

A photograph of a brick building with a window showing a person, overlooking a city skyline at sunset. The text is overlaid on the right side of the image.

# THEME RESEARCH

THE SINGLE URBAN DWELLER



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**COURSE:**

Theme Research  
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**PREFACE:**

The previous photographs were shot by Washington born photographer Gail Albert Halaban. Halaban is especially noted for her large scale pieces portaying women and urban landscapes.

The photographs belong to an ongoing series that goes by the name: Out My Window. Halaban shoots elaborately staged scenes of people in their homes in the city. The first part of this series was made in New York, and a completed second part shows the urban dweller in Paris.

This series caught our attention as it is particularly intriguing to architects that are often eager to indulge in a voyeuristic peek into people's homes. Most of the photographs in the series portray a single subject or person. It is the single urban dweller that has been described within the architectural discourse over the past couple of years.

Architects are coming to an understanding of how this single urban dweller lives and acts, but is still in an ongoing development of actual architectural solutions. This research book aims to contribute.







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# INTRODUCTION



## BACKGROUND

### INTRODUCTION

Currently many media are covering the issue regarding the single dweller. The single urban dweller is now becoming a new phenomenon to be reckoned with. In 2012 Eric Klinenberg did extensive research towards the going "solo" of large quantities of people in the United States. Since 2012 articles have been written, and up until now increasing numbers of publications on this subject emerge.



2012

Eric Klinenberg

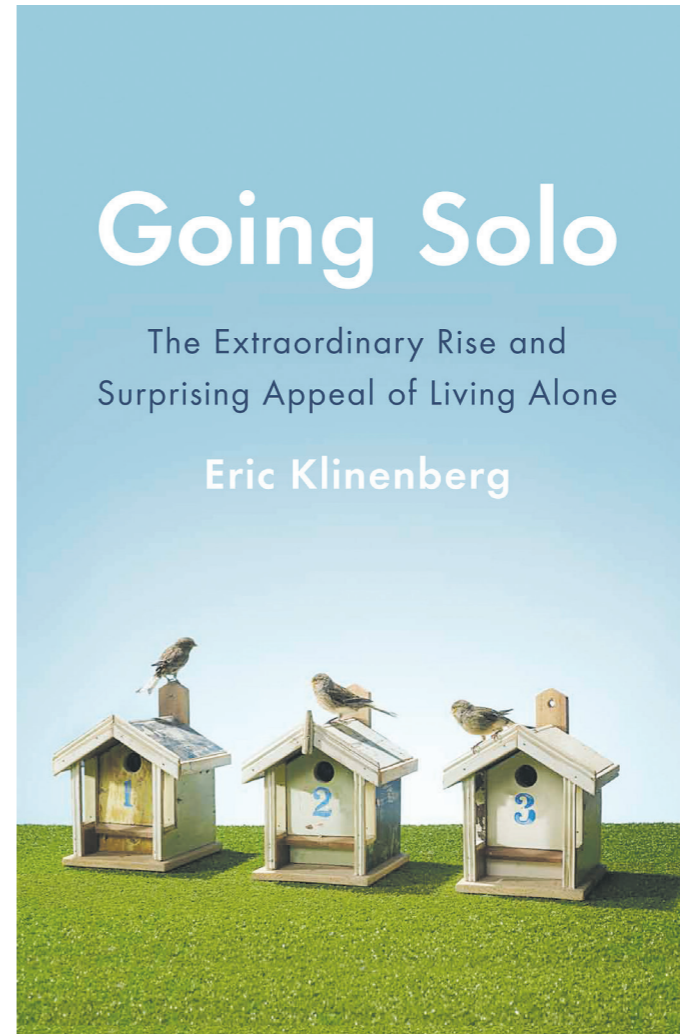
Going Solo

The Extraordinary Rise And  
Surprising Appeal Of Living Alone

*"In fact, people who live alone tend to spend more time socializing with friends and neighbors than people who are married."*

*"So one thing I learned is that living alone is not an entirely solitary experience. It's generally a quite social one."*

Eric Klinenberg (2012)





2015

Metro

'Tinder-woningen voor twintigers'

Wonen. Er moet meer woningaanbod komen voor werkende, vrijgezelle twintigers. Door flexcontracten is behoefte aan betaalbare studio's.

*"Betaalbare eenpersoonsappartementen zijn lastig te vinden.... Veel starters willen een eigen plek met alle voorzieningen op kleine schaal..."*

Anne-Fleur Pel (2015)

## 'Tinder-woningen voor twintigers'

**Wonen.** Er moet meer woningaanbod komen voor werkende, vrijgezelle twintigers. Door flexcontracten is behoefte aan betaalbare studio's.

Voor het groeiend aantal werkende twintigers en begin dertigers in Amsterdam die nog niet moeten denken aan samenwonen, moet een beter woningaanbod komen. D66 wil dat er rekening wordt gehouden met deze trend en vraagt om uitbreiding van het aantal 'Tinder-studio's' en 'Friends-woningen' in de stad. „Op de woningmarkt moet ook wat te swipen zijn voor vrijgezelle Amsterdammers”, zegt D66-raadslid Reinier van Dantzig.

De coalitiepartij dient hierover vandaag schriftelijke vragen in. Uit recente cijfers van het CBS blijkt dat onder twintigers het klassieke 'huisje, boompje, beestje' helemaal uit is. Deze 'flexgeneratie' volgt langer onderwijs, komt op latere leeftijd op de arbeidsmarkt en woont niet snel samen.

In Amsterdam is deze groep



Voor het groeiend aantal werkende twintigers en begin dertigers in Amsterdam die nog niet moeten denken aan samenwonen, moet een beter woningaanbod komen. Dat vindt D66. / ANP

sterk vertegenwoordigd. Zij hebben andere woonwensen dan settelende stelletjes. Maar betaalbare eenpersoonsappartementen zijn lastig te vinden, stelt Van Dantzig. „Veel starters willen een eigen plek met alle voorzieningen op kleine schaal, zodat je in je eentje de woonlasten kan dragen.” Maar niet alle werkende vrijgezellen willen alleen achter het fornuis

staan. „Daarom is er ook behoefte aan meer friends-woningen waarin vrienden een woonkamer, keuken en badkamer delen en ieder een eigen slaapkamer heeft.”

Van Dantzig wil van de wethouder weten of er met deze veranderende samenleving rekening wordt gehouden en of er ruimte is om 'Tinder-studio's' en 'Friends-woningen' te

creëren. Huur of koop. „Het ziet er namelijk naar uit dat de vraag alleen maar toeneemt. Je wordt als starter steeds meer geconfronteerd met flexibele arbeidscontracten en tijdelijke functies, en kan daardoor minder snel een huis kopen.”

**ANNE-FLEUR PEL**  
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2012

The Economist

Singletons

The Attraction Of Solitude

Living Alone Is On The Rise All Over The World. Is This Bad News?

Singletons

The attraction of solitude

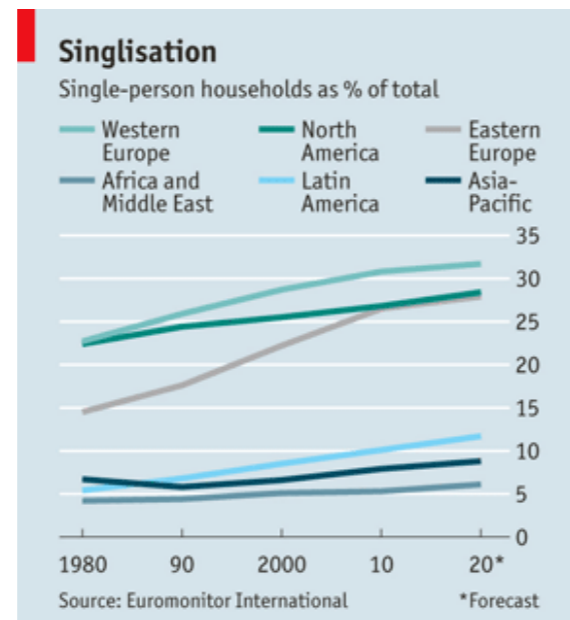
Living alone is on the rise all over the world. Is this bad news?

THE Prada-toting protagonists of “Sex and the City”, a once-popular American television show about single thirty-somethings in New York, are unlikely role models for Middle Eastern women. The second movie spin-off was partially set in Abu Dhabi, but the authorities stopped it from being filmed or even screened there.

Yet the single lifestyle appears to be catching on even in the Gulf. According to the latest statistics from the United Arab Emirates’ Marriage Fund, a government body that provides financial assistance to the affianced, about 60% of women over 30 are unmarried, up from 20% in 1995—a trend that Said al-Kitbi, a government spokesman, calls “very worrying”.

If it is any comfort, the UAE is far from alone. Singledom is on the rise almost everywhere. Euromonitor, a research firm, predicts that the world will add 48m new solo residents by 2020, a jump of 20%. This means that singletons will be the fastest-growing household group in most parts of the world (see chart).

The trend is most marked in the rich West, where it has been apparent for some time. Half of America’s adults, for instance, are unmarried, up from 22% in 1950. And nearly 15% live by themselves, up from 4%. But singles are multiplying in emerging economies too—and are changing consumption patterns. In Brazil annual sales of ready-made meals—much favoured by lone-rangers—have more than doubled in the last five years, to \$1.2bn; sales of soups have



<http://www.economist.com/node/21560844>



2015

The Guardian

The future of loneliness

As we moved our lives online, the internet promised an end to isolation. But can we find real intimacy amid shifting identities and permanent surveillance?

*“But proximity, as city dwellers know, does not necessarily mean intimacy....Loneliness can be most acute in crowd.”*

Olivia Laing (2015)

THE FUTURE OF LONELINESS

the guardian

As we moved our lives online, the internet promised an end to isolation. But can we find real intimacy amid shifting identities and permanent surveillance?

**Olivia Laing**

Wednesday 1 April 2015 06.00 BST

At the end of last winter, a gigantic billboard advertising Android, Google's operating system, appeared over Times Square in New York. In a lower-case sans serif font – corporate code for friendly – it declared: “be together. not the same.” This erratically punctuated mantra sums up the web's most magical proposition – its existence as a space in which no one need ever suffer the pang of loneliness, in which friendship, sex and love are never more than a click away, and difference is a source of glamour, not of shame.

As with the city itself, the promise of the internet is contact. It seems to offer an antidote to loneliness, trumping even the most utopian urban environment by enabling strangers to develop relationships along shared lines of interest, no matter how shy or isolated they might be in their own physical lives.

But proximity, as city dwellers know, does not necessarily mean intimacy. Access to other people is not by itself enough to dispel the gloom of internal isolation. Loneliness can be most acute in a crowd.

In 1942, the American painter Edward Hopper produced the signature image of urban loneliness. Nighthawks shows four people in a diner at night, cut off from the street outside by a curving glass window: a disquieting scene of disconnection and estrangement. In his art, Hopper was centrally concerned with how humans were handling the environment of the electric city: the way it crowded people together while enclosing them in increasingly small and exposing cells. His paintings establish an architecture of loneliness, reproducing the confining units of office blocks and studio apartments, in which unwitting exhibitionists reveal their private lives in cinematic stills, framed by panes of glass.

More than 70 years have passed since Nighthawks was painted, but its anxieties about connection have lost none of their relevance, though unease about the physical city has been superseded by fears over our new virtual public space, the internet. In the intervening years, we have entered into a world of screens that extends far beyond Hopper's unsettled vision.









# RESEARCH QUESTION


**RESEARCH QUESTION**

In this chapter we present our research question, which will structure and guide our research in the architecture field. The main topic of our research is the single urban dwellers and their lifestyles. This growing group are the single dwellers: people either choosing or destined to live alone. Since we are architecture students,

We are interested in the way architecture is ready for this new group of dwellers and how it can respond to the lifestyles of this particular group. We are therefore focussing our architectural research into built projects for single person households. In the projects we analyse the elements and factors that respond and determine the lifestyles for these groups of dwellers.

Hence our research question...



A photograph of a brick building facade with a window showing a person, overlooking a dense urban skyline at sunset. The text is overlaid on the right side of the image.

WHAT ELEMENTS AND FACTORS  
IN ARCHITECTURE FOR SINGLE  
PERSON HOUSEHOLD RESPOND TO  
THE LIFESTYLES THAT THE SINGLE  
URBAN DWELLERS CURRENTLY  
POSSESS?







# RESEARCH METHODS

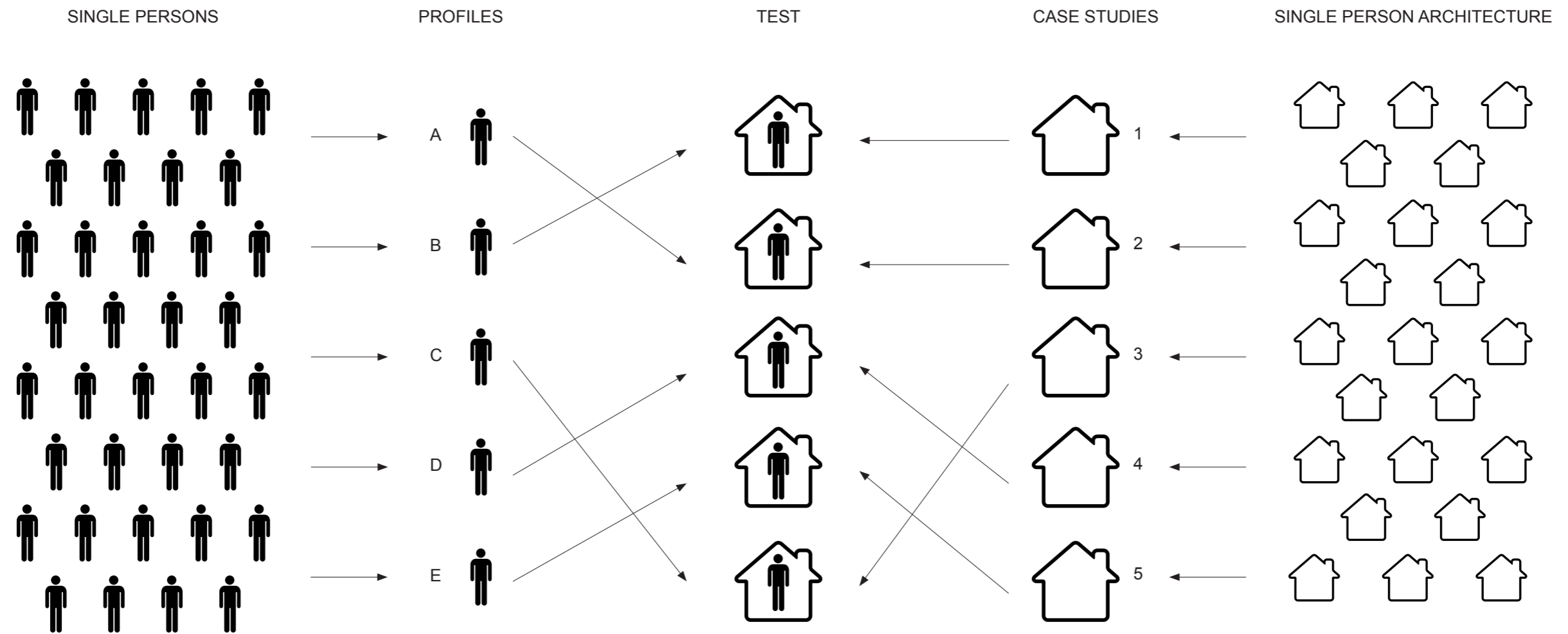




### RESEARCH METHODS

The research question suggests a strong link between people and architecture, the single urban dwellers and the single person households. The research is structured using both two sides. On one side we research the single urban dwellers. Our approach is creating different profiles, personal stories, that places our research in the relevant context of the current changing society. On the opposite side we start our analysis in single person architecture. We chose built projects with different characteristics each tackling different subjects within architecture.

These analyses start quite basic but eventually feed the main part of the research: the tests. The tests are the most important part of the research. In these tests we place our specific profiles in the different case studies. Profile A in case study C for instance. With this method we try to see the differences between the profiles and their lifestyles, but also the differences between the projects and the way they can respond to the lifestyles.

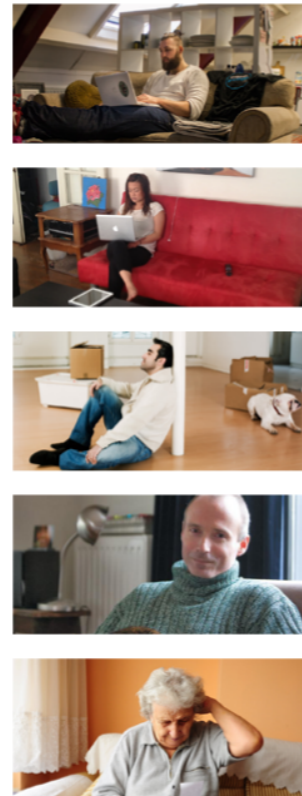




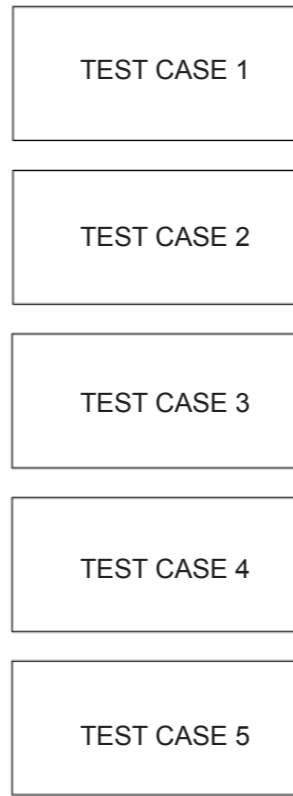
SINGLE PERSONS



PROFILES



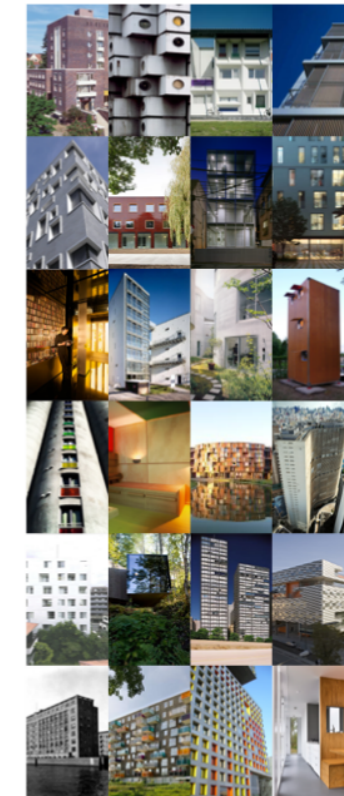
TEST CASE



CASE STUDIES



SINGLE PERSON ARCHITECTURE



**1A**  
**DEFINE THE "SINGLE URBAN DWELLER"**

The single urban dweller lives alone, by choice or destiny.

The single urban dweller could be found in all layers of society.

The single urban dweller can be of any age.

**2A**  
**GENERATE PROFILES OF DIFFERENT TYPES OF "SINGLE URBAN DWELLERS".**

Create profiles broadly spanning the age spectrum and several layers of society.

Student  
Age: 18-26

Young Pro  
Age: 24 - 34

Expatriate  
Age: 28 - 48

Divorced  
Age: 36 - 56

Elderly  
Age: 66 - 96

DESCRIBE DETERMINING CHARACTERISTICS:

- Work
- Partner
- Children/Family situation
- Income
- Spending patterns
- Means of transport

Describe determining activities:  
ACTIVITIES & NEEDS

- Working
- Eating
- Sleeping
- Leisure
- Relaxing
- Recreational activities
- Sports
- Cultural activities
- Going out
- Laundry
- Gym
- Holidays

**RESEARCH QUESTION**  
What elements and factors in architecture for single person households respond to **the lifestyles that the single urban dwellers** currently possess?

**DATA PROFILES**  
The lifestyles of the single urban dweller are defined with details.

**4 TEST**

**4 results / Comparison**

**Final Conclusion**



**1B**  
 DETERMINE ARCHITECTURAL CASES FOR SINGLE PERSON HOUSEHOLDS

**2B**  
 DESCRIBE ARCHITECTURAL ELEMENTS AND FACTORS

**RESEARCH QUESTION**  
 What **elements and factors in architecture** for single person households respond to the lifestyles that the single urban dwellers currently possess?

Architectural cases for each of the generated profiles:

1.  
 Tietgen Dormitory  
 Copenhagen  
 Lundgaard & Tranberg
2.  
 Nakagin Capsule Tower  
 Tokyo  
 Kisho Kurokawa
3.  
 Project for Interantionale  
 Gartenbau Ausstellung  
 Stuttgart  
 Mecanoo
4.  
 OCMW Senior Campus  
 Nevele  
 51N4E
5.  
 Pieter Vlamingstraat  
 Amsterdam  
 Liesbeth van der Pol

Describe and quantify the spatial/architectural elements in the case studies relating to the characteristics and activities of the profiles.

Example:  
 Size  
 Organization  
 Collective Space  
 Relation to other spaces  
 Daylight/shading  
 Acoustic properties  
 Material

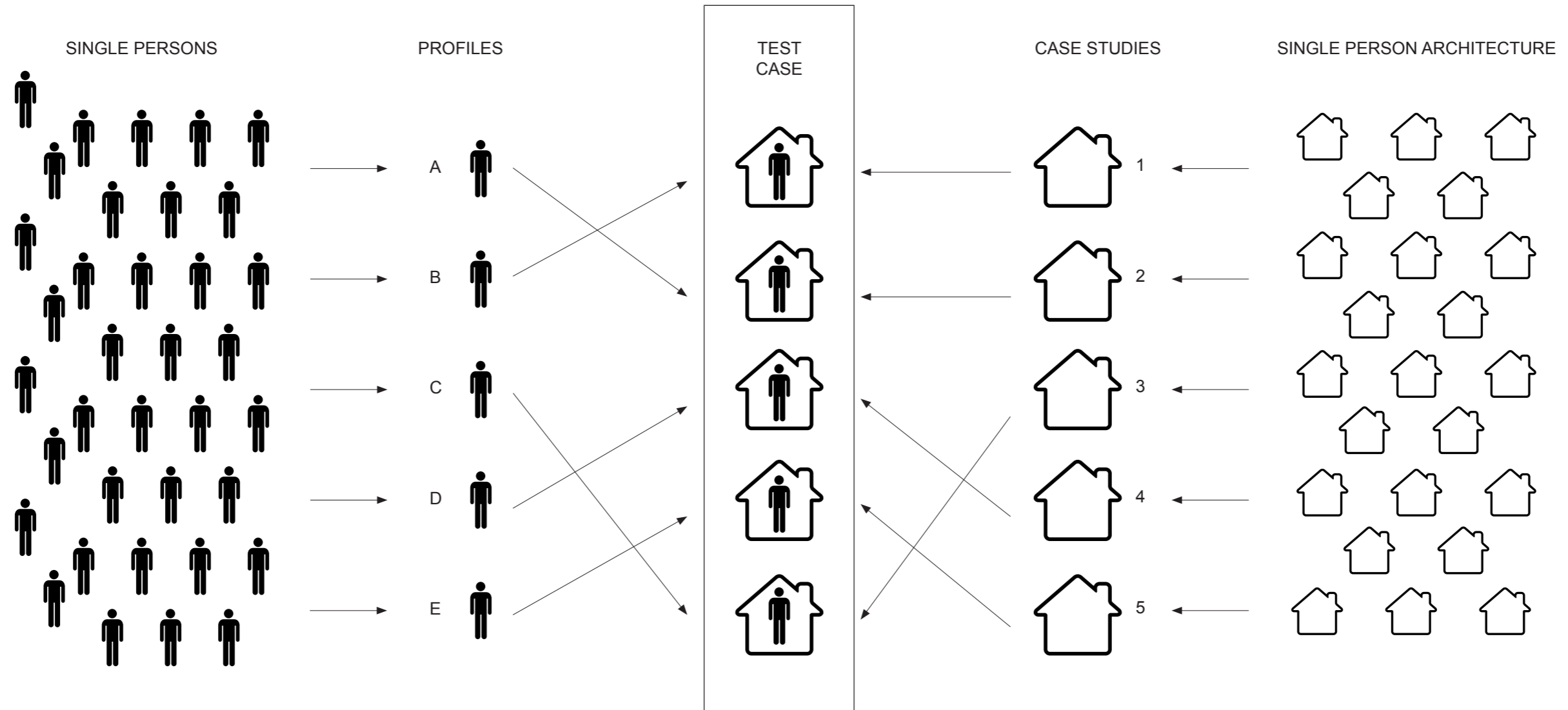
**DATA CASE STUDIES**  
 The elements and factors in architecture for single person households are defined and quantified.

**CASES**

Comparison / Conclusions

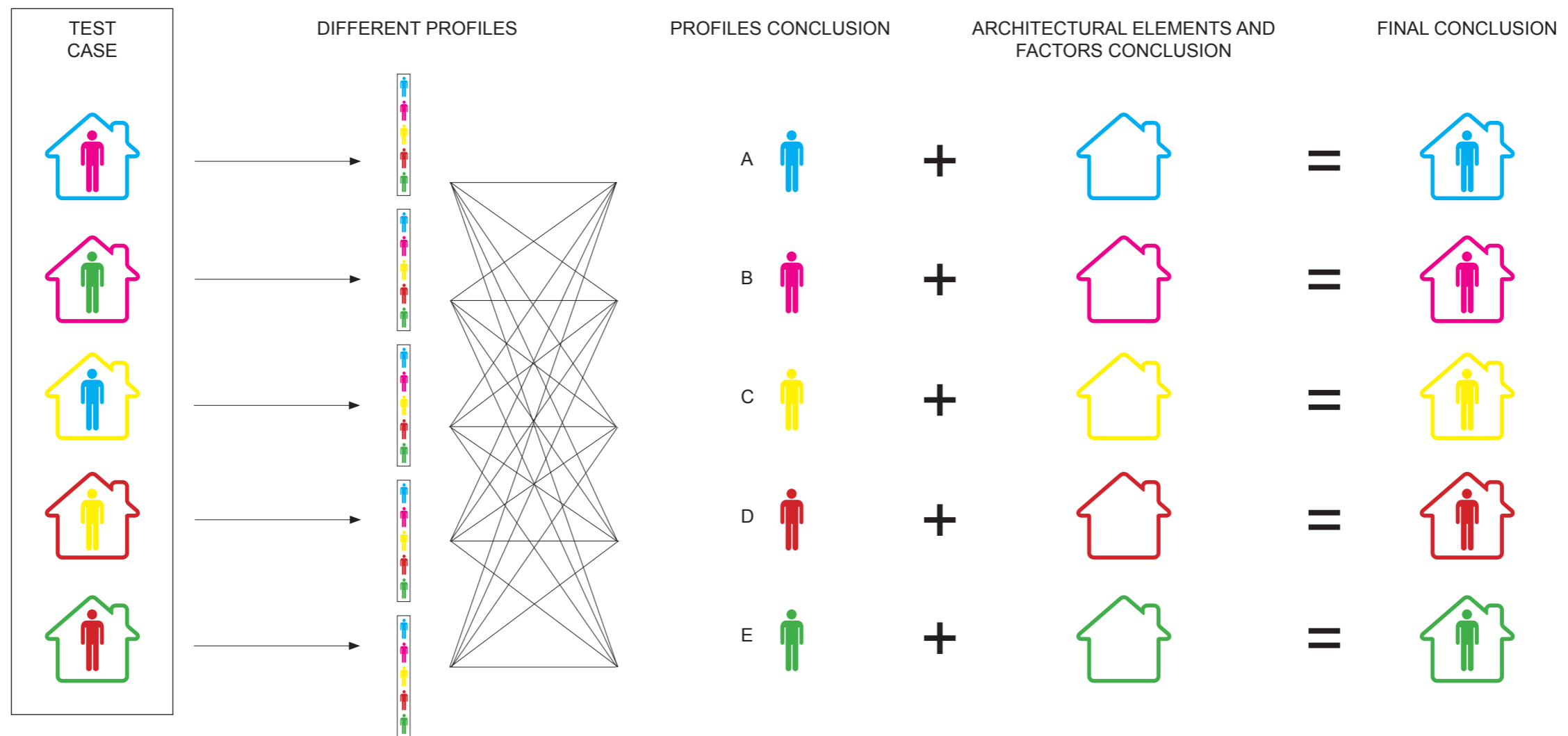
**Conclusion**

# STEP 1



We choose our test case based on the balance that matching the specific and urgent demands from the profiles with special architecture elements and factors could provide. For example, elderly people would feel alone and they need more collective life, while the Tietgen students house is designed and famous for its nice collectivity quality. Therefore, these two would match each other and become one test case.

# STEP 2



After finishing different test cases, we get some conclusions and comparisons between different profiles and buildings. In the conclusion part, we tried to combine all these small conclusions and comparisons together. And then we could find some specific architectural elements and factors that single urban dwellers need, which could guide our dwelling design.





# PROFILES



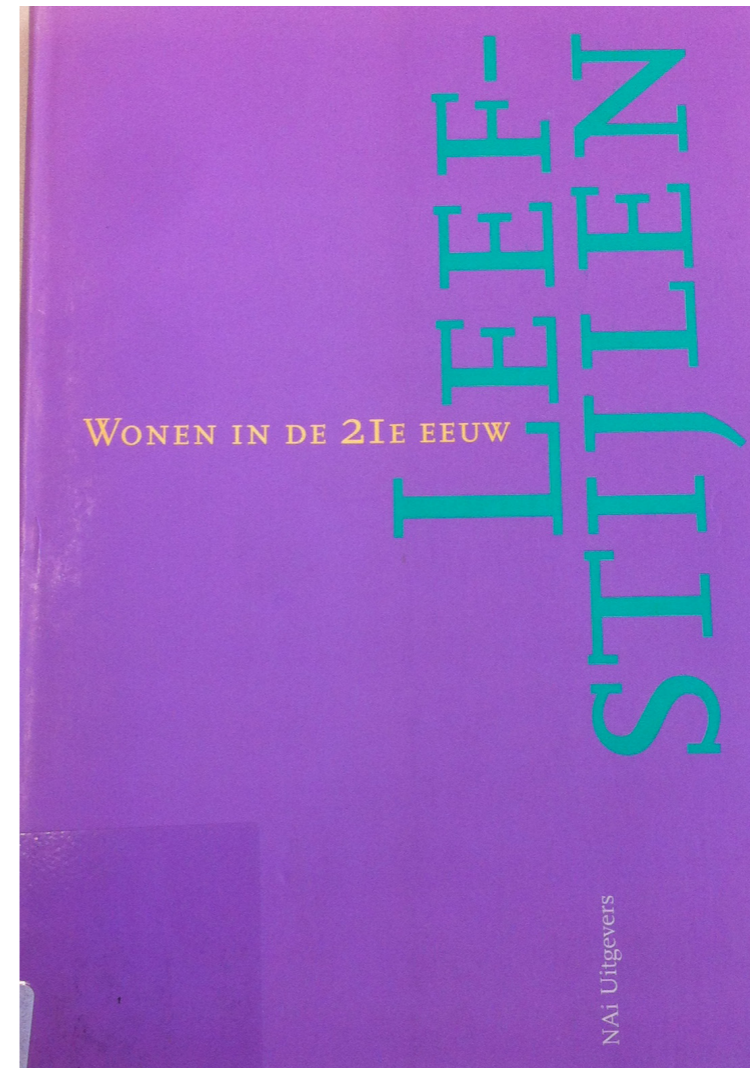


**PROFILES**

After reading the articles and books about the single urban dwellers, we can now create five different profiles within this new group on which we focus our research. The profiles are made with personal stories, all having different lifestyles and different interesting needs according to dwelling. With these fictional profiles we do not try to convey a full representation of society by any mean, we attempt to make the entire research more personal. We as architects design for people, personal stories leading to personal architecture.

In general, there are different lifestyles described in the book < Wonen in de 21e eeuw>. We conclude our profiles from the different people group mentioned in the book. We make the profile from abstract category into a real life, from where we could see many details of their daily life.

We start our profiles with an basic outline: their name, age, education, work etc. Important for the tests in the architecture is whether the profile has a partner, a kid and what are his/her future prospects. Next to this outline we describe their activities in relation to the dwelling. We also illustrate the daily cycles of activities of work, sleep and eating, to compare and emphasise the differences between the profiles.









**STUDENT**

**NAME:** Jan de Hoop

**AGE:** 24

**EDUCATION:** MSc Economy

**WORK:** Part-time waiter

**PARTNER:** NO

**CHILDREN:** NO

**MEANS OF TRANSPORT:** Bicycle / Public Transport

**TOTAL INCOME:** 900,- / Month

**TOTAL EXPENSES:** 900,- / Month

**FUTURE PROSPECTS:** Moves to another house in 1-2 years after finishing his Masters degree. Will try to find a house with friends or something on his own if available. has a strong preference for a house in the city where he works and has his friends. He will find a life partner and will eventually live together.

**ACTIVITIES**

**WORK:** Part-time waiter in a local restaurant.

**WORKDAYS:** Tuesday / Saturday

**SLEEP:** Aims to sleep 8 hours per night during the week. Sleeps in on the weekends. Occasionally sleeps somewhere else.

**EATING:** Breakfast at home. Has lunch at the faculty during the week. Lunch on the weekends mostly in town. Has dinner at home during the week, except for Tuesdays, when he gets a meal at work. Has a late night snack after a night in town.

**PERSONAL HYGIENE:** Showers every morning on weekdays immediately after waking up. After sleeping in on weekends takes more time to wake up and showers later.

**SPORTS:** Ice Hockey.  
Training: once a week.  
Match day: Saturday / Sunday

**CULTURAL:**  
Musea: 4 times / year.  
Music festivals: Once / month.  
Expositions: Once / month.  
Theater: nce / year.

**GOING OUT:**  
Bar / Club: Every weekend  
Restaurant: Once / month

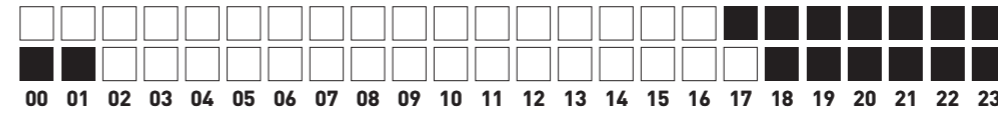
**STUDYING:**  
Study at home: 8 hours / week

**LEISURE / RELAXING:**  
Videogames: 3 times / week  
Movies: Once / month  
Reading: Never

**DAILY CYCLES**

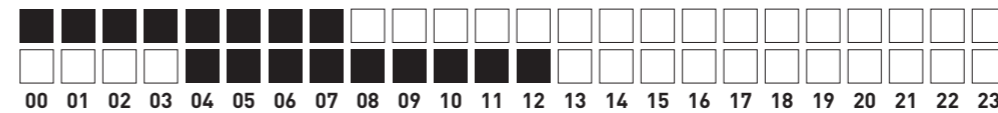
**WORK**

WEEKDAYS  
WEEKENDS



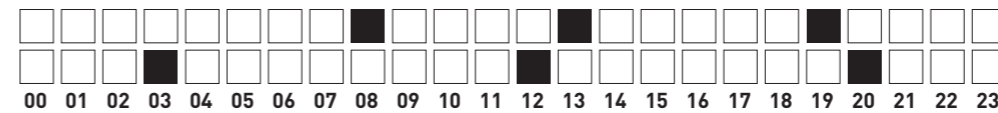
**SLEEP**

WEEKDAYS  
WEEKENDS



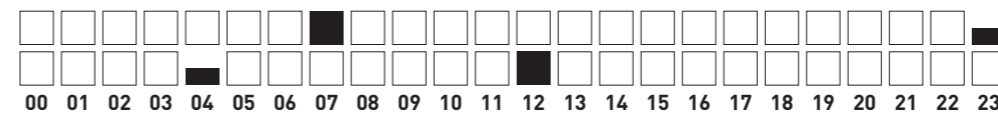
**EATING**

WEEKDAYS  
WEEKENDS



**PERSONAL HYGIENE**

WEEKDAYS  
WEEKENDS







**YOUNG PROFESSIONAL**

**NAME:** Loretta Schrijver

**AGE:** 32

**EDUCATION:** HBO Facility Management

**WORK:** T-Mobile Team Manager

**PARTNER:** NO

**CHILDREN:** NO

**MEANS OF TRANSPORT:** Bicycle / Public Transport / Taxi / Car2Go

**TOTAL INCOME:** 1700,- / Month

**TOTAL EXPENSES:** 1350,- / Month

**FUTURE PROSPECTS:** Moves to another house in 1-2 years after finishing his Masters degree. Will try to find a house with friends or something on his own if available. has a strong preference for a house in the city where he works and has his friends. He will find a life partner and will eventually live together.

**ACTIVITIES**

**WORK:** T-Mobile team manager in a main T-Mobile office.

**WORKDAYS:** Monday - Friday

**SLEEP:** Aims to sleep 8 hours per night.during the week. Sleeps in on Sunday.Occasionally sleeps somewhere else.

**EATING:** Breakfast at home or on the way to work. Brings lunch to work from home or eats out during her lunch break. Lunch on the weekends mostly in town. Mostly has dinner at home during the week. Tends to meet with friends for dinner during the weekends.

**PERSONAL HYGENE:** Showers every morning on weekdays immediately after waking up. Showers after her morning run on Saturday. After sleeping in on Sunday takes more time to wake up and showers later.

**SPORTS:** Running

**CULTURAL:**  
Musea: Never  
Music festivals: Once / month.  
Theater: 2 times / year.

**GOING OUT:**  
Bar / Club: Mostly every weekend  
Restaurant: 3-5 times / month

**LEISURE / RELAXING:**  
Television: 2-3 hours per day  
Movies: 2 times / month  
Reading: Never  
Shopping: 2 times / week  
Tanning salon: Once / month

**DAILY CYCLES**

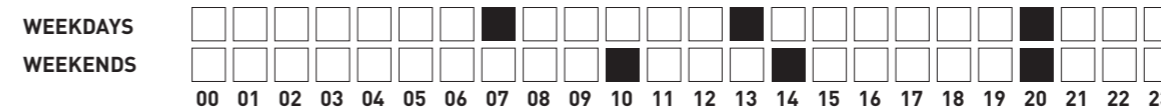
**WORK**



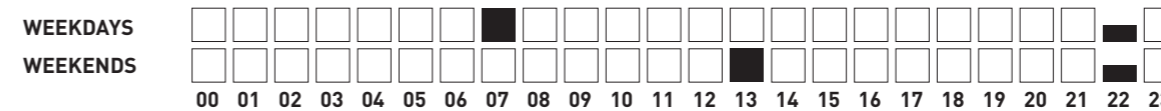
**SLEEP**



**EATING**



**PERSONAL HYGENE**









**EXPAT**

**NAME:** Ron Burgundy

**AGE:** 36

**EDUCATION:** PHD Business

**WORK:** Pharmaceutical Sales Rep

**PARTNER:** YES

**CHILDREN:** YES (8 yrs, 10 yrs)

**MEANS OF TRANSPORT:** Bicycle / Public Transport / Taxi / Car2Go

**TOTAL INCOME:** 3800,- / Month

**TOTAL EXPENSES:** 2200,- / Month

**FUTURE PROSPECTS:** Lives away from his home country at the moment but completes this posting within 3 years. Will keep working for the global company he is working for now until his retirement. This might mean he will be posted to different countries throughout his career.

**ACTIVITIES**

**WORK:** Pharmaceutical sales representative at Pfizer.

**WORKDAYS:** Monday - Friday

**SLEEP:** Aims to sleep 7 hours per night during the week. Does not sleep in, and has a strong sleep-wake cycle. Never sleeps away from home, unless it is for business purposes.

**EATING:** Only has coffee in the morning, but tries to grab something to eat on the way to work. Has lunch at work during the week. Prepares lunch at home in the weekends. Orders in dinner during the week, but attempts to cook in the weekends. Also goes out for dinner.

**PERSONAL HYGENE:** Showers every morning on weekdays immediately after waking up. Takes shower after morning run on the weekends.

**SPORTS:**  
Running / Gym: 2 times / week

**CULTURAL:**  
Musea: Never  
Music festivals: Once / month.  
Theater: Never

**GOING OUT:**  
Bar: 2 times / week  
Restaurant: 10 times /month

**LEISURE / RELAXING:**  
Television: Never  
Movies: Once / month  
Reading: 2 hours / week  
Shopping: Two times a month

**DAILY CYCLES**

**WORK**

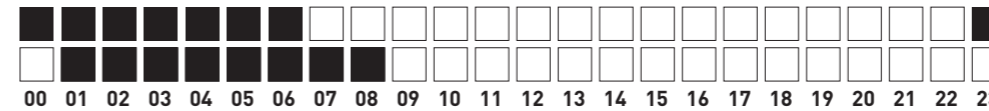
WEEKDAYS



WEEKENDS

**SLEEP**

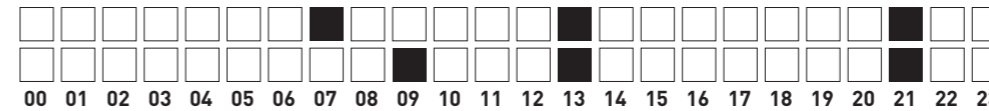
WEEKDAYS



WEEKENDS

**EATING**

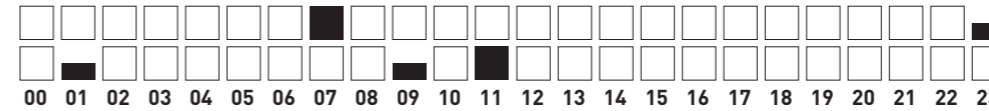
WEEKDAYS



WEEKENDS

**PERSONAL HYGENE**

WEEKDAYS



WEEKENDS



**DIVORCED**

**NAME:** Rick Nieman

**AGE:** 42

**EDUCATION:** MBO

**WORK:** Owns company in textiles

**PARTNER:** NO

**CHILDREN:** YES (13 yrs, 11 yrs)

**MEANS OF TRANSPORT:** Bicycle / Public Transport / Car

**TOTAL INCOME:** 2200,- / Month

**TOTAL EXPENSES:** 1800,- / Month

**FUTURE PROSPECTS:** Is satisfied with his living situation at the moment. Hopes his children will continue to visit him on a regular basis as they do now. Is not actively looking for a partner, but does not reject the idea of a future partner.

**ACTIVITIES**

**WORK:** Owns a company in textiles for the clothing industry. Can work from home when he needs to.

**WORKDAYS:** Flex  
(Average 5.5 days per week)

**SLEEP:** Does not sleep much, but has a strong sleep-wake cycle throughout the entire week. Averages 6 -7 hours per night.

**EATING:** Eats on set times and respects his body's cycle. Tries to prepare all his meals himself and at home.

**PERSONAL HYGIENE:** Showers every morning on weekdays immediately after waking up. Takes a bit more time on weekends to shower and shave. Does washing / brushing at the sink before going to sleep.

**SPORTS:**  
Tennis: Once / week

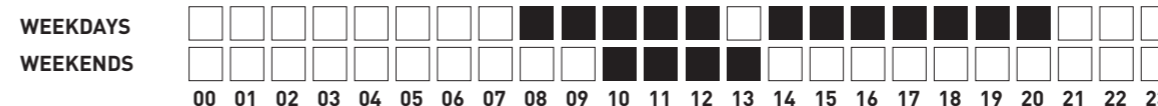
**CULTURAL:**  
Musea: Once / year  
Music festivals: Once / year  
Theater: Never

**GOING OUT:**  
Bar / Club: Once / month  
Restaurant: Once / 2 months

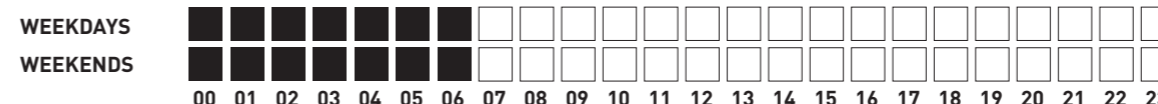
**LEISURE / RELAXING:**  
Television: 2-3 hours / day  
Movies: 4 times / year  
Reading: 2 hours / week  
Shopping: Once / two months

**DAILY CYCLES**

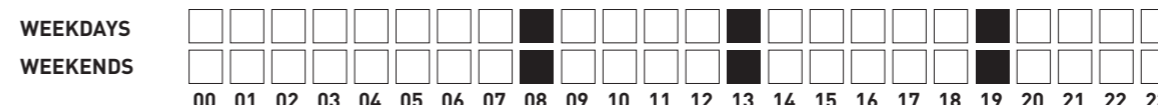
**WORK**



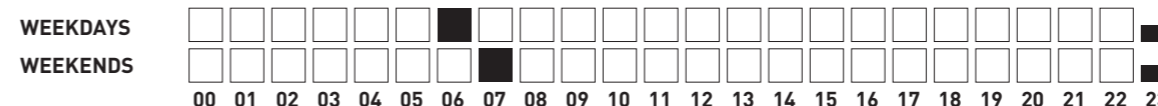
**SLEEP**



**EATING**



**PERSONAL HYGIENE**







**ELDERLY**

**NAME:** Margreet Spijker

**AGE:** 80

**EDUCATION:** Middle School

**WORK:** Retired

**PARTNER:** Deceased

**CHILDREN:** 3 (42, yrs, 47 yrs, 49 yr s)

**GRANDCHILDREN:** 4

**MEANS OF TRANSPORT:** Car / Public Transport

**TOTAL INCOME:** 1300 / Month

**TOTAL EXPENSES:** 1000 / Month

**FUTURE PROSPECTS:** Current house is her last house. Given her age and physical condition, moving to another house is out of the question. Her (grand-)children will continue to visit her from time to time. It is unlikely she will find a partner.

**ACTIVITIES**

**WORK:** Retired

**WORKDAYS:** None

**SLEEP:** Steady rythm of 10 hours of sleep a night. Has a daytime nap on weekdays.

**EATING:** Breakfast on her own, made by herself. Has lunch on set times supplied by others. Has dinner at home on a set time. Occasionally goes out for dinner.

**PERSONAL HYGENE:** Starts day with brushing teeth and face wash. Showers every morning after breakfast. Before going to bed washes up at the sink and removes possible make-up.

**SPORTS:**  
Elderly excercises: 2 times / week

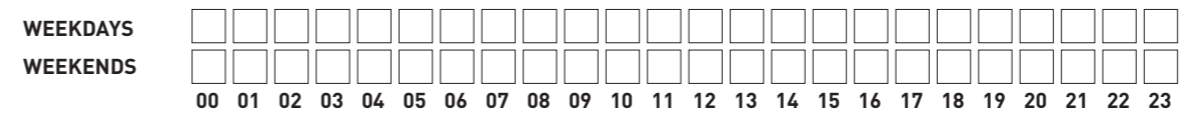
**CULTURAL:**  
Musea: 4 times / year  
Theater: 4 times / year

**GOING OUT:**  
Restaurant: Once / month

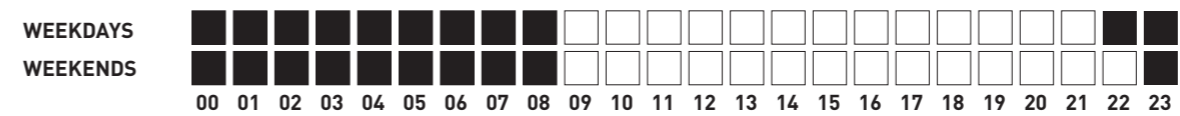
**LEISURE / RELAXING:**  
Television: 4 hours / day  
Strolling: 1 hour / day  
Reading: 1 -2 hours / day

**DAILY CYCLES**

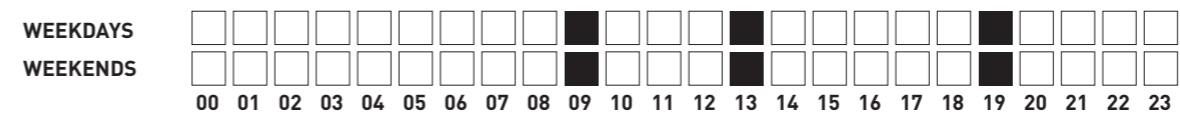
**WORK**



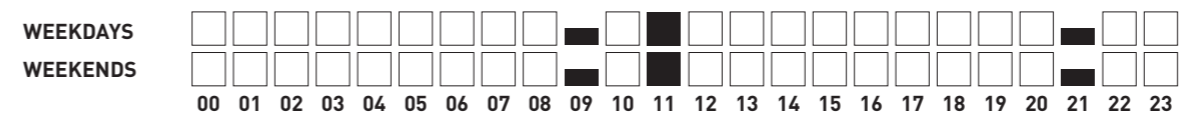
**SLEEP**



**EATING**



**PERSONAL HYGENE**







# CASE STUDIES



## **CASE STUDIES**

Opposite of the dwellers, we are analysing projects in single person architecture. Five built projects, ranging from 1972 till 2012, built in the Netherlands, Europe and Japan, all having different characteristics and features. We selected these five different projects to give the research different themes relating to dwelling. They are all analysed on the same basic themes like: collective space, outdoor space, access & routing, dwelling types, structure etc. , but also have their specific themes. Where one project only focusses on collective space, the other focusses on flexibility, interesting for the future prospects of the dwellers.





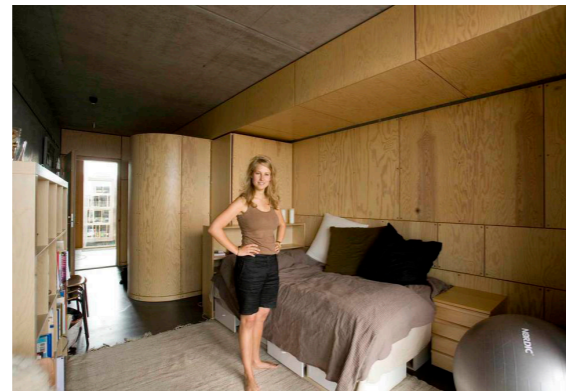


# CASE STUDY 1

## TIETGEN DORMITORY - COPENHAGEN - LUNDGAARD & TRANBERG



Tietgenkollegiet is 7 stories tall and contains 360 rooms set up in blocks of twelve. Each room faces the outside of the circle and has panoramic views of the channel and other surroundings. The common areas, lounges, and kitchens surround the inner-most courtyard. The circular design creates a sense of equality and unity, while the rooms' unique alternating projected windows and terraces provide a wide range of housing opportunities.



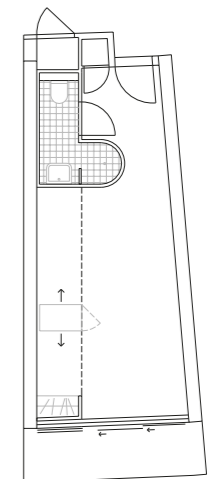
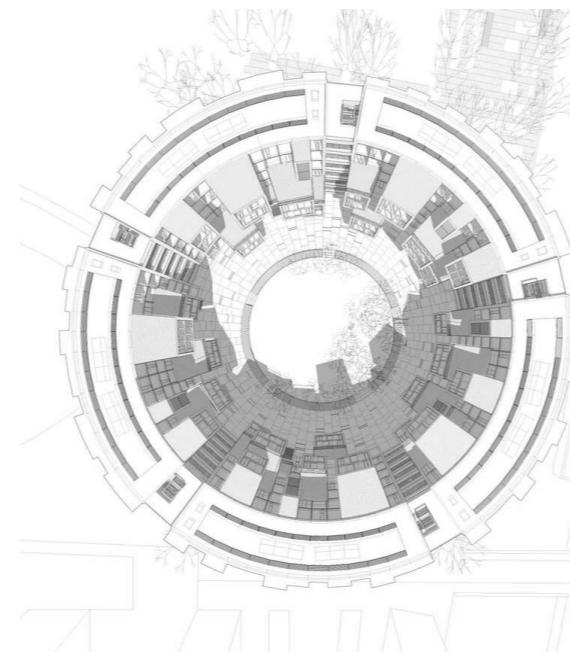
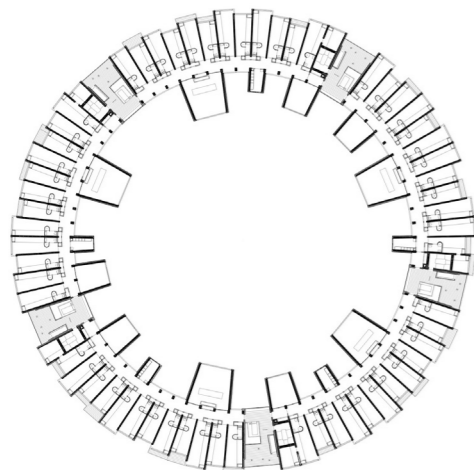
The facade is made with a unique copper alloy and features sliding partitions inspired by traditional southern Chinese Hakka house architecture. The alloy keeps the building surface clean and protected, and it will age to a rich dark tone over time, allaying restoration needs in the future. American oak and glass partitions alternate throughout the alloy wall, creating an exciting and dynamic facade that also encourages the flow of fresh air and sunlight.



Inside, exposed concrete and magnesium flooring make large spaces extremely durable and easy to clean, while eco-friendly birch plywood partition panels break up the smaller rooms. The hand-picked materials also help insulate the common areas of the building. Students love the brightly colored curtains, laundry machines, and mailboxes that perfectly juxtapose the raw, natural materials surrounding them.

### THEMES

- COLLECTIVE KITCHEN
- COLLECTIVE LIVING ROOM
- OPPOSITE ORIENTATION
- SMALL PRIVATE DWELLINGS



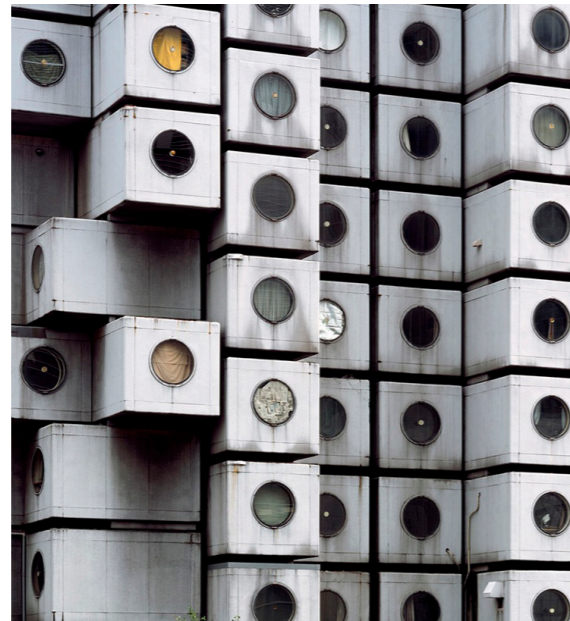






# CASE STUDY 2

## NAGAKIN CAPSULE TOWER - TOKYO - KISHO KUROKAWA

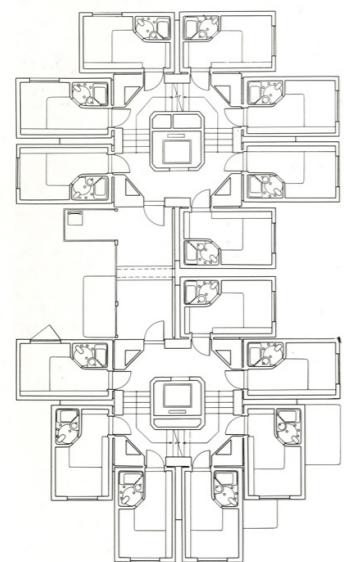


Completed in 1972, the building is a rare remaining example of Japanese Metabolism, an architectural movement emblematic of Japan's postwar cultural resurgence.[1] The building was the world's first example of capsule architecture built for permanent and practical use. The building still exists but has fallen into disrepair.[1] As of October 2012, around thirty of the 140 capsules remained in use as apartments, while others were used for storage or office space, or simply abandoned and allowed to deteriorate.

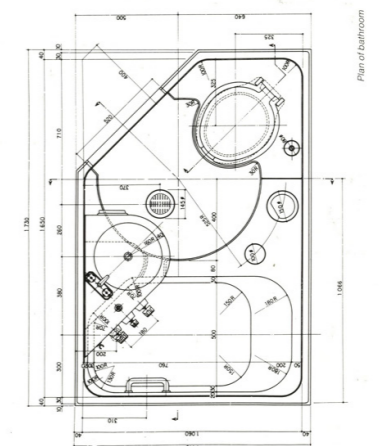
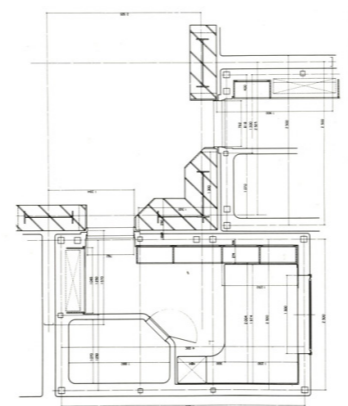


The capsules were fitted with utilities and interior fittings before being shipped to the building site, where they were attached to the concrete towers. Each capsule is attached independently and cantilevered from the shaft, so that any capsule may be removed easily without affecting the others. The capsules are all-welded lightweight steel-truss boxes clad in galvanized, rib-reinforced steel panels. After processing, the panels were coated with rust-preventative paint and finished with a coat of Kenitex glossy spray.

The Nakagin Capsule Tower is a mixed-use residential and office tower designed by architect Kisho Kurokawa and located in Shimbashi, Tokyo, Japan.



**THEMES**  
 COMPACTED DESIGN  
 MULTI FUNCTIONAL  
 SPATIAL NEEDS ARE OBJECTIFIED  
 MINIMAL DWELLING







# CASE STUDY 3

PROJECT FOR INTERANTIONALE GARTENBAU AUSTELLUNG - STUTTGART - MECANOO



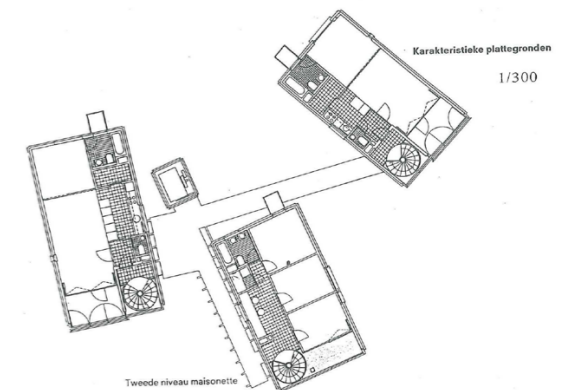
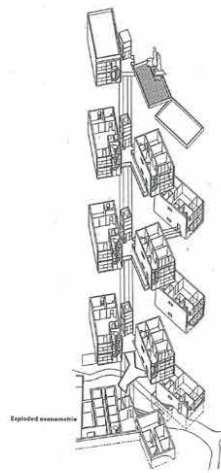
Mecanoo did the design and realisation of 13 residences in 3 towers on the Nordbahn Strasse in the framework of the 1993 International Horticulture Exposition.

The project exists of 3 slender towers. 1 of 8 elevations and 2 of 6 elevations plus roof terraces. Furthermore they are connected each 2nd floor with a communal elevator. They contain 13 one-bedroom apartments and 3 3-bedroom apartments.

The 1-bedroom apartments are existing of a small strip of accomdations like entree, toilet, kitchen, bathroom, a communal staircase and a bigger strip with living bedroom and winter garden.

## THEMES

FLEXIBLE LOFT DWELLING  
BIG MAISONNETTE DWELLING  
COLLECTIVE ROOF GARDEN









# CASE STUDY 4

OCMW SENIORS CAMPUS - NEVELE - 51N4E



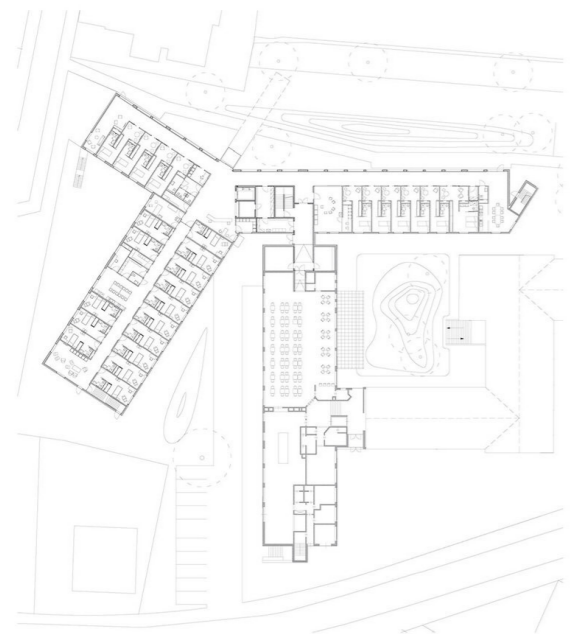
The addition of 54 new care units offers a unique opportunity to complete the – rather haphazard – structure of the original caretaking centre. The first balancing act encompasses the positioning of a 4.400 m<sup>2</sup> program on a virtual filled up site. By kneading the program into a trident volume a complete new range of possibilities arises, such as the upgrade of the gardens around the premises into autonomous yards, instead of residual patches of green.



The generously open facades enable patients and staff to fully enjoy the gardens around. Inside, an open network of over-scaled hallways leads to the different living quarters. Wanting to avoid rooms which could be typecast as 'caretaking rooms', we proposed to double each room, offering both a living space and a bedroom area to patients.

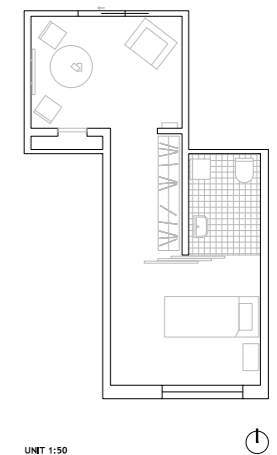
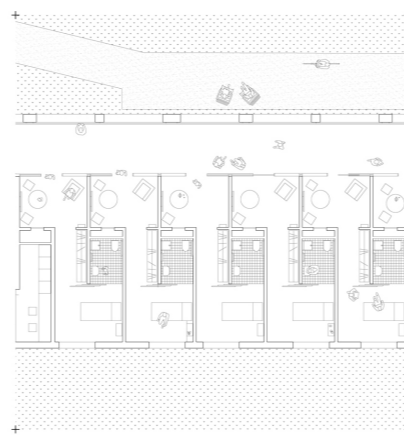


The sleeping area focuses on complete privacy, whilst the living room - giving onto the ample hallways- offers the exact opposite. Large sliding doors enable the patients to expand their private living area into the hallway, immersing themselves in the daily life of the home, following the activities of the staff, other residents, visitors or passers-by.



## THEMES

PRIVACY AND COLLECTIVITY TRANSITION  
SPATIAL TRANSPARENCY  
THRESHOLD



UNIT 1:50

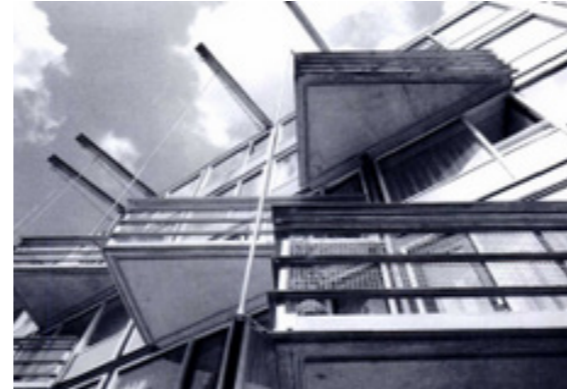




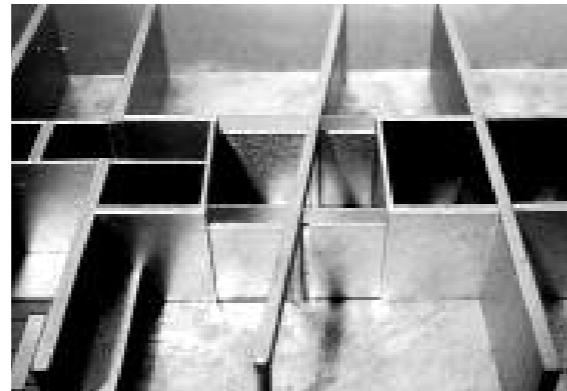


# CASE STUDY 5

PIETER VLAMINGSTRAAT - AMSTERDAM - LIESBETH VAN DER POL



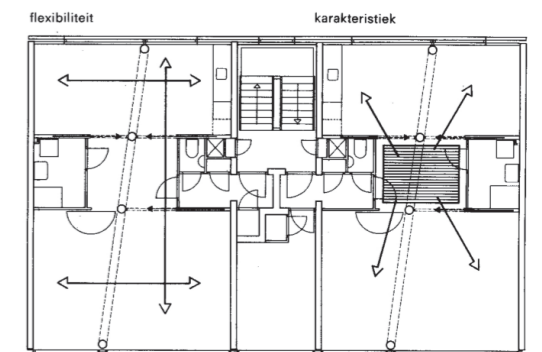
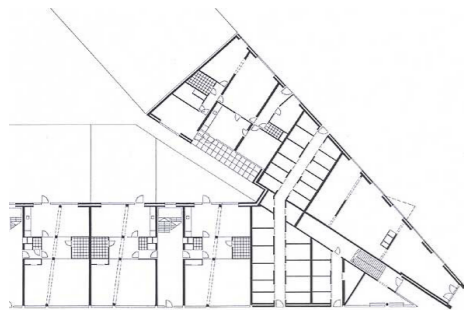
On the short corner of an existing building block two new building parts are almost coming together. The narrow split inbetween the two parts houses a long staircase accessing mainly the dwellings in the shorter block. The difference between the block is enhanced by the used materials. The dwellings in the longer building part are accessed using porticos on the inside of the part.



The wide dwellings have a flexible set up. A slightly off set construction beam, set on two columns, separates the dwelling into two parts. With this construction system there can be walls placed to divide the big loft space into smaller rooms.



**THEMES**  
FLEXIBILITY  
SPACE DIVISION  
MULTI USE







# TEST CASES

TEST CASES

ELDERLY



TIETGEN DORMITORY

YOUNG PROFESSIONAL



NAGAKIN CAPSULE TOWER

STUDENT



PROJECT FOR INTERNATIONAL GARTENBAU

DIVORCED



OCMW SENIOR CAMPUS

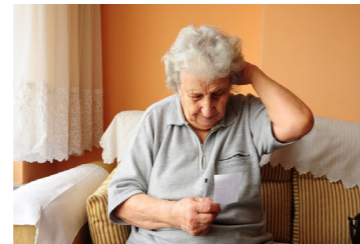
EXPAT



PIETER VLAMINGSTRAAT

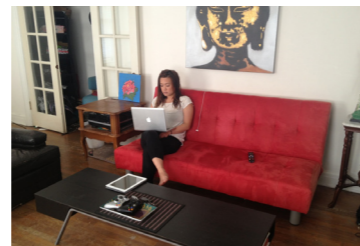


**ELDERLY**



Most importantly for the single elderly is social interaction. Since their mobility has drastically worsened, the facilities organisation and the orientation of the private dwelling can really make a difference. For Margreet Spijker, we are focussing on two activities: eating/cooking and getting together. The Tietgen Dormitory with its many collective functions would be a good fit for Margreet. However the opposite orientation and the single oriented dwellings do give Margreet the undesirable seclusion.

**YOUNG PROFESSIONAL**



Young professional's daily life circle is a complete close circle, which calls for all the living facilities. However, all the living facilities do not mean there would also be corresponding spatial needs because of living alone. The spatial need also could be objectified into a multi functional design meeting all living needs. While CAPSULE TOWER is a perfect case. They stays in the office all the daytime and come back late. When they have social needs they prefer going outside.

**STUDENT**



Students are a group that are willing to share a great number of facilities but need some space of their own too. The students uses the dwelling to eat, sleep and study. Getting together is an activity that not necessarily takes place within the dwelling. In the project, there are two possible dwellings for the student. A private loft dwelling which has the possibility to be divided into two spaces, a private and a public part.

**DIVORCED**



The divorced people need flexibility and extra work place most. The dwelling unit is divided into three parts with the privacy increasing as going deeper. As social is important part in Rick's life, the hallway could be used as a meeting and working place for him, also could be a stage on which he can perform his kindness and skills. In his life, social is part of his life. It may not just for the partener, it also could be his own business. His child could use this place as a bedroom when come for a visit.

**EXPAT**



Expat need flexibility greatly because their lives may be changed when they have family reunion. Sometimes the current house is only for temporally use and when their life changed, they start to search bigger house. This building is with flexibility that could dividing space inside the space easily, fulfilling their spatial needs.





# CASE STUDY 1



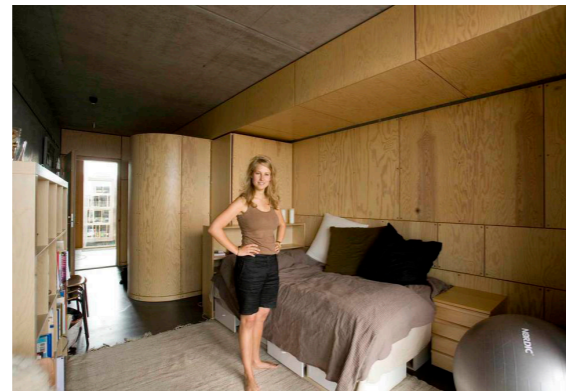


# CASE STUDY 1

## TIETGEN DORMITORY - COPENHAGEN - LUNDGAARD & TRANBERG



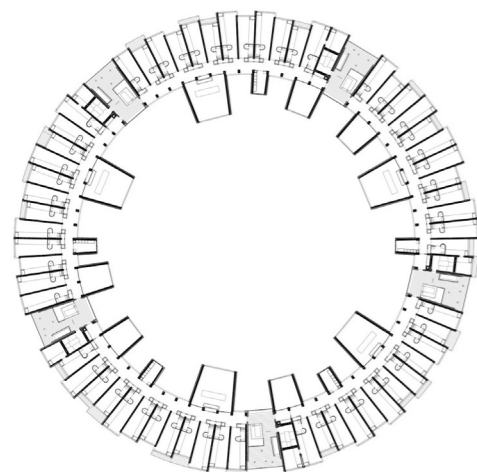
Tietgenkollegiet is 7 stories tall and contains 360 rooms set up in blocks of twelve. Each room faces the outside of the circle and has panoramic views of the channel and other surroundings. The common areas, lounges, and kitchens surround the inner-most courtyard. The circular design creates a sense of equality and unity, while the rooms' unique alternating projected windows and terraces provide a wide range of housing opportunities.



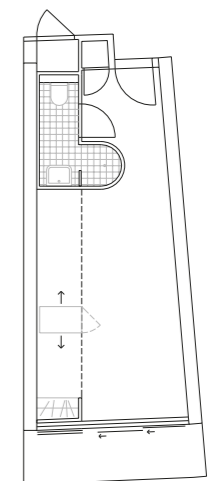
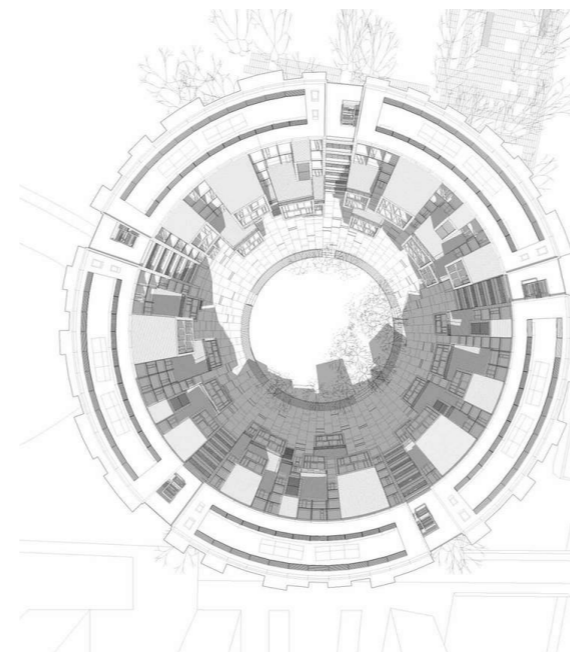
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Inside, exposed concrete and magnesium flooring make large spaces extremely durable and easy to clean, while eco-friendly birch plywood partition panels break up the smaller rooms. The hand-picked materials also help insulate the common areas of the building. Students love the brightly colored curtains, laundry machines, and mailboxes that perfectly juxtapose the raw, natural materials surrounding them.

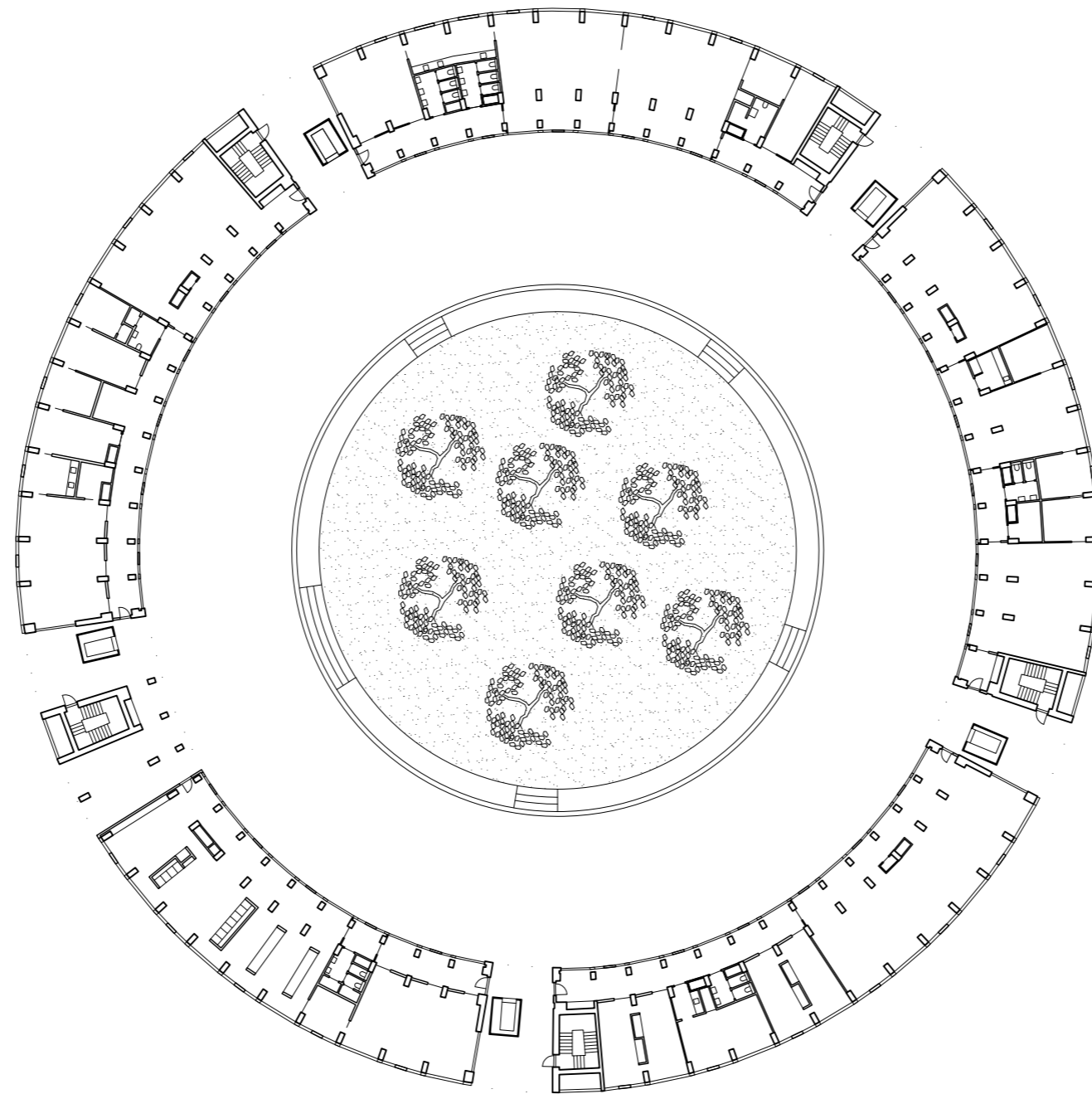


**THEMES**  
COLLECTIVE KITCHEN  
COLLECTIVE LIVING ROOM  
OPPOSITE ORIENTATION  
SMALL PRIVATE DWELLINGS

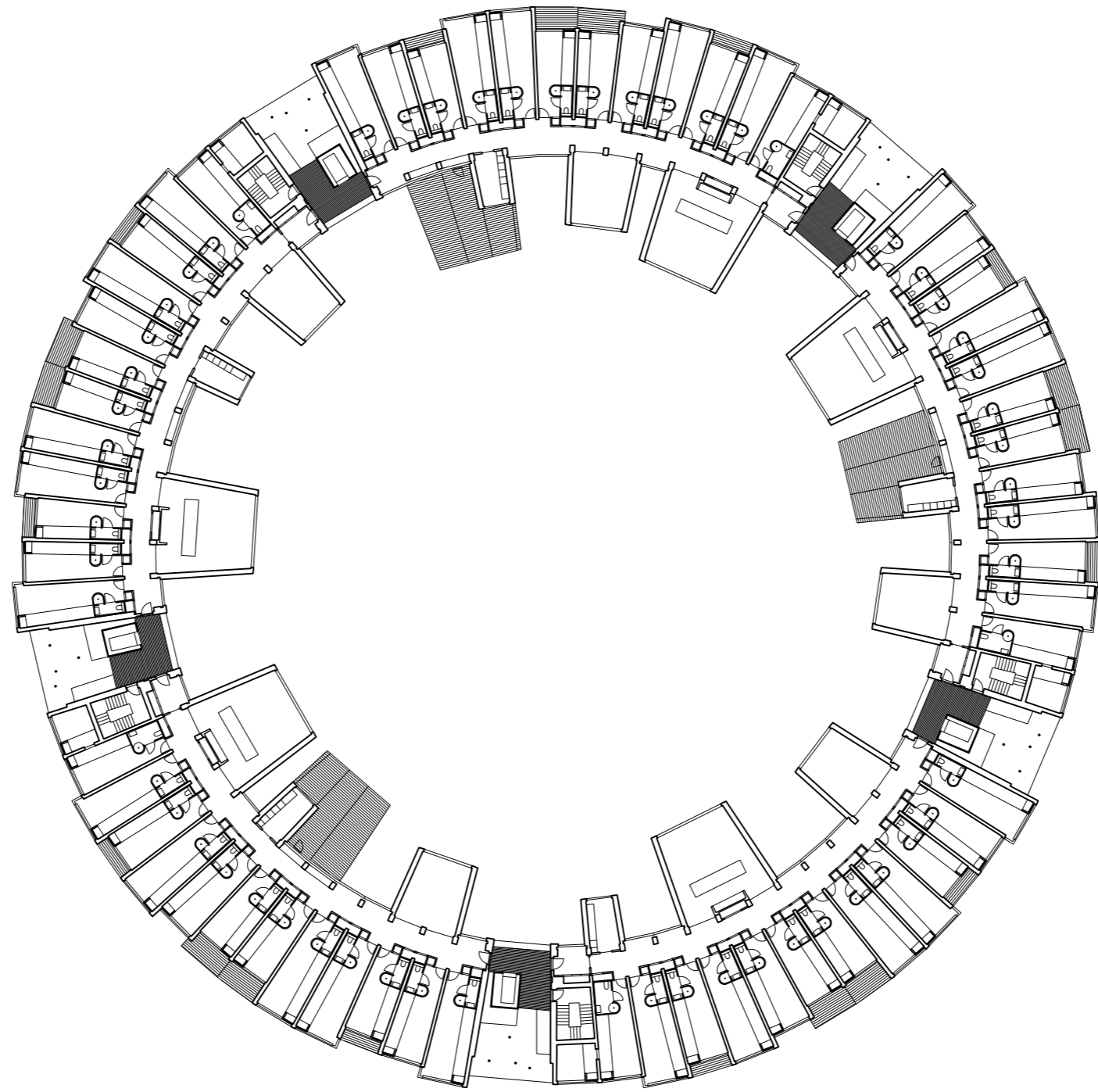




FLOOR PLAN

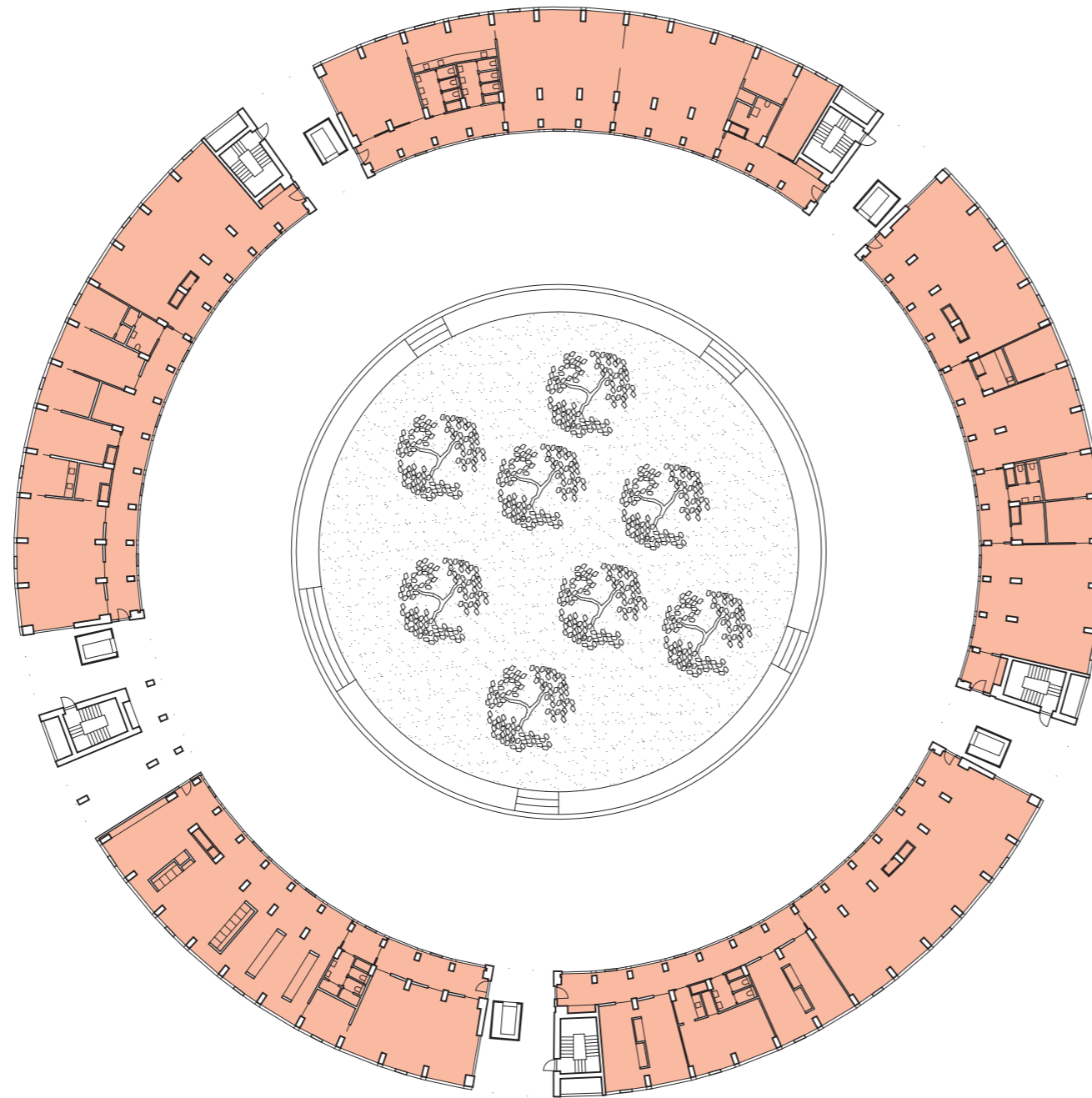


GROUND FLOOR



UPPER FLOOR

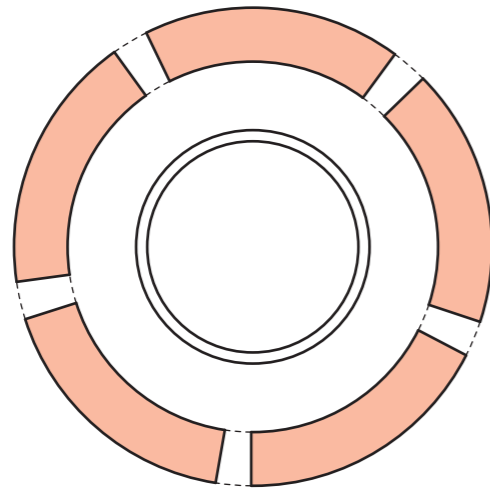
COLLECTIVE SPACE - GROUND LEVEL



GROUND FLOOR

 COLLECTIVE SPACE





The main feature of the Tietgen dormitory are the collective spaces. There are two types which are shared in different ways amongst the dwellers. The first type is the ground floor of the dormitory which is shared with all the dwellers of the complex.

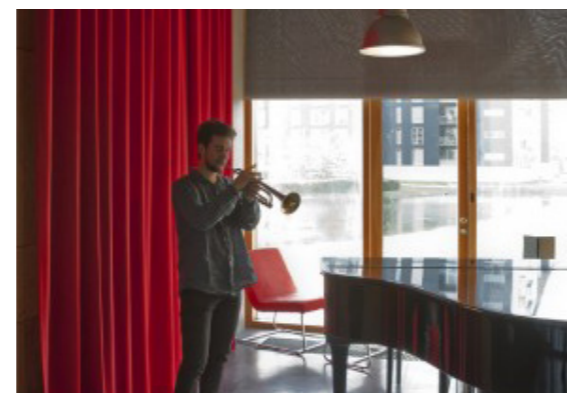
The entire ground floor is preserved for collective functions. The five sections have all different rooms and setups, due to the flexible structure of columns. The collective spaces are connected with transparent facades to both the inner courtyard and the outer surroundings. The ground floor has common functions like the bike storage and the laundry rooms. More special are the additional collective spaces ranging from computer rooms, music rooms, study rooms and multi-functional rooms.



1.



2.



3.



4.



5.



6.

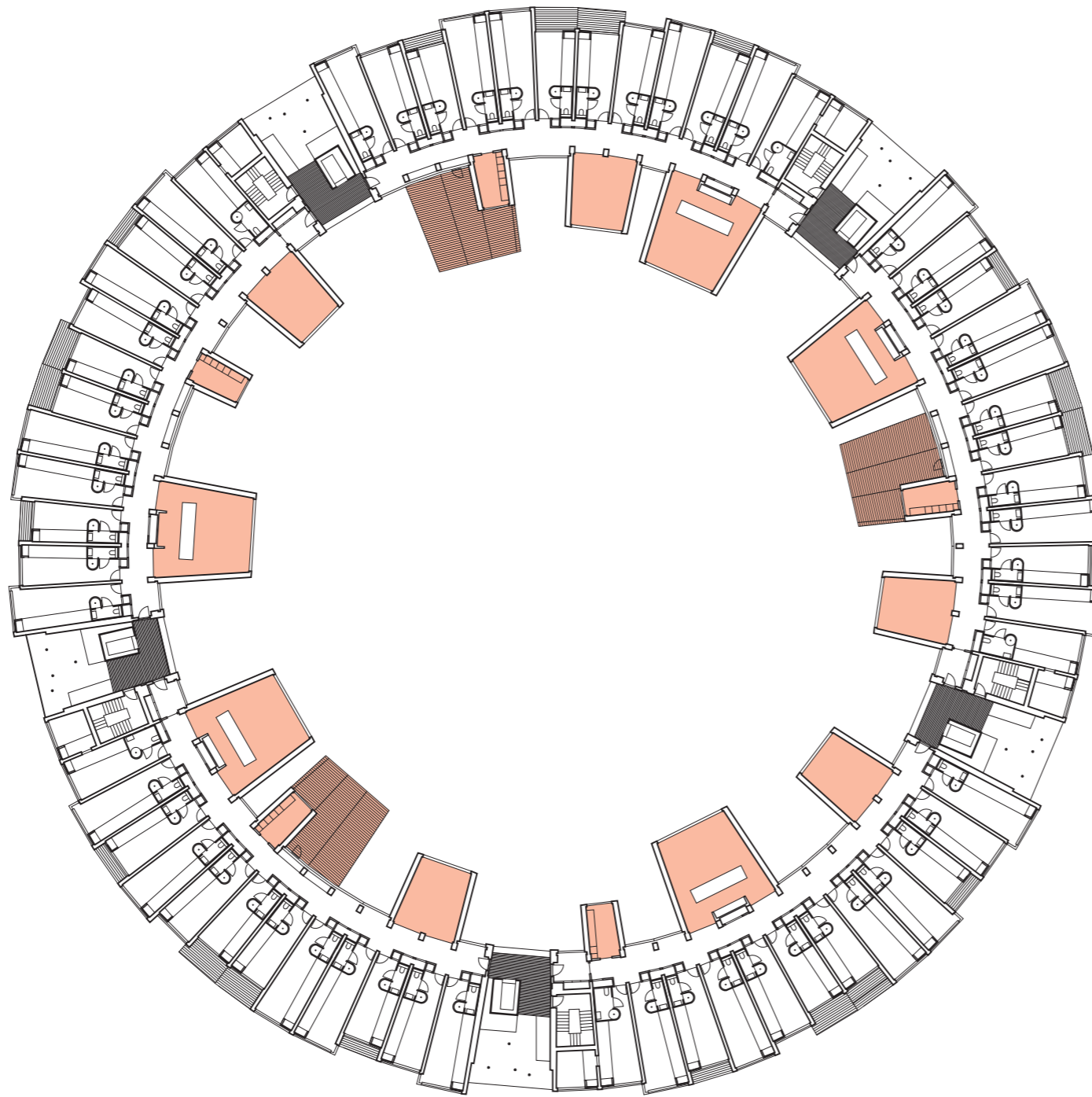


7.

- 1. Multi-Functional Room
- 2. Computer Room
- 3. Music Room
- 4. Mail Room
- 5. Laundry Room
- 6. Bike Storage
- 7. Study Room



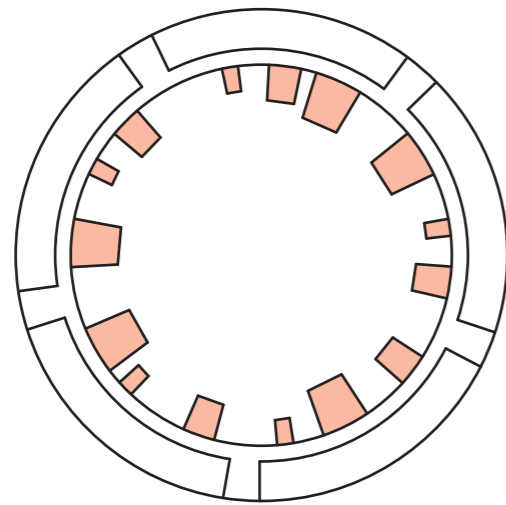
COLLECTIVE SPACE - UPPER LEVEL



UPPER FLOOR

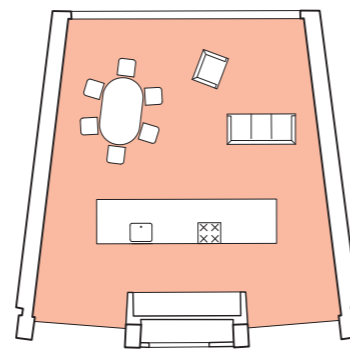


COLLECTIVE SPACE

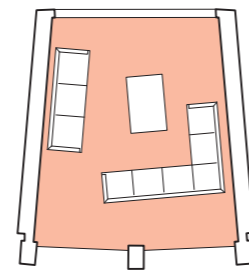


The second type of collective functions are the distinctive boxes that hang of the inside of the complex above the communal courtyard.

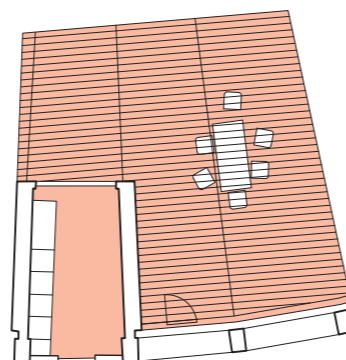
These boxes are part of the ring of collective functions that the dwellers share amongst each other in smaller groups. All five sections have the same collective boxes which are shared with the 12 dwellers in that section. The boxes consists of a large collective kitchen, a secondary living room and a smaller multifunctional space. In most cases there is a additional roof garden that is shared.



Kitchen



Living Room



Roof Garden



1.



2.



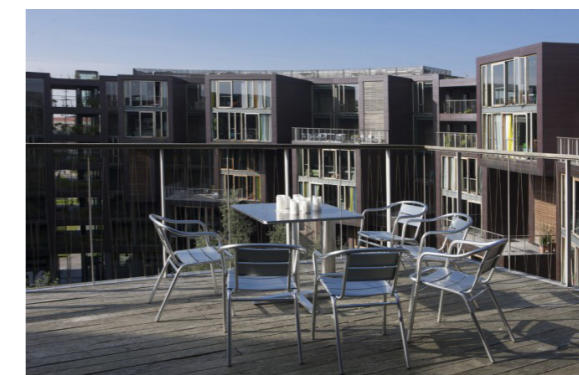
3.



4.



5.

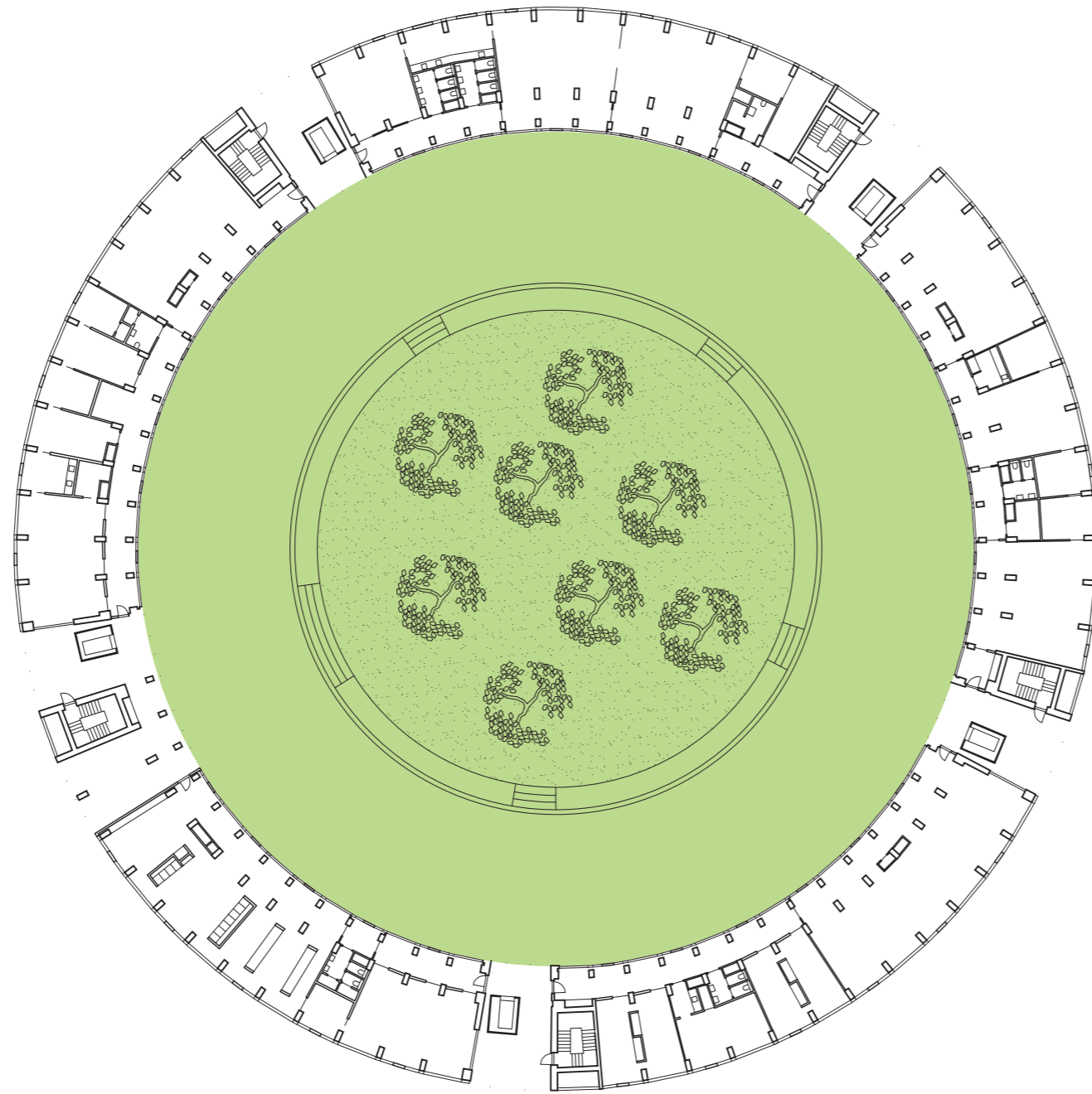


6.

- 1. Kitchen
- 2. Kitchen Table
- 3. Living Room
- 4. Pool Room
- 5. Multi-Functional Space
- 6. Roof Terrace

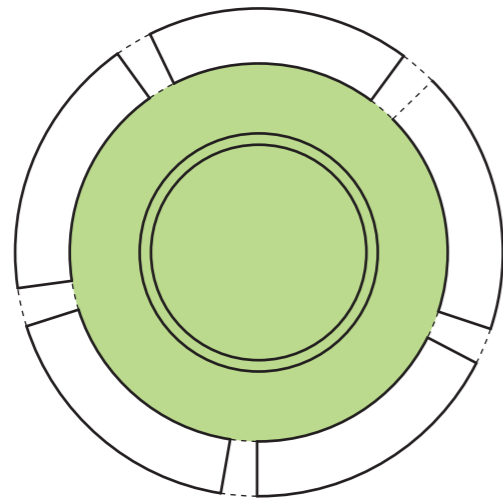


OUTDOOR SPACE - COMMUNAL COURTYARD



GROUND FLOOR

 COMMUNAL COURTYARD

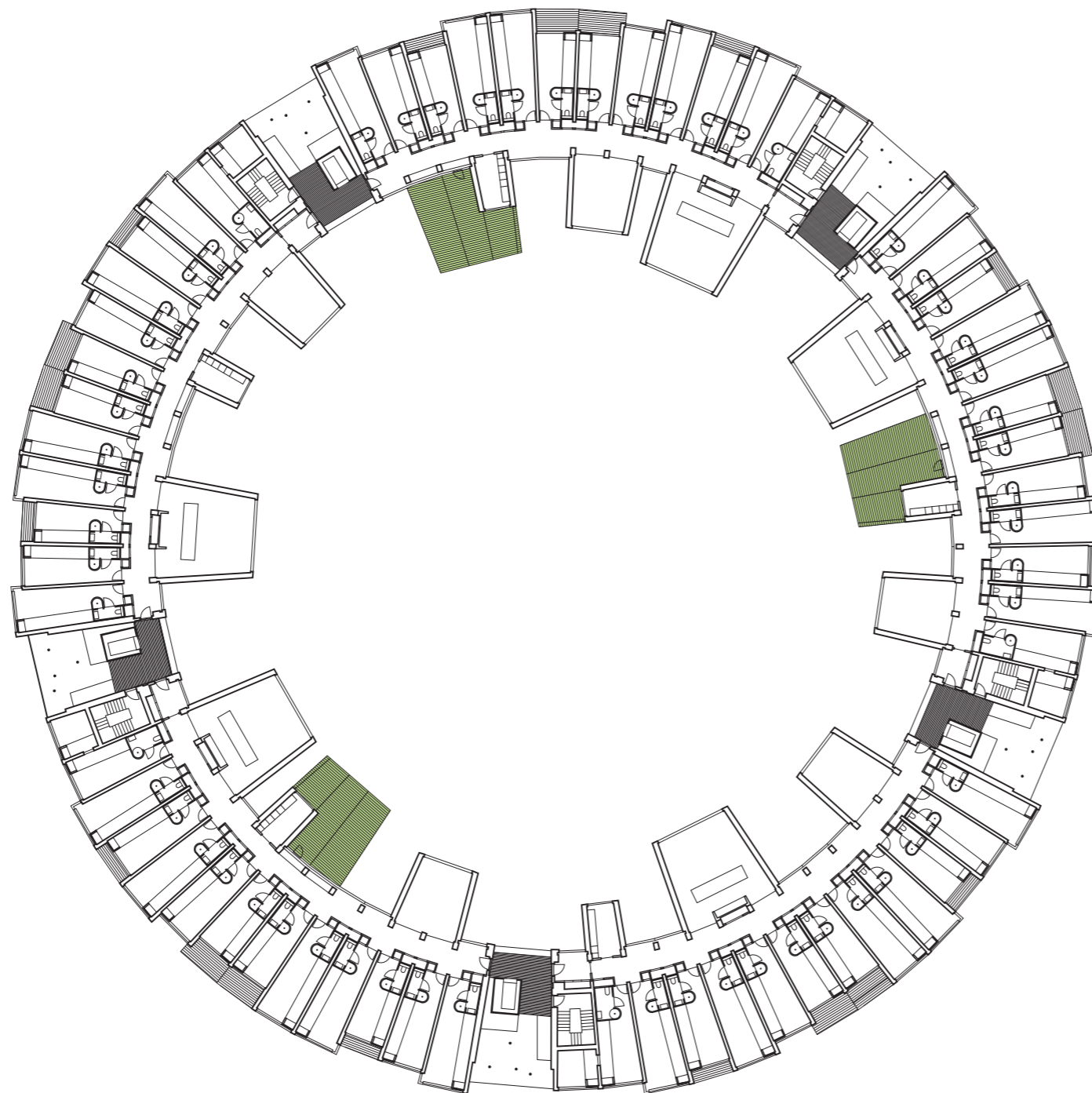


In Tietgen there are three types of outdoor spaces, the communal courtyard, the collective roof terrace and the private balcony. The great big communal courtyard of Tietgen is shared amongst all dwellers of the complex. Because of the layout and organisation of the dormitory, the courtyard is fully enclosed and private for the dwellers. The planted trees and the surrounding benches make it a great place for the dwellers to use.





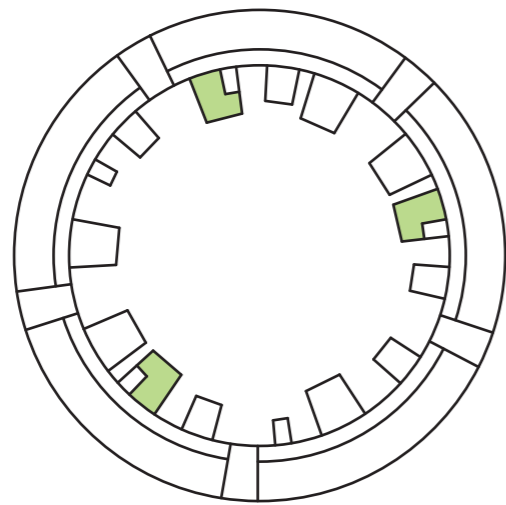
OUTDOOR SPACE - COMMUNAL ROOF TERRACE



GROUND FLOOR



COMMUNAL COURTYARD



The second type of outdoor spaces takes place on the roof of the collective boxes. In the alternating placement and stacking of the boxes there are roof terraces formed, adding to the collective ring of functions. In this organisation the amount of roof terraces varies and not every section of 12 dwellings has the collective roof terrace.





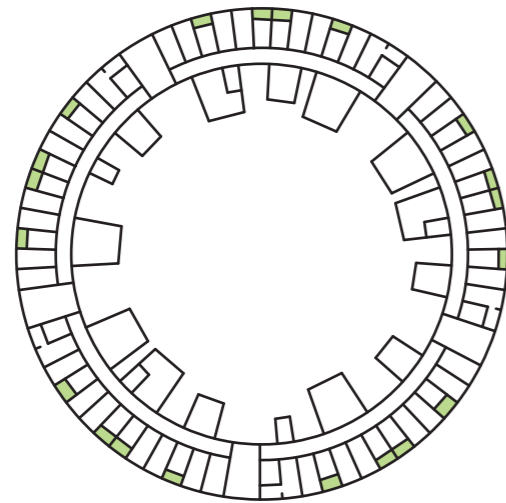
OUTDOOR SPACE - PRIVATE BALCONY



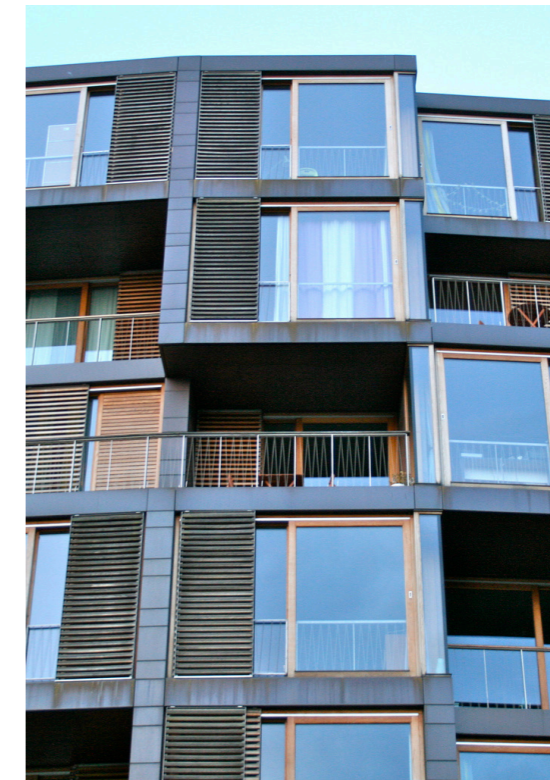
UPPER FLOOR



PRIVATE BALCONY

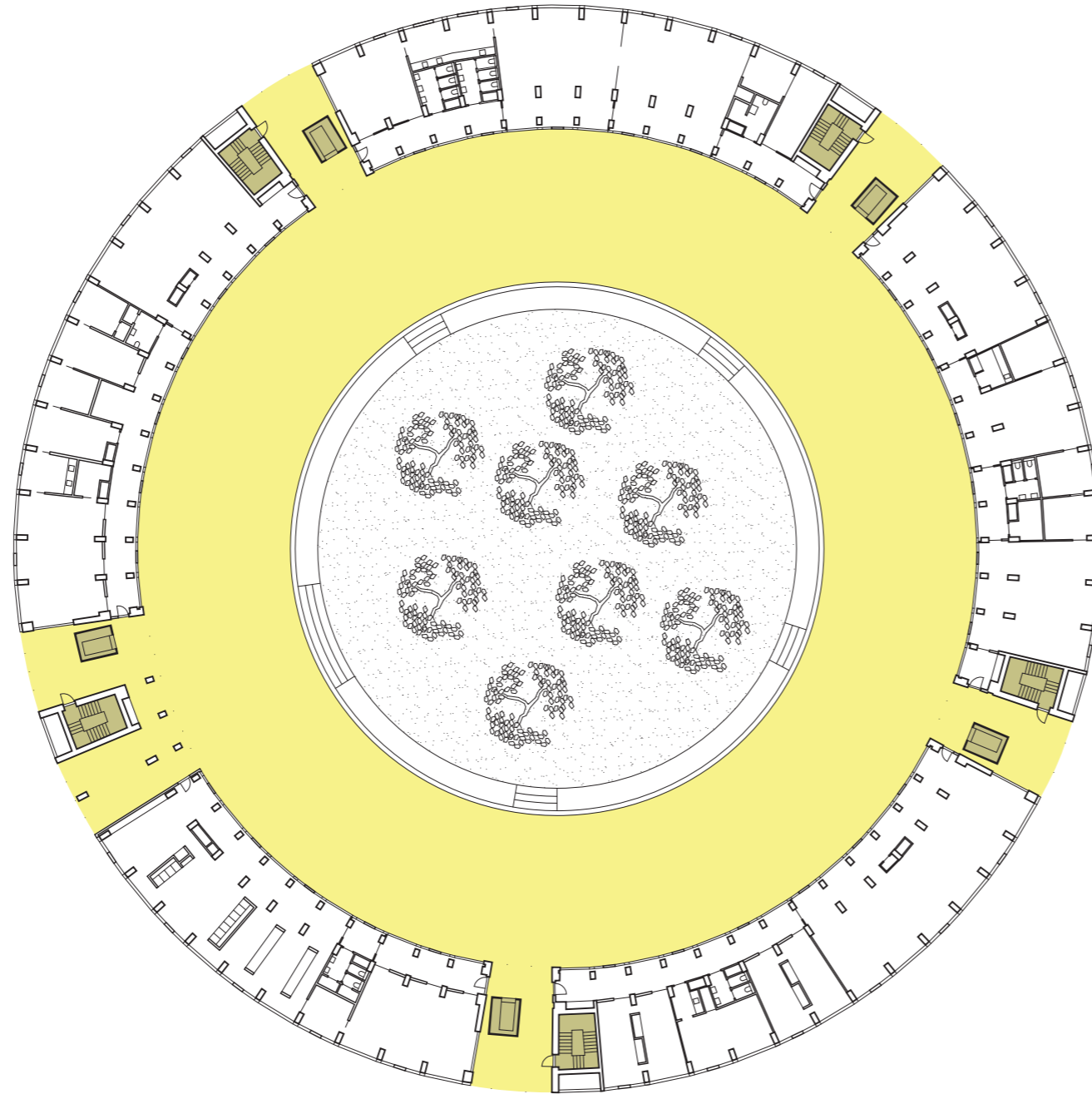


The third type of outdoor spaces are the private balconies that some dwellings have. Due to the variation in length of the dwellings, the shorter dwellings are equipped with a private balcony. The private balconies face the surroundings and therefore do not have a relation with the inner courtyard.



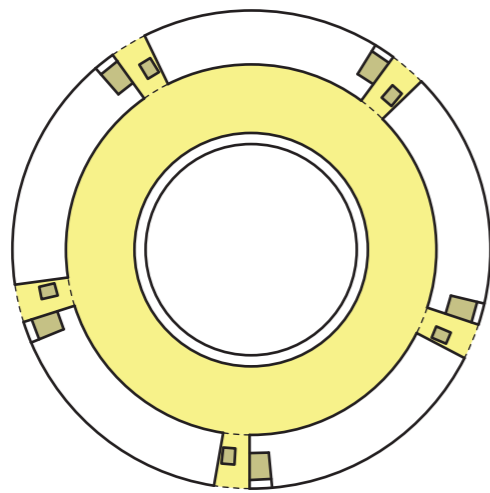


ACCESS ROUTE - GROUND FLOOR

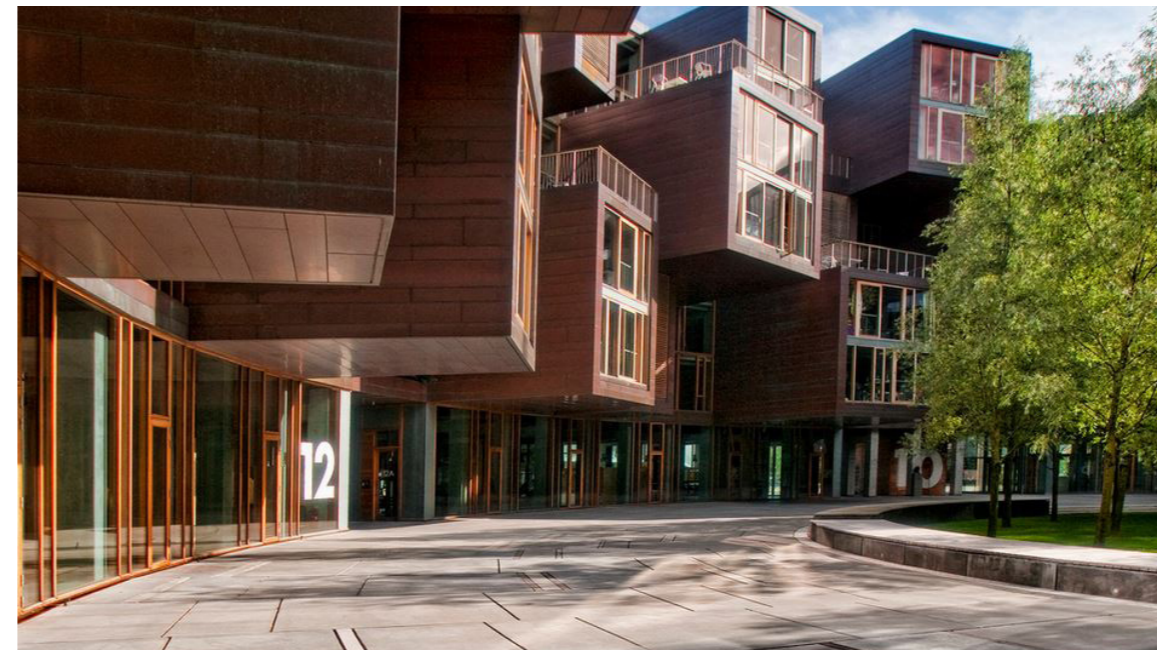


GROUND FLOOR

 ACCESS ROUTE

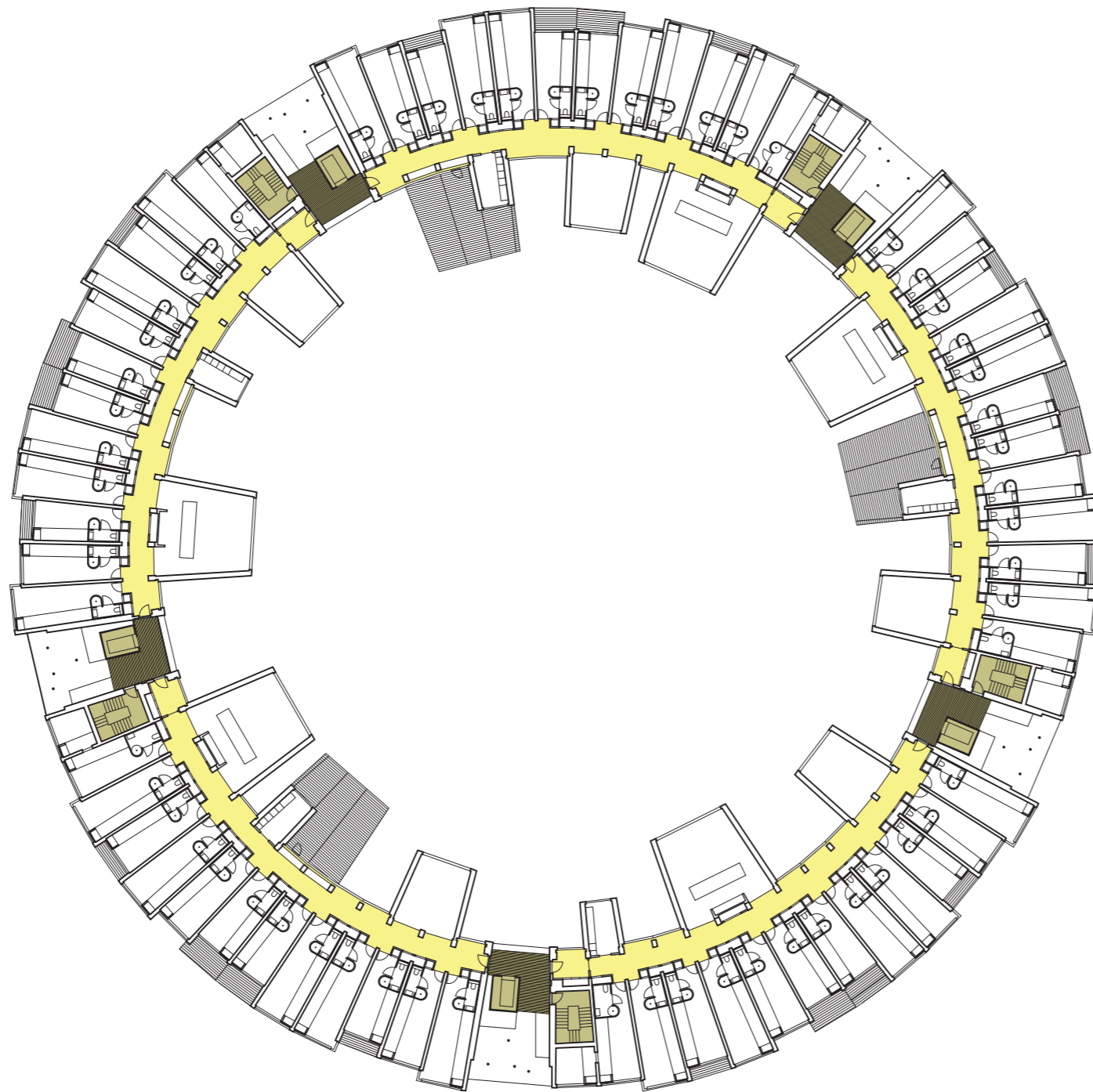


The round shape and layout of the complex make the building not have any front or back. The complex with its five equal sections create five openings from which the communal courtyard is entered. From these same five entrances the collective functions in the ground floor can be accessed as well as the elevator and staircases to the upper floors.

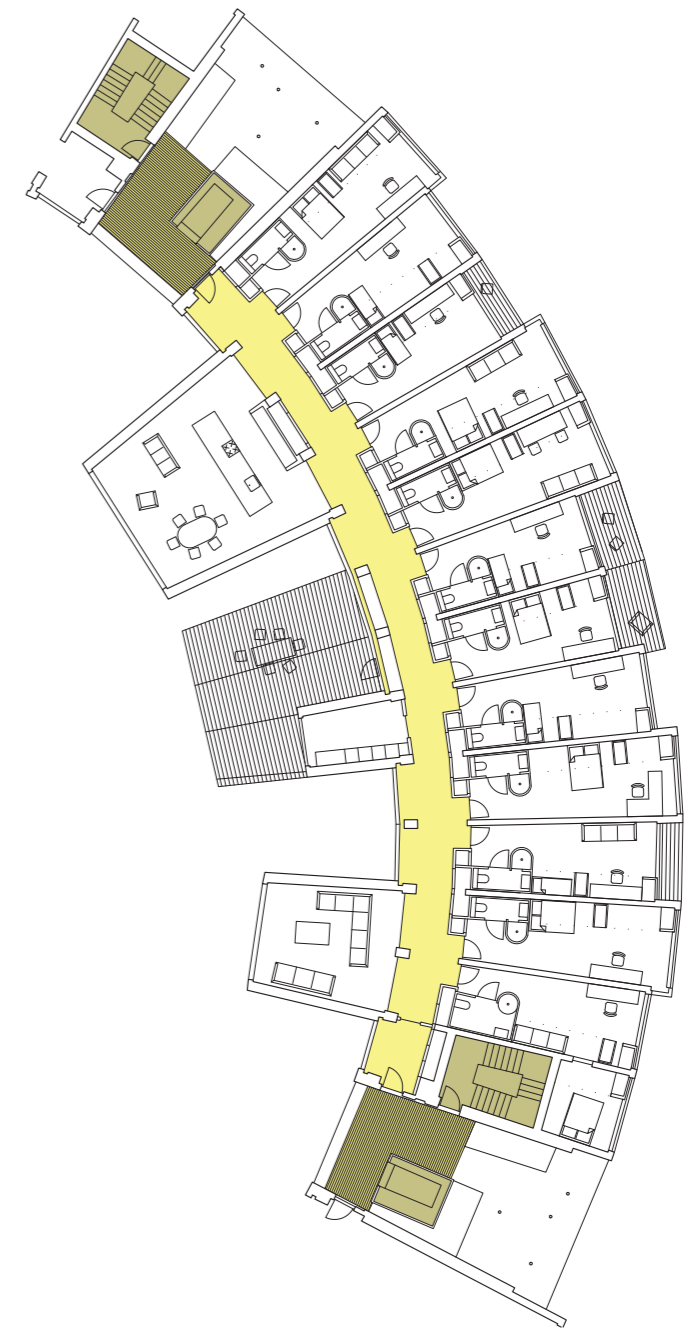




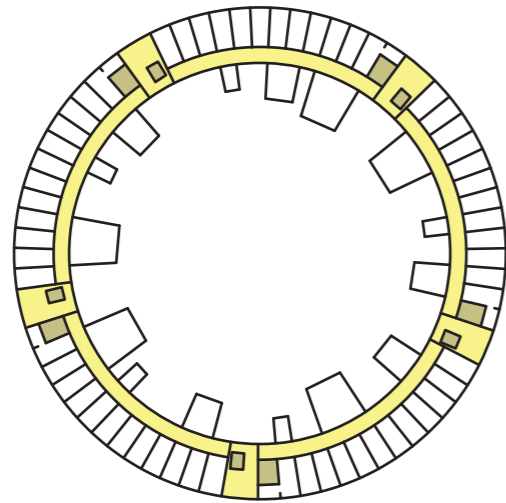
ACCESS ROUTE - UPPER FLOOR



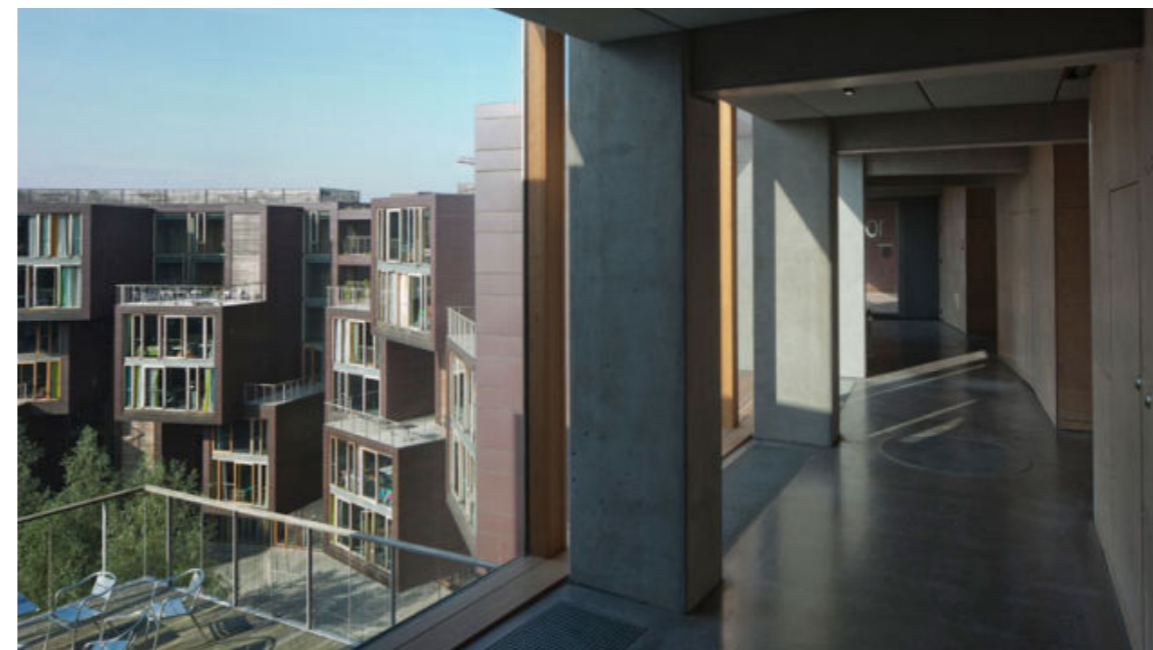
UPPER FLOOR



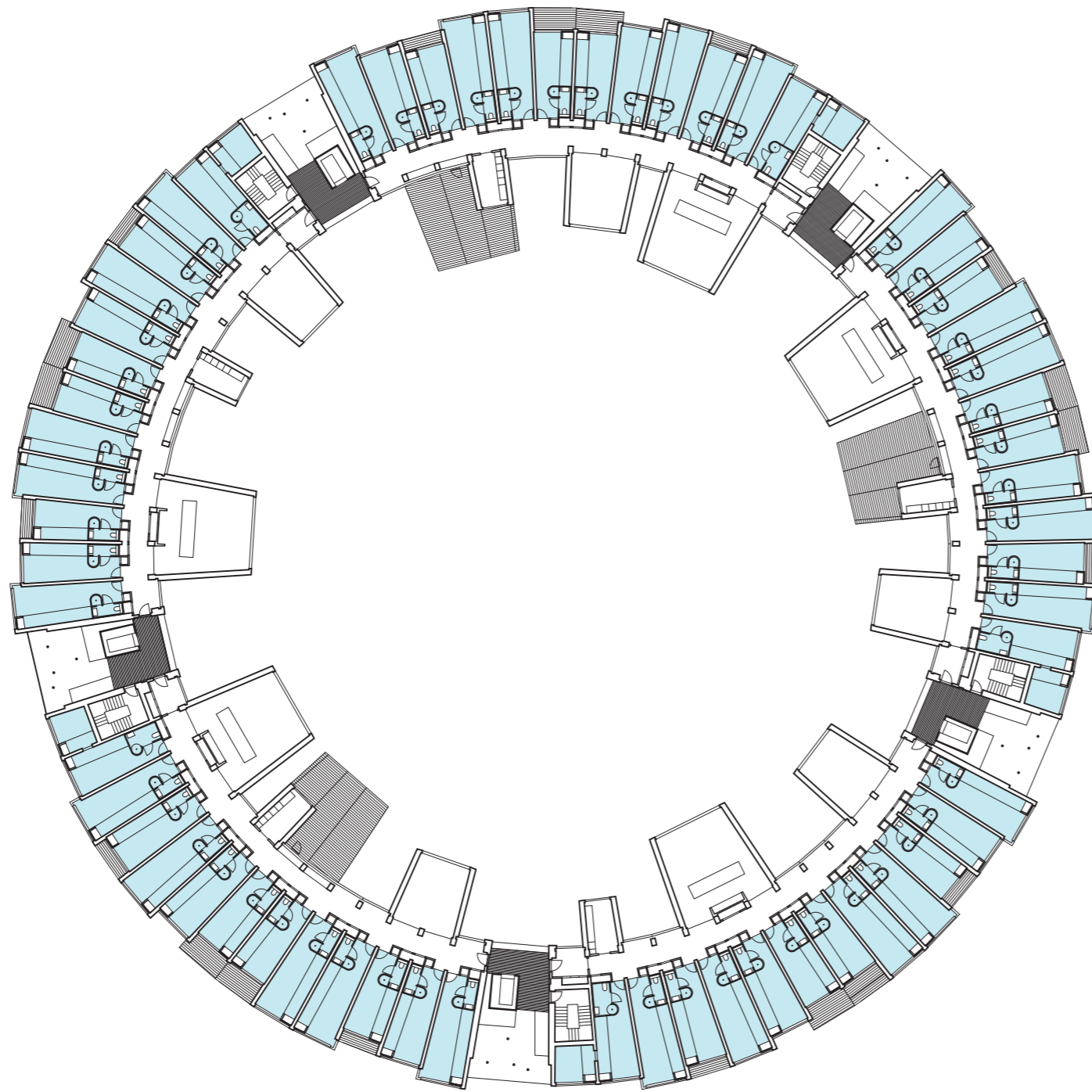
ACCESS ROUTE



The most important feature of the dormitory is the long corridor that connects but also separates the collective functions on the inside from the private dwellings on the outside. The corridor follows the organisation of the building and is separated in five different sections. From the corridor there is always a visual connection towards the inside with the collective functions and the communal courtyard. The concrete structure of the building is clearly visible from the inside of the corridor.



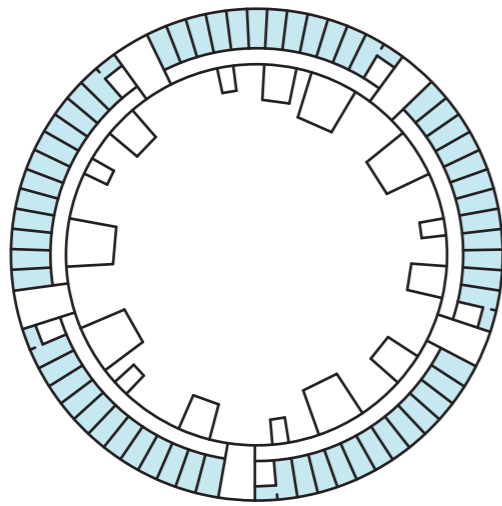




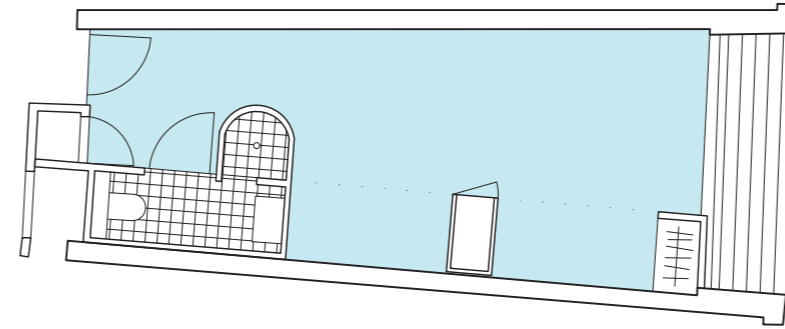
UPPER FLOOR



DWELLING



The Tietgen dormitory has a total of 360 dwellings over 6 levels that have 5 sections of 12 dwellings each. The dwellings are placed in the private outside ring of the complex where each dwelling is orientated to the surroundings. Because the dwellings have a single orientation, there is from the inside of the dwelling no visual relation with the collective functions, the corridor nor with the other dwellers.

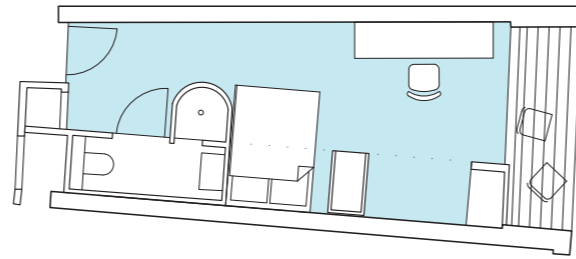




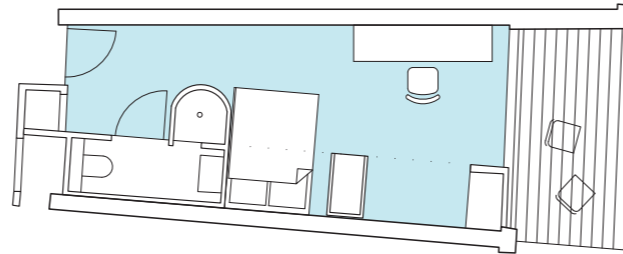
DWELLINGS - ORGANIZATION



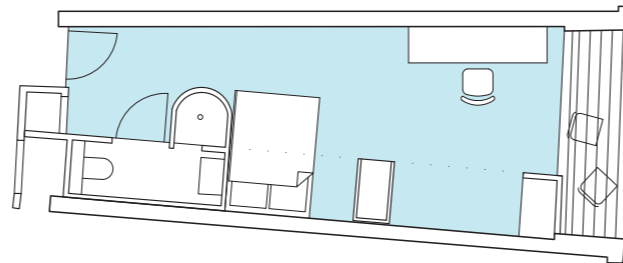
UPPER FLOOR



Dwelling: 23.0 SQM Balcony: 3.5 SQM

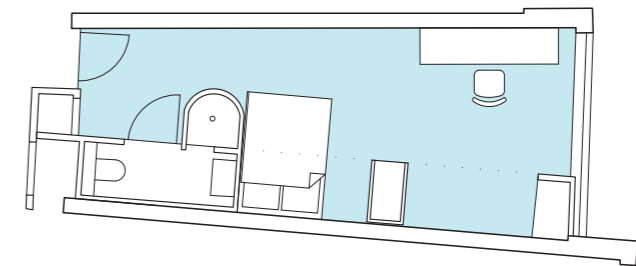


Dwelling: 23.0 SQM Balcony: 7 SQM

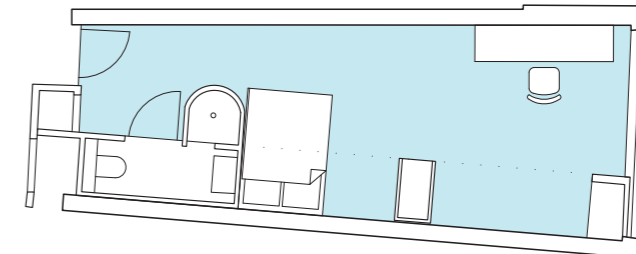


Dwelling: 26.0 SQM Balcony: 3.5 SQM

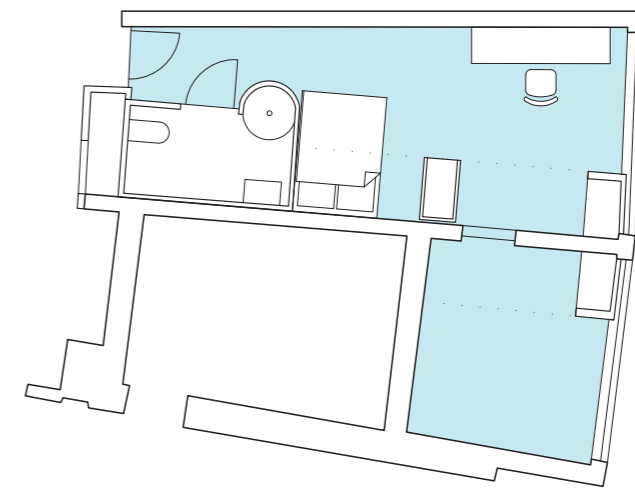
DWELLING UNIT



Dwelling: 26.0 SQM Balcony: 0 SQM



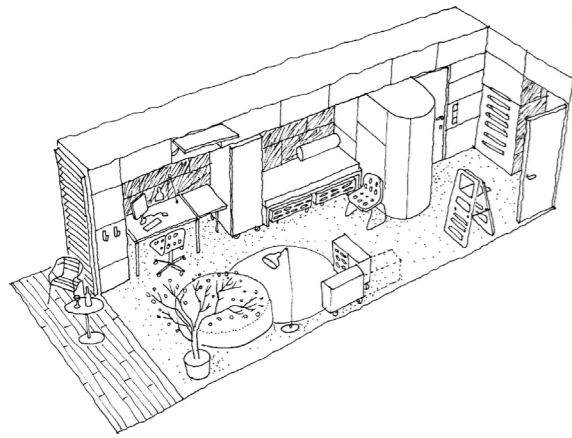
Dwelling: 29.0 SQM Balcony: 0 SQM



Dwelling: 37.0 SQM Balcony: 0 SQM

DWELLING UNIT

DWELLING



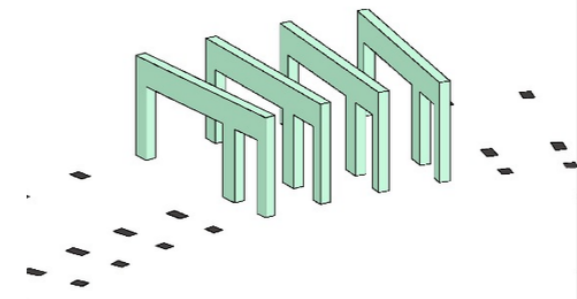
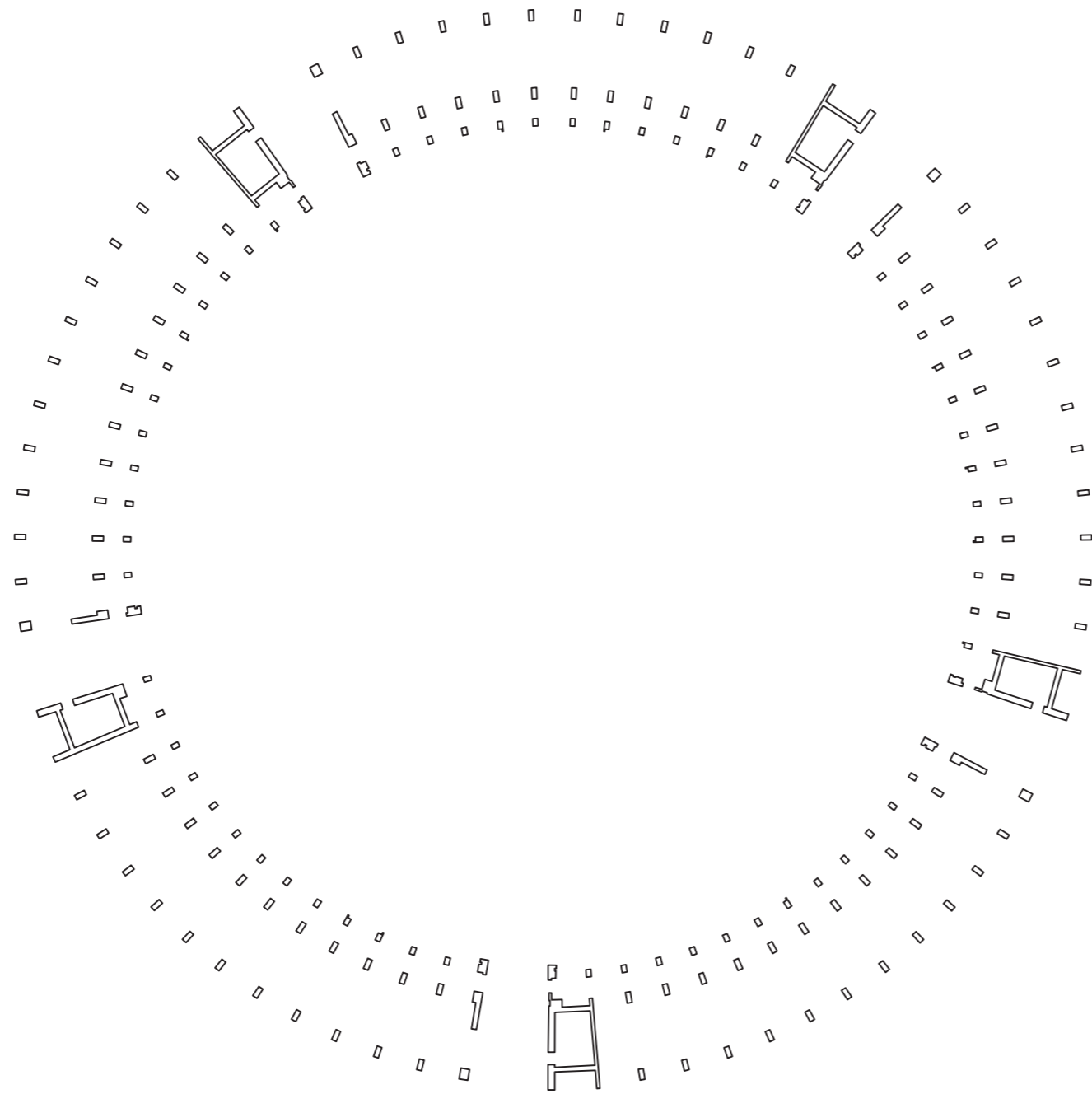
Within each section of 12 dwellings there are differences in length and thus in floor area. The smaller dwellings are equipped with a private balcony, and there is always one dwellings with an extra room.

The dwellings do have private bathrooms with a toilet and a shower. However they do not have a private kitchen and thus the dwellers solely rely on using the collective kitchen.

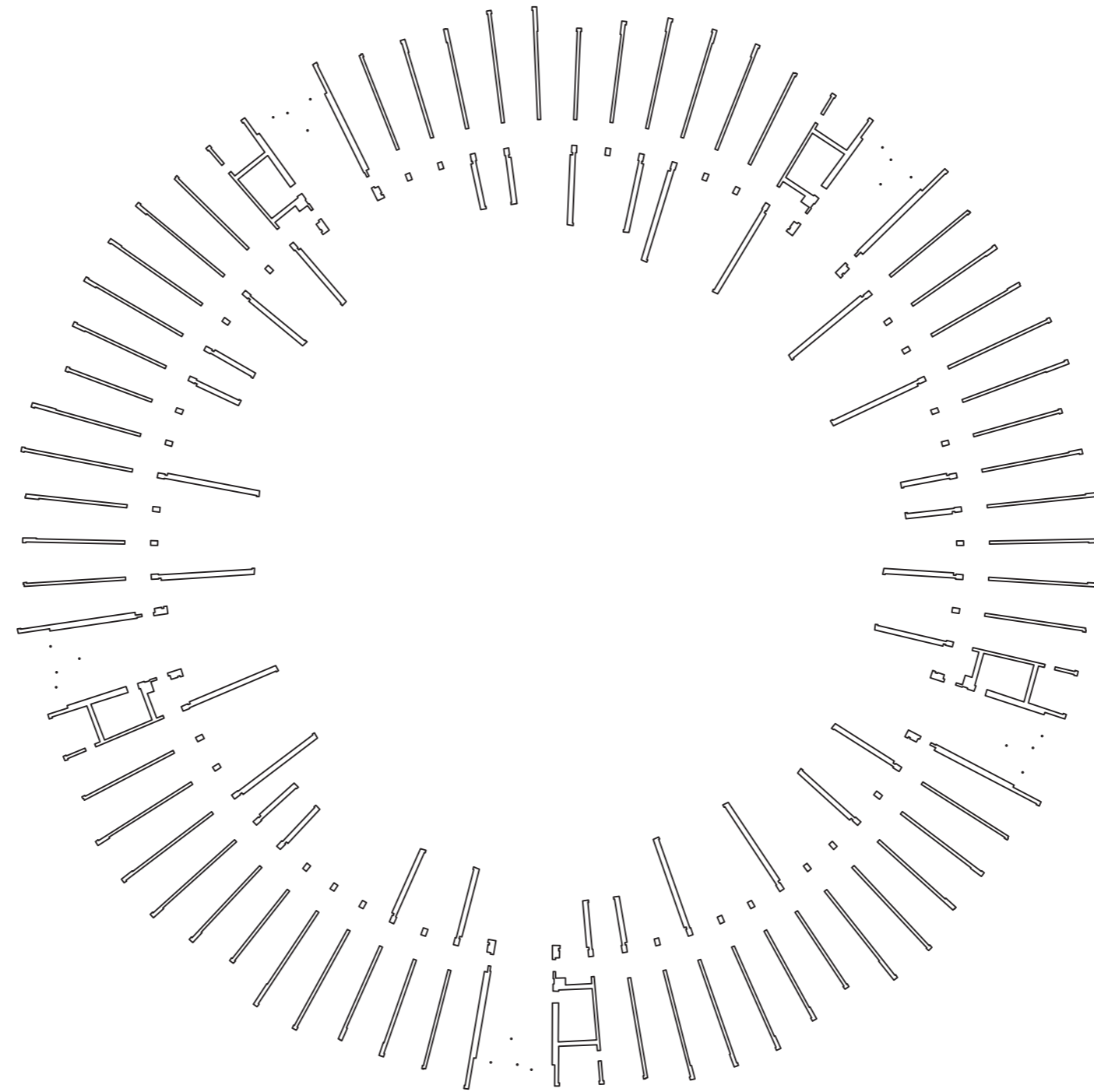
Each dwellings is fitted with custom made furniture with storage space which reduces the need for additional closets of that kind.





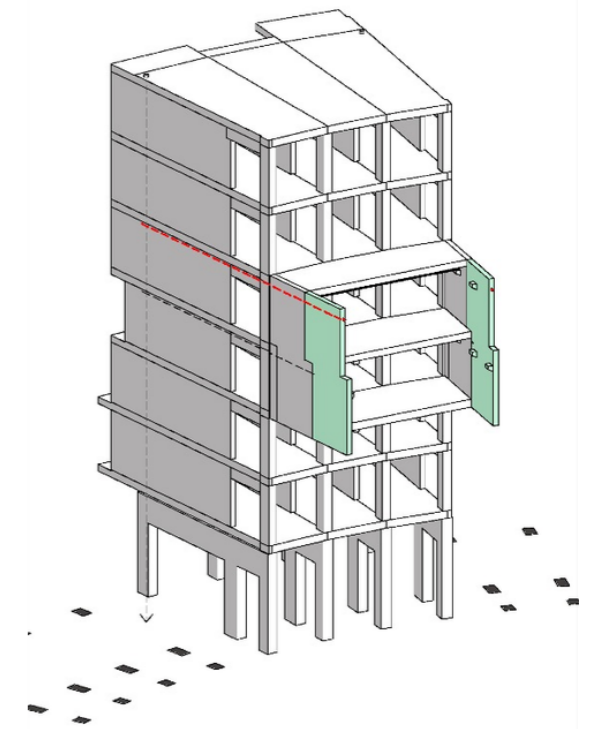


GROUND FLOOR- LOAD BEARING



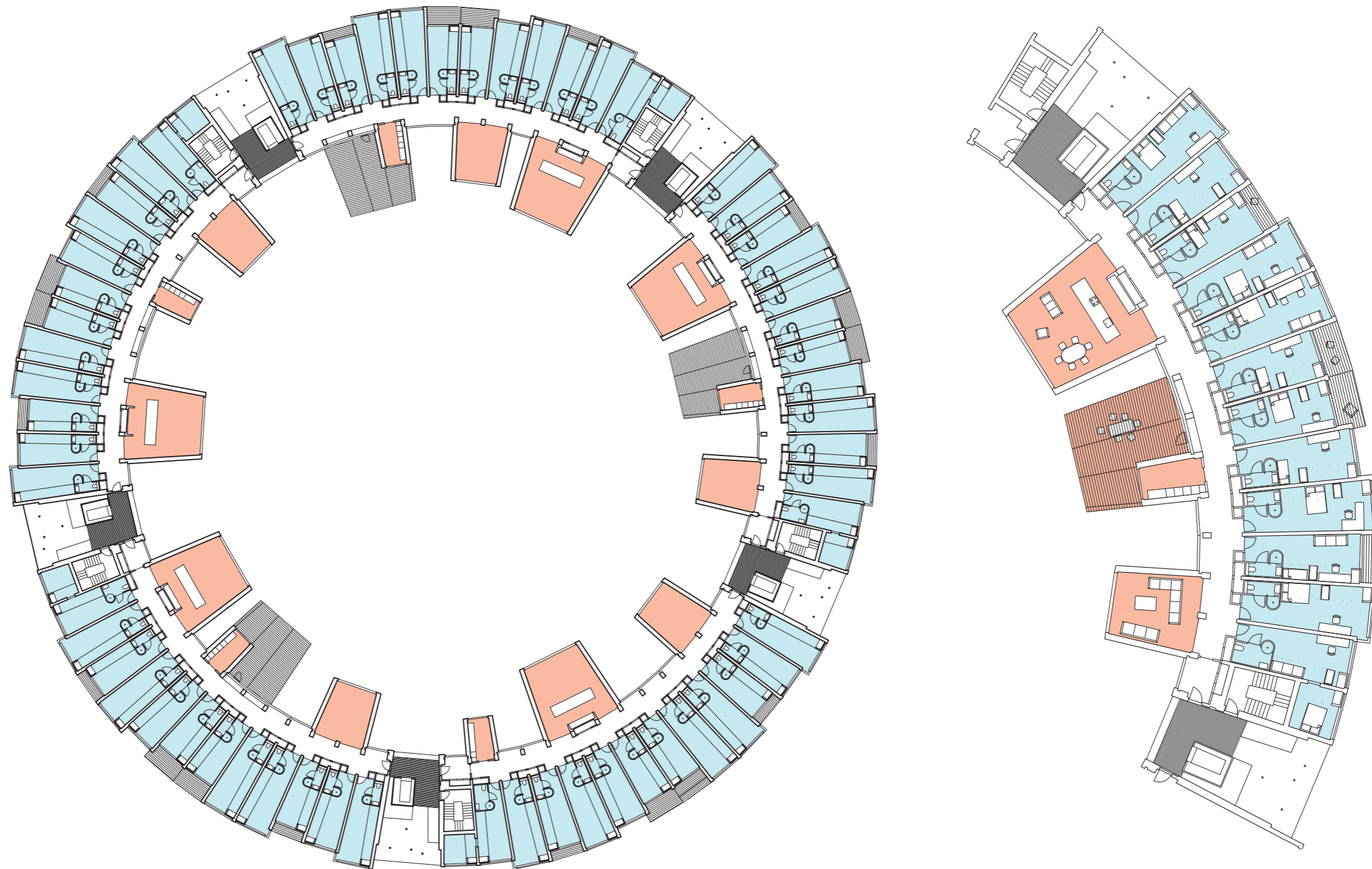
UPPER FLOOR- LOAD BEARING

The structure of the Tietgen dormitory consists of load bearing walls with in between spans. The structure is set by a difference of 5 degrees from the centre. The structure on the ground floor is more open and flexible than on the upper floors. The load bearing walls on the upper floors do withold a future change of the dwelling sizes. The dwelling structure is not very flexible in size.



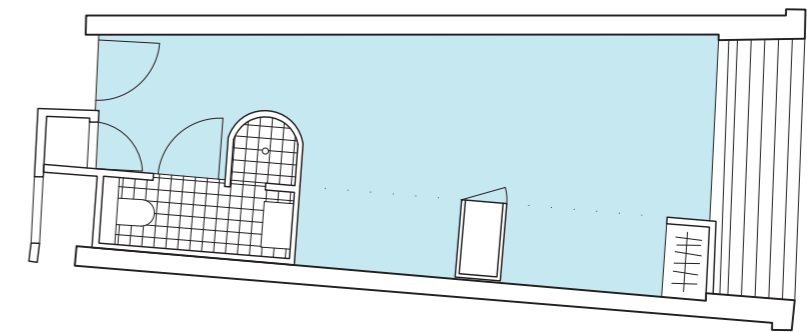
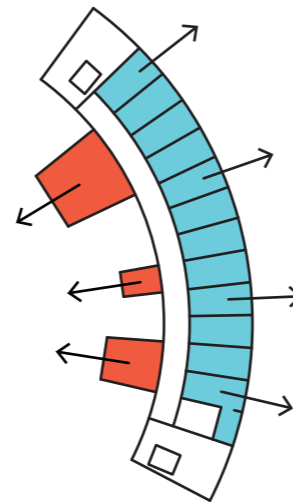
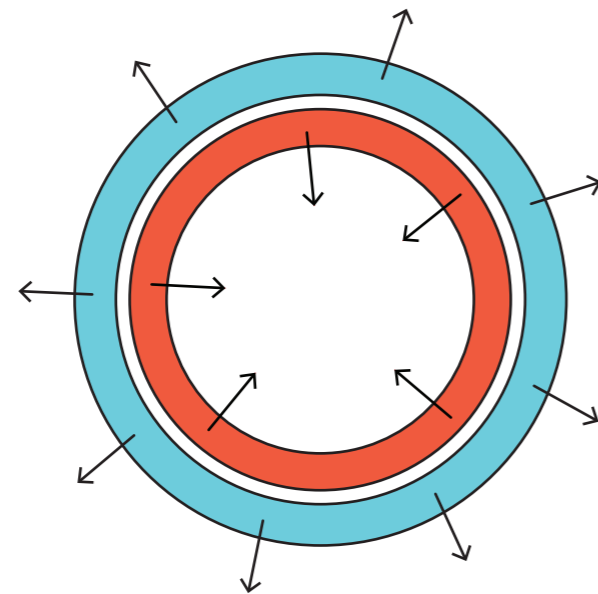
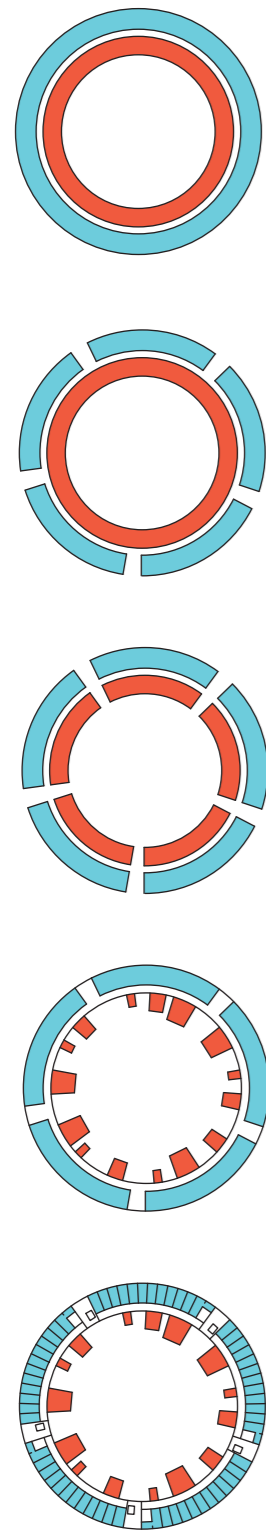


CONCLUSION - TIETGEN DORMITORY



UPPER FLOOR

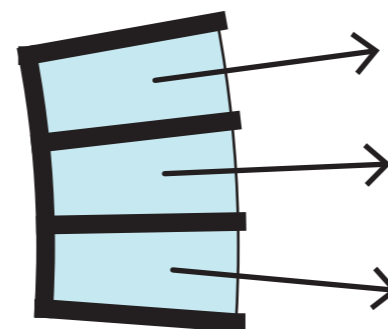
- DWELLING-PRIVATE
- COLLECTIVE SPACE



CONCLUSION

The Tietgen dormitory has a clear layout and organisation of the different types of program. The difference between the private dwellings and the collective functions is shaped using two circular layers. An inner layer with collective functions that have an orientation towards the inside. An outer layer with the private dwellings that have an orientation towards the outside. Within this layout there is division of the circles in 5 sections, creating smaller groups of 12 dwellings that share their collective functions together.

Striking in this design is the hard border between the private dwellings and the collective spaces, due to the single orientation of the dwellings. From within the dwellings there is no visual connection with the other dwellers nor the collective functions, the dwellings are closed boxes.







# TEST CASE 1

MARGREET SPIJKER > TIETGEN DORMITORY

ELDERLY > TIETGEN DORMITORY





SPENDS MOST TIME AT HOME  
NEED FOR SOCIAL INTERACTION  
HAVING RELATIVES OVER



COLLECTIVE KITCHEN  
COLLECTIVE LIVING ROOM  
OPPOSITE ORIENTATION  
SMALL PRIVATE DWELLINGS

The elderly are a special group that require more attention than the other singles. Most importantly for the single elderly is social interaction. Since their mobility has drastically worsened, the facilities within the building become more important. Also the organisation and the orientation of the private dwelling can really make a difference in the quality of their living when designing for elderly. For Margreet Spijker, we are focussing on two activities: eating/cooking and getting together. Both activities that are very important for Margreet.

The Tietgen Dormitory with its many collective functions would be a good fit for Margreet. Cooking and eating, an activity that takes place several times a day, become in the Tietgen social activities because the facilities are shared amongst other dwellers. However the opposite orientation and the single oriented dwellings do give Margreet the undesirable seclusion.

**ELDERLY**

**NAME:** Margreet Spijker

**AGE:** 80

**EDUCATION:** Middle School

**WORK:** Retired

**PARTNER:** Deceased

**CHILDREN:** 3 (42, yrs, 47 yrs, 49 yr s)

**GRANDCHILDREN:** 4

**MEANS OF TRANSPORT:** Car / Public Transport

**TOTAL INCOME:** 1300 / Month

**TOTAL EXPENSES:** 1000 / Month

**FUTURE PROSPECTS:** Current house is her last house. Given her age and physical condition, moving to another house is out of the question. Her (grand-)children will continue to visit her from time to time. It is unlikely she will find a partner.

**ACTIVITIES**

**WORK:** Retired

**WORKDAYS:** None

**SLEEP:** Steady rythm of 10 hours of sleep a night. Has a daytime nap on weekdays.

**EATING:** Breakfast on her own, made by herself. Has lunch on set times supplied by others. Has dinner at home on a set time. Occasionally goes out for dinner.

**PERSONAL HYGENE:** Starts day with brushing teeth and face wash. Showers every morning after breakfast. Before going to bed washes up at the sink and removes possible make-up.

**SPORTS:**  
Elderly excercises: 2 times / week

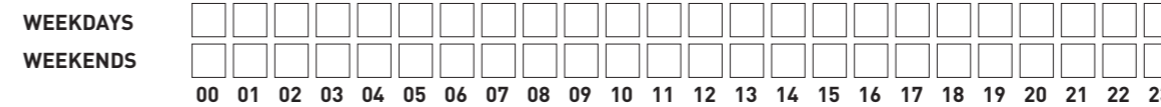
**CULTURAL:**  
Musea: 4 times / year  
Theater: 4 times / year

**GOING OUT:**  
Restaurant: Once / month

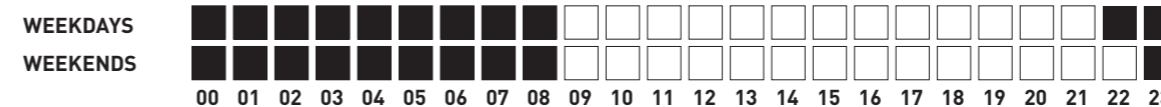
**LEISURE / RELAXING:**  
Television: 4 hours / day  
Strolling: 1 hour / day  
Reading: 1 -2 hours / day

**DAILY CYCLES**

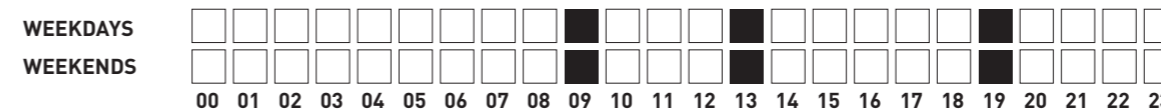
**WORK**



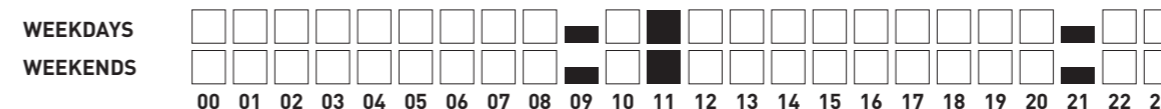
**SLEEP**



**EATING**



**PERSONAL HYGENE**





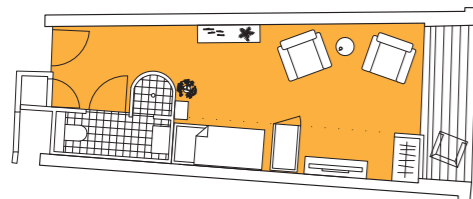
**ACTIVITIES**

COOKING & EATING

GETTING TOGETHER

The activities we are focussing on for Margreet is cooking and eating, and getting together. Cooking and eating are particular important activities in her lifestyle since Margreet being 80 years old, she does not leave the dwelling complex much for these activities. Hence the importance of the kitchen facilities in the design.

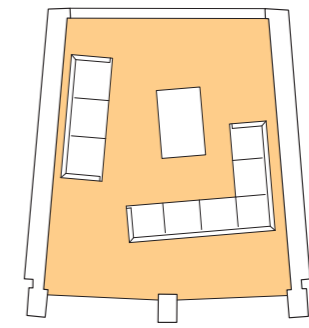
Another important activity is getting together and the possibility to have her kids and grandkids over. Elderly are set to be more lonely than other singles and therefore it is necessary that there are places to share and meet other elderly, and provide in a way room and space to have her (grand)kids over.



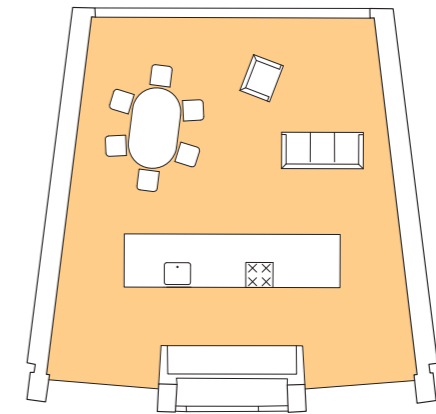
MARGREET'S DWELLING



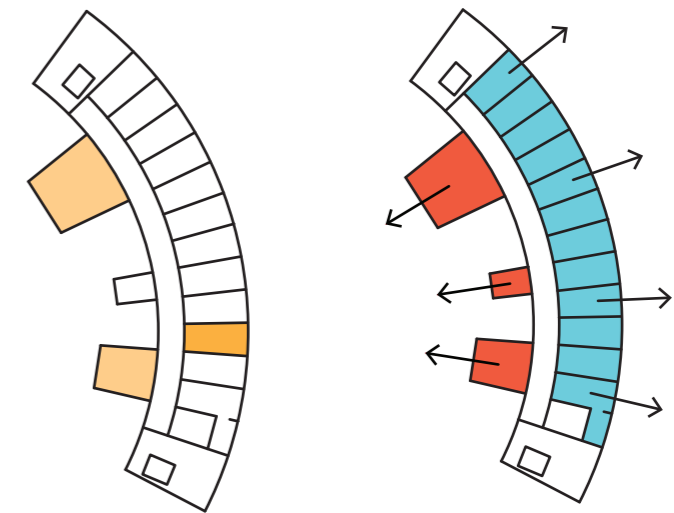
DWELLING IN RELATION TO THE COLLECTIVE KITCHEN & COMMUNAL ROOM



COMMUNAL ROOM



COLLECTIVE KITCHEN



OPPOSITE ORIENTATION





**ARCH ELEMENT/FACTOR USED**

SINGLE ORIENTATION

NO KITCHEN

GROUPING OF DWELLINGS

COLLECTIVE FUNCTIONS

**USER CONSEQUENCE**

COOKING IS COLLECTIVE

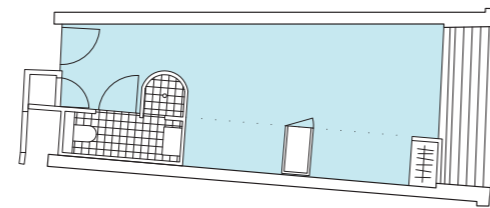
COOKING BECOMES SOCIAL  
ACTIVITY

MORE SOCIAL INTERACTION DURING  
ACTIVITIES

**CONSEQUENCES FOR MARGREET**

In this organisation, Margreet is denied the possibility to provide for visiting relatives in her own dwelling, due to the size of the dwelling and the lack of a private kitchen. Margreet is imposed to come out of her dwelling and cook and eat alongside her fellow dwellers. In this way cooking becomes a social activity and is never a private activity.

However outside the eating/cooking activity, the dwelling does not provide Margreet with any social interaction with other elderly. The dwelling with its single orientation is secluded from the other, undesirable for Margreet.

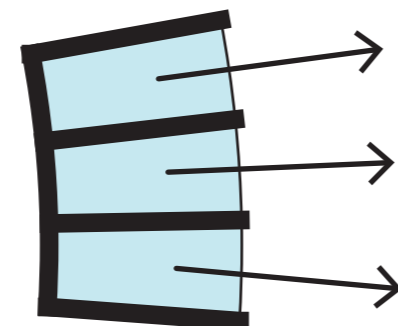


DWELLING HAS NO KITCHEN

**ARCH ELEMENTS/FACTORS**

The dwellings in the Tietgen dormitory are designed without a private kitchen. The kitchen is placed within a ring of collective functions which are shared with other dwellings. 12 dwellings in total share the kitchen. The kitchen is of considerable size, adding more possibilities than only cooking and eating. The kitchen becomes a social living room for the dwellers. Added to the collective kitchen there is an additional multifunctional room which can be used for different purposes. In Margreet's case it can be 'rented' and used to invite her relatives over and have a space to get together.

In this organisation however, the dwelling has no visual relation with the collective functions. The private dwellings and the collective functions have an opposite orientation.



SINGLE ORIENTATION



SINGLE ORIENTATION



DWELLINGS ARE CLOSED TOWARDS THE  
CORRIDOR








# TEST CASE 1 - COMPARISON

OTHER PROFILES > TIETGEN DORMITORY





		USER SPECIFIC DEMANDS	USER CONSEQUENCE
DIVORCED		Space is important for the divorced man. He is not willing to live in a dwelling that is too small. He needs <b>extra space</b> at home <b>to work</b> or to have <b>his children over</b> in the weekend. Collective space could be an option if the private space is sufficient.	The Tietgen Dormitory is not very suitable for our divorced man. He is willing to share the facilities which will give him a lot of social interaction and work space. But the private dwellings are <b>too small</b> for his lifestyle.
EXPAT		Private space is important for our expat since he has a busy job and a wife and <b>kids that visit him every now and then</b> . The dwelling should therefore not be too small. Collective space can be useful, only if it is <b>additional to the private facilities</b> .	The expat will have enough privacy inside the dwelling, but is <b>forced to share</b> the kitchen. Because the expat will have his wife and kids over every now and then, the minimal dwelling with its shared facilities is not really fitting.
YOUNG PROFESSIONAL		The young pro is quite flexible in her lifestyle at the current moment. She spends most of the day <b>at work</b> , so the dwelling becomes a <b>place of relaxation</b> . The dwelling can be small and have collective functions, until she plans to live together or have kids.	Since the young professional currently has no partner or kids, she is willing to share some facilities like cooking. The dwelling does provide her the <b>needed privacy</b> when necessary.
STUDENT		Social interaction is important for the student. He can live <b>alone in a group</b> or live closely together with other students. The private dwelling can be small as long as there is <b>sufficient collective space</b> for the student to use and interact with others.	The student fits perfectly in this project. He has a private room, just big enough for sleeping and an additional desk or sofa. The project gives the students many social interaction, due to the <b>collective functions</b> .
ELDERLY		The elderly crave for <b>social interaction</b> , since they spend most of the time at home and <b>loneliness</b> can become a real problem. The dwelling should be large enough to have his/her (grand)children over and be completed with collective functions.	Tietgen would not be a perfect match for the elderly. It does not provide the elderly with the <b>necessary social interaction</b> , but within the private room, the elderly are harshly separated from any kind of contact. With some redesigning of the rooms, it could be perfect.





# **CASE STUDY 2**





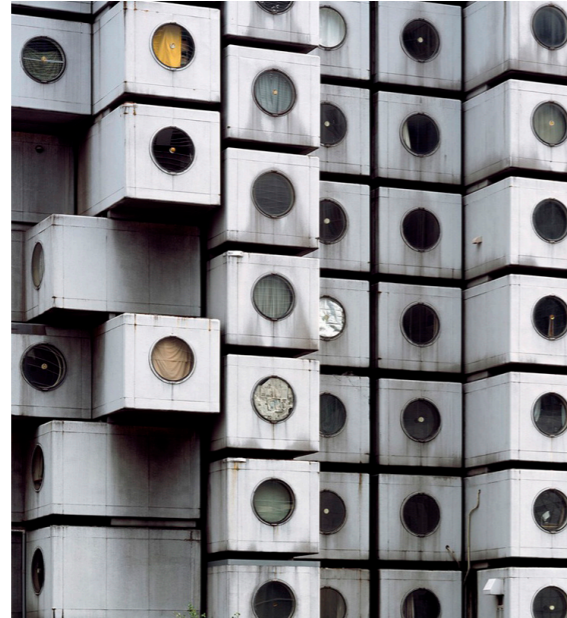
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# CASE STUDY 2

## NAKAGIN CAPSULE TOWER - TOKYO - KISHO KUROKAWA

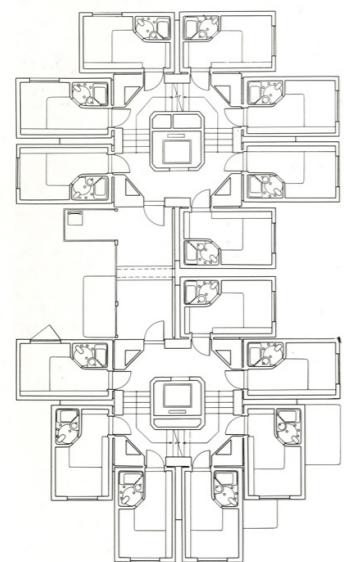


Completed in 1972, the building is a rare remaining example of Japanese Metabolism, an architectural movement emblematic of Japan's postwar cultural resurgence.[1] The building was the world's first example of capsule architecture built for permanent and practical use. The building still exists but has fallen into disrepair.[1] As of October 2012, around thirty of the 140 capsules remained in use as apartments, while others were used for storage or office space, or simply abandoned and allowed to deteriorate.

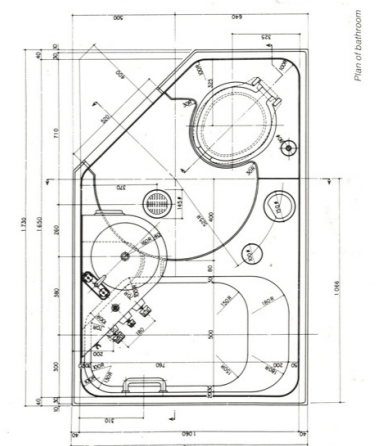
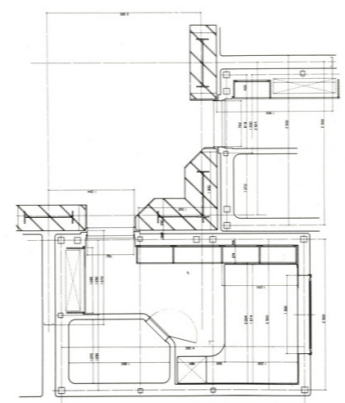


The capsules were fitted with utilities and interior fittings before being shipped to the building site, where they were attached to the concrete towers. Each capsule is attached independently and cantilevered from the shaft, so that any capsule may be removed easily without affecting the others. The capsules are all-welded lightweight steel-truss boxes clad in galvanized, rib-reinforced steel panels. After processing, the panels were coated with rust-preventative paint and finished with a coat of Kenitex glossy spray.

The Nakagin Capsule Tower is a mixed-use residential and office tower designed by architect Kisho Kurokawa and located in Shimbashi, Tokyo, Japan.

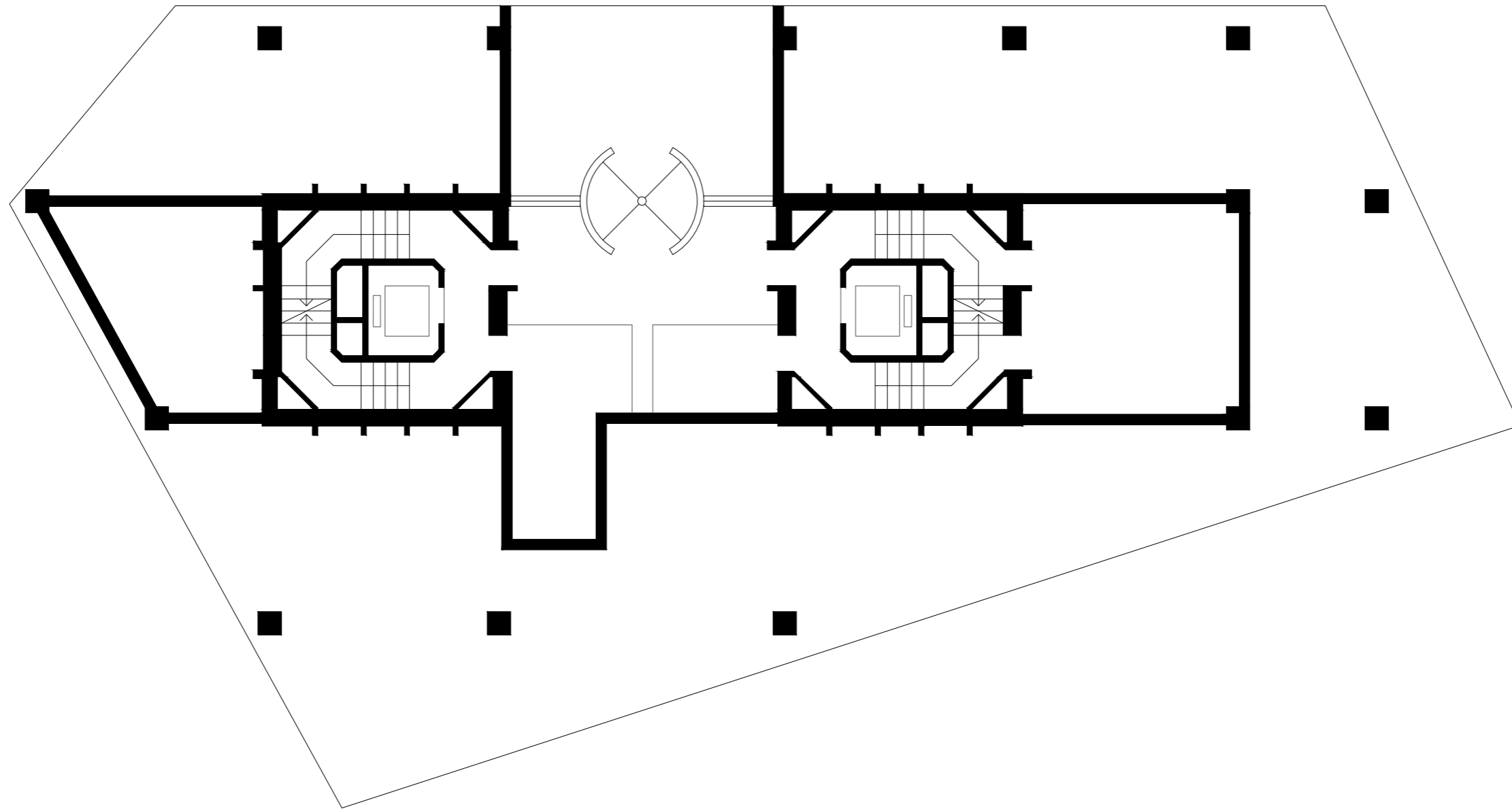


**THEMES**  
 COMPACT DESIGN  
 MULTI FUNCTIONAL SPACE  
 SPATIAL NEEDS ARE OBJECTIFIED  
 MINIMAL DWELLING

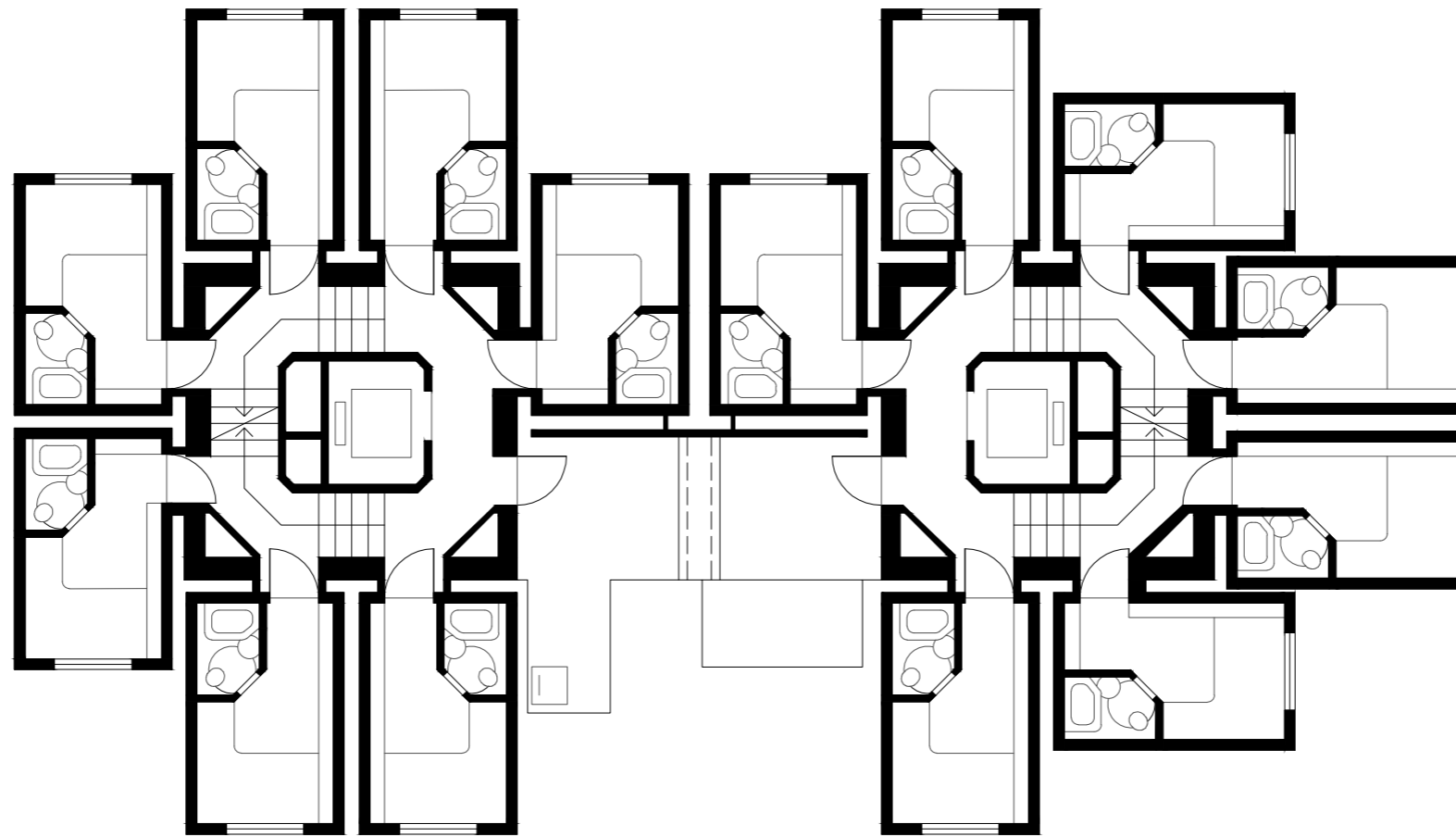




FLOOR PLAN

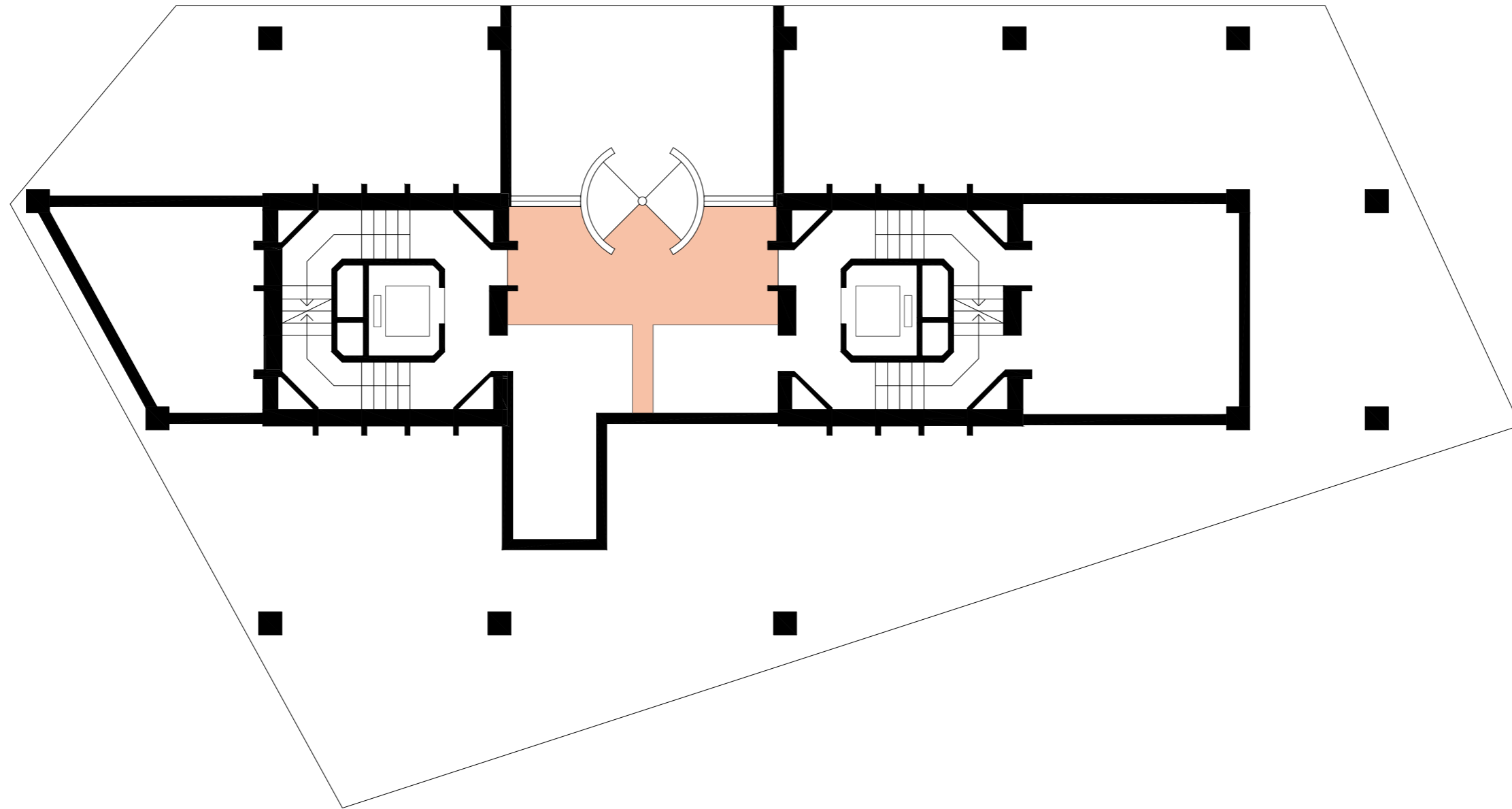


GROUND FLOOR



UPPER FLOOR

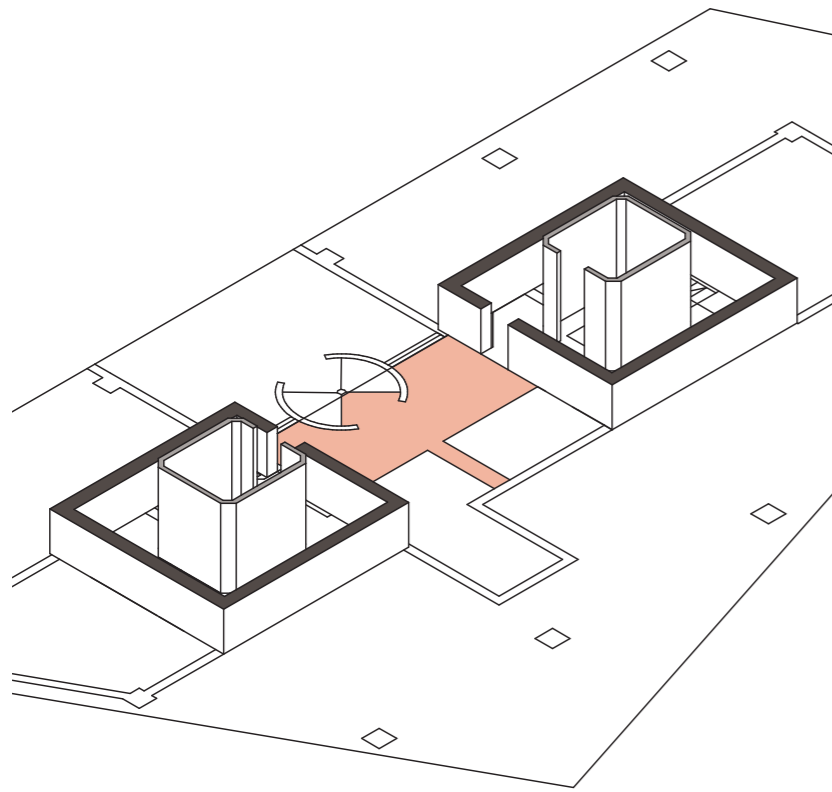
COLLECTIVE SPACE - GROUND LEVEL



GROUND FLOOR

 COLLECTIVE SPACE

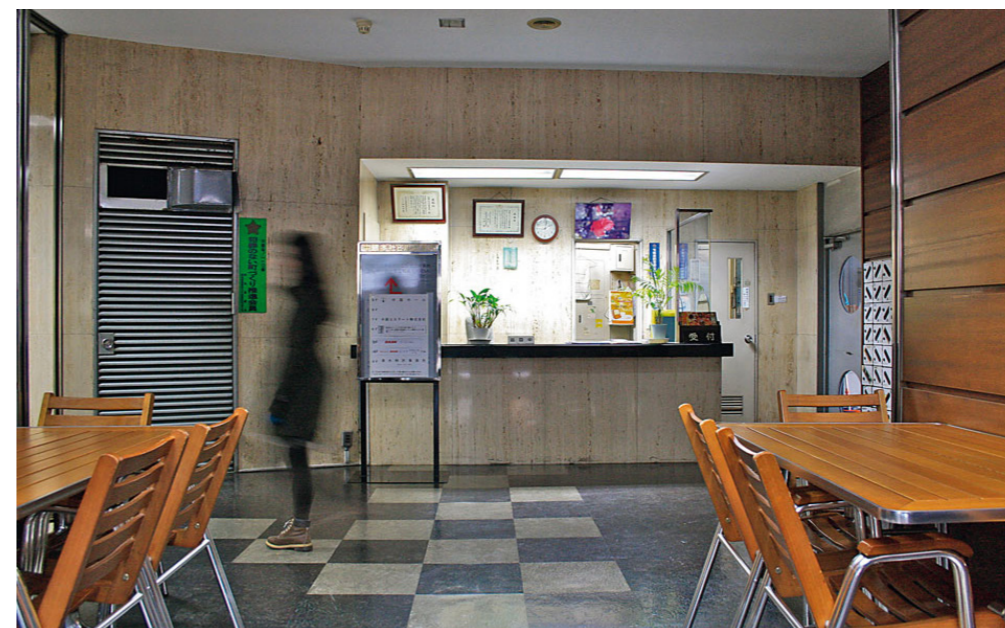




The only collective space designed in this building is on the ground floor, combined with the entrance. There is one self-service cafe on the ground level. And the floor above the entrance is used as office space. From the Japanese architecture tradition, this space could be seen as a living room in this building. Yet the space is shared and public, it could not provide collectivity, because the main goal of people going through this space is passing through.

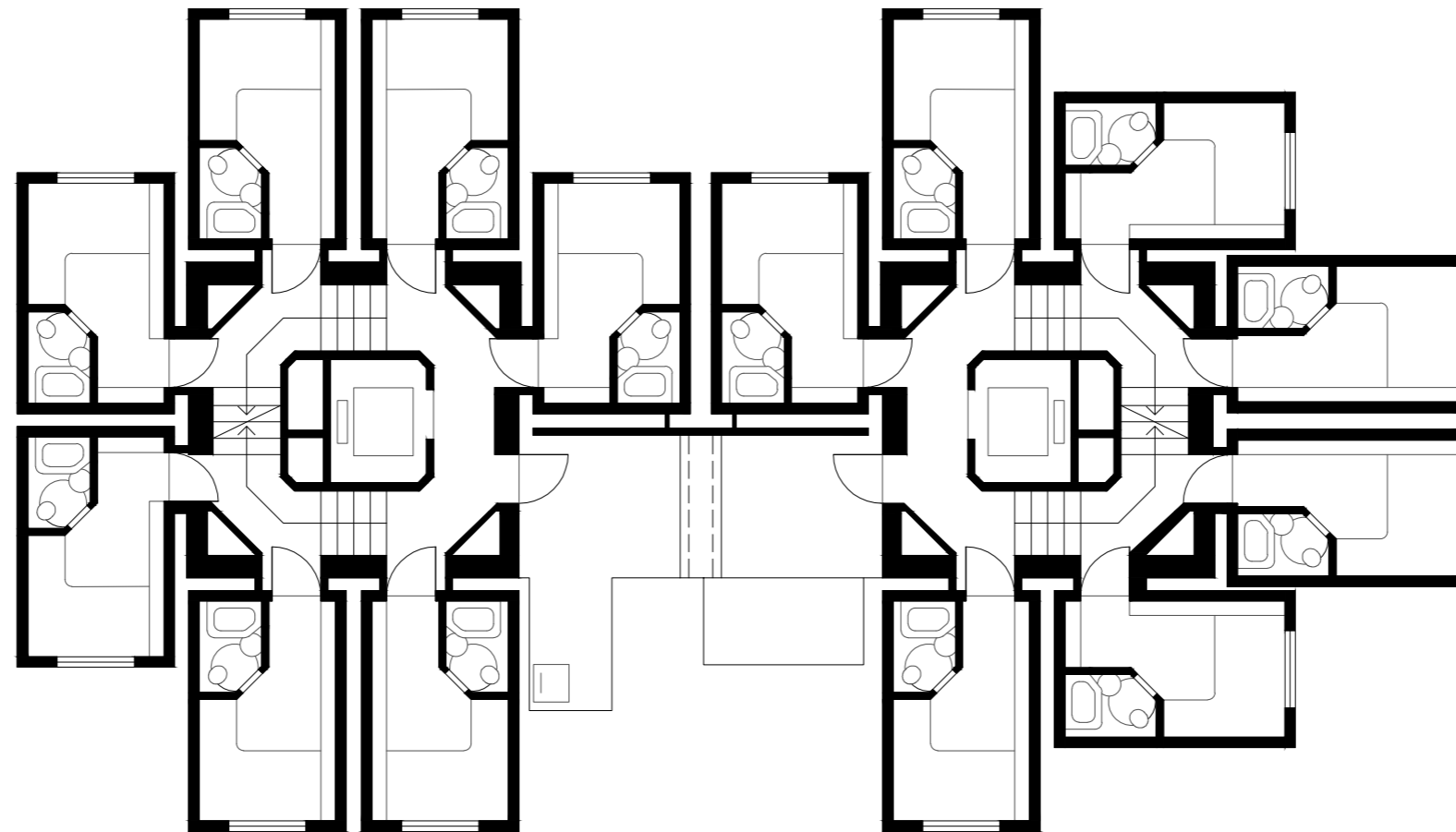


MAILBOX ON THE GROUND FLOOR



SELF SERVICE CAFE ON THE GROUND FLOOR

COLLECTIVE SPACE - UPPER LEVEL



UPPER FLOOR NO COLLECTIVE SPACE

 COLLECTIVE SPACE



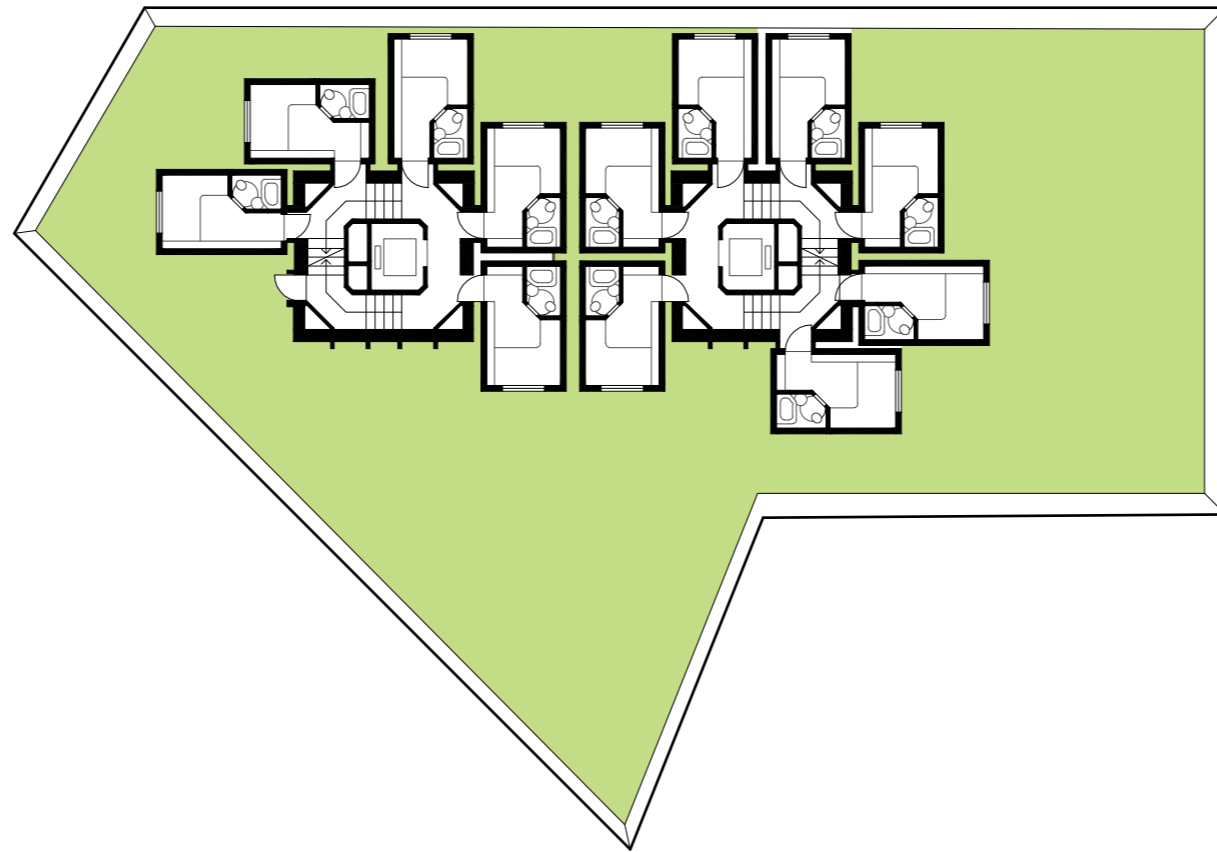
When the dweller wants to have collective activities inside of this building, because there is no place to go to. The only option is to invite all the group into the small unit, which makes it really crowded. On one side, the physical distance between people is forced to be shorten, which maybe bring something new in their relationship; on the other hand, this option is the only one offered in the building, they do not have any other choice.



COLLECTIVE ACTIVITIES INSIDE CAPSULES



OUTDOOR SPACE - ROOF TERRACE



ROOF TERRACE

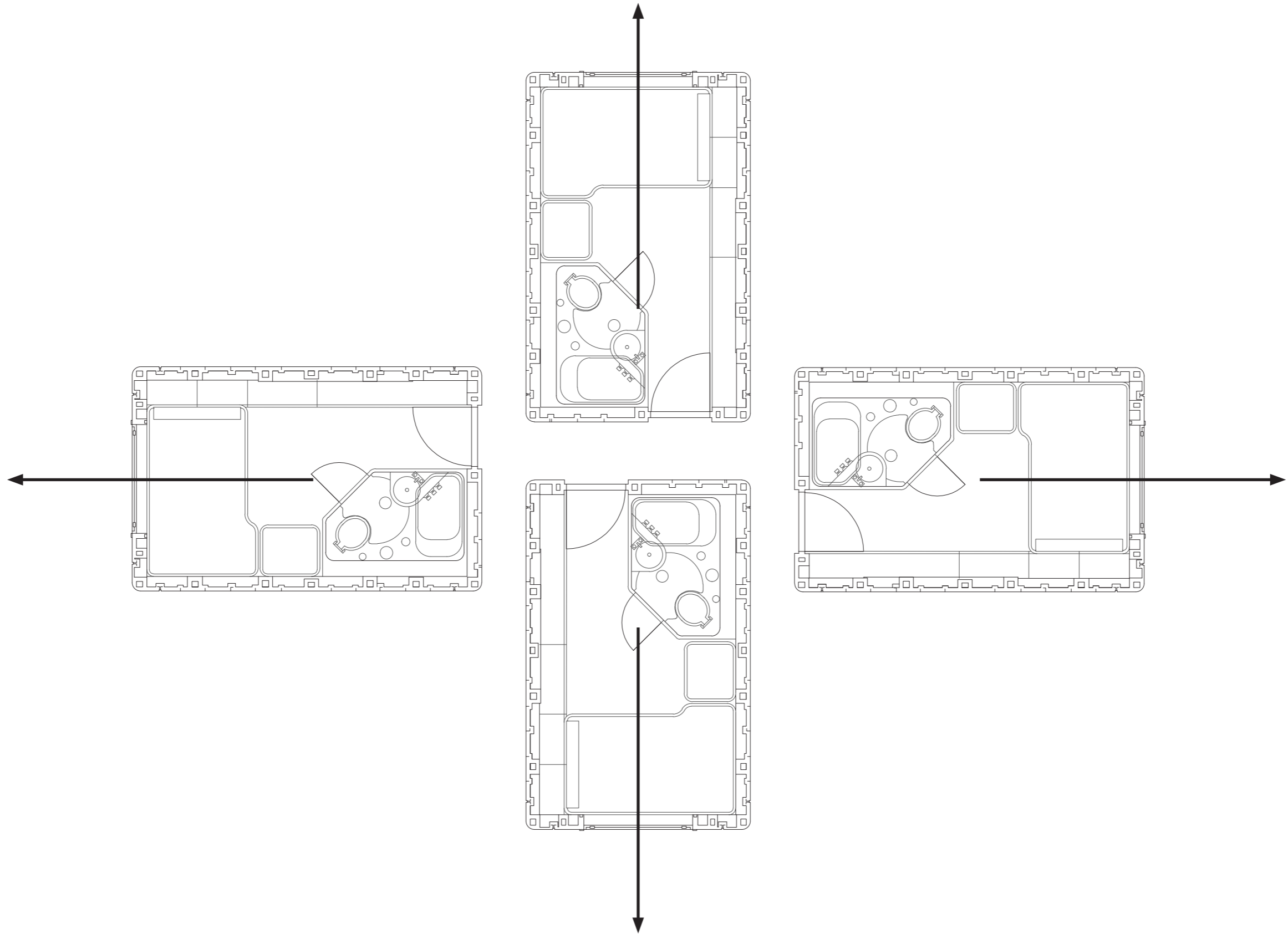
 ROOF TERRACE



The roof terrace is not designed as a place for collective use. It is resulted from the roof of the lower floor. There is no guide or no intension to enhance this place as a collective place. Eventually, this place became an abandoned place where the technical equipments were placed. And also there still are some dwelling units around this floor, people get the feeling that they are not welcome to be there. This roof has the potential to become a collective space, which could be used as urban farming and eating together place.

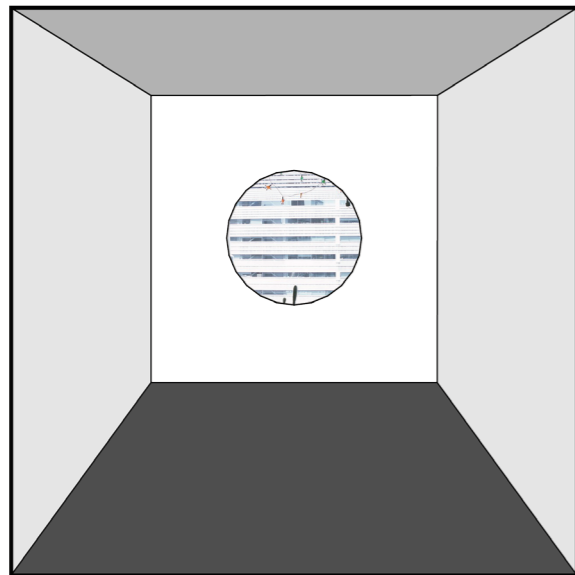
ROOF TERRACE

OUTDOOR SPACE - PRIVATE VIEW



PRIVATE VIEW



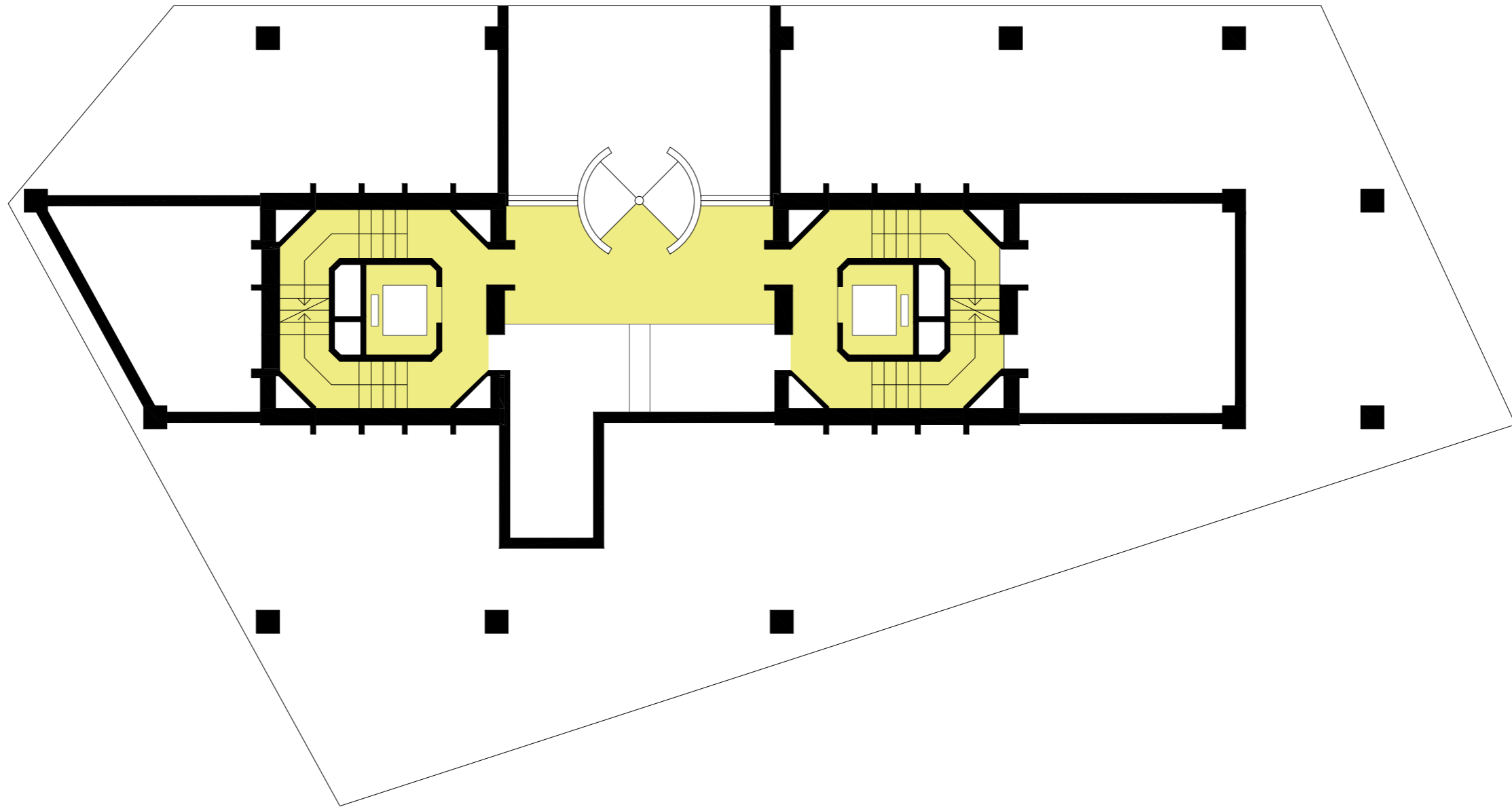


Inside of the capsules, the only view would be limited by the circular window and it is single orientated. The capsules are hung all round the building and face different sides. The ones towards the east and west could have a bigger problem because of the sunlight. The window is the only exit to escape from the compact unit and outside of it is the endless urban landscape with its skyscrapers.



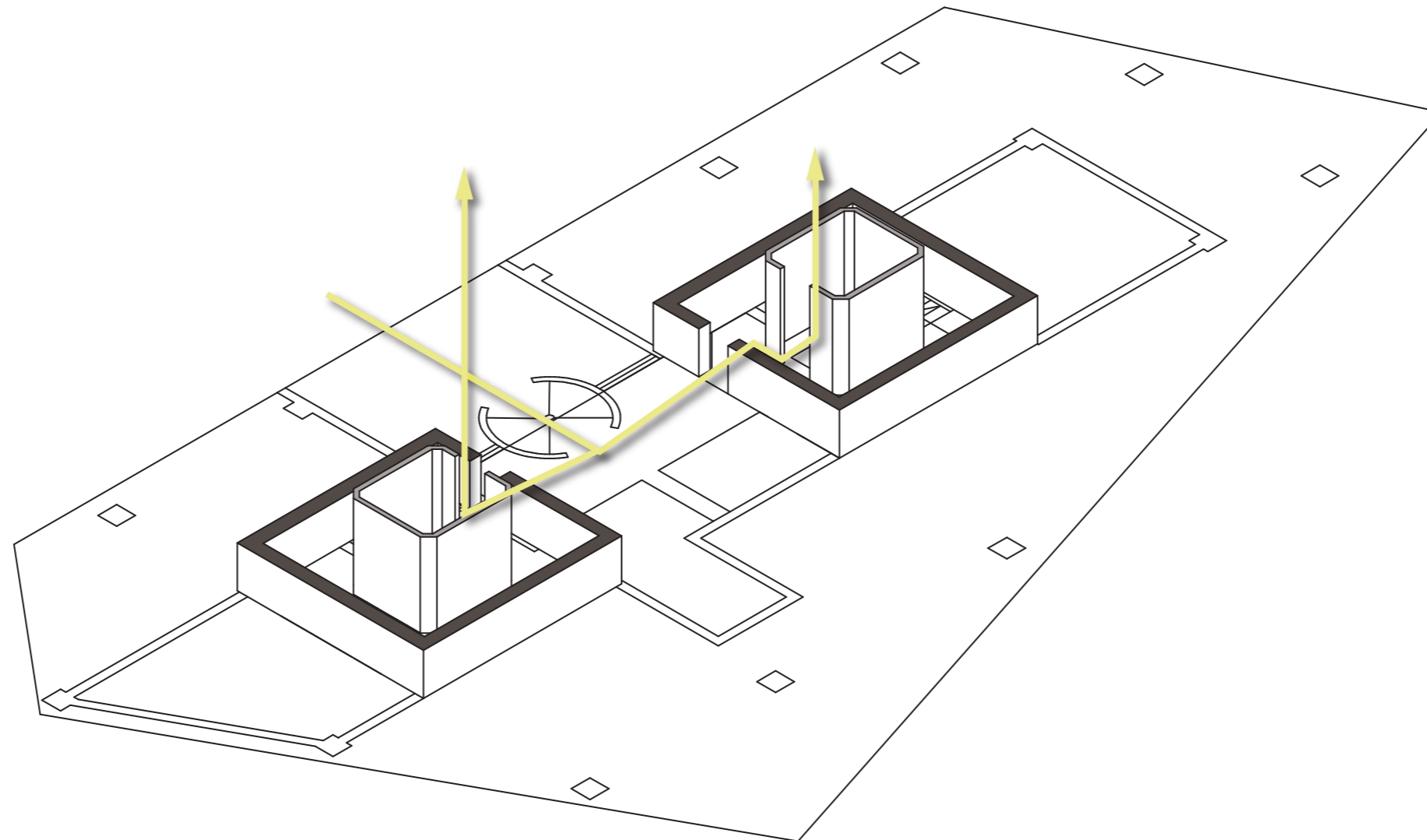
VIEW THROUGH WINDOW INSIDE CAPSULES

ACCESS ROUTE - GROUND FLOOR



GROUND FLOOR

 ACCESS ROUTE

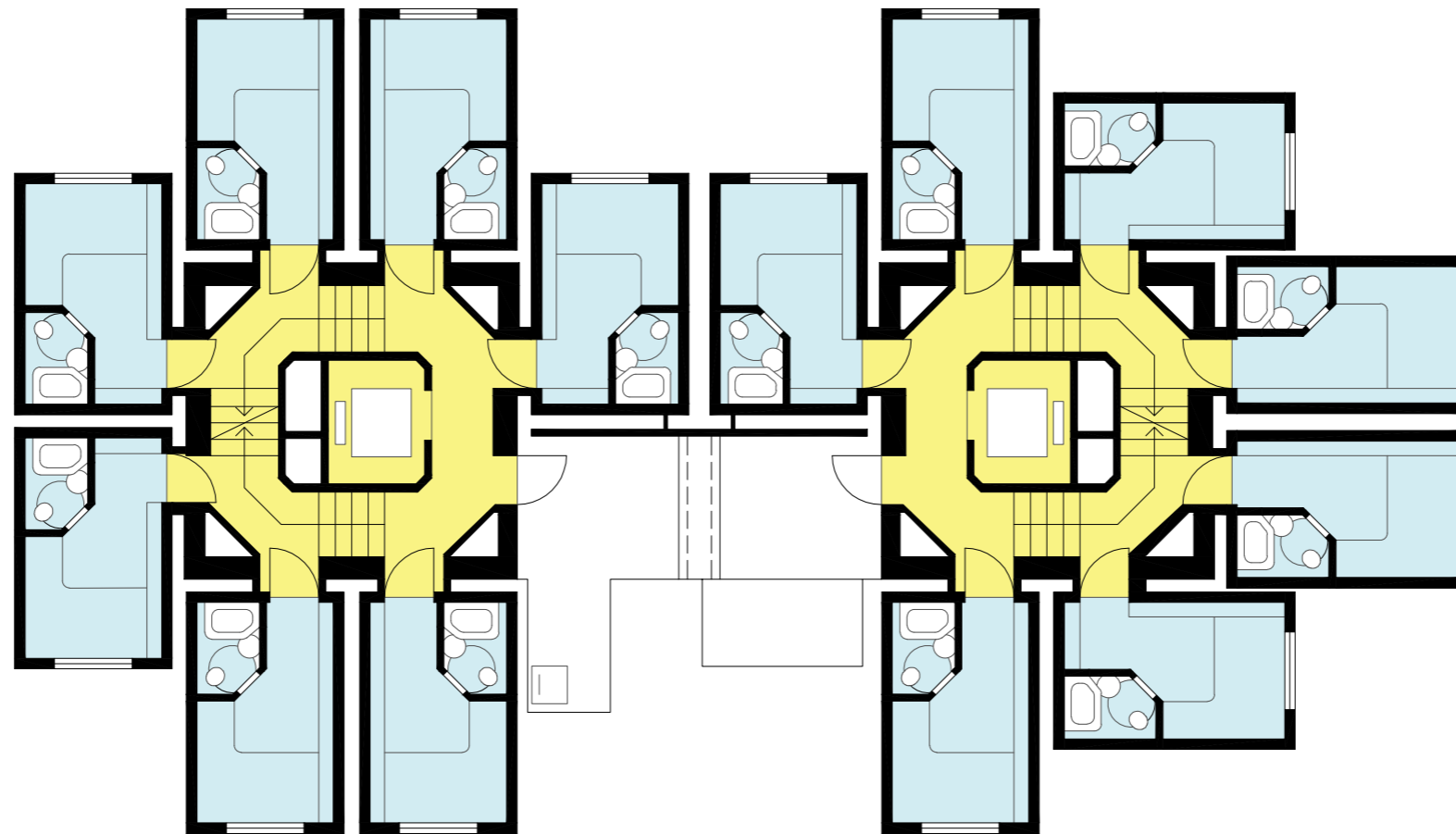


GROUND FLOOR ACCESS ROUTE


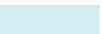
 ACCESS ROUTE

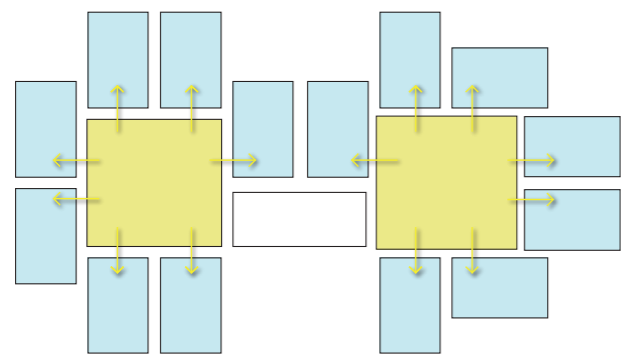


ACCESS ROUTE - UPPER FLOOR

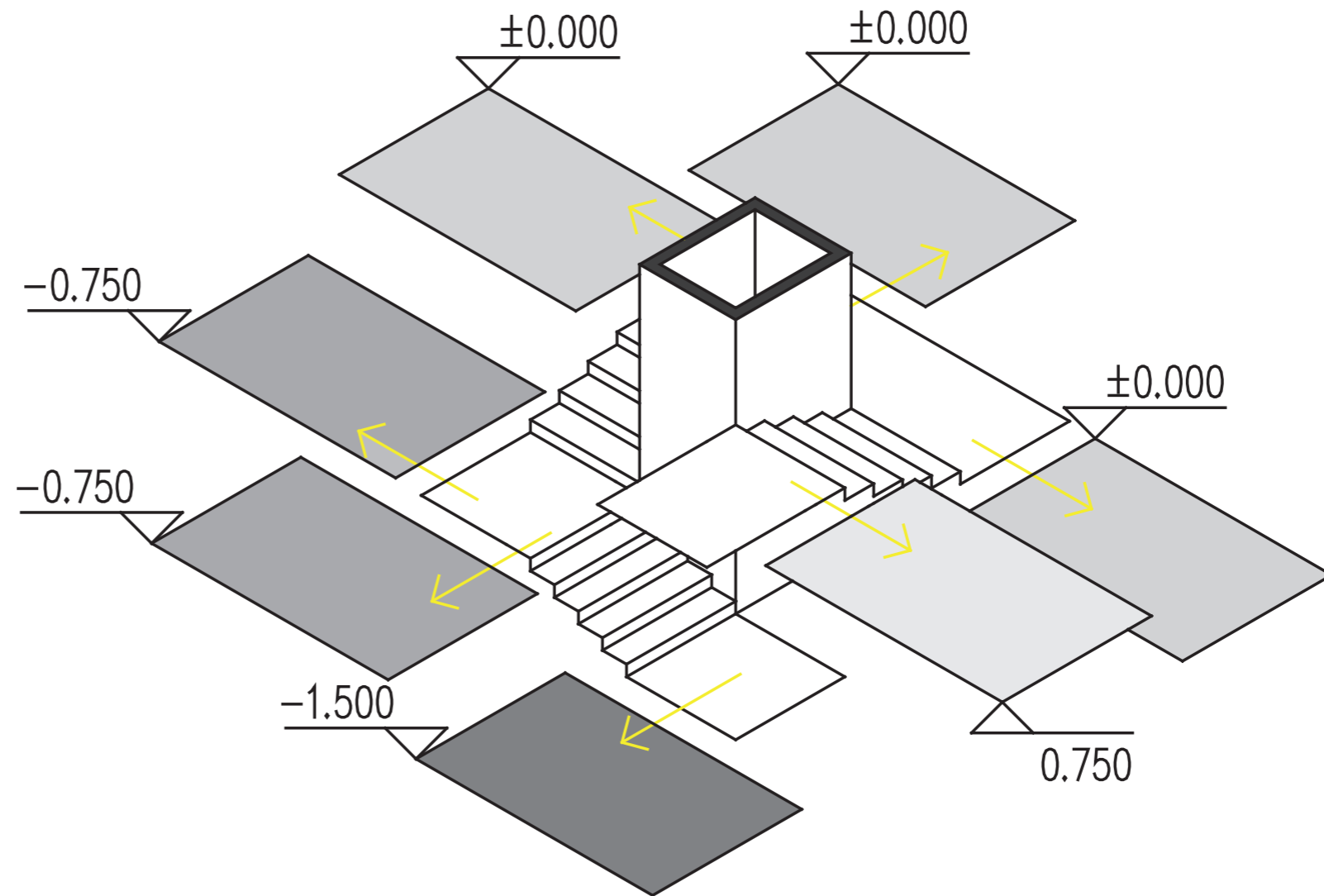


UPPER FLOOR

-  ACCESS ROUTE
-  DWELLING UNIT

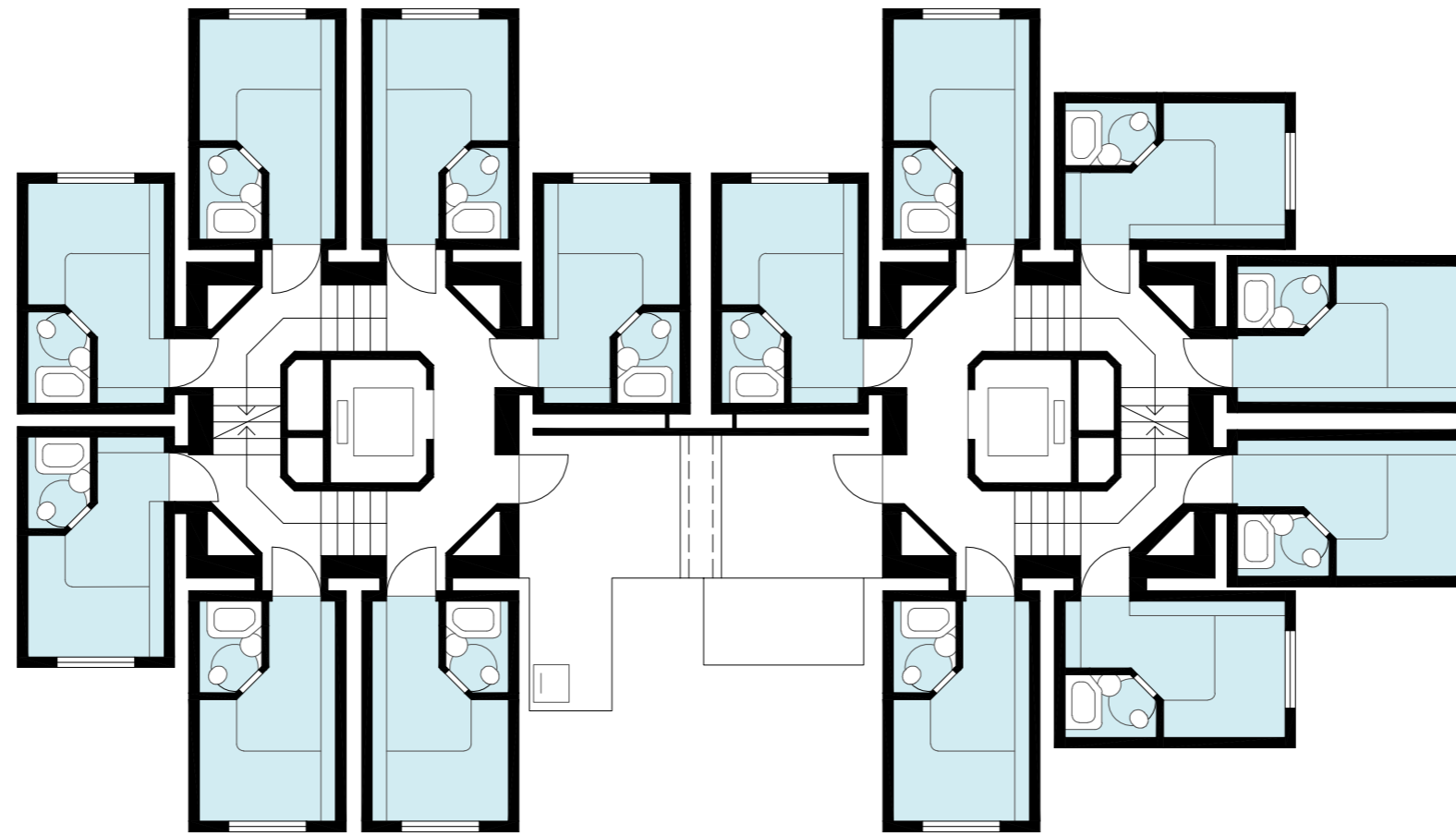


Like many towers, the access to the higher floor is through the elevator. In this case, some of the capsules are on the different height level. The general access would be first through to the elevator to the floor close to the capsule, and then use the stairs to go up or down to the individual door. In this case, the efficiency of the elevator is increased, making the building more like its original concept, "Living Machine for the future people"



UPPER FLOOR ACCESS ROUTE

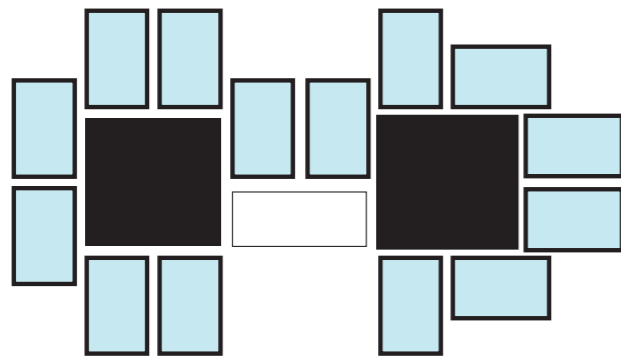
- ACCESS ROUTE
- DWELLING UNIT



UPPER FLOOR

 DWELLING UNIT



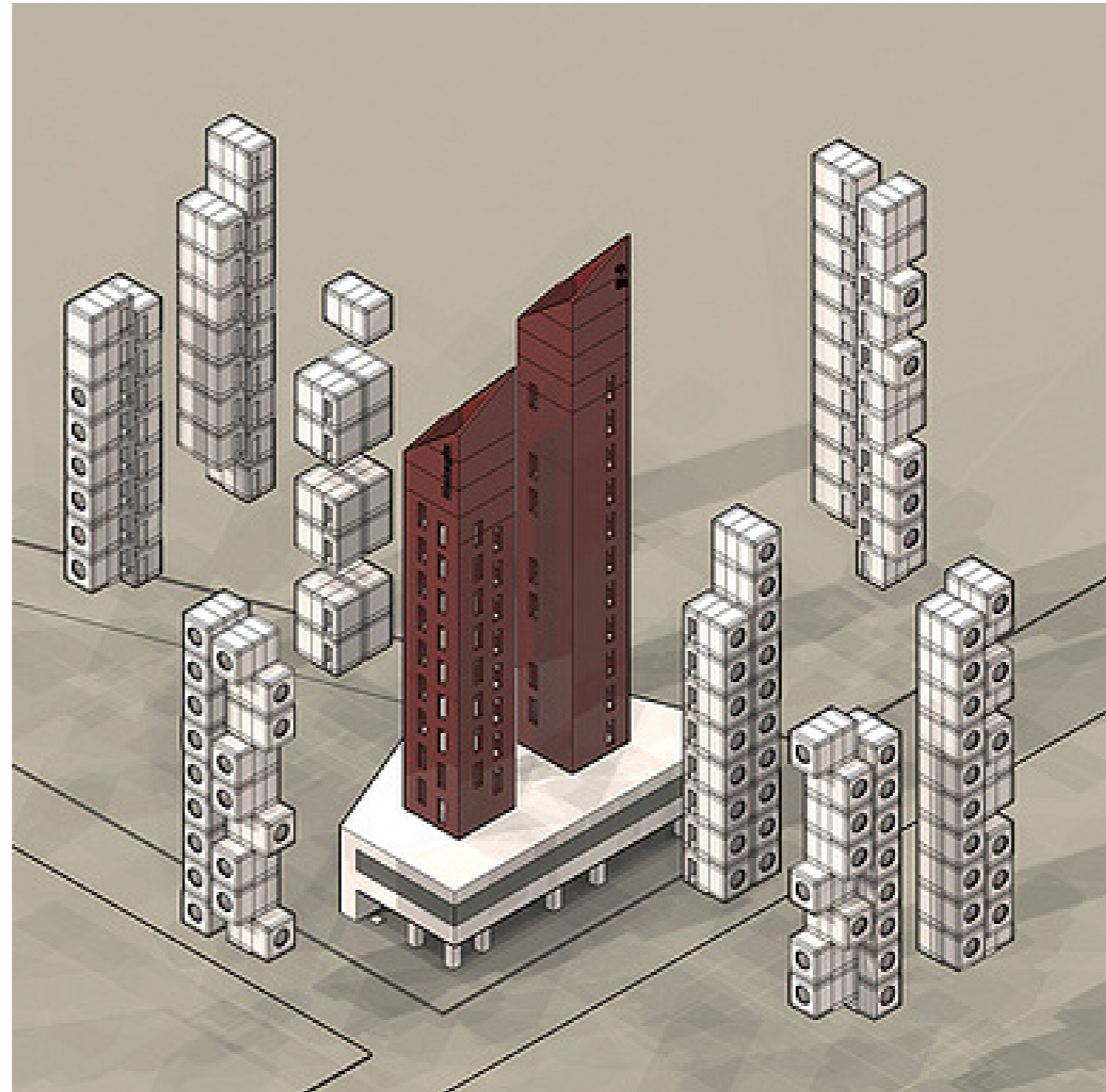


The building is organized through a centralized way around the core. There is some connection between the two cores because of the fire regulations. The capsules are hung around the core in both vertical and horizontal dimensions. The organization also contributes to the success of this building, both in the building level and capsule level. The efficient organization made the building popular for business men and professionals who work in the center of Tokyo.

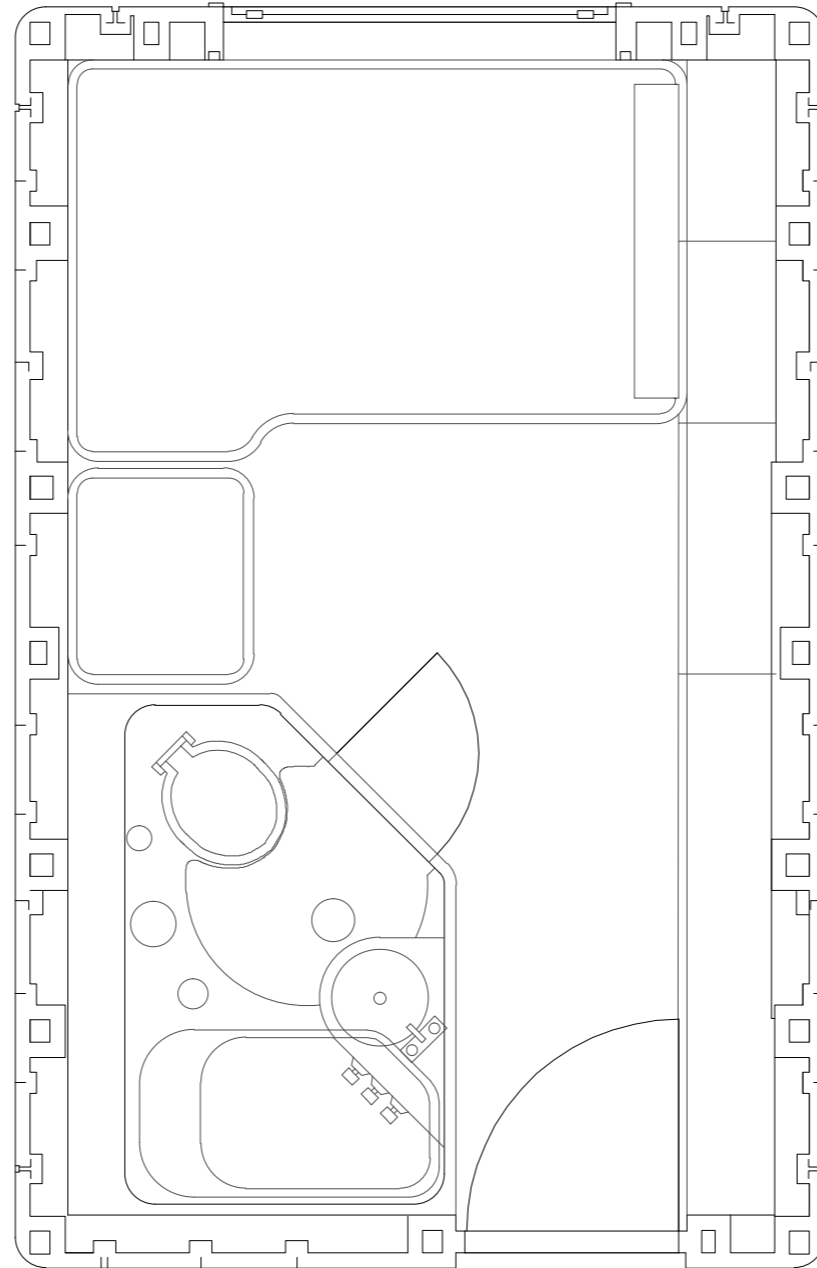
*“The secret is organisation (as with almost everything we do in the capsule)”*

The Metabolist routine  
 Filipe Magalhães, Ana Luisa Soares, 2013

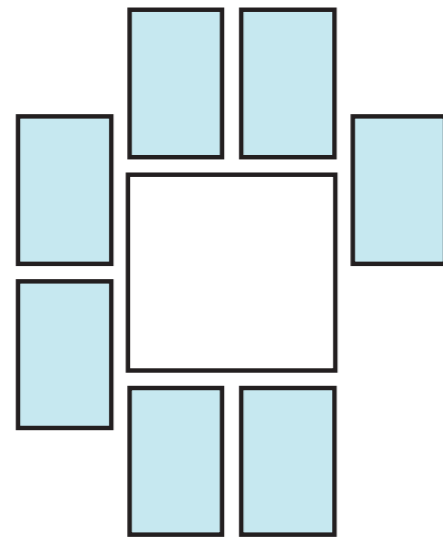
[http://www.domusweb.it/en/architecture/2013/05/29/the\\_metabolist\\_routine.html](http://www.domusweb.it/en/architecture/2013/05/29/the_metabolist_routine.html)



ORGANIZATION- CORE AND CAPSULES



DWELLING UNIT 1:25



HARD BORDER BETWEEN EACH OTHERS

The unit is extremely compacted and well organized. During the Metabolism movement, the technology plays an essential role in their designs. They thought many problems could be solved by technology. The whole design breaths future. The architect even thought people in the future will not cook at home because they were too busy. The whole unit is based on the people's future needs, so some places are even unrealistic.

*"We are happy here. We prefer to live in a smaller space in central Tokyo than in a big house in the suburbs. Our routine is to leave home in the morning and return at night to rest. We feel like normal, happy examples of the "contemporary nomad" whom Kurokawa wrote about. "*

The Metabolist routine  
 Filipe Magalhães, Ana Luisa Soares, 2013

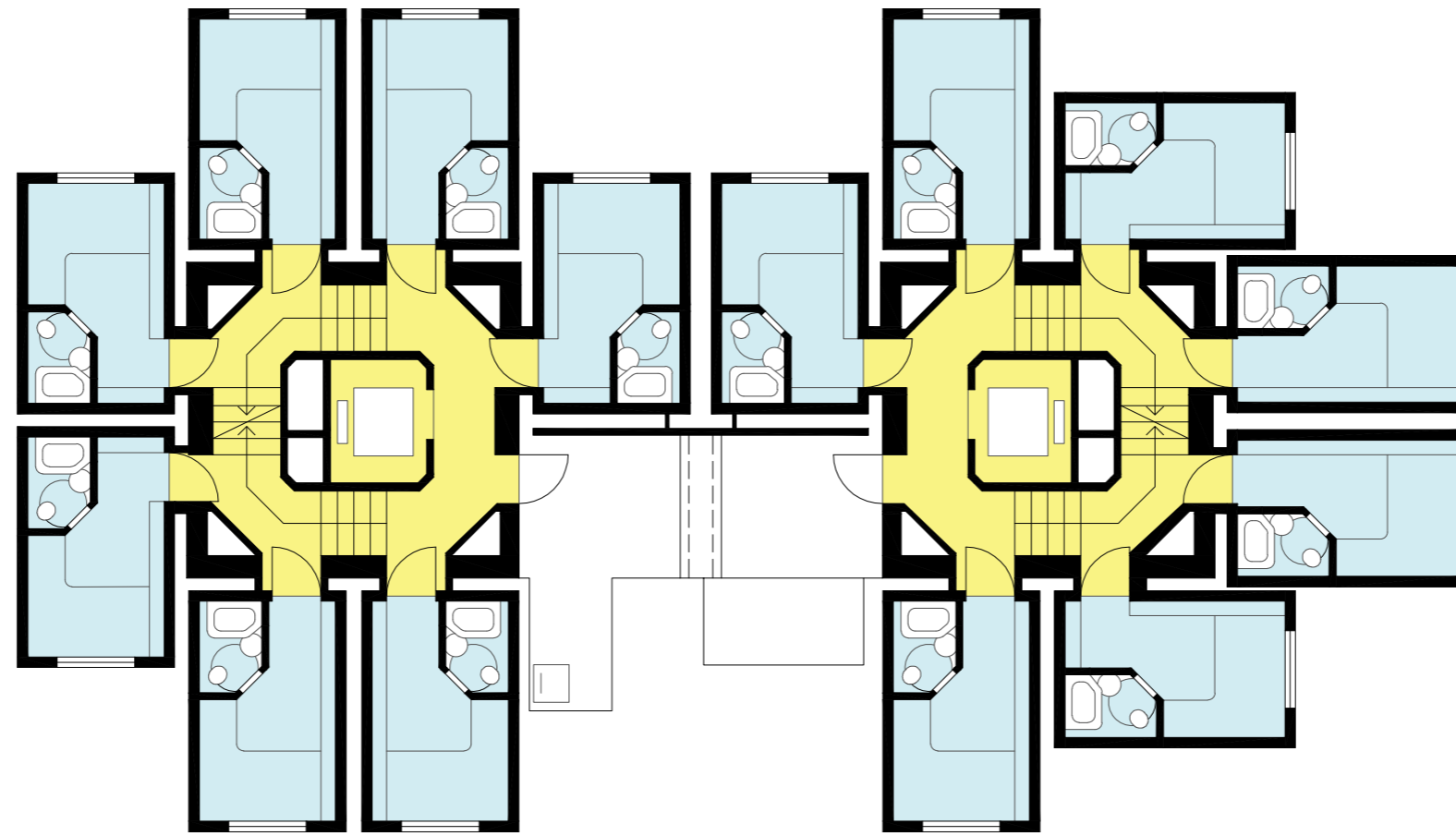
[http://www.domusweb.it/en/architecture/2013/05/29/the\\_metabolist\\_routine.html](http://www.domusweb.it/en/architecture/2013/05/29/the_metabolist_routine.html)



CAPSULES WITH HUMAN SCALE

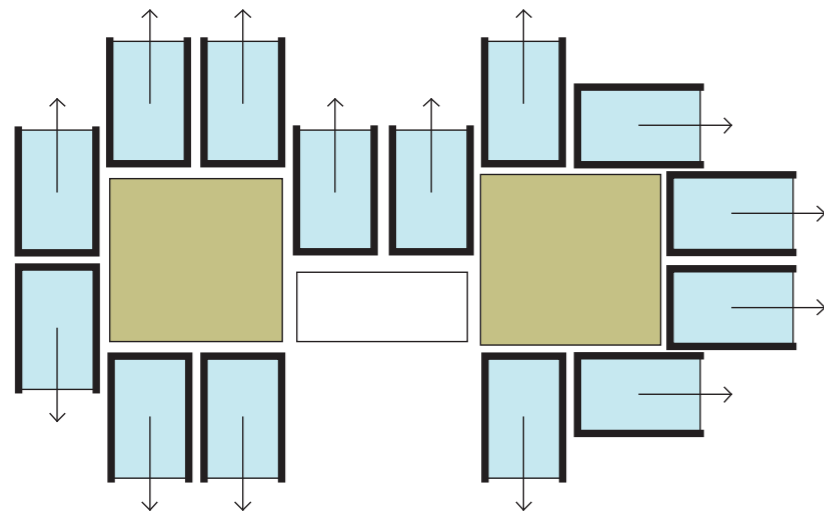


DWELLINGS - ORIENTATION



UPPER FLOOR

- ACCESS ROUTE
- DWELLING UNIT



The capsule's orientation is single outwards. As there is no contact and no collective space, so the capsule is more or less an isolated land from the outside. When you close your door, the endless loneliness and city noise will remind you of the dilemma between technology and humanity.

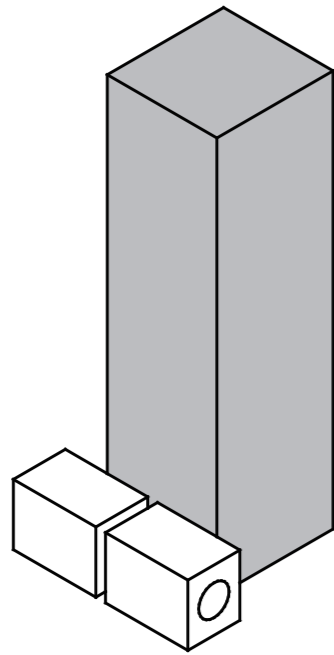
*"We rarely see any of our neighbours, and despite having lived here for a few months, we've never come across anyone in the elevator. There is no noise in the other capsules and sometimes we have the impression that no one else lives in the building."*

The Metabolist routine  
 Filipe Magalhães, Ana Luisa Soares, 2013  
[http://www.domusweb.it/en/architecture/2013/05/29/the\\_metabolist\\_routine.html](http://www.domusweb.it/en/architecture/2013/05/29/the_metabolist_routine.html)



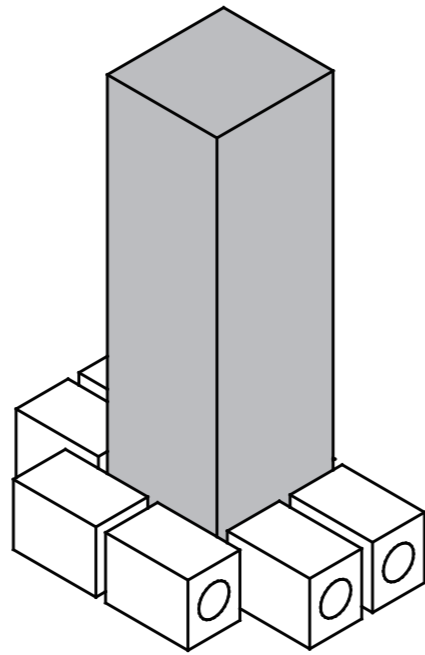
CLOSED DOORS AROUND THE CORE

STEP 1



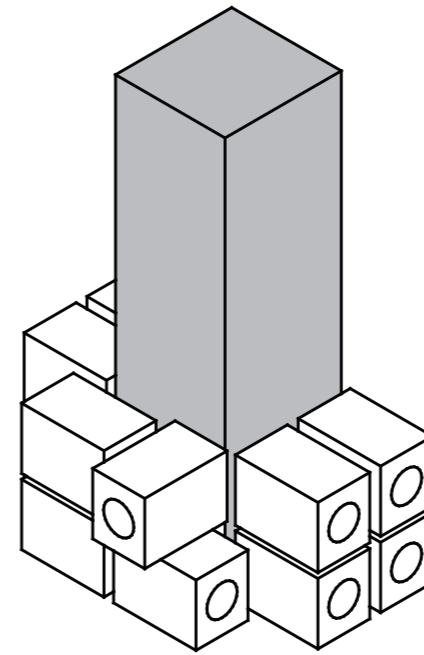
The capsules are prefabricated in the factory and are shipped to the building site after the central core is finished.

STEP 2



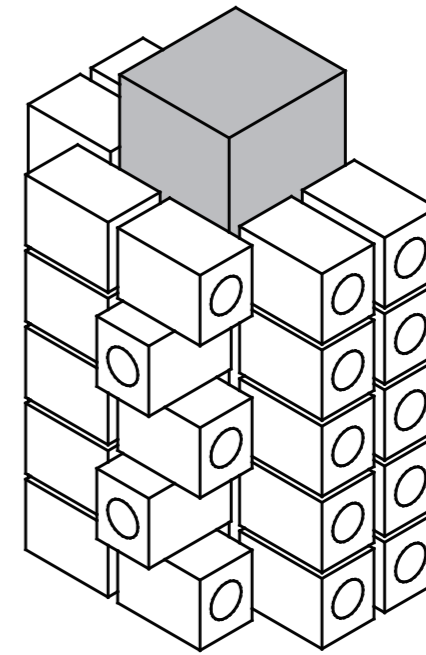
The capsules are lifted and installed by the tower crane around the same level.

STEP 3



After installing the capsules in one floor, the upper floor capsules are installed. These two floors capsules do not stack each other.

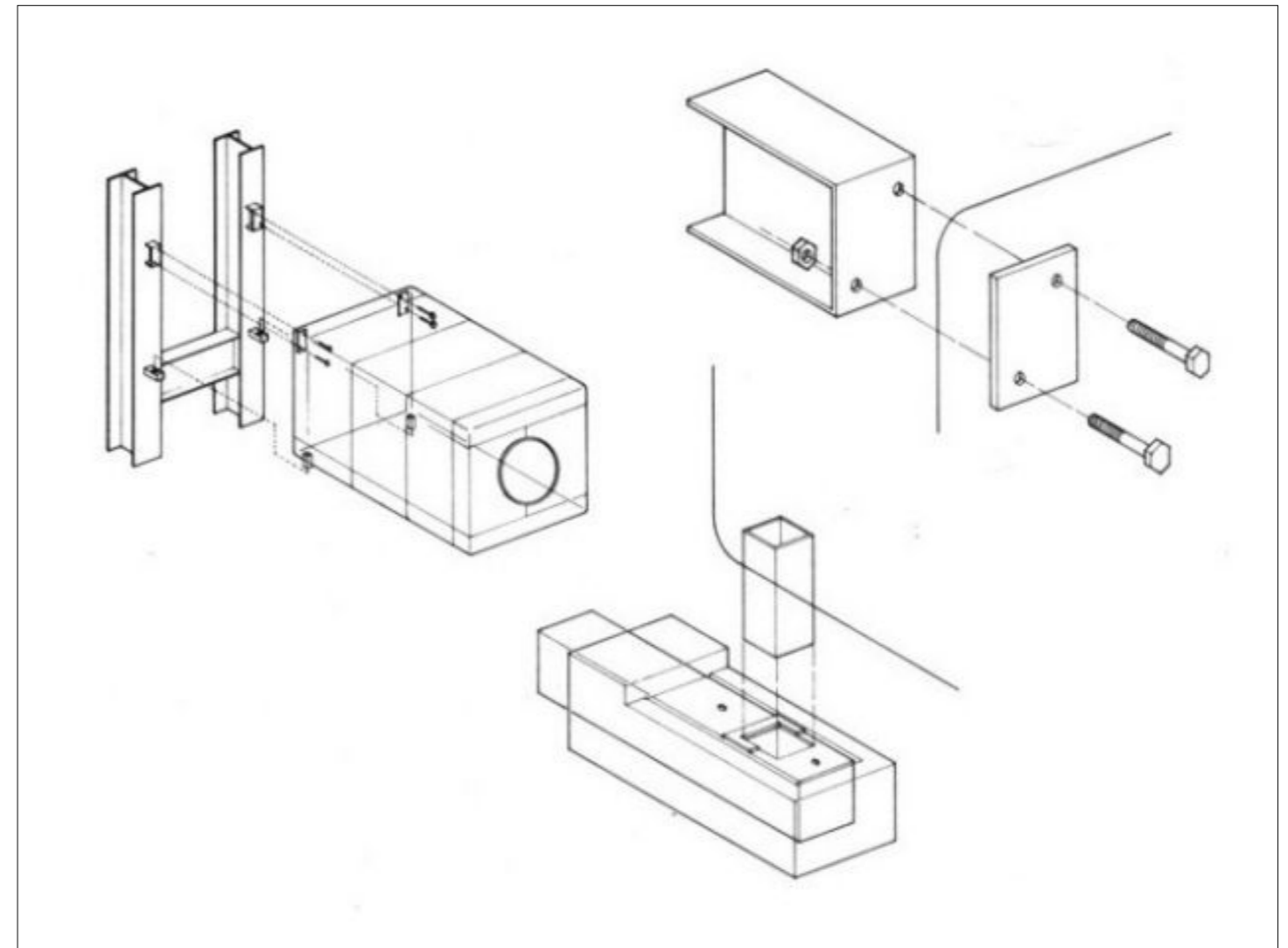
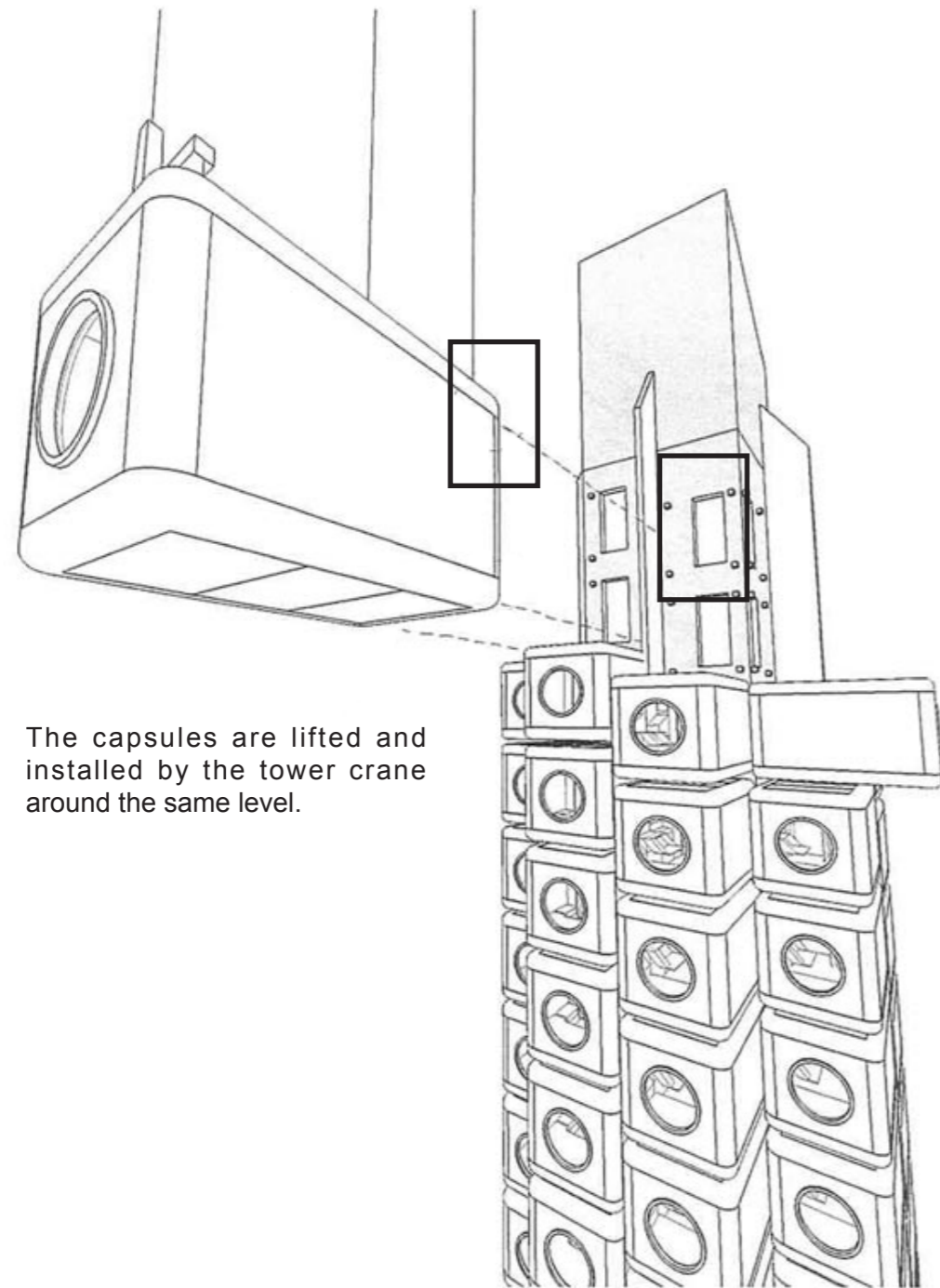
STEP 4



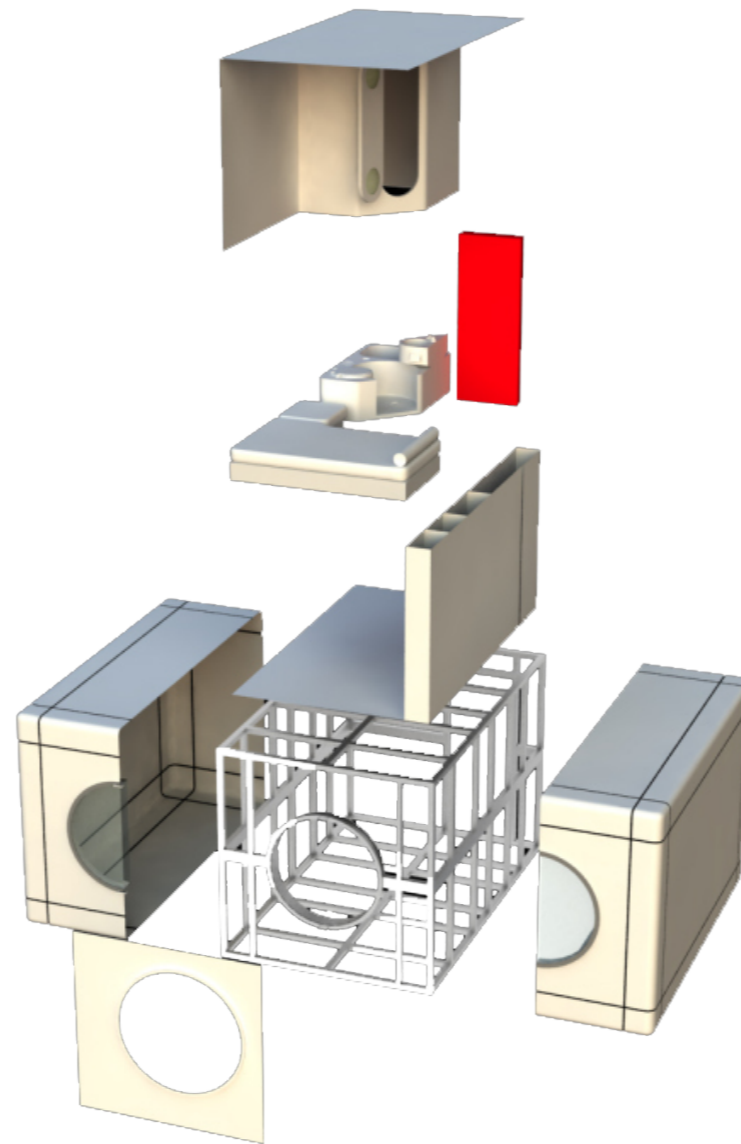
All the capsules are hung from the central core. And each capsule is independent from each other in the structure system.

CONSTRUCTION



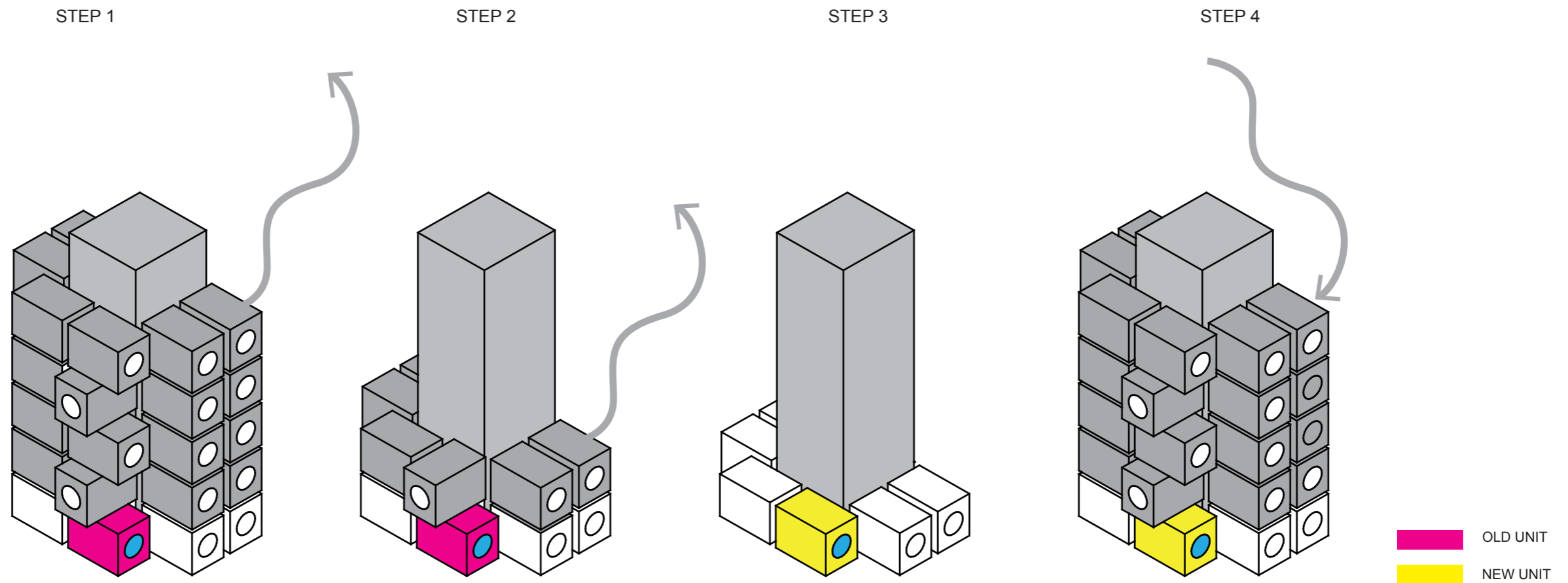


DETAIL OF JOINT BETWEEN CAPSULE AND CENTRAL CORE



UNIT CONSTRUCTION

Like many towers, the access to the higher floor is through the elevator. In this case, some of the capsules are on the different height level. The general access would be first through to the elevator to the floor close to the capsule, and then use the stairs to go up or down to the individual door. In this case, the efficiency of the elevator is increased, making the building more like its original concept, "Living Machine for the future people"



When the old capsule (purple one) need to be replaced, all the capsules above should be removed.

When the old capsule (purple one) need to be replaced, all the capsules above should be removed.

Replace the old capsule with the new capsule.

Place all the capsules removed before back.

The concept of the design is that people could replace these capsules as they like. But the replacement would affect other people's life. In 2007, the architect suggested that people could replace all the capsules when the building is going to be demolished. However, the capsule replacement concept never come true until now.

UNIT REPLACEMENT



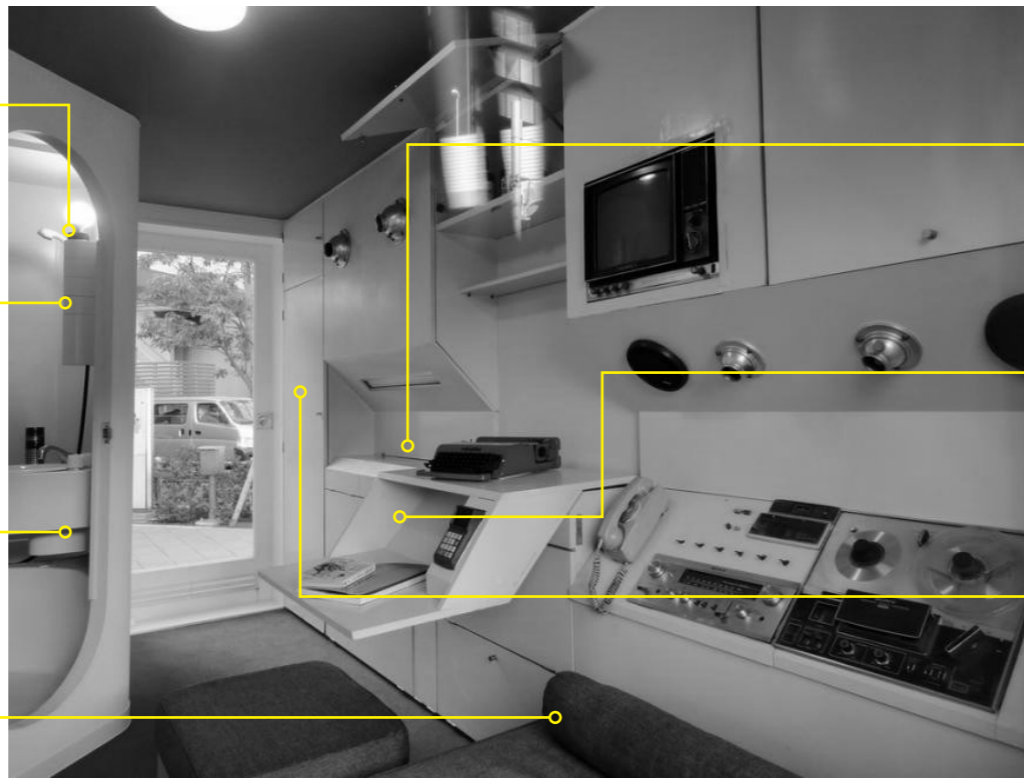
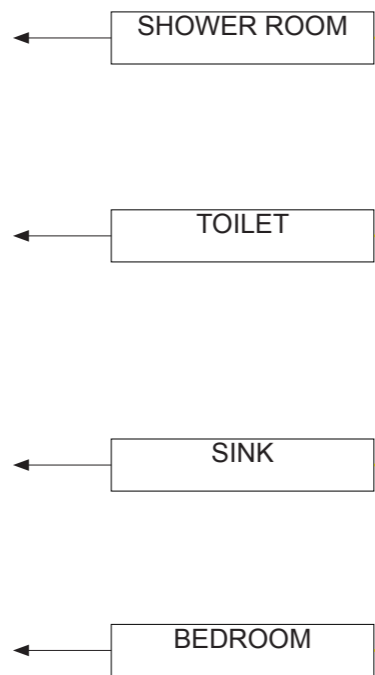
CONCLUSION - NAKAGIN CAPSULE TOWER

OBJECTIFIED FACILITY

SPATIAL NEEDS

SPATIAL NEEDS

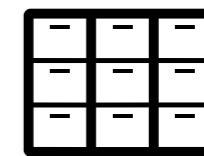
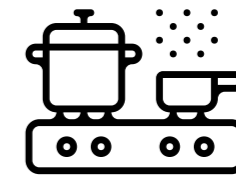
OBJECTIFIED FACILITY



KITCHEN

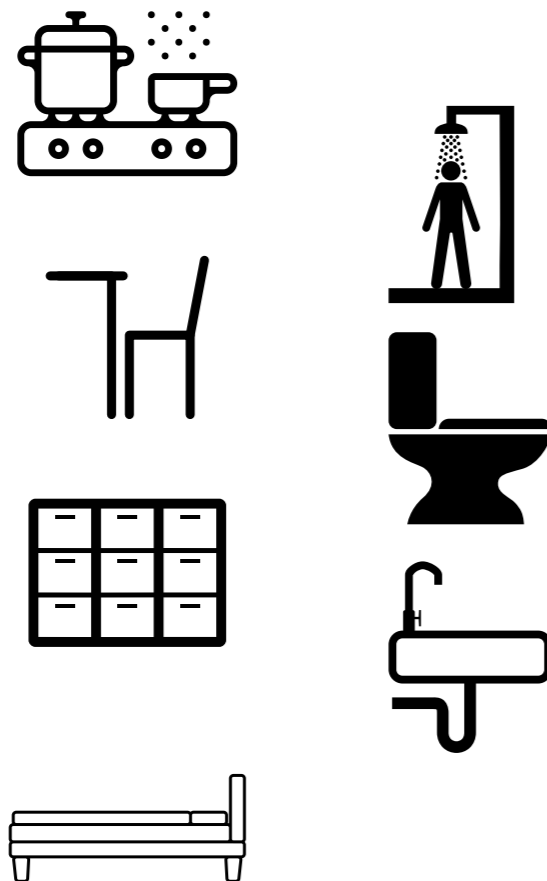
LIVING ROOM

STORAGE ROOM



SPATIAL NEEDS TRANSFORMATION

BASIC FACILITY FOR YOUNG PROFESSIONAL



FROM BASIC FACILITIES TO COMPACTED DESIGN



CONCLUSION

In this case, the capsule's success is because of its compacted design and organization combining all the basic facilities for living. Living in a capsule, or we would rather say sleeping in a capsule (the most time people spending here is in the night), is a self service complete closed circle for future people's life style, which really suitable for people described by Kurokawa.

The question that Kurokawa did not expect is that, when the spatial needs are objectified with facilities, more and more things are added into the capsule. Therefore, the storage room is not enough, so people start to take part of the corridor around the core as their extra storage room. And adding things in front of one's door, is a way to create community or homefeeling in this futuristic but homogeneous space.





# TEST CASE 2

LORETTA SCHRIJVER > NAKAGIN CAPSULE TOWER  
YOUNG PROFESSIONAL > NAKAGIN CAPSULE TOWER



FLEXIBLE LIFESTYLE  
BUSY DURING DAYTIME  
COMING BACK LATE IN THE NIGHT  
COLLECTIVE ACTIVITIES OUTSIDE  
SPATIAL NEEDS ARE OBJECTIFIED



COMPACT DESIGN  
MULTI FUNCTIONAL SPACE  
SPATIAL NEEDS ARE OBJECTIFIED  
MINIMAL DWELLING

From the daily activities of the young professional, it could be concluded that his/her daily life circle is a complete close circle, which calls for all the living facilities. However, all the living facilities do not mean there would also be corresponding spatial needs because of living alone. For example, the kitchen could be compacted into some cooking facilities, the living room could be simplified as sofa or TV. Besides these, the spatial need also could be transformed into a multi functional design as long as the design would meet all their living needs. While the NAKAGIN CAPSULE TOWER is a perfect case for the young professional. They stay in the office all the daytime and come back late. When they have social needs they prefer going outside to staying in their own places. Therefore, these two would match each other in many aspects and that is the reason we put them together to do our test case.

**YOUNG PROFESSIONAL**

**NAME:** Loretta Schrijver

**AGE:** 32

**EDUCATION:** HBO Facility Management

**WORK:** T-Mobile Team Manager

**PARTNER:** NO

**CHILDREN:** NO

**MEANS OF TRANSPORT:** Bicycle / Public Transport / Taxi / Car2Go

**TOTAL INCOME:** 1700,- / Month

**TOTAL EXPENSES:** 1350,- / Month

**FUTURE PROSPECTS:** Moves to another house in 1-2 years after finishing his Masters degree. Will try to find a house with friends or something on his own if available. has a strong preference for a house in the city where he works and has his friends. He will find a life partner and will eventually live together.

**ACTIVITIES**

**WORK:** T-Mobile team manager in a main T-Mobile office.

**WORKDAYS:** Monday - Friday

**SLEEP:** Aims to sleep 8 hours per night.during the week. Sleeps in on Sunday.Occasionally sleeps somewhere else.

**EATING:** Breakfast at home or on the way to work. Brings lunch to work from home or eats out during her lunch break. Lunch on the weekends mostly in town. Mostly has dinner at home during the week. Tends to meet with friends for dinner during the weekends.

**PERSONAL HYGENE:** Showers every morning on weekdays immediately after waking up. Showers after her morning run on Saturday. After sleeping in on Sunday takes more time to wake up and showers later.

**SPORTS:** Running

**CULTURAL:**  
 Musea: Never  
 Music festivals: Once / month.  
 Theater: 2 times / year.

**GOING OUT:**  
 Bar / Club: Mostly every weekend  
 Restaurant: 3-5 times / month

**LEISURE / RELAXING:**  
 Television: 2-3 hours per day  
 Movies: 2 times / month  
 Reading: Never  
 Shopping: 2 times / week  
 Tanning salon: Once / month

**DAILY CYCLES**

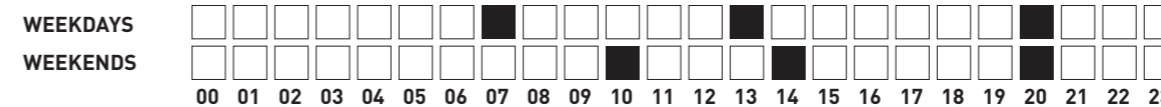
**WORK**



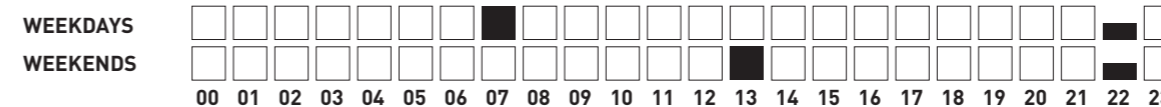
**SLEEP**



**EATING**



**PERSONAL HYGENE**







**ACTIVITIES**

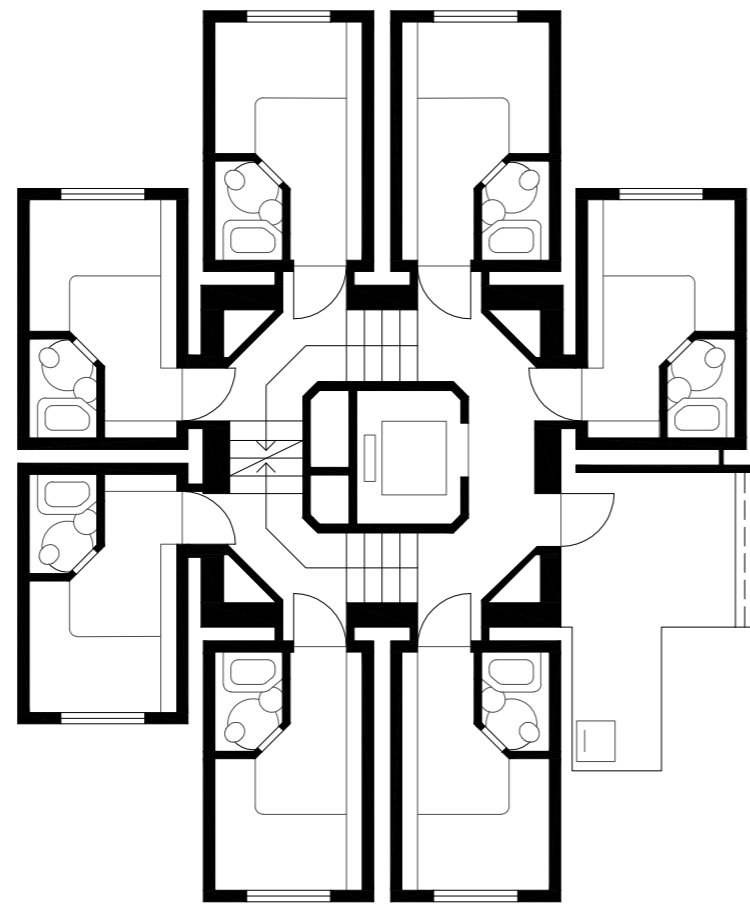
BASIC LIVING ACTIVITIES:

COOKING & EATING

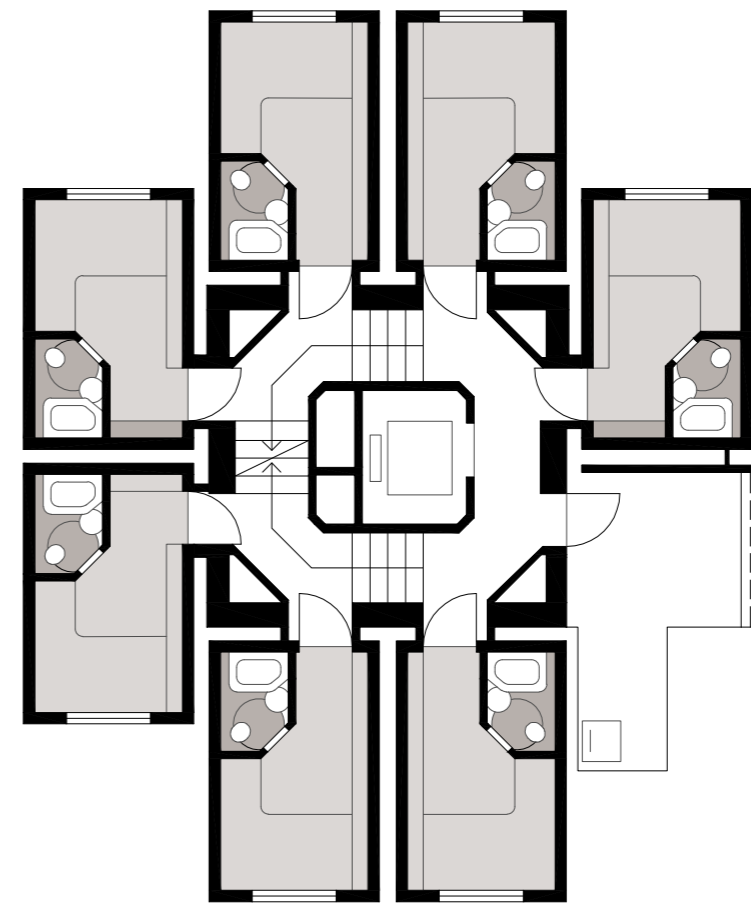
SHOWERING & TOILET

SLEEPING

EXTRA WORK

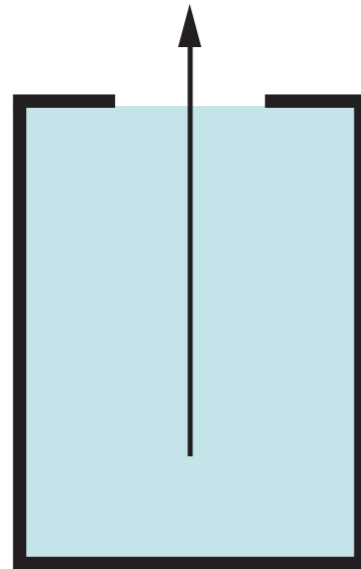


DWELLING OCCUPATION DURING DAYTIME



DWELLING OCCUPATION DURING NIGHT

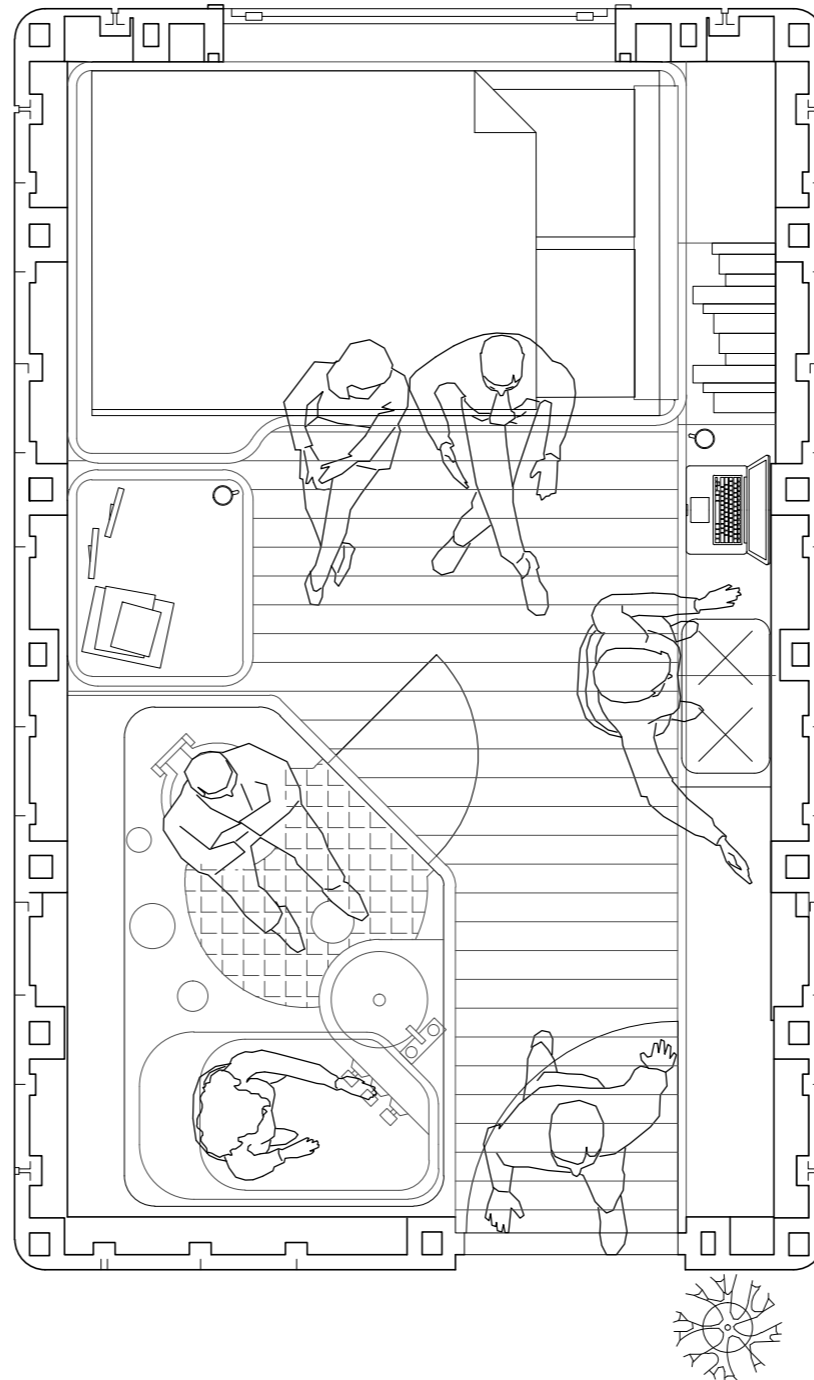




DWELLING ORIENTATION

**ARCH ELEMENTS/FACTORS**

Though this dwelling is small and only has one space including the toilet, it has all the facilities for the young professional to live alone. The dwelling is single direction orientation towards the outside and has no visual relation with other capsules (hard border of the capsule door). All the spatial needs are transformed into facilities, like from kitchen to stove (there is no kitchen in the original design), bedroom to bed, living room to table and chair. In spatial dimension, it could be concluded that the capsule is a type of minimal dwelling.



PEOPLE ACTIVITIES DURING OCCUPATION

**ARCH ELEMENT/FACTOR USED**

ORIENTATION

SPATIAL NEEDS ARE OBJECTIFIED

**USER CONSEQUENCE**

MEET SELF LIFE CIRCLE

MONEY AND SPACE SAVING

EFFICIENT

**CONSEQUENCES FOR LORETTA**

In this organization, Loretta leaves her capsule in the daytime and comes back in the evening.

The small dwelling provides all the facilities she needs for the basic daily circle. When she needs social activities, she would go outside with others. In this case, especially in the city center, the small capsule is reasonable in rent and more space saving.

With the technology development, many spatial needs that perform some functions in the previous dwelling design, could be replaced by some facilities in a compacted design.



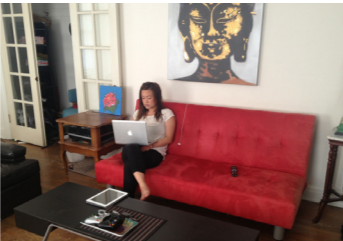

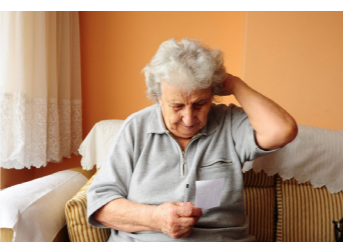




# TEST CASE 2 - COMPARISON

OTHER PROFILES > NAKAGIN CAPSULE TOWER



		USER SPECIFIC DEMANDS	USER CONSEQUENCE
DIVORCED		Space is important for the divorced man. He is not willing to live in a dwelling that is too small. He needs <b>extra space</b> at home <b>to work</b> or to have <b>his children over</b> in the weekend. Collective space could be an option if the private space is sufficient.	The divorced man is <b>very limited</b> in his space. Since there are no collective functions, the private dwelling should be used for all activities, including his work and having his kids over. For the divorced man it is <b>unsufficient private space</b> .
EXPAT		Private space is important for our expat since he has a busy job and a wife and <b>kids that visit him every now and then</b> . The dwelling should therefore not be too small. Collective space can be usefull, only if it is <b>additional to the private facilities</b> .	The expat can live fine in the capsule tower to an extend. He has a <b>very private dwelling</b> and no need for any collective spaces. Only negative fact is the size of the dwelling which can be too small for visiting relatives.
YOUNG PROFESSIONAL		The young pro is quite flexible in her lifestyle at the current moment. She spends most of the day <b>at work</b> , so the dwelling becomes a <b>place of relaxation</b> . The dwelling can be small and have collective functions, until she is plans to live together or have kids.	The dwellings in the capsule tower are fine for the young professional. She will have a <b>small but adequate</b> dwelling, providing every facility she needs. Because of the single orientation she will have enough <b>privacy</b> when coming home from work.
STUDENT		Social interaction is important for the student. He can live <b>alone in a group</b> or live closely together with other students. The private dwelling can be small as long as there is <b>sufficient collective space</b> for the student to use and interact with others.	The dwelling fits the student's <b>spatial needs</b> but lacks in providing any social interaction. With <b>no collective space</b> the students will live secluded from the others.
ELDERLY		The elderly crave for <b>social interaction</b> , since they spend most of the time at home and <b>loneliness</b> can become a real problem. The dwelling should be large enough to have his/her (grand)children over and be completed with collective functions.	The Nagakin capsule tower is totally not suitable for elderly. The <b>single orientation</b> will lead to a total lack of social interaction and feeling of loneliness for the elderly.





# **CASE STUDY 3**





# CASE STUDY 3



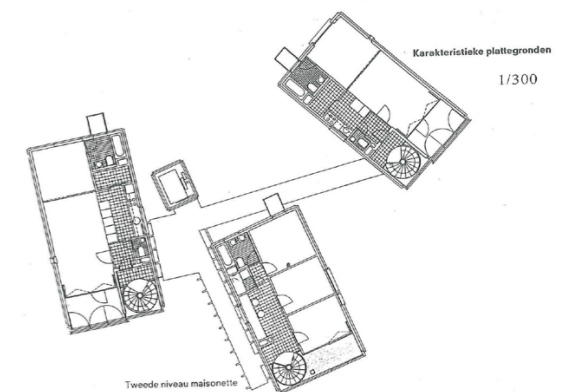
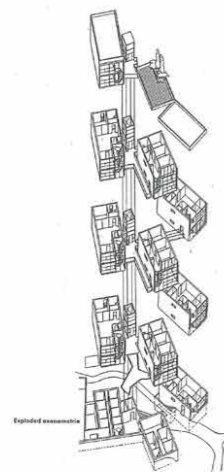
Mecanoo did the design and realisation of 13 residences in 3 towers on the Nordbahn Strasse in the framework of the 1993 International Horticulture Exposition.

The project exists of 3 slender towers. 1 of 8 elevations and 2 of 6 elevations plus roofteraces. Furthermore they are connected each 2nd floor with a communal elevator. They contain 13 one-bedroom apartments and 3 3-bedroom apartments.

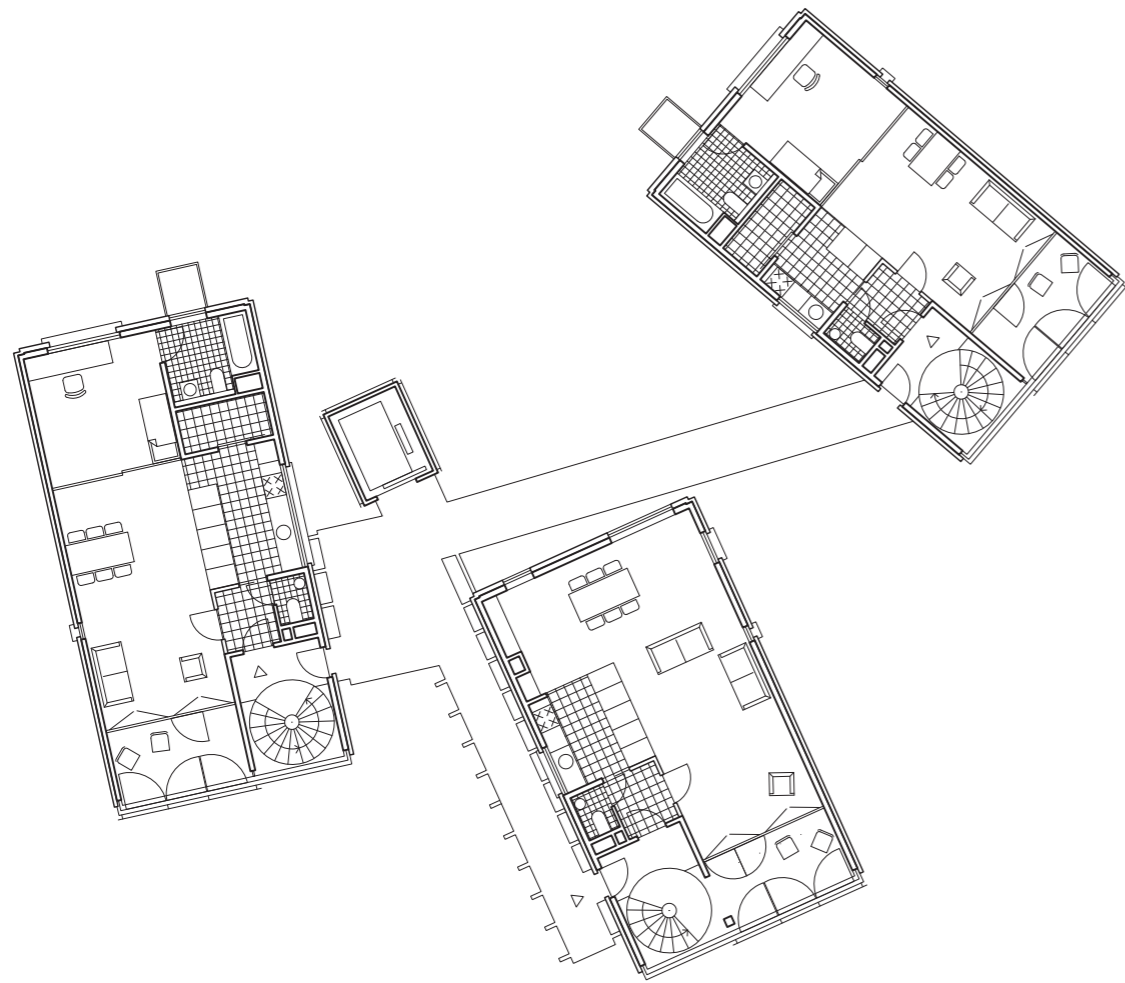
The 1-bedroom apartments are existing of a small strip of accomdations like entree, toilet, kitchen, bathroom, a communal staircase and a bigger strip with living bedroom and winter garden.

## THEMES

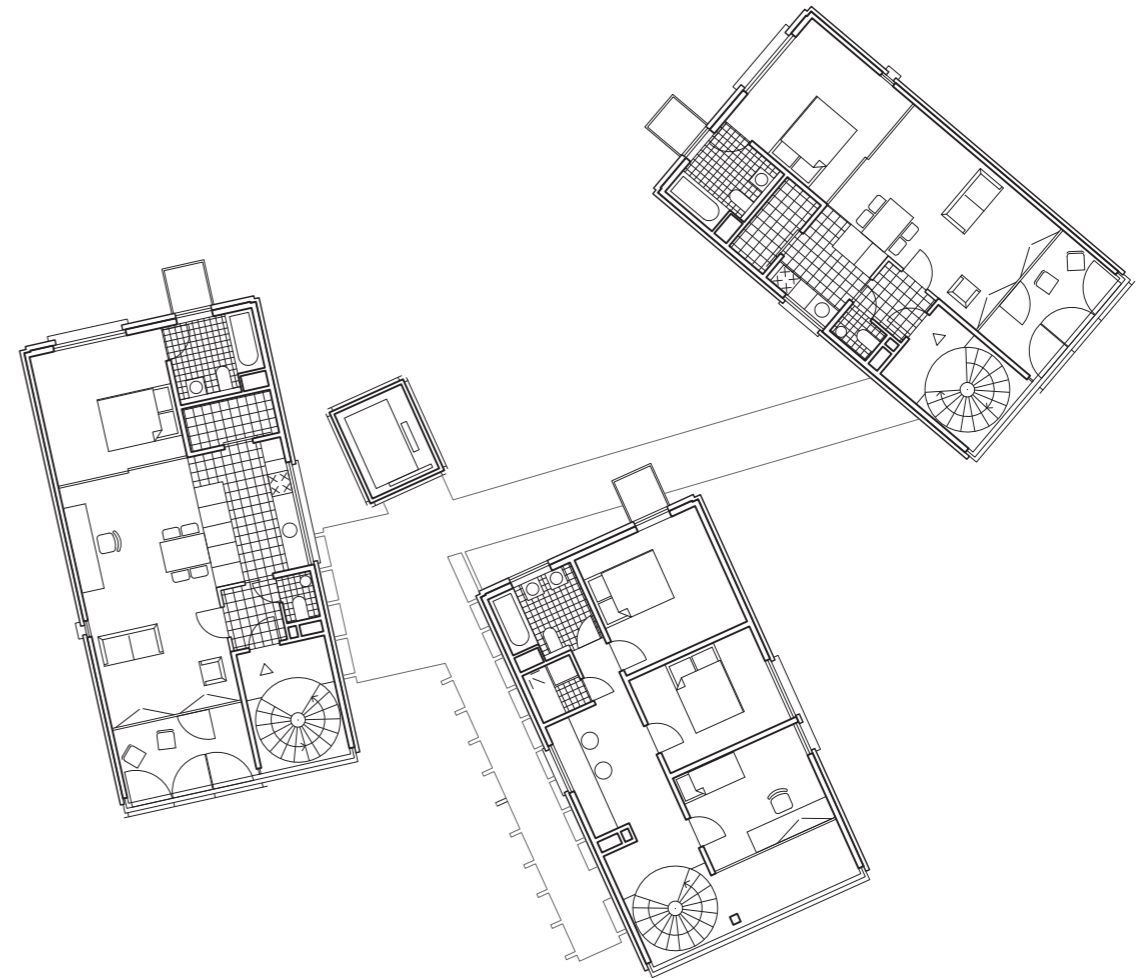
- FLEXIBLE LOFT DWELLING
- BIG MAISONNETTE DWELLING
- PRIVATE FACILITIES
- COLLECTIVE ROOF GARDEN



FLOOR PLAN

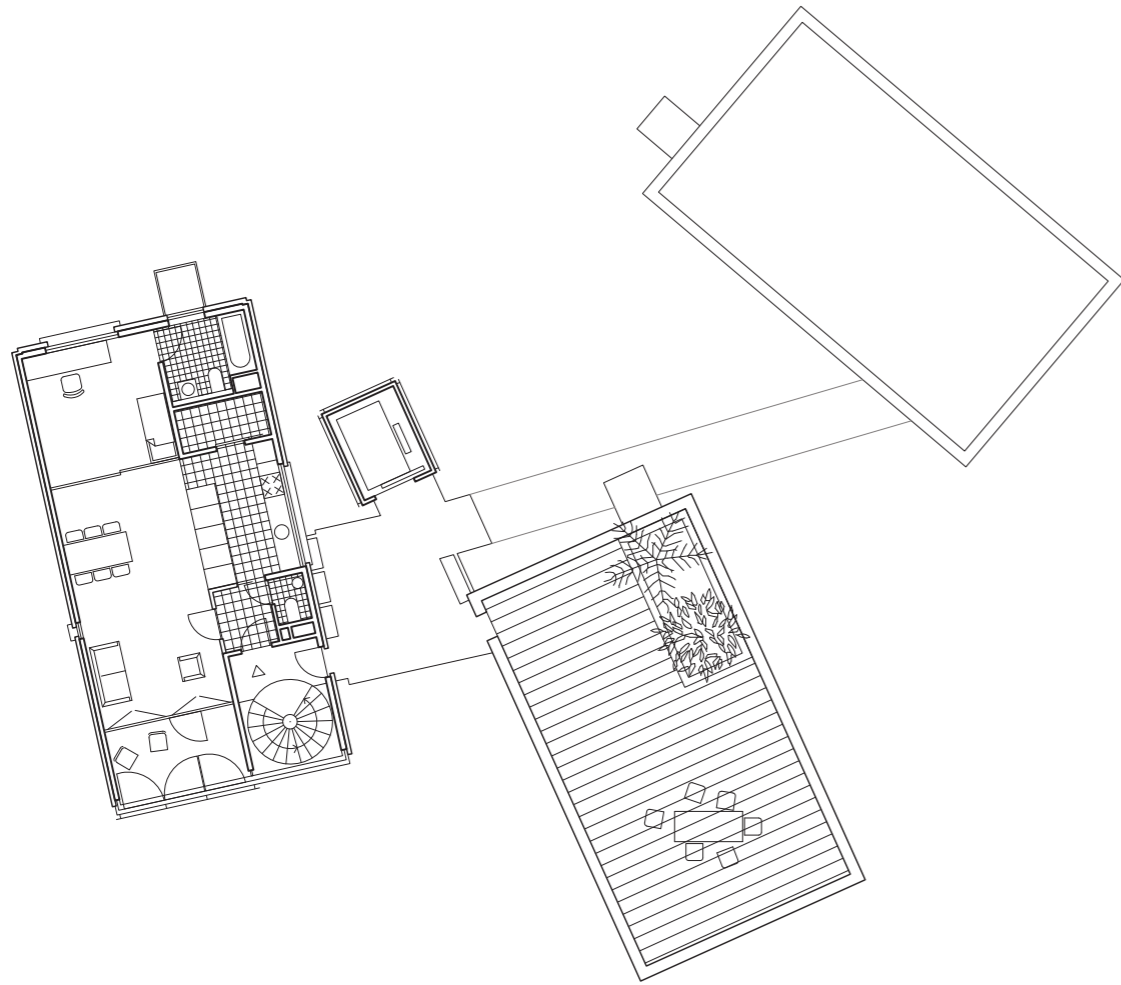


BRIDGE LEVEL  
+02, +04

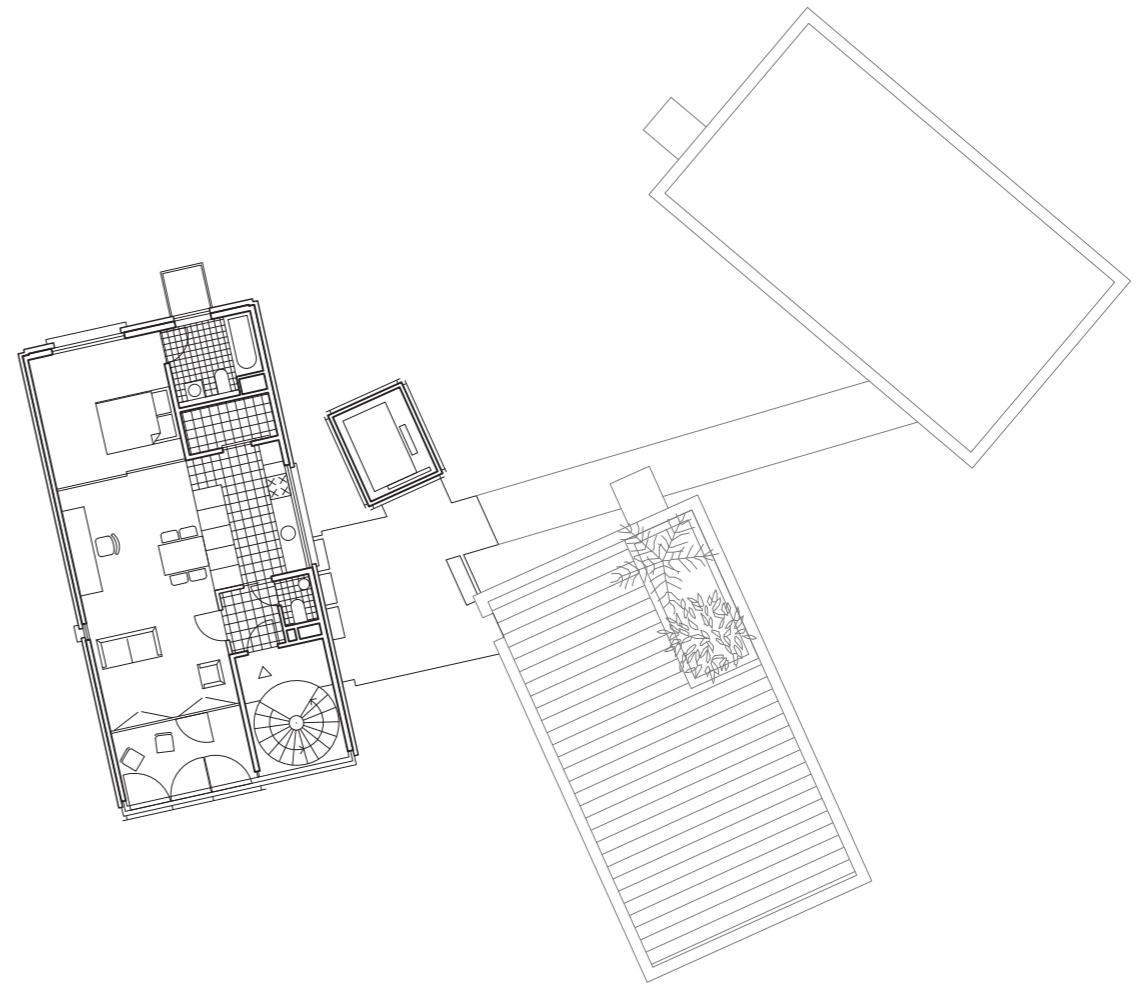


INNER STAIRCASE LEVEL  
+01, +03, +05





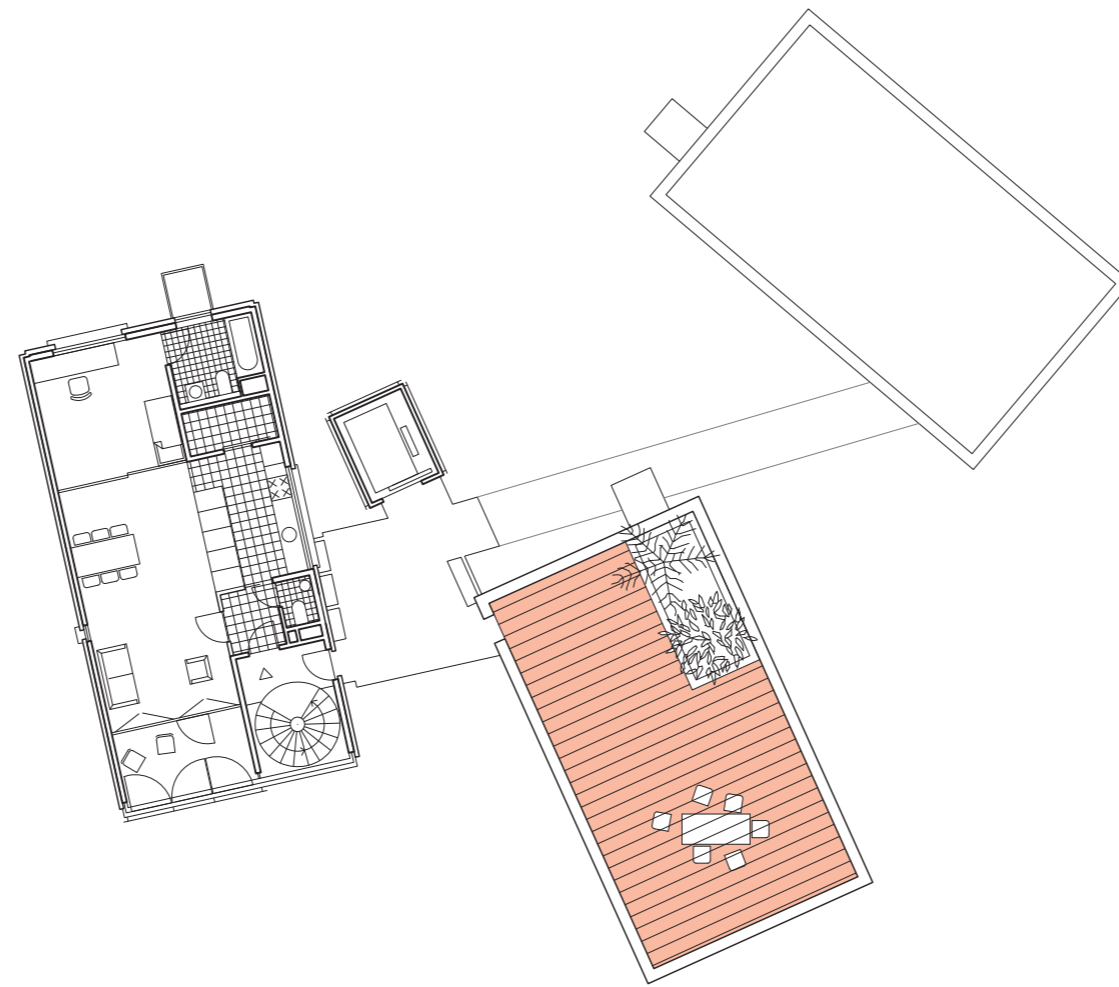
ROOF TERRACE LEVEL  
+06



TOP LEVEL  
+07

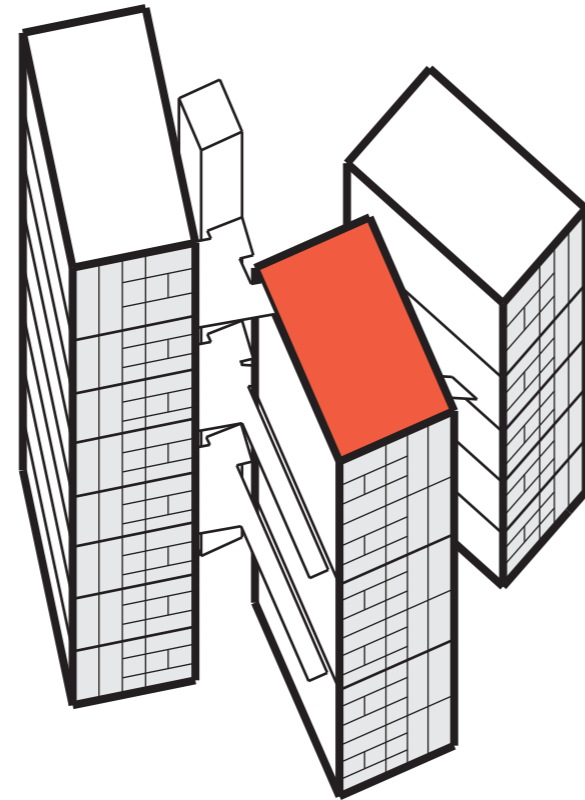
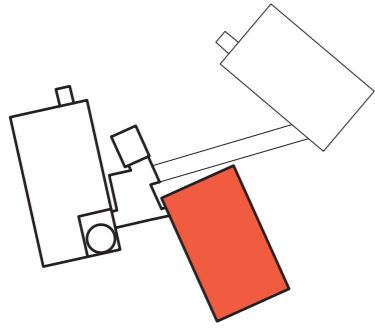


COLLECTIVE SPACE - ROOF TERRACE



COLLECTIVE ROOF  
TERRACE

COLLECTIVE SPACE



The Gartenbau project with its three separate dwellings towers does not offer any indoor collective space. The dwellings all have their own facilities and services and are not dependent on any collective functions. The only collective space the project offers is a collective roof terrace. The terrace is placed on the roof of the middle tower and is accessible using a bridge.

COLLECTIVE ROOF  
TERRACE



ACCESS TO COLLECTIVE  
ROOF GARDEN

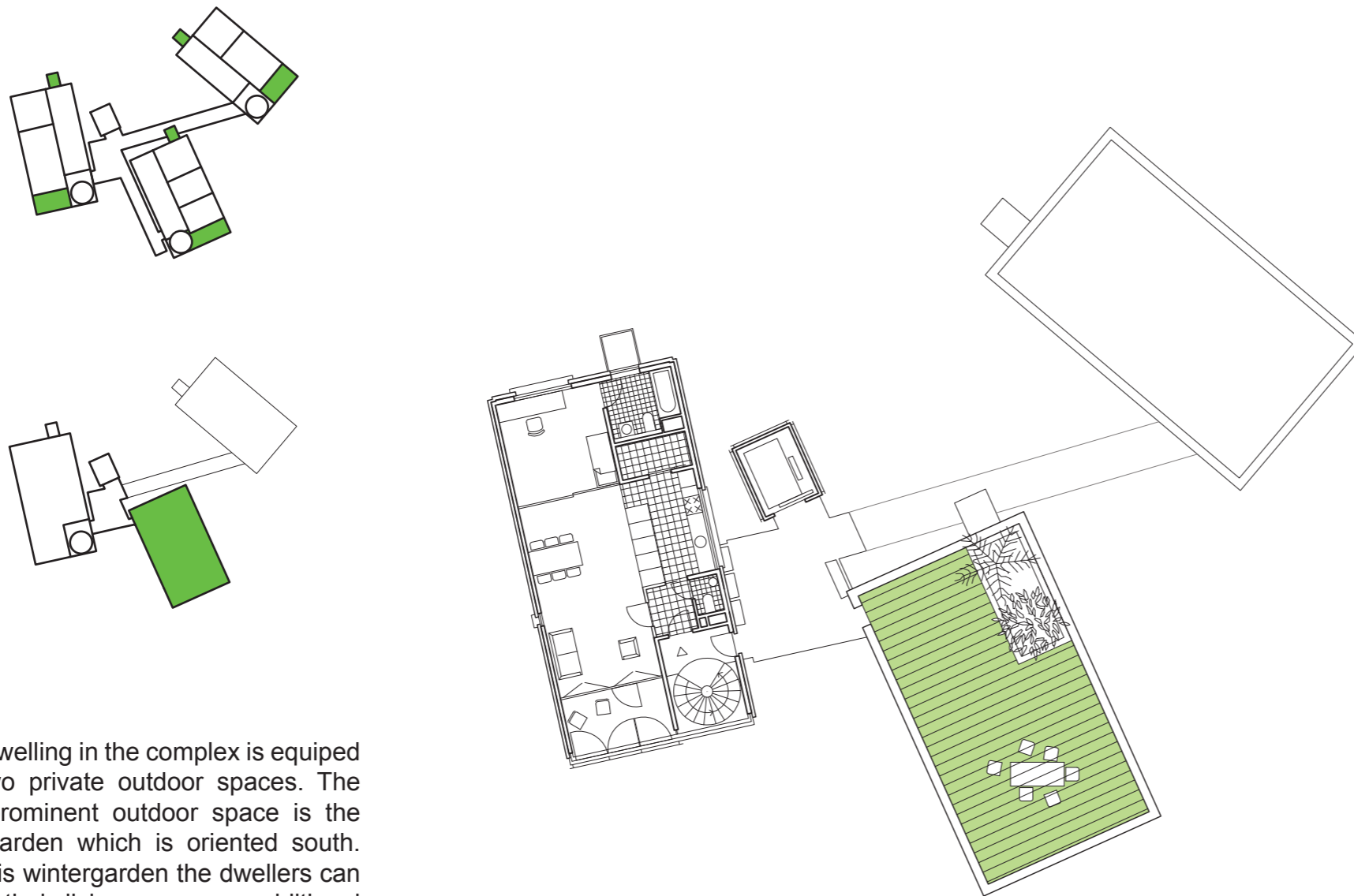
OUTDOOR SPACE - WINTER GARDENS & SMALL BALCONIES



WINTERGARDENS WITH  
SMALL BALCONIES

OUTDOOR SPACE  
WINTERGARDEN





COLLECTIVE ROOF  
TERRACE

Each dwelling in the complex is equipped with two private outdoor spaces. The most prominent outdoor space is the wintergarden which is oriented south. With this wintergarden the dwellers can extend their living space an additional two meters.

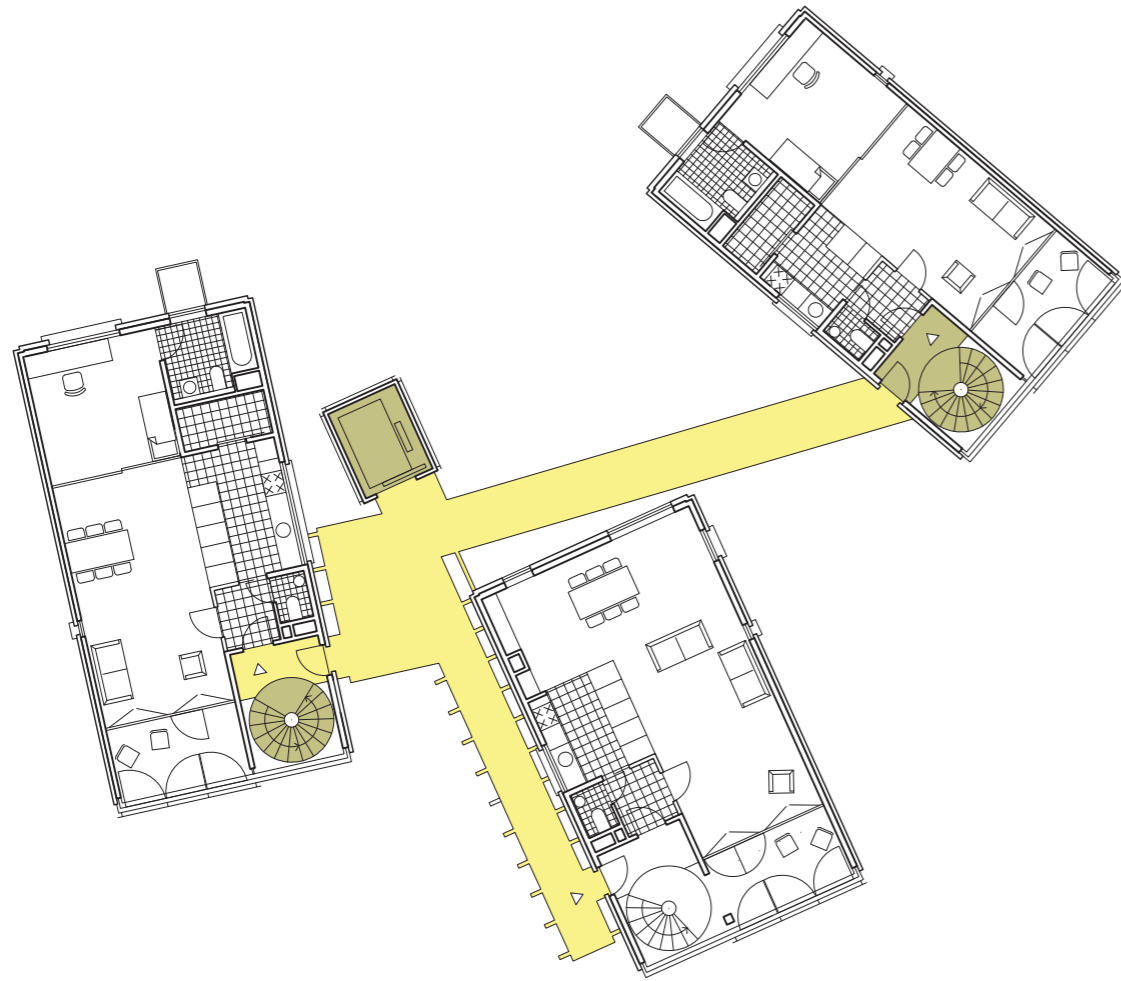
The small balconies on the opposite side do not have the best orientation towards the sun, but they are facing the park which is located behind the buildings. The organisation of the balconies contributes slightly to the relation between the dwellers.

Additional to the private wintergardens and the balconies is the collective roof terrace. The roof terrace with a surface of 60sqm does add to outdoor qualities of the project.

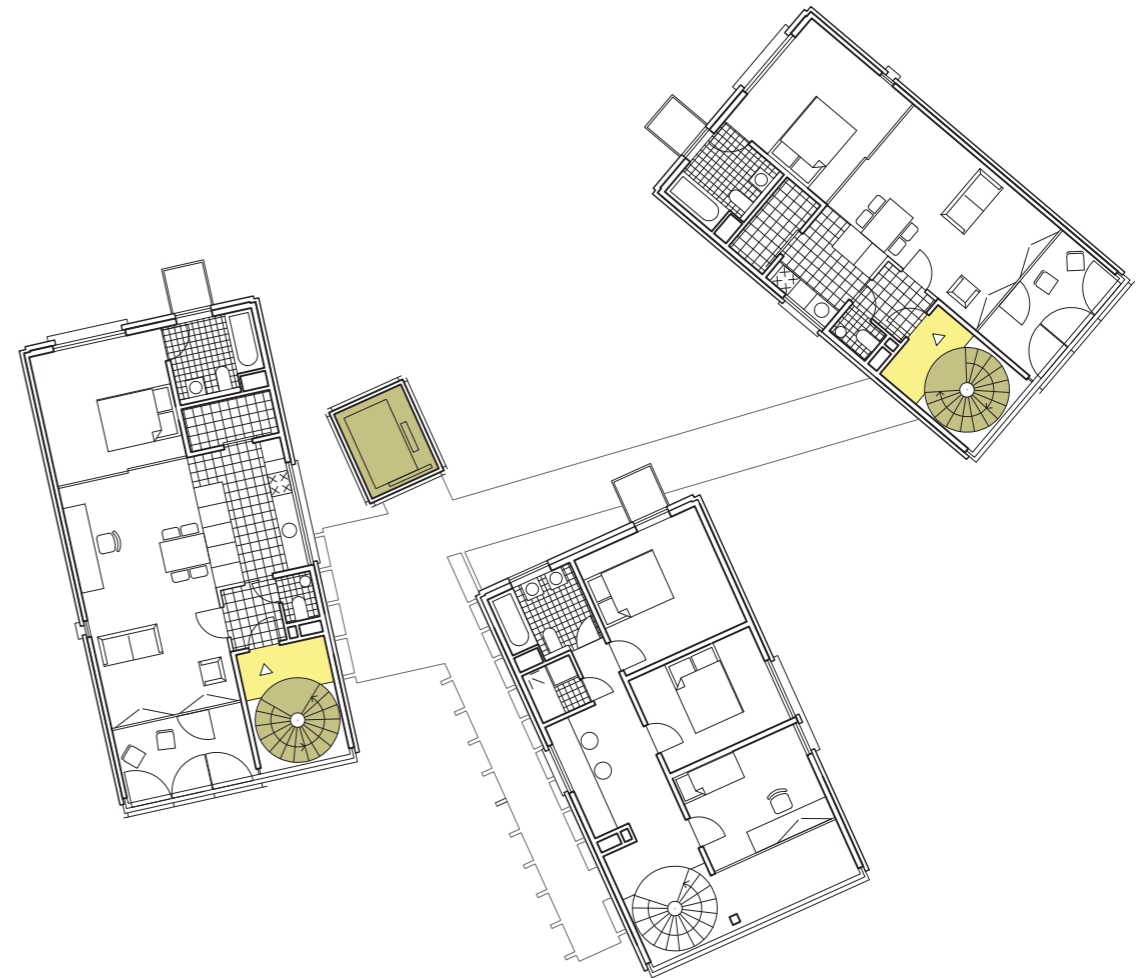


SMALL BALCONIES AT  
THE BACK

ACCESS ROUTE



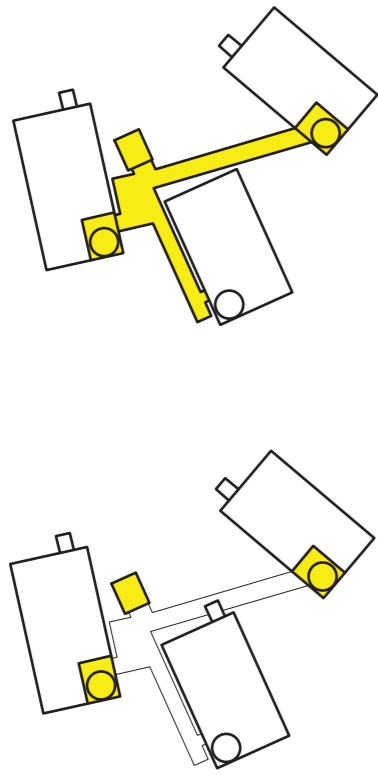
BRIDGE LEVEL  
+02, +04



INNER STAIRCASE LEVEL  
+01, +03, +05

 ACCESS ROUTE





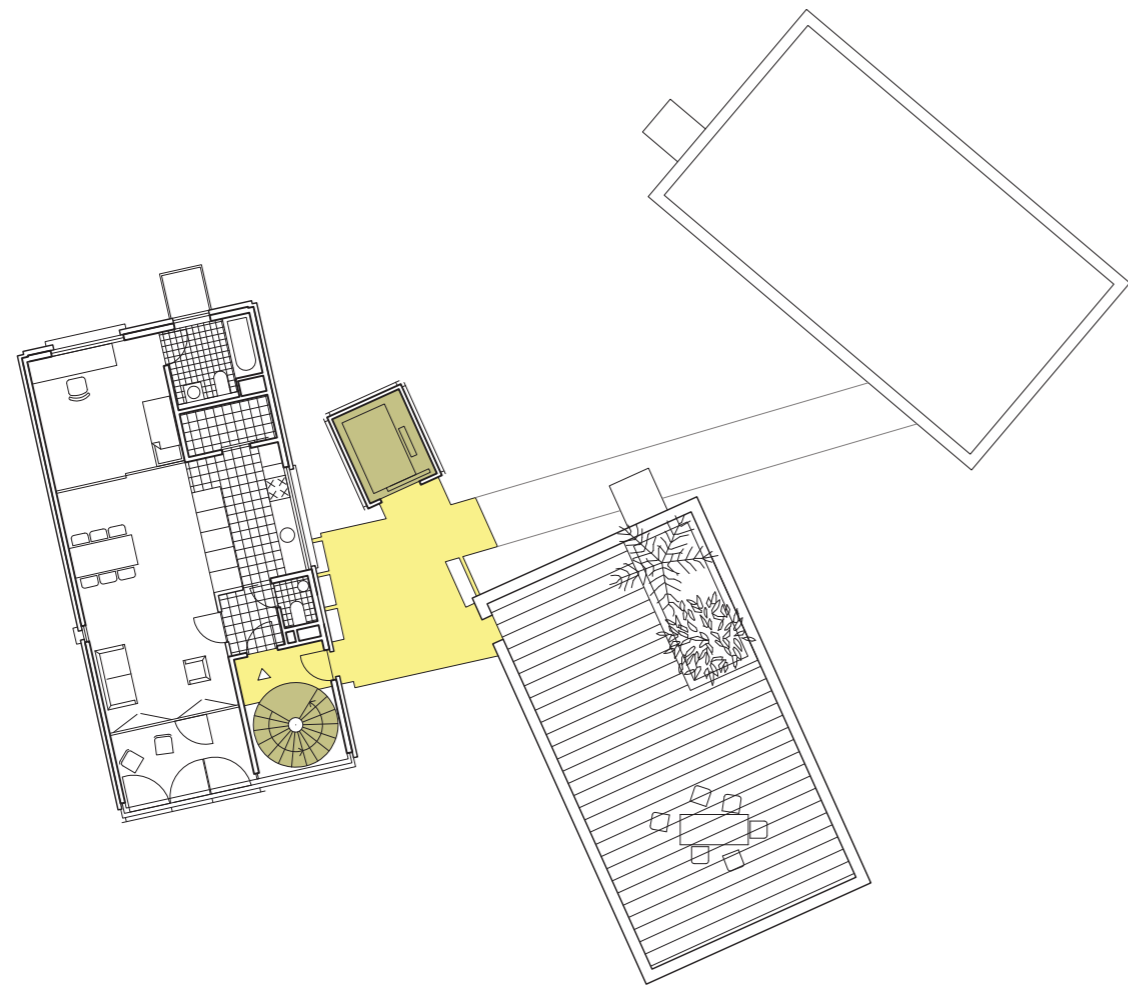
The key feature of the Gartenbau project is the access system which is a combination of a glass enclosed elevator connected to bridges, and staircases placed within the towers. In the middle tower the inner staircases are private stairs for the maisonnettes, and are not connected with each other. The inner staircases in the outer towers are public and are used to reach to in between dwellings. These public stairs which also function as fire staircases connect to the stacked dwellings with each other and the dwellers can use them to visit each other.

The use of inner staircases reduces the need for extra bridges and connections, which makes the composition of the separate buildings more spacious.

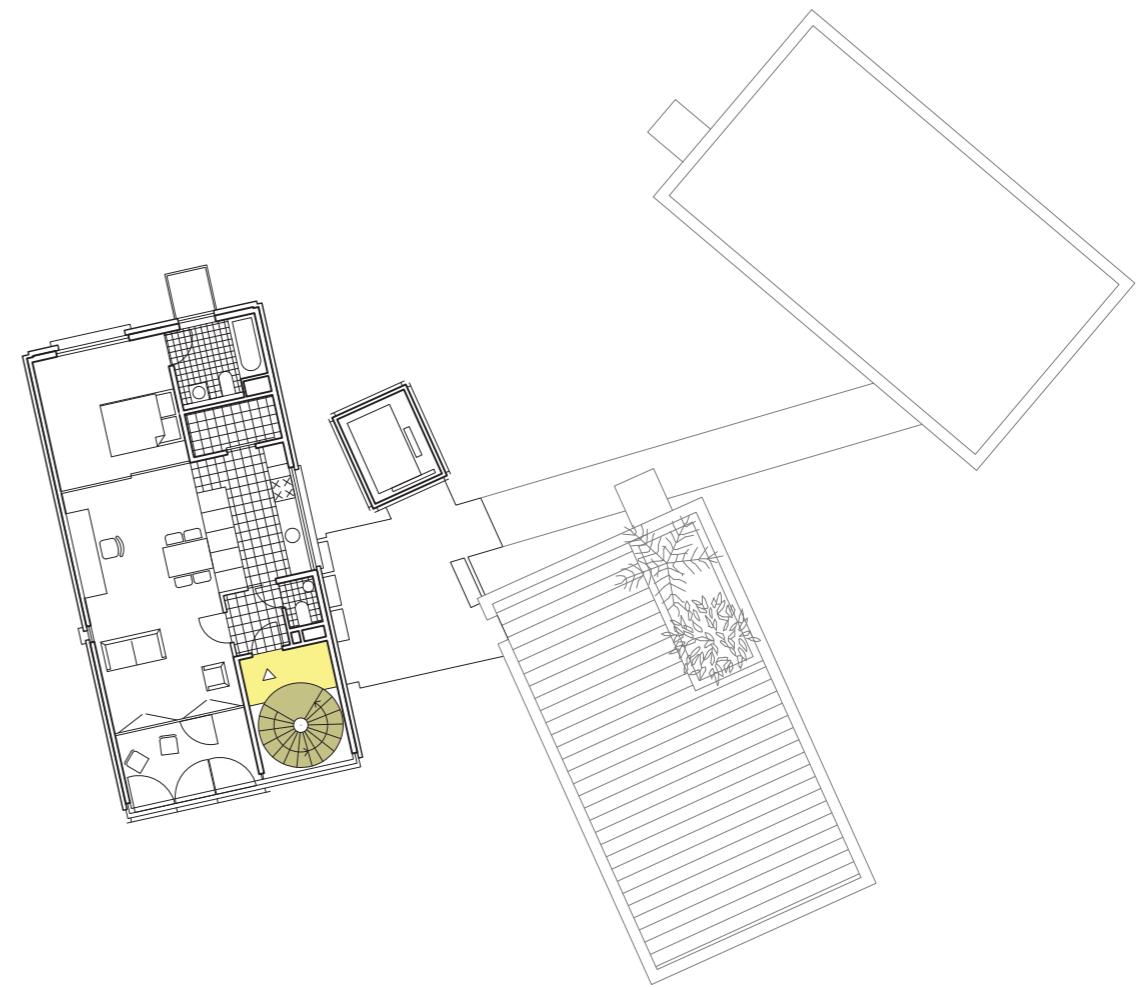




ACCESS ROUTE

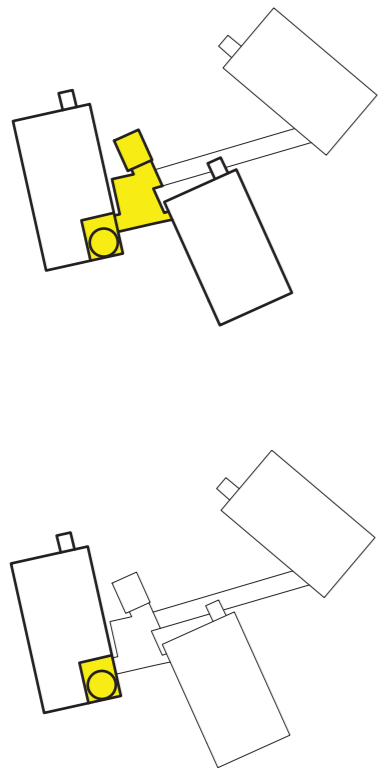


ROOF TERRACE LEVEL  
+06



TOP LEVEL  
+07

 ACCESS ROUTE



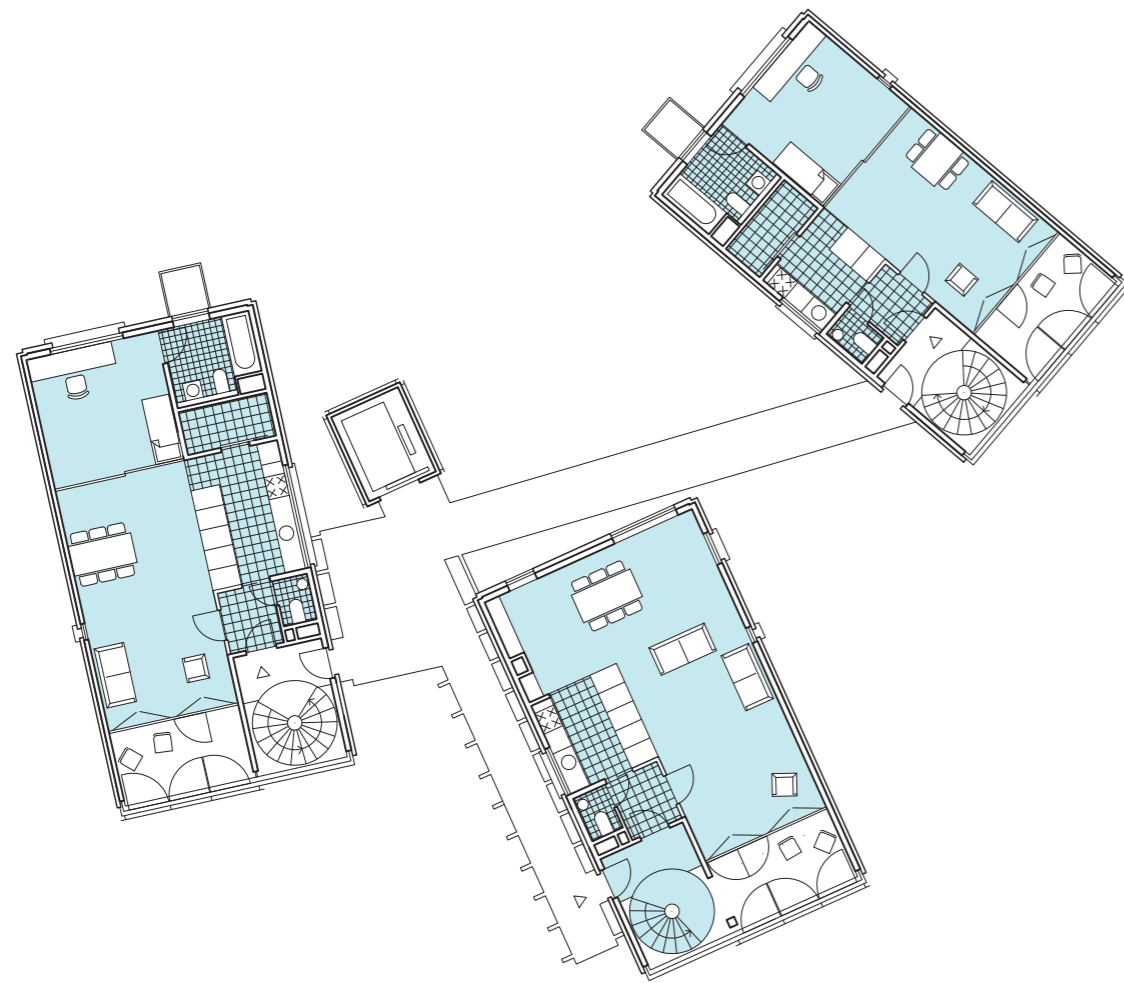
This reduction of bridges and connections, due to the inner stairs, do make it impossible to reach the in between dwellings by elevator. Dwellers of in between dwellings are always obliged to take the stairs, either up or down.

The use of this access system makes it also possible to have different configurations within the towers. Dwellings can merge together or split per level. The staircases provide this flexibility.

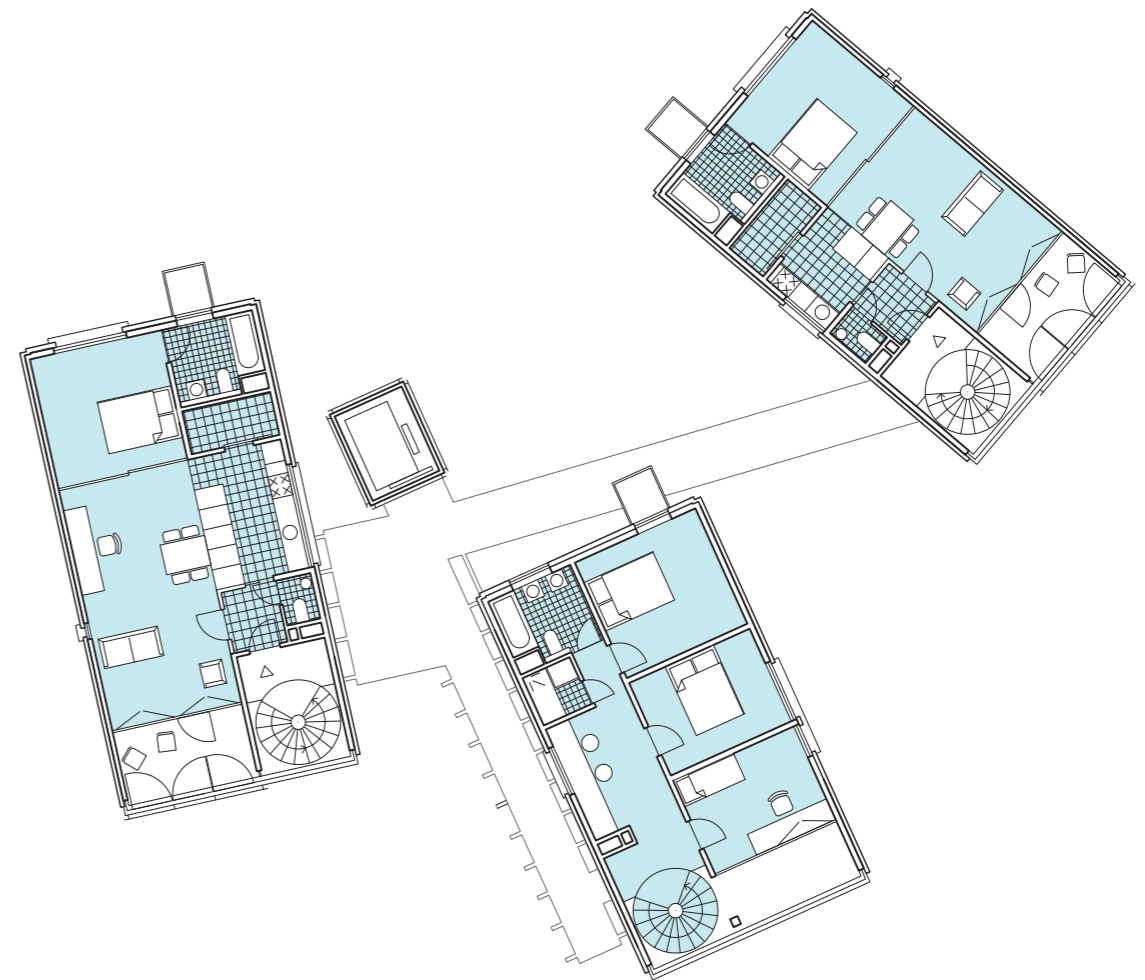
The staircases only provide in a physical connection between the stacked dwellings. There is no visual connection from the staircase into the dwelling or vice versa. Dwellings sharing the same access route.



DWELLINGS



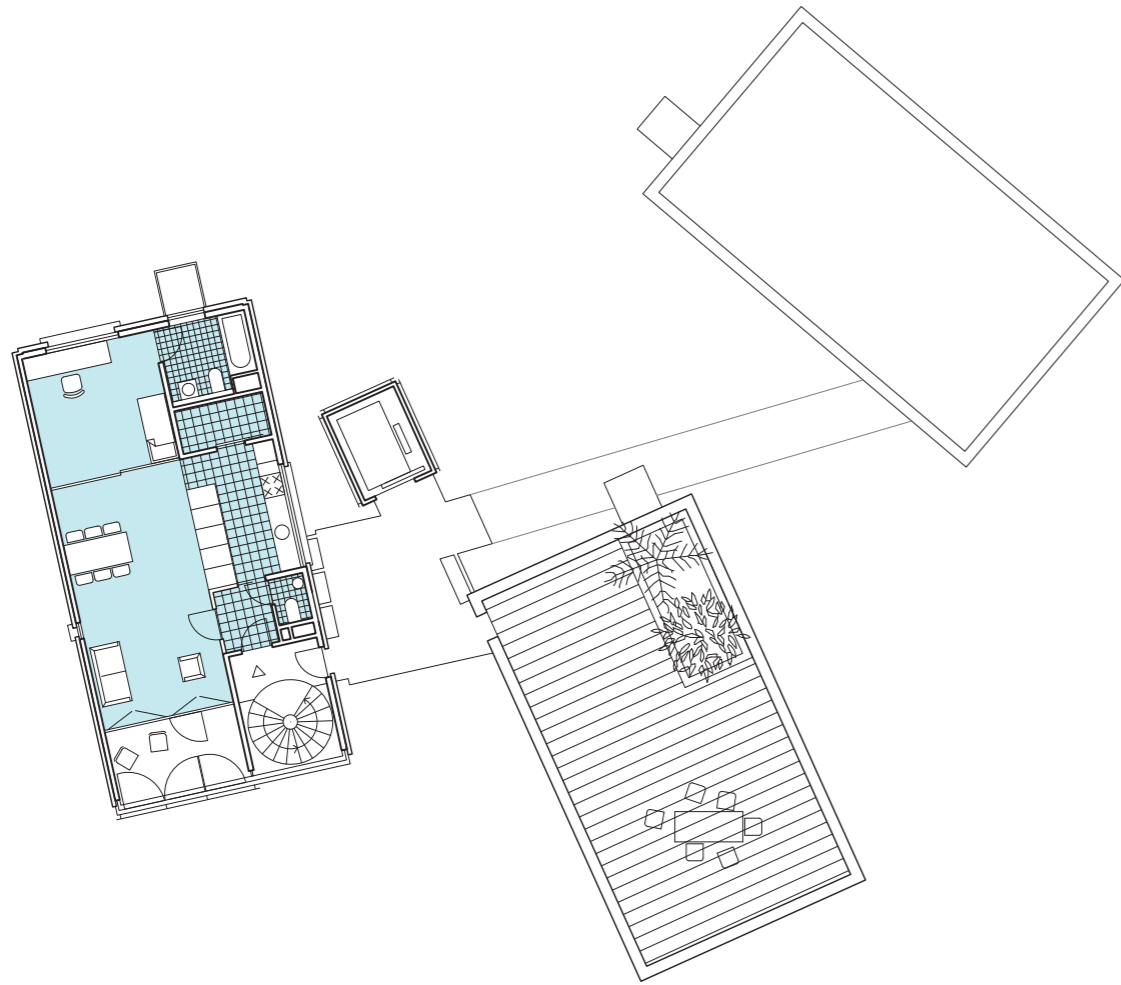
BRIDGE LEVEL  
+02, +04



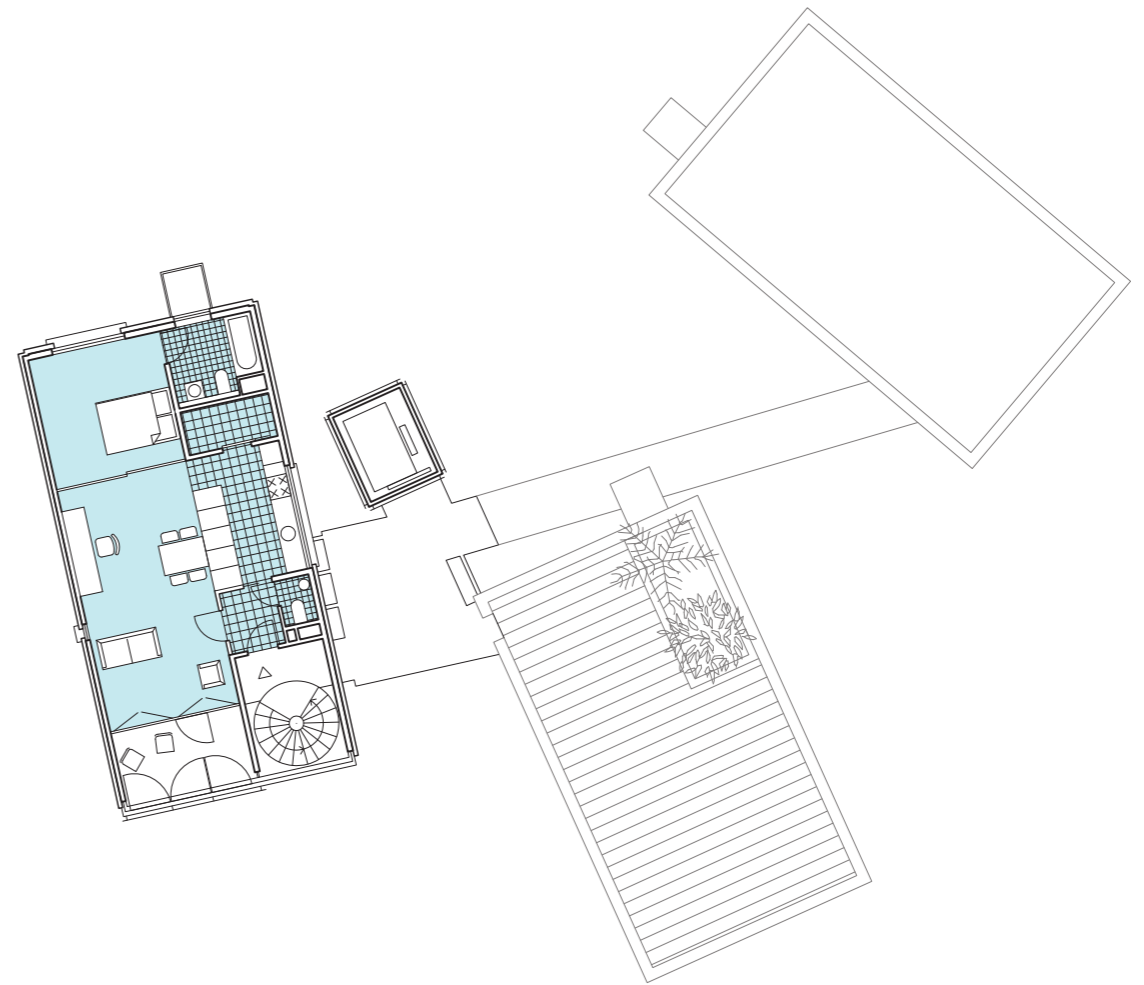
INNER STAIRCASE LEVEL  
+01, +03, +05

 DWELLING UNIT





ROOF TERRACE LEVEL  
+06



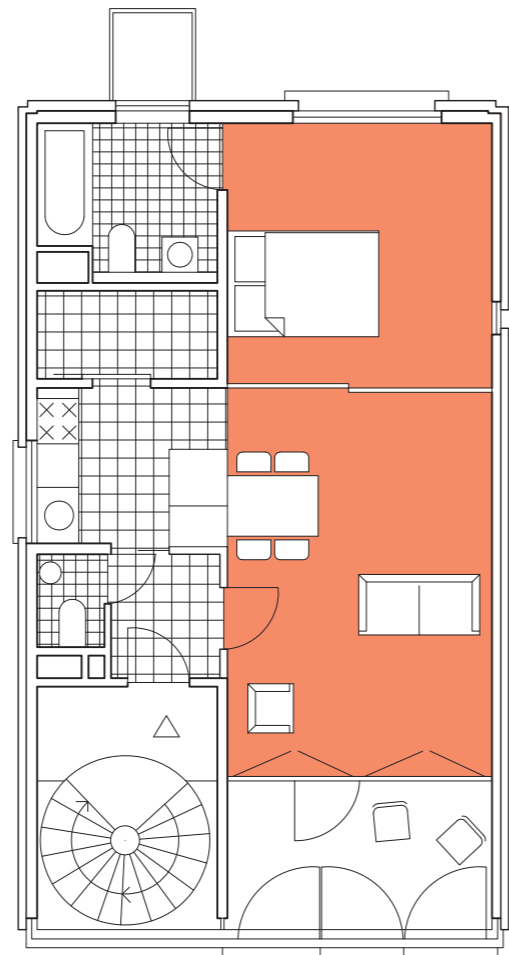
TOP LEVEL  
+07

DWELLING TYPES



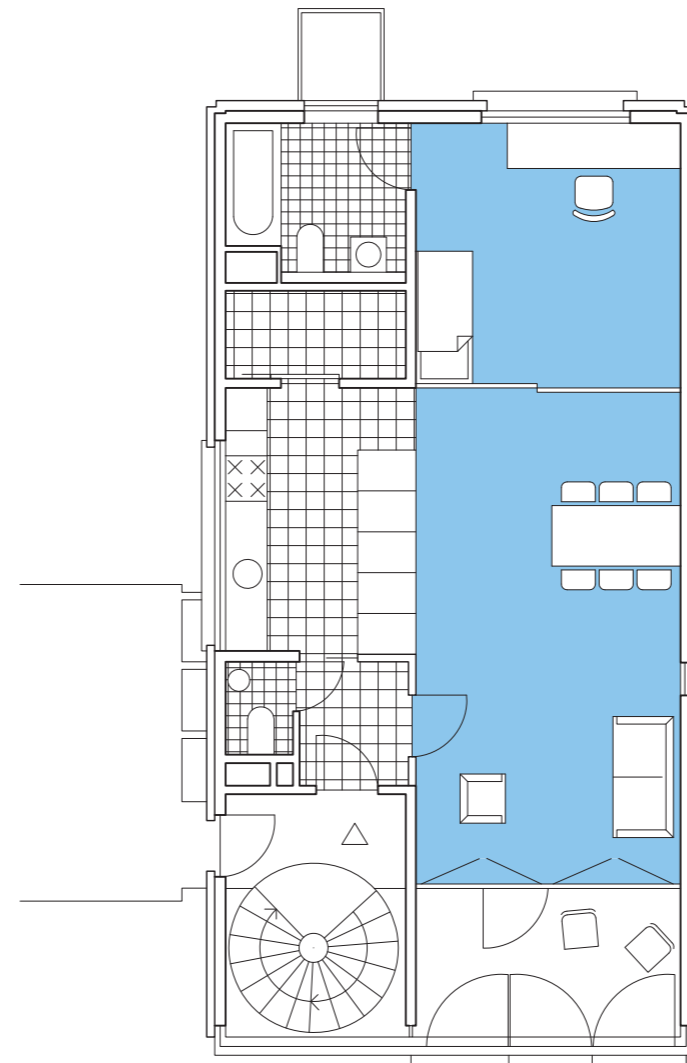
53.5 SQM  
LOFT TYPE (1-2 ROOMS)

ACCESSED BY GALLERY  
LEVEL +02, +04



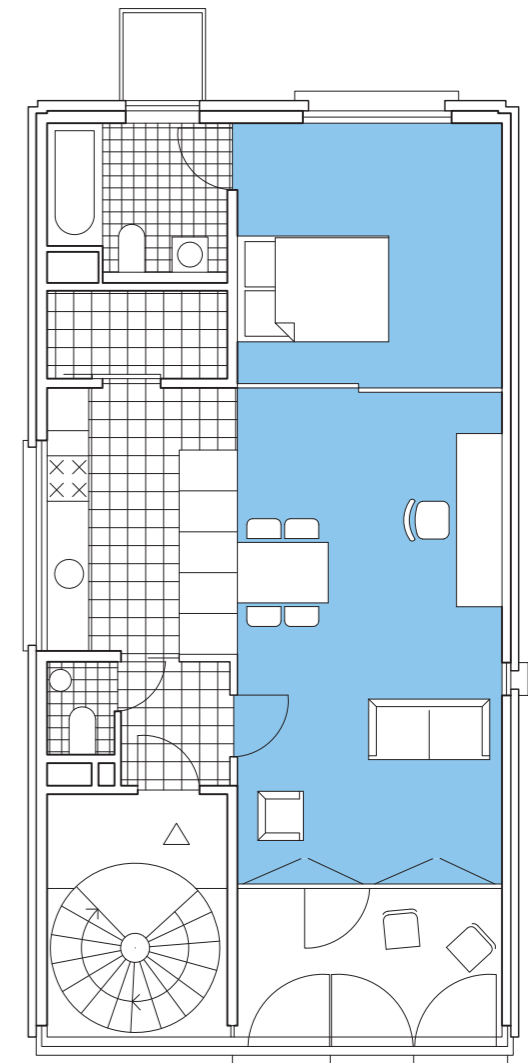
53.5 SQM  
LOFT TYPE (1-2 ROOMS)

ACCESSED BY INTERNAL  
STAIRCASE  
LEVEL +01, +03, +05



60.5 SQM  
LOFT TYPE (1-2 ROOMS)

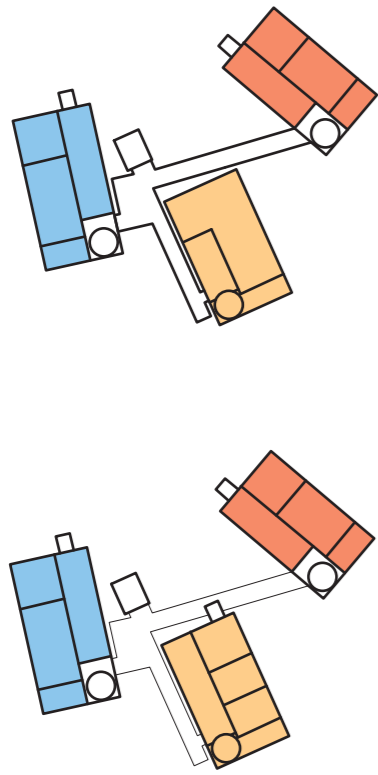
ACCESSED BY GALLERY  
LEVEL +02, +04, +06  
(MIRRORED)



60.5 SQM  
LOFT TYPE (1-2 ROOMS)

ACCESSED BY INTERNAL  
STAIRCASE  
LEVEL +01, +03, +05, +07  
(MIRRORED)

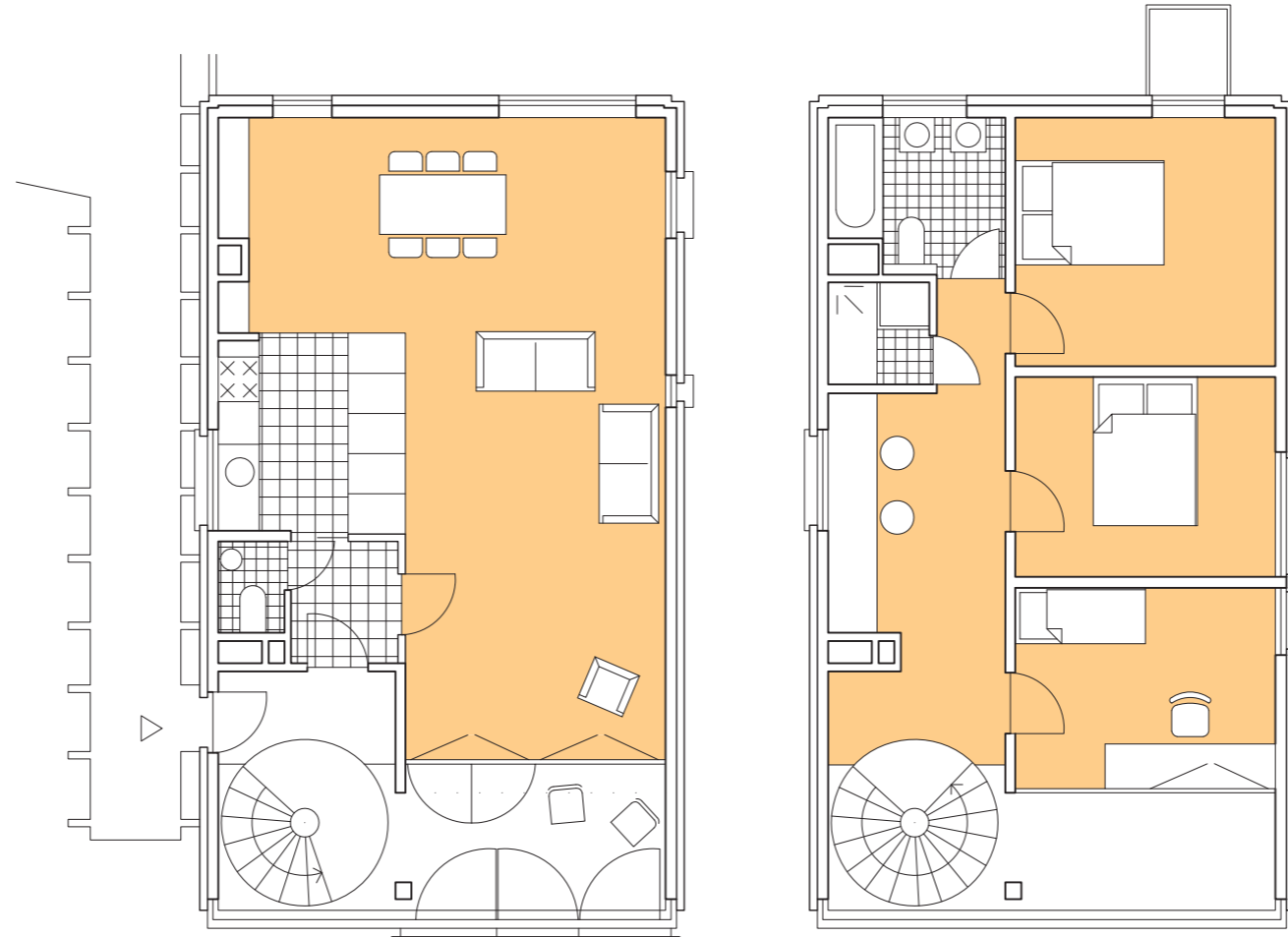
- SMALL LOFT TYPE
- BIG LOFT TYPE
- MAISONNETTE



There are two different types of dwellings in the complex, a loft type and a maisonnette type. The loft types are placed in the outer two towers and have two different sizes. The biggest one, which is actually mirrored, is an additional 1,5m longer, resulting in a bigger kitchen and a longer living space.

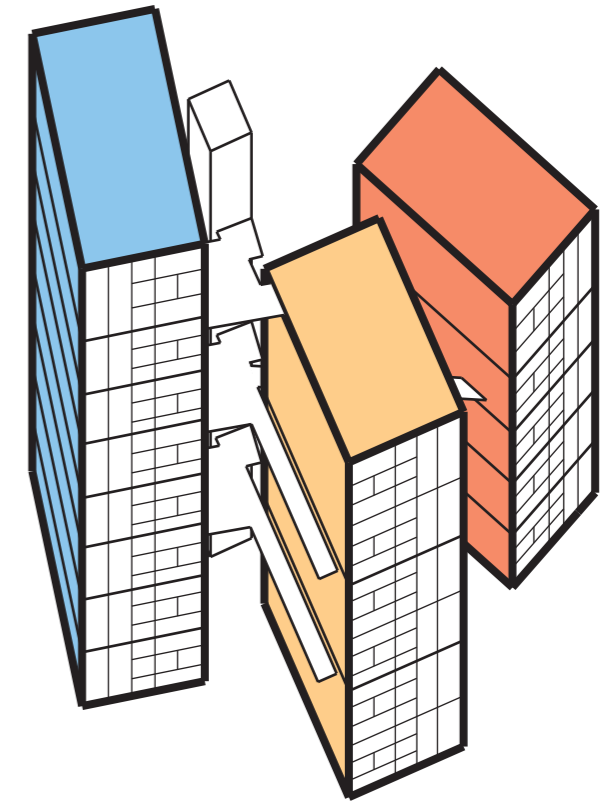
The loft types are accessed from the public staircases and the maisonnettes are accessed from the bridges. In the maisonnette the staircase is part of the dwellings, whereas in the loft types, the staircases are public.

All dwellings have a main southern orientation with a wintergarden which make them feel more spacious and light.



108 SQM  
MAISONNETTE  
(4 ROOMS)

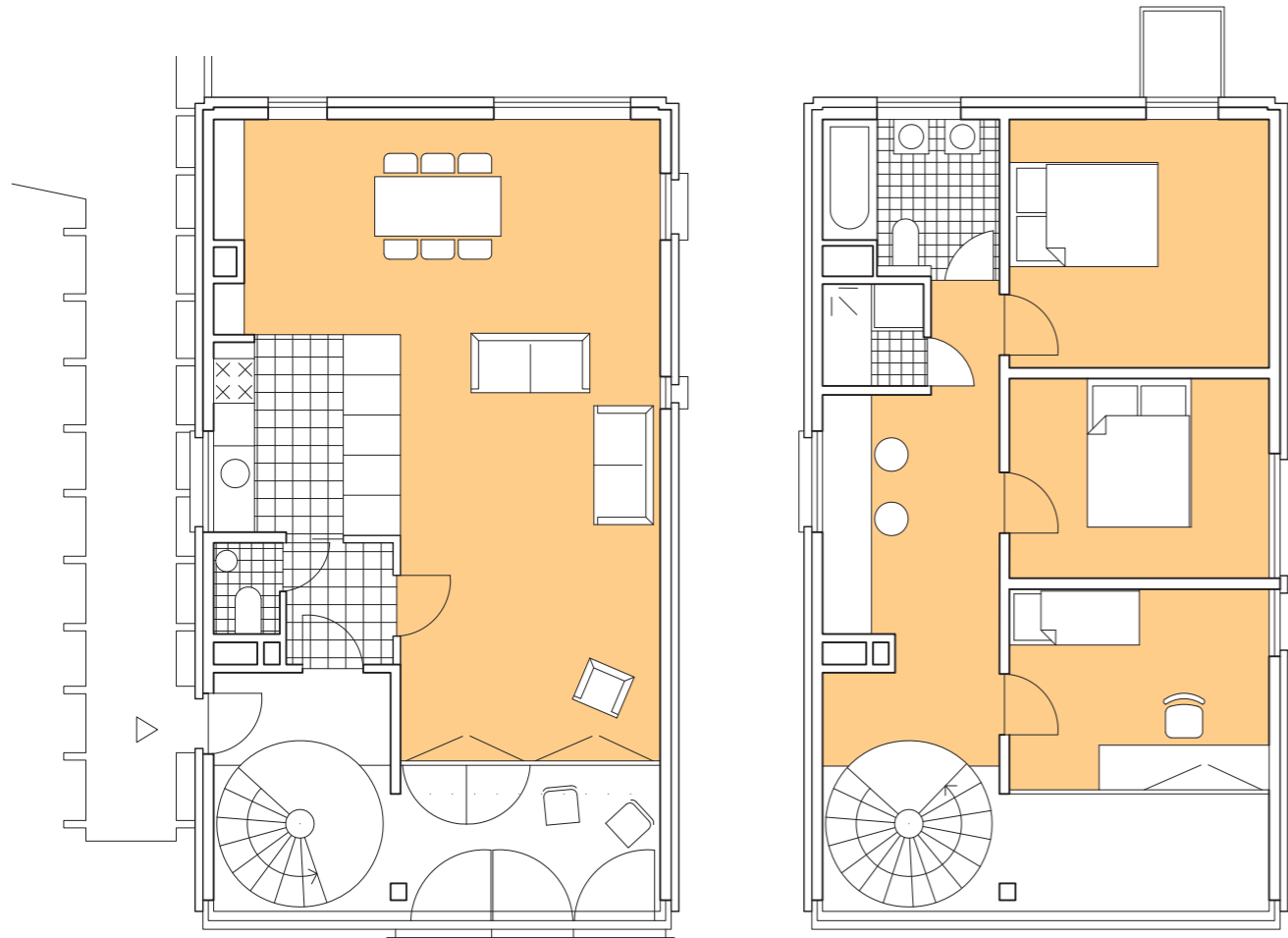
ACCESSED BY GALLERY  
LEVEL +02, +04



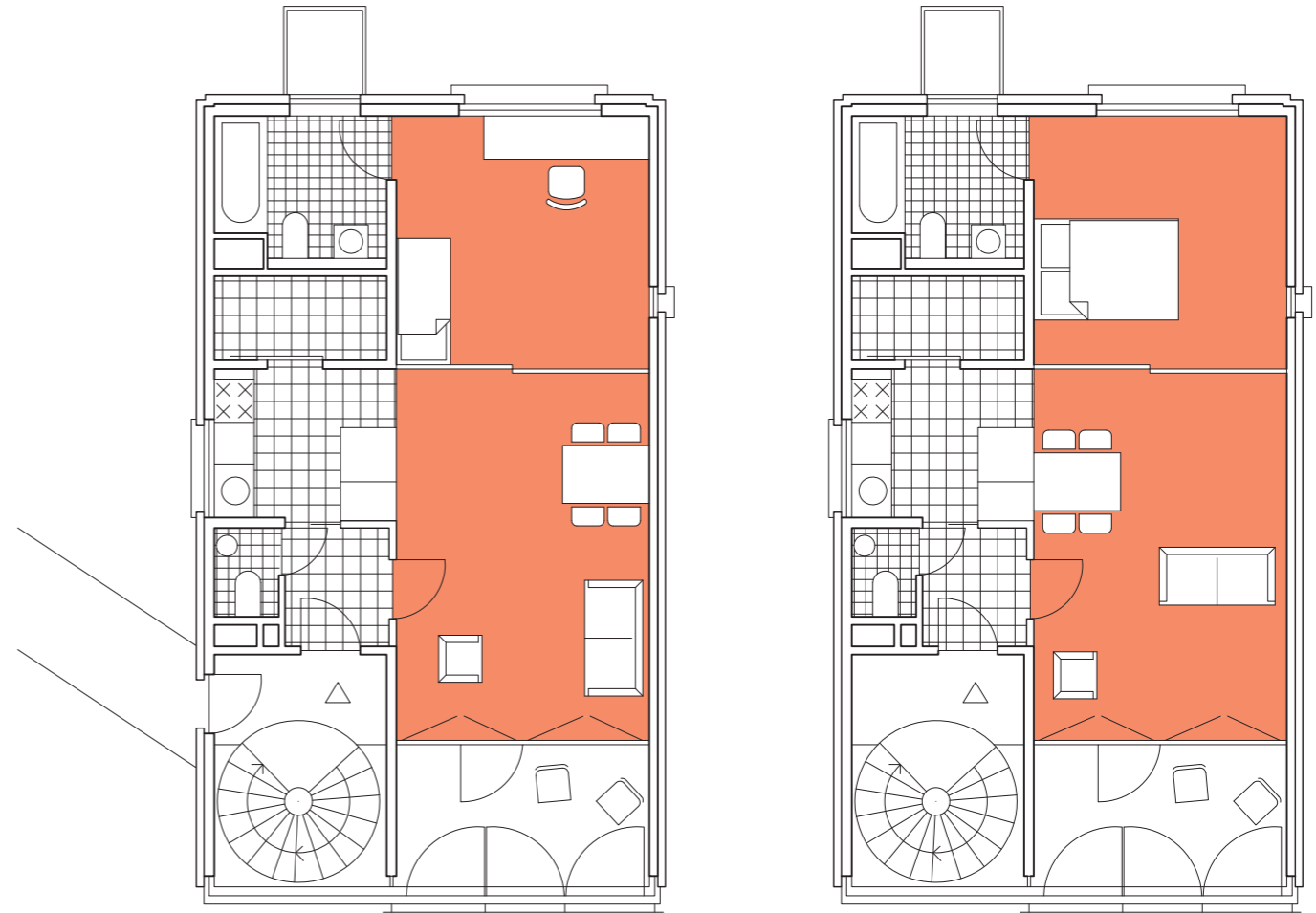
THREE DWELLING  
TOWERS



# STRUCTURAL FLEXIBILITY

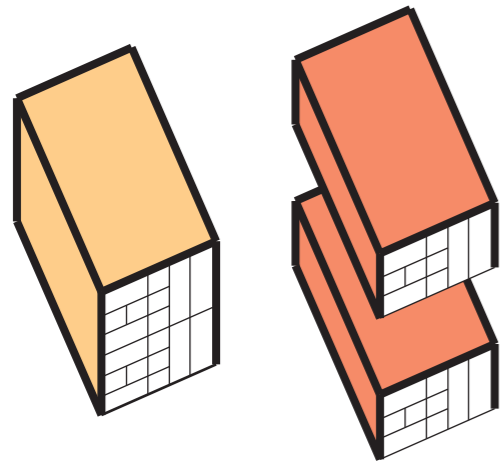


108 SQM  
MAISONNETTE  
(4 ROOMS)



53.5 SQM  
LOFT TYPE (1-2 ROOMS)

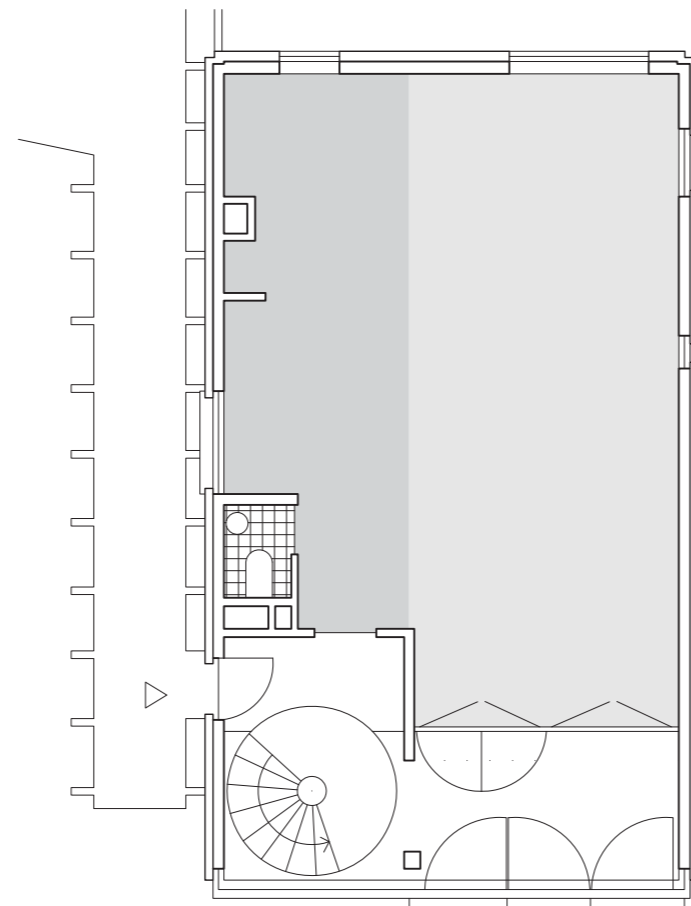
- SMALL LOFT TYPE
- MAISONNETTE



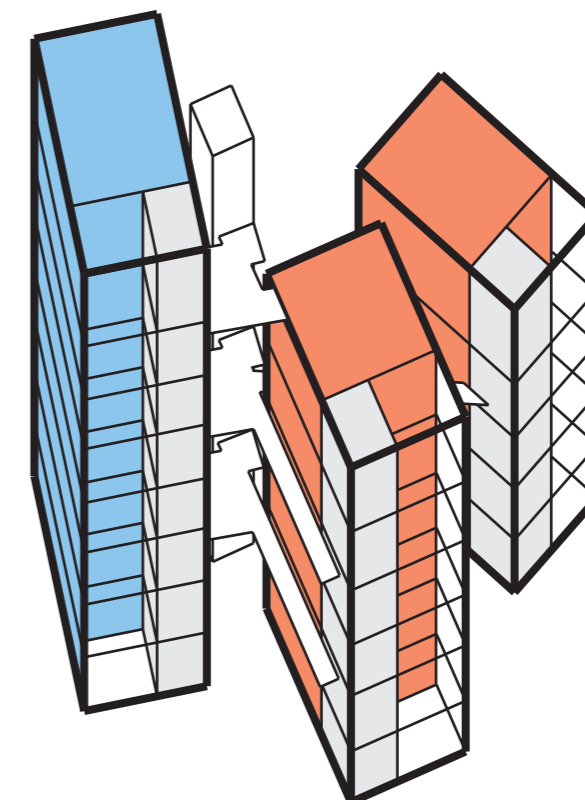
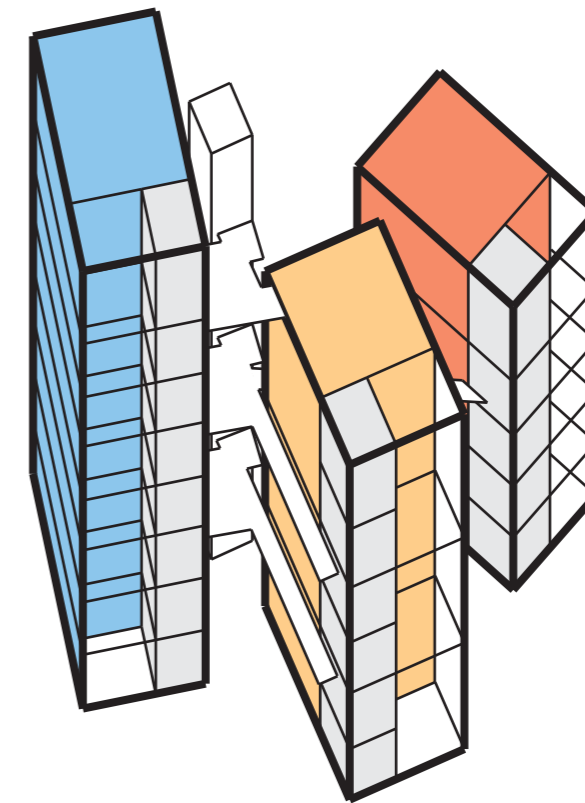
All the dwellings types are based on the same principle of having a service space and a living space. With a fixed service space and the load bearing outer walls, the living space can be divided to the user's preferences.

This use of the same principle for all the dwellings makes it possible to transform a maisonnette into two separate loft types. Together with the inner staircases of the access route, it generates a certain flexibility in the organisation of the complex.

This need for flexibility was a response to the trend toward single living or the desire to have one's own detached unit even when one lives in a partnership.

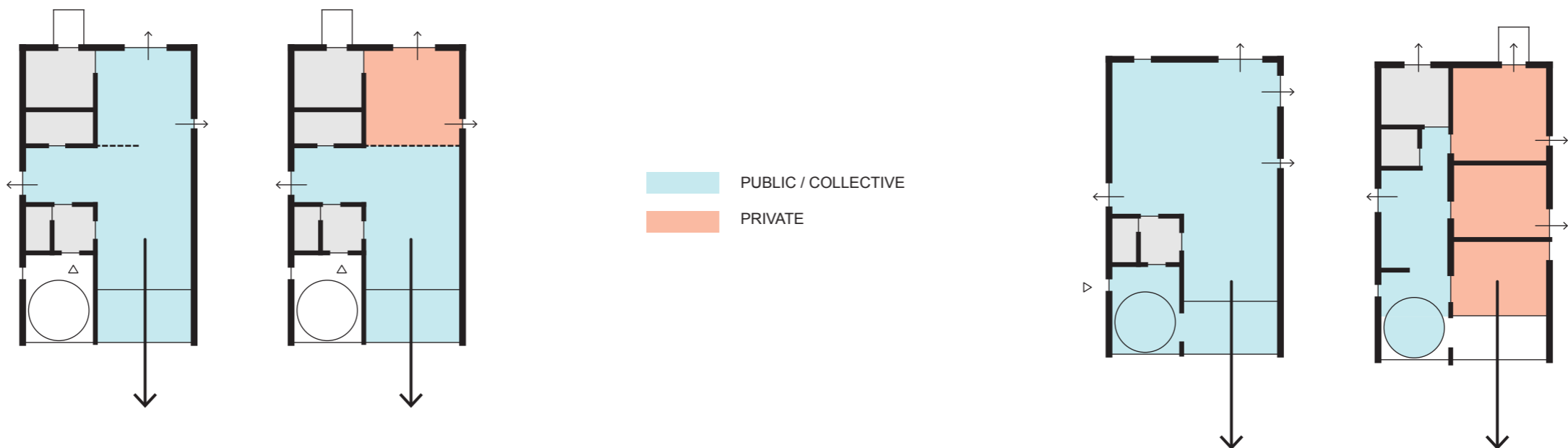
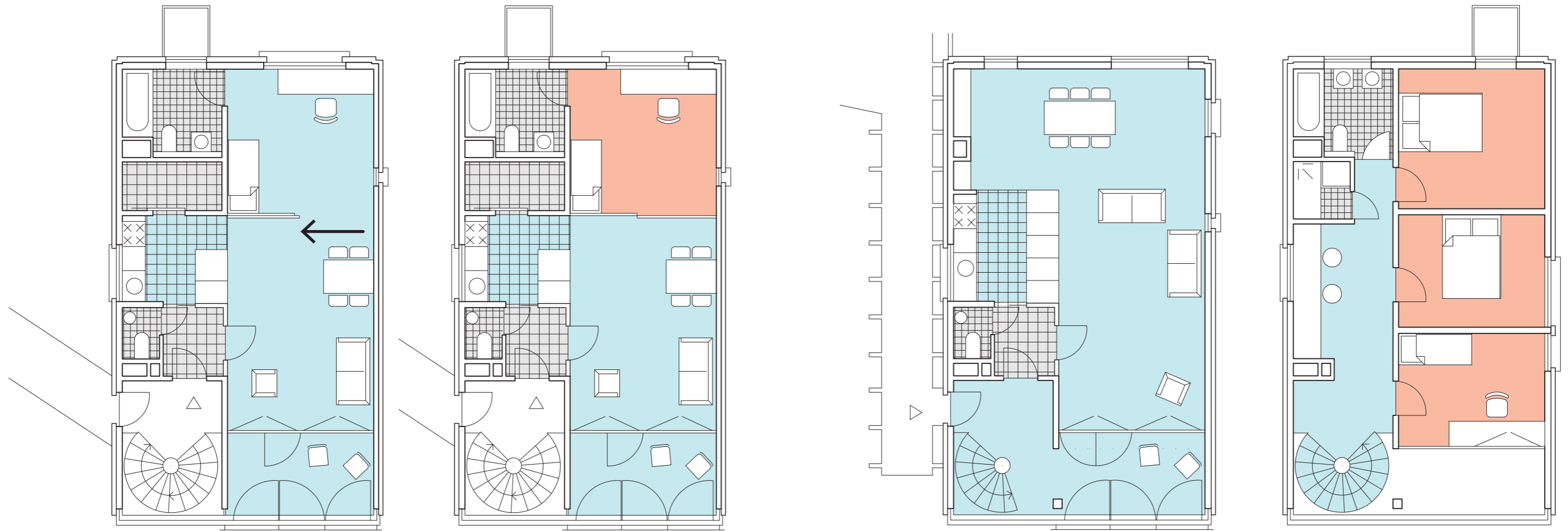


CORE DWELLING  
SERVICE ZONE AND  
LIVING ZONE

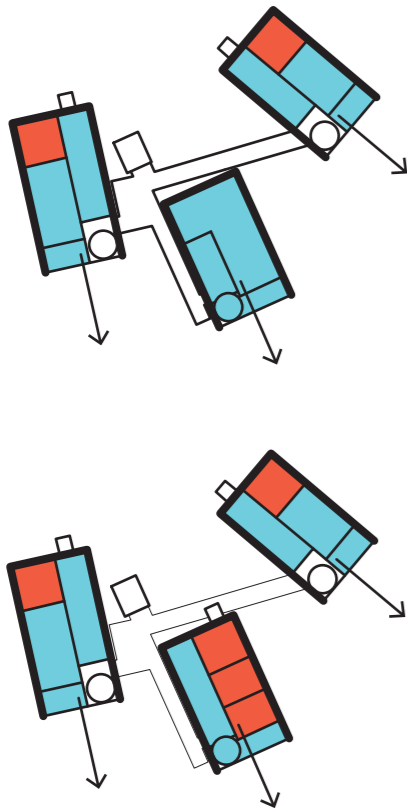


FLEXIBILITY IN THE ORGANISATION OF  
THE DWELLING TOWERS

CONCLUSION - PROJECT FOR INTERNATIONALE GARTENBAU







The loft types are designed so they can be used in two different ways. By adding a sliding door, the dweller can divide the loft into a private and more public part. In this way even the small units leave room for change. The maisonnette dwellings have the shared spaces, kitchen and guest toilet downstairs with the private bedrooms and bath above, clearly separating the public from the private.

The physical and visual relation between the dwellings is very minimal. All three towers have a clear open orientation facing south, facing away from each other. The other facades facing the back and the other dwellings are very closed. This closedness provides certain privacy but also prevents more interaction.



CLOSED BACK SIDE



OPEN FRONT SIDE

CONCLUSION

The project is a development in the experiments of seeking new housing typologies and responds to future changing demands by internal flexibility. If required, the three maisonettes can be converted into six separate lofts apartments. Each dwelling has its own service zone and living zone, and the lofts provide a higher degree of flexibility within the layout, as it can be divided into two separate rooms. With the service zone and the loadbearing walls, each dwelling can be adapted to the dweller's requirements. The south facing glass facade provides each dwelling with a wintergarden that gives the dwellings a generous view and spacious impression. The generous layout of the project does create minimal relations between the dwellers, which are improved by the connecting inner staircases.



# TEST CASE 3

JAN DE HOOP > PROJECT FOR INTERANTIONALE GARTENBAU AUSTELLUNG

STUDENT > PROJECT FOR INTERANTIONALE GARTENBAU AUSTELLUNG





NEEDS SOCIAL INTERACTION  
WILLING TO SHARE  
QUIET PLACE TO STUDY



FLEXIBLE LOFT DWELLING  
BIG MAISONNETTE DWELLING  
PRIVATE FACILITIES  
COLLECTIVE ROOF GARDEN

The students need a good balance for private and collective functions. Students are a group that are willing to share a great number of facilities but need some space of their own too. Private space where the student can retreat from the vibrant and busy student life. The students use the dwelling to eat, sleep and study. Getting together is an activity that not necessarily takes place within the dwelling.

In the project for the Internationale Gartenbau Ausstellung there are two possible dwellings for the student. A private loft dwelling which has the possibility to be divided into two spaces, a private and a public part. In this dwelling, Jan can invite other students into his living space, while keeping his bedroom private. If Jan chooses to stay in the maisonnette, he will share his living space with two other students. The maisonnette is more social but gives Jan less private space to retreat.

**STUDENT**

**NAME:** Jan de Hoop

**AGE:** 24

**EDUCATION:** MSc Economy

**WORK:** Part-time waiter

**PARTNER:** NO

**CHILDREN:** NO

**MEANS OF TRANSPORT:** Bicycle / Public Transport

**TOTAL INCOME:** 900,- / Month

**TOTAL EXPENSES:** 900,- / Month

**FUTURE PROSPECTS:** Moves to another house in 1-2 years after finishing his Masters degree. Will try to find a house with friends or something on his own if available. has a strong preference for a house in the city where he works and has his friends. He will find a life partner and will eventually live together.

**ACTIVITIES**

**WORK:** Part-time waiter in a local restaurant.

**WORKDAYS:** Tuesday / Saturday

**SLEEP:** Aims to sleep 8 hours per night.during the week. Sleeps in on the weekends. Occasionally sleeps somewhere else.

**EATING:** Breakfast at home. Has lunch at the faculty during the week. Lunch on the weekends mostly in town. Has dinner at home during the week, except for Tuesdays, when he gets a meal at work. Has a late night snack after a night in town.

**PERSONAL HYGENE:** Showers every morning on weekdays immediately after waking up. After sleeping in on weekends takes more time to wake up and showers later.

**SPORTS:** Ice Hockey.  
Training: once a week.  
Match day: Saturday / Sunday

**CULTURAL:**  
Musea: 4 times / year.  
Music festivals: Once / month.  
Expositions: Once / month.  
Theater: nce / year.

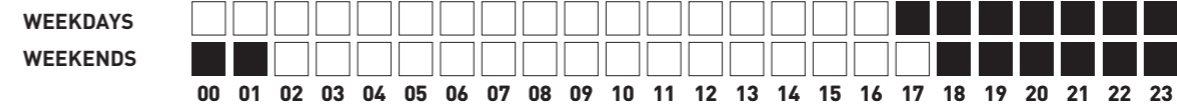
**GOING OUT:**  
Bar / Club: Every weekend  
Restaurant: Once / month

**STUDYING:**  
Study at home: 8 hours / week

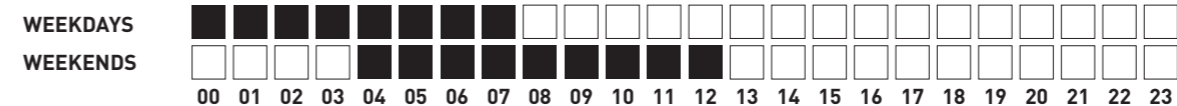
**LEISURE / RELAXING:**  
Videogames: 3 times / week  
Movies: Once / month  
Reading: Never

**DAILY CYCLES**

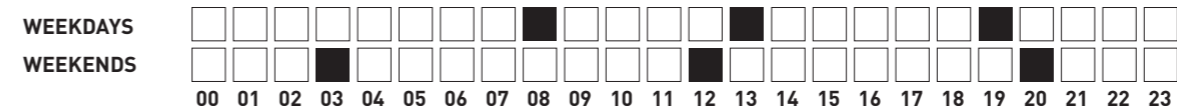
**WORK**



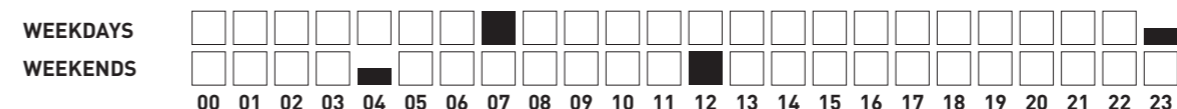
**SLEEP**



**EATING**



**PERSONAL HYGENE**





**ACTIVITIES**

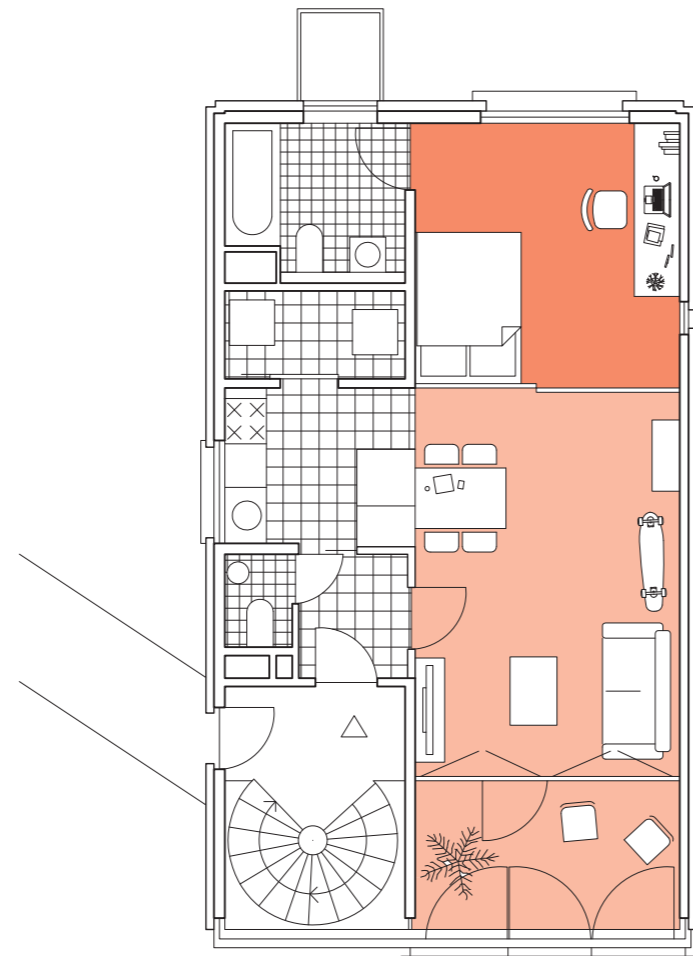
GETTING TOGETHER

STUDYING

The loft dwelling is quite generous for Jan, for the fact him being a student. It is over 50sqm of private space with all the necessary facilities including a kitchen, bathroom and outdoor space. The loft dwelling gives Jan the possibility to divide his living space, screening his bedroom, when having other students over. The dwelling is rather shielded from the other dwellings and would not give Jan the needed social interaction.

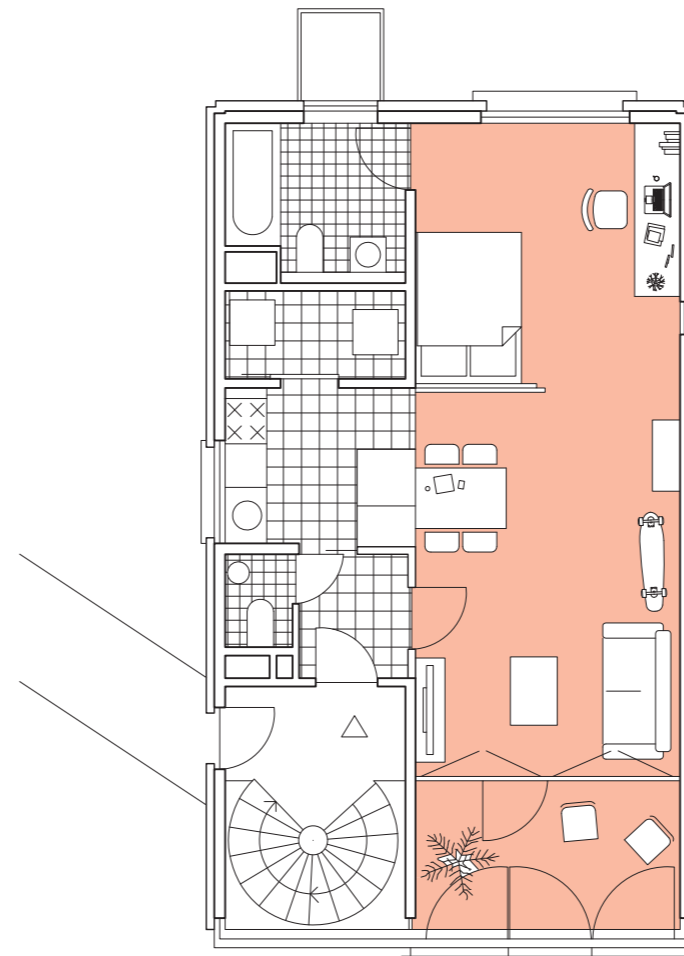
The maisonnette is a better fit for Jan since it gives him more direct interaction with other students. In the maisonnette he will share the ground floor, containing a generous living space, kitchen and wintergarden, with two other students. The upper floor contains three private rooms, big enough for sleeping and studying, a shared bathroom and an extra space to study.

The only collective function in the complex that brings the students more together is the collective roof terrace. In spring and summer this terrace will be extensively used and shared amongst the students.



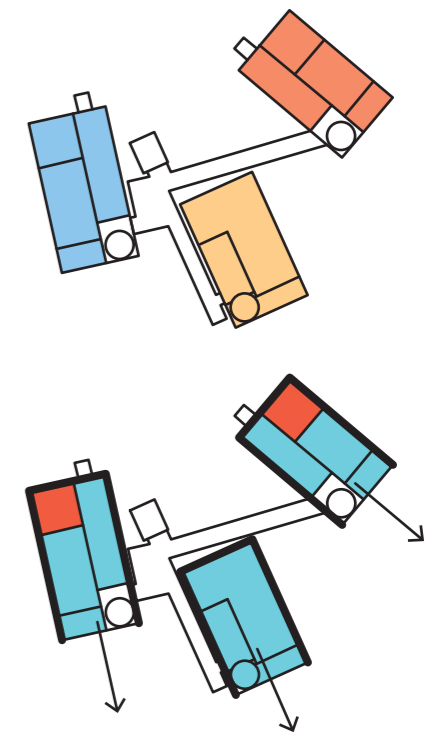
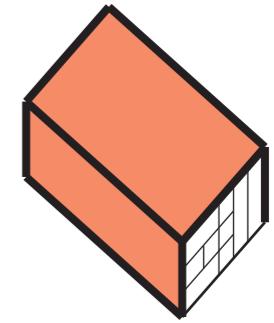
JAN'S PRIVATE DWELLING

SLEEPING ROOM SEPARATED FROM THE LIVING ROOM WHEN HAVING OTHER STUDENTS OVER



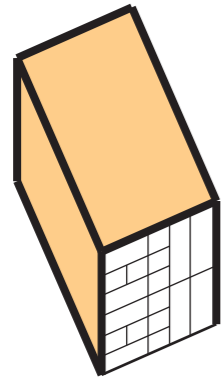
JAN'S PRIVATE DWELLING

ONE GENEROUS LIVING SPACE WHERE HE CAN RELAX, COOK AND STUDY



PHYSICAL AND VISUAL SEPARATION BETWEEN THE TOWERS





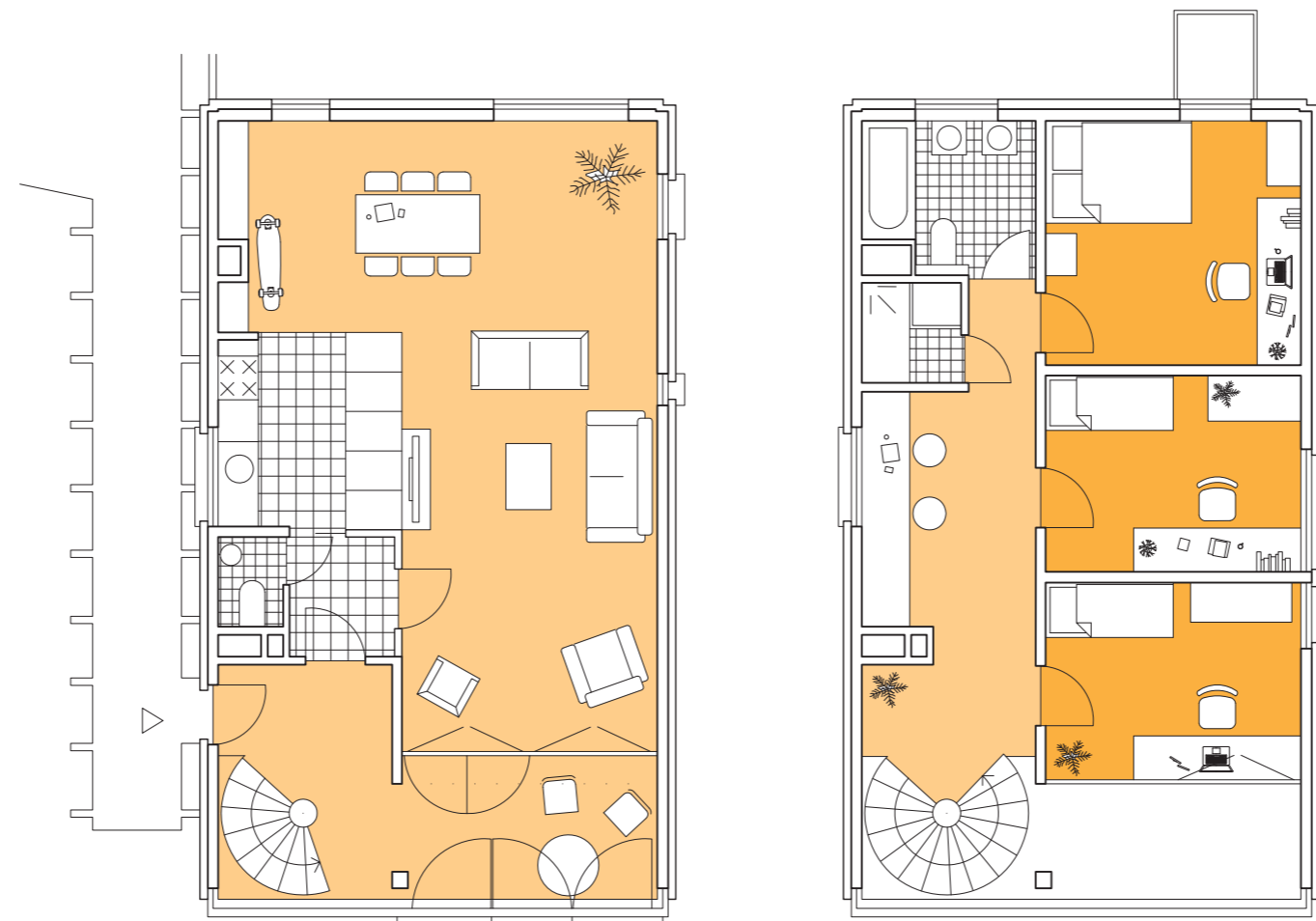
**ARCH ELEMENTS/FACTORS**

The structure and zoning make the complex flexible in its organisation. The dwellings can shift between loft apartments and maisonnette, according to the demands of the dwellers. A tower of three maisonnettes can be transformed into six private lofts or vice versa.

The layout of the separate buildings gives the dwellers minimal physical and visual relations between each other. These relations however can be found when a student chooses to live in a maisonnette.

Each dwelling type provides in the need for a separation between public and private parts. The loft type uses a sliding separating wall, the maisonnette uses its separate floors to divide the functions.

The collective roof terrace stimulates the social interaction between the dwellers.



JAN SHARING WITH TWO OTHER STUDENTS

COLLECTIVE LIVING ROOM DOWNSTAIRS

JAN SHARING WITH TWO OTHER STUDENTS

PRIVATE ROOMS UPSTAIRS

**ARCH ELEMENT/FACTOR USED**

FLEXIBILITY IN ORGANISATION

GENEROUS SPACE

COLLECTIVE ROOF TERRACE

SEPARATION BETWEEN PUBLIC AND PRIVATE

**USER CONSEQUENCE**

CHOICE BETWEEN TWO WAYS OF LIVING, PRIVATE OR SHARED

**CONSEQUENCES FOR JAN**

This project gives Jan the possibility to choose a very private dwelling with minimal social interaction or a shared maisonnette, where he has direct relations with two fellow students. Jan, in this case, would choose less private space and more social interaction, and would choose to live in the maisonnette dwelling. The clear separation between a shared living room and the private room will give Jan enough needed seclusion when necessary, but also the highly required social interaction.

Since the layout is flexible it is also imaginable that the maisonnette is shared only amongst two students. Only two private rooms on the top floor, slightly bigger than showing on the drawings now.



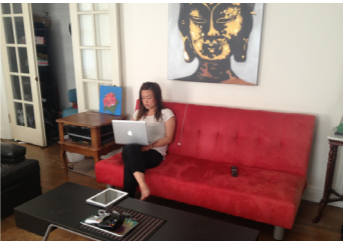

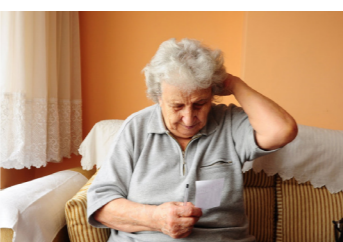


# TEST CASE 3 - COMPARISON

OTHER PROFILES > PROJECT FOR INTERANTIONALE GARTENBAU AUSTELLUNG





		USER SPECIFIC DEMANDS	USER CONSEQUENCE
DIVORCED		Space is important for the divorced man. He is not willing to live in a dwelling that is too small. He needs <b>extra space</b> at home <b>to work</b> or to have <b>his children over</b> in the weekend. Collective space could be an option if the private space is sufficient.	The divorced person will, if his/her budget allows it, choose the maisonnette type as his private dwelling. It gives him the possibility for him to <b>separate work and living</b> on different floors. Also the opportunity to have bedrooms for his visiting children.
EXPAT		Private space is important for our expat since he has a busy job and a wife and <b>kids that visit him every now and then</b> . The dwelling should therefore not be too small. Collective space can be usefull, only if it is <b>additional to the private facilities</b> .	The expat can go both ways. In the case of living alone, he is perfectly fine with the <b>size of the loft</b> dwelling. If he however is planning to have his wife and kids over frequently and possibly even lasting, he would only be suited in the maisonnette.
YOUNG PROFESSIONAL		The young pro is quite flexible in her lifestyle at the current moment. She spends most of the day <b>at work</b> , so the dwelling becomes a <b>place of relaxation</b> . The dwelling can be small and have collective functions, until she is plans to live together or have kids.	The young professional is comfortable in the loft dwelling with all her <b>private facilities</b> . The young pro does not require any shared facilities and the loft dwelling is spacious enough to enjoy after working hours, only when living alone though.
STUDENT		Social interaction is important for the student. He can live <b>alone in a group</b> or live closely together with other students. The private dwelling can be small as long as there is <b>sufficient collective space</b> for the student to use and interact with others.	The student can choose both dwellings, depending on his wishes for social interaction. With the <b>lack of collective functions</b> , the loft dwellings can be too secluded for the student. He would be better off <b>sharing the maisonnette</b> with two others.
ELDERLY		The elderly crave for <b>social interaction</b> , since they spend most of the time at home and <b>loneliness</b> can become a real problem. The dwelling should be large enough to have his/her (grand)children over and be completed with collective functions.	The building is not that suitable for elderly, with its many stairs for accessibility. Also the <b>seclusion amongst dwellings</b> and the lack of collective functions would not give the elderly what they need. The maisonnette could be better, more social option, only if the elderly has no difficulty walking, <b>going up and down staircases</b> .





# CASE STUDY 4







# CASE STUDY 4



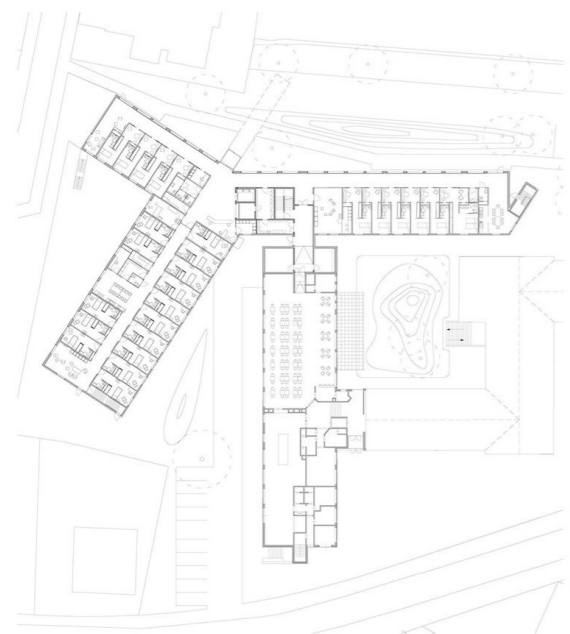
The addition of 54 new care units offers a unique opportunity to complete the – rather haphazard – structure of the original caretaking centre. The first balancing act encompasses the positioning of a 4.400 m<sup>2</sup> program on a virtual filled up site. By kneading the program into a trident volume a complete new range of possibilities arises, such as the upgrade of the gardens around the premises into autonomous yards, instead of residual patches of green.



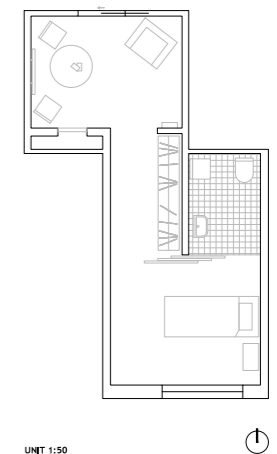
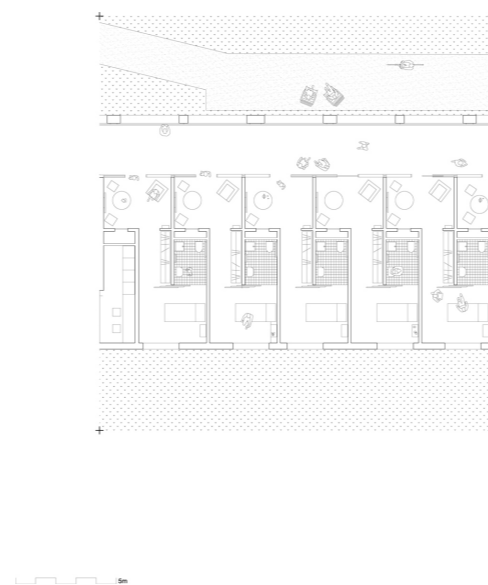
The generously open facades enable patients and staff to fully enjoy the gardens around. Inside, an open network of over-scaled hallways leads to the different living quarters. Wanting to avoid rooms which could be typecast as 'caretaking rooms', we proposed to double each room, offering both a living space and a bedroom area to patients.



The sleeping area focuses on complete privacy, whilst the living room - giving onto the ample hallways- offers the exact opposite. Large sliding doors enable the patients to expand their private living area into the hallway, immersing themselves in the daily life of the home, following the activities of the staff, other residents, visitors or passers-by.



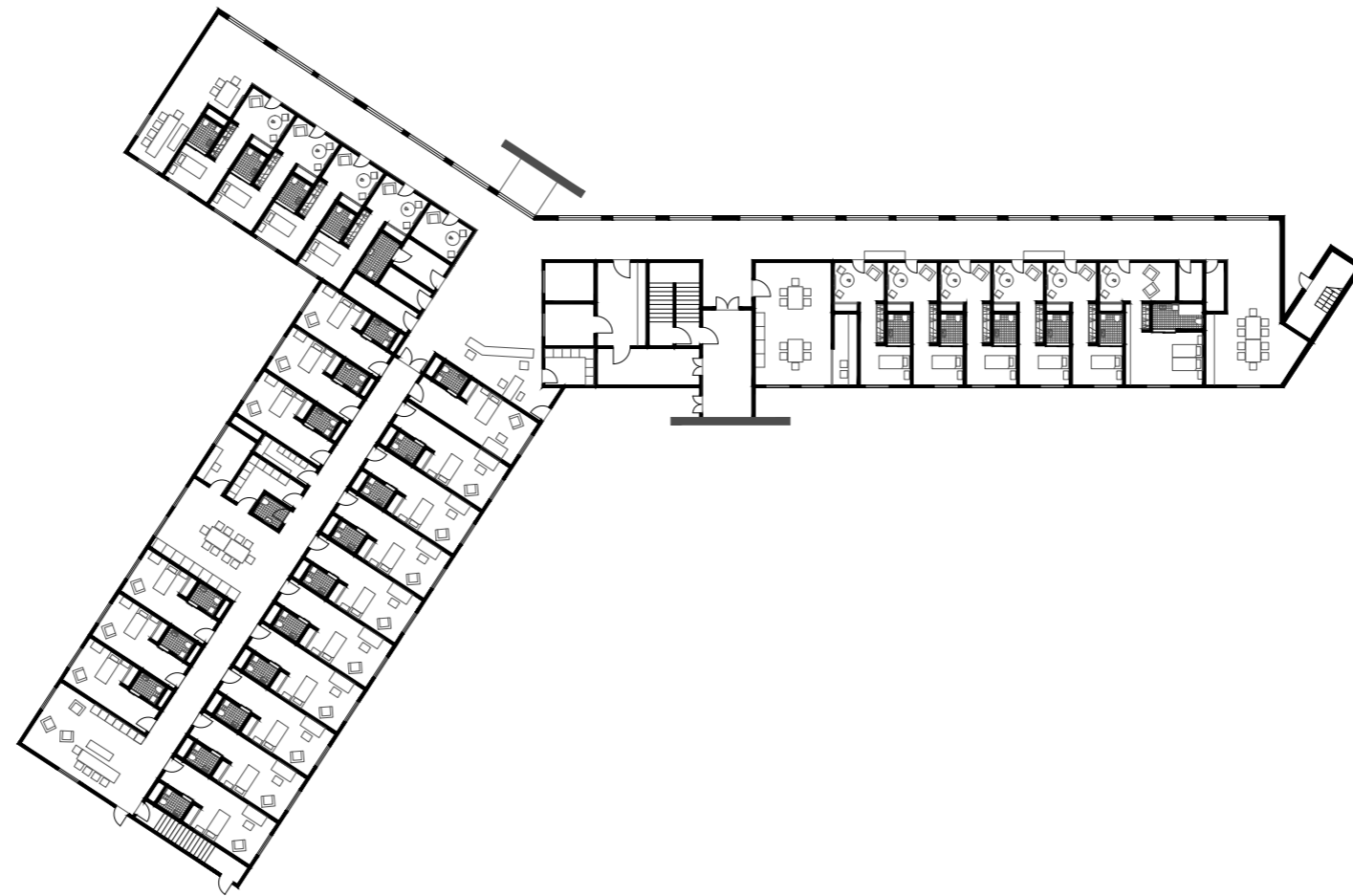
**THEMES**  
 TRANSITION IN PRIVACY AND COLLECTIVITY  
 SPATIAL TRANSPARENCY  
 USE OF THRESHOLDS  
 DIFFERENT USE OF SPACE



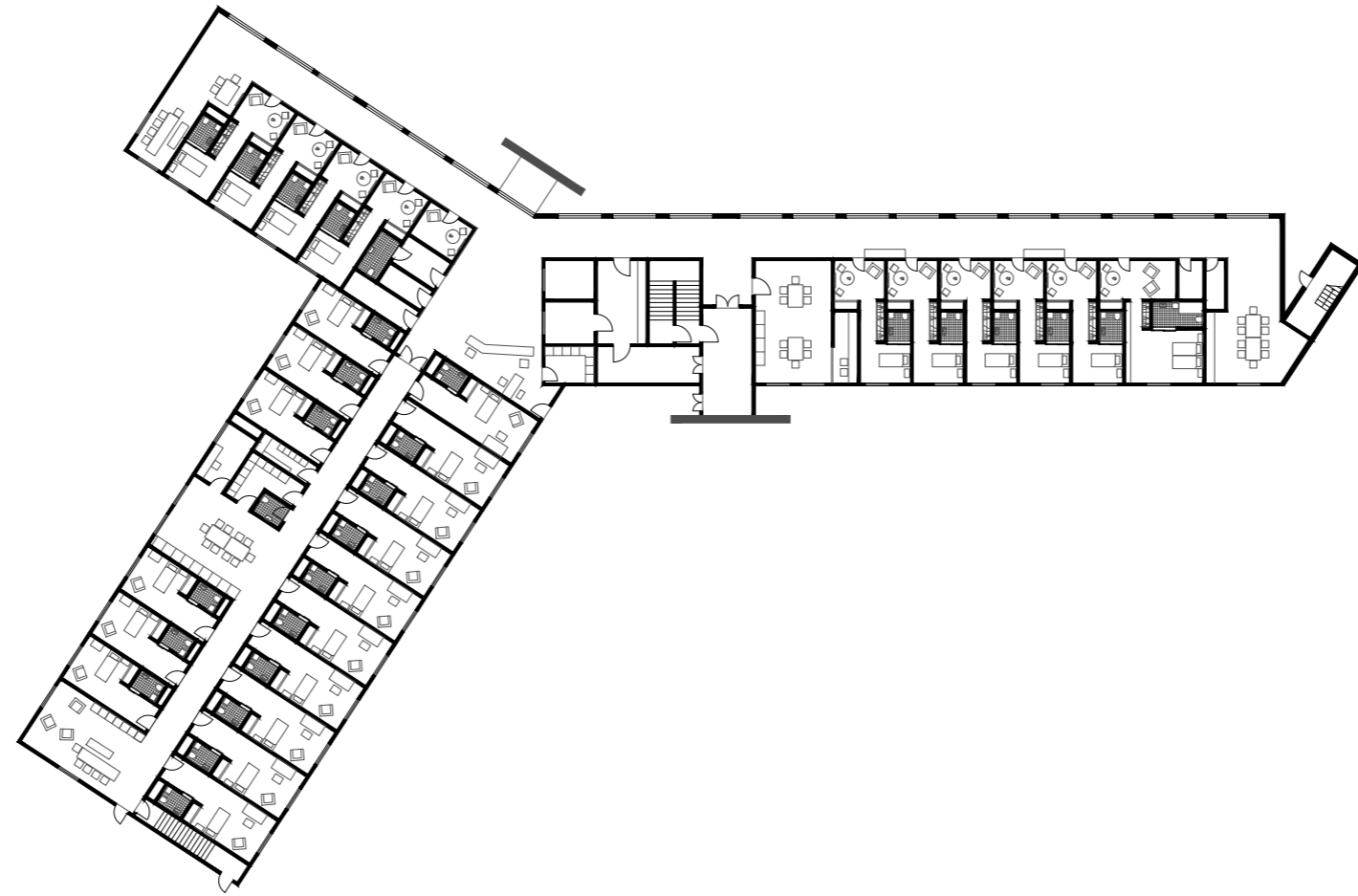
UNIT 1:50



FLOOR PLAN

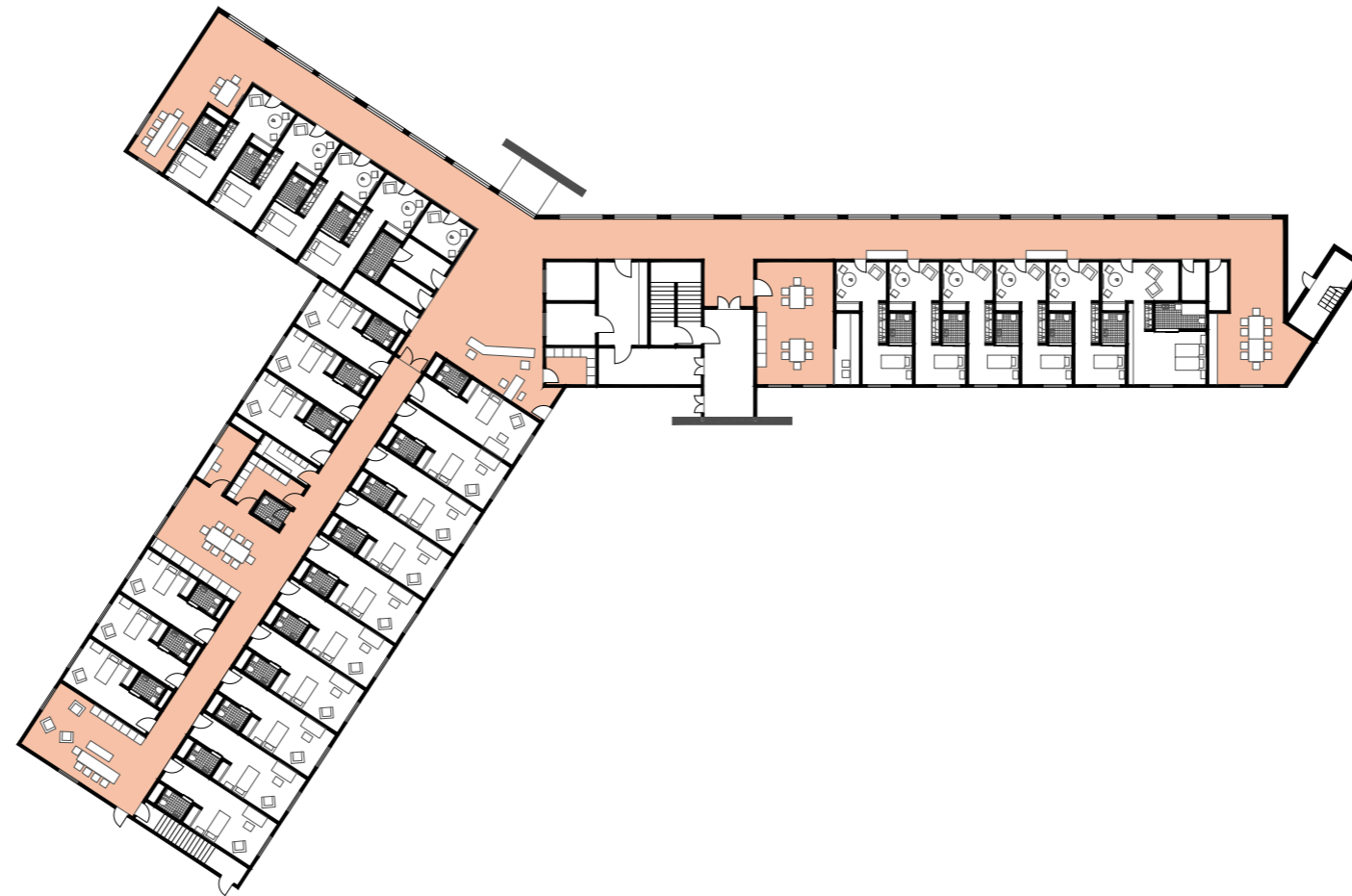


GROUND FLOOR



FIRST FLOOR

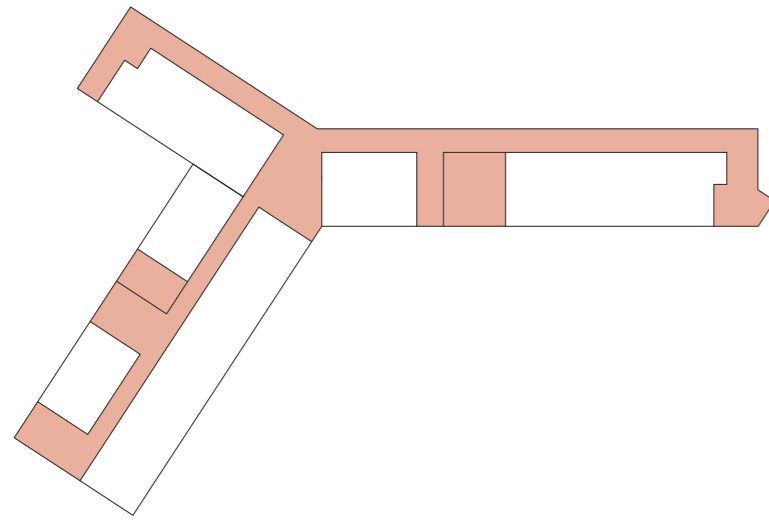
COLLECTIVE SPACE - GROUND LEVEL



GROUND FLOOR

 COLLECTIVE SPACE

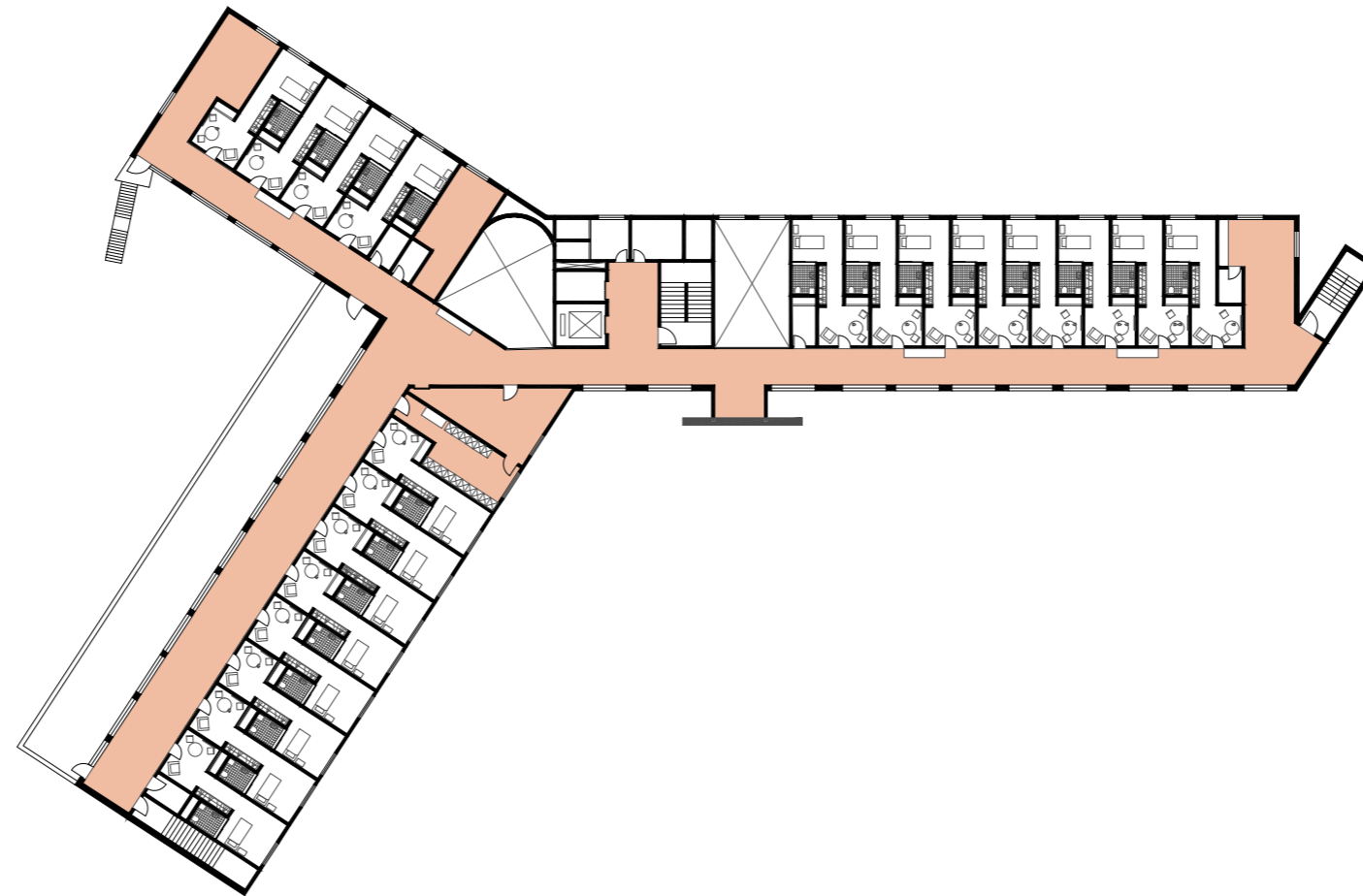




Generally speaking, the collective space could be concluded into two types. One is the room that all the people could go inside and use. The other one is the gallery, which is much wider than that in common sense. The gallery is the place where people meet, talk and sit together, which contributes a lot to make the community in this building. It would be more precise to call this gallery the inner street. Combined with the soft border transparency, the inner street makes the transition between collective space to private more easier and fluent.

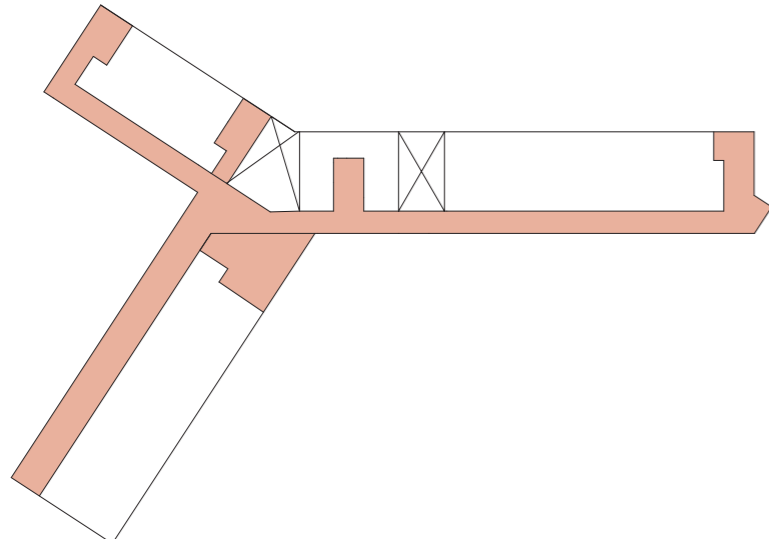


COLLECTIVE SPACE - UPPER LEVEL



UPPER FLOOR

 COLLECTIVE SPACE

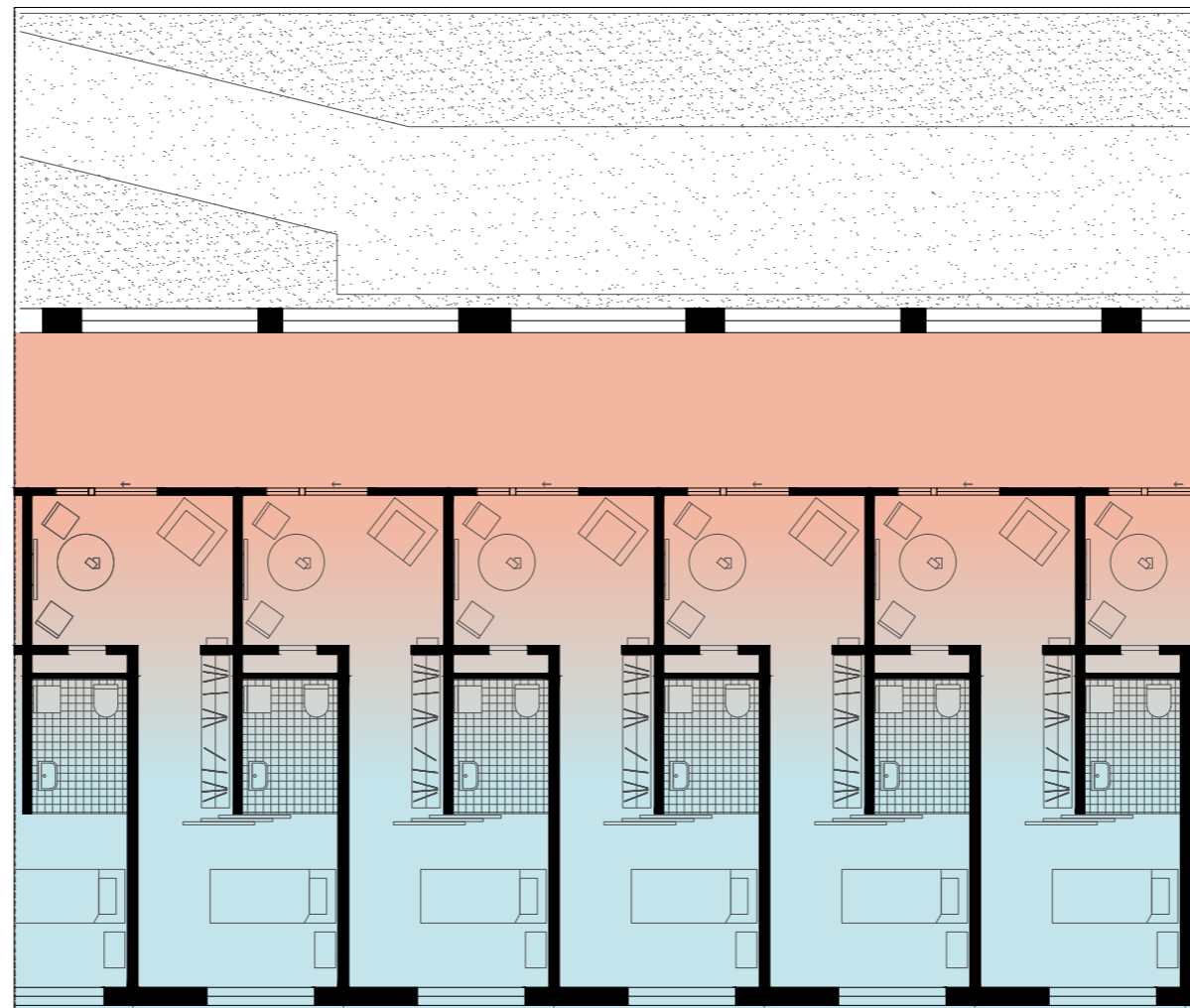


The collective concept is used in all the floor. On the ground floor, the outside is the greenery and street, which people would communicate from inside to outside. On the upper level, the roof terrace and void on the floor, provide the possibilities to communicate in both vertical and horizontal level. So the collective space is not only connected on the same level, it also has some connection with other floor, making the building more like a community.



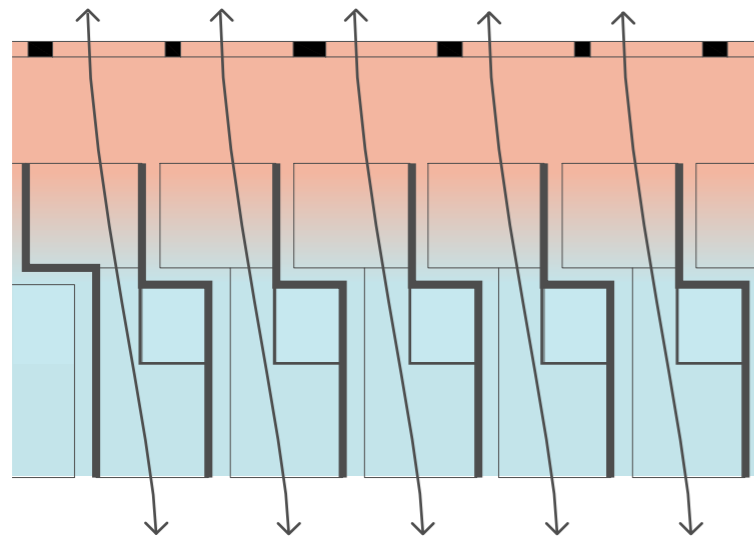


COLLECTIVE SPACE - PRIVATE SPACE



DWELLING UNIT

- COLLECTIVE SPACE
- PRIVATE SPACE



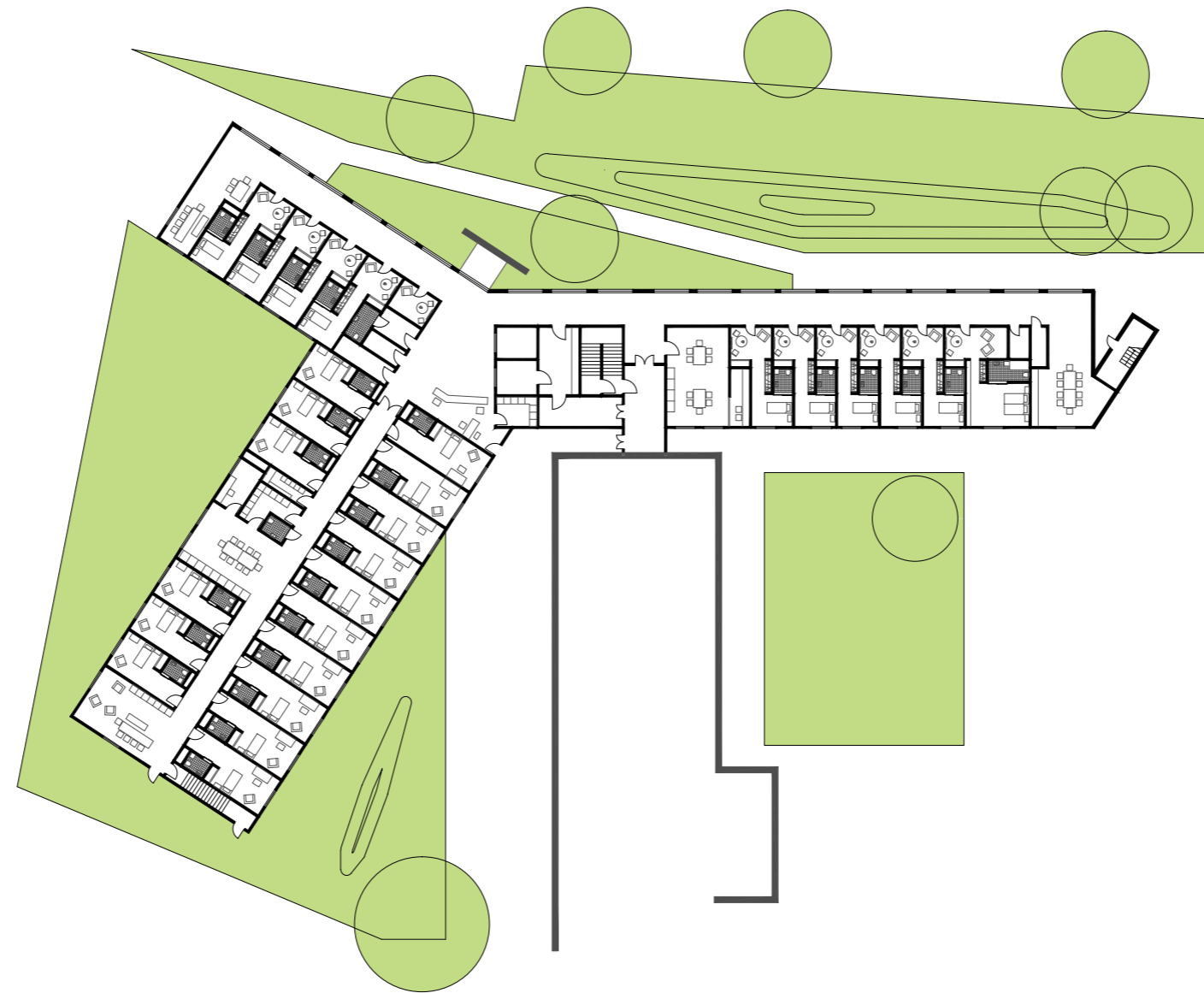
The transparency concept is used here, making the space transition more easier. On the side close to collective space, the wall and door are both transparent. It defines the hallway space, and at the same time, it enhance the connection between collective space and the hallway.

Because of the unit shape, the view could not reach the inner part of the unit. The route into the inner part is first through the transition space (hallway), small passage (close to closet), and to the private part. The space transition is finished by the hallway and the small passage. The toilet is in the middle of the unit, which has no view relation with outside and not on the route into the room.

This makes the nursery easy to check the situation of the elderly people.



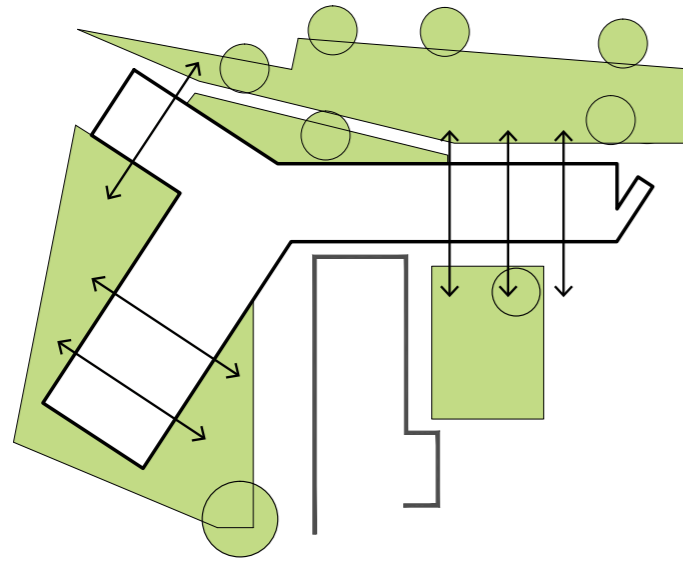
OUTDOOR SPACE - COMMUNAL COURTYARD



GROUND FLOOR

 GREEN

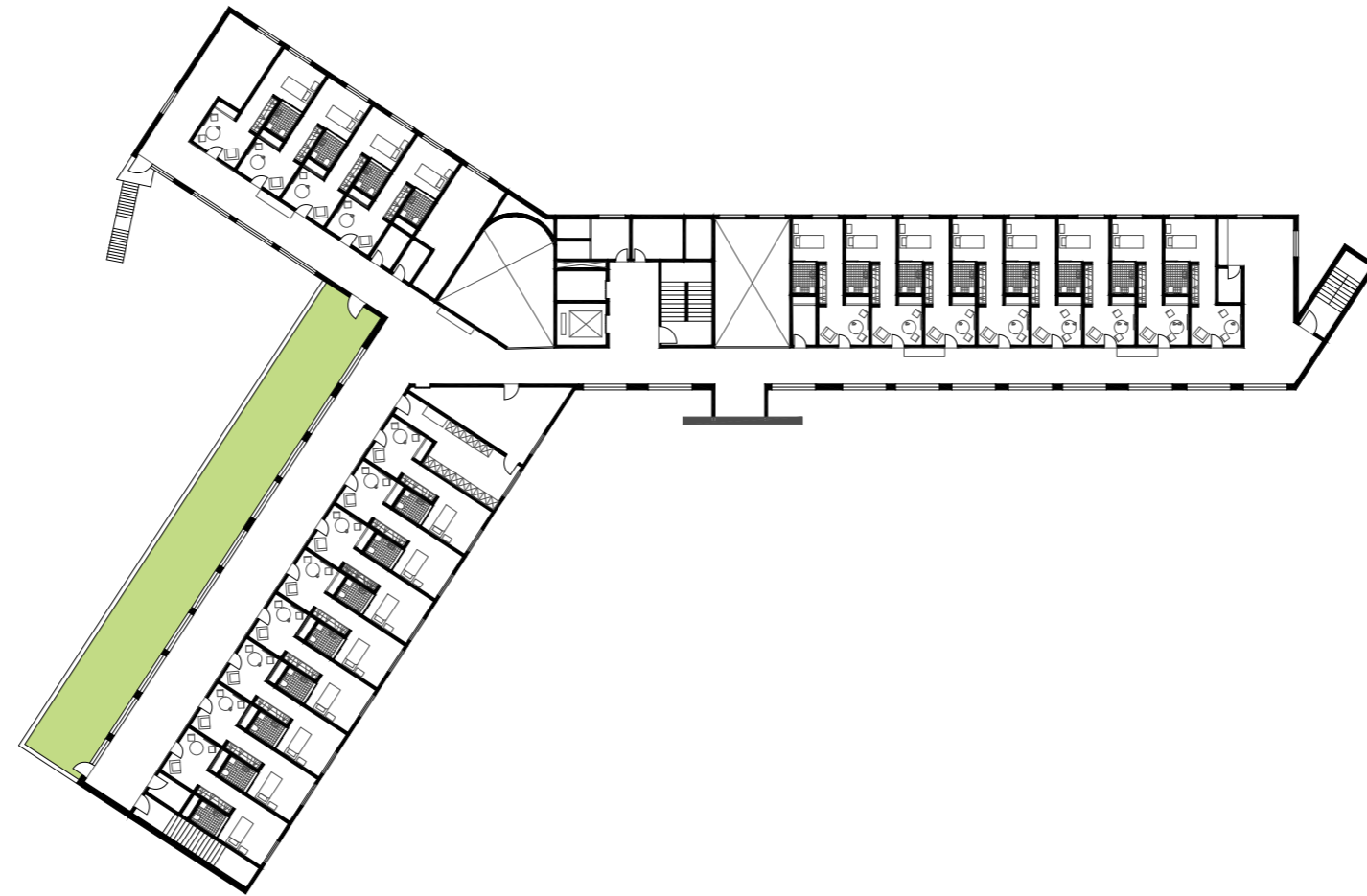




On the three wings of this building, each wing would have the view from the collective space. Because of the transparency concept, the greenery would also could permeate into the unit. As the trees around the building are high and flourish, even on the second floor, it could let people feel the connection with the ground.



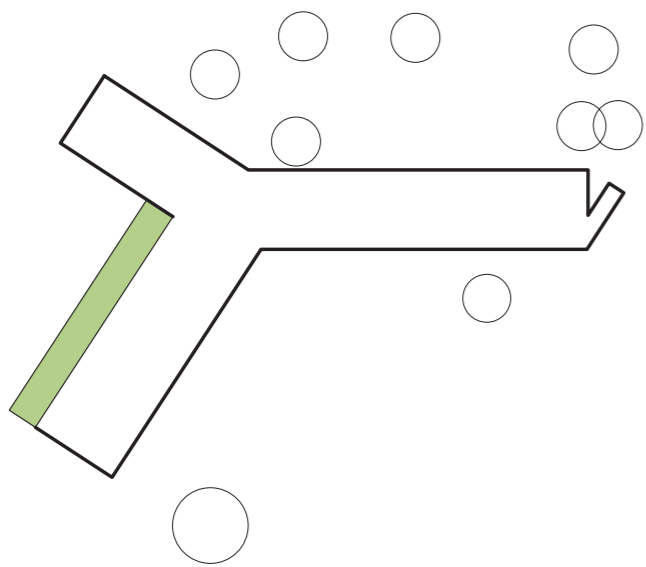
OUTDOOR SPACE - COMMUNAL ROOF PLATFORM



SECOND FLOOR

 PLATFORM





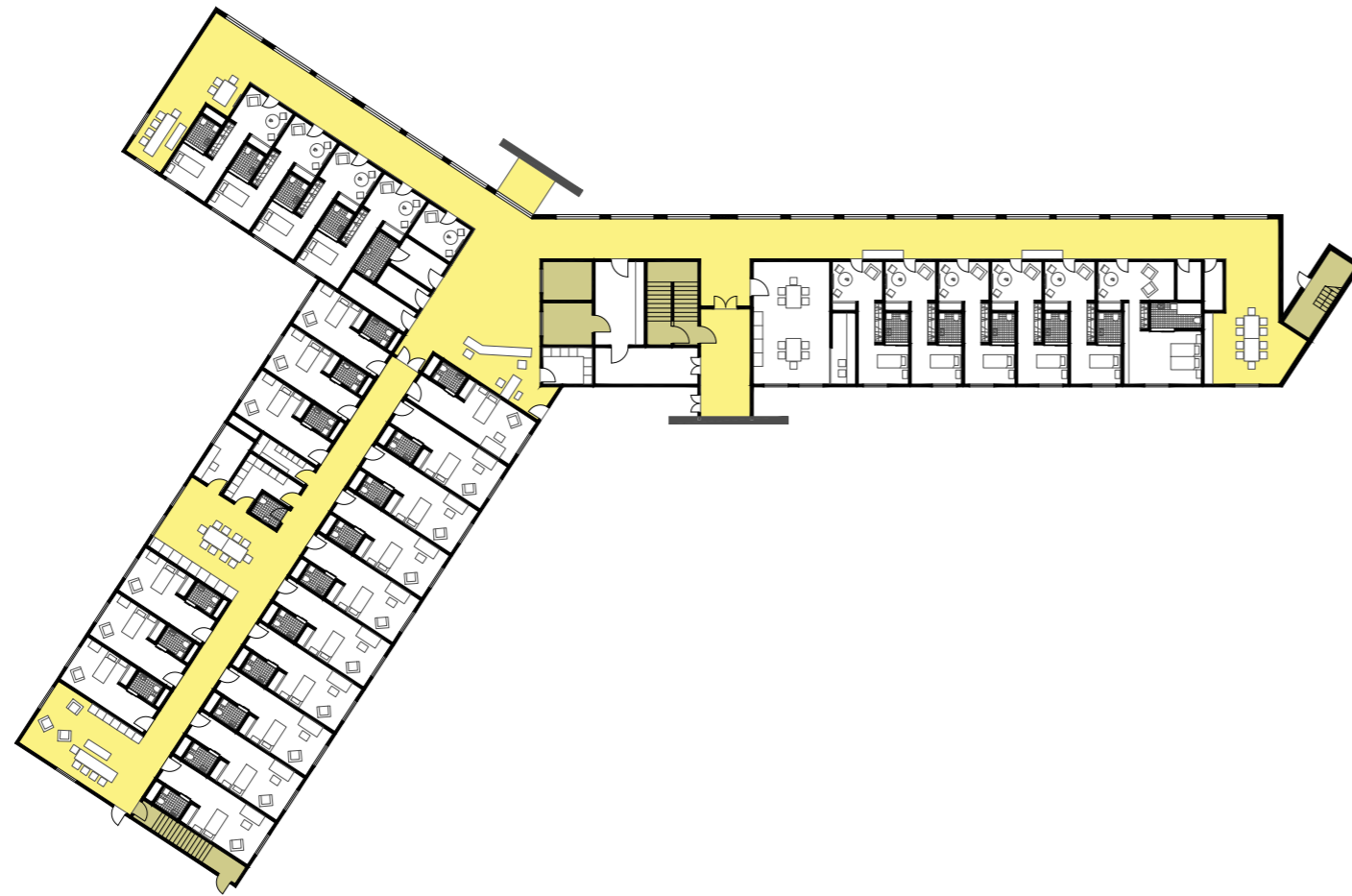
The roof platform adds spatial diversity in this building. It is placed along the collective gallery and reach one joint where different wings meet. Also it is close to one main entrance of the platform. There are two voids in the middle of the plan, which connect the floor with lower floor.

People live in the second floor would experience different space, which reduces the loneliness and provides the possibilities for going out when the weather is fine.

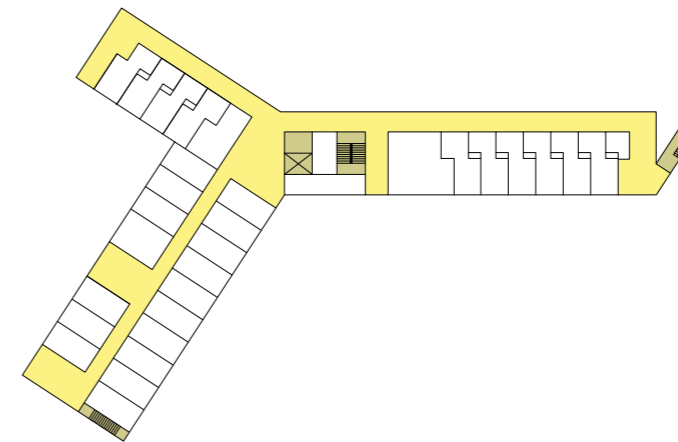






ACCESS ROUTE - GROUND FLOOR

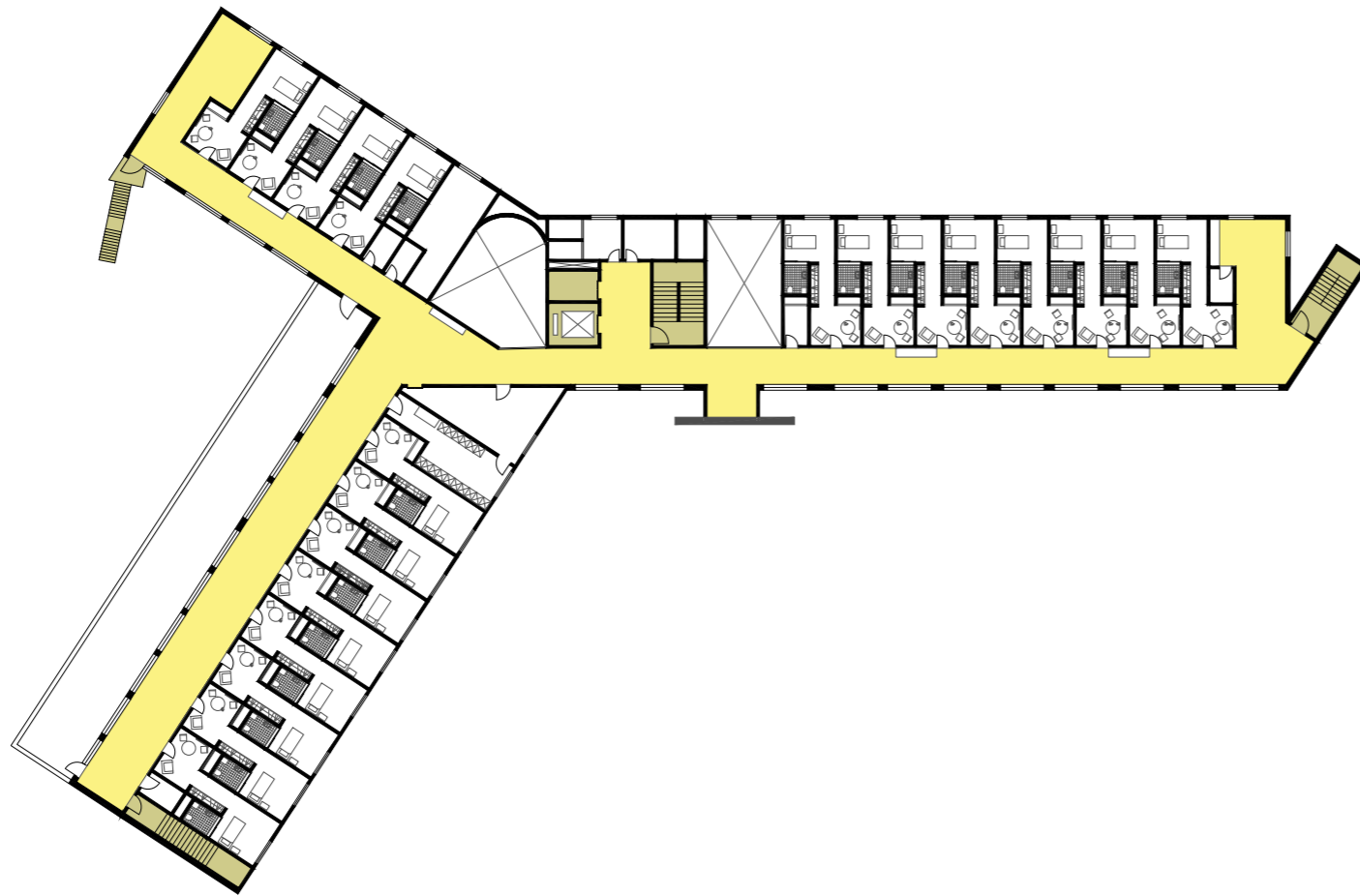


GROUND FLOOR

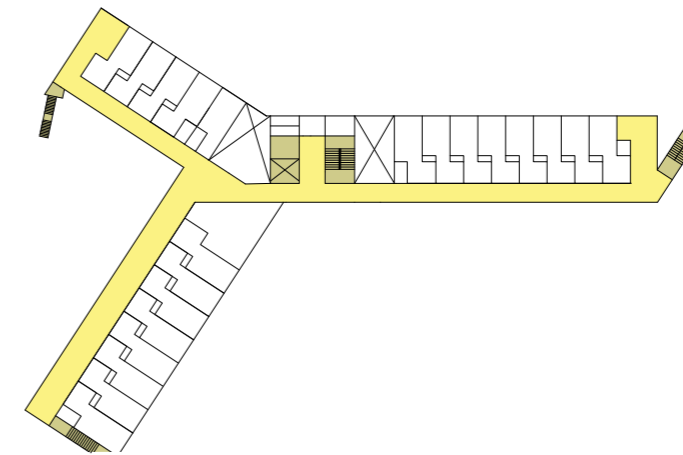


GROUND FLOOR



-  STAIRS AND ELEVATORS
-  ACCESS ROUTE



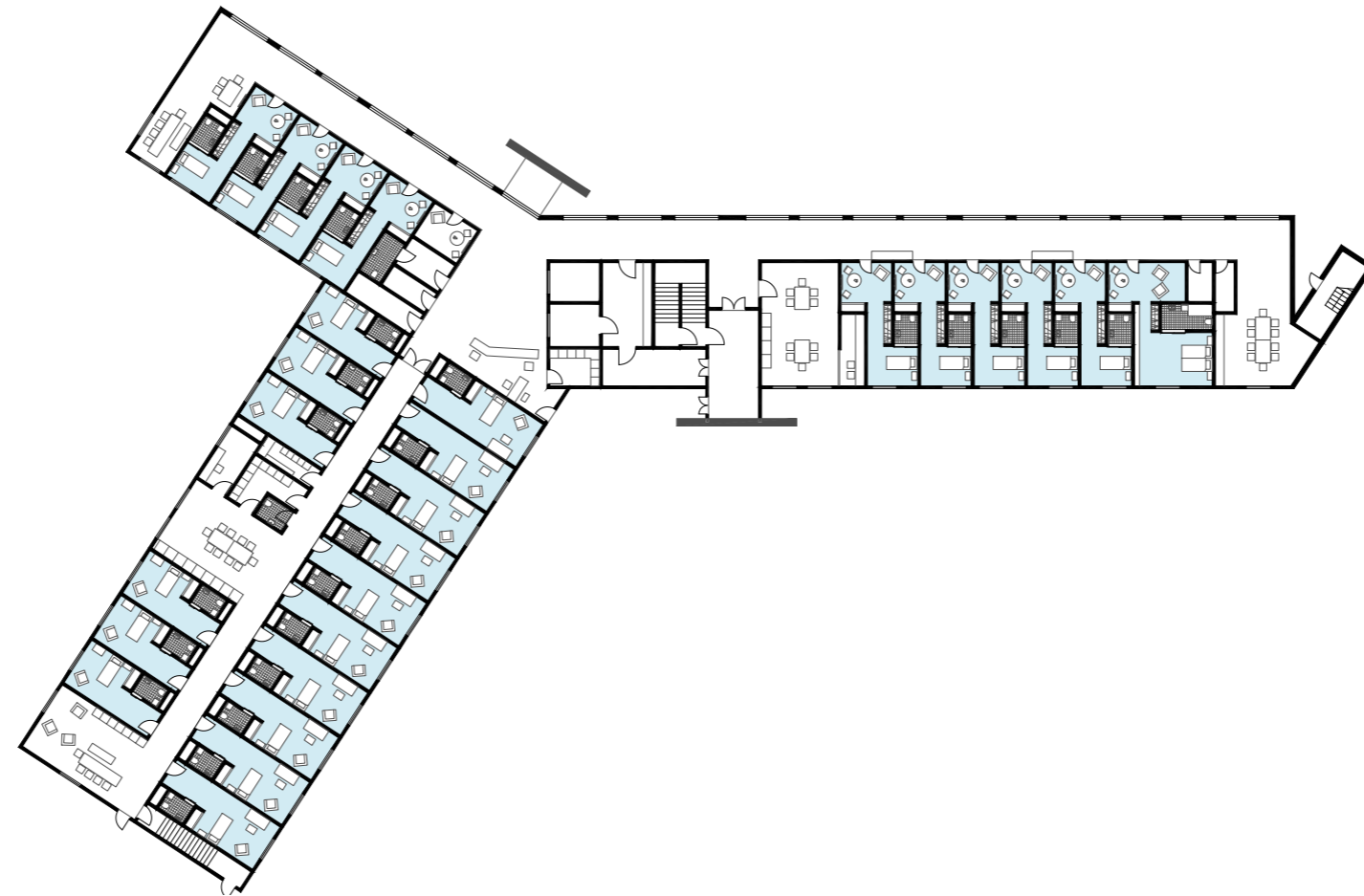
UPPER FLOOR



UPPER FLOOR

-  STAIRS AND ELEVATORS
-  ACCESS ROUTE

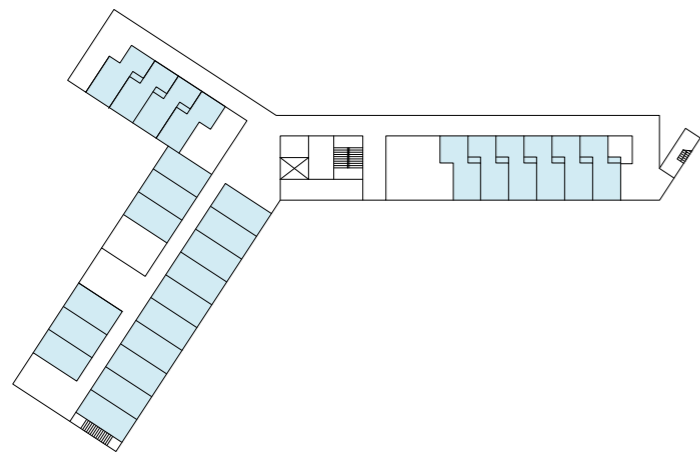
DWELLINGS - ORGANIZATION - GROUND FLOOR



GROUND FLOOR

 DWELLING

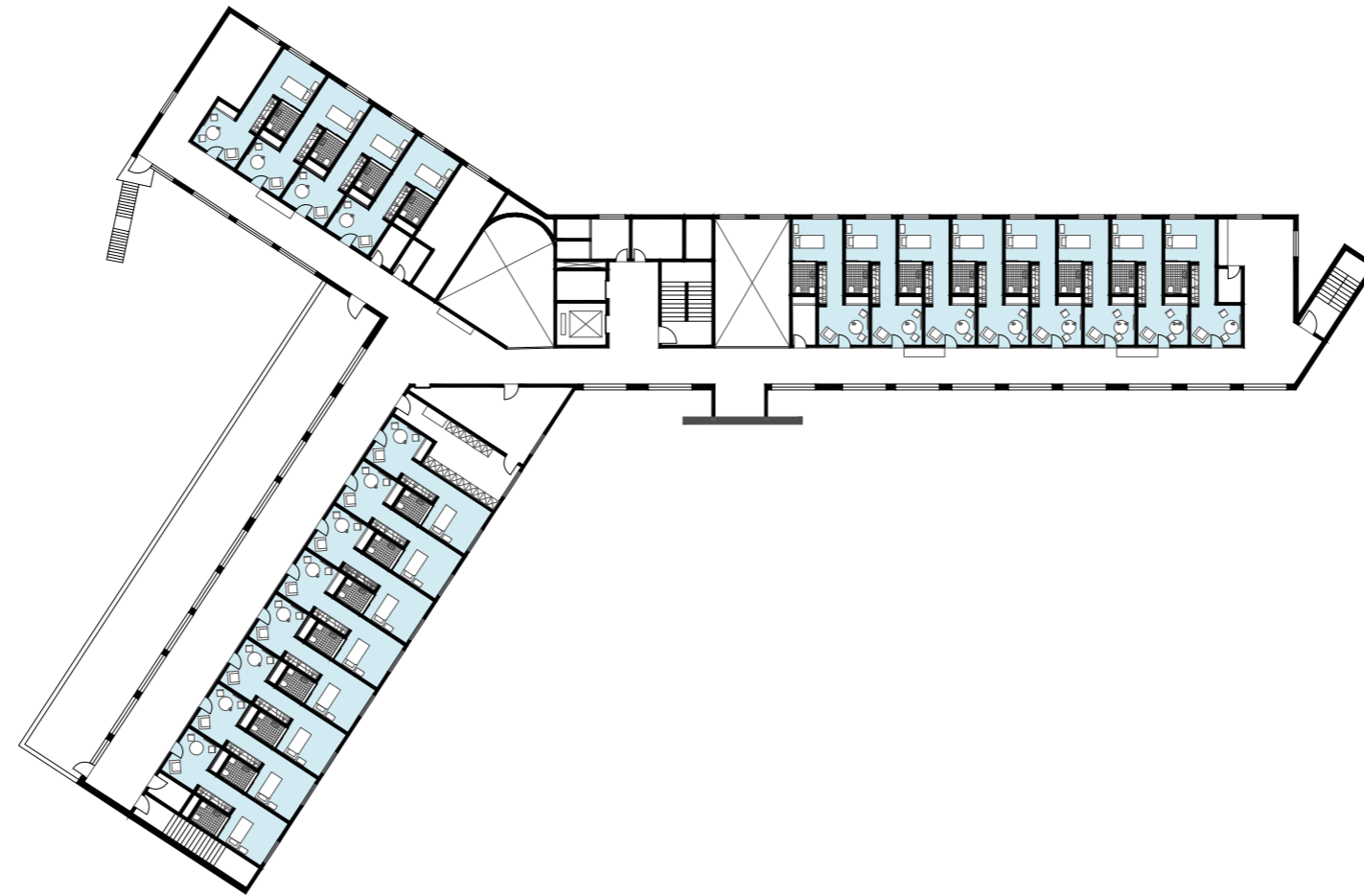




On the ground floor, there are two types of dwelling, one uses the transparency concept, the other is more like a normal hotel room, sharing one corridor inbetween. The first type located along the collective space. On one side close to the collective gallery, on the other side, close to the outside space.

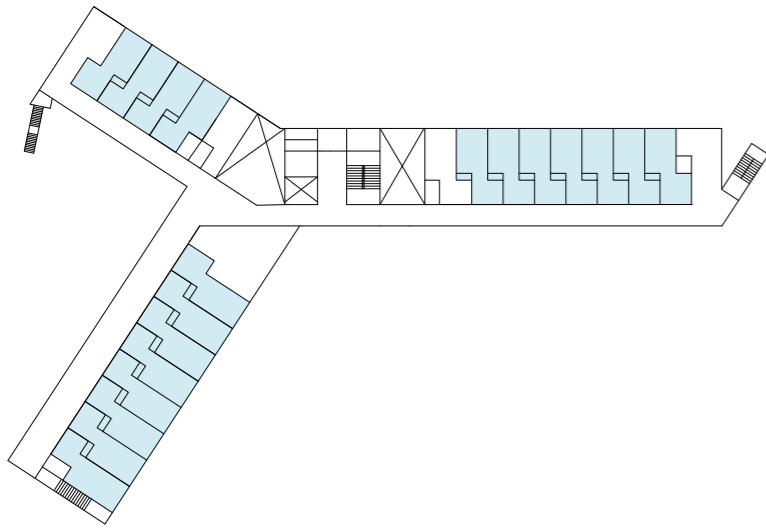


DWELLINGS - ORGANIZATION - FIRST FLOOR



UPPER FLOOR

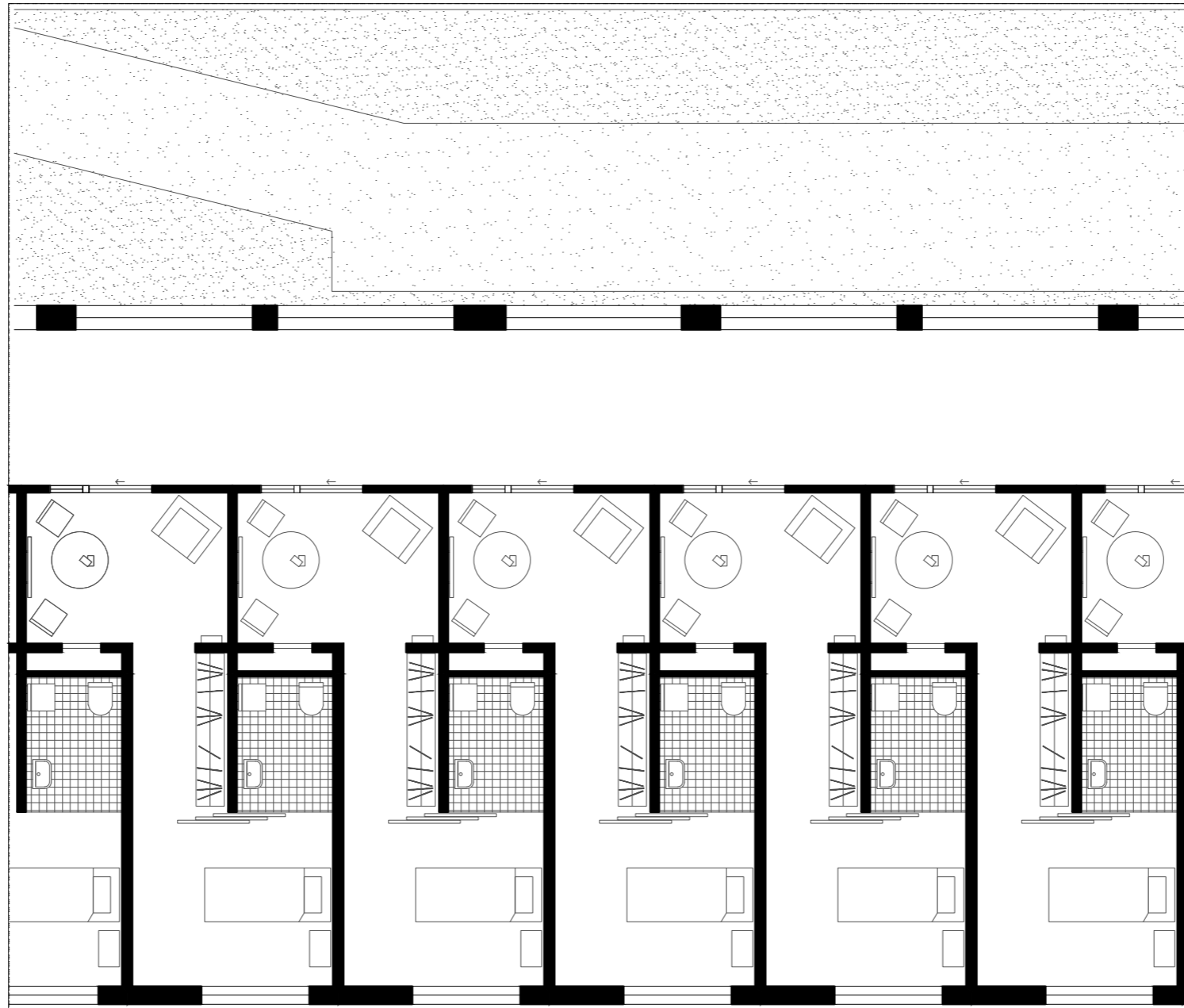
 DWELLING



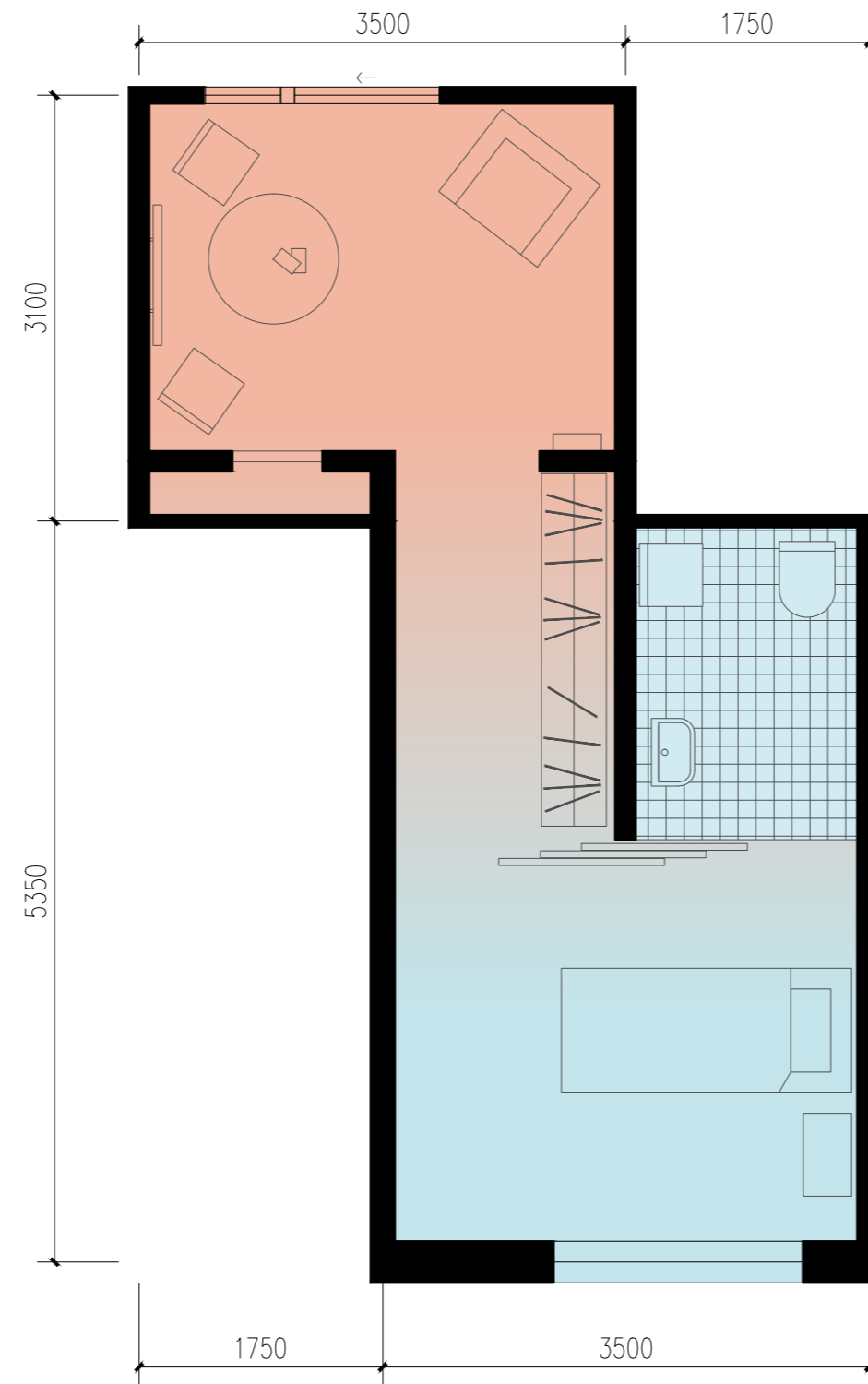
On the upper floor, there is one type of dwelling. This dwelling is the same as the first type on the ground floor, using the transparency concept.







UNIT PLAN 1:100



UNIT SIZE 1:50

COLLECTIVE SPACE  
 DWELLING

The dwelling unit is designed into 3 part: hallway, passage, private room (bedroom and toilet).

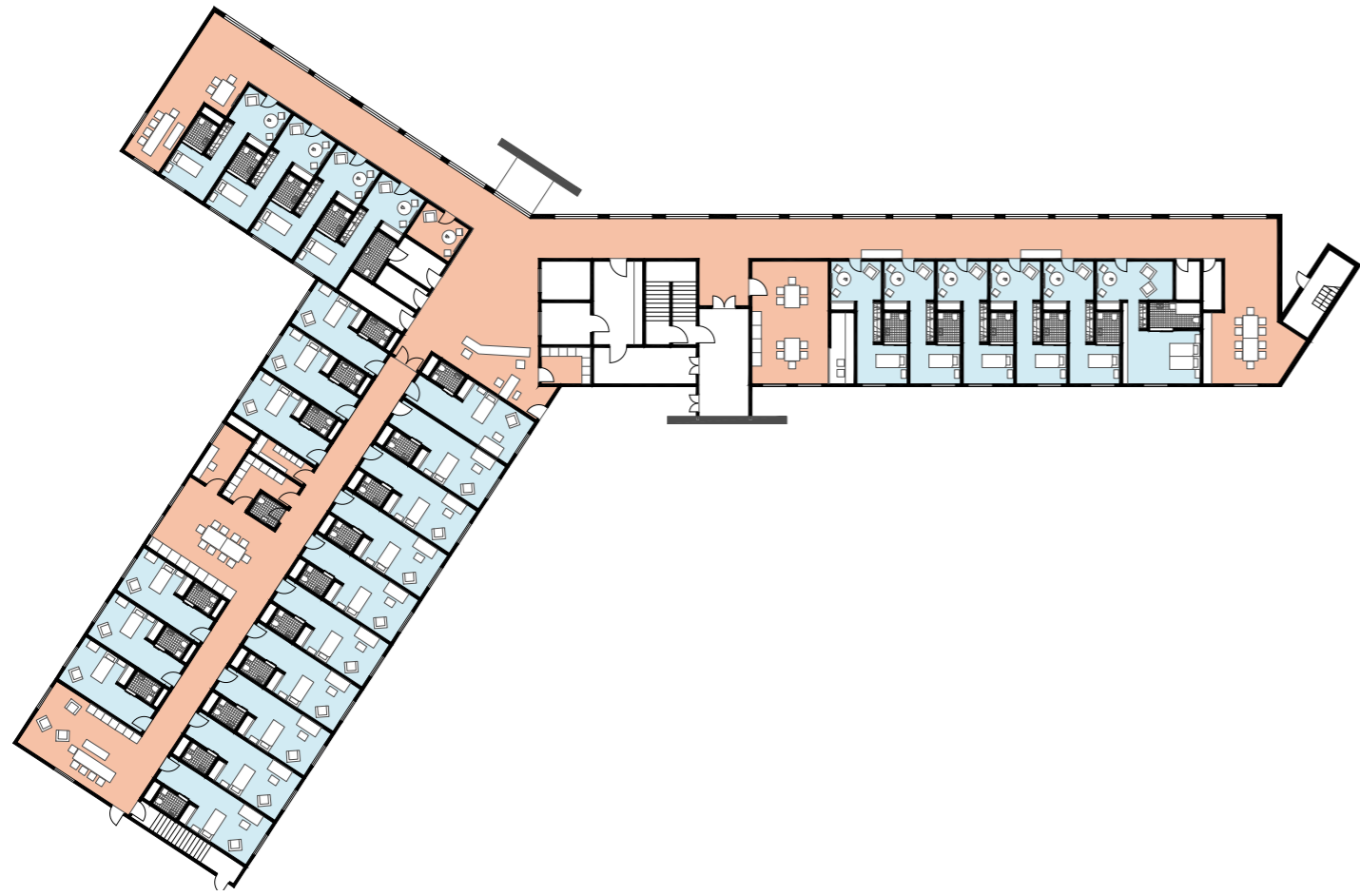
The hallway, with transparent window and door, has a close visual relation with the collective space. The elderly people could sit here, watch TV and have a cup of coffee with their friends. Meanwhile, they could see their friends passing through the collective gallery. The collective space and private space interact each other at this place.

Following the passage, people could reach the private part. The real space transition (from collective space to private space) happens here instead of the hallway.

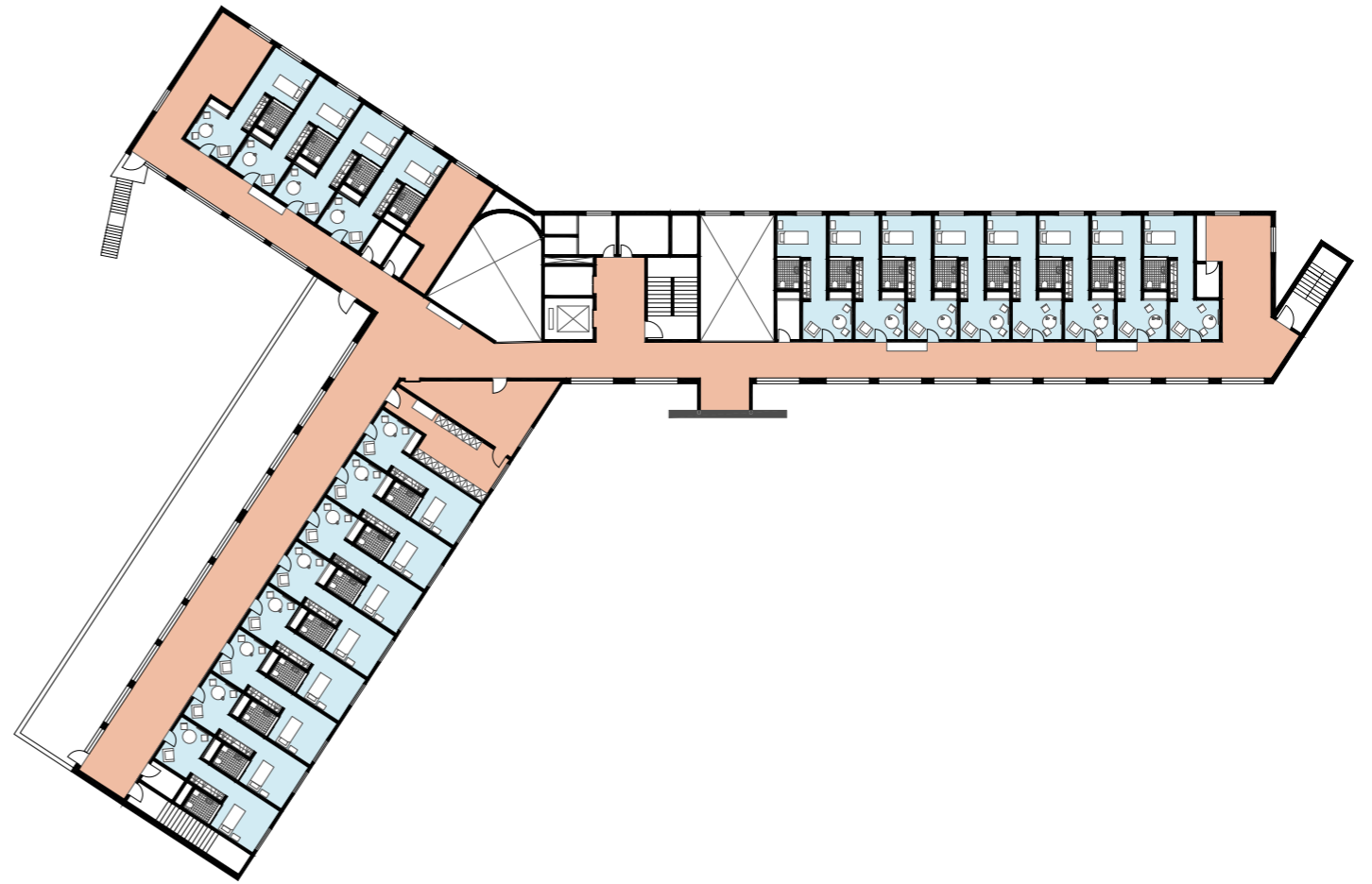
The bed is located in the middle of the private room. The toilet is in the core of the unit, which does not have any connection with outside. In this case, people from outside could see partly into the private part, which provide advantages for nursering. In case of some emergency situation.

From the building level, the dwelling unit is the transition place from the collective to the outside, yet in the unit, there is also 3 layer of space, which makes this transition easier and fluent.

DWELLINGS - ORIENTATION



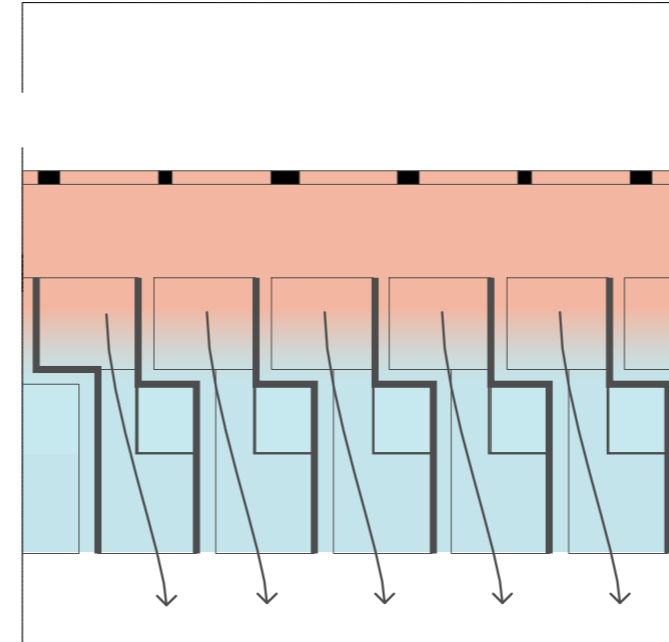
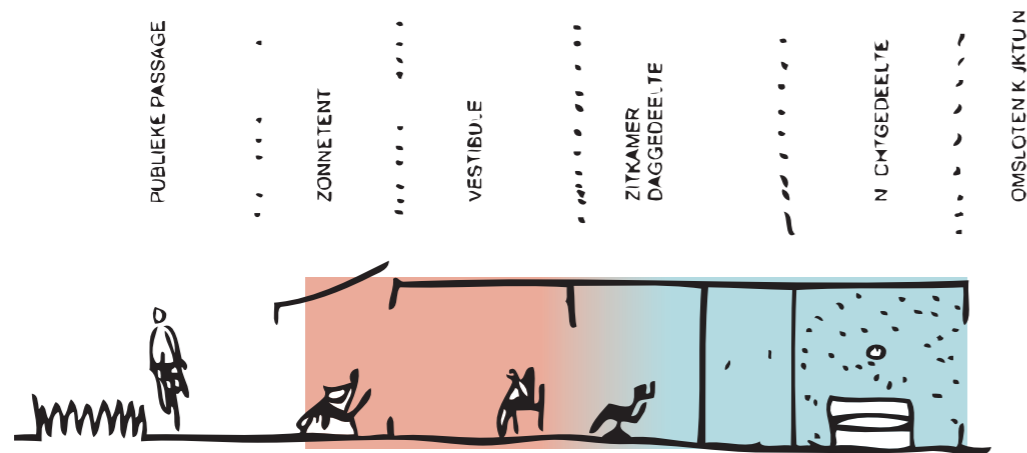
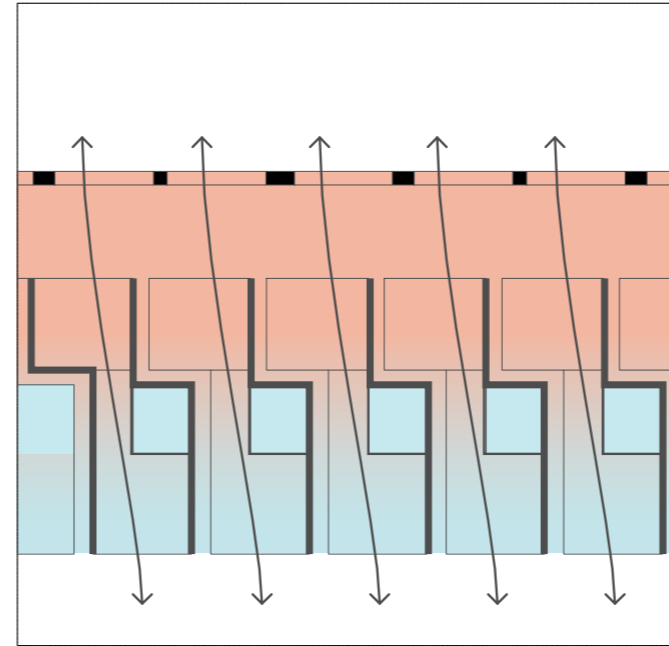
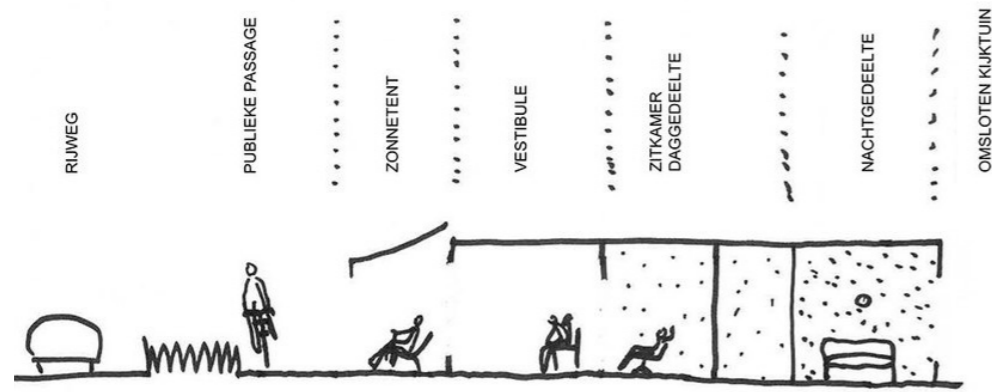
GROUND FLOOR



UPPER FLOOR

- COLLECTIVE SPACE
- DWELLING





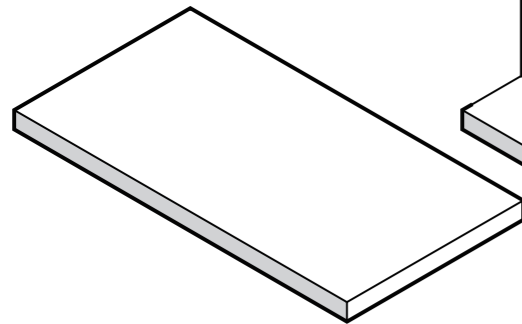
TRANSITION IN UNIT

COLLECTIVE SPACE  
 DWELLING

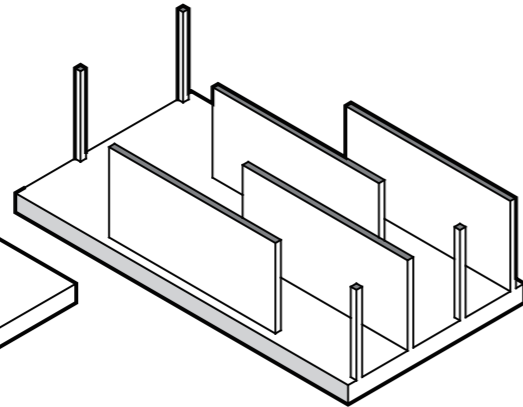
Standing in the passage of the unit, one could feel the connection between both sides of the buildings (the upper diagram). When closing the door of the unit, from the space perception, the collectivity of the unit is reduced, yet still has some. The unit is more turning into outside towards orientation. However, because of the transparency, the connection between the collective gallery and private part is so subtle and so to the point of the relation between those two, which is the success and core of this design.

# STRUCTURE - CONSTRUCTION

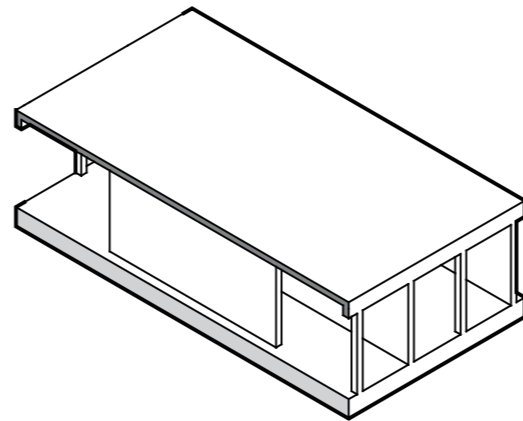
Step 1



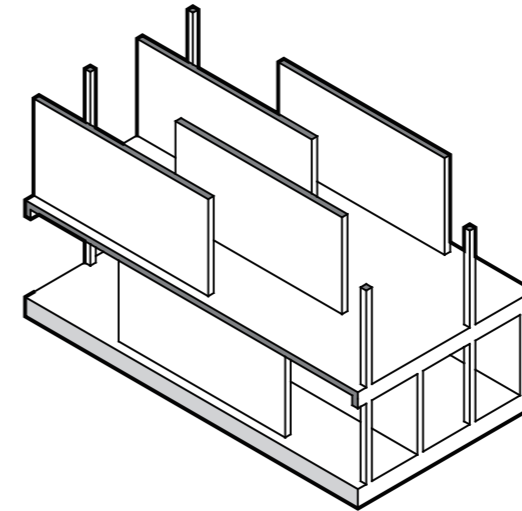
Step 2



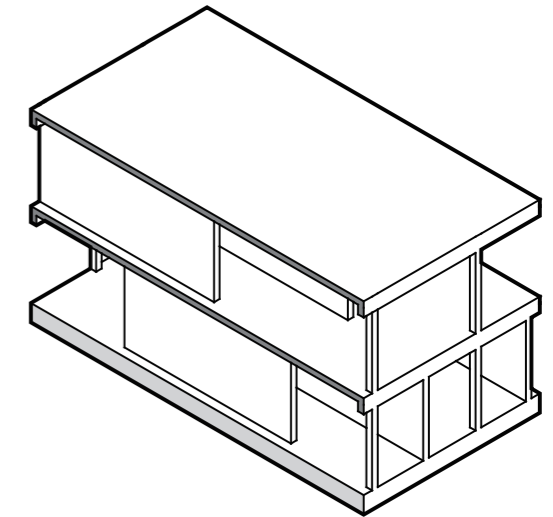
Step 3



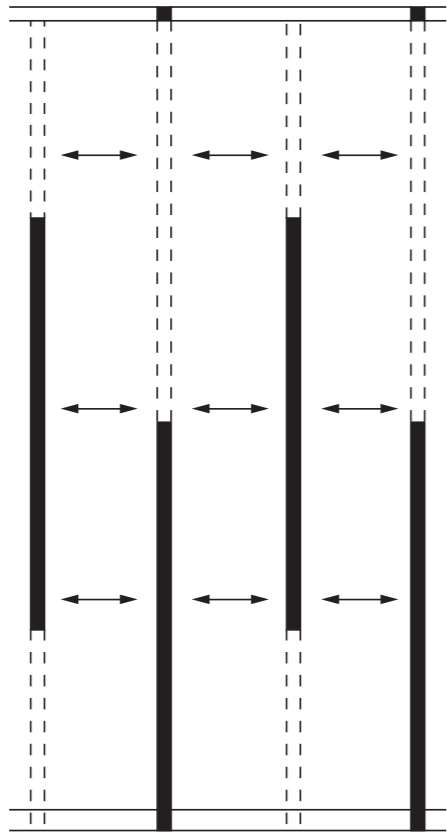
Step 4



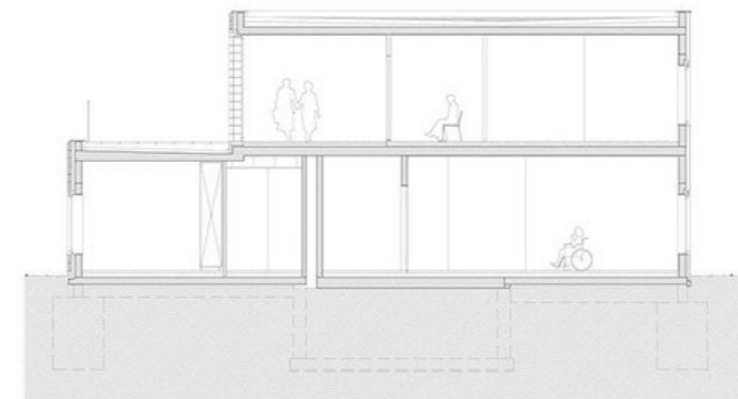
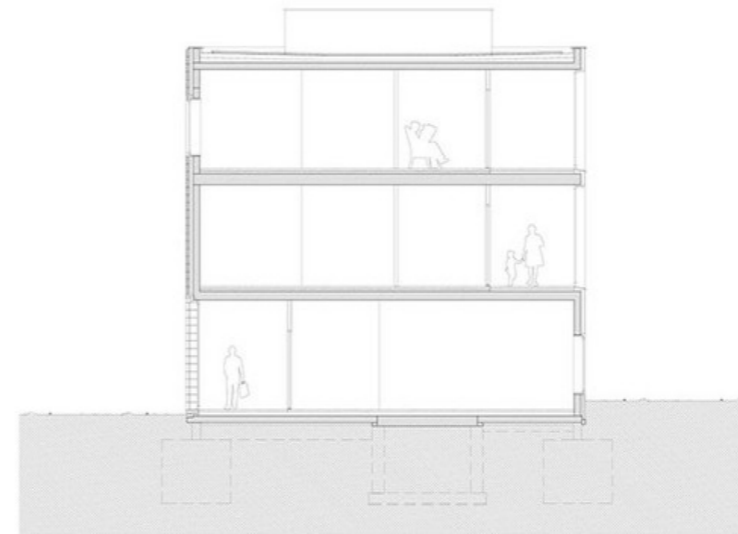
Step 5



CONSTRUCTION ORDER



The load bearing wall in the unit provide possibilities of privacy and the floor spam is short. The floor connects the load bearing walls and make the ceiling higher and without beams. The collective space also does not have beams, making the space more fluent, which makes the space transition more fluent.





# CONCLUSION - OCMW SENIORS CAMPUS

TYPOLOGY 1



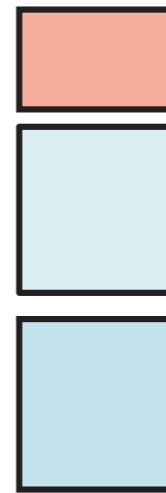
Hard border between collective and private space

TYPOLOGY 2



Hard border between collective and private space. Soft border inside private space.

TYPOLOGY 3



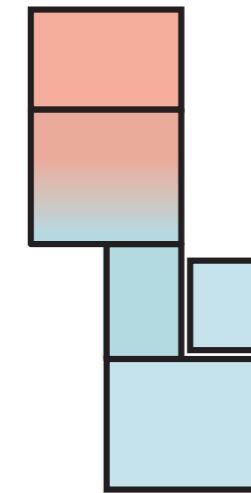
Hard border between collective and private space. Soft border inside private space.

TYPOLOGY 4



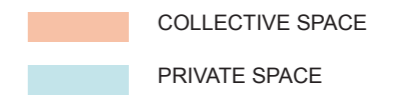
Soft border between collective and private space. Hard border inside private space.

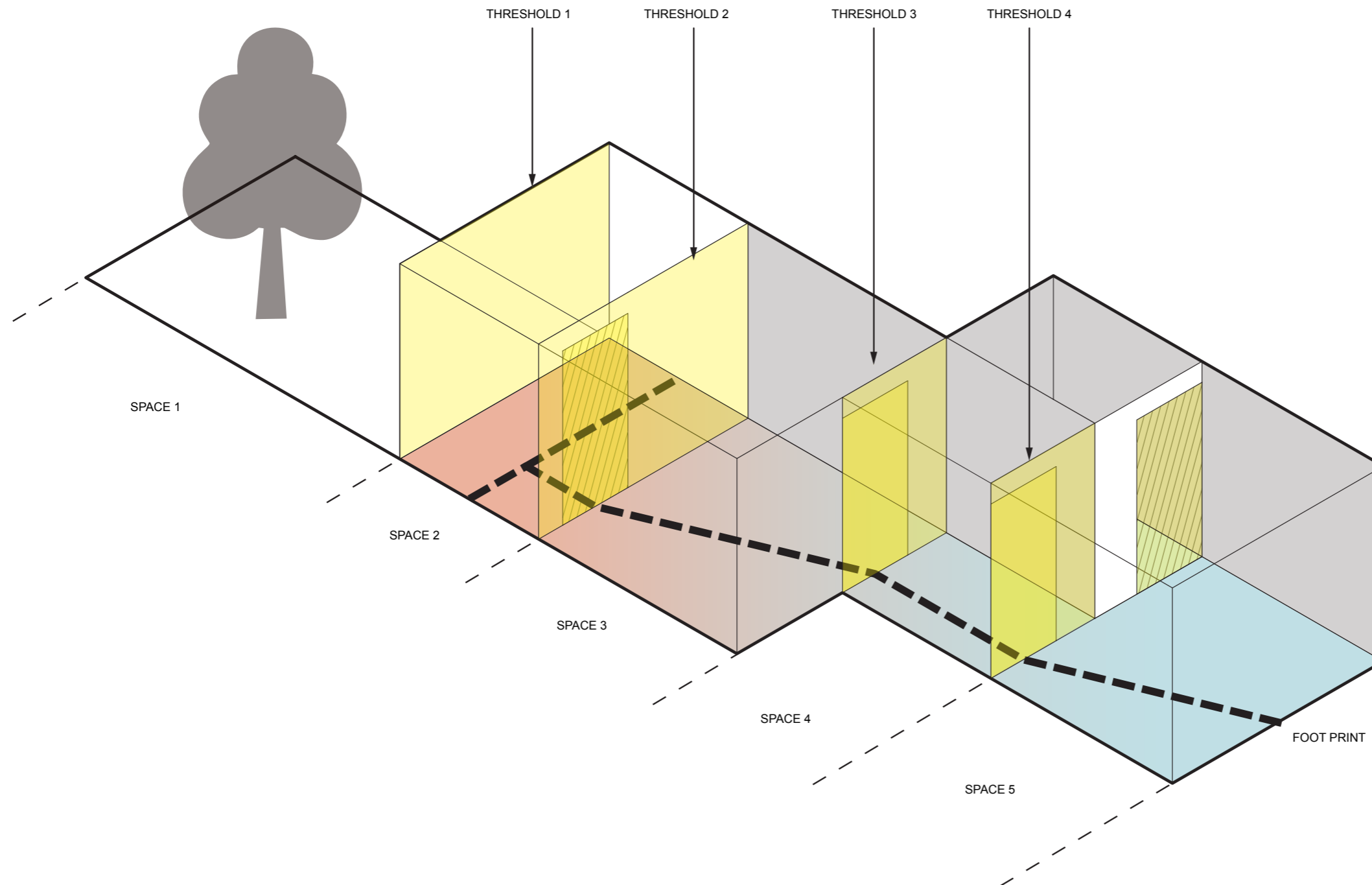
TYPOLOGY 5



Soft border between collective and private space. Soft border inside private space.

## THRESHOLD AND SPACE TRANSITION





THRESHOLD AND SPACE TRANSITION

- COLLECTIVE SPACE
- PRIVATE SPACE
- THRESHOLD

### CONCLUSION

In this case, the transition between collective and private space is the essential concept. Transparency in space, does not only mean that it is about the transparent material, it also includes the threshold and accessibility.

When space with different characters needs to be connected, there is always a border or threshold. How to form this threshold using different architectural language is the key point in the design progress. And the transition could decide the quality of the space.

Different borders could be concluded, a hard border which has less accessibility, while a soft border is the opposite. Border is the start of people perception of the space, it also where the spatial perception ends. Therefore, different borders and space could be combined together to form attractive space.





# TEST CASE 4

RICK NIEMAN > OCMW Seniors Campus

DIVORCED PEOPLE > OCMW Seniors Campus



SUFFICIENT PRIVATE SPACE  
ADDITIONAL SPACE FOR WORK AT HOME  
VISITING KIDS IN THE WEEKEND



TRANSITION IN PRIVACY AND COLLECTIVITY  
SPATIAL TRANSPARENCY  
USE OF THRESHOLDS  
DIFFERENT USE OF SPACE

The divorced people, as we defined before, need flexibility and extra work place most. In the senior campus, the dwelling unit is divided into three parts and the privacy increase as go in deeper. The hallway in the unit could be seen as an extra space for collective and meeting people, which could be used as a small workshop of this profile. The passage is the threshold of collectivity and privacy. When the passage is “closed” the unit is divided into two parts and when it is open, it becomes one. As social is important part in Rick’s life, the hallway could be used as a meeting and working place for him, also could be a stage on which he can perform his kindness and skills. In his life, social is part of his life. It may not just for the partener, it also could be his own business. His child could use this place as a bedroom when his child comes to visit him.

**DIVORCED**

**NAME:** Rick Nieman

**AGE:** 42

**EDUCATION:** MBO

**WORK:** Owns company in textiles

**PARTNER:** NO

**CHILDREN:** YES (13 yrs, 11 yrs)

**MEANS OF TRANSPORT:** Bicycle / Public Transport / Car

**TOTAL INCOME:** 2200,- / Month

**TOTAL EXPENSES:** 1800,- / Month

**FUTURE PROSPECTS:** Is satisfied with his living situation at the moment. Hopes his children will continue to visit him on a regular basis as they do now. Is not actively looking for a partner, but does not reject the idea of a future partner.

**ACTIVITIES**

**WORK:** Owns a company in textiles for the clothing industry. Can work from home when he needs to.

**WORKDAYS:** Flex  
(Average 5.5 days per week)

**SLEEP:** Does not sleep much, but has a strong sleep-wake cycle throughout the entire week. Averages 6 -7 hours per night.

**EATING:** Eats on set times and respects his body's cycle. Tries to prepare all his meals himself and at home.

**PERSONAL HYGENE:** Showers every morning on weekdays immediately after waking up. Takes a bit more time on weekends to shower and shave. Does washing / brushing at the sink before going to sleep.

**SPORTS:**  
Tennis: Once / week

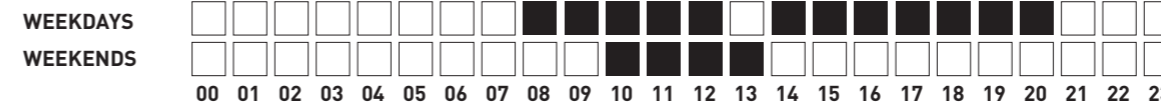
**CULTURAL:**  
Musea: Once / year  
Music festivals: Once / year  
Theater: Never

**GOING OUT:**  
Bar / Club: Once / month  
Restaurant: Once / 2 months

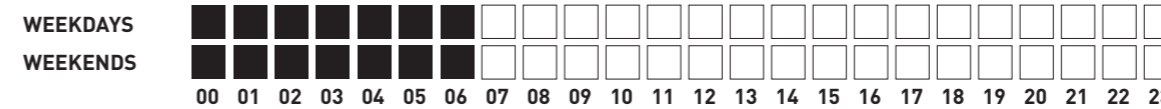
**LEISURE / RELAXING:**  
Television: 2-3 hours / day  
Movies: 4 times / year  
Reading: 2 hours / week  
Shopping: Once / two months

**DAILY CYCLES**

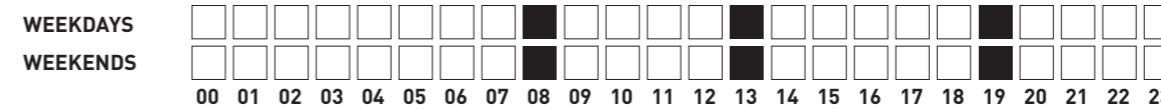
**WORK**



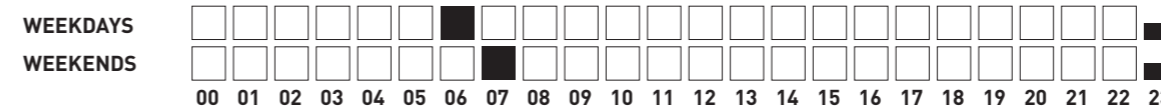
**SLEEP**



**EATING**



**PERSONAL HYGENE**





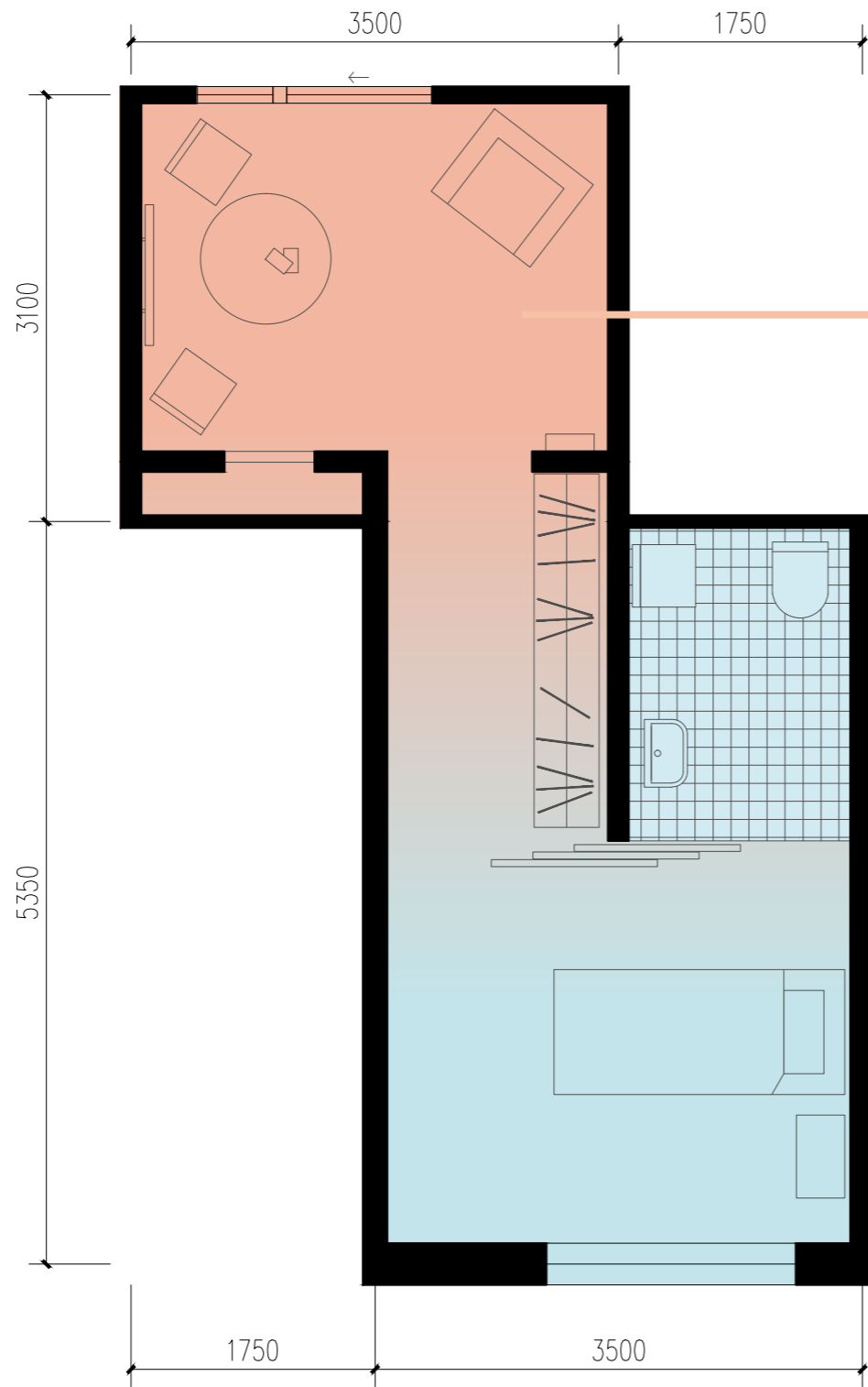
**RICK NIEMAN > OCMW Seniors Campus**



**ACTIVITIES**

- OWN BUSINESS
- MEETING NEW PEOPLE
- FAMILY REUNION
- KITCHEN

In Rick's life, social activities and his own business take most of his time. Thus, how to create a nice place which is suitable for these two activities is the essential task. We conclude the activities he needs to do his own business and social needs. On one hand, the workplace should be nice quality so he could feed himself. On the other hand, this place should also be a stage that he could "perform" and meet new people, at least the space could provide these possibilities. The hallway would be the most suitable place for him. If we add a small kitchen inside, this would be much better.



UNIT PLAN 1:50

- COLLECTIVE SPACE
- PRIVATE SPACE

OWN BUSINESS

1 MEETING THE CLIENTS

2. DOING HIS WORK

SOCIAL ACTIVITIES

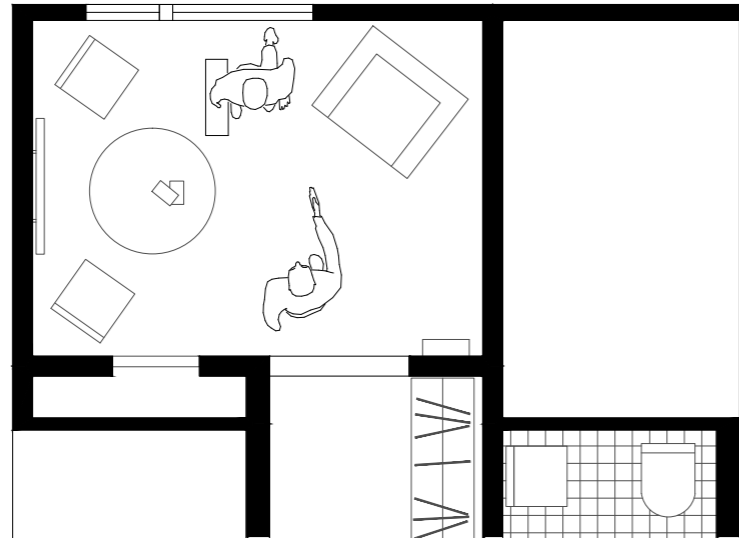
3. WATCHING TV/ FLIM TOGETHER

4. HAVING A DRINK TOGETHER

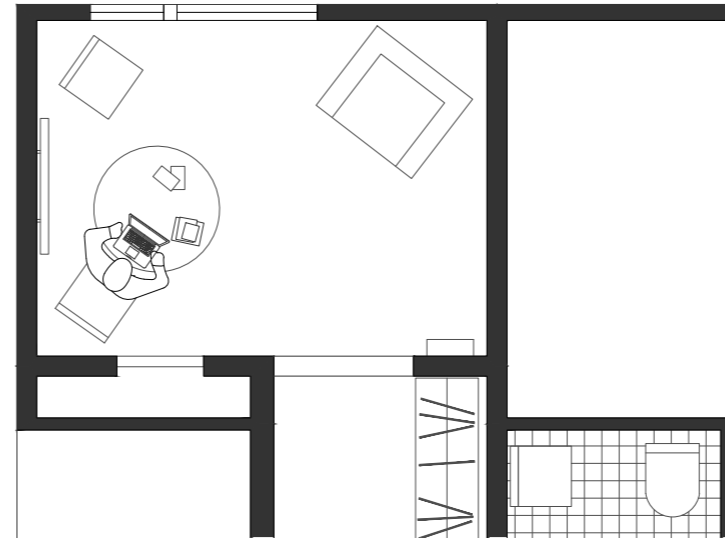
5. DATING WITH BOY/GIRLFRIEND

6. EATING TOGETHER

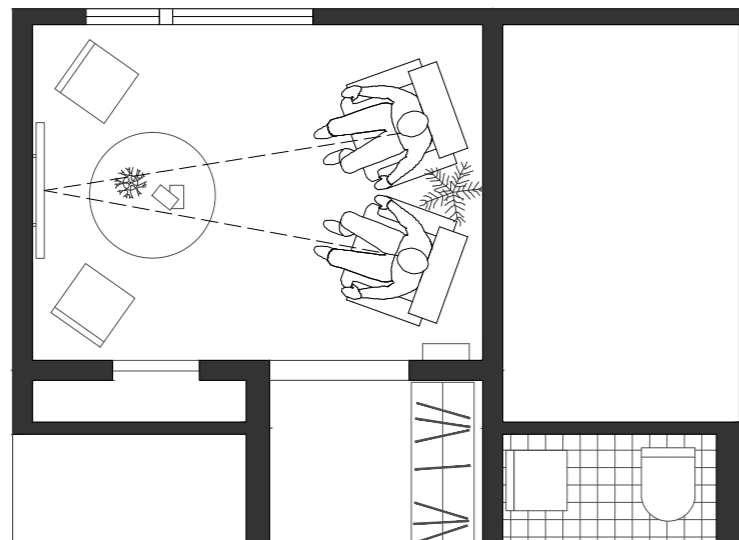
SOCIAL ACTIVITIES AND OWN BUSINESS



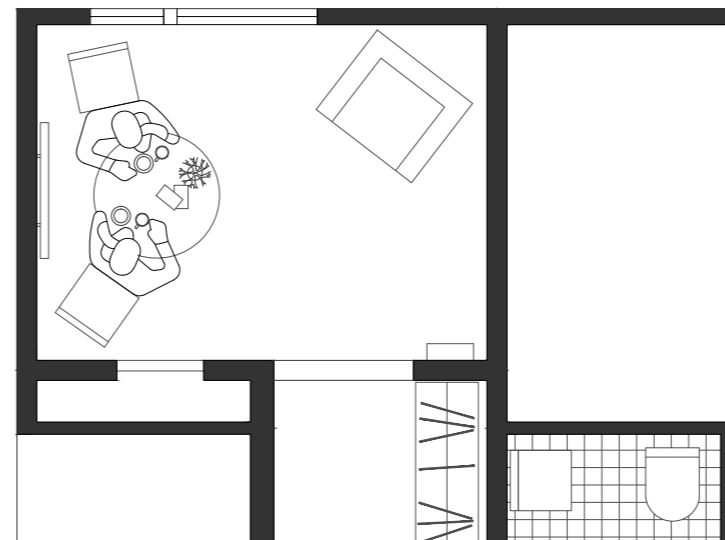
1 MEETING THE CLIENTS



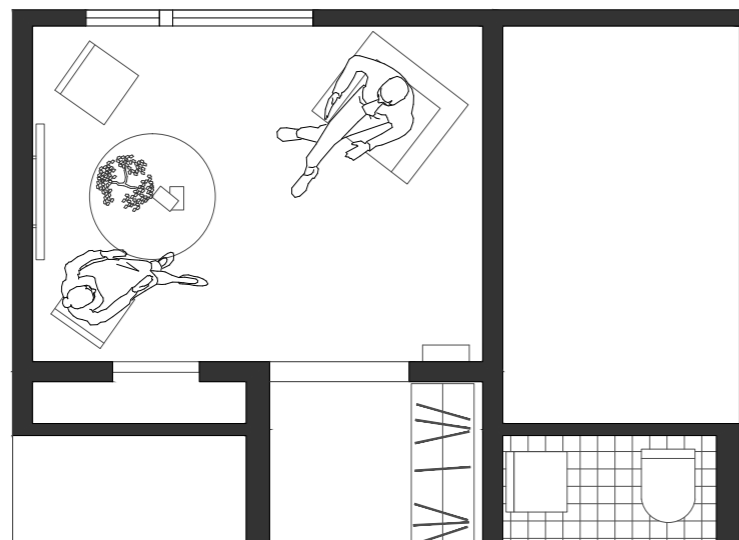
2. DOING HIS WORK



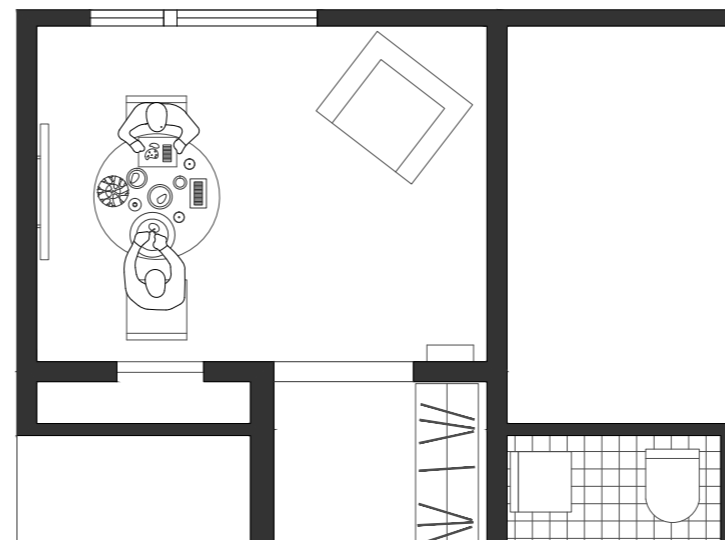
3. WATCHING TV/ FLIM TOGETHER



4. HAVING A DRINK TOGETHER



5. DATING WITH BOY/GIRLFRIEND



6. EATING TOGETHER

**ARCH ELEMENT/FACTOR USED**

ORIENTATION

TRANSPARENCY

**USER CONSEQUENCE**

OWN BUSINESS

IMPROVE SOCIAL CONNECTION

**CONSEQUENCES FOR RICK**

Living in this building, Rick will have more opportunities to be social because of the transparency of the unit. Besides his own business, his emotional life also could benefit from more social activities.

Space in this unit has different characters. Rick could use these space according to his wish and feeling.

His child could use the hallway as a extra bedroom when they meet each other. Though there is no kitchen in the unit, he could eat with other people, by which he could know more people. And he also could have his dinner in his unit when he wants to have it alone. Maybe small facilities could be added in the hallway, where Rick could show his skills of cooking.





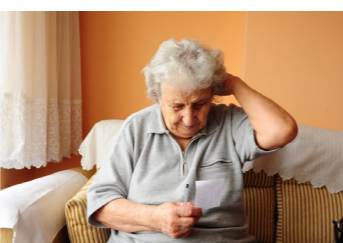




# TEST CASE 4 - COMPARISON

OTHER PROFILES > OCMW SENIORS CAMPUS



		USER SPECIFIC DEMANDS	USER CONSEQUENCE
DIVORCED		Space is important for the divorced man. He is not willing to live in a dwelling that is too small. He needs <b>extra space</b> at home <b>to work</b> or to have <b>his children over</b> in the weekend. Collective space could be an option if the private space is sufficient.	The divorced people could use the hallway as their <b>work place</b> , which is open and bright. Also because of the transparency of the border, his social opportunities could increase. A more private bedroom and a kitchen in hallway will suit him better.
EXPAT		Private space is important for our expat since he has a busy job and a wife and <b>kids that visit him every now and then</b> . The dwelling should therefore not be too small. Collective space can be useful, only if it is <b>additional to the private facilities</b> .	The expat is forced to make use of collective functions, since the dwelling does <b>not offer private facilities</b> . When coming home from work a more private space with kitchen would suit him better.
YOUNG PROFESSIONAL		The young pro is quite flexible in her lifestyle at the current moment. She spends most of the day <b>at work</b> , so the dwelling becomes a <b>place of relaxation</b> . The dwelling can be small and have collective functions, until she is plans to live together or have kids.	The young professional is content with this dwelling. It <b>imposes collective use</b> of the kitchen but also provides her with the much needed privacy. The size and shape of the dwelling give her enough space to enjoy and gives <b>opportunities for different use</b> .
STUDENT		Social interaction is important for the student. He can live <b>alone in a group</b> or live closely together with other students. The private dwelling can be small as long as there is <b>sufficient collective space</b> for the student to use and interact with others.	Students could use the <b>big hallway</b> as an extension of their living room, so it becomes a place for social interaction. A collective kitchen and living gives the necessary contact with fellow students. The dwelling also <b>provides privacy</b> as needed.
ELDERLY		The elderly crave for <b>social interaction</b> , since they spend most of the time at home and <b>loneliness</b> can become a real problem. The dwelling should be large enough to have his/her (grand)children over and be completed with collective functions.	The building is super for elderly people. <b>Spatial transparency</b> makes the nursery more easier and the collective space makes them live in a close community. <b>Sufficient collective space</b> for family use and other collective activities.





# **TEST CASE CONCLUSION**



Space is important for the divorced man. He is not willing to live in a dwelling that is too small. He needs **extra space** at home **to work** or to have **his children over** in the weekend. Collective space could be an option if the private space is sufficient.



BEST FIT

ARCH. ELEMENTS & FACTORS

IMPROVEMENTS

PROJECT FOR INTERNATIONAL GARTENBAU



**Architectural elements:**

Shared kitchen and living facilities,  
Space division between shared and private rooms.

**Architectural factors:**

Balance between collectivity and privacy,  
Flexibility.

Everything goes well when the divorced people live in this building.  
Individual toilet may be needed. .

OCMW SENIOR CAMPUS



**Architectural elements:**

Glass door/window towards collective space, Passage space inbetween an unit.

**Architectural factors:**

Transparency, Threshold, Space transition,  
Soft border.

Small or shared kitchen should be added.  
Extra curtain or one extra door should be added to avoid view reaching the private part.  
More collective rooms are needed.

TIETGEN DORMITORY



**Architectural elements:**

Collective kitchen and living facilities,  
Communal courtyards, Roof terrace, Non-transparent front door.

**Architectural factors:**

Forced collectivity, Hard border

Extra work space should be added and divided from the private space.

NAGAKIN CAPSULE TOWER



**Architectural elements:**

One unopenable window,  
Minimal dwelling, Compacted design

**Architectural factors:**

Insufficient collectivity and space, Single orientation, Hard border.

Collective space should be added.  
Individual kitchen, at the least, stove or cooking facilities should be in the compacted design.  
More storage room is added.



Private space is important for our expat since he has a busy job and a wife and **kids that visit him every now and then.** The dwelling should therefore not be too small. Collective space can be usefull, only if it is **additional to the private facilities.**

**BEST FIT**

**ARCH. ELEMENTS & FACTORS**

**IMPROVEMENTS**

**PROJECT FOR INTERNATIONAL GARTENBAU**



**Architectural elements:**  
Shared kitchen and living facilities,  
Space division between shared and private rooms.  
**Architectural factors:**  
Balance between collectivity and privacy,  
Flexibility.

Sliding door or panels could be more flexible and more optional to create border.

**NAGAKIN CAPSULE TOWER**



**Architectural elements:**  
Minimal dwelling, Compacted design including all the living facilities  
**Architectural factors:**  
Sufficient privacy, Efficiency, No flexibility,  
Hard border.

Everything goes well when the expats live in this building. Small stoven or cooking should be included in the compacted design.  
Extra collective room or shared facilities could be added.

**TIETGEN DORMITORY**



**Architectural elements:**  
Collective kitchen and living facilities,  
Communal courtyards, Non-transparent front door.  
**Architectural factors:**  
Forced collectivity, Hard border.

All the facilities for living alone should be compacted inside one unit. No forced collectivity or sharing.

**OCMW SENIOR CAMPUS**



**Architectural elements:**  
Glass door/window towards collective space, Passage space inbetween in unit,  
Wide gallery as collective space.  
**Architectural factors:**  
Insufficient privacy, Soft border.

Small kitchen should be added.  
Extra curtain or door should be added to avoid view reaching the private part.  
Collective space should be minimized.



## CONCLUSION - YOUNG PRO



The young pro is quite flexible in her lifestyle at the current moment. She spends most of the day **at work**, so the dwelling becomes a **place of relaxation**. The dwelling can be small and have collective functions, until she is plans to live together or have kids.

**BEST FIT**

**ARCH. ELEMENTS & FACTORS**

**IMPROVEMENTS**

**NAGAKIN CAPSULE TOWER**



**Architectural elements:**  
Minimal dwelling, Compacted design including all the living facilities

**Architectural factors:**  
Sufficient privacy, Efficiency, Hard border.

Everything goes well when the young pros live in this building. Small stoven or cooking facilities should be included in the compacted design.

**PROJECT FOR INTERNATIONAL GARTENBAU**



**Architectural elements:**  
Shared kitchen and living facilities, Space division between shared and private rooms.

**Architectural factors:**  
Balance between collectivity and privacy

This is the normal situation when young pros live together in one unit. Individual toilet may be needed.

**OCMW SENIOR CAMPUS**



**Architectural elements:**  
Glass door/window towards collective space, Passage space inbetween in unit, Wide gallery as collective space.

**Architectural factors:**  
Insufficient privacy, Soft border.

Small kitchen should be added. Extra curtain or door should be added to avoid view reaching the private part. Collective space should be minimized.

**TIETGEN DORMITORY**



**Architectural elements:**  
Collective kitchen and living facilities, Communal courtyards, outwards orientation, Roof terrace.

**Architectural factors:**  
Forced collectivity, Sufficient privacy, Hard border

All the facilities for living alone should be compacted inside one unit. No forced collectivity or sharing.



Social interaction is important for the student. He can live **alone in a group** or live closely together with other students. The private dwelling can be small as long as there is **sufficient collective space** for the student to use and interact with others.



BEST FIT

ARCH. ELEMENTS & FACTORS

IMPROVEMENTS

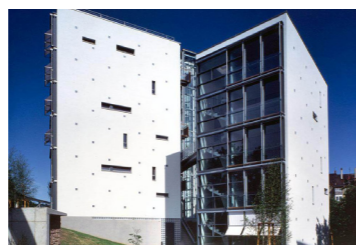
TIETGEN DORMITORY



**Architectural elements:**  
Collective kitchen and living facilities,  
Communal courtyards, outwards  
orientation, Roof terrace.  
**Architectural factors:**  
Balance between collectivity and privacy,  
Hard border

Everything goes well when the students  
live in this building.

PROJECT FOR  
INTERNATIONAL  
GARTENBAU



**Architectural elements:**  
Shared kitchen and living facilities,  
Space division between shared and private  
rooms.  
**Architectural factors:**  
Balance between collectivity and privacy

Individual toilet may be needed.

OCMW SENIOR  
CAMPUS



**Architectural elements:**  
Glass door/window towards collective  
space, Passage space inbetween in unit,  
Wide gallery as collective space.  
**Architectural factors:**  
Insufficient privacy, Soft border

Small or shared kitchen should be added.  
Extra curtain or door should be added to  
avoid view reaching the private part.

NAGAKIN CAPSULE  
TOWER



**Architectural elements:**  
One unopenable window,  
Minimal dwelling, Compacted design  
**Architectural factors:**  
Insufficient collectivity, Hard border.

Collective space should be added.  
Shared or collective kitchen should  
be added. Individual kitchen, at the  
least, cooking facilities should be in the  
compacted design.  
More storage room should be added.



The elderly crave for **social interaction**, since they spend most of the time at home and **loneliness** can become a real problem. The dwelling should be large enough to have his/her (grand)children over and be completed with collective functions.

BEST FIT

ARCH. ELEMENTS & FACTORS

IMPROVEMENTS

OCMW SENIOR CAMPUS



**Architectural elements:**  
Glass door/window towards collective space, Passage space inbetween in unit.  
**Architectural factors:**  
Transparency, Threshold, Space transition, Soft border.

The Senior Campus is excellent for elderly people. Cooking and nursery are taken care by the nurses.

TIETGEN DORMITORY



**Architectural elements:**  
Collective kitchen and living facilities, Roof terrace, Large floor area.  
**Architectural factors:**  
Collectivity. Hard border.

Change the orientation from single orientation to more transparent.

PROJECT FOR INTERNATIONAL GARTENBAU



**Architectural elements:**  
Shared kitchen and living facilities. Small floor area with stairs.  
**Architectural factors:**  
Collectivity, Accessibility.

People could live in larger group to build the community.

More interaction between the different floor to avoid the loneness because the floor area is too small.

NAGAKIN CAPSULE TOWER



**Architectural elements:**  
Closed and staired access route, limited space, One unopenable window.  
**Architectural factors:**  
Closed single orientation, Absolute privacy, Accessibility, Hard border.

Collective space should be added and has enough sunlight and space. Accessing route should be simplified without these stairs between floors.



**WHAT ELEMENTS AND FACTORS IN ARCHITECTURE  
FOR SINGLE PERSON HOUSEHOLDS RESPOND TO THE  
LIFESTYLES THAT THE SINGLE URBAN DWELLERS  
CURRENTLY POSSESS?**

# CONCLUSION

## ARCHITECTURE ELEMENTS AND FACTORS - ORGANISATION

### ORGANISATION

The organisation and layout of the dwellings have a great influence in the way the single dwellers reach their dwelling and their relation with the other single dwellers. The organisation corresponding with the access system can make the single dweller feel alone or together, by connecting or separating dwellings from each other. In this way we can either promote or prevent collective use or social interaction amongst the dwellers.

The Nakagin Capsule Tower uses an elevator/core layout to access the dwellings. It is an efficient solution to access the dwellings because there is a minimal horizontal distance from the core to the dwellings. The access to the dwellings is purely vertical. The result is a very private individual route towards the dwellings. The single dwellers hardly interact with each other reaching for their own dwelling. The core with its minimum dimension together with the dwellings being single oriented, creates a hard border with no gradual transition from public to private.

The Project for the International Gartenbau Ausstellung uses a same vertical elevator core but in combination with galleries or bridges. The layout of the dwellings creates three different towers or groups of single dwellers. The groups are physically separated from each other with their own gallery for reaching the dwellings. The horizontal distance from the core to the dwellings becomes longer and creates possibilities for casual interactions. However, the amount of dwellings connected to each other is minimal, and the dwellings are very closed towards the access route. The dwellings are mainly oriented towards one side with a big open facade, with only tiny windows facing the other dwellers and possible visual relations.

The Tietgen Dormitory has a different layout using interrupted corridors to divide the complex into five different groups of dwellings. From the elevator the single dwellers reach a collective corridor to reach their private dwelling. The corridor also connects the dwellings with the collective spaces attached to it. However, the private dwellings have no visual relation with the corridor because of their single orientation outwards. The closed rooms prevent any interaction from within the dwelling with passing singles. The focus in the corridor is on the collective spaces and not on the private dwellings.

The OCMW senior campus also uses a corridor to connect the dwellings together. The layout of the project with its three arms creates a natural grouping of dwellings, stimulating the feeling of living together. In this case study, the gallery is larger than usual, stimulating the social interaction between the single dwellers. Another key feature is the double orientation of the dwellings and their open relation with the corridor. There is an immediate visual relation between the corridor and the dwelling. This solution is a highly social set up which needs to fit the needs of the dwellers.

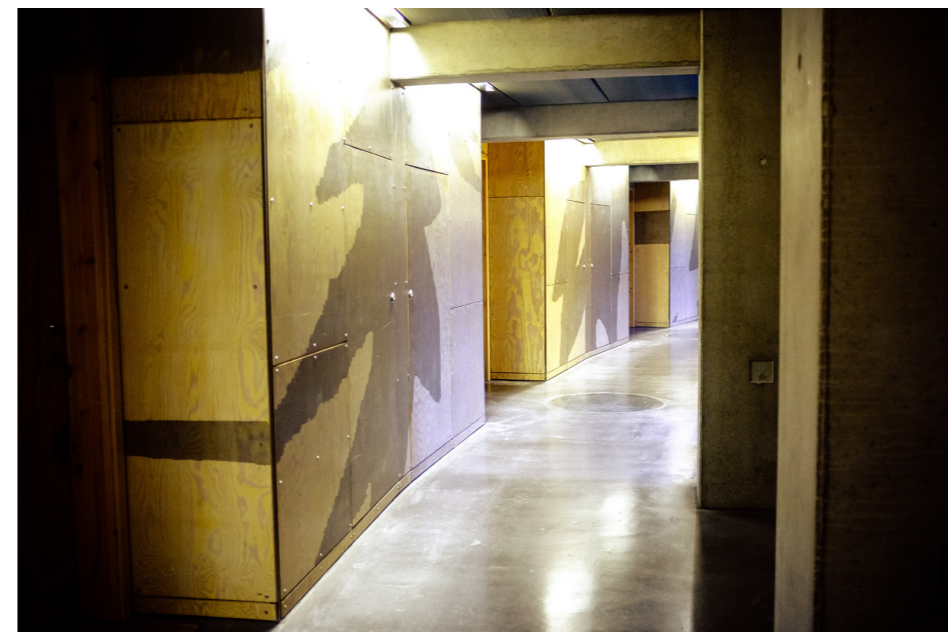
In the case studies it became clear that extending the horizontal distance from the vertical access towards the private dwellings creates possibilities for casual interaction. The gallery or corridor as the access route can be used to promote social interaction as in the OCMW case. Opening up the dwellings towards the access route will increase the social interaction but also brings the problem of providing enough privacy for the dwellers, which is easily achieved in the other case studies, using single oriented dwellings.



LARGE CORRIDOR OF THE  
OCMW SENIOR CAMPUS



VISUAL RELATION FROM THE DWELLING  
WITH THE CORRIDOR



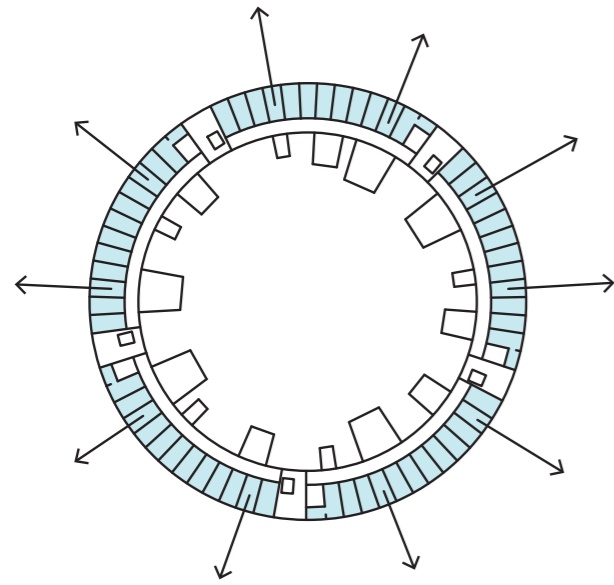
CLOSED ROOMS OF THE  
TIETGEN DORMITORY



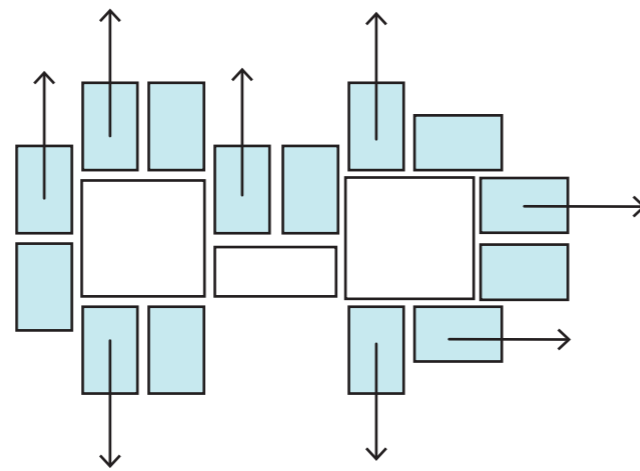
CIRCULATION CORE OF THE  
NAKAGIN CAPSULE TOWER



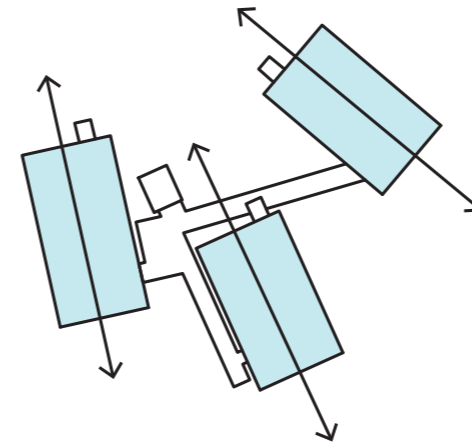
TIETGEN DORMITORY



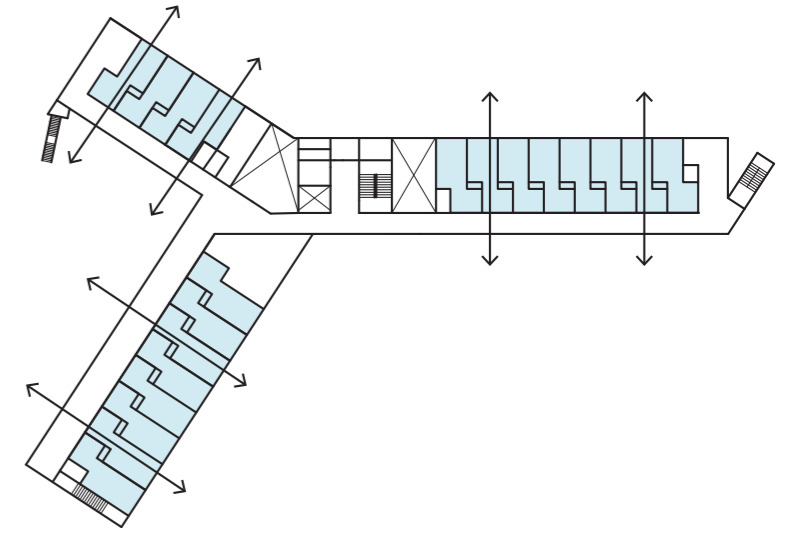
NAGAKIN CAPSULE TOWER



PROJECT FOR INTERNATIONAL GARTENBAU



OCMW SENIOR CAMPUS



PRIVATE SPACE

## ARCHITECTURE ELEMENTS AND FACTORS - SHARED FACILITIES AND COLLECTIVITY

### SHARED FACILITIES AND COLLECTIVITY

When people live alone, there should be all the living facilities to meet the basic needs. Like people share the stairs, people have some spatial needs. With the development of the technology, some of these spatial needs are objectified. However, sharing or collective facilities is not the dream that every target group needs.

The Tietgen Dormitory provides wide sharing facilities to all the dwellers in different levels. The ground floor provides all facilities and service open to all the dweller. The privacy increases as one steps upstairs. The five groups in the building create sub-dweller cluster or small neighborhood. In this small neighborhood, collectivity and privacy are defined again using the hard border caused by the corridor between collective space and private unit, which is the essential of this design. People are forced to use the collective kitchen and living room in their daily life, which would increase the connection in this community and neighborhood and reach the balance between collectivity and privacy.

The Nakagin Capsule Tower does not have collective space except the self service face on the ground floor. The capsule contains all the facilities that one needs for living except for cooking. None of the living facilities are shared. The individual capsule would meet almost all basic needs of living. In the modern society and metropolis, people work like pendulum between office and the place where they sleep. It sounds like strange but in expensive metropolis, this is the most efficient way of using space and money and keep enough privacy simultaneously.

The Project for the International Gartenbau Ausstellung is designed to share the space

first. Unlike the Tietgen Dormitory's sharing part of the building, there are fewer people and they would share inside of one dwelling unit. Private facilities would be bed and small table. During a small group sharing, collective space should be designed first to be filled with shared facilities. And the border between shared space and private is soft border, which is create by sliding door. The facilities and space is the shared character among the privacy by few people.

The OCMW senior campus provides a nursery collective life for elderly people. The border in this building is ambiguous, especially from collective to private. The spatial character would change a bit as the border changes. As a collective life, cooking and eating are shared. The gallery is widen to become a place for communicate with shared chairs. Other rooms with other facilities are shared. The unit is the privacy among the collectivity, making the elderly feel living in a community.

In conclusion, It is wise to distinguish the different purposes of the sharing facilities, the space character and the target group needs. One purpose is to reduce the living costs, like sharing the laundry room. The second type of sharing, increasing the collectivity through sharing facilities, is the core and goal of the sharing. However, not all the target group need collective life and facilities. The shared facilities and space would be abandoned if designed without thinking throughout. Shared facilities do not always lead to collectivity quality improvements. Sharing the facilities that people use more often and more willing to, is the success of the sharing.

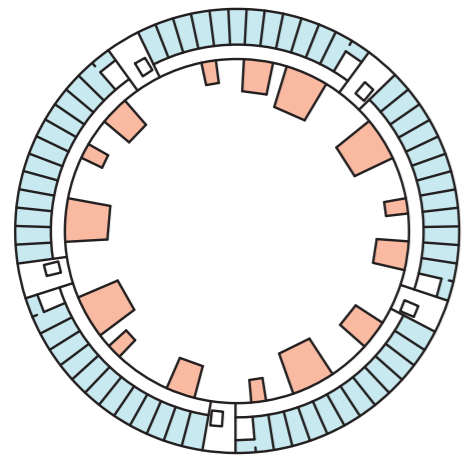


COLLECTIVE KITCHEN OF  
TIETGEN DORMITORY

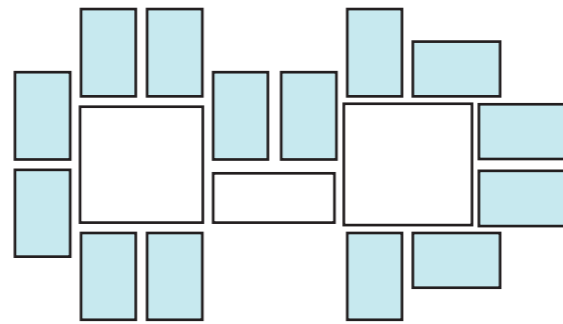


COMPACTED FURNITURE IN  
NAGAKIN CAPSULE TOWER

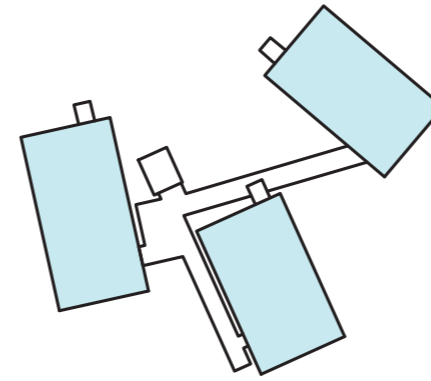
TIETGEN DORMITORY



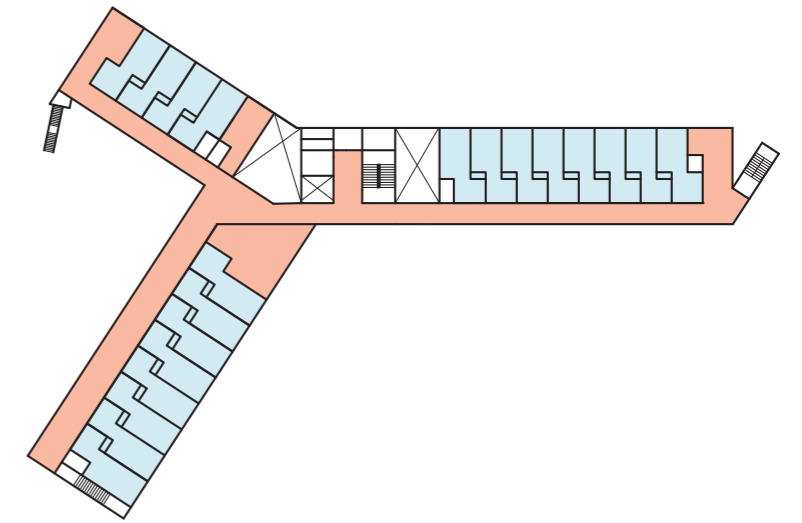
NAGAKIN CAPSULE TOWER



PROJECT FOR INTERNATIONAL GARTENBAU



OCMW SENIOR CAMPUS



COLLECTIVE SPACE  
PRIVATE SPACE



## ARCHITECTURE ELEMENTS AND FACTORS - DWELLING SIZE

### SIZE OF THE DWELLING

The architecture element is the measurement in three dimensions and it is the way how people precept the space and use it. During these four cases, they have different sizes for different target groups.

The Tietgen Dormitory have several different sizes ranging from 23-37 square meters for single students. The average surface area is around 25 square meters without kitchen. Because of the hard border of corridor and private part, the unit is single orientated towards outside. Therefore, people's activities when they are awake are designed in the area next to the window, where the table is located. The dwelling could meet all the individual needs with privacy except for cooking. Considering the time students spent in their unit, the surface area and the orientation is proper

The Nakagin Capsule Tower is the smallest living unit of these four cases. The capsule is around 11 square meters without kitchen for one person. It is actually a minimal dwelling with transforming spatial needs into objects. The toilet and shower are compacted designed in the corner of the dwelling. Other facilities are compacted into the equipment along the wall. In some cases, to use one thing, one have to move the other one. And one thing could be multifunctional. The core of the capsule is the bed, toilet and entertainment system(TV and radio). The business men come late in the night, what he/she needs is a place to relax and sleep with complete privacy. After he/she leaves, the unit would be left totally empty for the whole daytime. That is the smallness makes it efficient.

The Project for the International Gartenbau Ausstellung have two different types sizes. The Loft type is 53.5 square meters per

floor could contain 2-3 persons in two floors, which is 35- 53.5 square meters per person including all living facilities. The other luxury loft type is 40-60.5 square meters per person including all. The maisonette type is 27-36 square meters per person including all. Therefore, the surface area is from 27 to 60.5 square meters per person with the luxury increasing. The average floor surface for per person is 33.6- 48 square meters per person if 2-3 persons sharing the living room and kitchen.

The OCMW senior campus's main dwelling unit is around 32 square meters per person without kitchen. The collective gallery could be seen as an extension of the unit. Unlike the capsule tower, elderly people spend more time in their units, so it is reasonable to have larger surface area than the business man and students.

There is no causality relation between dwelling size and collectivity. Not all the minimal dwellings require the shared and collective quality. Sometimes, this design would be the architects' intension instead of the users'. Shared and collective quality are not the results that compromise with the dwelling size. The size of dwelling is a combination with users' daily life, collective space around, orientations and other aspects. Sharing the facilities needed be shared and providing sufficient space about privacy or collectivity or the balance in between, is the essential for choose the dwelling size. Normally, the average area for single bedroom while sharing other facilities is around 33.6- 48 square meters per person. The single dwelling without kitchen is from 25-32 square meters per person. The single dwelling with kitchen could be a little bigger than 32 square meters in general situation.

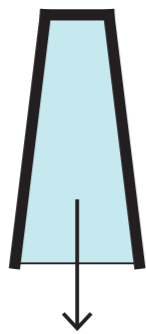
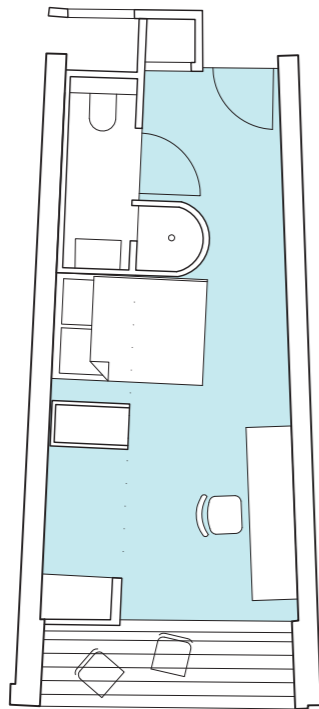


INSIDE VIEW OF UNIT IN  
TIETGEN DORMITORY

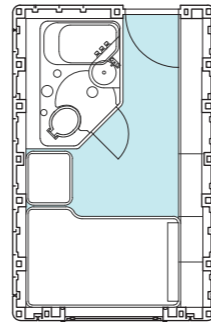


INSIDE VIEW OF UNIT IN  
NAGAKIN CAPSULE TOWER

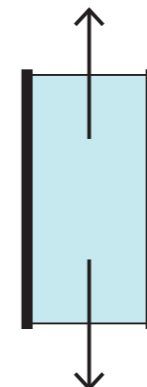
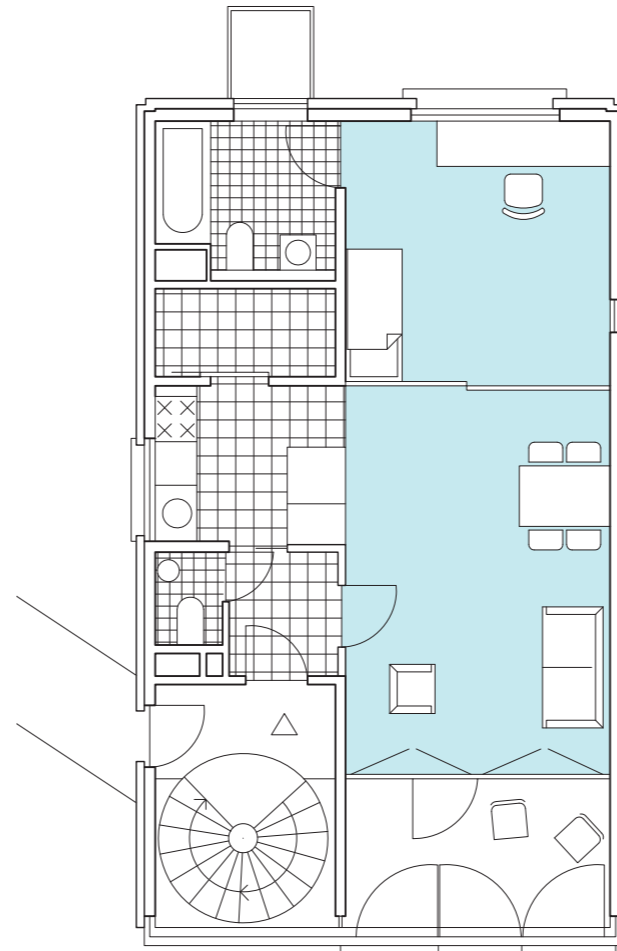
TIETGEN DORMITORY



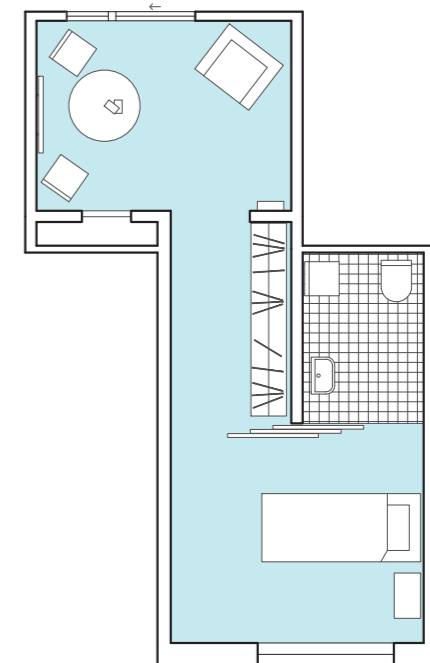
NAGAKIN CAPSULE TOWER



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## ARCHITECTURE ELEMENTS AND FACTORS - FLEXIBILITY

### FLEXIBILITY

The construction determines in many ways the types of dwellings that are offered and the possibility to make future changes to the composition of the dwellings. It is important to compare and research the possibilities and the consequences for the dwellings and their composition. What system can be used to provide the current needed dwellings and more importantly, what system provides the means for changing needs?

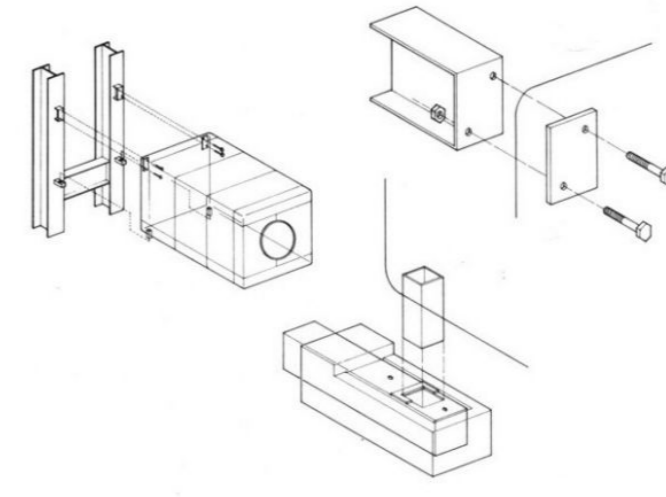
The OCMW senior campus uses a system of loadbearing walls that separate the dwellings from each other. The floor span is short and efficient but provides only one type of dwelling throughout the structure. It does not promote any future change in the size of the dwellings if ever needed.

The Tietgen Dormitory has a very strict scheme of loadbearing walls that determines the shape and size of the dwellings. The structure is more open and thus flexible on the ground floor, but on the upper levels with the dwellings, the structure has been made very inflexible and hard to alter if the dwelling needs will ever change. The structure only provides one type of dwelling and does not promote any future change in the composition.

The Project for the International Gartenbau Ausstellung uses one system in which two types of dwellings are possible. The dwelling towers are constructed from loadbearing outer walls, leaving the plan open for change. The dwellings have a fixed service zone and free living zone, open for the preferences of the user. Using this principle for every dwelling, in combination with the loadbearing outer facade, it is possible to split and merge dwellings. Additional is the smart use of the access system that supports these changes.

The Nagakin Capsule tower has a concrete core with prefabricated capsules attached to it. The capsules are made in the factory and installed on site. This method of building makes it in theory possible to produce a wide variation of capsules and attach it to the central core. It even provides the possibility to create bigger capsules or to even merge capsules. The plan was originally very flexible and meant to promote the change and renewing of the capsules. However, this renewing of the capsules did not occur as the architect intended, with the disappointing result of a dwelling tower in decay.

The OCMW campus and the Tietgen Dormitory both offer one type of dwelling within a strict system that does not promote much future changes. Both projects limit themselves in offering one type of dwelling and thus only focussing on one type of user. If the needs ever change, the building is not appropriated to adapt itself and change its composition. It is more sustainable to choose a flexible construction that offers more types of dwellings, for different single dwellers, allowing for future changes to be made. The Project for the International Gartenbau Ausstellung succeeds in this way by creating the possibility to change a tower of maisonnette into a tower of lofts and vice versa. The use of an outer loadbearing facade with a fixed service zone provides these flexibilities. The Nakagin tower with its circulation core and the interchangeable capsules provides the same kind of needed flexibility with adding the feature of renewable dwelling units. This concept makes it truly flexible and sustainable, if carried out as referred to by the architect.



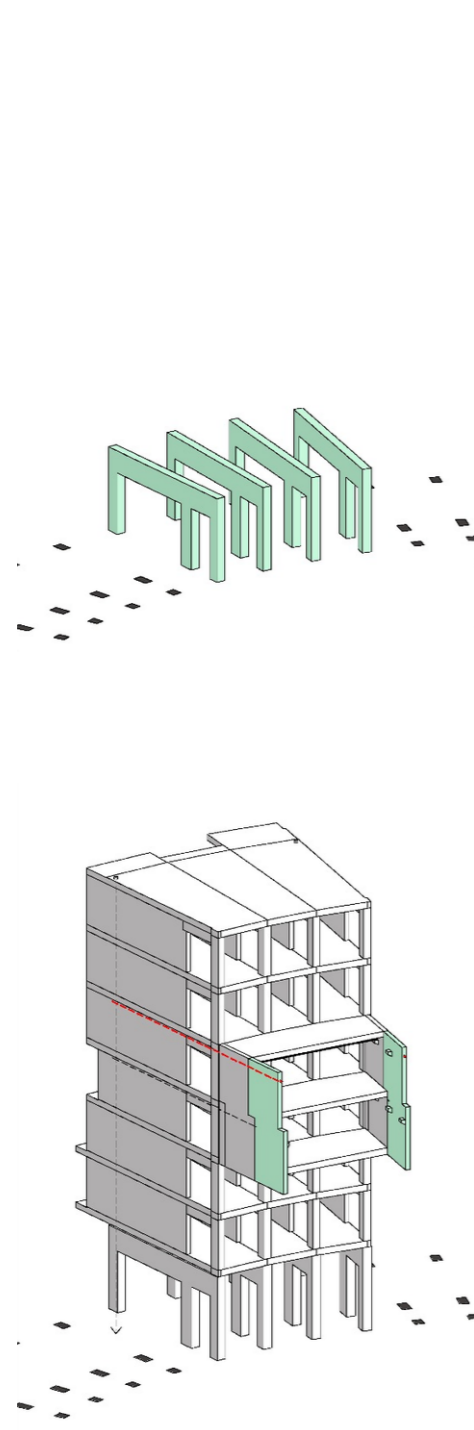
INSTALLMENT OF THE PREFABRICATED CAPSULES



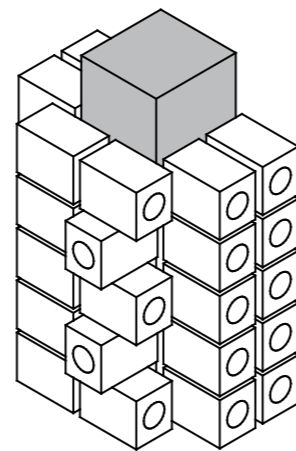
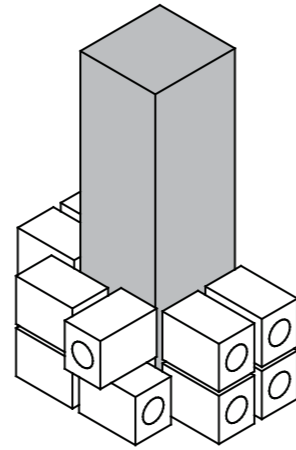
ACCESS SYSTEM ALLOWING FOR FUTURE CHANGES



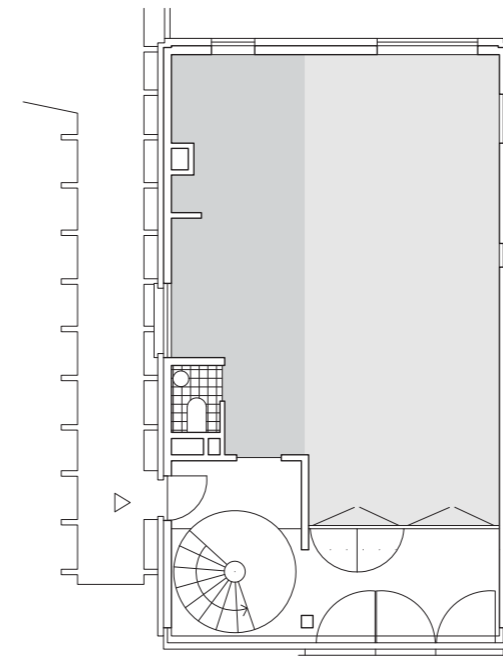
TIETGEN DORMITORY



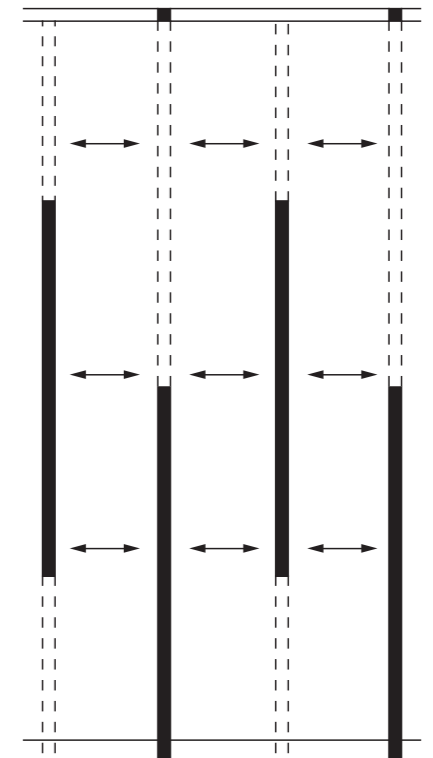
NAGAKIN CAPSULE TOWER



PROJECT FOR INTERNATIONAL GARTENBAU



OCMW SENIOR CAMPUS



### EVALUATION AND PROGRESS

With this theme research we wanted to research the currently growing group of singles person households and their needs and demands for living. The goal was to have a greater understanding of their lifestyle and to research the way architecture can respond to this group.

We started the research with the many news articles about this growing group of single person households. Articles like 'The new city solo', 'Going solo', 'Singletons' and 'The future of loneliness', all described this growing group of single urban dwellers and their lifestyles. These articles showed the differences between the single dwellers by interviewing different people and profiling their needs. These articles including the book 'Leefstijlen: Wonen in de 21e eeuw', gave us a profound understanding of this group and enough material to create our own profiles for the test cases.

For the research we only used five profiles because it would never be possible to give a full representation of this group. We just intended to make the research more personal, and we think we succeeded in that.

We did use five very different profiles, each with their ideas and needs for dwelling, steering the architectural research into different themes.

The architectural research ended in a final conclusion in four important themes, all with their corresponding architectural elements and factors.

The architectural elements and factors are purely derived from the case studies and not added with elements or factors by literature, which may cause that some elements and factors may be left unaddressed, which would be a pity. Also the amount of case studies was reduced, due to an initial third researcher dropping out. Because of the resulting higher workload for us, we did not analyse or test the fifth case study, the Pieter Vlamingsstraat. This case study was intended to research the

possibilities of flexible systems within the dwelling such as the possibility to change a loft into an apartment with three separate rooms. It was unfortunate but we still think that subject of flexibility was touched upon by the Project for the Internationale Gartenbau Ausstellung.

The true strength of this theme research, for us, comes from the part of the Test Cases. Literally placing the user in the case study and imagining him/her to live there, makes it clear what consequences the architecture has for their lifestyle. For instance what architectural elements and factors impose collective use or bring the users an unwanted seclusion. In the Test Case Comparison the different preferences of the profiles became clear, showing the effect and influence that architecture can have on their lifestyle.

Working together, after losing the initial third researcher, went great and we think we ended up with a very useful research for our design assignments.

**SHUNING YANG**

Architecture factors are more abstract paper theory while the architecture elements are those could make them into reality. Different combination between the factors and elements would result in various solutions. What I found interesting in the research is the spatial border and threshold.

As a foreign single dweller, I could feel the change when I closed my apartment door. Even in China, I still have the same feeling to be isolated. This could be concluded that the result of the Modernity that one modern person have to respond individually to the society. People should be identified in society and identify their self realm, and dwelling is one typical case especially when one lives alone. In the old times, the connection between individual and society is step by step, from small, middle to large. But modern life makes or forces the middle one in the connection disappear. "Feel home in the city" could be rephrased as the traditional connection from home to city and also from home direct to city, which is the new situation in the new times.

Living alone does not just mean a small room like a hotel room. The profiles have many differences in the spatial demands. Some of them need collectivity while other do not. So the key to this is to provide diversity to these single dwellers. Whether the collectivity is need or not, the transition from the front door to the city is always there, which is the border description in the research.

In this new century, people's needs are more specific than before. Maybe one day they may have the same request for dwellings as smart phones. If we see the dwelling as a product in the dwelling market. There would be more diverse choices, which is not about the facade styles, material and other staff. They may think what kind of new life this dwelling could bring, like the one who rent his room in Airbnb.

**MAURITS VERHOEFF**

This research focusses on a currently growing group of dwellers: the single person households. With a lacking offer of suitable dwellings and the number of single dwellers growing, it is important for architects and developers to understand their lifestyle in regard to their needs and demands for their dwelling. What I found most interesting in the research and in understanding the lifestyle of the single dwellers, is the variety of the different spatial and collective needs, and the always recurring need for privacy.

With this variety of needs and demands, the key and strength lies in providing options and different possibilities. There is not one kind of dwelling suitable for this whole group and that is were flexibility becomes one of the most important features of a building. The structure of the building should provide variations of dwellings, sharing and non-sharing, and should provide the possibility for future changes in the composition. Only in this way can architecture truly respond to the lifestyles of this growing group of single dwellers.

With particularly this group of single dwellers the contrast between living alone and living together becomes apparent. It is exactly this field of tension, the border between public/collective and the private, which should be designed properly. We must provide the dwellers with the much needed privacy, but also promote, or at least not prevent forms of casual social interaction.

These two necessary aspects, flexibility and the border between the collective and the private, are for me the outcome of this research. These aspects and the elements and factors that promote it, can be of great use for my own design assignment.





# REFERENCE

## REFERENCE - LITERATURE

### BACKGROUND OF SINGLE DWELLERS:

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