
Architectural Design

PORTFOLIO

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2022

What is social design? Many people think that social sustainability and many acts of public welfare are social design, which leads to the social design being a bit idealistic and unrealistic in many people's minds. However, social design covers an extremely wide range, and there is no clear definition. In my opinion, social design is the act of using human creativity to explore solutions to various complex problems in society, which is also the core of my portfolio.

To stand at the edges of different professions and learn to find the research topic through a phenomenon. This is essential for them to reflect on their abilities at different stages of life. Society is formed by continuous events, so you have to observe different groups of people from the edge and get to know them. The method of social design usually starts from microscopic and specific social problems, through long-term design intervention, gradually depicts the complex system behind it the "social process". Note that "method" and "process" here cannot be simply equated with "process". It is difficult for a "process" to be transformed into an effective "method" that suits local conditions because it lacks the "subjective consciousness" to flexibly apply the "method". Furthermore, it is impossible to verify and criticize the "result" produced by the process in the long-term "social process". Therefore, we must find a research object that is compatible with both "method" and "process" and a practical subject that can carry out continuous "process research".

In a sense, social design has transcended traditional design, and the design is only one of the links, but the task of this link is to stimulate the participation of all parties in the system, and further reveal the organizational methods of the operation of the "problem system". In this way, we can diagnose the leverage point of the problems, and make it possible to redesign the organization or adjust the operational logic of the system. This is the working principle of social design.

In the 20th century, Le Corbusier proposed the concept that "**if houses were built industrially, mass-produced like cars, an aesthetic would be formed with surprising precision,**" hoping that architecture could be free from the limitations of materials and structures and become a spatial product more in line with human needs. Modular construction refers to the prefabrication of the whole space in units of building space. In the early days, modular building was mainly used to meet the need for rapid construction and low-cost social housing. But in today's discussion of modular building, I think it is more in line with today's green ecological concept.

First, modular buildings can adequately respond to changes in usage patterns. The traditional building model is built on site, and the building and the site are in a close dependency relationship. A building has a life span of at least decades or even centuries, and the users and usage patterns in a building may change and alter. Traditional building methods are usually powerless against such changes in use patterns, while modular buildings can adjust the space and structure of the building according to the changing needs of the users, which can meet the functional requirements of the users and save limited space and resources at the same time. Secondly, modular buildings achieve the maximum degree of prefabrication, which can reduce a series of problems in on-site construction. If modular buildings can greatly accelerate the construction schedule, reduce pollution, and control costs, they can greatly reduce on-site operations such as dependence on site seasons and climate, the environmental impact of transportation, air pollution from dust, uncontrollable construction accuracy, and high labor costs. Third, modular buildings can accommodate more experimental applications of new materials and technologies. With today's cutting-edge biomaterials and 3D-printed buildings relying on modular construction methods, these can be more easily incorporated and applied in practice. allowing the construction industry, which is relatively lagging behind today's technology, to keep pace with or even ahead of other industries and lead people's lives into tomorrow. Of course, based on modern techniques, technology, and the importance people attach to their living environment, there is still an infinite space for modular architecture to be studied and explored.

Zygmunt Bauman says that **beauty can sustain but never directly provide hope**. It is not our job to imagine an ideal blueprint, pretending that we are going to have a bright future. Instead, the first thing I think we should do is see the not-so-beautiful side, the true and brutally honest picture of the future. However, I don't think it is easy to see the truth because there will never be real facts but only narratives that have been selected. We are just standing in a fleeting, fragmented moment of history, attempting to capture a small part of the facts that we have seen or that we would like to see to shape some new narratives by making some changes. Through these new narratives, we want to generate a sort of discussion with the public, using everyday life as an interface. What I'm trying to say is that the power of design is not supposed to be exaggerated. There is nothing more important than the process of "what you are doing right now."

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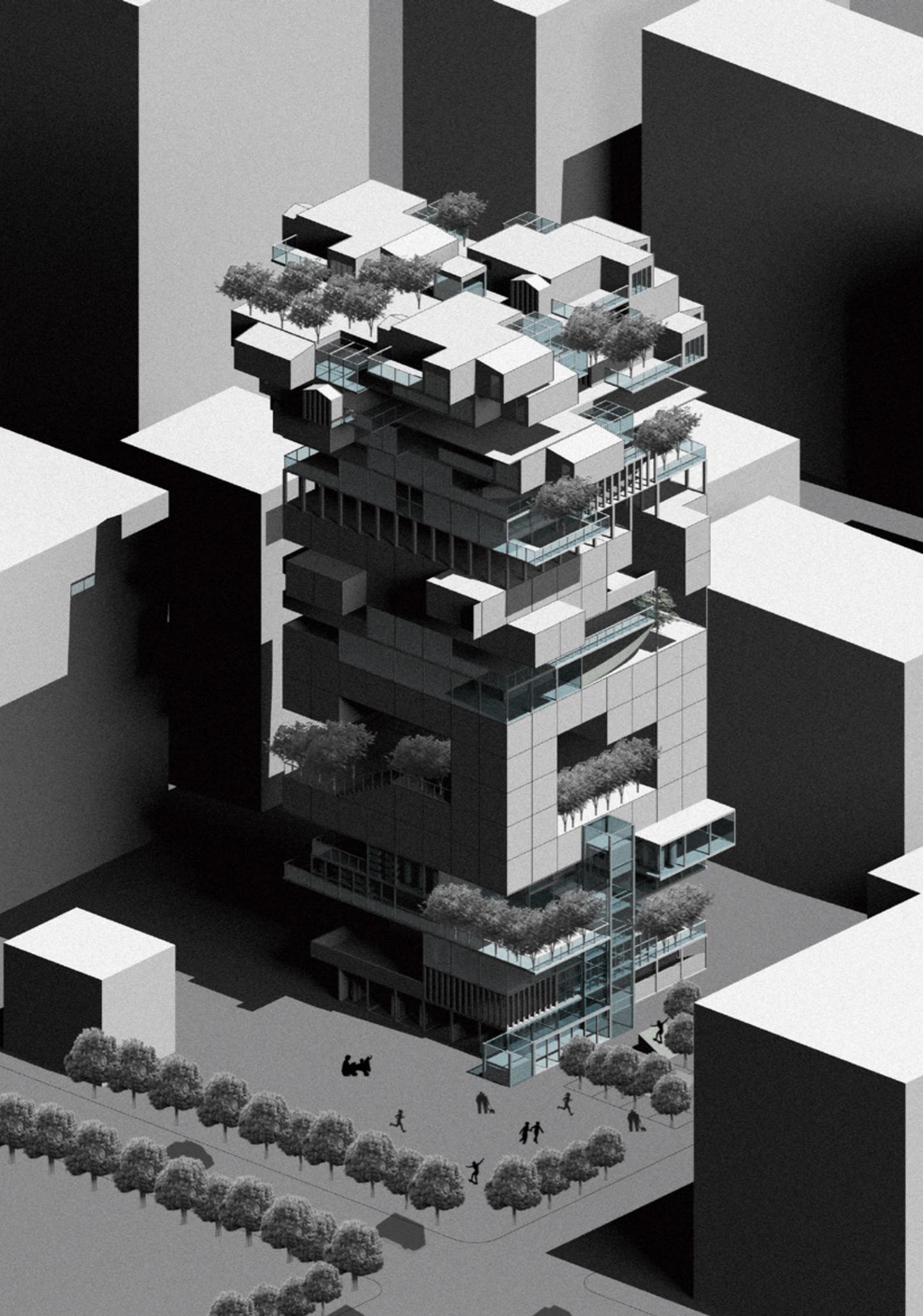
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I

VERTICAL CITY

Exploring how to live a sustainable life

Individual work
2022

Technology and medical advances enable people to live longer, healthier lives. However, this brings up problems and concerns with overpopulation and overcrowding. As the population increases, so does the need for living space. Increasing the number of homes and neighborhoods often results in the destruction of forests and other habitats. This limits our natural resources, endangers wildlife, and threatens to disrupt our ecosystem. This problem cannot be overlooked. Otherwise, the destruction of the planet and its inhabitants is inevitable. The human population continues to rise at an alarming rate. If action is not taken, a critical mass will eventually be reached. In other words, the environment will no longer be able to support us. People are starting to look to the vertical city concept as a solution to this growing and unavoidable problem. A Vertical City is an arrangement of interconnected mega towers that are environmentally friendly, self-sustaining and capable of providing a dignified life for 100s-of-thousands of people. By building Vertical Cities we can save energy, support our growing population and preserve our land for food production, nature and recreation. With the problems of overpopulation and environmental destruction looming over us, we are desperate for a solution. Waiting too long to address this issue will undoubtedly be disastrous and destructive. However, moving too fast without the proper foresight will likely prove equally damaging. The key to making the dream of the vertical city a reality is ensuring it's done right. It's vital to learn as much as we can to avoid possible problems.

Concept

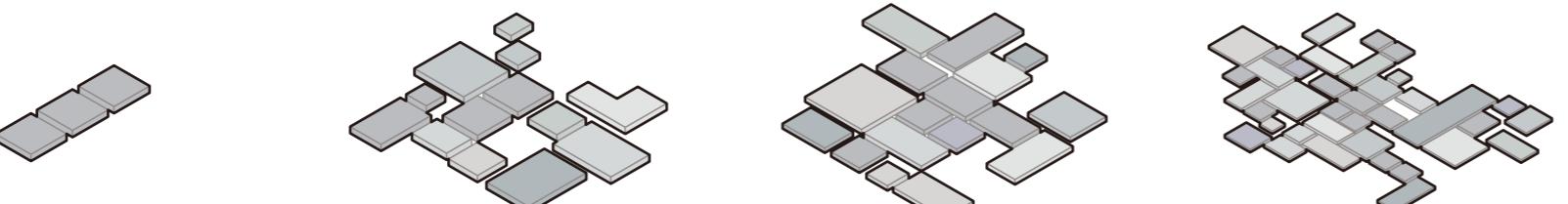
Global urbanization has led to the continuous agglomeration of population to cities, especially large cities, the scale of urban construction land has continued to increase, and the growth of urban land is much faster than that of population, and the urban spatial structure has been reorganized; the process of world urbanization has entered a new stage of development—Metropolitanization. As an advanced form of urbanization development, metropolitan area is the trend and necessity of future urbanization development, and China is currently at a critical moment in the transformation of urbanization.

Located at the mouth of the Yangtze River and Huangpu River, Shanghai is the largest international city in China and an important node of global cities, with a population of over 24 million in 2015. The Shanghai metropolitan area has experienced rapid urban expansion for more than 20 years, and both population and construction land have experienced dramatic growth.

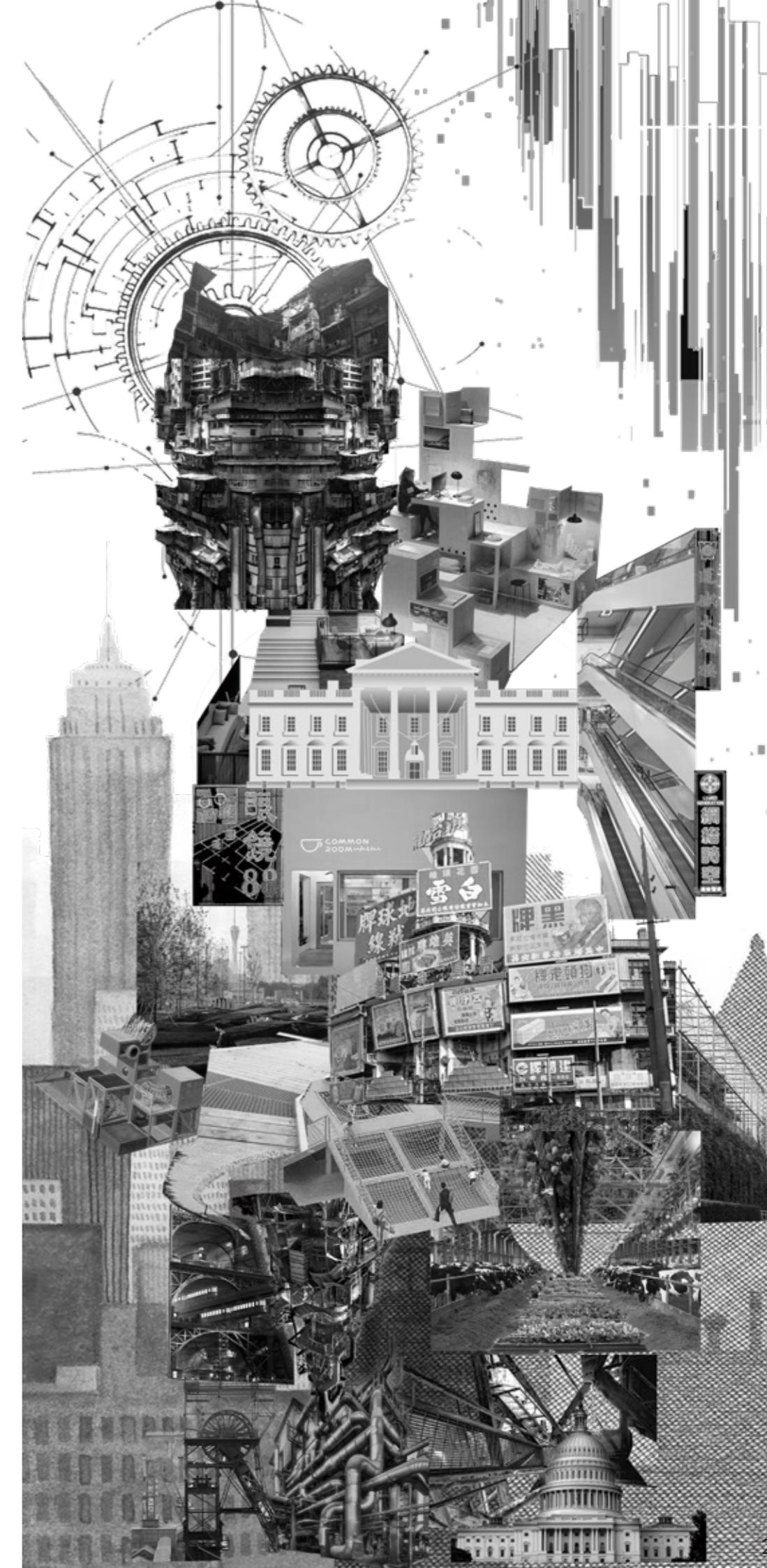
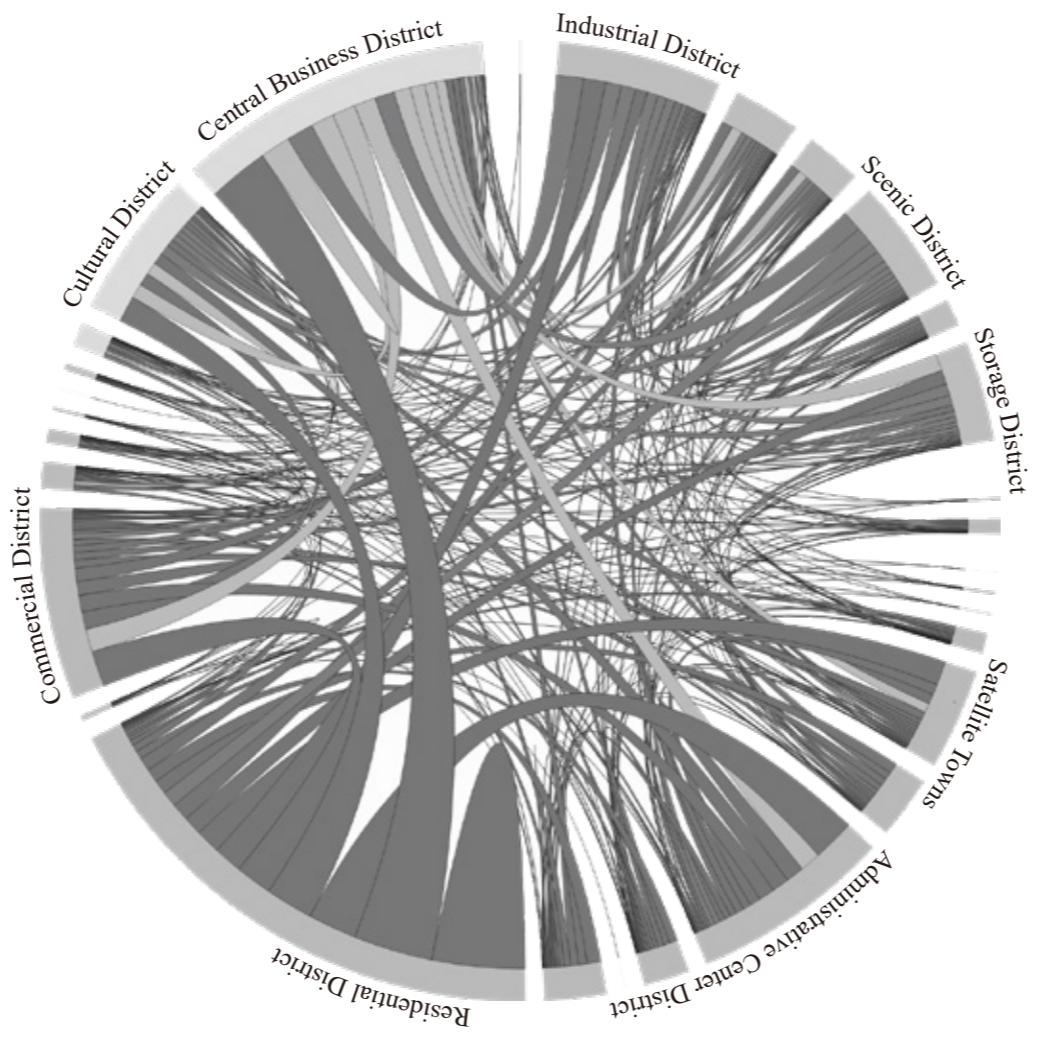
- Huangpu District
- Luwan District
- Hongkou District
- Jingan District
- Zhabei District
- Putuo District
- Yangpu District
- Xuhui District
- Changning District

- Baoshan District
- Minhang District
- Pudong New District
- Jiading District
- Songjiang District
- Qingpu District
- Fengxian District
- Jinshan District
- Chongming District

City Evolution



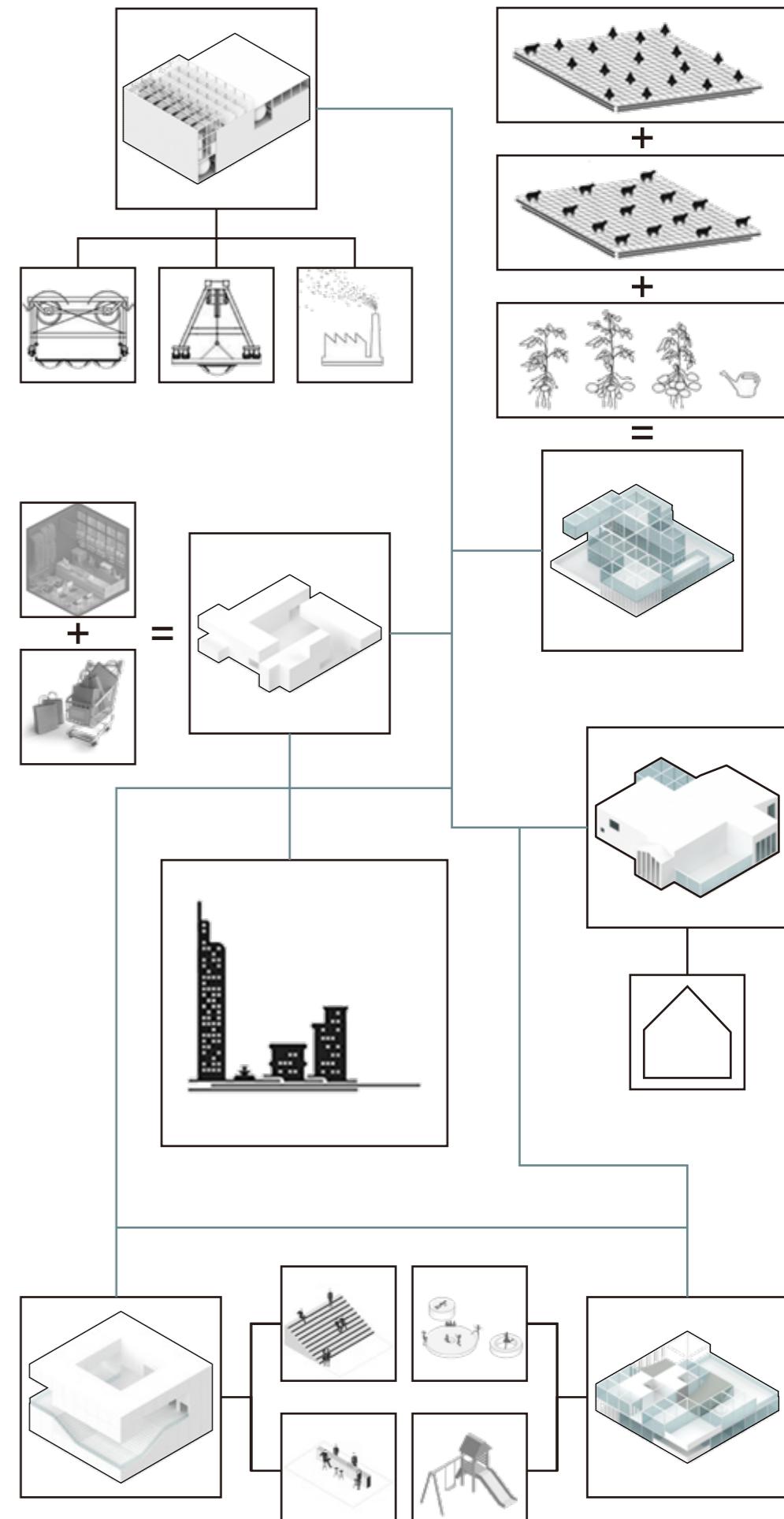
City Concept

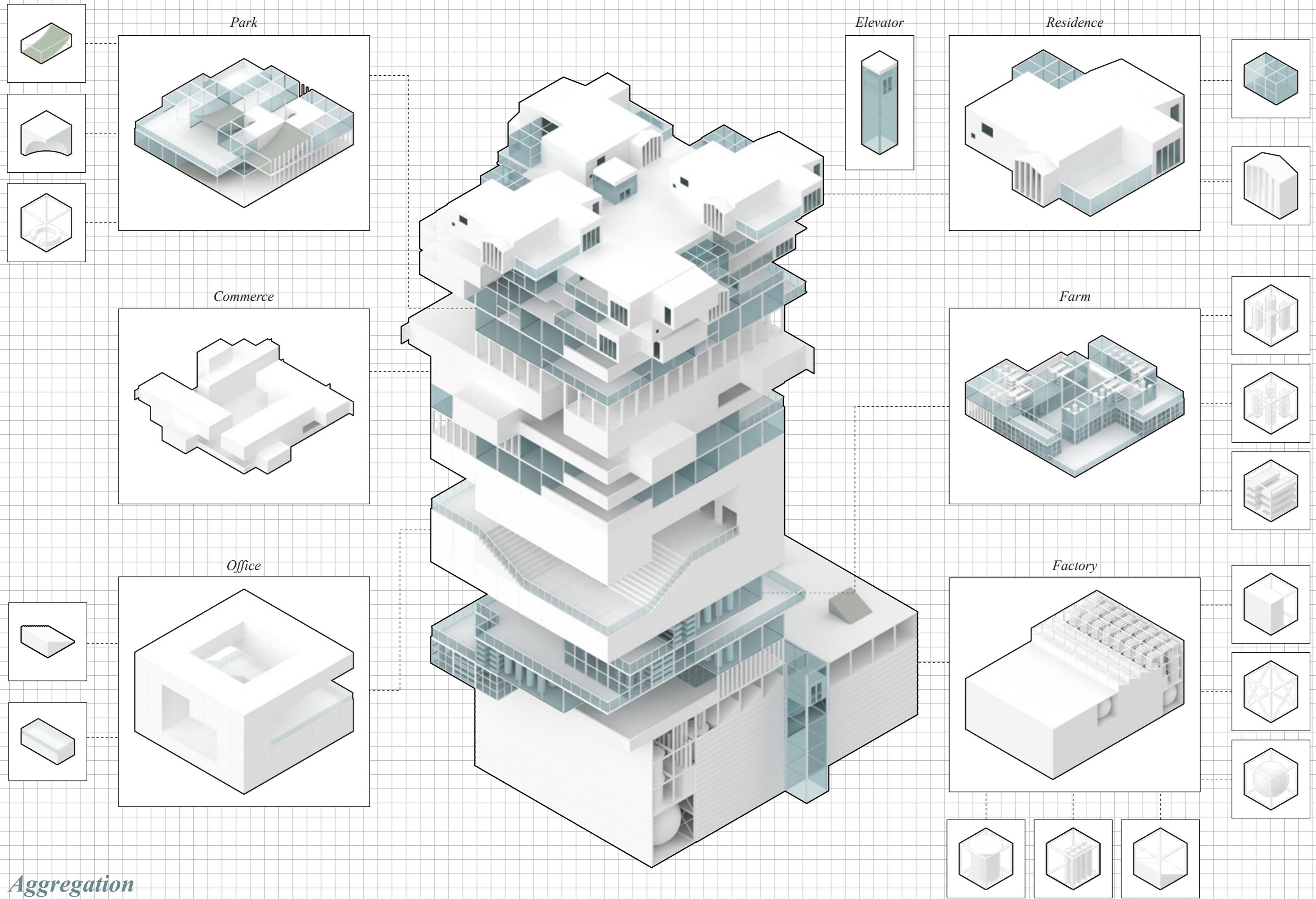


Typology

<i>Origin</i>	<i>Grid Generation</i>	<i>Unit Result</i>	<i>Unit Structure</i>
<i>INDUSTRIAL</i>			
<i>AGRICULTURE</i>			
<i>RECREATION</i>			
<i>WORK</i>			
<i>COMMERCE</i>			
<i>RESIDENCE</i>			

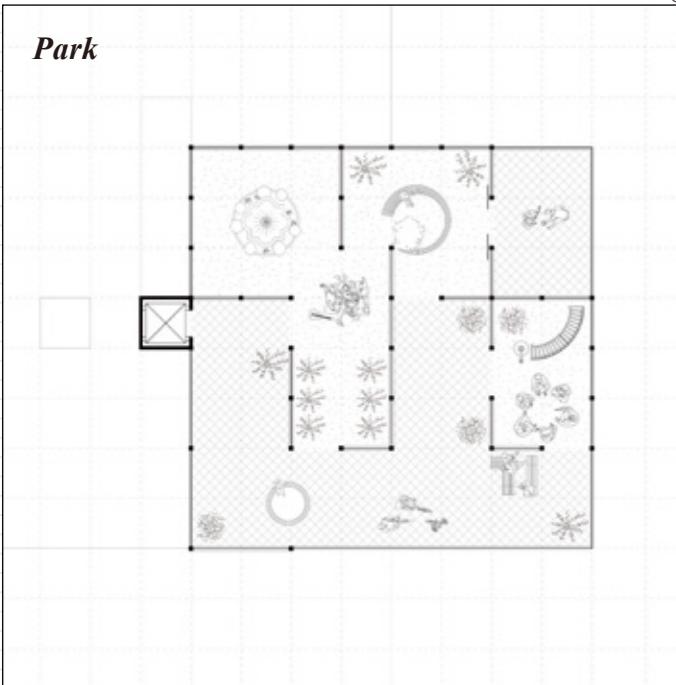
Function Flow



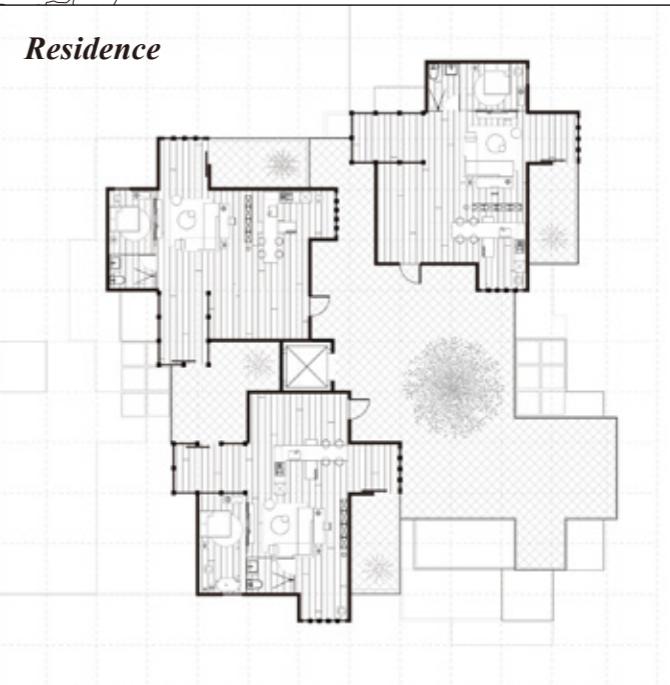


Section

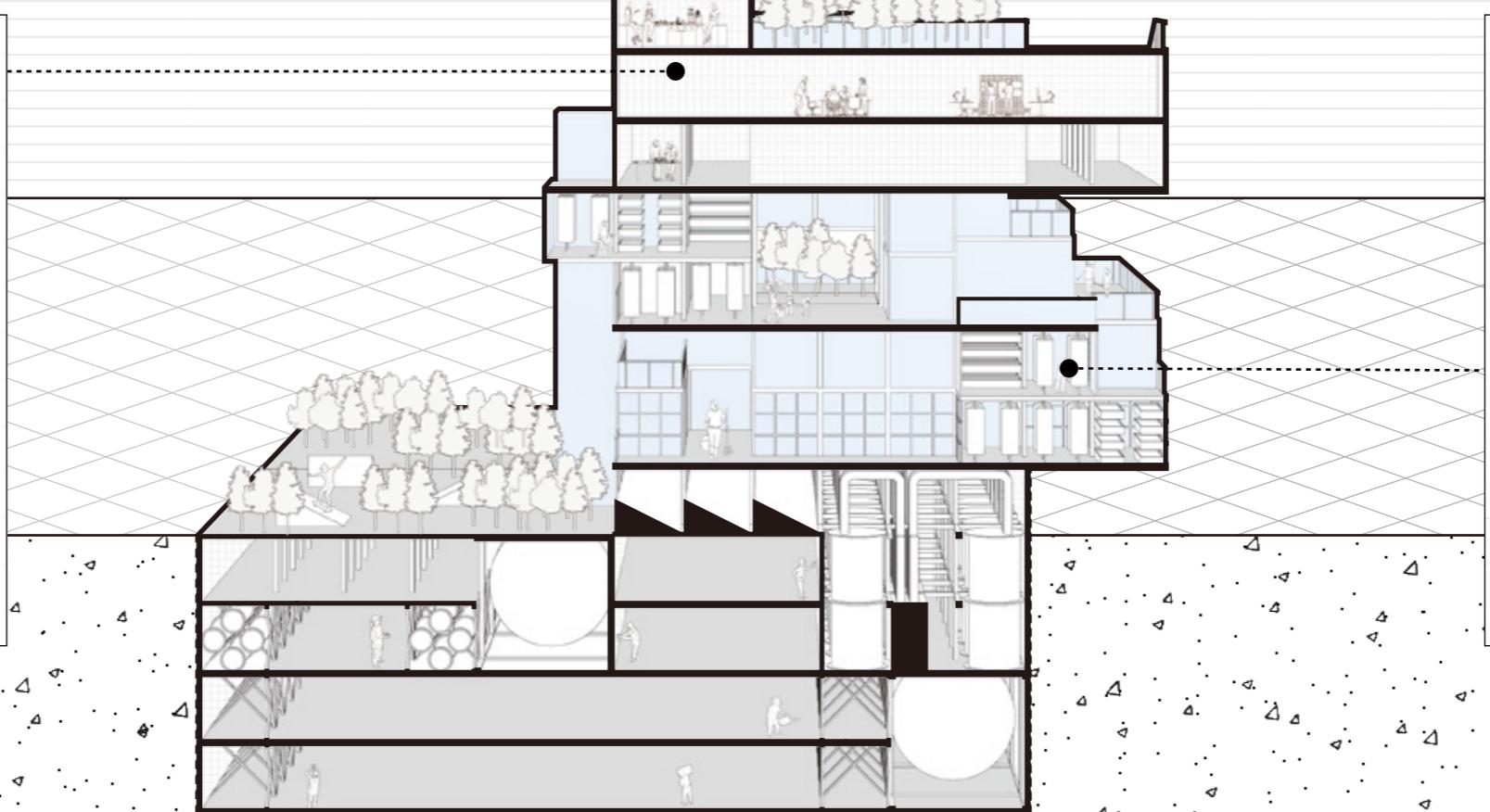
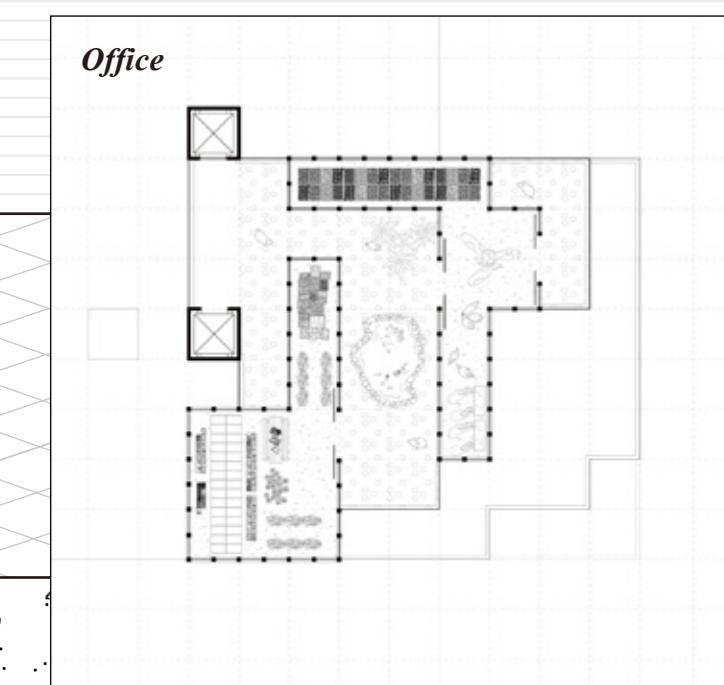
Park



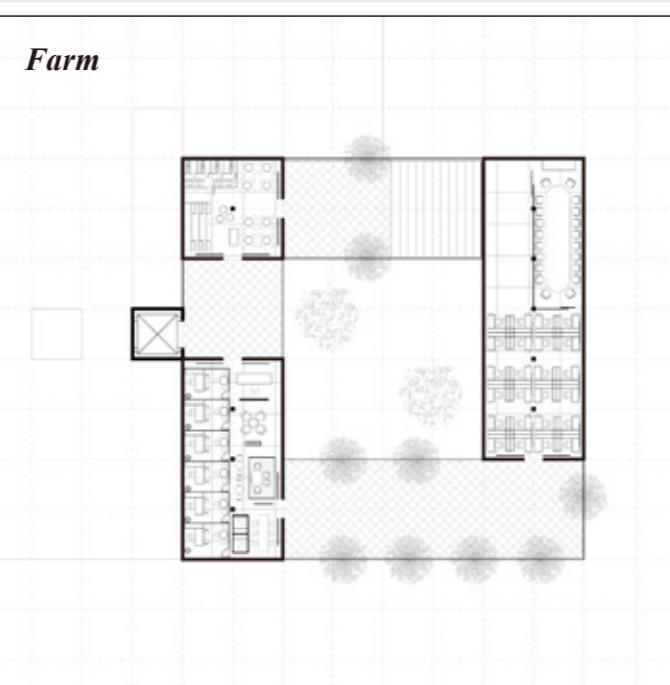
Residence

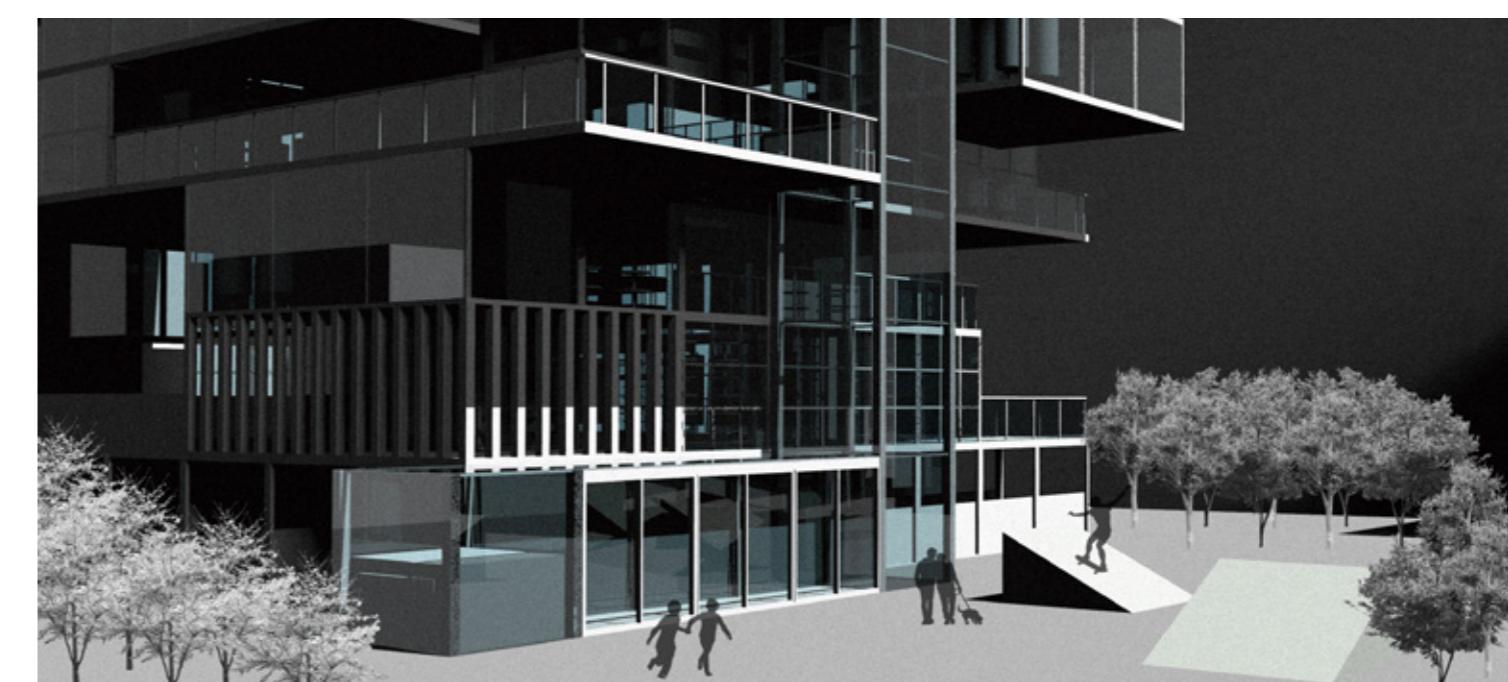
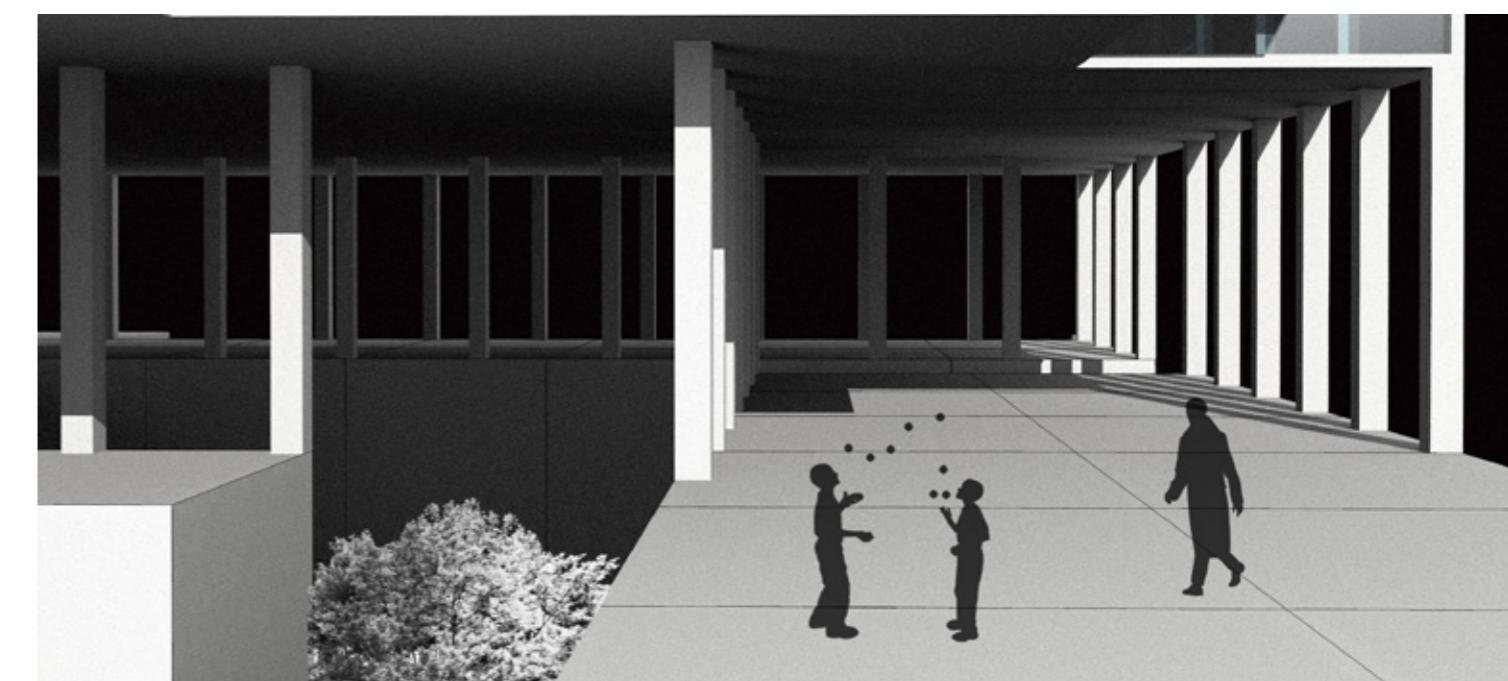


Office



Farm





II

Go With The Flow

*Reminiscing about the deceased and Exploring the spiritual sanctu-
ary*

Individual work
2022 The Ninth Zijin Award·Architectural and Environmental Design Competition
- Award-winning works

New burial models have been developed to meet the population's changing needs, with the hope of evoking the memory of the deceased and expressing the memory of the dead. In addition, with reverence for the environment and nature, a groundbreaking ecological burial model has been proposed, namely, the mosaic of burial and meditation spaces into urban green areas and water sources. This solves the city's traffic problem and provides a convenient place for people to pay their respects and a spiritual place for people's life.

What are the essential components of a meditation space? It might be the skylight, the water, or the noiseless and undisturbed experience. But, more importantly, what truly matters is how you find sanctuary in your mind when you are only with yourself.

Standing quietly on the shore, the person who enters is like walking into another world, feeling the time changes of the outside world in space. The circular patio creates a particular divinity, with the intersection of water, sky, and light, in which one can feel the transcendence of the inner form, where solitude or meditation can better confront the inner world, dialogue with oneself, and thus acquire a new self.



Europe



Austria



United Kingdom



Czech



France



Italy



Russia

Asia



India



Singapore



Japan



Cambodia



Kolkata



Okunoin

Africa



Namibia



Gauteng



Egypt



Romania



Johannesburg



Nile

America



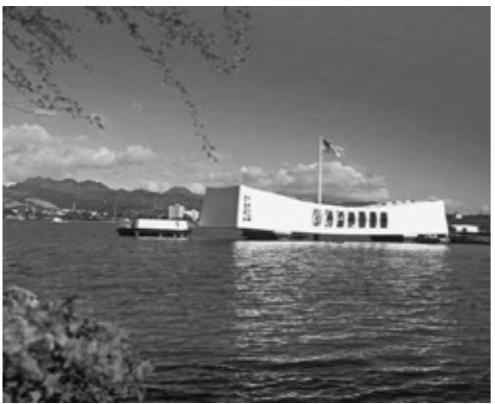
Missouri



Minnesota



Los Angeles



Hawaii



Santa Cruz Xoxocotlán



Georgia

Oceania



Auckland



Waverley Council



Dunedin



Wellington



City of Parramatta



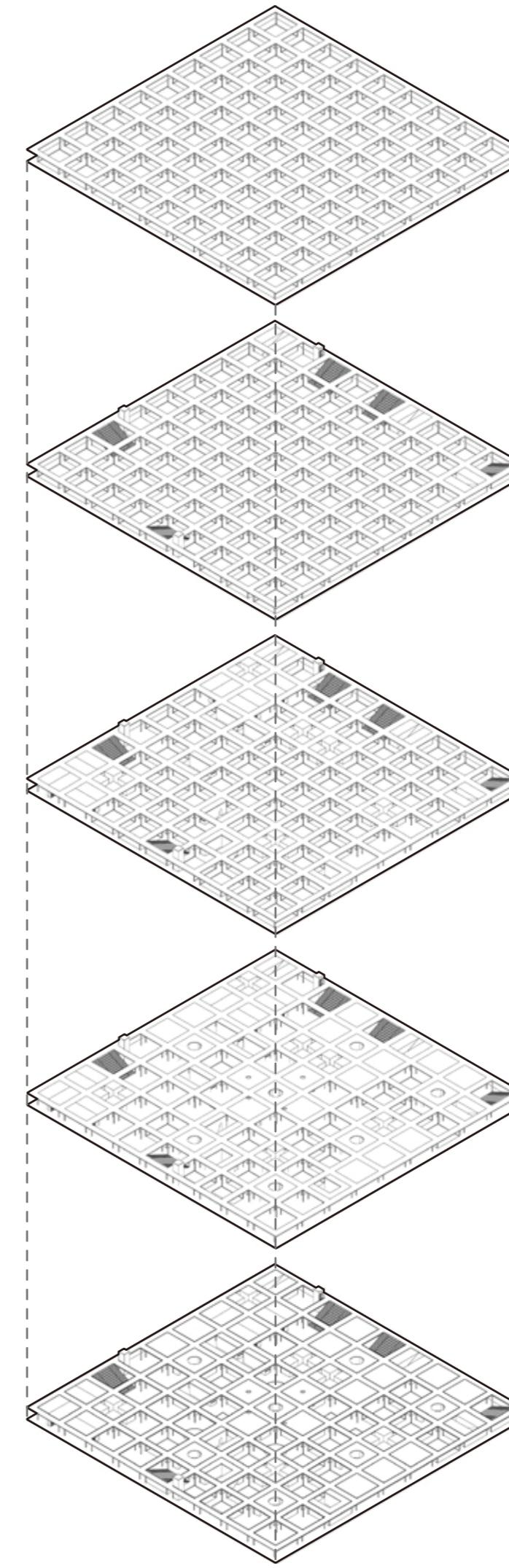
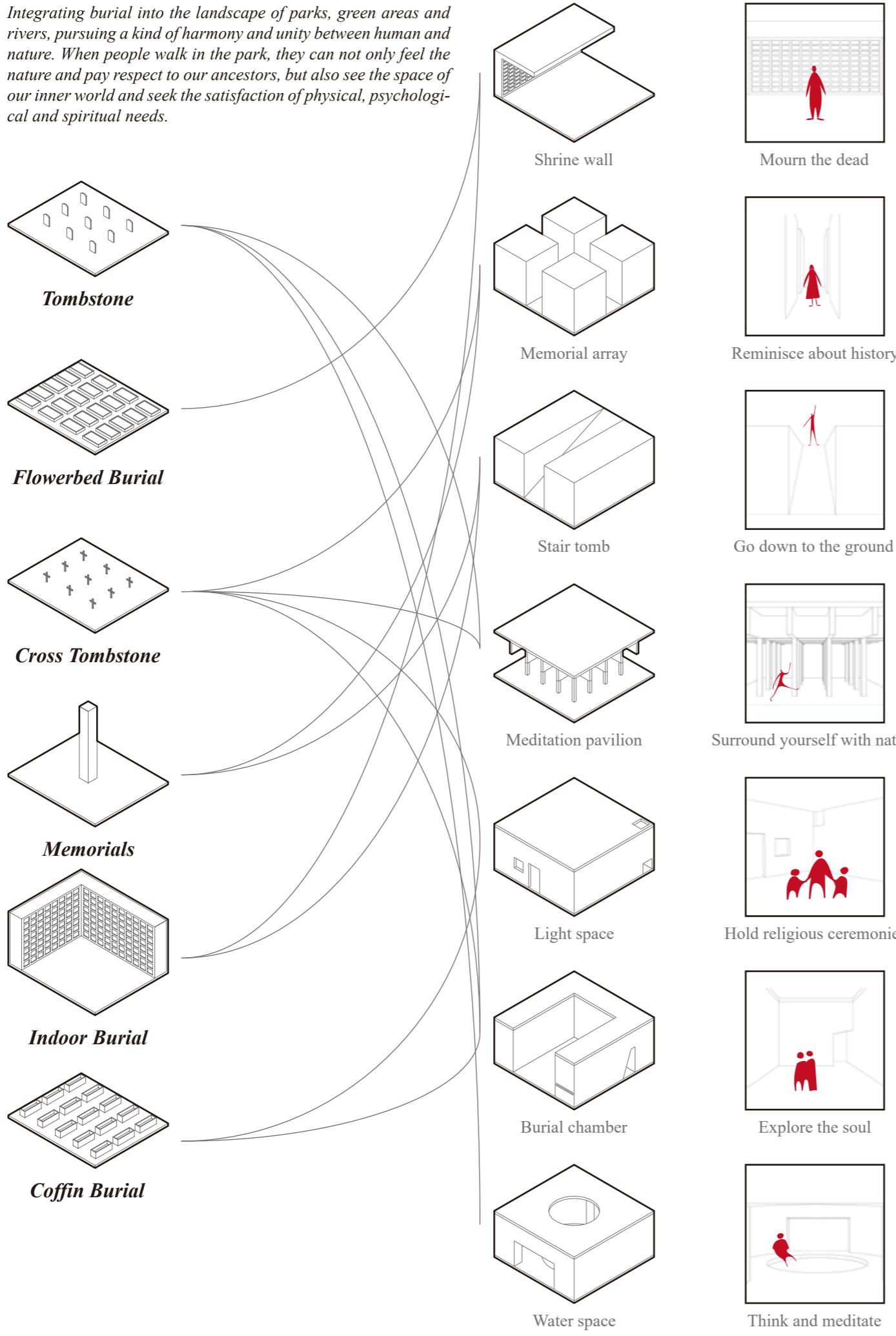
Brighton

Shanghai Cemetery Distribution Map

Chinese burial methods	Opinions on various types of funerals	Floor Space	Advantages	Examples	Problems	SITE ANALYSIS		
						Shanghai Population Density Map	Shanghai Transportation Road Map	Shanghai Green Space Distribution Map
Green Burial			Conserve land, green the environment and return to nature.		It has no inscriptions and will change traditional Chinese customs.			
Wall Burial			Retaining ashes, and saving economic costs.		It does not meet the traditional need of people to be buried in the ground.			
Pagoda Burial			Save a lot of land and wood, occupy a small area, and each grave space occupies a small area.		Costly, expensive to build and may destroy the body.			
Celestial Burial			It does not pollute the land and water, and the flesh is returned to nature, feeding the animals.		In some places, the act of celestial burial may be a crime of abandoning a corpse.			
Burial at sea			Improve people's living environment and reduce the financial burden.		cause some inconvenience to the family in mourning.			
Cremation			Prevent infectious disease and contamination		Generate air pollution and expensive.			
Burial in the ground			Pure natural, low pollution		Occupy arable land and waste land resources			
Opinions on various types of funerals		Floor Space	Advantages	Examples	Problems	Shanghai Population Density Map	Shanghai Transportation Road Map	Shanghai Green Space Distribution Map

Module

Integrating burial into the landscape of parks, green areas and rivers, pursuing a kind of harmony and unity between human and nature. When people walk in the park, they can not only feel the nature and pay respect to our ancestors, but also see the space of our inner world and seek the satisfaction of physical, psychological and spiritual needs.



Across both sides of the river

The building, consisting of a two-story slab supported by columns, spans both banks of the river.

Build internal transportation links

Through 2 types of building modules, the internal traffic routes of the building are improved so that visitors can move freely in both horizontal and vertical directions.

Place burial module

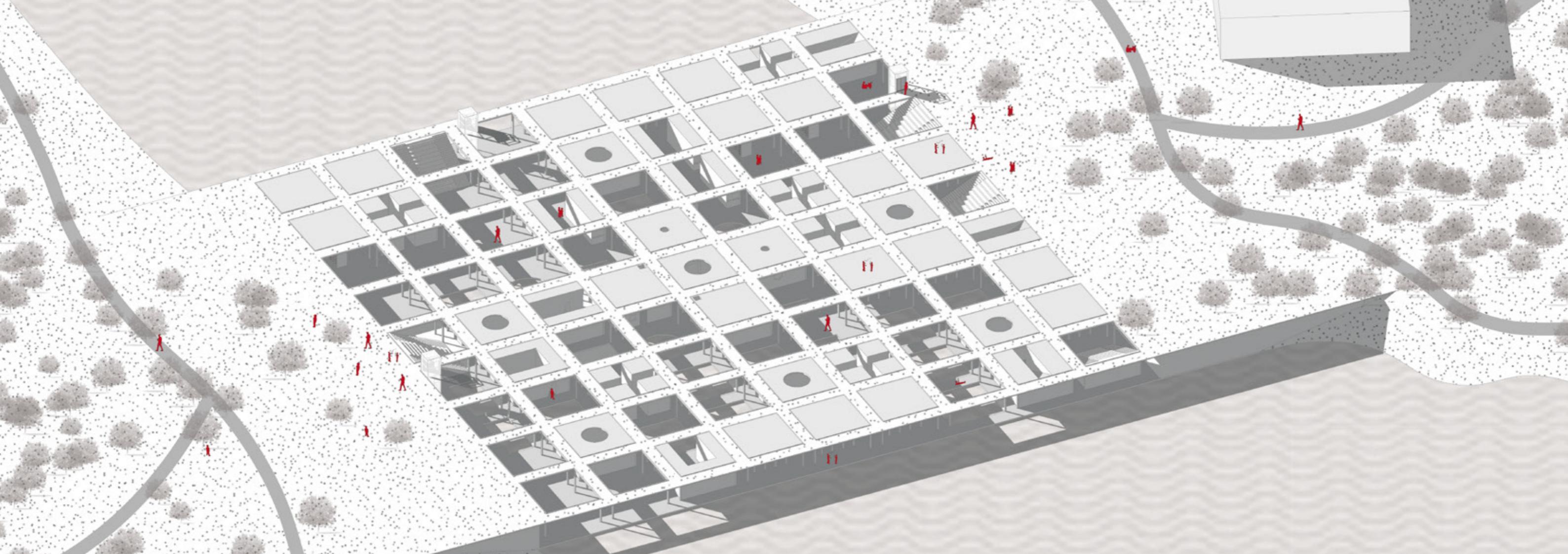
Several burial modules, such as wall burial, earth burial, flower bed burial and other green burial methods, are used to meet burial needs.

Place in meditation space

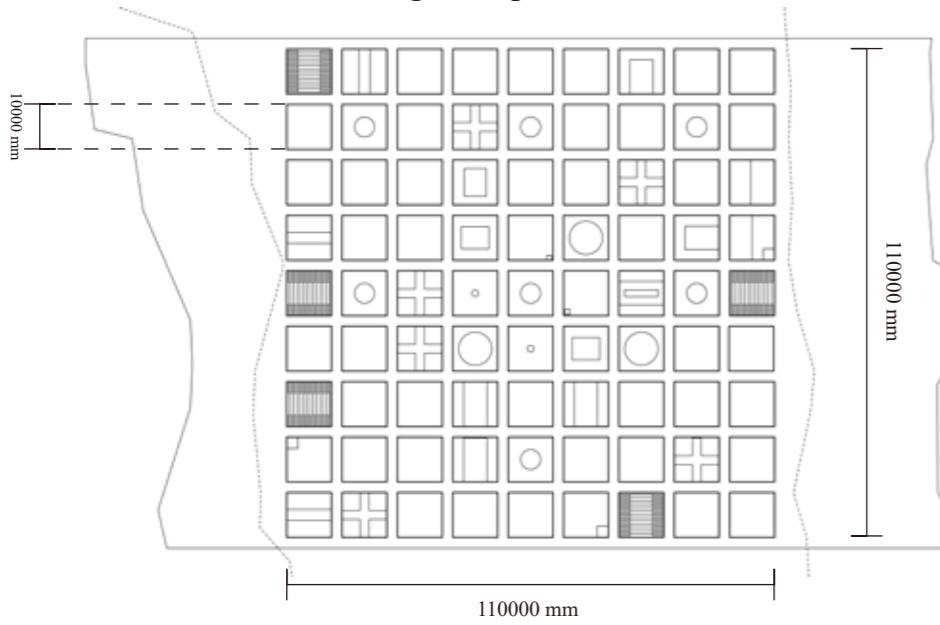
The meditation space satisfies a high-level need to seek deep interaction and communion with nature, to be in the nature around one, to be with oneself and to explore inwardly the sanctuary of the soul.

Dig holes in the bottom floor

Through the hole dug in the floor at the bottom of the building, the intersection of water, sky and light brings the viewer a space for reflection and meditation.



ground plan

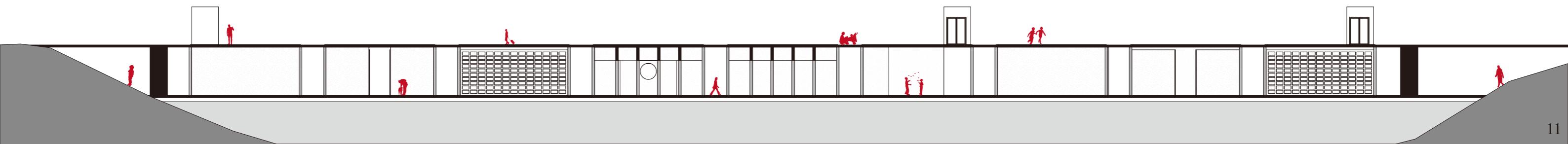
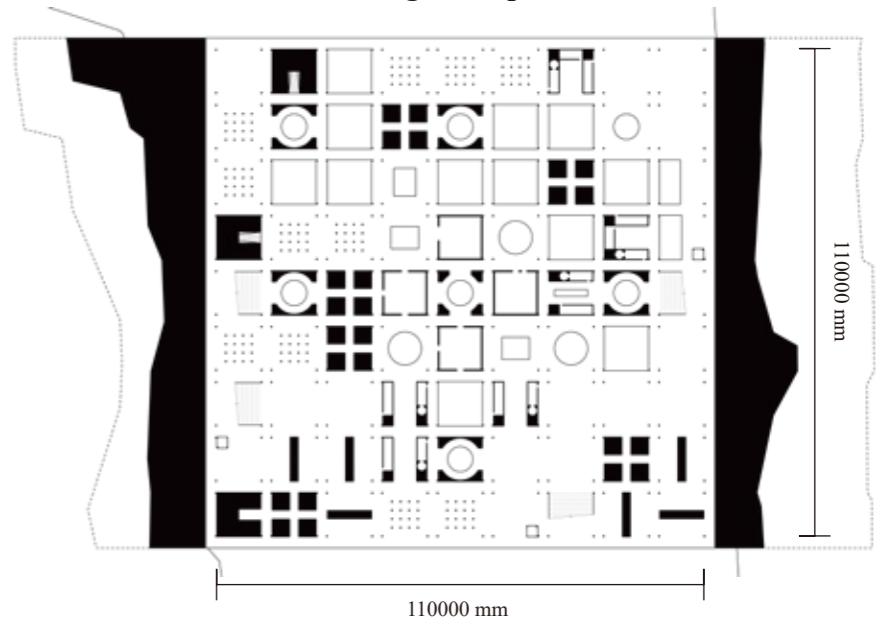


Plan and Section

The idea behind the whole building is how people can understand nature and themselves from the environment of this building. The way to do this is to build a man-made building, but make it natural at the same time.

About half of the building is placed below the horizon. At the same time, the grass in the park is connected to the building, extending all the way to the open platform at the top. In this way, the building naturally integrates into the green space of the park, as if it grows out of the green space.

underground plan



Rendering



People follow the stairs to enter the building space below the horizontal line.



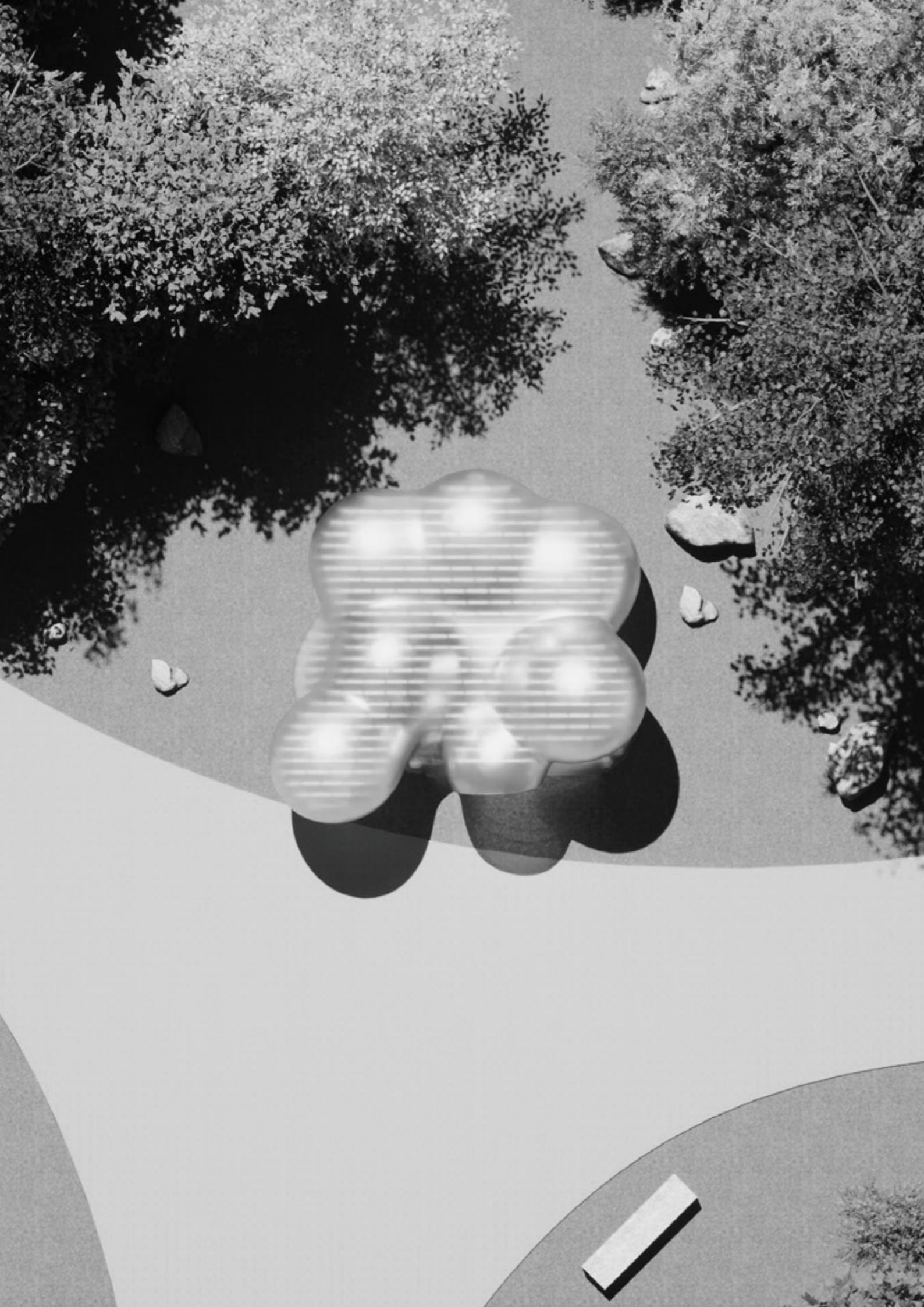
Here the sky looms through a wide oculus above a pool of water, as reflective as a still font.



The underground space of the building is enclosed with concrete to create a space of light and shadow.



The atrium is the best way to reflect "integration with nature", incorporating natural factors such as wind and water.



III

The Homeless House

Providing a safe and warm temporary shelter for the homeless

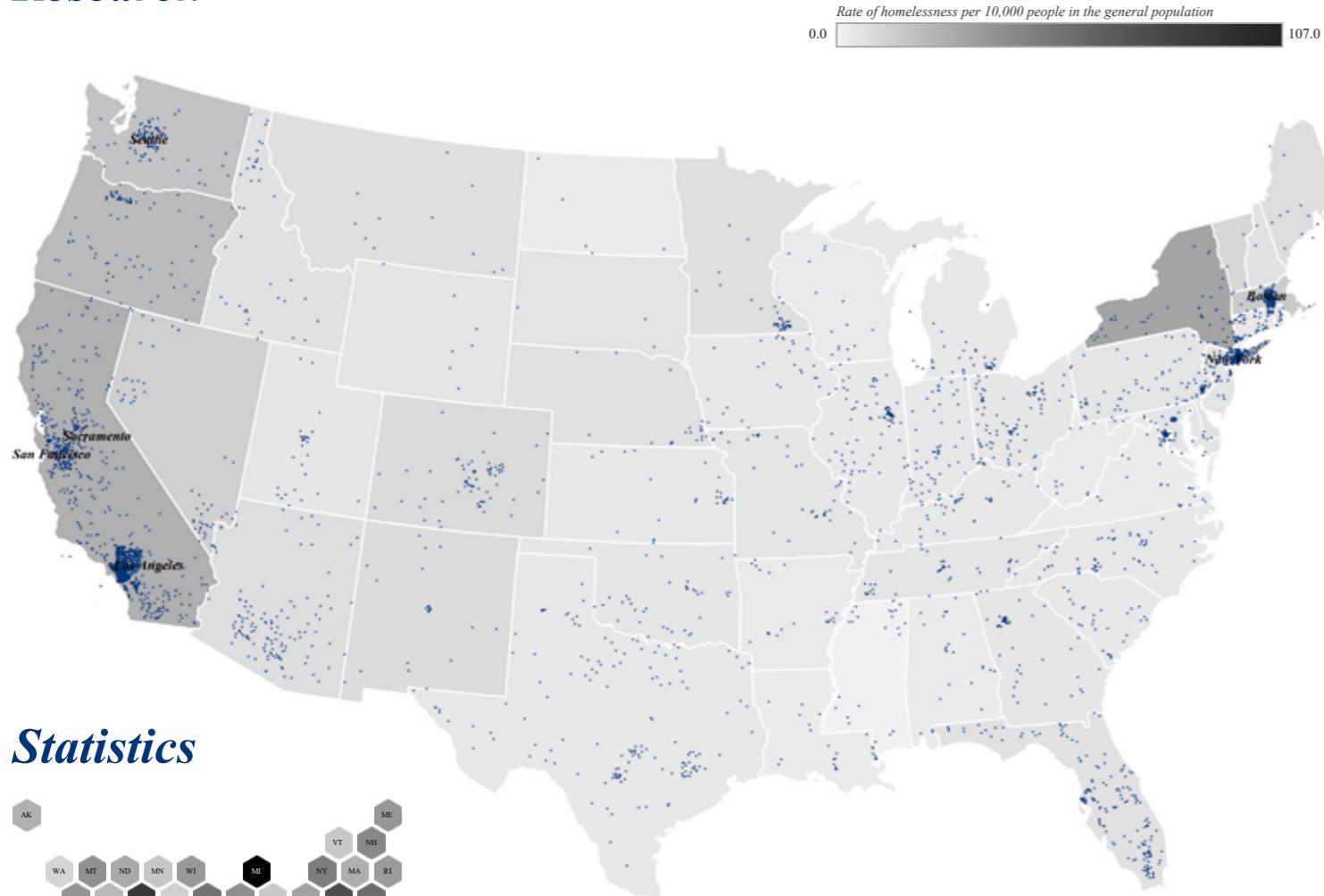
Individual work
2021

The U.S. Department of Housing and Urban Development has released its latest report on homelessness in the United States, with the number of people sleeping on the streets increasing by 2 percent in 2021. The number of homeless people has now increased for the fourth year in a row, and in the United States, homelessness is a problem common to some large cities.

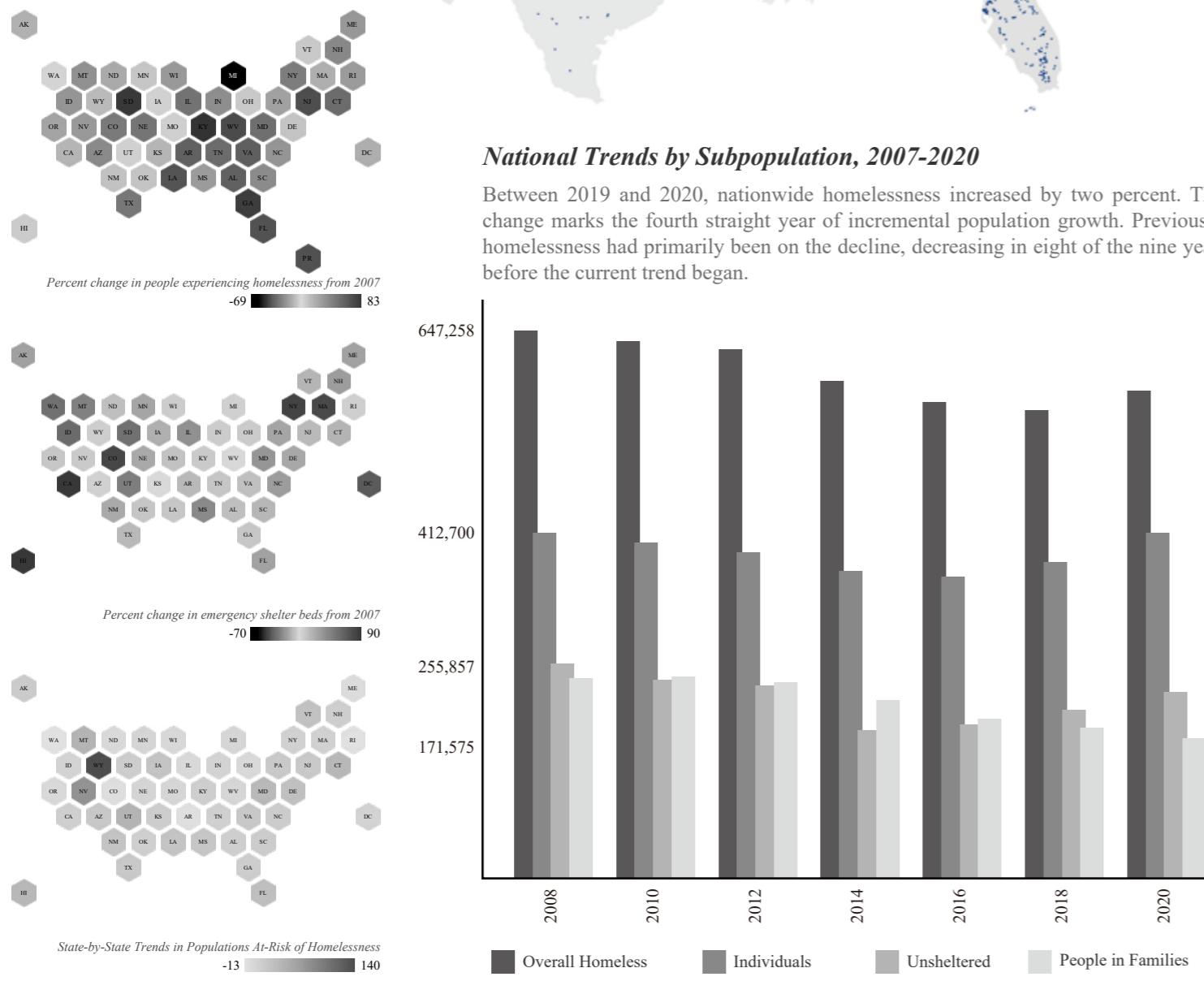
Vagrants are people who live in a place with no fixed address or below the minimum standard because of factors such as lack of financial means or physical or mental health, and who take shelter in parks, underneath flyovers in temporary shelters in rides, underpasses and back stairs of houses. They wander around the city, scavenging, begging or working as casual workers such as laborers to earn a meager amount of money or food.

Our design provides these homeless people with a temporary camp that can be erected in a temporary dwelling consisting of a tent and a simple shelter made up of tarps and blankets. This type of dwelling usually consists of a tent and fabric simple structure with a detachable semi-permanent structure.

Research

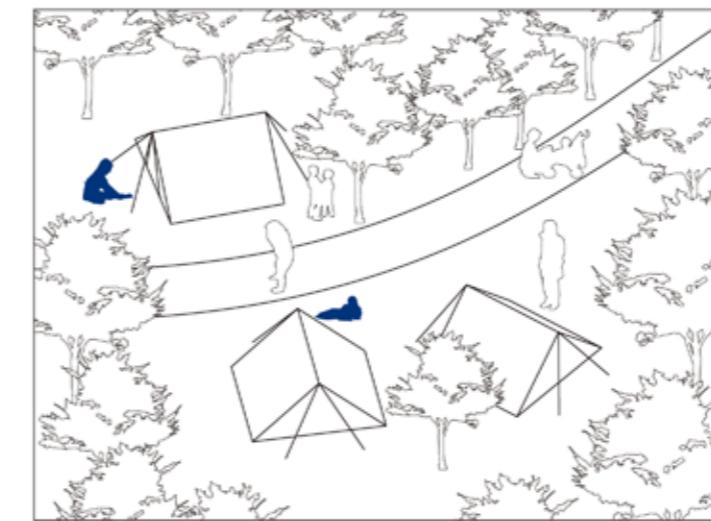


Statistics

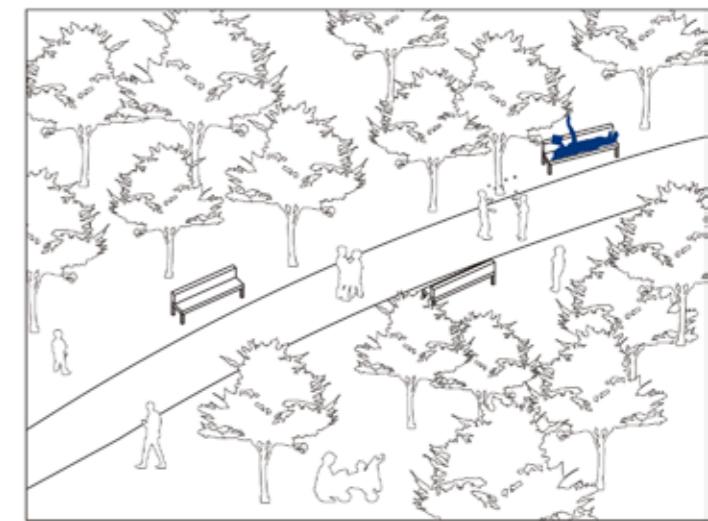


Situation

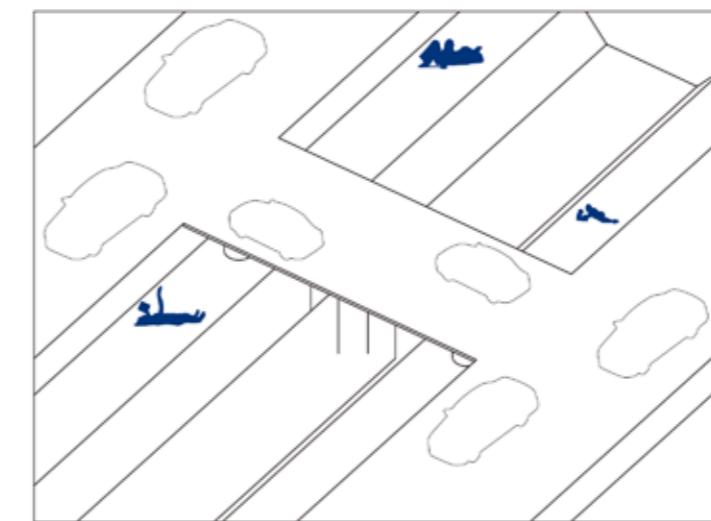
Homeless individuals report a lack of affordable housing as the number one reason for becoming homeless. The homeless, because of their lack of financial means, wander around the city, begging or working as temporary workers such as laborers, sleeping in parks, under overpasses, and on residential stairs.



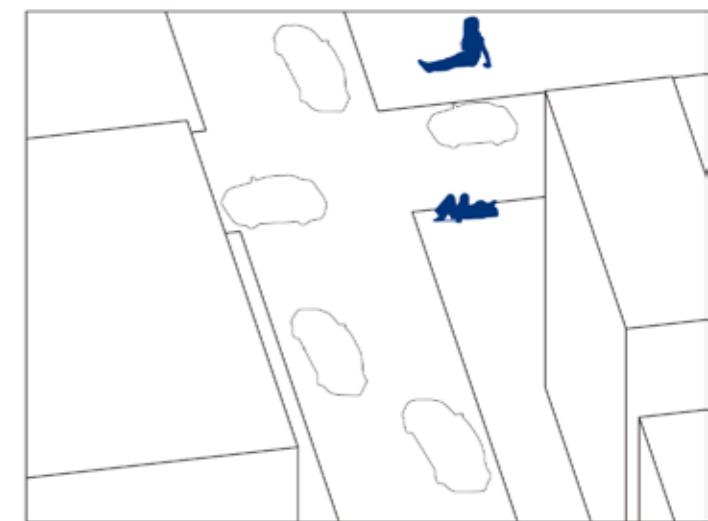
The homeless set up tent in the park.



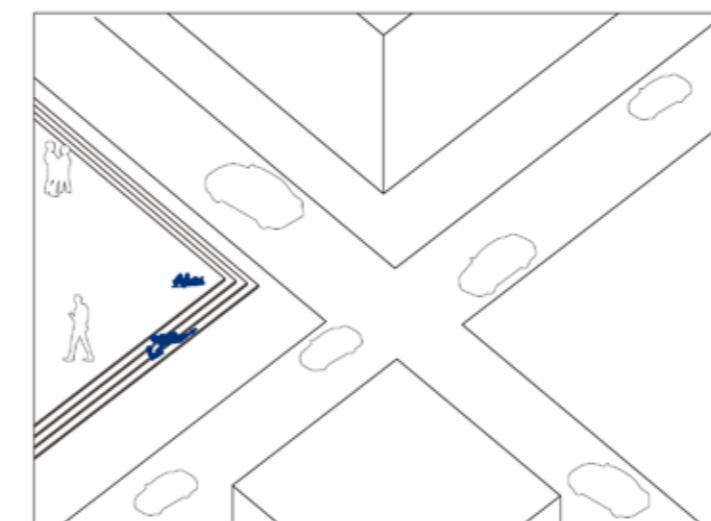
The homeless sleep on roadside benches.



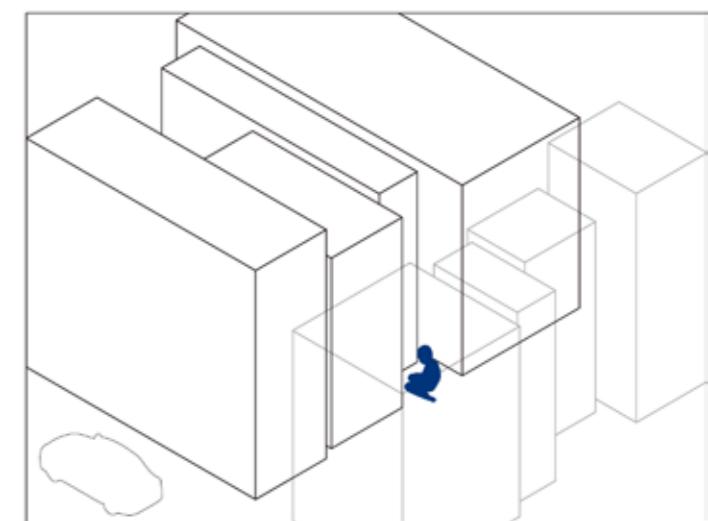
The homeless sleep under the flyover.



The homeless sleep on the side of the road.

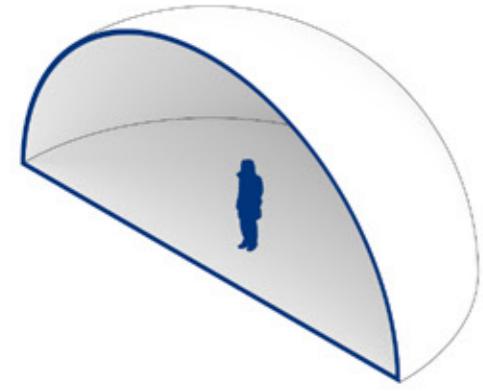


The homeless slept on the roadside steps.

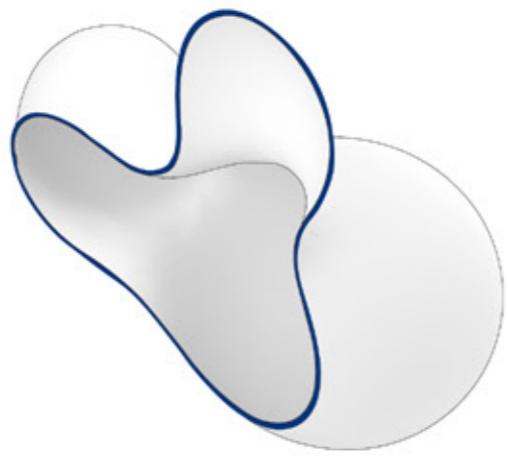


The homeless sleep in the narrow alleys.

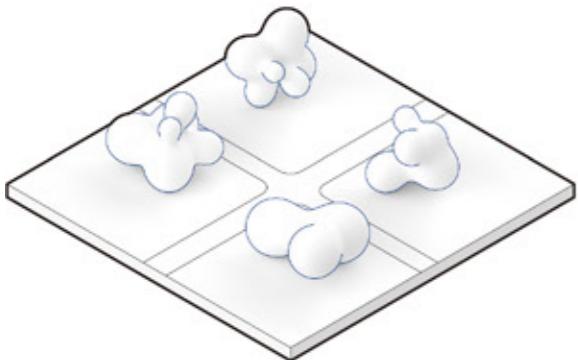
Concept



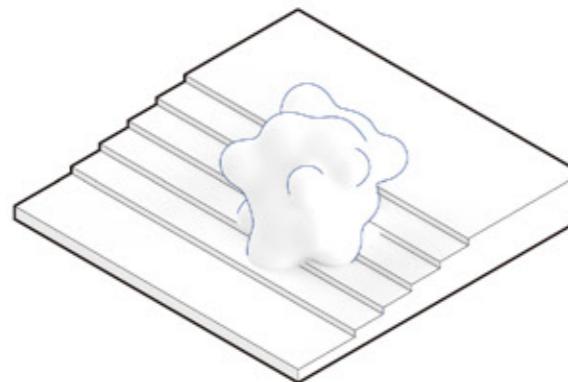
Section of temporary housing



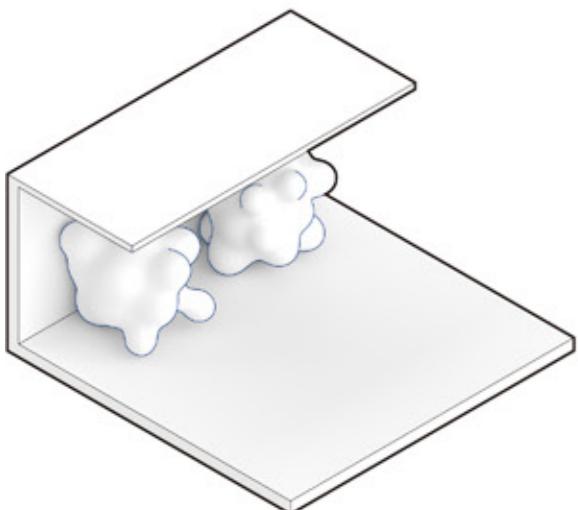
Section of temporary housing



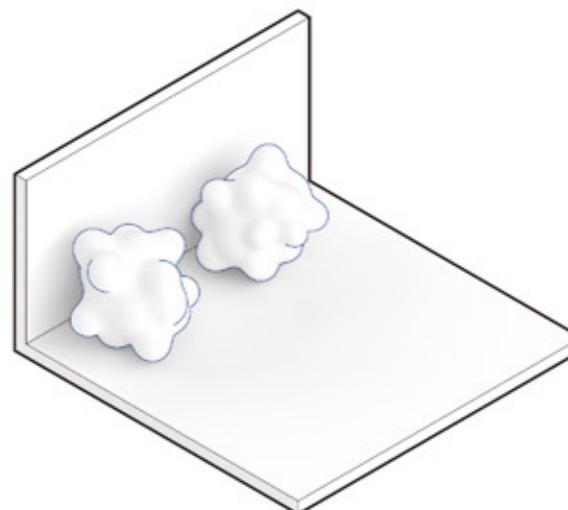
On the street



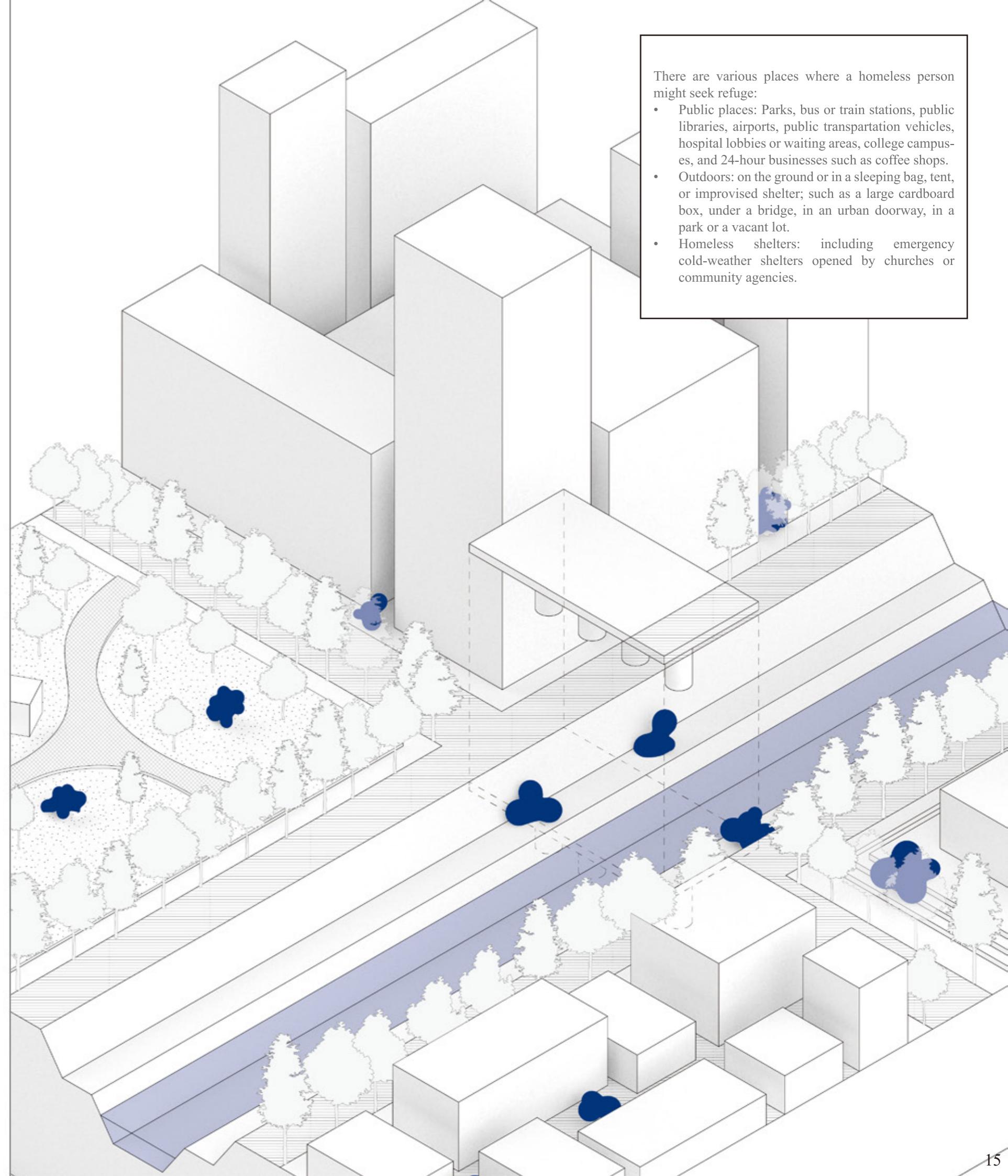
On the steps



Under the shade



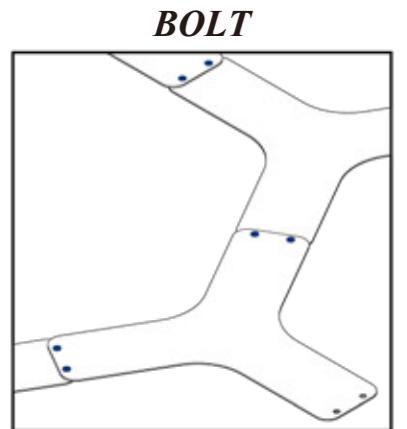
At the corner



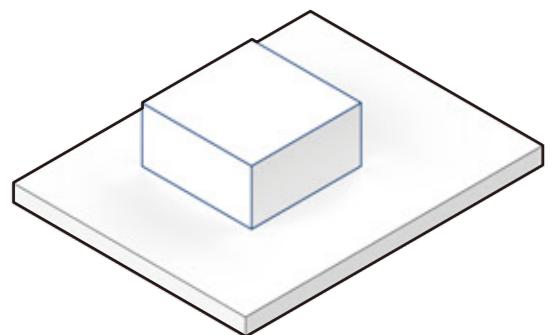
There are various places where a homeless person might seek refuge:

- Public places: Parks, bus or train stations, public libraries, airports, public transportation vehicles, hospital lobbies or waiting areas, college campuses, and 24-hour businesses such as coffee shops.
- Outdoors: on the ground or in a sleeping bag, tent, or improvised shelter; such as a large cardboard box, under a bridge, in an urban doorway, in a park or a vacant lot.
- Homeless shelters: including emergency cold-weather shelters opened by churches or community agencies.

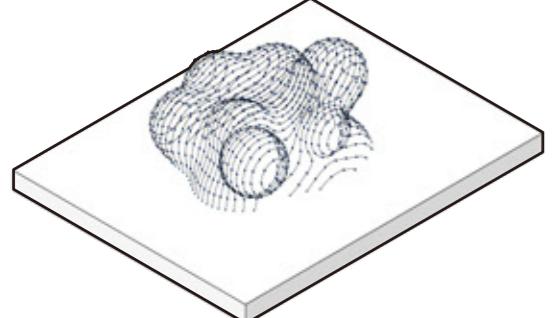
Joint Research



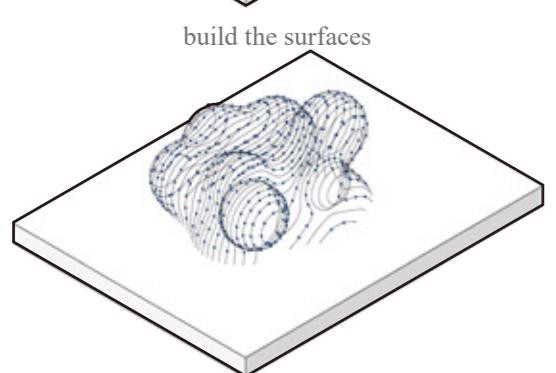
The y-plate combination is spliced together by bolts.



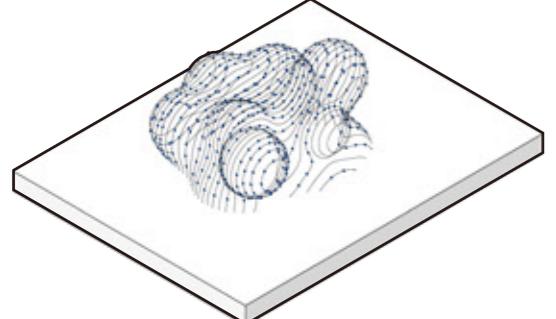
Create a box



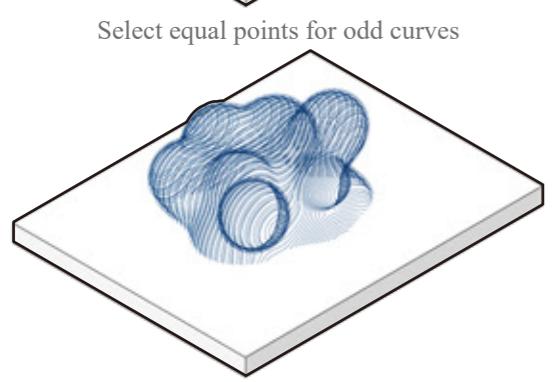
Random point picking



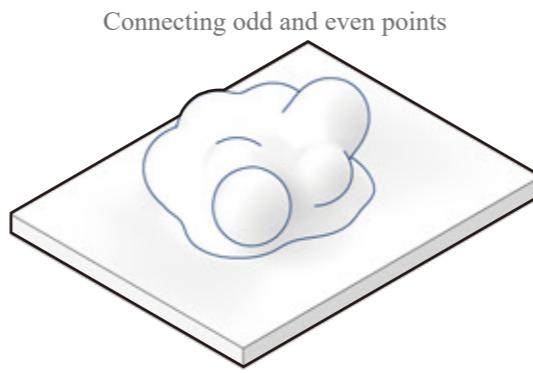
build the surfaces



Generate structure blocks



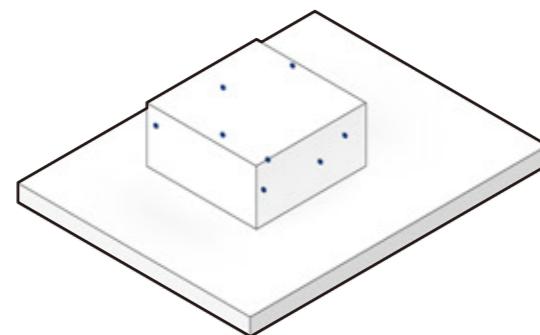
Select equal points for odd curves



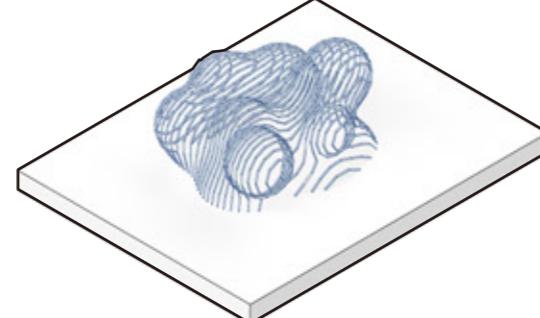
Generate mesh surfaces



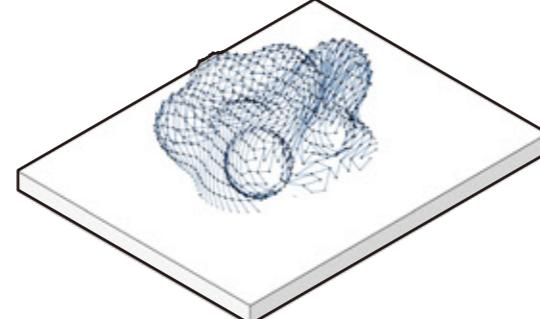
Stick-lets are flexible plastic connectors to lash sticks together when building dens.



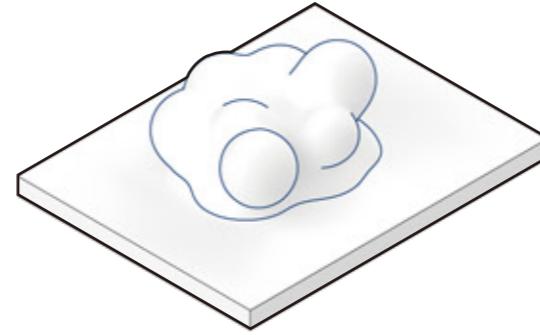
Random point picking



Generate structural curves



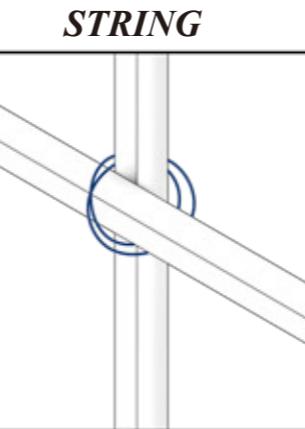
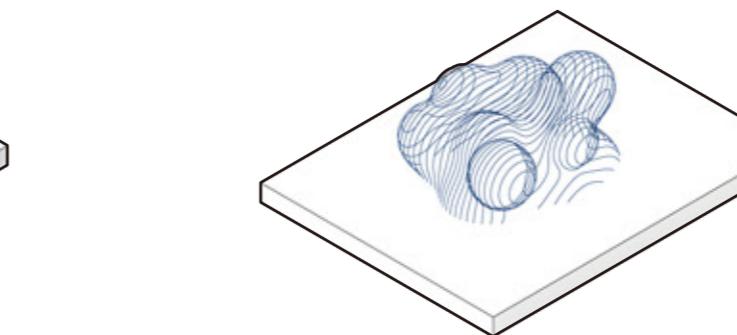
Select equal points for even curves



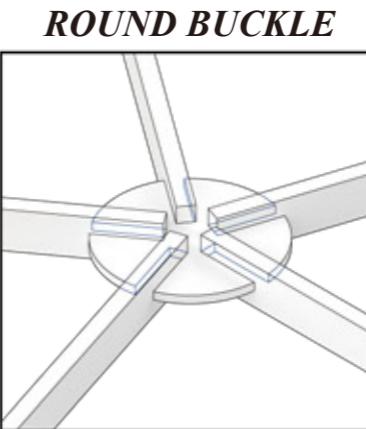
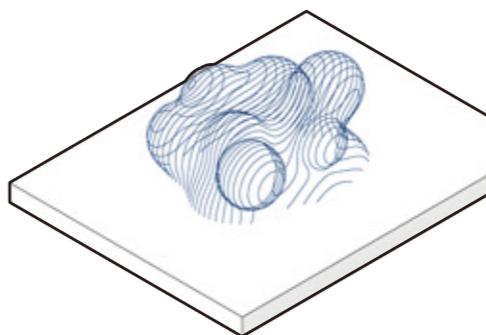
Generate mesh surfaces



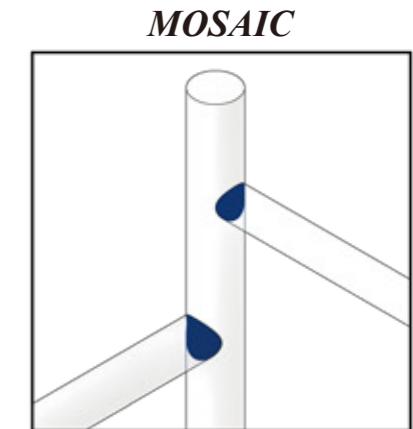
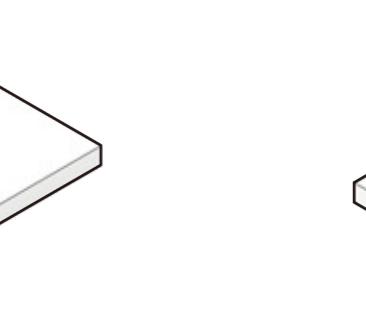
The two accessories are combined through the card slot, and the direction is fixed with screws.



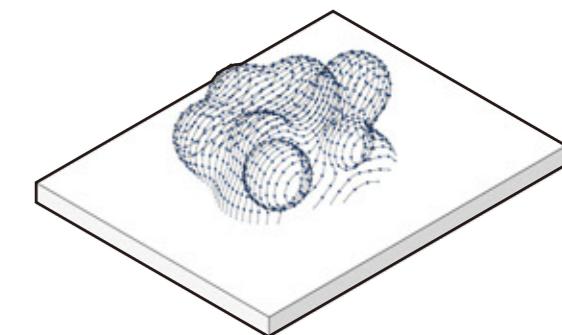
The wooden sticks are grouped together by ropes to hold the shape.



The wooden rods are connected in different directions through the disc gap in the middle.

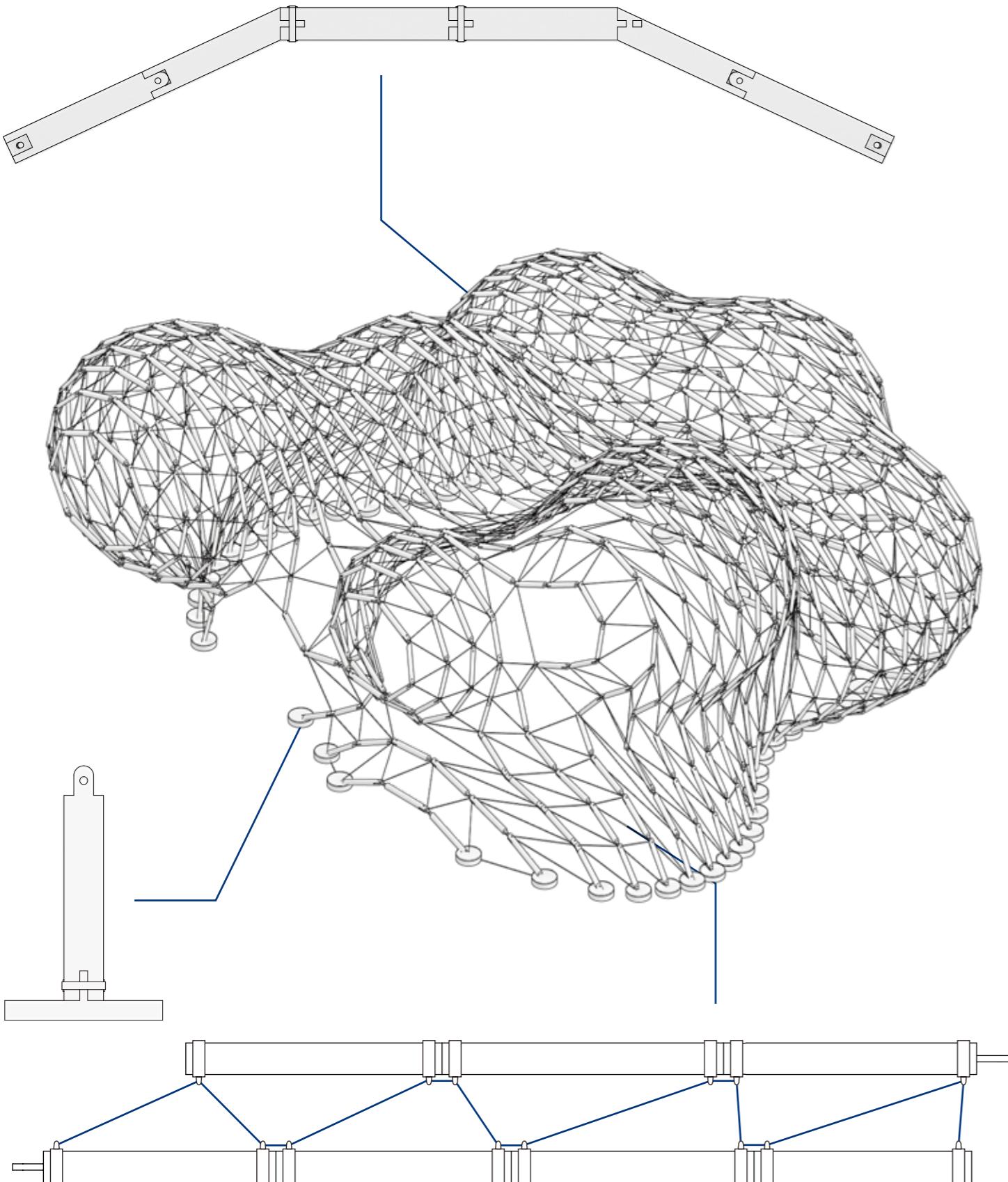


Punch holes in the sticks and insert sticks of different sizes.

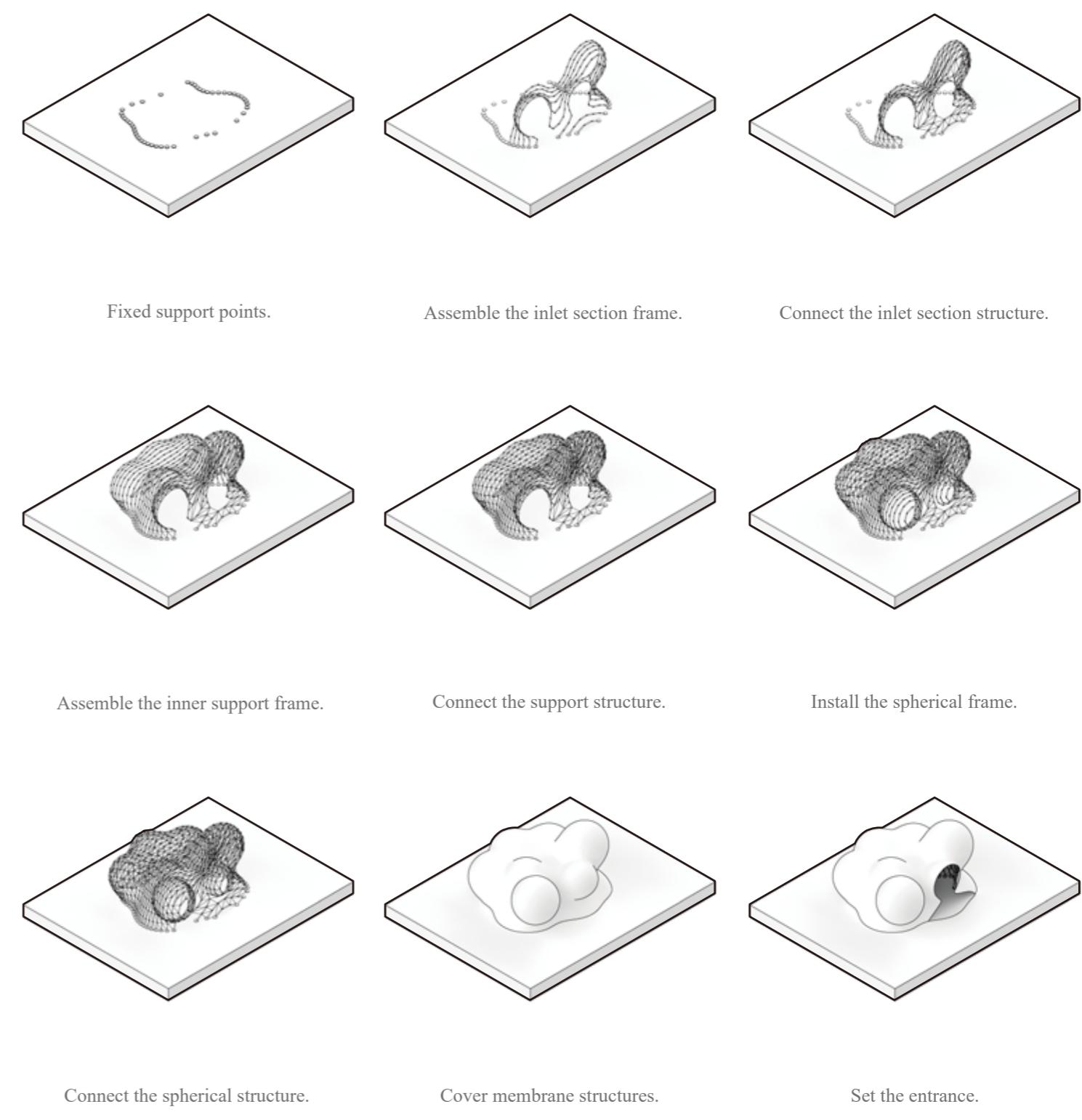


Generation Logic

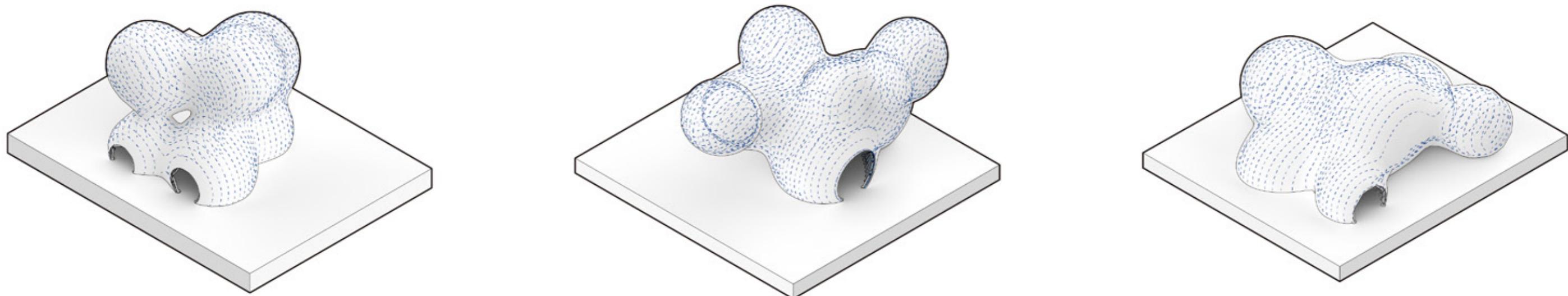
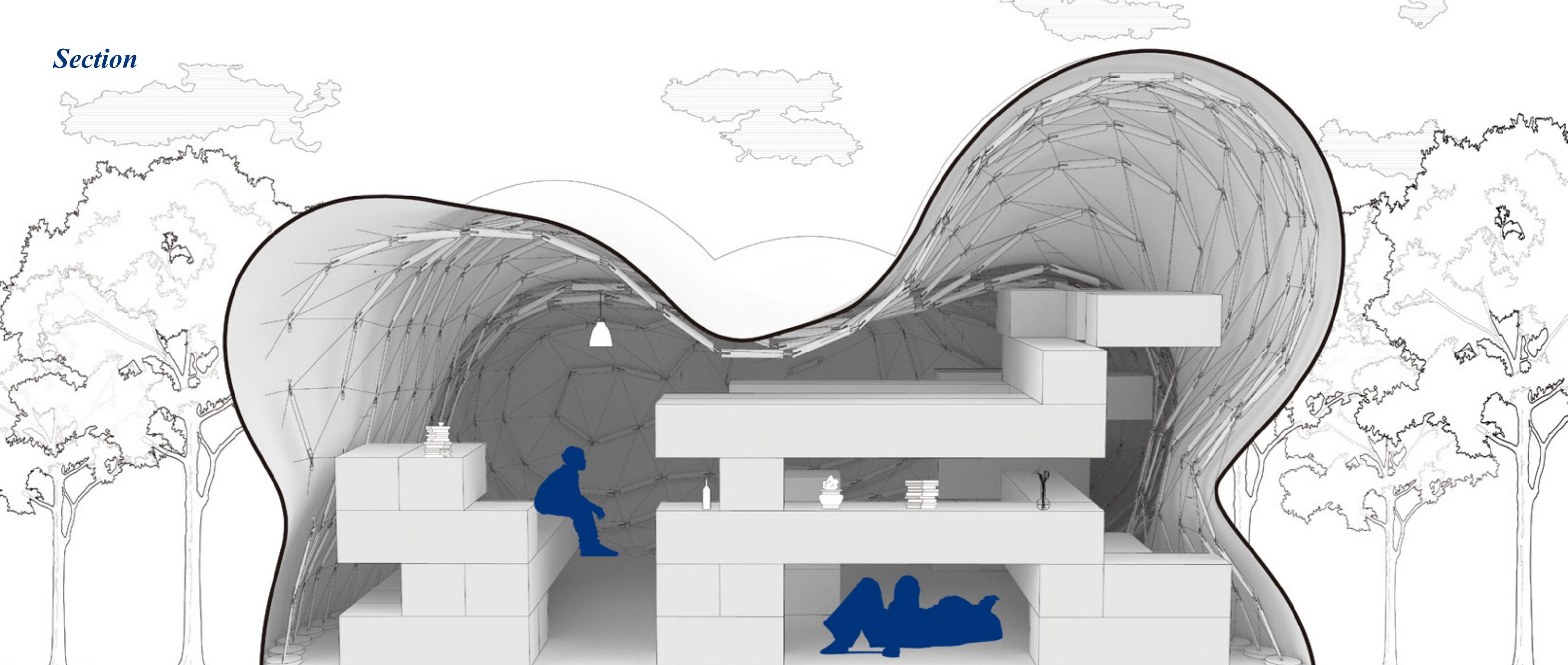
Construction Detail



Installation Steps



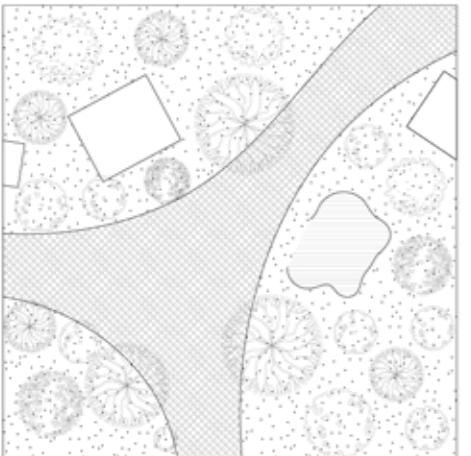
Section



Other different forms of detachable temporary shelters for homeless people are constructed through parameterized program operations.

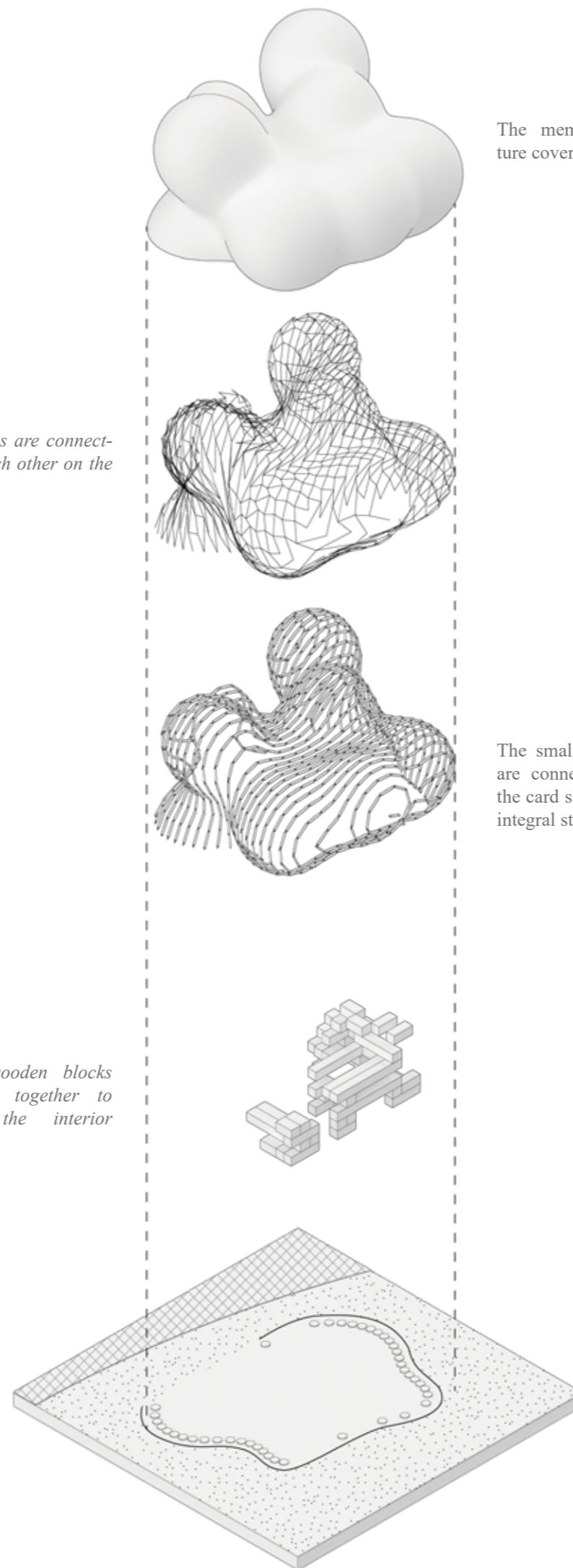


The ropes are connected to each other on the bracket.



This demountable homeless home is located on the grass near the intersection of the park, surrounded by various trees, while being in close proximity to traffic routes and other public buildings.

Homeless people can enjoy the natural environment of the park, while also facilitating their migration.



The membrane structure covers the scaffold.



The small components are connected through the card slot to form an integral structure.



The interior of the detachable homeless house is made up of a combination of various waste wood and cardboard boxes.

On the one hand, these wooden blocks can be used to divide the space, and on the other hand, they can be used as furniture through different combinations.

IV

Renewal of Traditional Japanese Houses

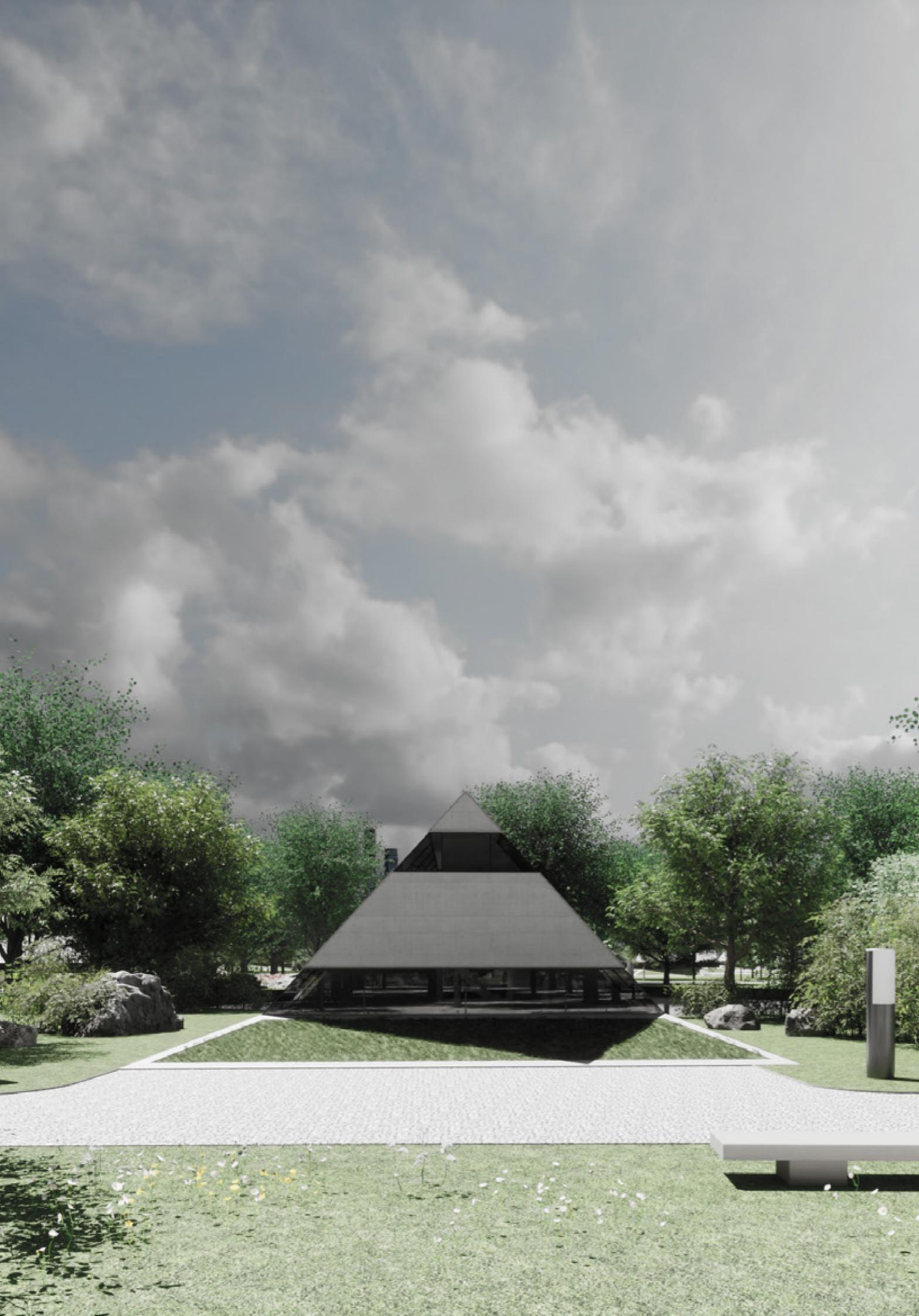
Exploring the Modernization of Traditional Architecture and the Stimulation of Urban Villages Vitality

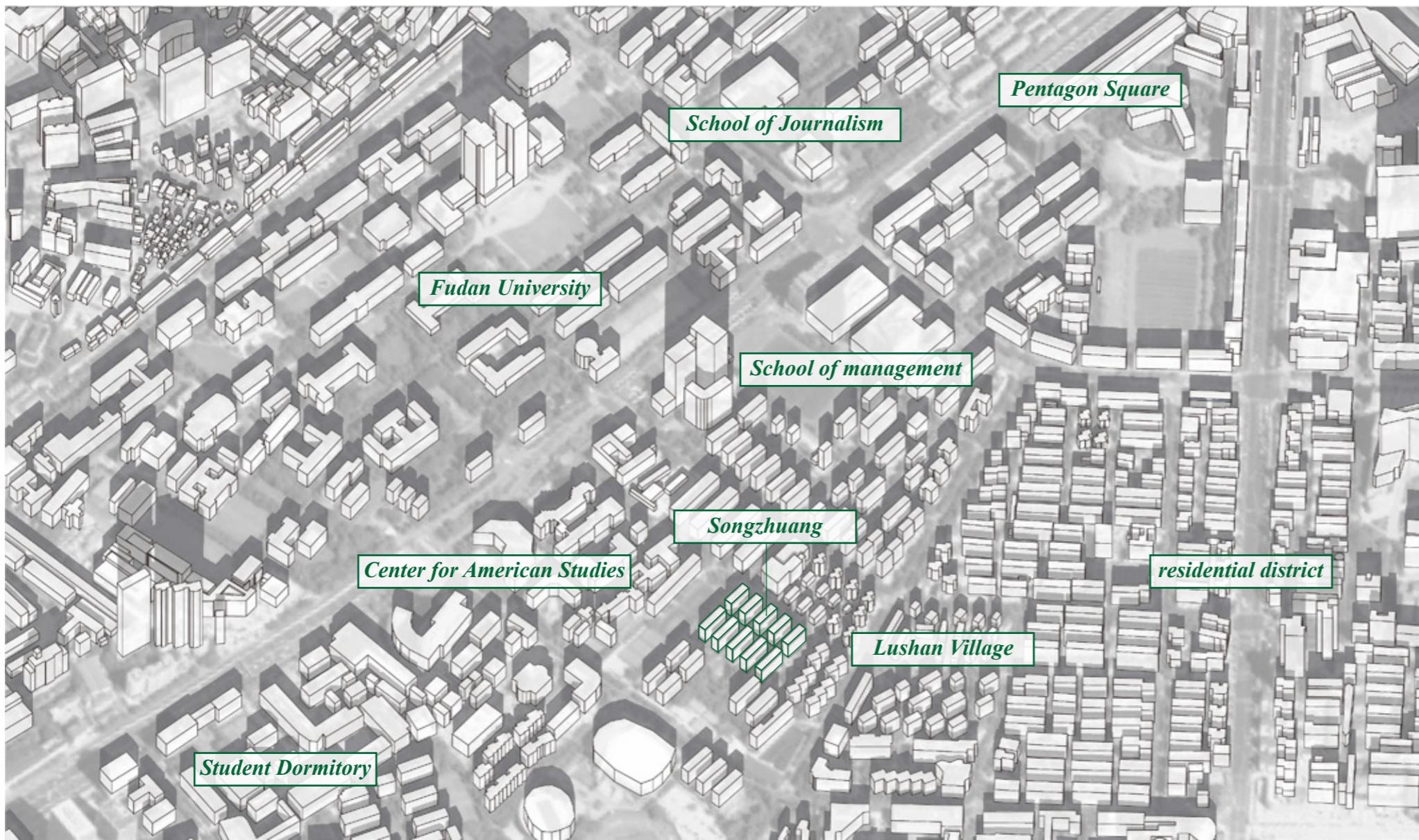
Individual work
2021

Urban villages are traditional villages that remain in urban areas, a phenomenon unique to the urbanization process in mainland China. However, as the economy continues to develop and the built-up area of cities expands rapidly, the rural regions previously located around the cities are incorporated into the urban landscape and surrounded by high-rise buildings, becoming "villages in the city." As a result, the population structure in urban villages is aging, the number of people is decreasing, and the housing stock is vacant and losing its vitality.

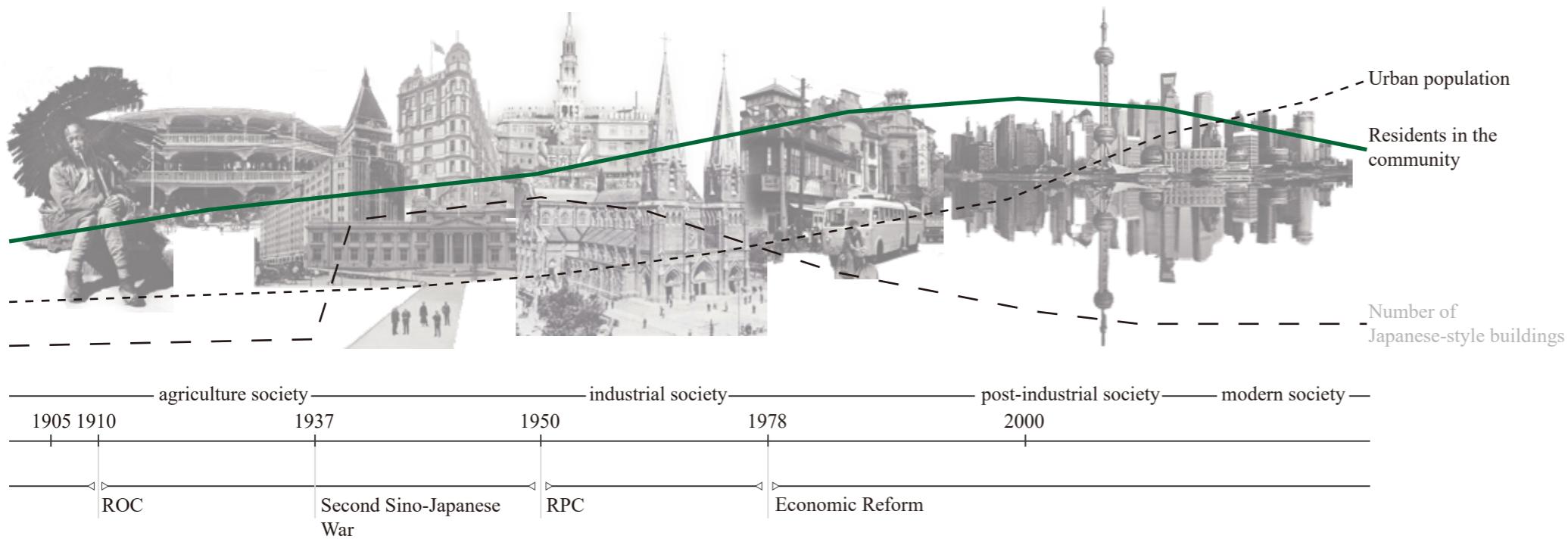
At the same time, in many urban villages, some traditional houses are facing difficulties under the trend of urban development: on the one hand, most of the conventional buildings are wooden structures, which will deteriorate and decay with time, and eventually collapse without repair; on the other hand, traditional houses can no longer meet the needs of modern life, but at the same time, they carry cultural flavor, historical heritage, and social memory, which are irreproducible and therefore precious.

Therefore, we need to explore and think about how to design a house that meets the modern lifestyle based on preserving the culture and history of traditional architecture.





Songzhuang (now the sixth dormitory of Fudan University), was named in memory of Wusongkou Cannon Taiwan, where Fudan University was founded. Songzhuang is a community with Japanese-style two-story buildings, which was used as student and faculty dormitories before the new student dormitories on campus were completed in the mid-1950s. The building is the most complete preserved among the "Three Villages and Four Towns".

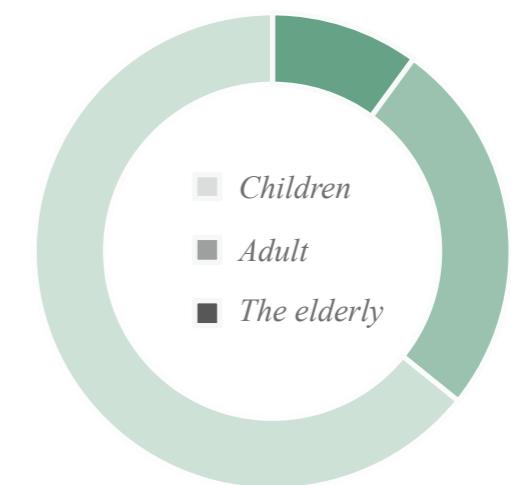


Population density of community



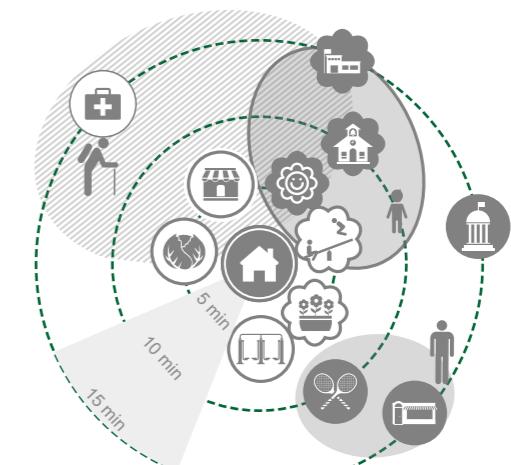
The community has 338 people, covering an area of 11,431 m² and the population density is 0.03 pop. per m². The population density of the community is much lower than that of Shanghai.

Population of all ages



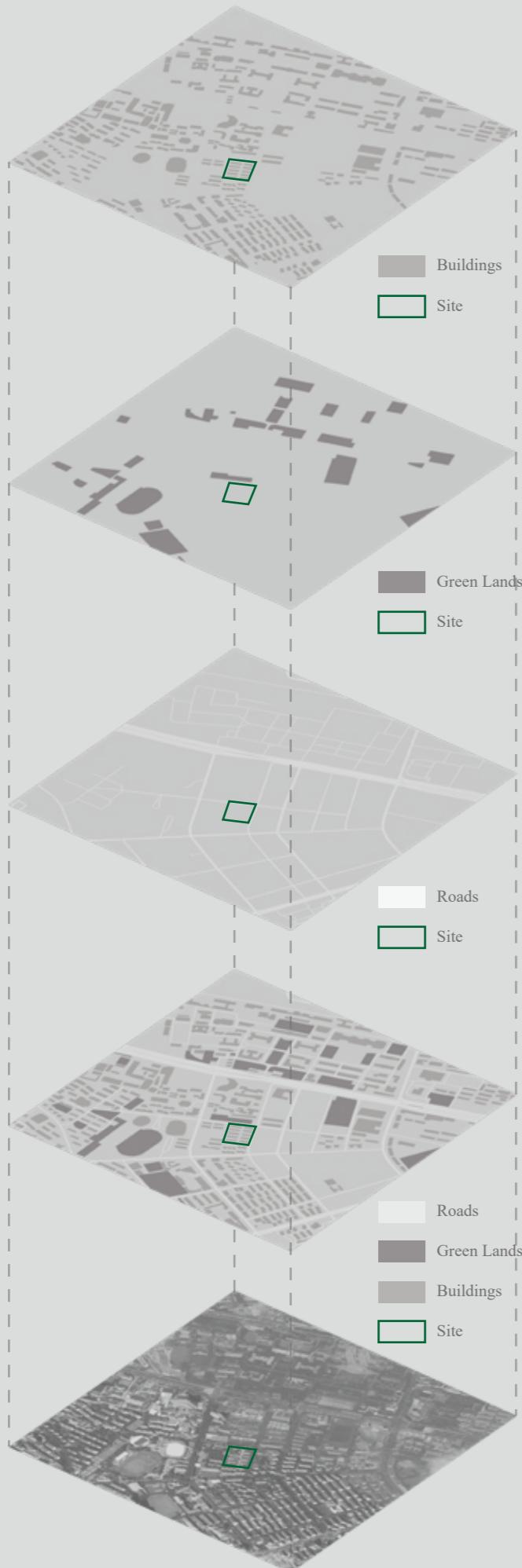
The community has the largest proportion of the elderly population, more than the number of children and adults combined.

15-minute community life circle



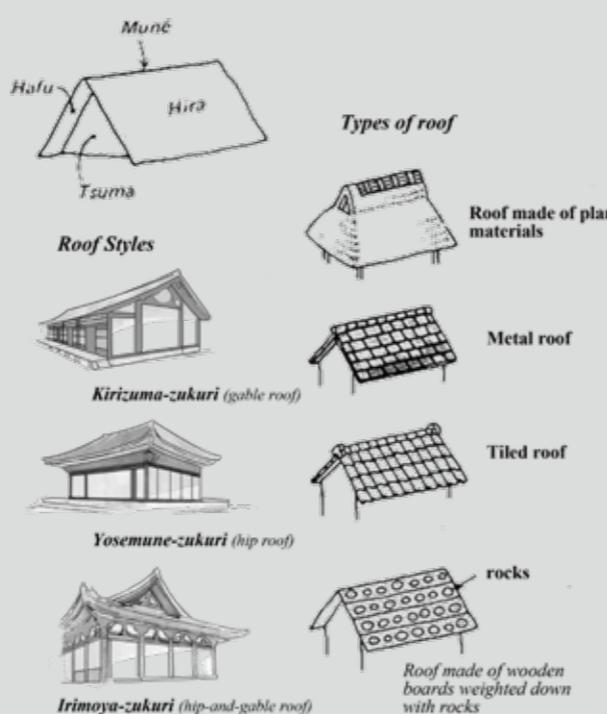
The community has met most of their needs, such as healthcare, schools, parks, food outlets and restaurants, essential retail and offices within a 15-minute distance.

Concept

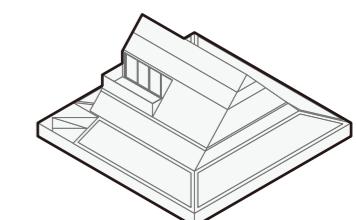
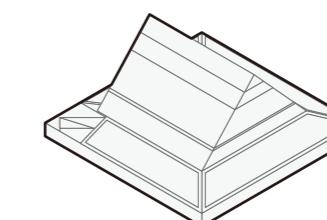
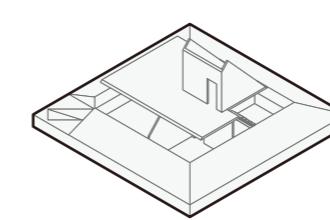
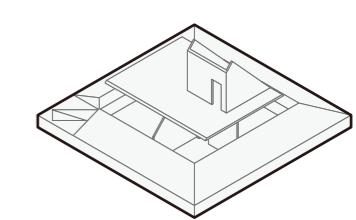
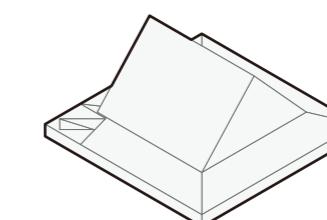
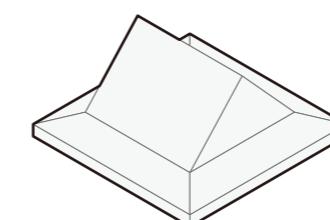
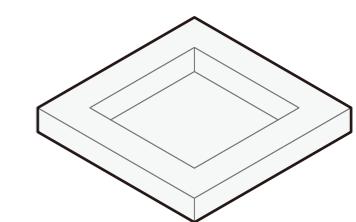
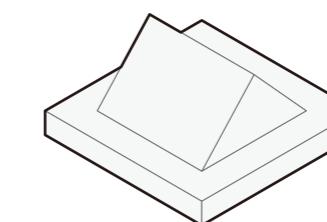
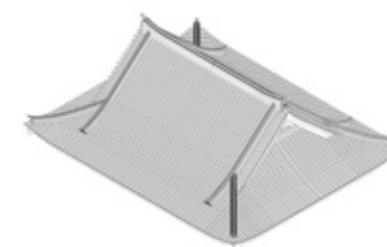
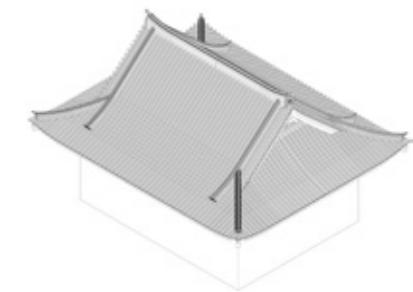
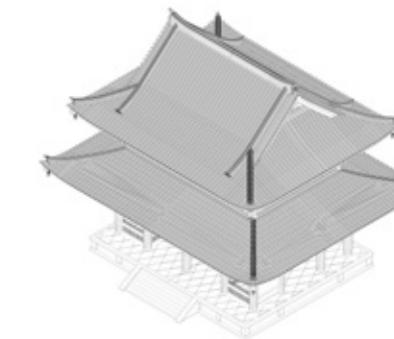
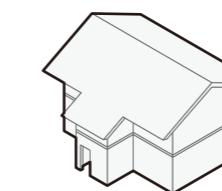


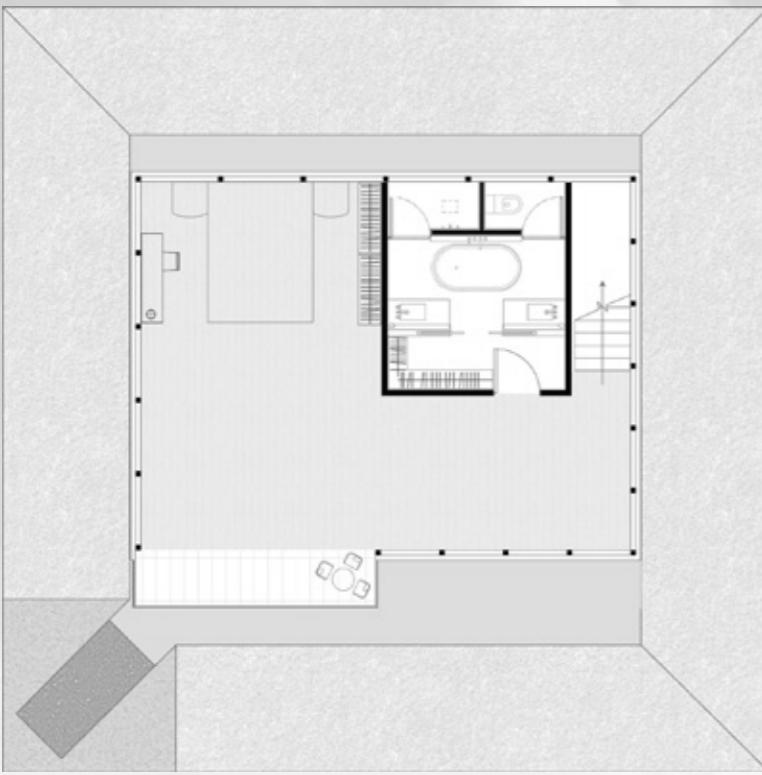
Japanese architecture has traditionally been typified by wooden structures, elevated slightly off the ground, with tiled or thatched roofs.

Names of roof components



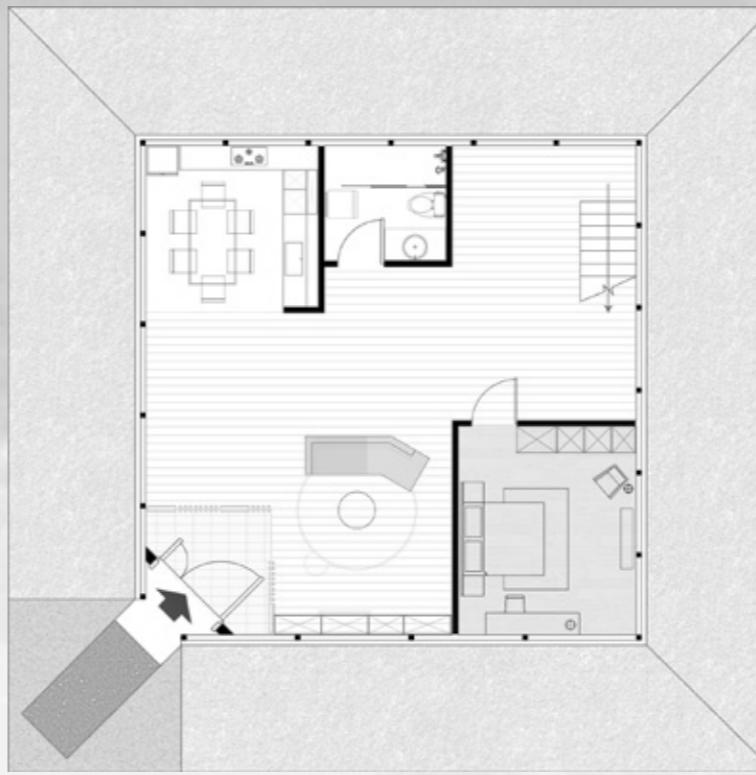
Design Process





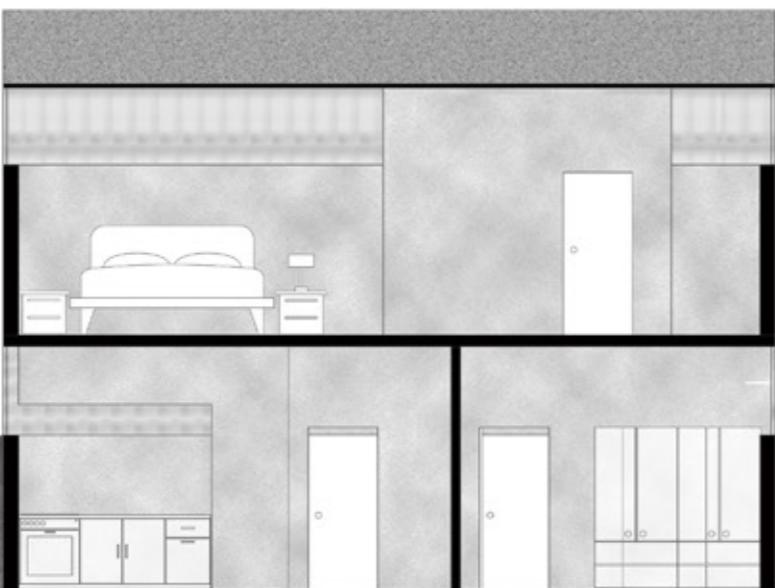
The second floor plan

The second floor is composed of bedroom and balcony, which are divided by glass sliding door.



The first floor plan

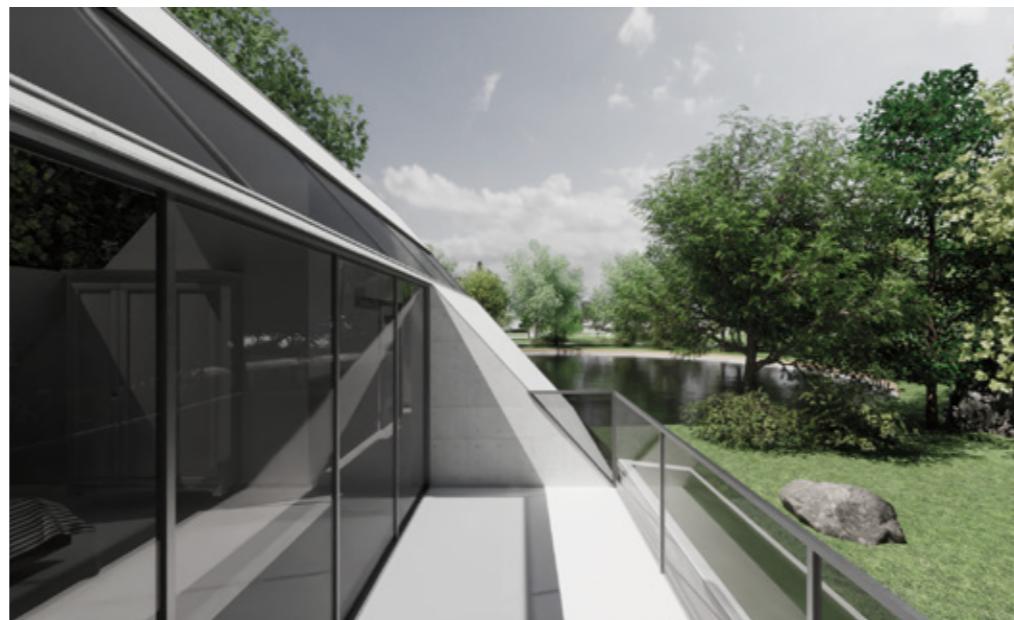
The first floor is composed of living room and study, which introduces sunlight through glass curtain wall.





Rendering

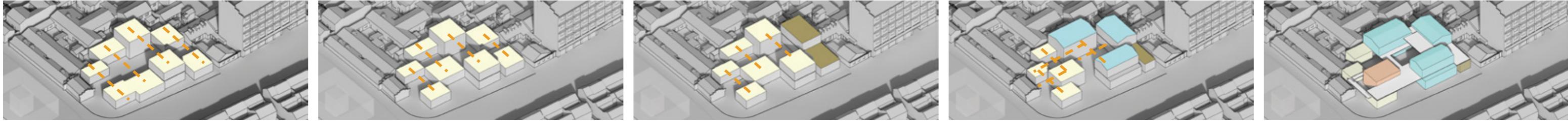
Inside the architectural space, occupants will experience a sense of pure geometric space, while bringing pure nature into the interior space through the glass.



Otherworks

Design of Children's Museum Based on Typology

The most basic type extracted from this proposal is the courtyard-entry type of residential houses facing the main street, which has a strong sense of sequence and directionality in the spatial sequence. With this as the basic type, the site is occupied by the texture of the residential houses, and multiple axial relationships are formed on the site. In the further transformation, the directionality of the single axis is weakened by the staggered relationship of the courtyard, and the outdoor open courtyard and the indoor through-height theater are formed as the core of the function and flow organization, bridging various public properties.



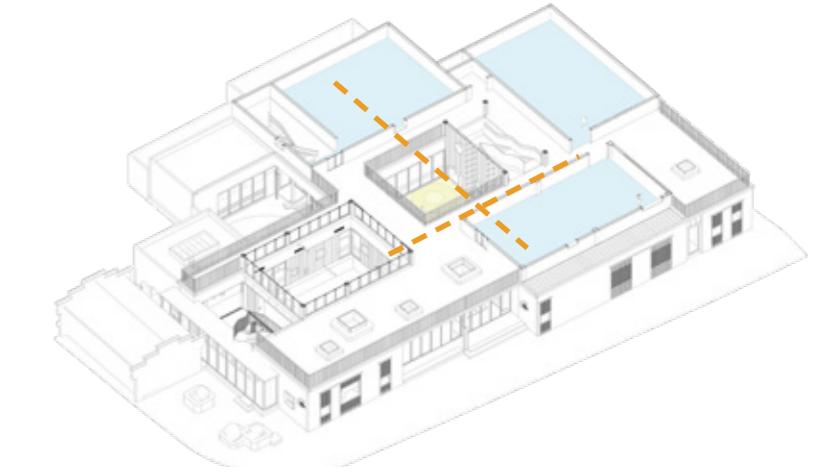
The site is occupied by courtyard-entry houses facing the main street.

Adjust the relationship of the courtyard to form the entrance at the volume level.

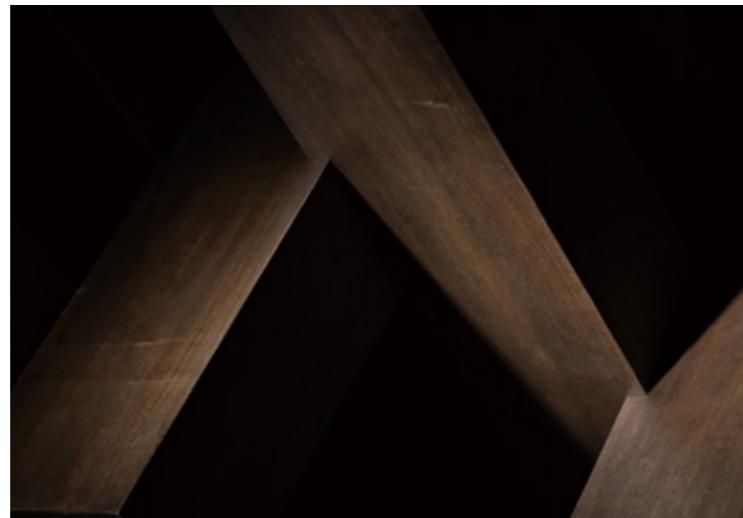
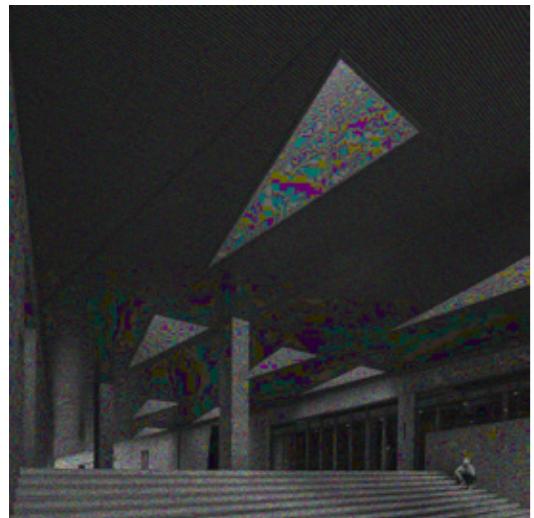
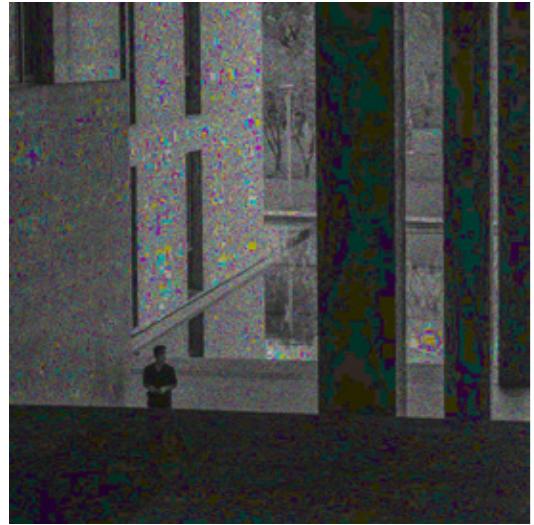
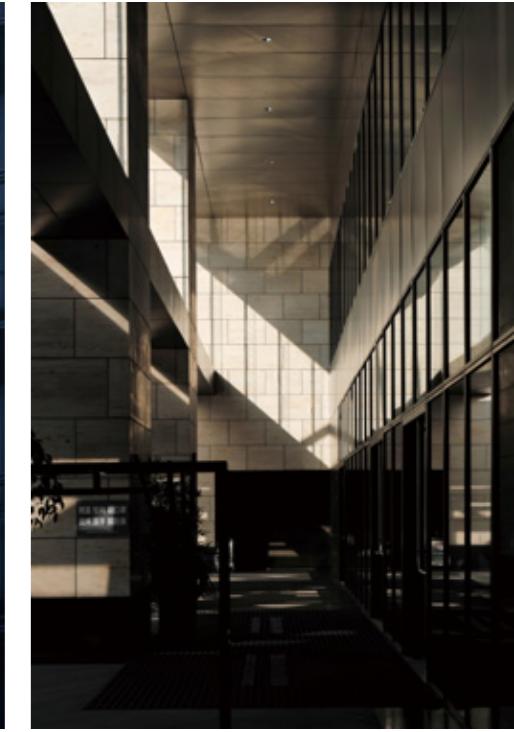
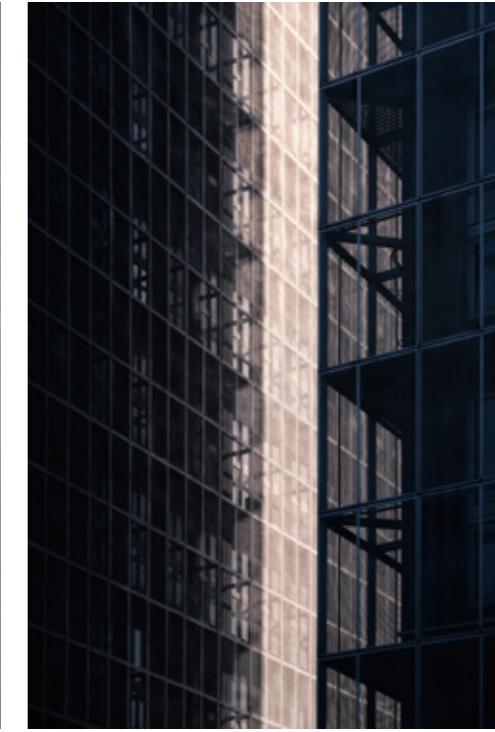
Use the innermost entry as a secondary space.

The relationship between the scale of the courtyard is adjusted by inserting exhibition halls and various activity rooms.

Join the terrace and connecting corridor to form a gallery courtyard.







Architectural Photography

The play of light and shadow conveys the secrets of order in space, and the geometric rows and stacks tell the deep thoughts of the heart. From point to line, from line to surface, order in disorder. We all live in the world of geometry, but we seldom take up the lens to record the meaningful geometric beauty in our lives.

The stone arch bridge, the moon gate in the garden, the rose window in the church set off the sacredness of the cross; the blue sky, the white wall, the shadows, the clear lines between the different color blocks, the beauty of geometry in life is everywhere. When you find various geometric shapes in life and make proper use of them in the composition, you will often achieve unexpected visual feelings.

