Lula Chou

GSAPP Columbia University
Master of Architecture
Master of Real Estate Development

Selected Works 2021- 2024

A house is more than a machine.

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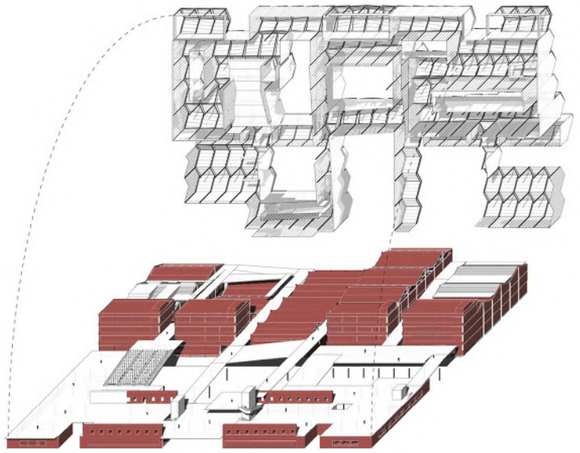
Weld

GSAPP ADV VI - Spring 2024

Instructor: Juan Herreros
Studio Partner: Caining Gu, JJ Jin
Site Location: National Center for Metallurgical Research, Madrid, Spain
Duration: 14 Weeks

Studying closely the original work of Alenjandro de la Sota and the modern history of Spain, we renovated the National Center for Metallurgical Research located in Universidad Complutense de Madrid. Focusing on breaking the boundaries of making and viewing of arts and crafts and converging different disciplines across campus, we created a student commons that experiments and integrates. By keeping the majority of the current built environment and building on top and in between of the existing, we carefully maintained a balance between the old and the new. Paying homage at the same time rendering a contemporary reading of the originally industrial buildings, we kept the workshops as making studios with heavy machinery and furthered the sawtooth-roof language and brought dynamic manipulations into the form and space. Maximizing the uses of the making workshops and the gathering spaces, this project welds different student bodies and activities together, and produces flexible potential for future adaptations.

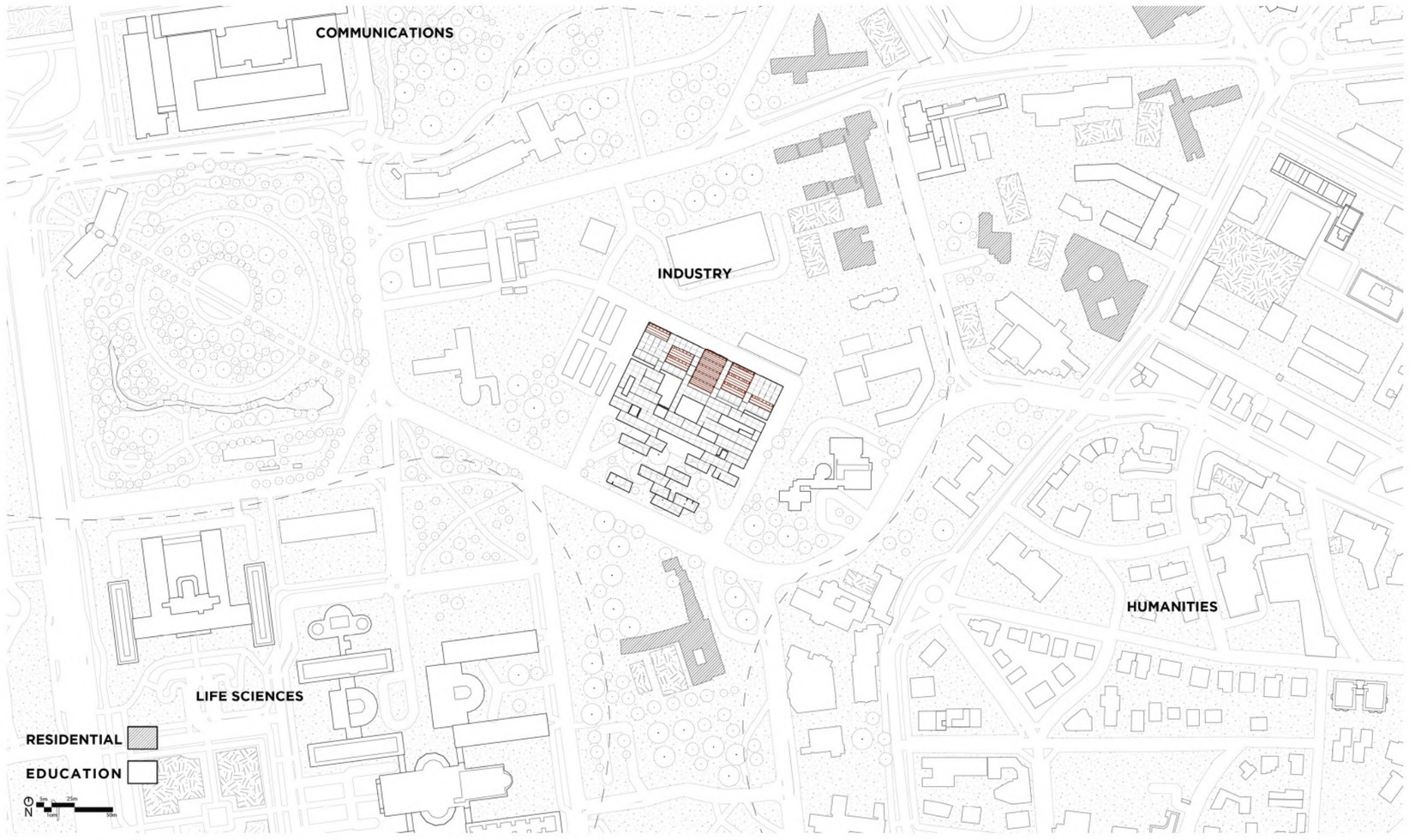
Franco's Dictatorial Rule of Spain



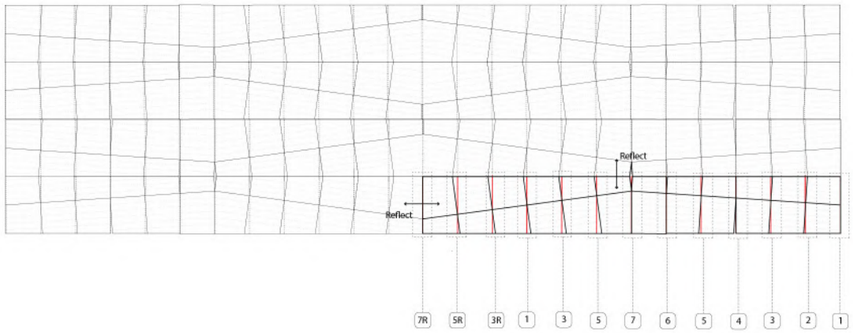
Add-on Intervention Strategy

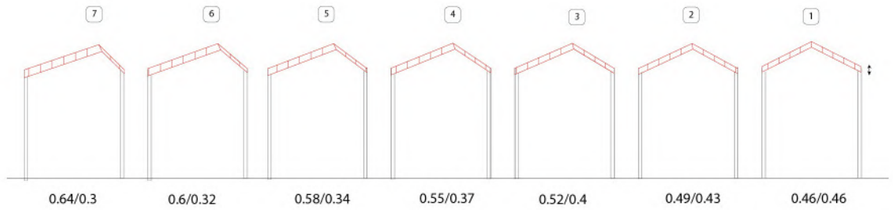
Historical and Urban Studies

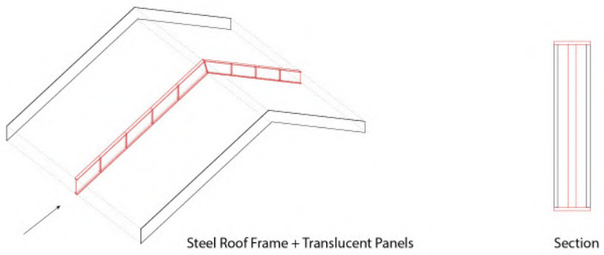
During the Franco period of Spain in the first half of the twentieth century, the dictatorship permeated the society. While aiming for technological and economic revival of the country, Spain's vibrancy at the time was largely under false image and in an unsustainable nature. The campus was constructed mainly for vehicular usage to enhance the government surveillance over the progressive student population in case of protest occurances. With large roads and long distances among college buildings, walkability was inhibited and freedom was limited. At the crux of the different academic disciplines, our site in the contemporary age is a great place for different student users to converge and converse. With the added circulatory paths and flexible spaces, the new student commons transforms from separated industrial laboratories of metal research into a integrative weld that generates vibrant student lives and advocates for multidisciplinary uses.



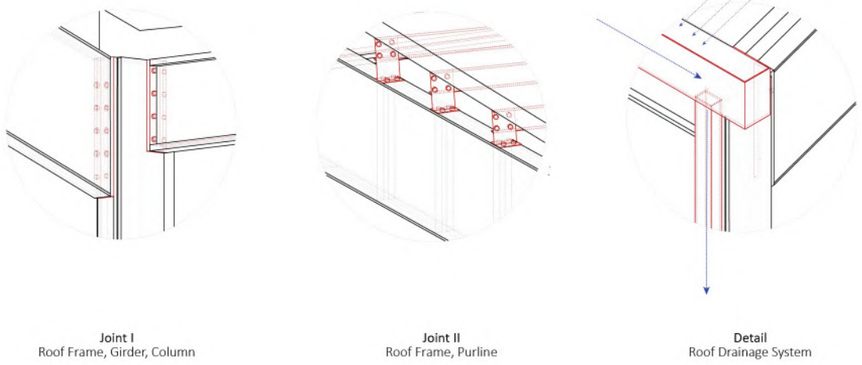
Site Map



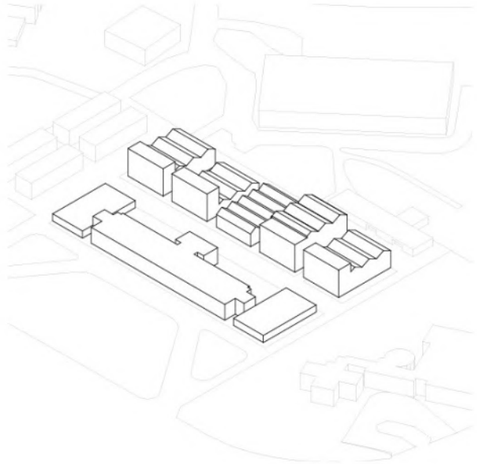




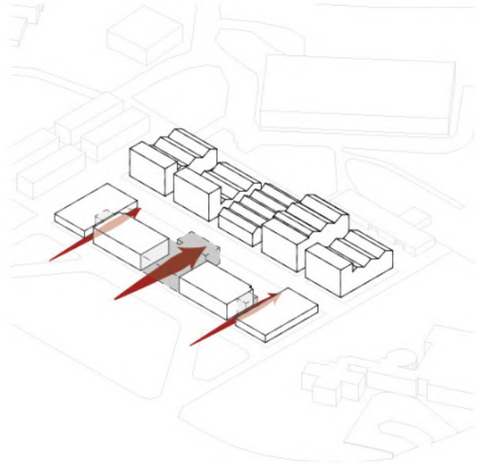
Sawtooth Roof Transformations



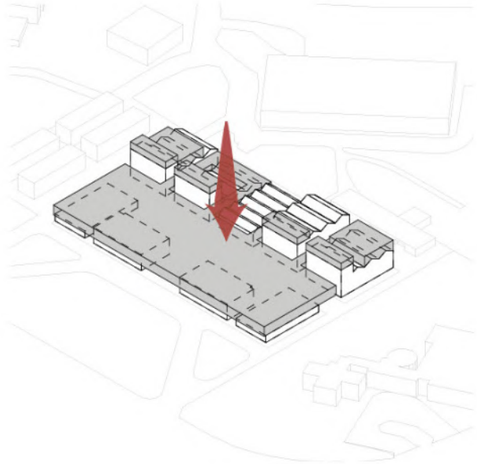
Roof Connection Details



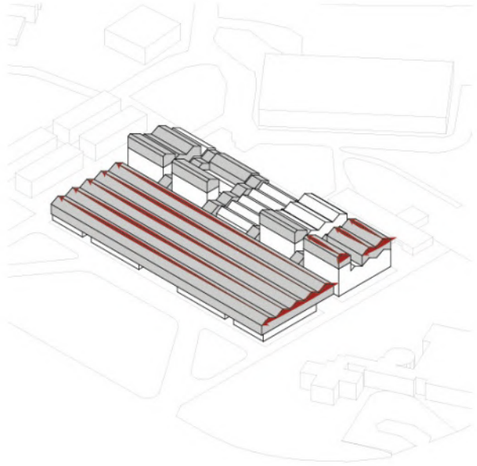
1. Original Building Footprints



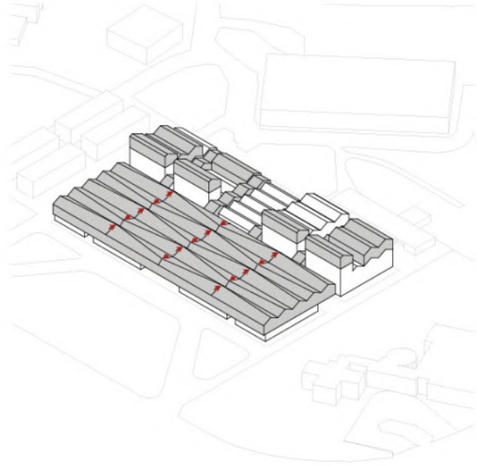
2. Create Openings



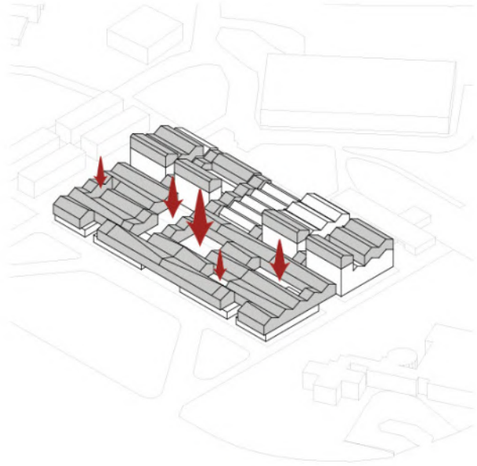
3. Add New Built Volumes



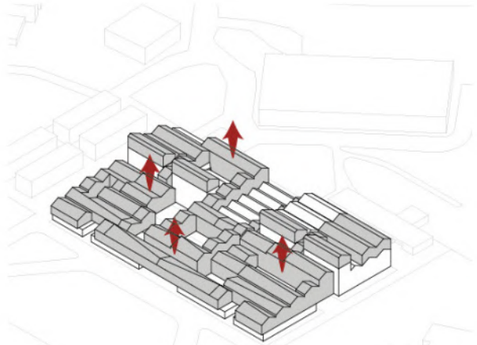
4. Continue the Sawtooth Roofs



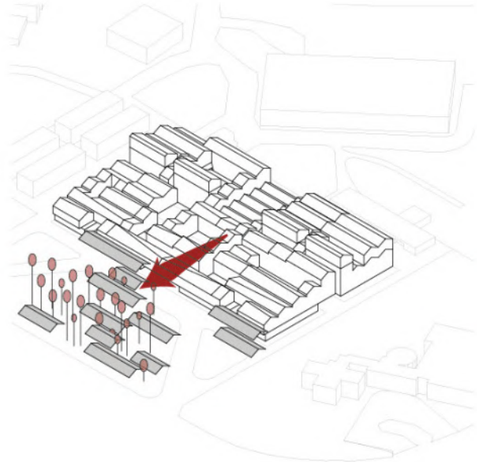
5. Make Changes to Roof Forms



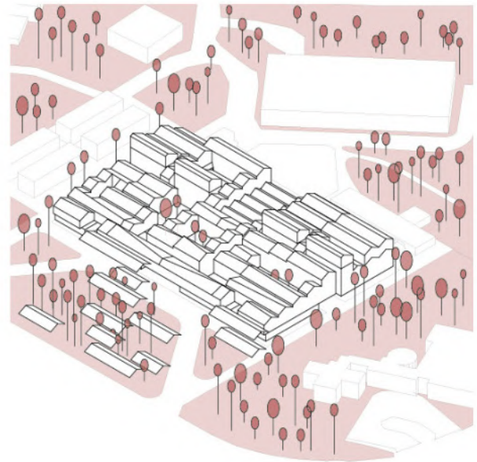
6. Form Courtyard Spaces



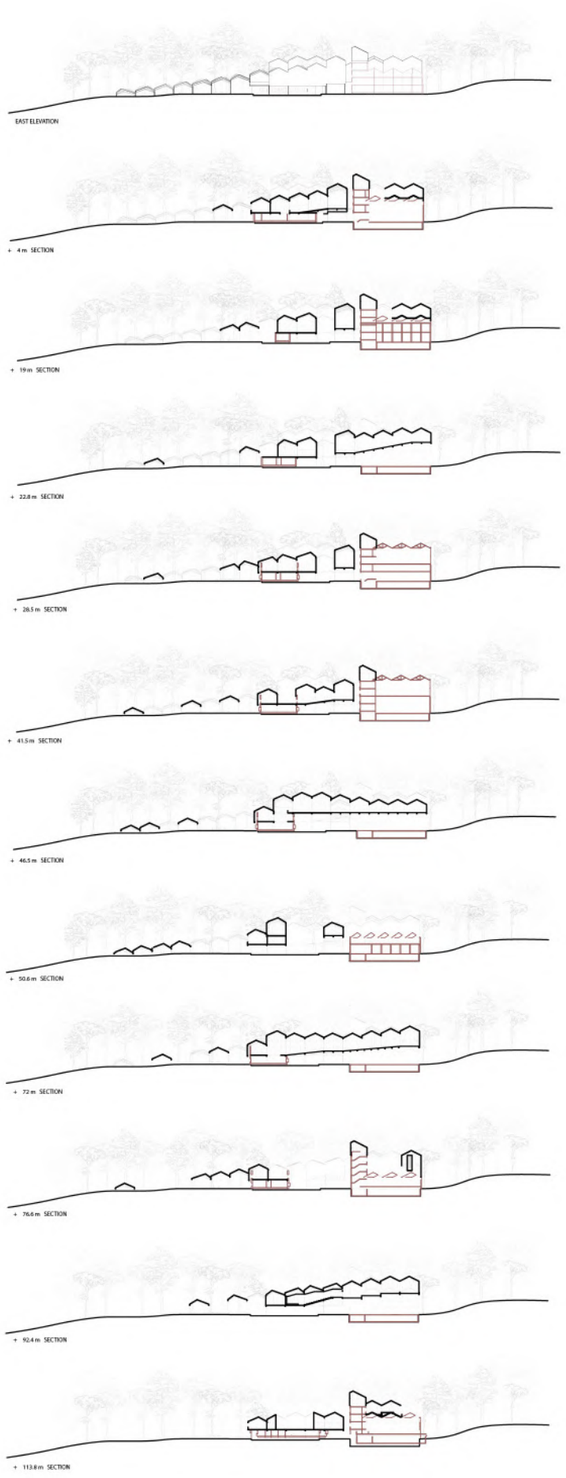
7. Form Height Variations



8. Carry Over Pavillions to the Garden



9. Overall Design

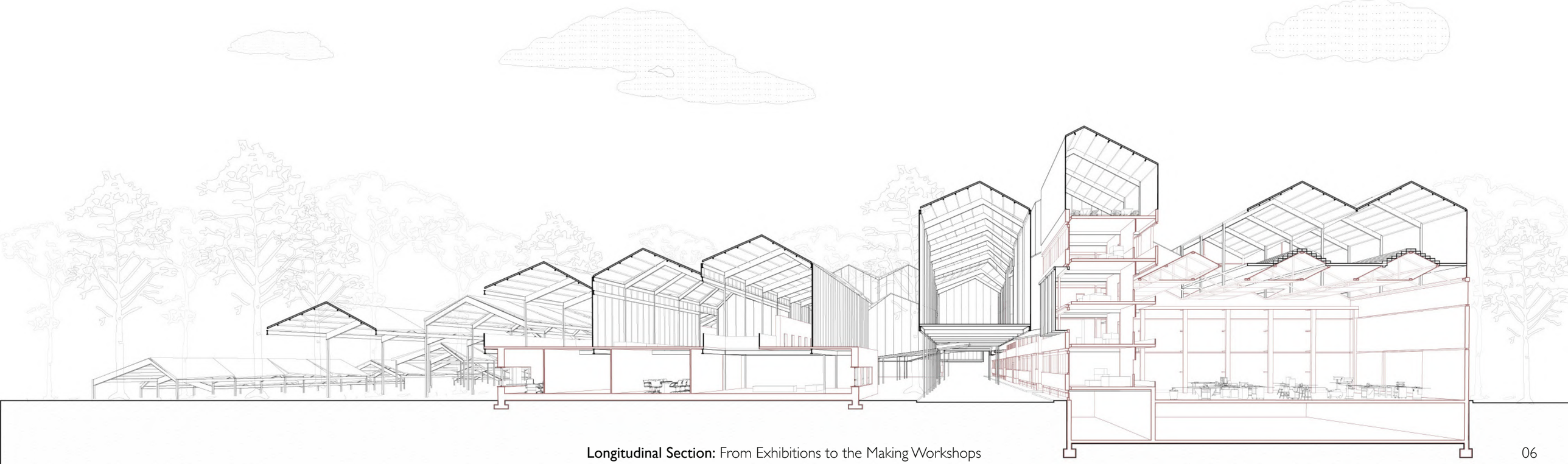


Serial Sections: Varying Built Spaces

Elevation Oblique: Welding of the Old and the New

Exhibitions in the New Volumes

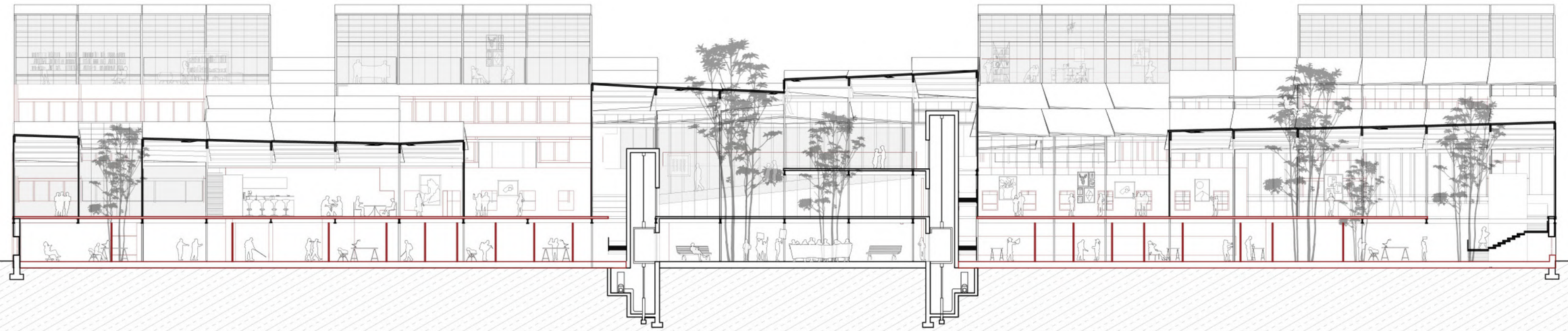
Making Workshops in the Original Buildings



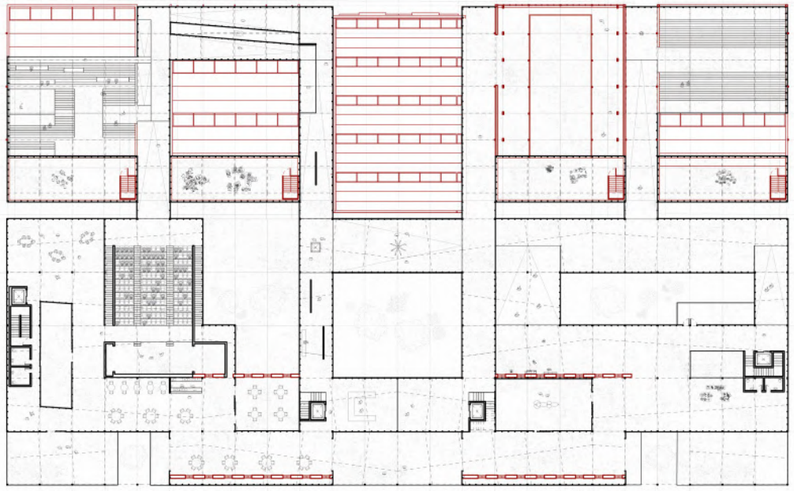
Longitudinal Section: From Exhibitions to the Making Workshops

New Entrance Facing the Front Garden

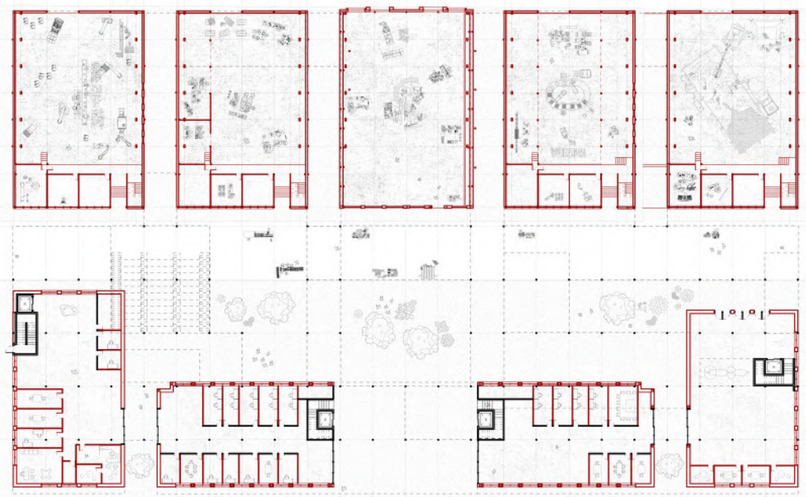
Collaboration Rooms on the Top



Transverse Section: Balance between the Inteiror and the Exterior



Upper Level Floorplan



Ground Floor Plan

Forums above the Original Sawtooth Roofs

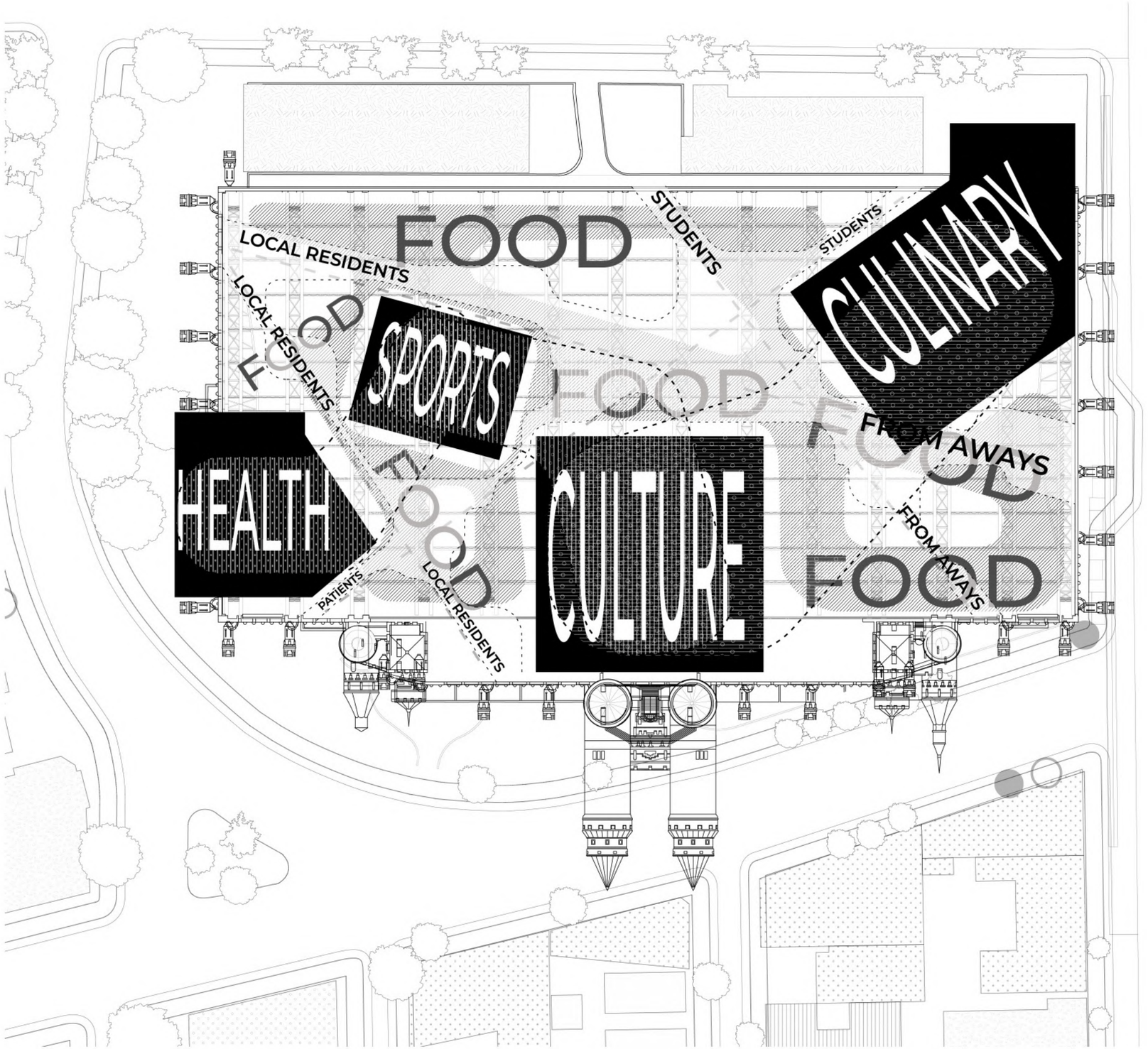
2

Crossover

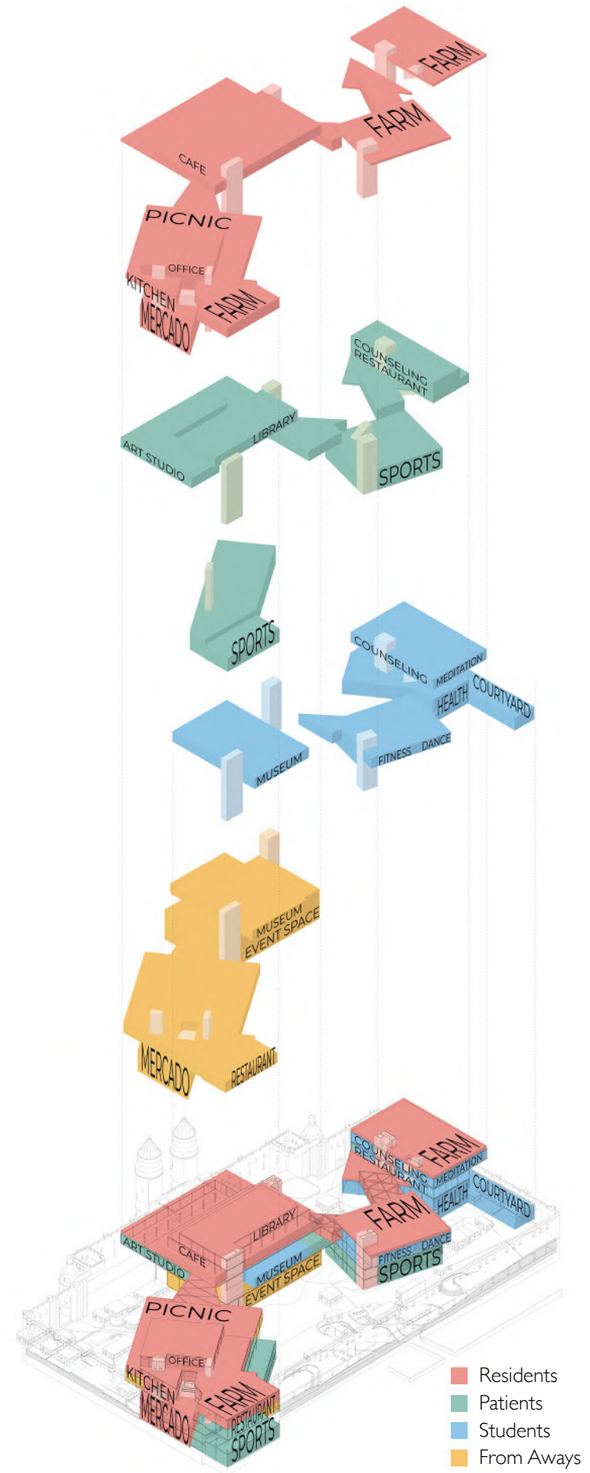
GSAPP ADVV - Fall 2023

Instructor: Laurie Hawkinson
Studio Partner: Thomas Wang
Site Location: W Kingsbridge Rd, Bronx, NY 10468
Duration: 14 Weeks

Kingsbridge Armory located in the Bronx is the biggest decommissioned armory in the nation. Having a dormant monster structure in the underpriviledged neighborhood, this studio discusses the potential of revitalizing the built space to improve the livelihoods of the surrounding civilians. Our design of the armory transcends its physical boundaries and becomes an urban condenser, a local culinary center, and a nexus of human connection. With a balance of landscape and buildings, passages and destinations, this proposal utilizes the space to integrate various programs and specialized services to meet the local needs. Different user groups of the neighborhood meander through the armory, gaining a diverse range of experiences and social interactions with others. Opening up the exterior facade and sculpting pathways allows people to use the building as a portal to shortcut passages and continuous journey experiences.



Concept Diagram



Exploded Program Diagram

Yoga and Fitness

Communal Kitchen and Cafeteria

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2

3

Meditation and Consultation

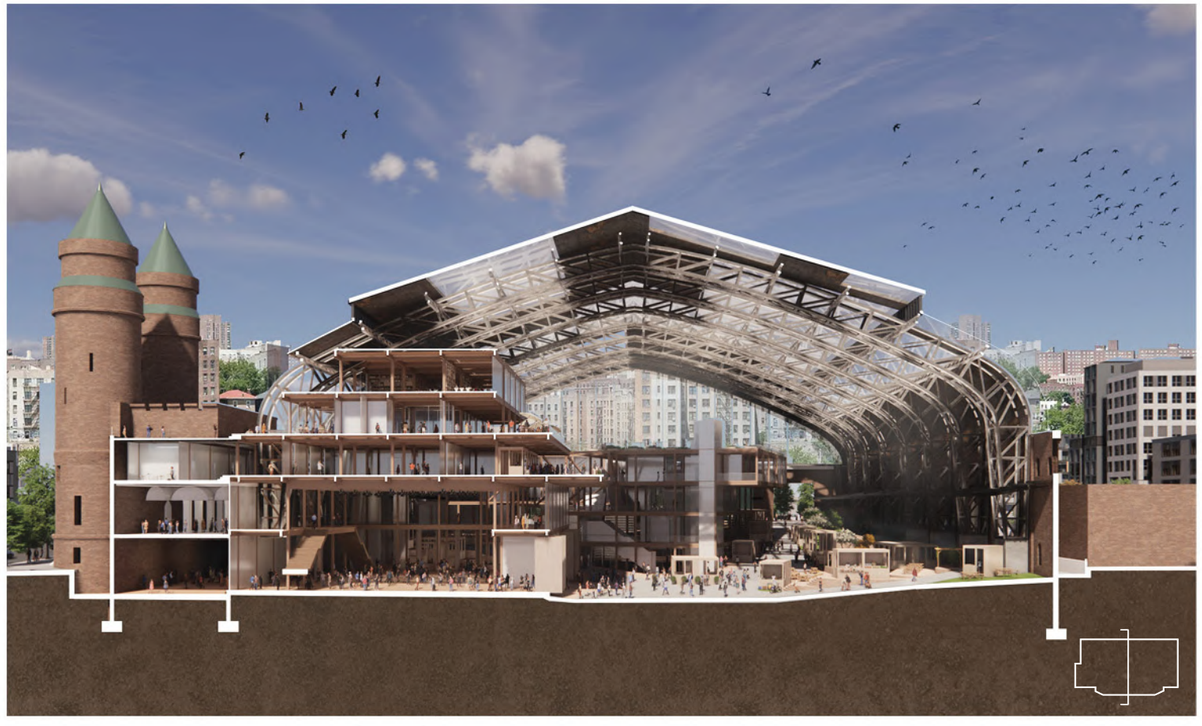
Gallery and Art Studios

Third Level Floor Plan

1. Third Level Subway Connection

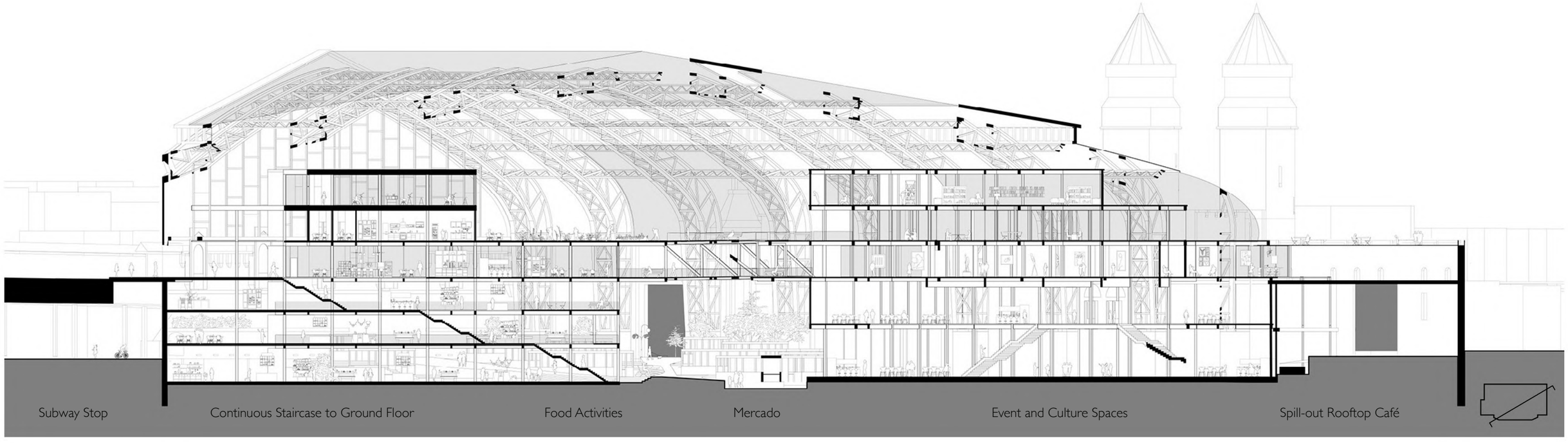
2. Mercado / Food Hall

3. Health to Sports Connection

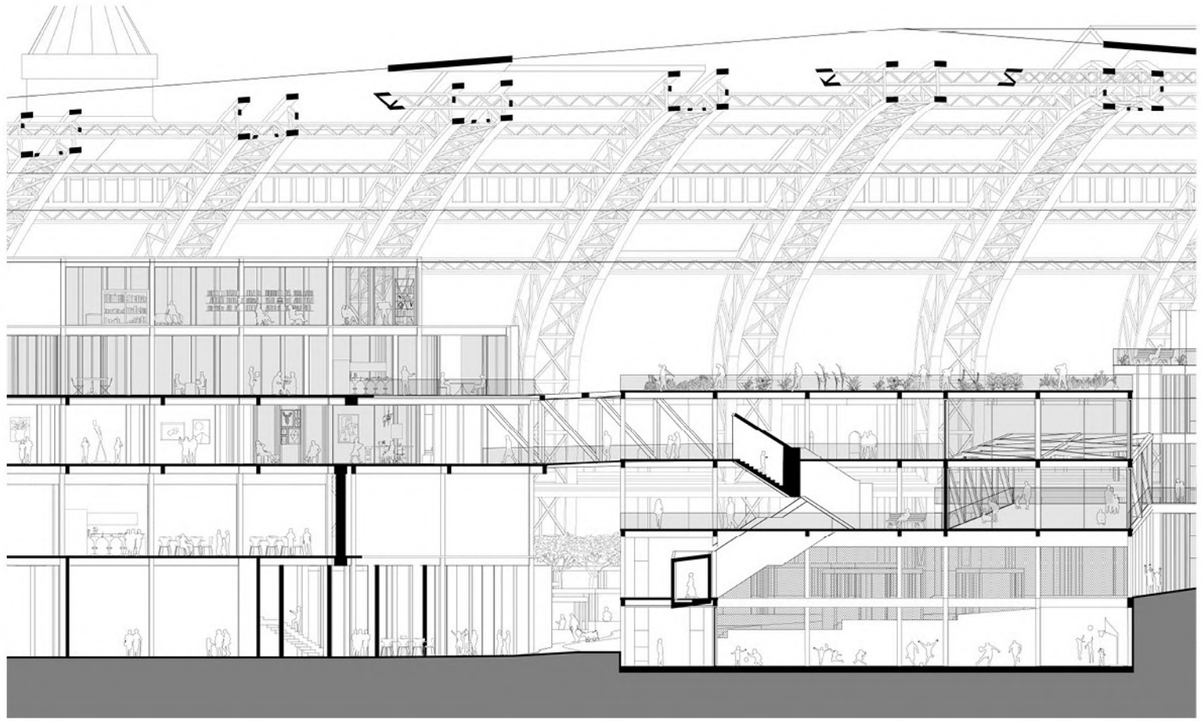


Short Section: Balance of Buildings and Landscape

Rooftop Farm Overview



Long Section: Horizontal and Vertical Connectivity



Culture to Sports Section

Library Interior

Sports to Culture Connection

3

Monumentalize

GSAPP ADV IV - Spring 2023

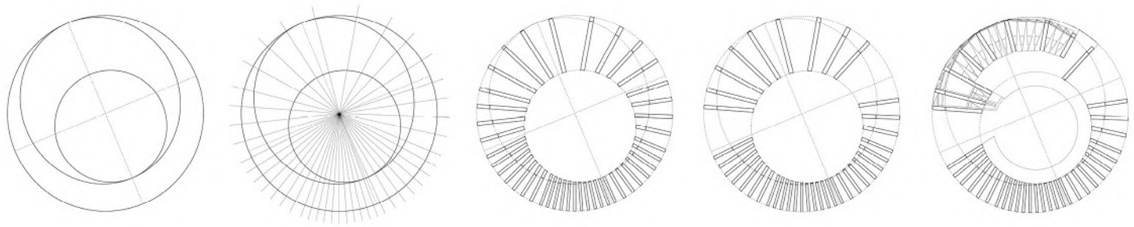
Instructor: Robert Marino
Site Location: Montauk, Long Island, NY
Duration: 14 Weeks

As the Ocean Studio placed the site of a lifesaving station to be on the beach of Long Island, I investigated the idea of transcience, instrumentality, and monumentality in architecture. Since sea level rising is inevitable, the function of the built space will be trainsient and should adapt to the changes through time. The essence of this piece is an instrument that gauges the relationship with humans and the sea.

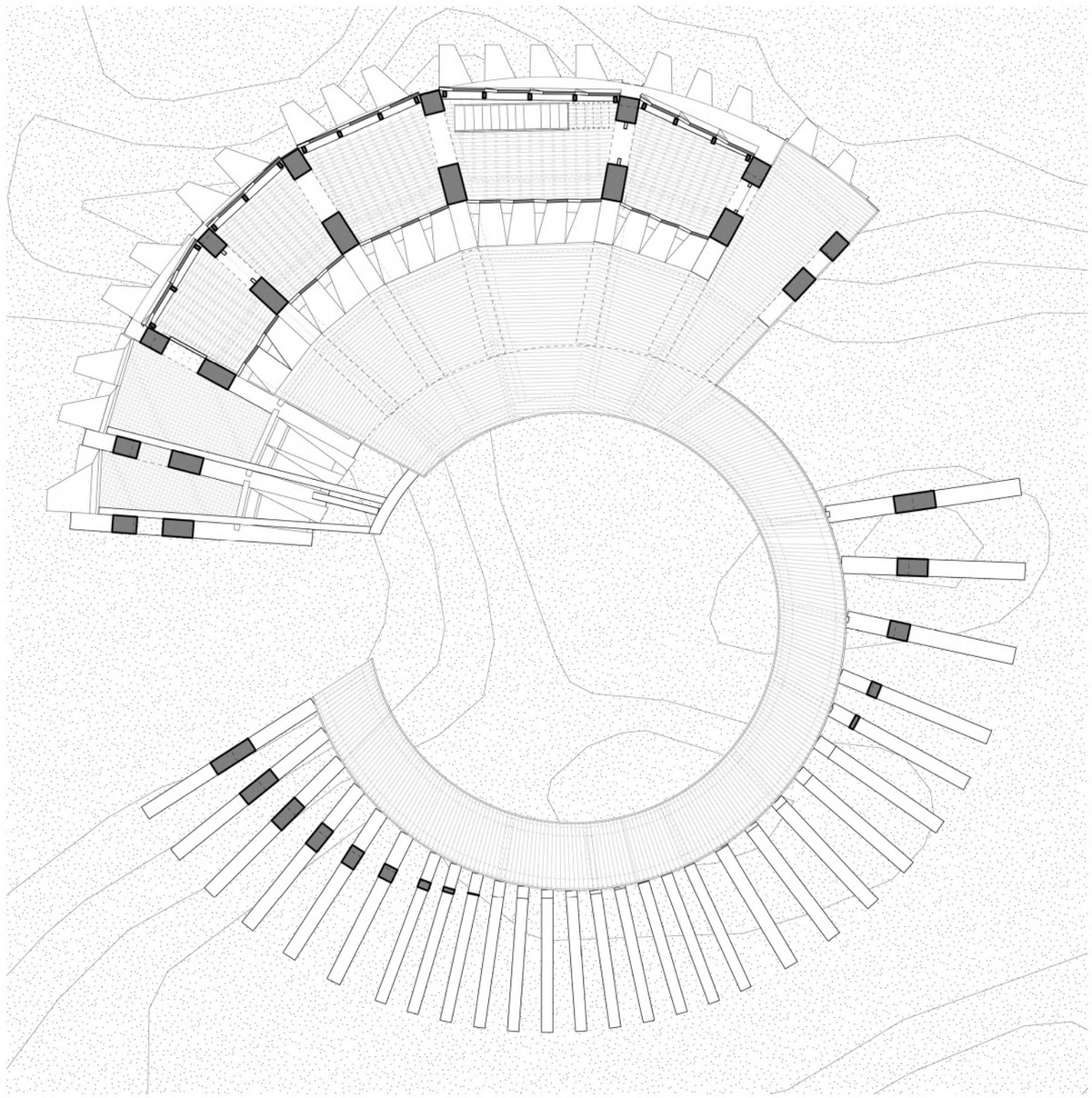
The changing distances between individual concrete structure adjusts the visual perception of the ocean. The changing heights and spatial orientations of the observation colonnade repositions the physical sense of space onto the observers. The ever-changing experience of the piece signifies the impermanence of life and monumentalizes a civilization's trace and impact on the earth.

Site Map: Montauk Beach

Combination of Permanent and Transient Materials



Formal Derivation



Upper Floor Plan

Concrete Collonades and Wooden Panels

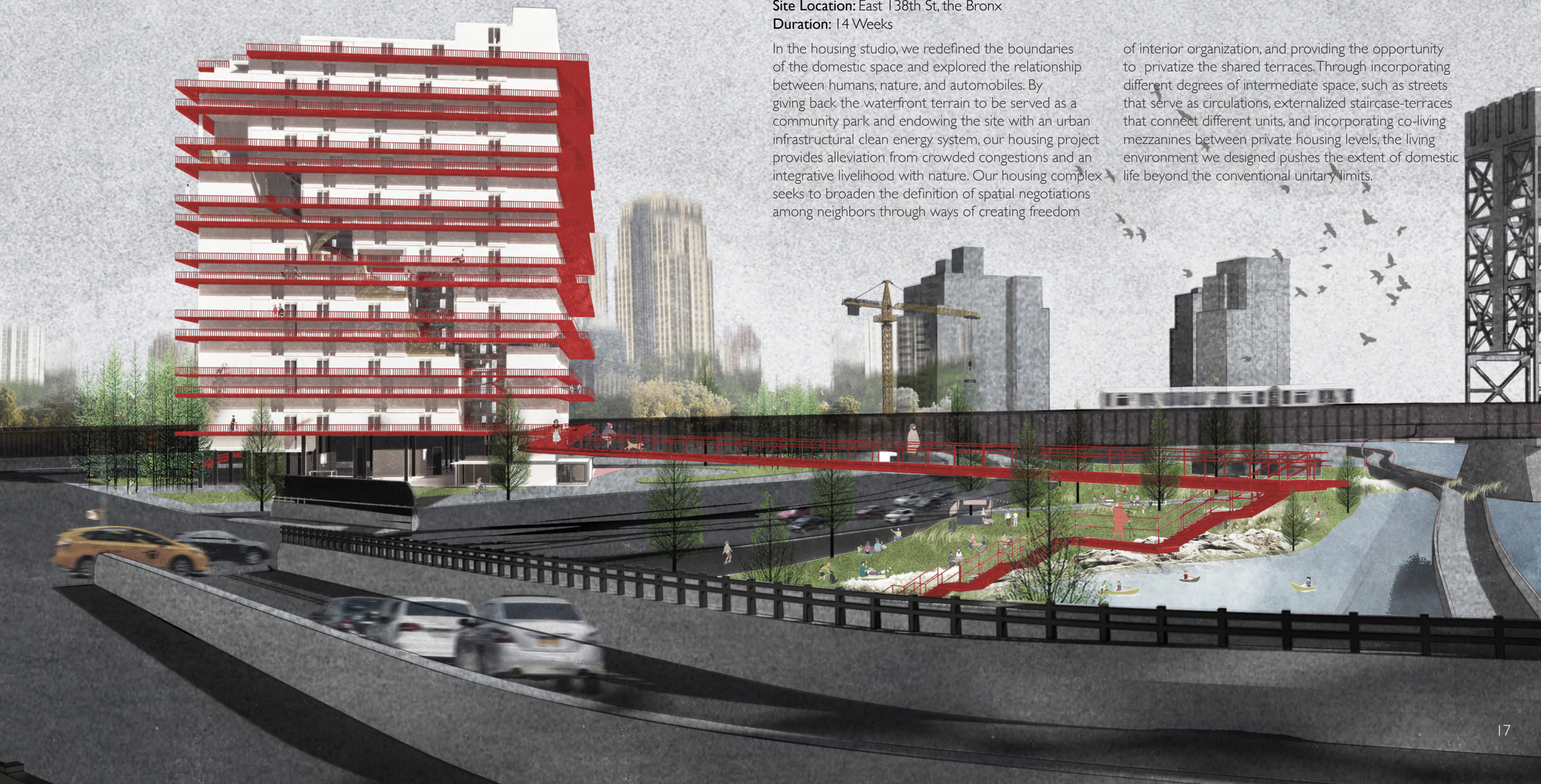
4

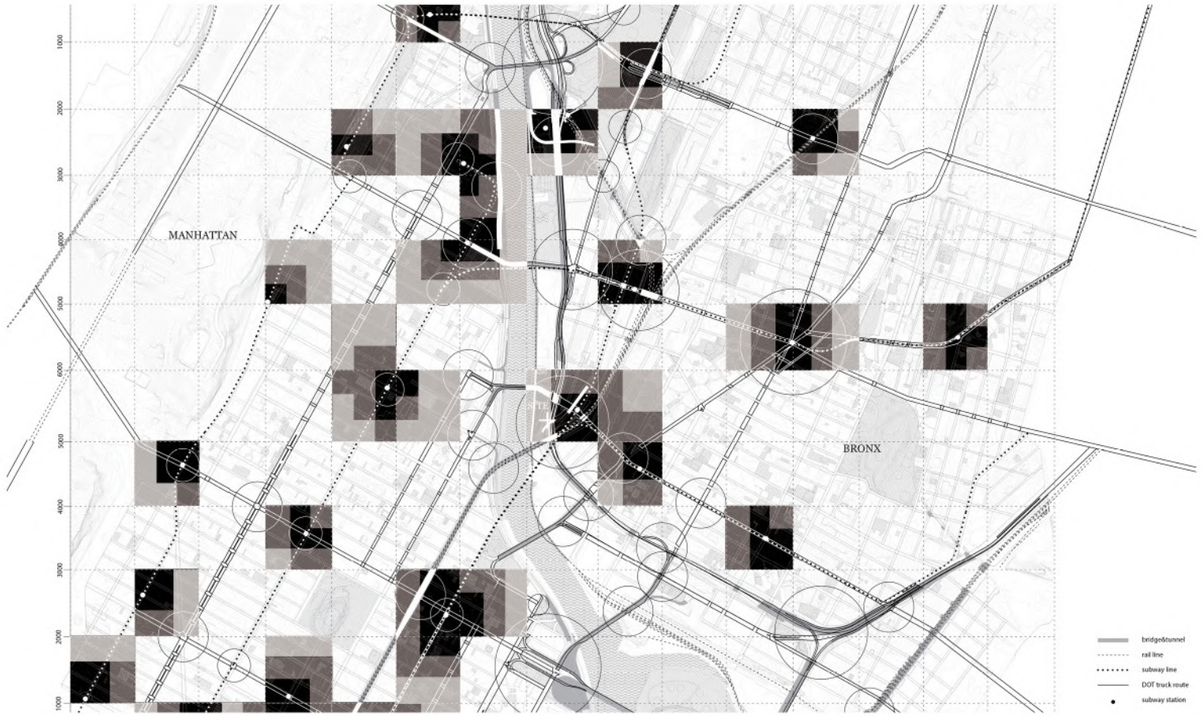
Inhabit

GSAPP Core III - Fall 2022

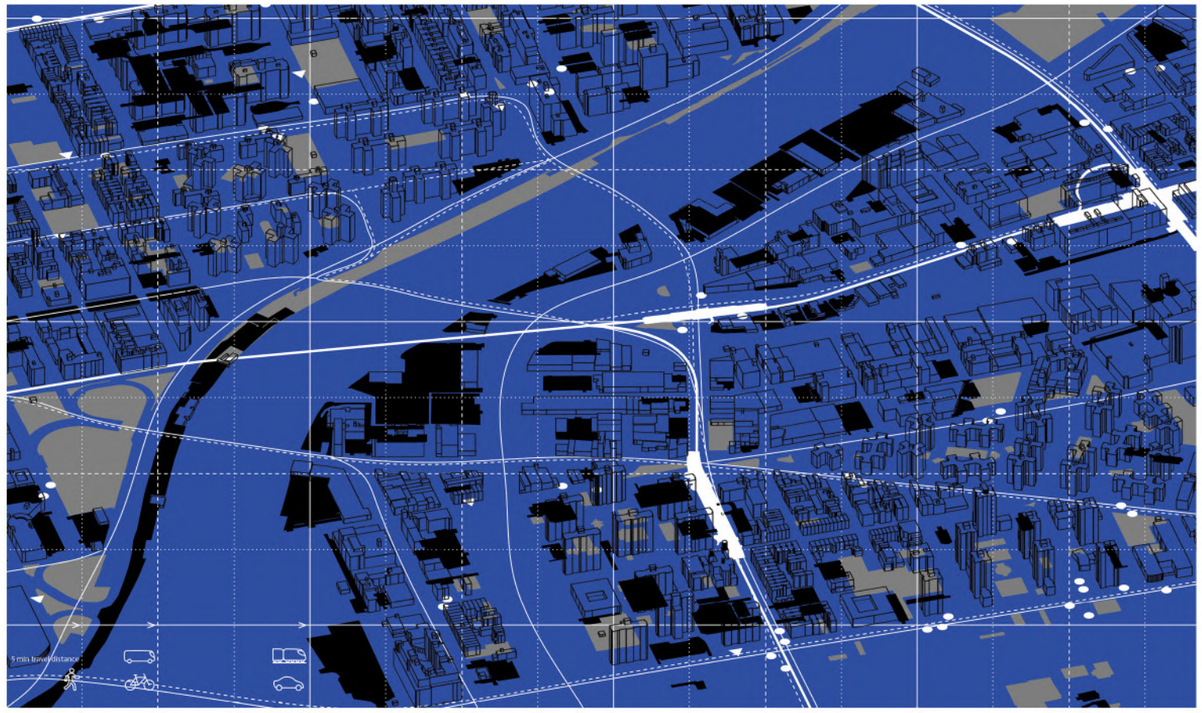
Instructor: Esteban de Backer
Studio Partner: Shiyu Lyu
Site Location: East 138th St, the Bronx
Duration: 14 Weeks

In the housing studio, we redefined the boundaries of the domestic space and explored the relationship between humans, nature, and automobiles. By giving back the waterfront terrain to be served as a community park and endowing the site with an urban infrastructural clean energy system, our housing project provides alleviation from crowded congestions and an integrative livelihood with nature. Our housing complex seeks to broaden the definition of spatial negotiations among neighbors through ways of creating freedom of interior organization, and providing the opportunity to privatize the shared terraces. Through incorporating different degrees of intermediate space, such as streets that serve as circulations, externalized staircase-terraces that connect different units, and incorporating co-living mezzanines between private housing levels, the living environment we designed pushes the extent of domestic life beyond the conventional unitary limits.

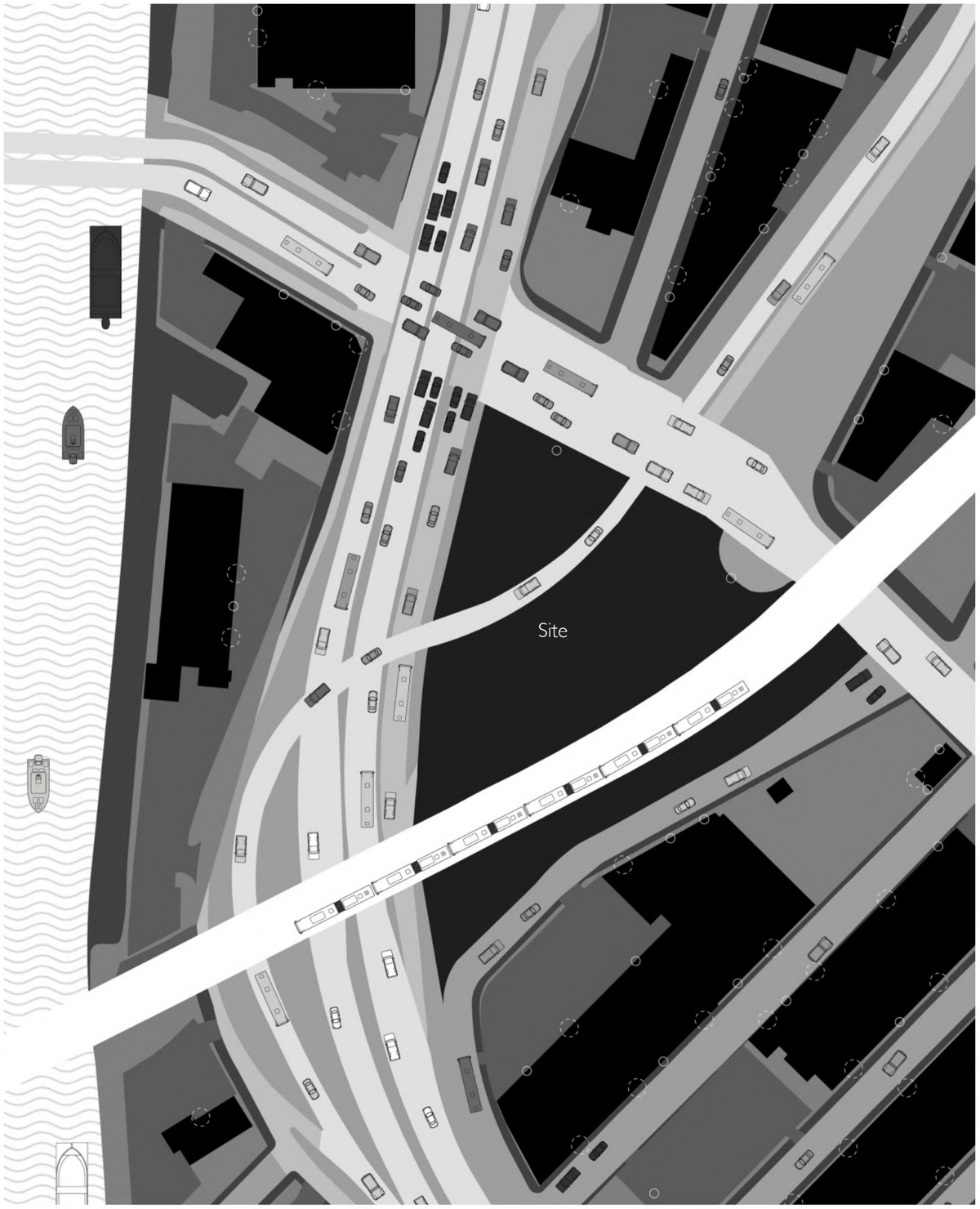




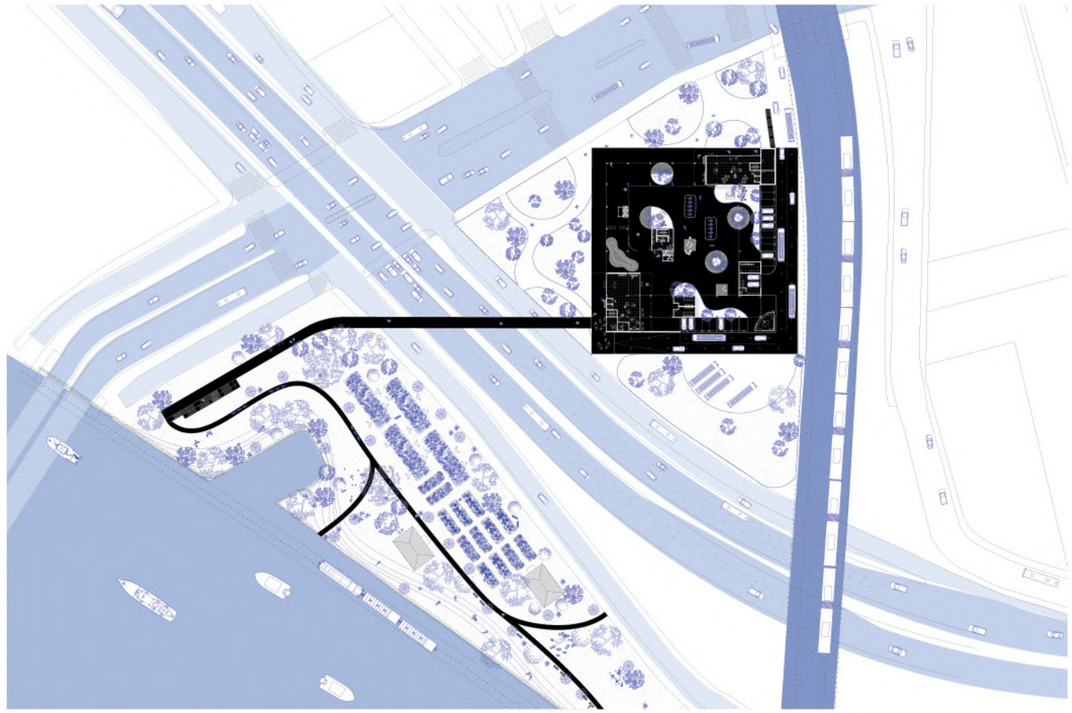
City Accessibility: Congestion Zones



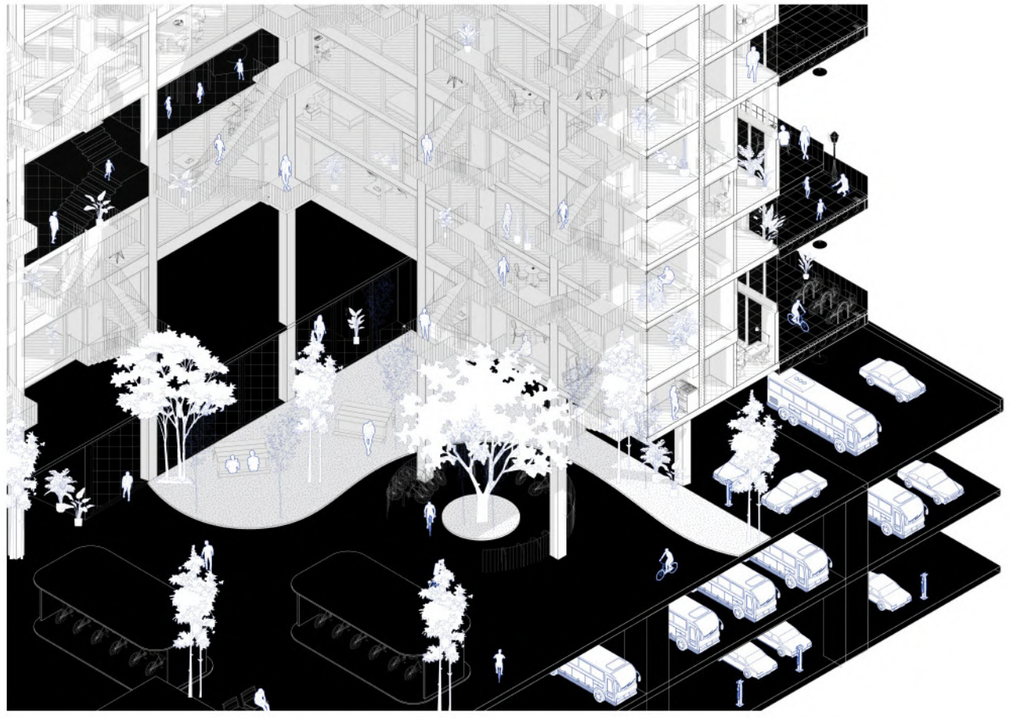
Borough Accessibility: Passing Public Transportation and Idle Empty Lands



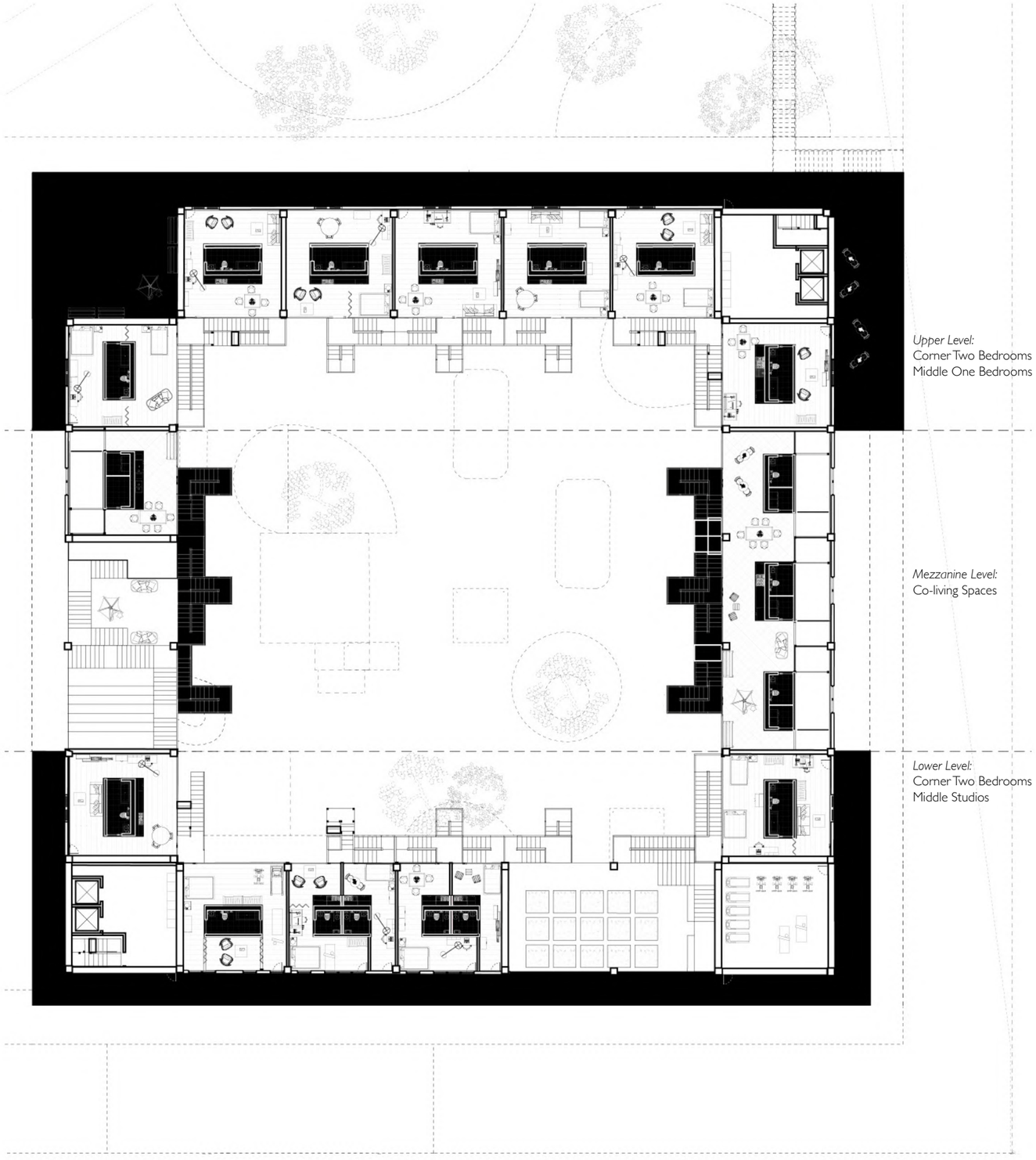
Site Accessibility: High-Speed Traffic-Enclosed Lot



Swap of Infrastructural Housing and Waterfront Park



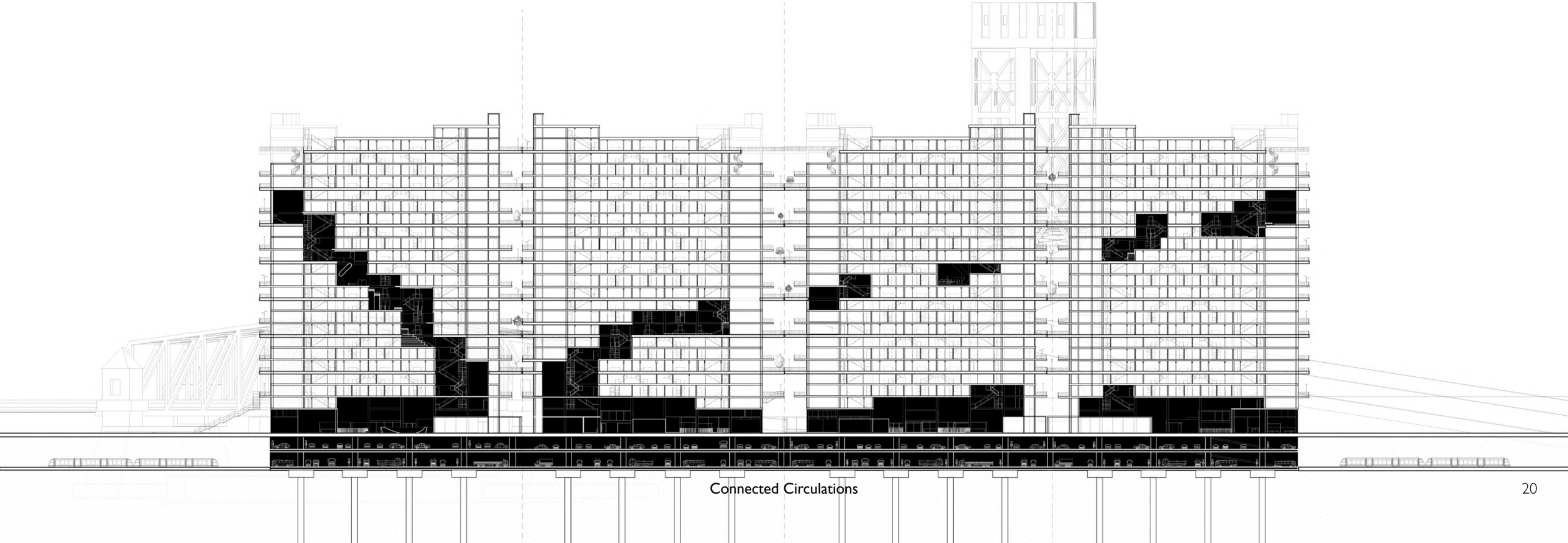
Urban Intersection of the Environment and Infrastructure



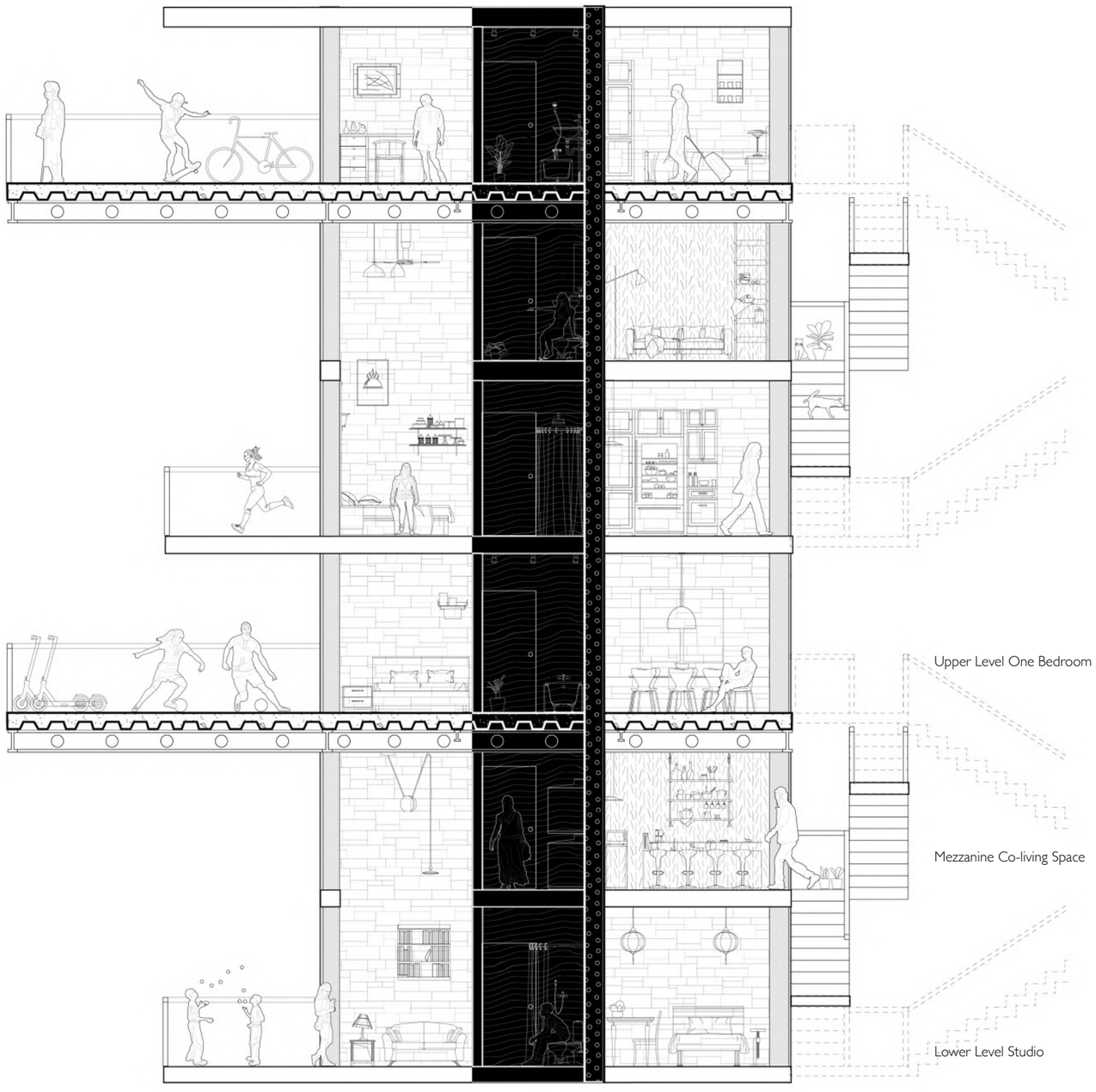
Spectrum of Spatial Definitions: Private Cores-Intermediate Terraces-Shared Perimeters

Gradient of Movement: Home Access to Street

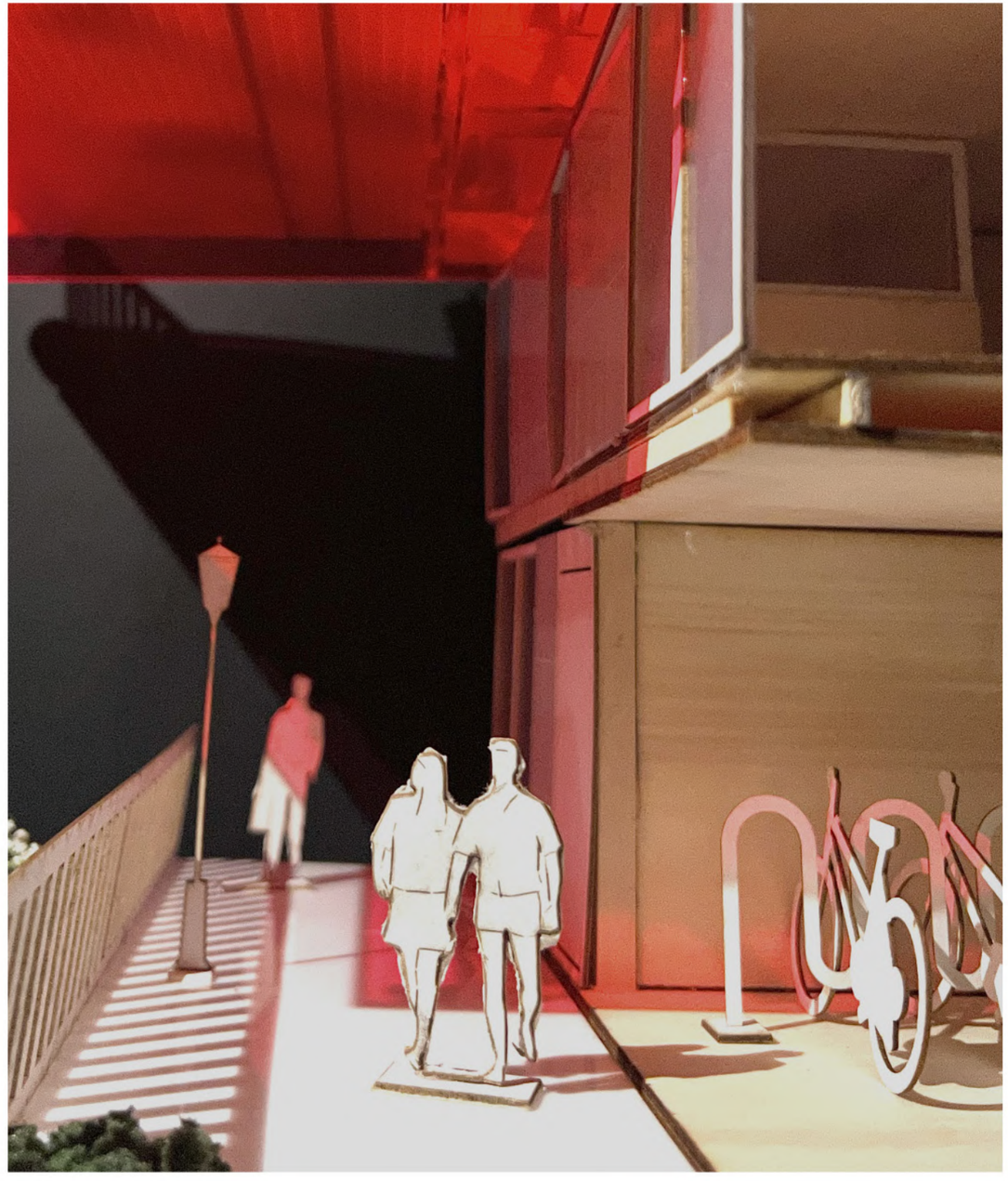
Spatial Negotiations: Maximized Interior Living through Externalized Circulations



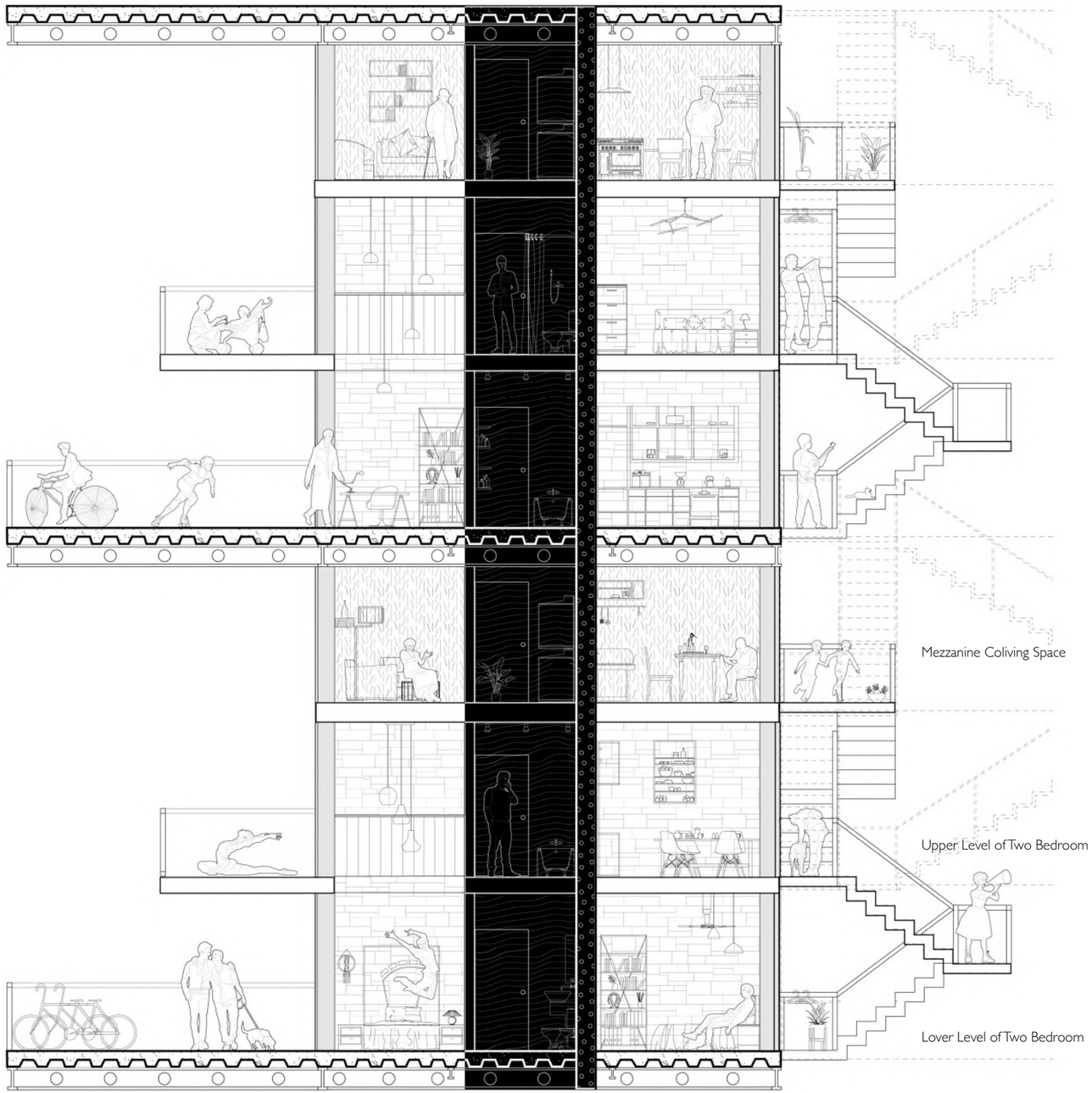
Connected Circulations



Single-Story Units



Street to Home: Extend Private to Shared



Double-Story Units

Staircase Terrace: Privatize the Intermediate Space

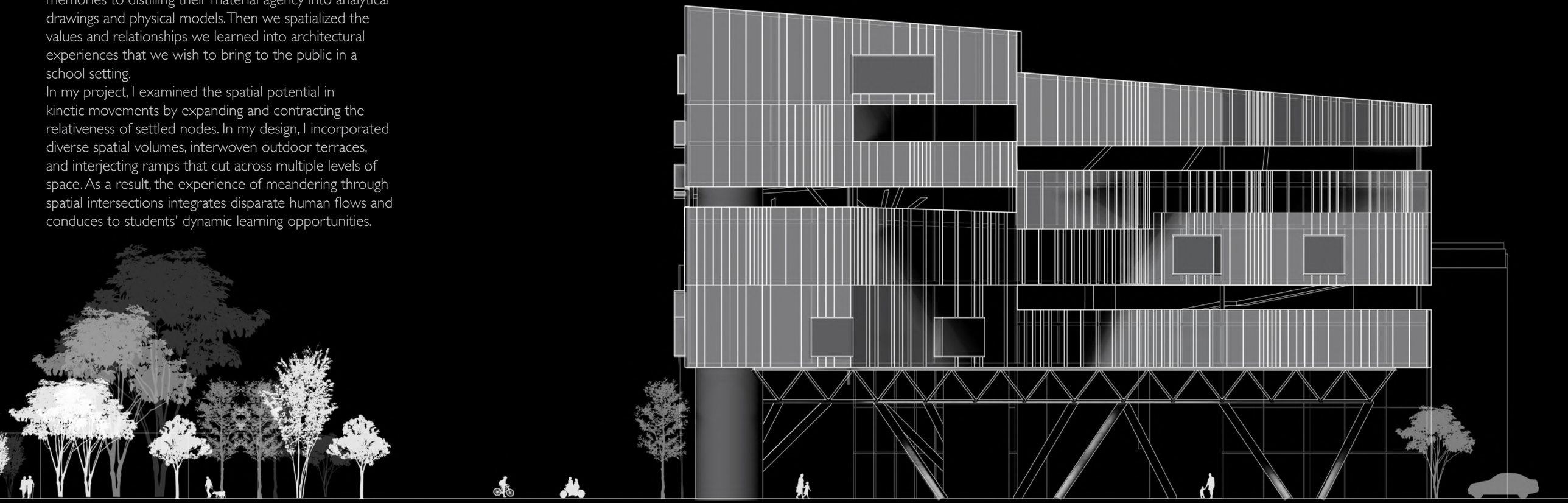
5

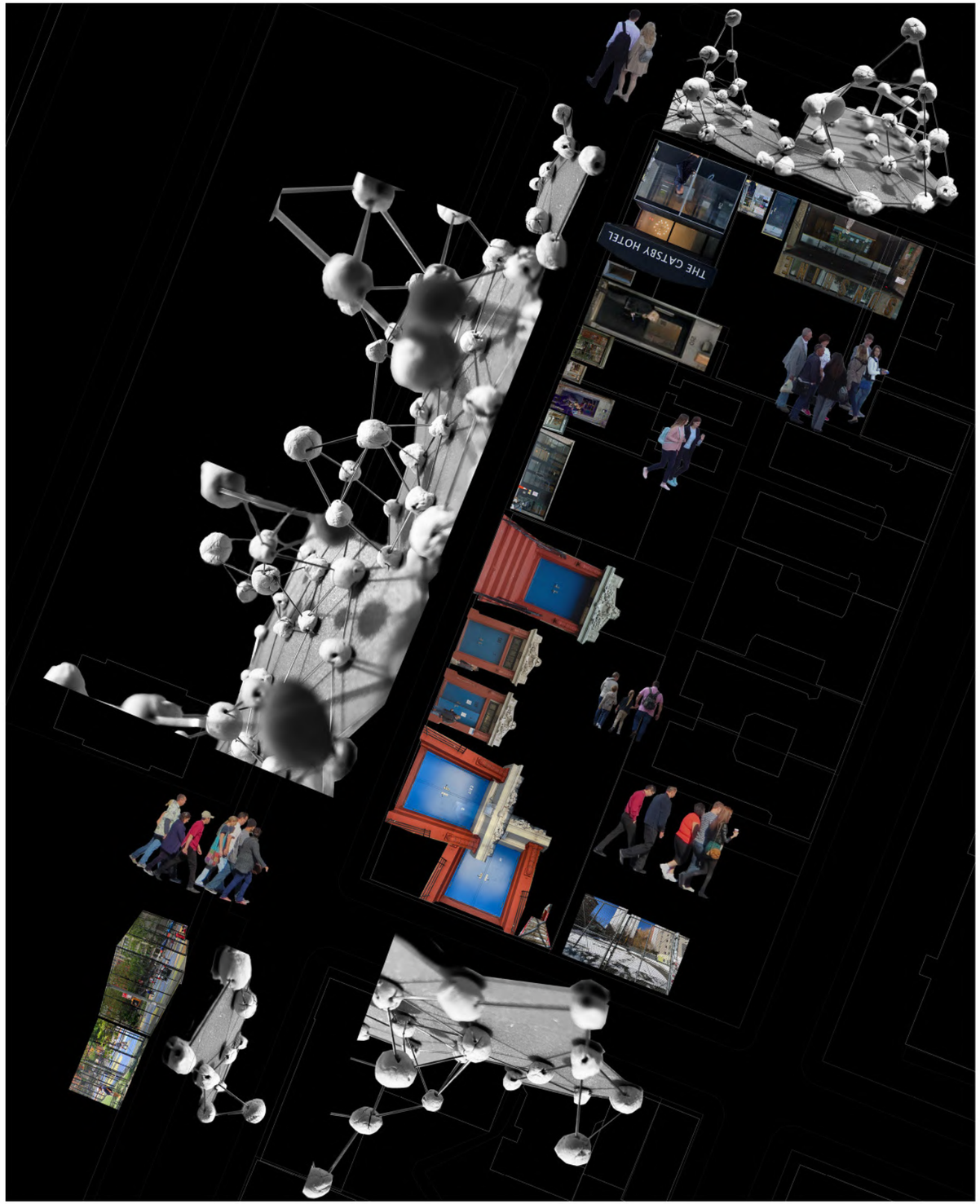
Meander

GSAPP Core II - Spring 2022

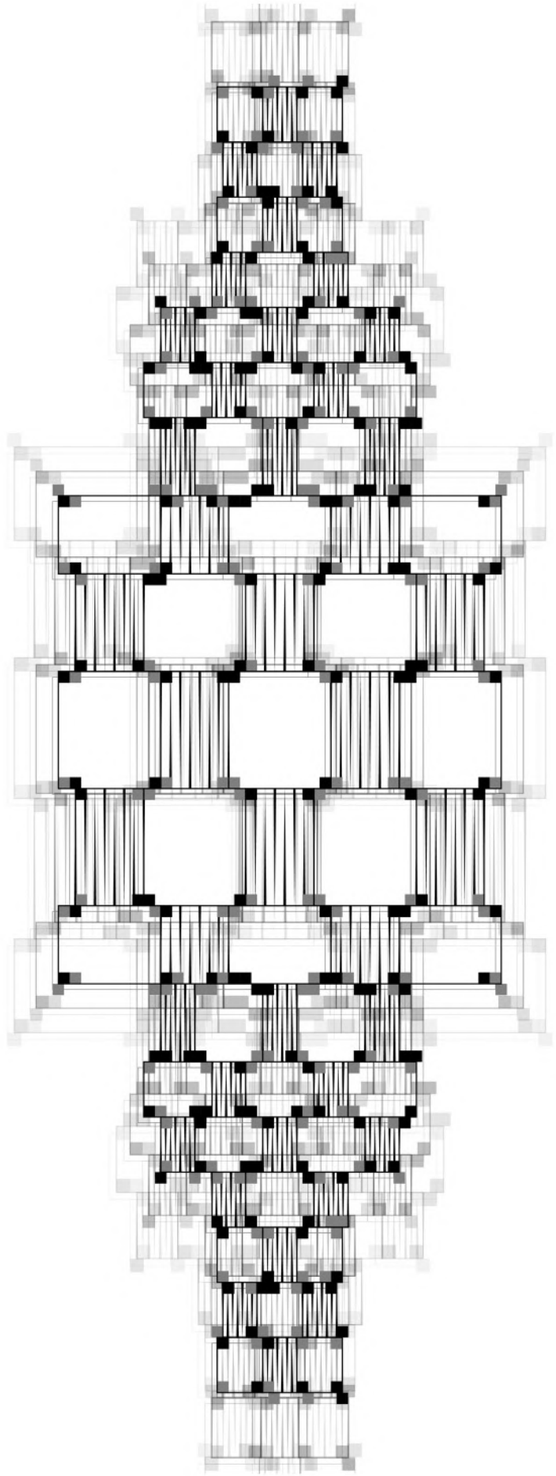
Instructor: Karla Rothstein
Site Location: 198 Forsyth Street, NYC
Duration: 14 Weeks

In this studio, we were trained to investigate conceptual abstraction, translation, and actualization. We started with exploring substantive capacity by drawing from personal memories to distilling their material agency into analytical drawings and physical models. Then we spatialized the values and relationships we learned into architectural experiences that we wish to bring to the public in a school setting.
In my project, I examined the spatial potential in kinetic movements by expanding and contracting the relativeness of settled nodes. In my design, I incorporated diverse spatial volumes, interwoven outdoor terraces, and interjecting ramps that cut across multiple levels of space. As a result, the experience of meandering through spatial intersections integrates disparate human flows and conduces to students' dynamic learning opportunities.

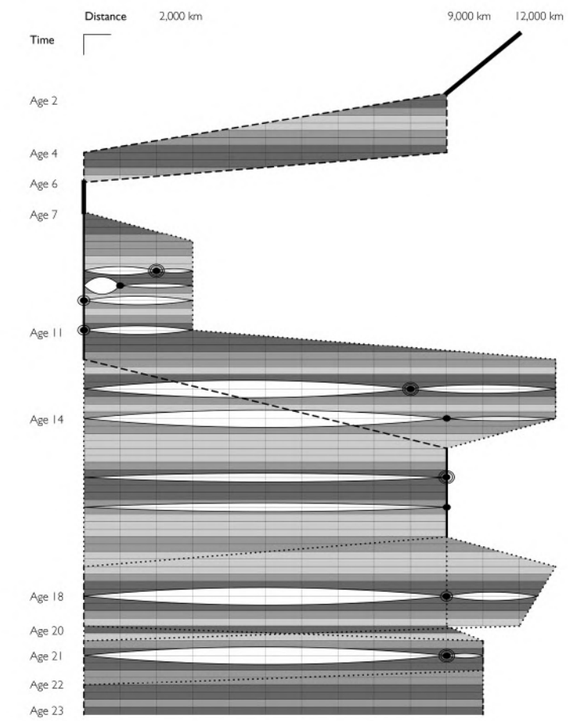




Site Abstraction: Nodes of Exits in Relation with Human Flows

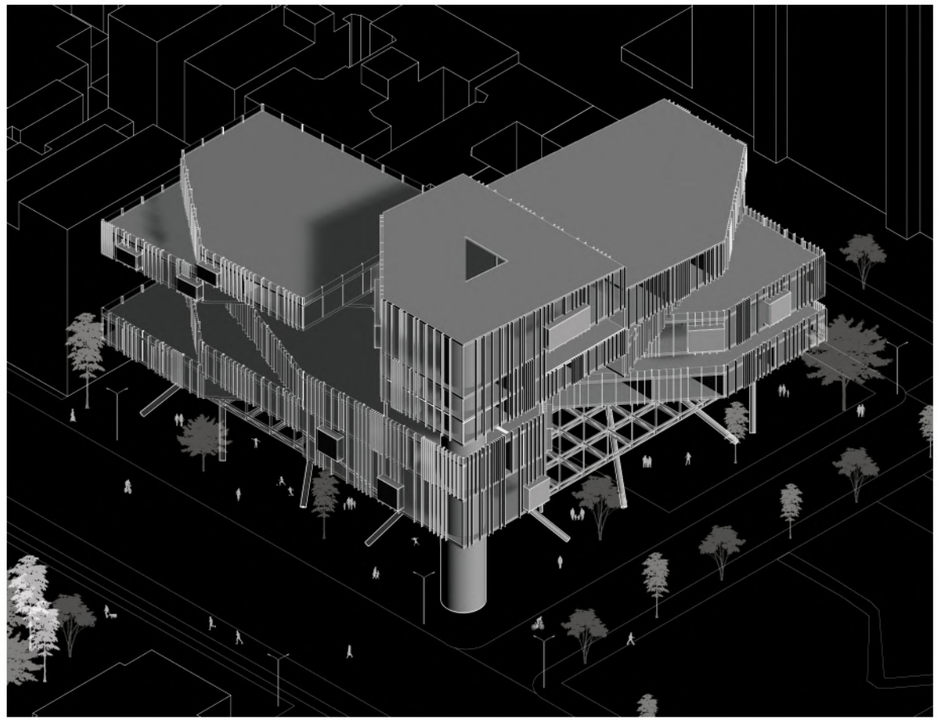


Syntax Map: Fabric Porosity and Joints

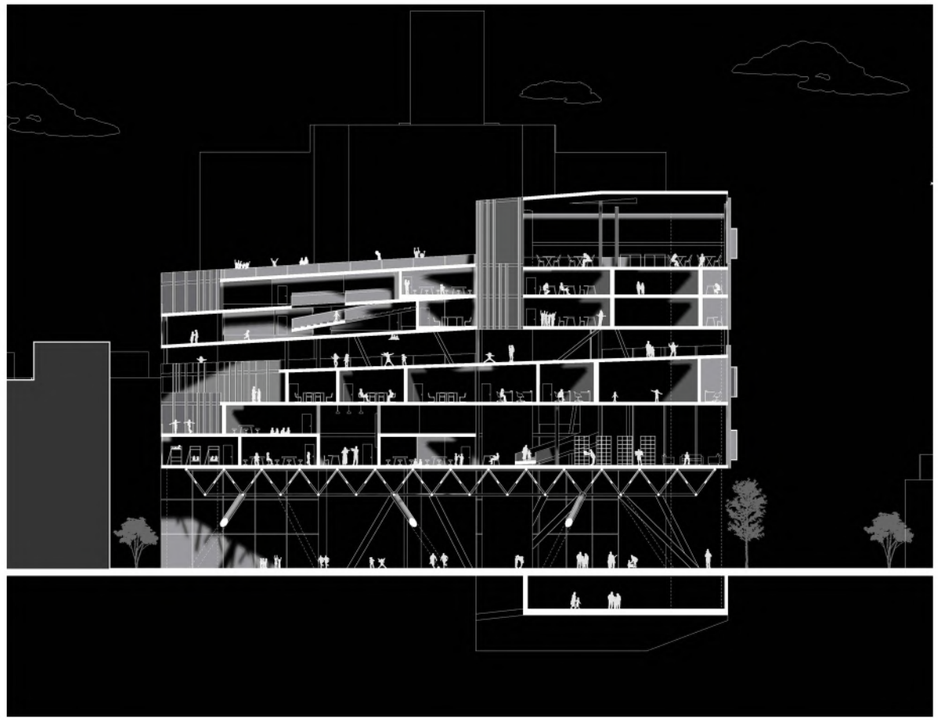


Childhood Memory: Family Divergence and Convergence

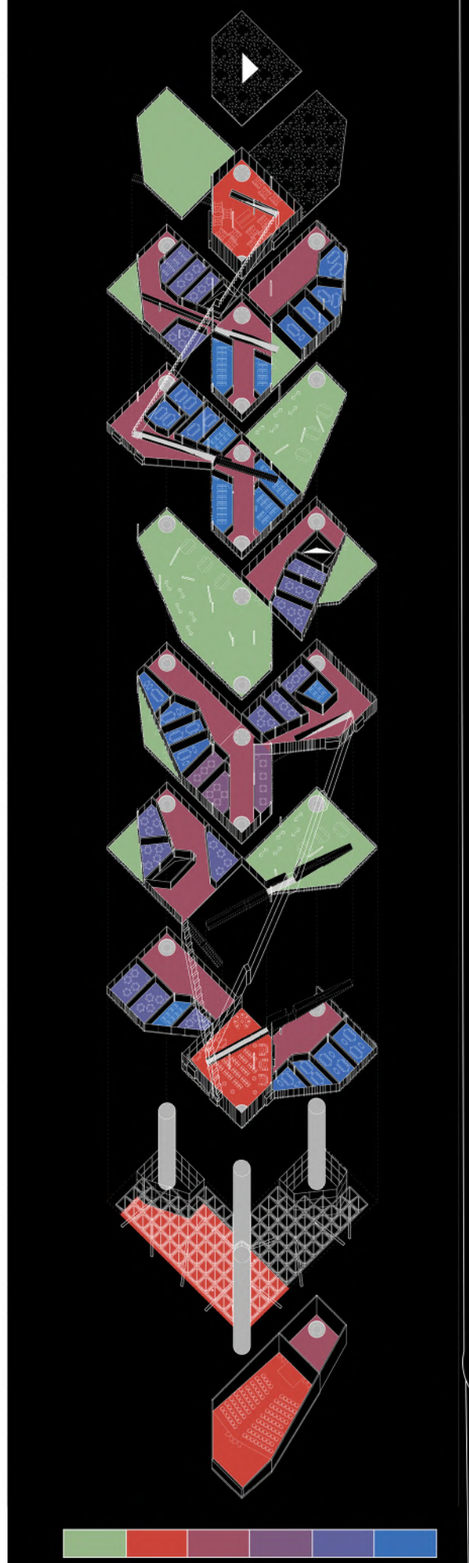
Unsettled Settlements: Mobilily in Attractive Forces

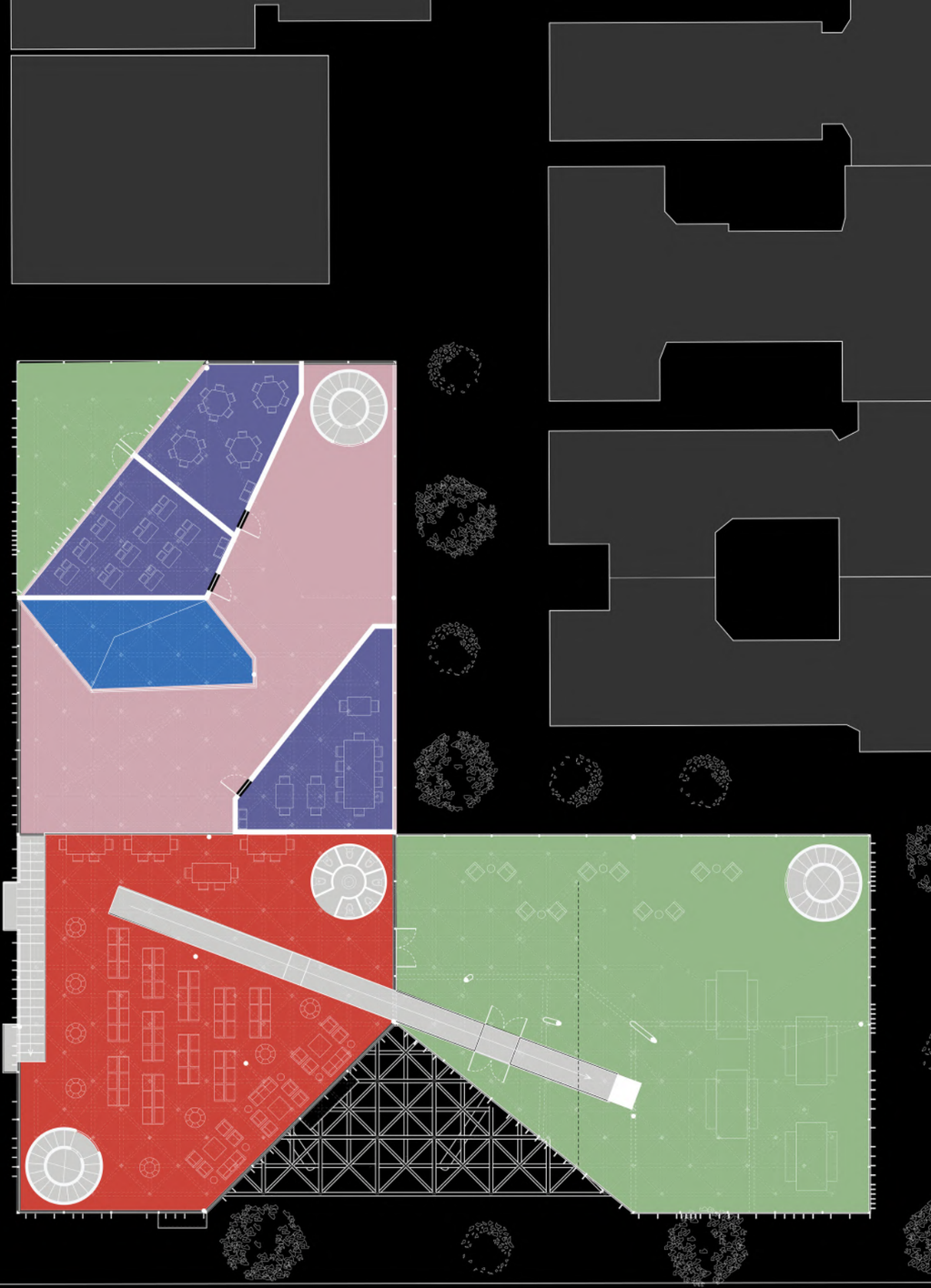


Permeable Street Frontage

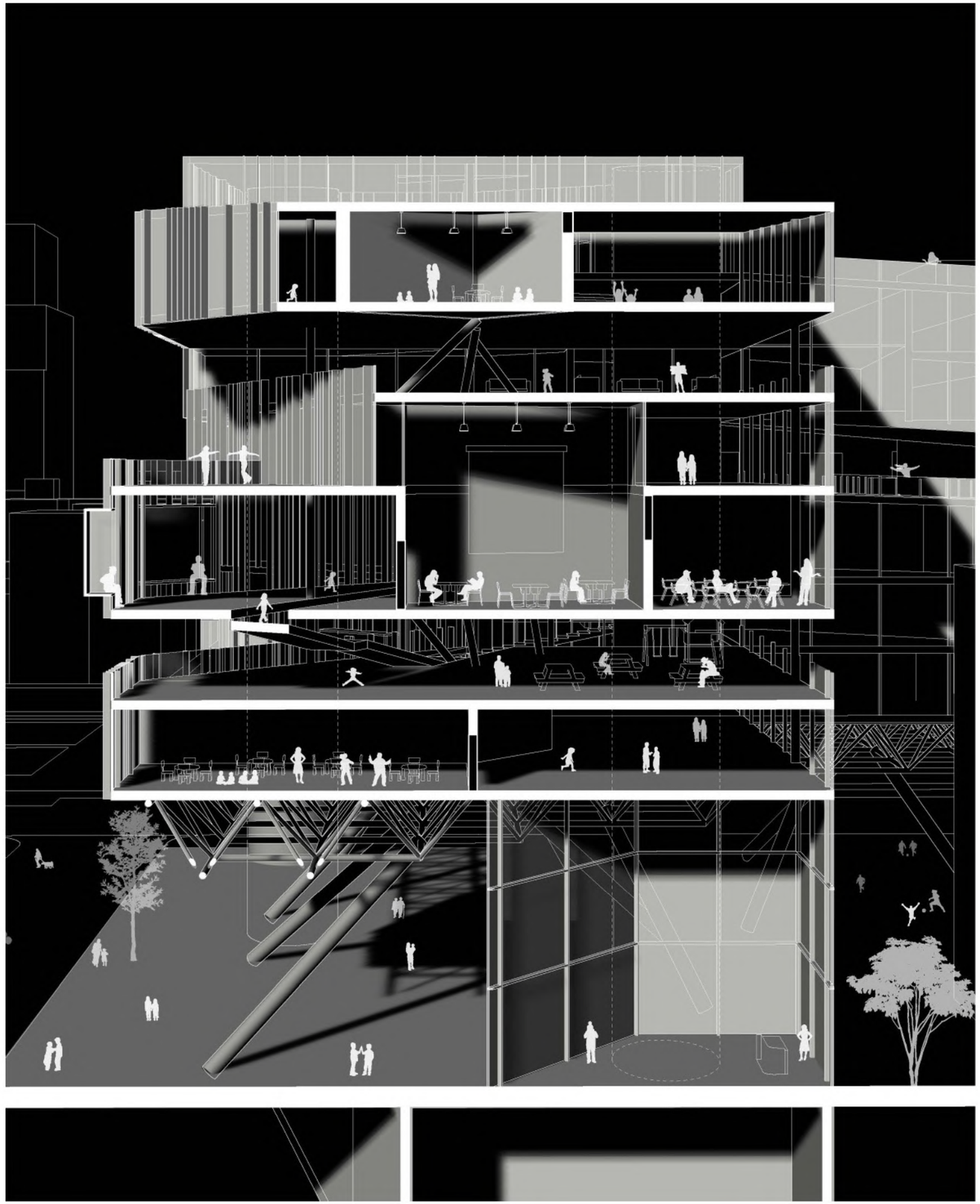


Section West: Open Street Corner Gym





Second Level: Classroms-Double Height Library-Outdoor Terrace



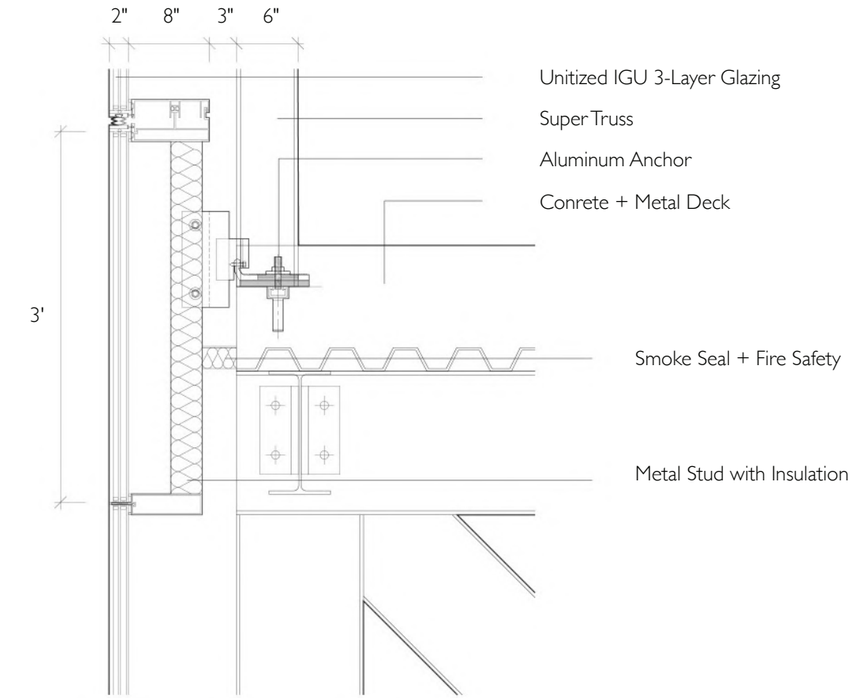
Section East: Intersecting Spatial Volumes

Interject / Integrate

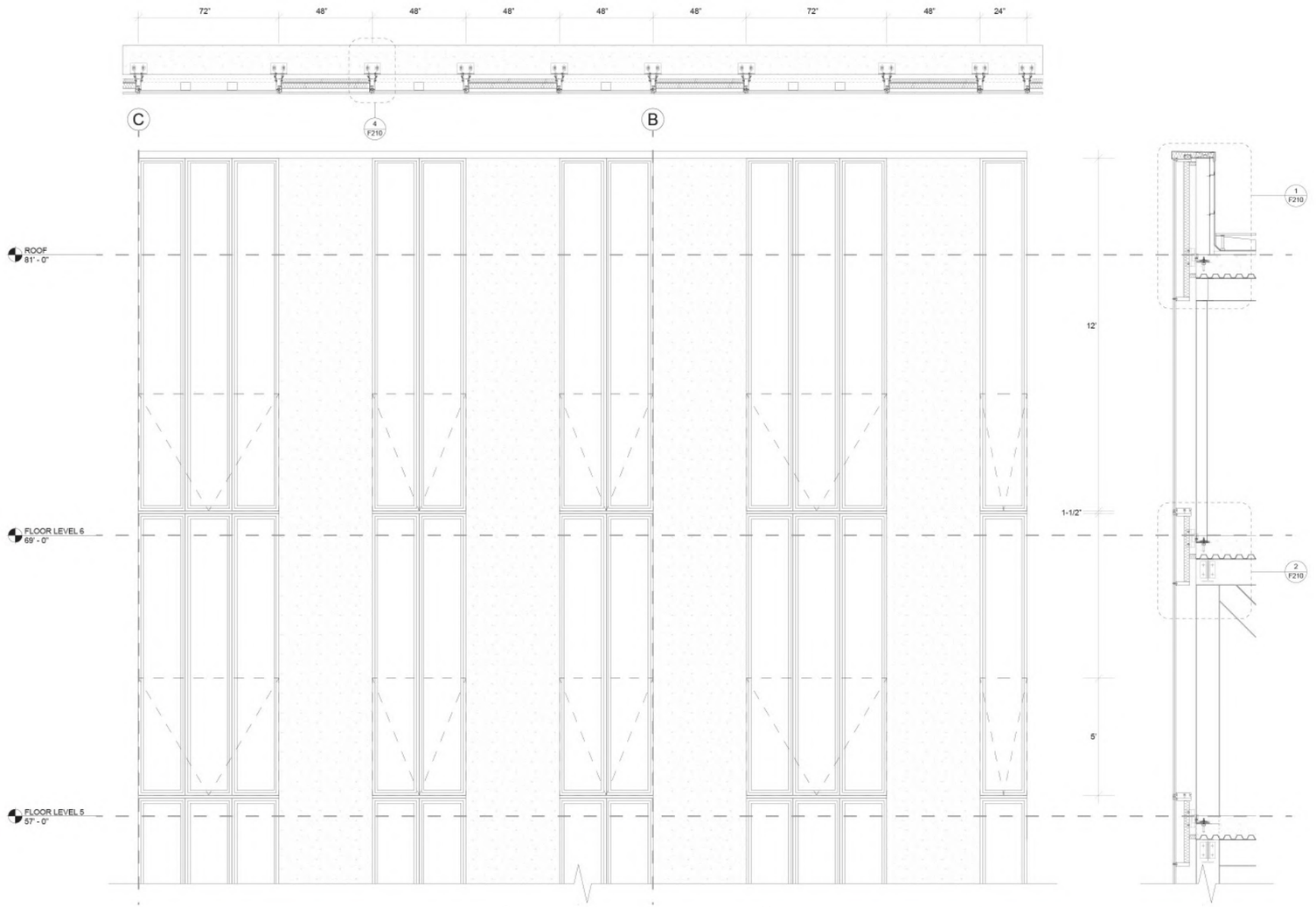
AT 3+4: Building Systems Integration

In the course of Architectural Techonologies 4: Building Systems Integration, as a team, Jason Li, Shiyu Lyu, Haoge Gan, Caining Gu, and I have developed my school design with further technical details. We readapted the original scheme into a more integrative and buildable design, including structures, materiality, envelopes, and environmental systems.

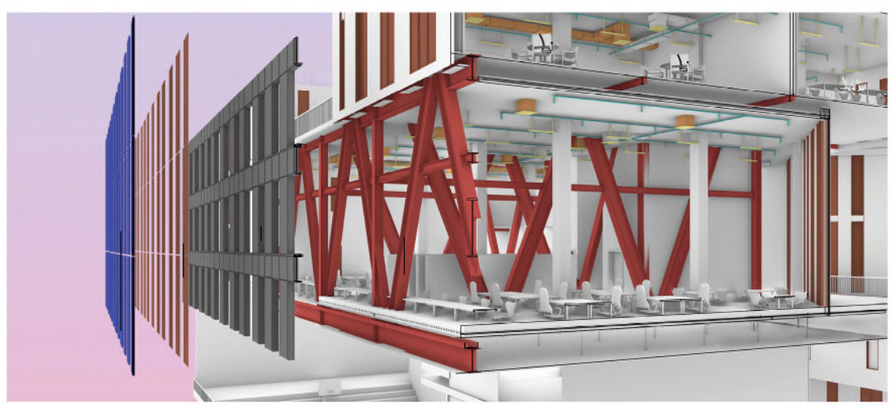
To achieve the effect of a floating megastructure that allows for a porous building envelope, we choose to use a super truss system to hold up the cantilever, and incorporated a unitized curtain wall system as the street-facing facades.



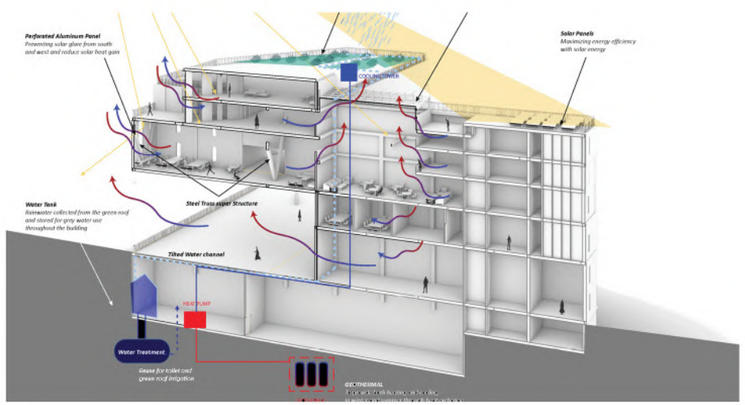
Detail Section



Wall System 1 Roadmap: Unitized Curtain Wall

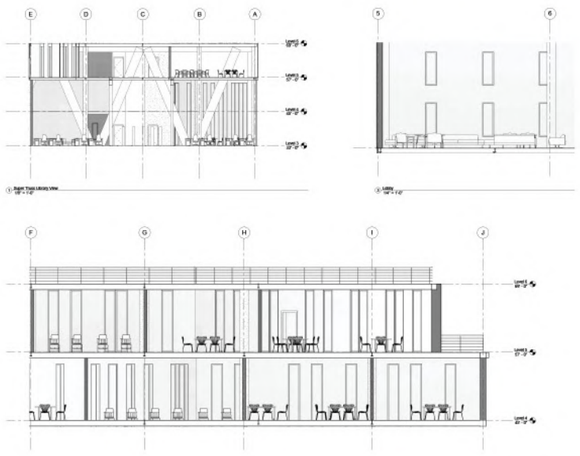


Exploded Structural Elements

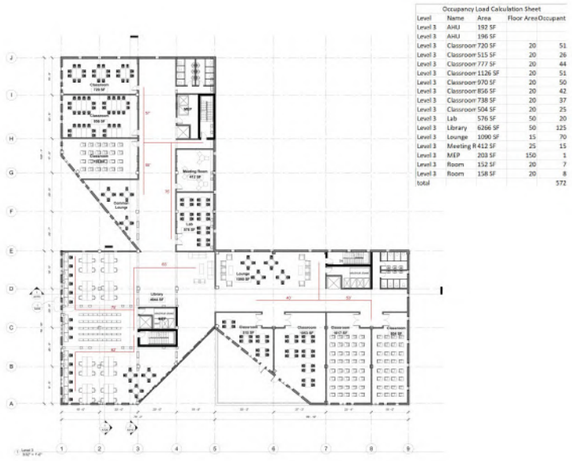


Sustainability Diagram

Exterior Render

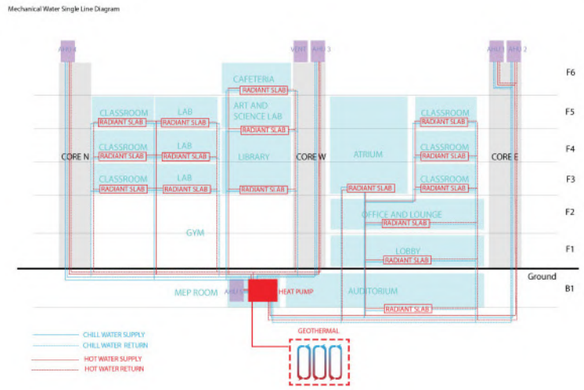


Key Interior Sections

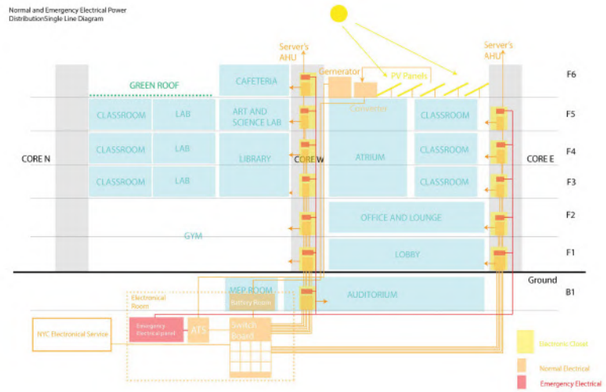


Occupancy Load Calculation Sheet				
Level	Name	Area	Floor Area/Occupant	
Level 3	AHU	192 SF		
Level 3	AHU	196 SF		
Level 3	Classroom	730 SF	20	51
Level 3	Classroom	515 SF	20	26
Level 3	Classroom	777 SF	20	44
Level 3	Classroom	1126 SF	20	51
Level 3	Classroom	970 SF	20	50
Level 3	Classroom	856 SF	20	42
Level 3	Classroom	738 SF	20	37
Level 3	Classroom	504 SF	20	25
Level 3	Lab	576 SF	50	20
Level 3	Library	6266 SF	50	125
Level 3	Lounge	1090 SF	15	70
Level 3	Meeting R	412 SF	25	15
Level 3	MEP	203 SF	150	1
Level 3	Room	152 SF	20	7
Level 3	Room	158 SF	20	8
total				572

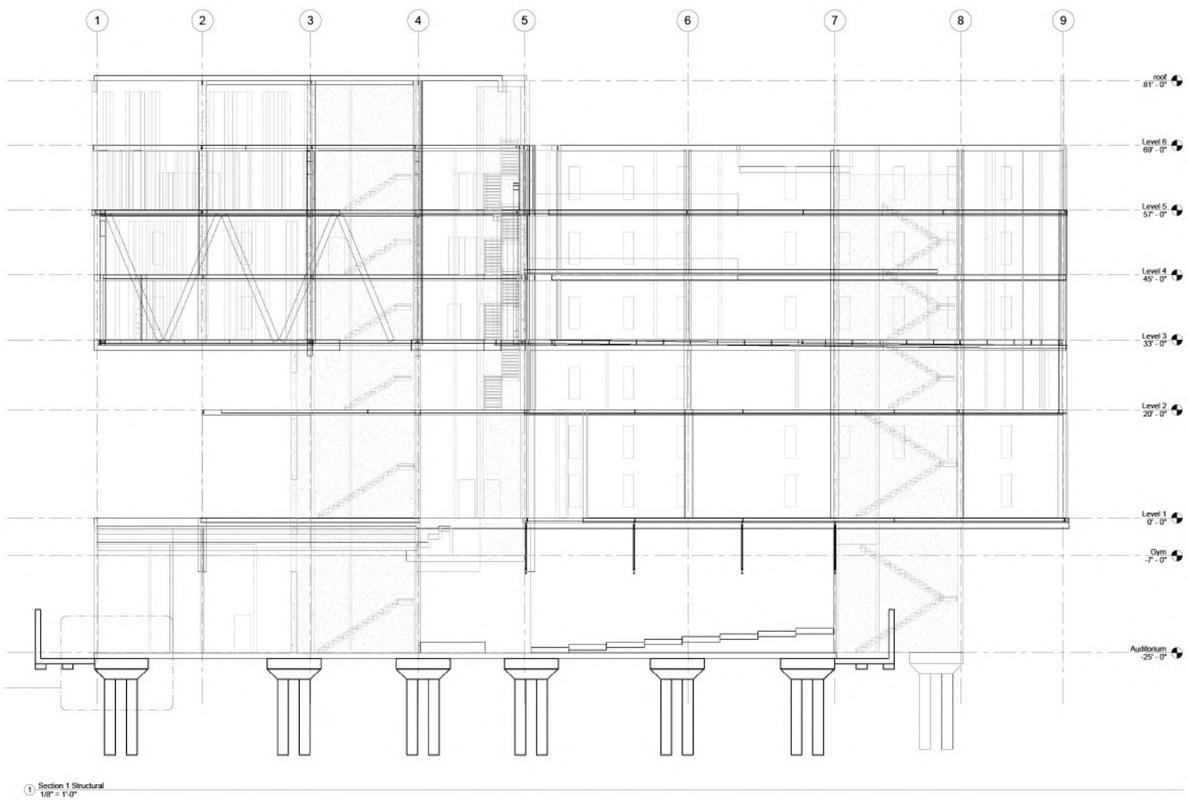
Level 3 Egress Plan



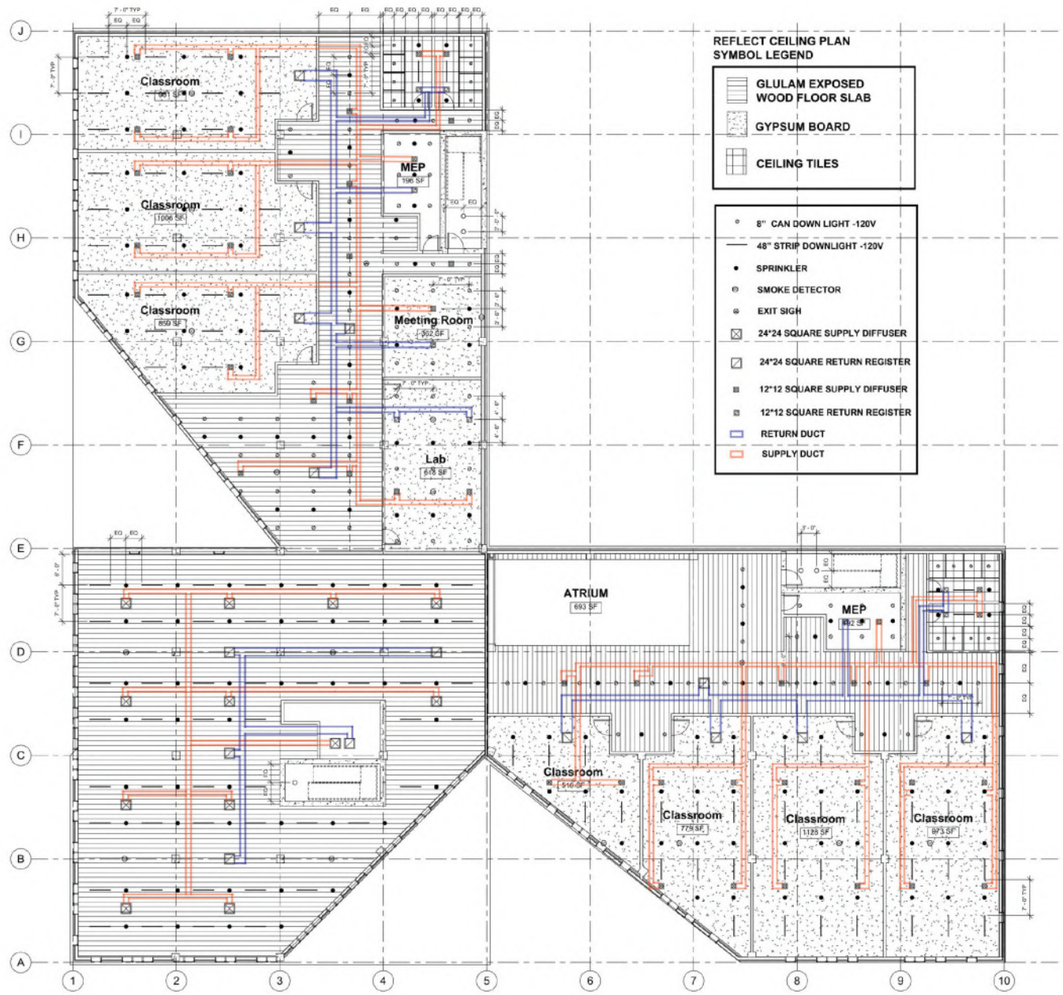
Mechanical Water Single Line Diagram



Normal and Emergency Electrical Power Distribution



Structural Section



Reflected Ceiling Plan

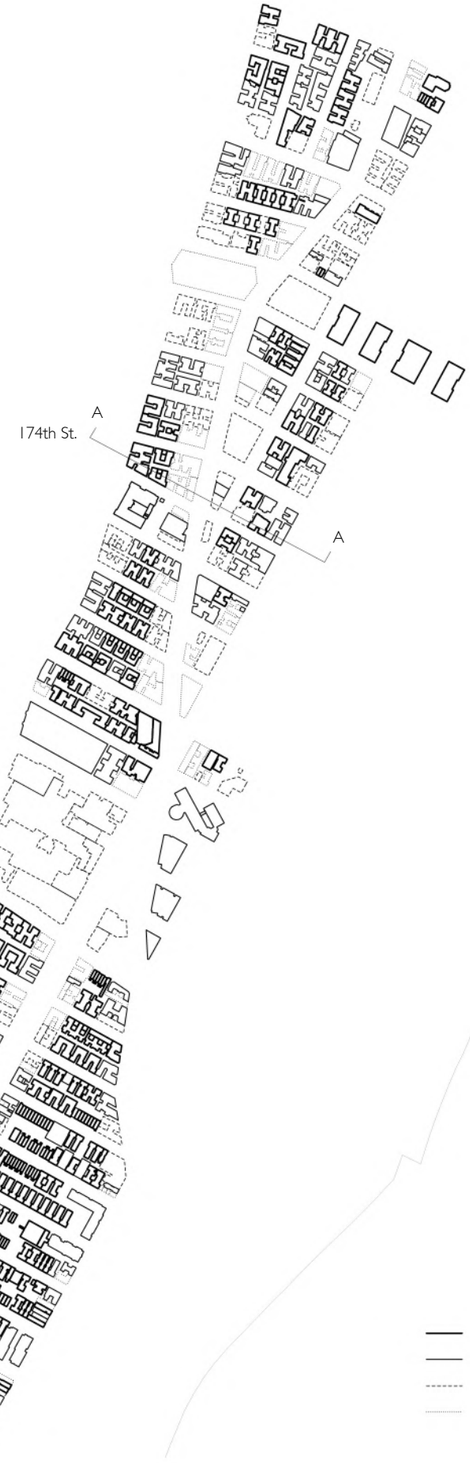
6

Heal

GSAPP Core I - Fall 2021

Instructor: Miku Dixit
Site Location: Broadway & W152nd - W184th, NYC
Duration: 14 Weeks

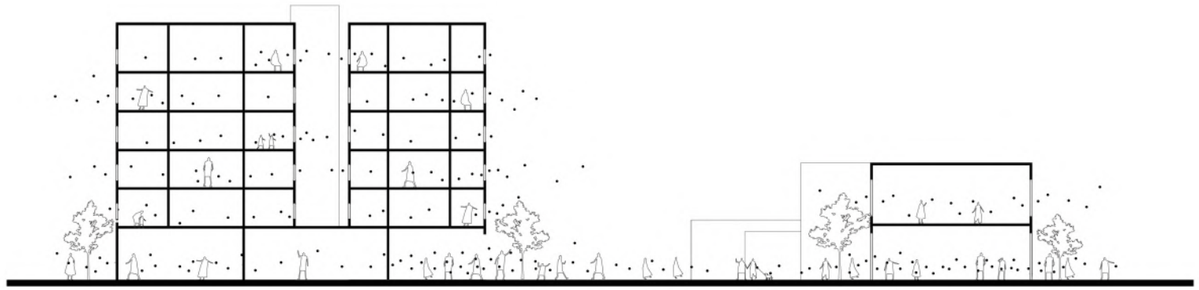
Manhattan's Broad Way is rich in history and complex in social phenomena. One critical issue that interested me the most in the project was that though there exist a large hospital and numerous medical centers in the neighborhood, Washington Heights still has a higher-than-Manhattan's-average of people who do not have proper access to healthcare or insurance.
Through series of urban analysis, intervention exporation, and different representation methods, I aimed to resolve contemporary urgent need in the sophisticated urban network with a future-looking vision. Adaptable to diverse conditions, I pursued a modeling of a medical station prototype that can be potentially replicable to be added to different neighborhoods. By providing open and free medical services, I wish to expand the accessibility to healthcare to all levels of the community and eliminate any form of exclusivity.



Ground Floor Publicness: Permeable Edges

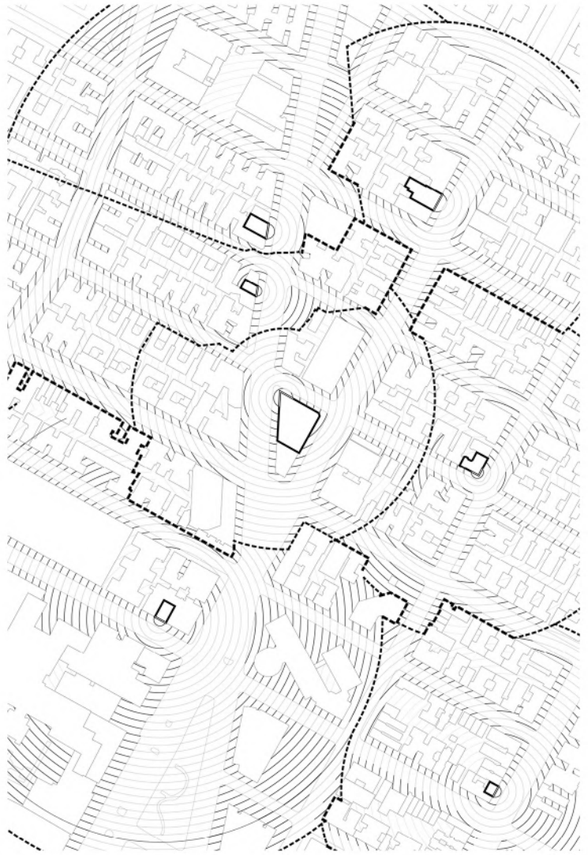
Broadway Urban Studies

Our section's area of research was located in the neighborhood of Washington Heights, W152nd - W184th along Broadway. Starting with large-scale urban survery, I mapped out the building permeability of the ground floors along Broadway according to the publicness of the residing program.
By bring permeability studies onto vertical façades, I examined the interrelation of air and human movements with buildings' physical openings.
Noticing the importance of medical services in the community, I illustrated pharmacies' distribution and their service ranges. By zooming in, I mapped out a pharmacy navigation map based on walking seconds, and naturally forming relative purviews.

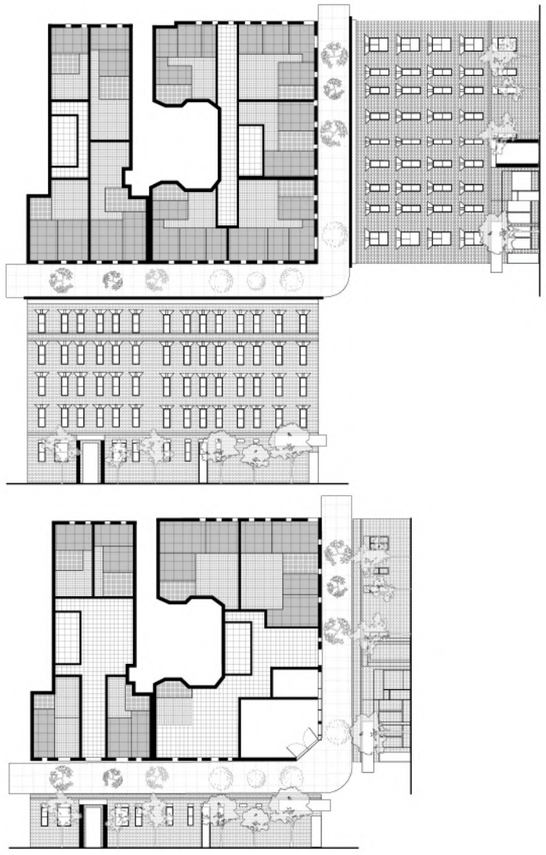


Sec. AA

Air and Human Fluid Movements



167th - 175th St. Pharmacy Walking Map



Existing Pharmacy: Compact and Busy

Existing Corner Pharmacy Condition

Santa Barbara Drugs, the local store faced evident problems. It was small but with a variety of services. The human flow was large but the store had a packed space, stuffed air, and only one entrance. Moreover, though highly localized, the store still did not serve the large underprivileged population who could not have proper access to healthcare and monetary security.

Corner Entrance

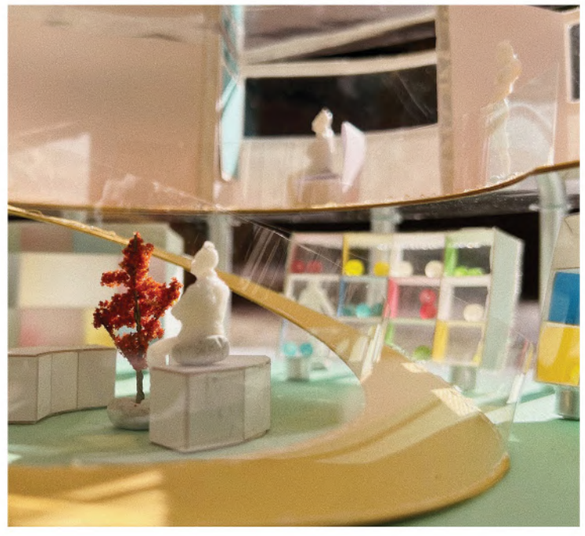
Medicine Inventory

Counseling and Drug Pickup

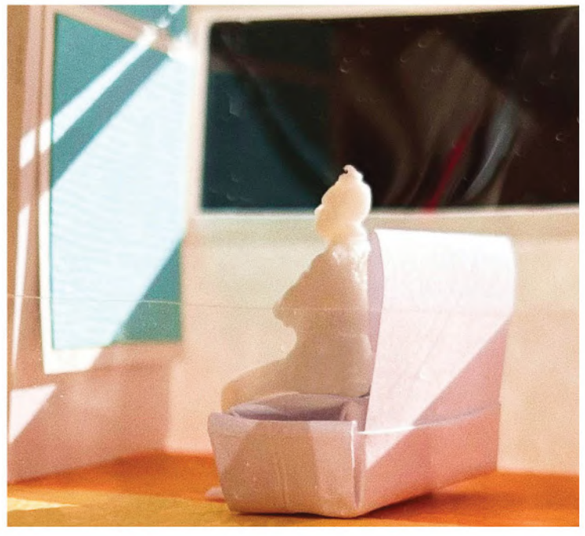
Intervention: Free Community Healthcare Hub

I envisioned to create a free community healthcare hub prototype for making medical services accessible to all. Open-air ground floor maximizes permeability and air flow for the drug dispensary system. As an extension to the original pharmacy, local services can be preserved, and drug pickup is conducted in a continuous circular experience. Rooms on the second floor provide virtual doctor counseling for maximized efficiency.
Drugs manufactured and stocked in households face a large surplus. Thus through organized donations, the system could strategically provide the underprivileged with free medicine in excess. Reckoning the idea of a community fridge, it is a community medicine cabinet that serves the unwell and heals the imbalanced community.

Street Corner View

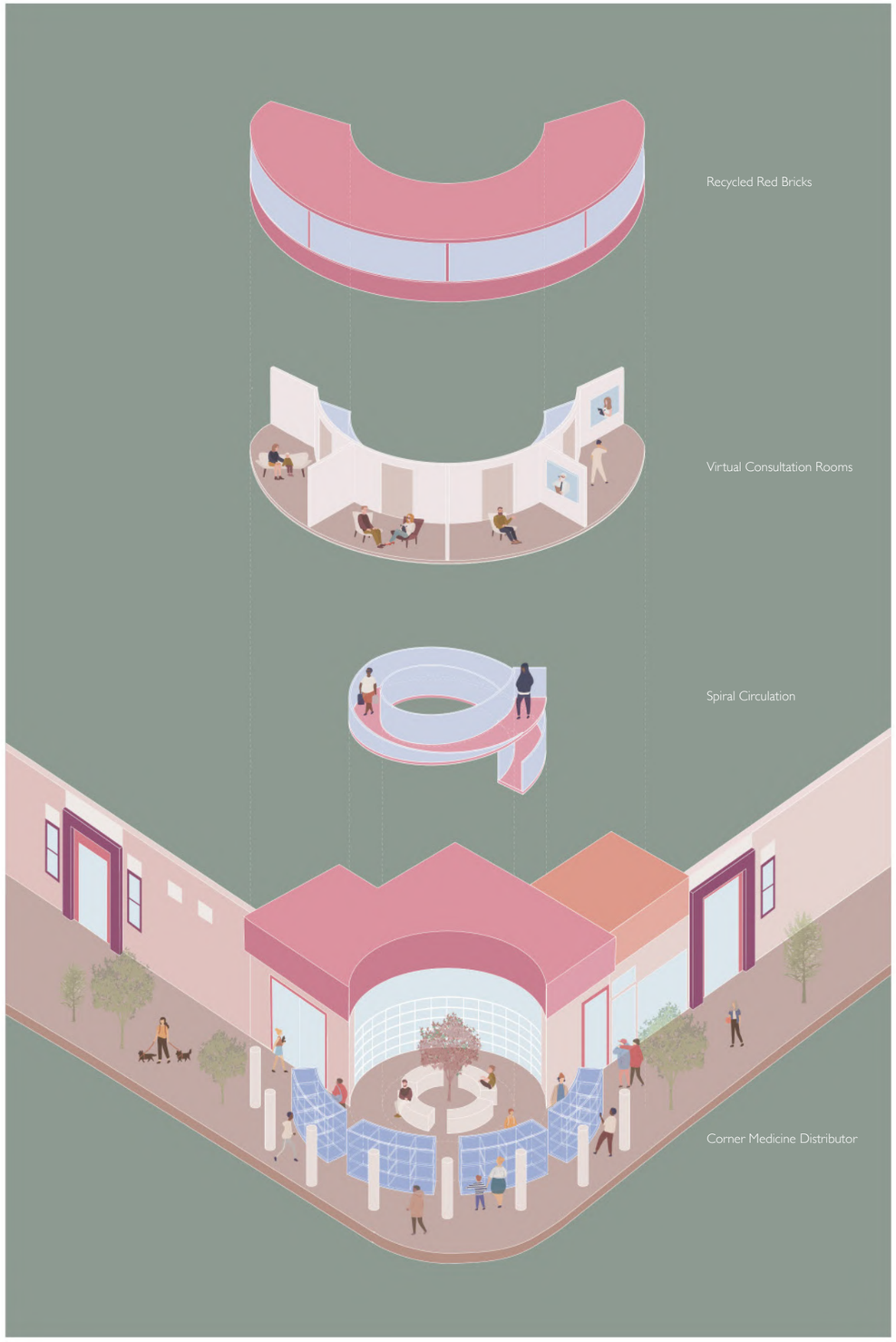


Inner Courtyard

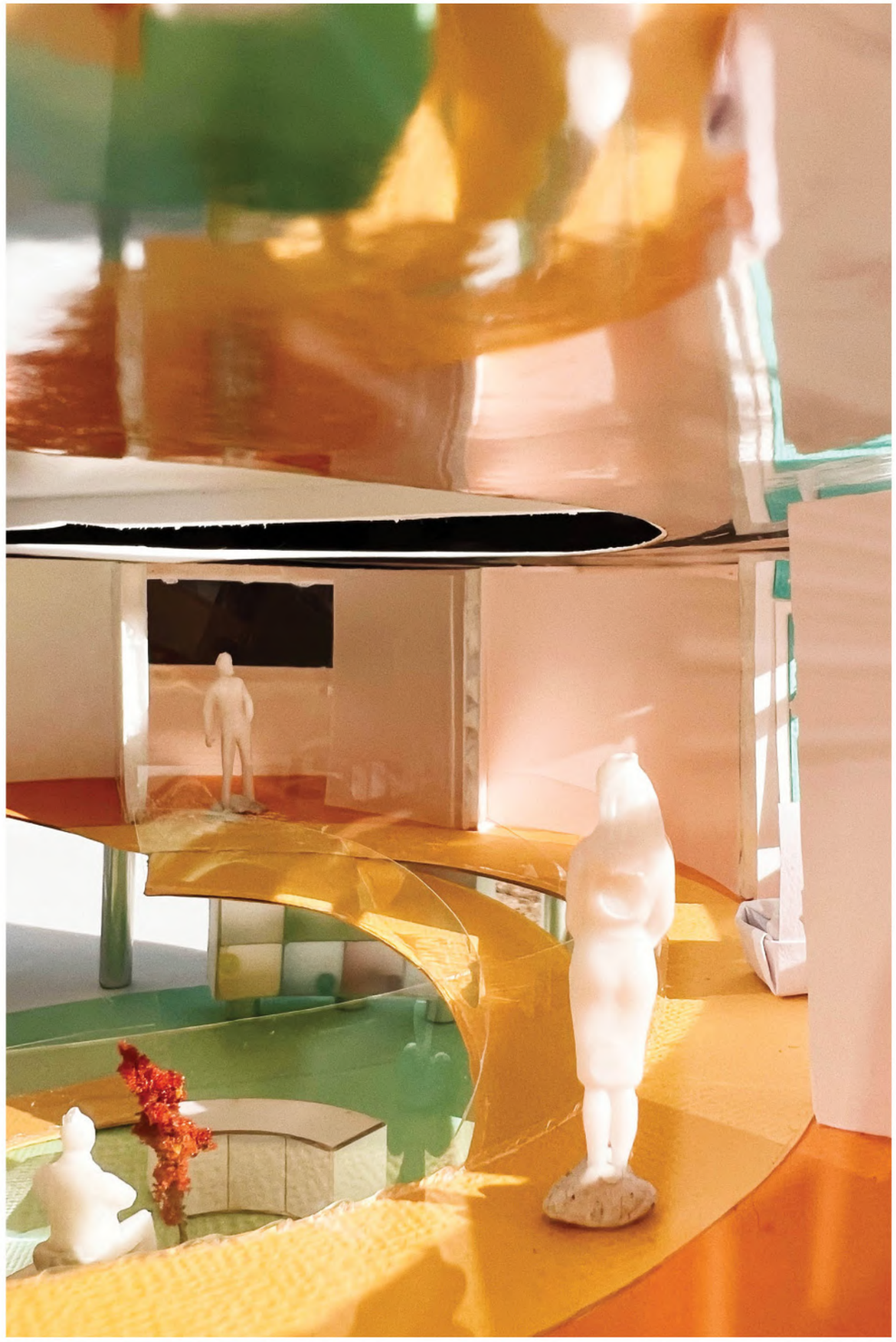


Virtual Doctor Consultation Room

Intervention: Community Free Healthcare Hub



Functional Elements
Archisource Drawing of the Year Longlisted 2021



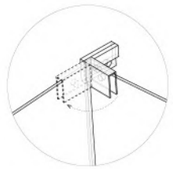
Interspatial View

Community Medicine Cabinet

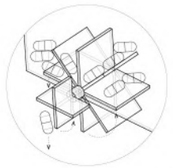
In the 1:1 real-scale model, I detailed a two-layer cabinet that is a small part of the overall free drug dispensary system. Coming in different modules and colors, the system can operate under automation to accomodate various types of medicine. For example, in model pictures, red cabinet doors denote western medicine that offers immediate effectiveness, while blue doors indicate oriental herbs that ameliorate conditions through long-term consumption.

The free drug dispensary aims to satisfy the needs of diverse conditions and expedite the medcine transfer process. Opening on both sides, matte doors facing the interior offer privacy for drug pickers, and transparent doors facing the street allow drug donators to quickly identify and drop off their medicine.

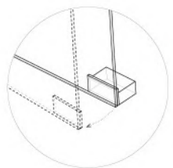
Medicine Cabinet



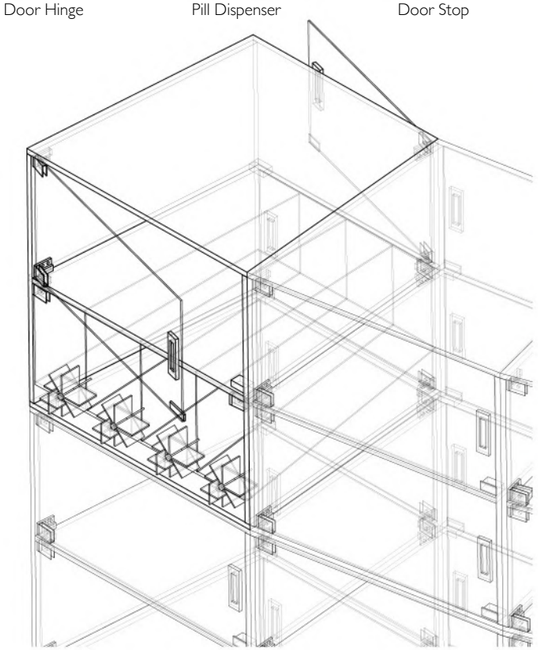
Door Hinge



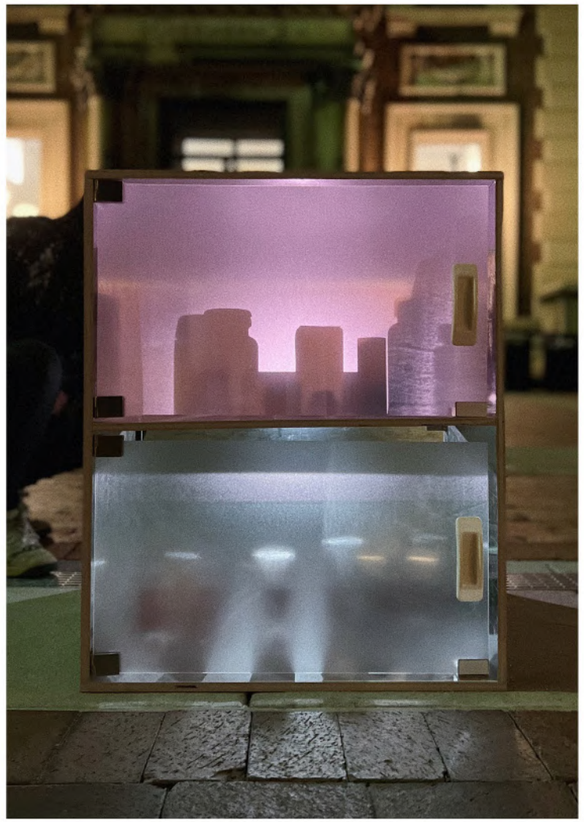
Pill Dispenser



Door Stop



Cabinet Construction Detail



Drug Pick-up Side: Semi-Opaque

Drug Drop-off Side: Transparent

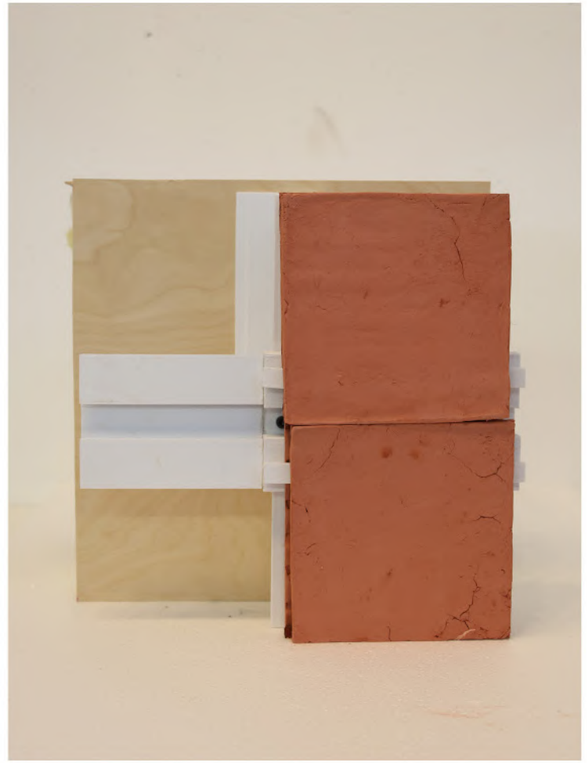
7

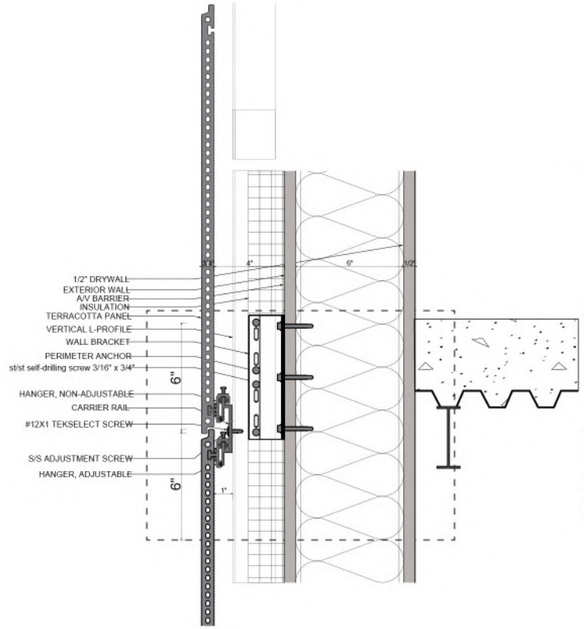
Materialize

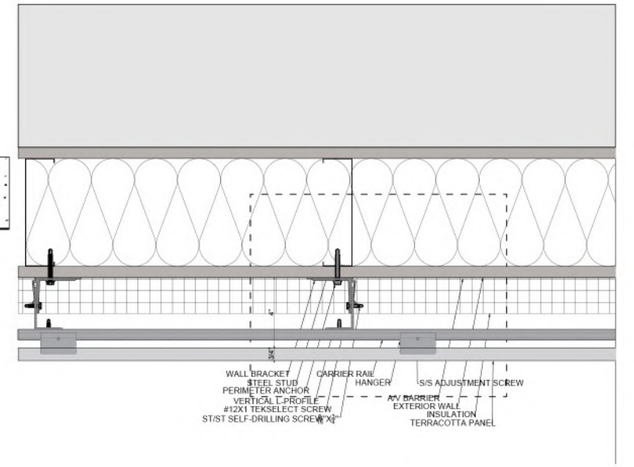
GSAPP AT V - Spring 2023

Instructor: Lola Ben-Alon
Studio Partner: Yichun Liu, Shiyu Lyu
Duration: 14 Weeks

In AT V, Construction and Life Cycle Systems, my group members and I performed supply chain and life cycle assessment to get an in-depth understanding of building conditions. By the end of the course, we made construction shop drawings and produced a physical mock of a selected detail of a building. We chose terracotta as the finishing material of the facade, and made close imitations of the steel deck floor slab, I-beam, layered insulation system, and the hinge connections to hang the panels.







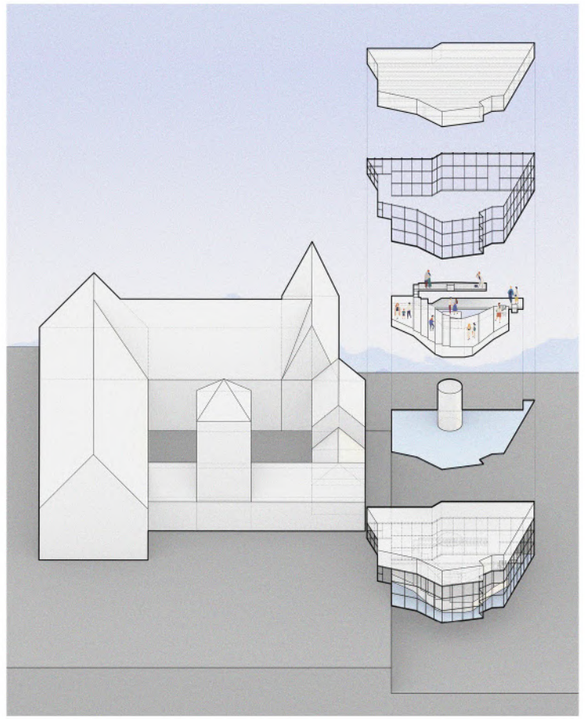
8

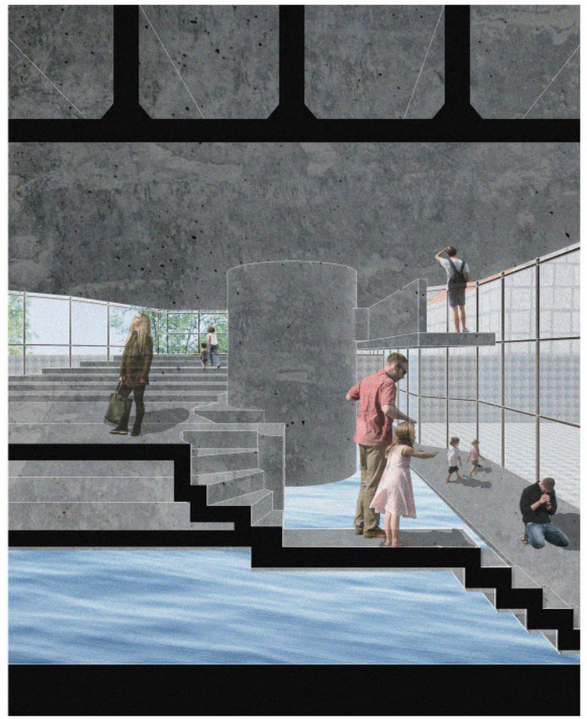
Unpolish

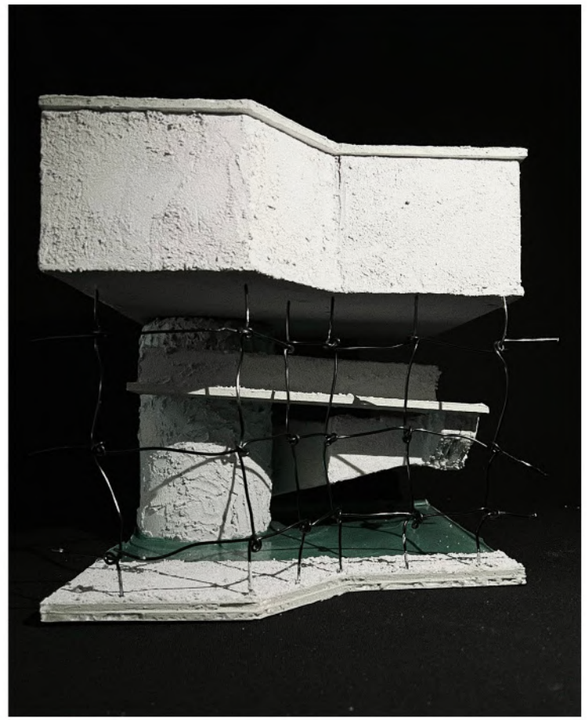
GSAPP Visual Studies I - Fall 2021

Instructors: Jelisa Blumberg, Zoona Aamir, Rory Macfarlane
Site Location: Chapel of St. Peter's by Paul Mendes da Rocha, São Paulo, 1987
Project Duration: 12 weeks

In this course, Architectural Drawing and Representation, we explored ways to reinterpret existing architecture. I was particularly interested in the contrast among materials that were utilized in the Chapel of St. Peter's. Thus, through drawings and modeling a section of the Chapel, I pursued emphasizing on the materiality and the layering of the spatial organization. I wished to take a different approach at articulating the space of spirituality other from being pristine and [illegible]. Through showcasing heavy texture and rough [illegible] of the model, I unpolished the polished architecture.







9

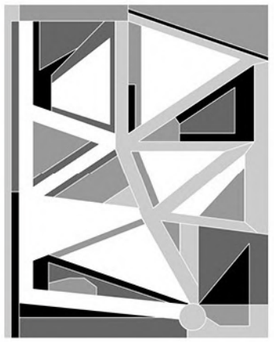
Spatialize

GSAPP Spring 2023 - Architecture Apropos Art

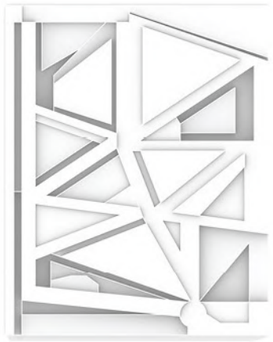
Instructor: Steven Holl, Dimitra
Artist of Inspiration: Umberto Riva
Duration: 10 weeks

Umberto Riva utilizes intricate geometric shapes to render dynamic spatial experiences and natural light atmospheres in his architectural designs. In his paintings, which have strong resemblances to the plans of the houses he designed, Riva exhibited strong angular and diagonal emphasis on his form making. The irregularity intrinsic to his creations blur the solid boundaries of space, activating both the visual and physical capacities of the participants. In my own analysis of Riva's paintings, I three-dimensionalized his planar images to create volumetric effects on the colored shapes of geometry. I stressed the distinctions in the color intensities through various numbers of colored layers, with the lightest colors with minimum number of layers and positioned closer to the exterior. The different depths of colors are further strengthened with the natural shadows endowed by the surrounding lights.

Pas de Deux 2, Umberto Riva, 1996

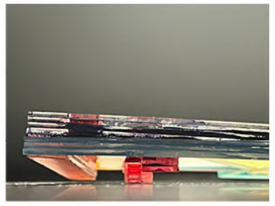


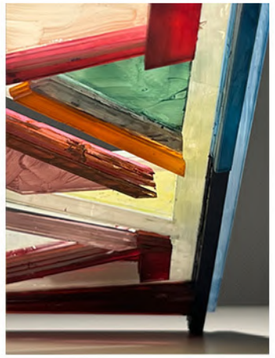
Decompose shapes and tones



Volumize the tonal variations

Color the planes





Through the painted models with layers of acrylic sheets I made, I wish to cross the boundaries of a painting, sculpture, and the potential of an architectural mass.

10

Architectural Nationalism and Eclecticism in the Republic of China

GSAPP QAH II - Spring 2022

Instructor: Prof. Alexandra Quantrill, Malcolm Rio

Lula Chou
QAH 2
Prof. Alexandra Quantrill
Malcolm Rio
10 May 2022

Architectural Nationalism and Eclecticism in the Republic of China

Introduction

In the twentieth century, China was situated in a particularly complex environment. A persistent traditional Chinese culture encountered a forceful, potentially even intrusive, introduction of Western influence. This conjunction led to a gradual bridging process between cultural traditions and professional practices. In his book *Architecture and the Landscape of Modernity in China before 1949*, Edward Denison, a Professor of Architecture and Global Modernities at The Bartlett School of Architecture (UCL), explicates that the impact of western modernity on China was more momentous than "anywhere else in the world" that similarly experienced a pressure of western influences.[1] This western notion of modernity originates from the European Renaissance, and is related to the actions of industrialization and colonialism. It is crucial to examine whether modernism existed in China, and if not, did singular modernism become forged in the environment of China or did society enable multiple forms of modernity to evolve?

Evidently, China experienced multiple developments of architectural progressions during the same era, containing unprecedented heterogeneity and social complexities. The architectural arena during the modernization era experienced a process from Western assimilation to native

[1] Denison, E. 2017. *Architecture and the Landscape of Modernity in China before 1949 (1st ed.)*, 3. Routledge. https://doi.org/10.4324/9781315567686.

internalization. The first introduction of Western architecture began with the rise of international commerce starting in the eighteenth century. The merchants brought forth not only goods but also artifacts and specialized knowledge. As the transfer of culture became steady, professional foreign architects constructed groups of Beaux-Arts buildings that pervaded China's port cities, mainly deemed as an external intervention into China. The hybridization and internalization of foreign knowledge occurred in the early 1920s when the first generation of internationally-educated architects brought home technology and skills to integrate with local culture. Under the Republican government, the young intellectuals collaborated with the ruling party and pushed forth a nationalist initiative to develop modern Chinese native architecture. As a result, a large group of such buildings carrying the Western forms and adapting to Chinese values appeared in cities, such as Nanjing, Shanghai, Guangzhou, Wuhan, and Beijing. From historical research, architects' primary document analyses, and architectural case studies, this paper investigates how China translated modern architectural styles with specific responses to Western influences and conscious integrations of cultural values.

Critical Documentations of Traditional Chinese Architecture

Before the 1914-18 war, architecture in China was considered less of an artistic practice as it was in the western sense. Rather, it was considered an undocumented process of artisanship that one applied "with practical skills and techniques passed down from master to apprentice over millennia."[2] The demand to create a documented history became the responsibility of China's first architects. Liang Sicheng, the most prominent figure, contributed to the rewriting and decoding of *Ying Zao Fa Shi* (1103) as the first publication on Chinese building standards. The book was emphatic on standardization in diverse ways. Defining China's social

[2] Denison, *Architecture and the Landscape of Modernity in China before 1949 (1st ed.)*, 93.

organization, social order, units of measurements, and structural features, building spoke the "logic and order of Chinese society."[3] Harmony and hierarchy were the principal elements in the organization of the built environments. Beauty evolves from attaining harmony and following a specified hierarchy, and the structure of the building was more meaningful than the appearance. Symmetry is persistent. From objects' arraignment in a room to larger-scale city planning, the result of a complex tethering of interrelations becomes asymmetry of organization. Furthermore, in contrast to the occidental architectural hierarchy of classical orders, the hierarchical emphasis in traditional Chinese architecture practice interpreted space differently.

During China's encounter with the west, European foreigners perceived China's ancient traditions as primitive and exotic. In *Rudimentary Architecture: For the Use of Beginners and Students* (1853), Thomas Talbot Bury, a British architect in the nineteenth century, asserts that "the type of all Chinese buildings… is undoubtedly a tent."[4] This idea permeates the early Western analysis of Chinese architecture, with a significant contempt in their attitude, meaning that Chinese architecture contained no professional ingenuity or creativity but only the most basic and conventional utility for habitations. On the other hand, Dension argues that aside from a western-centric point of view, traditional Chinese architecture has an entirely separate philosophy that orients physical environments differently from the superficial interpretation. In his book, *Architecture and the Landscape of Modernity in China before 1949*, Denison notes that "only in China does the strength of the relationship between the built environment and the universe… bring new meaning to the modernist idiom: space, time and architecture."[5] The physical realization of heaven was built as a roof over the earth, and the critical connection

[3] Denison, *Architecture and the Landscape of Modernity in China before 1949 (1st ed.)*, 94.
[4] Leeds, W. H. 1848. Rudimentary architecture: for the use of beginners: the orders, and their aesthetic principles / / by W.H. Leeds, 59. London: John Weale.
[5] Denison, *Architecture and the Landscape of Modernity in China before 1949 (1st ed.)*, 95.

between the top and bottom became evident in the structural supports and spatial arrangements. Buildings were meant to facilitate everything, from the exterior of the cosmos to the interior of furniture, in a visible and concrete form comes the embodiment of world philosophy.

Early Foreign Influences and Settlements

In his book *Architecture of Modern China: A Historical Critique*, the historian Zhu, Associate Professor in the Faculty of Architecture Building & Planning at the University of Melbourne, defines the import of Western influences into China, the "Westernization and modernization,"[6] as a process that was more than a gradual absorption. Zhu describes it as the intake of "the specific characteristics of Renaissance scientific knowledge," the visual culture, the "interrelation between a Greek-European bias" in geometry and rationality, as well as a series of Chinese reactions and responsive developments.

Europe brought different visual rationality to China, more fundamental than architectural expressions. Although China had already been using "grids for cartography," conducting "geometrical studies as numerical problems," and observing "empirical and systematic" phenomena of the heavenly, the author Zhu argues that the Renaissance sciences provided "a specific rationality based on Greek formal geometry" and mathematics.[7] This process exhibited a transformation from one tradition of rationality to another.

Specifically in building constructions, China had a long tradition of expertise in building timber structures with "small and linear members" measured in standard units to become key joints and arranged in "a social hierarchical order."[8] What was brought by the Western-style

[6] Zhu, J. 2009. *Architecture of Modern China: A Historical Critique (1st ed.)*, 11. Routledge. https://doi.org/10.4324/9781315881348.
[7] Zhu, *Architecture of Modern China: A Historical Critique (1st ed.)*, 38.
[8] Zhu, *Architecture of Modern China: A Historical Critique (1st ed.)*, 38.

construction during the eighteenth to the nineteenth century was a load-bearing stone structure based on Euclidean geometric forms. Materials such as bricks, stone, and reinforced concrete were also introduced later.

Before the founding of the Republic of China in 1912, China had been experiencing the gradual admission of influence on architectural modernity through foreign engagement. Unlike India and Singapore, which received well-trained architects as part of the colonial ruling, the initial phase of architectural practices from Europe was delivered through untrained architects. China was situated in a "quasi-colonial context," and therefore, the foreign source of construction "lacked the uniformity or formality," as Denison puts it.[9] During the first half of the nineteenth century, the foreign settlements were worth little architectural meaning due to their inadequacies of the collaboration between the Chinese laborers and the foreign merchants.

Not until 1849 did the first foreign-trained architects arrive in Shanghai, and the built scenery started to change in mainland China. According to a British consular staff overseeing the construction of the first British Consulate building in Shanghai at the time, A.F. Strachan, it was the first time that "a marked style of one's own," "a version of the so-called Greek at that period fashionable in England was introduced to China.[10] From then on, port cities such as Macau, Guangzhou, and especially Hong Kong and Shanghai underwent the building of prominent western-style architecture aided by trained architects.

Credible with their work and professional recognition, British architects who held membership in the Royal Institute of British Architects (RIBA) exhibited major impacts. William Kidner (1841-1900) was the first RIBA practitioner in China who graduated from University College London. Kidner oversaw the design modifying Holy Trinity Church designed by Sir

[9] Denison, *Architecture and the Landscape of Modernity in China before 1949 (1st ed.)*, 103.
[10] Shanghai – 1843–1893, *The Model Settlement: its Birth, its Youth, its Jubilee*, 7. Shanghai Mercury Office, Shanghai.

George Gilbert Scott (1811-78) (Fig. 1). The most famous design by Kidner was the first Hong Kong and Shanghai Banking Corporation (HSBC) in Shanghai (Fig. 2). It stood in a classically styled symmetrical building, bearing three stories, and with a ground-floor colonnade and an expansive circular portico.

The Native Internalization of Western Knowledge

China's socio-political arena was so turbulent from the mid-nineteenth century to the early twentieth century that the political parties changed drastically multiple times. In summary, China first experienced foreign aggressions and colonization in partial lands starting in 1840. The collapse of the Qing dynasty happened in 1911 and set the stage for the rise of the Republic in 1912, which fragmented the political regime into northern and southern sovereignties. The Kuomintang (the Nationalist Party) unified central China and based its capital in Nanjing from 1927-37, which initiated the rise of the Republic-style architecture in the local area. Those ten years experienced a stable and constructive time. But then Japan brought full-scale invasion with China's resistance for eight years between 1937-45, which ensued with the communist and the nationalist civil war. The torrent ended in 1949 when Kuomingtang's Republic settled in Taiwan and the People's Republic was finally established.

The professional Chinese architects designing buildings in China started in the 1920s. The earliest record of Chinese students studying abroad in Japan and England is recorded in J. Zhu's *Architecture of Modern China: A Historical Critique*. By the 1920s and 1930s, a large wave of Chinese students went abroad to study architecture. Most notably, the University of Pennsylvania in the United States received the biggest group of Chinese students who became the most renowned first generation of modern Chinese architects. Other well-known schools

such as MIT, Michigan, Harvard, Columbia, and Illinois took in groups of Chinese students as well.

These students who studied abroad took home the skills they learned and established their design practices in China that endowed far-reaching impacts. For example, Lu Yanzhi and Zhuang Jun, who returned from America, and Liu Dunzhen, Wang Kesheng, Zhu Shigui, Liu Shiying, who returned from Japan, set up their architecture offices in 1921, 1922, and 1925. What is more to design offices, these architects also introduced the start of formal education in architecture and research on traditional Chinese architecture. The first professional bodies established were "the Society of Chinese Architects (*Zhongguo Jianzhushi Xuehui)*" in 1927 and "the Shanghai Association of Building Construction (*Shanghai Jianzhu Xiehui*)" in 1931. Remarkably, "the Society of Chinese Architects" under the leadership of Zhu Qiqian, Liang Sicheng, and Liu Dunzhen, carried out the very first modern scientific examination of Chinese historical buildings from 1931 to 1944.[11] This documentation signifies the first comprehensive institutionalization of what was initially considered as craftsmanship and recorded as professional expertise. The research included a detailed analysis of the design practices, a thorough breakdown of ideological alliances, the urban morphology according to design interventions, and the development of historical knowledge to contemporary applications. This initiative demonstrated the combination of western pedagogy on architectural professionalism with the structural expertise and cultural apprenticeship in Chinese society. This research was influenced by the nationalist current which emphasized the essentials of the national heritage and the need to study the cultural traditions.

[11] Zhu, *Architecture of Modern China: A Historical Critique (1st ed.)*, 47.

The Nationalist Project

Though obtaining a good initiation of knowledge transfer, the young Chinese architects still struggled to survive the competitive business environment. It was not until the years between 1927 and 1937 did many of the architects finally gained commissions from the Nationalist government in Nanjing. Significant contributions performed by the first generation of modern Chinese architects were the development progress of public buildings under the "Chinese Native Style." Such a movement was demanded by the governing party and facilitated by the collaboration of the native architects.

Under a shared nationalist sentiment, the party and the architects held different motivations for approaching the project. Having strong patriotism combined with international awareness and critical judgment of their own culture, the young Chinese architects bore layered relations and mixed feelings about China's social conditions. In particular, going through the Republican Revolution of 1911 as well as the May Fourth New Cultural Movement of 1919, the young intellectuals saw the imperative need for the introduction and integration of Western democratic ideals and scientific studies to ameliorate the underdevelopment of the Chinese traditions.[12] Seeing their nation oppressed by Western imperialist powers while understanding the forces of advancement behind the Western dominance, the new generation aspired to regenerate their country and make the establishment of an independent China possible. The ambition demonstrates that the architect group carried a liberal ideology system towards a nationalist end. Expressed in the first issue of the journal *The Chinese Architect* in 1932, the architects' mission was to "integrate the strengths of Eastern and Western architecture, so that we may develop and carry forward native characteristics of architecture of our own nation."[13] The purpose of the

[12] Zhu, *Architecture of Modern China: A Historical Critique (1st ed.)*, 47.
[13] The Society of Chinese Architects (Zhongguo Jianzhushi Xuehui). 1932. *The Chinese Architect (Zhongguo Jianzhu)*.

young architects' practice was to deploy scientific disciplines in order to improve the construction and development of oriental architecture. Interestingly, the comprehensive research on the architectural heritage provided forceful support to the building creation of the "Chinese Native Style" by providing knowledge and understanding of oriental architecture.

The architects' own statements provided more evidence supporting the development of the nationalist architecture and the significance of traditional Chinese architecture. In 1935, in the preface of the visual dictionary of Chinese architecture that he published, Liang Sicheng expressed that creating new architecture for China should be founded on the study of "the structure, organization, parts, proportion and balance of ancient Chinese architecture."[14] Moreover, when designing the mausoleum for the first leader of the Kuomintang Sun Yat-sen, the architect Lu Yanzhi aimed to embody "the spirit and ideals of Dr. Sun," which were the highest philosophical thoughts of ancient Chinese culture into the practical realization of social problems posed by the citizens with modern scientific methods (Fig. 3).[15] Therefore, the mausoleum design was distinctively having its Chinese origin in the form and the planning of the architecture, while epitomizing the monumentality of the modern era.

Sun Yat-sen Mausoleum 1925-30

After Sun Yat-sen passed away on March 12th, 1925, the committee of Sun's funeral decided that Sun's burial would be on the Purple Hill (Zijing Shan) on the eastern side of the city of Nanjing, where Sun was the provisional president of the Republic of China in 1912. Lu Yanzhi, a graduate of Cornell University in 1918 came back to Shanghai and established his

[14] Liang, Sicheng. 1934. "Jianzhu sheji cankao tuji xu" (Preface to the Visual Dictionary for Architectural Design), in Liang Sicheng, Liang Sicheng Quanji, di liu juan (The complete works of Liang Sicheng, volume 6), 233-6. Beijing: Zhongguo Jianzhu Gongye Chubanshe.
[15] Lu, Yanzhi. 1929. "Memorials to Dr. Sun Yat-sen in Nanking and Canton," 97-101, Far Eastern Review, xxv, no. 3.

office in 1921, won the mausoleum competition and became the chief architect. Led by the new leader Chiang Kai-shek on April 18th, 1927, Nanjing became the capital of the new Republic. This history brought forth more weight on the meaning of the Mausoleum, as it contains a symbolic significance for Sun himself and the party.

The Mausoleum was one of the first and most important projects that carefully adopted ancient Chinese forms with creative design involved with Western elements. The memorial hall appeared in the form of the roof of a Chinese palace, having the tomb chamber adopted the shape of a Western classical dome. Standing in a north to south axis, the entire complex leads the opening gate to the pavilion behind (Fig.4). Then with a set of 392 steps, the hall and the tomb are situated at the top of the platform. Reminding of Sun's last messages, "to awaken the masses," the plan of the whole mausoleum was created in the shape of a grand bell.[16] The Chinese elements were apparent in the ritual passage containing "an archway, a path, a gate, a pavilion with a stone tablet, a main memorial hall, and a covered tomb placed in a sequence."[17] Additionally, the roofs and many details are in Chinese styles but are integrated with Western neoclassical forms, such as the four-cornered hall under the expansive roof as well as the round-shaped dome (Fig. 5). On the other hand, the plaza's planning follows the Western design ideals by projecting a straight visual openness with a tree-lined boulevard, displaying an open tomb, and providing an extensive public square for over fifty thousand people.

Following the mausoleum, a large number of buildings of the new "Chinese native architecture" were built and promoted in the 1930s and 1940s. This batch included highly socially functional buildings, including government ministries, memorial parks, national museums, and universities. Due to geopolitical priorities, most of the new buildings were

[16] Zhu, *Architecture of Modern China: A Historical Critique (1st ed.)*, 56.
[17] Zhu, *Architecture of Modern China: A Historical Critique (1st ed.)*, 56.

constructed in Nanjing, while a group of public institutions were built in Shanghai, and a small number can be found in Beijing, Guangzhou, and Wuhan. The designs involved multiple Western architectural styles, such as revivalist, neoclassical, and Art Deco.

The City Planning and the National Public Space

What was more to building styles, was the hybridization of cultures exhibited in urban planning. In the Capital Plan, the Chinese Nationalist Party voiced its ambitions for their governing principles to be deployed in the presence of the city. The party demanded a synthesis of Chinese values and Western technology, delivering the city not only as a center of political structure but also upholding the cultural merit of social life (Fig. 6). In contrast to the traditional Chinese city planning that contains organic form that grows out from the historical accumulations and obeying the geographical landscape, the Capital Plan suggests an infrastructure and road system that highly resembles a Beaux-Arts composition where diagonal grids and orthogonal lines were heavily spread across the entire city (Fig. 7). The planning was elaborate, however, the time was short for the party. The Nationalist government did not carry out its envisions by the mid-1940s, when the civil war in China approached its end and the transition of regime's power started to happen, only a limited amount of planning took place in real life. Nevertheless, the significance still exists in the argument that this urban plan advocated, where a Chinese native style was developed and left a forceful impact on the future construction of buildings in such manner in Nanjing and other cities in China during that era.

Transferring the spatial knowledge into the public space within the Chinese context, the young generation of architects constructed landmarks and new urban layouts that followed the nationalist ideals. Chiang's order during the 1930s absorbed earlier ideological values such as

Confucianism, fascism, and the New Life movement which pushed the nationalist rule towards authoritarian control. Focusing heavily on the state authority, the constructions of public buildings were conscious of accommodating large gatherings. Alongside the tightening of powers was the arising cosmopolitan urban spirit that stems from international openness and national pride in the sense of Chineseness, two forces survived and synergized into a vibrant artistic culture, visible especially in Shanghai. Moreover, even before the 1920s, Chinese bourgeois society had long existed, and the social hierarchy had been heavily fragmented. The process of colonizing furthered the disintegration. Therefore the meaning of a nationalist built environment not only manifested a unifying Chinese cosmopolitanism that absorbed foreign cultures but also a resistance to the imperialist encroachment with the modernizing progress of the masses and the city.[18]

Yang Tingbao and Eclectic Architecture in the Cosmopolitan Spirit

As one of the earliest and most remarkable modern Chinese architects, Yang Tingbao was trained at the University of Pennsylvania from 1921 to 1925 and was a peer of Louis Kahn. He was one of the most productive architects who built eclectic buildings in the twentieth century across China. In his essay, Xing Ruan, a Chinese-Australian academic, architect and author, asserts that Yang's work was an argument for how modern architecture can be more than a straightforward interpretation of European neoclassicism, but as an embracement of universal human conditions that transcend the boundaries of race and culture.[19]

[18] Zhu, *Architecture of Modern China: A Historical Critique (1st ed.)*, 66.
[19] Xing, Ruan. "Yang Tingbao, China's Modern Architect in the Twentieth Century." *Chinese Architecture and the Beaux-Arts*. Edited by Cody, Jeffrey W., Steinhardt, Nancy Shatzman and Atkin, Tony, 153. Honolulu: University of Hawaii Press, 2011. https://doi.org/10.1515/9780824861018

An example of a building being the coexistence of eclectic Western ornaments with a Chinese character was Yang's Dahua Cinema built in 1935 in Nanjing (Fig. 8). The civic building vividly represented the urban housing model that Yang studied in the Beaux-Arts system. From the outside, the cinema hosted more than a thousand seats. It was distinctly in the style of Art Deco: clean and modest in its form, geometric and ornamented in the façade design with a continuous, stepped outline. This exterior introduces you to a surprising interior that was designed with full sensibilities of Chinese Deco (Fig. 9). The lobby proposes a Chinese Palace ambiance where the symmetry is abided, spatial hierarchy is defined by a grand flight of staircase, and opulent dynastic decorations are applied to the ceilings and columns. In the plan, the Beaux-Arts axial system is explicit in operation (Fig. 10). A smooth, surrounding circulation is made to serve both leisure and emergency utilizations. The double volume in the lobby is realized through the manipulation of the staircase and the two-story heights. The axial and symmetrical placement of architectural elements is Classical. The deployment of functionality follows the cosmopolitan lifestyle and the order of a public space leading to a more private area speaks of the sentiments of a Chinese courtyard. This design is by no means avant-garde, but modern and eclectic.

A more mature and smooth project that Yang demonstrates the fit of concept between the West and the East was the Musical Stage (*yinyue tai*) built near the Sun Yat-sen Mausoleum in Nanjing in 1932. The idea of an amphitheater, where the audience watches the shows sitting on the ground in the open air, was extremely exotic. Yang made the sitting area follow a cloud shape on a half-circle and descend inward on a natural slope (Fig. 11). The stage and the backdrop were produced in reinforced concrete, a material that would not exist in traditional Chinese architecture (Fig. 12). The reinforced concrete structure is covered with "rough-textured terrazzo

plaster," and was quickly weathered to appear antique. In addition to utilizing Western building materials and giving skillful manipulations to appear more oriental, the sculptural backdrop also mimics a traditional Chinese partition screen. Unapologetically adorned with oriental deco elements, the concrete backdrop wears cloud patterns and is decorated with three dragon heads. What is even more intriguing is the notion of the moon pond before the stage. The pond "collects storm water, nourishes goldfish and lotuses, and replenishes water fountains," which highly resembles the outlook of a garden pond in a grand, classic Chinese household.[20] Placing a traditionally private ornamental built environment into a public park accessible to the masses is an act of juxtaposing the Western democratic value with Chinese vernacular. This piece of architectural work gets more elegant as it ages: its plants invade the pergola and rainwater dyes the artificial stone surface into looking like authentic stones. Yang embodies his cosmopolitan mentality of creating a universal sense of modernity in his work through applying appropriateness in the architecture's atmosphere and locality. Yang's architectural philosophy is not simply nationalistic. His eclectic choices transcend cultural conflict and create an identifiable sense of place that blends advanced technology with conventional living styles.

Conclusion

The modern history of Chinese architecture underwent multiple critical stages as the historical background met turbulent changes. The maturity of modern Chinese architecture transformed from simple assimilation by foreigners to accommodating internalizations by the native people. Only through multiple progressions in modernity did China resolve the complex heterogeneities within its society. Along with the rise of commercial exchanges in the eighteenth century, the initial introduction of foreign architecture took place with simplified replications.

[20] Xing, "Yang Tingbao, China's Modern Architect in the Twentieth Century," 158.

With the arrival of professional architects, the building scene in China's port cities received a large number of warranted Classical constructions. The assimilation was new and exotic, but within two centuries, as the country's ruling became controlled by various imperialist powers, the local government and Chinese people were awakened by their national crises and realized the urgency of cultural pride. The transfer of knowledge gradually evolved from being prescribed by one side from the Westerners to being learned and translated by the young modern Chinese architects. The translation of nationalist sentiments into solid projects was possible only by the first generation of Chinese architects who attained a high level of education abroad and carried home with their Beaux-Arts knowledge and Western building technologies. The Western values such as democracy, cosmopolitan lifestyles, and grand public accessibility were combined with local cultural virtues, traditional habiting behaviors, and ornamental Chinese Deco. The initiative carrying the new style was not only a revitalization of national identity but also an adaptive attitude towards resisting imperialist incursions. With careful adaptations of Western design concepts and building technologies and conscious integration of Chinese elements and habitual values, the architects and the ruling party accomplished the construction of Chinese native architecture under the dynamic cosmopolitan era.

Figure List

Fig. 1. Trinity Cathedral (1866), designed by Sir George Gilbert Scott and William Kidner.

Fig. 2. The first Hong Kong and Shanghai Banking Corporation (HSBC) offices in Shanghai (1877) designed by William Kidner.

Fig. 3. Sun Yat-sen Mausoleum in Nanjing (1929) designed by Lu Yanzhi.

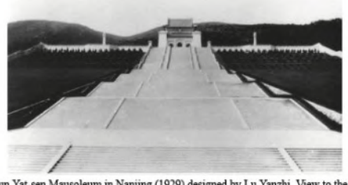


Fig. 4. Sun Yat-sen Mausoleum in Nanjing (1929) designed by Lu Yanzhi. View to the north on the axis in the 1930s. Nanjing Municipal Archive and Zhongshan Lingyuan Office, Zhongshanling Shiji Tuji, Nanjing: Jiangsu Guji Chubanshe, 1996, pp. 110, 64.

Fig. 5. Mausoleum of Dr Sun Yat-sen, Nanjing, built in 1929. Architect: Lu Yanzhi. Wang Nengwei (ed.), Nanjing Jiuying, Beijing: Renmin Meishu Chubanshe, 1998, p. 50.

Fig. 6. Plan for the "political center" of the Republican government on the Purple Hill in eastern Nanjing, a proposal in 1929.

Fig. 7. A sketch of the Kuomintang Party's location at the northern end of the axis inside the "political center" of the Capital Plan.

Fig. 8. Yang Tingbao, Dahua Cinema, Nanjing, 1935. From Yang Tingbao jianzhu sheji zouping ji, 94. Published courtesy of CABP

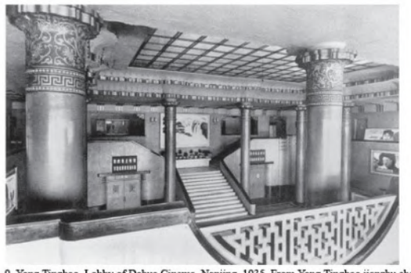


Fig. 9. Yang Tingbao, Lobby of Dahua Cinema, Nanjing, 1935. From Yang Tingbao jianzhu sheji zouping ji, 95. Published courtesy of CABP.

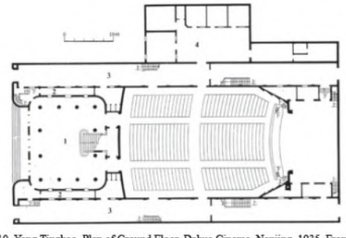


Fig. 10. Yang Tingbao, Plan of Ground Floor, Dahua Cinema, Nanjing, 1935. From Yang Tingbao jianzhu sheji zouping ji, 96. Key: 1. Lobby. 2. Ticket windows. 3. Exit corridor. 4. Plant rooms. Published courtesy of CABP.

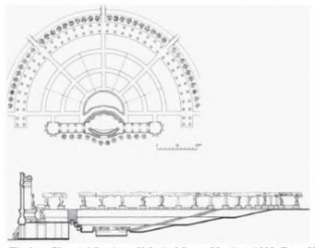


Fig. 11. Yang Tingbao, Plan and Section of Musical Stage, Nanjing, 1932. From Yang Tingbao jianzhu sheji zouping ji, 77. Published courtesy of CABP.

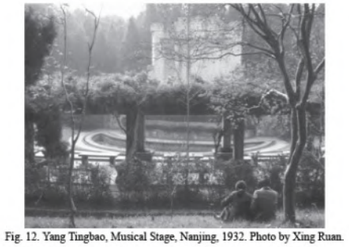


Fig. 12. Yang Tingbao, Musical Stage, Nanjing, 1932. Photo by Xing Ruan.

Bibliography

Cody, Jeffrey W., Steinhardt, Nancy Shatzman and Atkin, Tony. *Chinese Architecture and the Beaux-Arts*. Honolulu: University of Hawaii Press, 2011. https://doi.org/10.1515/9780824861018

Denison, E. (2017). Architecture and the Landscape of Modernity in China before 1949 (1st ed.). Routledge. https://doi.org/10.4324/9781315567686

Leeds, W. H. 1848. Rudimentary architecture: for the use of beginners: the orders, and their aesthetic principles / / by W.H. Leeds. London: John Weale.

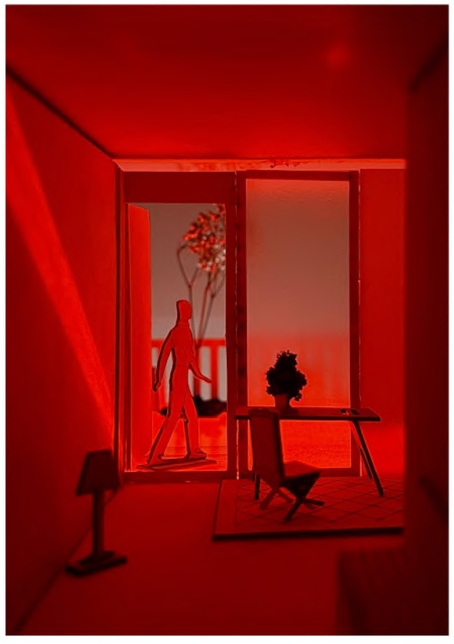
Liang, Sicheng. 1934. "Jianzhu sheji cankao tuji xu" (Preface to the Visual Dictionary for Architectural Design), in Liang Sicheng, Liang Sicheng Quanji, di liu juan (The complete works of Liang Sicheng, volume 6), 233-6. Beijing: Zhongguo Jianzhu Gongye Chubanshe.

Lu, Yanzhi. 1929. "Memorials to Dr. Sun Yat-sen in Nanking and Canton," 97-101, Far Eastern Review, xxv, no. 3.

Shanghai – 1843–1893, The Model Settlement: its Birth, its Youth, its Jubilee, 7. Shanghai Mercury Office, Shanghai.

The Society of Chinese Architects (Zhongguo Jianzhushi Xuehui). 1932. The Chinese Architect (Zhongguo Jianzhu).

Zhu, J. 2009. Architecture of Modern China: A Historical Critique (1st ed.), 11. Routledge. https://doi.org/10.4324/9781315881348.



A house is a vessel for life.

Lula Chou

Lc3593@columbia.edu