The World as a Toy Box

Selected Works by HOTAKA IWAMI

EDUCATION

- Research Fellow
2024 - Kyoto University

- PhD Researcher and Project Architect
2024 Politecnico di Milano

- Master in Architecture
2021 - 2024 Kyoto University

- Exchange
2021 Ecole Nationale Supérieure d'Architecture de Paris-La Villette

- Bachelor in Architecture
2017 - 2021 Kyoto University

PRINCIPAL HONORS AND RECOGNITIONS

- Kyoto University DoGS Fellow
Apr. 2024 - PhD Research Scholarship from Division of Graduate Studies in Kyoto University

- Finalist
Dec. 2022 The Jacques Rougerie Fondation Architecture Competition "PLAN 75"

- Dean's Award
Mar. 2022 Graduate School of Engineering, Kyoto University through activities at Mokusyo-juku, in the capacity of organizer and designer.

- Silver Medal
Nov. 2021 8th Space Architecture Award

- Scholarship to Support Overseas Activities
Sep. 2021 Tobitate! (Leap for Tomorrow) Japan Young Ambassador Program

- Featured in "Japan Diploma Projects 2021"
June. 2021 ISBN:4910028240615
Diploma project "The Lake and Surfaces" was featured by Kindai-Kenchikusha.

- Excellence Award
Mar. 2021 Kyoto University 2021 diproma projects "The Lake and Surfaces"

- Aacademic Scholarships
Erasmus+ PhD programme Politecnico di Milano
THE USHIO FOUNDATION
SOGO SHIKAKU FOUNDATION
Horita Scholarship Foundation

PROFESSIONAL EXPERIENCE

- velux lab | IT / KKAA | JP

Apr. 2024 - June 2024 | Full Time Project Architect
Primarily worked as a local designer for the opera Simon Boccanegra, held in October at Teatro di San Carlo in Naples. Collaborated with the theater, lighting designers, and the material manufacturer Alcantara to realize Kengo Kuma's design. Took responsibility for a wide range of tasks, including presentation models for collaborators, lighting simulations, and construction manuals.
https://kkaa.co.jp/project/shiwa-shiwa/

- Atelier Tsuyoshi Tane Architects | FR

Feb. 2021 - Aug. 2022 | Full Time
Assistant Architect in various architectural projects. Especially worked on the Architectural Design and model making, Rendering of private residence, Hiroo House, Mock-up Making of Vitra Garden House, Concept Research and Proposal for the Competition for Venice Viennale. Awarded the Special Mention Award in an internal competition and contributed to the on going project as a team member.

- Archi Tech | JP

Apr. 2020 - Nov. 2020 | Part Time
Created tutorial videos and articles on architectural software, including Rhinoceros and ARCHICAD. For ARCHICAD, I independently planned and produced an entire series of intermediate-level tutorials, covering everything from concept development to filming.

- Cabanon Vertical | FR

Dec. 2019 | Internship
At the office in Marseilles, I assisted in creating 3D models using SketchUp, developing detailed designs for furniture, and supporting construction work on-site.

- TADAO ANDO ARCHITECTS & ASSOCIATES | JP

June. 2018 - Apr. 2019 | Part Time, twice weekly
For approximately one year, I engaged in the production of exhibition and presentation models twice a week. The internship team usually consisted of only four members or so, and weekly lecture sessions with Tadao Ando himself provided invaluable insights into both architectural philosophy and life perspective.

EXHIBITIONS AND PRESENTATIONS

- EKKYO.SUMMIT 2023 EXhibition

June. 2023 | Sendai
Invited to exhibit works at an event and exhibition themed on the co-creation of science and craftsmanship. Presented works such as 'n×100/1 colony,' exploring the fusion of biology and architecture, at the Sendai Mediatheque.

- EKKYO.CONFERENCE - Rethinking Organization Through Biomimicry -

July. 2023 | Tokyo
Participated as a presenter in the conference 'Rethinking Organization Through Biomimicry.' I explained biomimicry as a creative method, using my own works as examples. Another presenter, a Ph.D. in biology, delivered a lecture on the social behavior of bees. The conference as a whole explored human organizational structures through the lens of social insects.

- Archi-Disco 2023

May. 2023 | Osaka
Exhibited at the 'Architecture and Thinking, Trying, Directing' exhibition. Presented 'n×100/1 colony,' a project that thinks, tries, and directs biomimicry through architecture and biology."

LANGUAGES

Japanese	Native
English	Fluent
Italy	Basic
French	Bonjour level

SOFTWARE

2D Drawing

Rhinoceros	●●●●●
Autodesk AutoCAD	●●●○○
Ilustrator	●●●●○

3D Modeling

Rhinoceros gh	●●●●○
SketchUp	●●●○○
ARCHICAD	●●●●●

Rendering

Twinmotion	●●●●○
V-Ray Render	●●●○○
Lumion	●●●○○

Layout

Adobe Ilustrator	●●●●○
Adobe Indesign	●●●●○

Postproduction

Adobe Photoshop	●●●●○
Adobe PremierPro	●●○○○

Game Engine

Unity	●●●●○
Blender	●●●○○

REFERENCES

Shota Yamamoto, MArch
Former Project Manager, Atelier Tsuyoshi Tane Architects
sy@at-ta.fr

Prof. Marco Imperadori, Phd, Politecnico di Milan
marco.imperadori@polimi.it

Prof. Thomas Daniell, Phd, Kyoto University
daniell@archi.kyoto-u.ac.jp

Kiyoshi Sey Takeyama, Phd
Emeritus Professor of Architecture, Kyoto Univ.
Principal, amorphe
seytakeyama@amorphe.jp

INVOLVEMENT

- 10th ADAN Architects of the Year Exhibition

Oct. 2024
As a member of the Daniell Laboratory at Kyoto University, which handled the exhibition design, I managed overall coordination and poster graphic design for the 'Architects of the Year' exhibition. Hosted by the Architectural Design Association of Nippon, the event was held at the House in Nihonbashi Gallery in Osaka, designed by Tadao Ando, and featured recent renovation architecture.

- MOKUSYO
Traditional Woodden Architectural Design and Construction

Aug. 2017 - Mar. 2022
Designed and constructed buildings using 'Kigumi,' a traditional Japanese wooden joinery method, as a member of Mokusyo-juku, a traditional woodworking and architectural design group. In 2021, I served as the organizer and design lead for the group, designing a rest area in Kyoto, which was completed in 2022.

- Kyoto International Volunteer Guide

Apr. 2017 - Mar. 2021
Member of the Kyoto-based student volunteer guide group, Good Samaritan Club, and served as Chairperson from 2018 to 2019. Over the course of four years (excluding the COVID-19 pandemic), guided over 50 groups and 100 individuals of various nationalities, maintaining connections with many of them afterward.

- Interpreter for "Mushanokoji-Senke" Style Tea School

Nov. 2022 - Current
Served as an interpreter for Mushanokoji-senke Tea School, assisting at tea ceremonies and lectures by tea masters.

- Kyoto University Unit of Synergetic Studies for Space
Research for the Construction of a Wodden Dome on Mars

Apr. 2020 - Oct. 2020
Participated in the First Exercise on Human Space Activities, led by astronaut and Kyoto University professor Takao Doi. Subsequently, as an Office Assistant for the Kyoto University Unit of Synergetic Studies for Space, conducted experiments on the use of wood in space environments and researched the construction of a wooden dome on Mars.

- Teaching and Office Assistant at Kyoto University

Apr. 2021 - July 2021, Oct. 2022 - Sep. 2023
Served as a Teaching Assistant for design studios led by Sou Fujimoto and Akihisa Hirata, providing guidance to students. Additionally, as an Office Assistant, developed and built the website for the Daniel Laboratory at Kyoto University.

PUBLICATIONS

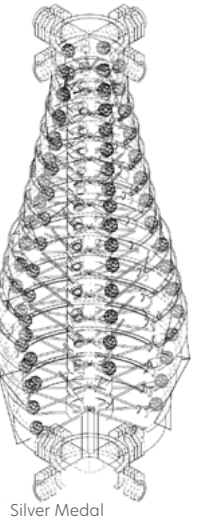
- traverse

ISSN:2435-6891 vol.23 21
Authored two essays: one on metaphor and citation as architectural design methods (Vol. 21) and another on spatial dimensions based on Wassily Kandinsky's 'Point and Line to Plane' (Vol. 23). Additionally, my work 'n×100/1 colony' was published in Vol. 21. In Vol. 22, served as an editorial committee member and organized a discussion featuring Kyoto University professors and architects Sei Takeyama, Yosuke Komiyama, Akihisa Hirata, and Kazuo Kishi. The discussion explored how the subconscious influence of education shapes architectural perspectives."

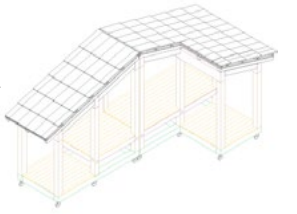
- Study of Collages by Rem Koolhaas and OMA
-Examining Architectural Notation Through Collage-

Master Thesis
Notation is the method of representing the three-dimensional object of architecture through other media and the way it is perceived. It is not merely about form; architecture embodies social aspects, history, and methodologies, all of which are interwoven in the design process. Notation serves as a means of expressing various types of information in different forms, influencing the way we think. Through the case of Rem Koolhaas, this study analyzes collage as both a method of representation and a way of thinking."

Finalist
2022 The Jacques Rougerie Fondation Competition



Silver Medal
8th Space Architecture Competition



Dean's Award
2022 Graduate School of Eng. Kyoto Univ.

Installation Art
Commissioned by: Ginmikai Ginza

2022 Dean's Grant Project

Why Does Architecture Sever the Earth?

THE LAKE AND SURFACES

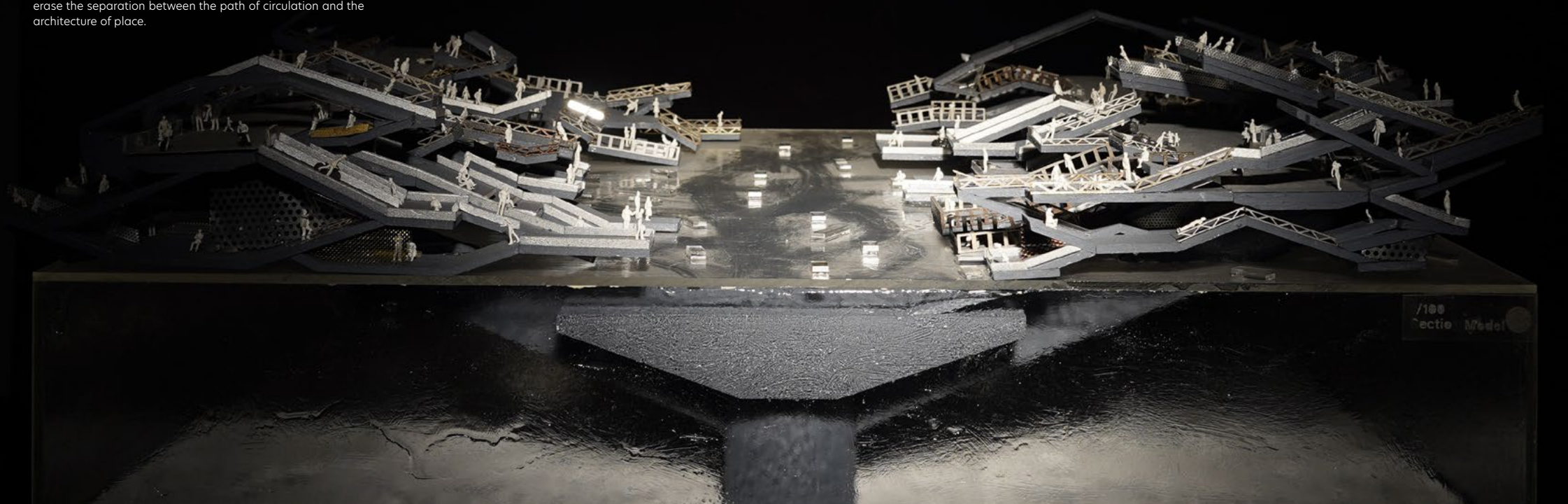
BRIDGE COMPLEX

Bachelor Diploma Project / Individual Work
Excellence Award: 2021 Kyoto Univ. Diploma Projects
Featured in "Japan Diploma Projects 2021"

Project Location: Shiga - Japan
Length: 13km
Year: 2021

ABOUT THE PROJECT

A bridge exists to connect two shores that have been divided by an obstacle. While depicted as a single line on a map, in reality, a bridge possesses width and can command a space that transcends the human scale, operating at an infrastructural scale.
Circulation routes like roads and bridges serve to connect destinations, yet as lines, they inherently sever the perpendicular axis. This project re-imagines the linear bridge as an inhabitable, planar space. It employs diagonal structures as a method to subvert this linear division, attempting to erase the separation between the path of circulation and the architecture of place.

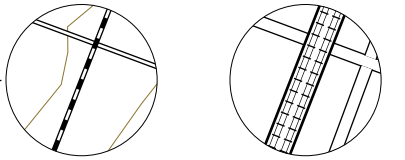


Site

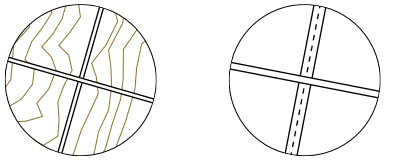
The Duality of Lines: Division and Connection

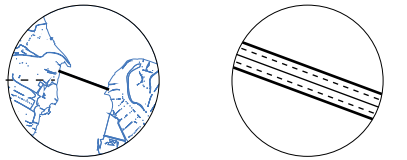
Lines possess a fundamental duality, acting as tools of both connection and division. Humanity has long built bridges to overcome the natural barriers of rivers, yet our own artificial lines—roads—created an unforeseen division with the rise of the automobile, becoming impassable barriers for pedestrians. We resolve this modern division with either systemic solutions like traffic signals or dimensional ones like overpasses.

JR (Japan Railway) Kosei-Line (1974)
A north-south elevated railway.
At 12m high, it maintains a permeable ground plane, crossing over roads without conflict.



National Route 161 (1994)
A north-south expressway that severs the ground plane for 30km.
This division is overcome by elevated prefectural roads that create east-west crossings from above.

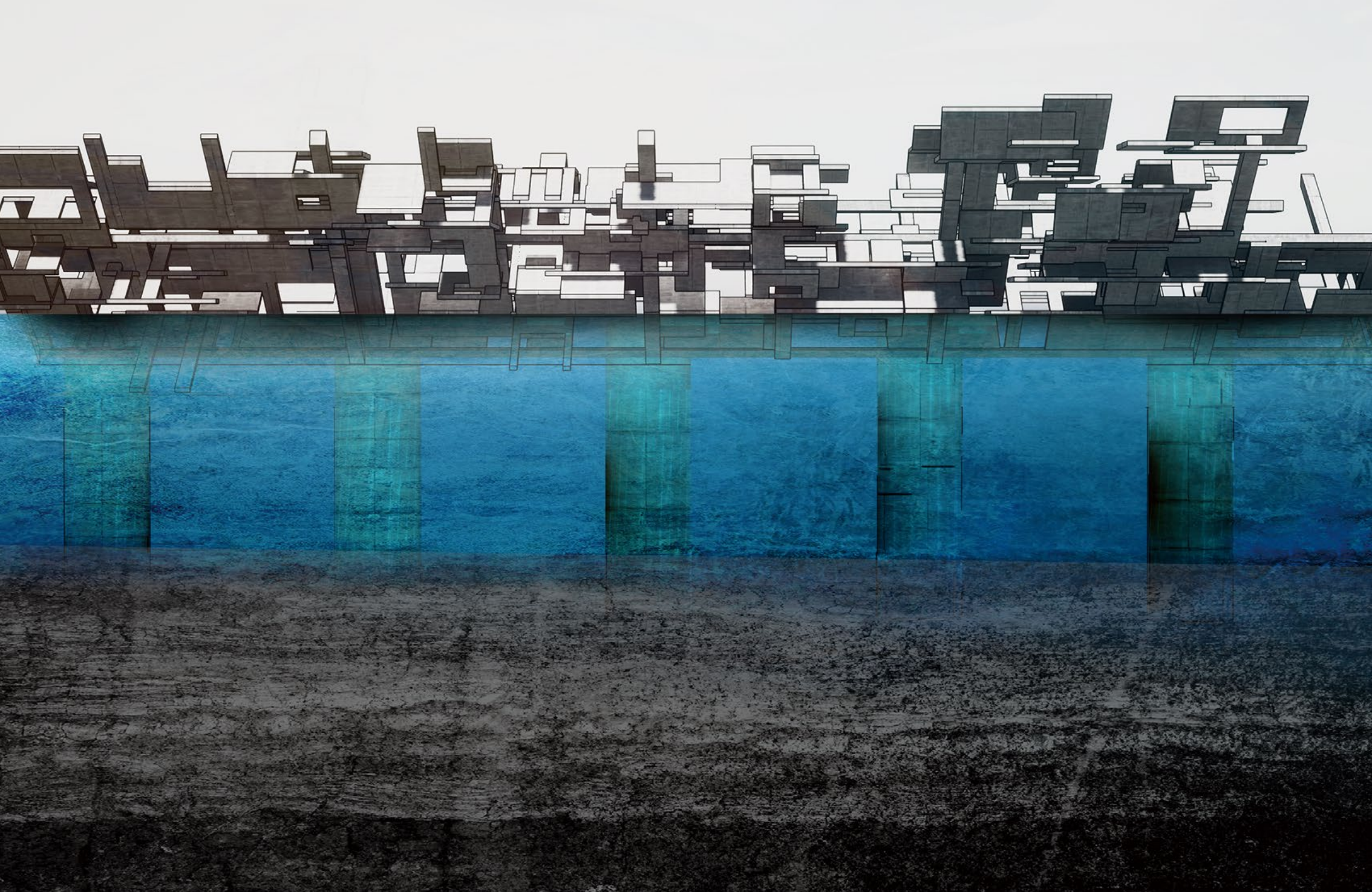


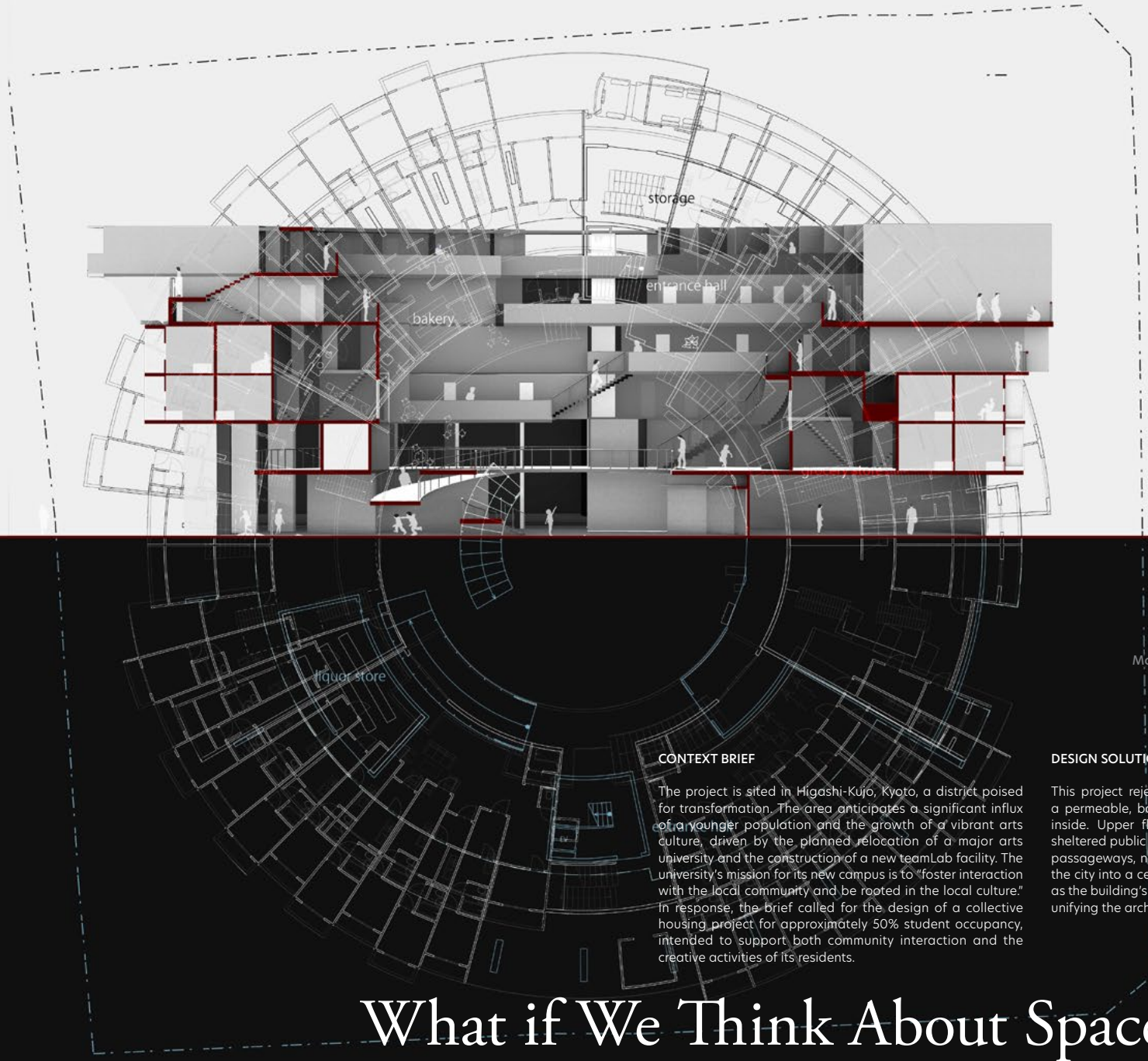


Lake Biwa & Biwako Ohashi Bridge (1964)
A 1,400m bridge crossing Lake Biwa, a 60km natural barrier. At a height of 26.3m, it provides a crucial east-west link without obstructing marine traffic below.

Line / Plane

Conventional architecture stands vertically, severing the Earth's surface. As a mere stacking of planes, it detaches from the ground, leaving only linear spaces for people—areas now dominated by vehicles. This project challenges this detachment with a diagonal structure that extends from the ground itself. This strategy opens the facade to the public realm, providing generous new outdoor spaces for people that coexist with the architecture, rather than being leftover scraps.





SLICES OF LIFE

COLLECTIVE HOUSING

Master's Design StudioWork / Individual Work

Project Location: Kyoto - Japan
Instructor: Takahiro Taji
Year: 2021

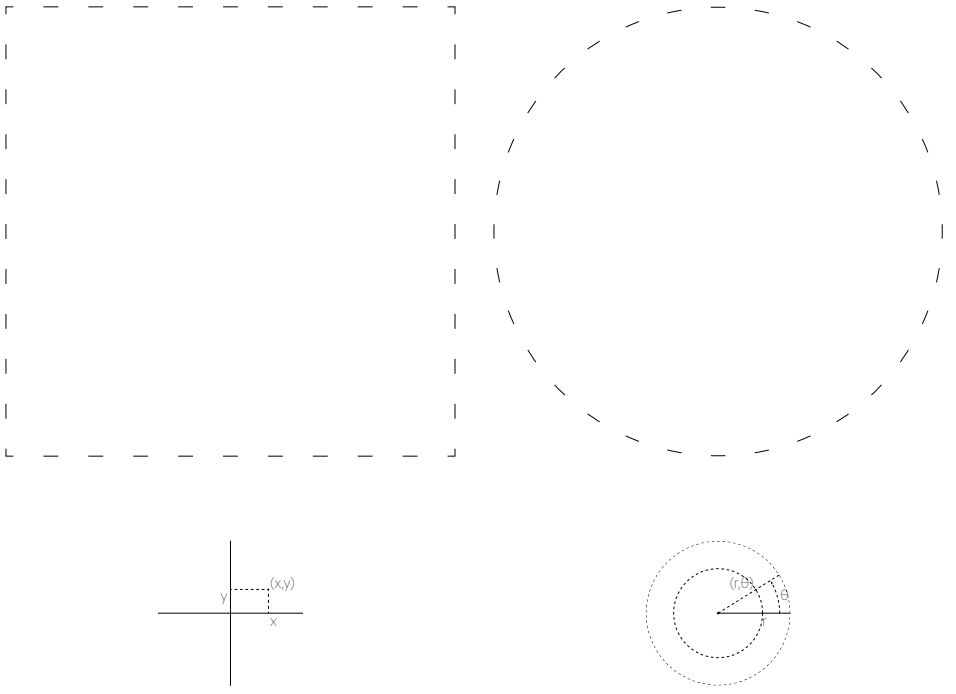
CONTEXT BRIEF

The project is sited in Higashi-Kujo, Kyoto, a district poised for transformation. The area anticipates a significant influx of a younger population and the growth of a vibrant arts culture, driven by the planned relocation of a major arts university and the construction of a new teamLab facility. The university's mission for its new campus is to "foster interaction with the local community and be rooted in the local culture." In response, the brief called for the design of a collective housing project for approximately 50% student occupancy, intended to support both community interaction and the creative activities of its residents.

DESIGN SOLUTION

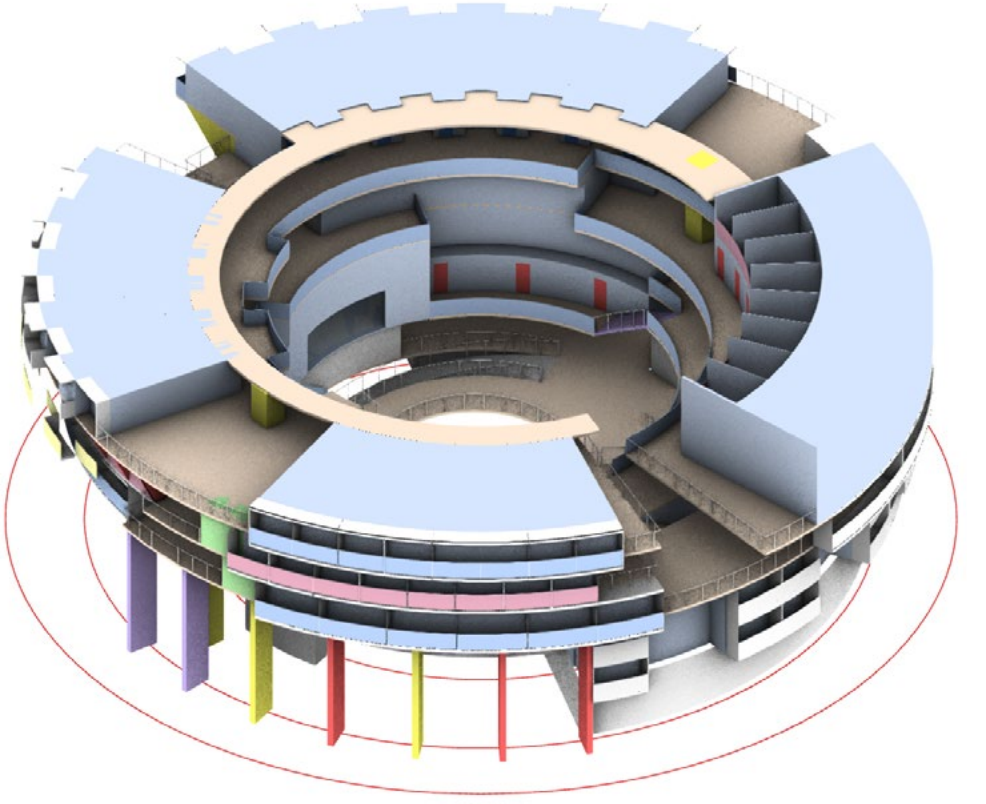
This project rejects the 'wall-like' housing block in favor of a permeable, bowl-shaped form that invites the community inside. Upper floors are progressively set back to create sheltered public terraces. The ground level is defined by open passageways, not walls, ensuring a seamless transition from the city into a central, terraced courtyard. This courtyard acts as the building's heart, radiating public vibrancy upwards and unifying the architecture.

What if We Think About Space Radially?



I never cut my pizza at right angles.

Cartesian coordinates dominate architectural planning for their practical advantages. But as Marshall McLuhan said, "We shape our tools and thereafter our tools shape us." To be confined by a single system is to limit our thinking. By embracing a polar system, we move beyond the grid-filling game. It is an intentional shift in perspective, focusing on relationships to a center, and in doing so, unlocking different architectures.

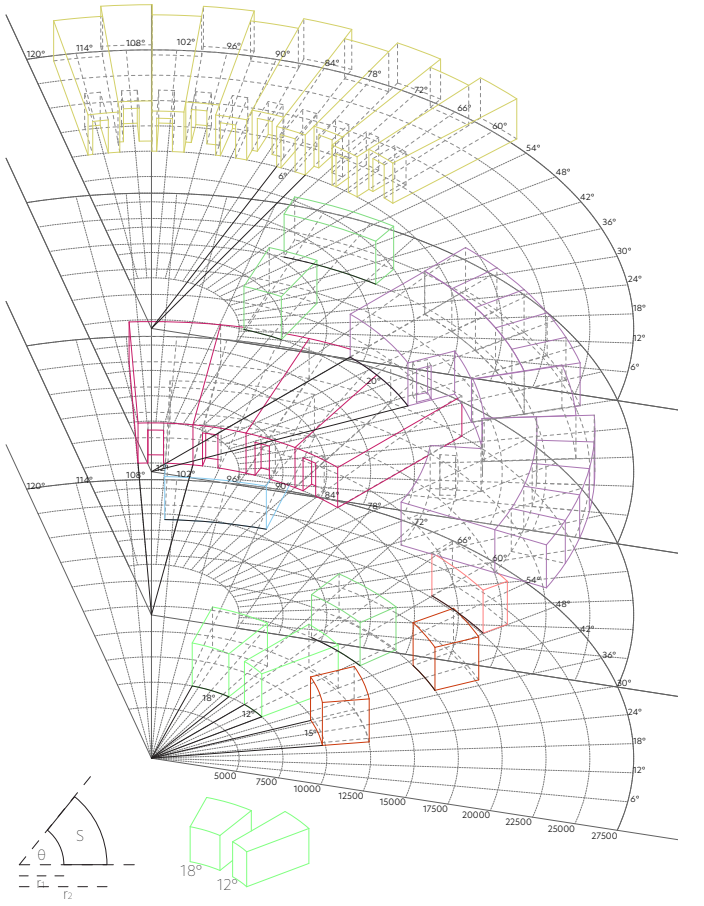


Collective Housing & Polar Coordinates

The gradient from public to private space is a key challenge in collective housing. This project uses a polar coordinate system to give that gradient physical form. By defining the center as a shared public realm, the radius (r) becomes a direct measure of both physical and psychological distance from the community. The resulting circular architecture thus fosters an inward focus on unity while physically manifesting an outward progression to privacy as (r) increases.

The Public-Private Gradient

This project establishes a clear public-private gradient. The Ground and First Floors create a public realm with the central atrium, featuring amenities open to the neighborhood. Access to the private residences above is strictly controlled. This separation allows for a dual experience: the central courtyard's vibrancy fosters a sense of unity throughout the building's open corridors, while each home still achieves privacy by orienting its personal spaces outwards.



$S=f(r_1,r_2,\theta)$

In this generative process, the architect's primary act is to divide a 360-degree circle, assigning an angle (θ) to each home. This decision, combined with two fixed parameters—the inner radius r_1 set by the central courtyard, and the required area S from the program—allows the final form to be calculated, not arbitrarily drawn. The unit's depth and outer radius r_2 are a direct result of this rule-based system, where $S=f(r1,r2,\theta)$

How can Ants Build complex Architecture?

n × 100/1 colony

EXPERIMENTAL DESIGN METHODOLOGY

Individual Work / Collaborate with prof.Kenji Matsuura - Laboratory of Insect Ecology, Kyoto Univ.

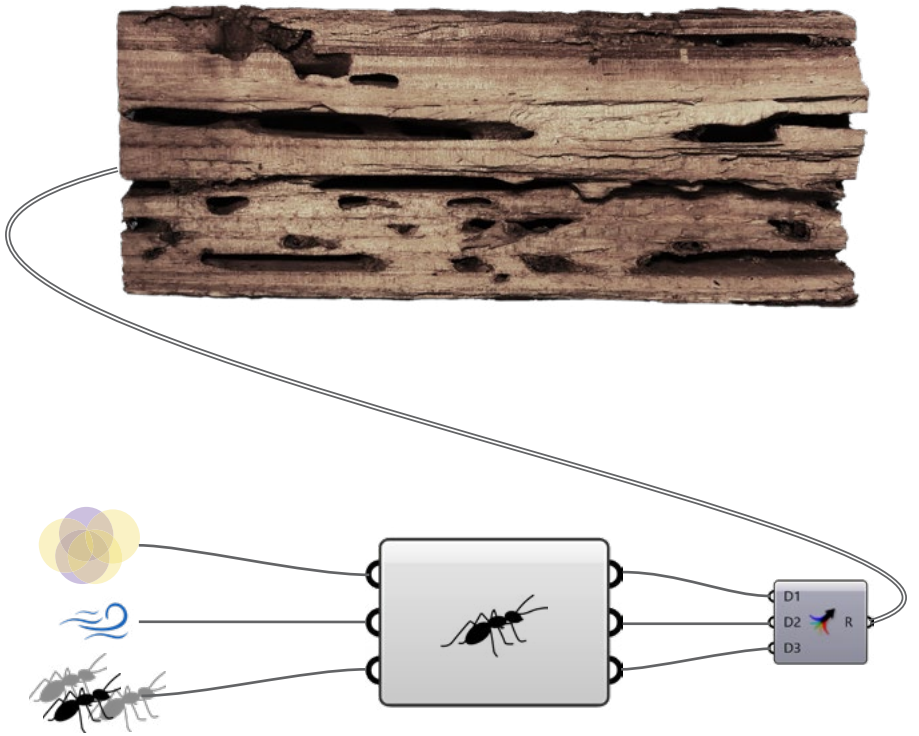
Best 4 works of 2020 Studio Works Akihisa Hirata Special Mention

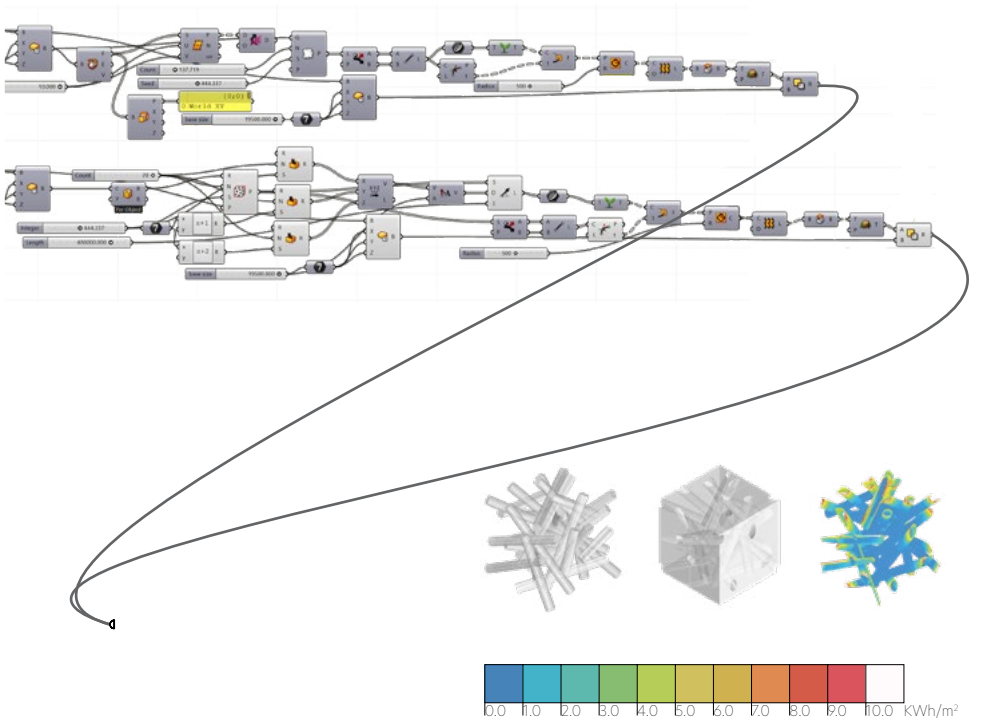
Project Location: - .
Instructor: Yosuke Komiyama
Year: 2020

ABOUT THE PROJECT

No ant holds a blueprint, yet the colony still builds an ordered nest with a single purpose — species survival. This order, created by many small local actions, is called self-organisation. Inspired by this, I invited Prof. Kenji Matsuura (Laboratory of Insect Ecology, Kyoto University), I apply this logic to architectural design and develop a spatial prototype that grows from interacting agents instead of a top-down plan.

Form follows action: architecture arises from the choreography of design moves, not from a pre-drawn outline.





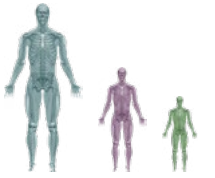
Self Organization: simple actions generate complex nests

Each ant selects its next move in response to local stimuli — pheromones, air flow, the motion of nearby ants and more. Individually tiny, these action choices accumulate into a rational, intricate nest. Over evolutionary time the rule set has been refined because it advances the higher purpose of species survival. Complexity and order, therefore, are the emergent trace of countless local simple action choices.

Self-organisation in architectural design

If unplanned small choices add value in nature, unconscious decisions might also improve architecture. **Form is essentially the sum of many actions.** Consider voiding a cube with twenty tubes: there are countless generative routes. In Grasshopper, different components (action choices) generated a different **shape**. With maximising daylight as the stated purpose, I ran simulations to see how these unintended component choices affected performance.

3D-printed Section Model
aluminium-foil skin



Reading the process and its outcomes

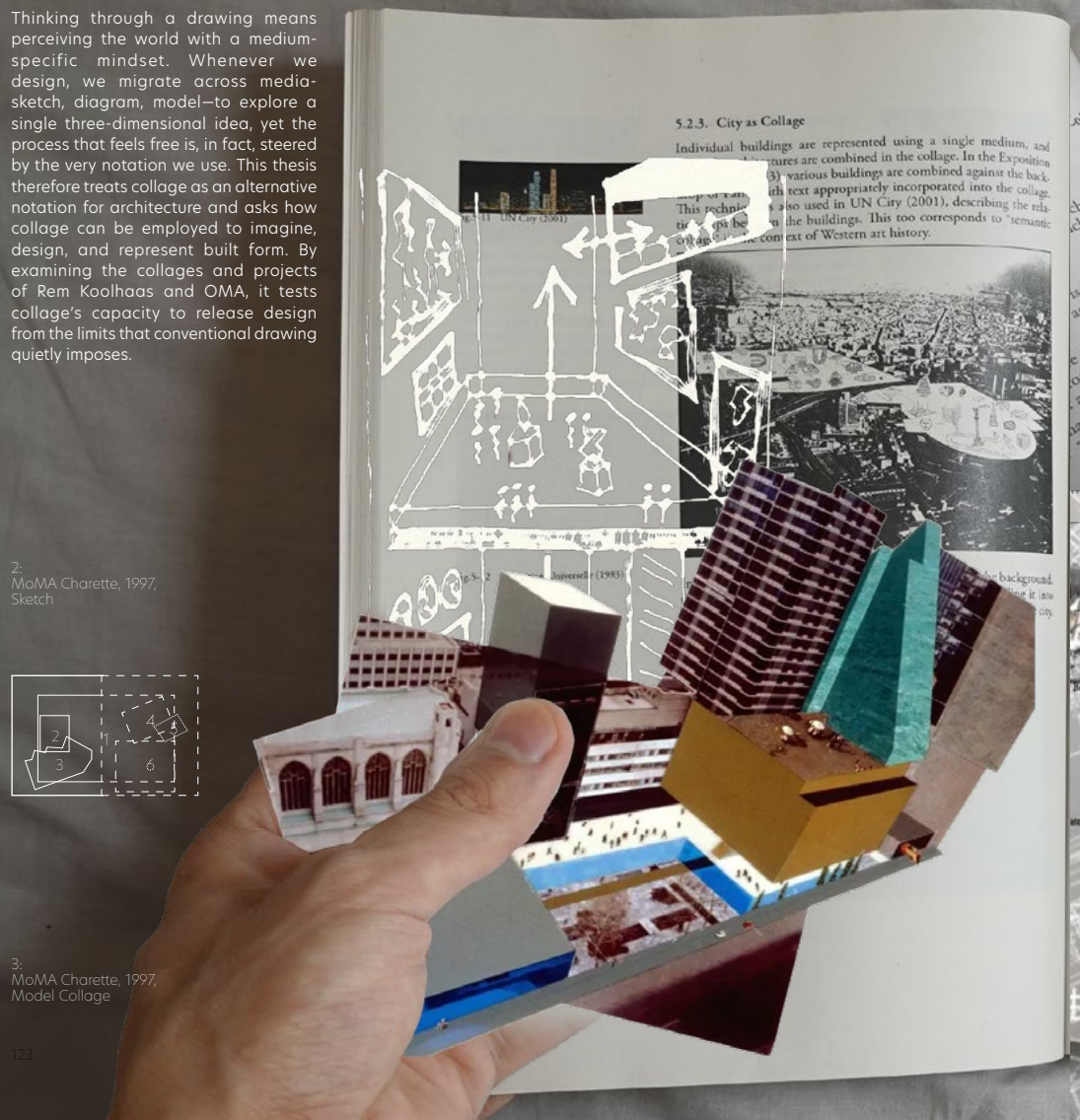
Shapes with many intersection nodes, especially those created by sending two tubes from every point, captured the most daylight. Daylight is only one metric, though; defining a building's purpose is still fundamental. By balancing several objectives we can build richer self-organising systems and let incidental actions guide a design toward better results. I examine the emergent spaces at multiple scales to demonstrate their architectural potential.

How to Imagine, Design and Re-present Architecture?

Study of Collages by Rem Koolhaas and OMA
-Examining Architectural Notation Through Collage-

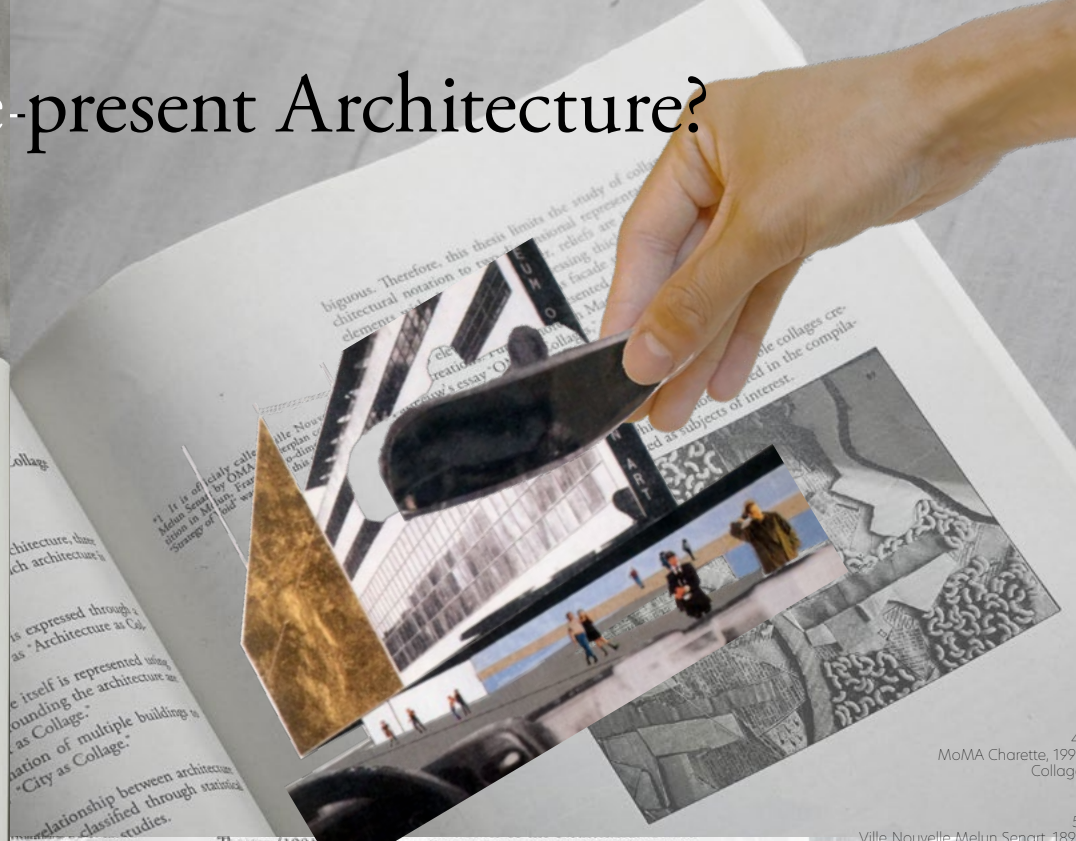
M.ARCH THESIS

Thinking through a drawing means perceiving the world with a medium-specific mindset. Whenever we design, we migrate across media-sketch, diagram, model—to explore a single three-dimensional idea, yet the process that feels free is, in fact, steered by the very notation we use. This thesis therefore treats collage as an alternative notation for architecture and asks how collage can be employed to imagine, design, and represent built form. By examining the collages and projects of Rem Koolhaas and OMA, it tests collage's capacity to release design from the limits that conventional drawing quietly imposes.



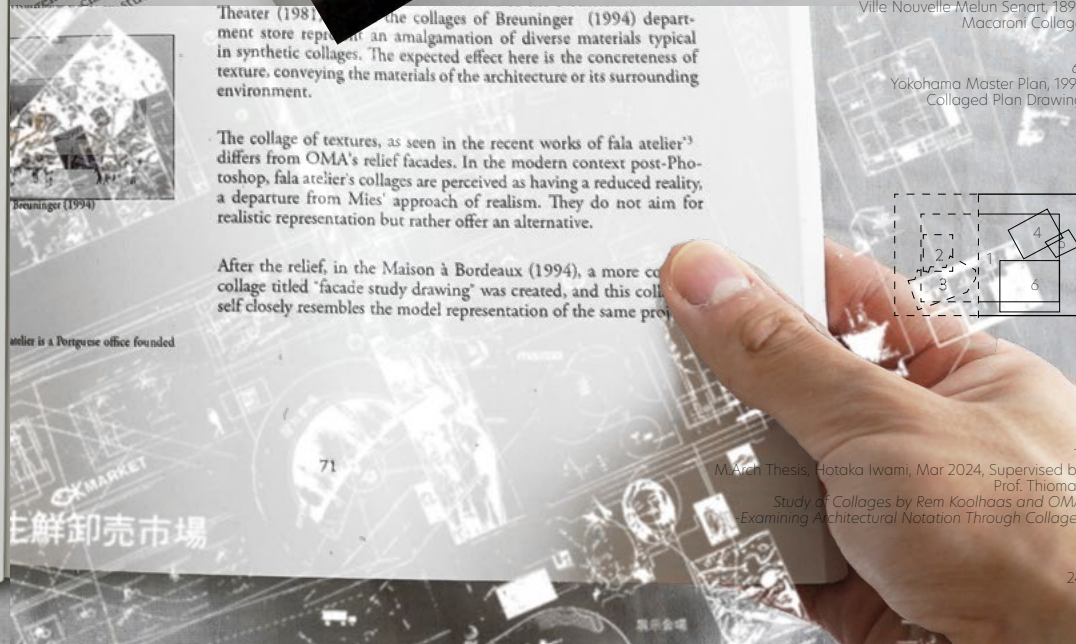
2:
MoMA Charette, 1997,
Sketch

3:
MoMA Charette, 1997,
Model Collage



4:
MoMA Charette, 1997
Collage

5:
Ville Nouvelle Melun Senart, 1897
Macaroni Collage



6:
Yokohama Master Plan, 1991
Collaged Plan Drawing

1:
M.Arch Thesis, Hotaka Iwami, Mar 2024, Supervised by Prof. Thiomas
Study of Collages by Rem Koolhaas and OMA
-Examining Architectural Notation Through Collage-

What if a Foundation Could Design the Future?

Designing Foundation

EXTENSION OF A PRIVATE RESIDENCE / WAREHOUSE

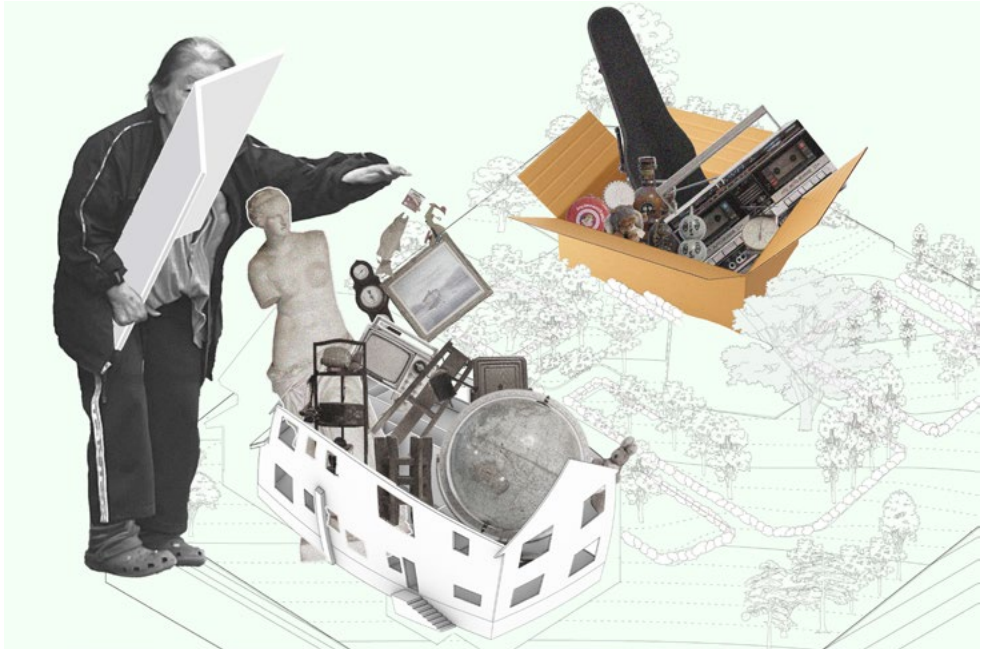
Self-Initiated Project / SD Review 2023 / Renovation proposal for grand parents

Team: Hotaka Iwami, Shinji Iwasaki, Naoki Kitagaki
Project Location: Shiga - Japan
Role: Architectural Design, Technical Drawings, Legal check
Area: 20 m²
Year: 2023

ABOUT THE PROJECT

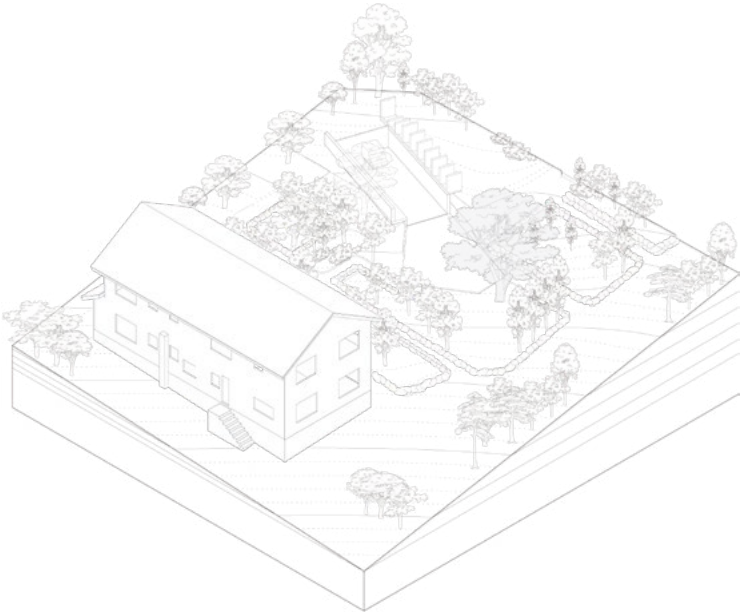
The homeowner, faced with the difficulty of living in a mountain-side home, had to quickly vacate without the opportunity to organize a lifetime's worth of possessions spanning 80 years. In order to sort through and organize the items left behind in the house, it was necessary to create a "warehouse" that was not just a space for mere storage, but a place for organizing and cherishing belongings.

A warehouse is typically used for temporary storage, and its role in architecture is often considered temporary as well. However, we aspire to see the building continue to be inhabited beyond its initial purpose. In response to the homeowner's current needs and considering the potential possibilities for the future, we designed a structure to solve the immediate need, while its foundation was conceived as a framework for the building's long-term future.



Planting a Future

This project, born 30 years ago from a couple's wish to live with nature, occupies two plots: one for a house, and one dedicated entirely to a garden as a buffer against future development. Over the years, the lives and passions of its inhabitants—a collector and a gardener—have shaped the site. The interior has filled with objects, while the once-empty garden has grown into a dense, self-made forest of trees and stone walls, obscuring the home from the road.

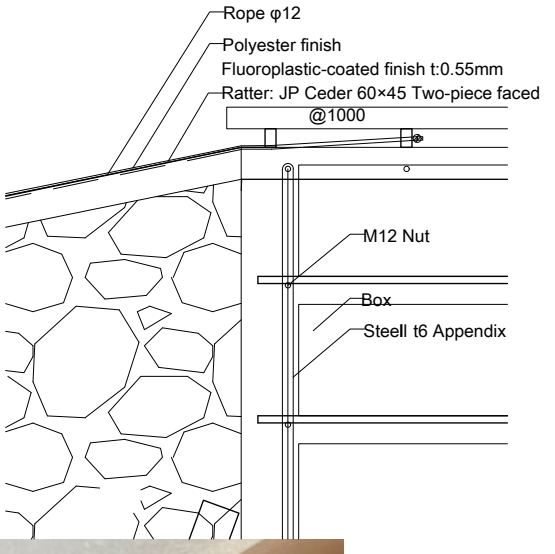


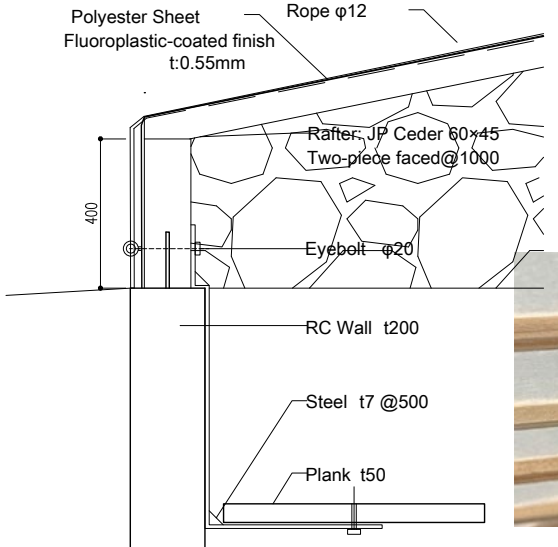
le cadavre exquis

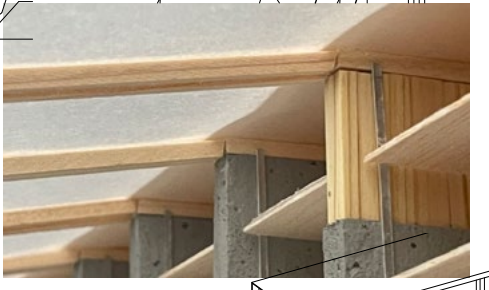
To address the clients' immediate need to organize their belongings, a 'warehouse' structure was proposed. The design process began by siting this warehouse based on programmatic needs and existing site conditions. This initial design served as a basis to explore the site's future. Three designers developed parallel scenarios based on the family's potential needs. The final foundation was then designed by synthesizing these speculative futures. The result neither dictates a single, deterministic future, nor guarantees infinite possibilities, but instead provides a resilient groundwork for a range of plausible futures, truly designing a foundation that can support what is to come.

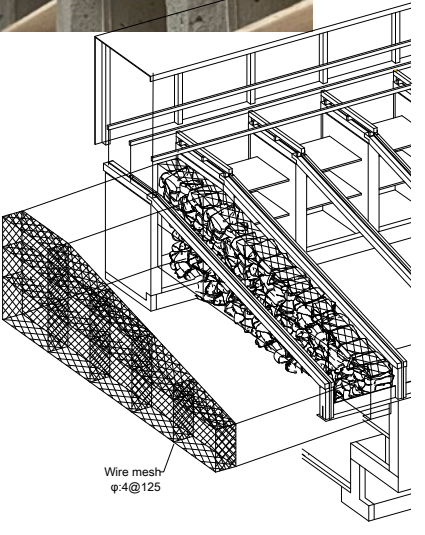
Site Grading & Ground Formation

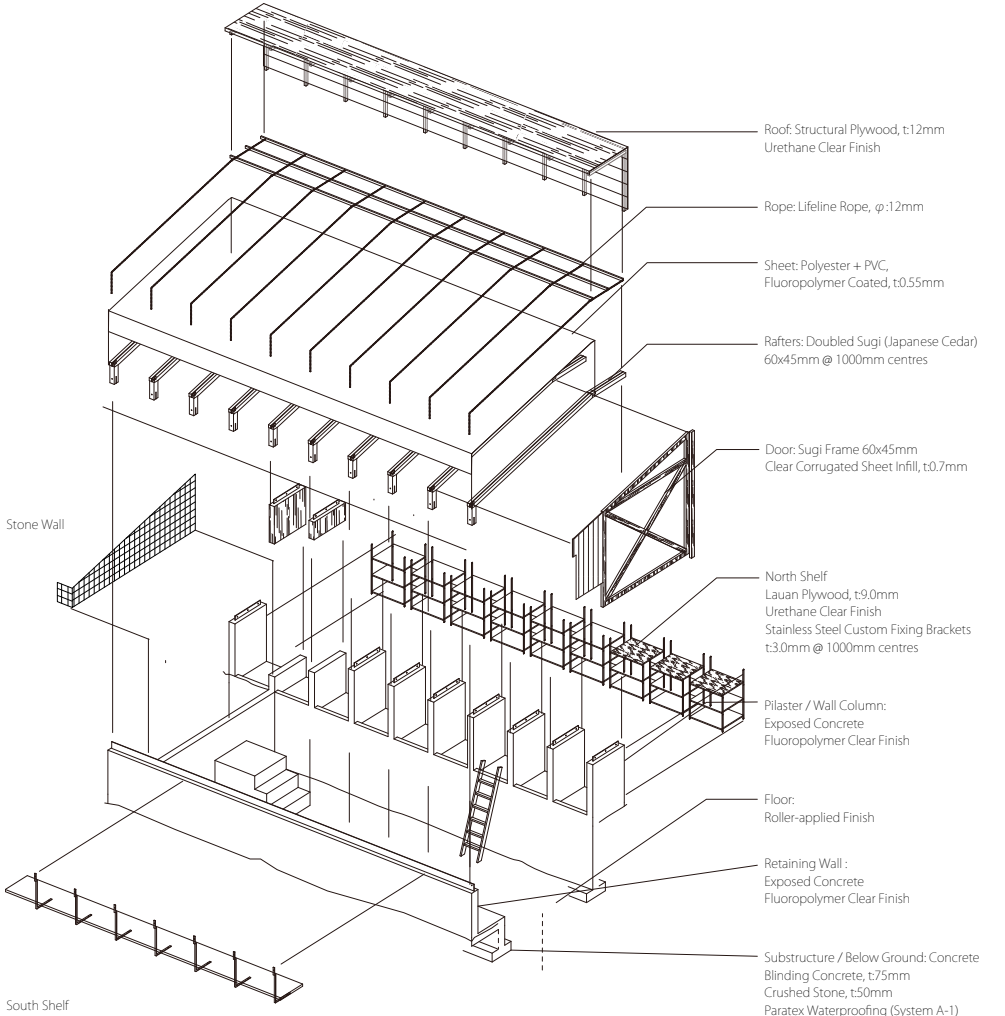
The project's sloped site required careful grading. The foundation was designed to double as a retaining wall, allowing the project to proceed under a simplified regulatory framework. To study this process, we CNC-milled CLT offcuts to recreate the site's topography in stacked contours. These were then filled with used coffee grounds, allowing for a tactile, hands-on analysis of the earthworks and foundation design, moving beyond purely digital study.


Rope φ12
Polyester finish
Fluoroplastic-coated finish t:0.55mm
Ratter: JP Ceder 60×45 Two-piece faced
@1000
M12 Nut
Box
Steell t6 Appendix


Polyester Sheet
Fluoroplastic-coated finish
t:0.55mm
Rope φ12
Ratter: JP Ceder 60×45
Two-piece faced@1000
400
Eyebolt φ20
RC Wall t200
Steel t7 @500
Plank t50




Wire mesh
φ:4@125


Roof: Structural Plywood, t:12mm
Urethane Clear Finish
Rope: Lifeline Rope, φ:12mm
Sheet: Polyester + PVC,
Fluoropolymer Coated, t:0.55mm
Rafters: Doubled Sugi (Japanese Cedar)
60x45mm @ 1000mm centres
Door: Sugi Frame 60x45mm
Clear Corrugated Sheet Infill, t:0.7mm
Stone Wall
North Shelf
Lauan Plywood, t:9.0mm
Urethane Clear Finish
Stainless Steel Custom Fixing Brackets
t:3.0mm @ 1000mm centres
Pilaster / Wall Column:
Exposed Concrete
Fluoropolymer Clear Finish
Floor:
Roller-applied Finish
Retaining Wall :
Exposed Concrete
Fluoropolymer Clear Finish
Substructure / Below Ground: Concrete
Blinding Concrete, t:75mm
Crushed Stone, t:50mm
Paratex Waterproofing (System A-1)
over foundation upstand
Exposed Face: Exposed Concrete
Fluoropolymer Clear Finish
South Shelf
Lauan Plywood, t:5.5mm
Urethane Clear Finish
Stainless Steel Custom Fixing Brackets
t:3.0mm @ 1000mm centres

SIMON BOCCANEGRA

OPERA SET DESIGN

Work Experience - Collaboration with Kengo Kuma (KKAA) and Marco Imperadori (veluxlab)

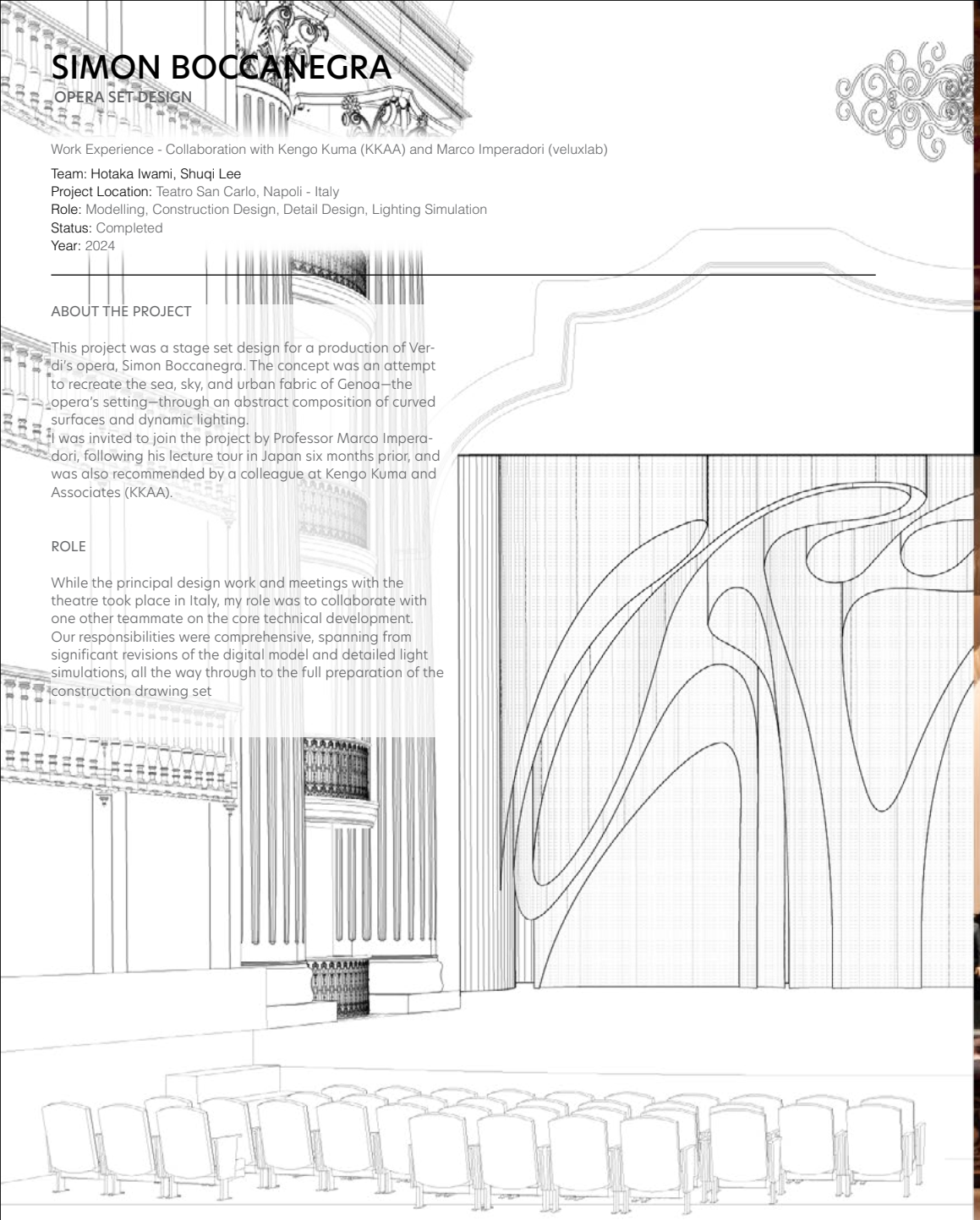
Team: Hotaka Iwami, Shuqi Lee
Project Location: Teatro San Carlo, Napoli - Italy
Role: Modelling, Construction Design, Detail Design, Lighting Simulation
Status: Completed
Year: 2024

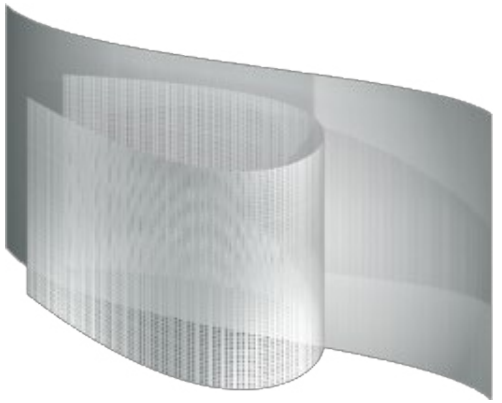
ABOUT THE PROJECT

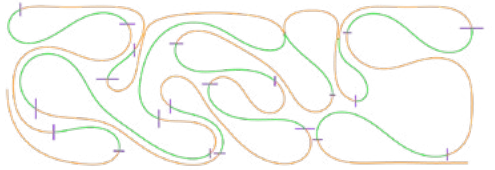
This project was a stage set design for a production of Verdi's opera, Simon Boccanegra. The concept was an attempt to recreate the sea, sky, and urban fabric of Genoa—the opera's setting—through an abstract composition of curved surfaces and dynamic lighting.
I was invited to join the project by Professor Marco Imperadori, following his lecture tour in Japan six months prior, and was also recommended by a colleague at Kengo Kuma and Associates (KKAA).

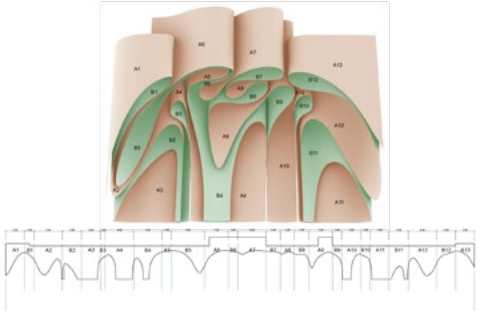
ROLE

While the principal design work and meetings with the theatre took place in Italy, my role was to collaborate with one other teammate on the core technical development. Our responsibilities were comprehensive, spanning from significant revisions of the digital model and detailed light simulations, all the way through to the full preparation of the construction drawing set



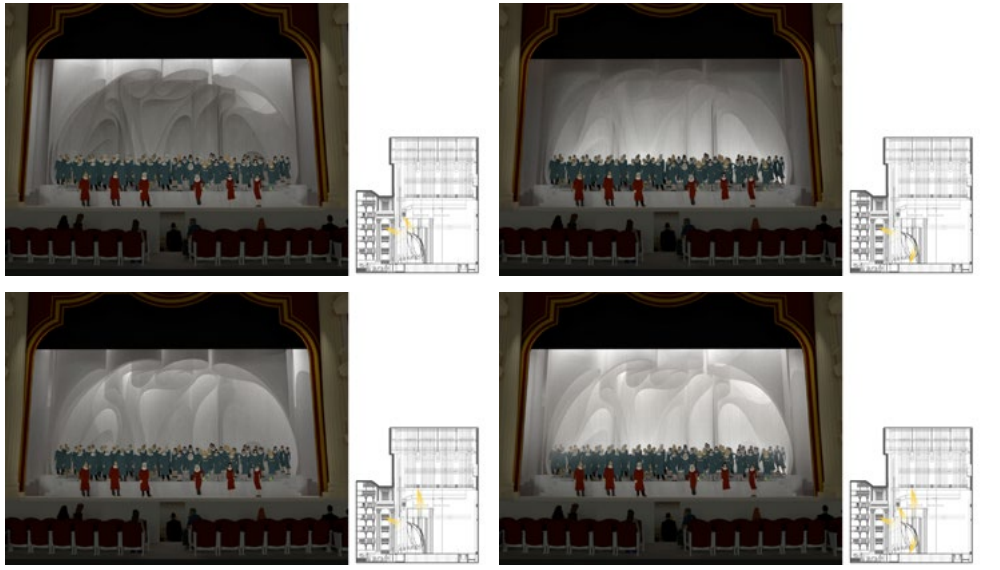


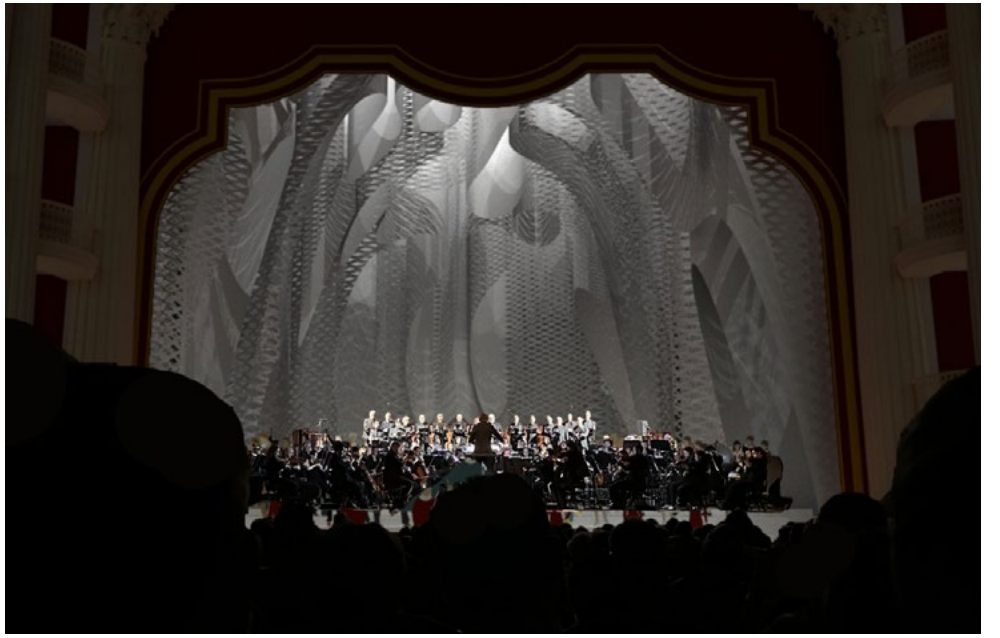


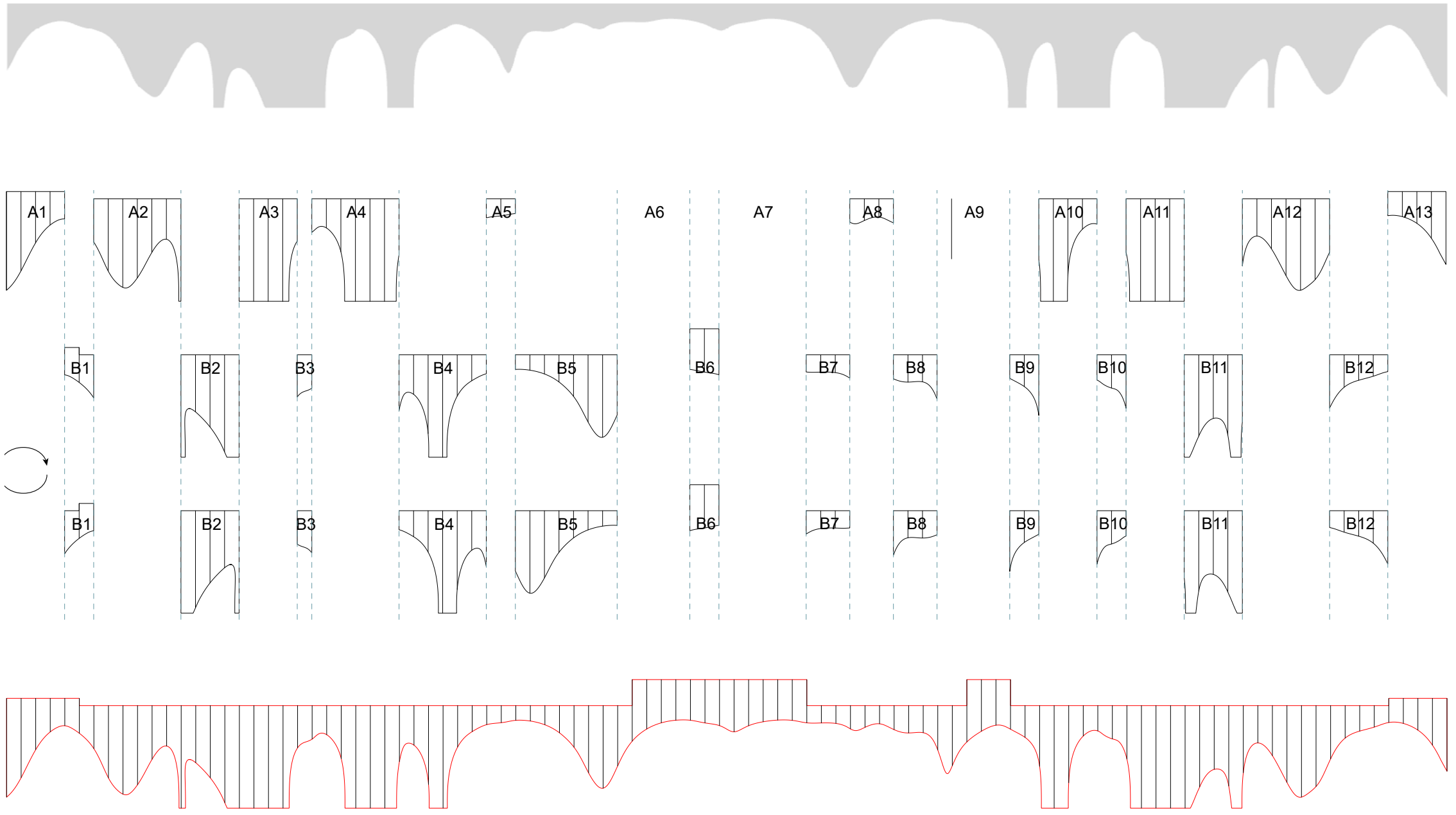


Alcantara material

The design was driven by a series of strict constraints: the need to halve the material area for efficiency, the reversible use of each textile, and a manufacturing limit of a 700mm width for all components. Through a process of digital and analog light studies, a method was developed to segment the set's complex curved surfaces to meet these demands, all while preserving the integrity of the original desired lighting effect.



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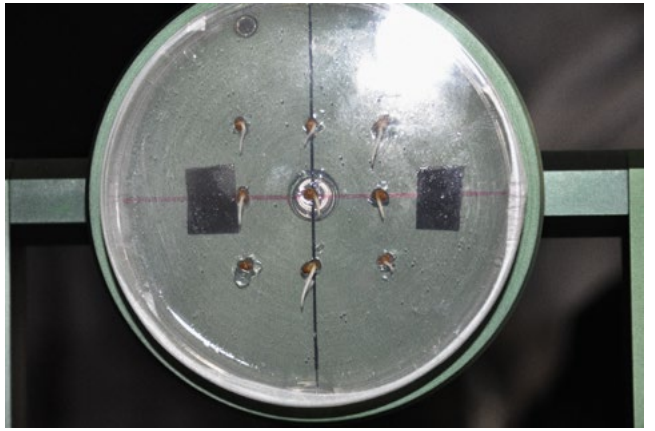
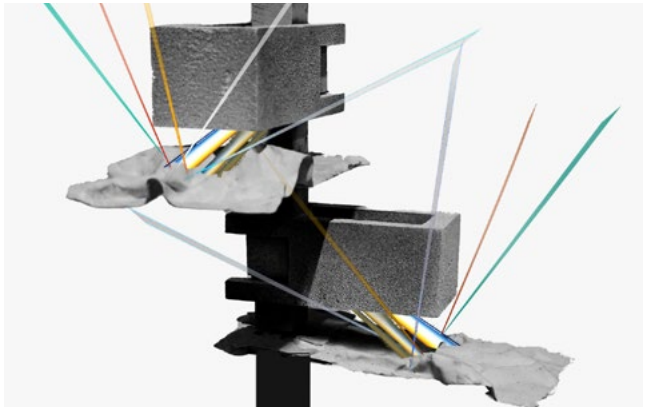
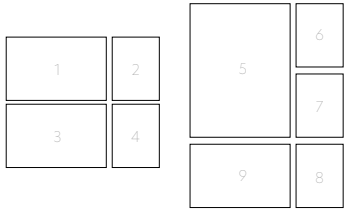
Professional Work & Collaborations

KYOTO UNIVERSITY UNIT OF SYNERGETIC STUDIES FOR SPACE / ATTA





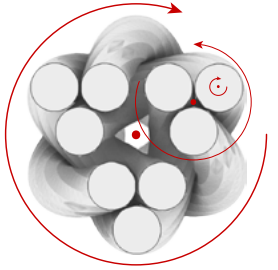


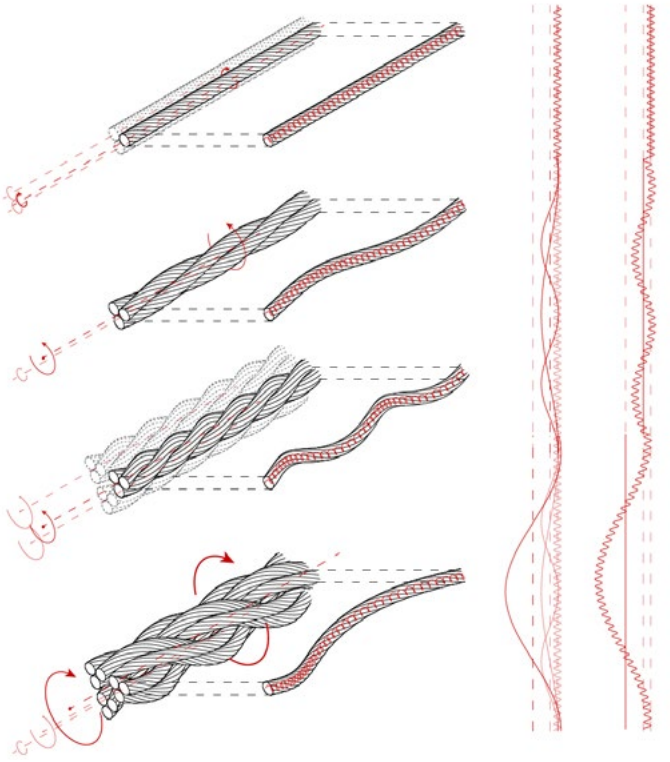
Unit of Synergetic Studies for Space
1: Microgravity Tree Cultivation Experimen

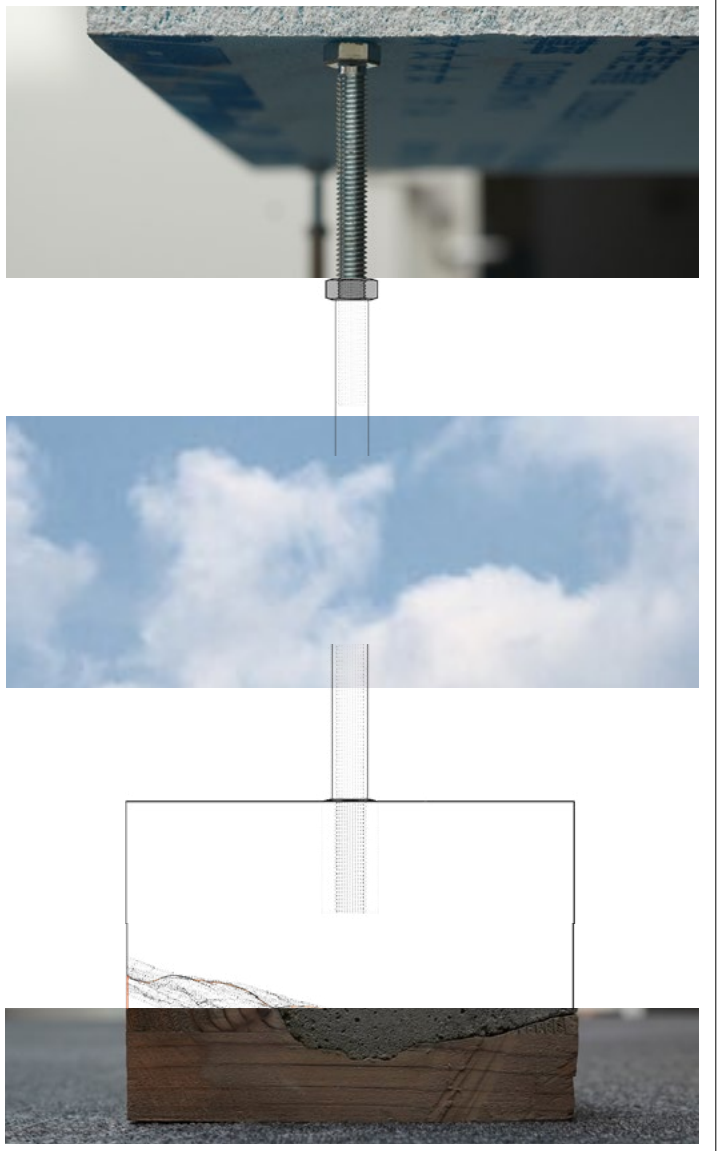
ATTA
2: Art Museum Façade: Concept Study
3: Internal Competition: Concept Graphics
4: Internal Competition: Material Mock-up
5: Vitra Garden House: Rope Pattern Study
6-8: Vitra Garden House: 1:1 Scale Rope Handrail Mock-up
9: Concept & Research Board

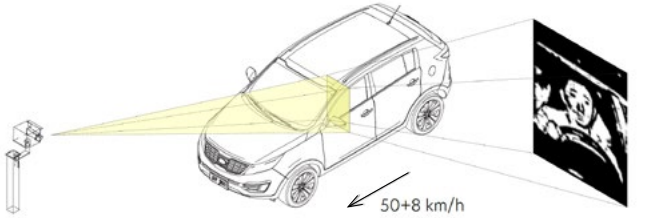
All work and photography by the author

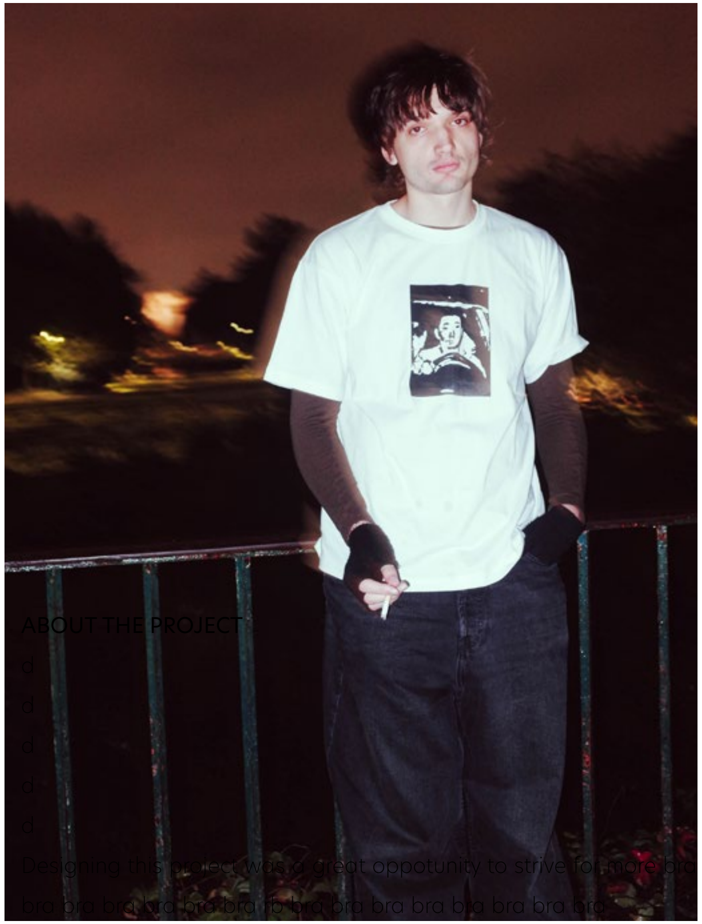
Why Can’t I Stop Creating?











ABOUT THE PROJECT

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Designing this project was a great oppotunity to strive for more bra bra bra bra bra bra bra rb bra bra bra bra bra bra bra bra

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