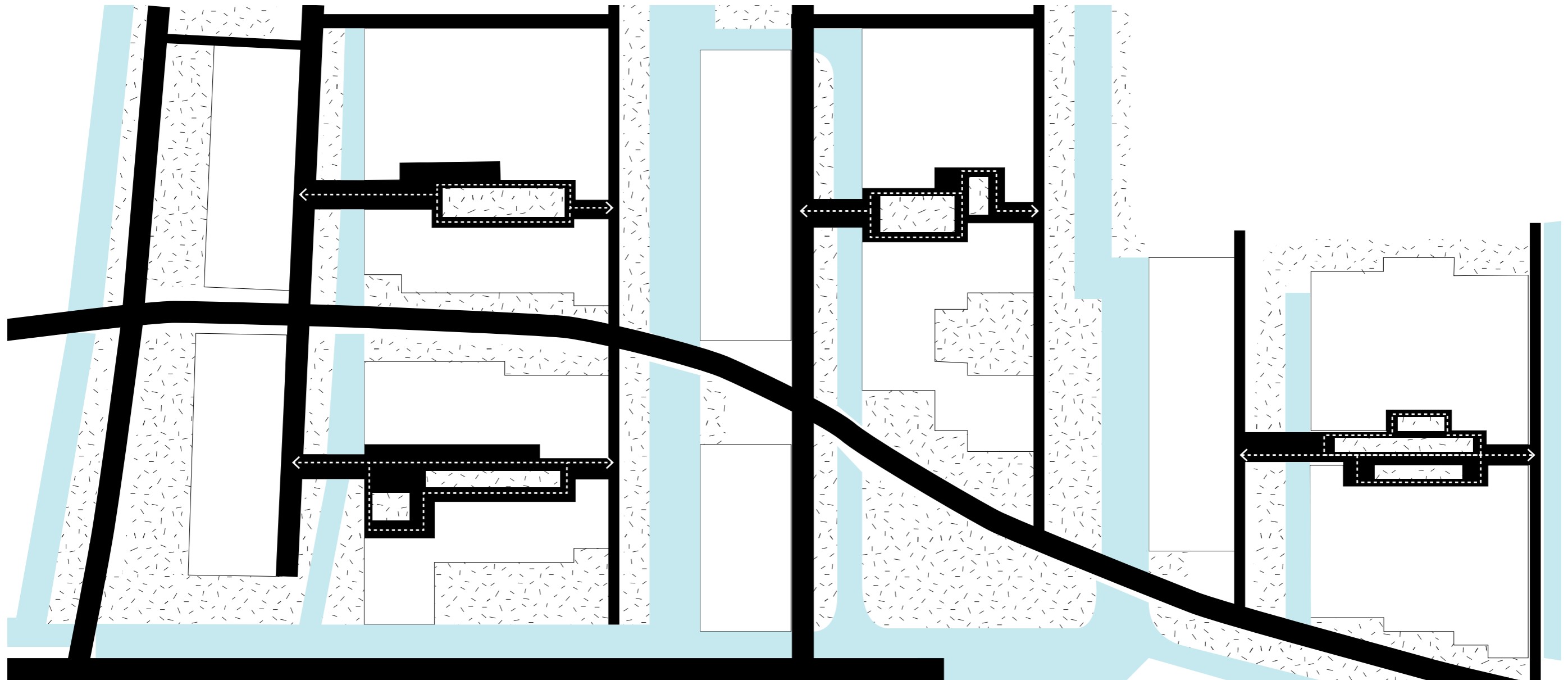
WALKING



Boring



Interesting



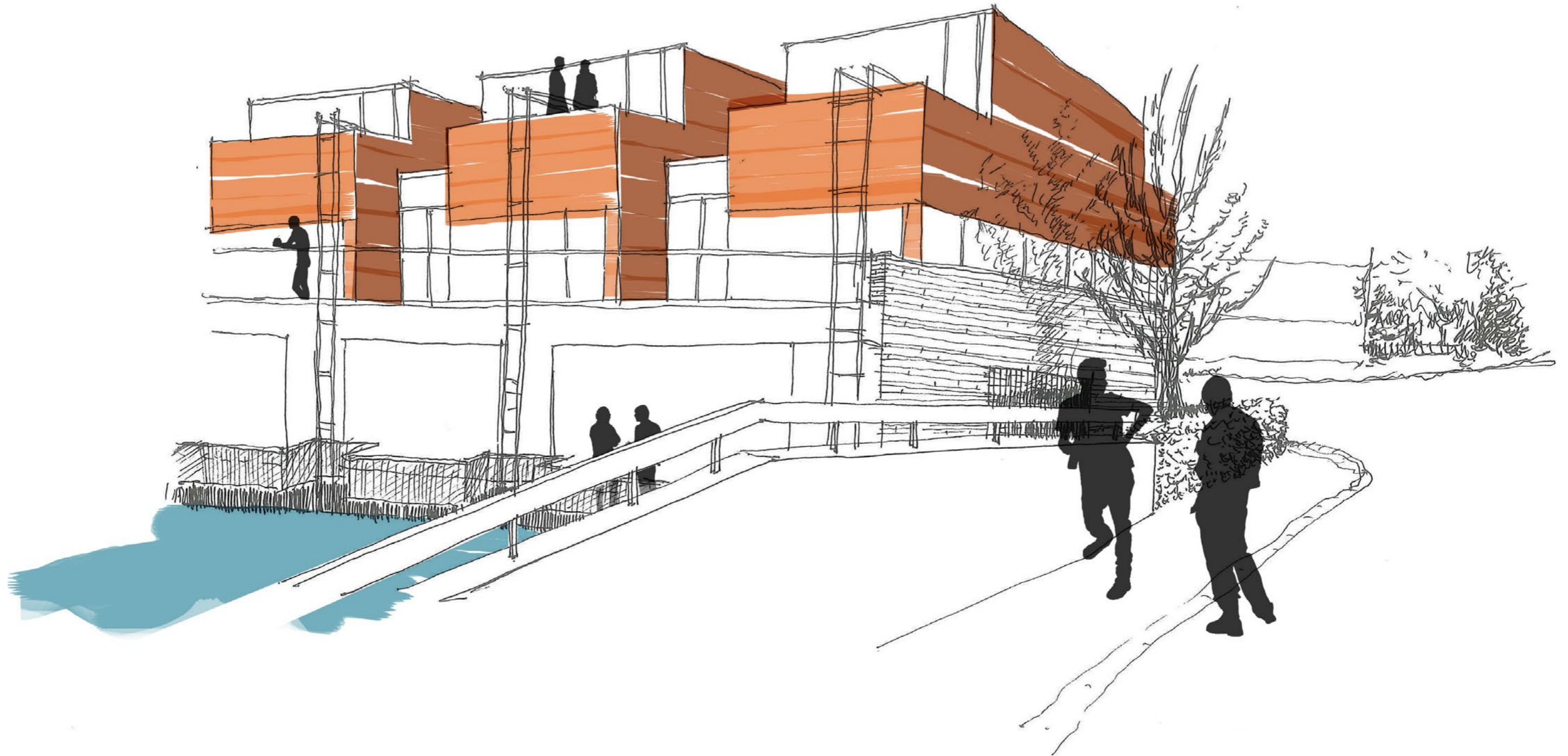
ATMOSPHERE

outdoor public space - the secondary courtyard



ATMOSPHERE

outdoor public space - the main courtyard



CASE STUDY 6: DE GROTE HOF

Architectenbureau Rapp+Rapp, Pijnacker - Nootdorp, The Netherlands



The project situated in Ypenburg, the Netherlands, which forms part of De Venen that stretches from Nootdorp to the A12 motorway. The neighbourhood's layout was inspired by the morphology of the greenhouses that located in the area before. With five square courtyards measuring 230 x 250 m., the building turns the traditional closed urban block inside - out.

Four of the courtyards are in the same size and square shape, on the other hand, the main one is rectangular and 16 m. in length. Rapp + Rapp describes it as the difference between a village green and an urban square. All of the dwellings face inwards, while individual backyards are situated in the outside. The whole complex is surrounded by a canal like its own island.



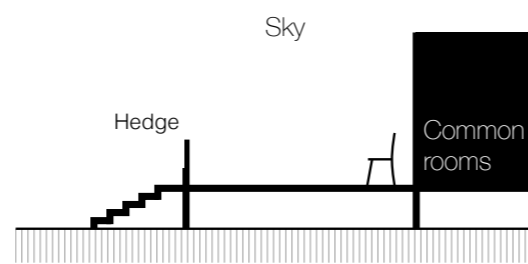
OUTDOOR SPACE

Accessible green

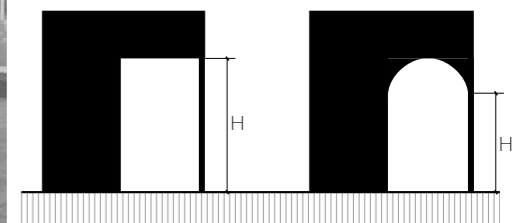


OUTDOOR SPATIAL ELEMENTS

Outdoor Room

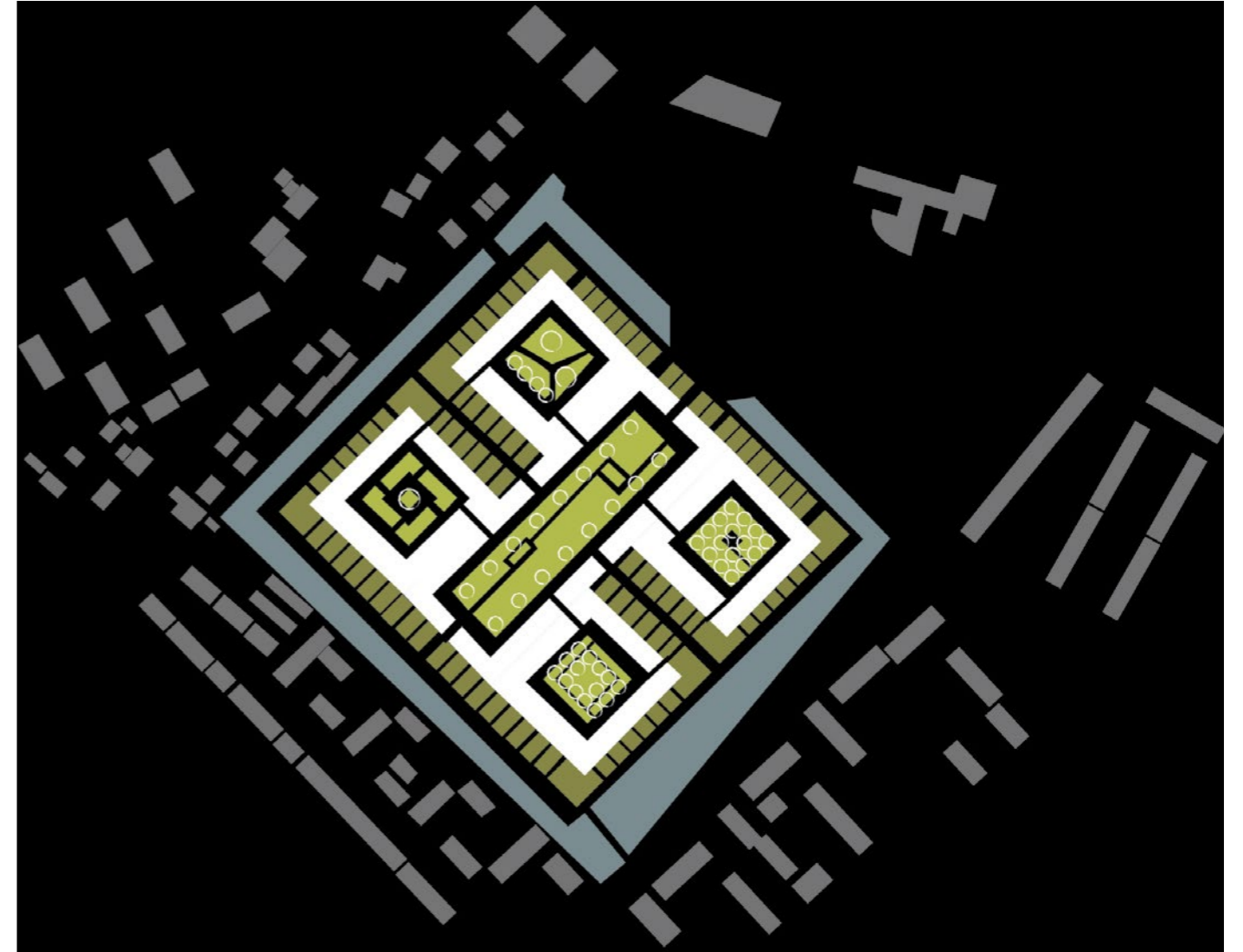
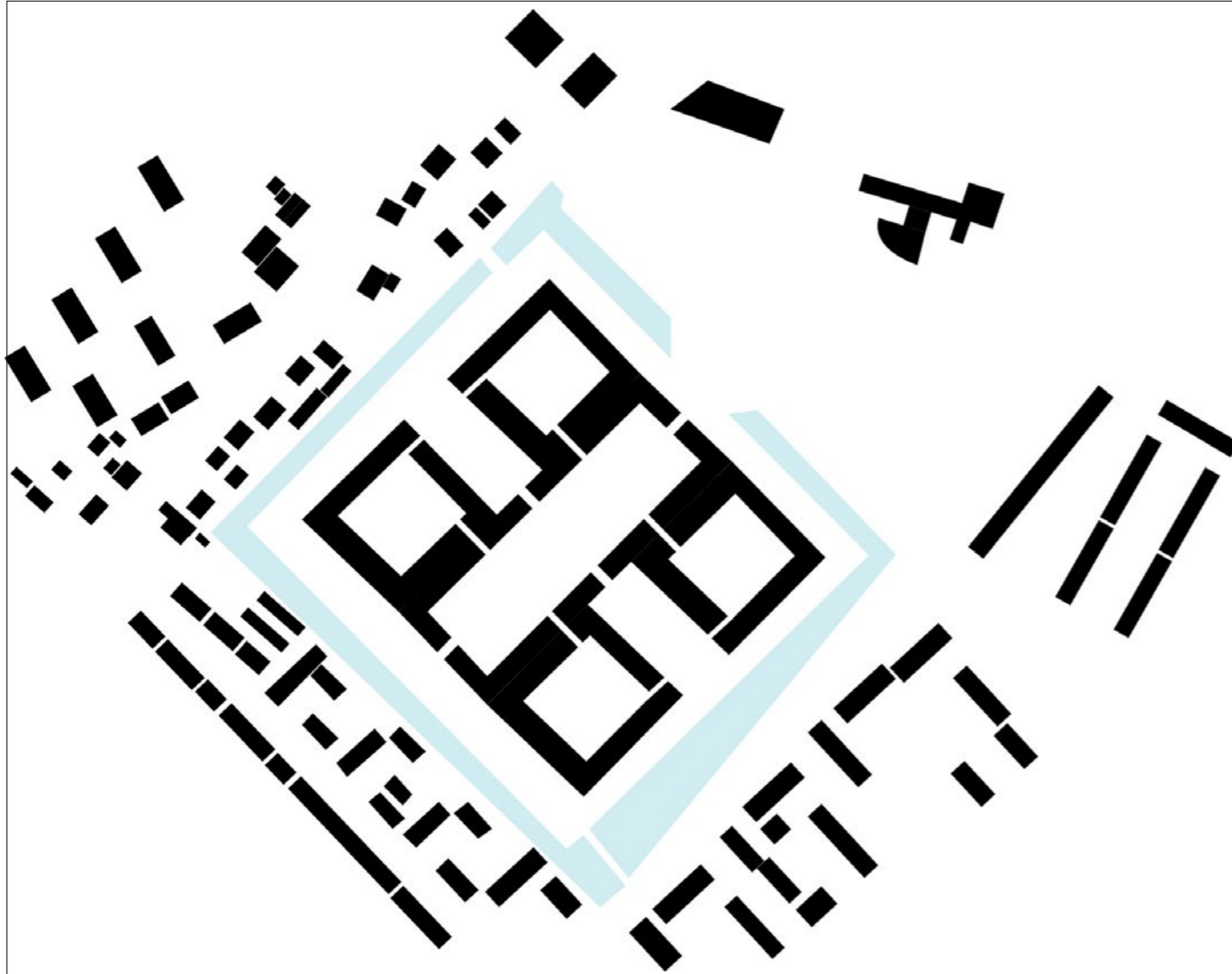


Arcades



BUILDING COMPOSITION

positive and negative spaces



Positive and negative spaces:

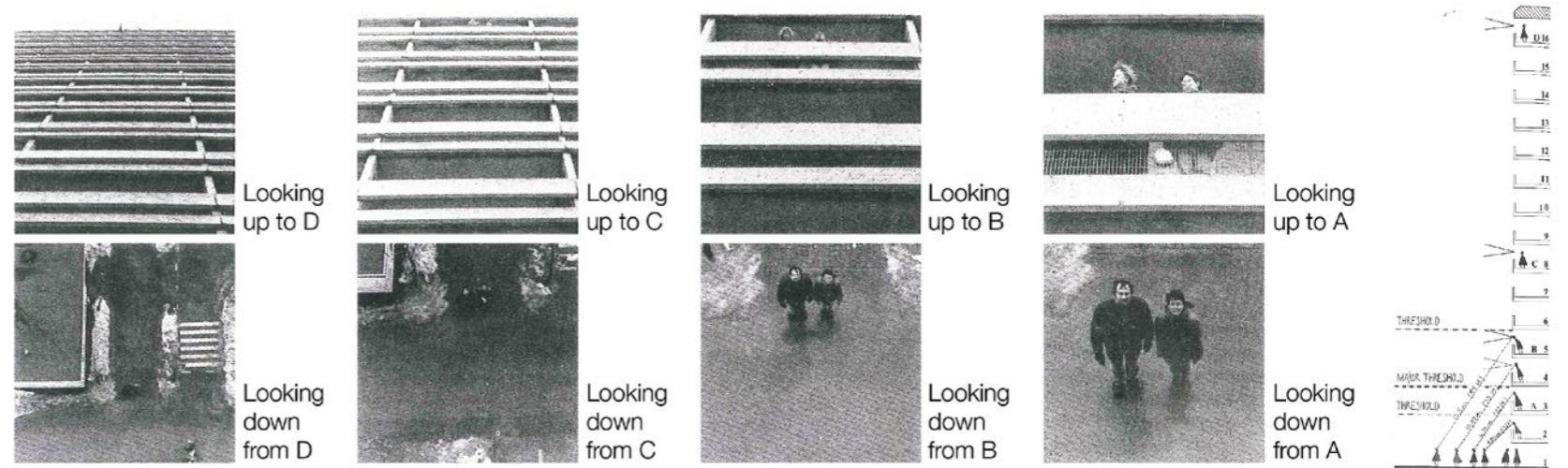
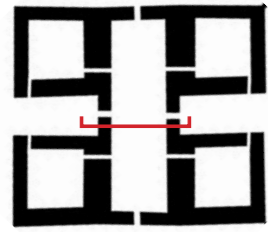
De Grote Hof is situated in a suburban area in a less dense neighborhood and its building composition act as an island itself with water surrounding the plot. It is a network in itself, with its 20 gateways between its courtyards and to the immediate environments. Not only that, the complex as a whole is divided in 5 communities but still being connected each others.

Semi-public spaces:

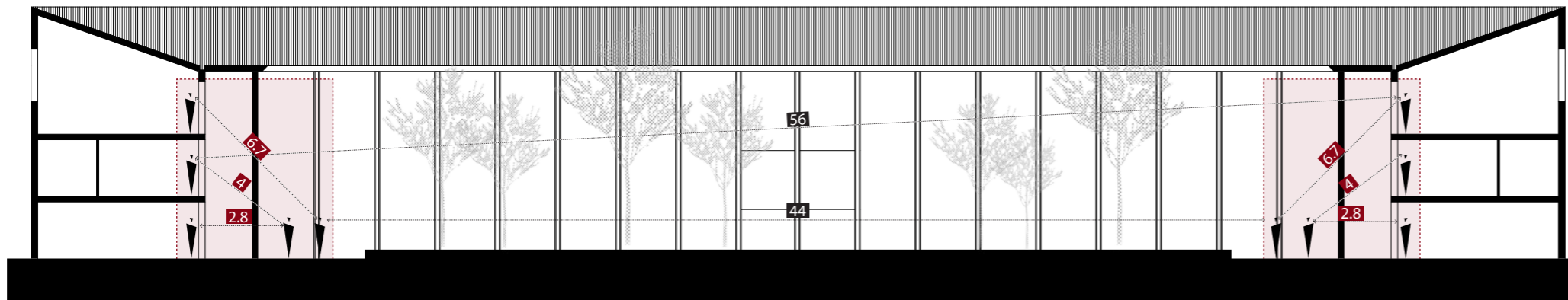
The complex consists of 5 courtyards; the 4 smaller square courtyards surrounding the main 16 meters length rectangular courtyard. The smaller ones have a completely different character than the rectangular one, that was described as village green and urban square by the architect.

SEEING

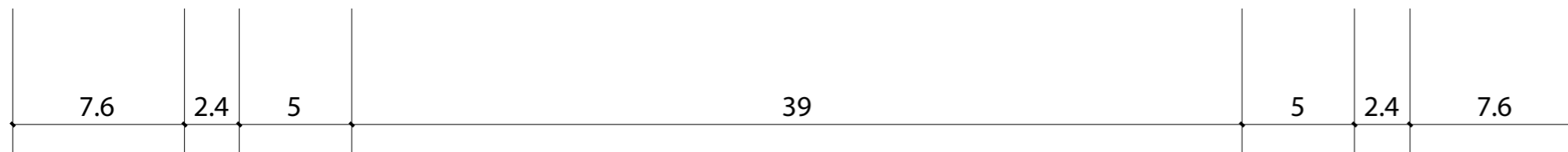
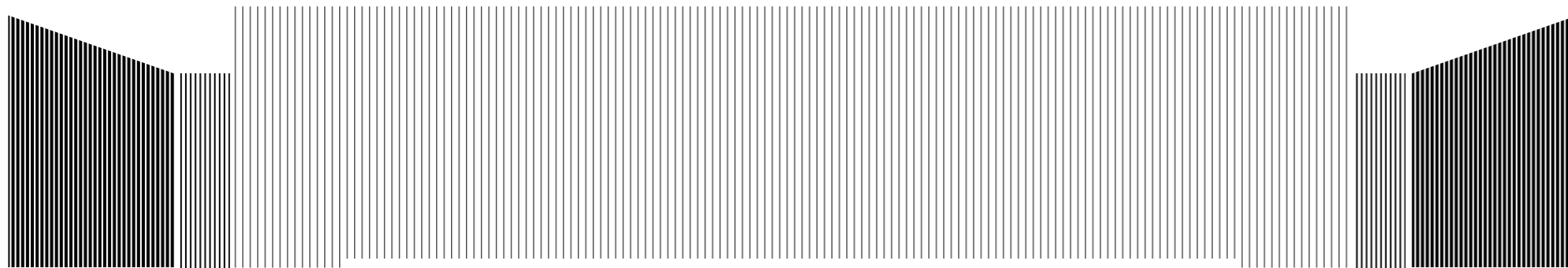
contact between upper storeys and ground level



Source: Gehl J. *Life between buildings: using public space*[M]. Island Press, 2011.

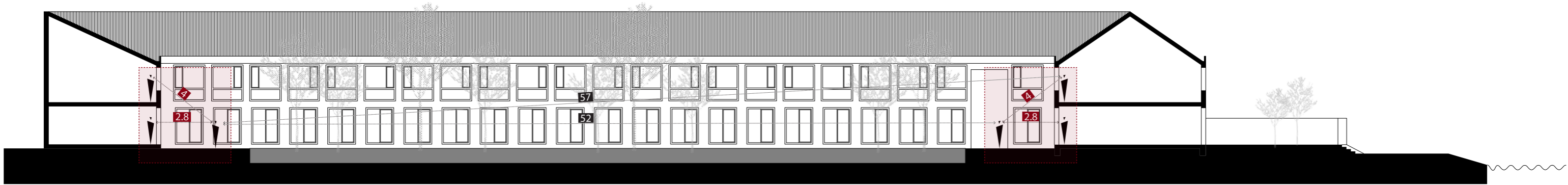
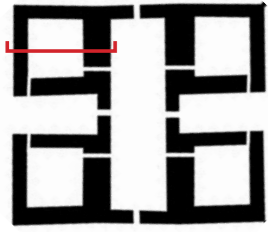


Positive Communication
No Communication

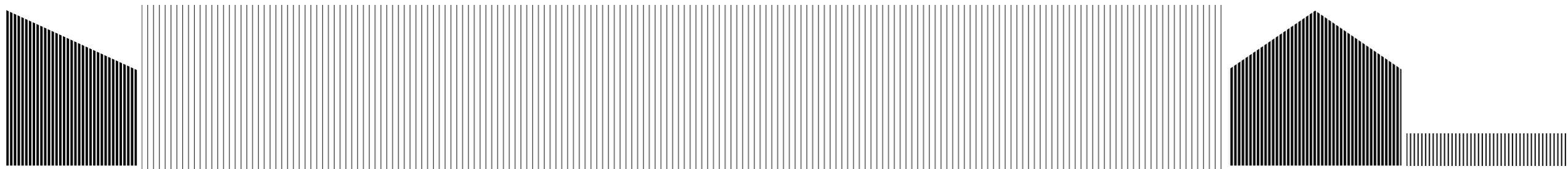


SEEING

*contact between upper storeys
and ground level*

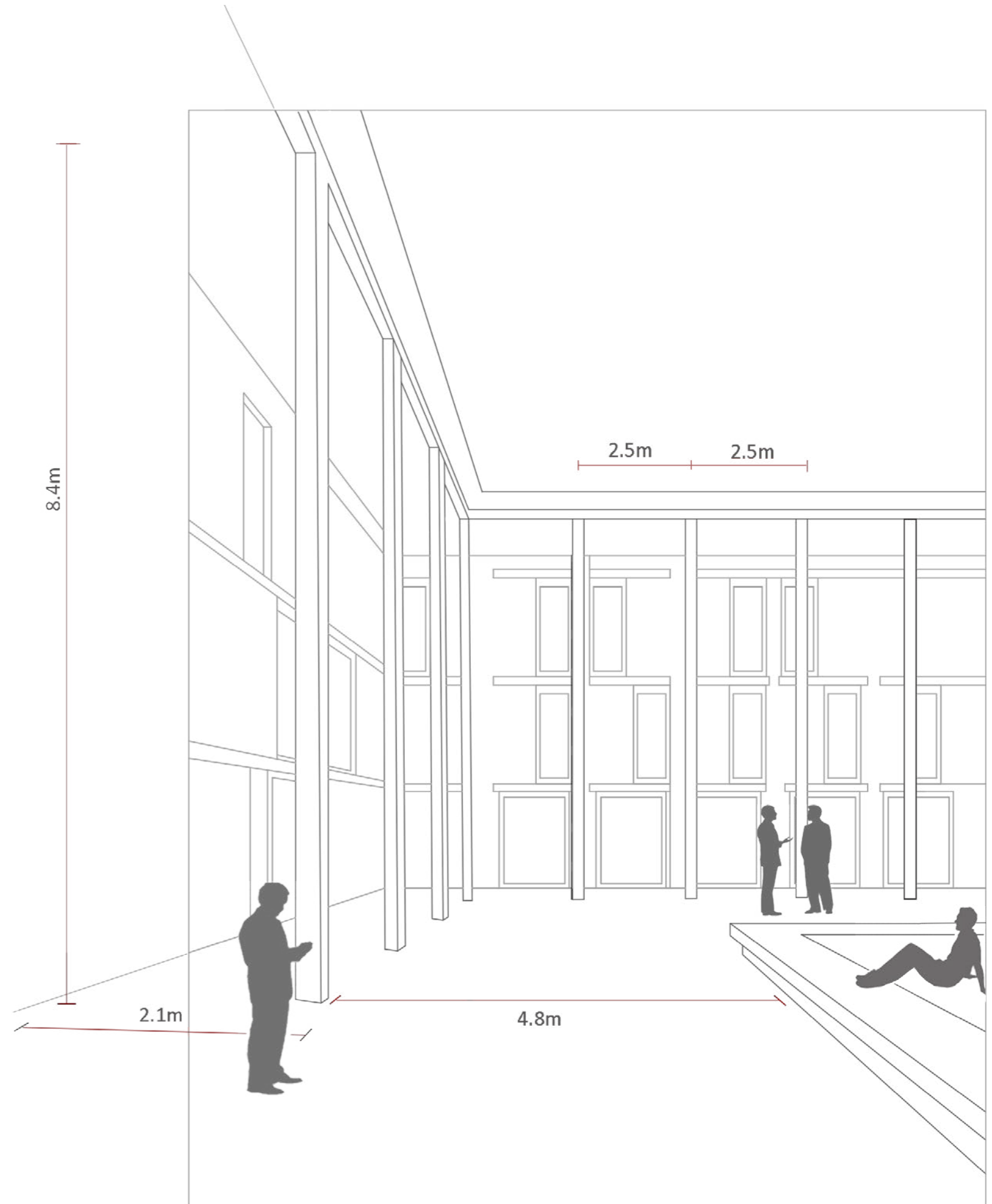


■ Positive Communication
■ No Communication



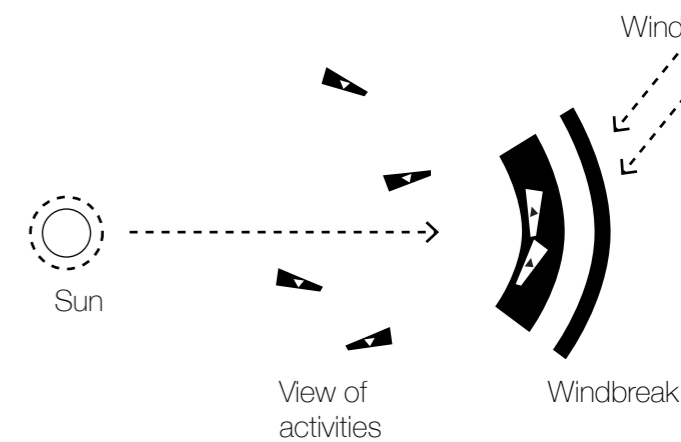
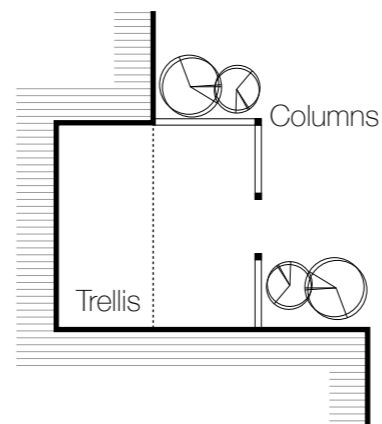
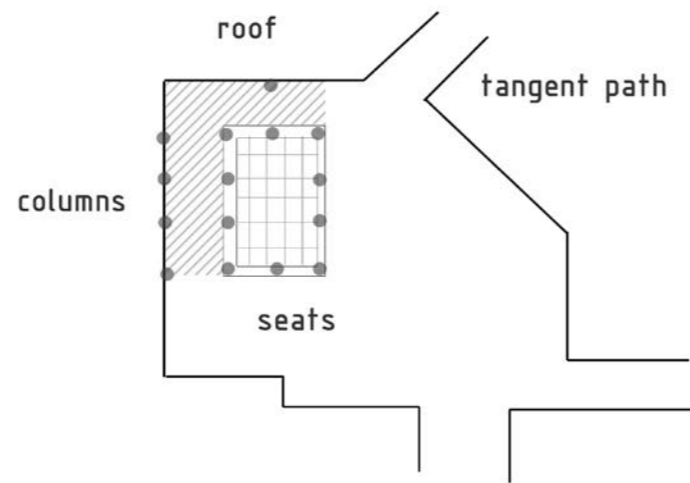
SEEING

outdoor semi-private space



SITTING

three types of sitting spots

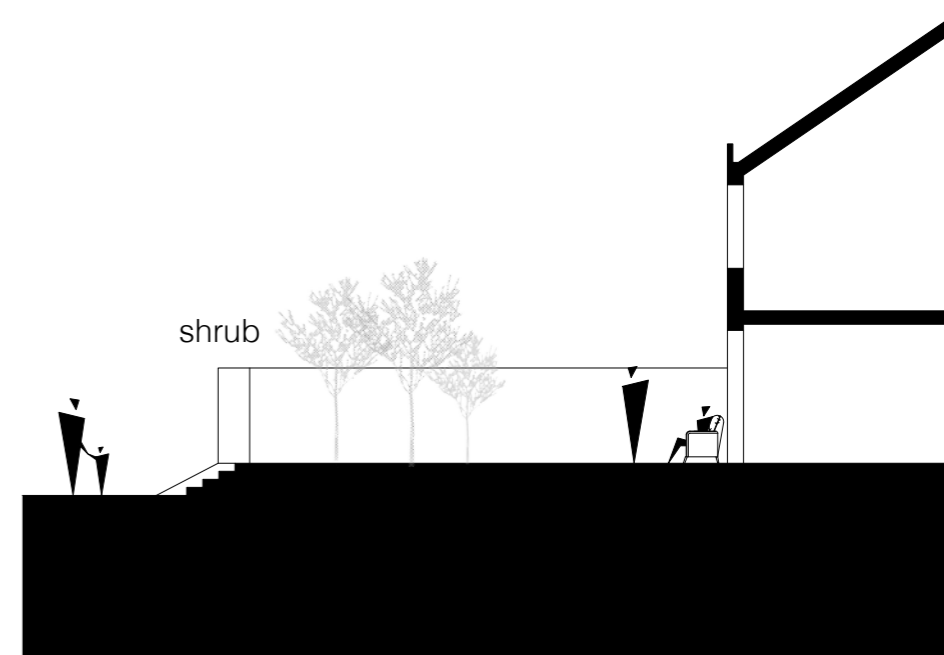
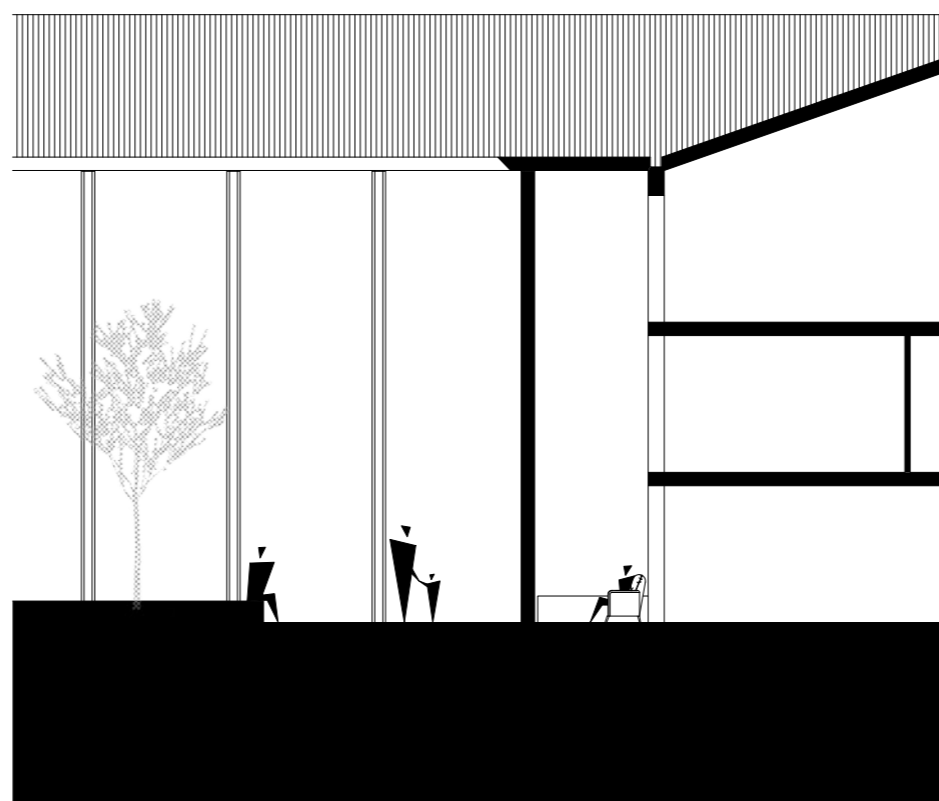
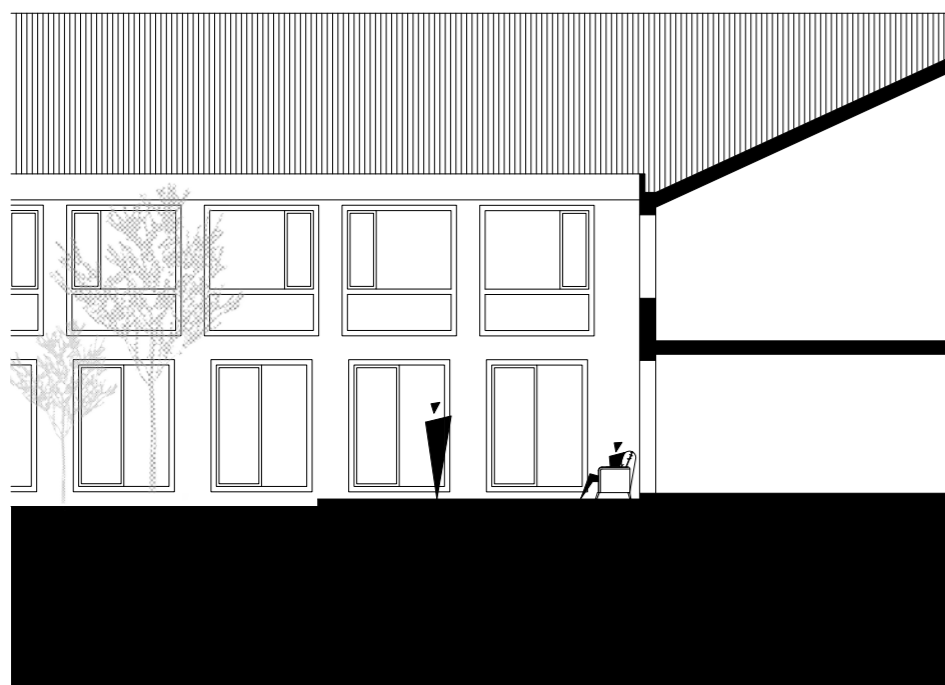


Having so much enclosure round it. It takes on the feeling of a room

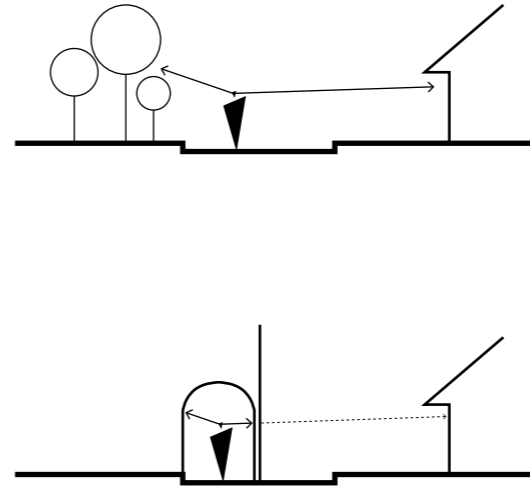
semi-private (with less enclosure elements)

semi-private (with more enclosure elements)

private

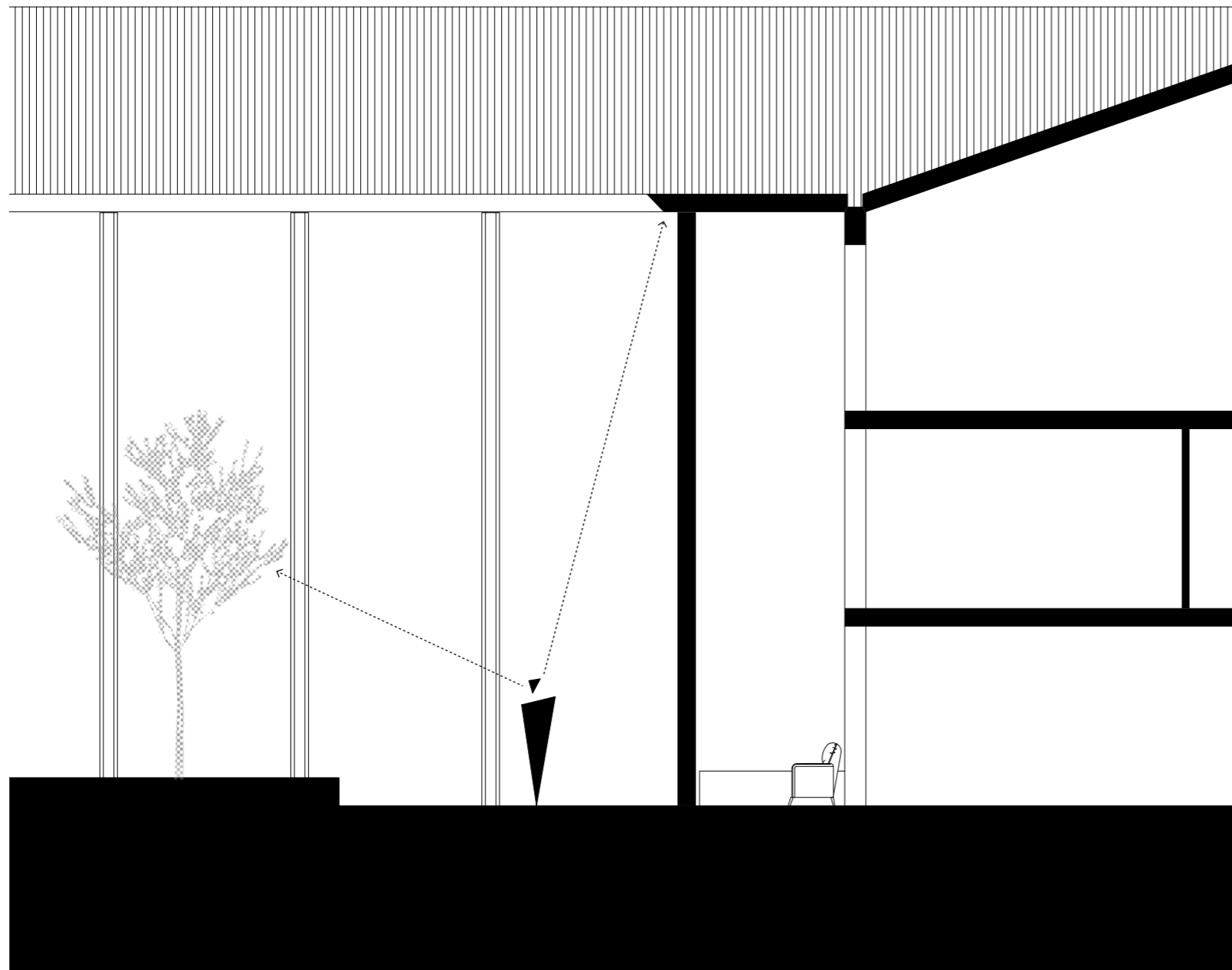


WALKING



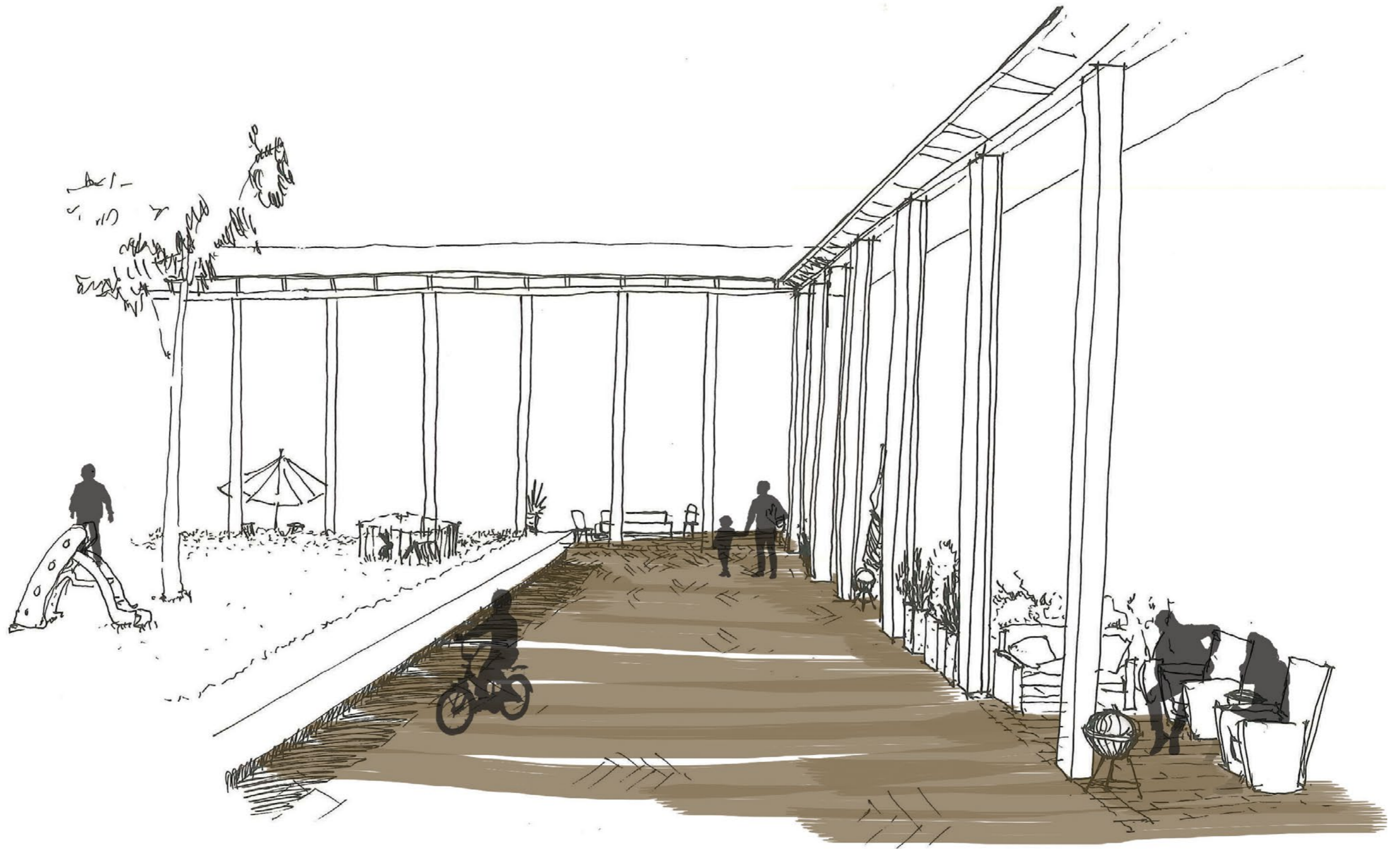
When walking routes are placed at the edge of an open space, pedestrians may enjoy the best of both worlds: closeness, intensity, and detail on one side; on the other side, a fine view of the entire open space.

Walking routes placed in the middle of a space most often provide neither detail nor expanse of view.



ATMOSPHERE

*outdoor semi-public vs.
semi-private space*



ATMOSPHERE

outdoor semi-public space



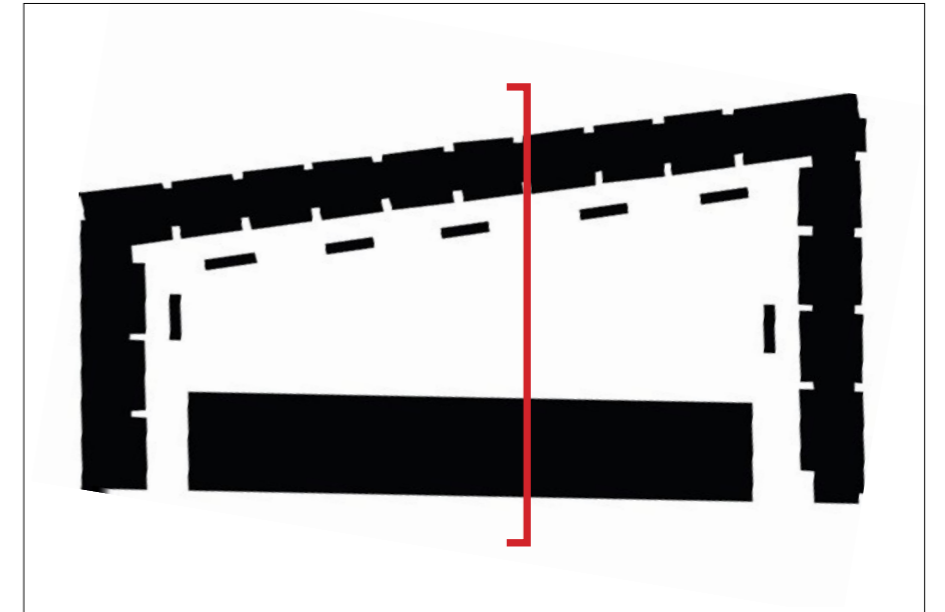
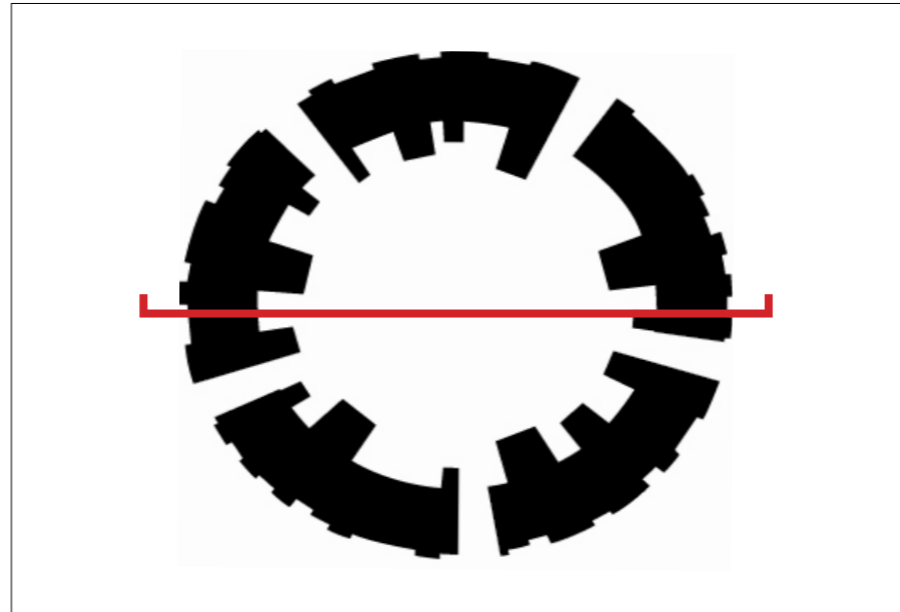
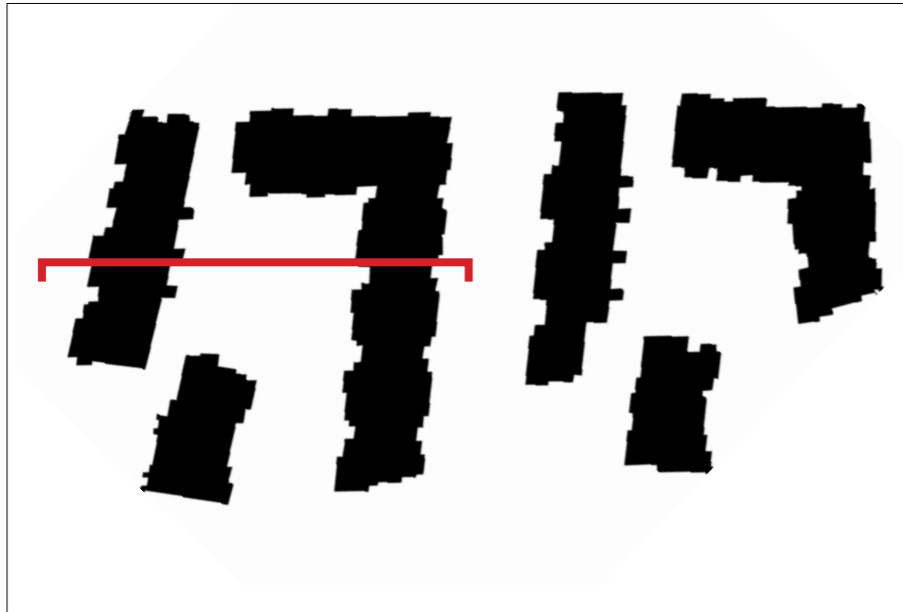
COMPARISON & CONCLUSION

Harbour isle apartments

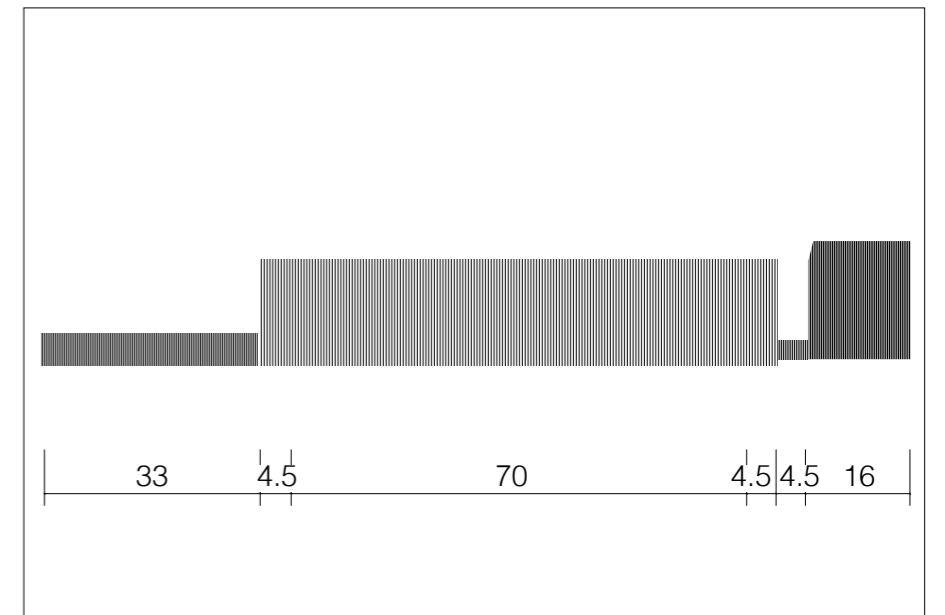
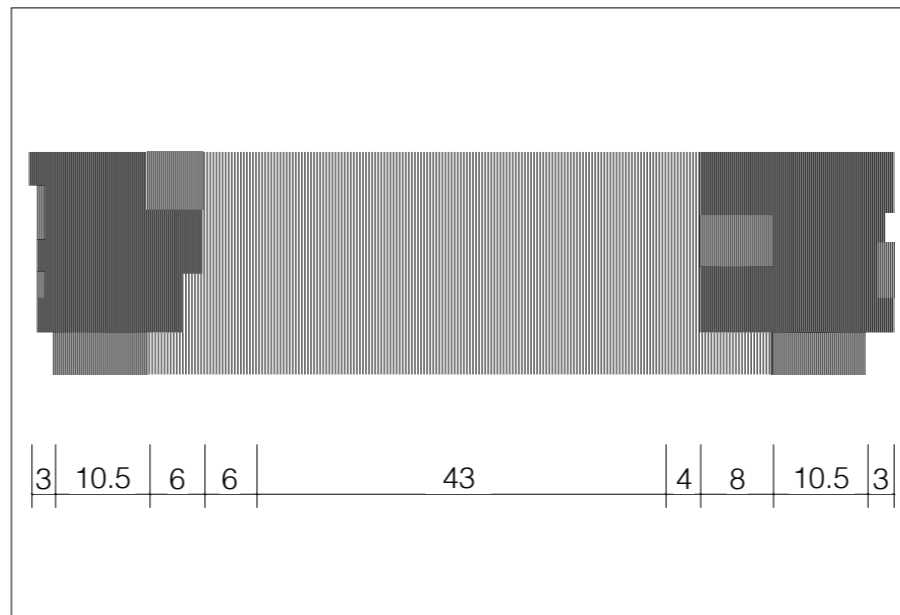
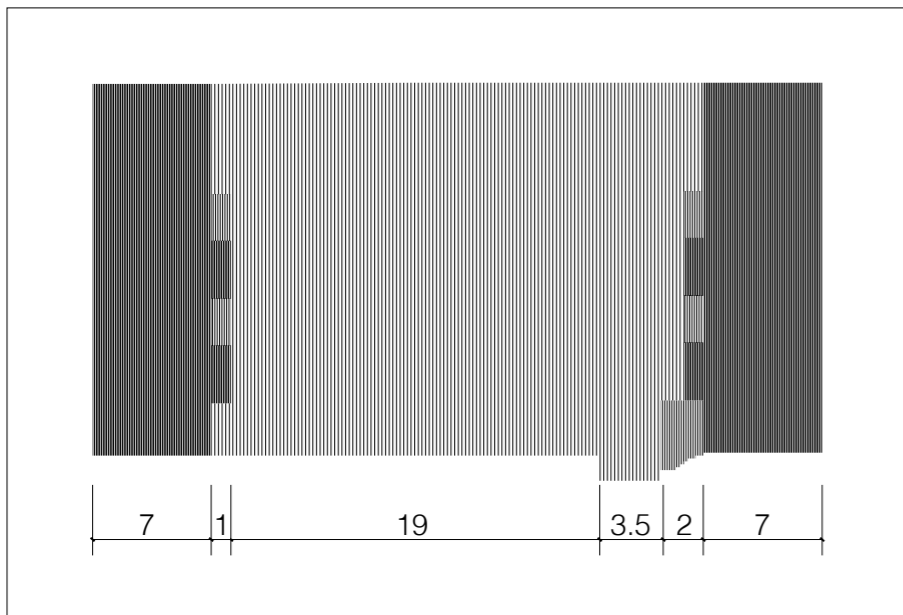
Tietgen Dormitory

Charlottehaven

Positive/ Negative space



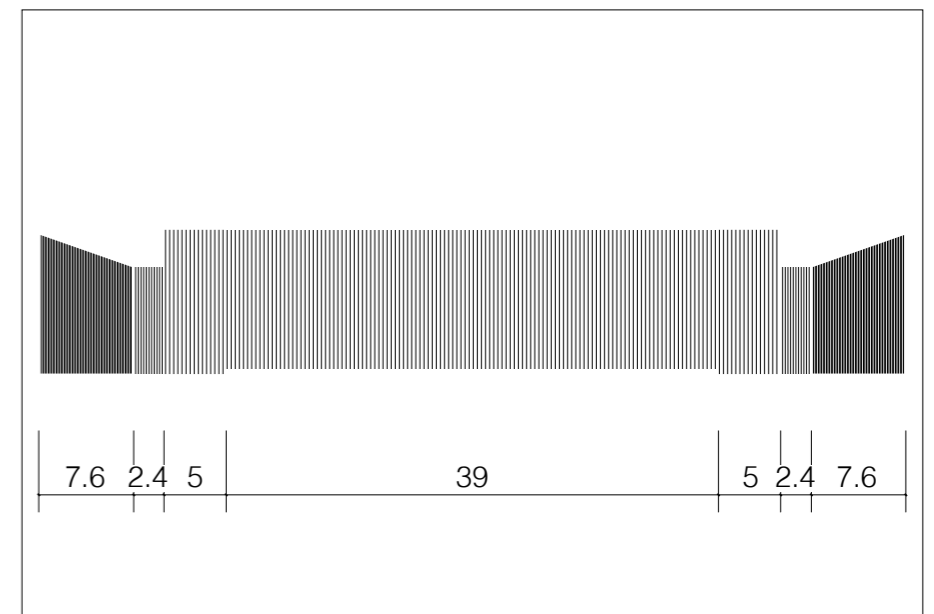
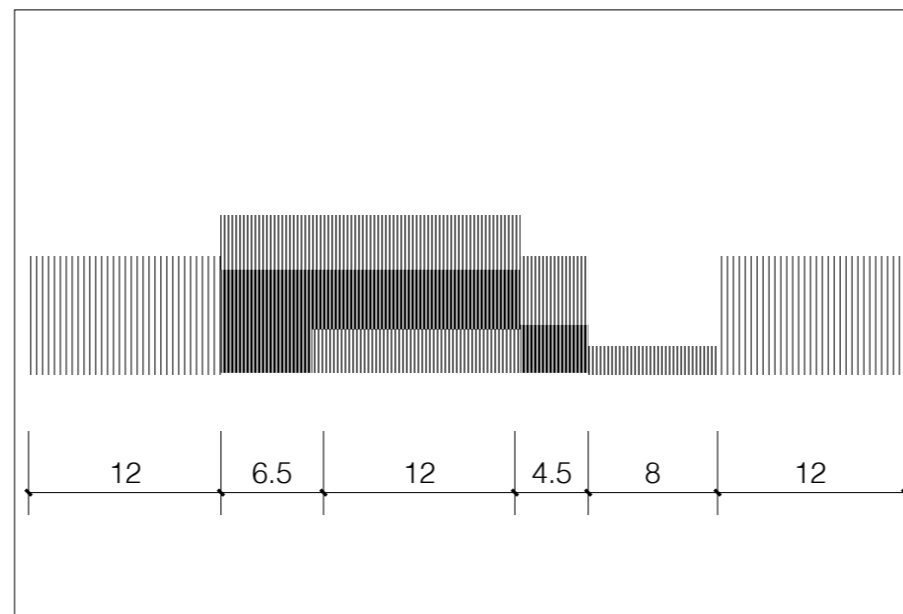
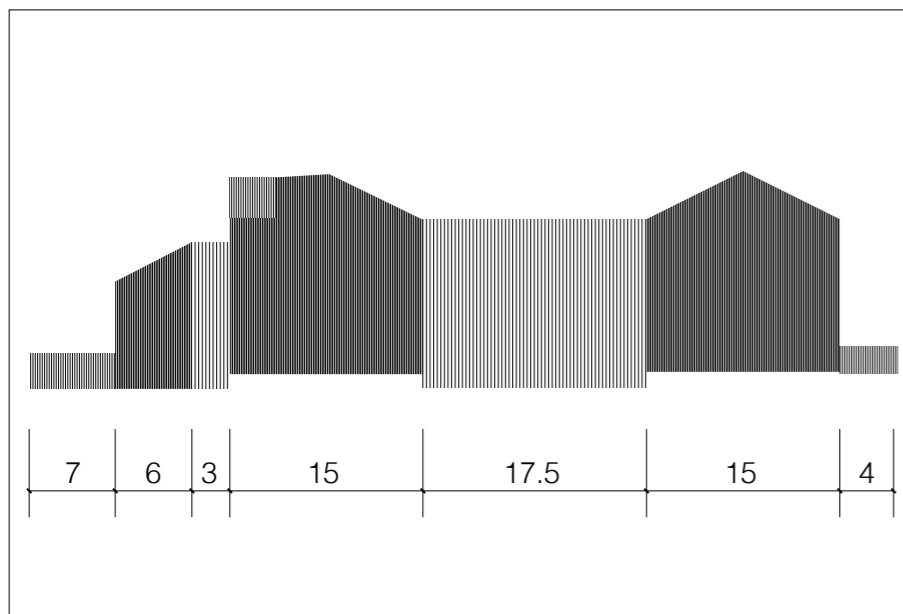
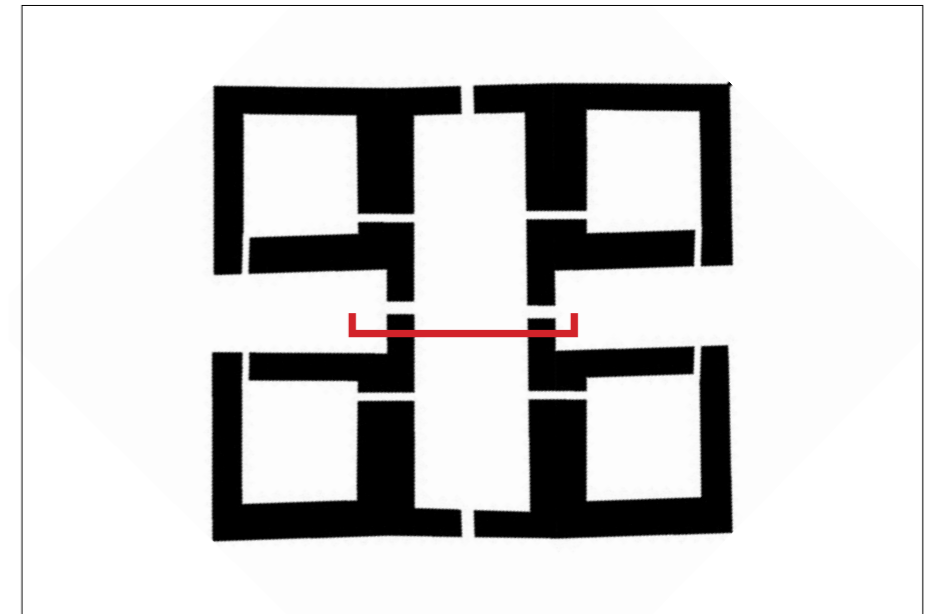
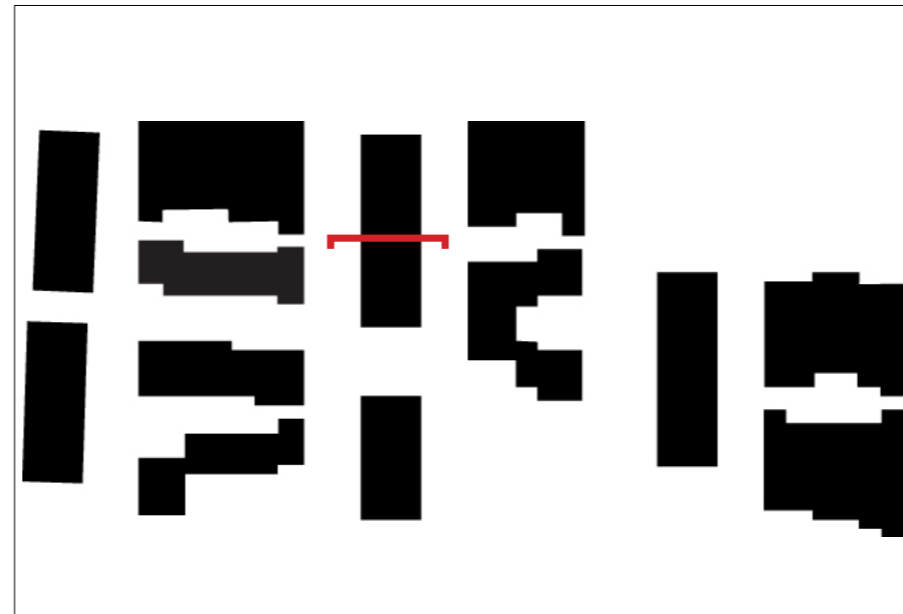
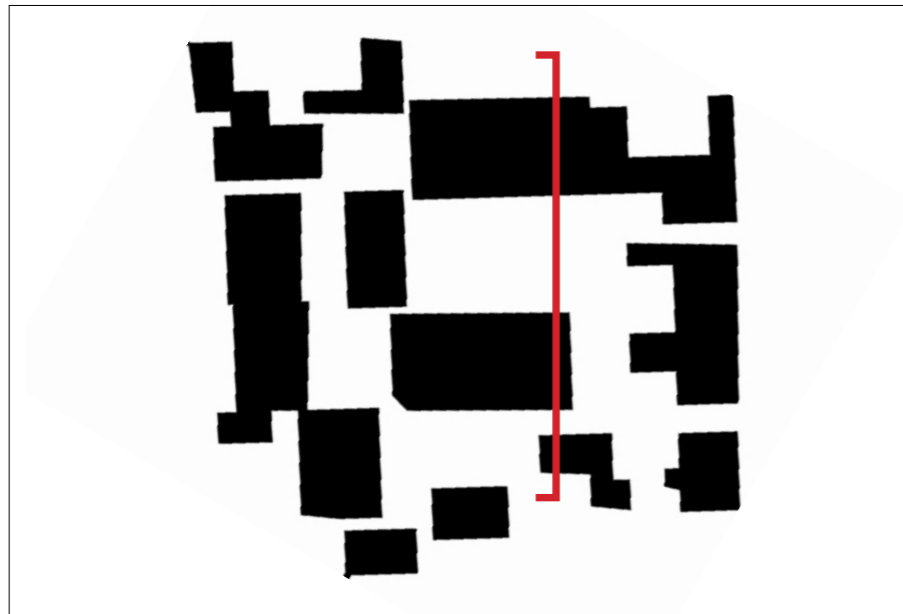
Seeing



Mariaplaats

Paswerk

De Grote Hof

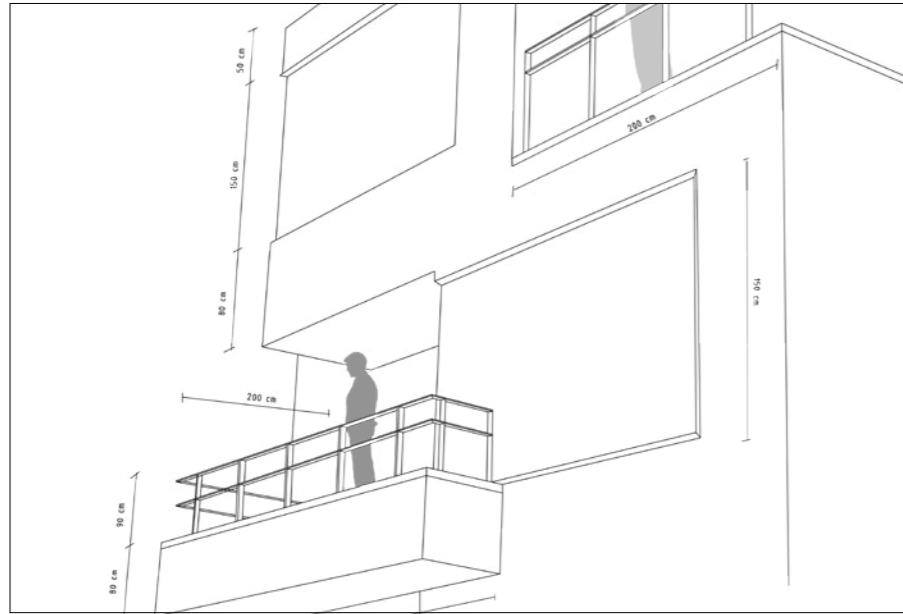


Harbour isle apartments

Tietgen Dormitory

Charlottehaven

Seeing

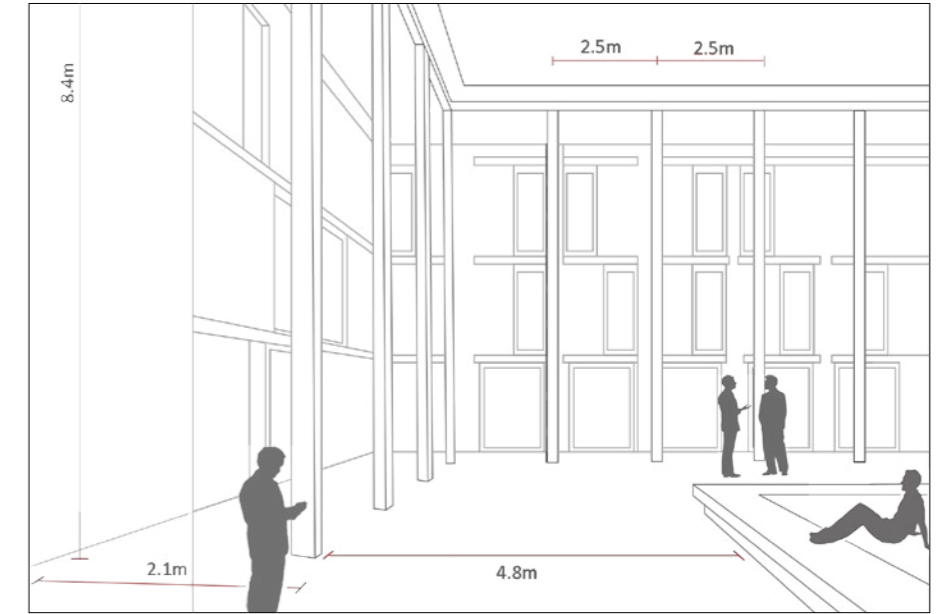
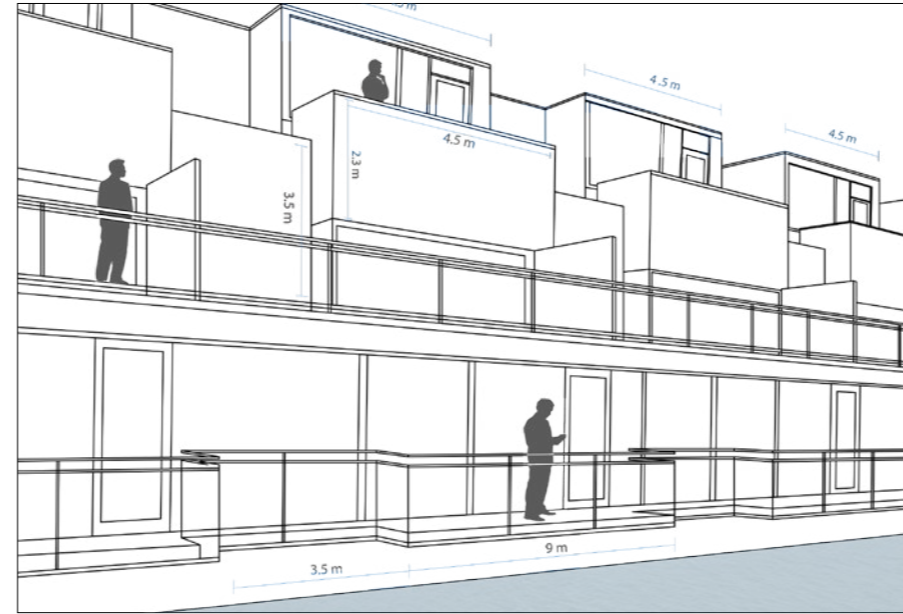
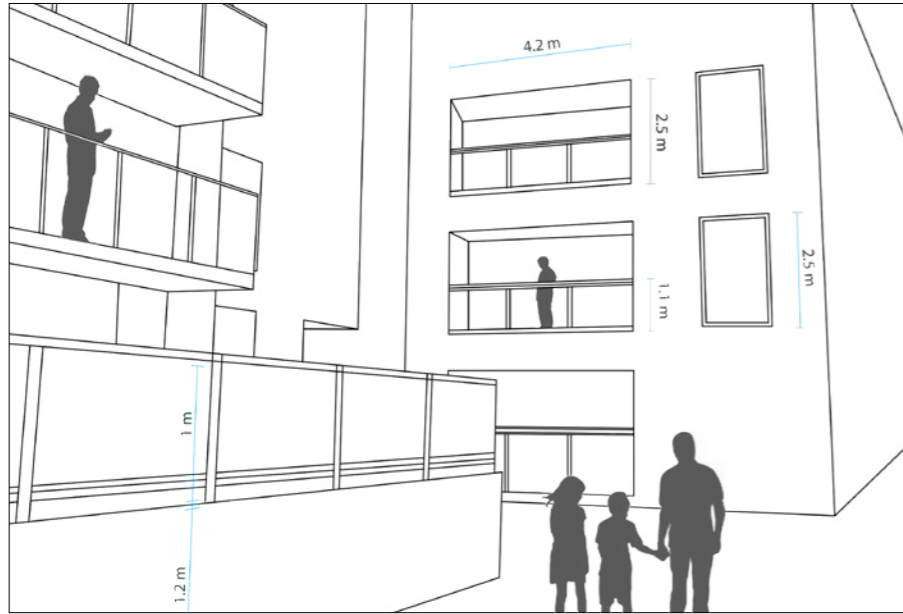


The opportunities for seeing other people are a question of distance between observer and object. If the outdoor spaces are designed too wide and too big, the opportunity of being able to see and communicate with each other in an open space is lost. Therefore, seeing was one of the main subject we chose to analyze for each project, and by comparing each one of them we can have a better understanding of how a space should be designed in order to achieve the best communication between the residents of a building complex. Having six different projects to analyze gives us a variety of examples in terms of distances and seeing opportunities.

Mariaplaats

Paswerk

De Grote Hof



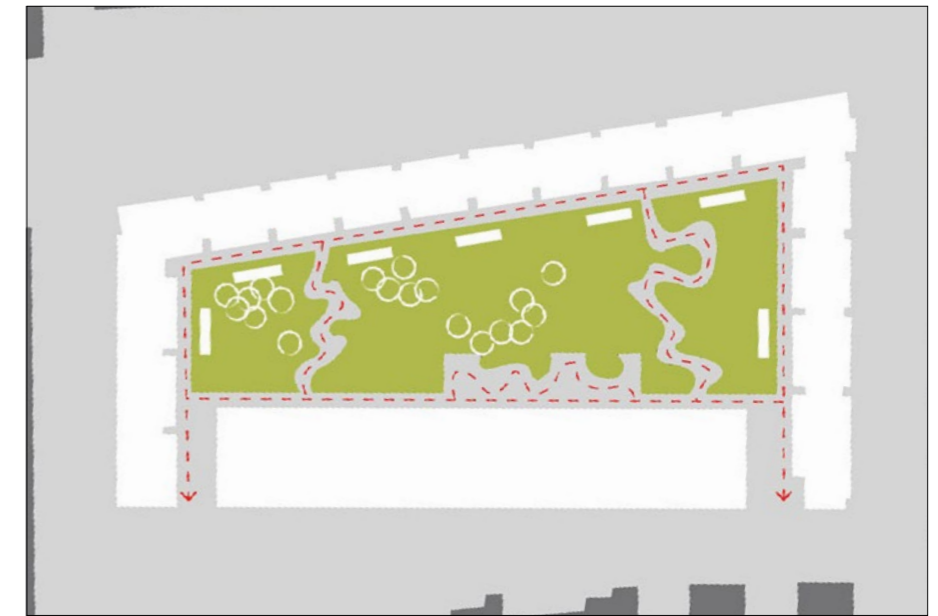
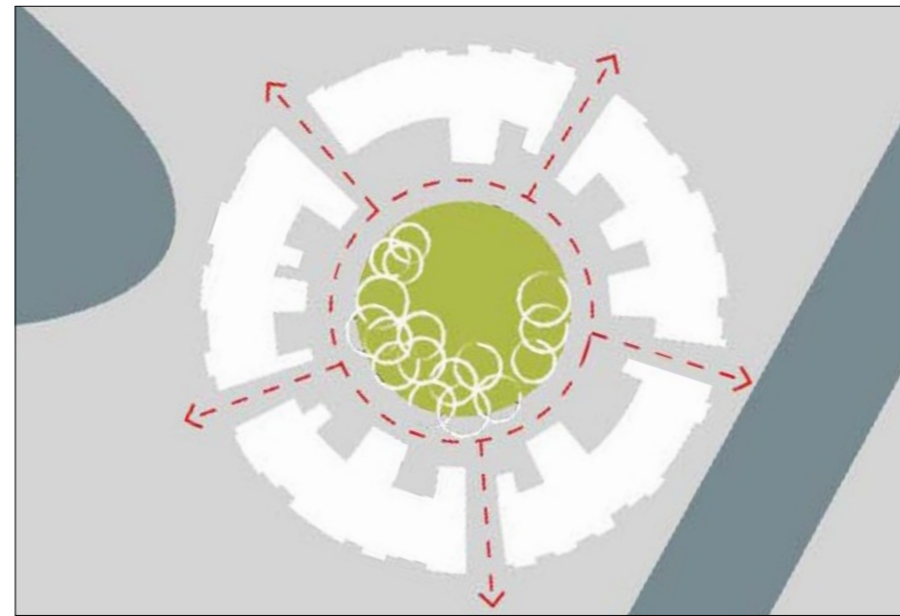
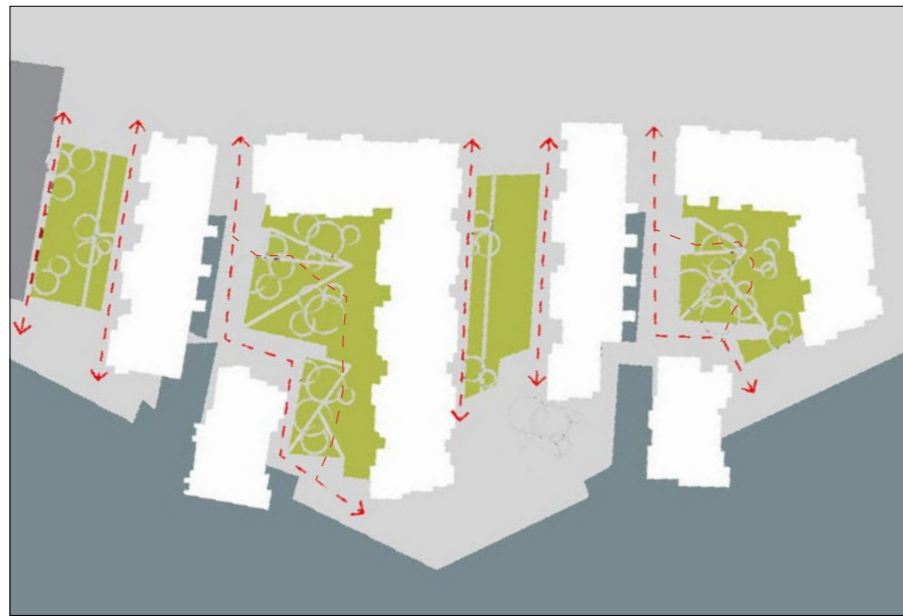
To achieve this comparison between the projects it is wise to work with combinations of several social fields of vision at a time, for example the maximum distance for seeing events (70 to 100 meters) combined with the maximum distance for seeing facial expressions (20 to 25 meters). Three of the projects lay in the first category, since they have a courtyard that exceeds the distance of 25 meters and thus the communication in that space becomes harder to achieve. These projects are Charlottehaven, De Grote Hof and Tietgen Dormitory. Although the three of them have a large courtyard, the communication between the residents can still be achieved by the creation of interesting paths, sitting areas and small distances between the balconies of each apartment. These elements can still create opportunities for talking with other people, and greatly influence the quality of the outdoor space. A great example is the arrangement of the balconies at the Tietgen Dormitory, which are irregularly extruded and have no more than 5 meters distance between them, thus giving the opportunity of communication between residents. In the second category, we can include the Harbour Isle apartments, Mariaplaats and Paswerk since the three of them have smaller courtyards that lay in a distance smaller than 20 meters. According to Jan Gehl's theory, at this distance you can clearly recognize facial features, feelings and moods of others, and it is a lot easier for people to interact if they coexist in such a space. The best example is the Paswerk, which instead of having one large courtyard, has several smaller ones, creating common courtyards that do not exceed 12 m of distance. In a space as such, it is easier for a normal conversation to take place since the experience involves the degree of detail, necessary for meaningful human contact.

Harbour isle apartments

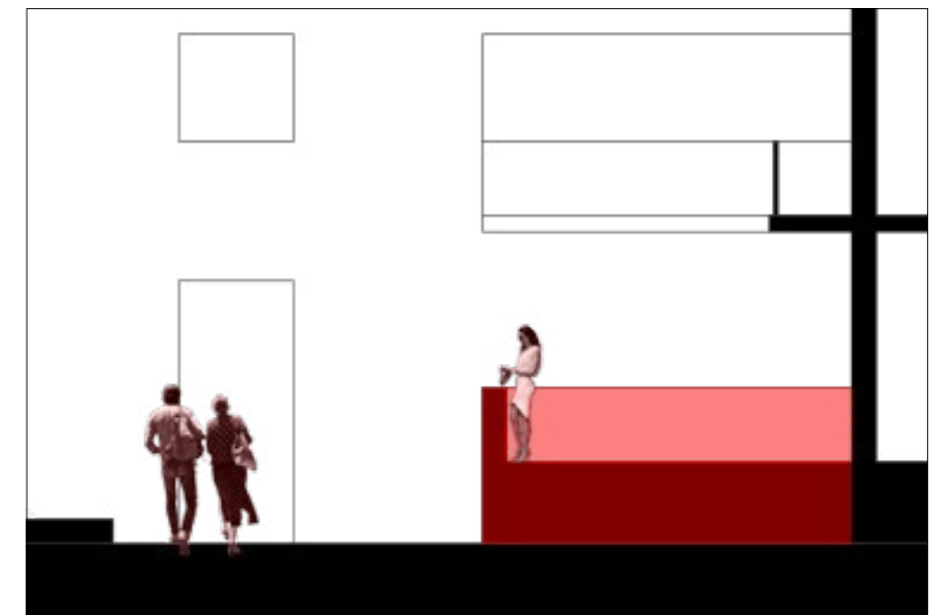
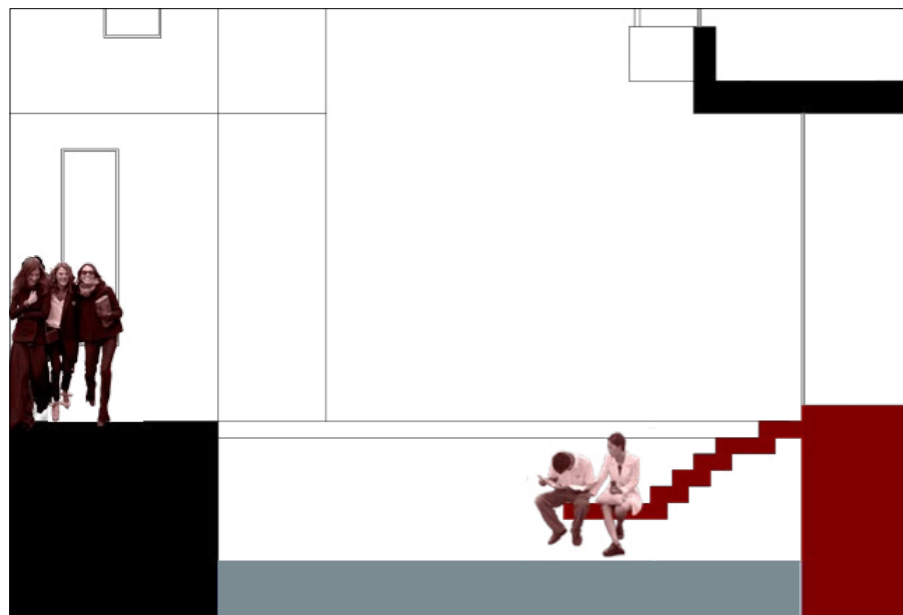
Tietgen Dormitory

Charlottehaven

Walking



Sitting/ Staying



In terms of walking, the theory from Jan Gehl shows that a good walking space should have the following characteristics:

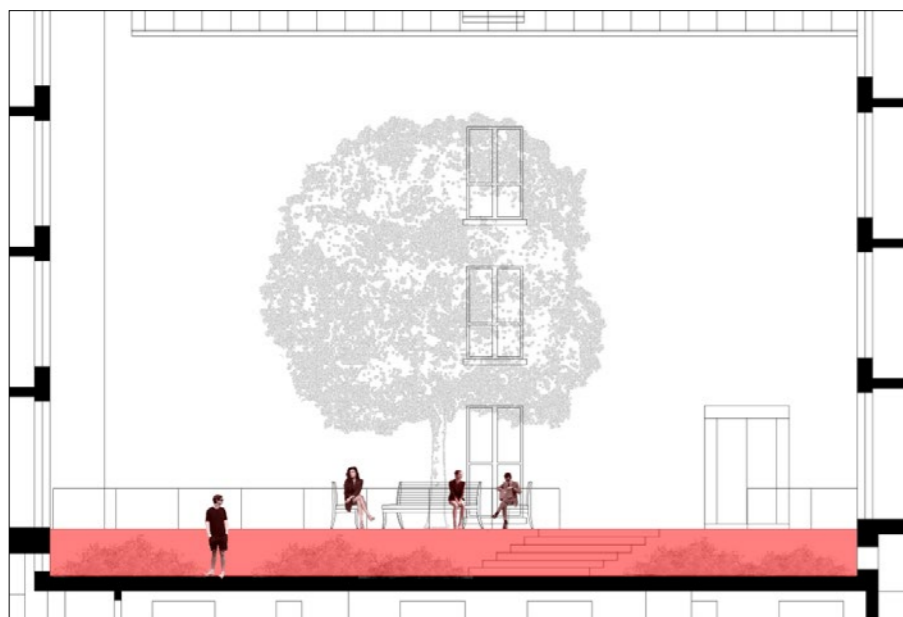
1 walking network should have alternating street spaces and small squares, which will make people have the psychological effect of making the walking distances seem shorter.

2 it's better to have some short-cuts and direct routes in a walking network, which people will prefer when they are in a hurry.

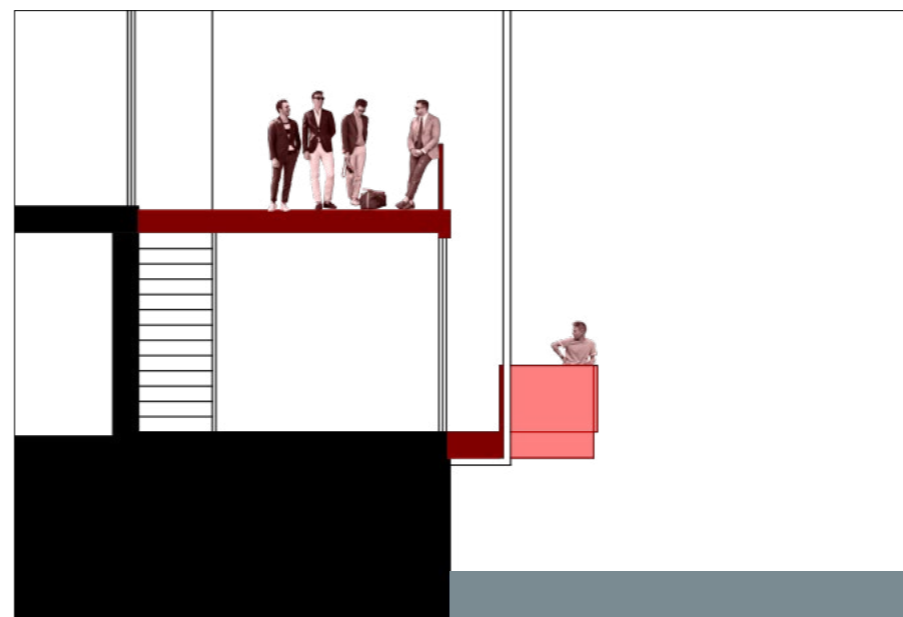
3 placing walking routes at the edge of an open space will give a good chance for pedestrians to enjoy the best of both worlds: closeness, intensity, and detail on one side; on the other side, a fine view of the entire open space.

Apart from the Tietgen Dormitory, the other five cases all follow these basic conditions above. As the Tietgen Dormitory is a high dense dormitory provided to students, it should have an efficient circulation and rapid evacuation ability to keep dwellers' safety. That's why the Tietgen Dormitory is different from the other five cases. So its walking network is very simple, and basically all are short-cuts and direct routes. As for the other five cases, walking network of normal residence can meet both conditions 1 and 2, namely: not only have highly efficient short-cuts and direct routes, but also have interesting meandering path in its landscape with benches and some small spots to rest dotted in. All the cases follow the condition 3, walking routes is an open space located between the courtyard and the housing. So when the people pass through, they can simultaneously feel both worlds: a close world with details and a world with broad vision.

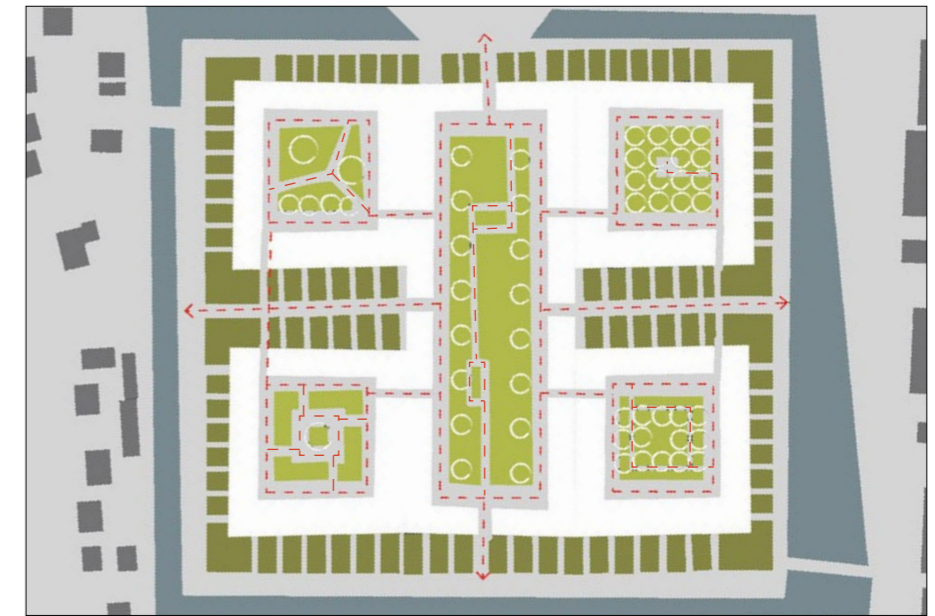
Mariaplaats



Paswerk



De Grote Hof



According to A Pattern Language and Jan Gehl's theory, usually for sitting and staying, people are more willing to stay in a sunny place without too much wind, facing to some activities, can have view communication with the people passing by. And if the ground floor is raised up or lowered down, then the raised or lowered space will be more intimate. People will feel more comfortable when they stay there.

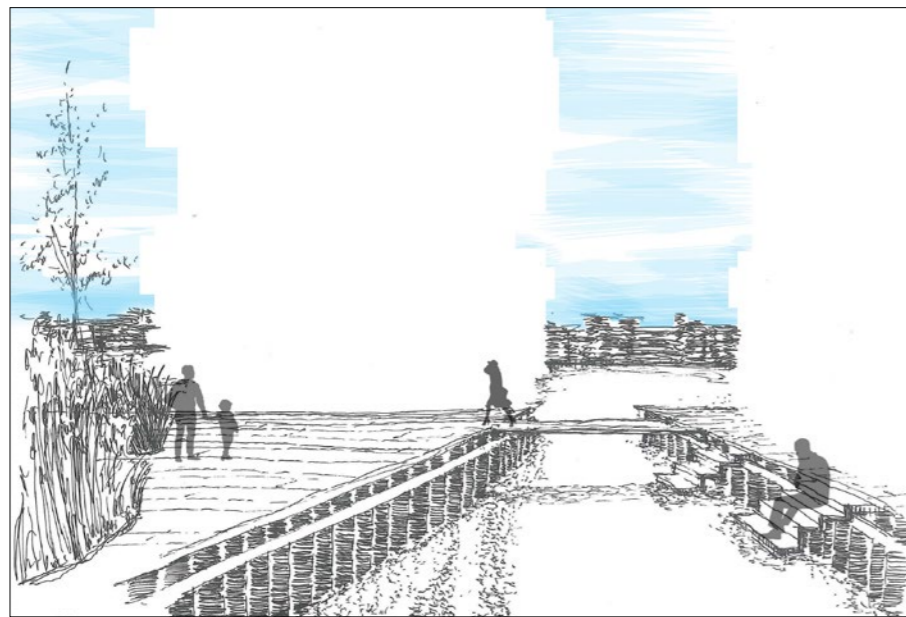
In these six cases, rest spots in the public space are provided for people to sit down and stay. There're benches, or stair seats, or raised flowerbeds' edge, or private terrace on the street. The special one is the private terrace on the street in the Charlottehaven. Because some low walls enclose the terrace partially, so people can choose to sit at the more enclosed space or more open space. The first space is more private and the second one is more public for users to have sight communication with people passing by.

Harbour isle apartments

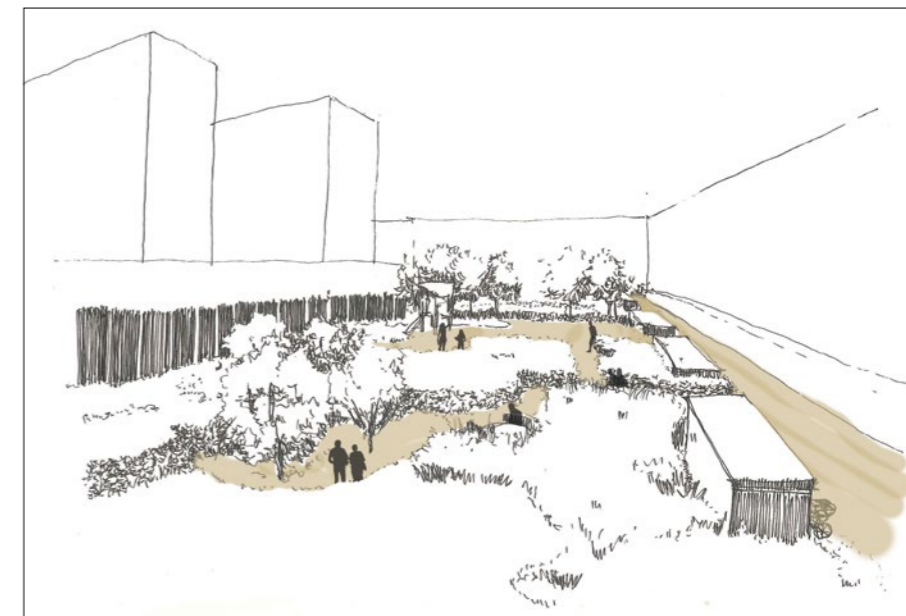
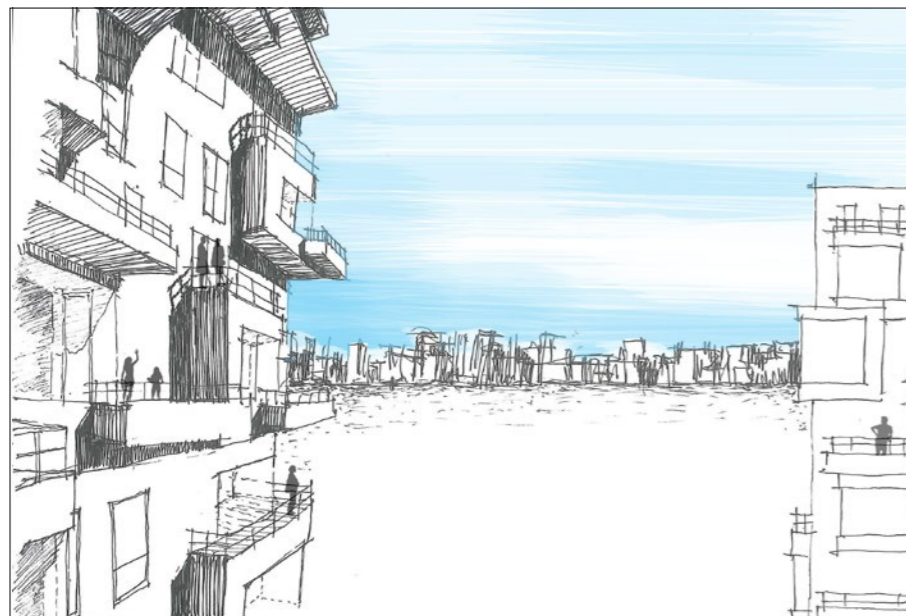
Tietgen Dormitory

Charlottehaven

Atmosphere



Atmosphere



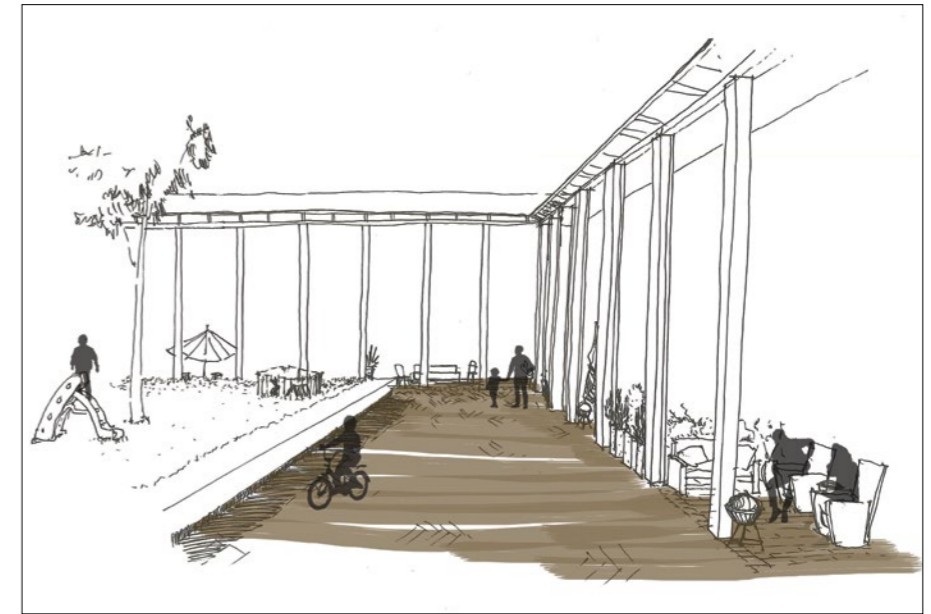
Mariaplaats



Paswerk



De Grote Hof



Concerning the communal space, each project creates different atmospheric feeling and suits various types of people. From what we experienced while visiting each of them as visitors, De Grote Hof's multiple courtyards seem to be the most usable communal spaces specially among families, while in the Paswerk is also being intensively used, however the scale of the two projects are standing on the opposite side of each other. In this case, De Grote Hof create a better transition between the public and private space on the ground level by using an arcade as a transitional element to visually define its semi-private space.

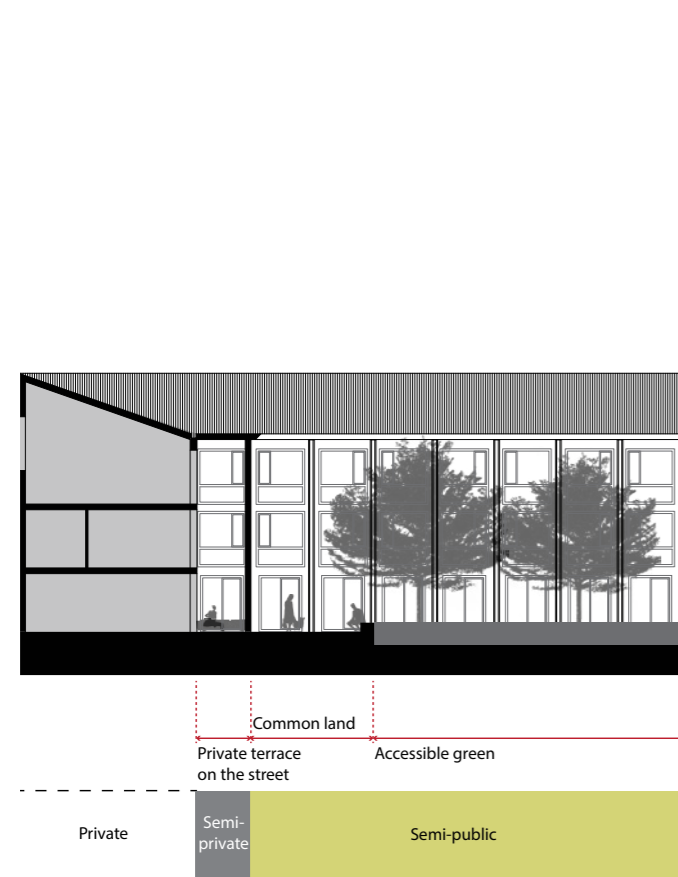
On the other hand, the Mariaplaats is also creating several small courtyards within its building compositions. But the communal spaces are not being used much compared to the other two mentioned, since its distance between each project is too little (less than 20 m.) and without any coverage, therefore, people do not want to stay in the space long enough. While the Harbour Isle Apartments also has a similar size of central courtyard, but with a clear boundary between the courtyard, circulation and deliberately designed landscape could create more privacy for people sitting in the space.

The Tietgen dormitory and the Charlottehaven are similar in positioning their one main symmetrical green spaces in the middle surrounding with circulation. Both projects' ground floor spatial hierarchy is clearly defined. Nevertheless, the vertical hierarchy is completely different, the Tietgen dormitory situated its semi-public function or sharing space e.g. kitchen, dining room to face the circular-shaped courtyard, thus the chance of positive communication is deeply concentrated in the center yet continuing up its storeys. On the contrary, the Charlottehaven is a private housing complex without any semi-public functions, hence the only transition between public and private domain is the ground floor terrace and balconies which are both semi-private spaces.

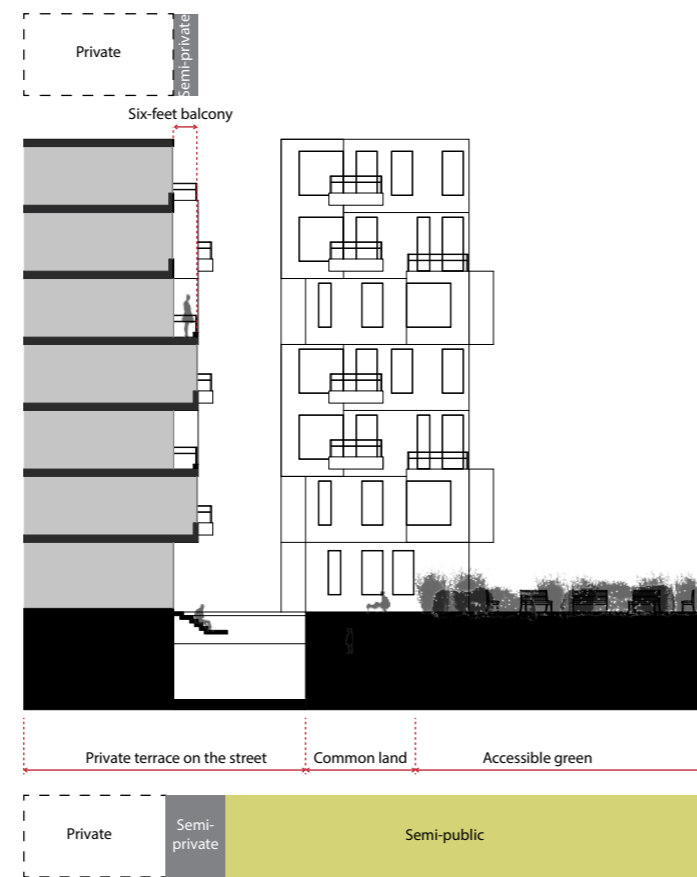
INDIVIDUAL CONCLUSIONS

Quan Phitakraxanti

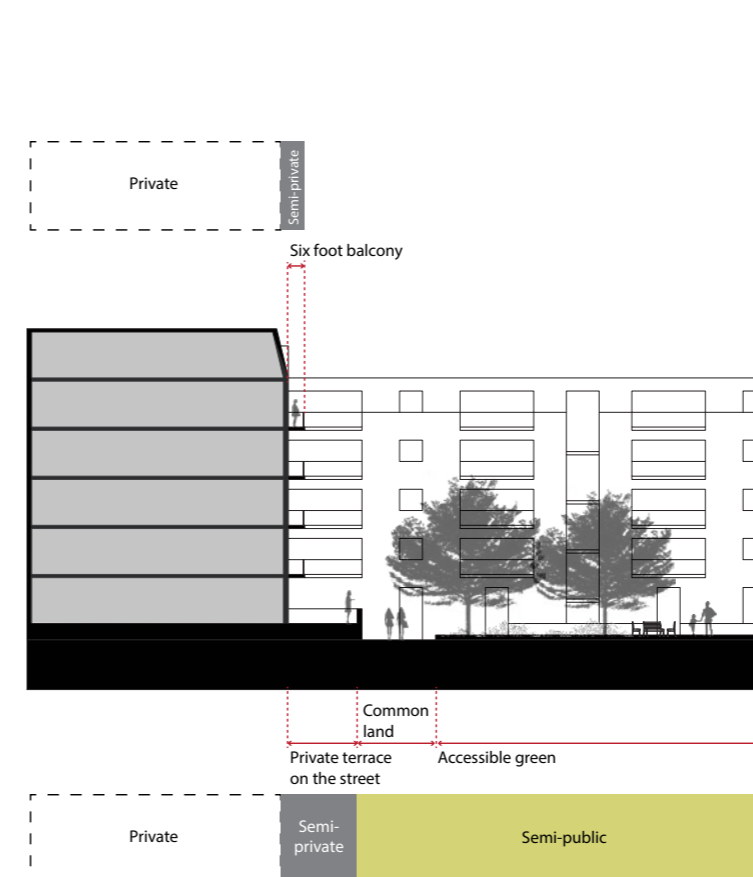
De Grote Hof



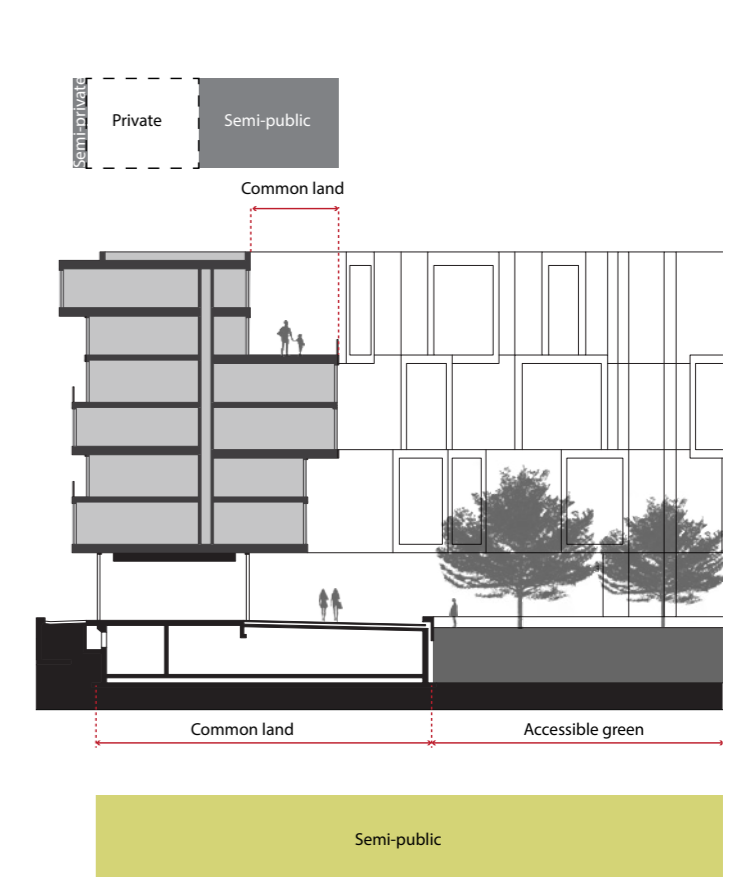
Harbour Isle Apartments



Charlottehaven



Tietgen Dormitory



Positive communal space takes more than a courtyard in the middle of residential complexes. It requires certain character, dimensions and architectural elements. While the most important but often being forgotten are their hierarchies. People needs a defined transition moving from public realm into their own private spaces, which include deliberately designed architectural elements such as arcades, terraces, stair seats and etcetera. However, even in the public space, there should be privacy spot where people can feel safe enough either by routes, landscapes, levels or enclosures.

Among the six case studies, three of them have their specific semi-private architectural elements; de Grote hof, the Harbour isle apartments and the Charlottehaven which are all interesting. The first project uses arcades in order to separate themselves from public circulation. While, the Charlottehaven elevated its semi-private area by using private terraces on the street, thus public and private activities can still exist within the same area without creating uneasiness for both parties. On the other hand, the Harbour isle apartments provide stair seats terraces above the water facing the communal courtyard that not only create nice atmosphere for dwellers but also visually and physically organize the transition of the public and private realm in a proper hierarchical way.

Nevertheless, concerning the most actively used communal space would be the Tietgen dormitory in Copenhagen, Denmark. Its extruding boxes of shared facilities and extensive balconies help injecting the liveliness into its circular courtyard at the very center of the complex. Therefore, the communication between dwellers in the Tietgen dormitory is effectively functioning since it continues from the ground floor and up until the top of the building.

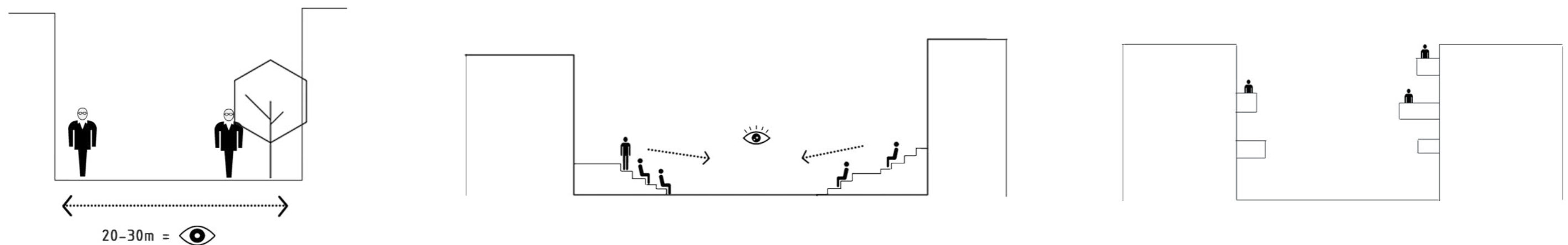
Olivia Mavros

The aim of the research was to observe and understand the problems of an outdoor space of a complex project when it is not being used by the residents, and subsequently help us to create a space for our individual designs that can help to bring people together and communicate.

At the same time, the main task of my graduation project is to design a residential complex with a human scale which will aim to achieve a community and neighborhood environment within an Amsterdam urban district. The focus will be on the quality and spatial characteristics of the common outdoor space, therefore, the results and conclusions taken from the theme research will guide me to find the appropriate solutions which will achieve a dialectic between the residential units and the common outdoor space.

From the analysis of six different projects, I focused on the positive aspects of each one that I can incorporate in my design. Firstly, we can conclude that if the outdoor spaces are designed too wide and too big, the opportunity of being able to see and communicate with each other in an open space is lost. Therefore a distance smaller than 25 meters for a common courtyard will be more appropriate in my design, in order to achieve the community and neighborhood environment that I want. The best example in my opinion, with regard to the courtyard, is the Paswerk, which has common courtyards that do not exceed 12 m of distance enhancing the communication and human contact between residents. Another conclusion that we should take into consideration, is that alternating street spaces and small squares can make a walking distance seem shorter and a lot more interesting. This example can be found in most of the projects that we analyzed but specially in Mariaplaats and Charlottehaven where walking networks and alternative paths together with some sitting areas within the courtyard, encourages the residents to use that space. Spatial elements such as stair seats and raised terraces are also crucial in an outdoor space, where people can congregate and have a view of the whole courtyard, as well as balconies, that when arranged in a certain way, can greatly influence the quality of the outdoor space even above street level. The Tietgen Dormitory achieves this quality with balconies that are irregularly extruded and have small distances between them, thus giving the opportunity of communication between residents. This element can be included in my design also in the form of private or common roof gardens as an extra outdoor space for the residents.

Finally, the theory of Jan Gehl and Christopher Alexander, together with our analysis and conclusion can greatly influence and facilitate my design process in order to achieve a great outdoor space and a neighborhood style/atmosphere.



Xiaoyu Yuan

Based on the books “A pattern language” and “Life between buildings” and other books of theoretical study, and also the study of the six excellent cases, which distribute in Holland and Copenhagen, we not only summed up a set of method to evaluate whether the outdoor space is positive in a project, but also can apply the positive outdoor space and spatial elements to the following design, to meet the evaluation standard we summed up in the theme research.

About our theme research, I came to a few personal conclusions:

1. There should exist different hierarchies of dimension in a positive space
In the successful cases in our theme research, dimensions' hierarchies in a positive space are very rich. From the large spatial scales of buildings and courtyard, to intermediate spatial scales such as streets, green belt and the in-between space, to the small spatial scales like benches, stair seats and plants, the more abundant the scale is, the more people's activities will happen.



2. Dimension of spatial elements directly determine human's behavior

Either outdoor space is too small to accommodate any activities or too big that it does not bring people together at all, only when the scale of the spatial elements is appropriate, people have the willing to stay. So that these spaces can be full of life.



Big dimensions



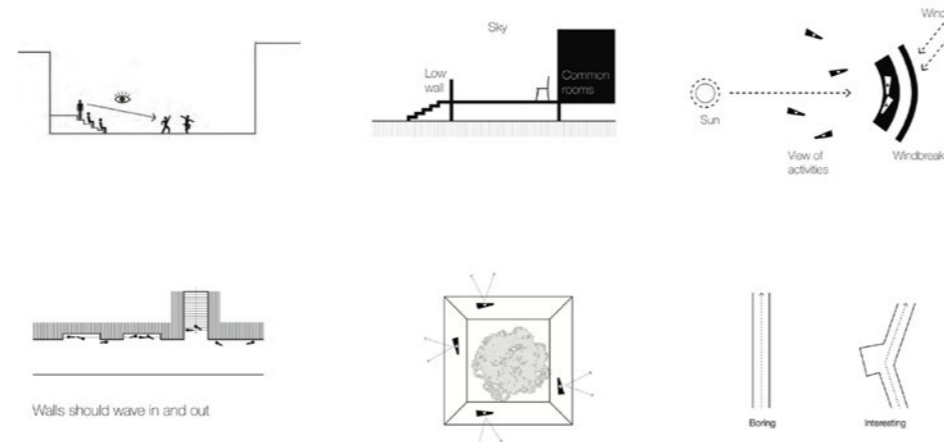
Small dimensions

3. If there are no architectural elements to define the in-between space, users will define this space spontaneously. In other words, there is a strong demand for the in-between space of users.

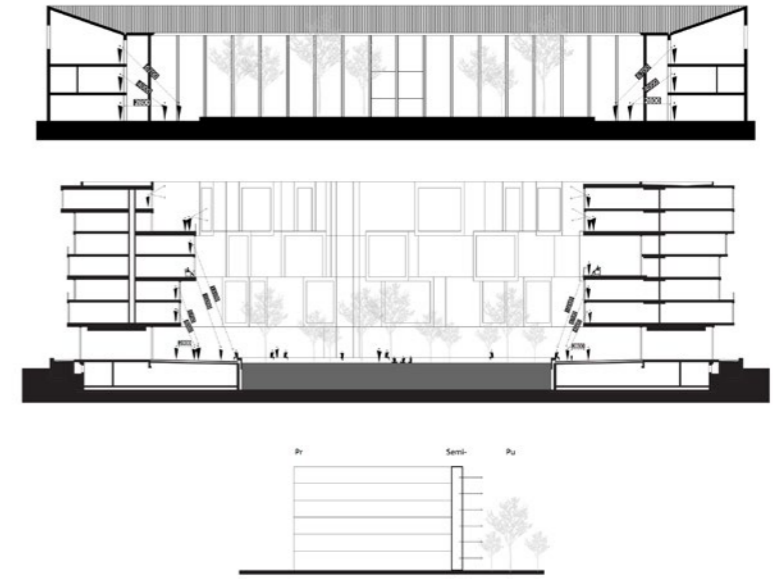
No one wants to open his own door and directly enter a public space that everyone can visit. It is very abrupt to connect the private space to public space so directly. The user may feel their privacy is threatened.



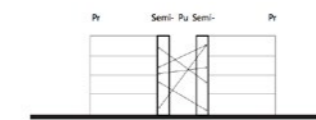
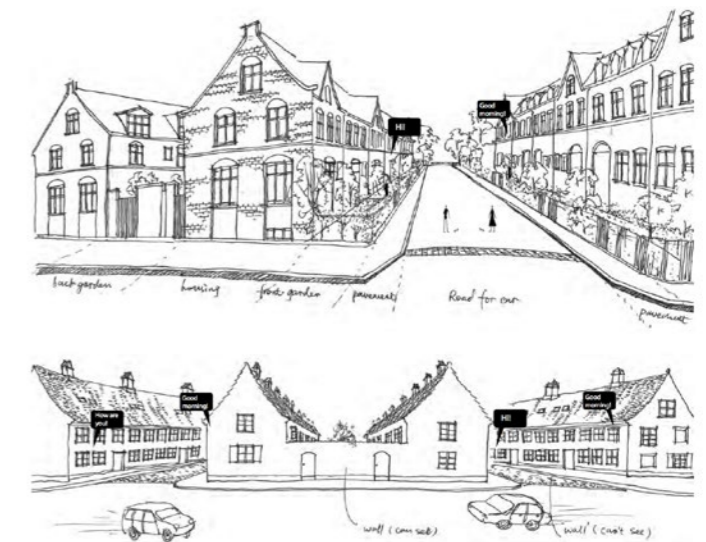
4. The spatial elements, such as a raised terrace, stair seats facing to a square, can be regarded as the basic elements, and applied to the following design.



From these cases, I have found that their types (except the Paswerk, Haarlem, the Netherlands) basically are enclosed courtyard type. Their courtyards' scales range from 25-70 meters, residents in the building can only have view contact with the strangers on the ground floor. Because most of them do not know each other, so it's very hard for them to have genuine dialogues and conversations. the large-scale courtyard separates the facing residential buildings, and dwellers can not communicate when they are in a building.



However, in the case Paswerk and some traditional communities, which we visited in Copenhagen, the type of row house brings a different atmosphere and creates a positive community. Because of the public space between the two rows of houses are usually ranging from 8-15 meters. When people are staying in their front garden or balconies, they can see their neighbors across the small public space. They would say hello, they would talk. So the real communication will happen between dwellers.



Admittedly, an enclosed courtyard indeed will offer a space for dwellers to communicate. But when its scale is too large, it does not bring people together at all. So, I think the combination of two interactive in-between space is an interesting form, in which people could be guided, and then communicate, thus creating a positive community environment.

