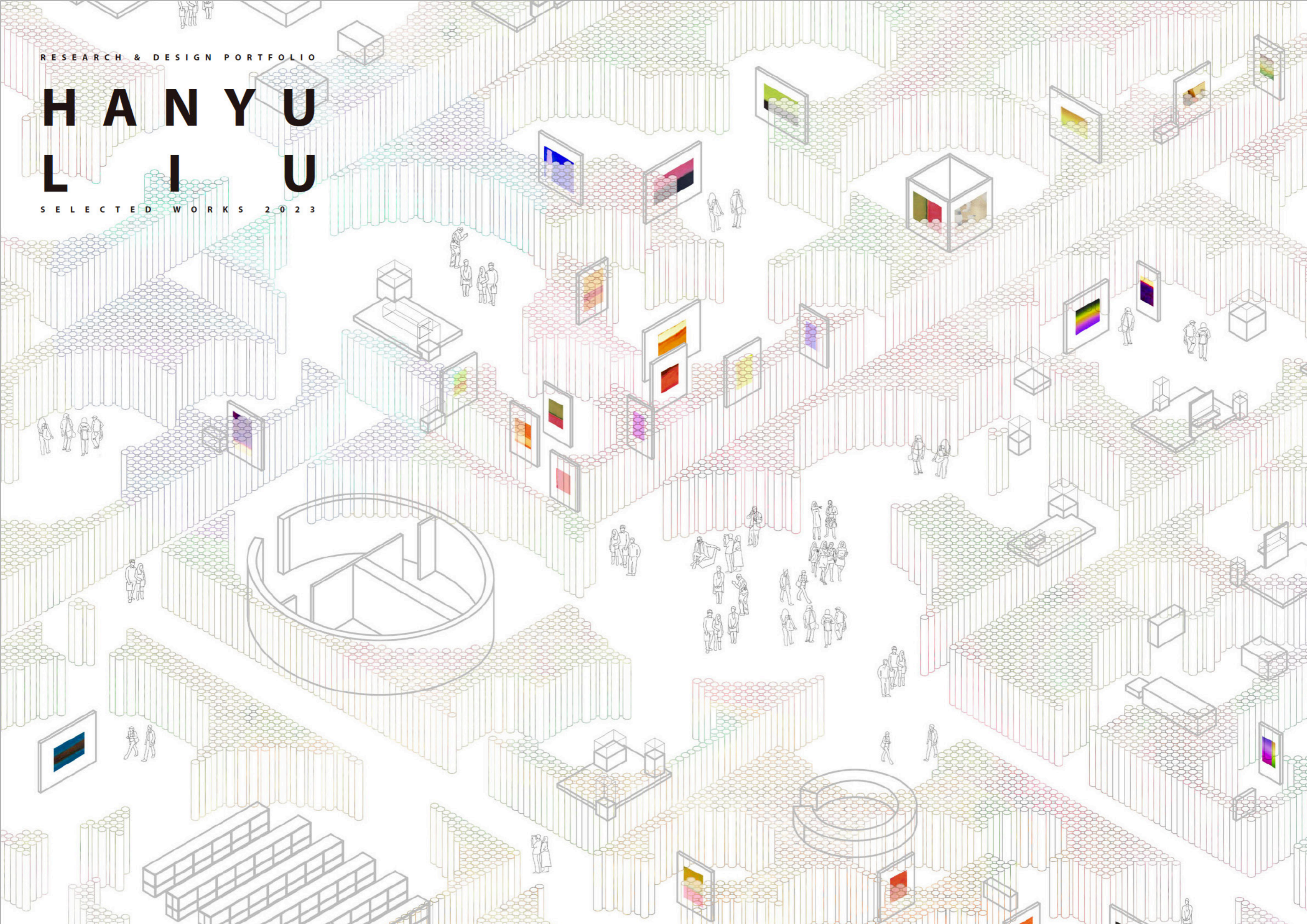
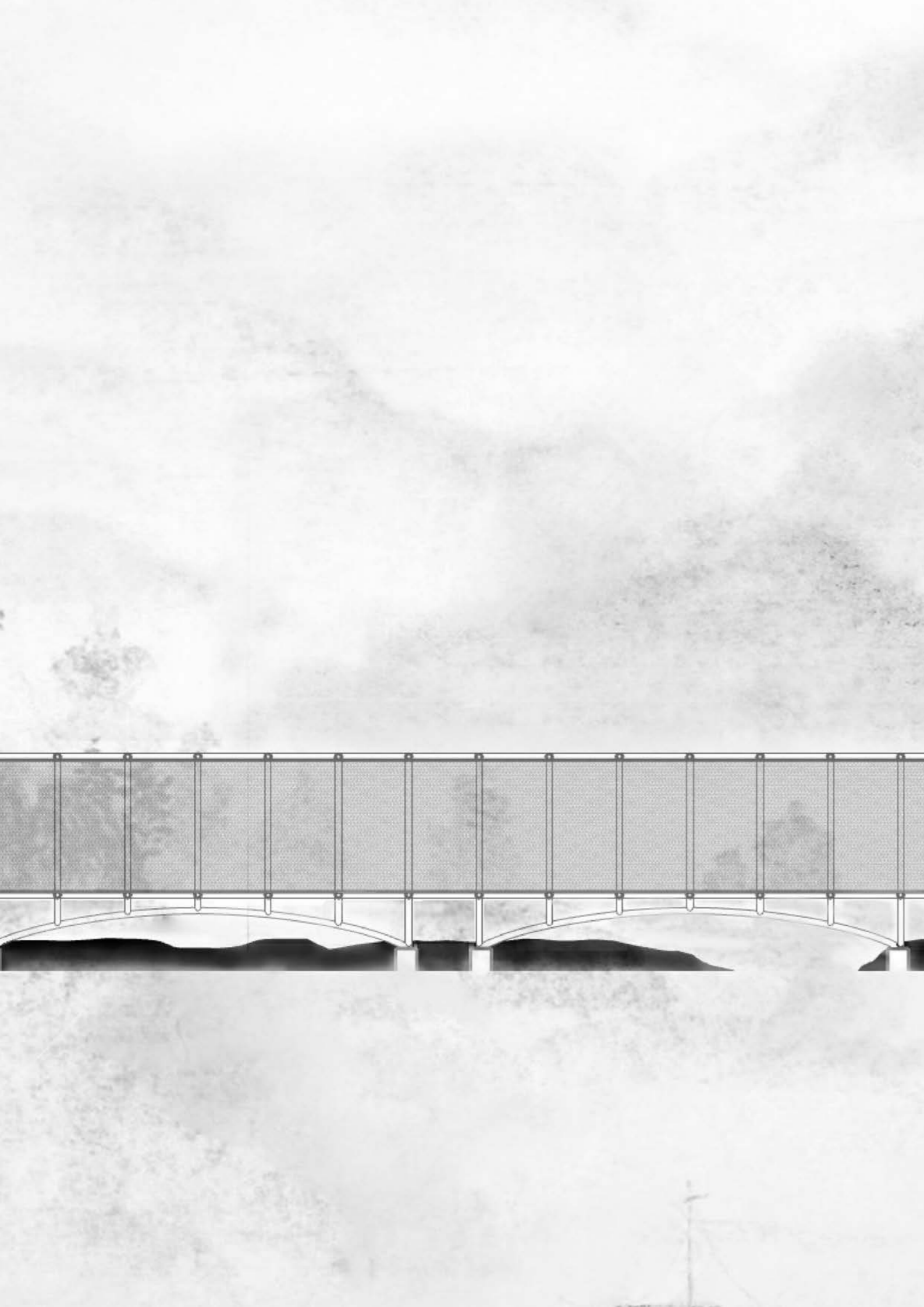


RESEARCH & DESIGN PORTFOLIO

# HANYU LIU

SELECTED WORKS 2023





Program: GSAPP M.Arch

Course: Fall, 2021 - Architecture Studio V  
Instructor: Elise Hunchhuck, Marco Ferrari

Team: Hanyu Liu, Mingyue Zhang

Project:  
One and Many:  
Yangtze River in Its Becoming  
万千与一：想象中的山水

这个学期的场地是长江流域。  
河水行流散徙，发源唐古拉山汇入东海，  
贯穿了迥异的地址地貌和不同的生活背景。

中国文化中，自古擅长用文字延伸现实。  
围绕“山”“水”二字展开的词组，每个都有其不同的意思。  
这些词组就像文化切片，把长江流域的文明巧妙地解读。

我们将每个词，用敏感的数据体系来定义。  
比如，“市井”不在再由城市边界线定义，  
而是由和其有关的数据可视化后的图案规律定义。  
比如，长江流域的“风景”追根溯源到“潇湘八景”，  
是不具有普世意义的localization。  
再比如，一些无法被数据总结规律的“渔樵山水”，  
是历史的无名者，是数据库里的noise。

我们在这样一片山水中，应景地设计了一些  
会随着水位升高被逐渐淹没的桥，  
一些随着不同节气时的水位变化的楼梯，  
一些会成为季节性浮游动植物的家，等等。

最重要的是，和Ming在这片山水的想象（想象的山水）中，时而钻研，时而停留，时而放空。  
有时会非常庆幸自己运气，在学习/工作的过程中遇到的都是最好的朋友。也许一些GIS的技巧会日渐忘记，  
但是这段体验感极至的设计过程会记得很久。

m i n g

GSAPP Juice Bar 21 March 2022

Interlude 1

(Public Confessions Epigraph)

I'll tell you, um  
Every single one of these songs, um, is about me first  
Me first, um, it was like, you know  
There was a period of time where I was just out  
You know, just, just gone from the public, and, uh  
I came to terms with the fact that  
I had created this, uh, public persona, this public illusion  
And it became, it, it held me hostage  
Like I couldn't be a real person because  
You're too afraid of, you know  
Of what you, your public will say  
And at that point I had to do some dying  
And really accept the fact that, look  
This is who I am, and I have to be who I am  
And all of us have a right to be who we are  
And whenever we submit our will  
Because our will is a gift, it, it's given to us  
Whenever we submit our will  
To someone else's opinion, you know  
I mean, a part of us die

The Moon 一川  
A boat of moonlight,  
waxing and waning  
The mystery of the river

The Movement 一湖  
The Earth sees the move  
The water sees the move  
And I, I see the stillness.

Night Boat 一海  
A fisherman sits in his boat  
in his river,  
facing the setting sun.  
Setting at the intersection of

in the words of a man on the  
"The fisherman's gaze is like

He is not doing anything, mer  
But at the same time trying  
To fathom something vast.

"Yule, the man on the land

Cangjie 一山

As one boat slices gently through  
another sides from the opposite

I was told that the surface is the t  
I wonder what it was like when the

That one, first stroke.

Code 一行

Among the impermeable water term  
ly measurable thing is our pro

10 meters,  
eggs of Chinese sturgeons),

der 200 meters,  
filter (Photosynthetic plants),

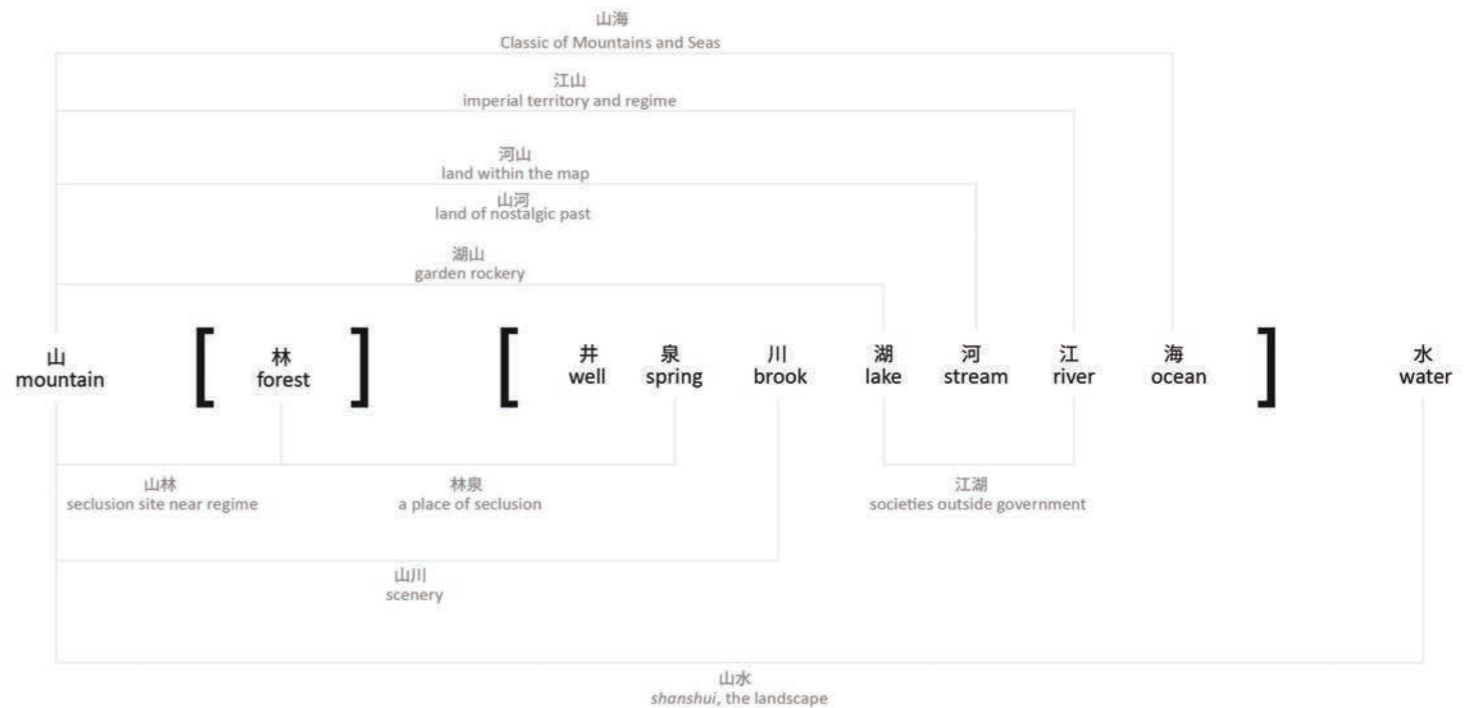
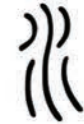
Under 250 meters,  
Input [Yangtze No.2 Ancient Boat].

Under 300 meters,

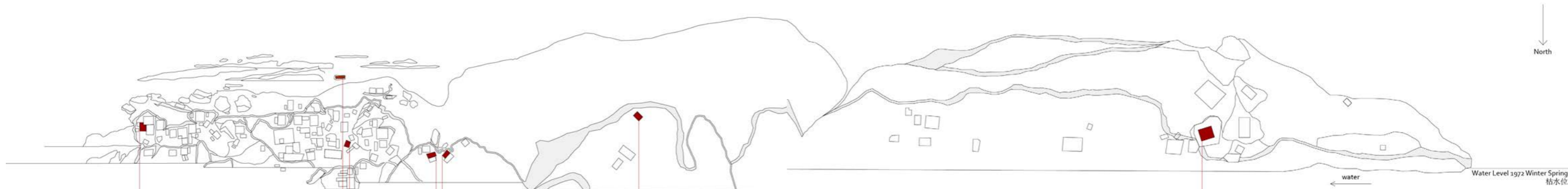
Our mapping abstract for watershed studio in @juicebar

@elisehunchuck  
@mariofaranda  
@liuhanyuer

- Lauryn Hill, (2002)  
MTV Unplugged No. 2.0



Writing, drawing, and mapping research is a beautiful way to think together ❤️ thanks to @m i n g and @liuhanyuer and all of our WW students! And thanks to @mario\_gooden\_thisishowwework and @andres\_jaque for the chance to do it @columbiagsapp with such an incredible group!



按：馆藏拓本长148厘米，宽85厘米，16行，正书，字迹2.3厘米。  
《李棠观石鱼记》

The carved inscriptions are like the silver hooks or writing on iron and jade sentences, hidden in the river waves, have lasted for thousands of years and have not been erased, covering a miracle in heaven and earth.

In the spring of the reign of the year, together with various officials and friends, all in Fu. When I was tired of the prison lawsuit, the state guard Yuan Zongkui said "the river stone fish appears again, the people of the state are thought to be the auspiciousness of the good year" I then rafted upstream, the crowd also successively come to watch the stone fish.

Since the first inscription, many more follows, yet some are hidden in the river waves and do not know how many of them are vanishing. Really a miracle in heaven and earth, needs to be recorded.



1781年3月1日  
清乾隆十六年二月初四日  
《罗克昌题记》

梁文：  
江心有石鱼，层叠叠出，然于万流之中，固不可得也。昔为西蜀岷江之正，当春夏之交，激湍其石，而波涛不可见。春秋季或然，而成水落石出，其年必丰。昔之好事者，因刻石有，题咏于上，以为大奇，自鹿鹿来迄元以迄我朝。

按：馆藏拓本长180厘米，宽114厘米，29行，正书，字迹4厘米。  
A rock ridge lies in the heart of the Fu River, the fish on the rock is chiseled, yet the rock fish is wandering freely.

This stone becomes fish, and the fish relies on water.

We paddle the boat full of liquor to enjoy the Northern Rock. We saw the stone fish and forgot to return until the end of the day. As the lonely passenger, I was so relieved that I no longer know that my political career is gone with wind nor the oblivion of the mountains and rivers (or "江山" as imperial territory and regime).



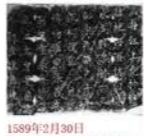
1192年3月24日  
宋绍兴二年三月六日  
《种慎思题记》

梁文：  
□□对虚堂，豹林种□□□□。昔以职事赴郡，遇故人□□李尚文立仲还自回院。□□法乎叔来自南溪，相率攀舟载酒。游北岩，及观石鱼，莫日忘归。客怀顿释，殊不知障密帆竿，江山之幸落也。绍兴壬□季春初六日，慎思。

按：馆藏拓本长110厘米，宽88厘米，9行，正书，字迹8厘米。  
The spring rain rises the river and turns into huge waves, the clear waves makes visible of the rock to signify a fish-year.

The fisherman fishes with empty bait, and the historian official is observing the phenomena and celebrating the auspicious sign.

The white moon of today still shines like the moon of the ancient times. The Yangtze River flows freely in the end of time.



1589年2月30日  
明万历十七年正月十六日  
《江雨庵诗记》(133)

梁文：  
扁舟江上思神偶，结社何须访白莲。水底沉浮刚一尺，山中荒僻已千年。沉舟散出还元气，博物谁同张茂先。别驾重来垂转站，风流太守是前贤。新安江雨庵

按：馆藏拓本分作两拓，其一长138厘米，宽63厘米，13行，正书，字迹8厘米。其二长80厘米，宽68厘米，1行，正书，字迹8厘米。

In the deep mountains is a woodcutter's path, and the creak of an oar in Lake of Mirror is the boat of the fisherman.

There is no need to ask about the vicissitudes of the worldly affairs. Let's drink to the wind and get drunk till the end.



1589年2月30日  
明万历十七年正月十六日  
《罗象珠并序·二》(136)

梁文：  
历己丑上元后一日，予偕江、金二副等往观石鱼。读神鱼影壁托奇蹟，不意地潜已传焉。在雨涨江翻巨浪，感谓浮石垂千年。渔人肥钓空垂饵，太史占祥庆有先。惟愿此中相邂逅，公余同味雨前贤。鹿阳罗象

按：馆藏拓本长100厘米，宽95厘米，6行，行书，字迹5厘米。

The mountains and the waters (山色) occasionally invite people to stay for a short time, the guests in the mountains do not need to inscribe their surnames and then names. — Anonymous

Someone comes here to hear the sound of spring, washing the stone and writing inscriptions, yet the stone is not disturbed.



1937年2月11日-2月12日  
民国二十六年二月  
《刘翰潜题诗》(143)

梁文：  
白鹤时鸣 刘翰潜作  
白鹤梁中白鹤游，忽听飞花几千株。只今皓月还相照，跨古长江自在流。铁和峻峭横子路，空湖欲乃渔人身。开流世事何须问，把酒临风一醉休。民国丁丑大朝刘翰潜题。

按：馆藏拓本长22厘米，宽20厘米，9行，行书，字迹2.3厘米。此拓与前一拓同刻于同时，碑文及《白鹤梁题刻碑记》《太子碑补白鹤梁》均见于《第四卷碑记》。《长江三峡工程名称本文献资料文物集》作《白鹤梁题刻》。光绪十年，即光绪八年（1882），拓本左侧七行文字或为另一题刻。“有人来此听春声，洗石而看石不知。山水真然留小驻，何须题诗复题名。”载其者，见录于此。

Someone comes here to hear the sound of spring, washing the stone and writing inscriptions, yet the stone is not disturbed.

The mountains and the waters (山色) occasionally invite people to stay for a short time, the guests in the mountains do not need to inscribe their surnames and then names. — Anonymous



1882 光绪七年 光绪八年(?)  
《高应乾题诗》

梁文：  
石壁犹是，白鹤不归。江水滔滔，今犹长流。昔闻德来学曾，燕翼祈到北庭。光绪五年之正月。

按：馆藏拓本长55厘米，宽50厘米，8行，正书，字迹5厘米。  
(Like the people of detached from the society) this rock fish is not affected ups or downs by the waves, and has the integrity away from the cast bait.

Someone comes here to hear the sound of spring, washing the stone and writing inscriptions, yet the stone is not disturbed.

The mountains and the waters (山色) occasionally invite people to stay for a short time, the guests in the mountains do not need to inscribe their surnames and then names. — Anonymous



1882 清光绪二十九年  
《高应乾题诗》

梁文：  
高应乾题诗，翠角古石壁。能聚时易鸣，不逐浪涛浮。守亦难脱网，呈祥亦难求。若白富而贵，千载能中流。西陵高应乾刻诗

按：馆藏拓本长134厘米，宽67厘米，8行，行书，字迹3.5厘米。

The river comes and goes from the west to the east, and the waves have been poured out by several lenses. The boat was loaded with liquor from Luohu, and I later to the fishermen sang the evening breeze in a drunken manner.

The river comes and goes from the west to the east, and the waves have been poured out by several lenses. The boat was loaded with liquor from Luohu, and I later to the fishermen sang the evening breeze in a drunken manner.



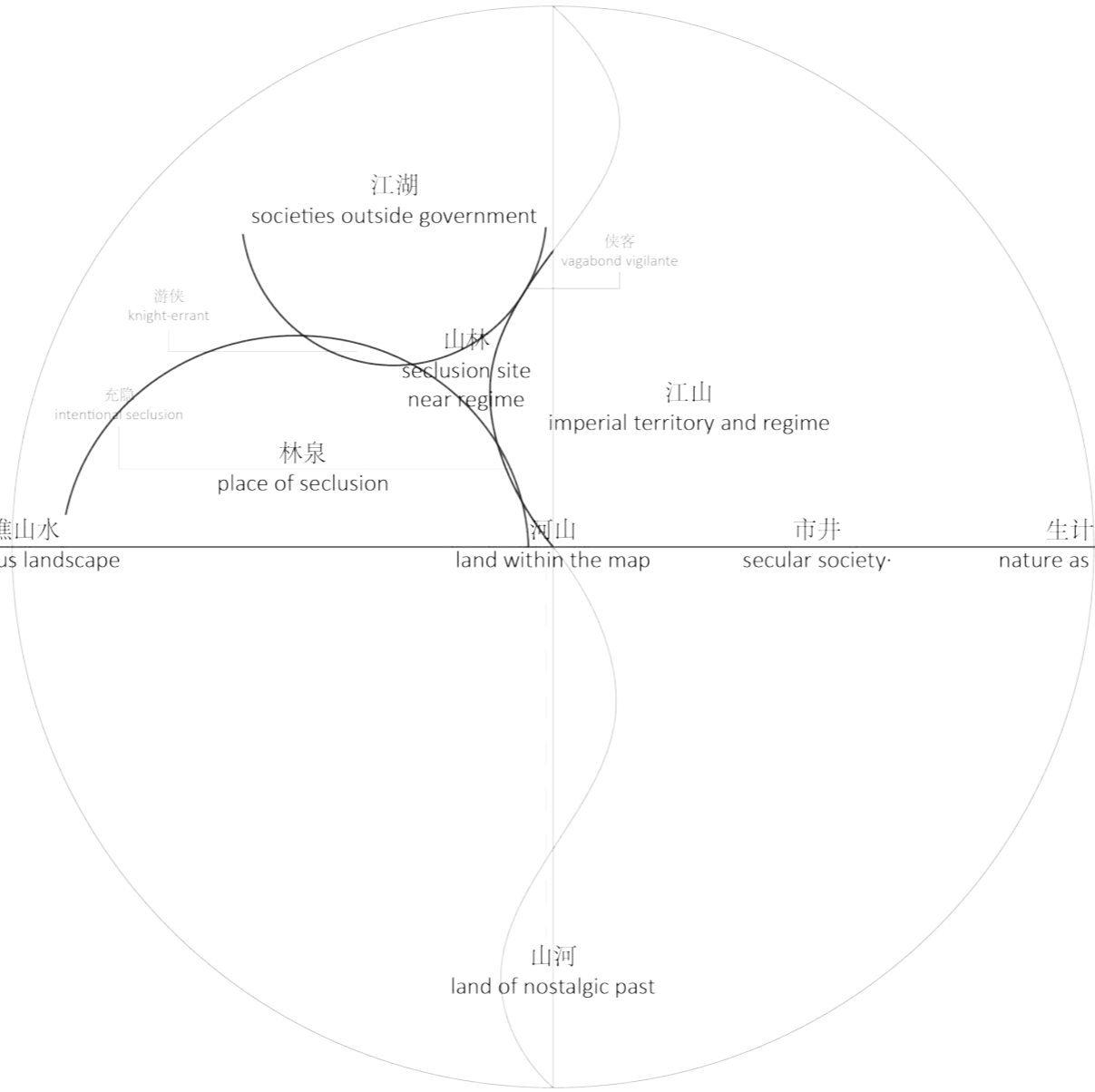
1925年4月13日-4月18日  
民国二十六年4月  
《刘翰潜题白鹤梁诗》(152)

梁文：  
白鹤时鸣，江水西来去自来。道向何处几英雄。两岸晴帆吹浪急，渔舟渔父钓竿长。空山静寂回舟转，天碧悠悠鸟雀忙。避暑我竹露所润，醉听渔人唱晚风。民国丁丑仲春，坐山老人刘翰潜题。年七十六岁矣。坐人刘翰潜题诗，同题文君明盛、王君同题。

按：馆藏拓本长134厘米，宽67厘米，8行，行书，字迹3.5厘米。

The river comes and goes from the west to the east, and the waves have been poured out by several lenses. The boat was loaded with liquor from Luohu, and I later to the fishermen sang the evening breeze in a drunken manner.

The river comes and goes from the west to the east, and the waves have been poured out by several lenses. The boat was loaded with liquor from Luohu, and I later to the fishermen sang the evening breeze in a drunken manner.



超现实山水 ultimate inaccessibility   
 荒芜野地 wilderness   
 远人山水 remote landscape   
 渔樵山水 anonymous landscape   
 河山 land within the map   
 市井 secular society   
 生计资源 nature as resources   
 山川景观 spectacle scenery   
 生活背景 background   
 神山 sacred mountain

山河  
 land of nostalgic past

江湖  
 societies outside government

侠客  
 vagabond vigilante

游侠  
 knight-errant

山林  
 seclusion site  
 near regime

江山  
 imperial territory and regime

充隐  
 intentional seclusion

林泉  
 place of seclusion

河山  
 land within the map

市井  
 secular society

生计资源  
 nature as resources

山川景观  
 spectacle scenery

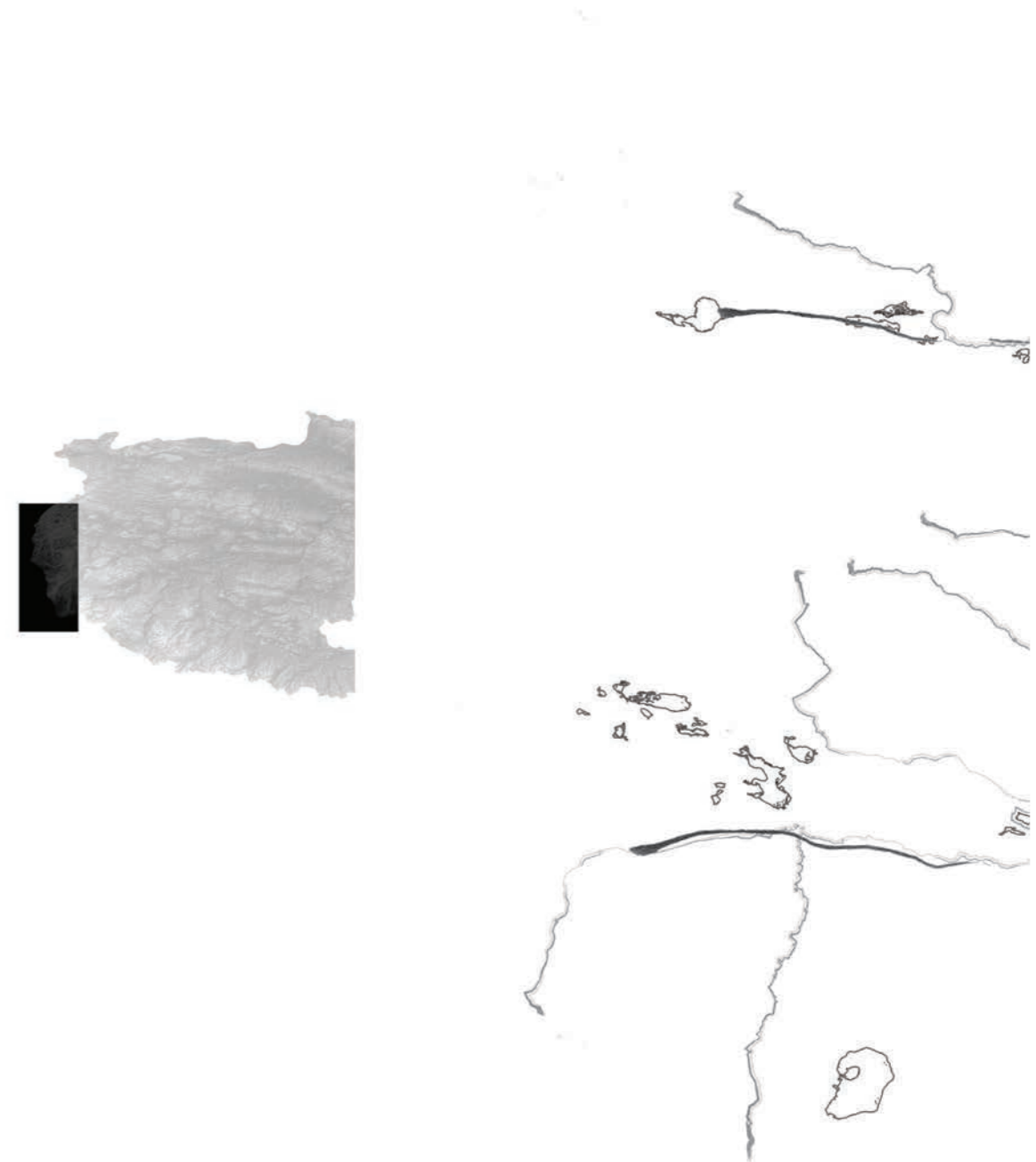
生活背景  
 background

神山  
 sacred mountain



Wilderness

荒茫野地



Remote Landscape



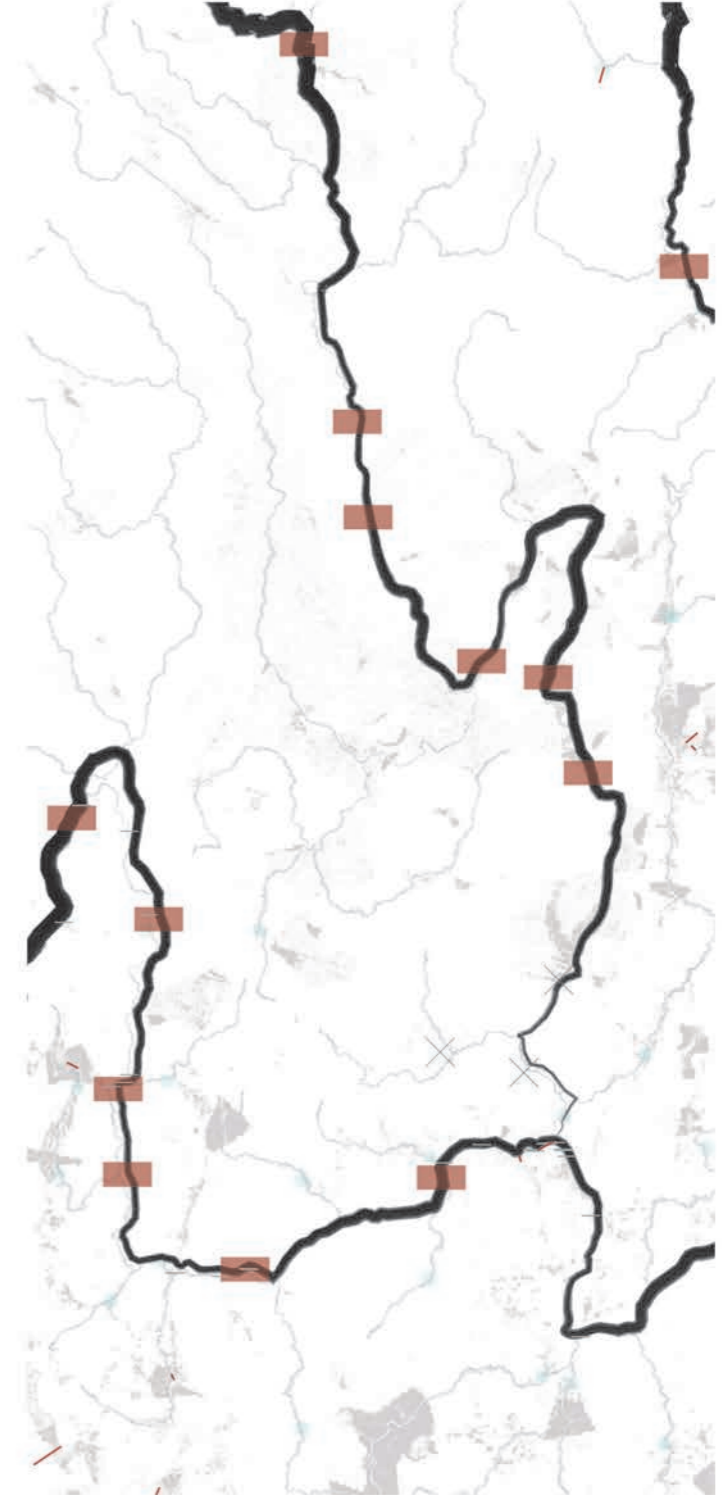
远人山水



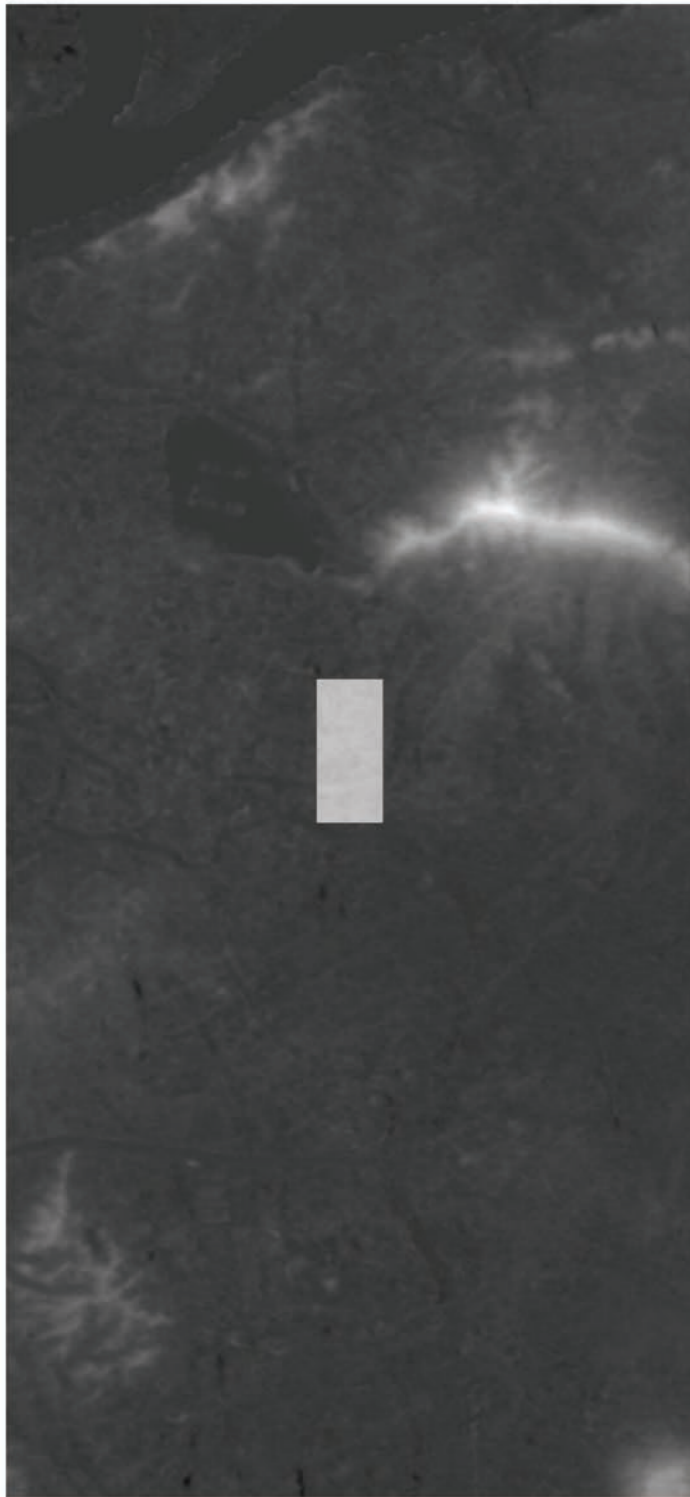
Natural Resource



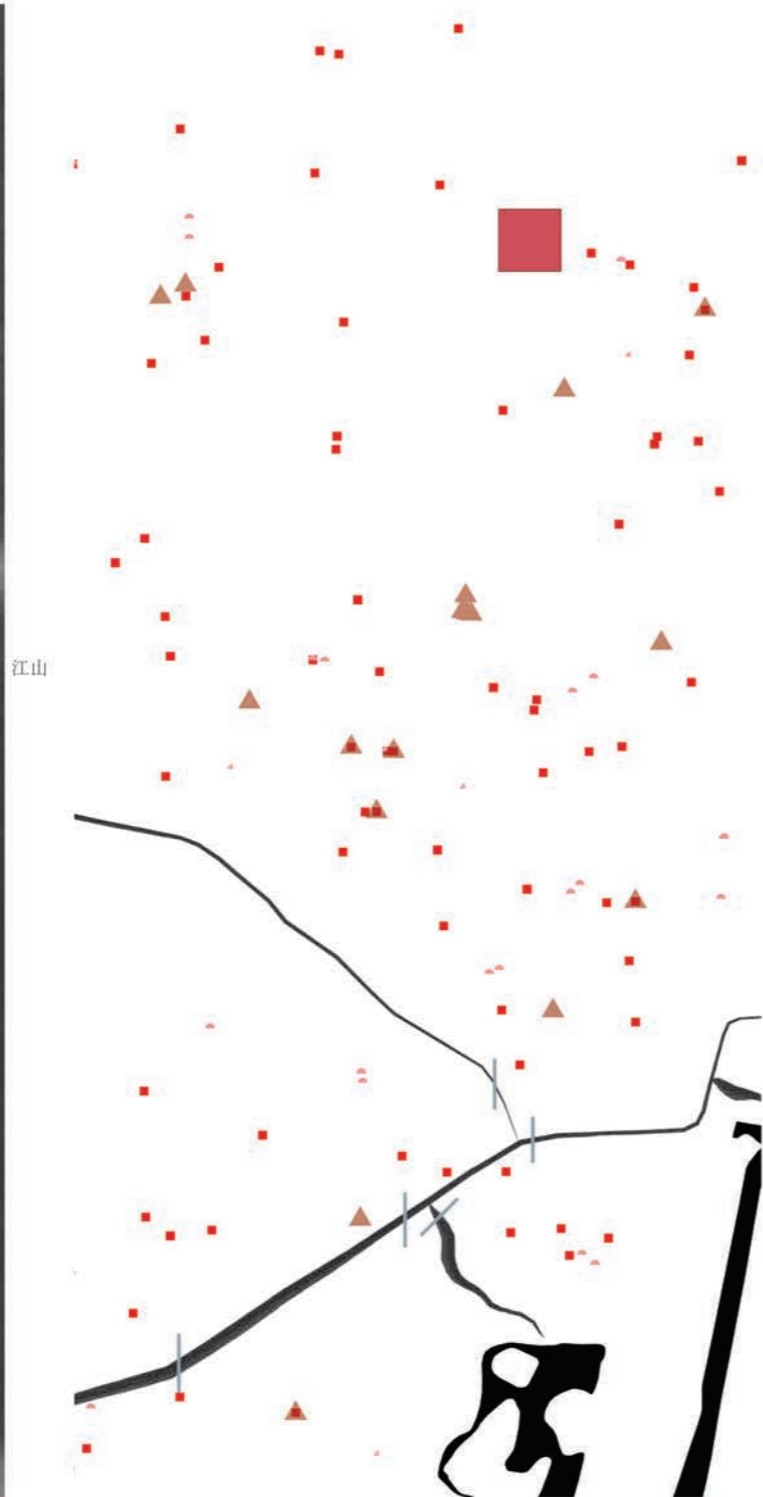
生计资源



Imperial Territory and Regime



江山



Land of Nostalgic Past

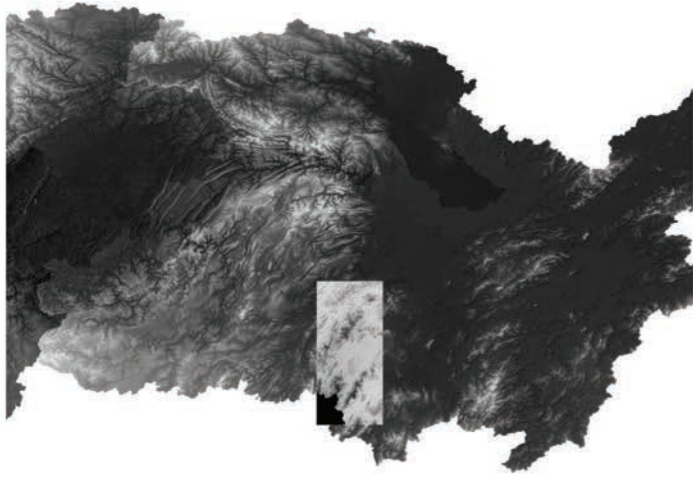


山河





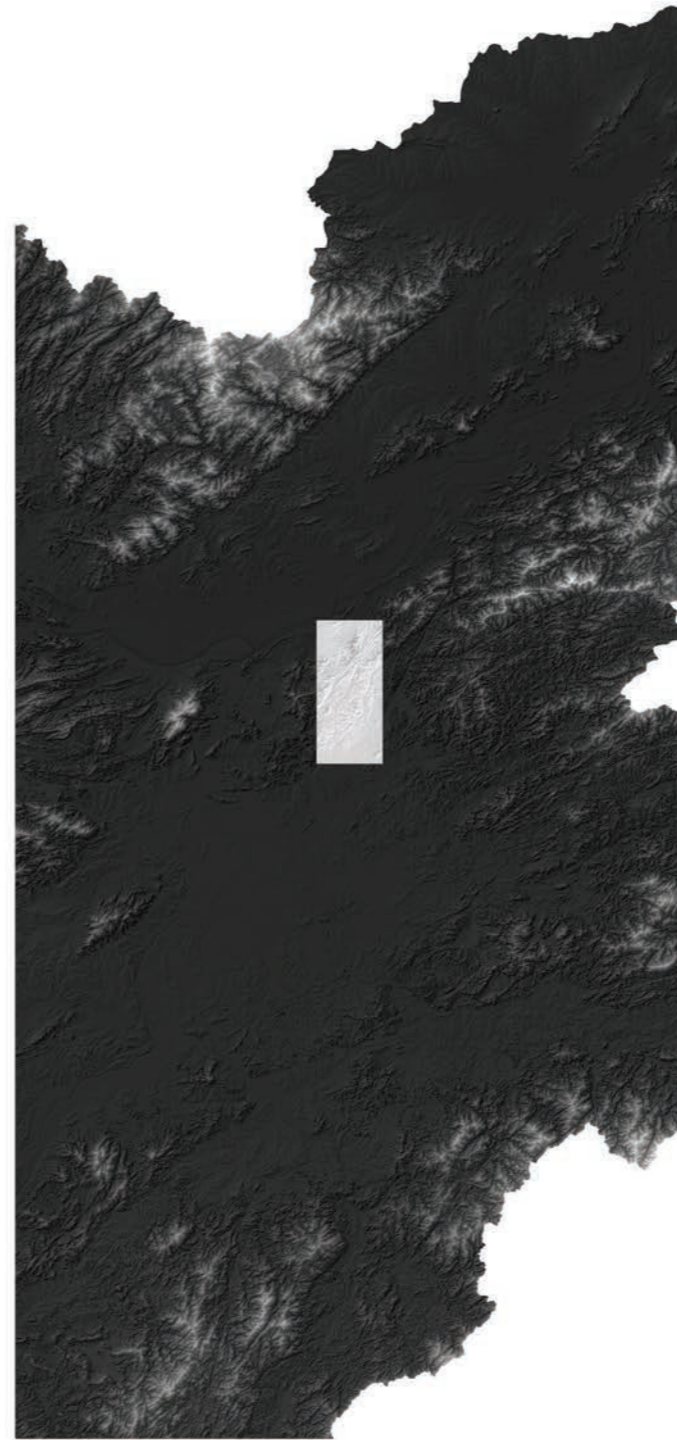
Scenery



风景名胜



Place of Seclusion



林泉



Seclusion Site Near Regime



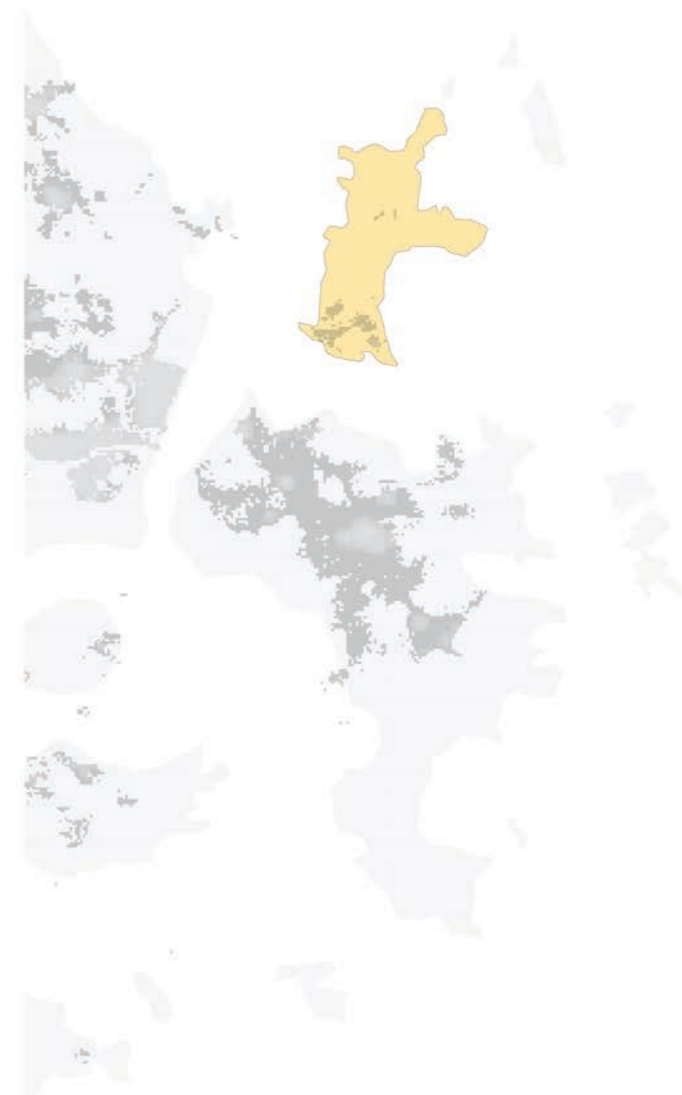
山林



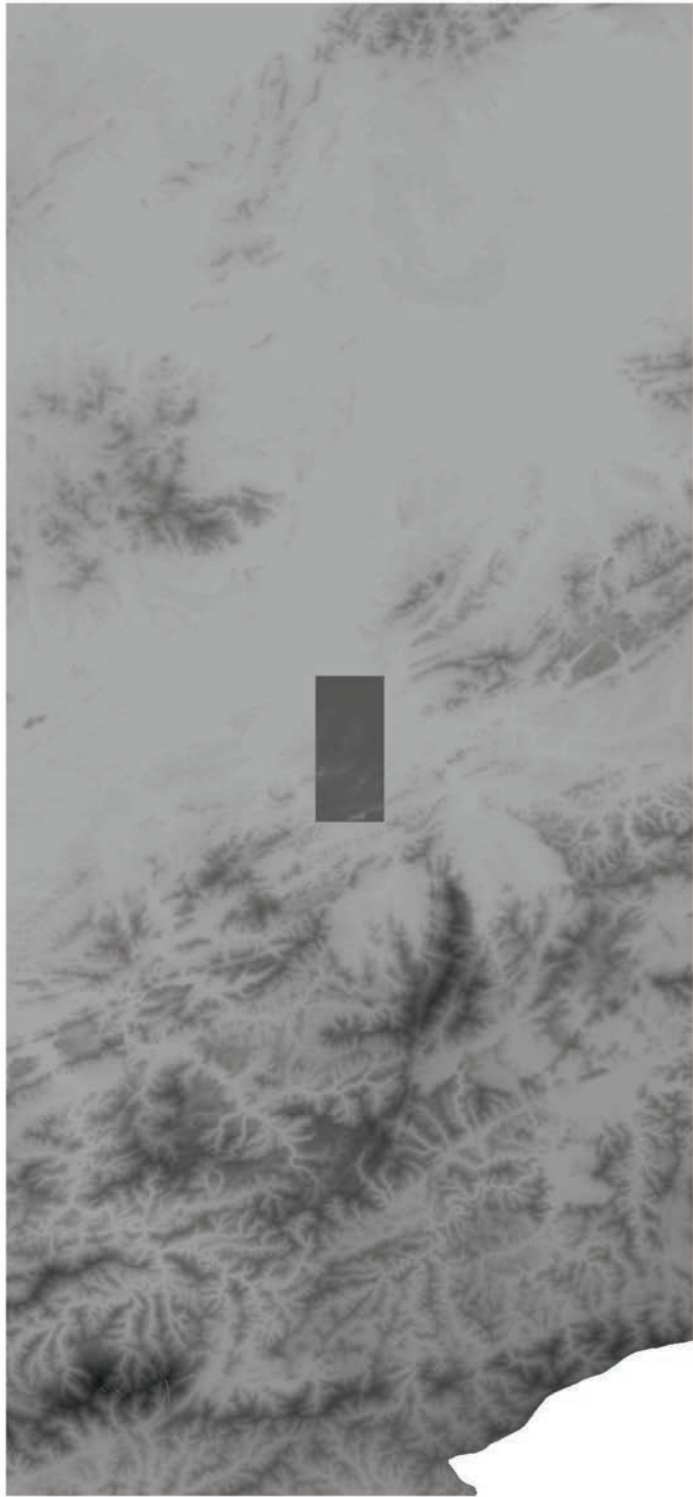
Sacred Mountain



神山



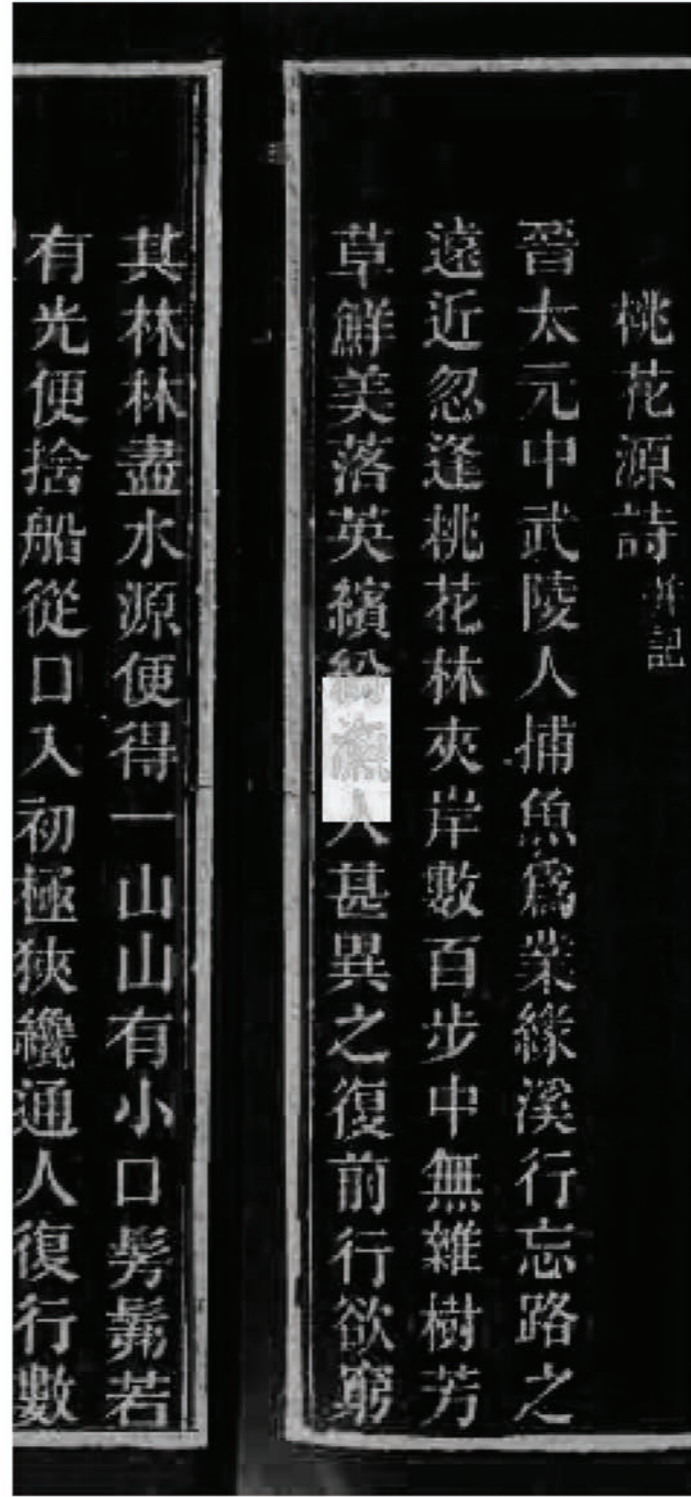
Anonymous Landscape



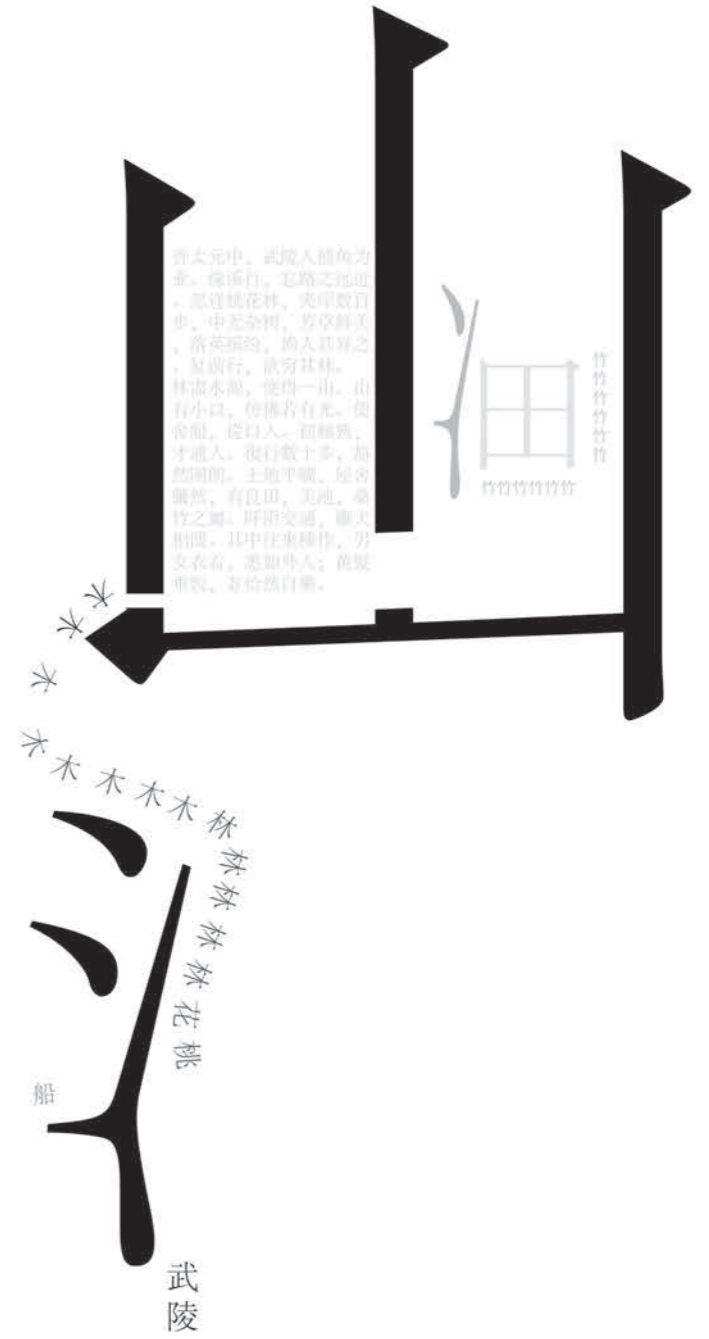
漁樵山水

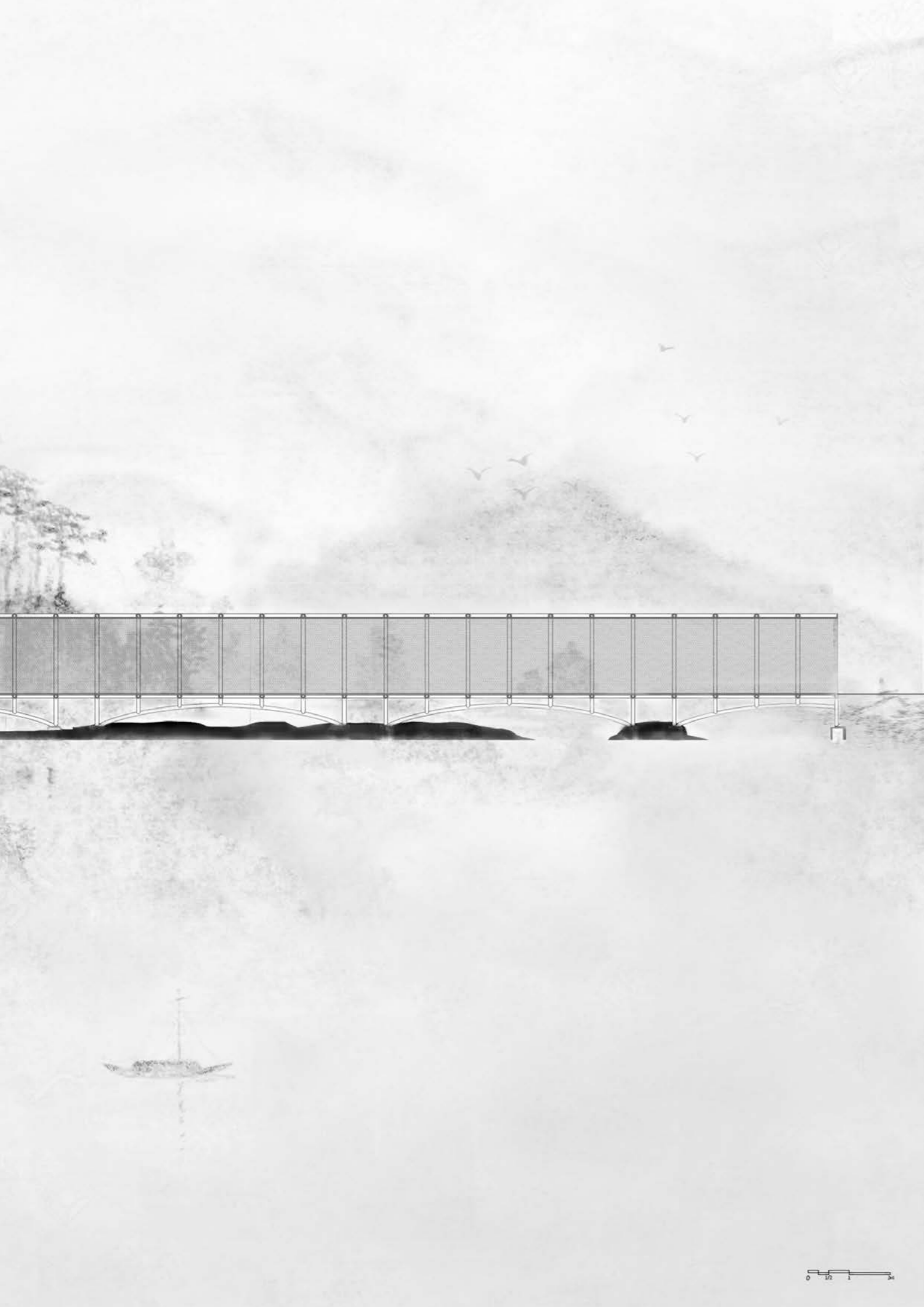


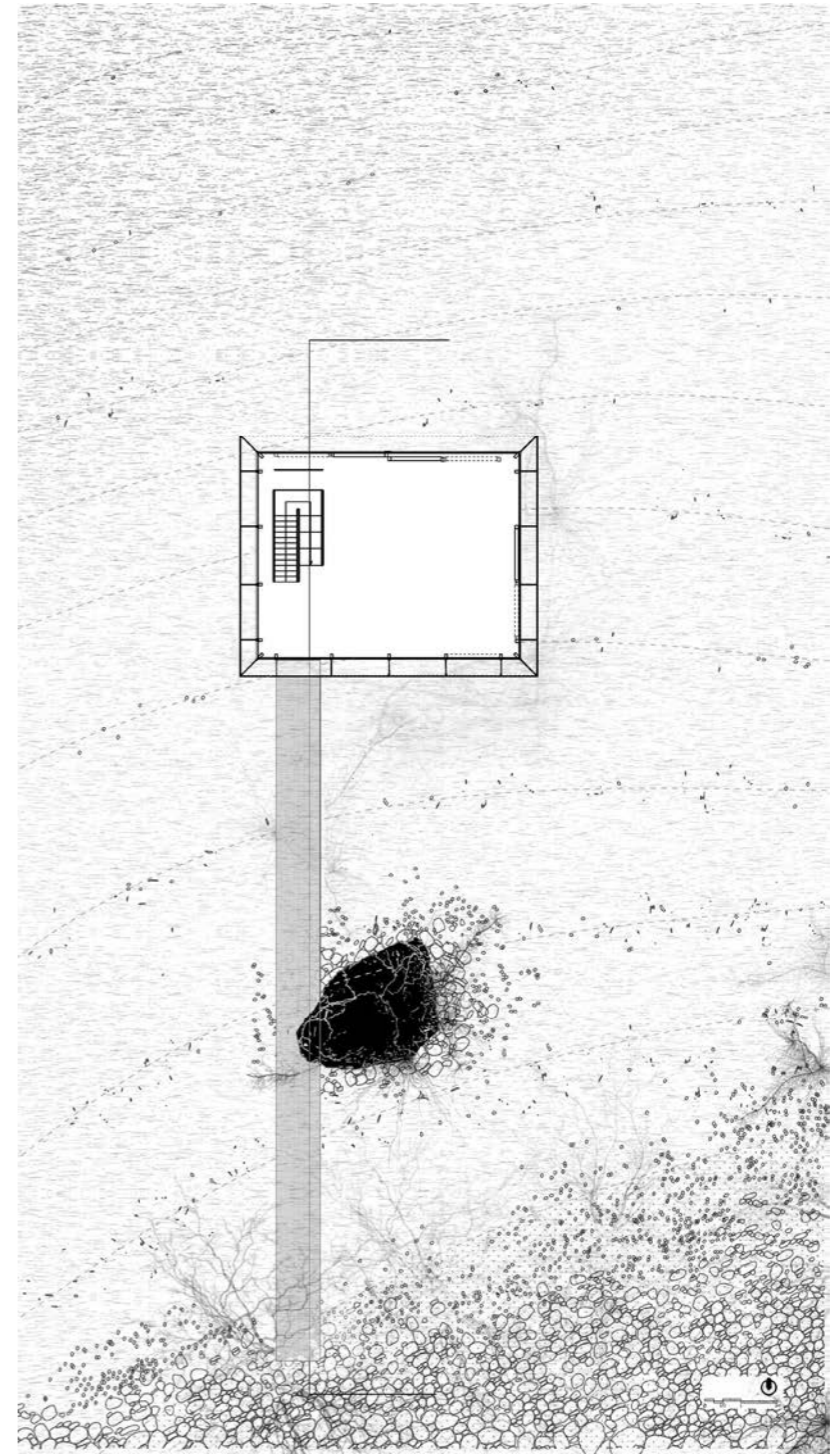
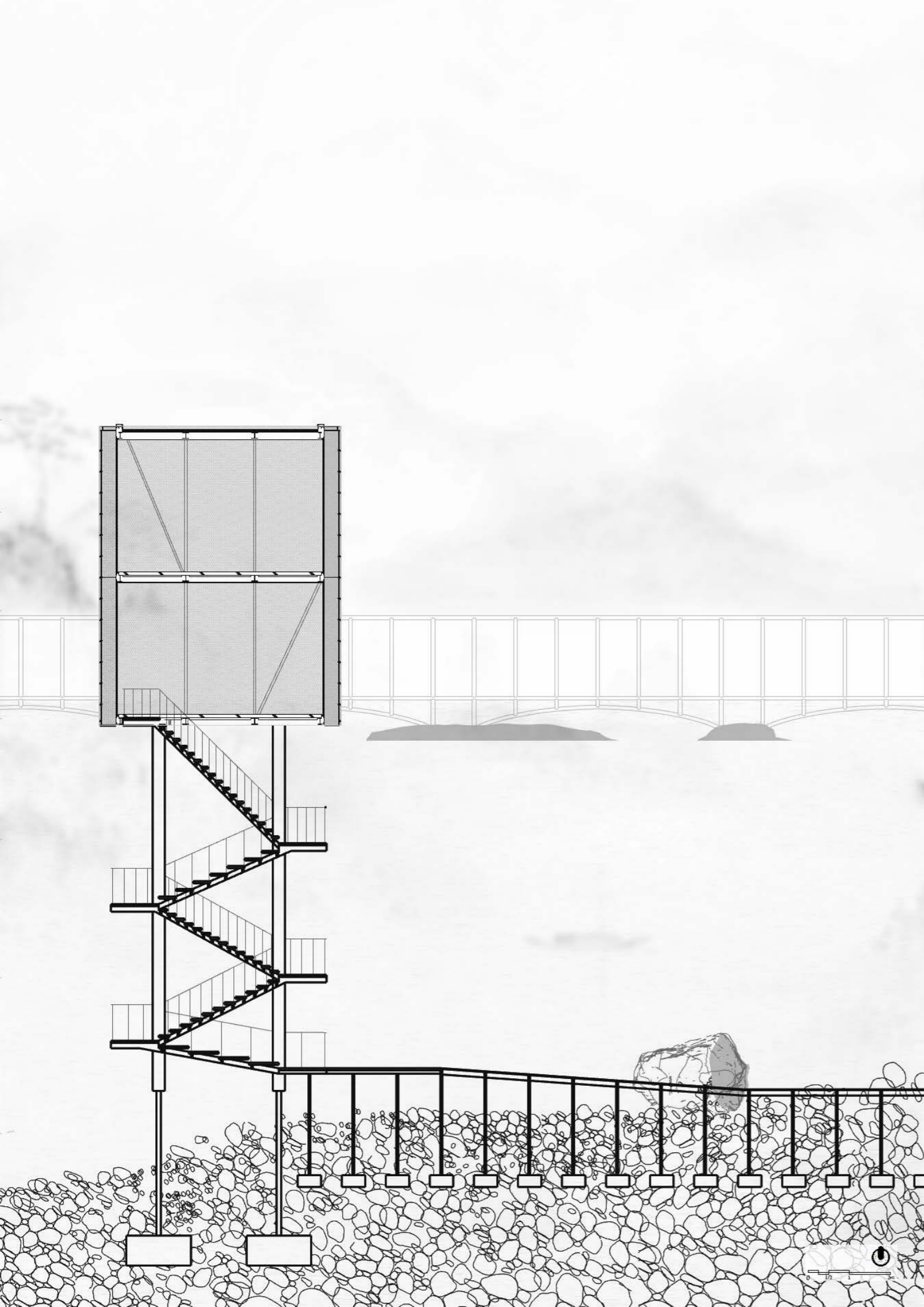
Ultimate Inaccessibility

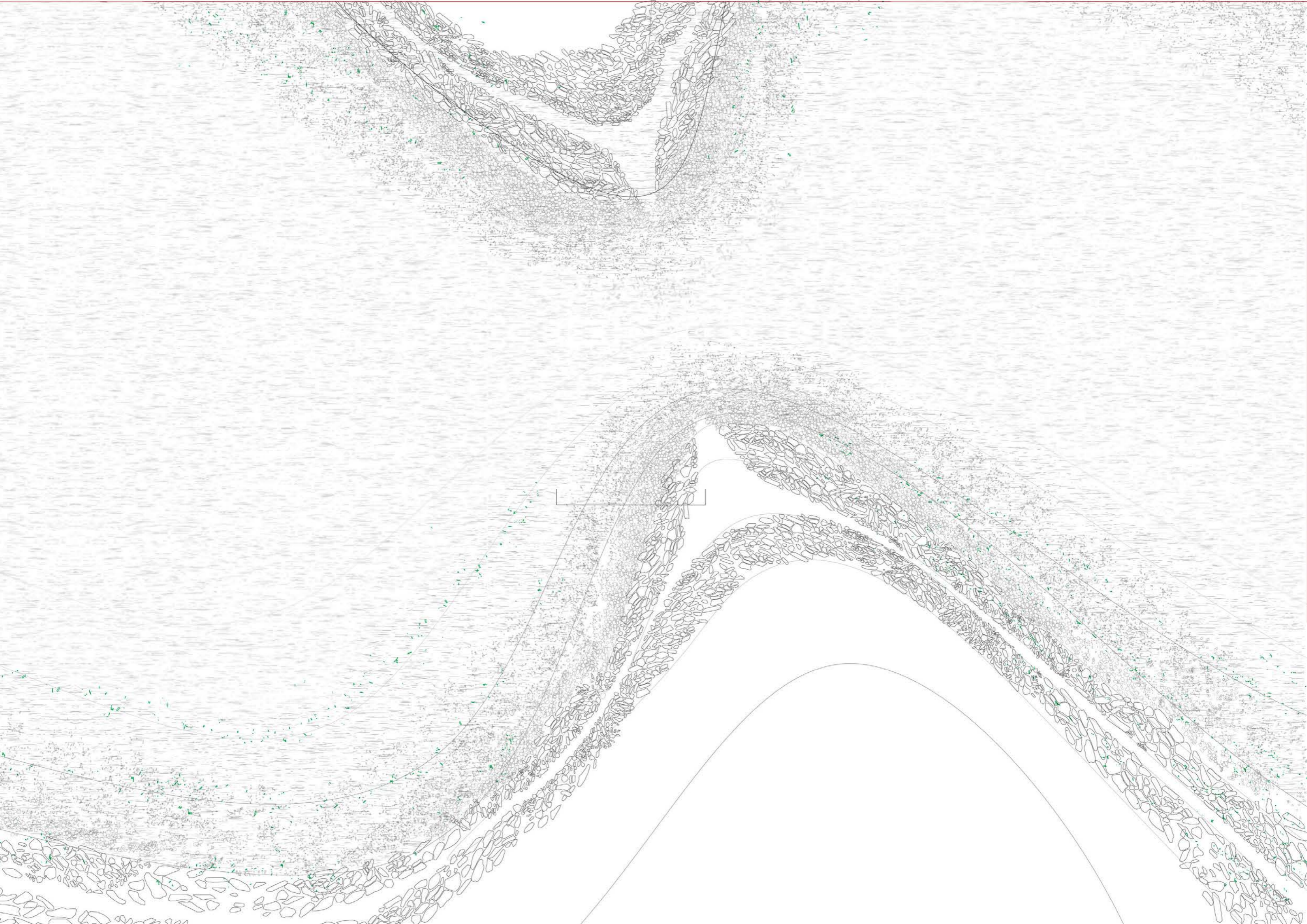


超现实山水











Program: GSAPP M.Arch

Course: Fall, 2021 - Architecture Studio III  
Instructor: Benjamin Cadena

Team: Hanyu Liu, Chiao Dongxiao Yang

Site: Bronx, NY  
Project: Home for Dementia

*How Non-Orthogonal Dementia Treatment  
Benefits both  
Dementia Residents and the Rest of Community*





Our project stretches architectural limits to propose an unorthodox approach to memory care. This project is a collection of architectures that run the spectrum from high-density housing, to medium-density housing, to detached “suburban” housing, and to a central loop where the complementary relationship between dementia housing and the rest of the community is delineated.

We designed each building sophisticatedly to honor family structure, the power of relaxation, childhood memories, sensory aids and other tools to heal, calm and nurture both dementia residents and the rest of the community.



**70% of New York’s senior care facilities are located in the Bronx, and 60% of the tenants are experiencing dementia.**

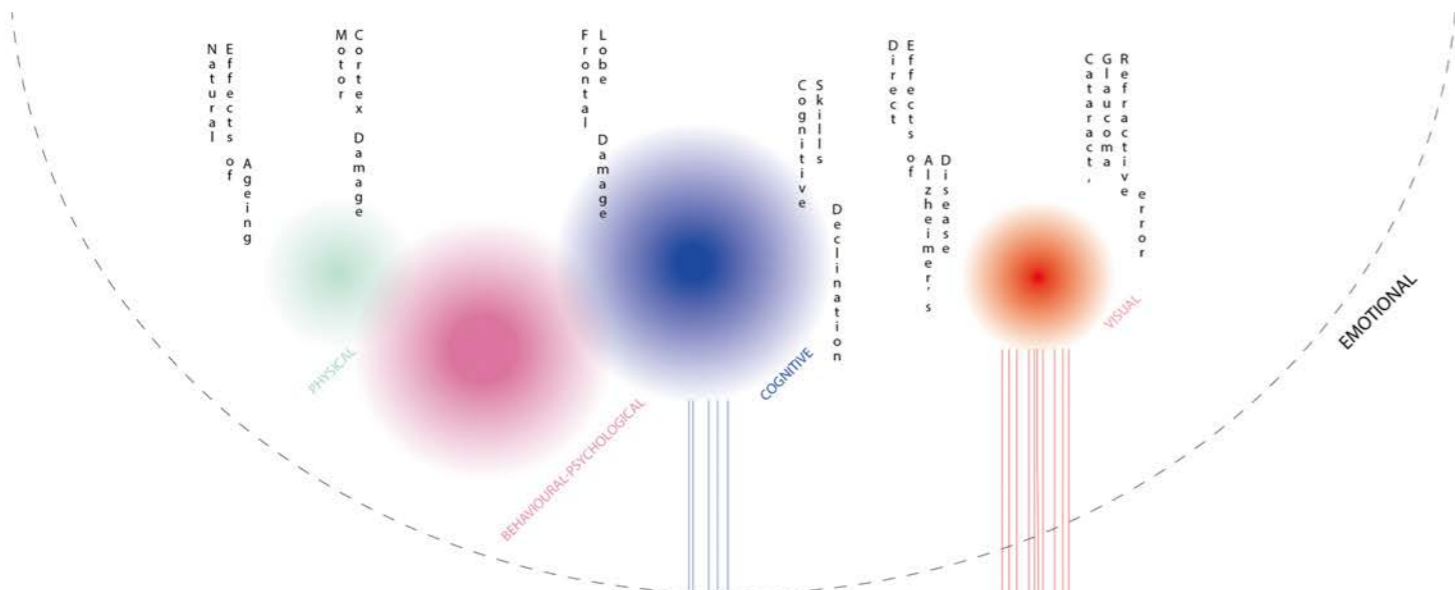
**Top Left:**

*Helga Mathijssen-Maas, a care giver, dancing with Ietje Geelen to songs from the Dutch music director Andre Rieu in her room at the Vitalis Peppelrode care facility. Ilvy Njiokiktjien for The New York Times*

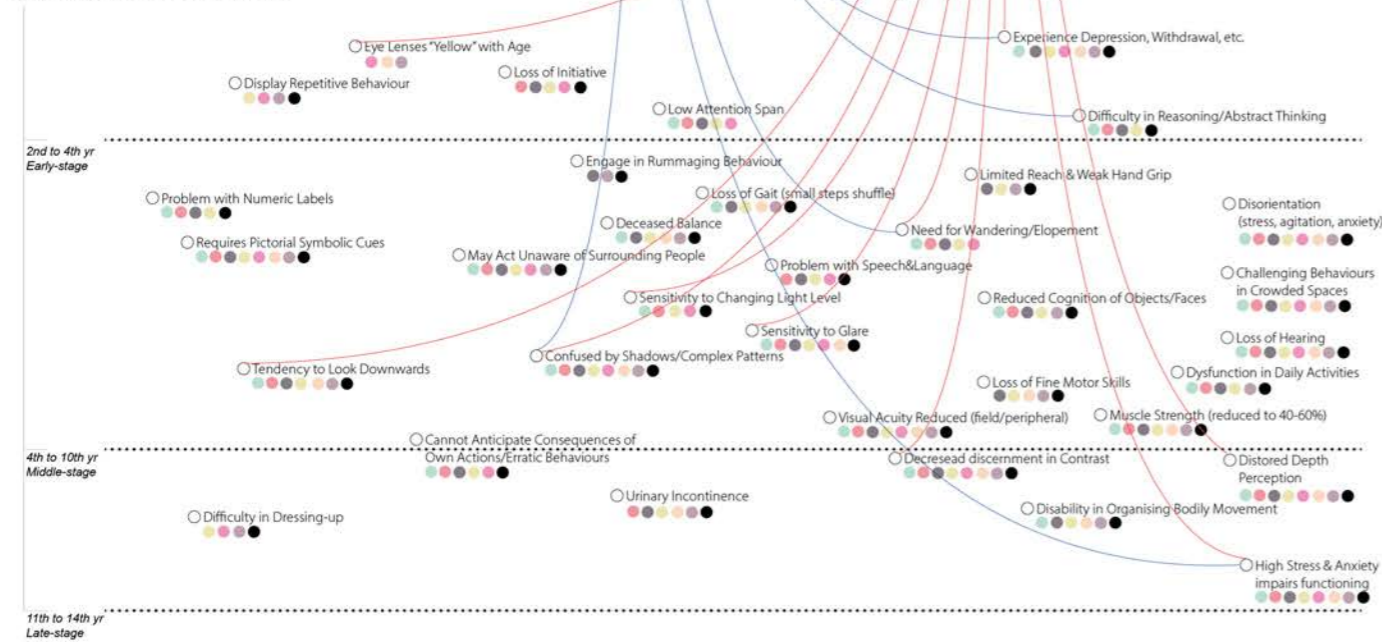
**Bottom Left:**

*Annie Arendsen, Truus Ooms and Rudi ten Brink riding on a fake bus with video screens showing the roads and surroundings of the home where they live. Ilvy Njiokiktjien for The New York Times*





**YEARS OF DIFFERENT STAGES OF ALZHEIMER'S**

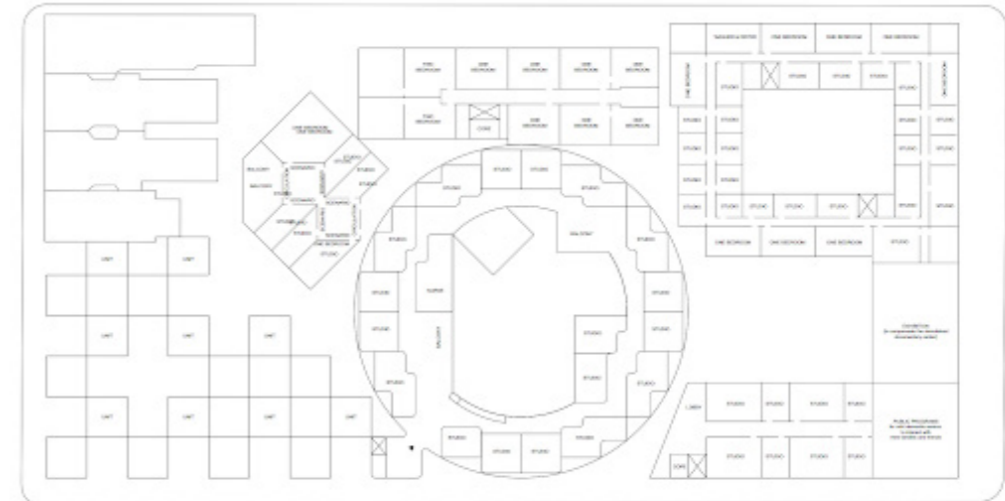


AUGMENTATION OF DEMENTIAL DESIGN ELEMENTS (%)

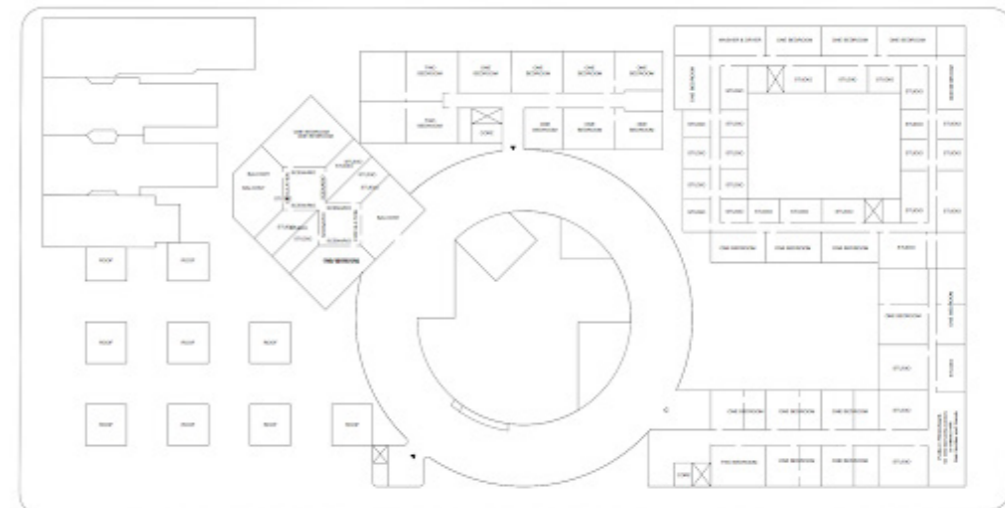
- 01 ENVIRONMENT**  
Context and Community  
Site Planning  
Spatial Experience  
Outdoor Spaces
- 02 WAYFINDING**  
System Map  
Structure and Paths  
Technology Integration  
Information Graphics
- 03 ACCESS**  
Access Control  
Corridor and Doorway  
Elevator and Escalator  
Stairs  
Ramp
- 04 Safety**  
Unobtrusive Integration  
Protective Barriers  
Support System  
Fall Avoidance  
Alert System
- 05 Ambience**  
Sensory Stimuli  
Lighting  
Sound  
Materiality and Objects  
Outdoor Spaces
- 06 Finishes**  
Materiality  
Floor Finishes  
Wall Finishes  
Ceiling Finishes
- 07 Furnishings**  
Furniture and Fittings  
Living and Dining  
Bedroom  
Bathroom  
Kitchen and Laundry
- 08 Technology**  
Assistive Technology  
Augmented Reality



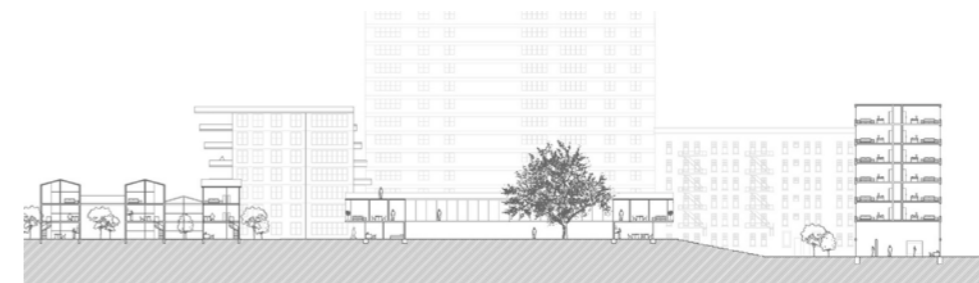
GROUND FLOOR

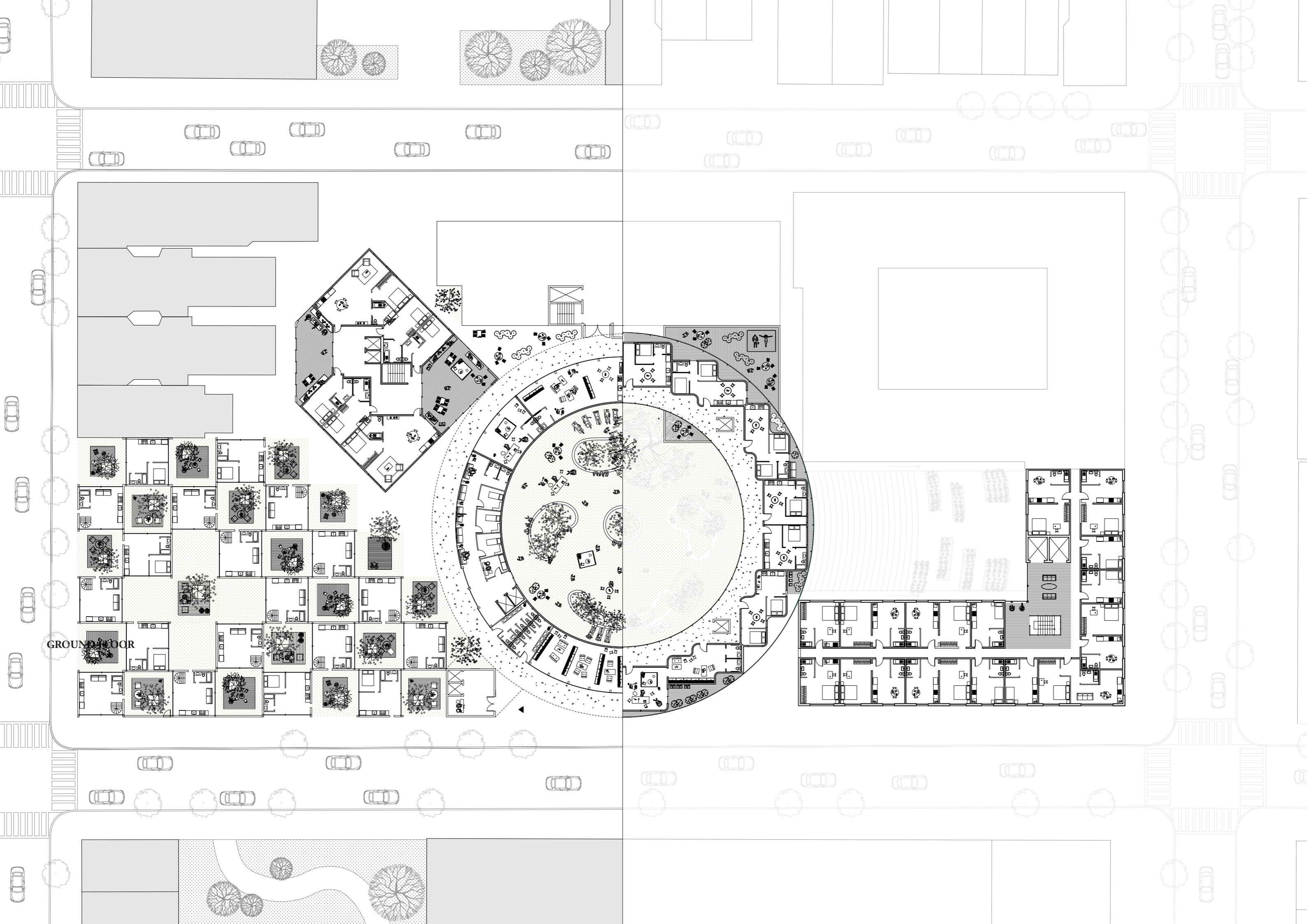


2nd FLOOR



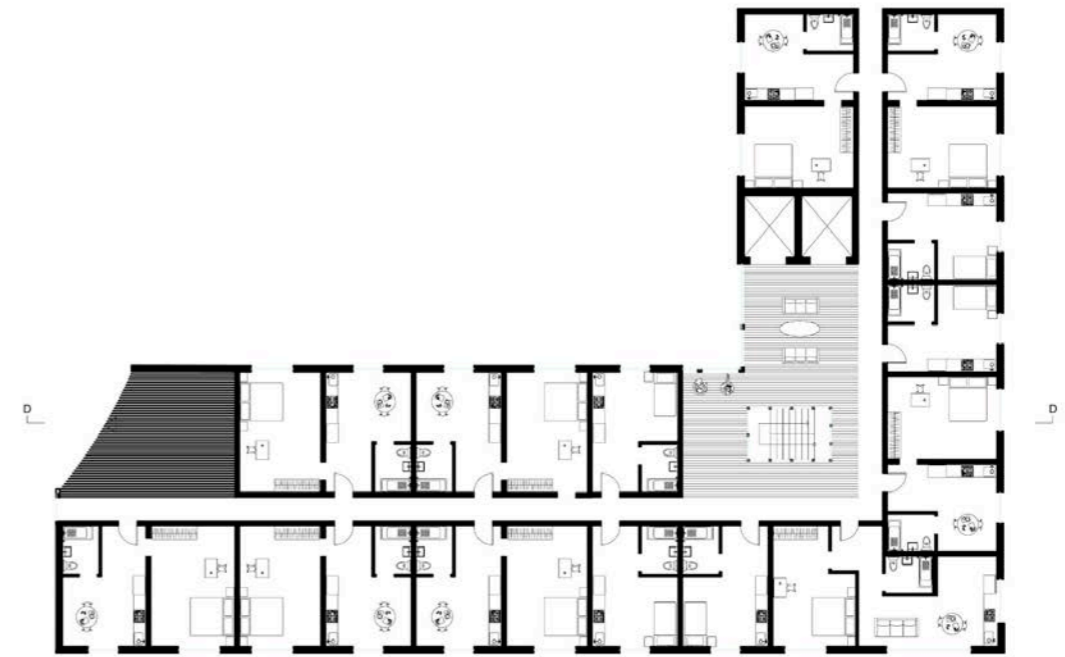
3rd FLOOR



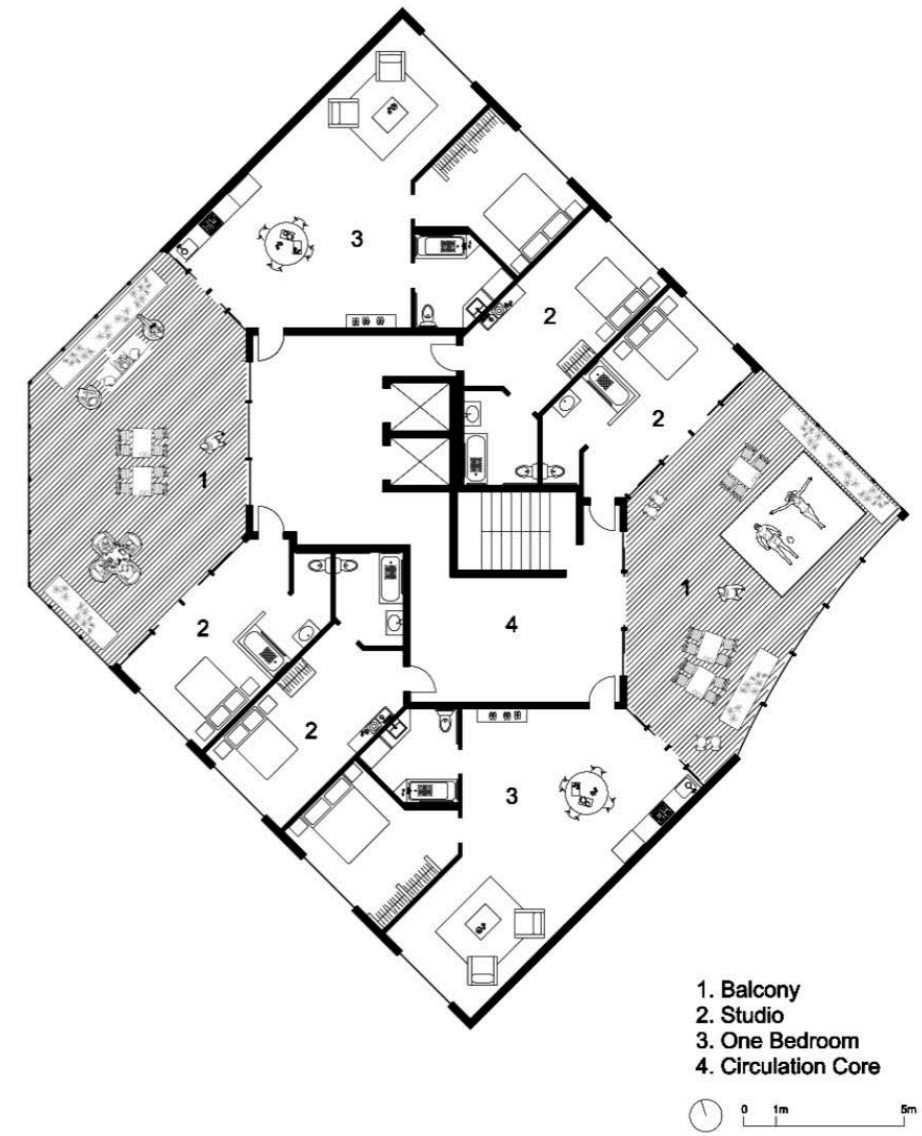


GROUND FLOOR

Housing for  
First Stage Dementia



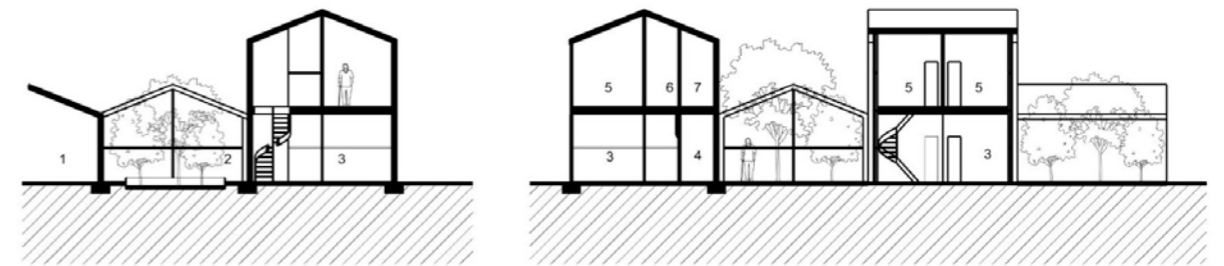
Housing for  
Second Stage Dementia



Housing for  
Third Stage Dementia



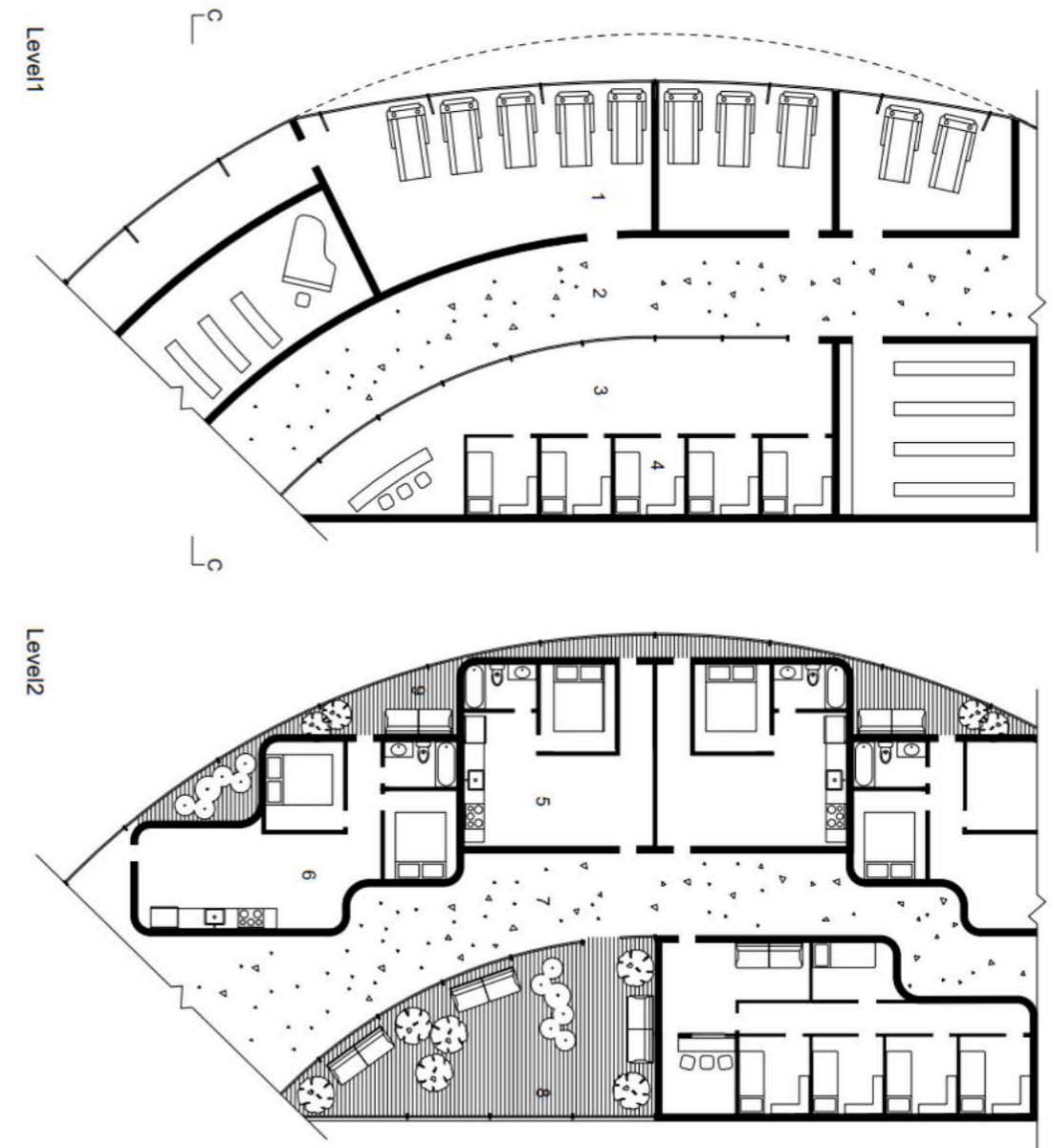
- 1. Canopy
- 2. Shared Courtyard
- 3. Two Bedroom Unit
- 3. Studio Unit
- 5. Two Bedroom Unit
- 6. Roof



- 1. Canopy
- 2. Shared Courtyard
- 3. Two Bedroom Unit - Living Room
- 4. Two Bedroom Unit - Restroom
- 5. Two Bedroom Unit - Bedroom
- 6. Two Bedroom Unit - Corridor
- 7. Two Bedroom Unit - Bedroom



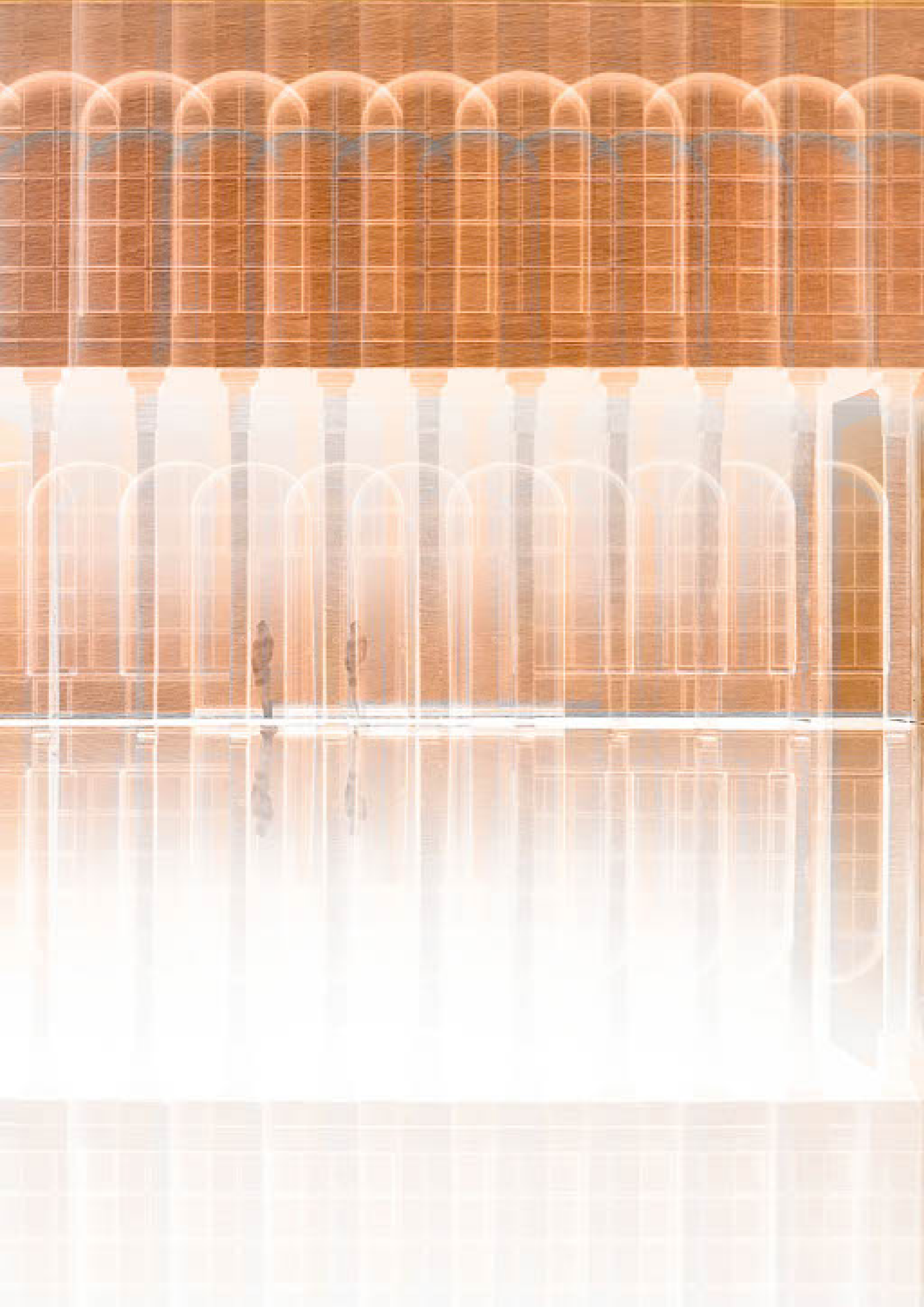
Housing for  
Fourth Stage Dementia



- 1. Gym
- 2. Circulation
- 3. Nursing - Waiting Area
- 4. Therapy Units
- 5. Two Bedroom Unit - Type A
- 6. Two Bedroom Unit - Type B
- 7. Circulation
- 8. Common Balcony
- 9. Private Balcony







# Speculative Spoliation

Spoliation as an Instrument of Preservation and Identity Mediation

GSAPP 2020 Fall Architecture Core I Studio: New Commons

Site: 89 Broadway, New York, USA  
Individual Work

Hanyu Liu (hl3409@columbia.edu)  
Instructor: Lindsey Wikstrom (lmw2167@columbia.edu)



## Prologue

When I think of a time when I felt most connected to others, it is strangely when I am most alone. In a warm bath where the temperature causes the sensation of losing track of where your body ends, is when I feel less like an individual and more like I'm part of something. New Commons as an architecture should be immersive enough that the edges of our bodies are lost, where people feel both extended and minimized, and like they're really part of something bigger.

In this project, spoliation is defined as found materials with ingrained place identity. This project tries to create New Commons by putting forward the provocation to employ spoliation as an instrument of preservation and identity mediation. This is done by transforming the existing marble into a geometry that hovers between extraction and consumption, between a state of being finished and being made, and between being open and closed.

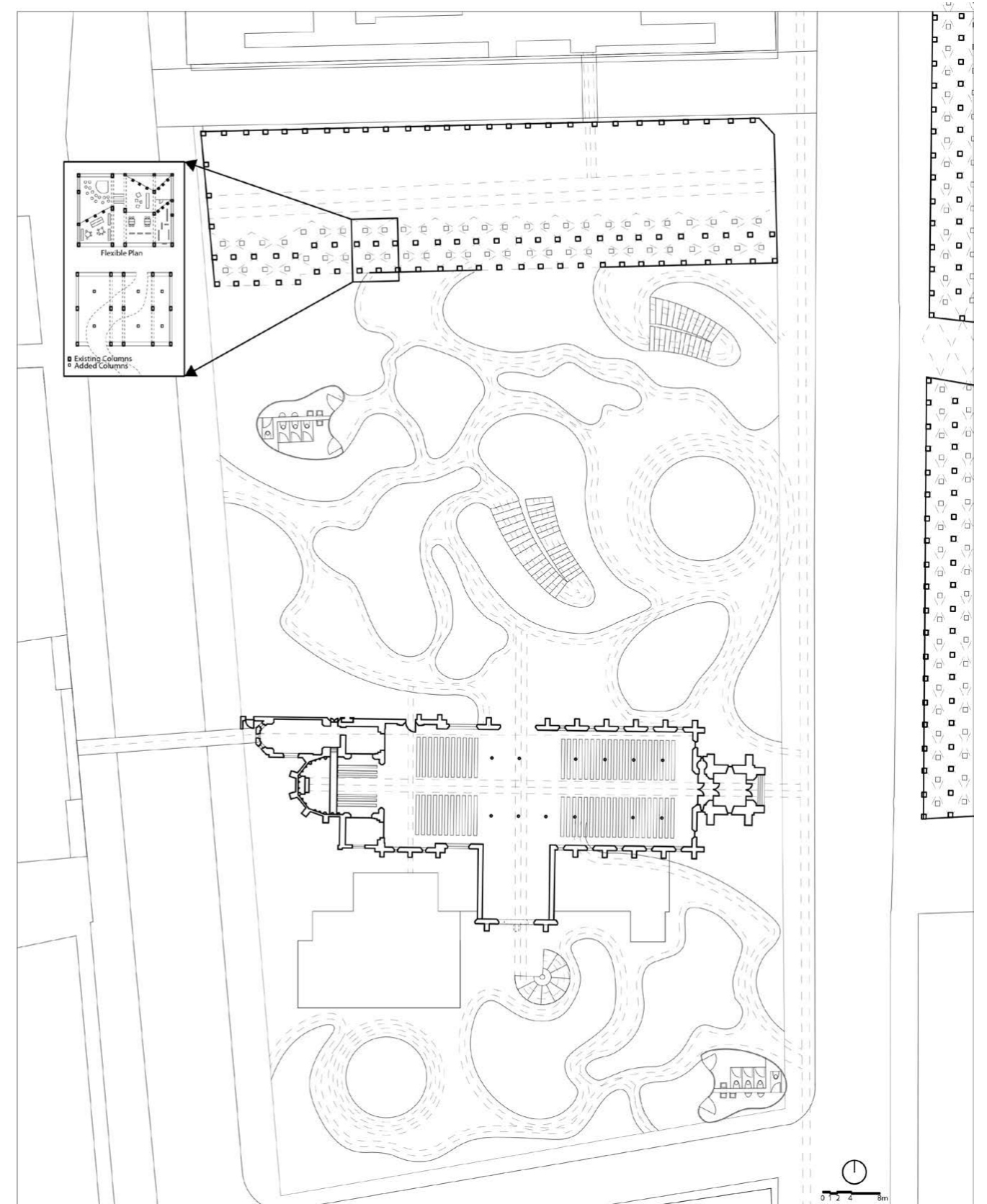
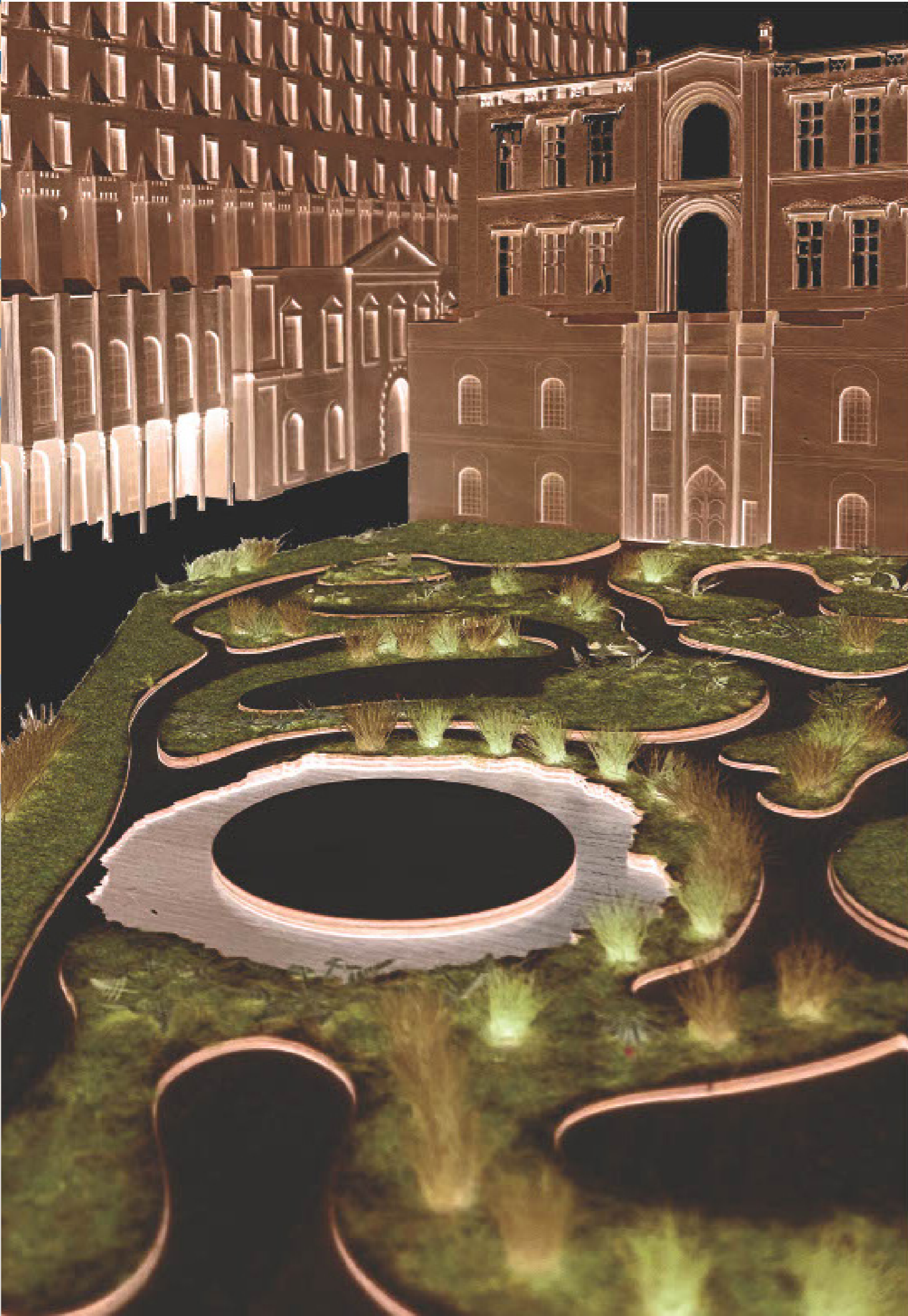
In the Financial District of lower Manhattan, there is a place where the homogenous material of marble already begins to create this feeling of immersion. Facades, organized street arcades, and a gothic-revival church are located at 89 Broadway. This site leads to my research of the story of marble. Where did this marble come from? Most marble in this area of Manhattan is Tuckahoe marble.

Tuckahoe marble is synonymous with Sing Sing marble, a more specific site location on the larger geological formation. Here, the Sing Sing quarry was mined by the prison labor from Sing Sing Correctional Facility. Like the backstage of a theater, the source of extraction for marble is hidden behind its clean, organized facade. To create a new form of collectivity from this marble becomes even more important not only to bring people into more spaces of empathy, but also to propose new ways of material transformation that resist exploitation.

The reason for preservation is to situate ourselves in history and to mediate between memories of others and our cultural identity. By transforming the found marble artifacts and remnants around 89 Broadway, such as Trinity Church Churchyard, and gradually syncretizing them into new containers and wardrobes in the retail stores, this project will draw a parallel between the historically destructive supply chain of architectural materials and the rapidly changing supply chain of the clothing industry. Located across the Trinity Church Churchyard is the American Surety Building. The existing store behind the street-facing structural columns becomes a sea of columns. The new columns are hollow, becoming weightless hollow containers, moving along tracks through the space. Shoppers interact with fabrics, clothing, and the inside and outside of the marble columns - more closely relating the architecture to the body, to the scale of a product more ethically sourced.

*Speculative Spoliation, 89 Broadway, NY* ▶





▲  
*Transforming the found marble artifacts and remnants around 89 Broadway, such as Trinity Church Churchyard, and gradually syncretizing them into new containers and wardrobes in the retail stores.*

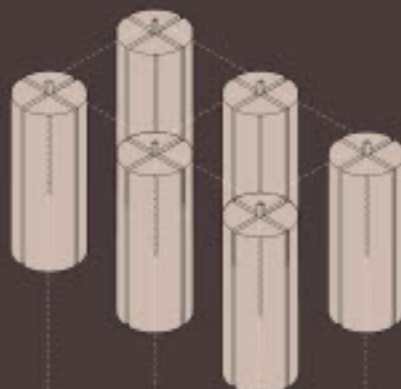


Sing Sing Prison Quarry  
Ossining, NY, USA



Prison Labor

### Sustainably Sourced Materials "COLUMNS" Reimagined



Marble Columns for American Surety Building  
Financial District of Lower Manhattan

Historically Destructive  
Supply Chain  
of  
Architectural Materials



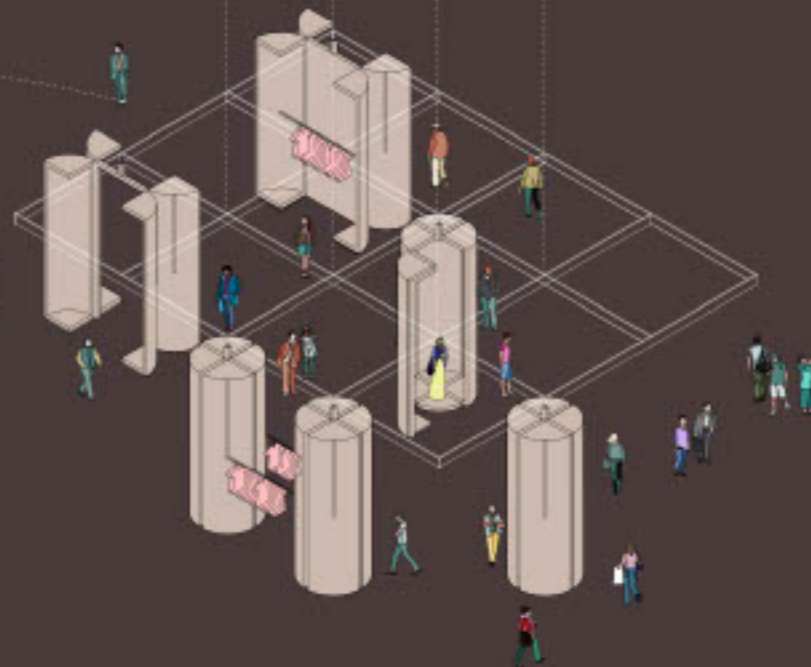
Duty + Transportation



Fabrics



Labor

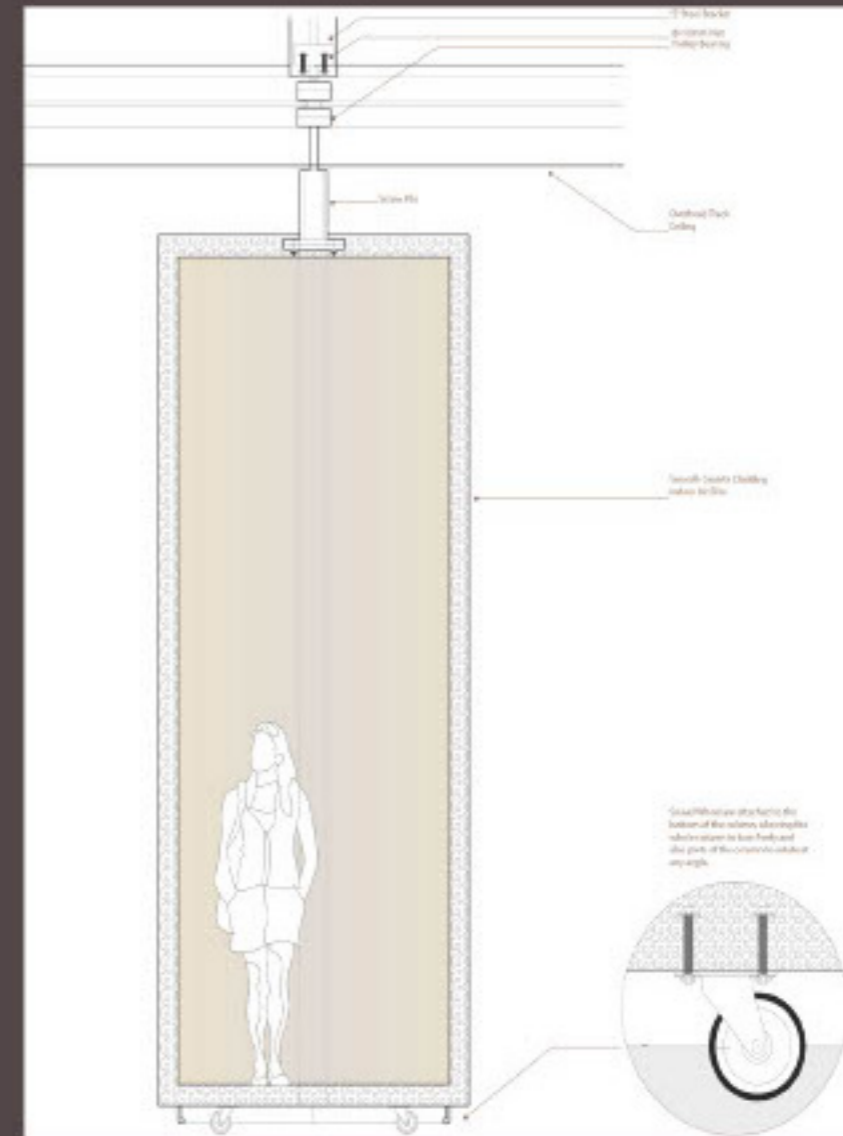


New Columns as Hollow Wardrobes  
Relate the architecture to the body and to the  
scale of a product more ethically sourced

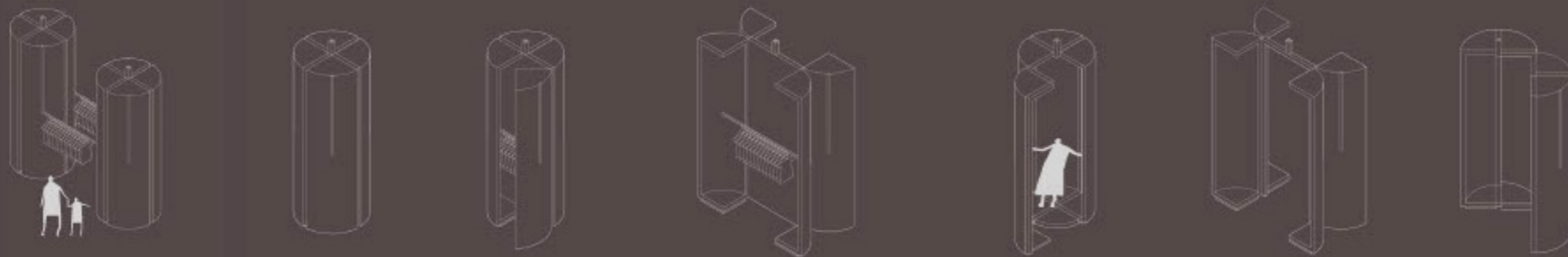
Rapidly Changing  
Supply Chain  
of  
Clothing Industry



*Shoppers Interact with Fabrics, Clothing, and the Inside and Outside of the Marble Columns*



*Closely relating the architecture to the body, to the scale of a product more ethically sourced*



*Transforming the found marble artifacts and remnants and gradually syncretizing them into new containers and wardrobes in the retail stores*

# Permeable Borders

GSAPP | Core II | Studio Benjamin Cadena | Hanyu Liu

# Permeable Borders Site Conditions



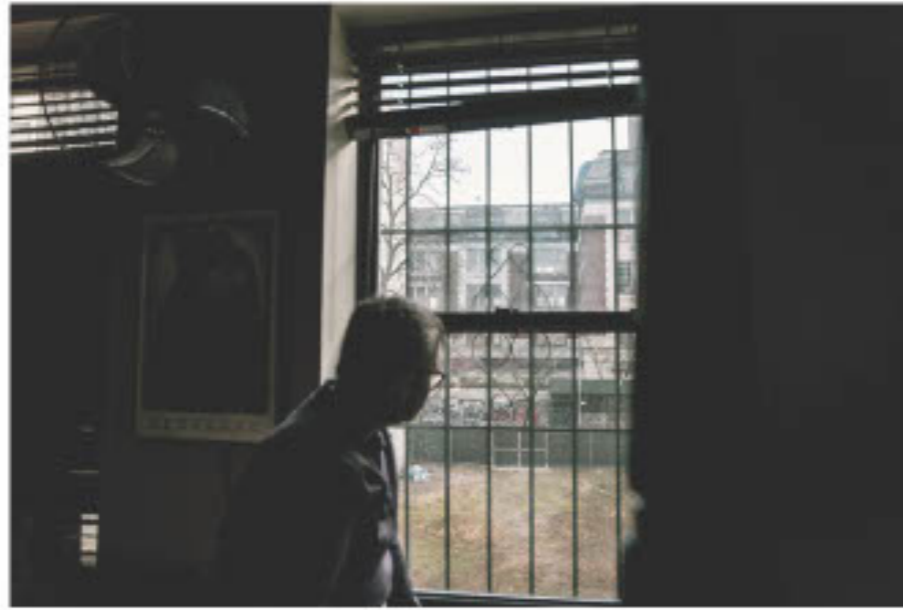


Protestors regularly gathered at Charas against eviction.



Washing by abundant sunlight, these rooms were once beloved by dancers and singers. However, they are empty now. In late December 2001, police officers would enter the building to remove those who remained.

Now: Seclusive Conditions

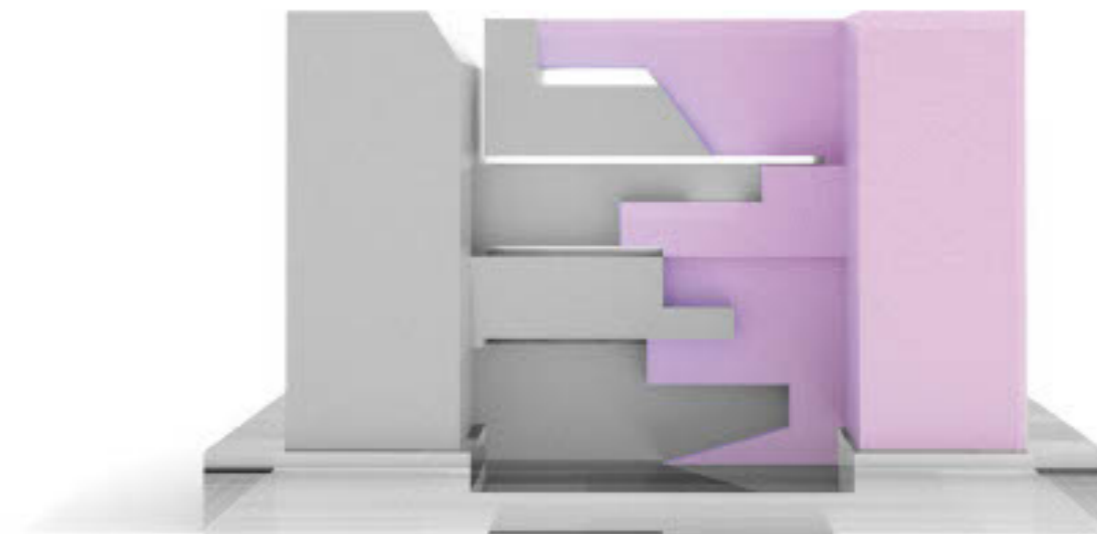


Margarita Lopez, a former City Council member and longtime Charas loyalist, is haunted by the derelict P.S. 64, visible from her East Village apartment window. Credit...Haruka Sakaguchi for The New York Times

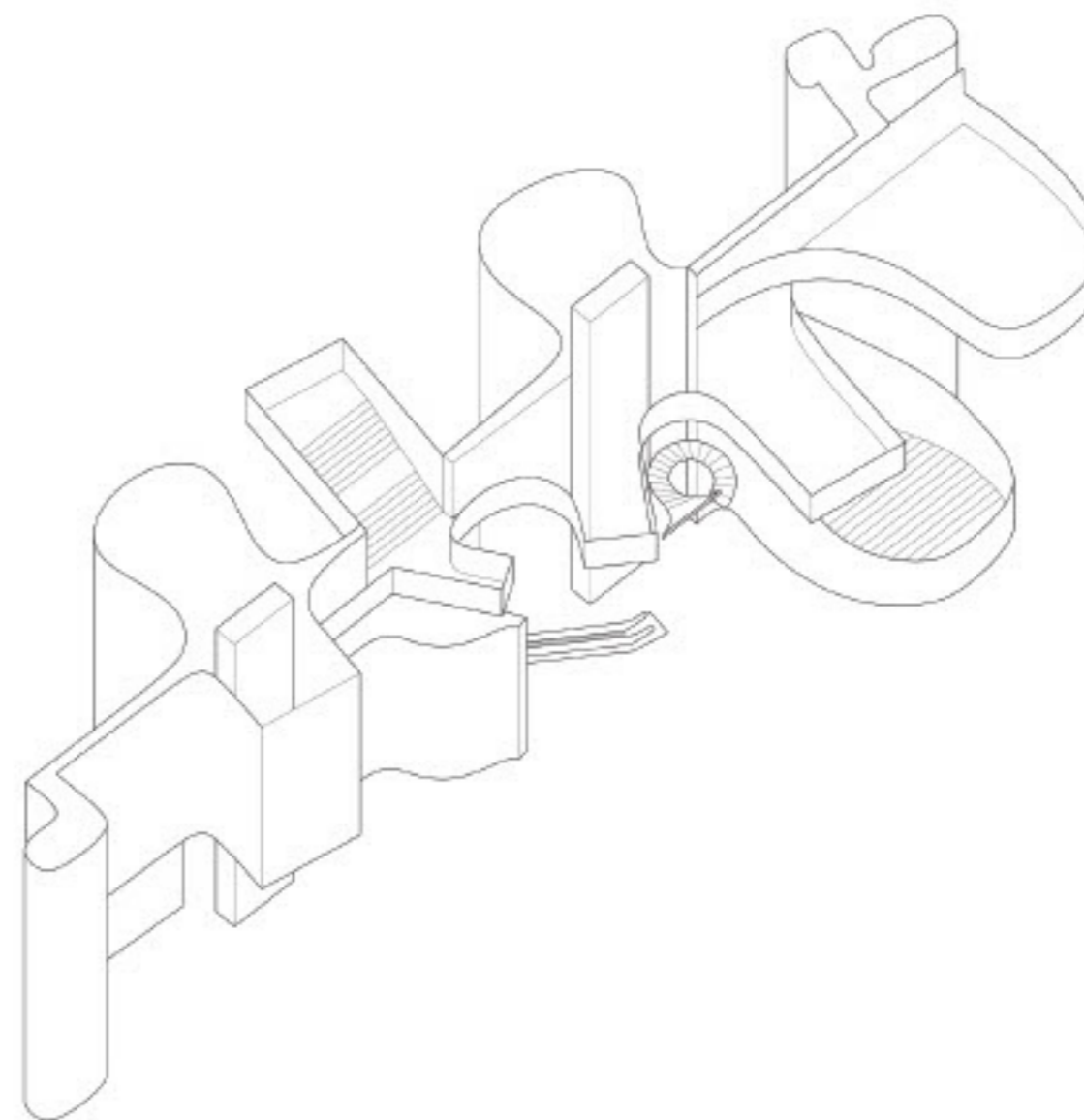


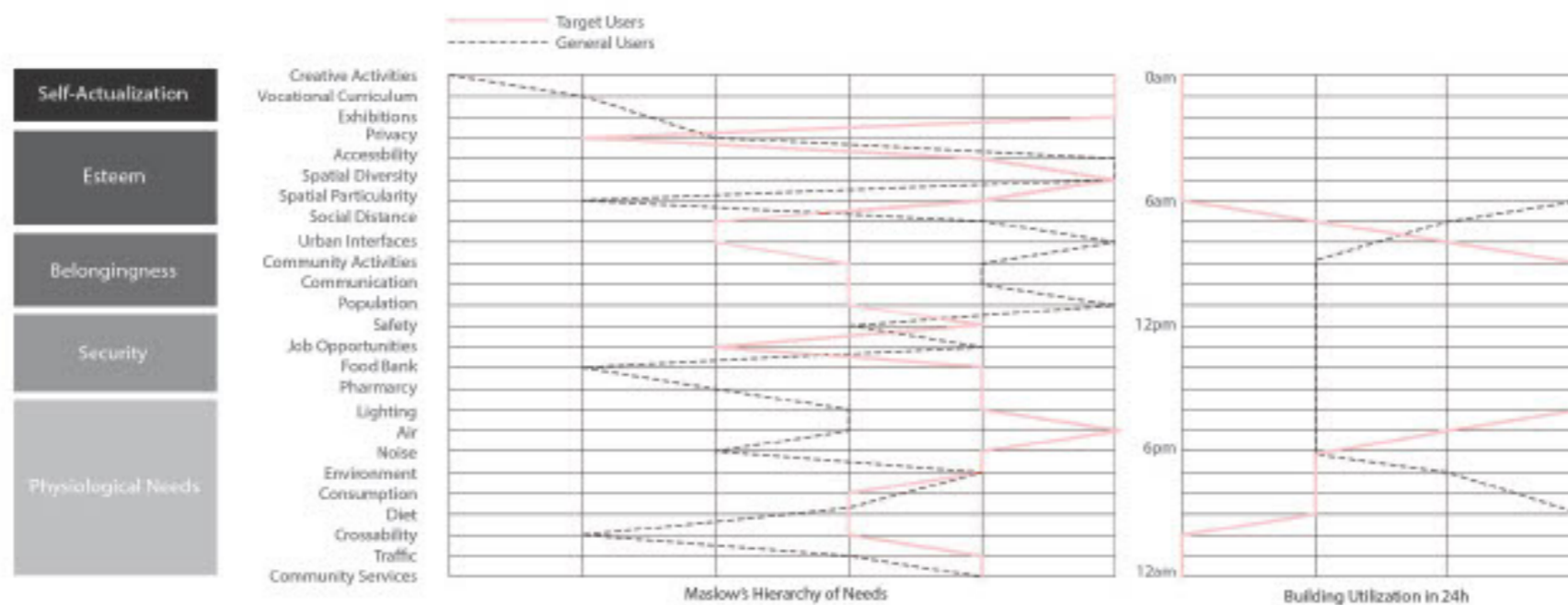
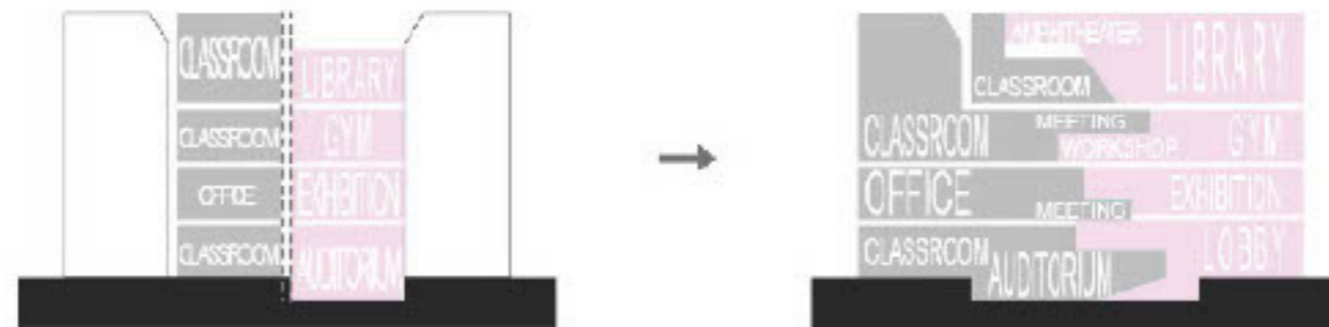
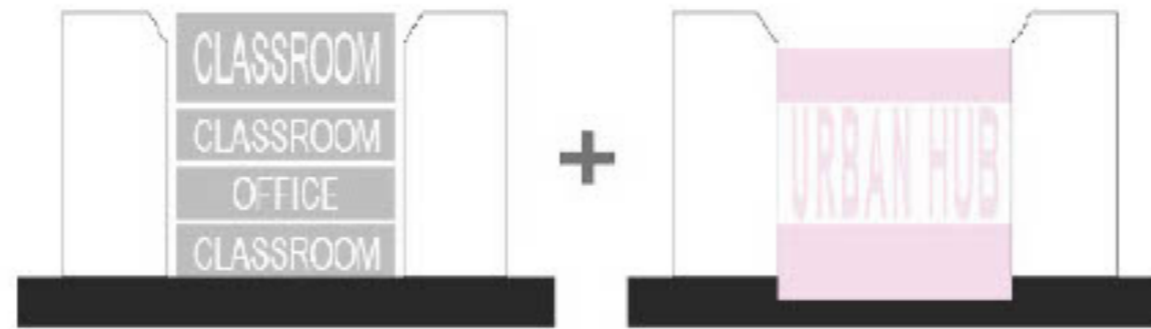
Gregg Singer in his office in the building that was once P.S. 64, once Charas, and now, except for him, vacant. Credit...Haruka Sakaguchi for The New York Times

Future: Permeable Conditions







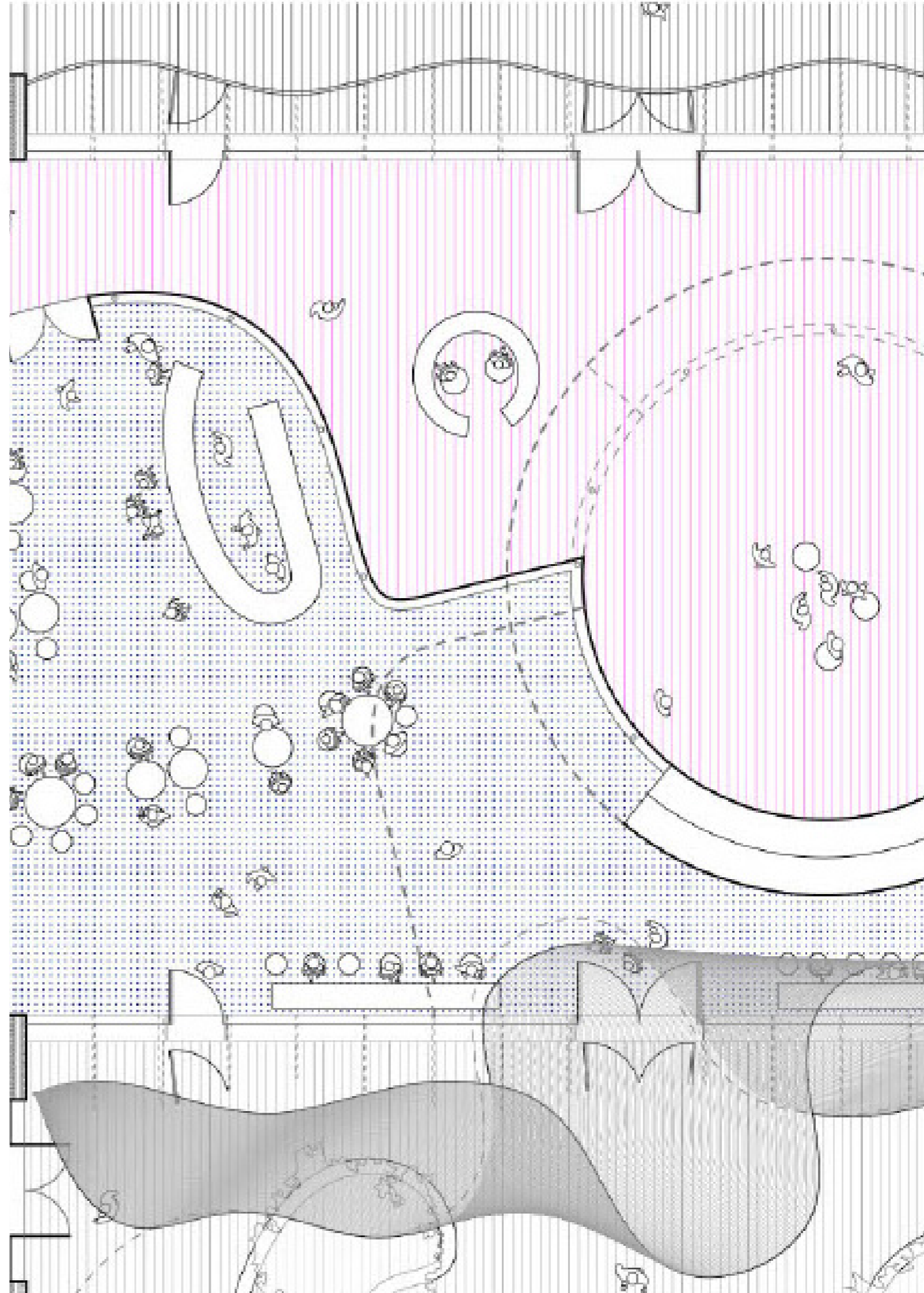
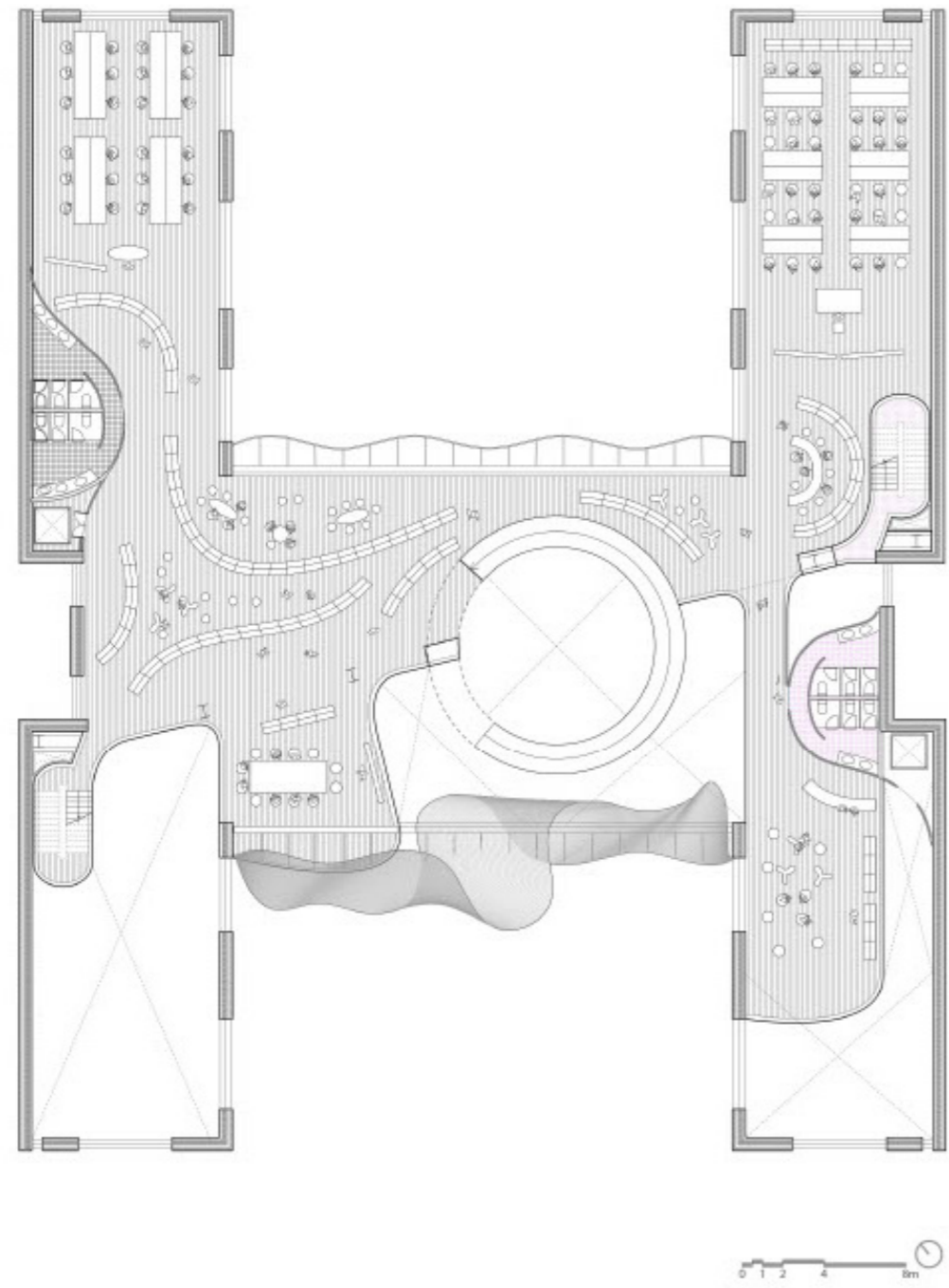


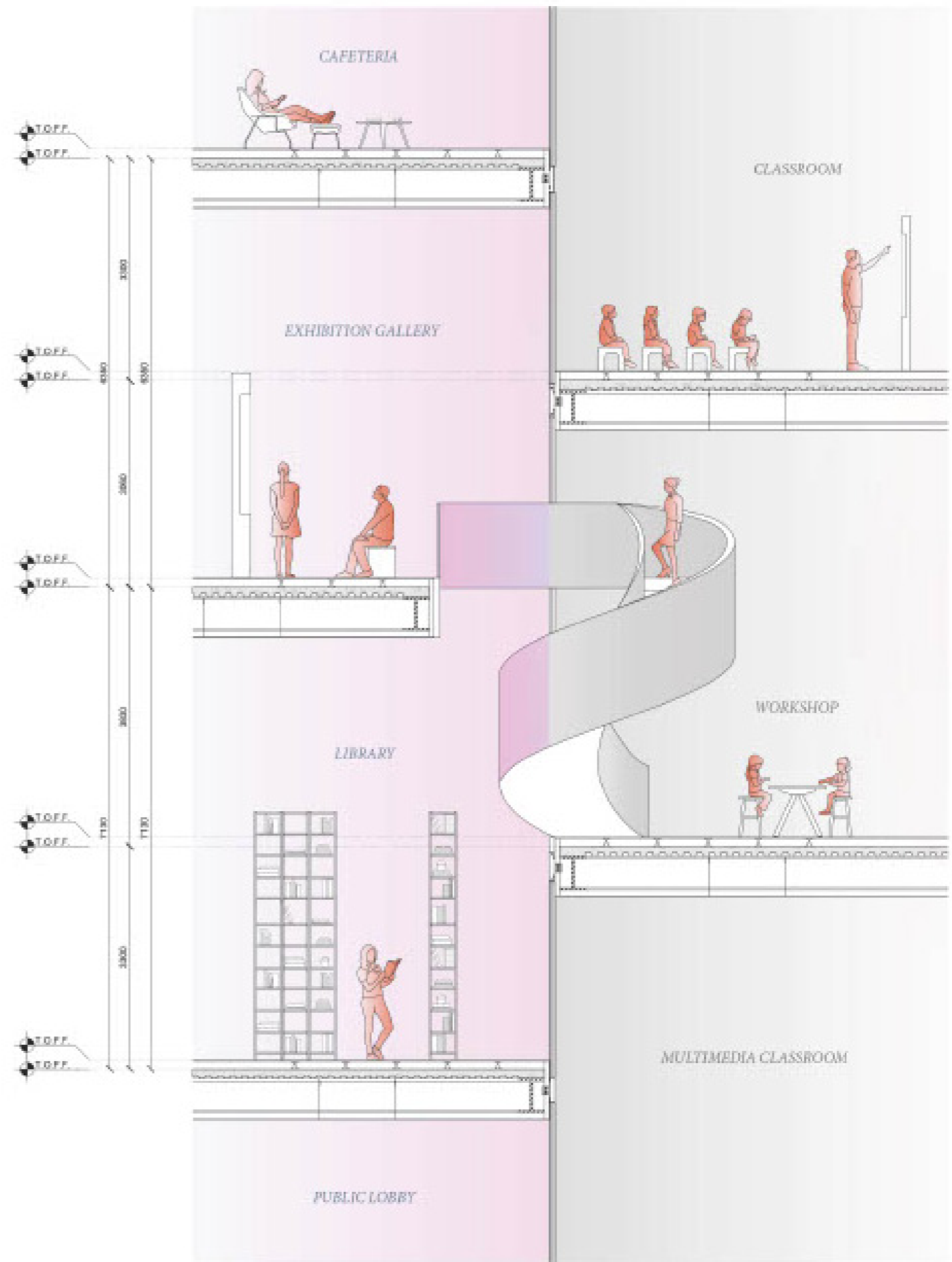
**ANALYSIS OF NEEDS**  
 This diagram tries to look at the neighborhood around E. 9th Ave by establishing two behavior models based on the Maslow's hierarchy of needs. By analyzing the behavioral and psychological needs of both the target users and general users, people can see a pattern of needs, which should be valued and expressed in design.

Permeable Borders  
Ground Plan

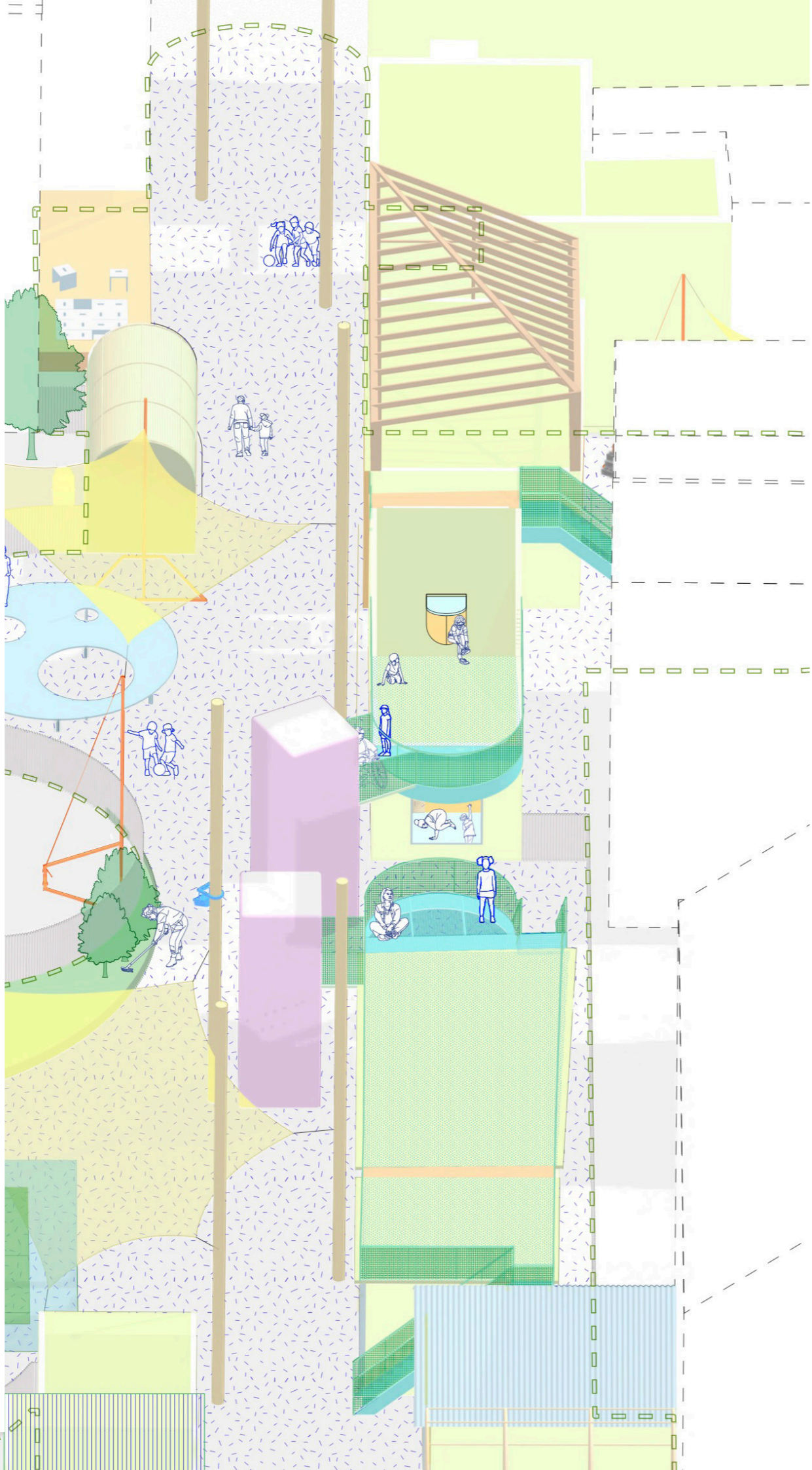


**Permeable Borders**  
*Typical Floor Plan*





Permeable Borders  
*Assembly Details*



Program: GSAPP M.Arch

Course: Fall, 2021 - Architecture Studio IV  
Instructor: Benjamin Cadena

Team: Hanyu Liu, Zoona Aamir

Project: Youth Commons

# Between the Lines

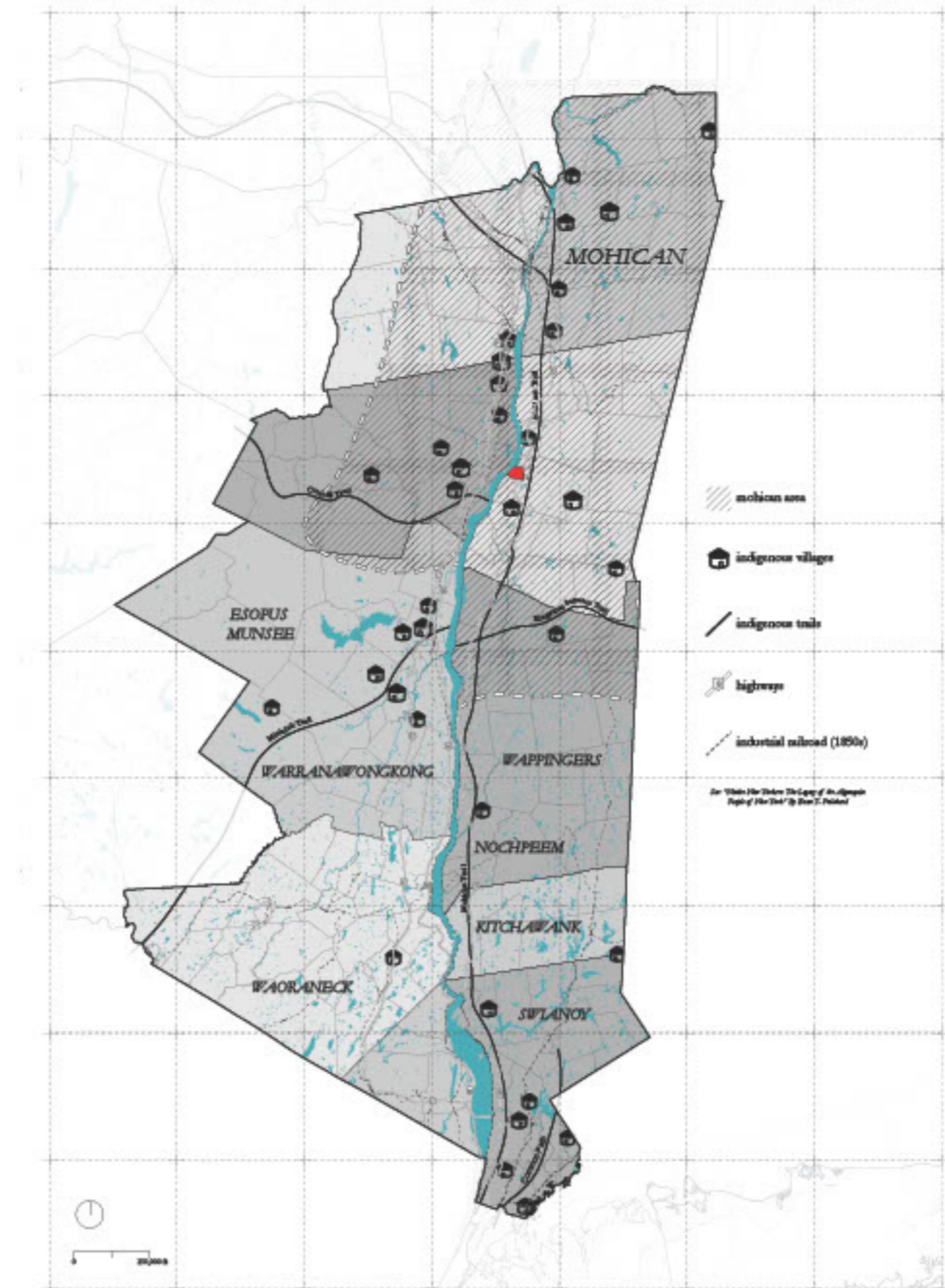
## Settlement from Self-Sufficient to State Appropriation

*This research investigates Hudson, a city in Columbia County that sits along the river, and its history as a settlement before and after the European invasion. Through this study, we were able to uncover qualities of the city that have the ability to justify new architectural frameworks for the City of Hudson.*

Hudson Valley was once the site of various Indigenous settlements scattered along the Hudson River and the subsequent trails and paths that emerged overtime. These “nomadic” communities lived near resources that would be shared among the nearby villages. It is often concluded that the rise of the ‘stable home’ produced sedentary communities.<sup>1</sup> However by mapping the various known settlements in the Hudson Valley (Fig. 1), it becomes clear that these settlements can also be considered sedentary. Without harsh restrictions and guidelines surrounding property today, the indigenous community evidently allowed for the co-existence of shared community living that used its contextual landscape as a tool to organize its tribes rather than through the economic model that is typically used today.

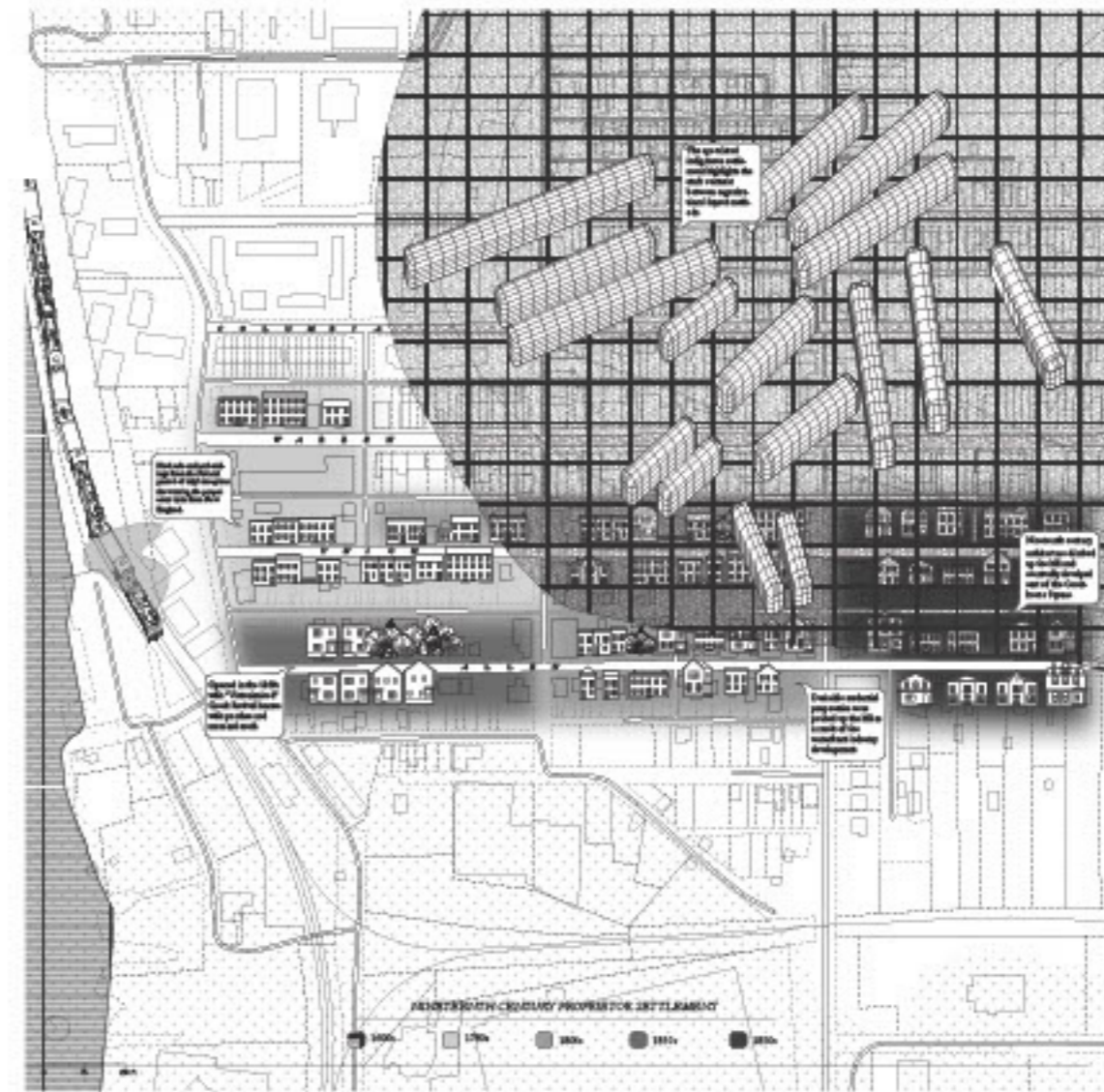
<sup>1</sup> Pier V. Aureli and Maria S. Giudici, *Islands: The Settlement from Property to Care*

Indigenous Settlements in the Hudson River Valley  
1600s

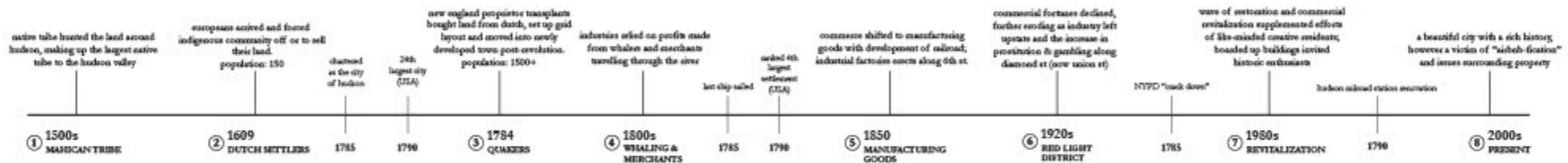




From the 1500s to the 2010s, Hudson's timeline of main events illustrates how the city has responded to the contemporaneous events that involve political, economical, or urban and industrial developmental changes (Fig. 2). By tracking the nineteenth century proprietor settlement it becomes clear how the European settlers viewed land: as an opportunity for individual power through exploitative measures.



The map above (Fig. 3) begins to explain the juxtaposition between the relationship to land by the proprietors and the indigenous peoples before them. It is clear that the irregular boundaries promoted shared resources and encouraged porous borders that exist today as hard boundaries. From here we begin to ask: what are the beneficial qualities of indigenous living that architecture can provide today?



Figure

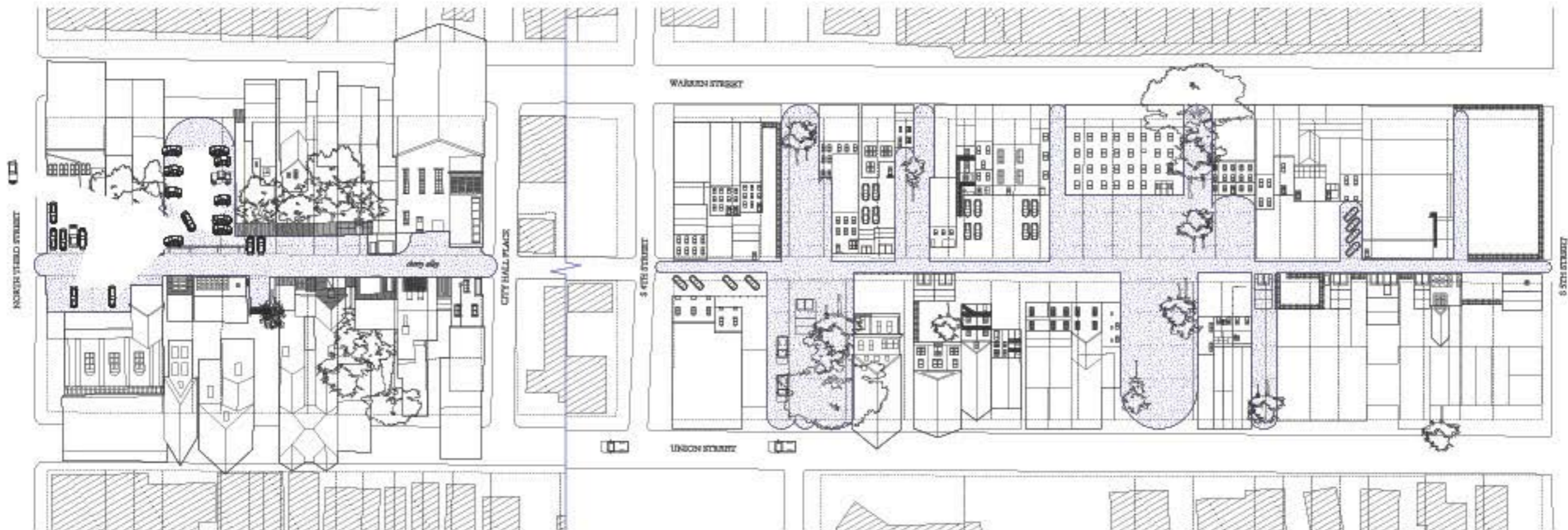


# Case Study Sites

y o u t b

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum. Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

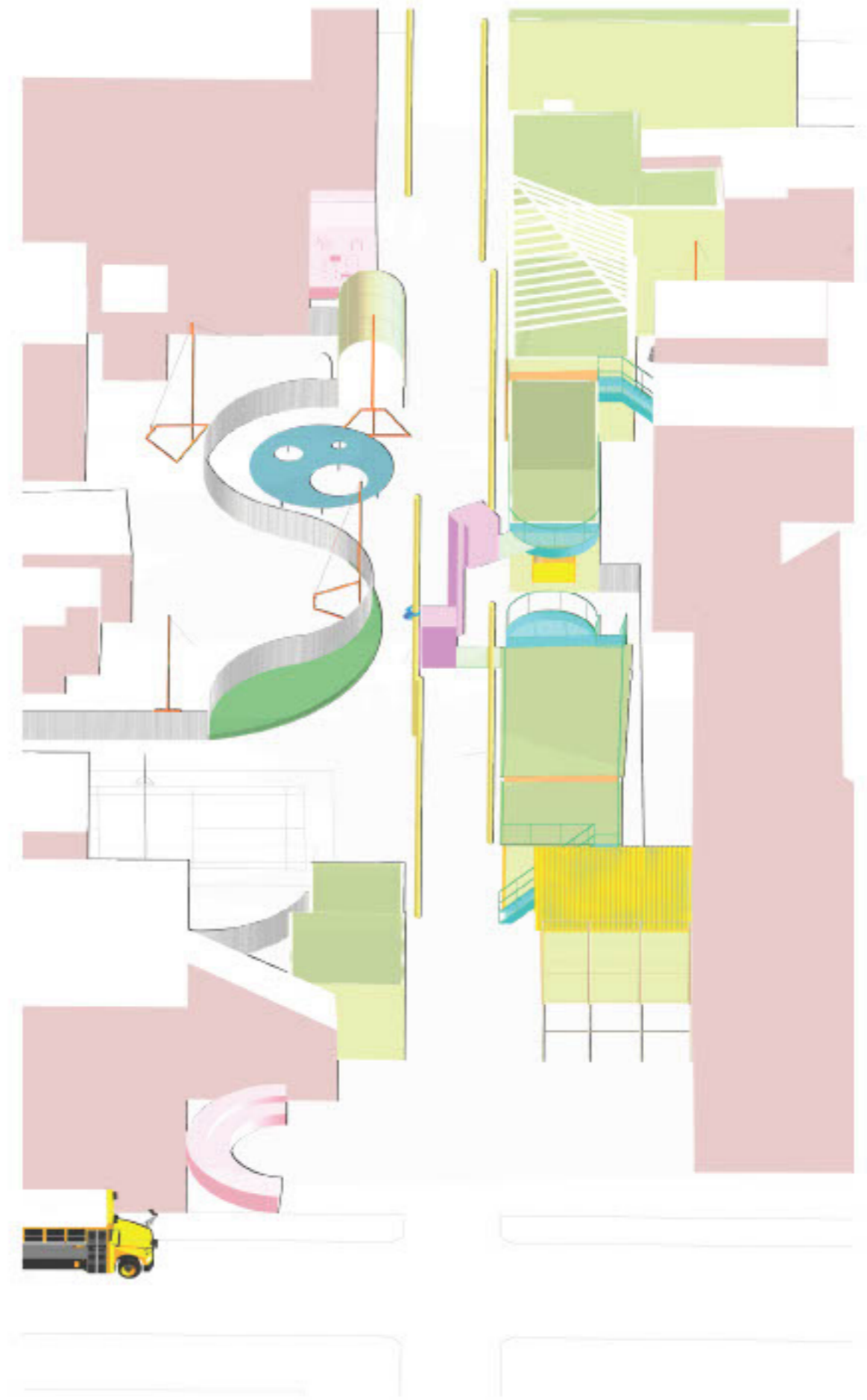
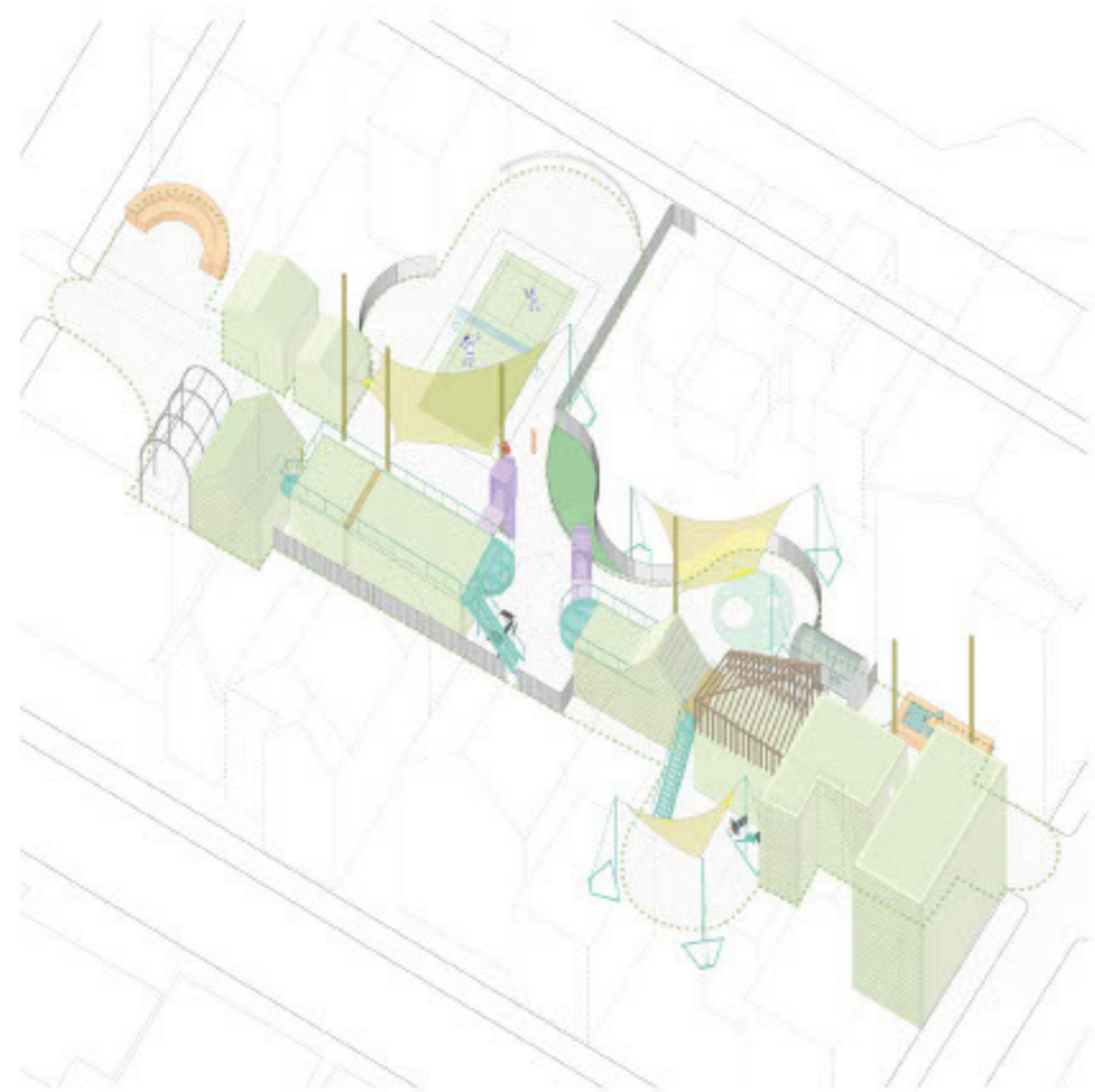
Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum. Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.



# i. Intervention Investigation

*cultural work/play model*

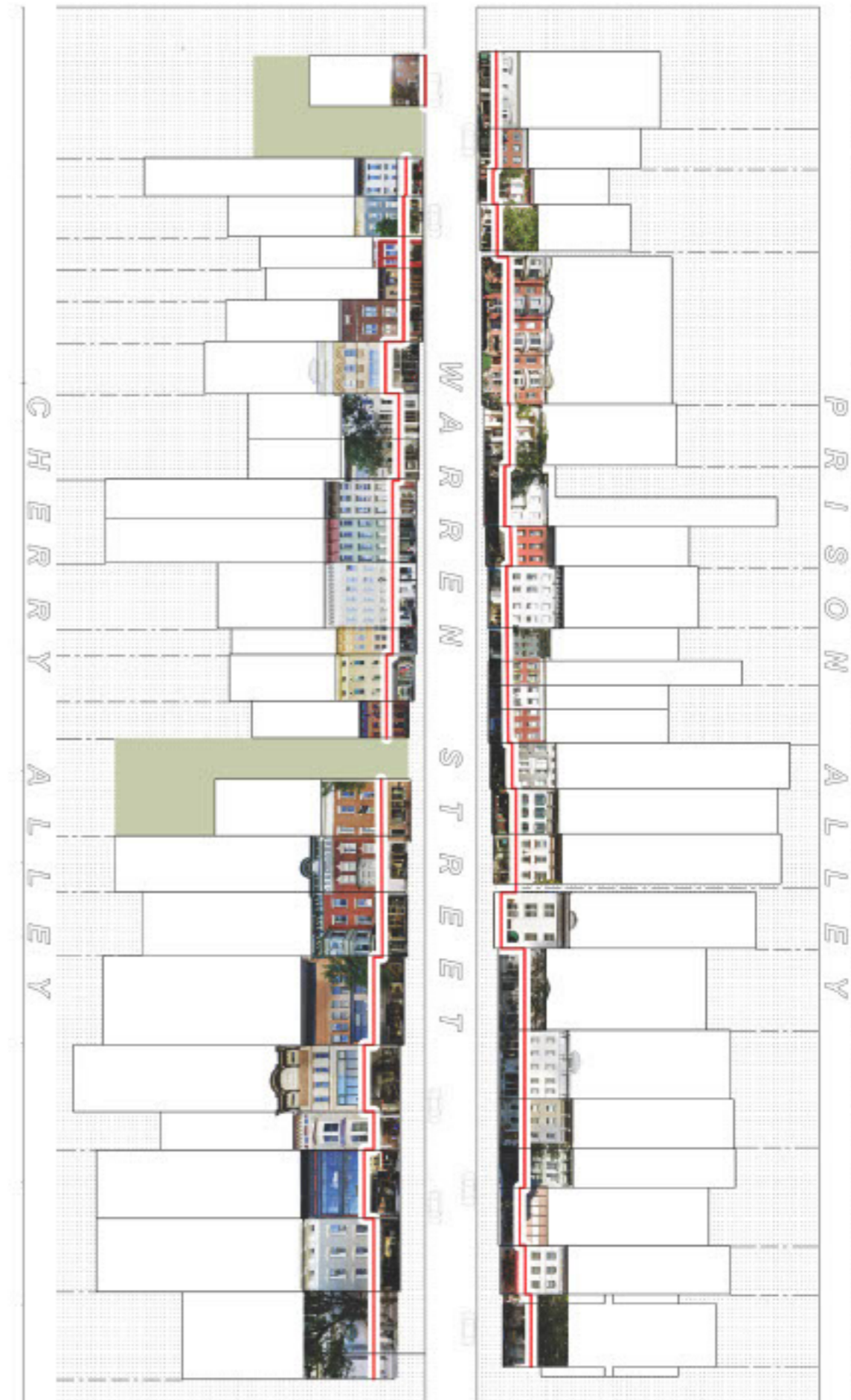
Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum. Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex



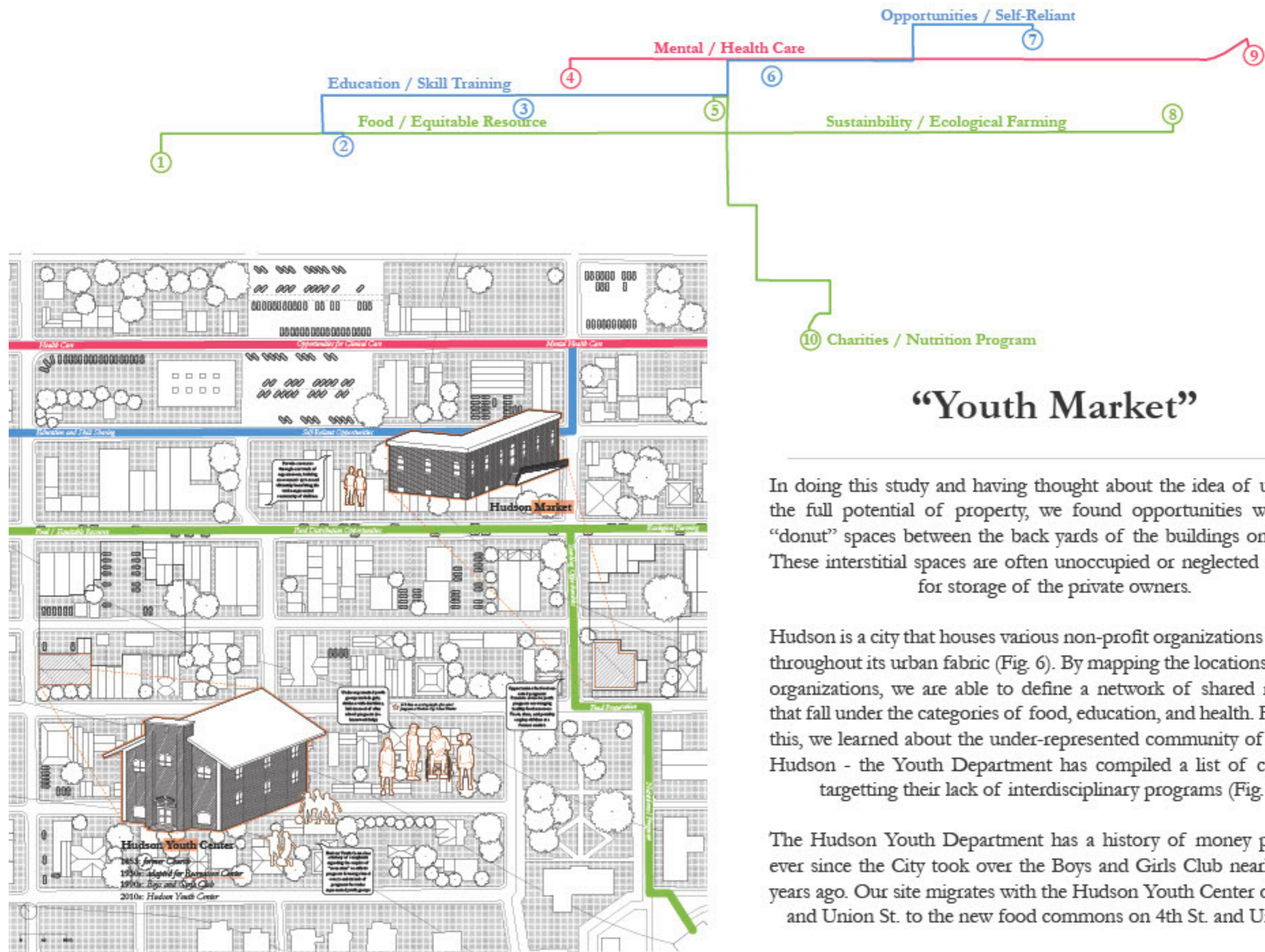
## Blurring Boundaries

It is important to note how Hudson responded to the increase in settlement and as a result, the urban development that followed. The “downtown” main road of Warren Street (Fig. 5) can be divided at its face to represent the different levels of access. The entire ground floor of this block is deemed as public, usually housing commercial goods and labor, while the floors above are used for private residences.

Where do these lines start to blur? Maybe when the resident living in the building also owns and/or runs the commercial entity below. Or when the backyard is privately occupied even though the floor is public. From here, we began to investigate these observations and used them as opportunities to seek potential for unlocking land by eliminating the idea of private property, and hard boundaries.







## “Youth Market”

In doing this study and having thought about the idea of unlocking the full potential of property, we found opportunities within the “donut” spaces between the back yards of the buildings on a block. These interstitial spaces are often unoccupied or neglected and used for storage of the private owners.

Hudson is a city that houses various non-profit organizations scattered throughout its urban fabric (Fig 6). By mapping the locations of these organizations, we are able to define a network of shared resources that fall under the categories of food, education, and health. Following this, we learned about the under-represented community of youth in Hudson - the Youth Department has compiled a list of complains targetting their lack of interdisciplinary programs (Fig 7).

The Hudson Youth Department has a history of money problems, ever since the City took over the Boys and Girls Club nearly twenty years ago. Our site migrates with the Hudson Youth Center on 3rd St. and Union St. to the new food commons on 4th St. and Union St

Transformations of Four Types of Buildings



By constructing a series of activators, both the youth and the community will have new educational spaces such as spaces for education of new agriculture, opportunity training, and sex-ed etc.

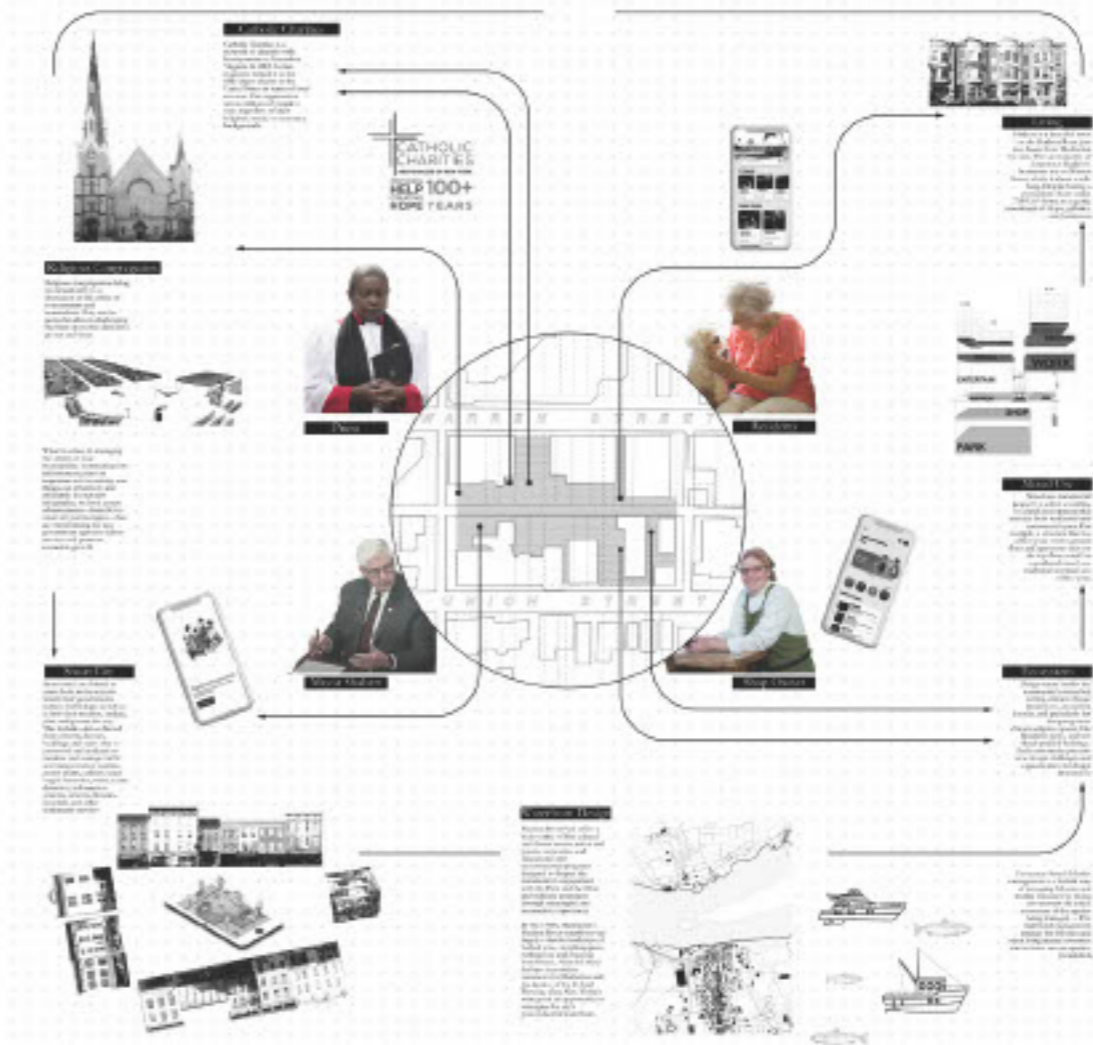
There will also be opportunities to play, but also run local food banks and community gardens in order to cater for the range of ages considered youth. Communal kitchen, moreover, will have a impact on people lifestyles, encouraging the community to produce and share their resources.

This project aims to build a series of urban interventions to activate the Youth education and activities in Hudson, sharing resources between the neighborhood and the youth, and creating a new commons for youth education and activities.

common stakeholders

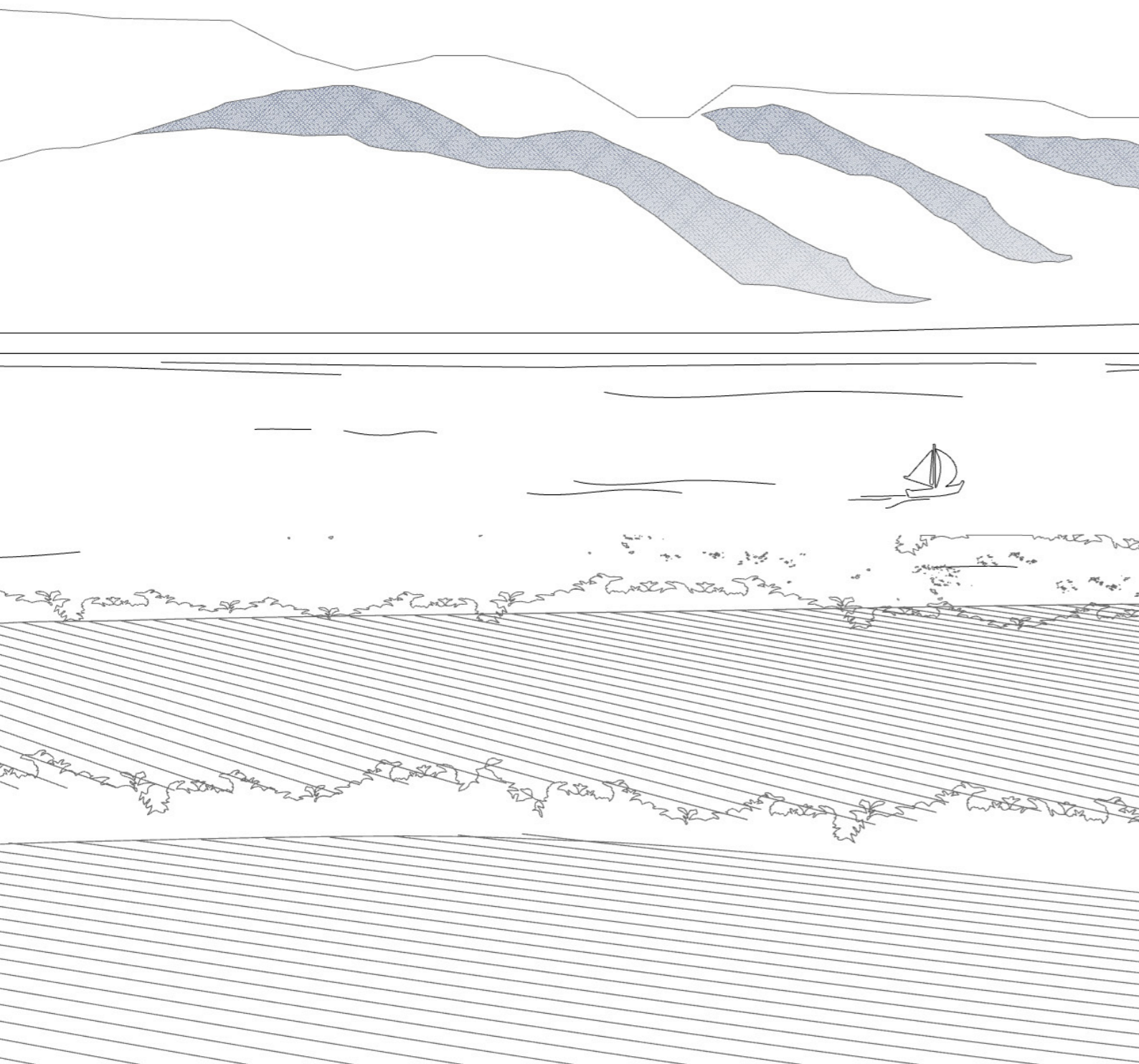


*note: this is a developing concept, these diagrams are meant to represent the current conditio of Hudson's ownership levels, while thinking about a framework that can be used on multiple "donut" sites.*



Different Views of Decolonizing Suburbia

# 温泉



Program: GSAPP M.Arch

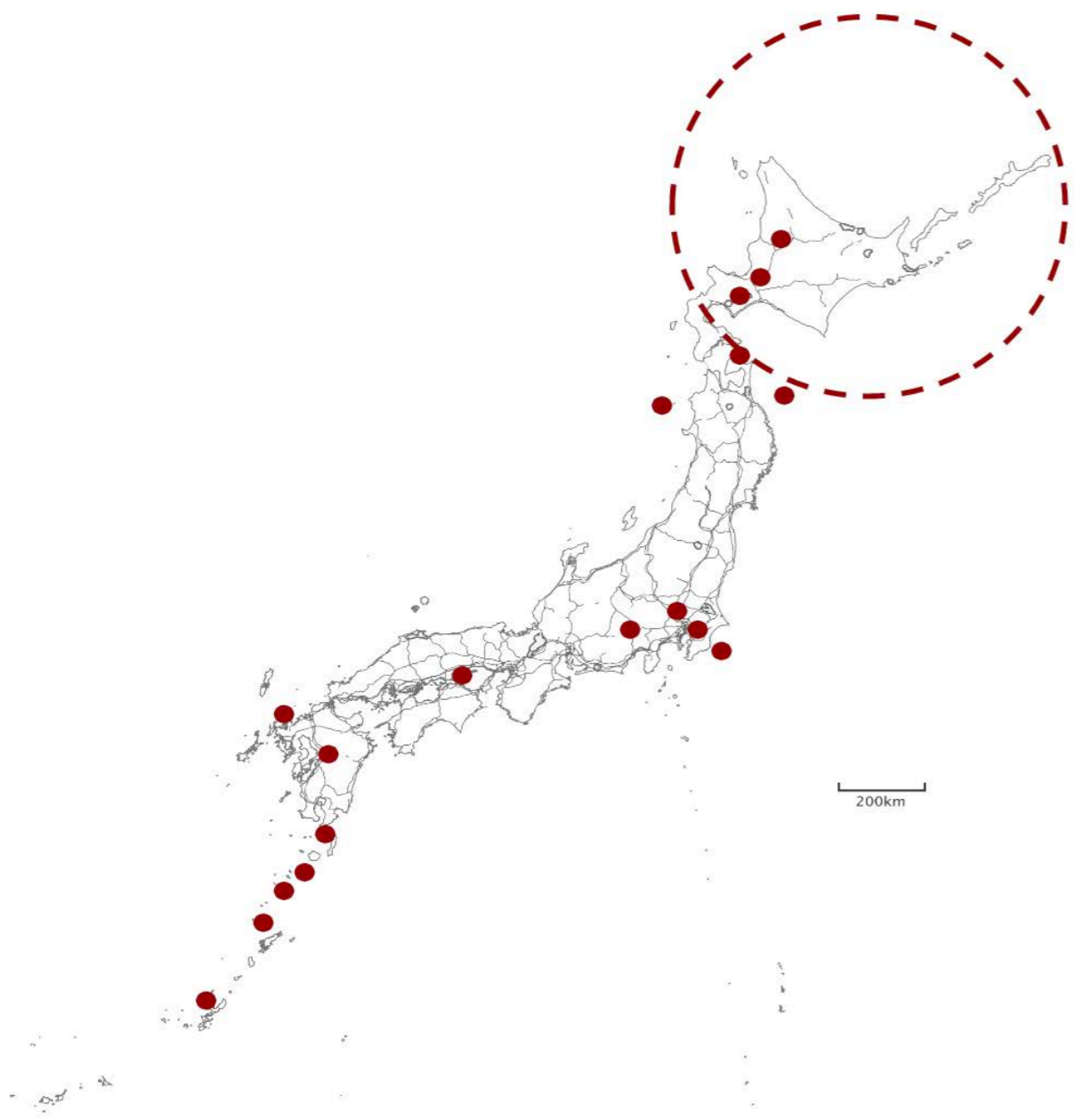
Course: Fall, 2021 - Architecture Studio VI  
Instructor: David Benjamin

Hanyu Liu

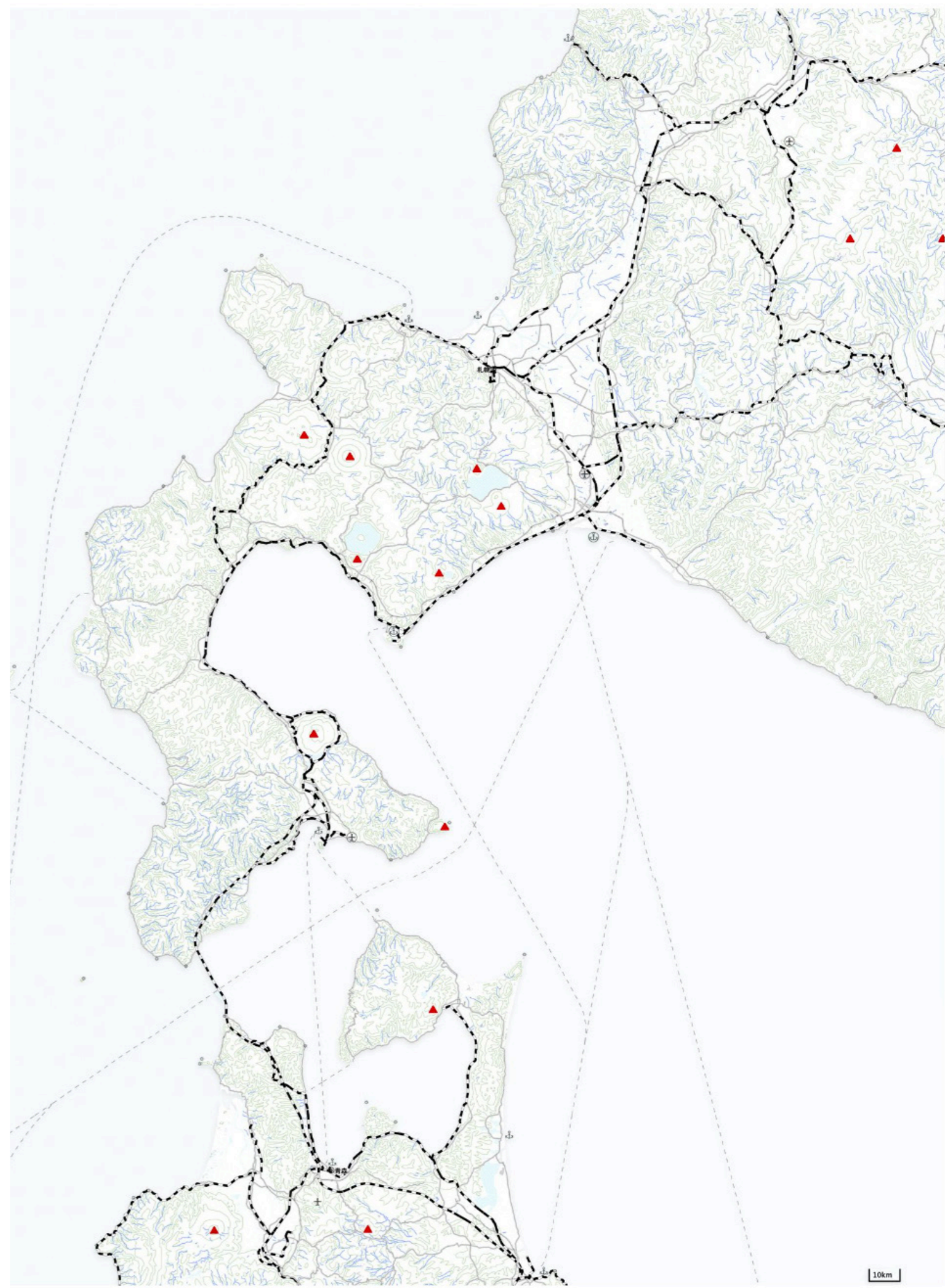
Project:  
Volcano: Inhabit All Things

Site: Koma-ga-take, Hokkaido, Japan

Program:  
1) Residential/Commercial: Accommodation, Onsen  
2) Agricultural: Greenhouse  
3) Industrial: Paper Factory



● Major Volcano location (Kami)





## Geothermal Power Plant:

1. A geothermal power plant will be built to harness the high-temperature geothermal resources in Hokkaido. This facility will generate electricity by tapping into the earth's heat, which will be used to power the GSHPs and supply electricity to the local grid.

## Energy Storage:

2. The excess energy generated during the summer will be stored in the ground as thermal energy. This energy will be utilized during the winter months, acting as a thermal battery and reducing the need for additional heating sources.

## Smart Grid Integration:

3. The HGE-SUS will be integrated with a smart grid system, allowing for efficient energy management, demand response, and real-time monitoring of energy consumption. This will optimize energy usage and reduce overall carbon emissions.

## Architectural Design:

4. Energy-efficient building designs will be employed in both residential and commercial structures to minimize heat loss and energy consumption. These designs will include proper insulation, passive solar heating, natural ventilation, and green roofs.

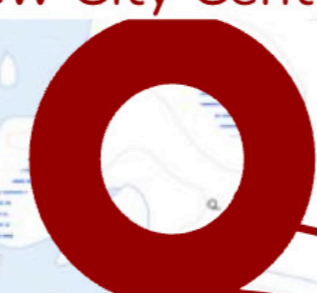
## Public Awareness and Education:

5. A public awareness campaign and educational programs will be implemented to inform residents about the benefits of geothermal energy, its environmental impact, and the ways they can contribute to energy conservation.

1. Geothermal Energy Plant

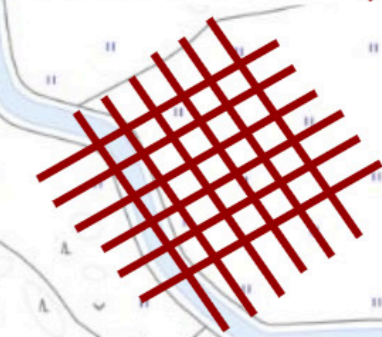


4. New City Center



2. Energy Storage

3. Smart Grid System

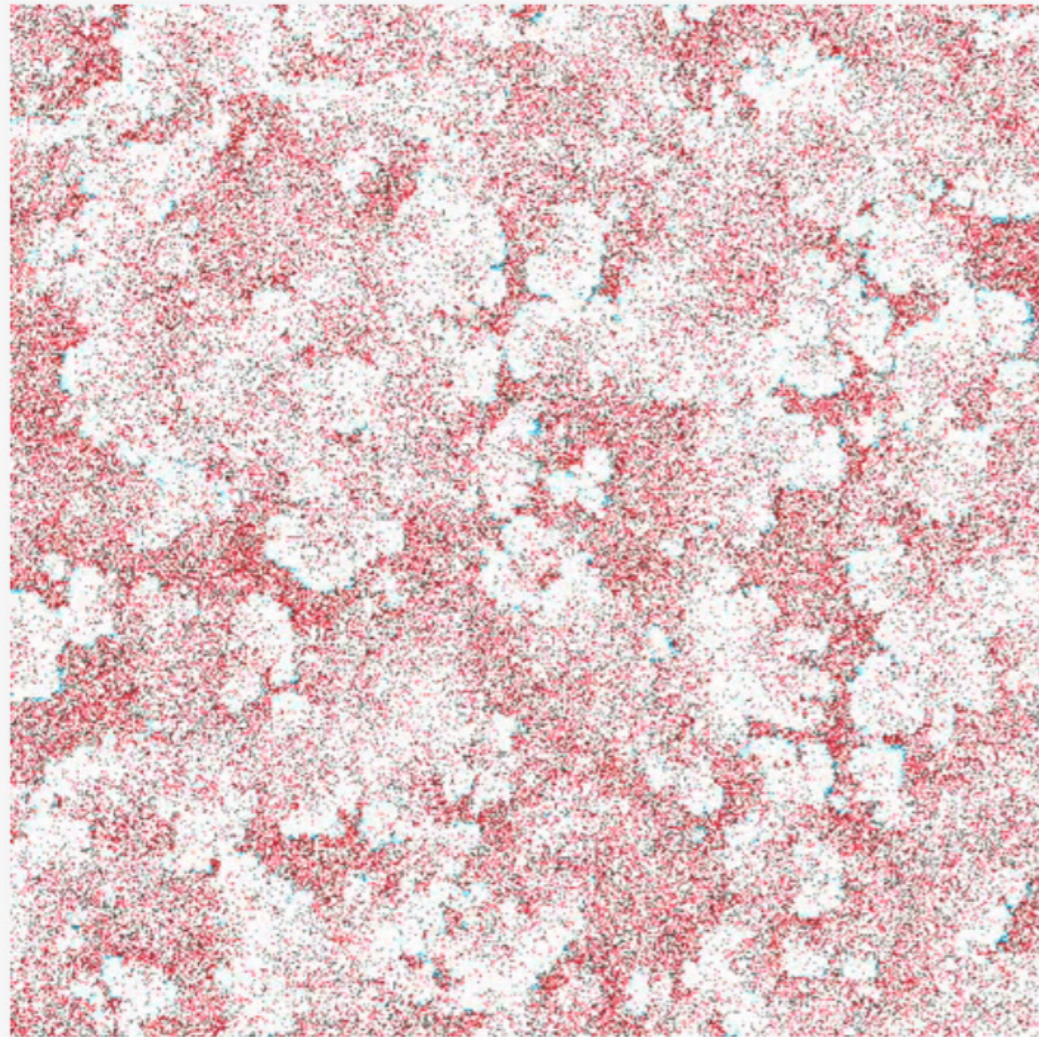


4. Agricultural Residential Commercial



Hot Spring Shrine Temple

Wasteland Broadleaf Forest Deciduous Forest



## Volcano Activity

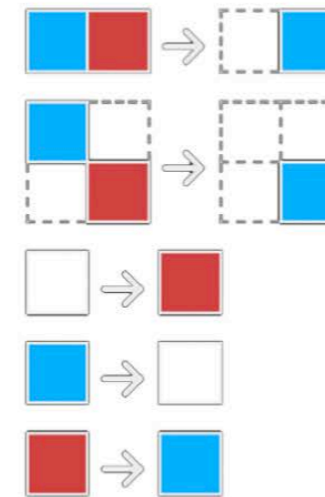
*self-organized criticality (SOC) behavior exhibited by these natural phenomena*

### Visualization

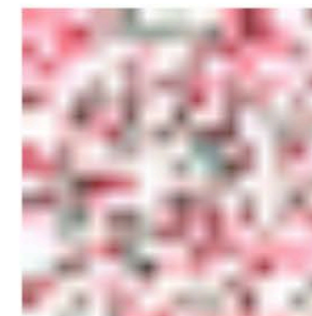
*Grid Representation*



*Transitional Rule*



*Probability  
&  
Timesteps*



### Explanation

- a) Inactive cell
- b) Active cell
- c) Magma reservoir

- a) An inactive cell may become active if it's adjacent to an active cell, representing the spread of magma from an active region.
- b) An active cell may become a magma reservoir if certain conditions are met, such as a specific number of adjacent active cells or a threshold amount of pressure buildup.
- c) Magma reservoirs can release pressure by turning into active cells, representing volcanic eruptions.

Each transition has a certain probability of occurring, depending on factors like the size and location of the magma reservoir, or the composition of the earth's crust.



## GeoGrid Optimization

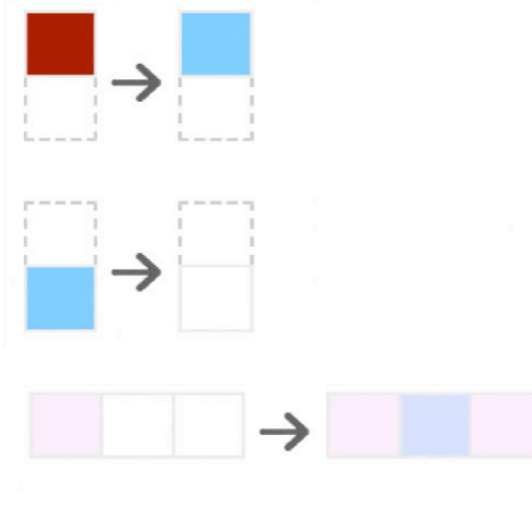
*Urban scale piping scheme*

### Visualization

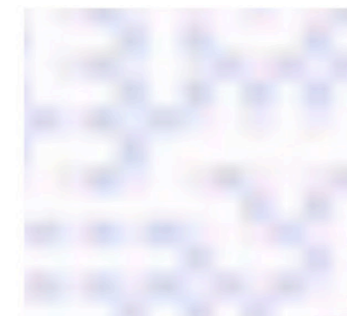
*Grid Representation*



*Transitional Rule*



*Probability  
&  
Timesteps*

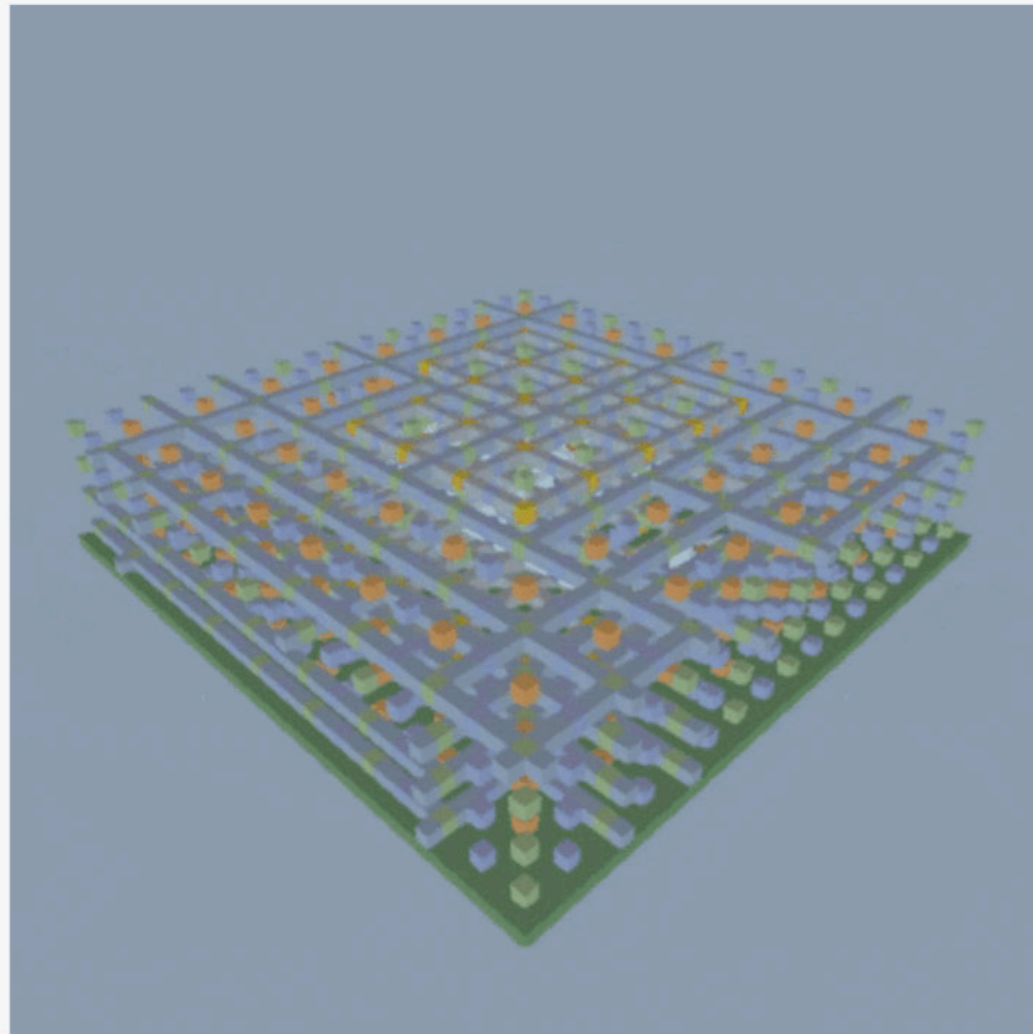


### Explanation

- a) Hot geothermal fluid source
- b) Node
- c) Path
- d) Cooled fluid return point
- e) The biased

- a) Source to Return Point: Geothermal fluid flows from the source to the return point through the transportation network, transferring heat energy to end users before being returned to complete the loop.
- 2) Return Point to Biased Areas: The pipeline network must be designed to avoid biased areas due to infrastructures or other limitations.
- 3) Node and Path Growth: The maze expands by creating new paths and nodes (junctions) while connecting the source and return point in an efficient and optimized manner.

Each transition has a certain probability of occurring, depending on factors like the size and location of the magma reservoir, or the composition of the earth's crust.



**Existing Condition Optimization**

*Centralized Heating*

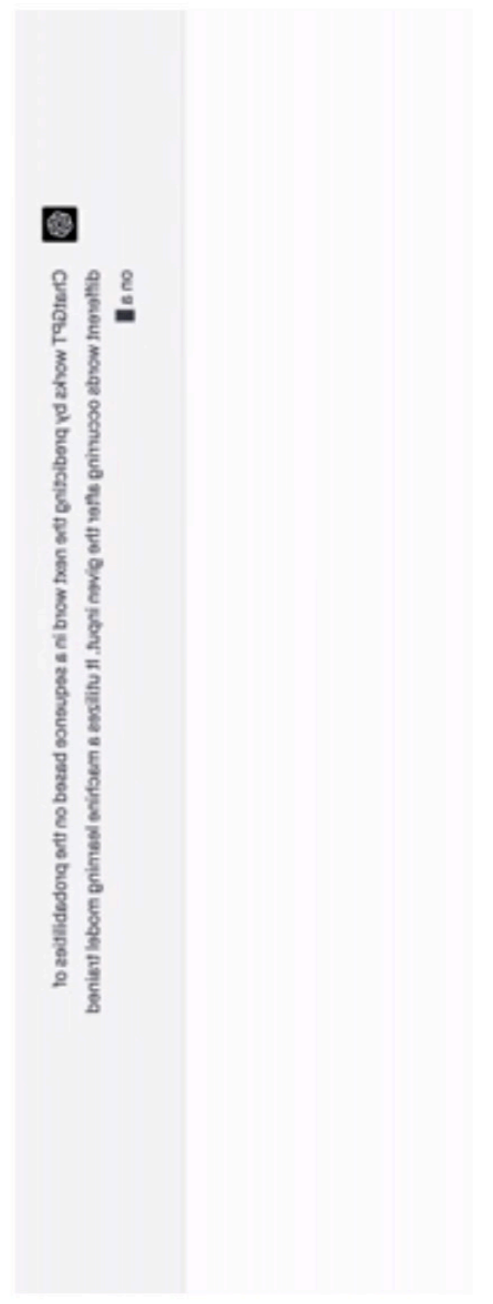
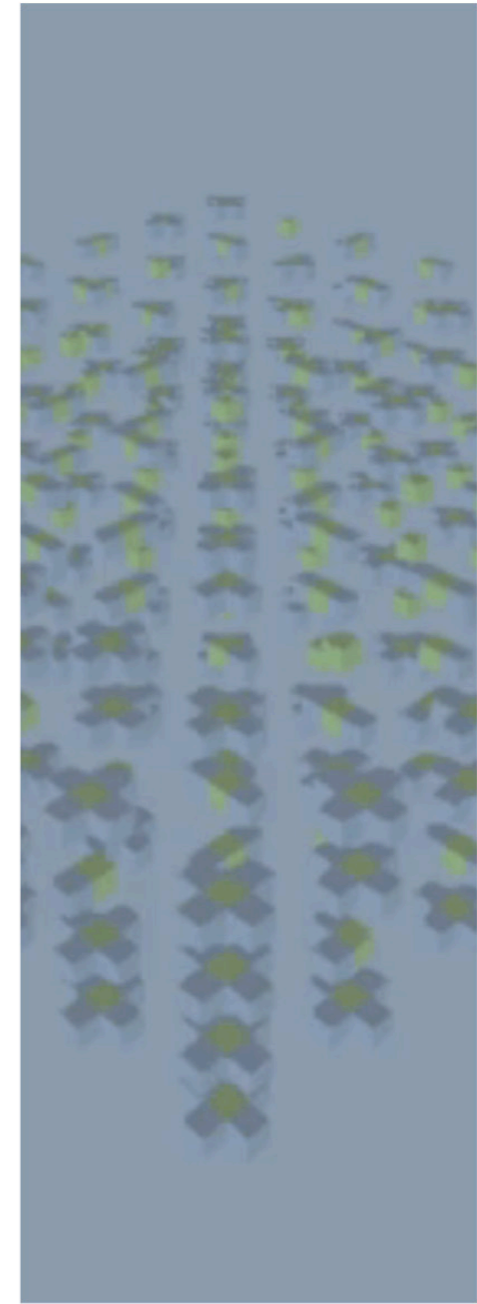
*Visualization*

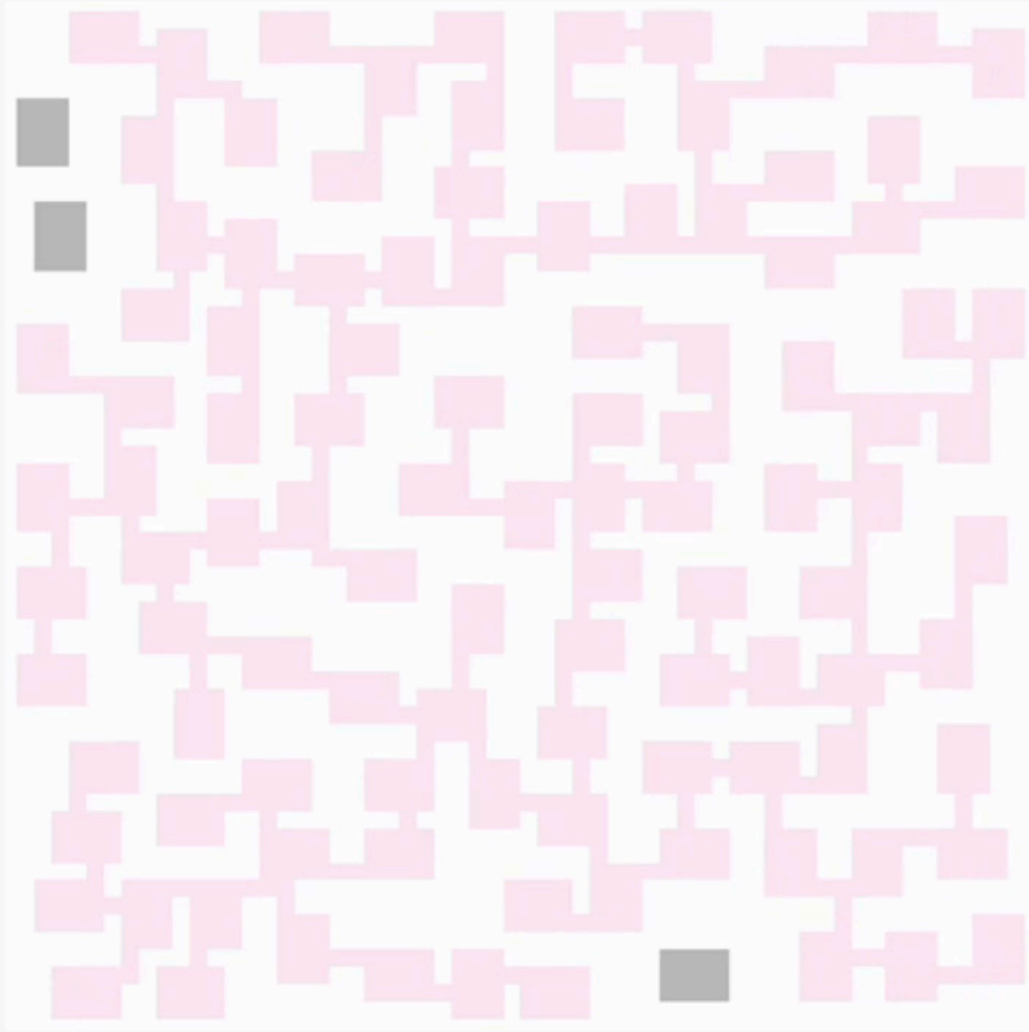
*Explanation*

*Grid Representation*

*Transitional Rule*

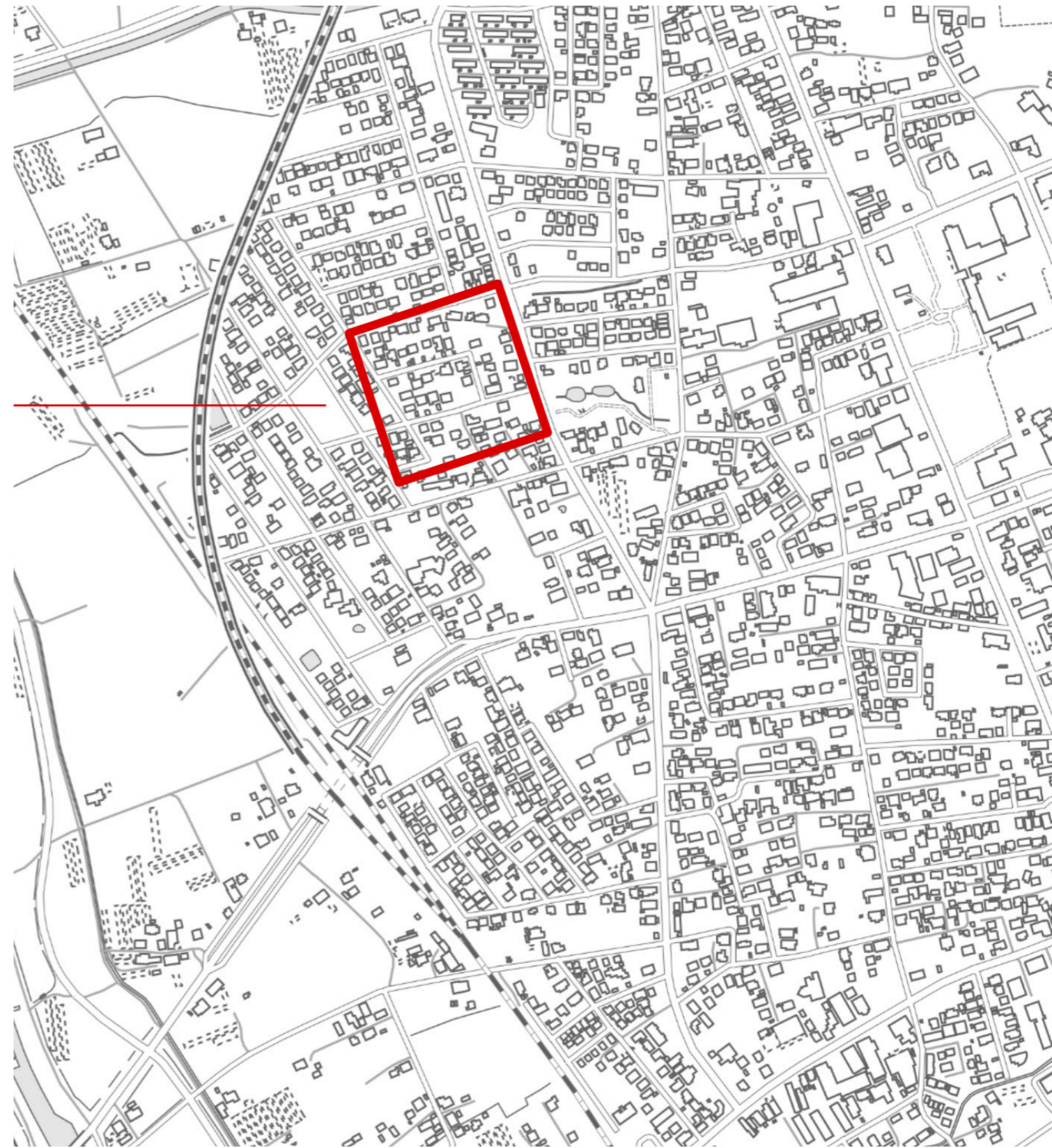
*Probability*  
 $\mathcal{E}$   
*Timesteps*

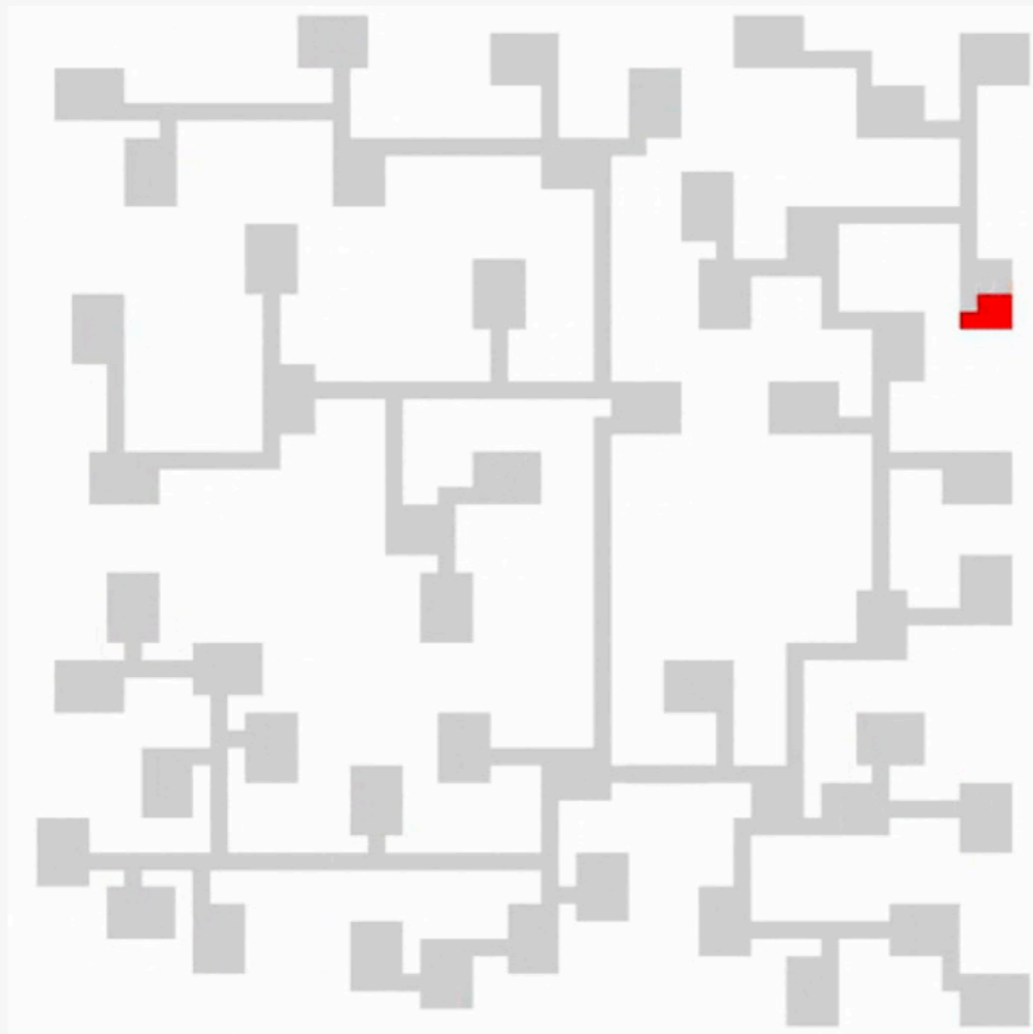




**Existing Condition Optimization**

*Centralized Heating*





## New Geo-City

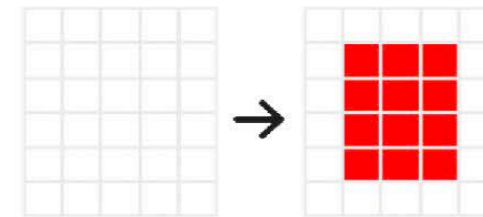
*Zoomed-in urban scale*

### Visualization

*Grid Representation*



*Transitional Rule*



*Probability  
&  
Timesteps*



### Explanation

- a) Available spaces
- b) New expanding structures
- c) New nodes

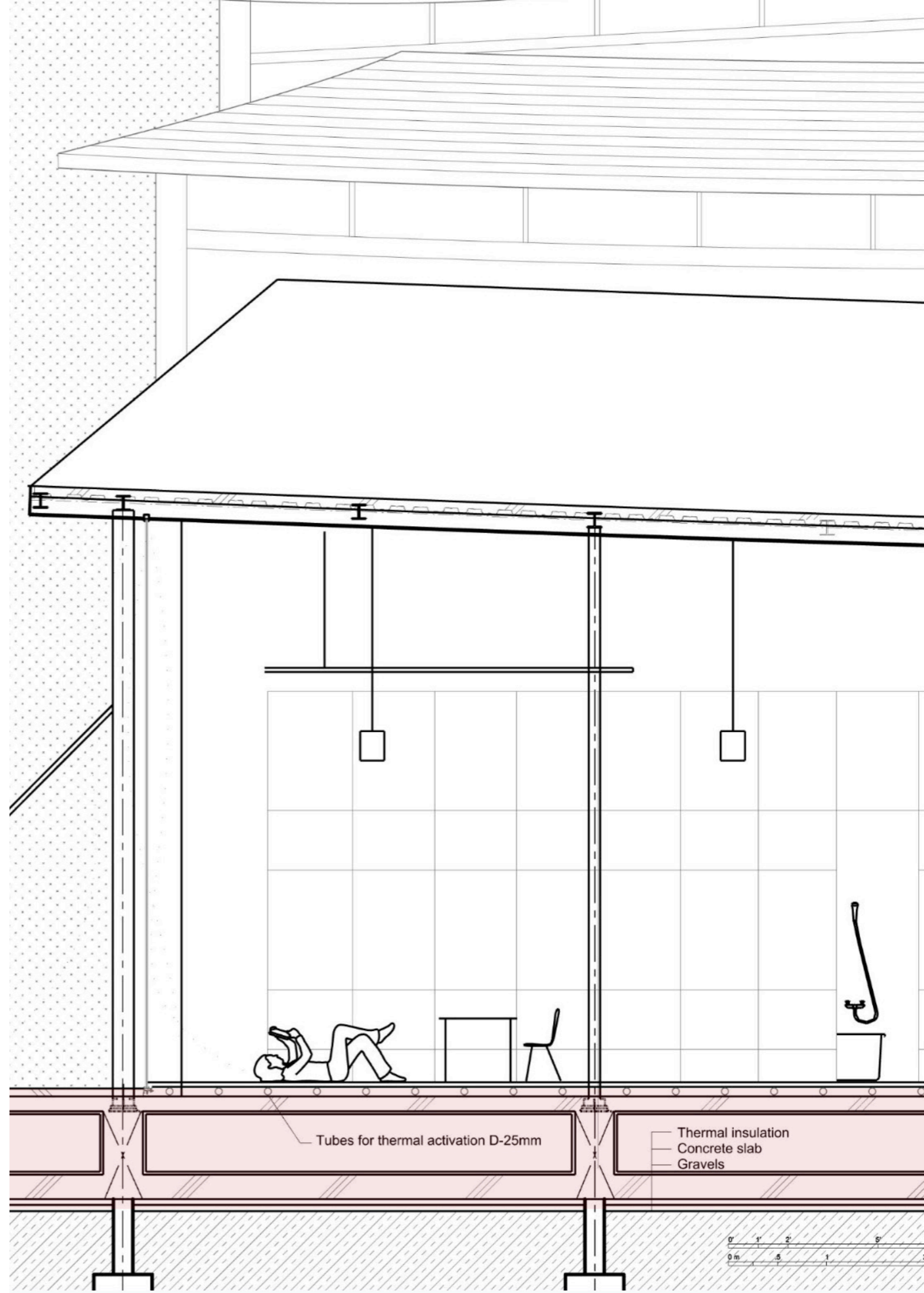
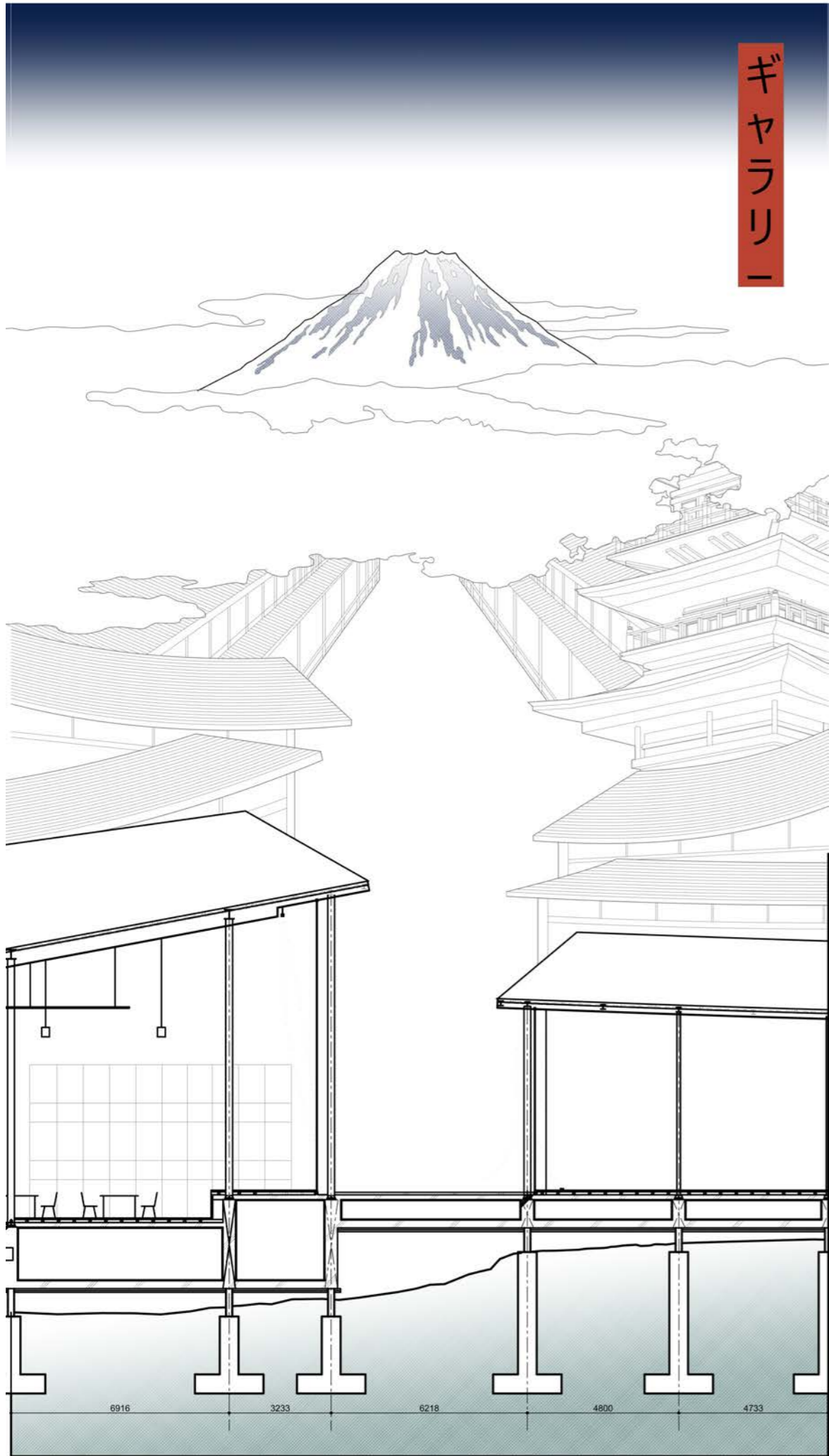
a) Source to Return Point: Geothermal fluid flows from the source to the return point through the transportation network, transferring heat energy to end users before being returned to complete the loop.

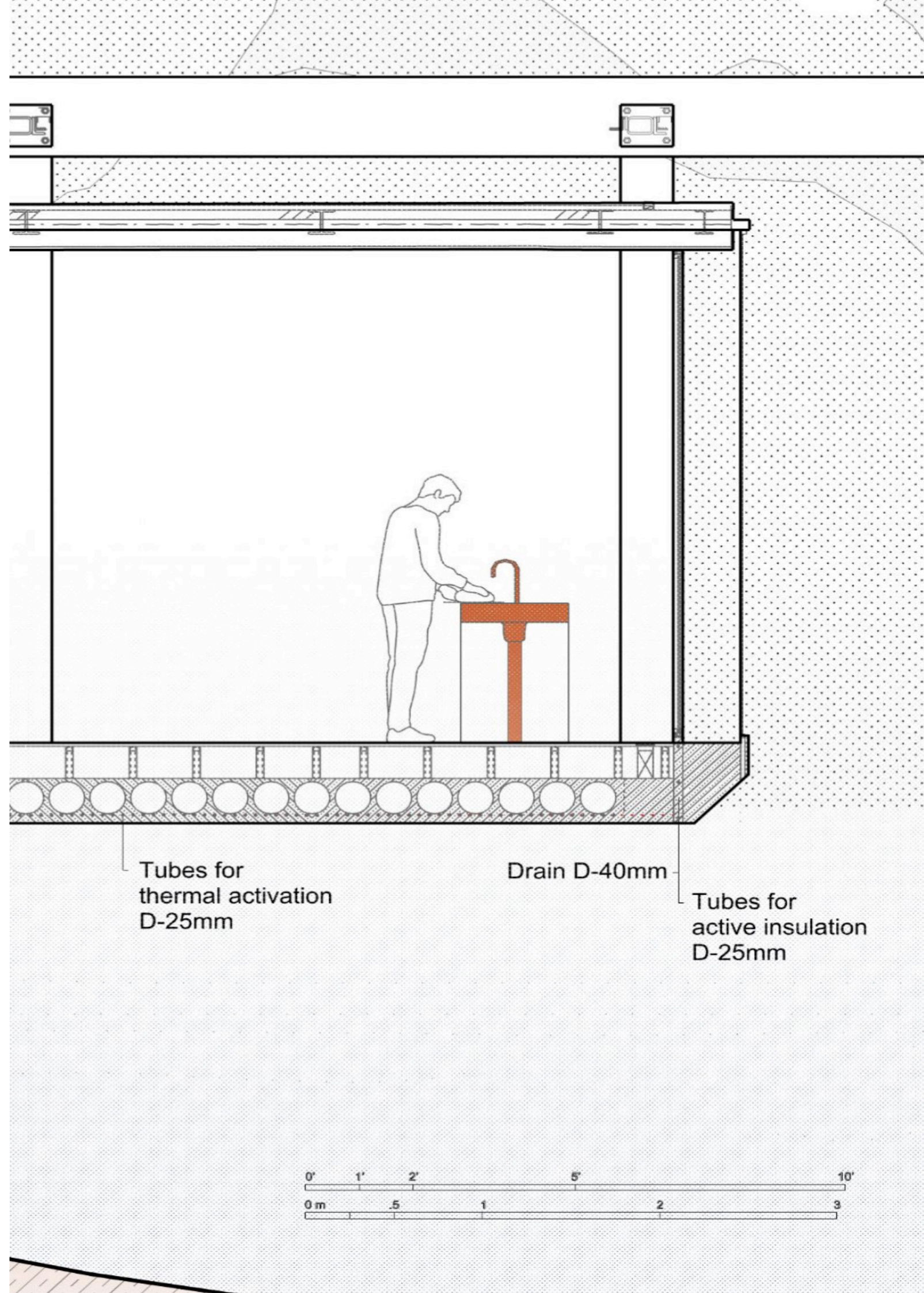
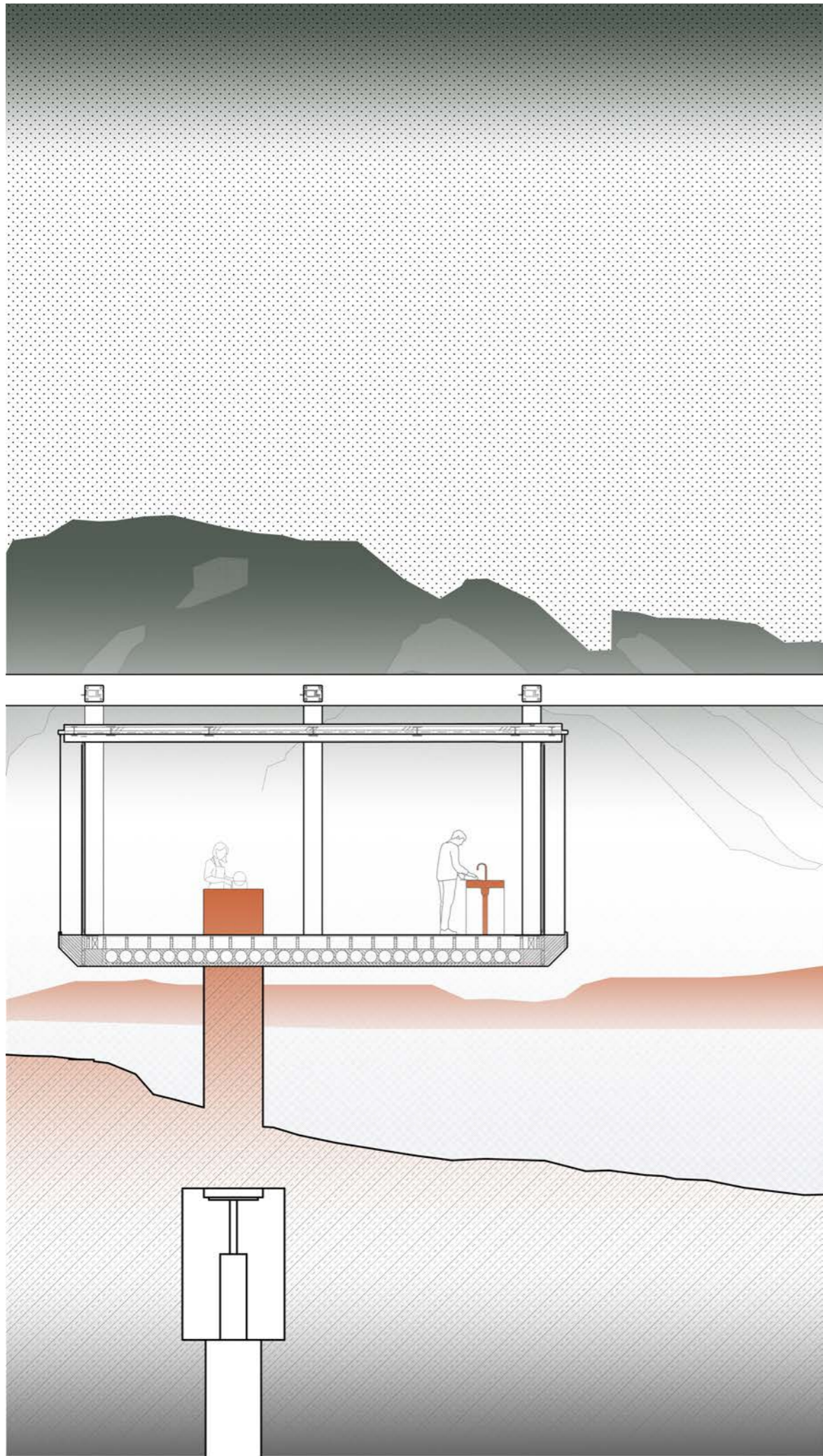
2) Return Point to Biased Areas: The pipeline network must be designed to avoid biased areas due to infrastructures or other limitations.

3) Node and Path Growth: The maze expands by creating new paths and nodes (junctions) while connecting the source and return point in an efficient and optimized manner.

Each transition has a certain probability of occurring, depending on factors like the size and location of the magma reservoir, or the composition of the earth's crust.

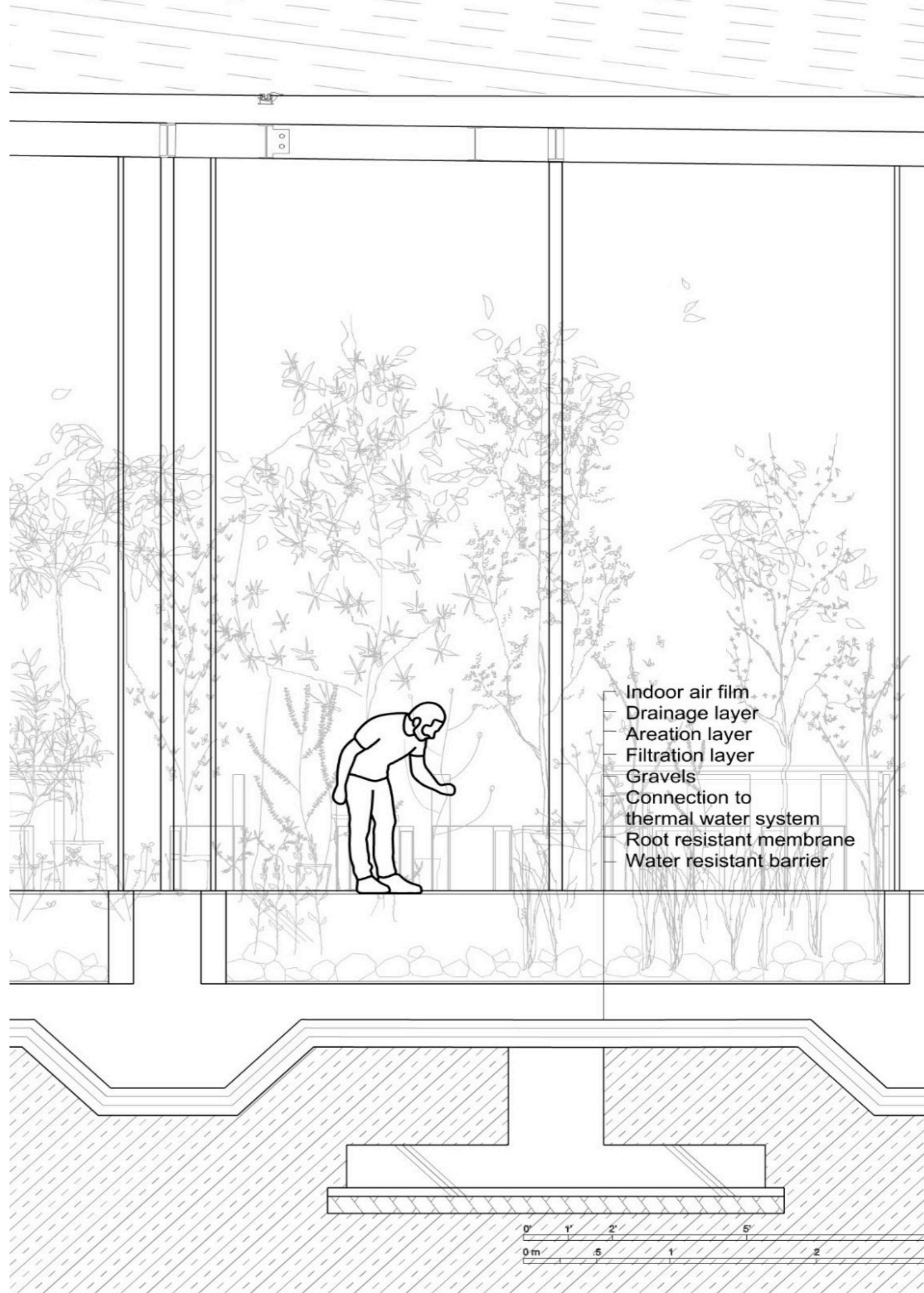
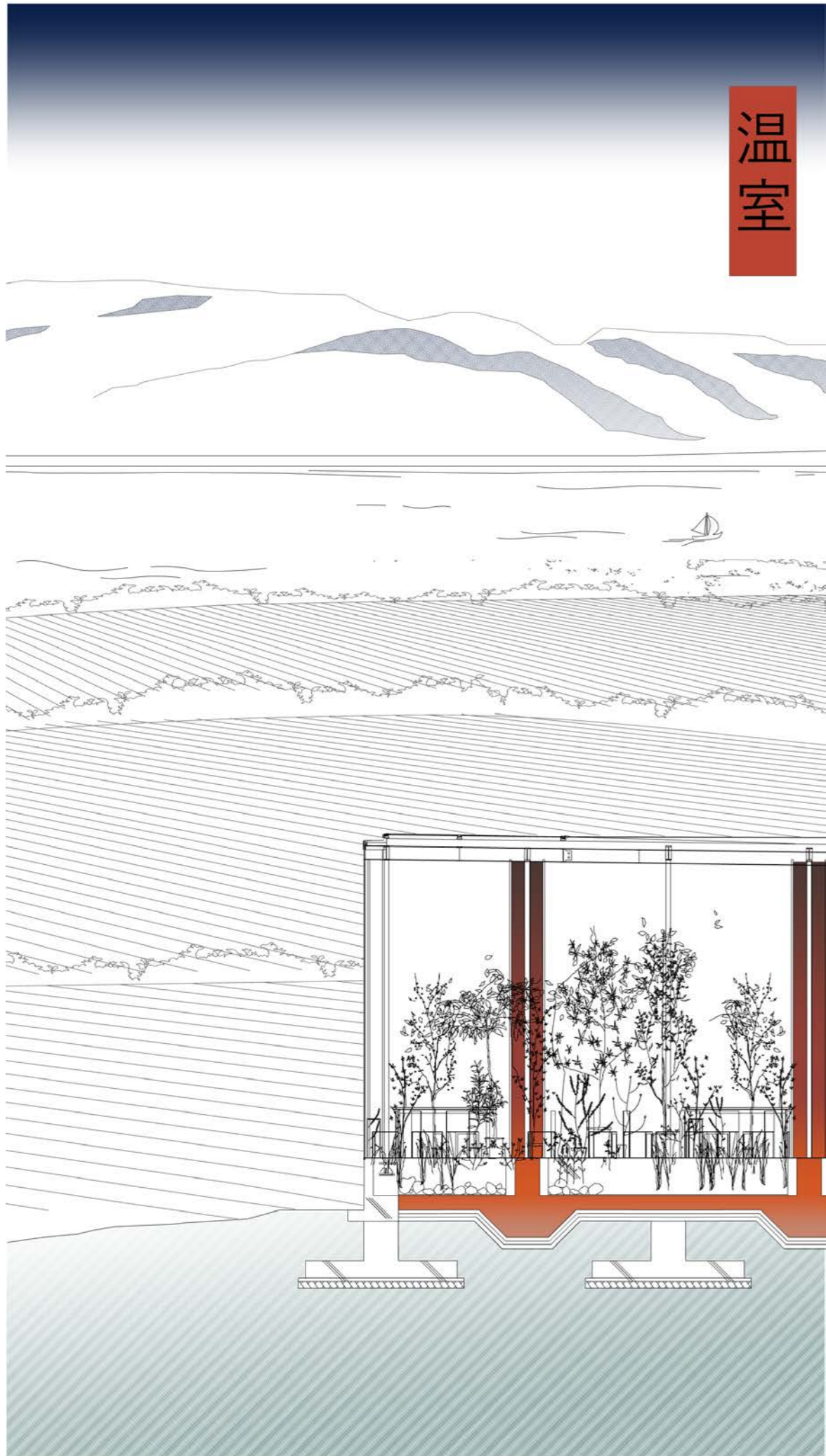
ギャラリー

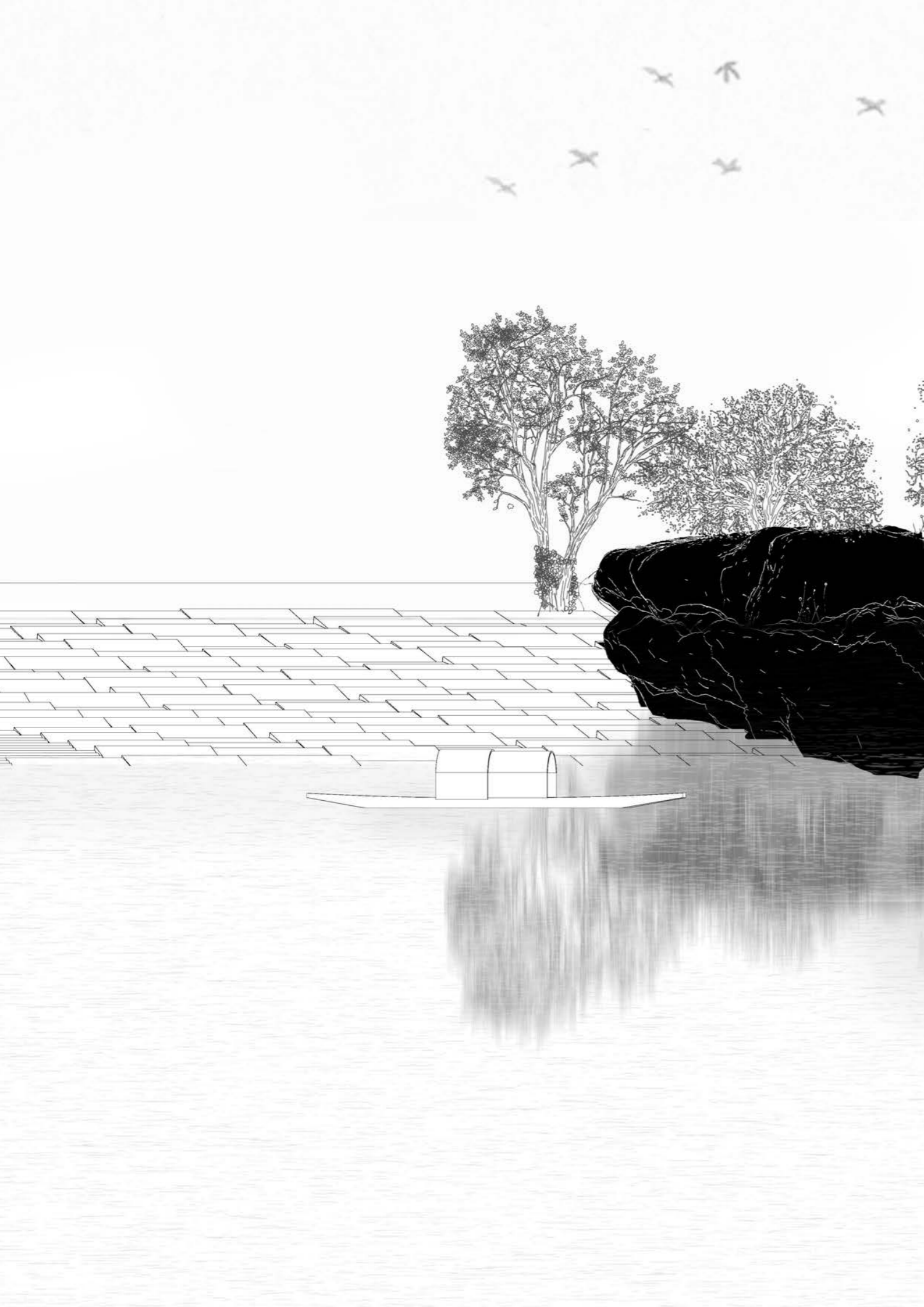






# 温室





Program: GSAPP M.Arch

Course: Spring 2022 - Architectural History

PRE-1800 China: Melded Architectures  
Instructor: Amy Lelyveld

Hanyu Liu

Final Essay

Hanyu Liu  
 Uni: hl3409  
 ARCHA440\_Sp 2022  
 Final Paper

### Melding Nature and Culture:

#### Traditional and Modern Gardens in Chinese Culture,

Chinese classical garden architecture is a landscape and architectural system developed under the special conditions of Chinese architectural history. The art of gardening in China has gone through a long process of development. It is worth noting that the understanding of the historical, cultural, and economic characteristics of each era is the foundation of interpreting Chinese classical gardens developed in different periods. The development of Chinese classical gardens is never a linear one, but it is a dynamic, nonlinear system that constantly borrows concepts from other artistic expressions such as painting, sculpture, architecture, literature, music, and calligraphy etc.. In addition, at the application level, different gardens are characterized by different formal tools. When we read gardens, we will probably see an evolutionary context, in which we see changes in the function, shape and aesthetics of gardens, or changes are gradually brought about by the needs of users, the change of times, and changes in culture and belief. Thus, the development of gardens is a material and cultural achievement melted in the process of expanding the dimension of communication with nature by garden creators in the past dynasties.

This paper will start with a brief introduction of four stages of Chinese classical garden development from ancient to contemporary China. Thus, this paper will analyze Chinese gardens that are deeply intertwined with the social and cultural fabric of different historical periods.

Furthermore, this paper will examine Chinese gardening practices that meld different cultural periods, that meld physical existence and ideological forms, and that meld tradition with the contemporary. Structurally, this paper will analyze these melding processes from three aspects: 1. the symbiosis of gardens and subjectivity in the Chinese tradition, that is, the interpretation of Chinese gardens in both figurative and abstract levels; 2. a mapping of a larger set of ideological engagement with Chinese polity, which is suggested by the very term “to create a garden” (Chinese: 造园, pinyin: zaoyuan), which carries echoes of “the Creator or Force of Transformation” (Chinese: 造物, pinyin: zaowu, Chinese: 造化, pinyin: zaohua) in *Zhuangzi*;<sup>1</sup> 3. influences of Chinese gardens in other Eastern cultures that together form the great archive of Orientalism.

Historically, the development of Chinese classical gardens is divided into four stages.<sup>2</sup> According to the *Classic of Poetry* (Chinese: 诗经, pinyin: Shijing), gardening in China started in the Shang (c. 1600 – 1046 BCE) and Zhou dynasties (c. 1050 – 221 BCE), and it was called the “confinement” (Chinese: 囿, pinyin: you) at that time. This is the first stage. King Zhou of Shang “was fond of wine, lustful and happy, and he collected strange things from dogs and horses. He filled the gardens of Yiguang (Note: Guangzong area in Xingtai, Hebei) with precious beasts and birds...”<sup>3</sup> The original “confinement” was to enclose a place with beautiful natural scenery, stocking animals and animals for the emperor to hunt. Then, since the Han Dynasty (202 BCE – 220 CE), the “confinement” was replaced by a garden complex called Yuan (Chinese: 苑). Yuan is not only a garden for the emperor to relax but also an Imperial Palace was also used to hold

<sup>1</sup> Zhuangzi. “Essay on the Uniformity of All Things” (齐物论, pinyin: Qiwulun). *Zhuangzi* | *The Online Books Page*, <http://onlinebooks.library.upenn.edu/webbin/book/lookupname?key=Zhuangzi>.

<sup>2</sup> Weiquan Zhou. *The History of Chinese Classical Gardens*. Tsinghua University Press, 2008.

<sup>3</sup> “Daya-Lingtai” (大雅·灵台). *Classic of Poetry* (诗经, pinyin: shijing). [https://so.gushiwen.cn/shiwenv\\_fc200070596d.aspx](https://so.gushiwen.cn/shiwenv_fc200070596d.aspx).

congratulations and handle state affairs. The famous gardens that emerged during this period included the “Weiyang Palace” (Chinese: 未央宫) of Emperor Gaozu of the Han Dynasty (Fig. 1), the “Sixian Garden” (Chinese: 思贤园) of Emperor Wen and “Shanglin Garden” (Chinese: 上林苑) of Emperor Wu of the Han Dynasty and so on. In the Wei (c. 386 – 535 CE), Jin (266 – 420 CE), and Northern and Southern Dynasties (420 – 589 CE), social unrest and wars began. Taoism and Buddhism prevailed, and literature and art developed greatly. The idyllic poetry and landscape paintings with the theme of natural taste gradually emerged, which played a powerful role in promoting the development of gardening art. Garden architecture initially established the basic principle of reproducing natural landscapes, and gradually canceled the content of hunting production. Garden has become an ornamental art. During this period, private gardens developed by leaps and bounds, and temple gardens appeared.

The second stage of development started from the Sui (581 – 618 CE) and the Tang Dynasties (618 – 907 CE) to Five Dynasties (907 – 979 CE). After hundreds of years of war, the Sui and Tang Dynasties brought different regions to an unification. Along with economic and cultural recovery, classical gardens also reached unprecedented prosperity. There are three factors to its development. First of all, from a historical perspective, the Sui Dynasty unified China, built the Grand Canal, and communicated the economy between the North and the South. In the prosperous Tang Dynasty, the political situation was stable, and the economy and culture were prosperous, presenting an unprecedented peaceful and prosperous age in history. Secondly, from a societal perspective, with the rise of the imperial examination system, the vast majority of concubine landowners and intellectuals have the opportunity to be promoted. However, their social status was not hereditary. Therefore, a common philosophy of life for the educated is to live in a sophisticatedly designed and well maintained garden complex after they were dismissed



Top: Figure 1. The Weiyang Palace (Chinese: 未央宫) of Emperor Gaozu of the Han Dynasty.  
Bottom: Figure 2. Yanshao Lu (Chinese: 陆俨少), Lushan Thatched Cottage (Chinese: 庐山草堂图), 1980.

from office. Thirdly, there were many literati who took the imperial examinations as officials, and gardens became a place for their social interactions, and the influence of the literati's tastes and hobbies was more extensive and profound than that of the previous generation. These gardens designed by literati were called "literati garden" (Chinese: 文人园林). While the imperial gardens tend to be luxurious, "literati gardens" focus on the symbiosis of nature and culture. At that time, more representative ones such as Lushan Thatched Cottage (Chinese: 庐山草堂, Fig. 2), Huanhuaxi Thatched Cottage (Chinese: 浣花溪草堂), Wangchuan Bieye (Chinese: 辋川别业), etc., and representative garden literati include Bai Juyi (Chinese: 白居易), Liu Zongyuan (Chinese: 柳宗元), Wang Wei (Chinese: 王维), etc.

It is worth noting that, in Chinese tradition, subjectivity of the viewer determines one's perception of physical reality. Thus, we can better understand the concept and philosophy embodied in the design of the literati garden by reading the text written by the literati who owns it. For example, Bai Juyi's "The Story of Thatched Cottage in Lushan Mountain" (Chinese: 庐山草堂记) is regarded as the masterpiece of depicting the design and philosophy of the "literati garden" (Chinese: 文人园林). Here is an excerpt from the passage:

乐天既来为主，仰观山，俯听泉，  
 傍睨竹树云石，自辰至酉，应接不暇。  
 俄而物诱气随，外适内和。  
 一宿体宁，再宿心恬，  
 三宿后颓然嗒然，不知其然而然。<sup>4</sup>

These words basically say that one's temperament becomes tranquil due to the serenity of the scenery. The environment is suitable and the mood is peaceful. As long as one stays in such a

<sup>4</sup> Juyi Bai, "The Story of Thatched Cottage in Lushan Mountain (Chinese: 庐山草堂记), *Bai's Changqing Collection* (Chinese: 白氏长庆集). Ed. Jing Ma, Rongpei Wang, Shanghai Press, 2016, pp. 18-22.

place for one night, one's body is relaxed. One feels calm after staying for two nights. After staying for three nights, one would find the answers to the essentially metaphysical question of the nature of the mind.

The third stage of development happened during the Song Dynasty (960 – 1279 CE). The striking peculiarity of gardens in this period is that it is neither reproductions of landscapes nor built environment; on a deeper level, it is the manifestation of more abstract formal relations. The literati in Song Dynasty made the art of artificial landscape gardening more ingenious, the gardening concept profound, and the composition elements more abundant. The Song Dynasty saw both the rise of Neo-Confucianism and the implementation of the idea of emphasizing literature and neglecting martial arts. Thus, literati participated in gardening and brought the artistic concept of poetry and painting into the garden. In addition, the Zen thought pursued by the literati in the Song Dynasty is mainly manifested in the dialectical thinking of dealing with the secular society and the peaceful mind. During this period, gardens were regarded not as stable compositions of things, but as collage of materials, shapes, textures and techniques. Hence, both figurative and abstract levels are important to the interpretation of the meanings of gardens. Gardens were meant to reproduce paintings ("culture") rather than pure "nature." Sometimes the referents, direct or indirect, of a garden are explicit; sometimes they are not specified. Such richness of intertextual references at the core of the meaning of a garden, which also forms the base of the "depth of sense" typical of Zen art, and this semantic depth is paradoxically identified with the Buddhist concept of emptiness.<sup>5</sup>

The fourth stage of classical Chinese gardening happened during the Ming (1368 – 1644 CE) and Qing Dynasties (1644 – 1912 CE). In terms of quantity, scale, type and other aspects, it

<sup>5</sup> Fabio Rambelli. "Zen gardens." In *Encyclopedia of Semiotics*. : Oxford University Press, 1998. <https://www-oxfordreference-com.offcampus.lib.washington.edu/view/10.1093/acref/9780195120905.001.0001/acref-9780195120905-e-303>.

reached an unprecedented level, and the art and technology of gardening became increasingly sophisticated. For example, imperial gardens such as Yuanmingyuan (Chinese: 圆明园), Jingyiyuan (Chinese: 静宜园), Chengde Summer Resort (Chinese: 承德避暑山庄) in the Qing Dynasty were all representatives of the imperial gardens in the Qing Dynasty.<sup>6</sup> More importantly, Jiangnan Garden (Chinese: 江南园林) is a representative of the rise of an advanced form of gardening, which is regarded as a symbiosis of both the luxury of imperial garden and elegance of literati garden. Most extraordinary Jiangnan Garden such as The Humble Administrator's Garden (Chinese: 拙政园), Lingering Garden (Chinese: 留园), Art Garden (Chinese: 艺圃), etc. were all built in the Ming Dynasty. During this period, professional garden construction masters appeared, and there were also monographs on gardening theory such as *The Craft of Gardens* (Chinese: 园冶, pinyin: Yuanye), written by Ji Cheng in late Ming Dynasty. *The Craft of Gardens* systematically summarizes three manifestations of gardening at that time: 1. thirty percent of the success of a garden depends on crafts, and seventy percent depends on the talents and tastes of the owner (“三分匠、七分主人”); 2. it is not a reproduction of nature, it is nature (“虽由人作, 宛自天开”); 3. the natural and artificial are forced together into a state of constant reconfiguration and discovery (“造园无格, 必须巧于因借, 精在体宜”).<sup>7</sup> Therefore, Jiangnan Garden further expanded on the basis of the Ming Dynasty, and gardening became an aesthetic taste, a political manifestation, and an expression of an individual's or cultural philosophy.

History of gardening exists as long as the history of agriculture, and gardening is a common practice in many civilizations. What differentiates Chinese gardens from the Western or the West Asian gardens is its unique philosophy that forms its foundation. A striking peculiarity

<sup>6</sup> Victoria Siu. “The Garden of Quiet Delight Jingyi Yuan on Fragrant Hill Xiang Shan”. *Gardens of a Chinese Emperor: Imperial Creations of the Qianlong Era, 1736-1796*. Lehigh University Press, 2013. pp. 205-230.

<sup>7</sup> Ji Cheng (Chinese: 计成). *Craft of Gardens* (Chinese: 园冶, pinyin: Yuanye), Completed in 1631 in Ming Dynasty. Translated by Alison Hardie, New Haven & London: Yale University Press, 1988, pp. 3, 6, 9.

of Chinese gardening is that it is neither reproductions of landscapes nor built environment; on a deeper level, it is the manifestation of more abstract formal relations. Spatial disposition of the elements creates oppositional relations such as vertical and horizontal, big and small, round and oblong, subject and background, dense and rarefied, light and shadow, undifferentiated substratum and articulated objects emerging on it, quiet and dynamism, centrifugal and centripetal, and near and far. The spatial organization of Chinese gardens is similar to the format of Chinese handscroll painting (Fig. 3), which is not meant to be on constant view but is brought out to be seen only from time to time. Looking at a handscroll is like having a conversation with the artist. The viewer remembers the general outlines of the images but not the detail. When the viewer rolls and unrolls the painting, the perspectives of the images are experienced as “symbolic forms”. The perception has its imminent organization, which also reflects Chinese philosophy of spiritual articulation and search for meaning.

The concept of “harmony between man and nature” (Chinese: “天人合一”) is the soul of Chinese classical garden art.<sup>8</sup> Its main point of view is to transform nature under the premise of pursuing respect for nature and create a pleasant and harmonious garden ecology. This philosophy not only guided the design of classical Chinese gardens but is also meaningful in contemporary Chinese society. In today's world, industrial civilization threatens the human living environment. This ideological concept itself contains a certain solution and philosophical truth, which is worth learning and reference for future generations.

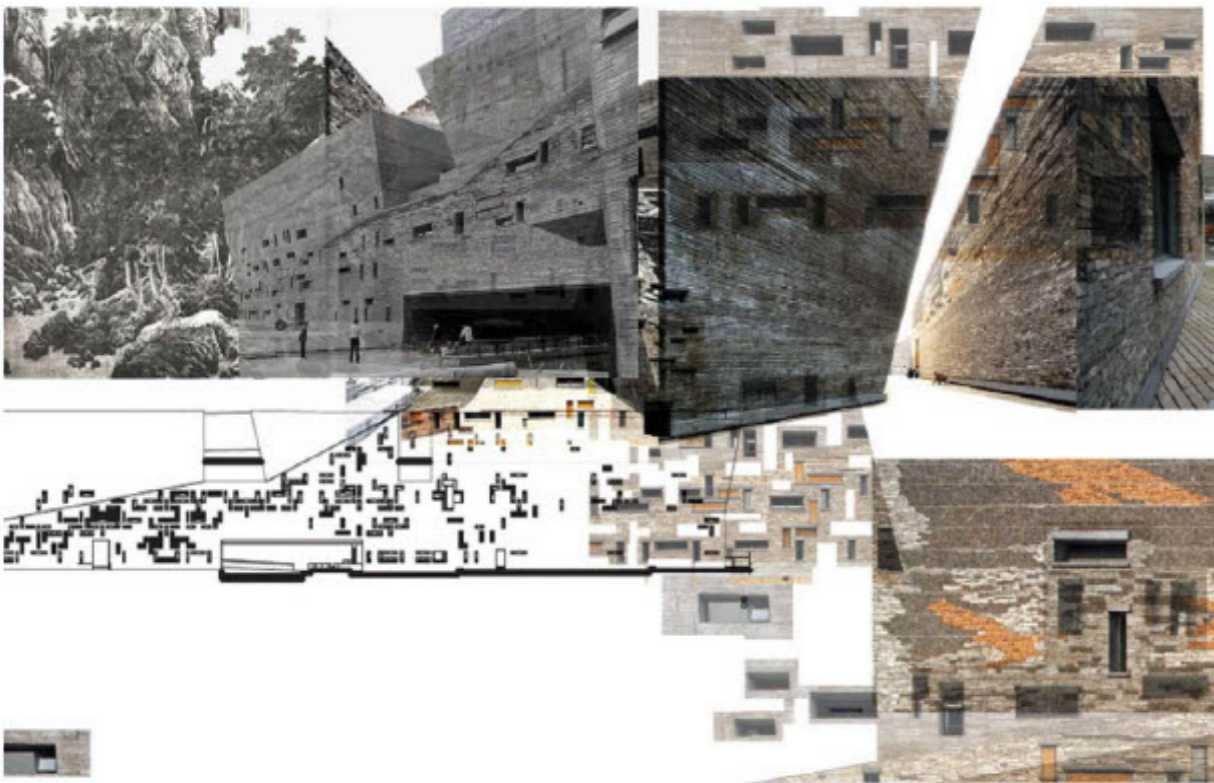
For example, we can see the melding of traditions with modern interpretation of gardening in Wang Shu's projects: the Ningbo Museum and Xiangshan Campus. Wang Shu (Chinese: 王澐) is a Chinese architect based in Hangzhou, Zhejiang province. In his childhood, Wang Shu spent four days each month looking outside a train window and drew everything he

<sup>8</sup> Zhuangzi.



saw in his notebook. His drawings have the quality of a lived perspective. As such, when everyone at his university was fanatically learning Western perspectives, Wang Shu spent all day looking at traditional Chinese paintings, which were closely related to his understanding of the surroundings. Later, he and his wife Lu Wenyu (Chinese: 陆文宇) founded Amateur Architecture Studio. Their studio explores how cultural materials can be assimilated and then given back to the world in the form of proposals with strong links to contemporary society. Their approach, both critical and celebratory, is based on the emergence of powerful, vernacular, timeless, and unexpected forms of beauty.

The Ningbo Museum (Fig. 4), completed in 2008 in the city of Ningbo in Zhejiang province of China, is an extraordinary example of a contemporary practice of using abstraction of geometry to reconstruct the intimate relationship between natural and cultural elements. Spatial experiences and perspectives in Ningbo Museum recalls one's experience in experiencing mountains in nature and constructing mountains in culture. In Chinese landscape paintings, the abstraction of geometry is used to emphasize the picturesque construction and intimate relationship between nature and culture, humans and objects. Abstraction is a means rather than the end, and it creates space for mediation between the object, the form, the viewer's perspective, and the viewer's understanding. In this project, Wang Shu's studio created its distinctive use of discarded materials. This project is "inefficient" in a way that half of the construction time is spent on collecting, polishing, and rearranging materials. This project uses a large collection of over two millions pieces of tiles of different ages and sizes, salvaged from the traditional houses demolished all over the province of Zhejiang. In sharp contrast to the fast and mass construction concept of today, the concept seeks to embody classical Chinese gardening philosophy of



*Top: Figure 3. Zeduan Zhang (Chinese: 张择端, 1085-1147). Along the River During the Qingming Festival (Chinese: 清明上河图), 25.5 cm × 525 cm (10.0 in × 207 in), Palace Museum, Beijing.*

*Bottom: Figure 4. Hanyu Liu (Author), Collage of Chinese Landscape Painting with Photos of Ningbo Museum.*

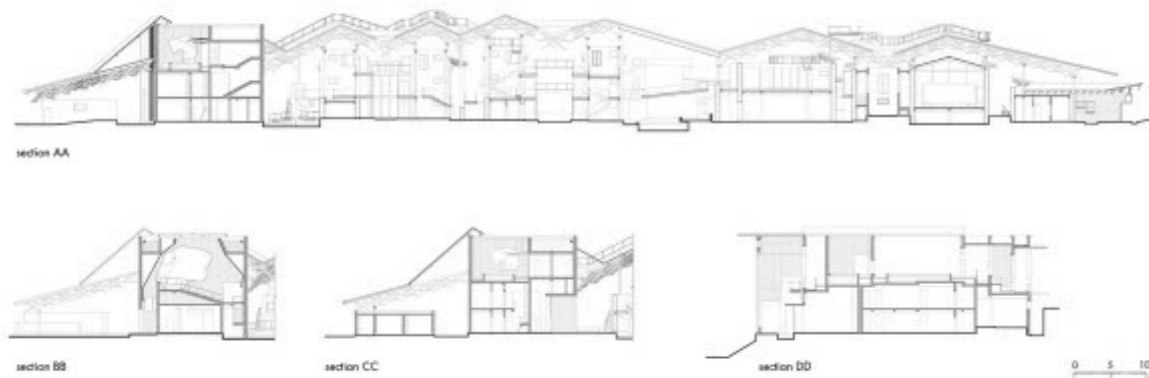
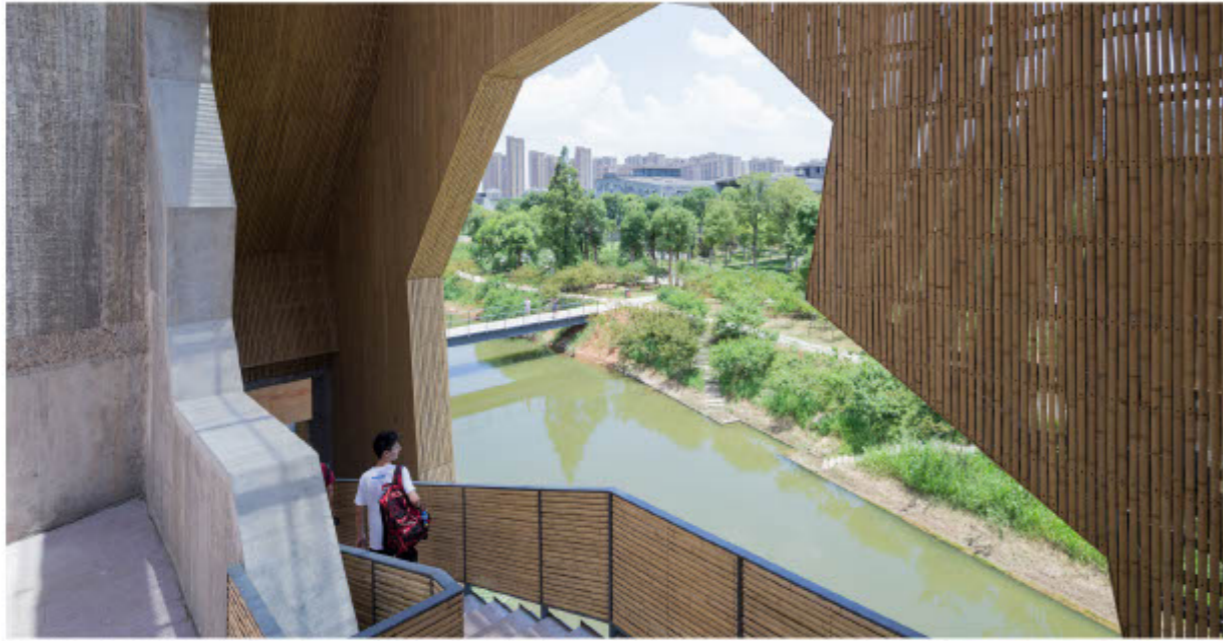


Figure 5. Amateur Architecture Studio, "Wa Shan" Guest House, Xiangshan, China.

collaging materials from different times.<sup>9</sup> This technique introduces a history in the construction, giving a wall an overdose of time without having to wait for aging. The process of constructing this project almost makes it a primitive field: every inch of the site is filled with unrepeatable elements. That variation within an unity dematerialise physical appearances of objects in order to reinforce the relationships between them:

Architecture is a collection of interacting elements and perpetual movements. These movements exceed what most architects normally think is possible to control. Architecture is not just an object that you place in the environment. Architecture will finally have to become part of the environment. The effect that I was aiming for is that people cannot distinguish where architecture starts and where nature ends.<sup>10</sup>

Another project that melds tradition with modern Chinese gardening is the Xiangshan Campus (Fig. 5). Amateur Architecture Studio designed this visitor center on a lot of more than 5,000 sq. km. This project did not intend to occupy such a large site with programs, but rather, built a collection of follies: guesthouses, galleries, pavilions, meetingrooms, teahouses, gardens, etc. The series of follies give a dimensional and organizational quality to the park serving as points of reference, and the natural and artificial are forced together into a state of constant reconfiguration and discovery. Walkways are thoughtfully arranged to play with natural profiles of the mountain and rivers, fish and birds. Bamboo-clad facades, rammed-earth walls and cave-like apertures are festive elements to mark the passing of the seasons, as if they were the clothing of a living being. This project is like a "vertical landscape," which is composed of

<sup>9</sup> Wang Shu. "New Campus of Xiangshan School Amateur Architecture Studio". *The Ten Years of Tongji: "Tongji News"*, Selected News Works of Tongji University from 2007 to 2016. China: Tongji University Press, 2017, pp. 136-139.

<sup>10</sup> "Wang Shu Interview: Architecture Is a Job for God." Louisiana Channel, YouTube, YouTube, 27 Mar. 2017, [www.youtube.com/watch?v=n7S3rZ01X1U](http://www.youtube.com/watch?v=n7S3rZ01X1U).



several scenes or spatial sequences painted vertically one above the other – landscapes, or scenarios occurring simultaneously, eschewing the rules and spatial imitation inherent in central perspectives. Likewise, several different materials and artisanal techniques are employed at once in visible layers in the building. It exemplifies Amateur Architecture Studio's preferred method of working: buildings are not modeled but drawn into being. In other words, the idea of "free" architecture guides the concept and production of this project. For example, the basic architectural types or modules of this project are traditional Chinese mortise-tenon joints (Chinese: 榫卯). These modules allow infinite possibilities of reconfigurations. Thus, by using these traditional Chinese wood structures, architects and artists have the opportunity to work and design together in the process of building.

Chinese gardening is a comprehensive artistic expression, and these gardening techniques further prove that Chinese gardening is profoundly influenced by Chinese poetry, calligraphy, painting, and literature. The pursuit of poetic and picturesque gardening techniques is the goal of Chinese classical garden art, and should be further inherited and applied in the field of modern gardening. Chinese landscape paintings depict the expectation of an ideal landscape of the ancient literati and painters. The public landscape system becomes a collection of artistic conception of "mountain and water" (Chinese: 山水) by simulating the environment with the landscape painting, in order to achieve the aesthetic goal of "walking in the painting" (Chinese: 人在画中游). In Chinese tradition, living among natural elements is the basic principle of human existence. The relationship of man to places and through places to spaces is based on his dwelling in them. Chinese gardens are manifestations of abstract formal relations between spatial disposition of the elements. Therefore, it is important to understand the six main gardening

techniques that are used to create these relationships, which the Chinese believe that encapsulates the truth of the universe.

The first technique is "borrowing" (Chinese: 借). It means introducing outside scenery into the sight of the garden within the range of vision, thus increasing the depth of field and adding more layers (Fig. 6).<sup>11</sup> The second one is "adding" (Chinese: 添). It refers to the practice of creating a gradient of in-between spatial relationships bridging the different parts of a garden. The third one is "framing" (Chinese: 构). It is inspired by Chinese painting techniques. Chinese painters use natural and architectural elements to create a living perspective between things in the painting, and between the painting and the viewer. Similarly, framing implicates the immanent relationship between natural and cultural elements, and it also invites a vivid flow of storytelling. The fourth one is "contrasting" (Chinese: 异). This practice allows viewers to experience oppositional relations created by spatial disposition of the elements. For example, in a rock garden, designers would arrange rocks in a sophisticated way that they encapsulate both vertical and horizontal compositions, which can be interpreted in different ways depending on the position of the viewer. The fifth technique is "suppressing" (Chinese: 抑). Suppression means creating a buffer zone before showing the best views. Although a Chinese garden is meant to be experienced subjectively by viewers, the owner or designer still incorporates a sequence of experiences into the traveling route, so a visitor has an accumulation of expectations before seeing the best view. The sixth technique is "blocking" (Chinese: 遮). It means using architectural elements such as decorated screens or natural elements such as trees and rockeries to block viewer's sights to some spots, which are usually reserved for private uses or simply not in harmony with the landscape.<sup>12</sup>

<sup>11</sup> Ji Cheng, *Craft of Gardens* (Chinese: 园治).

<sup>12</sup> Ibid.

借 *Borrowing*添 *Adding*框 *Framing*异 *Contrasting*抑 *Suppressing*挡 *Blocking*

Figure 6. Six Chinese Gardening Techniques, documented in Ji Cheng's *Craft of Gardens* 1631 (Chinese: 园冶, pinyin: Yuanye).

Influences of Chinese gardens in neighbor Eastern cultures together form the great archive of Orientalism. During the Sui and Tang Dynasties, with the prosperity of Buddhist culture, Japan also absorbed Zen ideology while learning Chinese garden culture, which had a profound impact on Japanese culture. Collcutt, who is a contemporary scholar studying Japanese interpretation of Chinese Confucian Philosophy, wrote in his essay "The Confucian Legacy in Japan" (1991):

These visions of oneness and kinship prompted Confucians to paint Shanshui landscape paintings (Chinese: 山水画), literally paintings of mountains (Chinese: 山) and water (Chinese: 水), compose poetry alluding to the interrelatedness of things, and to direct public works projects meant to maintain the harmony and balance of heaven, earth, and humanity.<sup>13</sup>

There are six types of Japanese gardens, namely, dry landscape gardens, pool spring gardens, tea pavilion gardens, building mountain pavilion gardens, migratory gardens and ornamental gardens. Many of them express a kind of desolation and loneliness and thus reflect Chinese philosophy of Confucianism which is developed in Japan through Zen. For example, Itō Jinsai (1627–1705), who is an Ancient Learning philosopher, who introduced and explained Chinese Confucianism to the Japanese, argues that "in real life the principles of harmony, love, and order are found in every aspect of life: from human relations to even the grains of sand."<sup>14</sup>

For example, Japanese rock garden (Chinese: 枯山水), which is also called the dry landscape garden is a miniature stylized landscape through carefully composed arrangements of natural elements such as rocks, water, moss, pruned trees and bushes, which are abstractions of

<sup>13</sup> Martin Collcutt. "The Confucian Legacy in Japan," in Gilbert Rozman, ed. *The East Asian Region: Confucian Heritage and Its Modern Adaptation*, Princeton: Princeton University Press, 1991, pp. 111–154.

<sup>14</sup> Mary Evelyn Tucker. 1989. *Moral and Spiritual Cultivation in Japanese Neo-Confucianism: The Life and Thought of Kaibara Ekken (1630–1714)*, Albany: State University of New York Press, 1989, pp. 36-39.

things that encapsulate all universal relationships (Fig. 7). Both classical Chinese gardens and Japanese dry landscape gardens are collages of materials, shapes, textures and techniques. In the interpretation of these, both figurative and abstract levels are important. Japanese rock gardens are meant to reproduce paintings (“culture”) rather than pure “nature.” Sometimes the referents, direct or indirect, of a garden are explicit, and sometimes they are not specified. In other words, while sometimes a miniature stylized landscape directly refers to a certain mountain, a painting, or a literary description, it does not have direct referent most of the time. Therefore, such richness of intertextual references at the core of the meaning of the gardens, lay at the base of the “depth of sense” (yūgen) typical of Zen art, and this semantic depth is paradoxically identified with the Buddhist concept of emptiness (kū).<sup>15</sup> On a deeper level, both classical Chinese gardens and Japanese rock gardens are the manifestation of more abstract formal relations. Spatial disposition of the elements creates oppositional relations. For example, groups of rocks are often organized on the basis of formal arrangements and devices such as mathematical patterns and axes. Depth is suggested by peculiar perspective techniques, and the garden’s visibility is regulated by an itinerary. The design creates an asymmetrical abstract space representing various dichotomies. The geometrical center is empty, but since the attention focuses on the particulars, the global perception of the garden changes accordingly.<sup>16</sup> An empty space is thus able to represent the physical presence of surrounding buildings, the flow of natural energy, and the mental space of the observer. In this way, the identity of subject and object, the goal of Zen garden art, is realized.

The pursuit of “ideas” and the creation of “spiritual resemblance” is the key to the success of Chinese classical garden art. A garden lacking “imagination” will have no vitality, and

<sup>15</sup> Fabio Rambelli. “Zen Gardens”.

<sup>16</sup> Ibid.



*Figure 7. Ryōan-ji (late 15th century) in Kyoto, Japan, a famous example of a zen garden*

a garden without “spiritual likeness” will have no artistic appeal at all. We humans have been gazing at landscapes for thousands of years, conjuring up images and stories from the random arrangement of natural elements. Imagination requires faith. We always strive to hold on to something very specific. Ironically, those fantasies and images are merely materials and forms in the law of nature. There is no single conclusion for those forms. Each form is a momentary equilibrium, a structure only apparently stable, already moving towards another form.

Both artistic forms of classical Chinese gardens and Chinese landscape painting are relevant to the semiotician: they are the expression of a particular way to create and interpret signs, and they show the inner dynamics both of a culture and of intercultural communication. For example, in Chinese landscape painting, natural elements such as rocks, plants and stars are merely represented by dots in the whole painting. Similarly, owners or designers of Chinese classical gardens use elements such as tiles, stones, rocks or water, which are all apparently unsophisticated, as symbols to reveal a complex reality that transcends them. These materials are often taken from already extant sites, where they were discarded, and to be used again to give architectural elements an overdose of time. In other words, both traditional and modern Chinese gardens or landscape architecture are meant to reproduce paintings (“culture”) rather than pure “nature.” Sometimes the referents, direct or indirect, of an architecture are explicit; sometimes they are not specified. Such richness of intertextual references at the core of the meaning of architecture lay at the base of the “depth of sense” (yūgen) typical of Zen art, and this semantic depth is paradoxically identified with the Buddhist concept of emptiness (kū). It is the perception itself which by virtue of its own immanent organization, takes on a kind of spiritual articulation – which being ordered in itself, also belongs to a determinate order of meaning.

While modern architectural language tends to be definite and regulated, Chinese gardening offers a different design philosophy. It speculates on the potential of integrating architectural forms with other possible systems such as the flow of energy that reflects the climatic and energetic change, the emotional cartography that implies physiological responses at different geographic locations, and the choreography of body movements that forms sophisticated spatial properties. Thus, the reality can be melded in ways that communicate spatial information with radically new perspectives. This paper analyses Chinese gardening practices that meld physical existence and ideological forms of different historical periods. By examining the relationships between gardens and its historical and cultural periods, we understand that it is important to interpret Chinese gardens in both figurative and abstract levels. Chinese gardens give us a mapping of a larger set of ideological engagement with Chinese polity, which is suggested by the very term “the Creator or Force of Transformation” (Chinese: 造物, pinyin: zaowu, Chinese: 造化, pinyin: zaohua) in *Zhuangzi*<sup>17</sup>. Moreover, this philosophy of Zen further influences Japanese interpretation of Neo-Confucianism, which together form the great archive of gardens of Orientalism.

A powerful garden is a heterogeneous collection of interacting elements, with which traditions are historically layered. Powerful gardening techniques offer mediations between people, natural species, and built environments, so there are lively reciprocal interactions. They offer layers of expressions rather than monotonous clarification. Thus, the visitor simultaneously embraces light and dark, horizontality and verticality, enclosure and exclusion, so one’s understanding of the infinite plasticity of space can imply a union of nature and advanced dimension of spirit.

<sup>17</sup> Zhuangzi. “Essay on the Uniformity of All Things” (Chinese: 齐物论).

### Bibliography:

- Bai, Juyi. "The Story of Thatched Cottage in Lushan Mountain (Chinese: 庐山草堂记), *Bai's Changqing Collection* (Chinese: 白氏长庆集). Ed. Jing Ma, Rongpei Wang, Shanghai Press, 2016, pp. 18-22.
- Cheng, Ji. *Craft of Gardens* (Chinese: 园冶), Completed in 1631 in Ming Dynasty. Translated by Alison Hardie, New Haven & London: Yale University Press, 1988.
- Collcutt, Martin. "The Confucian Legacy in Japan," in Gilbert Rozman, ed. *The East Asian Region: Confucian Heritage and Its Modern Adaptation*, Princeton: Princeton University Press, 1991, pp. 111-154.
- "Daya-Lingtai" (Chinese: 大雅·灵台). *Classic of Poetry* (Chinese: 诗经). Translated by Junying Cheng. *Shijing, Annotation and Analysis* (Chinese: 诗经注释). Zhonghua Publishing House, 1991, pp. 66-86.
- Rambelli, Fabio. "Zen gardens." In *Encyclopedia of Semiotics*. : Oxford University Press, 1998. <https://www-oxfordreference-com.offcampus.lib.washington.edu/view/10.1093/acref/9780195120905.001.0001/acref-9780195120905-e-303>.
- Siu, Victoria. "The Garden of Quiet Delight Jingyi Yuan on Fragrant Hill Xiang Shan". *Gardens of a Chinese Emperor: Imperial Creations of the Qianlong Era, 1736-1796*. Lehigh University Press, 2013, pp. 205-230.
- Shu, Wang. "New Campus of Xiangshan School Amateur Architecture Studio". *The Ten Years of Tongji: "Tongji News"*, Selected News Works of Tongji University from 2007 to 2016. China: Tongji University Press, 2017, pp. 136-139.
- Shu, Wang. "Wang Shu Interview: Architecture Is a Job for God." Louisiana Channel, YouTube, YouTube, 27 Mar. 2017, [www.youtube.com/watch?v=n7S3rZ01X1U](http://www.youtube.com/watch?v=n7S3rZ01X1U).
- Tucker, Mary Evelyn. *Moral and Spiritual Cultivation in Japanese Neo-Confucianism: The Life and Thought of Kaibara Ekken (1630-1714)*, Albany: State University of New York Press, 1989, pp. 260-266.
- Zhou, Wei-quan. *The History of Chinese Classical Gardens* (Chinese: 中古古典园林史). Tsinghua University Press, 2008.
- Zhuangzi. "Essay on the Uniformity of All Things" (Chinese: 齐物论, pinyin: Qiwulun). *Zhuangzi* | The Online Books Page, <http://onlinebooks.library.upenn.edu/webbin/book/lookupname?key=Zhuangzi>.

### List of Illustrations:

- Figure 1:**  
The Weiyang Palace (Chinese: 未央宫) of Emperor Gaozu of the Han Dynasty.  
Source: *The People's Government of Shanxi Province*.  
[http://en.shaanxi.gov.cn/tourism/aic/xa\\_2120/201712/t20171219\\_1595472.html](http://en.shaanxi.gov.cn/tourism/aic/xa_2120/201712/t20171219_1595472.html).
- Figure 2:**  
Yanshao Lu (Chinese: 陆俨少), *Lushan Thatched Cottage* (Chinese: 庐山草堂图), 1980.  
Source: *MutualArt*. <https://www.mutualart.com/Artwork/The-Face-of-Lushan/65B51A337C11EEC6>.
- Figure 3:**  
Zeduan Zhang (Chinese: 张择端, 1085-1147). *Along the River During the Qingming Festival* (Chinese: 清明上河图), 25.5 cm × 525 cm (10.0 in × 207 in), Palace Museum, Beijing.
- Figure 4:**  
Hanyu Liu (Author), *Collage of Chinese Landscape Painting with Photos of Ningbo Museum*, 2022.
- Figure 5:**  
Amateur Architecture Studio, "Wa Shan" Guest House, Xiangshan, China.  
Source: *The Architecture Review*.  
<https://www.architectural-review.com/today/wa-shan-guesthouse-xiangshan-china-by-wang-shu>.
- Figure 6:**  
Six Chinese Gardening Techniques, documented in Ji Cheng's *Craft of Gardens* (Chinese: 园冶, pinyin: Yuanye).  
Source: *The Huntington – Library, Art Museum, and Botanical Garden*. <https://www.huntington.org/chinese-garden>.
- Figure 7:**  
Ryōan-ji (late 15th century) in Kyoto, Japan, a famous example of a zen garden.  
Source: [https://en.wikipedia.org/wiki/Japanese\\_dry\\_garden#/media/File:Kyoto-Ryoan-Ji\\_MG\\_4512.jpg](https://en.wikipedia.org/wiki/Japanese_dry_garden#/media/File:Kyoto-Ryoan-Ji_MG_4512.jpg).



RESEARCH & DESIGN PORTFOLIO SELECTED WORKS 2023

# HANYU LIU

COLUMBIA UNIVERSITY M.A.R.C.H