

オンデマンドの建築

ARCHITECTURE ON DEMAND

i n t r o d u c t i o n

Imagine walking into a small building on a crowded street in Tokyo, taking a seat at a nearby chair. As you sit down, you see gradually more and more people entering the building, slowly occupying the remaining chairs. It becomes crowded to the point that no more seats are free, nevertheless people gather. The space might give the impression that no more people are allowed, but in this particular building, the architecture listens. The moment the amount of people exceeds the initial facility of places to sit, the space starts expanding. A wall slowly transforms, expanding the space for the users.

This architecture doesn't tell them what they can or can not do, instead the users are the ones calling the shots. There will be no more limitations to what we are allowed to do or how we are supposed to move through a building. Imagine the possibilities of having this kind of architecture.

The opposite of expanding is just as magnificent. Imagine a building transforming into nothing, just disappearing underneath the ground whenever no users have the wish to use it. Instead of having an empty building occupying space it could make room for other functions like an open public space or perhaps even another new building with another function.

The possibilities are endless with architecture on demand.

Koen Huijs
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Architecture

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essay, research and logbook.**

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Architecture on Demand

Essay: Neo-Metabolism

Summary

This essay proposes **Neo-Metabolism** as a solution to problems concerning hierarchy, privacy and social interaction in **Japan**. It will do so by reviewing solutions to these problems in the **Visionary Architecture** movement, also referred to as paper-architecture.¹ Visionary Architecture is known for creating brave new worlds; free of any chains or constraints and escaping architectural stagnation. Looking at two distinct schools under Visionary Architecture, namely the work of Lebbeus Woods, and Metabolism, I use elements in some degree of both to propose a new Metabolism: **Neo-Metabolism**. Woods' work provides insights into topics such as hierarchy and heterarchy. Metabolism, on the other hand, provides insight into visionary architecture concerning Japan specifically, taking the work of Kisho Kurokawa as a prime example. I propose **Neo-Metabolism** as a solution to forementioned problems in Japan, combining Lebbeus Woods and Metabolism and furthermore connecting this to the contemporary Japanese society.

¹ N.Pocock (23-03-2013). Article *Paper Primacy: fantasy architecture with purpose*. Published in *The Architectural Review*

Introduction

This essay represents the vision and position of both me as a designer and the graduation project Architecture on Demand. I will elaborate on what kind of architect I am or want to be, and how it correlates to the underlying theory of Architecture on Demand. The essay in that sense compares personal inquiries (my position, my fascinations, my core values in architecture) with other professional, established architectural works. Visionary Architecture appeals to me, by their creation of brave new worlds. My personal fascination Lebbeus Woods is often associated with this movement². His work is especially important to me as an architect-to-be, even when his influence is not always directly shown in my projects. In this graduation project I aim to combine both my fascination for Japan and Visionary Architecture, making it a truly personal project.

² K.Dea (28-07-2013). Article *Lebbeus Woods*. Published on *Widewalls.ch*

Japan

The most significant conclusion of me questioning Japanese inhabitants as seen in the Research part of this volume, is the urgent need of **privacy**. I knew privacy played an important part in the Japanese lifestyle, but I had perhaps underestimated the significance of it.

“Imagine your neighbour just sat on the floor, you move the walls and I wanna sit too, I will feel my neighbour’s warm butt ‘stamp’ on the floor for a while and that’s just a no no!” - Tomoko

In fact I see this urge of privacy as a likely cause of certain societal issues Japan faces, like loneliness, low birthrate, high suicide rate and social inequality³. The problem with depending too much on one’s private space is the distance it creates towards the public space. If one felt free enough to act and speak as their true self then more people will be heard, more social interactions would occur and more social issues can be attended.

The Japanese have a name for this concept of being your true self in your private space and different in public space is, ***honne*** and ***tatemae*** respectively. They play a big part in my project and are also addressed in the Research part further on in this volume.

3 BBC News, Tokyo. (2015). [Article](#): Why does Japan have such a high suicide rate?

Hikikomori

引きこもり (*Hikikomori*) is literally translated to ‘pulling inward’. It is used to describe a social condition in which people are **totally withdrawn from society** and seeking extreme degrees of social isolation and confinement. This means that *hikikomori* (the word can refer to both the condition as well as the recluses themselves) may lock themselves in their room or house for months and even years. I interpret this as a form of **hyper-privacy**, a manifestation of the conflict between one’s *honne* and *tatemae*. It is estimated (before the pandemic) that over a million people in Japan are considered *hikikomori*.⁴

“The nail that sticks out gets hammered.” - a well known Japanese proverb

Hierarchy

One of the causes of *hikikomori* is related to the hierarchy in Japanese society. *Hikikomori* often feel isolated due to the great expectations placed on them in educational and workplace environments. Rigid social norms, high expectations from parents and a culture of shame make Japanese society a breeding ground for feelings of inadequacy and insecurity.⁵ Living up to the expectations of Japanese society has also got harder. Economic stagnation and globalisation is bringing Japan’s collectivist and hierarchical traditions into conflict with a more individualistic and competitive Western world view.

4 T. Saito. (2013). *Hikikomori, Adolescence Without End*. Paperback.

5 T. Kato. Professor Psychiatry. (2019). *Japan: Untold Stories*. Interview published by BBC

Lebbeus Woods (1940-2012)

Lebbeus Woods is a revolutionary and experimental architect and regarded as one of the most original visionary architect of recent times.⁶ Within his drawings he showed provocative ideas that were **not bound to any rules** of nature or building restrictions. He drew projects which are constructively impossible and some of them even defied gravity. This approach results in **freedom in design** and the opportunity to create radical ideas. He called it “*architecture for it’s own sake*”⁷, meaning that it is **without limitations** from clients, government or laws of nature. It is fascinating to see how well Woods makes use of this freedom in design.



Illustration 1: L.Woods (1990). Berlin Free Zone

6 (16-09-2015). *THE BRAVE DRAWN WORLD OF LEBBEUS WOODS*. Published on *Brave Drawn World*

7 L.Wallis. (15-02-2013). Article *Lebbeus Woods*. Published on *wired.com*. Quoted by J.Becker, curator of the exhibit at the San Francisco Museum of Modern Art titled *Lebbeus Woods, Architect*.

What does Lebbeus Woods want to achieve?

To put it in my own words, I see Woods as an anarchist, since he is very sceptical about hierarchy⁸. An anarchist is not that far-fetched when you see the title of one of his books: “*Anarchitecture: architecture is a political act.*” In this book he writes about one of his projects called *Free Zones* (*illustration 1*). These *Free Zones* represent **architecture that actively participates** in dialogues about political changes.

Take for example the *Berlin Free Zone*. Woods visited Berlin in 1988 before the fall of the Berlin Wall and became fascinated by the city’s political division, turbulence, and vibrant underground scene. During this trip he developed his concept of an *Underground Berlin*, envisioned as a free zone for an **underground autonomous community** along the lines of the U-Bahn. This subterranean space would be for the citizens of Berlin to reconnect with their divided city. He describes this as the “*subversion of an existing authoritarian system of social control ... accomplished by architectural means.*”⁹ This is the kind of architecture that participates in dialogues about political changes, it is a direct response to the situation in Berlin.

8 B.Littman (29-04-2014). *The Drawing Centre*, volume 114 titled *Lebbeus Woods, Architect*

9 A.Miron. (11-06-2014). Article *The Radical and Contagious Ideas of Lebbeus Woods* Published on *hyperallergic.com*

This architecture like in *Underground Berlin* plays the role of being the opposition against the current regime. It will not suffice if this new opposing architecture will drift along with its surrounding events. On the contrary, it should **set new events into motion**, even aggressively stimulate progression. This is what Woods means by participating in dialogues about political changes. Not by following the flow of events but by initiating new movement.

A space free from the rules and systems of the world above; in *Architecture on Demand* I aim to achieve such a space in the context of contemporary Japan.

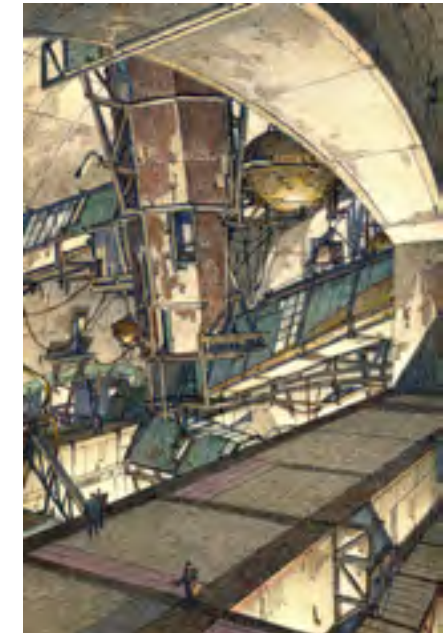


Illustration 2: L.Woods (1988). Underground Berlin

Metabolism

The topic of Metabolism is also covered in the Research part of this volume, so I will keep it brief here. Important elements covered there are:

- seeing architecture and urbanism as an **organism which changes** with various rates and has a **constant renewal**;
- the different rates of change are allowed by **clearly separating parts of a building** or city.

What I would like to add is that this separating of building parts is clearly seen in the capsule architecture of Metabolism. In this biological analogy, capsules of a building refer to the cells of an organism. The separation of parts is something that inspired me during the design of Architecture on Demand (see chapter Architecture on Demand).

According to Metabolism, capsules are individual units, which are **not earth-bound** and provide flexibility in its overall architecture. This is another important aspect, capsules are considered as spaceless or positionless. So their ideal of mobility in Metabolism lies in the configurations of the units themselves.

Illustration 3. K.Kurokawa. (1972). Nakagin Tower, Tokyo.



Neo-Metabolism

A key difference between Metabolism and Architecture on Demand is the notion of individuality and freedom. The capsule-architecture referred to in Kurokawa's *Capsule Manifest* is called **cyborg architecture**, meaning that man, machine and space are intertwined into one new organism. So the walls of a capsule, its inner space and the inhabitant are free of any internal borders and are considered as one. In some degree I share the same vision, since this cyborg architecture creates a wider outwards extension of the border between *honne* (inner self) and *tatemae* (public image). Which is something I would like to achieve as well. However the conflict that occurs is this: the *tatemae* border may have been extended but it has grown thicker. Cyborg architecture transforms the border into an impenetrable and physical boundary, giving the capsules more the appearance of shelters (or literally shells).

Therefore the Metabolist's notion of freedom is in my view **freedom of the individual** within its capsule; designed for self-realisation and self-development.

I feel that this explains the lack of public space in most Metabolist projects. Social interaction occurs only indirect through the shells of each organism, and is therefore no interaction within the space of *honne*. In Architecture on Demand my goal is to extend the realm of *honne* even further and to make the border softer and more translucent than its opaque Metabolistic counterpart. This facilitates more direct social interactions between people's *honne* space, which is unfortunately a rare sight in Japanese society¹⁰.

In other words Metabolism expresses independence, free will of the individual and anti-unification. The interesting thing is that it is still based on certain systems, meaning that there is still an architect who orchestrates this so called free will. But what stands out in Metabolism (also the case in B.Tschumi as can be read in my Research) is that these systems are designed to provide more maneuverability for individuals, rather than systems that are used as tools for forcing uniformity.

What Architecture on Demand does share with Metabolism is aiming for the emancipation of the building versus the ground and striving for adaptable structures. Much like Lebbeus Woods and other visionary architects it fights the **stagnation** of traditional (architectural) systems. This is my interpretation of Woods's "own sake" quote. In my opinion it is all about **progression**. Traditional architecture is too stagnant due to all sorts of limitations. It is too rooted in old traditions and is too slow to respond to certain issues in its surroundings (take for example the *Underground Berlin* project by L.Woods).

The current stagnation and need of adaptation are reoccurring themes here. It seems that this progression can also be seen as **emancipation**; the emancipation of architecture, freeing it from all of its constraints which results in adaptive architecture, which in turn represents the emancipation of the users (of architecture). The latter meaning that the **architectural hierarchy** is broken down and more control is given to the users.

10 Japaninfo. (2015). [Article](#): *The Japanese Art of Indirectness*

Architecture On Demand

The design of this graduation project shows the manifestation of Neo-Metabolism. Its architecture is build upon three core values: density, *honne* and free will.

Density takes into account the dense urbanisation of Japan. The density of the build environment in Tokyo forces structures to stretch out in a vertical manner: high rise buildings and underground malls. Architecture on Demand finds another direction of expansion by claiming the unused city space. **Rhizomatically** (non-hierachical system much like the root structure of the bamboo plant) it pops up in-between the existing city structure, creating usable space atop rooftops and broad avenues. These huge structures are residential areas, all containing multiple households. The achieved density here is higher than Tokyo's average households per square meter.¹¹

Honne is a bit more difficult and revolves around the idea that privacy reveals your own self versus the impenetrable wall you build around yourself while in public space (for more on *honne* and *tatema* go to Research – Society & Anthropology further on in this volume). My goal here is to break down this wall by blurring the line between *honne* and *tatema*. By doing so it will extend the feeling of **freedom** and stimulate to act on your own true behalf even in public space.

To blur the line of this *honne* and *tatema*, the architecture plays with boundaries of space. The most literal one being the use of **translucent** materials in facades, walls and floors. It means that light from another space is able to pass through the translucent boundary, preserving that a connection with the outside remains.

The other applied tactic is the use of shared space. Architecture on Demand erects huge elevated platforms, creating a new ground level. This new ground level is a shared and semi-public space where people can pass through while the inhabitants may use it as their own living room.

Free will is represented in adaptability and flexibility. Architecture on Demand provides **controllability** of the built environment, by having the opportunity to position, reposition and expand your living space. The open ground floor plan provides the opportunity for having multiple different usages and configurations. A fitting example is the living-unit. A living-unit is a compact living room with **mobility** and the ability to fold, unfold and expand. It is applicable in multiple situations and can comply to different needs of the user.

The option of privacy is mainly given in the private-units, which are separated from the living-units by floating above the open ground floor. These are individual units for retreat, while having the flexibility to unfold certain elements like parts of the facade which in turn breaks the harsh boundary of privacy in your private unit.

The megastructures of Architecture on Demand show a new, free and transparent way of living. In spirit the architecture resembles Woods's 'Free Zone' while in presence it shows the adaptability of Metabolism. Combined they form the inspiration for a more honest / *honne* Japanese society, **Architecture on Demand**.

11 [Tokyo Population](#) (2021). by World Population Review

r e s e a r c h

Motivation

In my essay I mention that during my studies I found one interesting aspect that links all of the visionary architects I admire together. The red thread of visionary architecture you might say: progression.

Now this word can mean many things. As a quick recap of the essay the way I see it is that the stiffness of architecture withholds a lot of progression. Traditional architecture is too stagnant and causes all kinds of limitations to architecture and urbanism (which is why most of these architects prefer to work solely on paper).

As long as the world keeps spinning, societies and our environment will change. The built environment can not be left behind, it is essential that it makes progress so that it can adapt and respond to all changes.

Responsiveness and adaptability are still terms which can be interpreted in multiple ways (albeit more concrete terms than 'progression'). There are examples of architecture being able to adapt to the natural environment, like the perhaps best-known example of Jean Nouvel. A less common interpretation of adaptability is architecture which responds to its users. One might say that Bernard Tschumi's 'event architecture' fits right into this cluster of adaptability. This approach of activity defining architecture is closely related to mine. Much like Tschumi I feel that architecture should not dictate, instead the movements and activities of the users should determine the architecture.

As for the motivation of choosing Japan as project site, one thing I would like to say about it is that I've always been extremely interested in everything about its culture and have been learning the language since some time. It is because of my love for Japanese culture that I feel the need to search for possible solutions to their societal issues.

Furthermore there is the fact that Japan and adaptability go hand in hand. Its rich traditions show early aspects of adaptability in architecture. Something of which the contemporary over-crowded cities can learn from.

The residential architecture in Tokyo should relate to the traditional Japanese concept of adaptability and be able to respond to the activity of the users in order to create a non-hierarchical space.

Analyses of thesis

Our surrounding architecture is a static and motionless artefact. We as users play a passive role, observing but rarely impacting its spatial composition. The hierarchy in (most) architecture creates strict boundaries for behaviour and movement. It forces us users to take certain actions and movements that the architecture dictates.

In my project I am searching for ways to allow conversation with architecture by means of spatial interactions. My goal is creating space which serves its users and responds to its needs, an architecture on demand.

Relevance

A metropolis such as Tokyo deals with scarcity of usable space. Everything and everyone is densely clustered at the centre of these cities. Cities become more vertically orientated since ground surface is scarce and valuable.

Instead of trying to stop urbanization (for more information on that see chapter Project Site), I strive for flexibility (meaning not stiff and motionless) in the built environment. Imagine cities consisting of adaptable structures that transform to certain needs. For example (sketch A next page) the radical idea of having an apartment building where walls can transform, shrinking the space whenever the user is absent or asleep. This could affect neighbouring apartments or even the surrounding public space.

Not only does this flexibility save up on valuable space, it also gives the user more control in their built environment. Much like the traditional Japanese architecture with its multifunctionality and folding walls (see chapter Project Site). This is what I mean with having hierarchy and non-hierarchy in architecture, it depends on the factor of how users can decide on their own movements and activities. To give another radical example (sketch B next page): think about buildings with fluid façades. These façades would open up whenever a user decides to either enter or leave the building. It would eliminate fixed entry points, resulting in more freedom towards the user.

Themes

Hierarchy and heterarchy

What does these concepts mean in the world of architecture and urbanism? Is it bad if the build environment dictates us users? What is there to gain if the heterarchy exist and we can have conversations with our surrounding buildings?

Deconstructivism

This topic of hierarchy versus non-hierarchy brings me to the topic of deconstructivism. You could say deconstructivism was an anarchistic movement in the postmodernism which by its very nature defies authority and hierarchy. Its philosophy also applies to architecture and urbanism, there it opposes modernism in things such as “*form follows function*”.

Metabolism

As far as my knowledge about the architectural Metabolism movement in Japan goes at this point, this movement explores the idea of ‘flexible’ architecture in an organic way. The most well known example is the Nakagin Capsule tower by K. Kurokawa in Tokyo. It shows the idea of modular units which can be attached en detached to the solid concrete spine.

I believe there is so much more to metabolism that can be of use to my project of creating architecture on demand. The concept of transience and interchangeability makes it very promising. I am looking forward to find out more.

Optimal Living

If I want to address the current housing situation in a metropolis like Tokyo, I will need to analyse different housing typologies. What are the necessary components of living? What are the minimal requirements to create an optimal living space?

Other relevant aspects are the way the Japanese traditionally used to live. The essence of this typology for my project is the way that these designs create a certain freedom for its users. If I could get a grasp of this essence I could use it for my own design. Not to copy it, but to make it my own by giving it an own interpretation. Much like for example Juliaan Lampens’ house built in 1974 in Elke. Even though it is considered to be a solid brutalist concrete structure, its circulation and programming touch the essence of this traditional Japanese architecture. It is a clever design of one big open space with multiple functions without any rooms.

Flexible architecture

How can flexible architecture be realised? What techniques are already available in flexible architecture? What kind of materials would be optimal in this architecture? What effect would adaptable structures have on surrounding public space?



sketch A

sketch B



Project site

Traditional Japanese residential houses are designed with a concept of flexibility and adaptability. Sliding doors can function as a flexible barrier and most homes consist of multifunctional rooms (no separate bedrooms). Unfortunately this fluidness is in vast contrast with the stiffness of today’s residential blocks in Japanese mega-cities. Apartments in Tokyo are designed to be purely functional; standardised concrete rooms providing a large quantity of residential spaces. There is little room for adaptability here, the architecture is too tight, too dense and too solid to be able to give any respond to its users.

Even though the total population in Japan is declining, the country still holds the world record with the largest city. The UN estimated in 2018 the population of Tokyo at 37,5 million people. The urbanisation in Japan still grows, with more people leaving the countryside and moving to Japan’s big cities. To give a quick overview: Japan has an total population of appr. 126 million people (populationstat.com and worldmeters.info). The population of Tokyo, Osaka (19m) and Nagoya (9,5m) combined is already about half of the population nationwide.

I will not stop or slow down this urbanisation with my project. Instead I embrace the density of Japanese cities. This density asks for a more efficient use of space within the cities, it requires flexible and optimal architecture.



Image from R. Jarrell (2016) - *A traditional Japanese residential home*

Reading list

Responsiveness

K.Kurokawa. (1977). Book *Metabolism in Architecture*
M.Sorkin. (02-1988). Magazine “*Brave New Worlds*” *Architectural Record feb.1988*.
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A.Miron. (11-06-2014). Article *The Radical and Contagious Ideas of Lebbeus Woods* Published on *hyperallergic.com*

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J.Tanizaki. (1933). Book *In Praise of Shadows*. Translated by T.J.Harper and E.G.Seidensticker, published in 1977.

Small living

A.Torero. (2015). Case study *Capsule House K*.

The residential architecture in Tokyo should relate to the traditional Japanese concept of adaptability and be able to respond to the activity of the users in order to create a non-hierarchical space.

The research and the initial hypothesis continues with these chapters:

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a reconstructed Minka,
2013, by Y. Takishita

JAPANESE CULTURE

The essence of the Japanese culture is hard to grasp. It is complex and full of contradictions. Every time you find something describing its culture, you can find examples contradicting it. There is even a popular Dutch documentary series about Japan called *Tokidoki*, a word which means sometimes. It refers to the fact that sometimes Japan is this way, sometimes it is that way.

You could say Japan is very traditional, conserving its rich history with utmost respect. At the same time these shrines and temples are surrounded by glass skyscrapers and high speed bullet trains. One could say Japanese people are very modest and discreet (see the concept of *tatemae* explained in chapter Japanese Culture), while at the same time there is an enormous *otaku* culture (an extroverted way of life, often referring to manga with bright colours, distinct haircuts and clothing). Japan, the country which is greatly influenced by Zen Buddhism, is also the country with dense mega-cities and the culture of working over hours.

I could go on and on with contradictions found in Japan, but I think this is clear. And even though most of these contradictions are seen as extreme opposites, in some mysterious way they form a harmony which defines the versatility of the Japanese culture.

What are Japanese housing typologies?

Since the assignment is to design residential architecture in Tokyo it is good to have some knowledge about the existing housing typologies found in Japan.

Minka 民家

Minka are traditional Japanese country houses, built with local materials like bamboo, earth and straw. A hundred years ago [85 percent](#) of Japan's population lived in the countryside. Japan is preserving this typology by renovating and rebuilding exact replicas of these houses in some rural heritage sites.

The most interesting thing about this old typology can be seen in the construction method. Traditionally there are build in wood instead of stone due to the abundance of wood available and the connections are made without screws or glue. This is done due to the fact that it is easier to reassemble after an earthquake. It is a magnificent example of early adaptability in Japanese architecture.



Matsubara danchi
in the city of Sōka
(approx. 15km from Tokyo)

What are Japanese housing typologies?

Danchi 団地

Danchi are post-World War II apartment buildings built in large clusters in suburbs. It is important to know that pre-war Japan was not that familiar with high rise apartment buildings. Most people lived in detached or row houses.

This mass housing project is interesting because it shows the influence of Western Modernism in Japanese architecture. At that time ([around the 1960s](#)) Danchi promised a new modern way of living. The Western influence made these apartments to centre around the young families. The kitchen was an important factor which provided the housewife with high-tech facilities like a refrigerator and washing machine. Not only the interiors are westernised, the construction method underwent drastic changes as well. Danchi caused concrete worlds to erupt as these building blocks were built in vast quantities that became new towns.

This contradicts some of the traditional values in Japanese architecture. No more flexibility in the interior spaces, no more flexibility in inside / outside and no more flexibility in deconstructing and reconstructing.



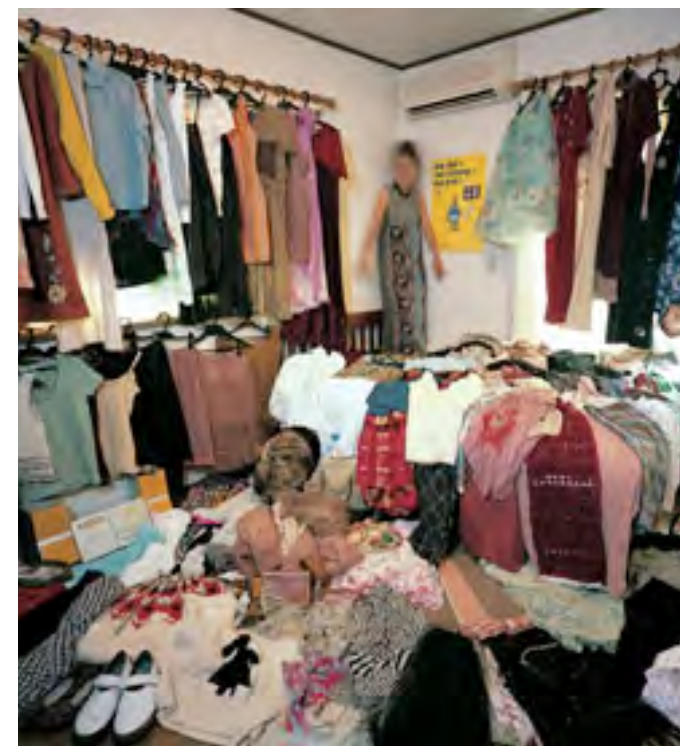
Contemporary apartments

Apartments in Tokyo are notorious for being small. The government states (in something similar to the Japanese 'Bouwbesluit') that the minimal recommended square meters for dwelling space should be 25m². While in fact a research done by realestate.co.jp (2013) concludes that only 30.4% of the households in Tokyo meet this minimal recommendation. They calculated that there is about 19m² dwelling space per person.

Kyoichi Tsuzuki, a photographer / artist, made a book about ordinary city dwellers living in small apartments in Tokyo. The book contains photo's of the interiors and show how people live in such spaces. One of the aims of this book was to counter the stereotype of Japanese people being exceedingly tidy and all living in Zen-inspired minimalist homes.

"There is no space for [Ma](#), no space for space."- Kyoichi

A lot of these photographed rooms seem messy, their belongings stacking up to huge piles. According to Kyoichi, this has to do with the lack of space for i.e. big closets. The beauty of this is that the room becomes very personal. Instead of hiding away your personal belongings like clothes, it is now all over the walls (and floor) clearly to be seen.



Tokyo: a Certain Style
by K. Tsuzuki

JAPANESE CULTURE

Who are the users?

As mentioned before Japan is undergoing extreme urbanization. Especially the younger generation is headed for the cities, since the opportunities for education and work are decreasing in rural areas.

For this research I questioned 4 Japanese people who live or have lived in Tokyo. 3 of them were born and raised in rural Japan, and eventually moved to Tokyo. My questions are not meant to gain insight in the difference between rural and urban, but to get closer to the answer of how Japanese people dwell and what there perspective on dwelling is.

I received some remarkable answers in terms of the perception of size. One answered that her current apartment in Tokyo is about 60m² while her family home in a rural area was about 600m². Even if this is a doubtful estimation of the actual square meters, it shows how she experiences the difference between this apartment and the house she grew up in. This does not mean that 60m² is considered as small. Ryuichi describes his place as a “spacious house” while also estimating the square meters to be around 50m².

The most significant conclusion I can make out of this questionnaire is the urgent need of privacy. I knew privacy played an important part in the Japanese lifestyle, but I had perhaps underestimated the significance of it.

“Imagine your neighbour just sat on the floor, you move the walls and I wanna sit too, I will feel my neighbour’s warm butt ‘stamp’ on the floor for a while and that’s just a no no!” - Tomoko

After sharing the idea of a moveable wall like the image shown here, there was an unanimous reaction to it that they would not feel comfortable with this idea. I assume this has to do with the fact that in this situation the border of their private space is being blurred. The idea of sharing a floor with a stranger next-door is simply off-putting.



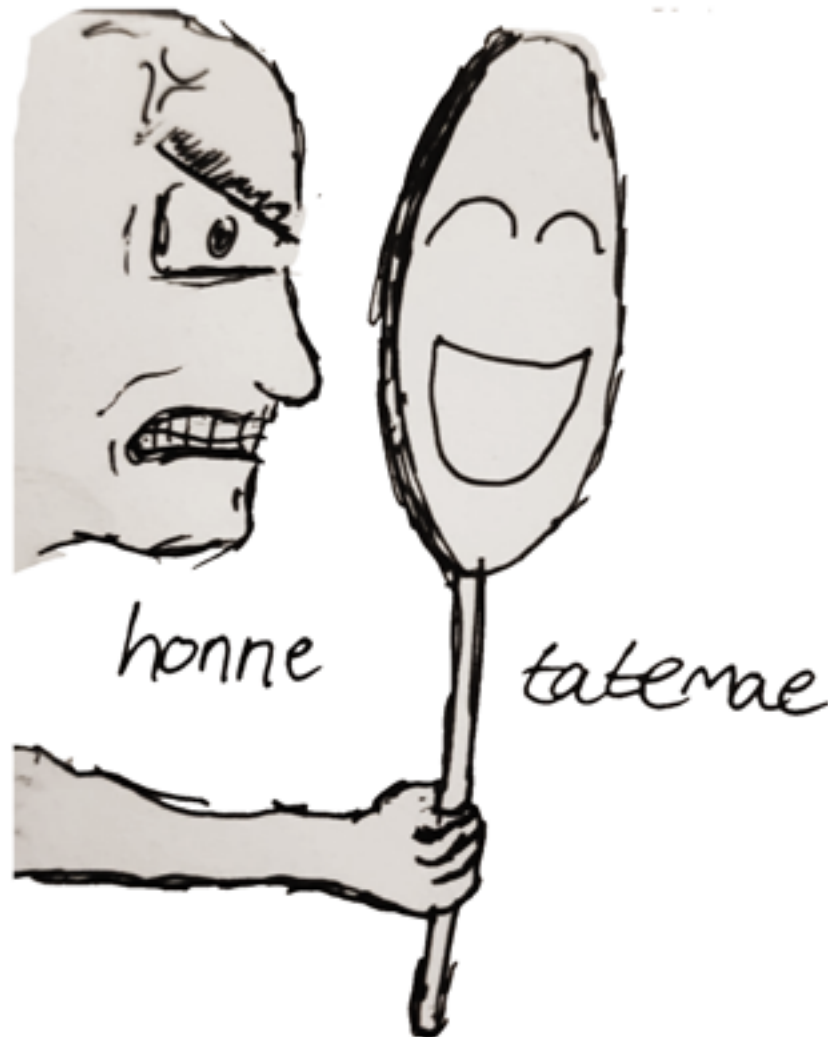
Society and Anthropology

public behaviour: 建前

Something I would like to take into consideration for this project is the concept of *honne* and *tatemae*. *Honne* is freely translated to what one really thinks, your true voice. *Tatemae* on the other hand is the image you project to the outside world, your official stance. It comes with an interesting way of writing: 建 *tate*, meaning building and 前 *mae*, meaning in front of. So it is something you build in front of yourself, to prevent the true self to be open and visible for everyone.

This *tatemae* means that people often pretend, not expressing their true feelings (which makes communication very difficult). It is made very visible in for example the way they laugh with their hands covering their face or by the fact that a lot of people wear face masks in public space, even before Corona.

Tatemae can be interpreted as a spatial concept. If you cover your smile with your hand, then the short distance between the hand and the mouth can be seen as space for *honne*. Everything beyond your hand is space for *tatemae*. I hope to extend this space for *honne* in my project, where people don't have to maintain their walls of isolation.



Many Japanese companies adhere to a mantra called ho-ren-so. Ho-ren-so is a mnemonic device that combines the first syllables of three verbs: Houkoku (report), renraku (contact), soudan (consult).

This means that an employee in Japan must always keep their superiors informed about what they are doing. Every decision, no matter how small it may seem, should go through the chain of command and get the stamp of approval from the boss. Employees should immediately report any problems to their bosses before trying to take care of anything on their own.

He said Japanese workers would be surprised that everyone calls each other by their first names at work [in the US]. "This would be considered rude in Japan," he said.

When I was living in Tokyo, I lived just off Kasai Station in Edogawa, an area with a large population of professionals. I noticed that, as far as dress codes go, the idea of "business casual" does not appear to exist in Japan, and seeing commuters in bright colors is rare.

Most businessmen, called "salarymen" in Japan, wear gray, navy, or black suits and are almost always wearing ties, even in the summer. I saw several career women wearing the exact same outfit: a white button-down shirt with a navy or black blazer and a matching skirt, pantyhose, and black kitten heels with their hair tied back in a ponytail.

How do Japanese experience hierarchy?

The hierarchy that exists today is most probably a renaissance of Japan's history. Japan has had 700 years (the times of Feudal Japan, 1185-1868) of one of the strictest most controlled political systems in the world. It was so important to stay in the hierarchy were you had to say what you were supposed to say or face the consequences by the samurai. Of course people became very careful (source: Alex Kerr, Japanologist, in documentary published in 2020).

There are lots of examples of today's hierarchy to be found all over the [web](#). In addition to these presented here, the one I experience personally is the hierarchy that is embedded in the Japanese language. The social ladder is something you should take into careful consideration when speaking Japanese. In formal speech vocabulary and grammar change drastically, something which goes far beyond the 'jij' en 'u' in Dutch.

As a Westerner I look in slight distaste at the social hierarchy in Japan. Even though it might be considered impossible to change such a deeply embedded system, I hope my project can be a small step towards a less hierarchical Japan.

(NON-)HIERARCHY

hierarchy and architecture

The stiffness of architecture often creates hierarchical systems for its users. To put it simply: a concrete wall does not allow you to walk through it. Just as our school building in Tilburg FHK, can deny easy access to the architecture department at times (you have to walk through the whole building). Earlier the *danchi* was mentioned, where the concept of fixed, predetermined rooms was used - in contrast to the traditional Japanese houses. A more contemporary example can be seen at CCTV camera's in public spaces, which monitor your behaviour in the built environment.

Traditionally architecture can in fact be seen as a hierarchical system. I want to take a closer look at the example of Romanticism, which can be considered a critical, anti-Classism movement. It gives some explanation to the story about this hierarchy.

They key ideas of the Romantic Movement are indicated by words like '*genius*', '*originality*' and '*sentiment*'. Even though Romanticism had its peak around the [early 19th century](#) some of its effects can still be seen today. In this period the artist was no longer a man inspired by gods, but was himself elevated to the status of a hero or demi-god¹.

The idea of *genius* as a exceptional intellectual came to be associated with the concept of artist and artistic activity. It was considered to be the natural condition to which all artists should aspire. Sometimes the *artist-genius* was thought of as having exceptional insight into the ultimate reality.

As mentioned before '*originality*' was another key concept of Romanticism, it was therefore closely linked to the idea of *genius*. In the late 19th century the Romantic theory of *genius* was concerned not with conforming to rules with more than average skill and efficiency, but instead with the discovery of new rules and making a breakthrough which would serve as a source for the next generations of artists. A *genius* must be essentially an original man. In other words the act of imitating is the complete opposite of *genius*.

“Fine art is only possible as a product of genius; originality must be its primary property” - Kant ([1790](#))

The artist in this case has a highly elevated status (demi-god, genius). Nevertheless a truly *original-genius* is capable of changing rules and is therefore, in a certain way, adaptable. It is this *originality* which makes Romanticism an interesting case for a start of a non-hierarchical system.

Unfortunately this idea of *originality* did not prosper in a way one might hope. Or at least not in the field of architecture, where we still copy architectural elements from centuries ago. The writer of the book referred to here, M. Quantrill, blames the academic system for this.

“The academies were ... teaching students to emulate this system or the other, to acquire an understanding of the rules necessary for the coordination of the established elements of architecture.”

By which I interpret these established elements as the likes of floors, walls, roofs, etc. These newly schooled architects felt to be privileged creators of original works, *geniuses*. But even nowadays we constantly see references to historical contexts, like '30's style housing in the Netherlands. Personally I don't blame academies for a loss of originality. The referring to historical contexts should not be considered as 'bad' or not original. Even in this project I refer to certain traditions. But the issue Quantrill is addressing here (or which I am interpreting from his text) is that these architects gave rise to the myth of the architect being similar to the Romantic status of demi-gods rather than the servant of mankind.

As servants of mankind it would help to grasp an idea of the complex and varied needs of mankind. The essence of it lies not within the stones of our walls, but in the space between. Or in the words of [Lao Tse](#):

“The reality of the building does not consist of walls and roof but in the space within that is to be lived in.”

In other words, architecture being the product of necessity (the necessity of dwelling) grows from within. Its impact on exterior space, the space between buildings, is a direct consequence of satisfying this interior need. Quantrill continues with this idea and states that the organization of exterior spaces will come from the pattern of communication between individual units on the one hand and the organic growth of those units on the other.

The point I am trying to make here is that spatial relationships should not be dictated by exterior elements (let's say superstructures like churches or classical grid patterns), it is the interior dwelling space that counts and should not be superimposed.

1: M. Quantrill (1974). *Ritual and Response in Architecture*



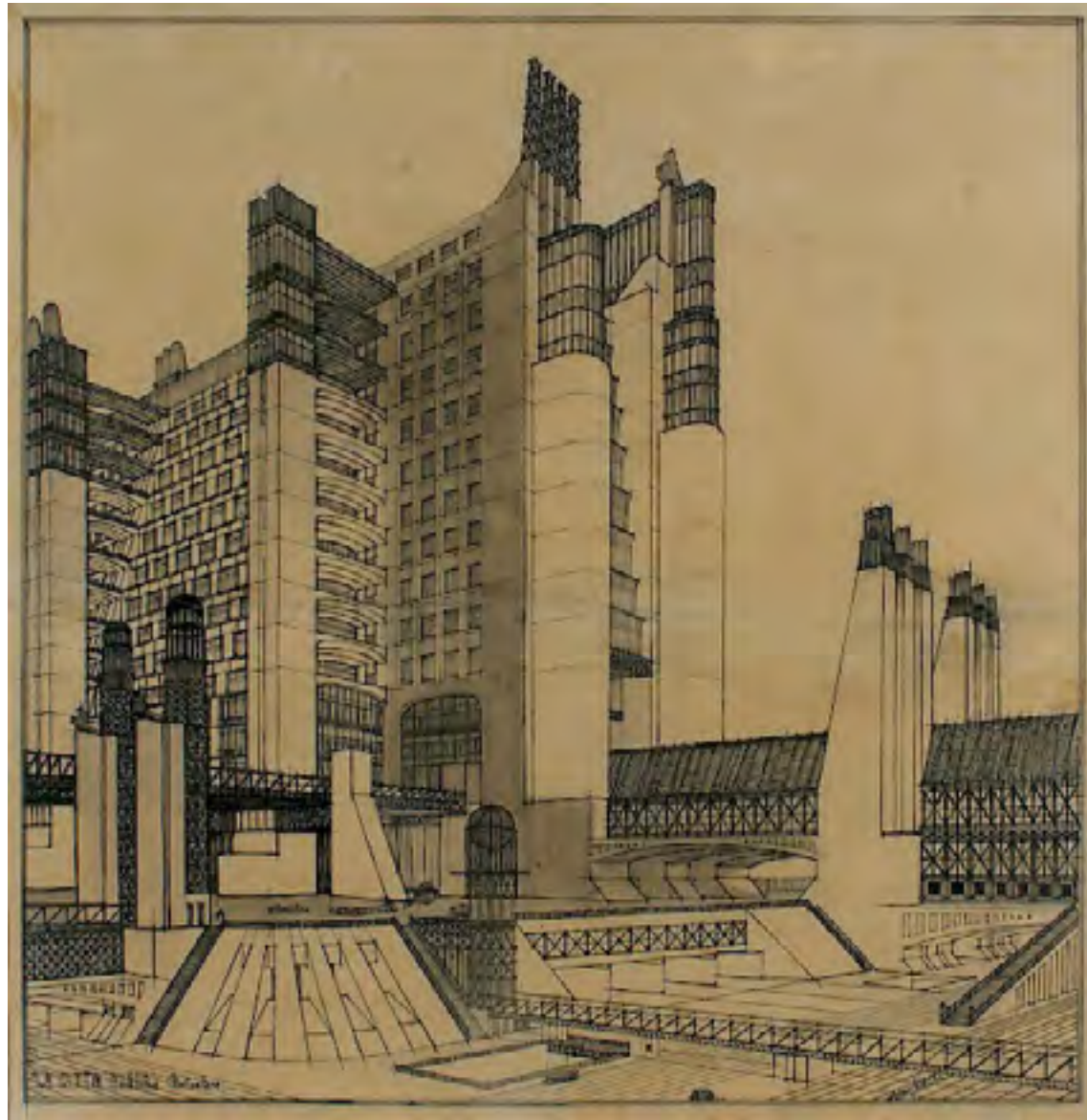
**Artist Allan Kaprow
reconstructs his project
during time, which started
in 1961. The project
changed each time it
was reconstructed. The
spectators became
the participants who
executed the changes.**



What are opportunities in non-hierarchical architecture?

Earlier I mentioned that I would like to contribute to a slightly less hierarchical Japan. But this Romantic concept of *originality* makes me think of more interesting opportunities in non-hierarchical space. I deem this *originality* as something important as it is capable of breaking certain conventions. Predetermined use for spaces lead to 'zoning' of everyday life into compartmented areas. Breaking of conventions can lead to creativity and chance events.

I think I share this opinion with Bernard Tschumi (see User Defined Architecture) about the importance of things like happenings and chance events, even though there is not much written about it in the texts (at least not explicit). The reason why these events are great is because these could lead to truly new and original ideas. To me it feels like a true form of art, where randomness and meetings can lead to the unexpected and to progressive ideas. Perhaps architecture could be considered as a way to provoke true art?



Antonio Sant'Elia (1914)

What are opportunities in non-hierarchical architecture?

Antonio Sant'Elia

Sant'Elia (1888-1916) is an architect from the Futurism movement, a so-to-say subgenre of Modernism. In his work he attempts to break out into the unknown as he explores futuristic possibilities, focussing on industry and technology.

Sant'Elia claims that modern architecture is too much rooted in old habits¹ as he writes about modernism being eclectic and mixing among others Egyptian, Indian and Greek styles². Instead architects should have an open mind and explore boundaries and new solutions. To truly break free and be progressive, start anew without building upon historic or current systems. New architecture should be based on new principles.

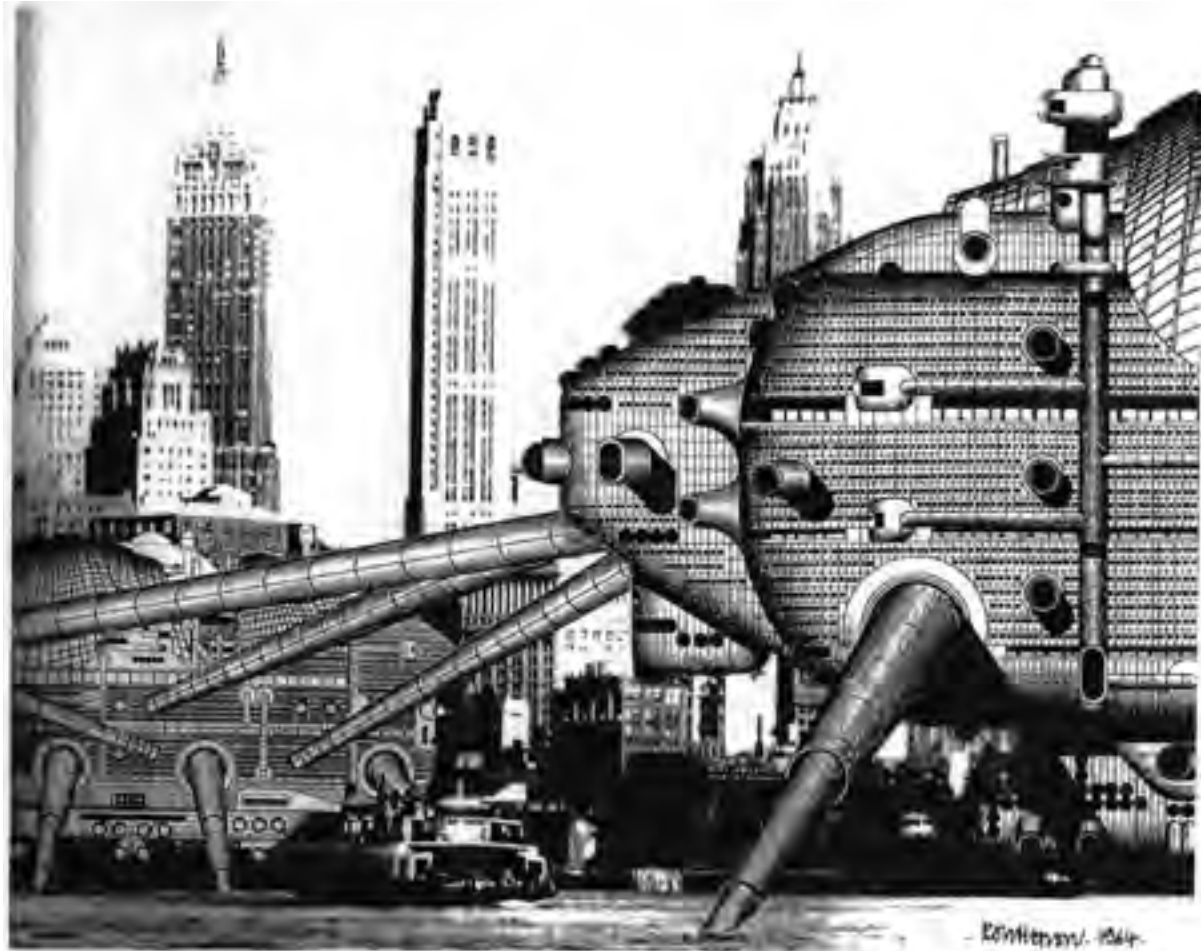
Even though Sant'Elia has made drawings of buildings that actually look heavy and permanent, he later wrote about the importance of impermanence and transience of architecture of the future³. He predicts a fast changing world in which architecture is a moving vehicle capable of adapting to this changing environment.

Despite that his words do not fully cope with his drawings in my view, I still agree with Sant'Elia's reasoning. If we as architects want to make progress, we should be able to let go of some older principles and start building on new ones.

1: M.Sorkin. (02-1988). "Brave New Worlds" Architectural Record feb.1988. Pg 80. Quote by Sant'Elia: "The problem of modern architecture is ... to raise the new built structure on a sane plan, gleaning every benefit of science and technique, settling nobly every requirement of our habits and spirits. ... Such an architecture cannot be subject to any law of historic continuity. It must be new as our state of mind is new... In modern life, the process of consequential stylistic development comes to a halt. Architecture, tired of tradition, begins again, forcibly, from the beginning."

2: A.Sant'Elia, F.T.Marinetti. (11-07-1914). L'Architettura Futurista. As summarized in the book "Dat is architectuur"(2004)

3: L.Woods. (02-11-2009). Article SANT'ELIA'S WORDS. Published on lebbeuswoods.wordpress.com In this article Woods uses a quote by Sant'Elia: "...the fundamental characteristics of Futurist architecture will be its impermanence and transience. Things will endure less than us. Every generation must build its own city."



Archigram. (1964). Plug-In City

What are opportunities in non-hierarchical architecture?

Archigram

In 1961 a group of freshly graduated architects formed a group to publish a new magazine called Archigram. They started out of dissatisfaction from the current developments in architecture and urbanism and therefore looked for ways to present their visions of how it should be or become with futuristic explorations in this field. Each edition of Archigram was meant to stimulate the profession out of stagnation and into renewed conversation (somewhat similar to the before-mentioned vision of Futurism¹) as they contained speculative projects that showed technological innovations with axonometric and collaged renderings.²

One example of such a project is Plug-In City, a city built upon the idea of transience and adaptability. In this hypothetical city modular residential units are plugged into central infrastructure hubs. The units are movable by giant cranes, making it a city capable of going through swift transformations.³

It is fascinating to see that Archigram became one of the most well known examples of visionary architecture by means of illustrating their radical designs in a magazine. I think it broadened the visions of many about the range of what architecture and urbanism can mean. Projects like Plug-In City and Walking City will remain a source of inspiration to many architects and urbanists.⁴

1: P.Cook. (1964). Article "Zoom and 'real' architecture" from the magazine "Archigram" nr.4.

2: D.Madsen. (10-02-2019). Review of "Archigram: The Book".

3: G.Merin. (10-07-2013). Article "AD Classics: The Plug-In City / Peter Cook, Archigram" Posted on ArchDaily.

4: E.Rowlings. (18-05-2018). Article "'A Walking City' - Archigram and Ron Herron". Published on medium.com



Le Fresnoy Art Center,
B. Tschumi (1997) in
Tourcoing

User Defined Architecture

What is the role of the architect in a user defined architecture?

In the case of adaptable architecture there is no final point to be reached for an architect to be finished. More so than in traditional architecture there will be maintenance, re-designing and additional designing. A closer look at the organisation of Kurokawa's office reveals that there was a [Kurokawa Concept Committee](#) in his firm. One of the tasks of this committee was to check whether his buildings are working accordingly, evaluate and re-design.

A complete other approach to this can be seen by the architecture firm ELEMENTAL, which will be further mentioned at page 38.

What can I learn from B. Tschumi's event architecture?

I see Bernard Tschumi as an architect who sees architecture as a process opposed to a product. Architecture is not finished whenever the construction is completed. The usage of the buildings is of greatest importance. Tschumi's designs are not based on single use functions. Instead he creates 'in-between' spaces (which in Japanese terms can be referred to as *Ma*) which are multifunctional. According to Tschumi these spaces stimulate appearances of happenings and chance events. Because of this, architecture lives since the use of it will change as time passes by. As a side note: both 'living architecture' and 'in-between spaces' are terms also used by the Metabolism movement (see next page).

The image here shows a project in which Tschumi maintains and revives existing buildings by providing it with new programs, infrastructure, shelter and technical support. The addition of multifunctional spaces and connections between the different programs within the project creates a lively and diverse environment.

Tschumi gives control to the users with undefined programming and optimising flexibility within the architecture.

City Over the Sea,
Kikutake (1958)



Metabolism

What is the mission of Metabolism?

The Metabolism movement started in [1960](#) by Kisho Kurokawa (among others) with its first utopian project 'City over the Sea' by Kikutake. This project gave birth to the idea of seeing the city as an organism which changes with various rates. Metabolism is the biological analogy applied to architecture and urbanism which compares it to an energy process found in all life: the cycles of change, the constant renewal and destruction of organic tissue.

Metabolism takes into account that changes within architecture and urbanism come in various rates. By clearly separating parts of a building or city which have different rates of change, they allow certain structures to remain undisturbed when others wear out. Their ideal is to design a city so flexible in its connections that its parts could grow, transform themselves and die while the whole organism keeps on living.

Without going into detail about the other elements of Metabolism, in short the essence is that it attempts to see architecture and urbanism as an extension of nature, as something organic. It grows, evolves and dies.

left:
kintsukuroi by
lakesidepottery

right:
ikebana by
Manabu Noda



Transience

It seems that Metabolism focusses more on how certain things die and give room for birth of something new. The adaptability here comes after death, not unlike reincarnation in Buddhist philosophy where one can be reborn in another human body, plant or even Buddha.

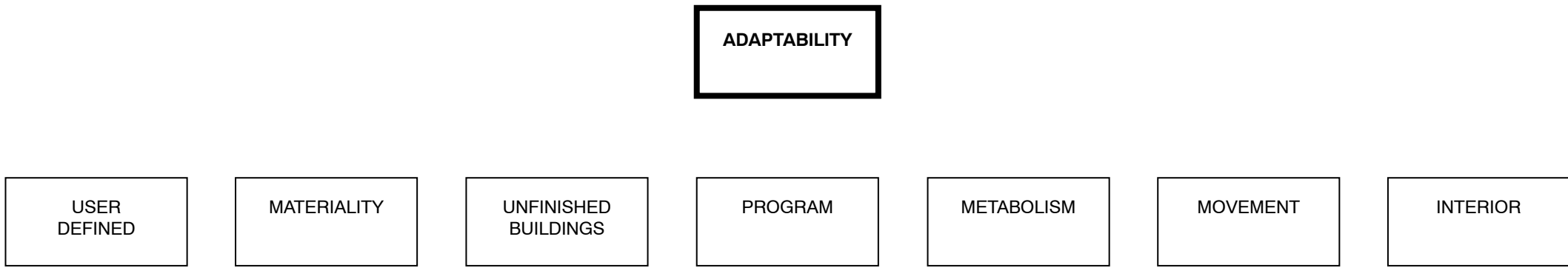
I now realise that this concept of transience is an important recurring theme in the Japanese culture. It can also be seen in the traditional aesthetics of *wabi-sabi* (like *kintsukuroi*, the use of gold to repair broken pottery), the adoration of cherry blossoms which only bloom 2-3 weeks a year, erupting volcanoes causing land to be fertile for radishes, etc. There even is a name for this concept: *mono-no-aware* 物の哀れ, literally translated to the compassion of things. The word is used for the awareness of impermanence in life. It is the feeling of being both saddened and appreciative of the end of things and the new start of things.

“We have in Japan the aesthetic of death, whereas you [the Western world] have an aesthetic of eternity. The Ise shrines are rebuilt every twenty years in the same form or spirit: whereas you try to preserve the actual Greek temple, the original material, as if it could last for eternity.” - Kurokawa 1977

“The seasons are constantly changing. The concept of impermanence is an important part of Japanese culture. Through ikebana we learn that it is the same with humans. To be alive means constant change.”

*- Manabu Noda,
one of Japan’s most respected
masters in ikebana
(the art of flower arrangement)*

Another important example of this transience is within architecture itself. An average Japanese home only lasts for 30 years (source: BBC (2017). Documentary *Art of Japanese Life*). Inheritance tax is so high that it is often cheaper to bulldoze the family home and start again. Building regulation is not as strict as in the Netherlands, which means that for every new building there is an opportunity to experiment and redesign residential architecture.



ADAPTABILITY

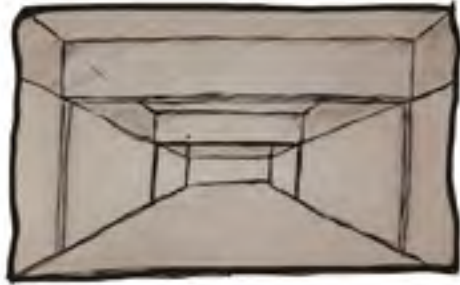
Japanese adaptability

I now consider adaptability as my main concept. It covers other before mentioned words like flexibility, interchangeability as transience. Since the project is orientated in Japan, it would be wise to take a look at what adaptability is in Japanese. The best translation I can find is *yuuzuu* 融通. The first character *yu* 融 stands for dissolvement. The second, *zu* 通, means passing through. So you could say that Japanese adaptability means something similar to being able to make room so that people or things can pass through.

Categories of adaptability

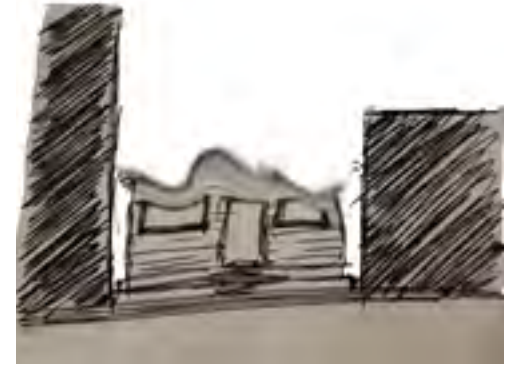
Adaptability is now referred to as an overall term. It can be approached in different ways, that is why I made an overview of different interpretations of adaptability.

PROGRAM

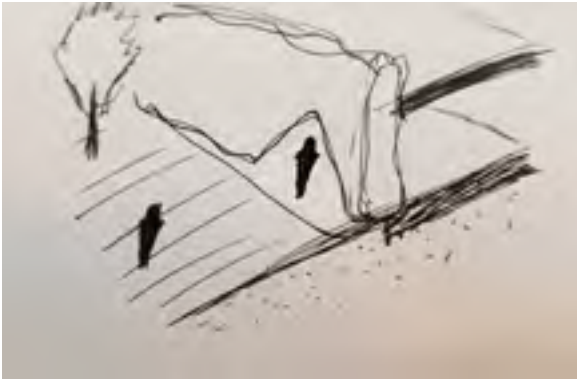


ADAPTABILITY
own
interpretations

TRANSIENCE



MATERIALITY



USER
DEFINED



MOVEMENT



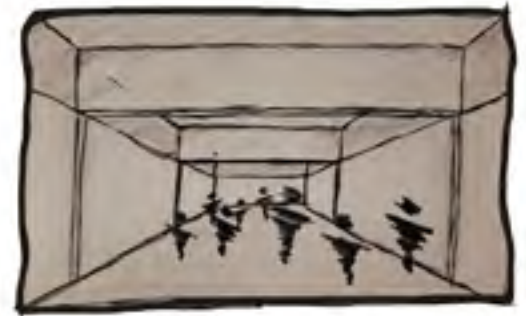
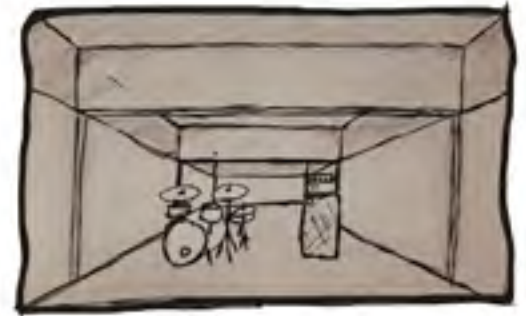
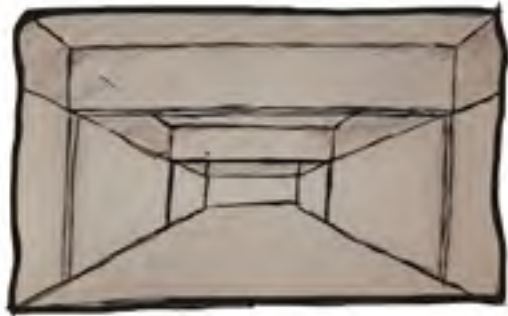
UNFINISHED
BUILDINGS

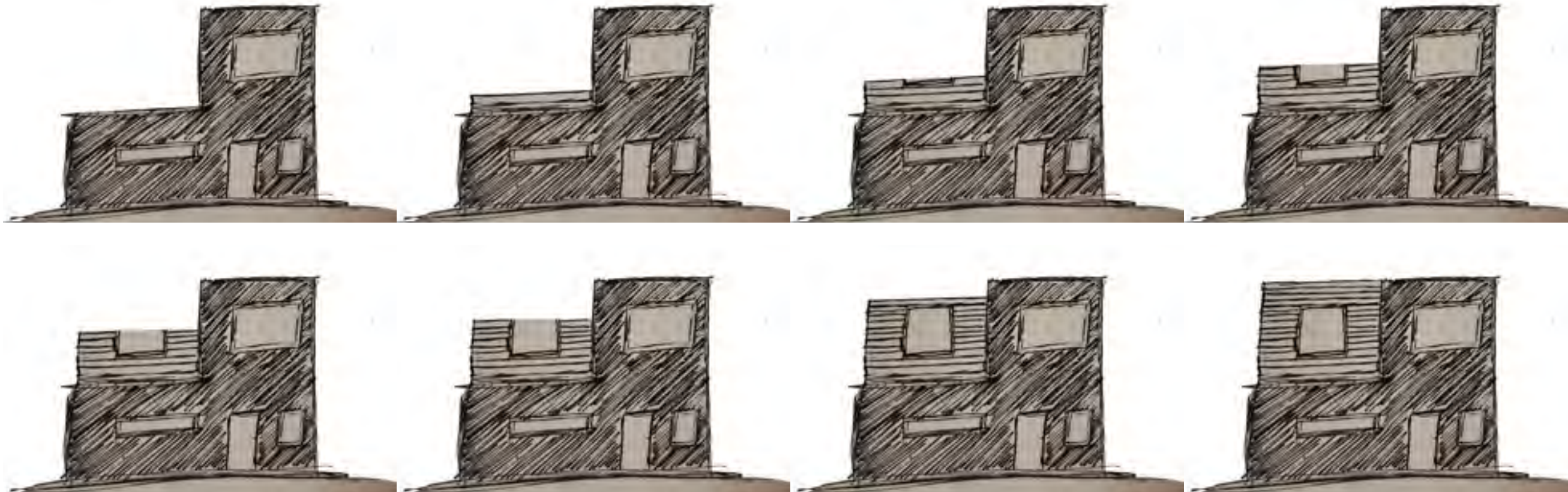


INTERIOR

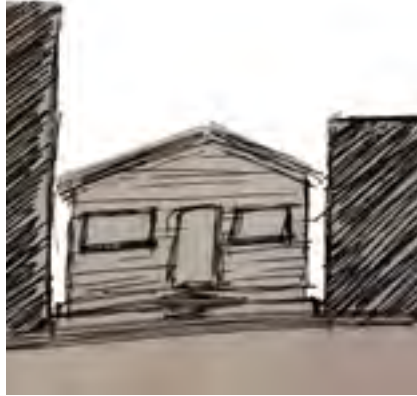


PROGRAM

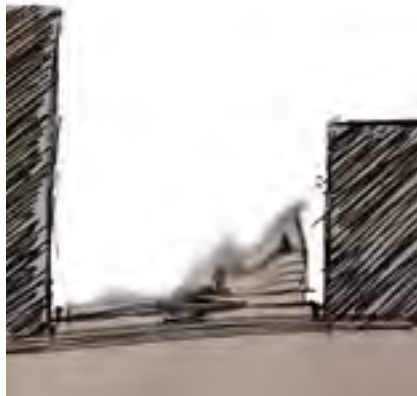
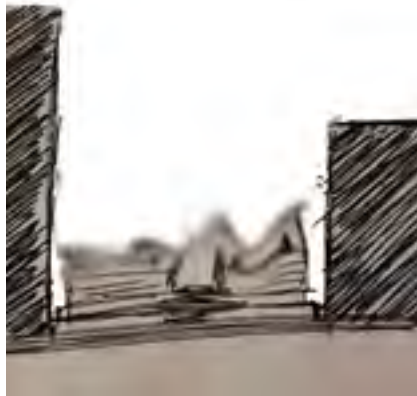
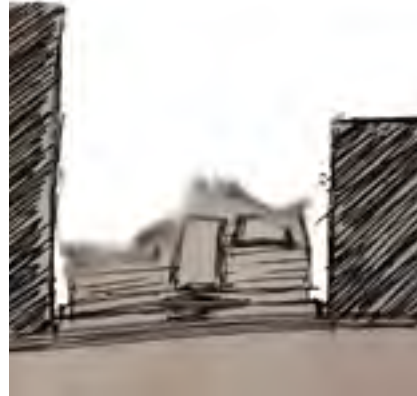
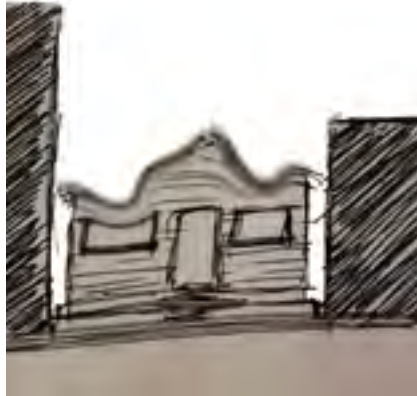




UNFINISHED
BUILDINGS



TRANSIENCE





INTERIOR



USER
DEFINED



PROGRAM

*Ferry Terminal -
SANAA*



MATERIALITY

*Dune -
Studio
Roosegaarde*



UNFINISHED
BUILDINGS

*Social Housing -
ELEMANTAL*



ADAPTABILITY
professional
references

Kowloon
Walled City



USER
DEFINED

METABOLISM

*Nakagin Capsule
Tower -
Kurokawa*



MOVEMENT

Tiny House Movement



INTERIOR

*Residence at
The Arch -
Gary Chang*



PROGRAM

*Ferry Terminal -
SANAA*

Built in Naoshima Japan this minimalistic structure provides large open spaces. Other than a waiting room there is a lot space which is not predetermined. Here the program can be adapted.

ADAPTABILITY professional references

METABOLISM

*Nakagin Capsule
Tower -
Kurokawa*

The best known realised project of the Metabolism movement, its basic principle is a sturdy column with tiny capsules attached. These capsules are easily attached and detached.

MATERIALITY

*Dune -
Studio
Roosegaard*

Studio Roosegaarde has done several projects concerning material which is interactive and responsive. Projects like *Dune* and *Presence* show possibilities in human interaction.

USER DEFINED

*Kowloon
Walled City*

Perhaps to be considered as a somewhat strange and dystopian example of user defined architecture, but this walled city in Hong Kong was in fact a ungoverned self-made city. It may not be the same as the interpretation I sketched earlier, but I doubt that exact concept has been realised. The walled city does however show a quite literal example of user defined architecture / urbanism. As the population grew the architecture grew with it. Adjustments were made and constructions were stacked [without third party involvement](#).

MOVEMENT

Tiny House Movement

Adaptability can mean being flexible in your location. A house on wheels gives the opportunity to for example move to a warmer location during winter.

UNFINISHED BUILDINGS

*Social Housing -
ELEMANTAL*

This social housing project in Chile shows a less extreme version of the *user defined architecture*. Here the architect provides a framework (or more) with intentionally 'empty' space.

INTERIOR

*Residence at
The Arch -
Gary Chang*

Gary Chang is an architect who is skilful in making the most out of tiny spaces. With clever interior designs bedrooms change into kitchens or study rooms.



FINAL THOUGHTS

Concept model

One of the important things I discovered during this research was the necessity of private space in Japan. Even if this may be considered common knowledge, I truly underestimated this strong desire which is deeply embedded in their culture.

With this in mind I started a first concept design with this model. The model is based on early sketches I made of a moveable wall between two apartments (see page 8). The fact that it did not meet the requirements of private space made me redesign this idea. The most notable change in the design is the floor. The white sheet of paper rolled in between the structure represents a floor which can transform. This means that the floor will not have to be shared with the neighbours.

The model consists of three main concepts: rolling (floor), folding (walls) and sliding (structure). This is my first exploration of design principles which could lead to adaptive architecture. Nevertheless there are other conclusions from this research that will have effect on the design.

CONCLUSIONS

Japanese culture

One element that will become equally interesting as important during design is the relation between public and private space (*tatemaie* and *honne*). Perhaps the implementation of a third layer, the in-between space or *ma*, is needed to create adaptable and non-hierarchical architecture.

Adaptability

Adaptability comes in many forms and meanings, but the revelation here was the Japanese perspective on adaptability. Transience is the key to understanding this, as it is to so many aspects in its culture. It will definitely play a big part in this project as well.

Hierarchy

Adaptability is already a key towards non-hierarchical space: it gives more control to the user. In addition as a designer there is a certain amount of originality needed to create progressive ideas and designs that are not stuck in the hierarchy of predetermined rules. Not all hierarchical systems are bad and better to be avoided. I have learned that the dwelling space is of the greatest essence here. So in terms of design that could mean that the interior will be more important than the exterior.

ATTACHMENT

survey / Q&A with Japanese people

The research question for this survey in a very common sense is: “How do Japanese people experience their houses?” I want to get closer to the answer of what it means for Japanese people to ‘dwell’. In order to get there I have some easier sub-questions.

1. In what kind of house do you live? Apartment in a high rise building / tower? Danchi or a similar cluster of apartments? A free standing home with multiple floors? Etc.

Mona, in Tokyo (MT):
I live in an apartment inside a mansion, not a high building only 3 floors.

Mona in Fukushima (MF):
Country side, a free standing house.

Ryuichi, in Tokyo (R):
I live in a family-owned apartment. We can use first floor and 2nd floor but my family and I use 2nd floor mainly. Half space of the first floor is also used as an office of company which my father and uncle have worked. Other floor are rented out to other people.

Hiromi, in Tokyo (H):
I live in an apartment building, 12-floors high.

Tomoko, in Hokkaido (T):
I Live in a two floor free standing house. One closed bedroom, one toilet, one bathroom connected to the kitchen itself connected to the living room. The living room is a big space open to two other rooms divided by shoji. So once the shojis are closed you have three different spaces: the living room + two bedrooms.

The second floor is divided into two blocks. The left one is two rooms divided by slidding doors and same for the right side block. So you get two big bedrooms that can be turned into four small rooms.

2. How big is your house? How many square meters? (does not have to be exact)

MT: It’s around 60 square meters.

MF: I’m not sure but maybe 600 square meters.

R: I am not sure exact size but it seems to be around 50 squares or a bit more maybe.

H: Don’t know exactly but it is around 25 to 30 sqaure meter.

T: The whole house is 200 square meter. 50 square meter for the second floor and 150 for the first floor.

3. How many different rooms do you have? (is the kitchen separate from the living room?)

MT: I have 3 rooms. There is a living-dining room so half of this room is a kitchen space and the other half is a living room area.

MF: 9 rooms. The kitchen is separate from the living room.

R: As to 2nd floor where we live have, it has 4 rooms. Kitchen and living room are not separated.

H: Actually only bathroom is separate room. Kitchen and bedroom is sort of same room.

T: See the first answer.
I did’nt mention we have a big “genkan” which is the traditional Japanese space before stepping into the house. The place where you leave your shoes. In Hokkaido where I live there is usually two “genkan”, one that is close on

both side and serves as an entry space between outside and inside. It’s like a decontamination room. Hokkaido is a very cold region, we normally have temperatures around -20 Celsius and over a meter of snow during winter so the small room serves as a thermic buffer.

4. Do you have any room-mates or do you share facilities with other people?

MT: No, I don’t.

MF: When I lived there we were with 6 people.

R: Live together with family, in total with four people.

H: I live alone.

T: No room mates, only family members.

5. Say something you like about your home.

MT: To be honest, none. Maybe located at a convenient area.

MF: I like the house is in mustard yellow and salmon pink (my parents favourite colours). I like that there is no house next to it so we have privacy. I like the big garden.

R: Kind of spacious house. Also my room is more spacious than others in my house. In addition, location is quite nice and very close to some convenience stores.

H: I like that I have space just for myself, no sharing. Also close to the subway.

T: The “genkan” is very big and useful and I like the fact that you have to take one step after taking your shoes off before walking into the house, it’s like a border between outside and inside, the “ofuro” (shower + hot bath in the same closed room) is a place where I can relax alone. I like the toilets too, they are wide and warm. I also like the

sliding door all over the house. My brother has a handicap and the house is made to suit him, so no doorstep or any steps beside the stairs to go to the second floor. We also have two rooms with tatami and I like these two. They smell good and feel different. One of those rooms is where my grandma’s alter is located.

6. Say something which you do not like about your home.

MT: I chose this place [in Tokyo] because it’s a concrete building, however I think it’s not. I find it difficult to find a house where you don’t have noise issues in Japan. In Europe, houses come with double glass windows usually, but here in Japan it’s like an option. So most of the houses have super thin windows. I really hate it.

MF: There are a lot of bugs because it’s a countryside. There is a road behind our house which has busy traffic it could be noisy.

R: Filled with too many stuffs not used often. Kind of being messy.

H: Sometimes it gets a little messy. I want more closets but there is no room for it. Or I should just clean more ;)

T: I don’t like the kitchen, the working space is low and small.

7. Have you ever lived in a ‘traditional Japanese’ house? Of which I mean houses with tatami, shoji, oshiire, to, etc. If so, please answer questions 2 -6 according to this house as well. Or just any information will also be fine.

MT: Yes. [answers are shown as MF]

R: Yes, rather I live in that type of house haha. First floor is Japanese style. My grandmother used to live in the first floor.

8. If you answered yes on the previous question, did you feel like this architecture was more ‘flexible’? Like the house can more be altered to your needs?

MT: Sometimes yes, when there are small babies or sick people in the family, tatami can be really nice for them as they can lay down on futon easily or no need to worry about falling from bed etc. But tatami needs a lot of care like vacuum + wipe and it needs to be exchanged after a few years. It costs some money. But I personally like it and I think it fills my needs.

R: With respect to Japanese style, if I have to choose the one out of Western style and Japanese style, I will choose Western style since I have been used to it (2nd floor is Western style). House can be altered according to your needs but there seems to be less room to be renovated.

9. Now imagine there would be a new architecture in Tokyo which can transform, like moveable walls for instance. Imagine you living in such an apartment, where your house would transform to a small tiny apartment whenever you are absent or asleep. This would give back space to let’s say your neighbour (see the attached video if you have no idea what I’m talking about). Would you be okay with having your home temporarily shrink in size? Or do you value the borders of your private house too much? Would you like the additional space you gain whenever your neighbour is not home?

MT: Hmm I think I care too much about my privacy. I don’t know about my neighbours (it’s common in Tokyo or in a big city. Sadly we don’t even greet to each other. I greet but I don’t hear back etc.) so I don’t trust my neighbours. Back home in the countryside I know all my neighbours we greet everyone so I think I trust them enough to share

my house.

R: I may think high of my private space. So I would feel uncomfortable if my room shrinks or otherwise is extended to other spaces where my neighbour use.

H: I don’t know, I would like more space but I don’t want to share. Maybe if it is just my own room that can expand I would like it.

T: I would not mind if it was only between family members. I would not like this type of changing house if it was with neighbours. As a Japanese I really value my private space and I would rather keep it small and private than big and shareable. It means we would have to share the floors too and Japanese people spend a lot of time on the floor to eat or study or watch tv or just chill. Imagine your neighbour just sat on the floor, you move the walls and I wanna sit too, I will feel my neighbour’s warm butt ‘stamp’ on the floor for a while and that’s just a no no!

l o g b o o k

GENERAL TIMELINE

2016

start Lebbeus Woods fascination

2017

learning more about visionary architecture

2019

delving deeper into Tschumi's Event Architecture

2020

experimenting with Event Architecture + L.Woods ("architecture for its own sake") into the virtual world

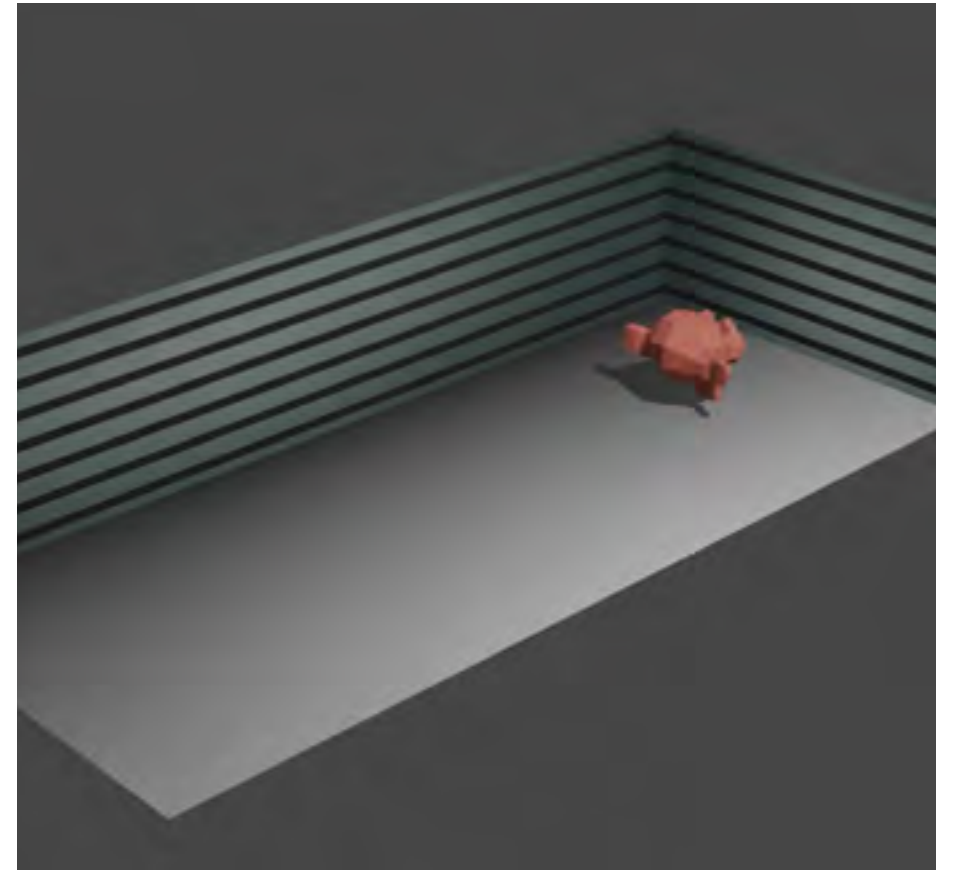
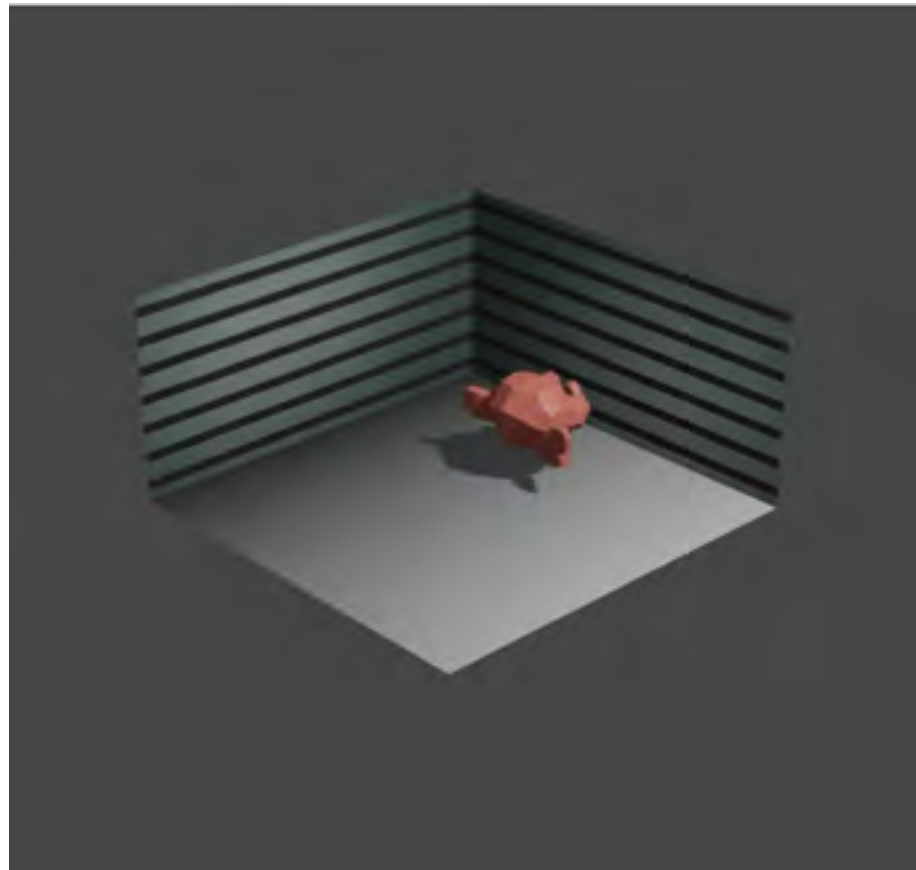
made a short game about user-defining architecture

tried to translate it to more buildable architecture in the way of 'responsive architecture'

found inspiration in another fascination: Japan

ADAPTABILITY IN THE VIRTUAL WORLD

This was one of the first experiments in responsive space in the virtual world. It shows a boundary of space (two walls and a floor) which starts expanding whenever the red object starts moving. When the red object nears a wall, the space expands so the forward movement of the red object is not interrupted.

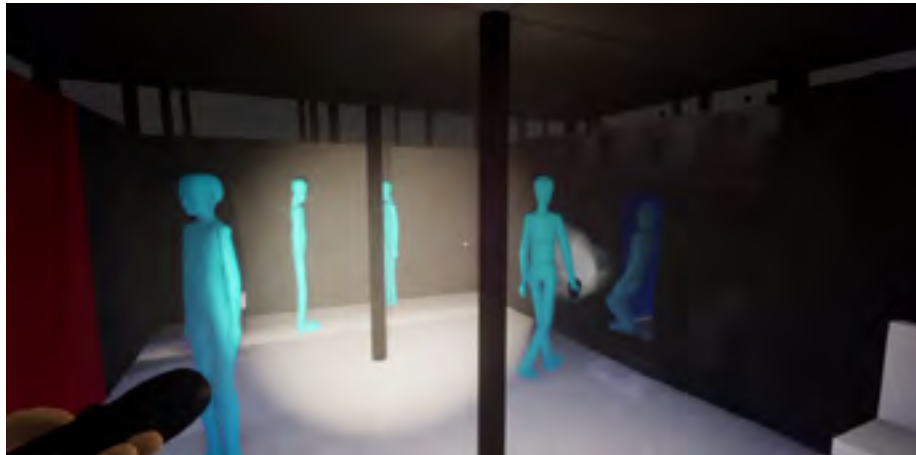
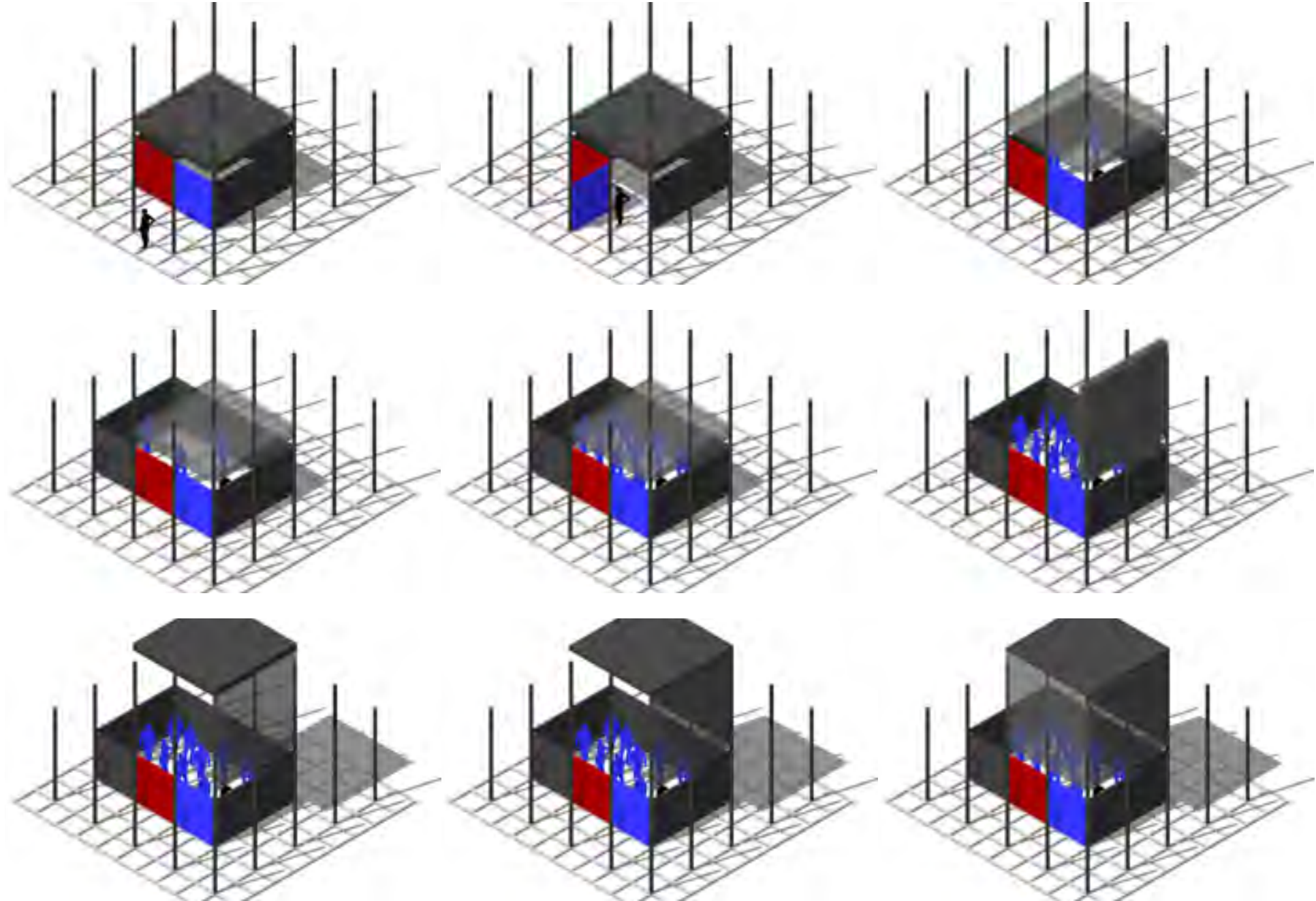


ADAPTABILITY IN THE VIRTUAL WORLD

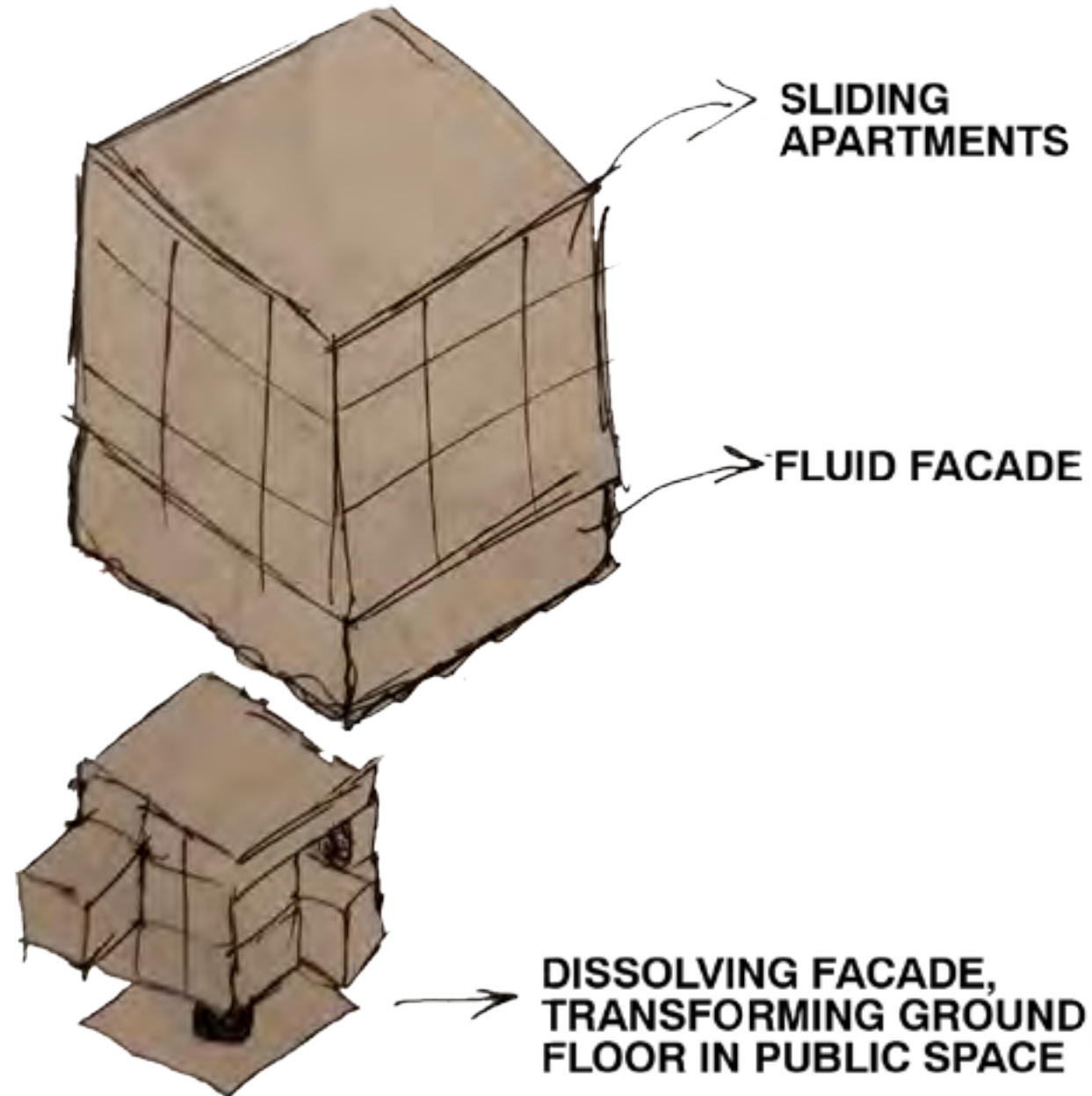
As a preparation for graduation I did a project revolving around adaptable architecture in the world of gaming. Gaming provides the best way of immersion of the virtual world, a world free of constraints like materiality or forces of nature, a world perfect for exploring responsive and adaptable architecture.

These images shown here are a grasp of a storyboard of a game I designed. Here the player enters an empty pavilion which gradually starts to get more visitors. The more people gather the bigger the space becomes as the pavilion responds to the crowd.

You can also see the full video of me playing my game by clicking on [this link](#). It also includes a new scenario, escaping the pavilion.



**INITIAL SKETCHES OF ADAPTABILITY IN
BUILDABLE ARCHITECTURE**



CONCEPTUAL DESIGN

3 alternatives

A

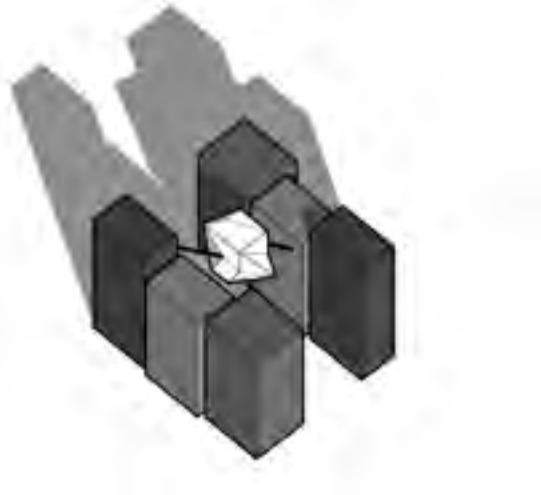
DYNAMIC LIVING



- social interaction within your own cocoon
- two dimensional transformations
- play field for in-between space

B

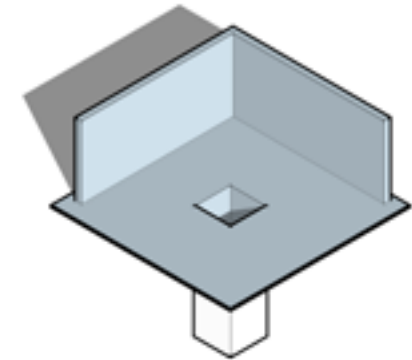
RESIST AND RE-EXIST



- Resist the hierarchy of the built environment. Equalises the imposing hierarchy of high rise buildings by creating an extra infrastructural layer.
- Control and create your own principals, like the *artist-genius*
- Escape the boundaries of the earth's surface. Freedom of shape. Freedom of location.
- Give new life to broken down houses. Recycle. Reincarnate. Re-exist.

C

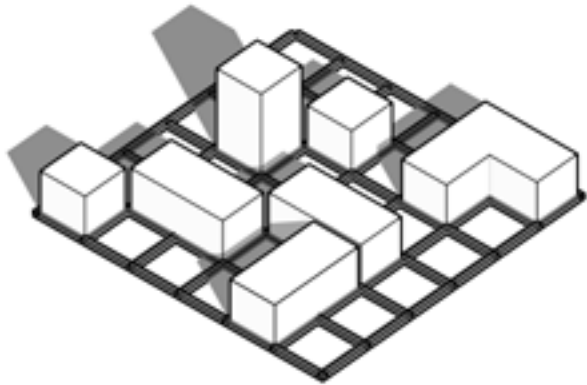
IRORI



- focussing on the core of the interior
- *irori* is the central placed hearth in traditional Japanese rooms.
- incorporating other traditional elements like open & closed by usage of moveable façades / walls
- balancing between *honne* and *tatemaie* (true inner self and public image)

A

DYNAMIC LIVING



- social interaction within your own cocoon
- two dimensional transformations
- play field for in-between space

The concept design of Dynamic Living consists of several volumes placed upon a grid. Along this grid the volumes can move and transform in a two dimensional way.

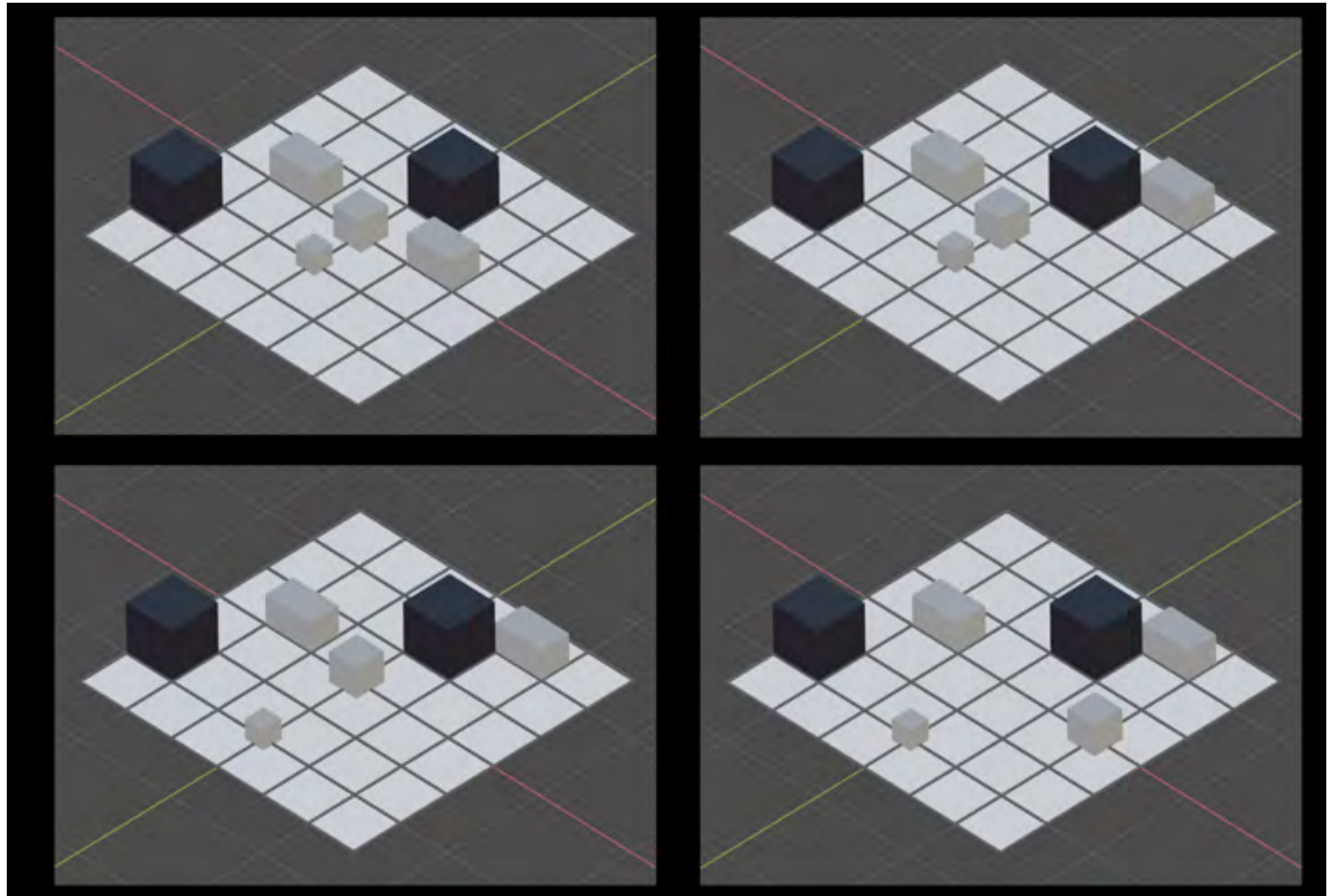
Volumes can consist of certain functions. Meaning that one block may represent a kitchen and another one a bathroom for example. So one household consists of multiple volumes, all which are placed on the grid along with other households with other volumes.

The result is a game of Tetris with social elements, where you have to take into account the presence of your neighbours.

This stimulates the inhabitants to become more socially aware of each others. In the Japanese society there is a lot of isolationism and people tend to value their privacy extremely high. With Dynamic Living there is an opportunity to be socially active while also having these cocoons / volumes for yourself.

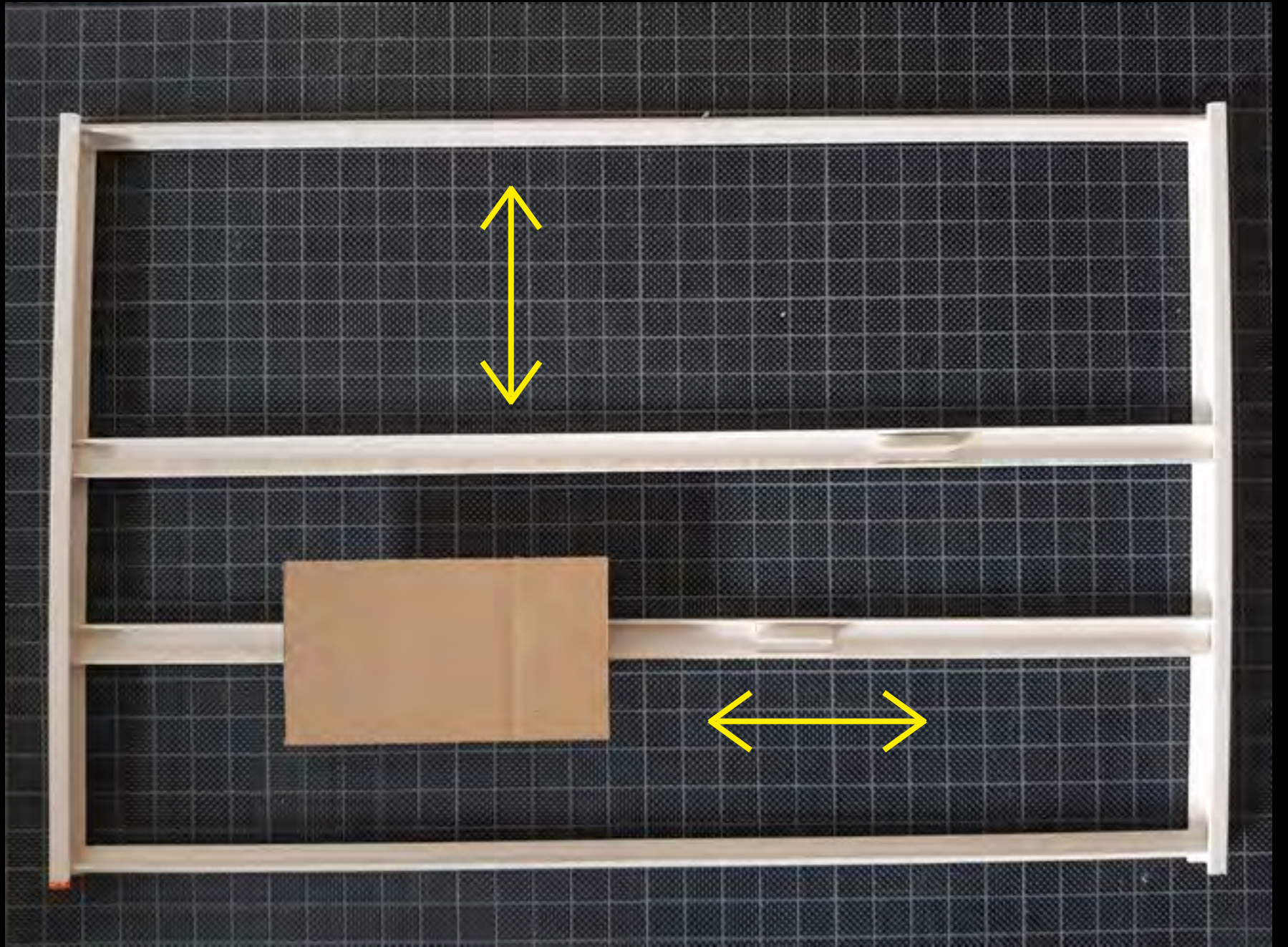
Fixed elements can be introduced in the grid (represented as black boxes on the next page). These obstructions are the architect's tools for 'forcing' some of the movements. For example it could prevent a household from bundling all of its volumes together, so it would not have to take part in the social game.

In order to move volumes around there is need of empty space. These voids or in-between spaces are without predetermination of function or program. It is as written in my earlier research, these spaces stimulate appearances of happenings and chance events. I tend to create progression here in the broadest way possible (progression in architecture, in Japanese society and originality).



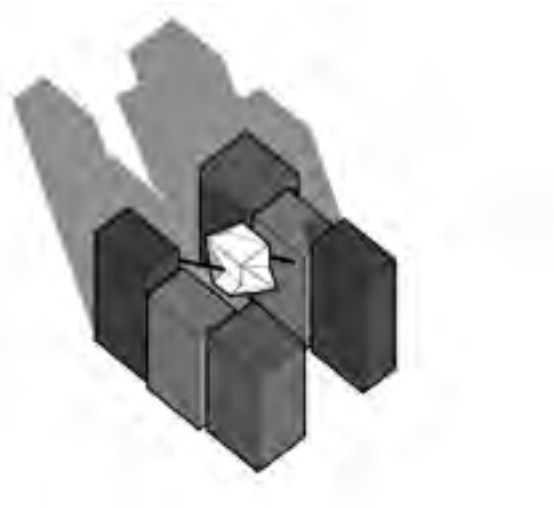
Volumes shifting sideways along the rectangular grid

shifting along a X and Y axis

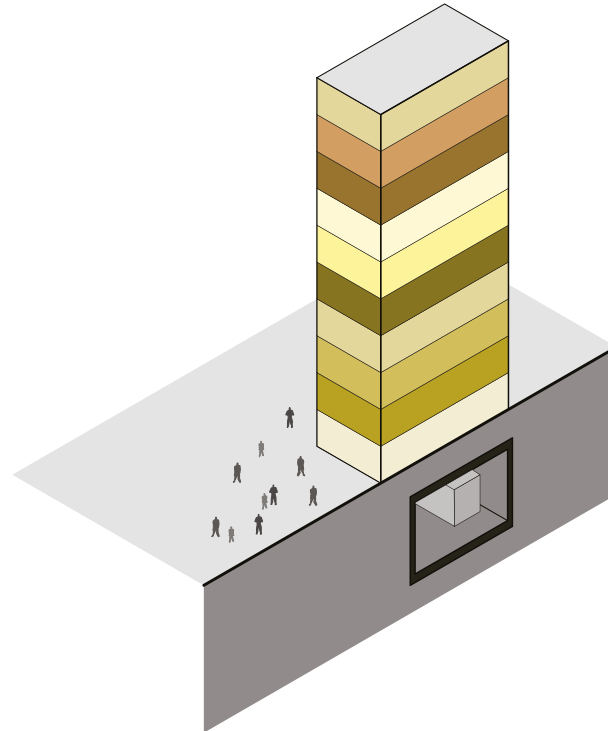


B

RESIST AND RE-EXIST



- Resist the hierarchy of the built environment. Equalises the imposing hierarchy of high rise buildings by creating an extra infrastructural layer.
- Control and create your own principals, like the *artist-genius*
- Escape the boundaries of the earth's surface. Freedom of shape. Freedom of location.
- Give new life to broken down houses. Recycle. Reincarnate. Re-exist.



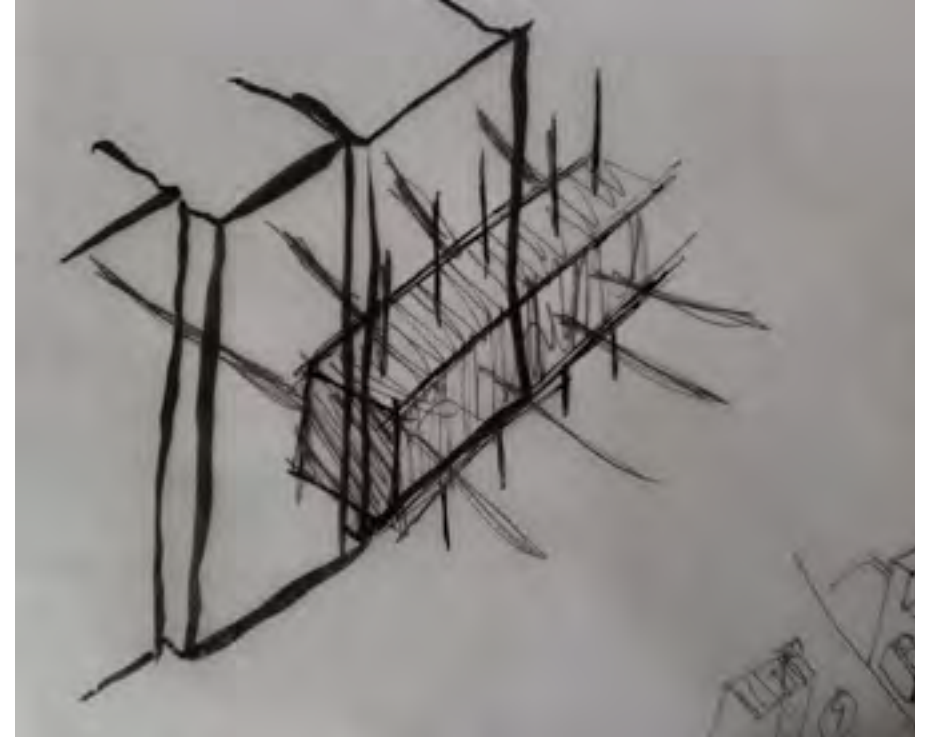
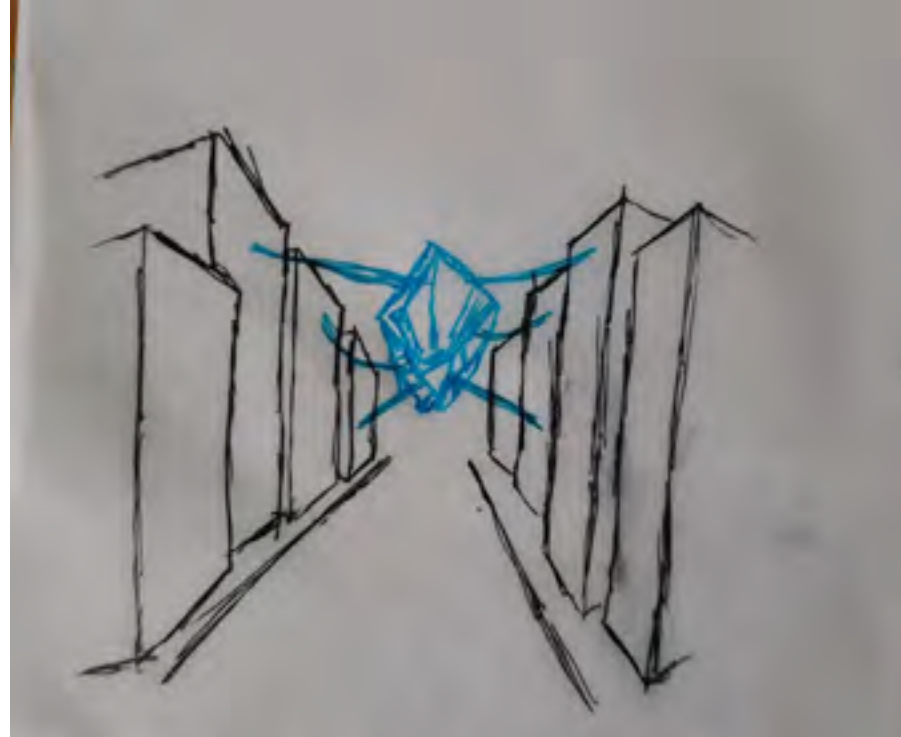
representation of verticality in Tokyo
Each building level has its own programming (for example a clothing store on the ground level, a Starbucks on the second level, a barber on the third level, etc.)

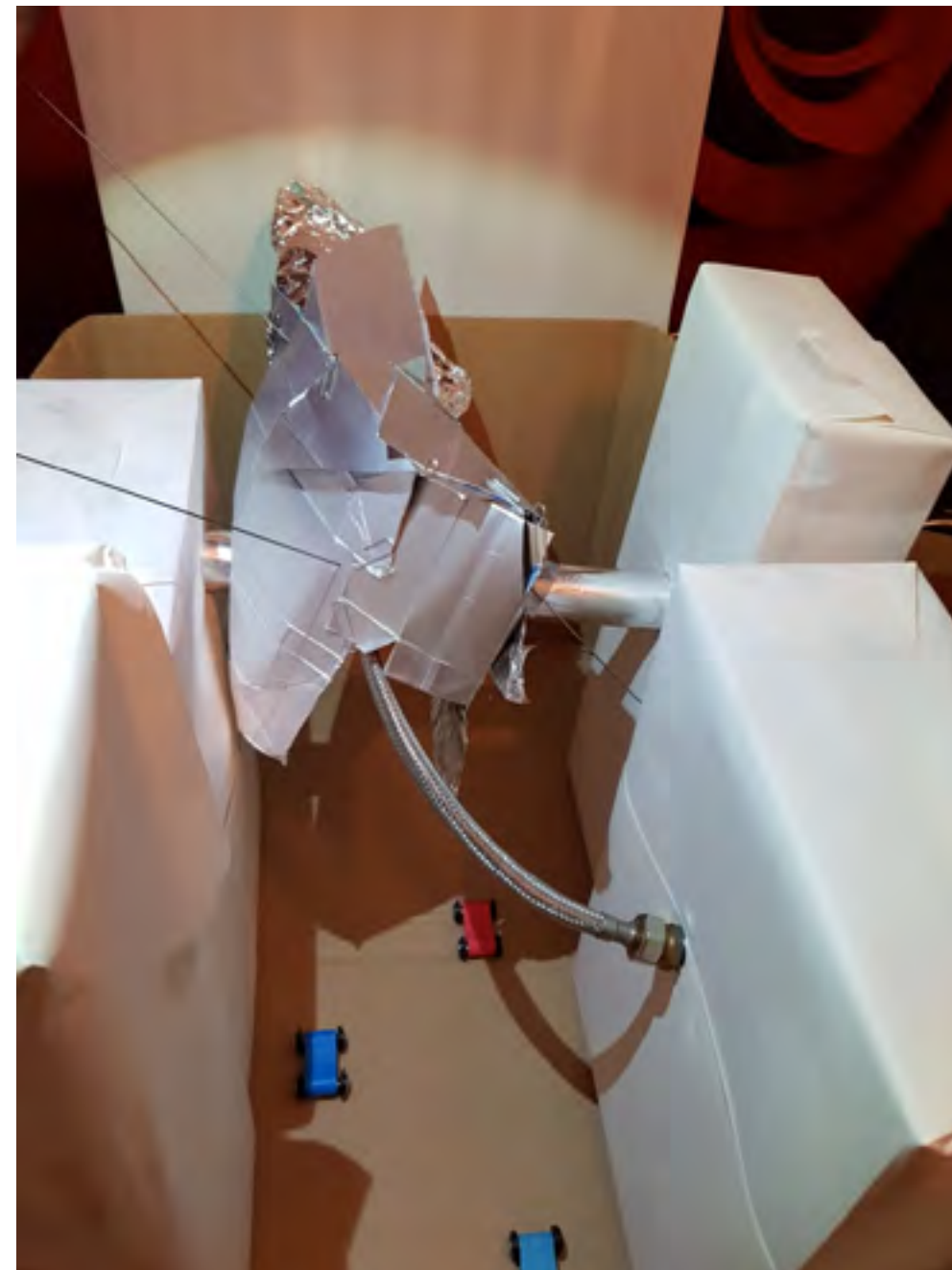
As the title suggests, Resist and Re-exist has two main themes linking with my research: hierarchy and transience.

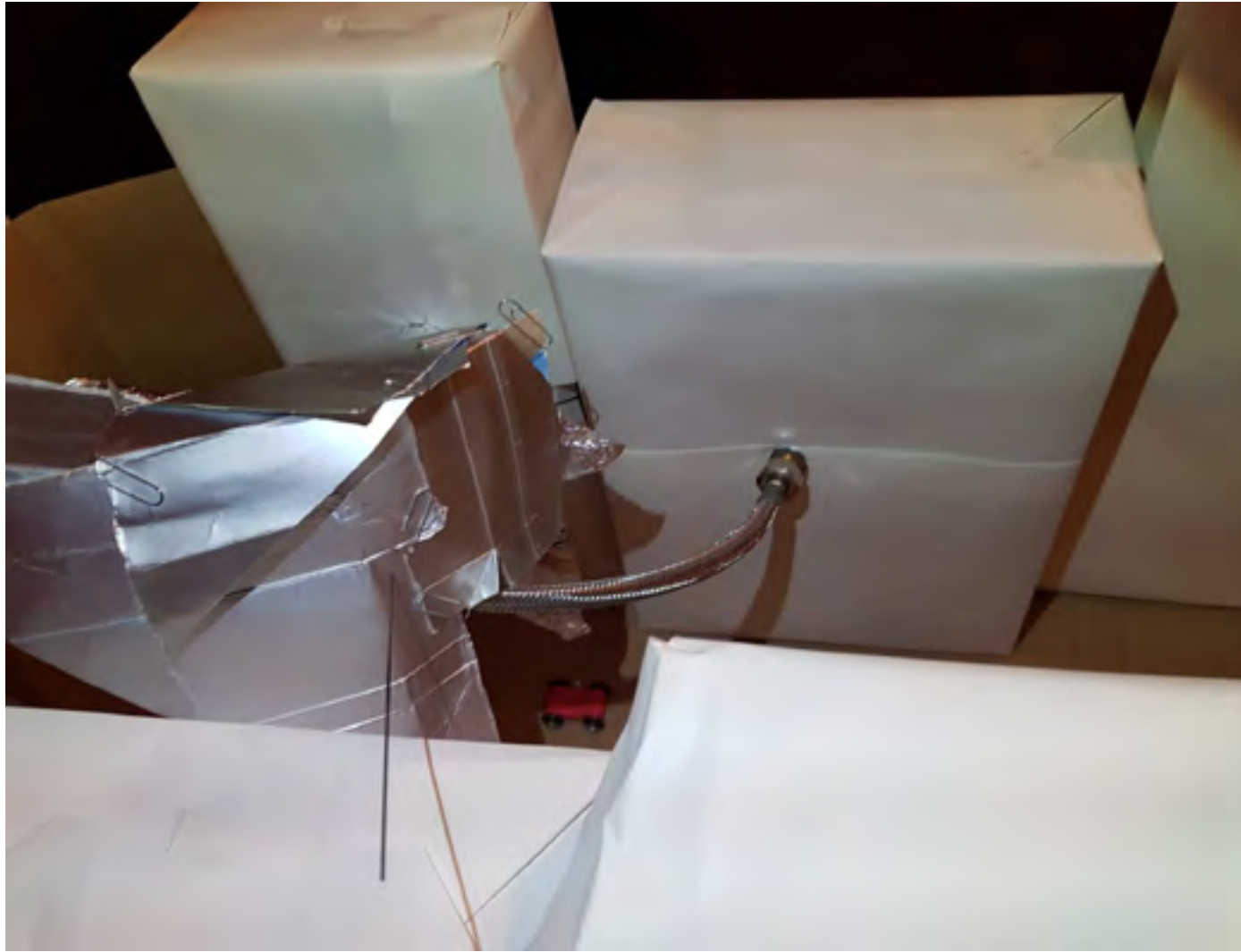
For one this approach is about claiming your own space. The newly build volume floats above the streets of Tokyo, in-between the high-rise buildings. This is unused and unclaimed airspace that will now be used to create a free-shaped residential construction.

Not being bound to the ground has some advantages. First of all Tokyo is a very densely built city where the ground surface is scarce and valuable. That is why the city is so vertically orientated. This also means that the location can be anywhere between two buildings. Another advantage is the freedom of shape. The whole construct is surrounded by air, there is no squeezing between your neighbours or landing on the ground surface. A whole new set of rules can be applied in this airborne structure (or perhaps the absence of rules can be applied).

Furthermore there is the theme of transience and impermanence. As stated in my research the average Japanese home only lasts for about 30 years. In most cases this means that the building will be completely demolished after its lifespan has ended. Instead of changing this phenomenon (since I believe it is part of the Japanese culture) I intend to continue with it. The idea here is to use fragments and material from these broken down buildings to create the new floating volume. The free shape of this building will be conceived randomly, based on whatever fragments and materials made available by demolition.

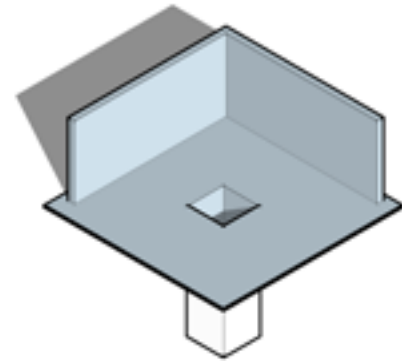






C

IRORI



- focussing on the core of the interior
- *irori* is the central placed hearth in traditional Japanese rooms.
- incorporating other traditional elements like open & closed by usage of moveable façades / walls
- balancing between *honne* and *tatemae* (true inner self and public image)



an example of a traditional irori

囲炉裏 (*Irori*) is a word without exact translation. The three characters individually mean surround, hearth and amidst. So roughly translated *irori* is a fireplace at the centre of a room where you can sit around it. It is another element of traditional Japanese architecture. One which is similar to the programming of such traditional rooms. As can be seen on the next page, in the West we most often see furniture pushed to the side of the walls while the Japanese homes have a focus on the centre of the room.

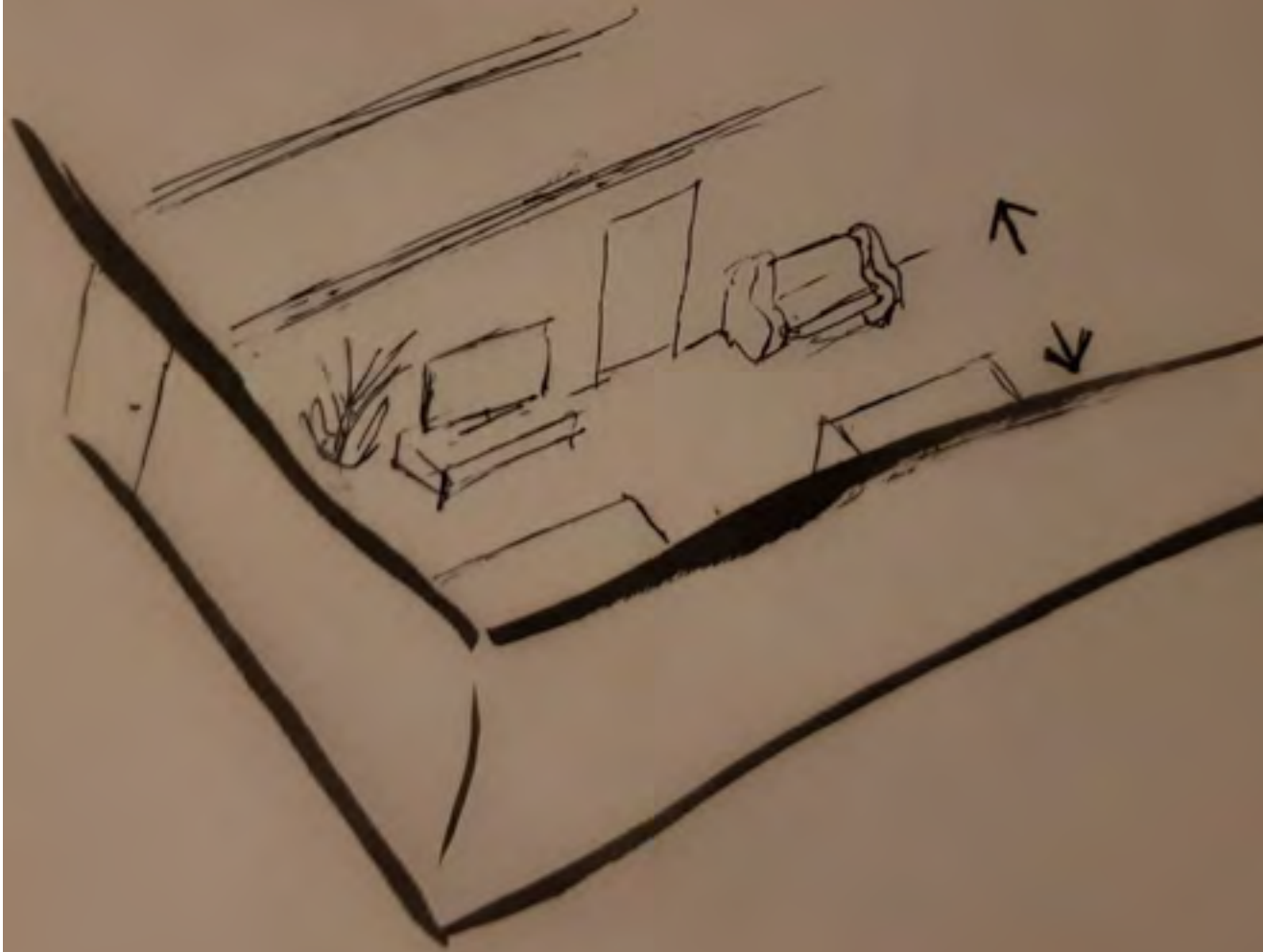
This principal formed the basis for this approach. It incorporates other traditional principles as well, such as open floor plans and moveable façades and / or partitions.

The idea is that one household consists of one core element, a space around this element and façades to bound the space. The core element is shaped like a tube in which all kinds of functions and programming can be found. Think of a bed or kitchen sink that is located in the tube, and can be slid out of the tube into the open space.

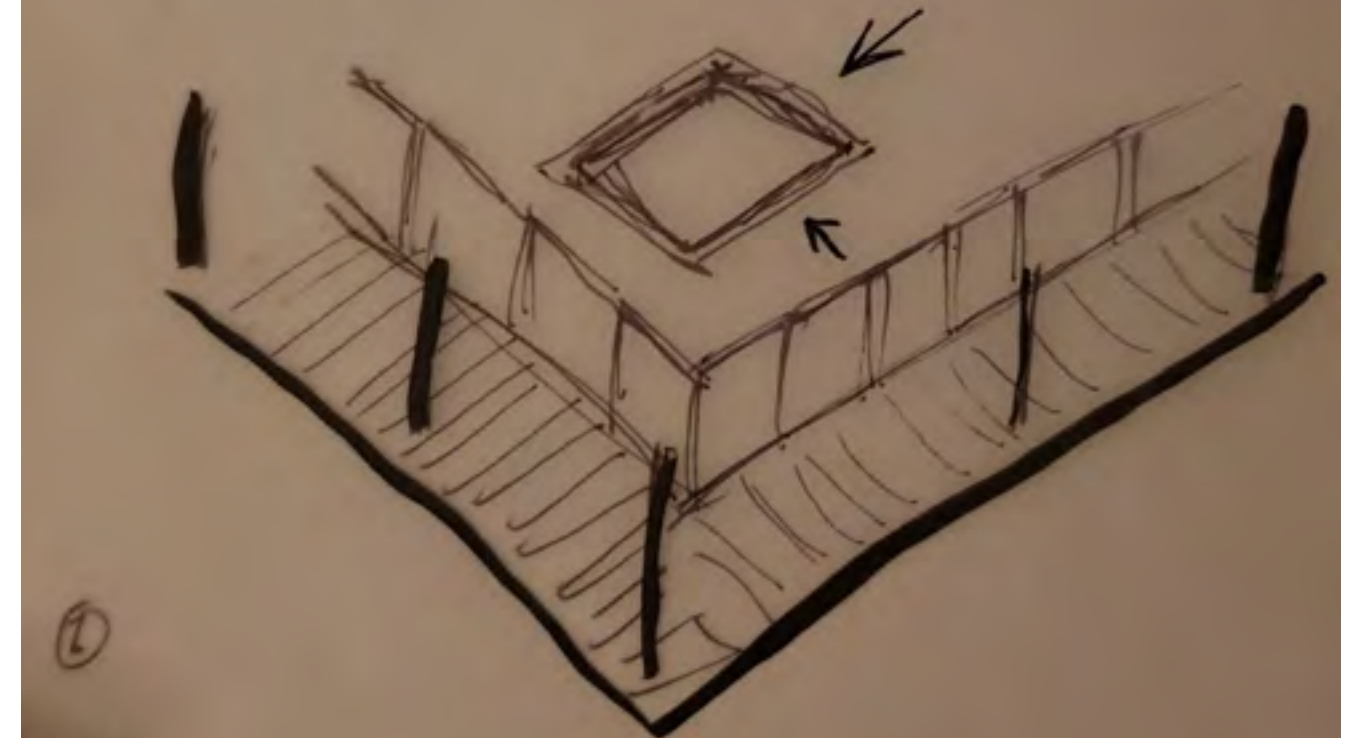
Both the core element and the façades are moveable along the Z-axis, meaning that they can go up and down. Even to the extend of going completely underground, leaving nothing but a flat surface.

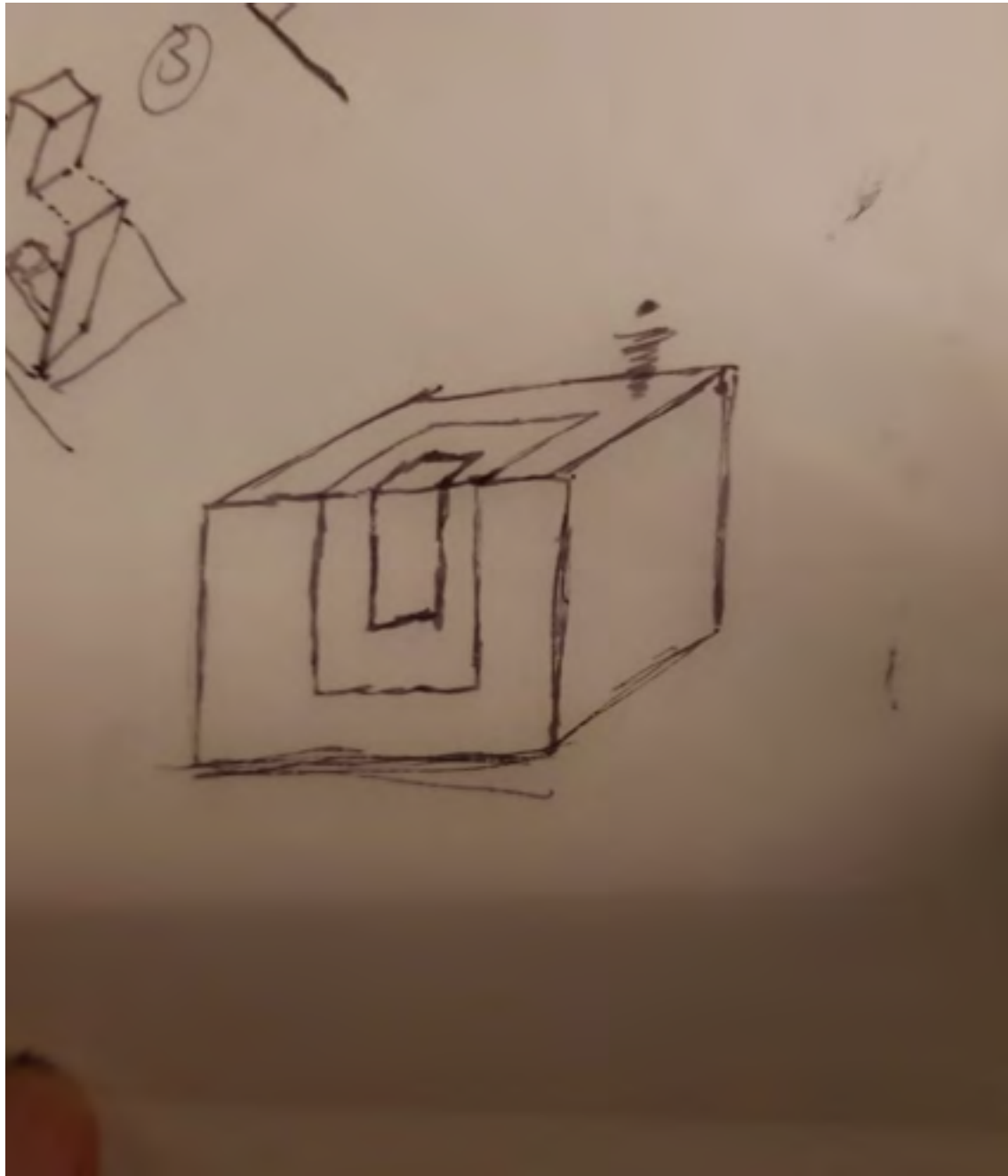
This ability is interesting especially in the context of Nan'O Park. If these units were to be placed inside the park, there would be a truly interesting tension between public / private and *honne* / *tatemae*.

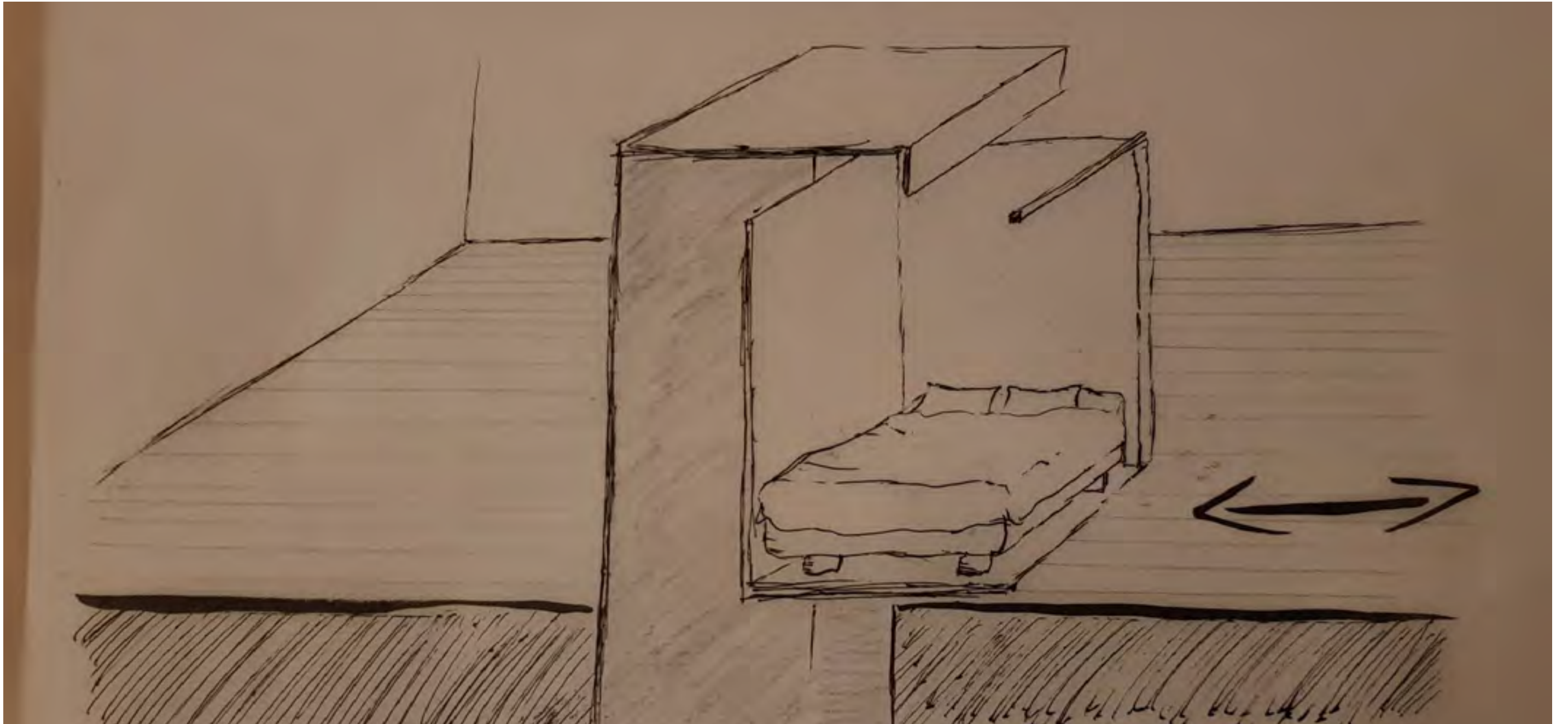
Western style



Japanese style

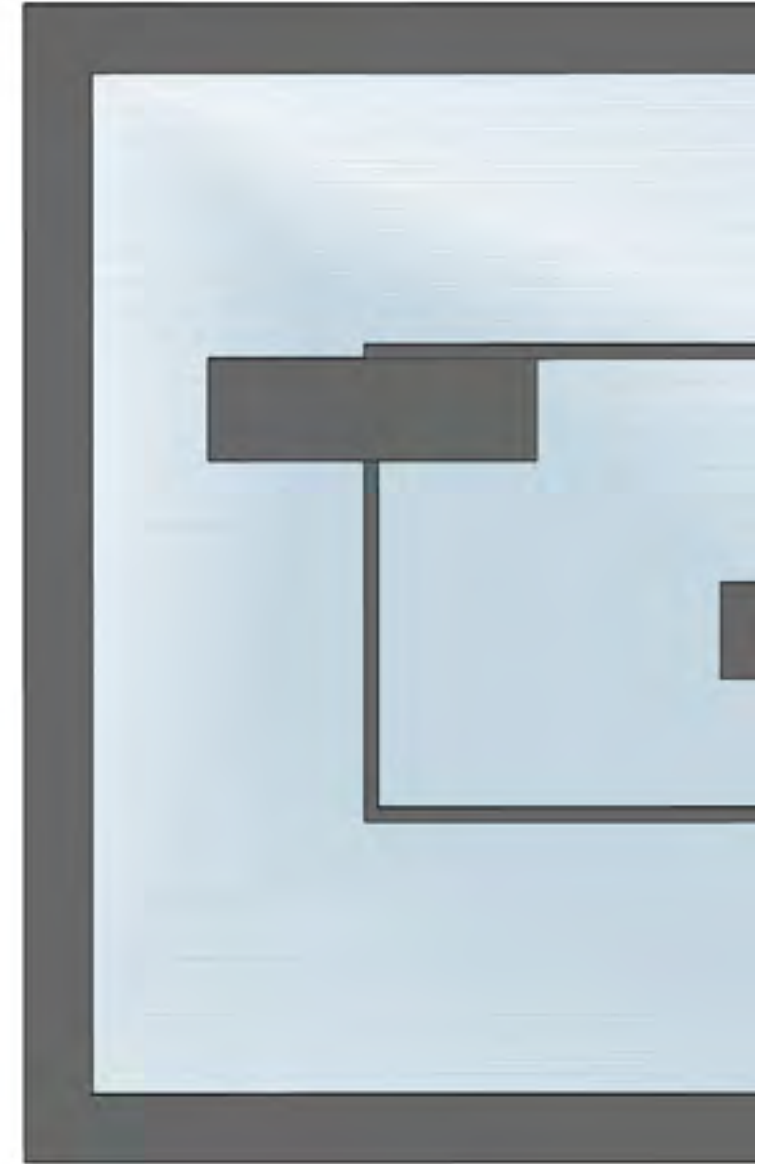
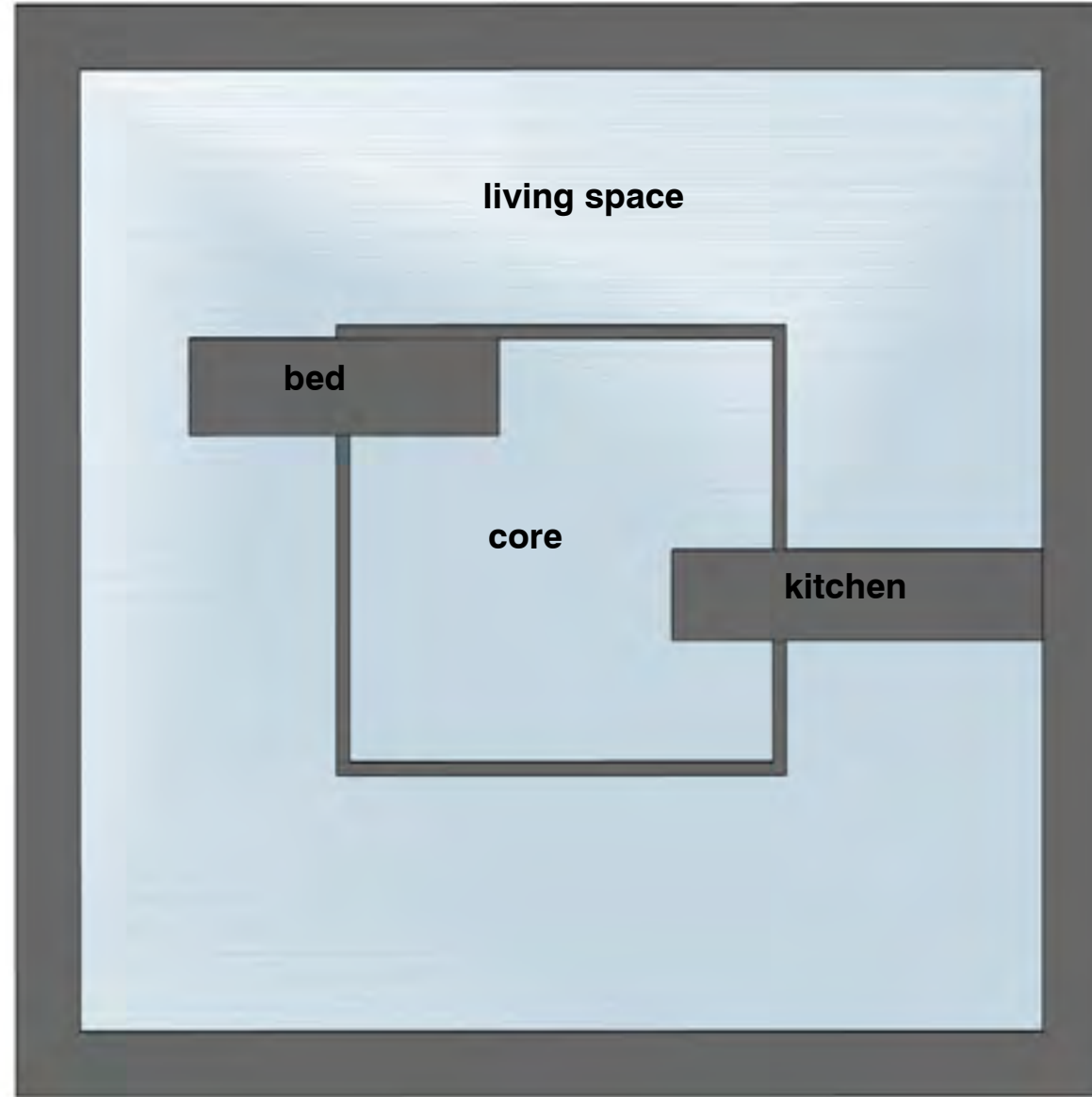




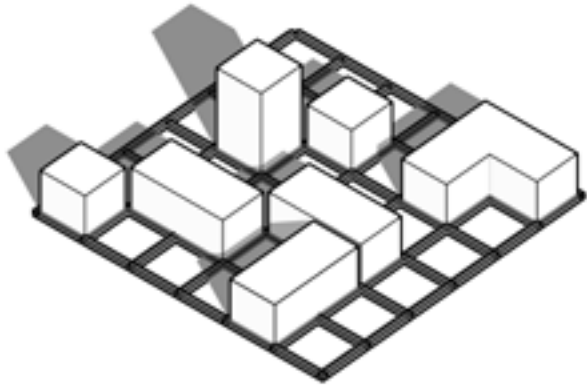


[Video](#) of the concept Irori





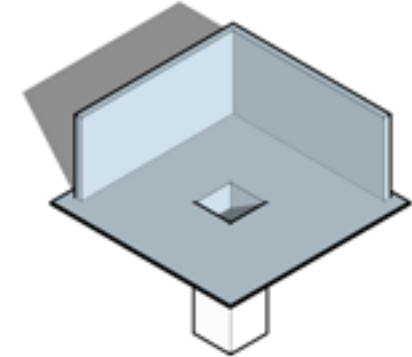
REFLECTION



Approach A shows promise in becoming Architecture on Demand. The adaptability towards the wishes of the users is there, it allows a creation of a less hierarchical space (there is still a grid pattern with boundaries and rules) and the social aspect could perhaps lead to an extension of people's *honne* (their sense of true self). The in-between space has potential to resemble to the works of B. Tschumi, who I also addressed in my research.



Approach B is probably the most radical and extreme of the three approaches. In that sense I like how it opposes building conventions in its search for freedom and non-hierarchy. The level of 'user defined' here tends more towards the reference of Kowloon City. The inclusion of the concept transience is present, which is good since it was one of my findings during the research. However it can be developed further than recycling. In addition, the 'how' of all things will require some serious attention in order to get a more clear view of this approach. How does this structure work? How do you live in it?



As for approach C, I see value in the translation of traditional principles. Moreover the concept of *tatema* is perhaps best represented here. However it shows difficulty in providing a quantity of units, since stacking them requires more attention design-wise. It would require a fixed frame of sorts, making one bigger structure of the separate residential units. If the units will be placed around a courtyard, a potential new player is introduced in the game public vs. private.

CONCLUSION OF CONCEPTUAL DESIGN

Ideally I would include all themes from my research into one design. Approach A shows the most potential of implementing these themes. However B shows the most potential towards the theme of (non-)hierarchy and C relates the most to the traditional values.

The question I have to ask myself is what is of most importance? Is it the completeness of including hierarchy, user defined architecture, adaptability, Metabolism, transience, traditional Japanese architecture and Japanese society? Or focus on designing strong representations of a selection of these themes?

In any case the next step will not be contemplating on such questions for too long. As I have seen during this period of Conceptual Design it often helps to just do and start whenever I am stuck.

WINTERSCHOOL DAY 1

This floor plan is a collaboration of the Winterschool team. The floor plan is an attempt to show how my conceptual design can be further developed into something less abstract. We have looked at how we can create a flexible residential program based on a railing system. Households have been divided into several units, each of these units contain one or two programs (like a bedroom for example). The units are scattered across the grid, with the idea that they are not fixed but moveable and stretchable. Thus the floor plan can have different arrangements. The idea is that this will activate the users towards a more dynamic and social life style.

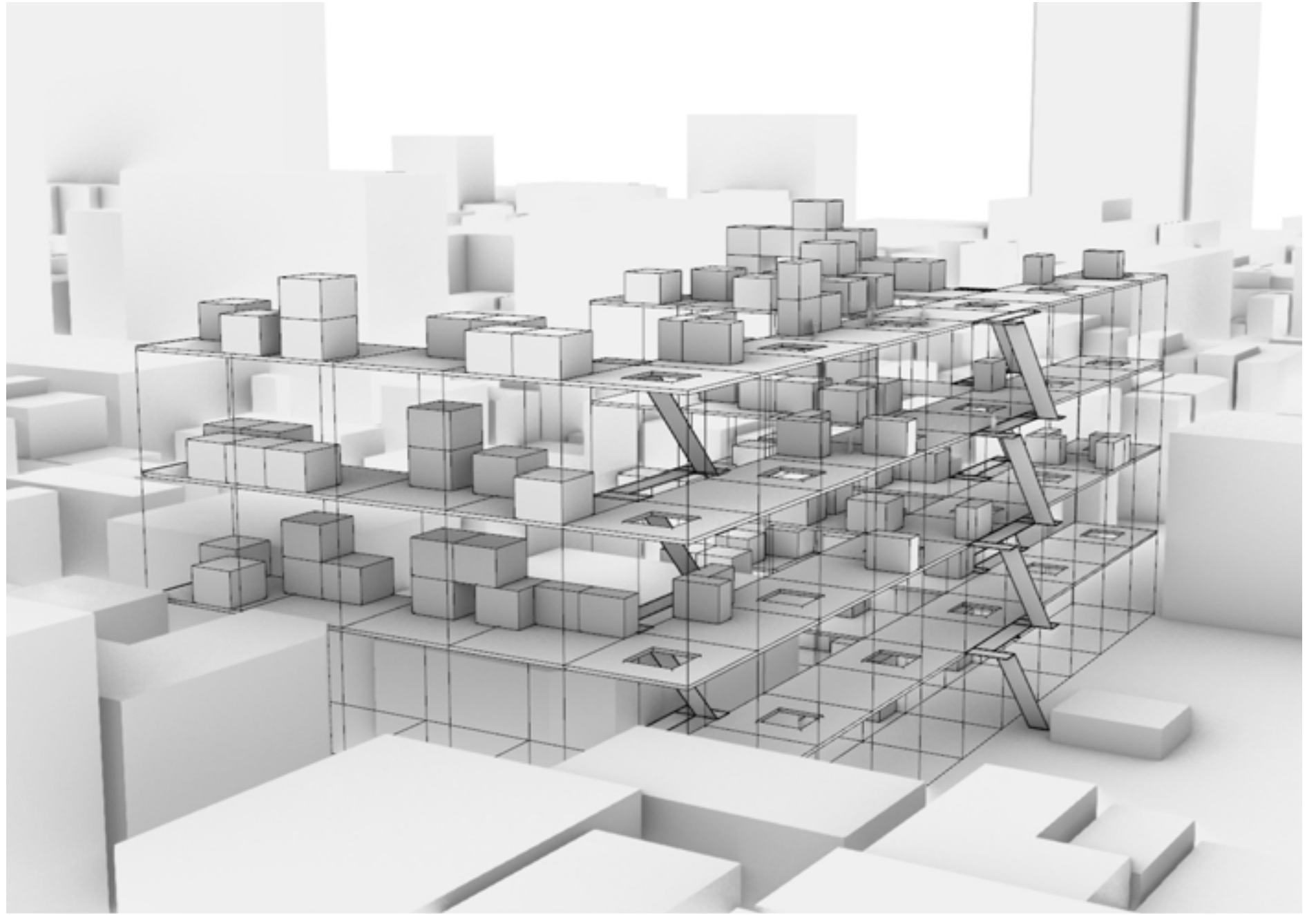
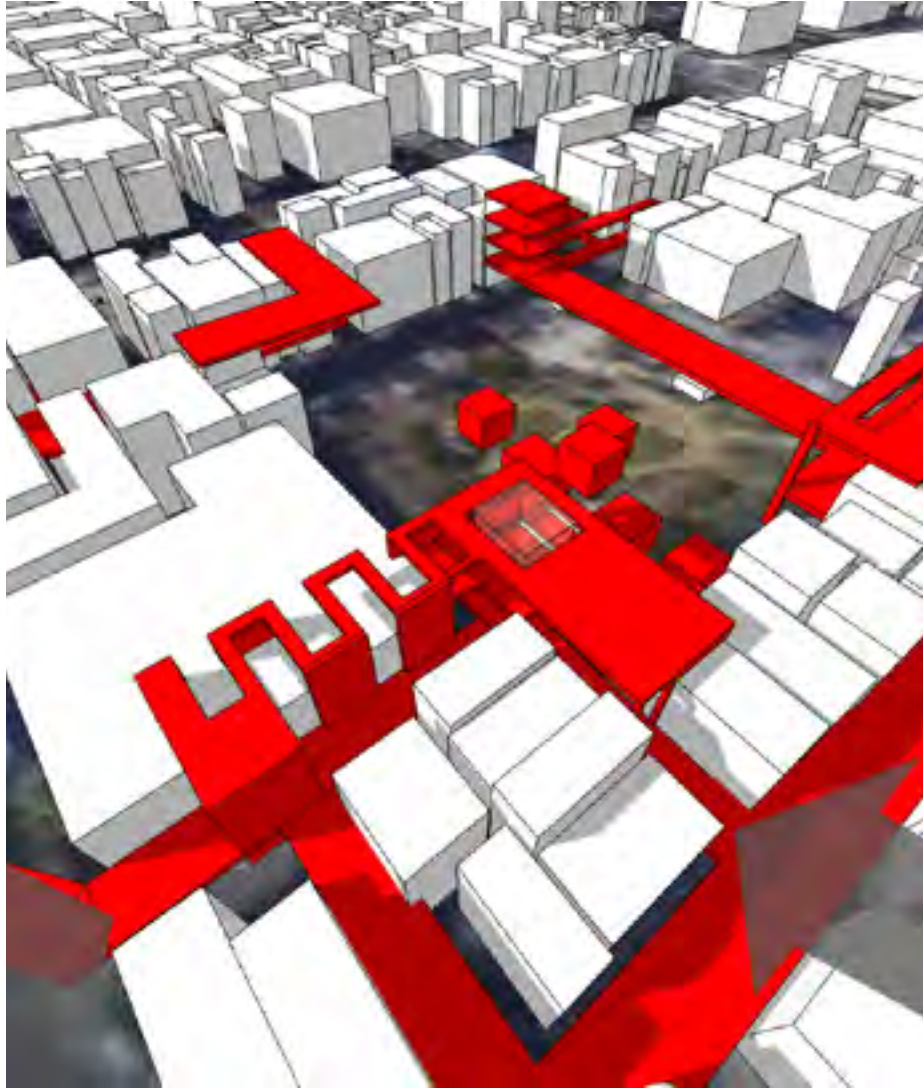


WINTERSCHOOL DAY 2

Another assignment we had during this Winterschool was to take a look at the context of the project. My initial idea was to build in this public park. But instead of the park we went looking for opportunities to create a new space. To do that we will claim unused space or unclaimed space surrounding the park. The idea is to fill in the gaps, to use the in-between spaces in the built environment. Above street-level is a lot of unused space we could fill with platforms or decks, or perhaps even on rooftops. The idea is to still have a connection to the public space of the park, so that there could still be some kind of play between their private homes and the public park. That's why I would like it if this structure still has one foot on the ground. This could be a sort of main structure and entry point. The centre of the park remains empty and public space.

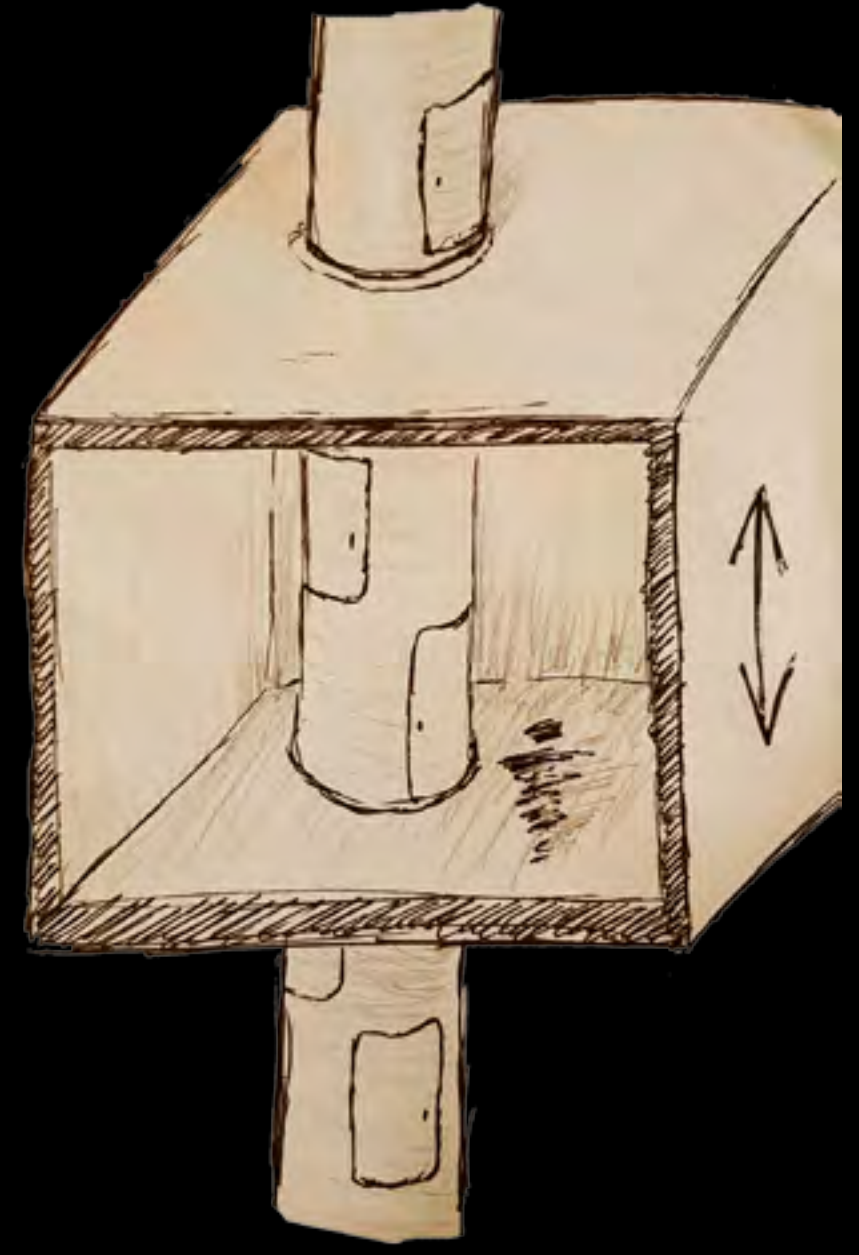
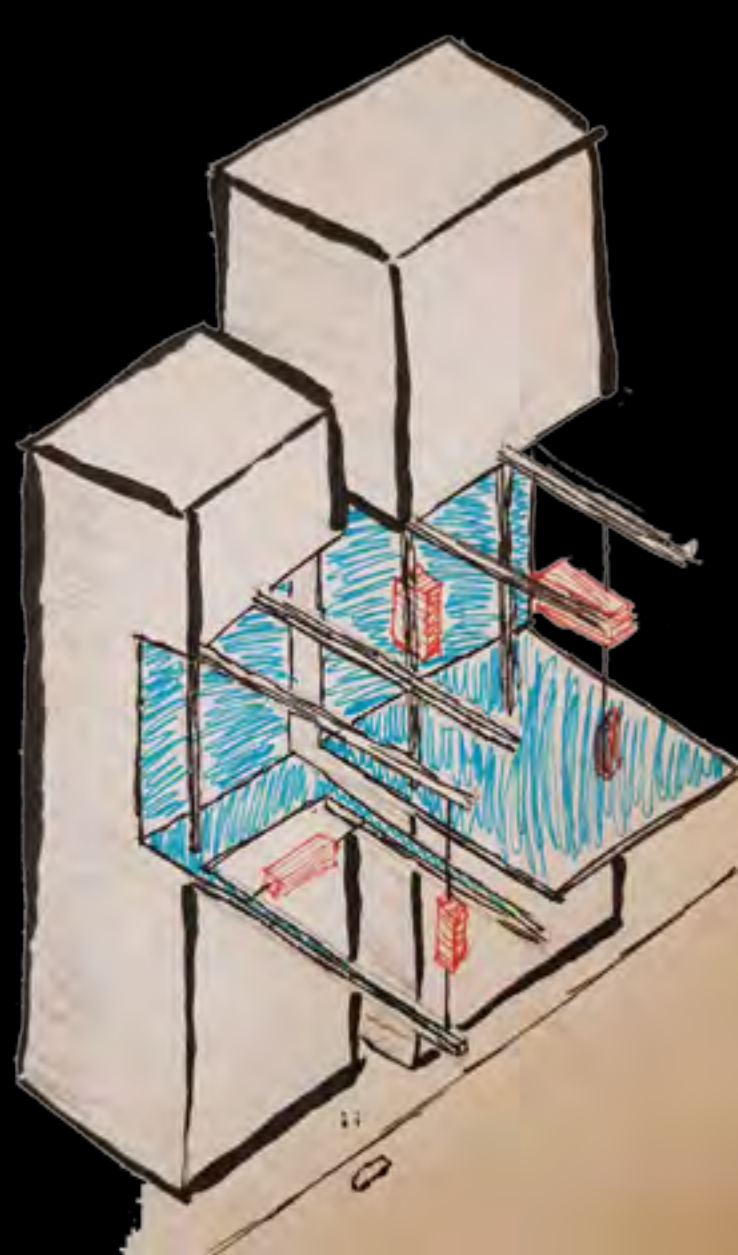


DECKS

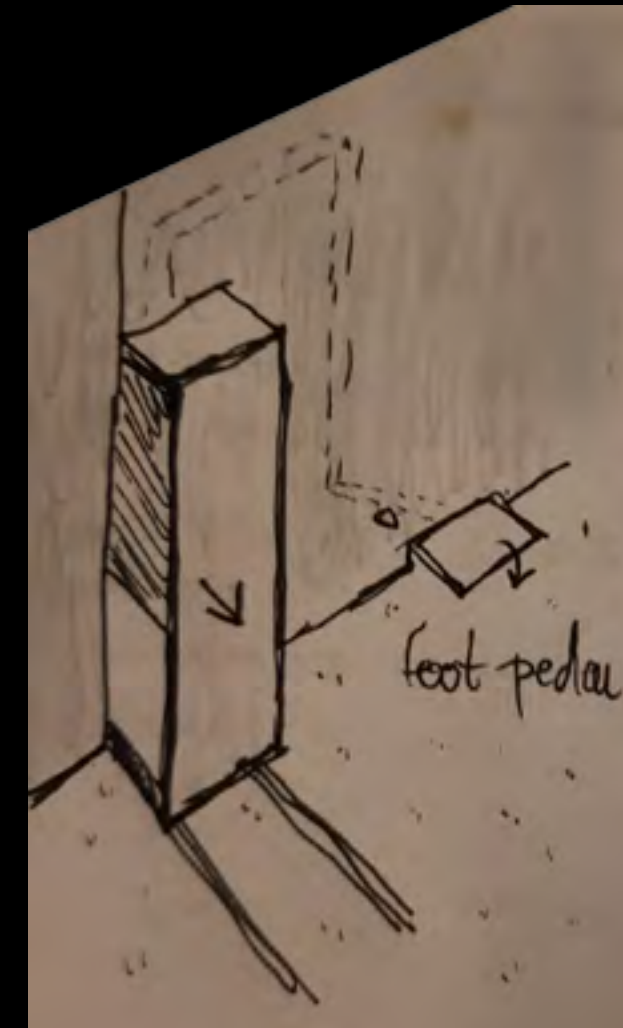
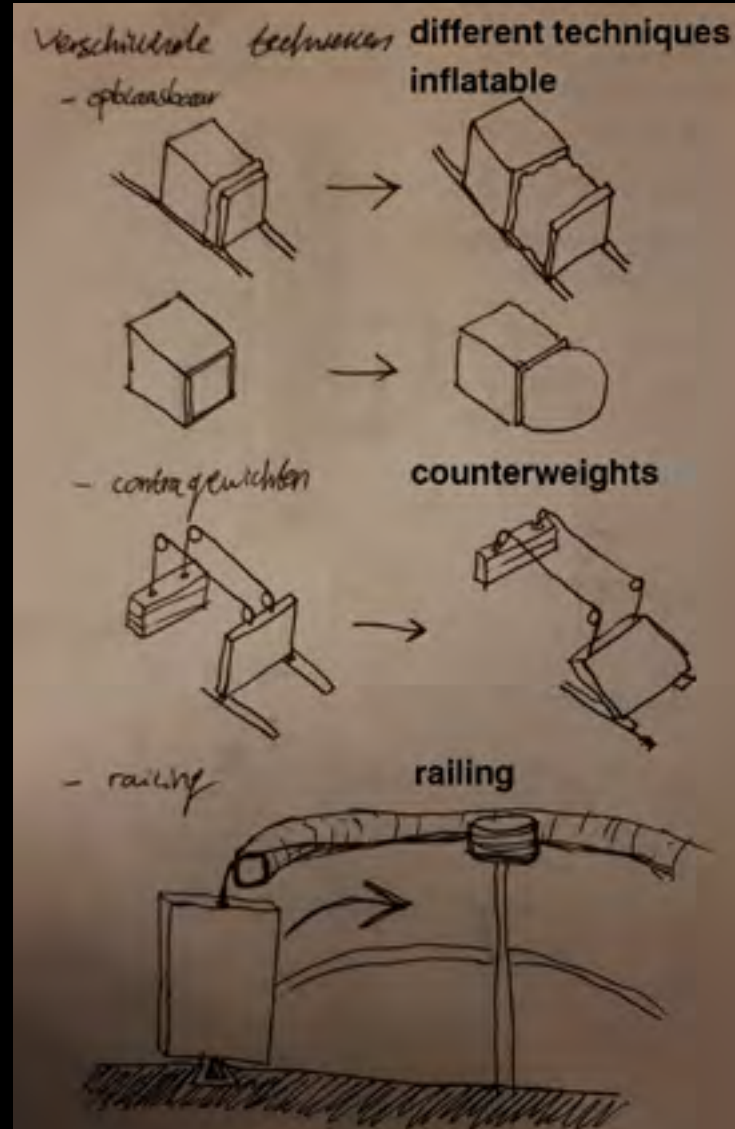


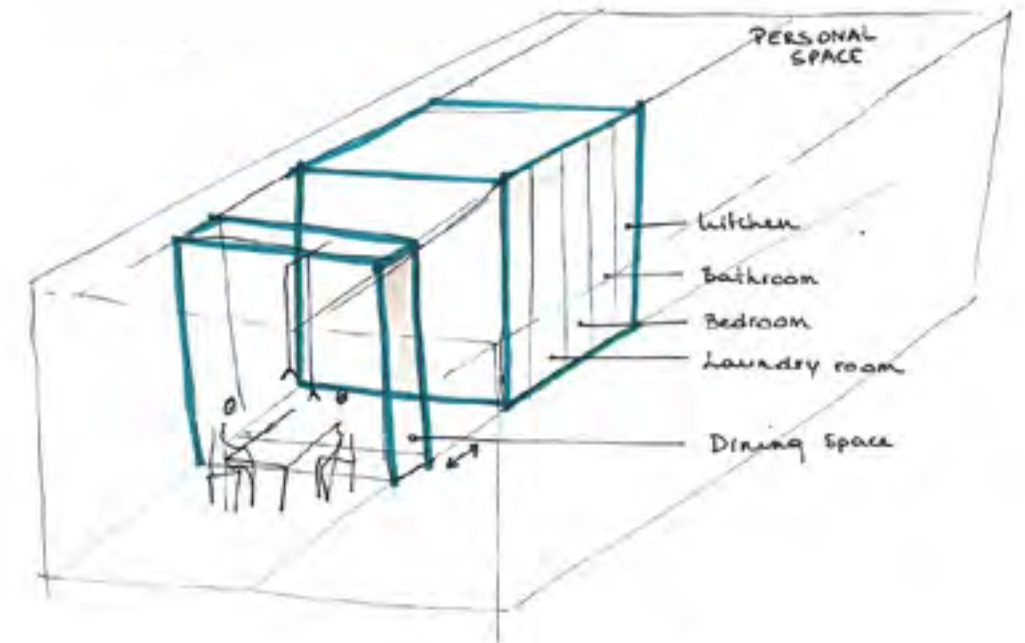
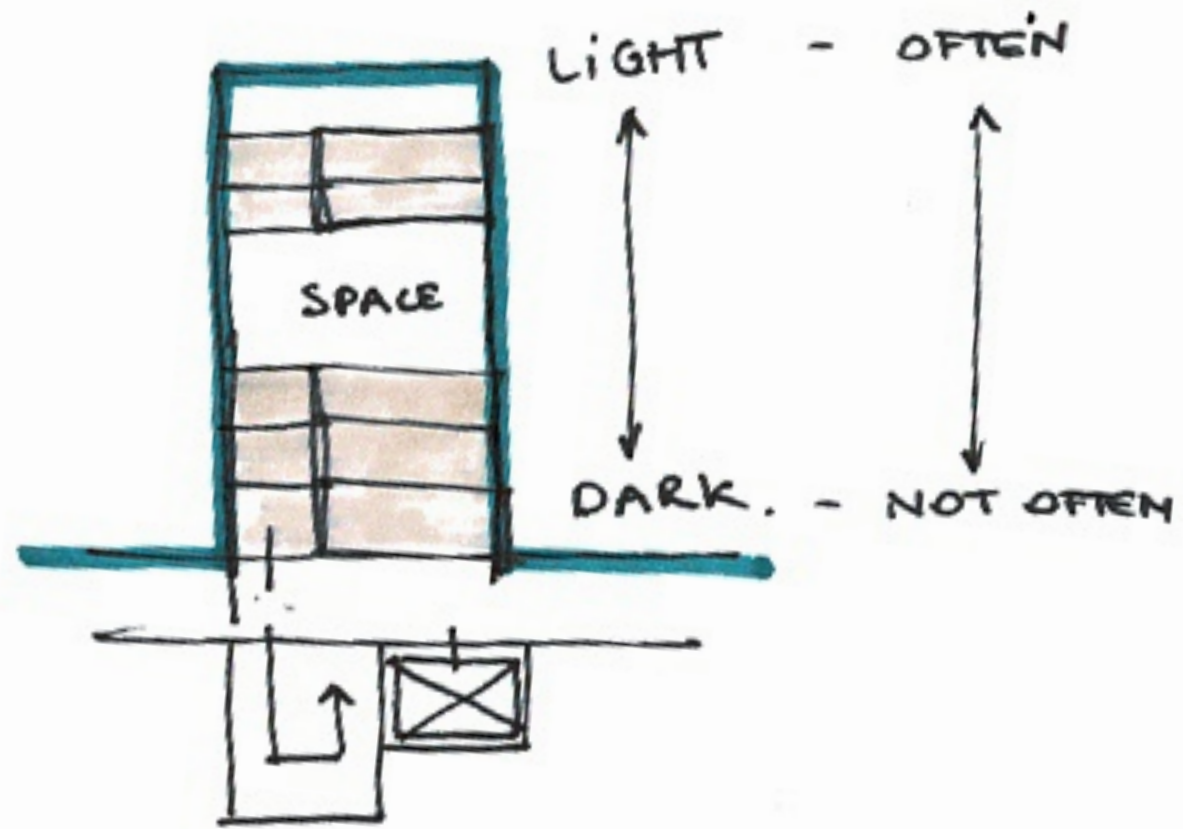
TUBE-LIVING

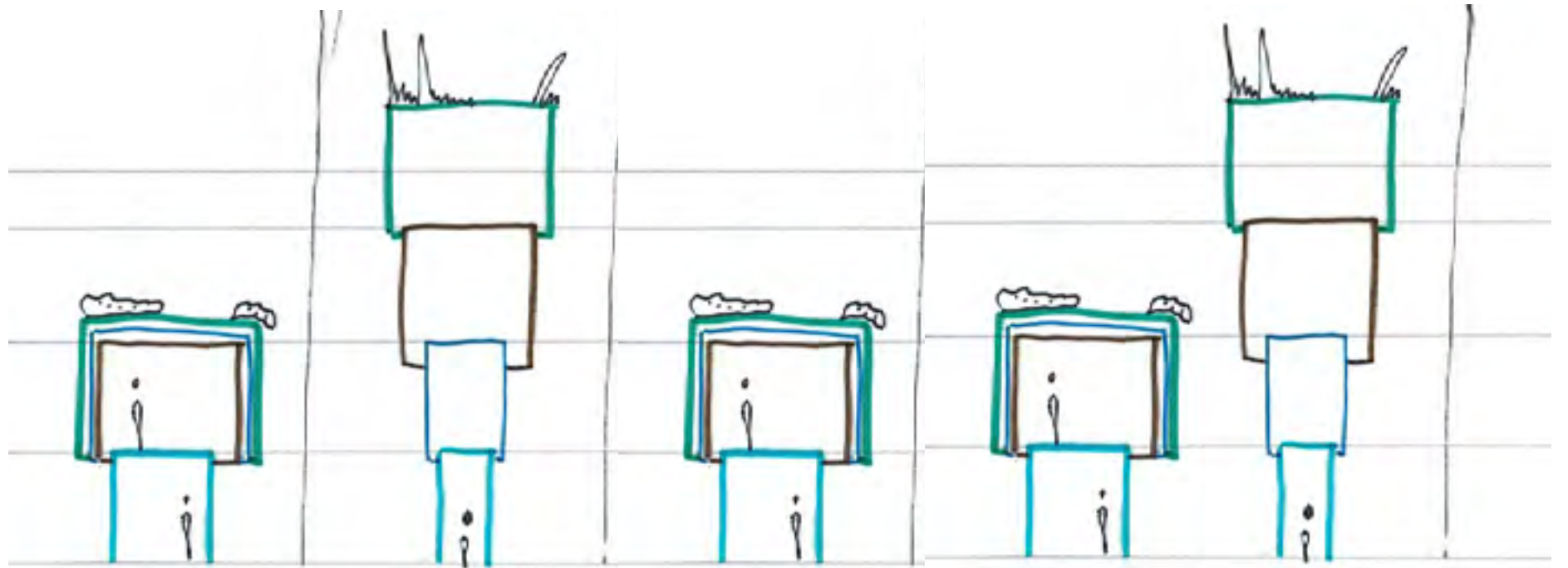
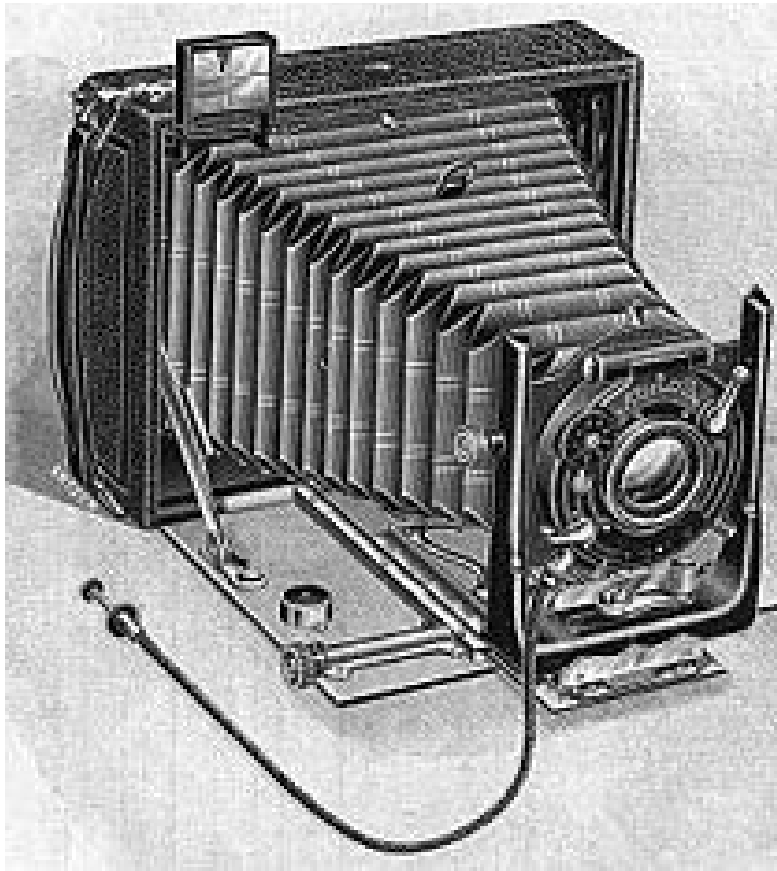
This variant explores the idea of structural planes and lines extending from existing buildings. The planes create new ground surface while the lines are used as tubes filled with residential functionalities. Residents can move their living space along these tubes, gaining access to the multiple functionalities the tubes have to offer.



TRANSFORMATION CONCEPTS





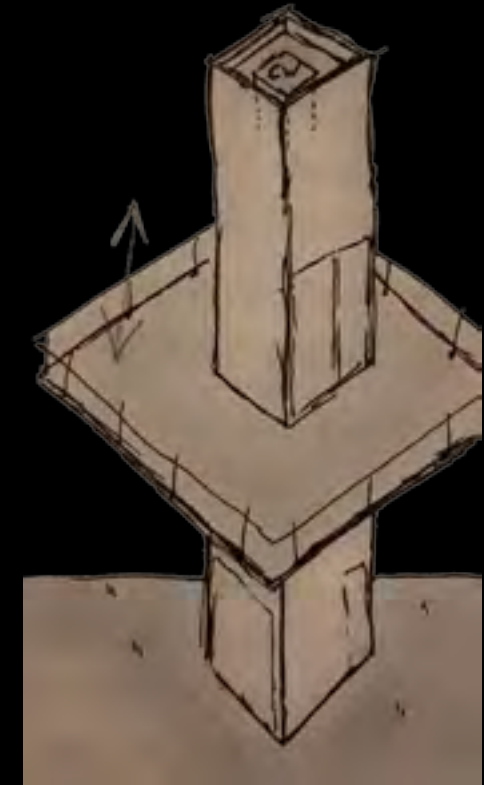
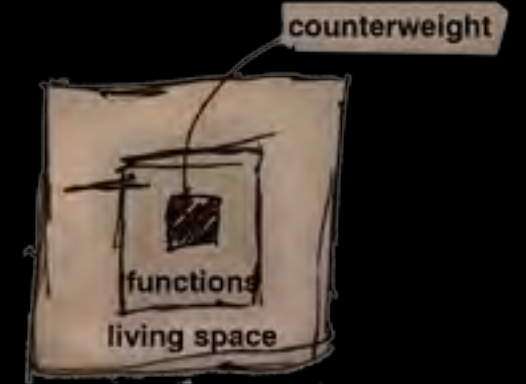




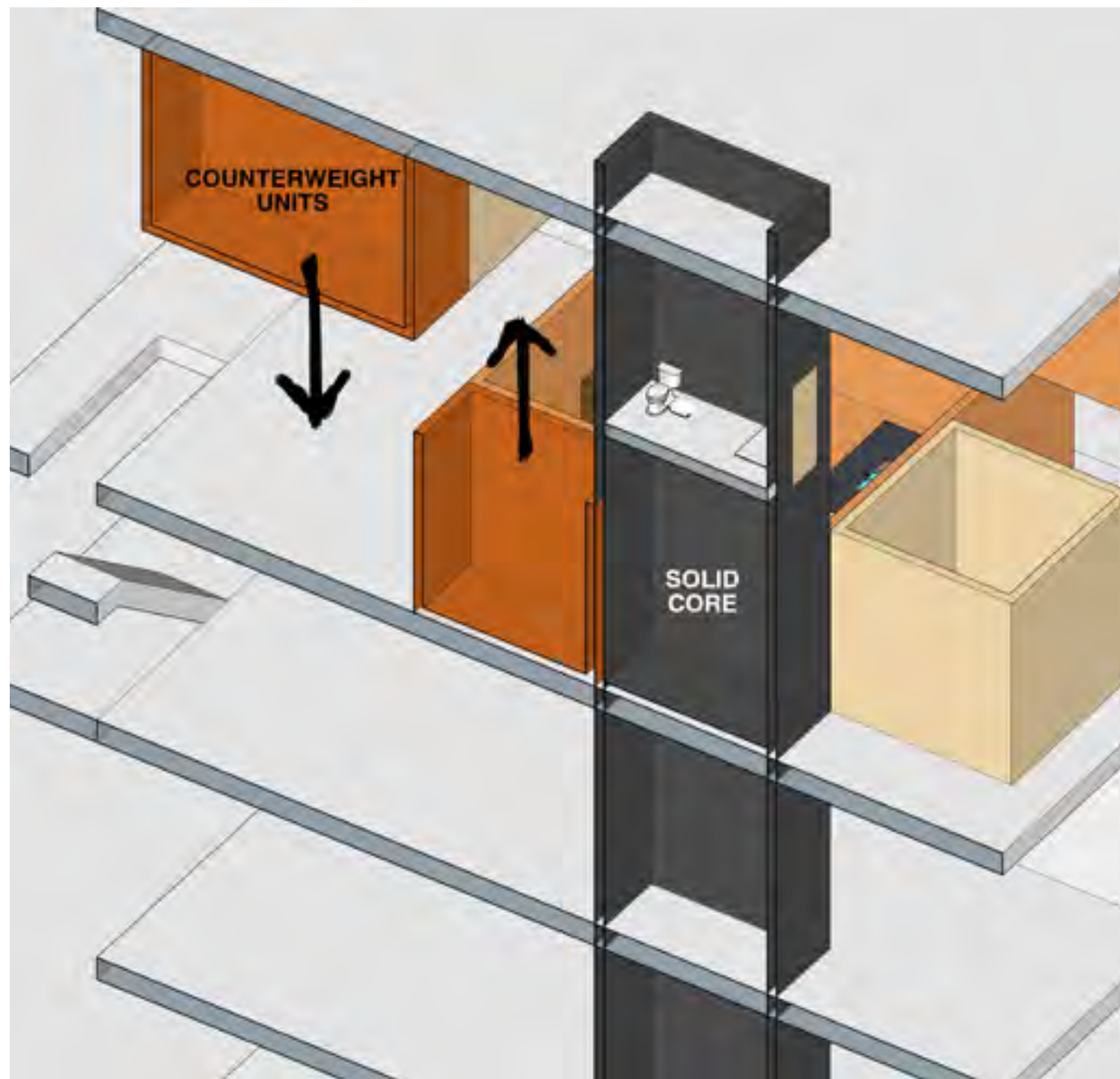
translucent expansion

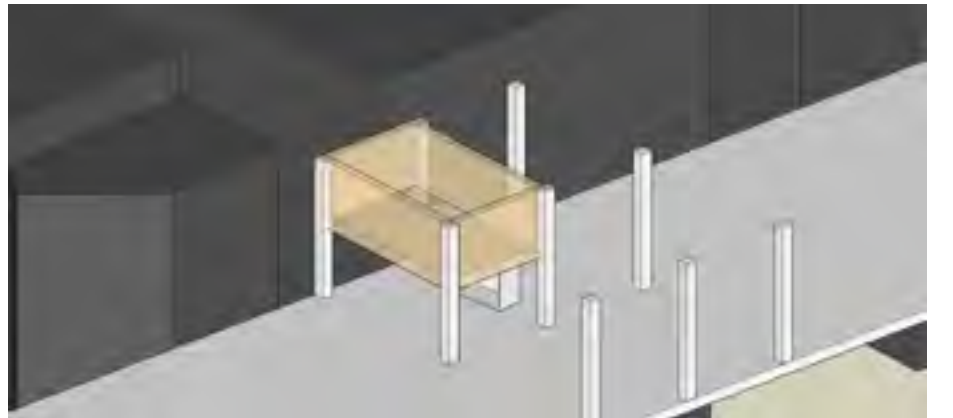
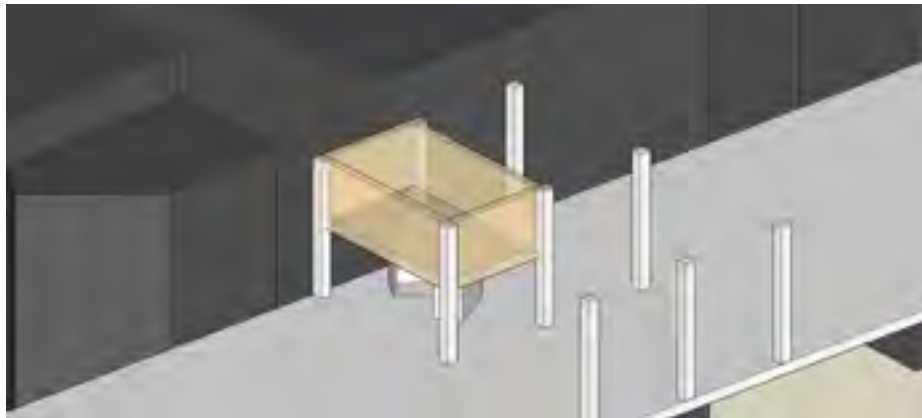
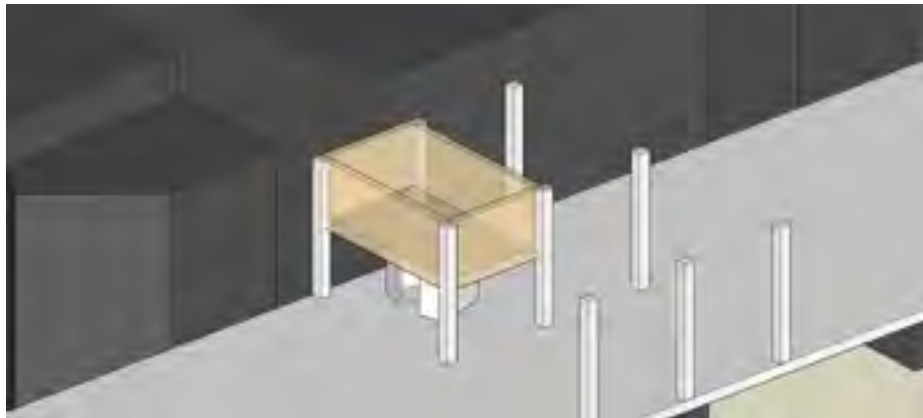
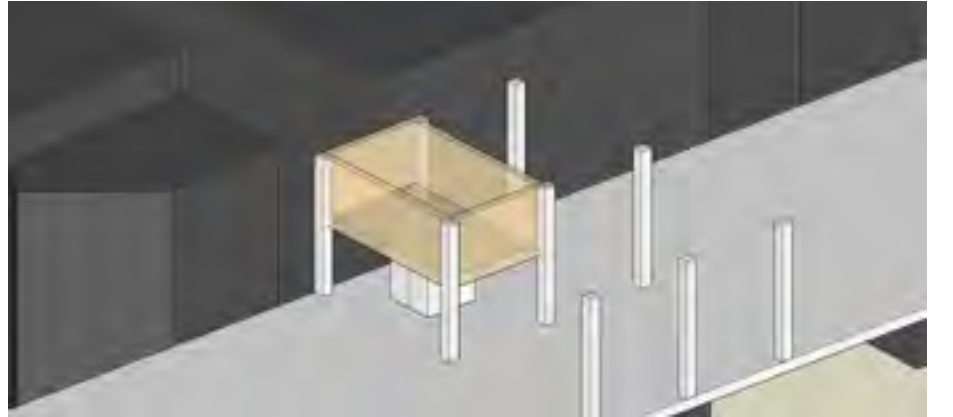
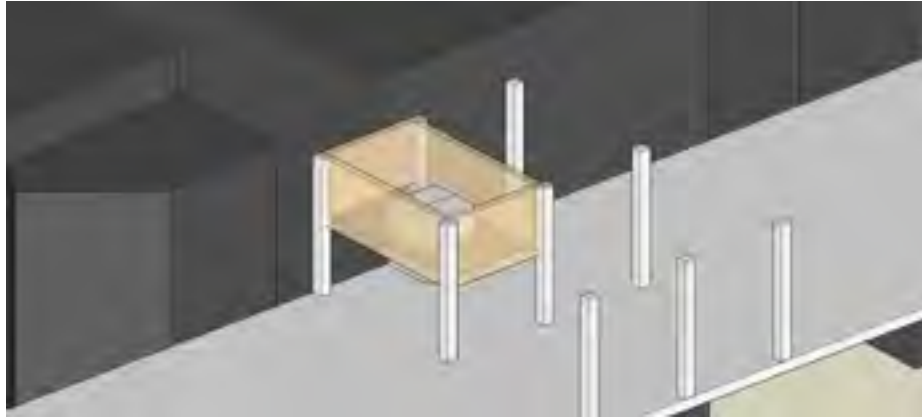
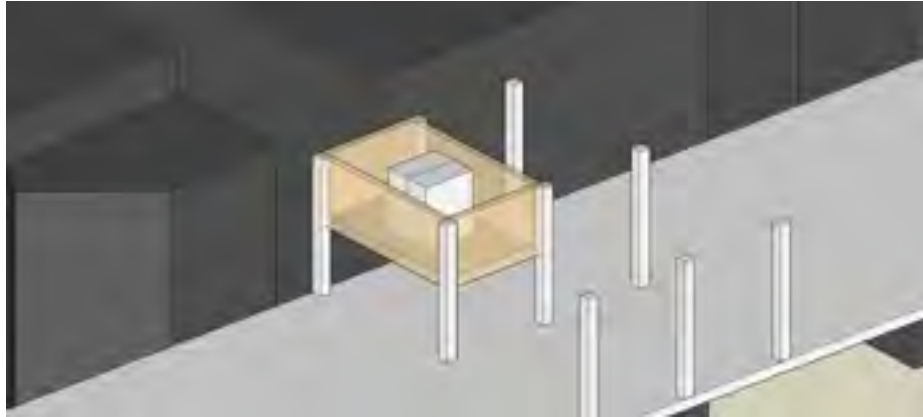


COUNTERWEIGHTS









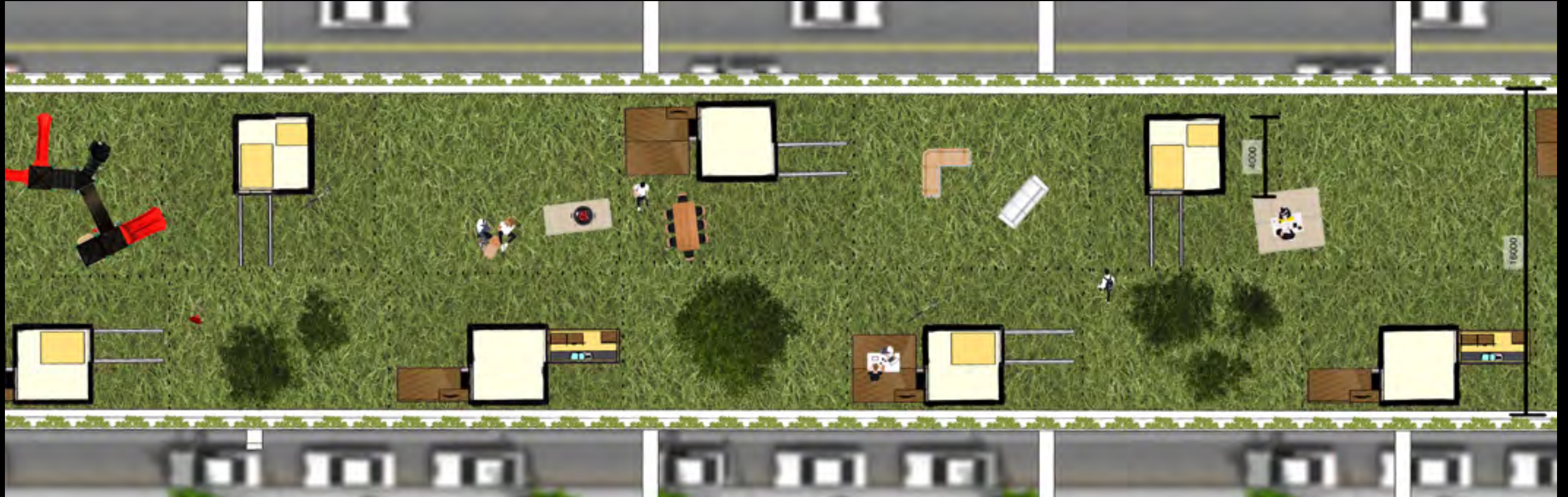
SECTION

public floor plan

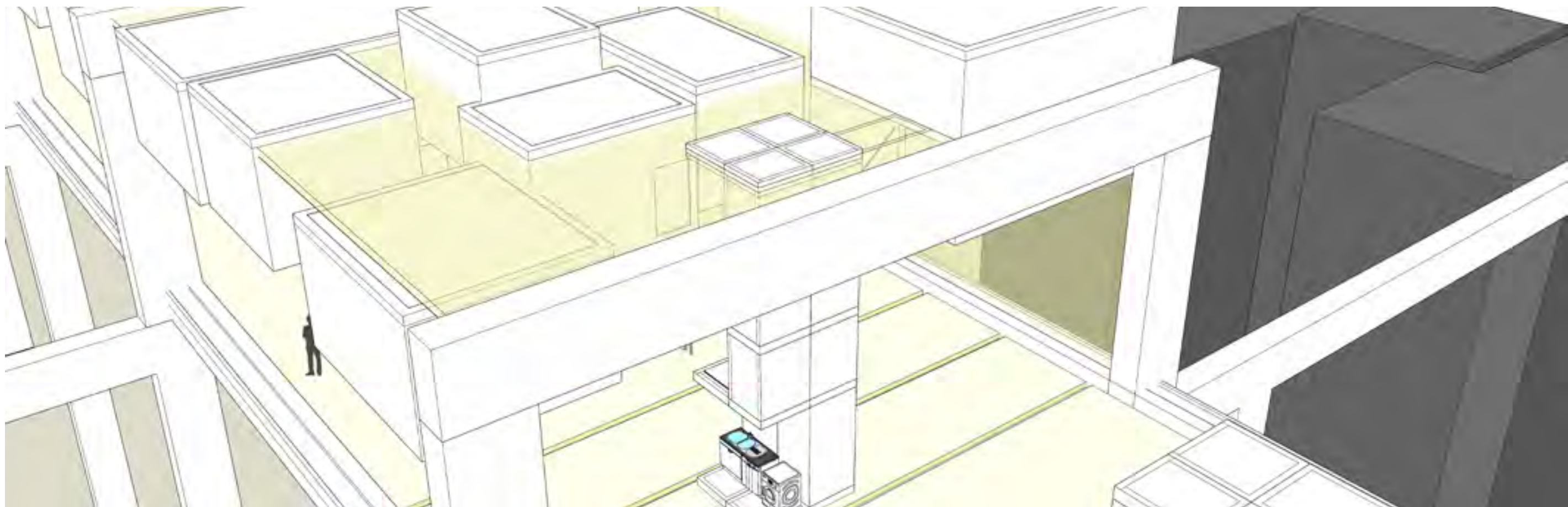
privacy elevated

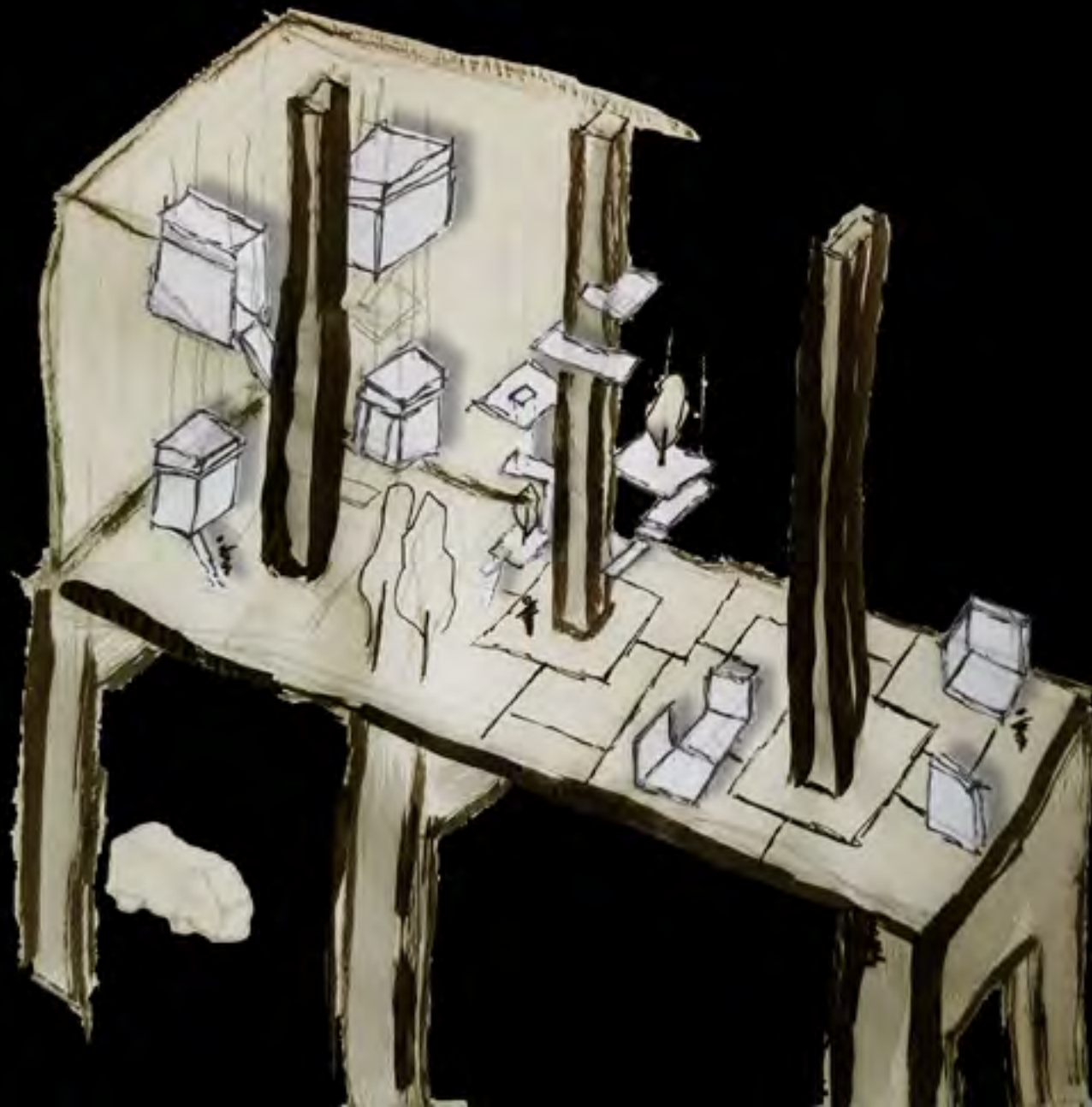


FLOOR PLAN

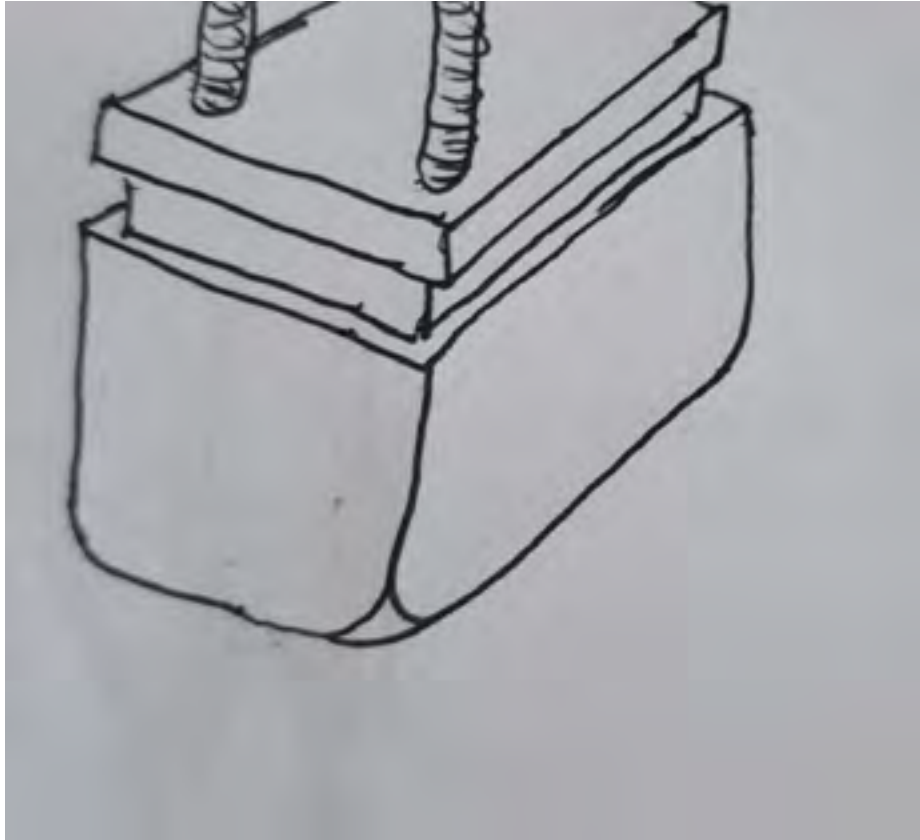




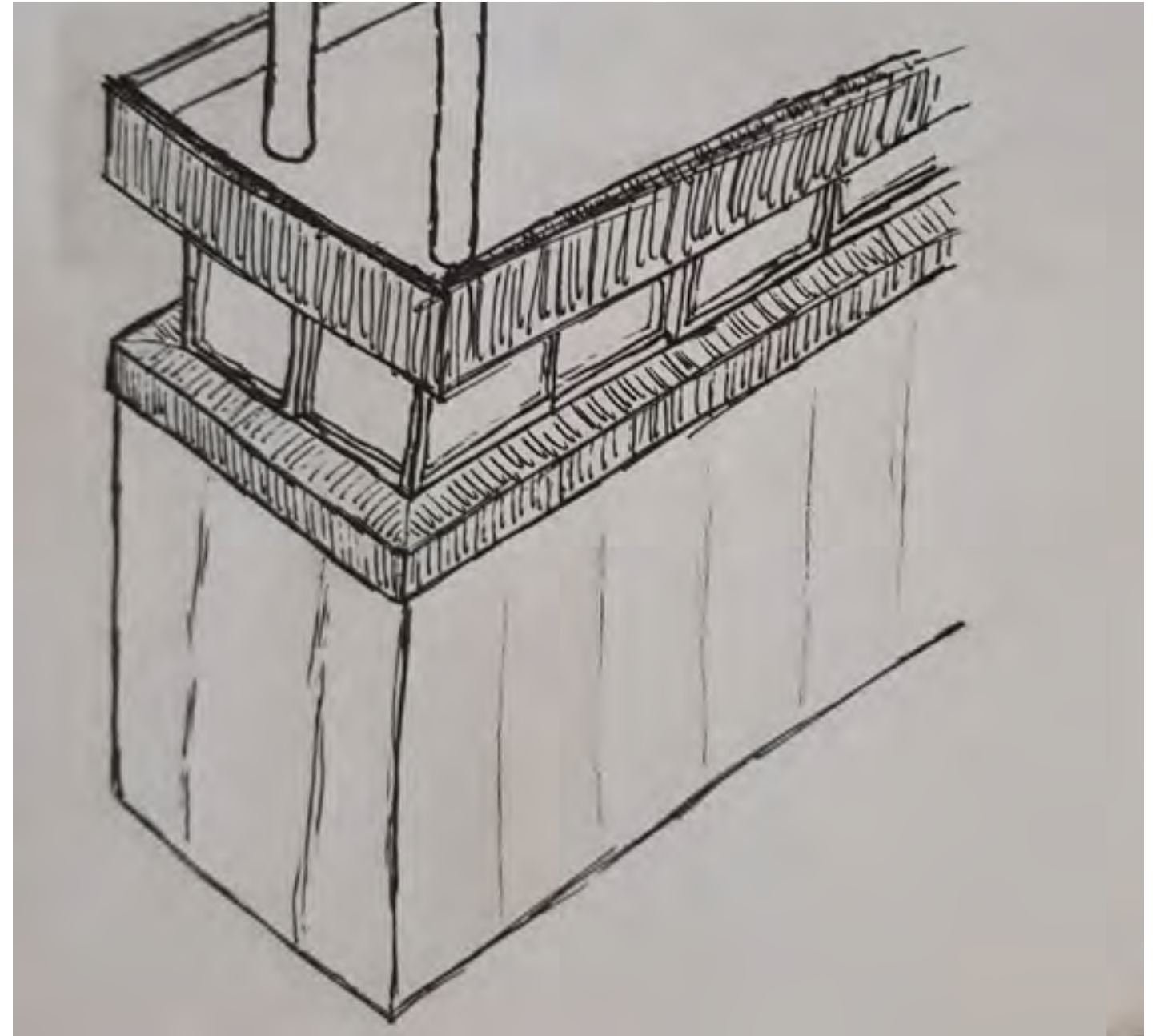




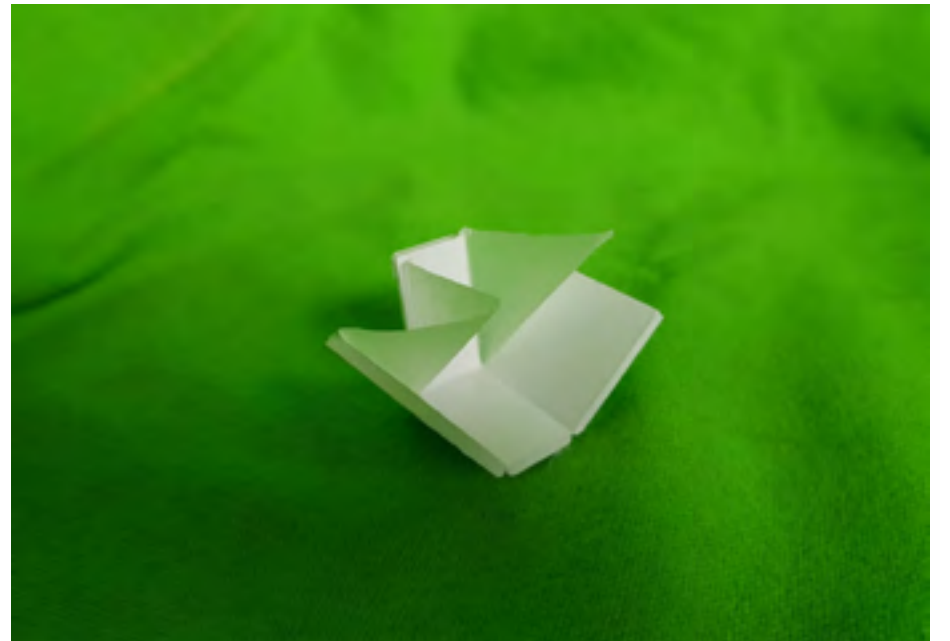
draft of the final version of the plan
3 separate things highlighted: private units, in-between
platforms and living units



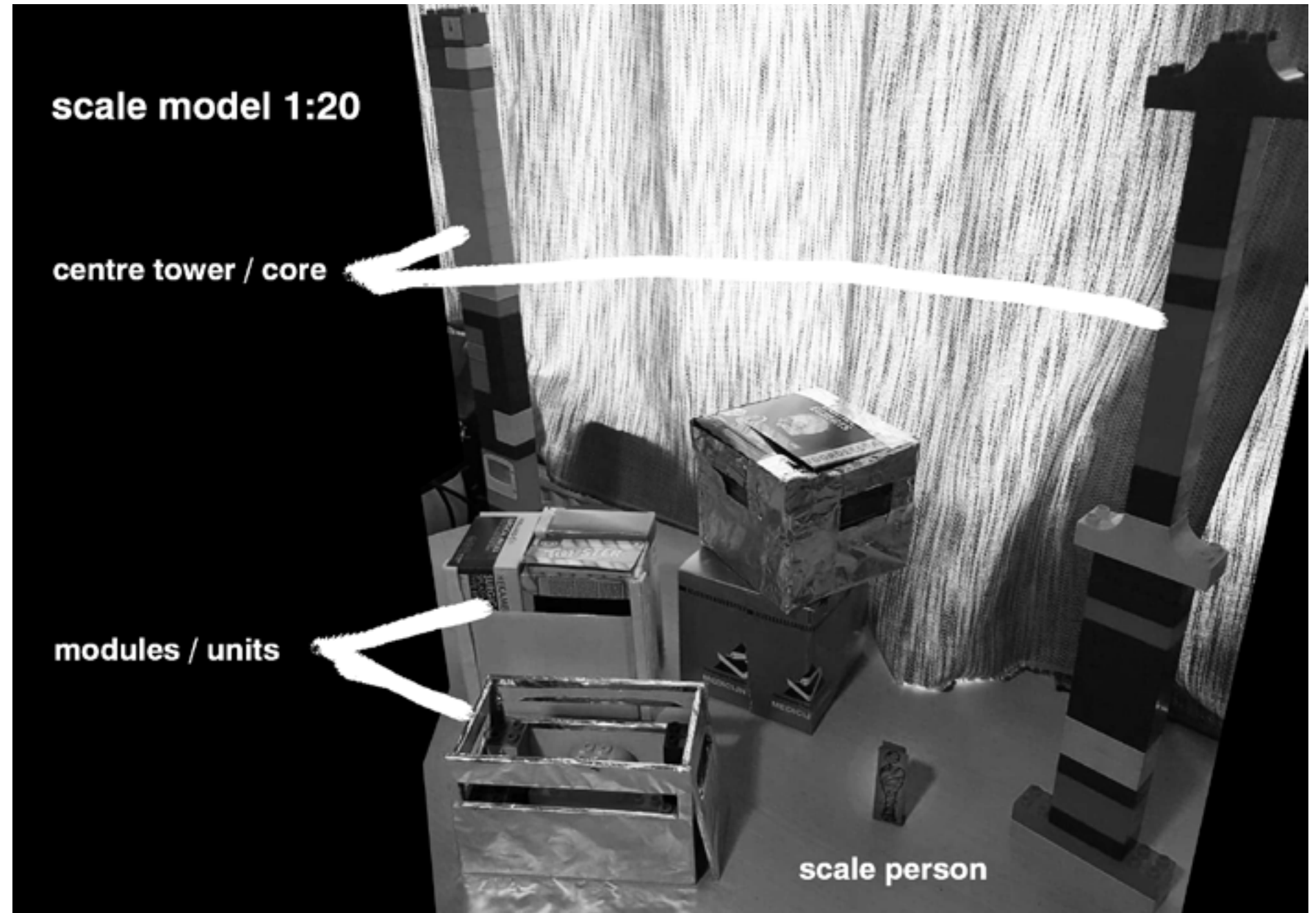
private units sketches

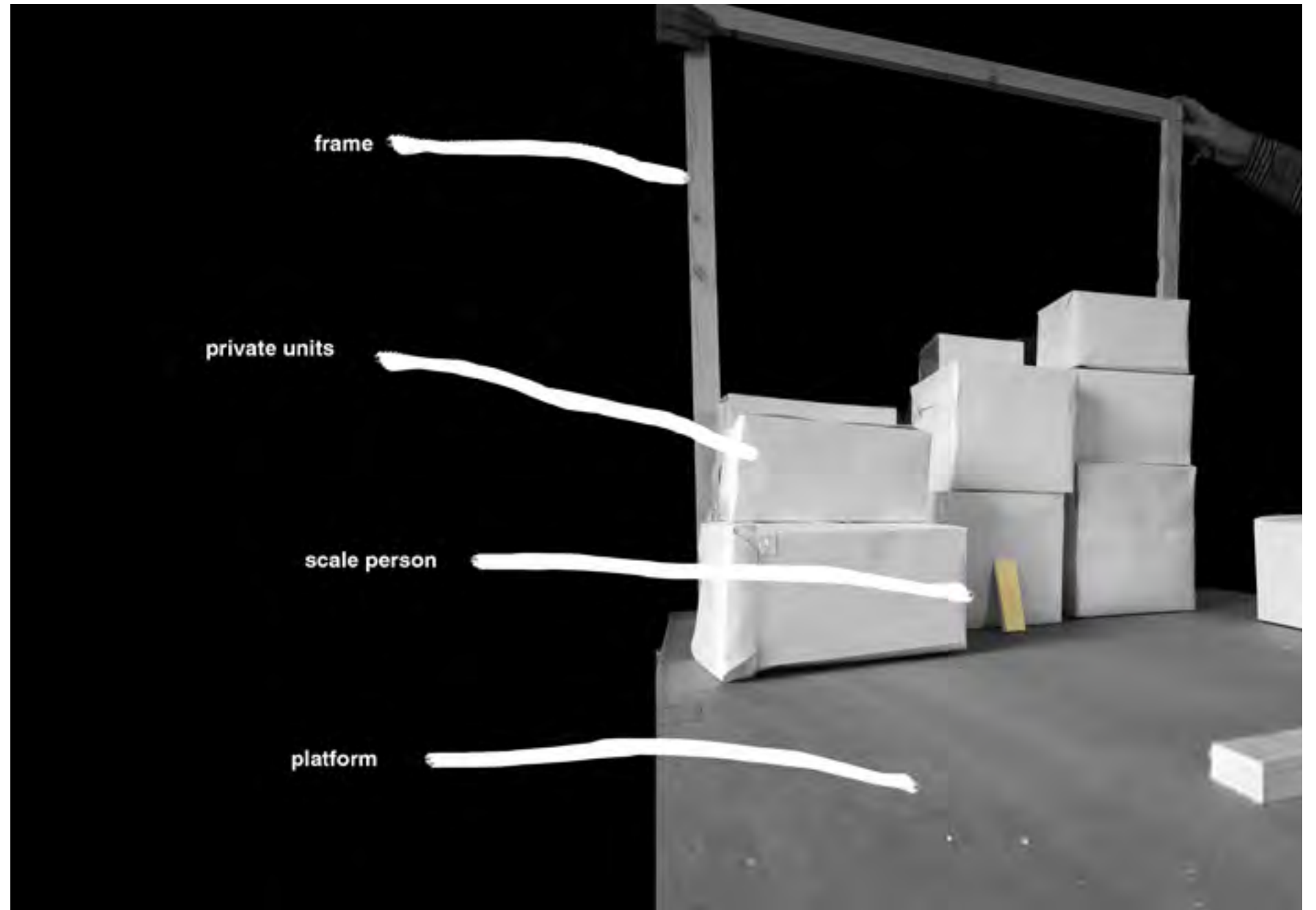


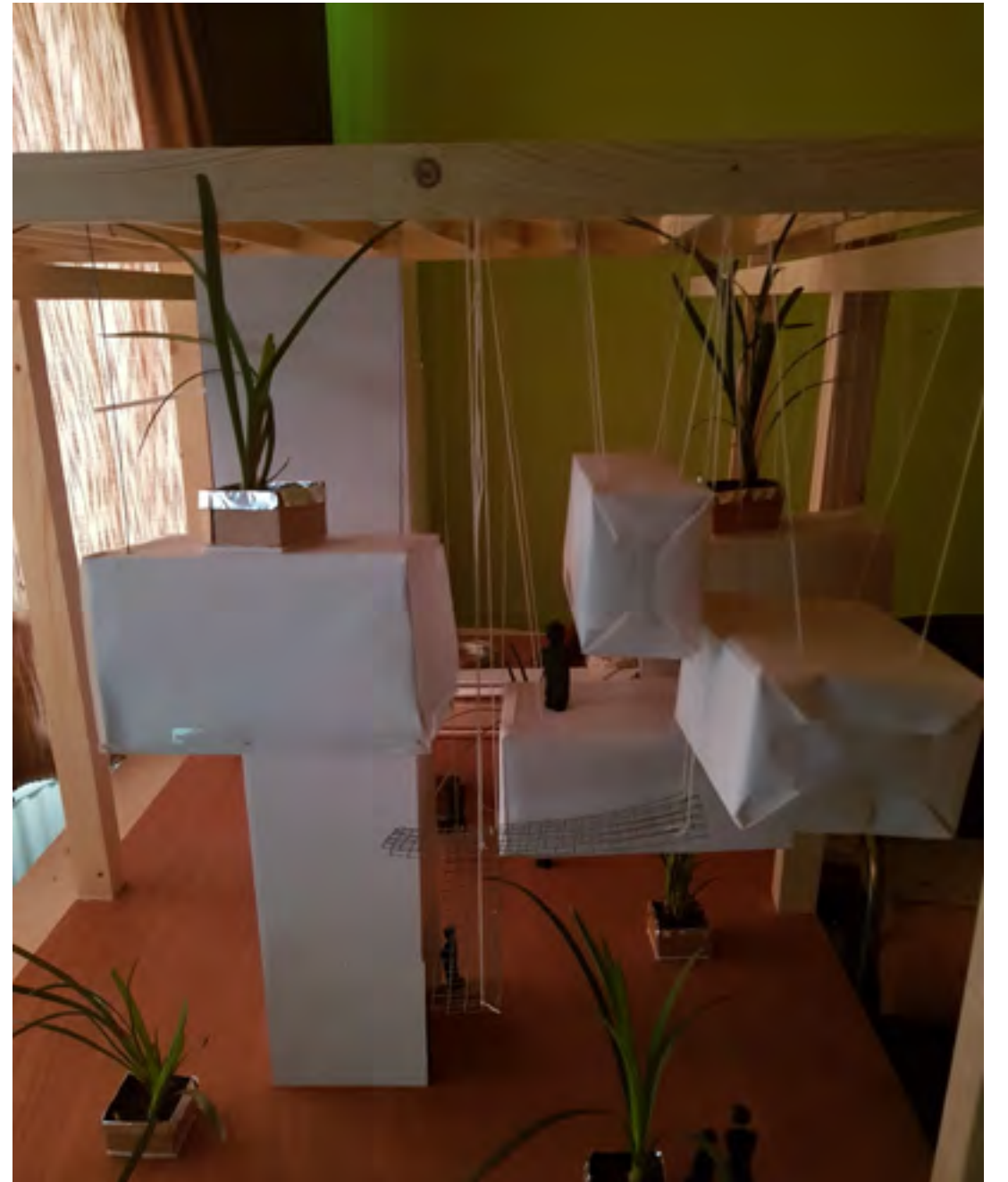




BIG SCALE MODEL PROCESS

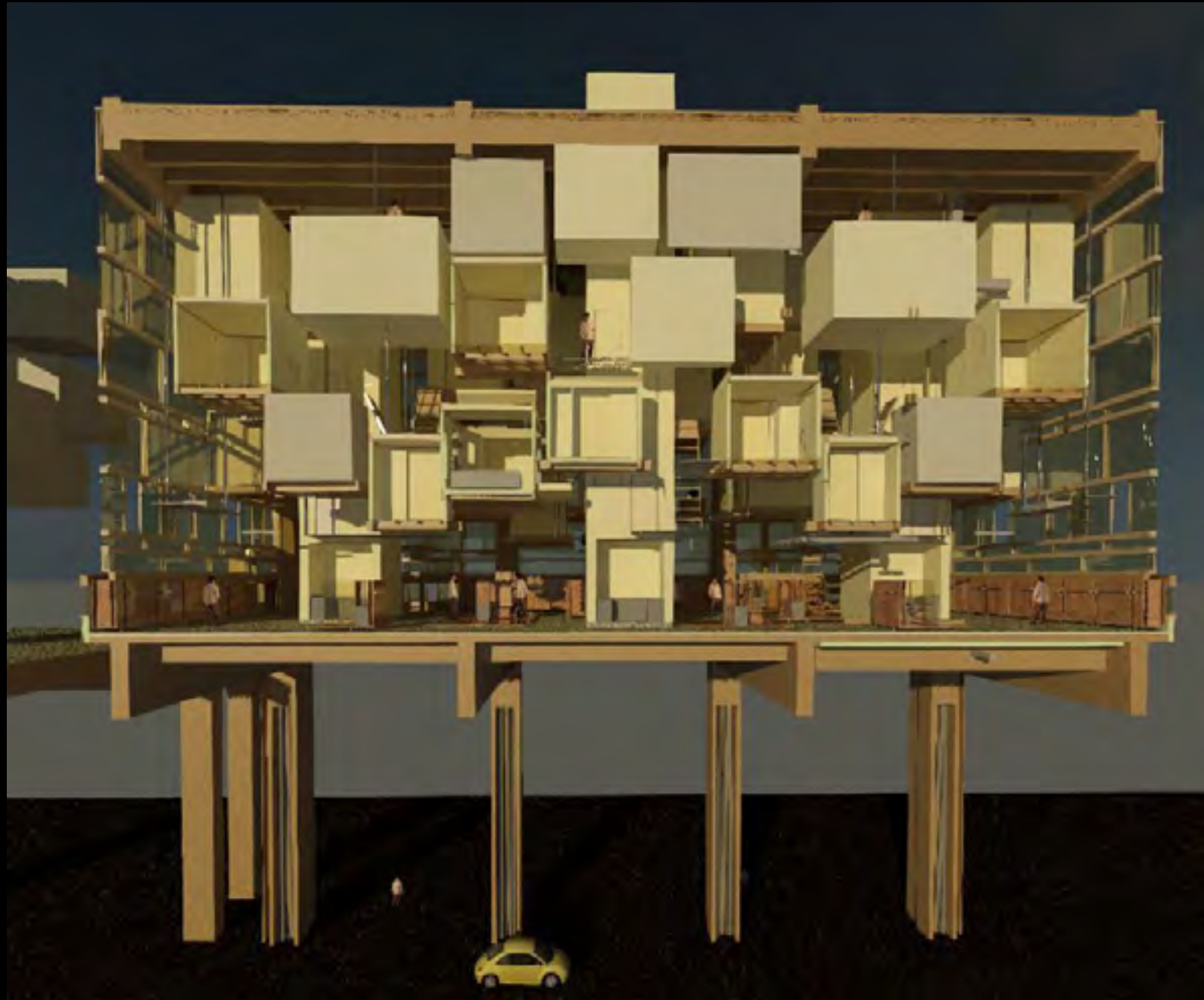








render testing
Revit model





solid roof



glass roof

testing sun light

c o n s u l t a n t s

Laura Sobral
Architect, urbanist

Laura was a great help in terms of the overall story and concept of my project. We had an in-depth talk about some of my research themes like hierarchy, heterarchy and adaptability. The discussion about the latter, adaptability, led to the confusion of true concept which should apply here. Is it interaction, transformation, changeability, flexibility or adaptability?

After our talk I reflected on my themes and researched what adaptability means in Japan. I learned that in Japanese adaptability means to dissolve and to pass through. After my talk with Laura I realised this should be the true concept of adaptability.

Lonneke van Heugten
Research, dramaturgy

In the case of architecture with moveable and transformable structures, one can look at this scenario as a stageplay. Inhabitants are actors in a ever changing decor.

This perspective is shown to me by Lonneke, a creative researcher and expert in the field of theatre. She points out that actors and the decor have an important relationship and work closely together as a team. There is choreography and rhythm in the way actors and decor work.

So when a structure transforms by the will of the inhabitant, it will not be a purely individual act. It does affect surrounding structures, its users and the configuration of the overall architecture.

Kees Laureijs
Furniture design
Keijzers Interiors

The design of the ground floor living-units of Architecture on Demand, resembles a spacial, furniture-like structure. Due to my lack of experience in furniture design I deemed it would be wise to consult a professional.

Together with Kees we looked at some of my first sketches and paper models for the design. We mostly discussed the folding techniques that are involved (the origami-esque movements). Eventually it led to the idea of combining both thick and sturdy material with thinner and more flexible material. This results in a more tight ‘package’ when the furniture piece is in its unused state.

Berend van Deursen
Engineer
Sustainer Homes

Sustainer Homes is an office specialised in wooden modular building systems. I met with Berend, one of the building engineers of Sustainer Homes. He seemed intrigued by the ambitious large scale wood structure and was eager to help and discuss. While we initially spoke of measurements and uses of cross laminated timbre, the conversation also led to other practical issues ranging from the suspension of the private units (steel cables or stiff profiles?) to fire safety and the need for sprinklers.

Ella Braat-Eggen
Lecturer & researcher

Ella is professional consultant in building physics, specialised in sound. She knows everything there is to know about sound absorption and has great knowledge of climate control and installations.

I discussed with Ella the principle of the double glass facade and how it works through all of Japan’s seasons. The discussion turned into a mutual brainstorm about the flows of cool and hot air and how to realise a nice indoor climate.

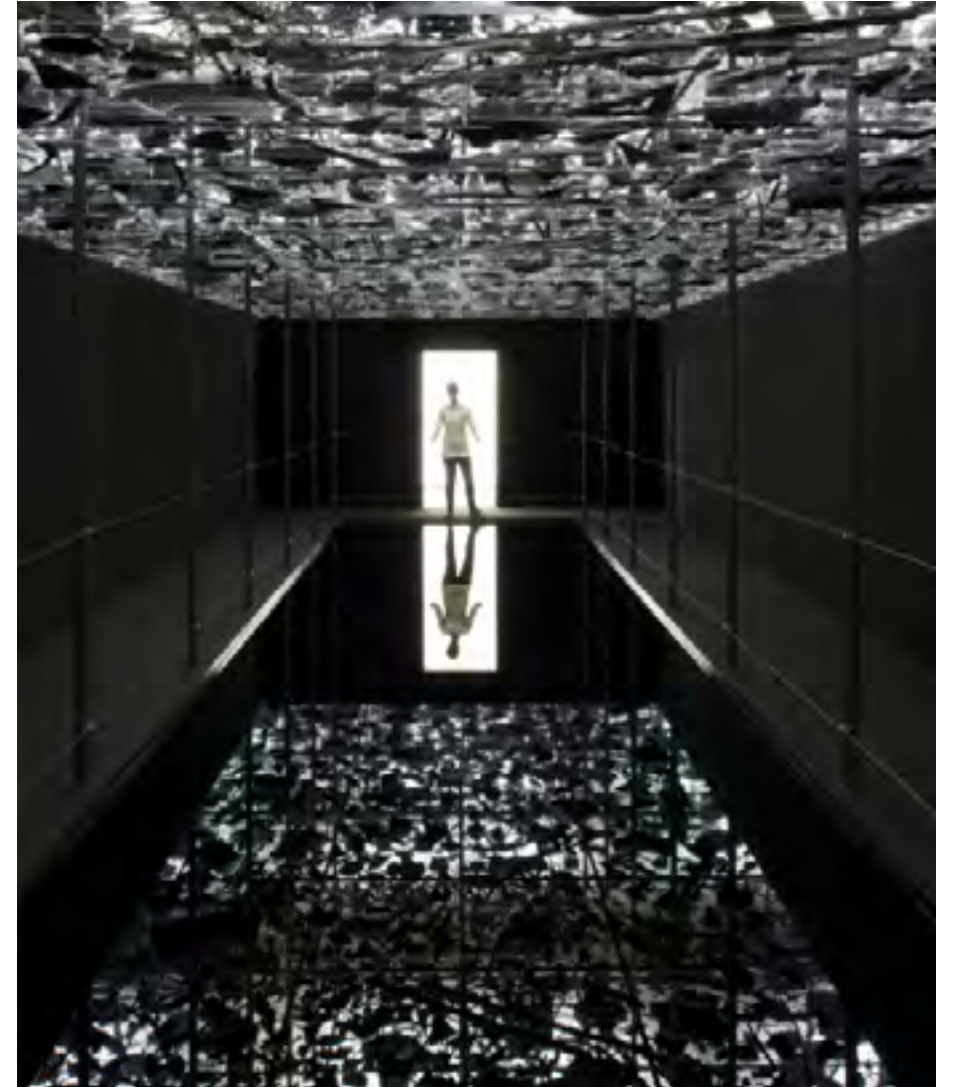
In addition we briefly talked about sound absorption and reverb inside the atrium. She suggested that greenery and plants can also function as a sound absorber, which led me to the idea of using moss façades.

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REFERENCES / INSPIRATION



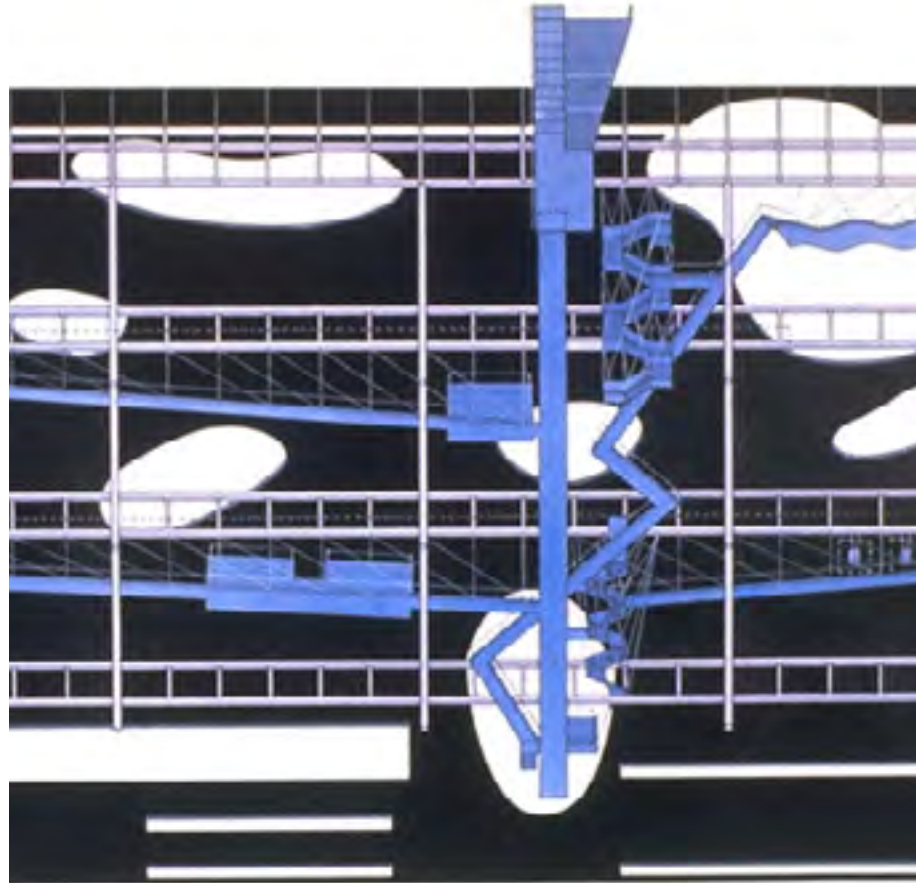
DIVERSITY & UNIFORMITY



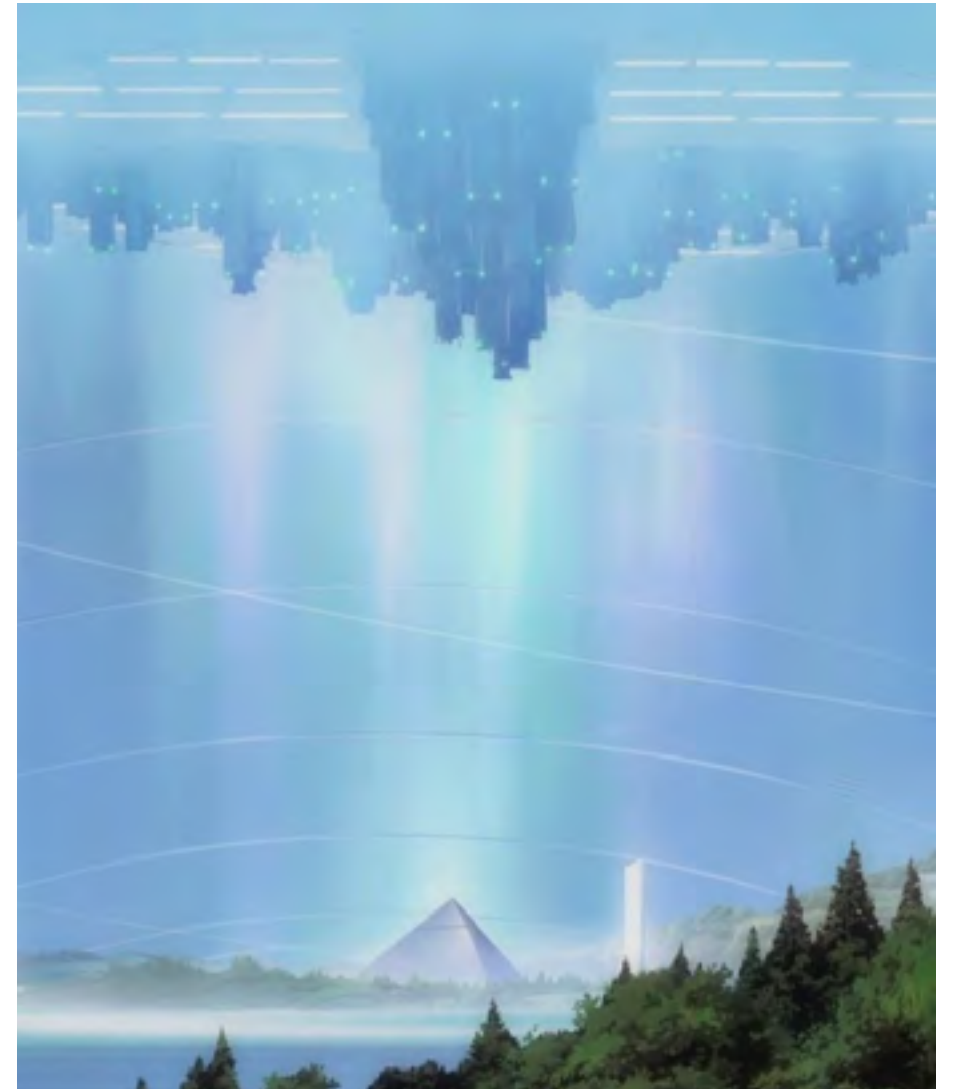
EXIST & NON-EXIST



SYSTEM & RANDOMNESS

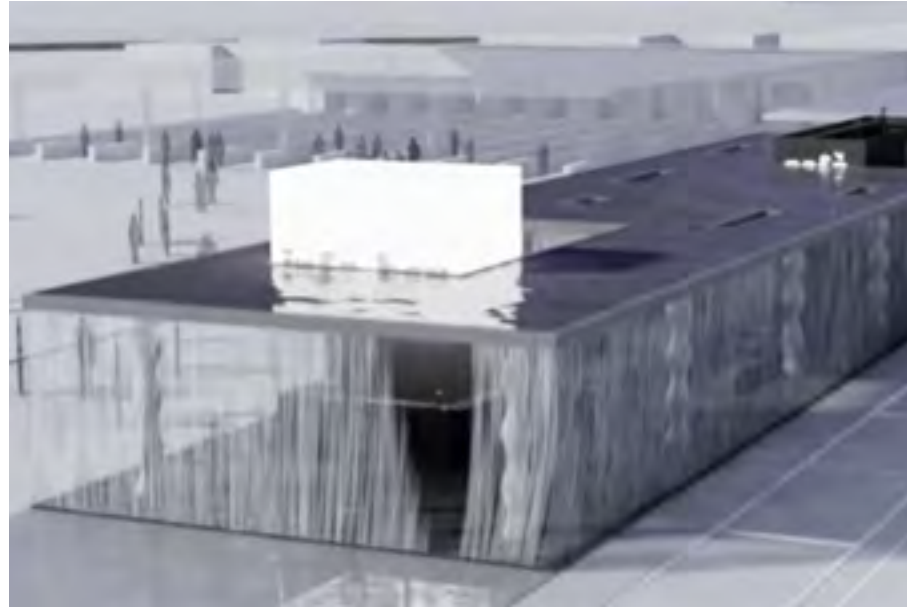
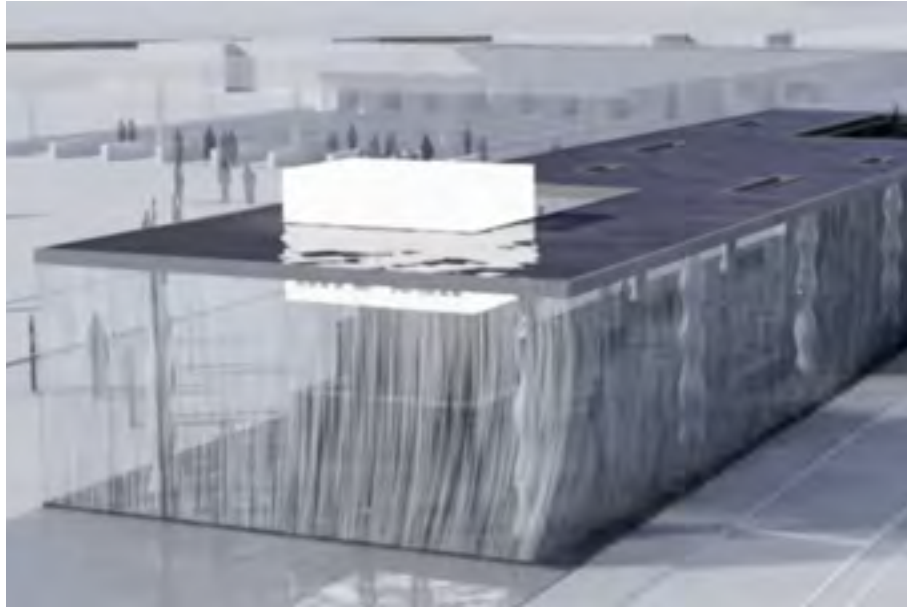


DECONSTRUCT & UNITE



UP & DOWN

Carlo Ratti - Digital Water Pavilion



Gary Chang - Suitcase House



Isozaki Arata - City In The Air

