[REACTION]

SELECTED WORKS 2021-2022

QIWEI SUN

GSAPP AAD'22 Graduation Portfolio

[REACTION]

[REACTION]

[STUDIOS]

RUNNING CORRIDORS

Capping the Expressway / Parkchester, NY / Advanced V Studio / Fall 2021

DIDACTIC ECOLOGICAL RESILLIENCE

Agroforestation Schools / Lares, Puerto Rico / Advanced VI Studio / Spring 2022

LAND BUOY

Eating Cycle on Beach / Mastic Beach, NY / Advanced Archtectural Design Studio / Summer 2021

01

RUNNING CORRIDORS

Capping the Cross Bronx Expressway

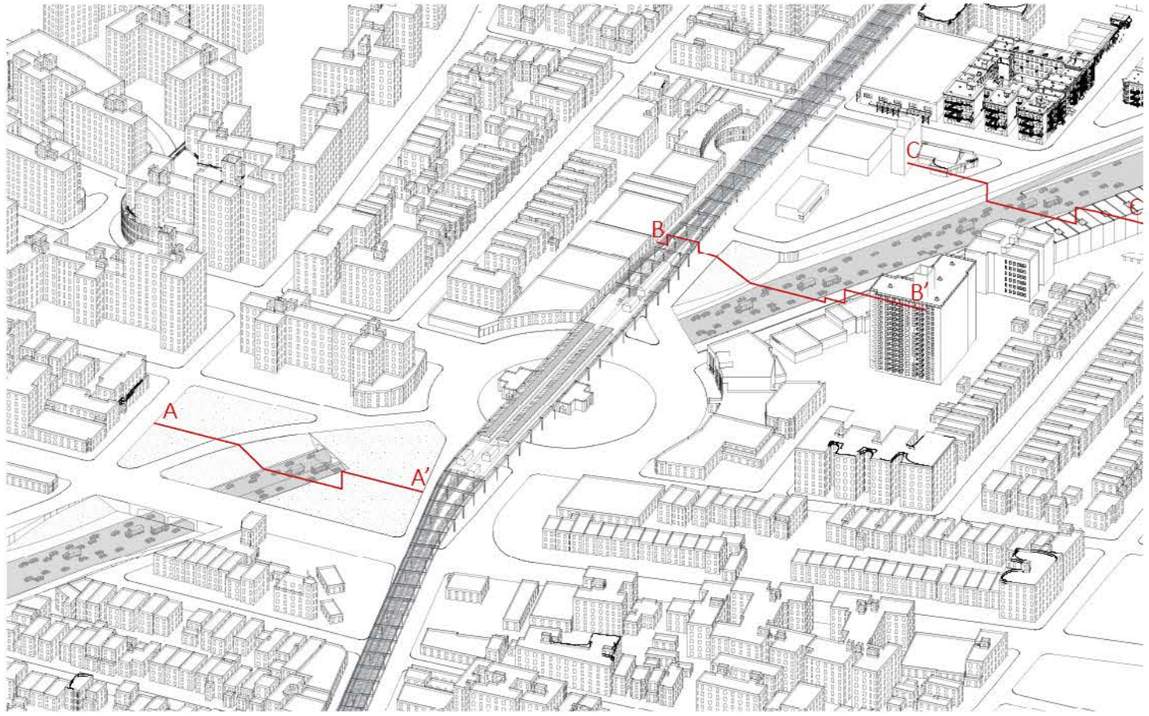
Location: Bronx, NY
Advanced V Studio, Fall 2021
Collaborator: An WANG
Instructor: Michael BELL, Professor of Architecture, mjb92@columbia.edu
Peter MUENNIG, Professor of Public Health, pm124@cumc.columbia.edu

"[The barracks] are compact and well built, and are arranged on the corridor system, i.e., all the rooms open on to corridors, running the whole length of the building ..."

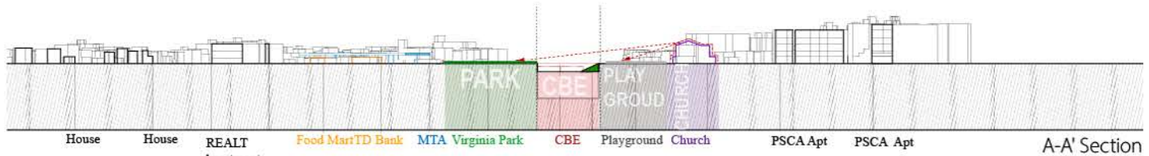
- In Corridor Spaces, by Mark Jarzombek

STITCHING

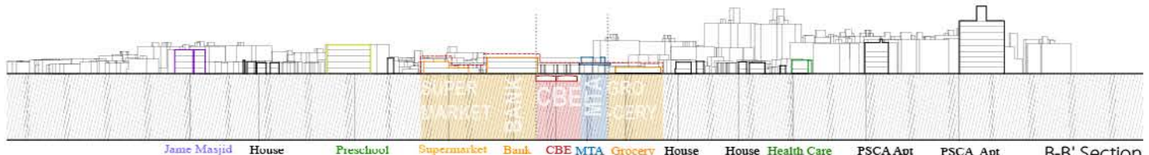
FOR PUBLIC HEALTH AND MORE



Site Axon

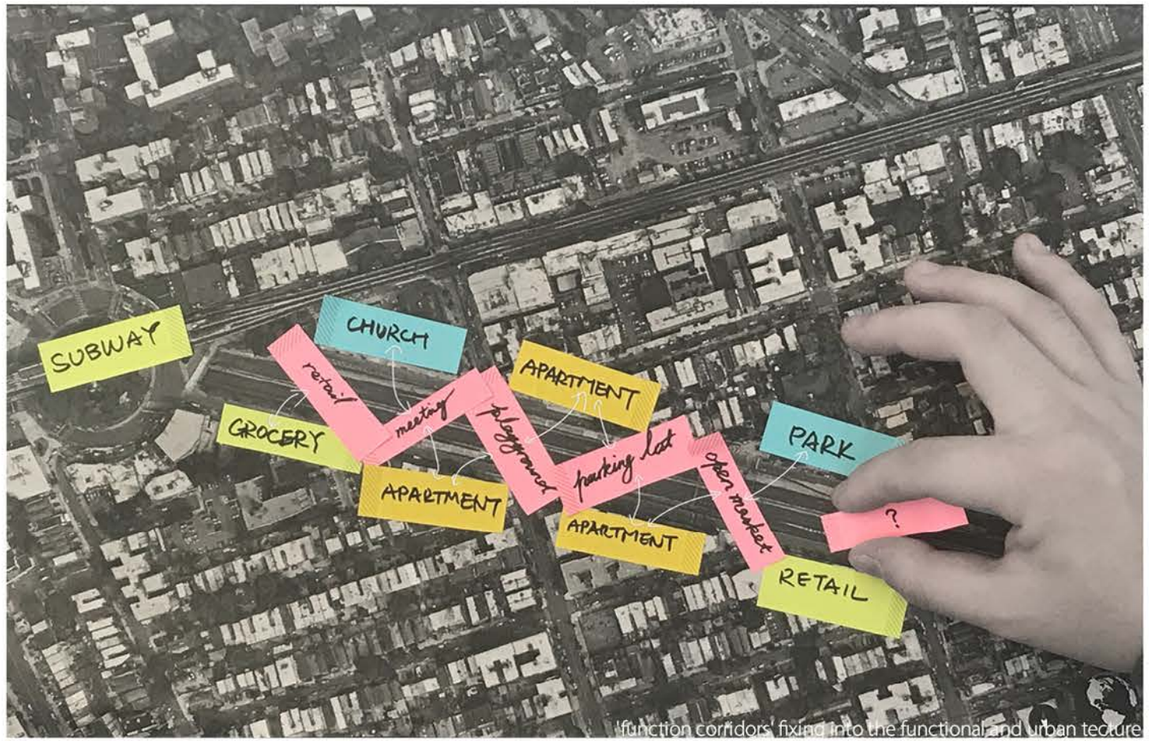


A-A' Section



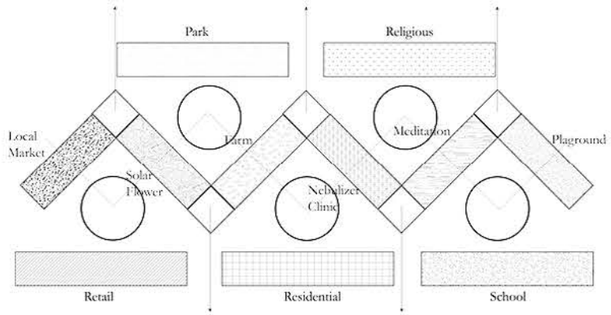
B-B' Section

C-C' Section



'function corridors' fixing into the functional and urban texture

PROGRAM: FOLDING CORRIDORS



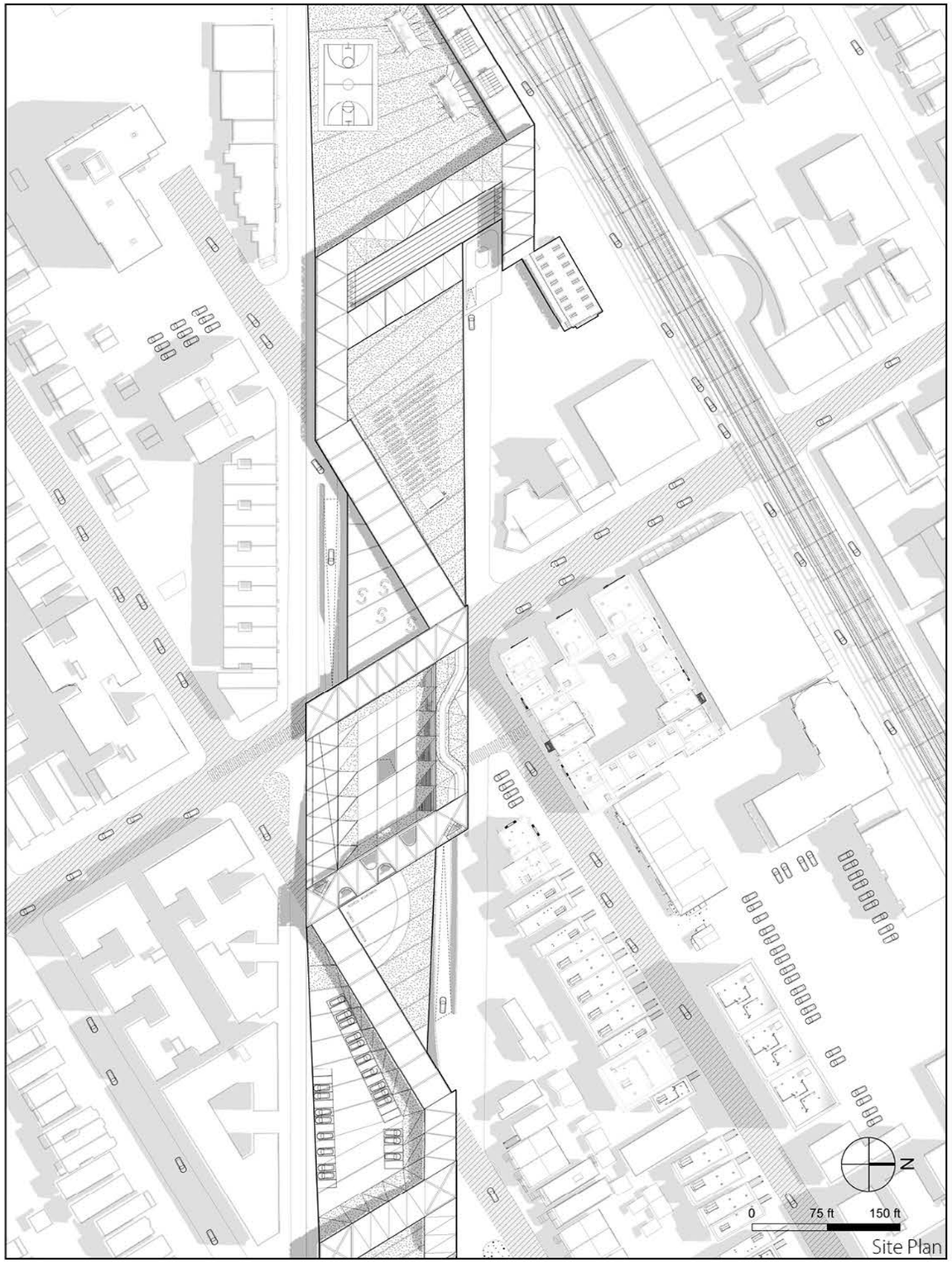
CORRIDORS OF FUNCTIONS

Instead of straight streets with mixed traffic, folded streets are implanted to create pedestrial streets. The perspectives are therefore refrected along the angles, strenghthening the sense of interest. The zigzagging shape fits into the urban tissue of Bronx, as well as complementing the streets interrupted by the Cross Bronx Expressway. The new streets consequently become corridors acrossing the expressway. The functions of the corridors are also designed to make perfect complements to the community. Apart from the corridors, as part of space strategy, courtyards enclosed by the corridors are utilized to accommodate additional activities, simultaneously adding vitality to the corridors in terms of both function and space.

1.Continuous Street View

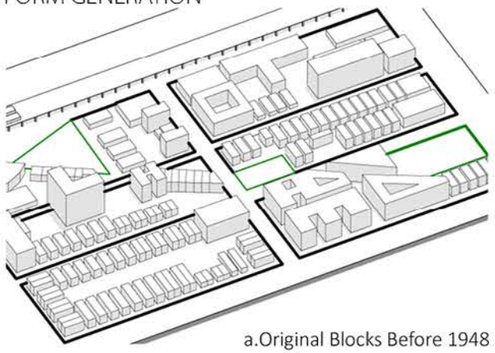
2.Folding the Street View

3.Remolding the Street View

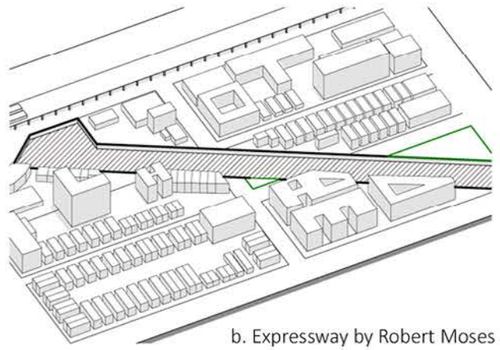


Site Plan

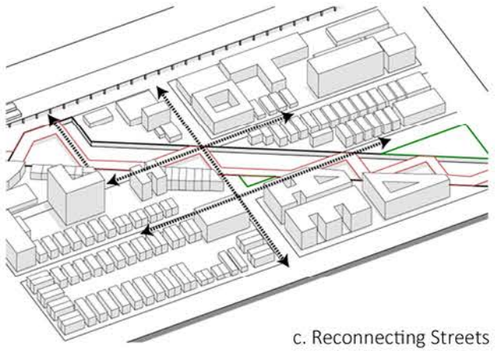
FORM GENERATION



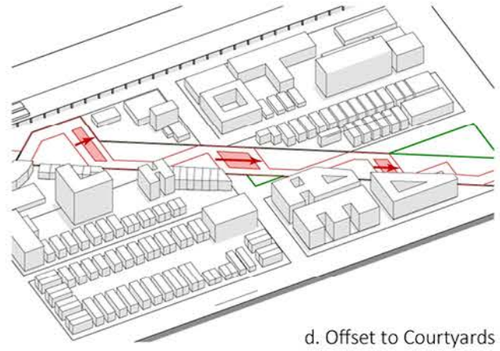
a.Original Blocks Before 1948



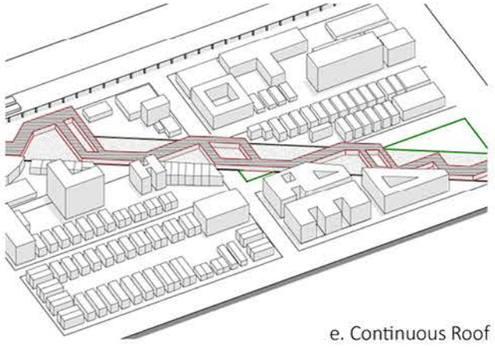
b. Expressway by Robert Moses



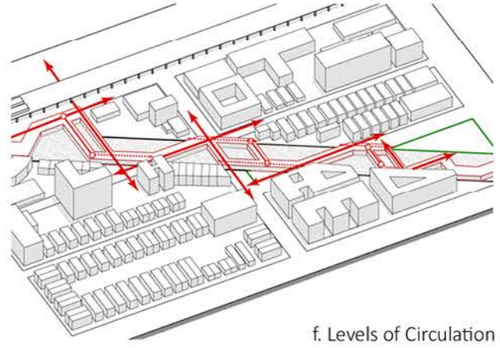
c. Reconnecting Streets



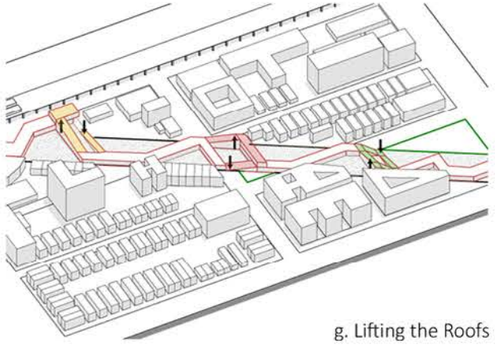
d. Offset to Courtyards



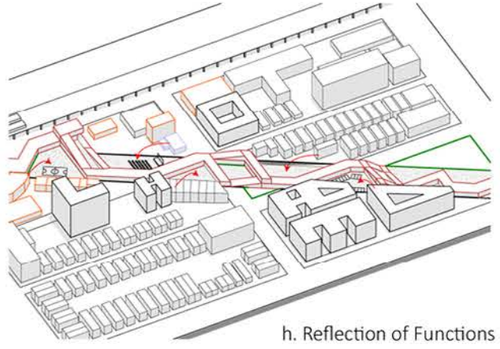
e. Continuous Roof



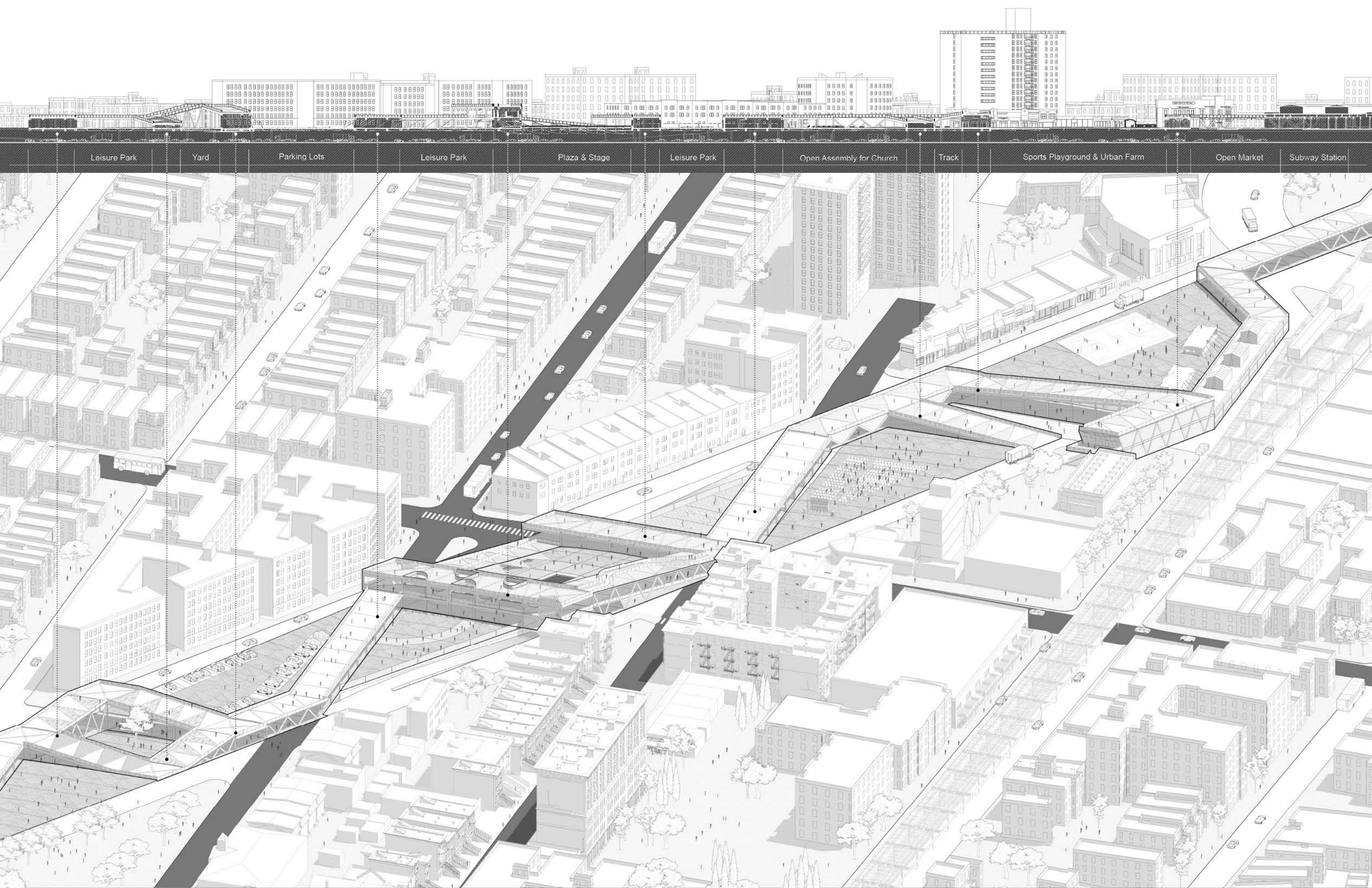
f. Levels of Circulation



g. Lifting the Roofs



h. Reflection of Functions


Leisure Park
Yard
Parking Lots
Leisure Park
Plaza & Stage
Leisure Park
Open Assembly for Church
Track
Sports Playground & Urban Farm
Open Market
Subway Station

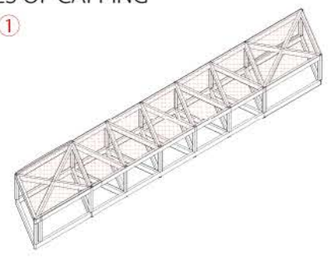
CORRIDORS

FOR CIRCULATION AND MORE

Structural Plan

TYPES OF CAPPING

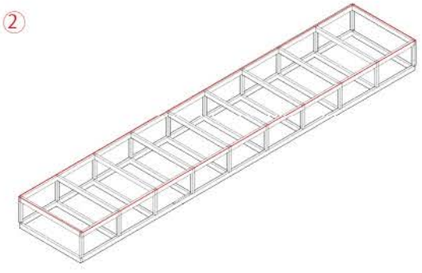
①



Truss Connection

Main span structure connecting the two sides of the expressway.

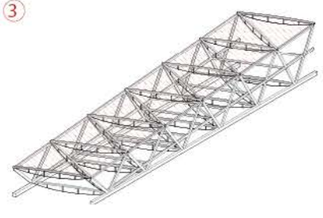
②



Truss Corridor

Main span structure connecting the courtyards above expressway.

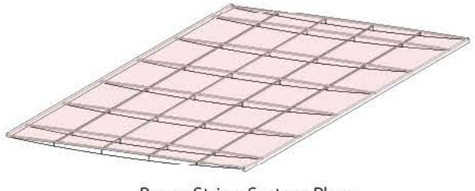
③



Beam-String System Corridor

A skeleton of corridor with a big slope, for lesiure and passing.

④

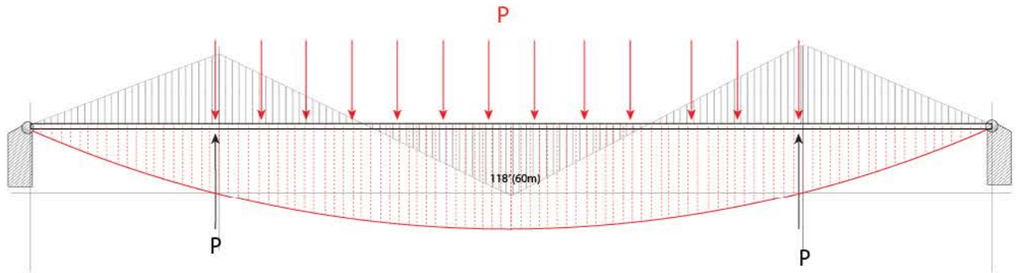


Beam-String System Plaza

A skeleton of ground with a slight slope, for planting grass or paving.

STRUCTURAL ANALYSIS

①



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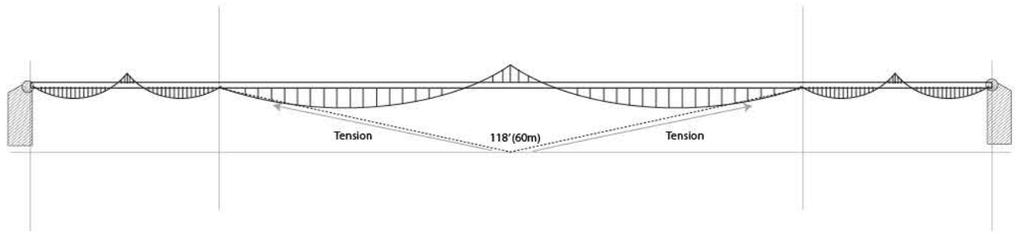
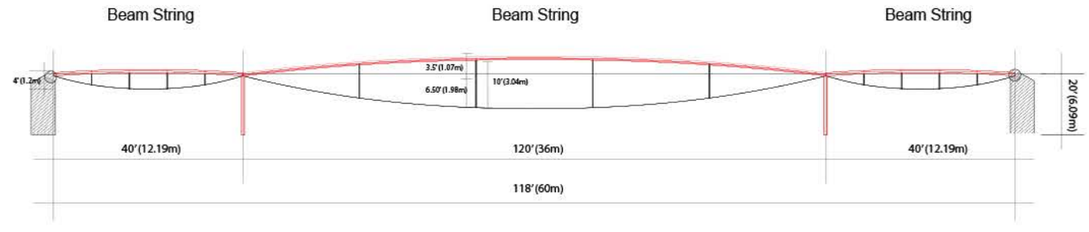
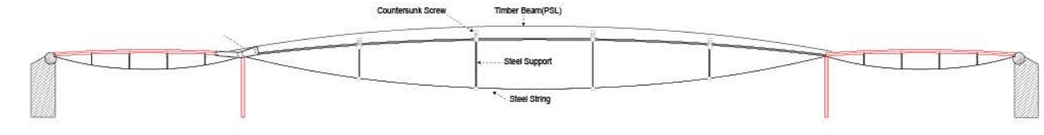


③

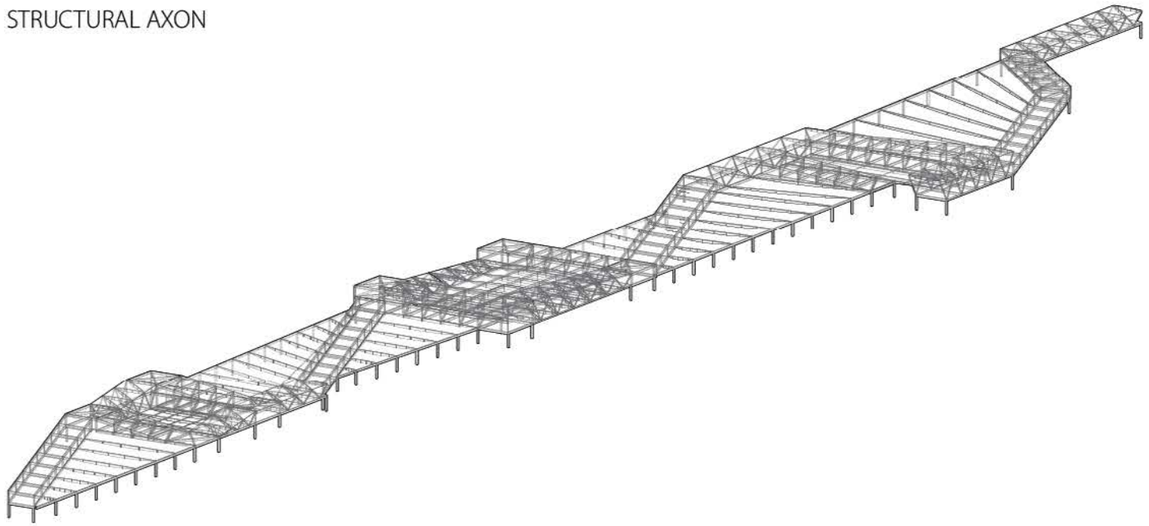
④

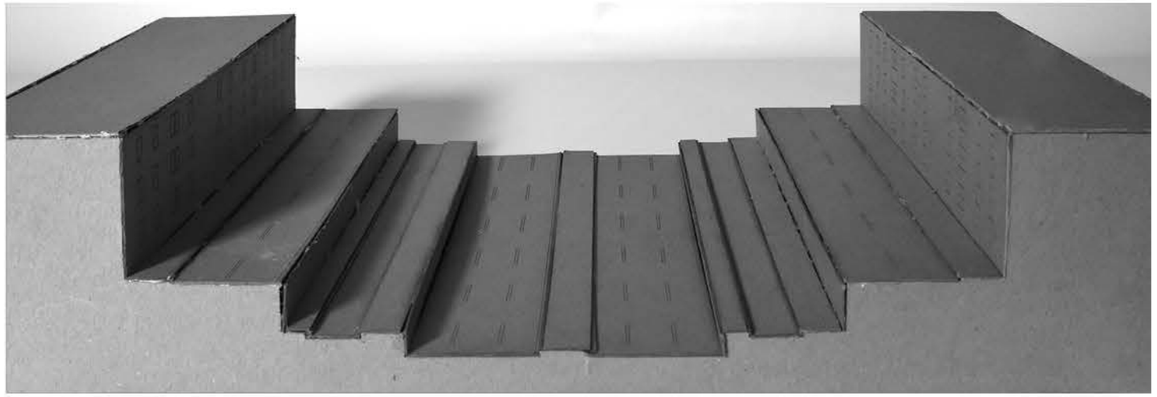


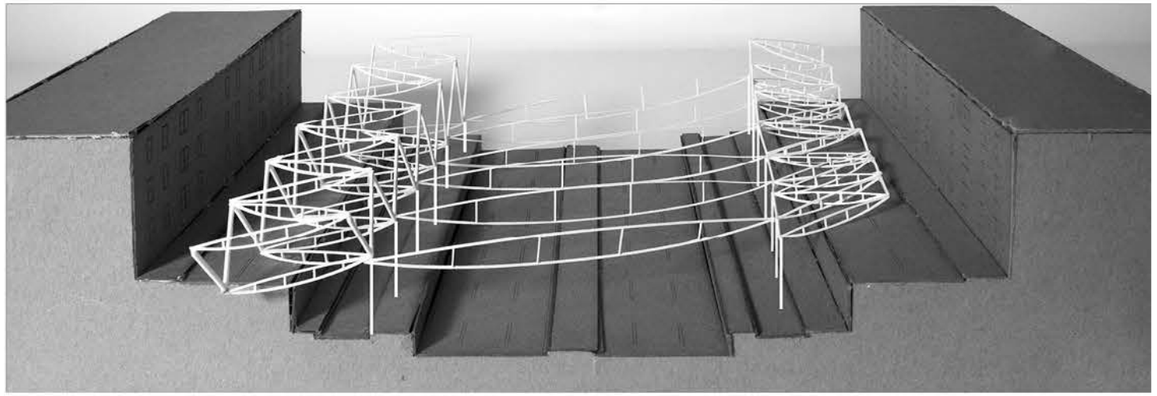
⑤



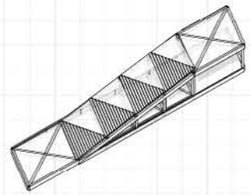
STRUCTURAL AXON



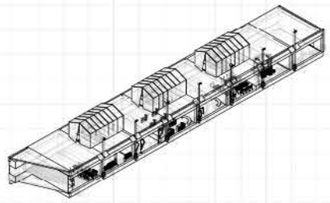




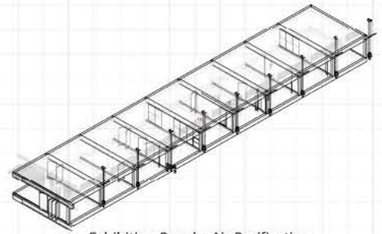
CORRIDOR PROTOTYPES



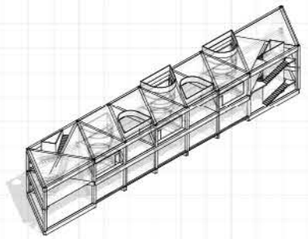
① Leisure Stairs
Truss Connection



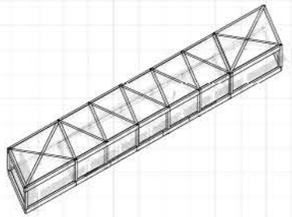
② Greenhouse+Air Purification
Truss Corridor



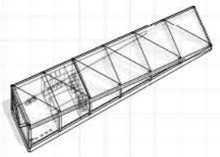
② Exhibition Panels+Air Purification
Truss Corridor



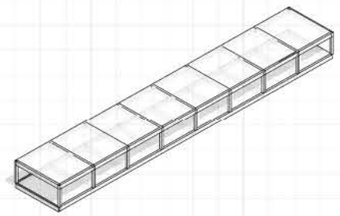
① Vertical Circulation+Lounge
Truss Connection



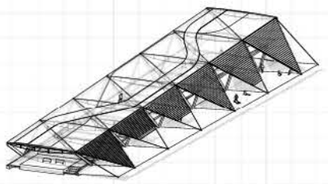
① Footbridge
Truss Connection



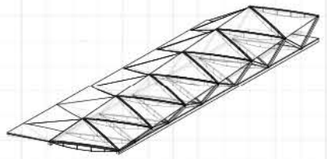
① Restroom+Shop
Truss Connection



② Passageway
Truss Corridor

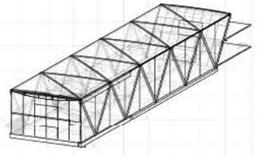


③ Roof Path+Sun Baffle
Beam-String System Corridor

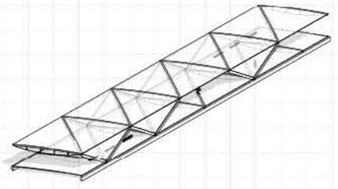


③ Leisure Stairs
Beam-String System Corridor

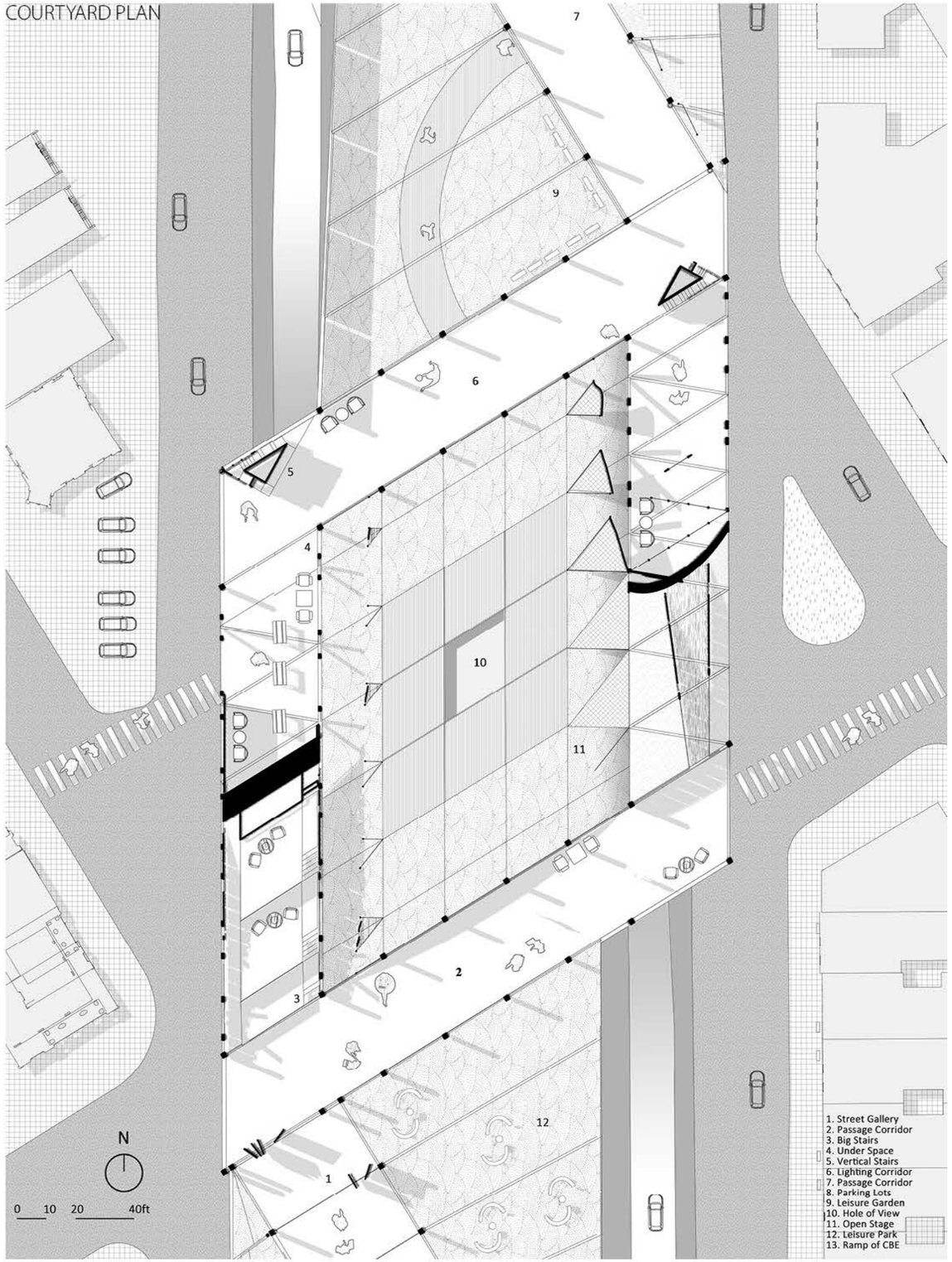
③ Rest pavilion
Beam-String System Corridor



③ Museum
Beam-String System Corridor



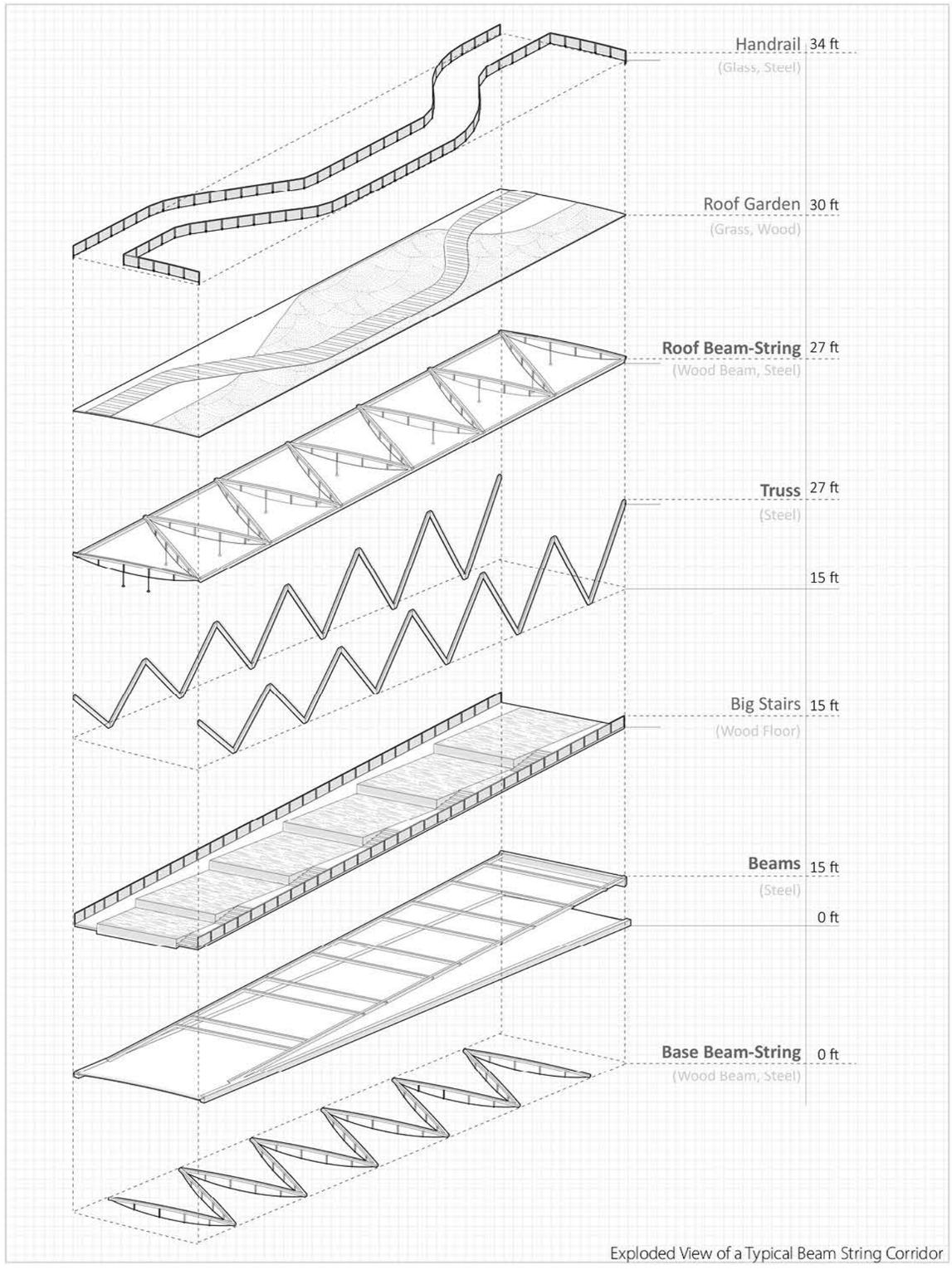
③ Rest pavilion
Beam-String System Corridor



Courtyard A: Retail Plaza

Courtyard B: Playground

Courtyard C: Interact with Expressway Entrance



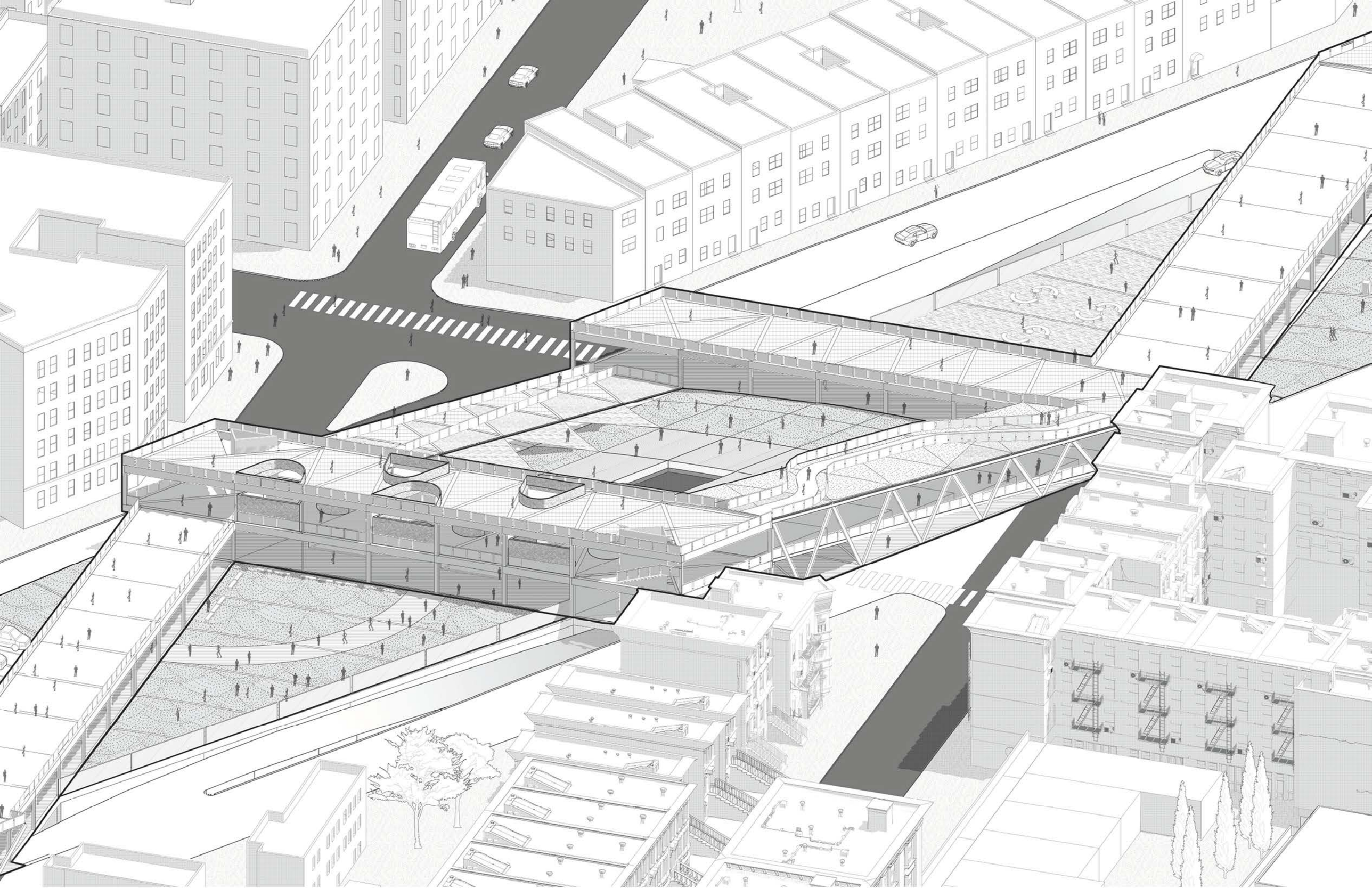
Exploded View of a Typical Beam String Corridor

ROOF GARDEN

The roof garden continuous experience all along the expressway connecting to the subway station, as well as creating a new landscape in the community. It forms a new pedestrial corridor along and across the expressway.

COURTYARD

The courtyard enclosed by the structures is also connected to the surroundings through view and walkability. In contrast, the design turn the scale of the road into pedestrian-led street.

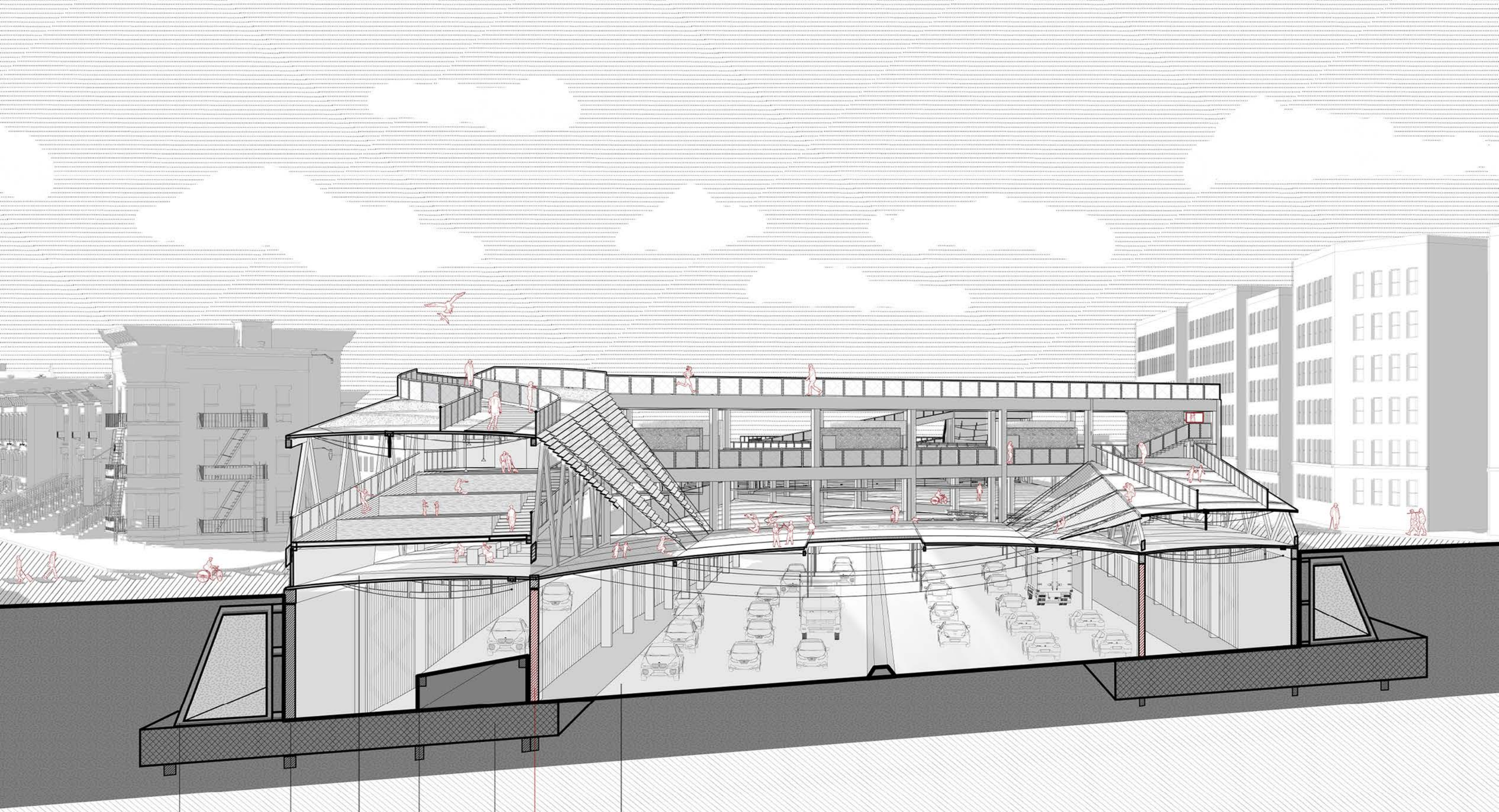


INTERFACE

The angle of the grid is rotated so that the circulations are connected. Pedestrians can have easy access to the structure and can easily go through it.

CORRIDOR

The ground space od the corridors are designed with versatility and could be used for various activities.



COURTYARD SECTION PERSPECTIVE

the Cross Bronx Expressway is divided into three parts in most cases so that columns could stand on the side of slope to reduce the span of capping structure. Roofs of the corridor structures are supported by the beam string structure systerm. The whole space varies consequently in heights. The availability of the corridors allow the courtyard to become a crucial connection between both sides of the expressway.

02

DIDACTIC ECOLOGICAL RESILLIENCE

Agro-forestation of Closed Schools in Puerto Rico

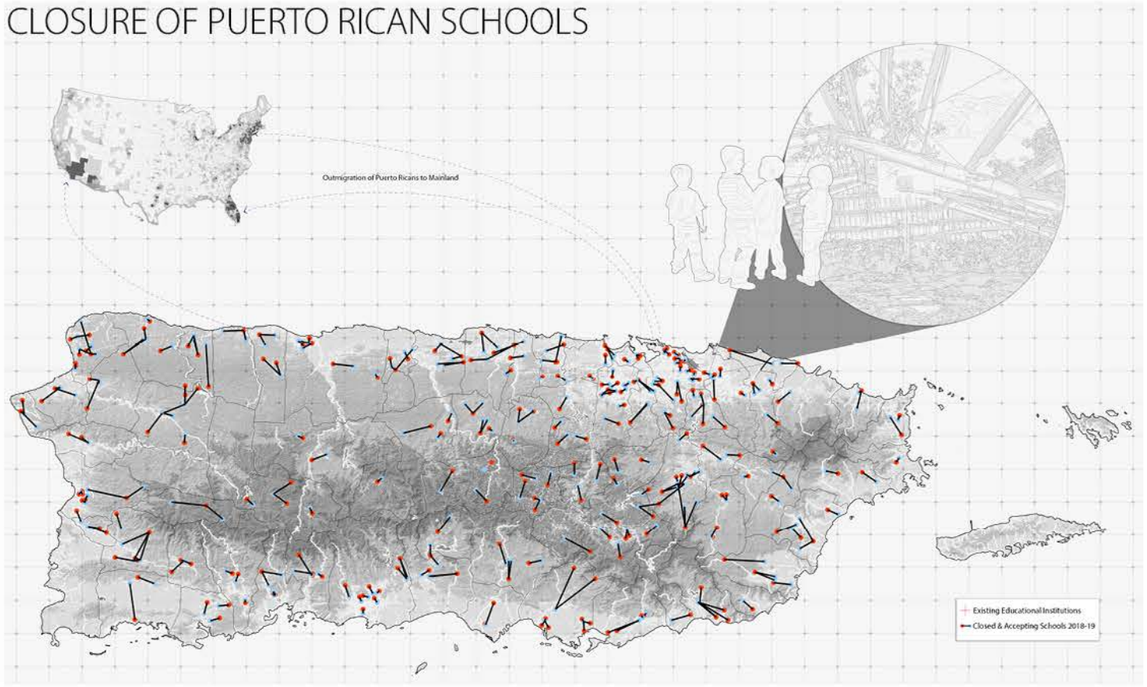
Location: Lares, Puerto Rico
Advanced VI Studio, Spring 2022

Instructor: Justin Garrett MOORE, Adjunct Associate Professor, jgm35@columbia.edu
Oscar OLIVER-DIDIER, Adjunct Associate Professor, ojo2004@columbia.edu
Andrew J. PADILLA, Adjunct Lecturer, ajp2278@columbia.edu

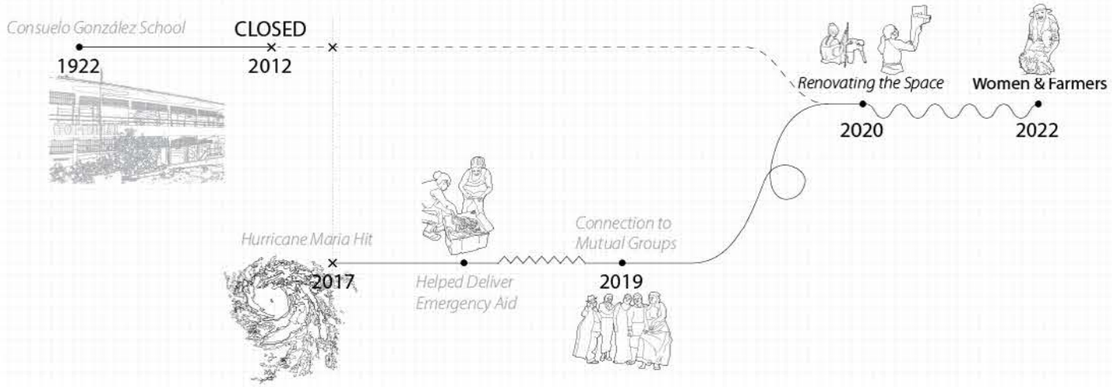
"Nature is reclaiming the classrooms... which closed right before the hurricanes, sits in an almost monastic silence; the only sounds the songs of birds in a red flamboyant tree in the courtyard and the occasional blast of reggaeton from a passing car."

- In The Disappearing Schools of Puerto Rico, by Jonathan M. Katz

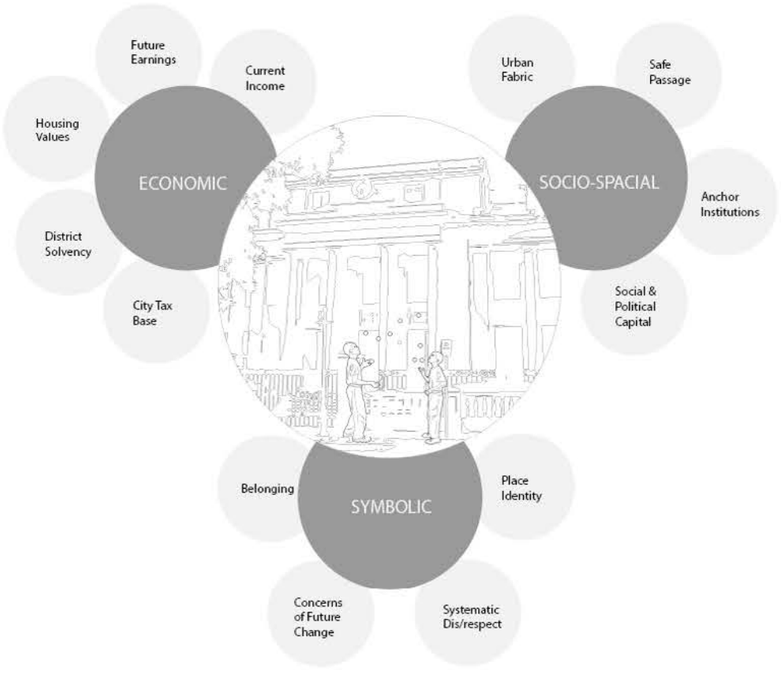
CLOSURE OF PUERTO RICAN SCHOOLS



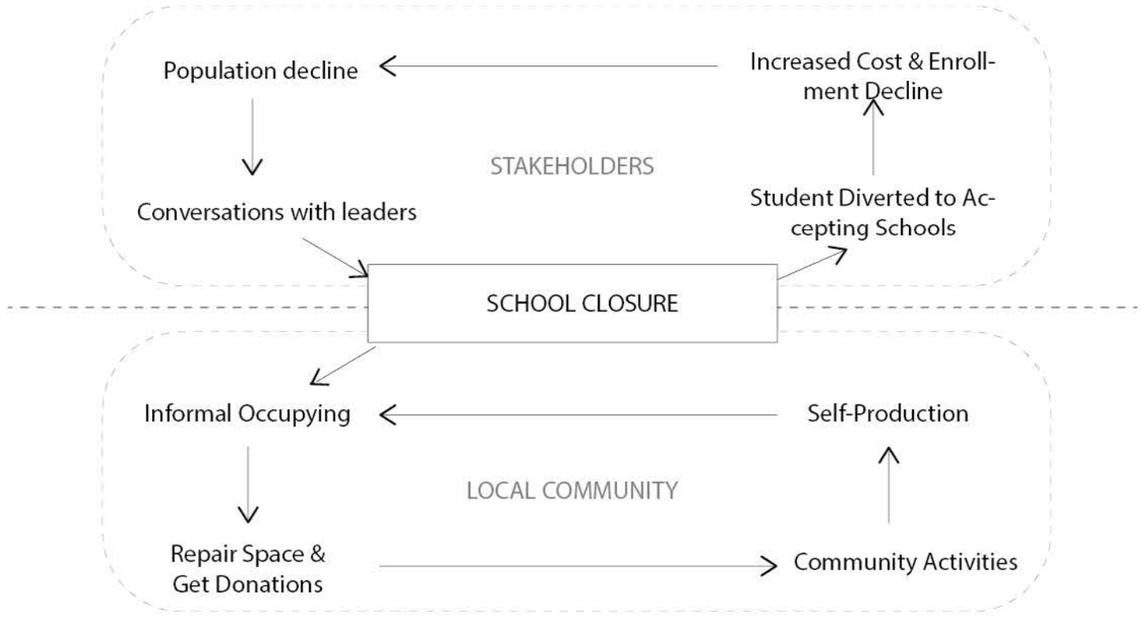
EXPERIENCE OF LARES MUTUAL CENTER



SOCIAL-SPACIAL STRUCTURE OF PUBLIC SCHOOLS



DECISION-MAKING CYCLES OF STAKEHOLDERS AND COMMUNITY

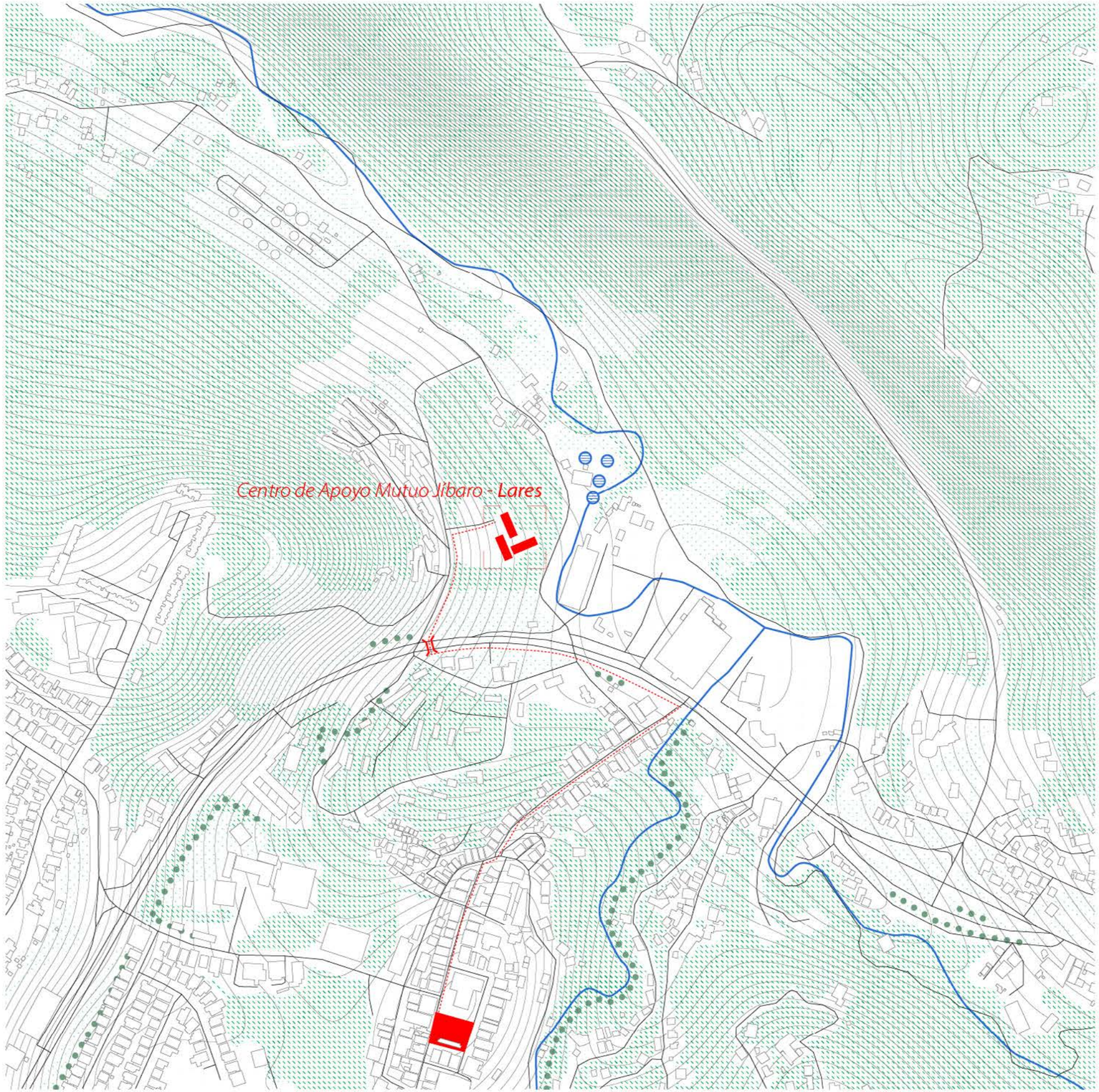


INSUFFICIENT REUSE OF SCHOOL BUILDING

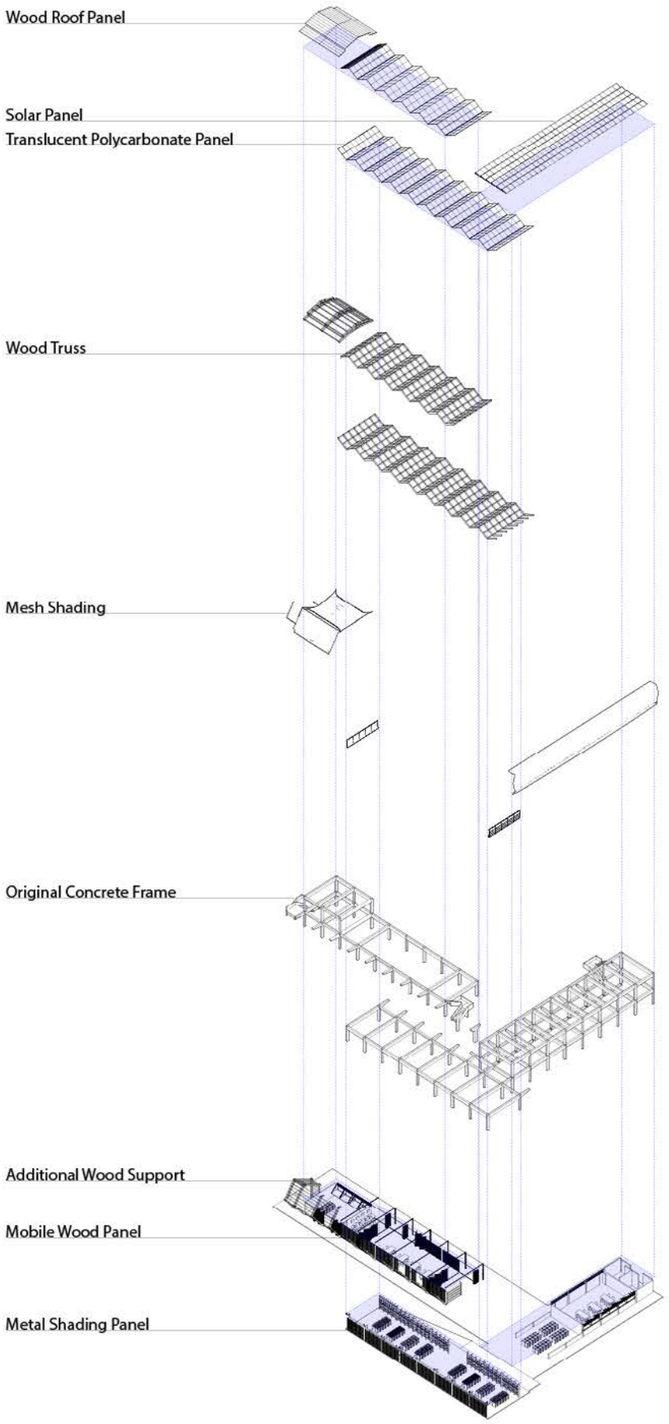
The community, however, didn't participate in the decision-making process. Instead, they tried to build their own cycle, by holding activities and made products, they gradually organized the space on their own. They produce food and other products, and make their presence at the space more stable.

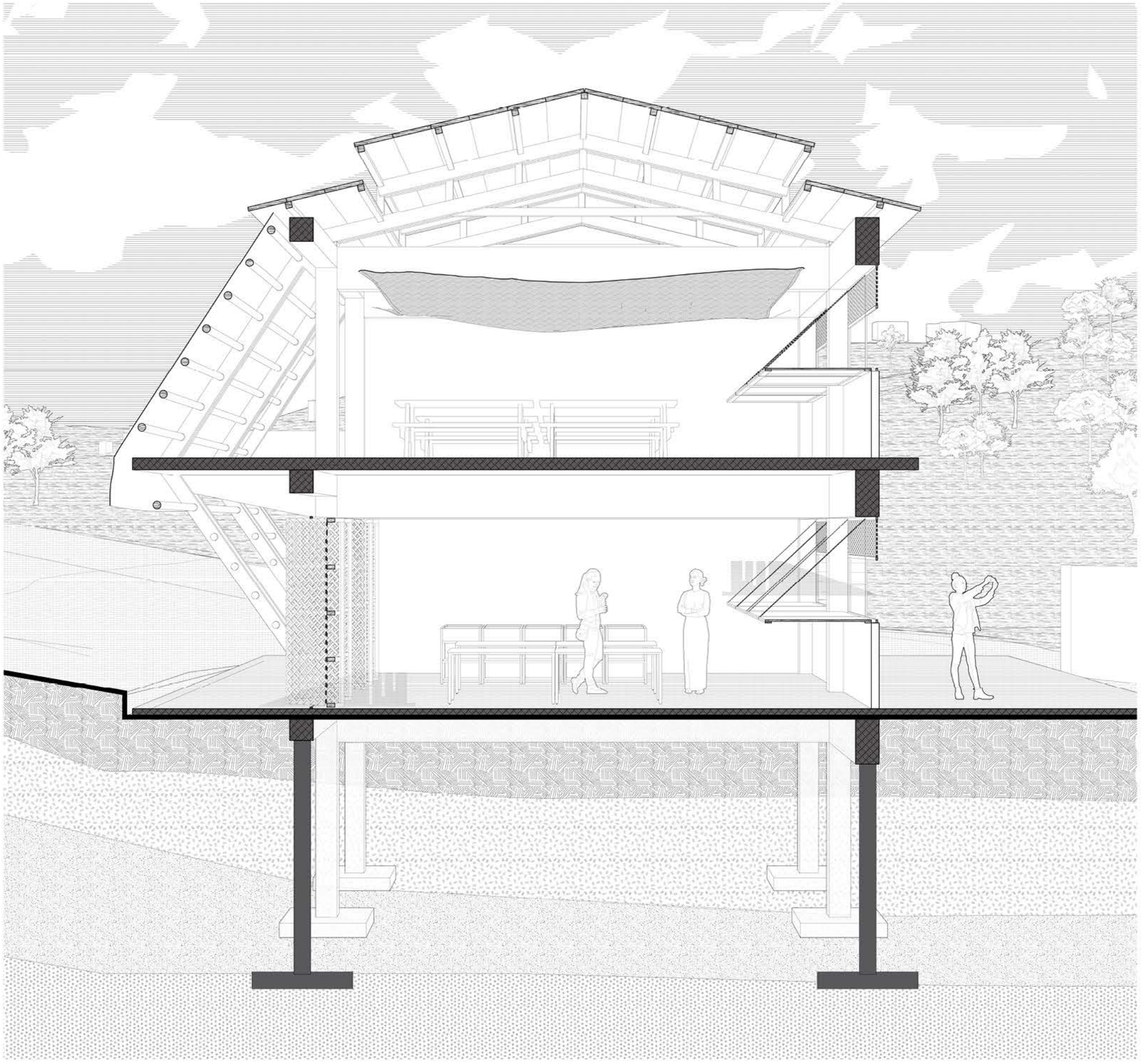
But there are still some problems. The first one is that they only have a small land for farming, and it doesn't produce much food. So the people have only about 25% of self-produced food. They still have to buy food from supermarkets.

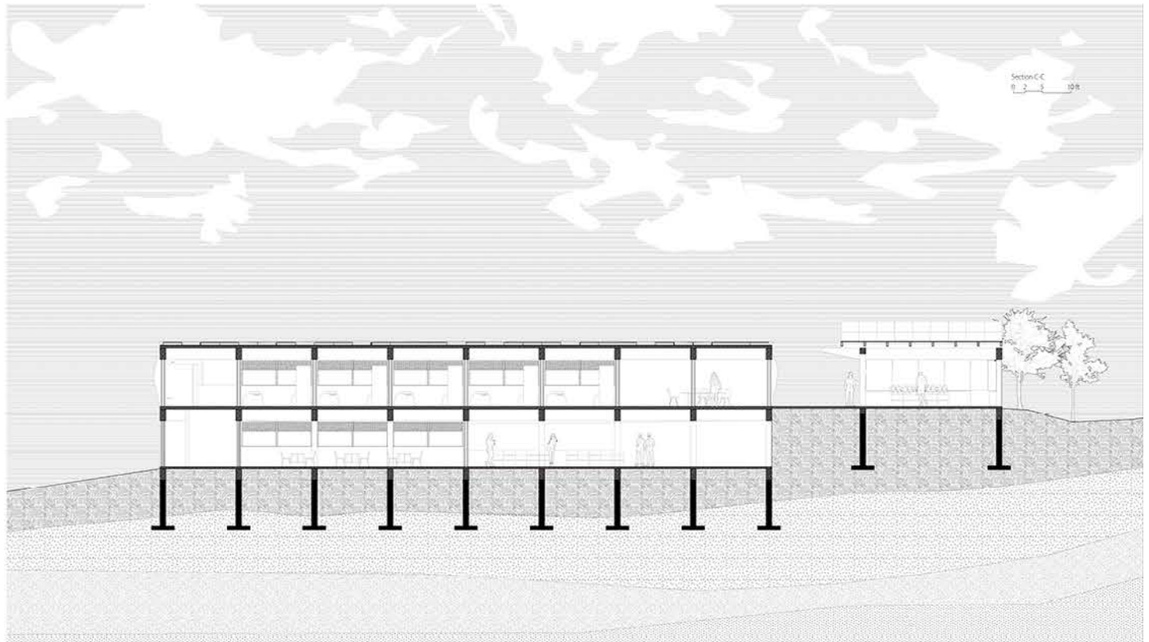
And the original school space is designed for 300 students in 20 classrooms. It isn't an appropriate space for community activities, when there's a group of people gathering.



RENOVATION PLAN







Exchange Center Section

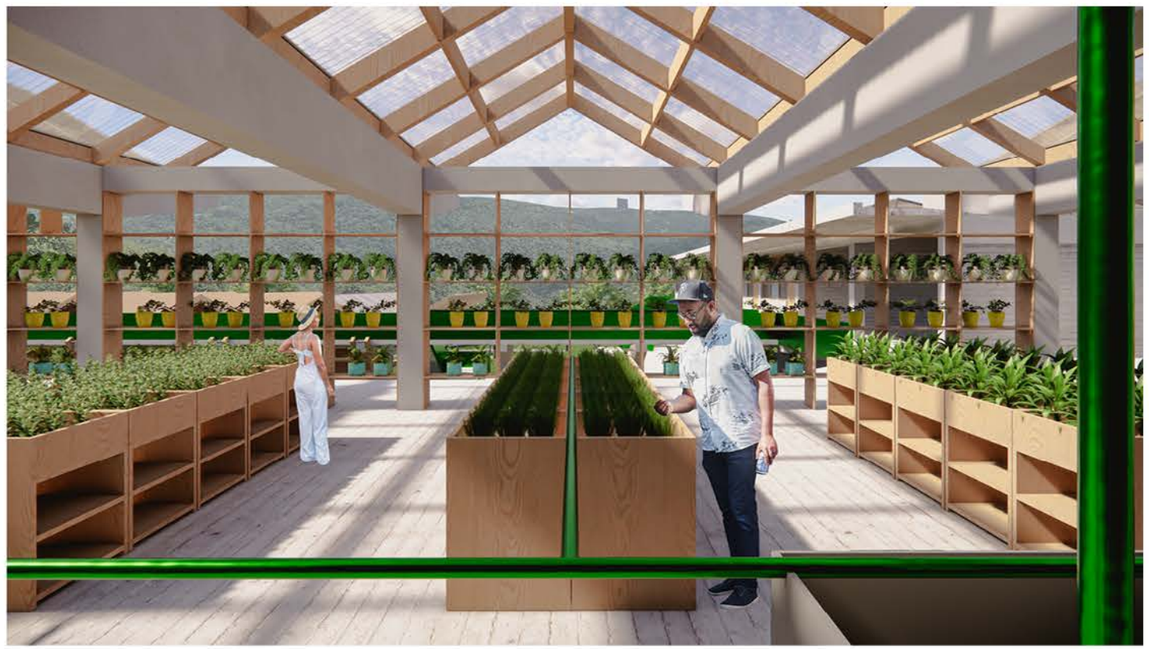
Entrance of Exchange Center

EXCHANGE CENTER

The exchange center provides accommodation for possible people exchange and produce exchange. People from different communities could come and join in the events. The accommodation unites could also act as studios for local artists, or airbnb, or shelter from disasters. The exchange center also includes a marketplace where people can sell produce and make income.

The exchange center is also a part of the exchange network, through which local people could exchange food with other communities. It also act as an exhibition towards the town as it is closest to the expressway.

Production Center Section



Interior of Production Center

PRODUCTION CENTER

The production center accommodates the indoor plantings, and aquaponics system. A new roof is applied to transform the space into a greenhouse. The building is open on the facade, and mobile metal frames and some mesh provides shading. The V shape of the roof also helped water collection for the indoor planting.

A new irrigation system collects rainwater from roof and ground to water tank, and down to the farmlands. the agricultural system is expected to provide water supply for an aquaponics system.

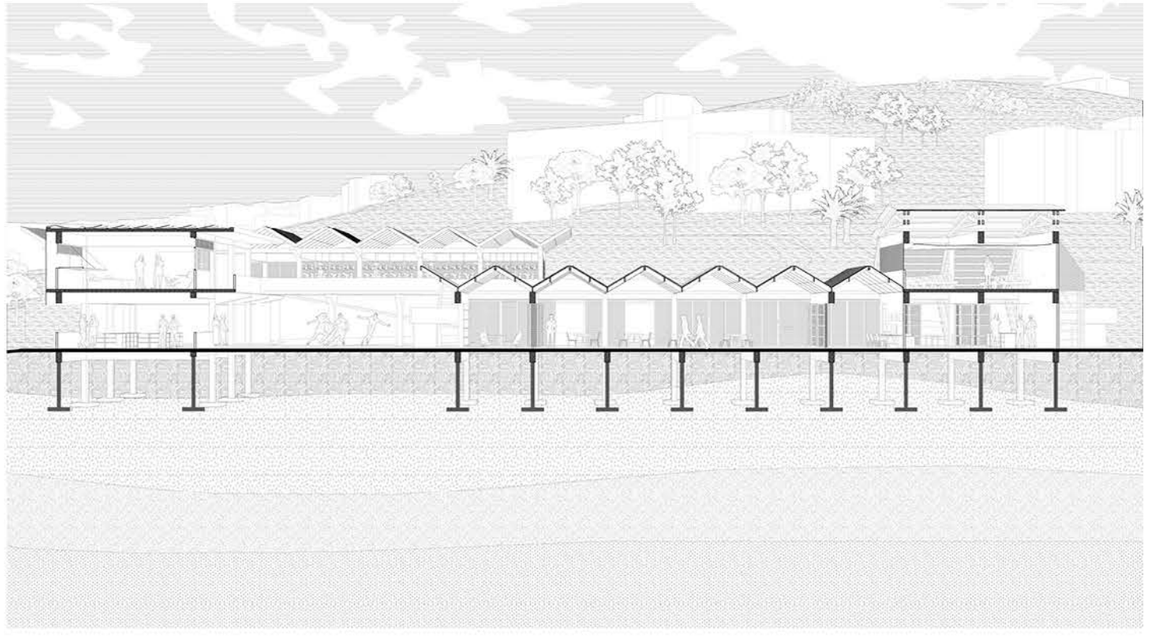
Activity Center Section

Interior of Activity Center

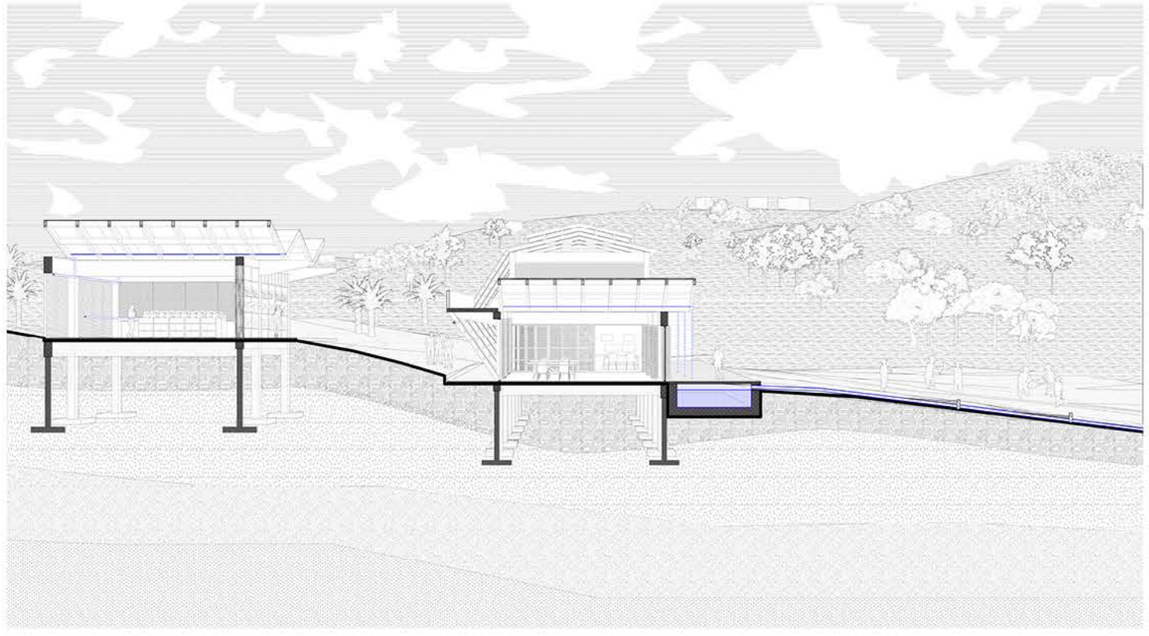
ACTIVITY CENTER

The activity center accommodates the main activity hall, the activity room and the community kitchen, and is designed for major community activities, and a public living room. Defined by a new roof with wood structure to release the height of space, wood frame shading and mobile screen door panels, and mesh. he mobile panels make the activity space more open to the surrounding environment, creating a more intimate relationship between human and the nature, and between the interior and exterior, so the activity space could be all open and expanded into the environment.

The interior of the main multipurpose hall is also versatile as it could be divided into several spaces by the screen panels, and could also be rejoined into a larger activity room in case of large meetings and events. In this case the original school may continue to accommodate teaching activities through the exchange network, like people from different communities could exchange ideas culture, knowledge, or experience and knowledge on agriculture, or when there is no events, just used as small leisure spaces for a couple of friends.



Overview of New School



Irrigation Section

Interior and Exterior Activities

School and Farm

AGRO-FORESTATION OF SCHOOL

The projects creates a hybrid of school and farm, and a typological approach of reproducing school sppace through agro-forestation. The aim is to improve food sovereignty of the community through increased agricultural production, and provide cultural, social, economical and educational opportunities through exchange between mutual centers, or closed schools, all across Puerto Rico.

03

LAND BUOY

Eating Cycle on Mastic Beach

Location: Mastic Beach, NY
Advanced Architectural Design Studio, Summer 2021
Collaborator: Zhichen GONG
Instructor: Tei CARPENTER, Adjunct Associate Professor, tei@agency-agency.us

Witness the ocean giving us food and taking it away
Witness the sea receding to reveal the land and flooding it again
Witness the sea evaporating into rain and then falling into the land
Witness the cycle
Witness the connection

...

MASTIC BEACH: CENTER OF MARINE TOURISM

NATURAL RESOURCES vs LITTLE UTILITY

The Mastic Beach is a tranquil seashore community two hours away from the New York City. There is various kinds of marine animals, including fish, oyster and scallops, with different flavors, all around the mastic beach.

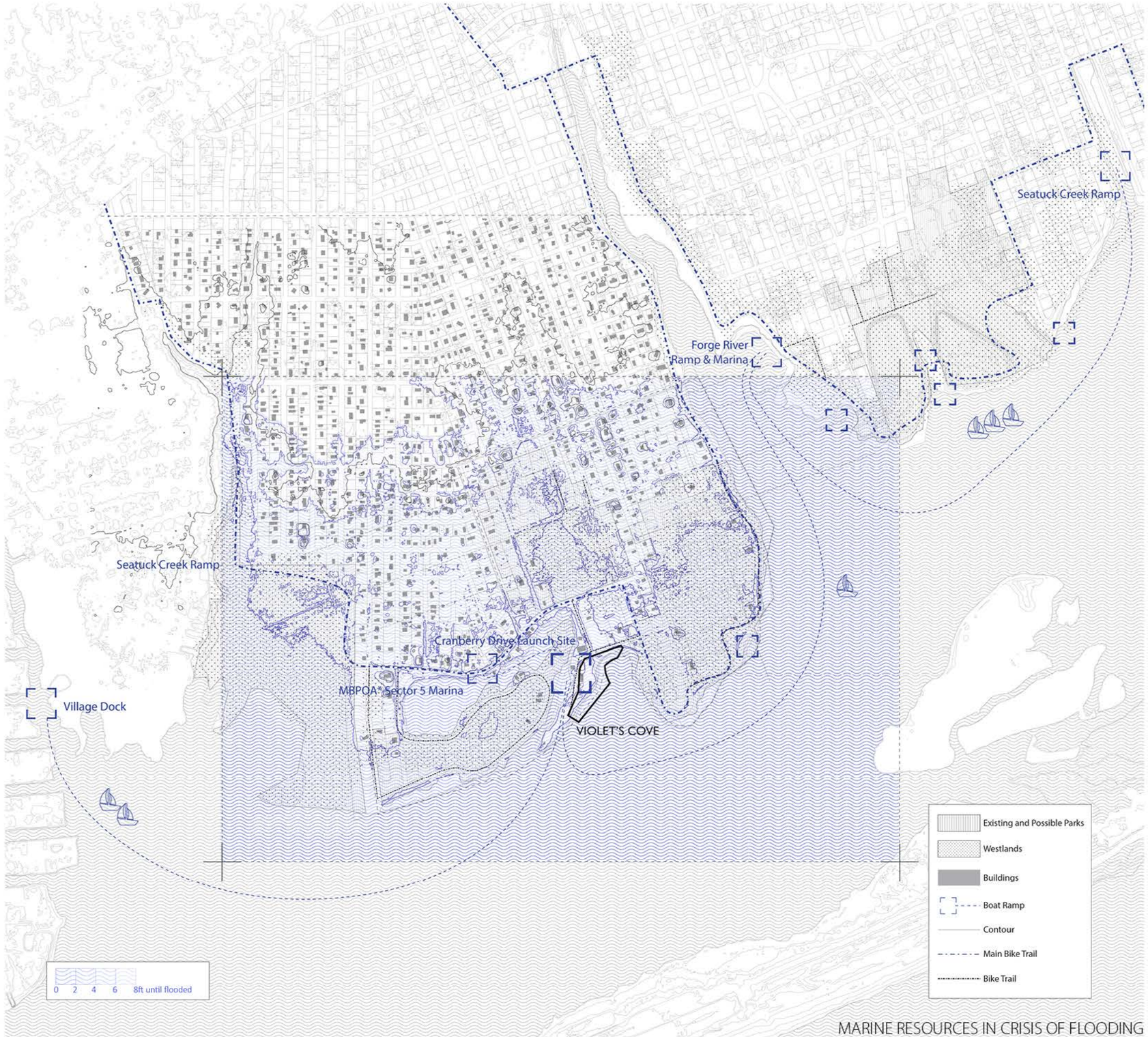
The violet's cove is surrounded by a series of wetlands, high marsh and intertidal marsh, existing and possible parks, boat ramps and marinas. There is also an suggested long bike trail along the seashore and passes near the Violet's cove. And the site is an important knot linking to all the resources.

However, the site provide little tourism infrustructure. In addition, the site appeared as a food desert after the only local restaurant collapsed.

DISASTER vs RESILIENCE

Although there are plenty of natural resources, the site has been long suffering from occasional flooding, which cause huge inconvenience. And the problem is to pertuate. In fact, the sea level is rising gradually, and is expected to inundate most of the lands of the Mastic beach in a few decades.

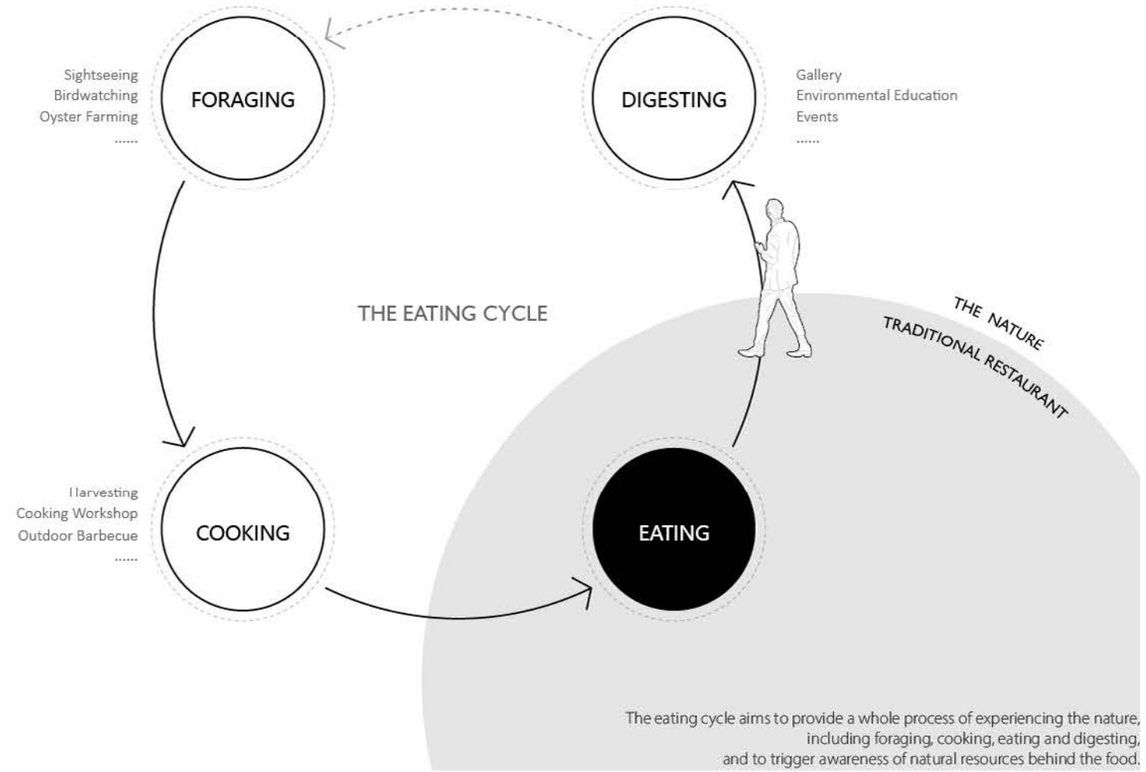
However, the community showed great power of cohesion and resilience. Despite all the problems, people in the Mastic Beach kept positive towards life. Something must be done to make a change....



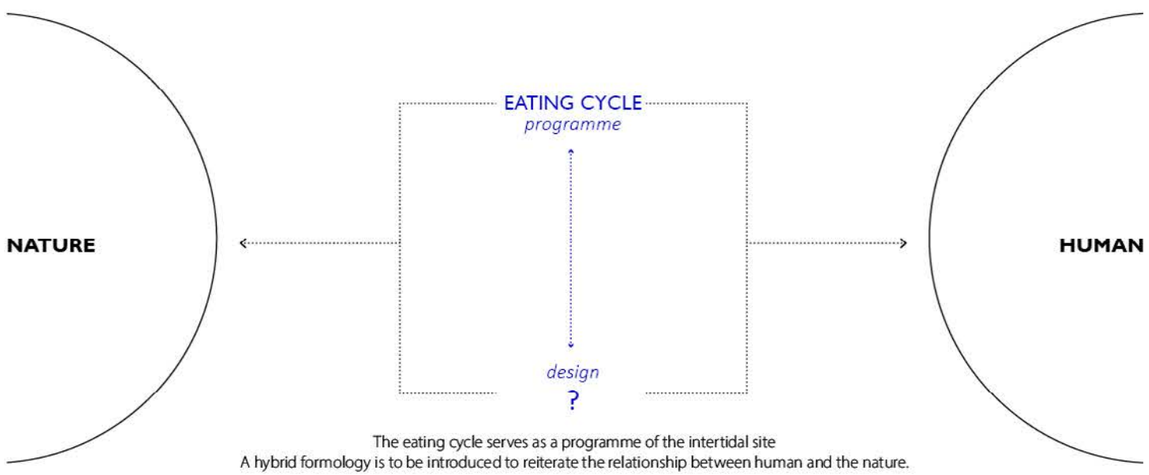
MARINE RESOURCES IN CRISIS OF FLOODING

EATING CYCLE

BUSINESS PLAN AND NEW ECOLOGY



The eating cycle aims to provide a whole process of experiencing the nature,
including foraging, cooking, eating and digesting,
and to trigger awareness of natural resources behind the food.

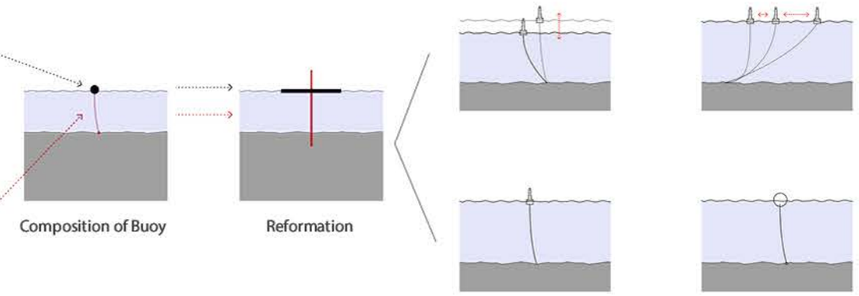


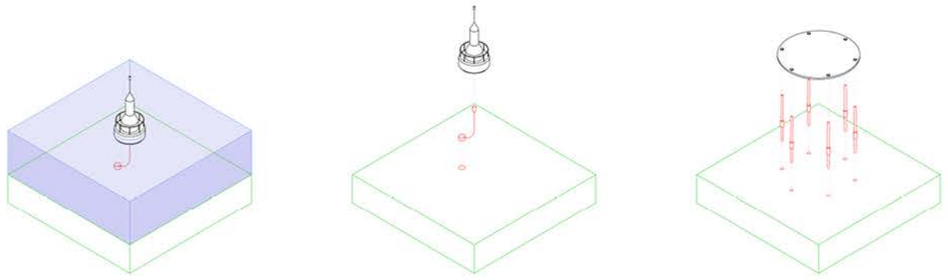
The eating cycle serves as a programme of the intertidal site
A hybrid formology is to be introduced to reiterate the relationship between human and the nature.

IN-BETWEEN FORM: LAND BUOY

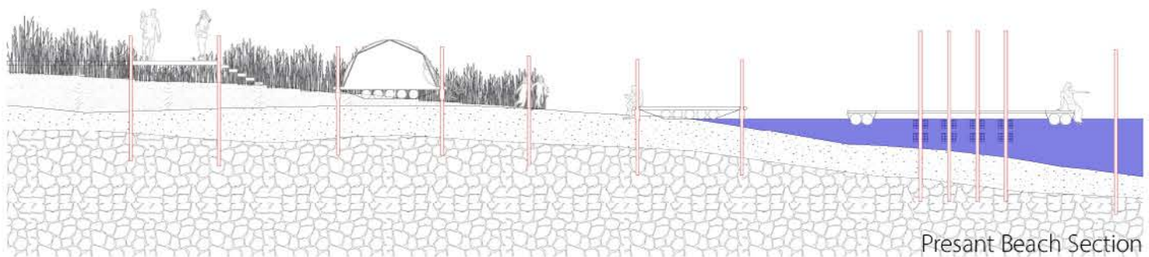
Elevated Local House

Oyster Farming Pillars

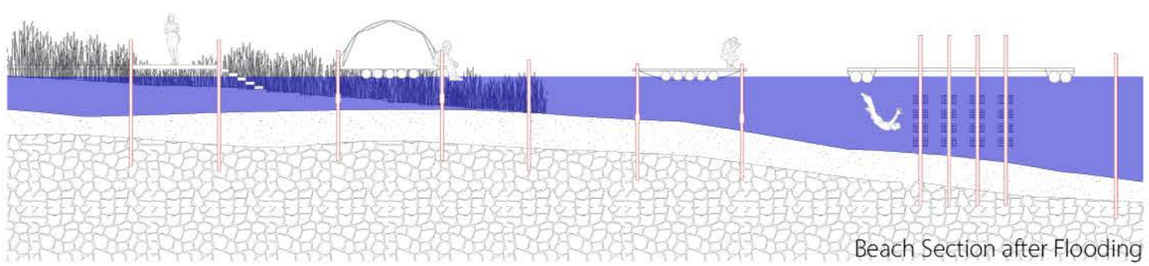




BEACH PLANNING

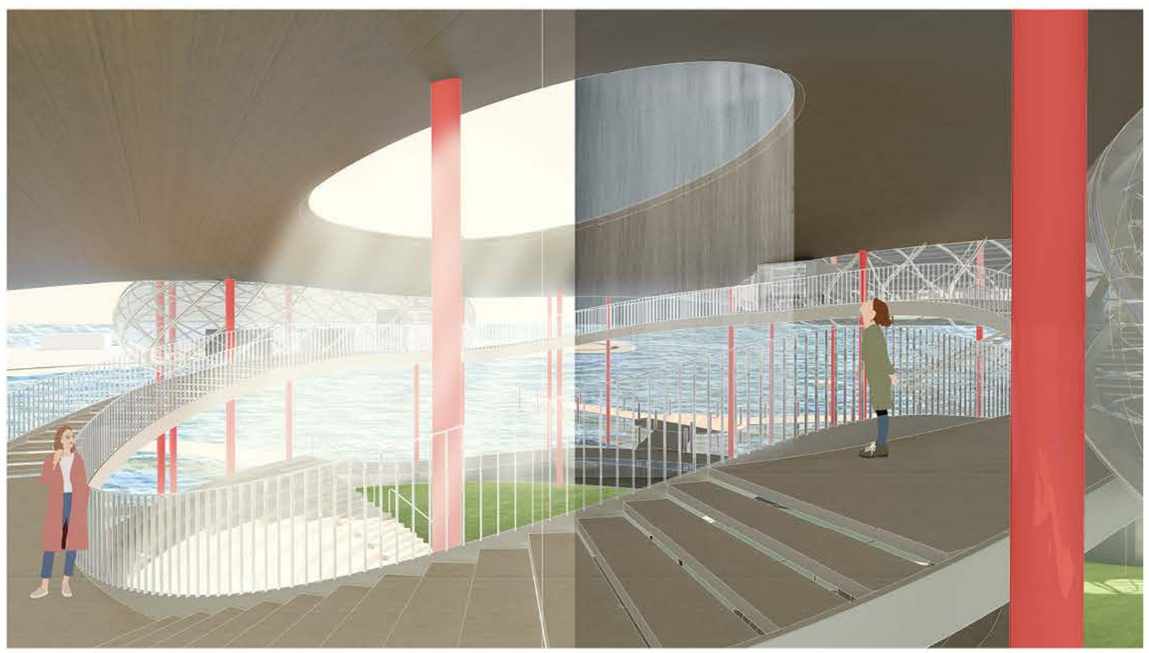


Presant Beach Section



Beach Section after Flooding

01 FORAGING
Exploring the nature resources

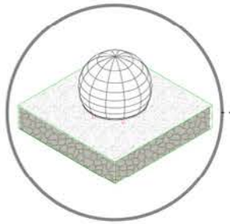


02 COOKING
Learning more about the species through cooking sections

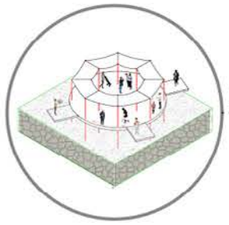
03 EATING
Enjoying the local food at a variety of places

04 DIGESTING
Further experiencing the site through marine activities

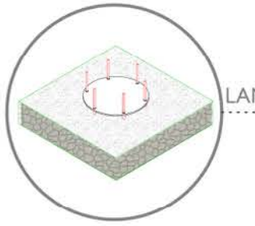
LAND BUOYS AROUND THE CYCLE



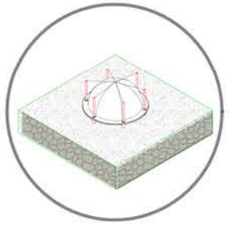
GREENHOUSE BUOY



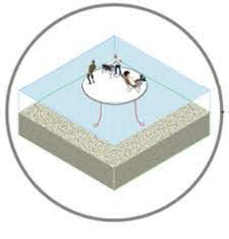
BROADWAY NODE BUOY



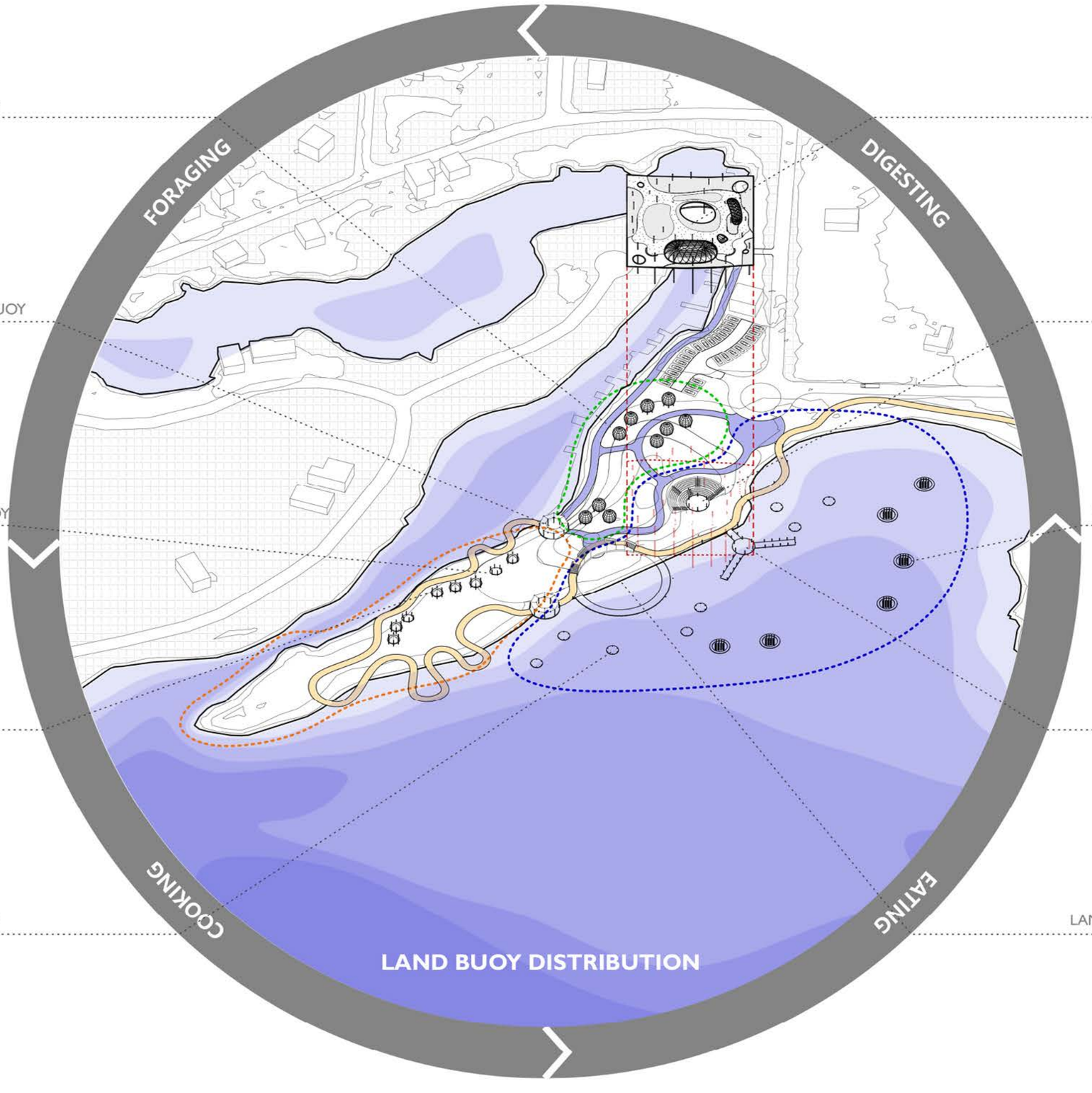
LAND PLATFORM BUOY



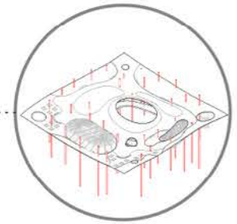
CAMP BUOY



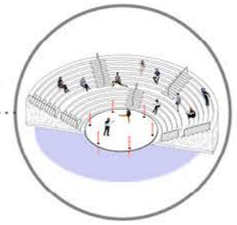
SEA PLATFORM BUOY



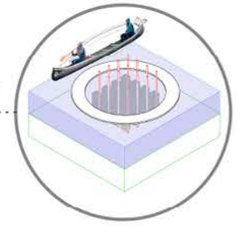
COMPLEX BUOY



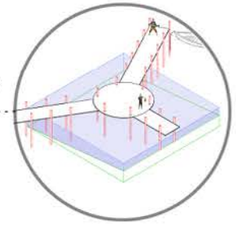
THEATER BUOY



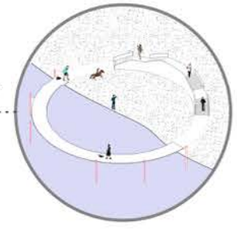
OYSTER FARM BUOY



MARINA BUOY



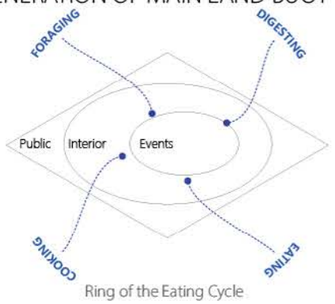
LAND-SEA PLAZA BUOY



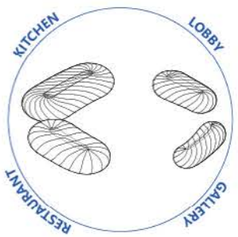
LAND BUOY

HYBRID FORM BETWEEN LAND AND SEA

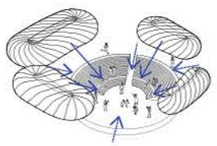
GENERATION OF MAIN LAND BUOY

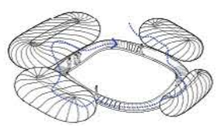


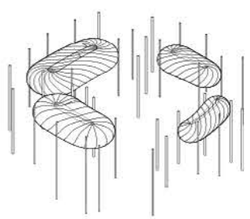
Ring of the Eating Cycle

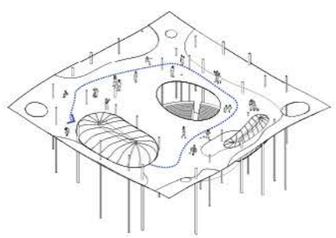


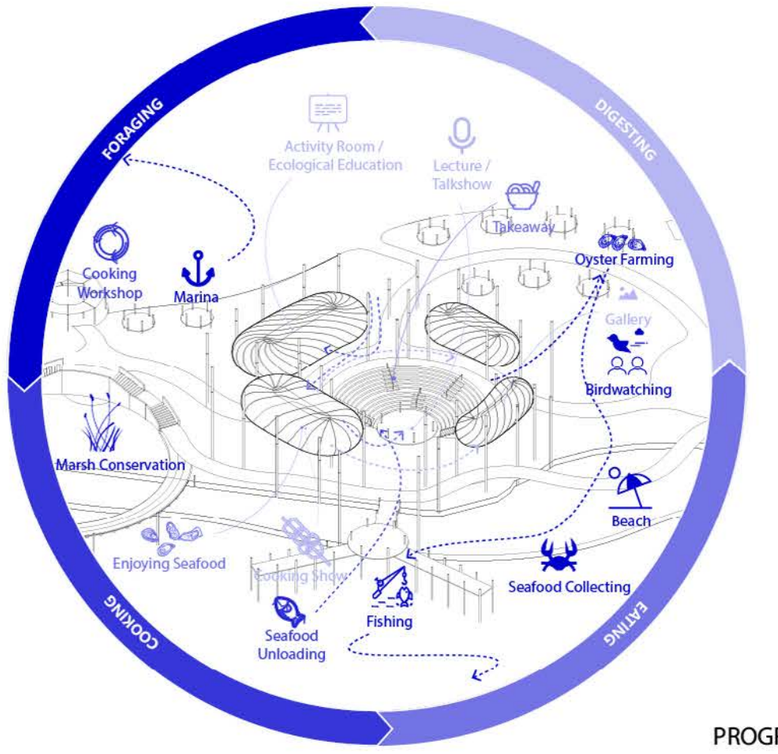
Four Modules


Central Connection

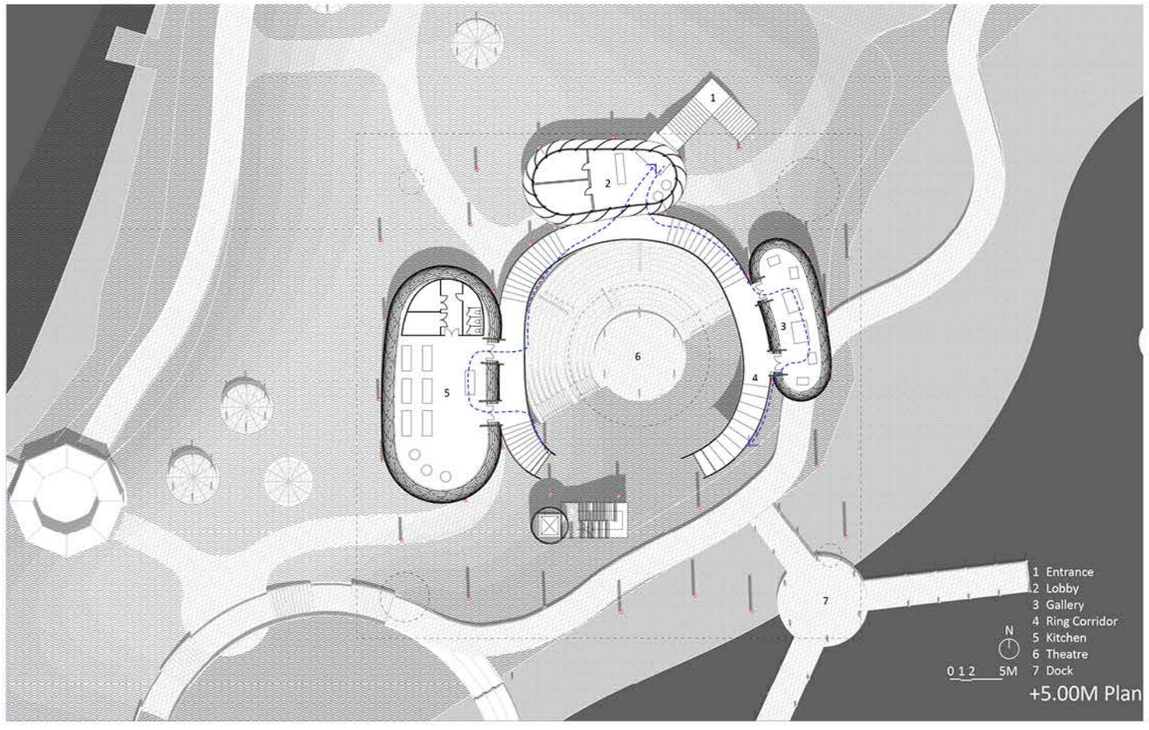

Circulation

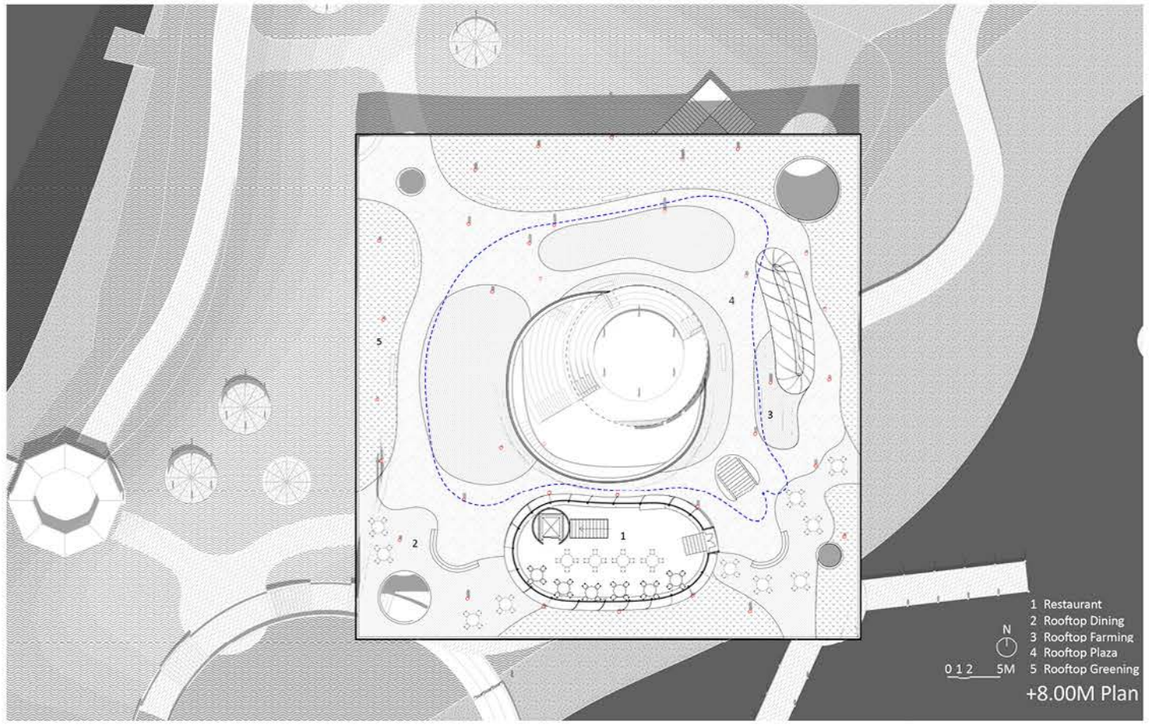

Support

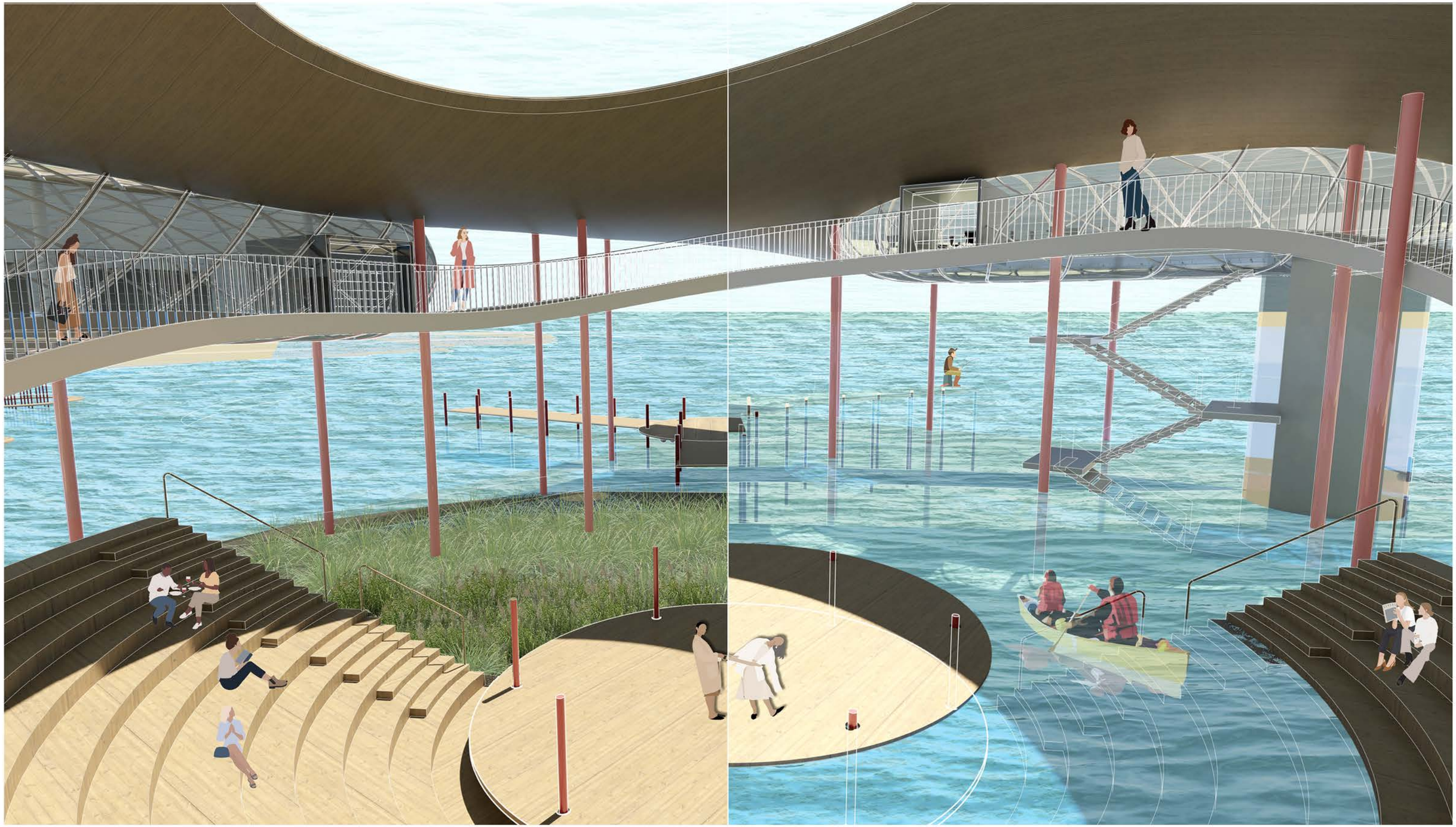

Roof of Events



PROGRAM OF EVENTS







ADAPTING TO FLOODING

The central theater is to float when sea level rise and continue to accommodate events also to trigger awareness of sea level rise and climate change.

[REACTION]

[WRITINGS]

TOWARDS ARCHITECTURE AS A TOGETHERNESS

On Sociology of Testing / Arguments / Summer 2021

TWO PIECES OF COMMENTS

On Sugar Hill and KAIT Plaza / Transscalarities / Summer 2021

RETROSPECT AND REBELLION

On Arata Isozaki / The History of Architectural Theory / Fall 2021

CONTEXUALIZING A CONCEPT

On Bagsvaerd Church / Architecture: The Contemporary / Spring 2022

THE POWER AND POWERLESSNESS OF HOUSING

On Public Housing / Housing After Scarcity: Policy, Energy, Settlement / Spring 2022

04

TOWARDS ARCHITECTURE AS A TOGETHERNESS

On Sociology of Testing

Arguments, Summer 2021
Instructor: Dariel COBB, dariel@mit.edu

In a context of ubiquitous technological testing, one may feel anxious about being continuously tested and feel forceless trying to resist the tests. However, Noortje Marris provided an alternative approach in her lecture, that human can play more initiative roles in tests, instead of being passively implicated in the tests, thus making a togetherness of social tests.

According to Noortje, if we take the social impacts of technological tests into consideration, there is a distinction between being implicated and being involved in the tests. As the manipulations and modifications of the settings in the AI tests also changes the environment in the social context, the process contains not only the AI testing the social environment, but also the social environment testing the AI. We can also perceive human as an agency in the tests, then human are not only being tested by the technology, instead, they are testing the technology. With this transition in roles, tests are interactive and non-hierarchical processes in which human, environment and technology are equal actors. It seems that the ubiquitous tests are inevitable in contemporary scientific society. As a result, it may be a feasible option for humans to interact with the technologies actively , or to get involved in the tests.

In a process where the human and the technology are testing each other, they both become part of a togetherness of testing. In the togetherness of testing, human have capacity to become an element in a part of some heterogeneous assembly. And the togetherness need to be specified as resource to articulate the problematics. However, real-world testing are not satisfying in terms of the social. They have the potential to experimentalize social life, but tend to drive out social dynamics. Besides, demonstrations may not be considered as tests, as trials are not allowed to fail. Particularly, artificial intelligence are designed to understand and to simulate the thoughts and behaviours of the human. On the other hand, the human usually have little knowledge of the AI, as only experts can be fully aware of the scientific theories. In order to break such inequality, Noortje listed three possible approaches. Firstly, for the human, as well as test takers, can have more aware of the testing process. Instead of acquiescently agreeing the terms and following the rules, they can pose questions on the background and settings of the test, thus the test takers become initiative and the test become an interactive process. Secondly, testing can be designed as generative occasion for the explication of objects, capacities and relations, instead of being implicit "black boxes", so that more agencies can actively participate in the process of testing. Thirdly, more articulation work could be conducted to articulate the tests, and to "move beyond naturalism in engineering and sociology". In a word, all agencies are expected to have equal knowledge of one another, to pass the threshold of latency, in an ideal togetherness of testing. Thus it requires methodological innovations across social studies and scientific experiments.

In a context of ubiquitous technological testing, one may feel anxious about being continuously tested and feel forceless trying to resist the tests. However, Noortje Marris provided an alternative approach in her lecture, that When it comes to architecture, the situation becomes different in many directions. For a start, we shall agree that architectures are social tests, because they modify the physical environments significantly, and also because they usually have unpredicted effects on the social. Looking into the design process, designers are continuously testing their ideas, not in real world, but on paper or computers, and in the context of their own experiences. As stated by Noortje, this phase of the design process can be considered as a kind of testing "in data". Additionally, no one knows what would actually happen until an architectural project is finished. In every built environment, users continuously interact with the environment following their own wills. So it is a multi-agent system where many social behaviours are improvise. Although architects are designing with expectations, neither the architect nor any other actors in the situations could decide the ultimate impacts. Hence the architecture is a complicated togetherness of architects as experts or test-ers, users as social actors, as well as the environment, landowners, the client, stakeholders.... Finally, and maybe most importantly, the process of architectural design is not always logical. It involves subjectiveness including emotions, memories, preferences and experiences. All these factors make design fundamentally different from scientific tests, or AI tests. In fact, architecture is a more explicit form of agency compared to the AI. This characteristic makes it possible for architectural design to involve more agencies. One may have little knowledge how AI works, but more likely to have specific ideas how a building operate. The discussions of architecture definitely have larger audiences than scientific subjects. Thus it could be said that architecture is a more involving and more specific togetherness of social tests.

Considering all these actors, the architecture is tested or evaluated by not only the architect, but also the general public. Also, the architecture is not only being tested, but also testing the architect and other agencies. What's more, the architecture is designed not by the architect, but by an assembly of agencies. And the architecture is not being designed, but actually designing the architects, as architects learn from the effects and appearances of built projects as their "data" in which they test their following designs. In this social structure of togetherness, architects gain design experiences, while the public get a modified (usually better) environment. In general, it is a positive togetherness in a new sociology of testing, where different agencies are testing and being tested.

As a result, it is crucial to think of architecture in the social context, particularly as Noortje proposed, "a new sociology of testing". For architects, it is of vital importance to have a modest attitude to "be tested", and to make the process of decision making more explicit, instead of merely conducting a test on the social, considering themselves as experts and experimenters. For the public, if you don't want to be a subject of tests all the time, just speak out! You had better keep questioning on the tests, or maybe, the architecture.

Selected Questions:

Supervision of Testing:
In your description of the new sociology of testing, you mentioned the difficulty of counter-testing for individuals. Do you think is there any possibilities to not only analyze, but also impose restrictions on testing? What kind of entity should be responsible for such supervision?

Hypocrisy in anti-colonial:
In On Indigenous People's Day, Let's Commit to an Anticolonial Mindset on Earth and in Space you mentioned five actions to adopt an Anticolonial mindset. However, isn't ' Humans embark on new activities in space' itself a symbol of space-colonization? If we are merely holding verbal activities without stopping the exploration itself, it seems that we are colonizing the space and simultaneously whitewashing our crimes on purpose.

Methodology of Complexity:
One of your questions is : Why have we imposed intolerable complexities on ourselves? Then I would ask: Why are you imposing intolerable complexities on your questions? That is to say, the world is so complicated a system that you can impose plenty of questions. However, what people have been trying to do is to find simple rules in the complex to get knowledge, such as physical formulas. Are you suggesting a methodology of complexity, proceeding thinking through continuous questioning, instead of logical thinking?

05

TWO PIECES OF COMMENTS

On Sugar Hill and KAIT Plaza

Transscalarities, Summer 2021
Instructor: Ultan BYRNE, ub2134@columbia.edu

KAIT Plaza: A Huge Space for Little Events

Students of Kanagawa Institute of Technology might be excited at a new "plaza" in the campus. The only problem is, it is not a real plaza. Designed by famous architect Junya Ishigami, the semi-outdoor void is totally free of columns and covered by a punctured continuous roof. The project is expected to accommodate a number of activities within the institute. However, when it comes to activities, the plaza may not be as huge as it appears.

According to Ishigami, the campus lacked natural environments where students could take a break and relax, sit on the ground enjoying lunch, take a nap, and even do sports training on rainy days. The project brought the definition of versatility to an extreme, as the 12-millimeter-thick roof covers 4,100 square meters of space without any interior supports. The obstacle free space becomes half-outdoor thanks to the 59 square punctures in the roof, which let in sunlight, rain and breeze. The height of the space varies between 2.2-2.8 meters, as the length of steel roof is affected by temperature, and is similar to the scale of traditional Japanese spaces. The relatively low ceiling also intensifies the relationship between floor and ceiling, making an atmosphere appropriate for sitting down. The ground is also designed to be concave echoing the roof's bend. The project has caught eyes from all over the world with phenomenal photos of its nomad space.

The architect was devoted to creating a space where "the process of passing time becomes the subject", and it seemed quite successful in that for individuals or small groups. However, the immense plaza may be less versatile than it is claimed, especially for large events. Firstly, as the huge plaza has only three small entrances through long and winding passageways, it doesn't seem to be welcoming to a large number of people. Secondly, limited by its low ceiling, it doesn't seem capable of supporting big events. Actually, most of the photos taken have only a few, if any, people inside. In fact, most people in the photos gather around the punctures and in the sunlight. Hence the continuous space is actually divided by the punctures in the roof. When the space is used for big events, such as the Completion Ceremony in 2020, we may find it weird that the students were actually sitting in chairs placed in a grid to impose order in the nomad space. This ordering definitely contradicts the architect's idea of a place where people feel free to sit anywhere on the ground and to spend time. Thirdly, the completion ceremony only occupied a small part of the plaza. Actually, due to the concavity of both the floor and the roof, one cannot see the other side of the space from the edge, which limits the use of the space. It seems that this huge plaza is only capable of supporting little events. Considering the huge effort and cost to build such a huge column-free space, is it worth it? Maybe the project succeeds in that people can feel free to spend time there, but not in large groups.

References
Junya Ishigami-designed multipurpose students' plaza brings the horizon inside, Architecture and Design, Feb 19,2021, https://www.architectureanddesign.com.au/news/ishigami-designed-multipurpose-students-plaza

KAIT Plaza, Atsugi, Architectura Viva, Vol.232, 2021. pp.16-17.

Completion Ceremony 2020 at Kanagawa Institute of Technology, showing that chairs are in a grid

Screen shot from https://www.youtube.com/watch?v=w9vnSBS-w5Y&t=75s

Completion Ceremony 2020 at Kanagawa Institute of Technology, showing the space occupied

Screen shot from https://www.youtube.com/watch?v=w9vnSBS-w5Y&t=75s

A photo with only 1 person inside.

https://www.spoon-tamago.com/2021/01/07/junya-ishigami-kait-plaza

Sugar Hill - A Sweet Residential for whom?

Looking for affordable housing in Manhattan? It sounds difficult, but the Sugar Hill Mixed-Use Development is expected to make it easier. As David Adjaye, architect of the project, puts it, it creates "'a new typology for affordable housing, with its mixed program of museum space, community facilities, offices and apartments'". While mixed-use projects are becoming routine, Sugar Hill proved to be distinctive in that cultural infrastructures take the place of retail. The cultural infrastructures also add to valuable new resources for the historic neighbourhood of Sugar Hill. However, although the project succeeded in its urban character, its own residents may find their home prosaic, if not awkward.

With its charming scenery and rich culture, Sugar Hill has been considered a unique neighborhood in New York City. However, the area is changing rapidly, especially as more and more white Americans move into the low-income community that has traditionally been predominantly African and Latin American. Adjaye's work introduced modern cultural infrastructures into the site while providing multi-family residences. The project, initiated by a non-profit developer of supportive housing (Broadway Housing Communities, BHC), is a public program with a tight budget. It consists of a children's museum, an early childhood center, as well as 124 rental units for low-income families. According to the designer, they kept close collaboration with both the BHC and local communities to "ensure the design is tied to its history, practical and aesthetic requirements." As a result, the mixed-use was designed as a textured 13-storey slab building, making the north edge of the community. The cultural infrastructures include a children's museum located in the basement and an early childhood center located on the second floor. The residences are distributed from the third to the thirteenth floor. The apartments are provided with fascinating views, including Central Park and the Hudson River. Terraces are placed on the second, third, ninth and the rooftop.

The idea of including cultural infrastructures in a residential complex is innovative and proved to be quite successful. The museum and the childhood center are tied closely to the community, changing the atmosphere of the area. The 13-storey mass also became a landmark of the community and made the community more cohesive. On the other hand, the residential area of the project does not seem to be as satisfying as the designer expected. Firstly, the entrance of the residential part is separated from the cultural part. So the residents do not didn't have convenient access to the cultural facilities. Secondly, the residential units are organized by ordinary double-loaded corridors, which make the public area dull and useless. Apparently, it actually failed to create a new prototype of LIVING. Thirdly, the slanted walls on the façade create an eye-catching appearance of the building, but simultaneously lead to a great number of awkward crevices in bedrooms and some living rooms. It seems that the Sugar Hill Mixed-Use Development is an influential project for the Sugar Hill Community and even for New York City. But does it mean a better life for its own residents? Maybe there will be different answers.

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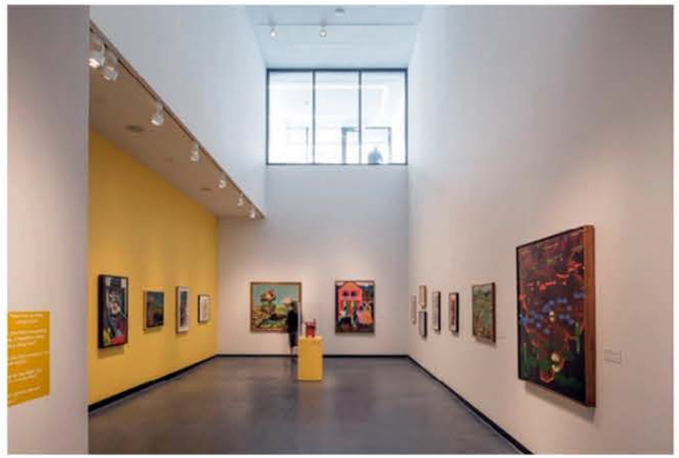

Gallery of Sugar Hill Development

https://www.archdaily.com/774725/sugar-hill-development-adjaye-associates/5719f832e58ece8b48000144-sugar-hill-development-adjaye-associates-photo

Plan of Residential Area

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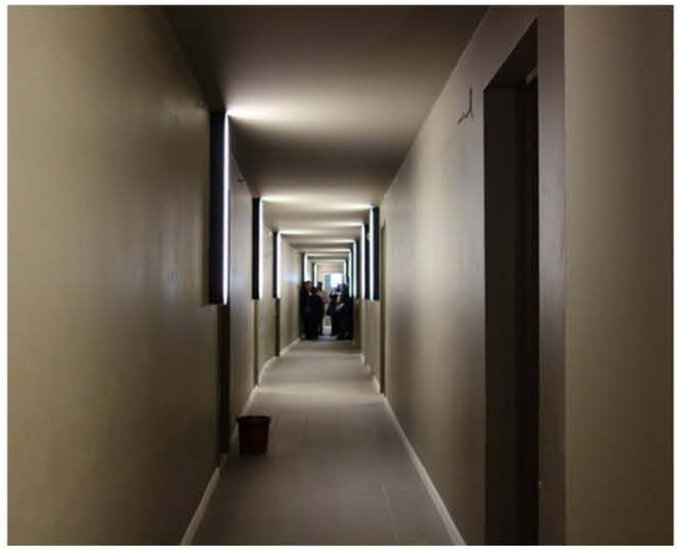

Corridor of Residential Area

https://urbanomnibus.net/2014/09/architecture-vs-housing-the-case-of-sugar-hill/

06

RETROSPECT AND REBELLION

On Arata Isozaki

The History of Architectural Theory, Fall 2021
Instructor: Mark WIGLEY, Professor, Dean Emeritus, maw152@columbia.edu

Abstract

In the Jury citation of Arata Isozaki's grant the 2019 Laureate of the Pritzker Architecture Prize, it reads, "He has brought together East and West, not through mimicry or as a collage, but through the forging of new paths." In the 1960s, Japanese architects were devoted to bringing Japanese perspectives to the world stage. Among them, Isozaki was one of the most influential. He was probably also the most unique one, as he soon made a dramatic shift in his ideas, refusing to define himself as a motabolist any longer, when most Japanese architects were enthusiastic in participating in the mass Japanese architectural campaign. Instead of western urbanistic modernism, he revisited the traditional spaces in Japan, trying to find an alternative, Japanese approach towards future architecture. He attempted to infuse the tradition and the modern, as well as the eastern and the western. He also made efforts to introduce Japanese traditions, and their contribution to modernism, to the general public all around the world. In 1968, Isozaki held an exhibition in Paris. Titled "MA-space-time in Japan", the exhibition illustrated Isozaki's unique thoughts about Japanese traditions. The "MA", according to Isozaki, is the core of Japanese tradition in terms of space and time. The exhibition used nine sets of installations, introducing nine aspects of traditional Japanese space. Isozaki's ambitious thoughts succeed in introducing and describing another kind of Japanese modernism, distinctive from Tange Kenzo's "orthodox" one which inherited directly from Le Corbusier. However, Isozaki's approach was very rooted in Japanese culture, which made it difficult when faced with actual projects. When it comes to real modern projects, Japanese characteristics shown in Isozaki's works may become subtle and imperceptible, making the architecture similar to other postmodern works.

I. Background: Development of Japan-ness

The theory of Western modernism has had a great influence on Japanese architecture since the 1930s. When learning from Western modernism, Japanese architects also made continuous efforts to generate a type of modernism with "Japanese characteristics", distinguishing it from Western modernism architecture. This expected Japanese-styled modernism is often referred to as "Japan-ness". The discussion of "Japan-ness" originated from the competition at Tokyo National Museum held in 1931, when the nationalistic big roof emerged, and raised a wide discussion about "What is Japanese". In such discussion, architecture with Japanese interest is considered to embody within: (1) presenting "Japanese" with real objects, (2) patterns from temples are used in real objects, (3) actively use of western technologies. This new nationalist style soon became the mainstream of aesthetic in the 1930s. On the other hand, Bruno Taut's comments on traditional Japanese architecture made a difference to modern Japanese architecture, as he described Katsura Villa as "modern" and "functional". He also compared Ise Jingu to Acropolis. Based on the observation of Katsura Villa and Ise Jingu, Taut was opposed to the approach of using traditional patterns to achieve modernity. Instead, he advocated using modernist international style to check and balance the symbolic eclecticism under the nationalist tendency.

Taut's re-discovery of Katsura Villa led to strengthen of rationalism and further criticize of "architecture with Japanese interest". Such criticize consider their recognition of Japanese traditions as ambiguous and irrational. Rationalists, led by Sutemi Horiguchi, focused on architectural categories that originated from Japan, thus generating 6 "Japan-ness" elements: (1) concise plan and structure, (2) respect of material aesthetics, (3) non-decoration, (4) asymmetry, (5) coordination with nature, (6) Tatami-based module (Fujio, 1980). Rationalists re-discover values from traditional teahouses and shrines. However, as they attach great importance to understanding the tradition, the pursuit of ultimate rationality led to a theory-oriented attitude towards architecture (Ishida, 1995).

As Japan tended to fail in WWII, there were further retrospective thoughts on Japan-ness. Maruyama Masao perceived "nature" as an idea of formation as well as a Japanese outlook on life, contrasting to "to act" as a constructive will of western behavior patterns. In addition, Ryuichi Hamaguchi introduced Alois Riegel and Wilhelm Worringer's Kunstwollen into the understanding of Japan-ness, and considered a Japanese Order as constructive principles. In this context, Japanese will of construction is based on the interaction between behavior and space (Nishi, 1995).

If Ryuichi's works were still trying to discriminate "Japan-ness" from internationalism, the discussion of "Japan-ness" was further brought to an international context after the U.S. occupation of Japan as a result of WWII. Japanese architects were then more involved in international campaigns, including the new brutalism of TeamX. On the other hand, Japanese original forms are re-valued in order to fight against the repression of occupation. Hence forms a new binary, modernism or nationalism. This conflict was also described as Yayoi, Apollonian, aristocracy, stilt-dwelling verses Jomon, Dionysian, civilian, pit-dwelling. This debate on Japanese tradition unfolded around Japanese architects (and/or architectural theorists) Kenzo Tange and Noboru Kawazoe. The former was seen as aristocratic as his Hiroshima Peace Memorial Museum possessed a fluid space, which was considered an interpretation of Katsura Villa and an embodiment of Ryuichi's "Japanese National Pattern". In contrast, the latter believed it is necessary to get rid of "Japanese nationalism", which was a legacy of the war. In response, Tenzo proposed two ways of considering Japanese traditions from a modern perspective: (1) based on traditional spirit, (2) based on specific traditional forms. Tenzo himself showed apparent preference for the latter approach, especially when compared to other Japanese students of le Corbusier, Kunio Maekawa and Junzo Sakakura (Fujimori, 1995). To put an end to the debate, Tange Kenzo tried to describe Katsura Villa as a unity of Yayoi and Jomon (Gropius et al., 1960) in his later works.

As a result, the Tange Kenzo led the Japanese modern architecture to a modernism with Japanese traditional elements, or "Japanese modernism". However, Arata Isozaki saw the Jomon style as merely a trend of decoration and thus not credible enough to be considered an architectural theory. In Isozaki's opinion, the problem of "Japanese modernism" was no longer a problem since the US occupation, as Japanese aesthetics had become subordinate to American or Western aesthetics. Instead, Isozaki turned to focus on his own era, when the wave of globalization was sweeping the world. Hence, he felt it important to introduce Japan-ness, or Japanese traditions, to the front of the Western world.

II. "MA" : Retrospect on Traditions

Based on retrospective thoughts on the discussion on Japan-ness, Isozaki turned to pay attention to the post-war era. After WWII, Japanese power began to play an important role in contemporary architectural discussions. In 1951, the 8th CIAM, titled "Heart of the City", called for attention to the reconstruction of postwar cities. In response, the metabolism group made a declaration at the 1960 World Design Conference held in Tokyo, claiming that a "growth and perversion" perspective on the modern city.

In the context of rebuilding Japanese cities, Isozaki reposed the question of Japan-ness. Kikutake Kiyonori, another advocate of metabolism, used a series of concepts, "ka", "kata", "katachi", each referring to the phenomenological, substantive, and ontological stage of the metabolic process. Isozaki used similar Japanese concepts: "hi", "tsuji", "kawara", in his explanation of Japanese space. In the 1960s and the 1970s, Isozaki continuously thought about the situation of Japanese architecture in a global postmodern context. He also made various attempts to introduce his comprehension of Japanese traditions to the Western world. Such efforts include his work "Electric Labyrinth" in 1968 Milano Triennale, 1976 "Man TRANSforms" exhibition in New York, and finally and most importantly, the "MA-time-space in Japan" exhibition held in Paris in 1978. The exhibition was part of the "Festival d'Automne" Japan section, and was invited by the Ministry of Culture of France. The work was later published in 1979 (Isozaki, 1979; Isozaki & Yokote, 2015) .

In his work, Isozaki used the concept "MA" to describe a Japanese way of perceiving time and space. In the exhibition, Isozaki explained his concept of "MA" in 9 spaces, each referring to an aspect of "MA". In order to show abstract concepts like sound or gas, Isozaki cooperated with musicians, craftsmen, photographers and sculptors, introducing modern technology as media of exhibition (Isozaki, 2003; Isozaki & Yokote, 2015).

1. Mind Perception: "Himorogi", "Yami" and "Sabi"

"MA" is primarily described as an approach to perceiving time and space. The spatial form of "MA" comes from people's expectation of the god's instructions, also called "Himorogi". In the term, "hi" means the activities of the soul, and "moro" refers to the forest. "Himorogi" means "the place where god appears" and considered as the origin of Japanese space. In the exhibition, Isozaki used four corners to define the space. This architectural prototype is also considered to have a great influence on traditional Japanese space. "Yami" means darkness or night. In this context, "MA" is a status maintained by absolute dark. In traditional Japanese Shintoism, god is considered to dwell in the world of shadow, and come to the human world at specific times. Such perception of darkness is also embodied in traditional Japanese ceremonies to summon the gods. In the exhibition, "Yami" is shown in a "dark house", in which locates a puppet sitting in meditation. There was also Japanese Noh music performed to help explaining the process of summoning the god.

The concept of "Sabi" comes from the Japanese short poem, Haiku. "hi" (the original form of "bi" in "Sabi") is also referring to the activities of soul, expressing a feeling that the soul is moving towards the end of something. According to Isozaki, the origin of "Sabi" is the perception that everything is fading away. All phenomena can consequently be considered as a temporary status in the process of fading. This belief of eternal elapse is also a kind of aesthetic judgement, and lies in all kinds of art in Japan. In Japanese art, colors fade, and objects decompose. The soul can also fade, as Isozaki claimed that, "Sabi is the state of body after the spirit has departed". In the exhibition, a square garden with nothing but a few little rocks is used to show the feeling of hollowness.

All these three concepts show that "MA" acts as a Japanese perception of time and space. That is, much importance is attached to

personal experience. Time and space here are not absolute, but individually perceived, and unfold in traditional Japanese space, where "Himorogi" acts as expectation of god's appearance, "Yami" provides the symbolic garden, and "Sabi" performed as the subtle connection between the human world and another world.

2. Moving Experience: "Utsurohi", "Michiyuki" and "Hashi"

Of the nine concepts, there is a series of descriptions of movement. The most direct one is "Utsurohi", in which "Utsu" means void, and "hi" means movement. Hence, "Utsurohi" refers to the moment that the god appears out of void. More generally, the term can indicate the shift from one status to another. According to Arata, "Utsurohi" is a way to obtain awareness of the moment that space and time moves. Japanese people are inherently touched by natural movements such as the aging of life, the withering of flowers, and the apparition of the soul. In the exhibition, reflective metal mirrors are used to create an unreal atmosphere. The subtle movements of the environment are thus magnified and better detected.

On the other hand, "Michiyuki" stressed the physical movement from one location to another. "Michi" has the meaning of road, and "yuki" is an indicator of direction. As a result, the path is here specifically designed. Inside the teahouse where this concept is presented, a series of step stones located with various intervals are installed to adjust the step and rhythm of the visitors. In addition, the Japanese drama of Kabuki was played in the teahouse. The performers moved on and off the stage in intended locations, making the performers' movement dramatic (Kato, 2007). "Michiyuki" is here shown as a dramatization of physical movements.

Finally, "Hashi", having multiple meanings including bridge, edge, and chopsticks, points out the connection of space. In the Japanese context, anything between something else, or fills a gap, or connects two edges, could be nominated as "Hashi". Hence, "Hashi" showed a clear tendency of spatial connection in "MA". The concept is shown as a long bridge leading to a platform in the exhibition. Notably, it can also refer to the connection between the human world and the spiritual world. The square platform in the exhibition is traditionally a place for seeing the moon, and hence perceived as a place that connects to the other world. The element of "Hashi" also unfolds in Isozaki's earlier exhibition in New York in 1976, where a giant bird cage was installed to distinguish the two different worlds in Japanese perception and the subtle connections between them.

This set of three concepts showed the dynamism of space and time under the "MA" perception. "Utsurogi" and "Michiyuki" showed the movements of space and time, while "Hashi" focused on the spatial movements. In all three aspects, space and time are not fragmented. Instead, they live on each other and change as the other change. So Isozaki used installations where space changes dramatically as time goes in the exhibition. Particularly, Japanese people paid much attention on moments, or the assembly of moments. Isozaki considered the keen capture of moments as a Japanese-styled deconstruction of time, which also embodies in the widely use of sudden pulses and shifts in Japanese drama, music and poems.

3. Dwelling: "Suki", "Utsushimi" and "Susabi"

The original meaning of the term "MA" is the distance between two points, and more generally the void defined by four pieces of walls. "Suki" has various meanings in Japanese, ranging from void to preference. Isozaki used this term as an order of living space. The "Suki" teahouse is a prototype of traditional space, in which the furnishing and decorations are carefully adjusted according to the preference of the master. Isozaki used this specific kind of teahouse, but exhibited in different scales. An equal-scale magnified and a reduced teahouse were to provide experiences of different scales. In this way, Isozaki provided a more direct awareness of Japanese scale system. "Utsushimi", or "imagining the body", is a perception of the living space. Isozaki thought that "MA is a place where life is lived", and "Utsushimi" turned out to be a collection of living. In the exhibition, a photographer presented different types of housing from various sections of Japan. This photographic record showed how life is lived in Japan. By excavating meaning from the houses, Isozaki revealed the tectonic aspect of "MA": the living space of an individual is largely influenced by climate, social class, education and personal preferences. According to Isozaki, all these housed are "MA", then "MA" is a comprehensive concept that accommodates all kinds of chaos.

"Susabi" means "to play", or act as a combination of "Su" (elementary) and "Sabi" (discussed earlier). "MA" is here referred to as an empty space where all kinds of events take place and dissipate. It can be seen easily that urban space is filled with chaotic symbols and styles, as well as dramatic performances and activities. It is an awareness of interest in everyday life. In the exhibition, visual clichés are shown to trigger awareness of Japanese symbols and their combinations.

Isozaki's discussion of dwelling is a space for life. The little unimaginable phenomena in daily life provide a casual and cordial atmosphere. This characteristic made "MA" not a mere architectural theory, but more closely related to Japanese daily life. It is also shown that Isozaki's exhibition is not only an explanation of Japanese traditions, which are usually thought to be rigid and strict, but also an active retrospect of the time and space from a modern perspective. According to Isozaki, this difference is not rebelling from tradition, but bringing Japanese characteristics to modernism.

III. A Hybrid of Eastern and Western

Both eastern and western influences could be observed from Isozaki's discussion about "MA". Isozaki's rediscovery of Japanese culture is definitely based on and influenced by antecessors' works. Traces could be observed that Isozaki borrowed concepts from other thinkers to form his own discussion.

The word "Suki" originally refers to a type of traditional Japanese teahouse, and was earlier used as an example in Okakura's discussion on Zen and Japanese aesthetics. In his The Book of Tea, Taoism is used as a frame to explain that the Japanese concept of "MA" came from the idea of void by Chinese thinker Laozi. (Isozaki & Hino, 2004; Okakura, 2012) The Chinese void is considered to have every possibility because itself is nothing. In the foreword of explanation to his "MA" exhibition, Isozaki stated "Space was believed to be fundamentally void" (Isozaki, 1979). It is only in the fundamentally void that the movement of soul, or the god, becomes possible. The use of void also unfolds in the section of "Utsushimi", as a void space is constructed, waiting for the god to appear.

Isozaki's claim on movements, particularly the distinction between "human world" and "spiritual world", also showed his dualistic worldview. This idea is not an invention of Isozaki, but a development of Kuki Shuzo's study on Japanese self-concept. He likened Japanese self-recognition to the aesthetic consciousness of prostitutes for the binary relationship between sexes (Shuzo, 2011). Isozaki, on the other hand, pointed out the difference between Japanese and Chinese binary. That is, Chinese binary consists of two elements (usually referred to as yin and yang), while Japanese binary used one joint but contradictory concept (the "MA"). In this way, Japanese MA is kind of in the middle of the polar yin and yang. In fact, one of literal meanings of MA is "between" or "middle" (Isozaki, 1979). In Isozaki's exhibition design, he didn't use dual items. Instead, he used connections such as the bridge in "Hashi".

Another important aspect of Japanese culture is the worship of darkness, which also embodied in Isozaki's "MA" theory. In Junichiro Tanizaki's In Praise of Shadows, the darkness as a component of Japanese architectural space is specifically discussed. Japanese tend to appreciate the darkness, and worked closely with darkness (Tanizaki, 1977) . Prior to the exhibition, Isozaki mentioned Tanizaki's work in a paper published in 1964, and claimed that the concept of darkness will become an attitude to comment his own architectural work (Isozaki, 1991). In Japanese language, Isozaki's concept of "Yami" is the same word as the "darkness" discussed by Junichiro. The use of darkness could also be observed from the exhibition of "Suki", "Himorogi" or "Sabi". The re-discovery of the importance of darkness is a fundamental attitude in Isozaki's theory of "MA".

On the other hand, Isozaki's thoughts were apparently influenced by western philosophy. Primarily, the exhibition was an international one held in Paris, and was aimed to introduce Japanese space to the Western audience. In the publication about the exhibition, an additional explanation by Claude Levi-Strauss was included. Titled "Discreet Gods", it described Isozaki's nine elements of "MA" as a structuralist system, where each term is made up from other words, forming a tree of terms (Isozaki, 1979). The system is filled with chains of the signifier and the signified. For example, "Sabi" is an independent concept but also a component of "Susabi" and thus used to explain the latter concept. The nine elements of "MA" is not only a classification of Japanese time and space, but a recursive explanation. This is not only a characteristic of the Japanese language, but also a result of analyzing Japanese culture with structural linguistics methods.

Isozaki tried to achieve a unification of space and time in the Japanese context. Similar attempts could be found in the development of modern architecture. Isozaki referred to Sigfried Giedion, as he pointed out the unified expression of space and time to be the perception approach to promote the development of modernism. Additionally, Isozaki claimed that Japanese unification of time and space underlies in the use of language. When translating the western concept "space" and "time" into Japanese, the same suffix, "MA", is used (Nikolovski, 2015). This showed the deep consciousness of the unification of Japanese space and time.

As a Japanese architect, Isozaki tried to show the Japanese culture from a Japanese perspective. Until 1960, analyses of Japanese culture had been conducted by westerners. In 1966, French novelist Roland Barthes visited Japan, and analyzed Japanese social and culture in a semiotic way (later published in 1970 in L'Empire des signes). Isozaki saw his exhibition in Paris as a response to Roland's opinions. He recognized Roland's work as a deconstructing of Japanese space, describing Japanese culture as a semiotic system based on writing (Nikolovski, 2015). The deconstruction of meaning also embodied in Isozaki's exhibition. Plenty of evidence could be observed, including the use of the assembly of various cultural symbols in the "Susabi" section, and the photography of simple houses in the "Utsushimi" section. In both exhibitions, the room was filled with all kinds of signs, and people's lives are dominated and occupied by continuously unfolding cultural signs as well as their compositions. Unlike Roland, Isozaki revealed Japan-ness through the explanation of "MA" in these exhibitions.

With influence from both the east and the west, Isozaki managed to generate his own explanation of Japanese space and time. The exhibition was a direct attempt at cross-cultural communication, using specific spatial experiences to introduce Japan-ness to the western audience.

IV. Discussion: Rebellions from Metabolism

Isozaki is always an ambitious architect and thinker. Isozaki's theory of "MA" is deeply rooted in Japanese traditions and influenced by modernism thoughts. However, his theory is critical, particularly to post-war architecture in Japan. The first modern Japanese architects learned directly from modernism, especially from Le Corbusier, in the 1930s. These knowledge were then applied to large-scale plans,

when Japan gained demand of expansion in scales through its invasion into Asian neighbours. The transition could be observed from Tange Kenzo's planning works during WWII.

Japan soon recovered from the war. In the 1960s, with the prosperity of the economics of Japan, Japanese architects began to propose avant-garde manifestos. In 1960, the metabolism was raised at the Tokyo World Design Conference, making a profound influence on the architecture theory. The architects used the biological term "metabolism" in order to show their vision of considering design or technology as out expansion of human vitality. They expect not only to accept, but also to promote the metabolism of history. The projects shown in the conference showed new thoughts of mass production, standardized pre-fabricated units, mega-structure, and aimed towards a "city of the future". Another issue raised by Metabolists was the relationship (or "linkage") between architecture and environment. The mega-structures by Metabolists called for the transition of view from traditional "space" to mobile "environment". The metabolism was filled with the pursuit for utopian megastructures and obsession to new technologies. It also marked the complete absorption of western modernism. At that time, Japanese architects were considered to be at the forefront of modern globalization.

Although the campaign was led by Japanese architects, it was not widely considered an independent Japanese architectural theory. Metabolists' works still borrow theory and form from the Western modernism, and were thus accepted as part of the Western modernism theory system. In the 1970 Osaka Expo, Tange Kenzo made the masterplan, bringing the grand expectations in the 1960s of Japanese architects to the world. Unfortunately, the ensuing financial crisis in the 1970s soon diminished the enthusiasm of the Japanese public for the hyperbolic plans. Hence, the 1970 Osaka Expo is considered the last revelry of metabolism.

Although Arata Isozaki was reluctant to define himself as metabolism architect, he took part in the campaign of metabolism at the beginning. His plans for the city of Tokyo in 1963, including in Marunouchi, Shinjuku and Shibuya, showed a giant frameworks of rectangular service towers and cubic units.

Such work maybe the last linkage between Arata Isozaki and metabolism. Isozaki did not adhere to the group of metabolism architects. Instead, he held a critical perspective towards metabolism works. After Isozaki left his tutor Kenzo Tange's architectural firm and started his own business in 1963, he was faced with a completely different modernism background as in Tange's time. Isozaki saw the Expo as a mistake. In the 1970 Osaka Expo, Japanese people struggled to prove themselves as modern, but turned out to be vulgar and awkward (Isozaki, 1998). The economics and technologies had taken place of culture to become representatives of Japan. However, Japan has lost itself in presenting itself. After the Japanese traditions became overwhelmed by new technologies, the problem of "Japan-ness" became no longer an issue of the nation. If Tange Kanzo and his metabolism was devoted to getting rid of any traditional Japanese elements in order to achieve a havoc towards new modernism, Isozaki strived to combine the tradition and the modernism. Isozaki, in his "City Demolition Industries" and "City in the Sky", proposed that destroying inhumane cities is the only reality. "City in the Air" removes the residual humanity in modernism with military cruelness. The future of the city lies in ruins, lost in the cycle of mega-architecture and eschatological destruction, so where is the ultimate way out? Isozaki's Fukuoka Bank Big Branch (1966-67) design can be seen as a contemporary moment as opposed to modernity, where we see a certain kind of "Japan-ness" where architecture is no longer built around the worship of ancestors within traditional culture, but a metaphorical discourse around a history translated through a collage of popular culture such as amusement parks, Godzilla, villainous real estate tycoons, "demolition experts" and robotic libraries across the cityscape.

Although Isozaki participated in the 1960 World Design Conference held in Tokyo, named and signed the manifesto of metabolism, and was invited to be a member of the Metabolists, he kept distance from the metabolism campaign, and finally got rid of it. He tried to distinguish himself from Tange Kenzo intentionally. As a consequence, Isozaki decided to construct an individual path to re-construct Japanese space. By the time he organized the "MA" exhibition, he had totally departed from the Metabolists (Koolhaas, 2011). In the "MA" exhibition, we could observe a completely different methodology from western architecture. Isozaki borrowed ideas from western philosophy, but from neither mechanization nor urbanization. Instead, he introduced ideas from some other non-architectural territories such as phenomenology, linguistics and structural anthropology. In his introduction to the exhibition, he nominated "MA" as not only an architectural term, but also a concept underlies in clock, music, garden, stage, pictorial art, and image (Isozaki, 1979). Under each of these subjects, Isozaki discussed the differences between Western and Japanese conceptions. The architecture here is a part of a broader range of culture and art, instead of a subject of technology. Notably, he is proved not to be simply anti-technology, as he also used pieces of machinery in the "MA" exhibition to achieve his desired performance. In another word, Isozaki is using technologies to show a possibility of modernism other than modern technologies. It is also evidence of Isozaki's rebellion and innovation.

Isozaki is also re-thinking the process of constructing in his theory of "MA". As a Japanese architect who witnessed the devastating WWII in his school days, he began to deconstruct the meaning of construction. Particularly, he witnessed the sudden devastation of the city of Hiroshima caused by an atom bomb. In the "Sabi" of the exhibition, it is the void after the disappearance that matters. Similarly, a piece of architecture never fulfills its meaning until it collapses. In the logic of ancient Japan, it is only in ruins that a building achieves complete harmony and order. This thought is very different from the optimistic trend after WWII, when many architects and the public were imagining about functional, mechanical, biomimetic, and large-scale future cities. Isozaki was solitude, but pioneering the evolution of Japanese architectural theory.

V. Limitations: Between Tradition and Modernity

As an architect of the post-modern generation, Arata Isozaki strived to discuss tradition in his own way. This is not because he needed to borrow forms from Japanese tradition. As a matter of fact, although he signed the manifesto of Metabolism at the very beginning and produced a number of works that resembles metabolism design, he had repeatedly stated that he refused to directly use traditional elements and refused to be recognized as a representative of Japan. Isozaki's continuing discussion on traditional architectural issues is itself a part of modernity, since these issues were only raised upon after the introduction of the Western concept of "architecture" into Japan. From Isozaki's works, interpretation from tradition to modernity could be found mainly reflected in two aspects: "inheritance" and "rebellion".

Isozaki's inheritance of tradition embodies in two points: narrative system and cultural structure. In terms of narrative system, whether it is the debate about "Japan-ness" for several generations, or the discussion of the concept of "MA" as a Japanese philosophy of time and space, or the traditional buildings such as Katsura Palace, had been already discussed vigorously and was no new topics. It is on these inherent issues that Isozaki's narratives takes root. Isozaki's discussion of tradition was intentionally placed into the entire narrative system. For "cultural structure", Isozaki regarded "Japan-ness" as a result of interaction between Japan and the Western world, from which Isozaki elaborated his discussion of the "MA" space. In addition, the Isozaki's "MA" space also resulted from the process of "MA" produced by the constant impact of a foreign culture on the country of Japan. In this context, the "MA" space is no longer a physical space with certain fixed characteristics, but an abstract space that is constantly changing through times within the Japanese "cultural structure".

Isozaki's rebellion is also reflected in two points: his rebellion against "traditional forms" and his struggle against the new contemporary era: these two points are reflected in his subtle and critical attitude towards his mentor Kenzo Tange's works. As mentioned earlier, he was reluctant to use traditional elements in his works like Tange. He believed that Tange acted as a spokesperson for the legitimacy of ethnocentric views that emerge from the intensification of Western expectations for the East, while Isozaki himself didn't want to repeat the approach of Tenge. Instead, he proposed deconstruction of building and introduction of geometric elements, considering them the exact form that Japan needed at the time. Isozaki's escape from the urban and architectural framework, as well as his doubt about the planning system after the collapse of utopia prompted him to constantly struggle with the times. Under this kind of inheritance and rebellion, Isozaki managed the reconstruction of "MA" space and pushed it into an alternative process of globalization. The contradiction of inheritance and rebellion finally unfolds in his "MA" theory and was brought to the world stage.

The "orthodox" Japanese modernism, led by Tange Kenzo, thanks to its more direct inheritance of Western modernism, revealed a clearer and more uncompromising approach towards city and architecture. This "orthodox" modernism, although might not be featured with enough "Japanese characteristics", turned out to be effective and became mainstream in the history of post-war architecture in Japan. Compared to Tange Kenzo's modernism, Isozaki's attempt to unify tradition and modernity, although conceived with audacity, innovation and thoughtfulness, appeared to be extraneous in terms of architectural design, and seemed to be alienated when it comes to architectural practice. The nine concepts exhibited in the "MA" theory are abstracts from Japanese culture. These concepts are not only about space or architecture, but more about traditional culture, everyday life, and experiences. The appearance was that Isozaki used multi-sensory installations to elaborate the ideas. As a consequence, the concepts of Isozaki attached less importance on architectural space. It might be difficult to apply Isozaki's ideas, especially those referring to the spiritual world and sudden movement. Isozaki attempted to construct an alternative path and get rid of the city-architecture structure from Western modernism.

Unlike Tange Kenzo's attitude towards Japanese traditions, Isozaki achieved an interpretation of "Japan-ness" at an abstract level in a roundabout way. The concept of "MA" became the beginning of his thinking about "Japan-ness", and the ideological guide of practice in his future. Isozaki's view of city partly unfolds in his elaboration of "Himorogi". He believes that Japan does not have a square defined by physical space under the Western context, instead, there is a "Kaiwai" (border) defined by the invisible "Hi" (spirit), which has no fixed shape and flows at any time. The concept also inspired his idea of "invisible city" composed of flowing symbols. In the early 1960s, Isozaki connected the spirit of "Hi" with intangible electronic media, which became the origin of the "computer city" imagination in the 1970 Osaka Expo. The memory of the a-bombing of Hiroshima as a child made the concept of "Sabi" deeply rooted in Isozaki's mind, and this sense of tragedy also contributed to the later "electrical maze" and "anti-architecture" theories.

Isozaki's "MA" theory made a good westernized explanation of Japanese traditional space and time. The theory is quite history-rooted, as it borrows all its terminology from Japanese traditional religion. However, Isozaki's retrospective view rooted in traditions may face difficulty when dealing with real-time projects.

Isozaki did not stop with his theoretical thoughts and art installations. He tried to put his idea of "MA" into actual practice. Isozaki's first architectural practice of the concept of "MA" was at the Gunma Museum of Modern Art in 1974. Isozaki juxtaposed a number of abstract cube frames to create a blurred and uncertain visual character. Dynamic volumetric relationships allow people to perceive interlaced spaces through physical movement within a continuous space. Transparent glasses and gleaming aluminum panels present a superficial dematerialized effect, giving people a "MA" feeling of emptiness. The concept of "MA" was further used in the design of the Tsukuba Center Building in 1982 and the Museum of Contemporary Art in Los Angeles in 1986. In the Tsukuba Center project, Isozaki mixed the historical elements of the world to form a fictional place, as a "metaphysical, metaphorical architecture" that shifts the real image to the

virtual image side, and will flow to the future Backtracking towards the original source, excluding time and space to reach the realm of "MA". The exterior space of Tsukuba Central Plaza references multiple historical elements, breaks the integrity of the building complex, and reinforces the void realm advocated by "MA". The combination of the golden section reflects the typical Western sense of form, and each part is intertwined and confronted, which makes people realize the oriental philosophy of Yin and Yang. The seemingly messy accumulation conveys a certain sense of nothingness. Behind the pure formal language, there is Isozaki's deep understandings and thoughts of "MA", which he believes is the result of using Western logic to elaborate Japanese spatial characteristics.

All the featured architectural projects, if seen from a modern Western perspective, showed little obvious difference from modern or post-modern architectural projects in other parts of the world. The use of abstract cube frames could also be found in works of the Richard Meier. Although the "MA" exhibition showed surprising abstract installations, the architectural space of Isozaki's museum works just looked modern and could be found not uncanny at all. They can be expected to take place anywhere in the world. Then where are the "Japanese characteristics"? Through Isozaki's explanation of his projects, traces of amalgamating the tradition and the modern could be realized. But could this ingenuity be observed from the architecture itself? The answer may be uncertain. Probably this is what Arata Isozaki was pursuing: an imperceptible assimilation of tradition into contemporary daily life, and a blurred difference between Japanese culture and Western modernism. In fact, the exhibition of "MA" itself is a great example, through which Isozaki was trying to produce an abstract of, or modernized Japanese tradition, and introducing them to the Western audience.

VI. Conclusion

Arata Isozaki is an outstanding thinker who brought Western thoughts into Japanese architecture, and introduced Japanese traditions to modernism. In his "MA" exhibition in 1978, he introduced Japanese concepts to Western audiences innovatively. The exhibition is looking into Japanese traditions from a Western perspective. The methodology of space perception showed in the exhibition attempted to apply Japanese concepts into modernism, and showed complete rebellion from both orthodox modernism and Tange Kenzo's Metabolism. Isozaki tried to unify the concepts of space and time, and to unify the tradition and the modern, and achieve an overall experience through perception. Such thoughts are translated into real-world scenes, and conveyed directly to the Western world, in his famous "MA" exhibition.

On the other hand, this idealistic mixed approach maybe insufficient when used as guidelines for actual projects. Isozaki made attempts to concretize his theory with architecture. However, the result may be found showing little difference from postmodern architecture. Isozaki's theory is based on a dualism. It attempted to make a balance between western and eastern, and between modernity and tradition. This led to the paradox shown is Isozaki's works. However, this characteristic is probably exactly what Isozaki wanted, as he made continuous efforts to communicate with the Western world, bringing Japan and the world together. He was quite successful in achieving that goal, as his elaboration of Japanese traditions was quite adapted to western perspective. He was probably also successful in bringing Japanese architecture modern (or postmodern, if compared with Le Corbusier's and Tange's modernism), although it was an alternative approach compared to Tange Kenzo's. Isozaki took the responsibility of making modern Japanese architecture without Japanese elements, but with Japanese spirits. His architectural works, whether fulfilled his original visions and expectations of "MA" or not, revealed a unique path towards "Japan-ness" and turned out to be milestones in the history of Japanese architecture.

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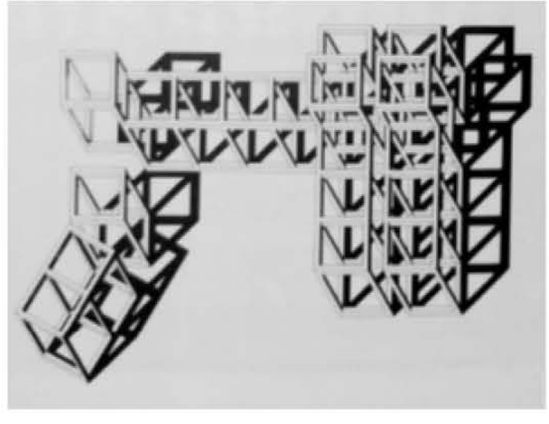
Selected illustrations

TRANSforms Exhibition

"MA" Exhibition

Darkness of Traditional "Suki" Interior



Frame of Gunma Museum of Modern Art

07

CONTEXUALIZING A CONCEPT

On Bagsvaerd Church

Architecture: The Contemporary, Spring 2022
Collaborator: Dhruva LAKSHMINARAYANAN, Danielle NIR
Instructor: Bernard TSCHUMI, Professor, Dean Emeritus, bjt2@columbia.edu

Bagsvaerd Church / Jorn Utzon / Contextualizing a Concept

In Towards a Critical Regionalism, Kenneth Frampton refers to Jorn Utzon's Bagsvaerd Church as "a work whose complex meaning stems directly from a revealed conjunction between, on the one hand, the rationality of normative technique and, on the other, the arationality of idiosyncratic form" (Frampton, 22). Frampton argues that the success of the Bagsvaerd Church lies in Utzon's skillful negotiation between universal precast concrete construction and uneconomic vault construction. While Frampton's point is important, Utzon's intentions behind the Bagsvaerd Church reach beyond construction techniques. At the Bagsvaerd Church, Utzon successfully contextualizes a rather idiosyncratic concept by conforming and contrasting to its Danish context in form, structure, and materiality.

The Bagsvaerd Church was completed in 1976 and is located in the outskirts of Copenhagen, Denmark. The immediate context of the church is predominantly suburban to the north of the site and is surrounded by institutions including an assisted living facility, schools, a sports club, a hospital, and industrial and commercial offices, below the main Bagsvaerd street. The surrounding institutional and industrial footprints are broken down into an assembly of buildings rather than as large monolithic structures. At an aerial view, one can see that Utzon's emphasis of the long, orthogonal corridors that travel through the building is related back to these contextual footprints that combine an assembly of buildings onto one site.

When thinking of the larger Danish context, the Bagsvaerd Church plan is also suggestive of the Danish castle typology. For example, looking at Frederiksborg Castle, which is located in northern Denmark, elucidates the relationship between Utzon's treatment of the orthogonal corridors as breaking up the rhythm of the site. The castle's plan includes the main castle building which has a square footprint with a courtyard and a larger open courtyard that is framed by two rectangular structures. In the castle plan the rectangular armatures are the buildings themselves, while in Utzon's plan they are the corridors of the church.

While analyzing Bagesvaerd Church sectionally, and comparing it with sections of other famous building typologies in Copenhagen, it becomes apparent that the atmospheric qualities and sinuosity of the inside are akin to the monumentality of large cathedrals in the region, such as the Ribe Cathedral in Copenhagen. However, the structure itself has far more in common with the sections of the factories and warehouses that surround the church, and are common in the region. For example, the Copenhill factory, which was recently revamped by BIG Architects, possessed a similar terraced roof condition as the church, which was used to situate the now infamous rooftop ski slope. Utzon conforms to this prevalent warehouse/ industrial style to contain his ethereal, dreamy concept of the clouds above that filters in light to the earth. In the words of Utzon himself, "understand the peace that wind gives – and sometimes it brings some clouds with it, and then the light and the sun fall through the clouds down on to the sand'

The drastic contrast between the interior and the exterior also lies in the materiality and atmosphere. The building is covered with an ordinary aluminum roof. While the curvilinear interior is made up with prefabricated concrete panels with horizontal patterns. The nave is illuminated by a high side window facing northwest, which allows in ambient sunlight. The light is also made softer by the diffusion from the curved concrete panels, stabilizing the concept of cloud. On the other hand, the approach towards the concept, the building system, compromising an in-situ concrete frame with prefabricated concrete in-fill elements, is commonly contextualized. As Kenneth Frampton argued, "The universality of prefabricated concrete in-fill elements is abruptly mediated when one passes from the optimal modular skin of the exterior to the far less optimal reinforced concrete shell vault spanning the nave." The unassuming exterior optimal modular skin and dramatic interior are both achieved through contextualized normal techniques.

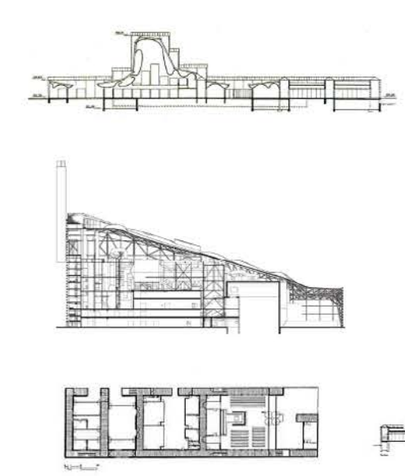
At the Bagsvaerd Church, Utzon successfully **contextualizes** a rather idiosyncratic **concept** by conforming and contrasting to its Danish context in form, structure, and materiality.

i) Utzon's suggestion of context is highlighted in **plan**, through the orthogonal composition that references Danish castles.

ii) In **section**, Utzon manifests his rather radical formal gesture through references to the structure of local industrial buildings.

iii) The dual **materiality** of the church's interior and exterior demonstrate Utzon's skillful contextualization of the formal concept.

Selected illustrations



Sections of Danish Churches and Factories

Drastic Contrast betw Plan and Section

Exterior & Interior Materiality

Interior space: Monumentality of cathedral retained

08

THE POWER AND POWERLESSNESS OF HOUSING

On Public Housing

Housing After Scarcity: Policy, Energy, Settlement, Spring 2022
Instructor: Michael BELL, Professor, mjb92@columbia.edu

Design for whom? The Power and Powerlessness of Housing

Housing seems to be always at the edge of architectural discussion. On one point, it is probably the most powerful part of architecture, as it makes up most of the built environment, and is most intimate to the human body. On the other hand, architects may find themselves in an awkward, if not absent, position in terms of housing design, as the majority of housing is produced in large scale ambitious projects, where other agencies, government or developers, tend to take control. Compared to the capitalist, architects are Sisyphean when they continuously call for equity in design, while such manifestos often fall into drastic contrast with powerlessness in real-world interventions. This prototype is never stranger to architects, at least for the past decades. However, Although the enthusiasm and ambitions of architects are worn out in constant struggles, the biggest victim is the actual user, the dwellers, of these housing projects, as they suffer from not only the highest land price since the 1970s, but also extraneous designs.

On the other hand, some famous architectural practices on housing tend to attach much importance on aesthetics, as we can see in Giuseppe Terragni's Casa del Fascio and Robert Venturi's house for his mother, or House NA by Sou Fujimoto. In both cases the facade is exquisitely designed based on subtle principles. However, these works only stand for a very little part of the entire housing market, as they are generally designed by elites, and used by elites. Not everyone has a child as genius as Robert Venturi. And only very few people could afford such an expensive design.

Then to design for whom? Architects have made different answers to the constant question, and more and more of them are encouraged to start putting ethics before aesthetics. Bernard Rudofsky's Architecture without Architects, Henri Lefebvre's "Right to the City", and Hassan Fathy's dwellings for the low-incomes were among the early post-war attempts towards the issue, theoretically and practically, and accompanied by cultural events, notably the Architecture without Architects exhibition in MoMA from 1964 to 1965, which brought to discussion a broadened horizon with urban and vernacular societies in international contexts. The social concern was followed by more and adherents, as we can see from the emergency shelters of Shigeru Ban, as well as the dive into daily community life of Francis Kere, who produced architecture based on only available materials, techniques and technologies. There is obviously an extra challenge when designing for the low-incomes, though it is more and more seen as an obligation of idealistic architects.

Indeed, things are very different in the US. However, when we are talking about designing for the poor, we are somehow taking it for granted that there is a great number of the population in poverty. This may (or may not) be the reality, as efforts have been made to stop that. Frances Fox Piven raised "A Strategy to End Poverty" in his essay in 1966, when nearly 8 million persons in the US subsist on welfare. After more than half a century, it may (again, may not) be astonishing to aware that 59 million US people are on welfare in 2022. Frances Fox Piven proposed a new distribution program. Apparently it never became true. Unlike in many other countries where designs for the poor are expected to provide extra opportunities, it seems not the case in the US, where designing for the poor does not seem to be eligible to solve the problem of poverty. In fact, originally we could observe the efforts on improving the quality of the built environment and release burden from the post-war Housing Acts. For example, the 1949 Housing Act required the authorities to establish upper rental limits for admission to projects at least 20 percent below the lowest rents at which private enterprise unaided by public subsidy is providing to an adequate supply of decent housing in the respective localities. Of course such regulations gave privilege to the public housing. But the public housing system seems to have failed to stop more people from poverty. Slums continue to exist. An upsetting fact is that most architectural programs are adept in raising the public's awareness of problems, in which case, the poor are actually excluded from "public" discussion. In worse cases, the low income people are just actors in the buildings where pictures are taken and news is written to show the achievements of the architects.

Then to design for whom? Many of us, especially architects and architectural professionals, are accustomed to the powerness brought into architecture since modernism. Undoubtedly modernism successfully produced massive housing for millions of people and helped them recover from World War II, framed modern cities, and led to a new aesthetic of architectural design. However, in an era where social issues have become and are still getting more and more concerned, we are not likely to optimistically believe in the didactic power of architecture to shape public lives, as claimed decades ago by Sigfried Giedion or Christopher Alexander. On the contrary, attempts on actually shaping and teaching people's behaviors would probably be recognized as conceited and arrogant (or even colonizing, in certain circumstances). Especially, as in most cases, the architect him/herself doesn't come from the specific background. Architectural theories sometimes seem pale towards these problems. The modern cities and prototypes of housing deserves questioning even if not counting in cultural issues, as they themselves may not be fully credible and satisfying in seen from a retrospective perspective. Every modern architect must have experienced both the convenience of life constructed in modern cities and the reluctance of being shaped and fit into a huge urban machine. Are we going to replicate the modern (or upper-leveled) typologies to the designing for a lower level of society? The development of architecture the subject seems to have a rich tradition of serving the wealth, from Palladio to Mies van der Rohe. This top-down strategy may be (and should be?) challenged in a more decentralized social context.

It should be noted that social issues are never all the challenges of housing design as architecture and buildings are given more responsibilities in terms of sustainability, which is another issue just as important when the technologies are rapidly developing. But the logic of science seems to be top-down. The key to advanced technologies is in fewer elites' hands. In this case, it is unfortunately again the elites, not only architectes, but also scientists in various fields, who are responsible for producing more effective, low-carbon, sustainable housing. Coincidently this is absolutely an inverse decision-making process. In addition, scientists and architects surely have the ability to produce design proposals that meet all needs. However, this requires extra work, both intellectually and materially, and has the chance to be embodied in the cost of housing. Public housing projects are huge and take up an inseperable of building energy cost. However, should the low-income families be responsible for that? This of course requires negotiation and coordination, and probably requires a third party to deal with both social and technical problems. In either case, a renewed architectural design program is necessary, and so are the related regulations. As a result, even the government is responsible for the successful implementation of novel housing projects. In the end, maybe no one is out of the issue of housing. Housing is both for every resident and for the public. Probably everyone is participating in, and are therefore responsible for new new-era housing projects.

Then to design for whom? In terms of housing, maybe it is not to design for someone. Everyone is doing the design, and it is to design for everyone.

[REACTION]

[VISUALIZATIONS]

HEXAGONAL CUBES

Modular Tiles / Transitional Geometries / Fall 2021

RANGER'S HOMES

Scene Renders / Techniques of the Ultrareal / Fall 2021

GENERATING WALL

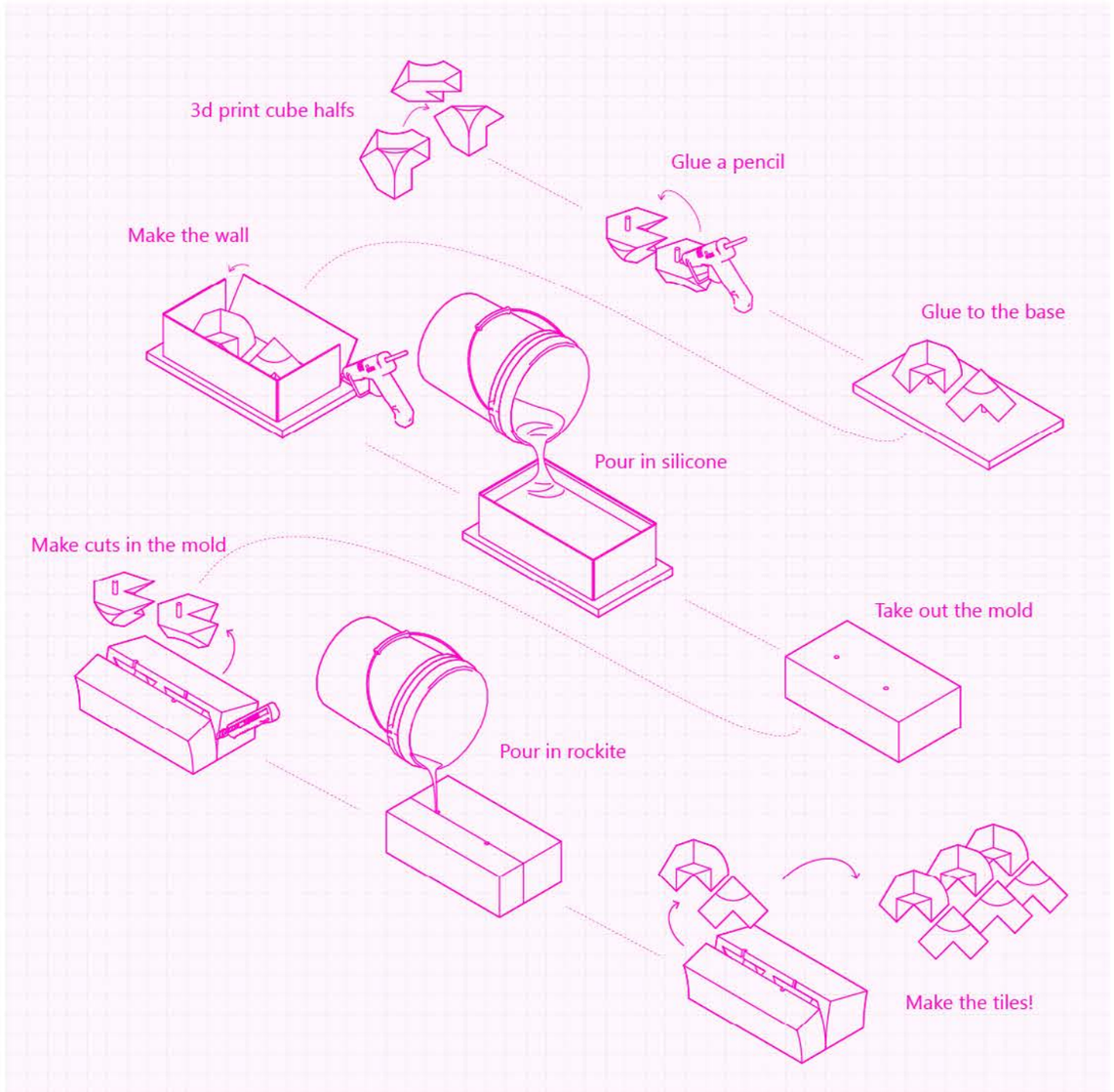
Computational Works / Generative Design / Spring 2022

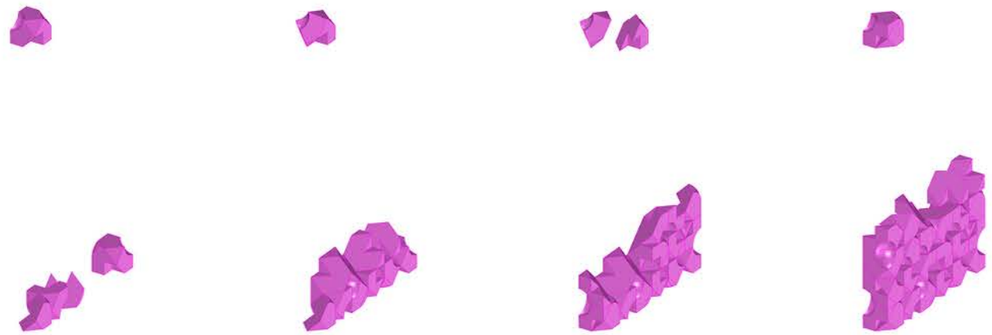
09

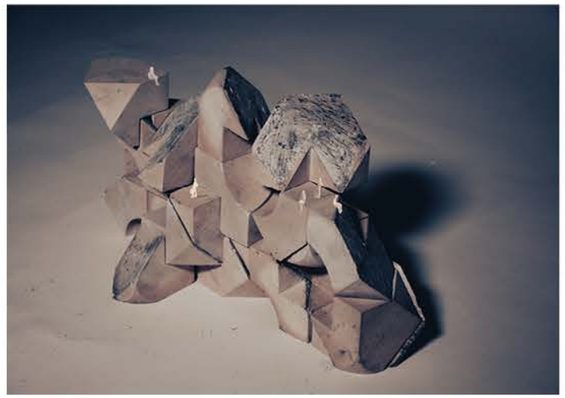
HEXAGONAL CUBES

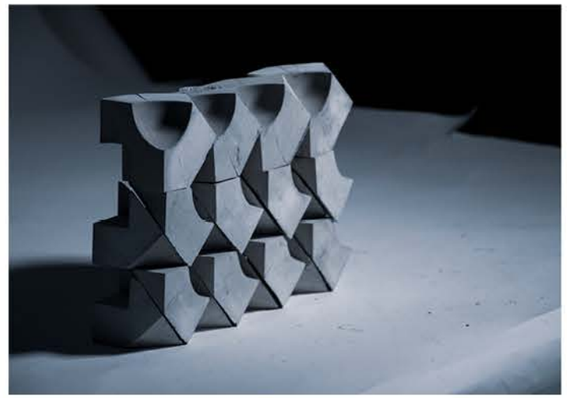
Modular Tiles

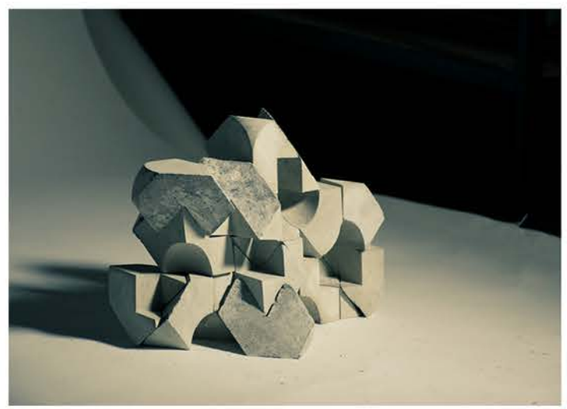
Transitional Geometries, Fall 2021
Instructor: Joshua JORDAN, Adjunct Assistant Professor, jcj2134@columbia.edu











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RANGER'S HOMES

Scene Renders

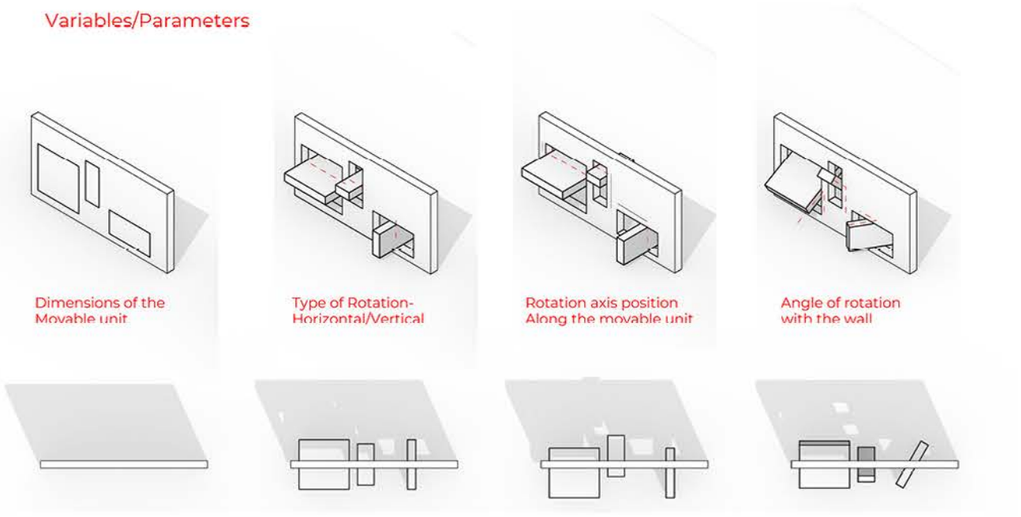
Techniques of the Ultrareal, Fall 2021
Collaborator: Haoran XU
Instructor: Joseph BRENNAN, Adjunct Assistant Professor, jab2315@columbia.edu
Philip CRUPI, Adjunct Assistant Professor, pwc2110@columbia.edu

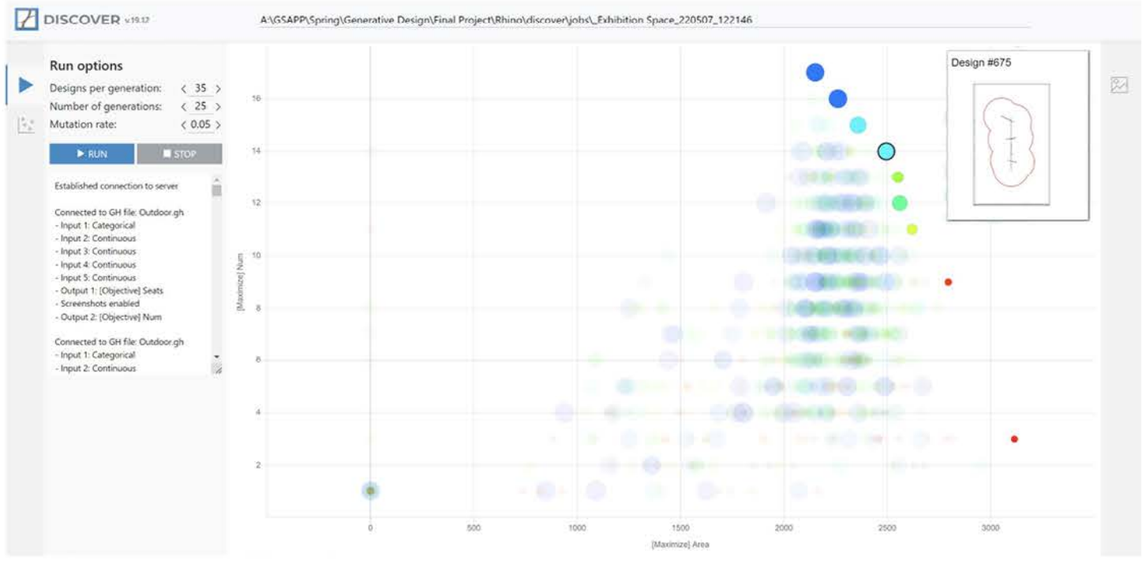
11

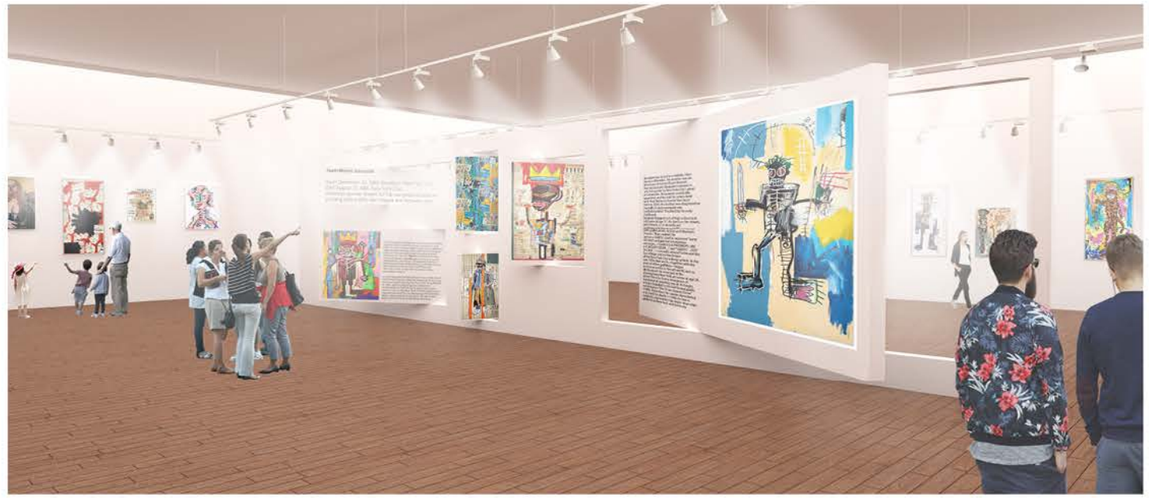
GENERATING WALL

Computational Works

Generative Design, Spring 2022
Collaborator: Malvina MATHIOUDAKI, Vinay AGRAWAL
Instructor: Danil NAGY, Adjunct Assistant Professor, dn2216@columbia.edu







[REACTION]

QIWEI SUN

qs2237@columbia.edu

347-439-5968

GSAPP AAD'22 Graduation Portfolio