

PORTFOLIO

Glitch Architecture, Cultural Memory, and the Digital Future of Design

Structural Experiments

YIFEI SHEN

SELECTED
WORKS

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2020 - 2025

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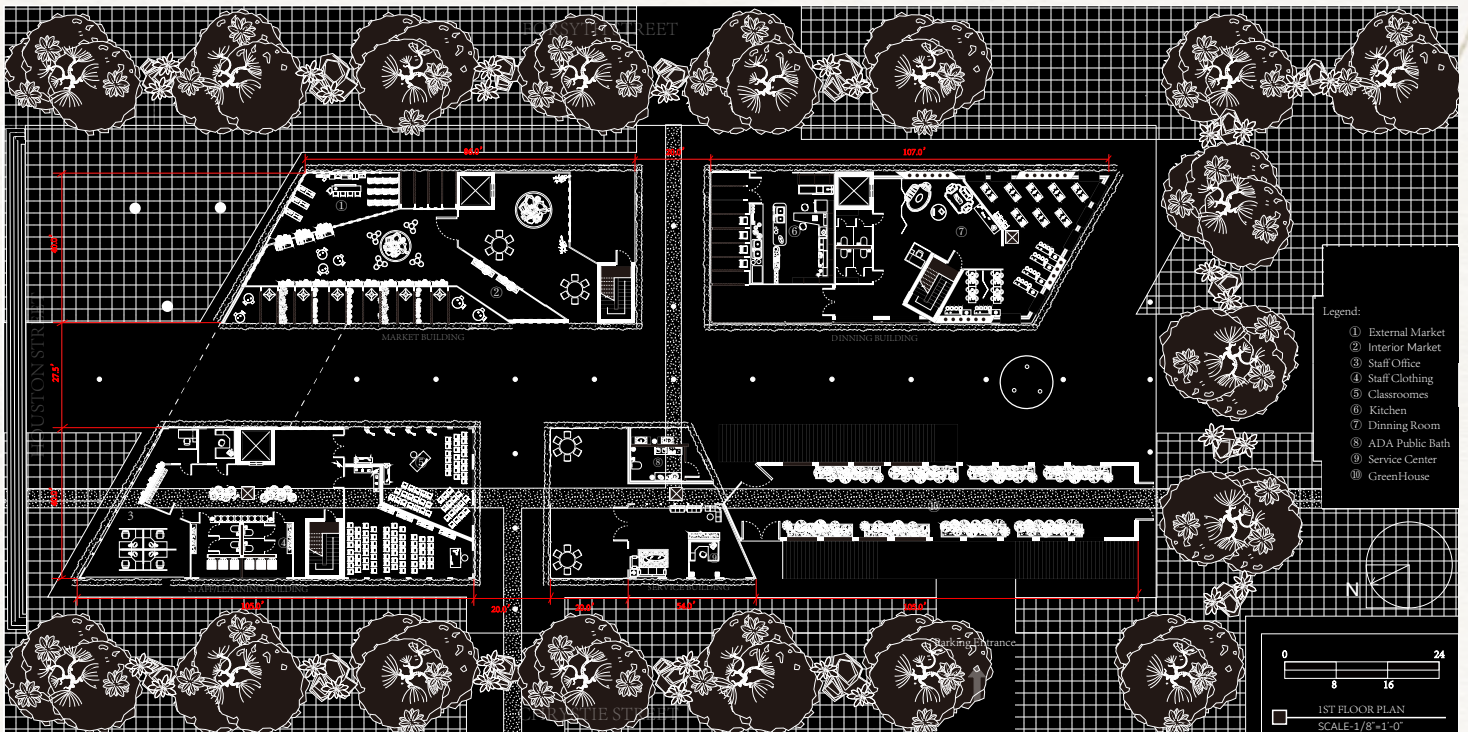
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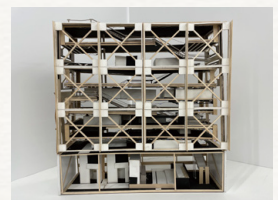


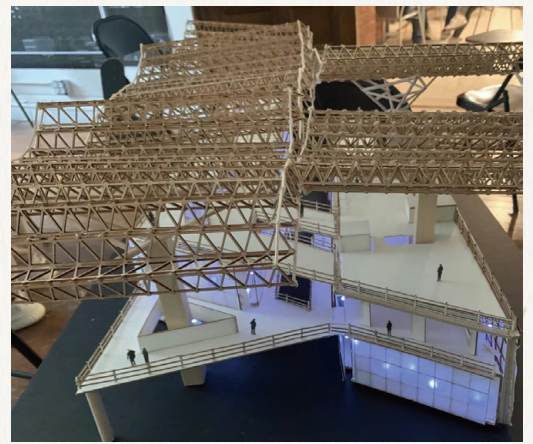
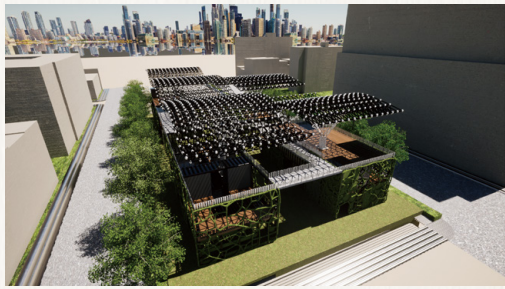
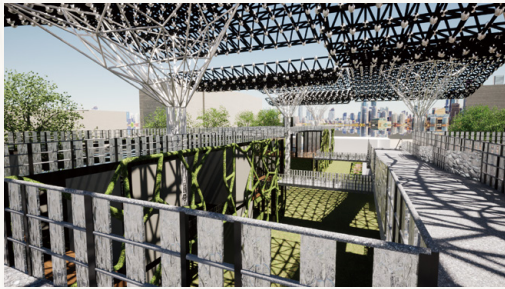
STEEL FOREST OR THE BONE OF ARCHITECTURE

Inspired by the Norris Dome and Living Unit steel frameworks—and guided by the structural philosophy of the Centre Pompidou—this project explores the pure aesthetics of exposed construction. The design treats the building's skeleton not as something to conceal, but to celebrate. Every beam, joint, and plate becomes part of an architectural anatomy that reveals its own inner logic. The result is a raw yet elegant composition—steel as both frame and statement—releasing the wild, untamed spirit of structure within the polished skyline.

Montreal Biosphere:
Structural Transparency

2022 SPRING





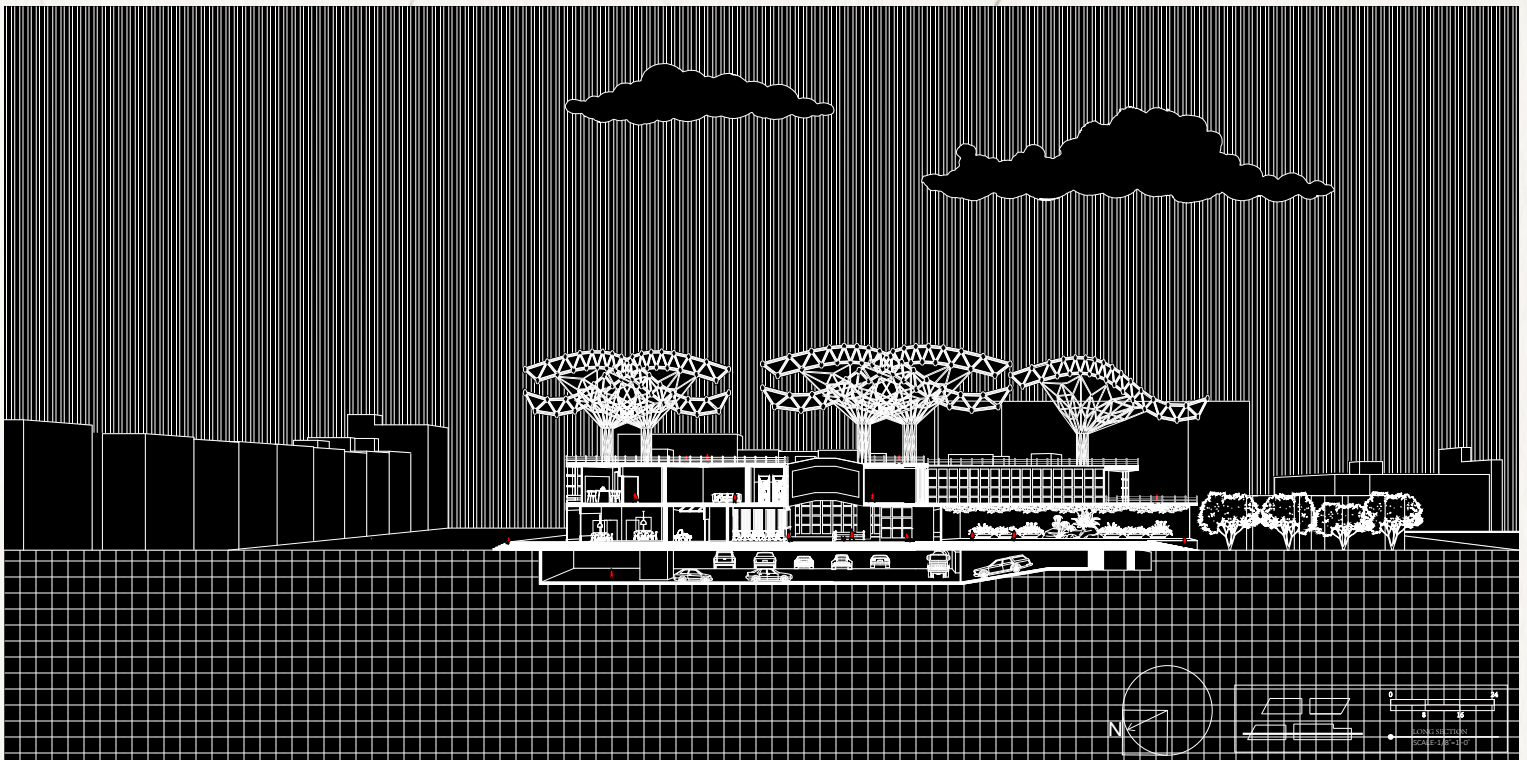
In its later development, the project evolved into a more autonomous and untamed speculative structure.

Steel and nature intertwine—metallic trunks erupt from the ground, weaving into a canopy of steel that engulfs the skyline.

This inversion questions the very logic of architecture itself:

Is matter dependent on structure, or is structure merely the vessel of matter?

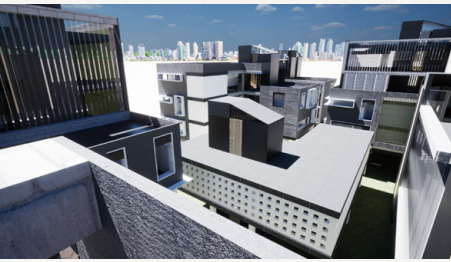
Through this paradox, architecture transforms from a static container into a living organism—one that grows, mutates, and begins to think for itself.



RENDERED VIEW/SECTIONS/PHYSICAL MODEL

2023 SPRING

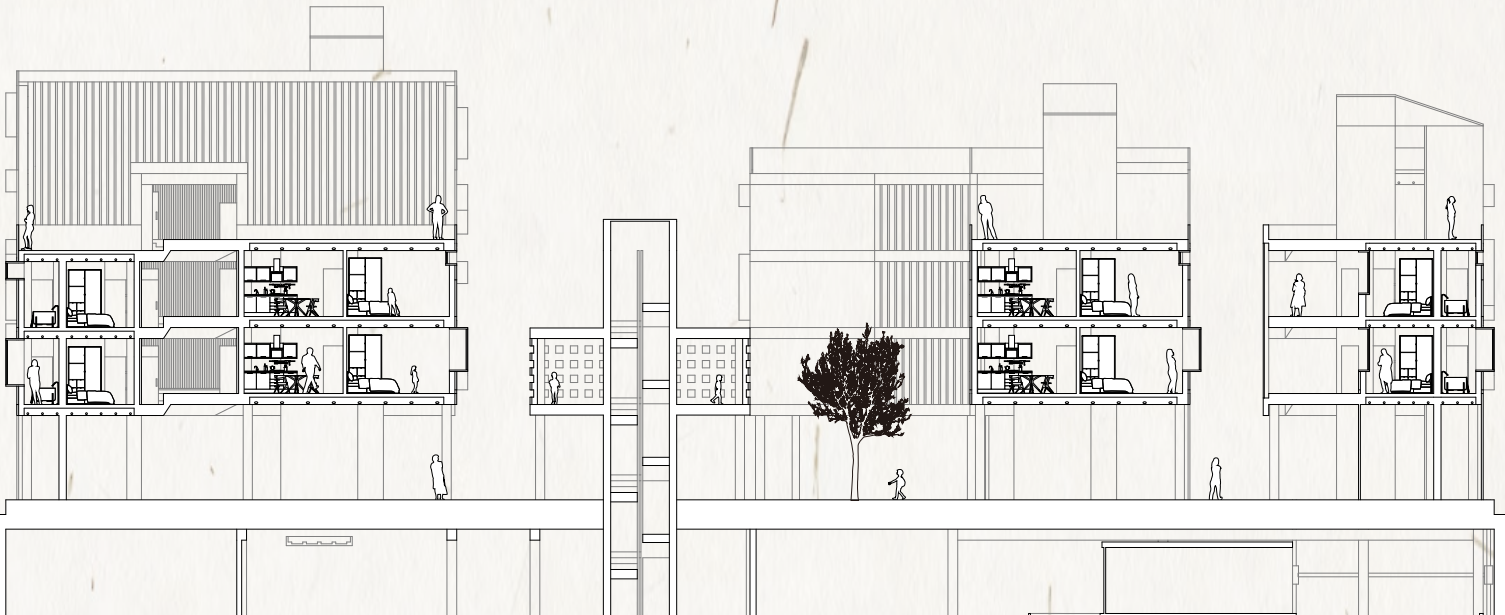
Individual and
Collective

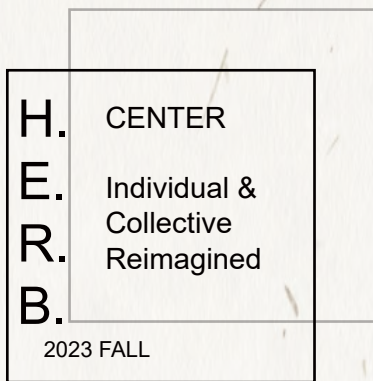
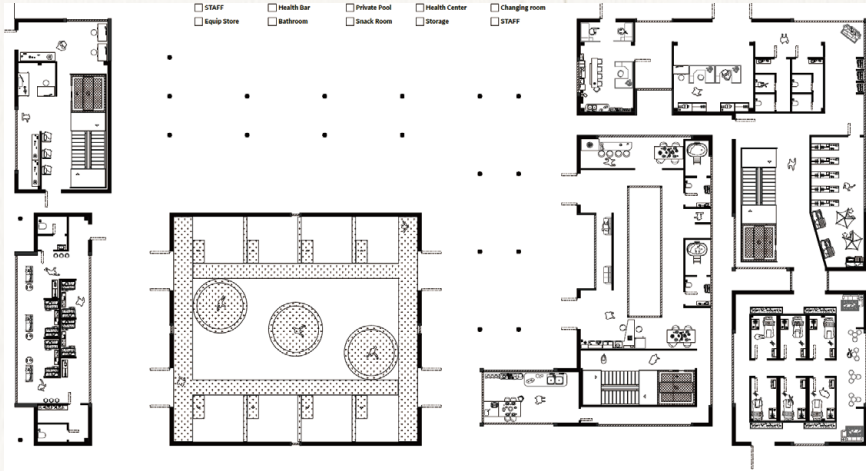
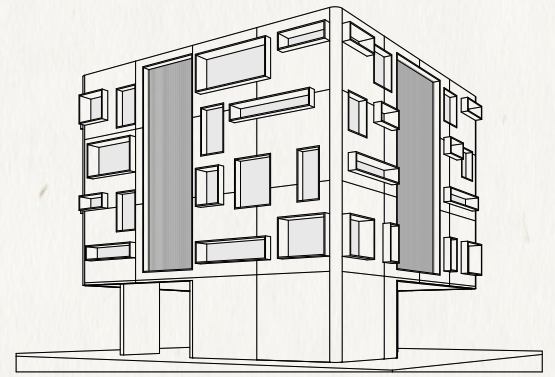
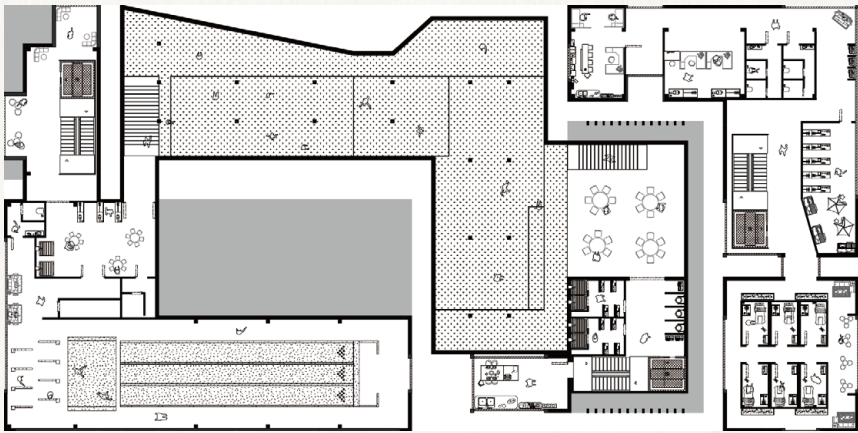


Moriyama House—a design both celebrated and controversial—redefined the boundary between the individual and the collective, structuring the delicate choreography of sightlines, privacy, and interaction. That tension between sharing and solitude transforms architecture from mere shelter into an extension of human relationships. In my low-income housing proposal, I sought to recreate this emotional and spatial complexity. Through site research and spatial prototyping, I reinterpreted Moriyama's design philosophy within a new urban context—aiming to craft a breathable coexistence where personal and communal life can intertwine, even within constraint.

Moriyama Reuse: Domestic Fragments

Reinterpreting Moriyama House — Private and public reimaged.



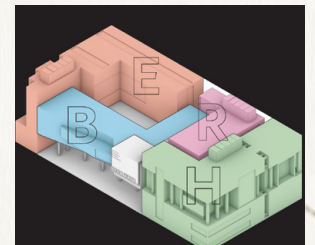


After examining the tension between individuality and collectivity—between self-awareness and group identity—I brought this inquiry into a predominantly minority neighborhood in Buffalo. Life there remains largely static, with limited access to recreational or social venues across several blocks.

In response, I designed the H.E.R.B. Center, a community hub founded on the belief that everyone deserves a space to find joy in their own way.

The name H.E.R.B. stands for:

- H – Happy
- E – Entertainment
- R – Rest
- B – Bath House



MOCA: Two Fates of Memory

Reconstruction as remembrance — Tracing ancestry and collective identity.

Located in the heart of Manhattan, the Museum of Chinese in America (MOCA) carries more than artifacts—it carries generations of memory. After a devastating fire, its reconstruction placed designers at a crossroads of responsibility and destiny:

Should architecture rebuild what was lost, or reinterpret what remains?

Buildings that hold cultural memory are always seductive; they invite us to listen to stories that refuse to fade.

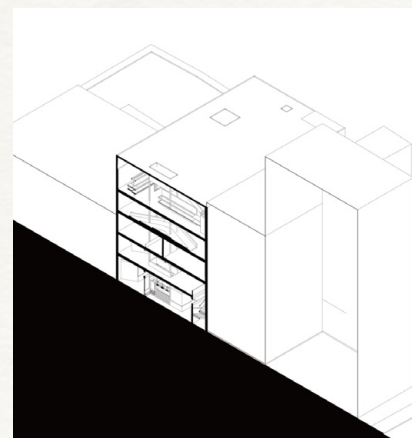
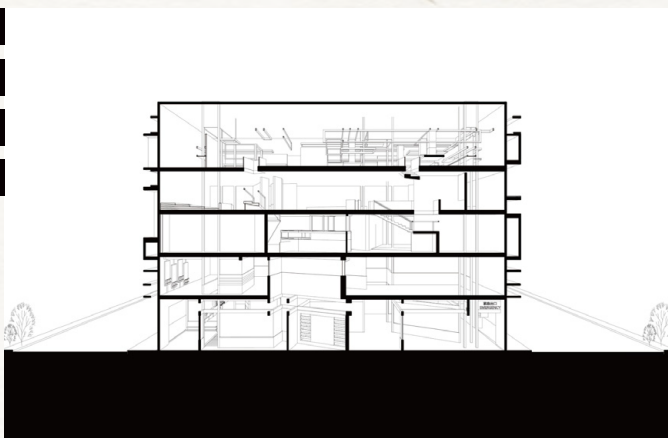
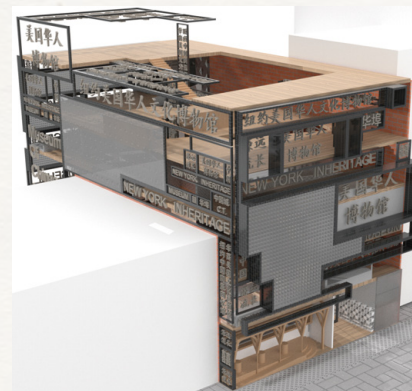
From countless fragments of smoke and time, I chose two narratives through which to retell MOCA's rebirth:

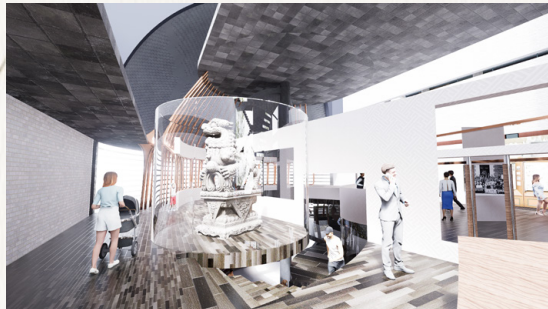


2024 SPRING

The Power of Words

Language carries history. Each written form represents a background, a belief, a way of seeing the world—it shapes and distorts memory alike.





The Power of History

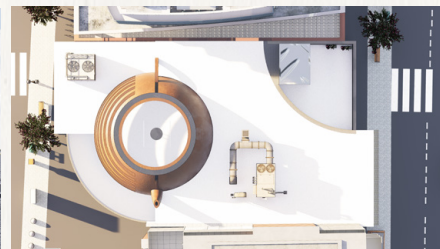
Historical moments become artifacts, and those artifacts become vessels of collective remembrance.

Each exhibit whispers, “We were here, and we remain.”

ARCHITECTURE PORTFOLIO

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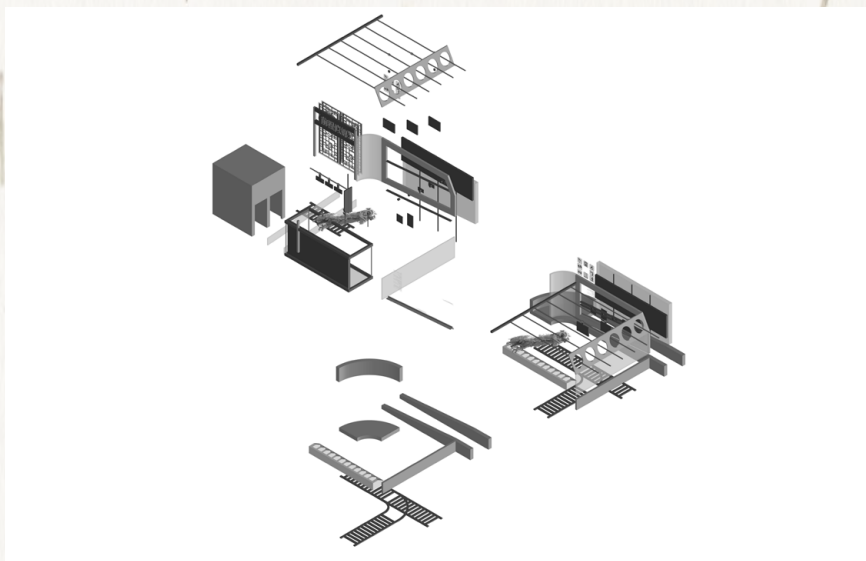
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2019 - 2023



History is far more captivating than words.

It emerges from the Project of Words yet transcends mere documentation.

Words can take on new shapes and meanings—but that remains a kind of romance, a tenderness unique to the Chinese American imagination.



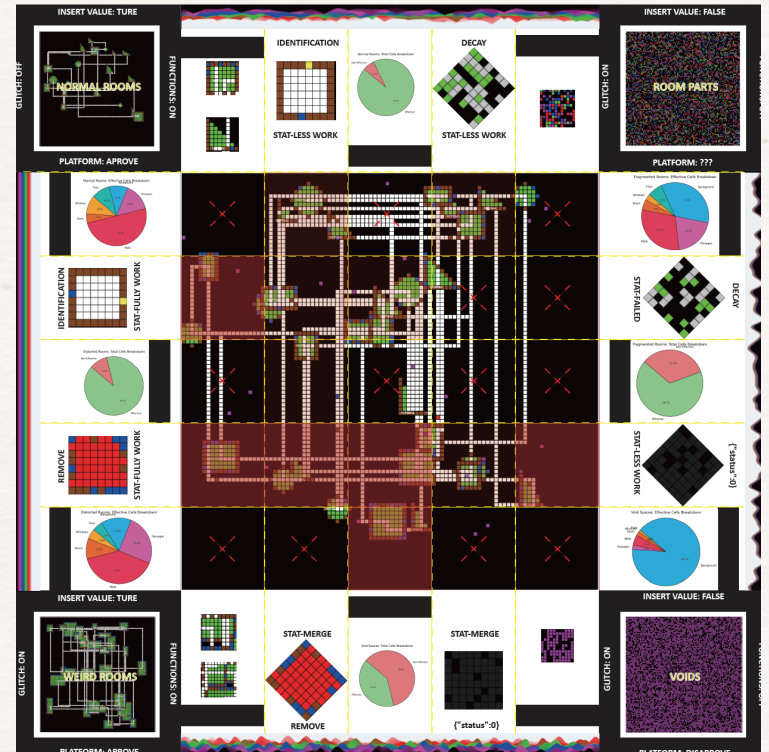
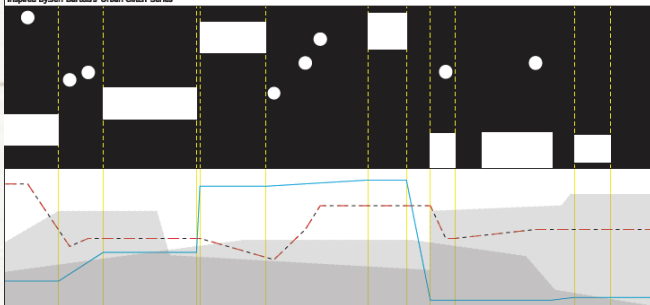
This time, I wanted to bring that romance back to reality.

As a museum in the very center of Manhattan, MOCA must speak with authenticity.

In this redesign, I traced the historical threads of Chinese American experience—railroads, discrimination, resilience, reflection, and remembrance—to construct a spatial narrative that one can literally walk through.

It is a new story, built not only from artifacts, but from the living pulse of history itself.

G I L T C H



The language of the digital world is both opaque and precise.
 From zeros and ones emerges a symphony of infinite architectural possibilities.
 While many designers treat AI and parametric systems as a looming threat—
 fearing that digital assets might erode the essence of human creativity—
 I see them instead as an opportunity.

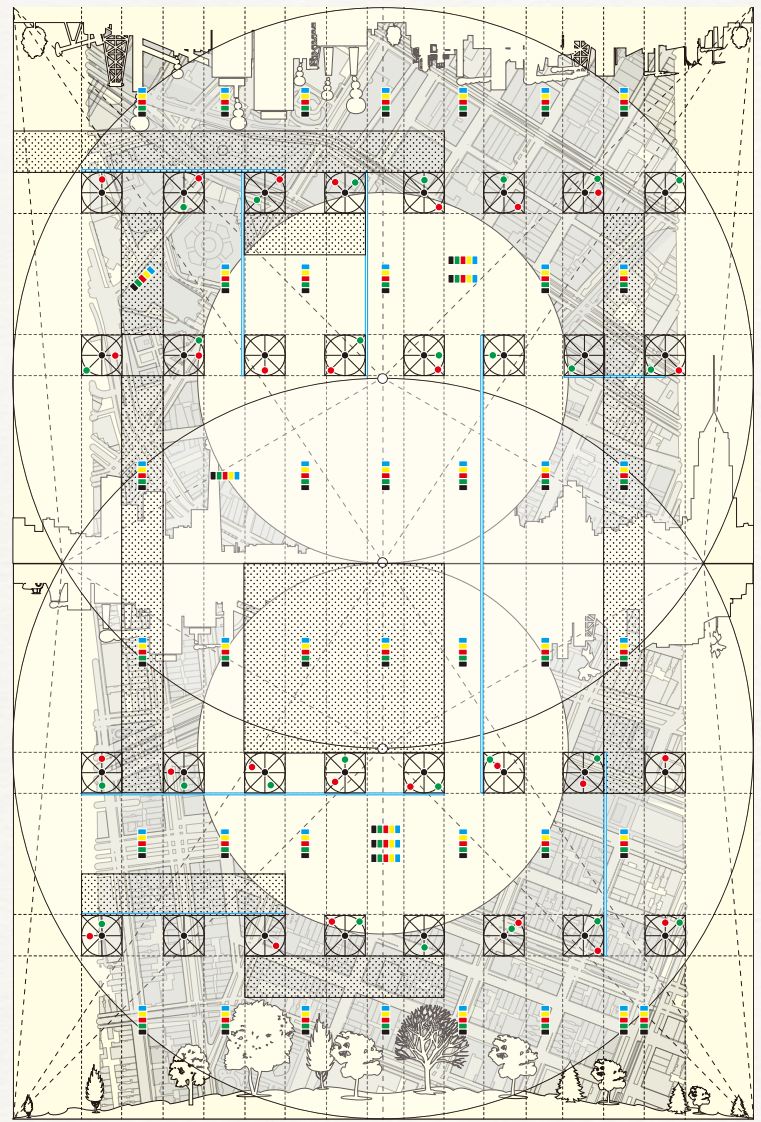
By imagining myself as the AI, I explore the beauty within digital collapse and decay.
 Glitches, noise, and system errors become aesthetic events—
 moments where technology forgets perfection and reveals emotion.

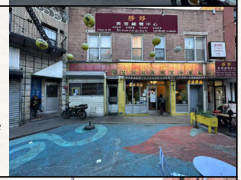
Through this lens, architecture and algorithm coexist; failure becomes form, and imperfection becomes language. This philosophy forms the conceptual backbone of my Degree Project: Glitch Architecture.

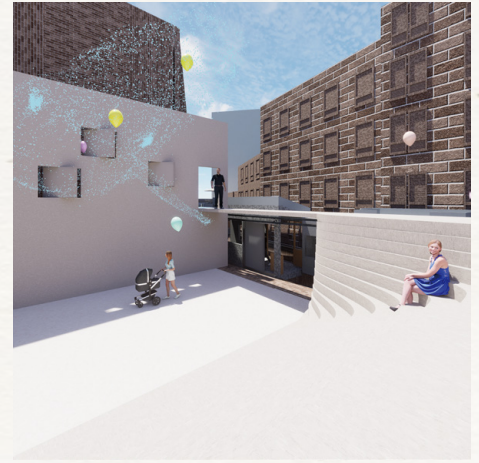
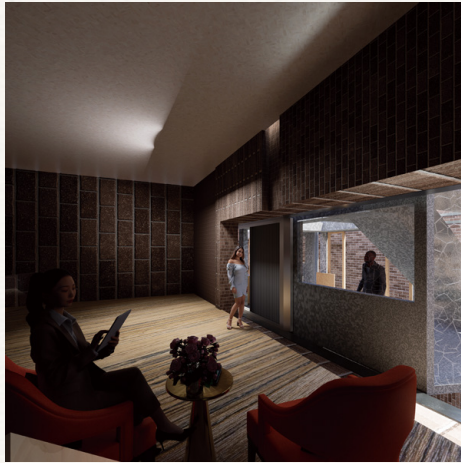
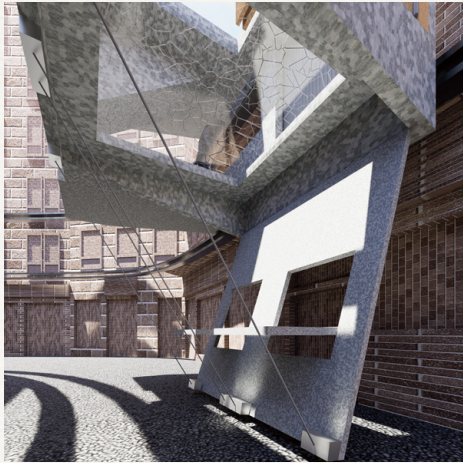
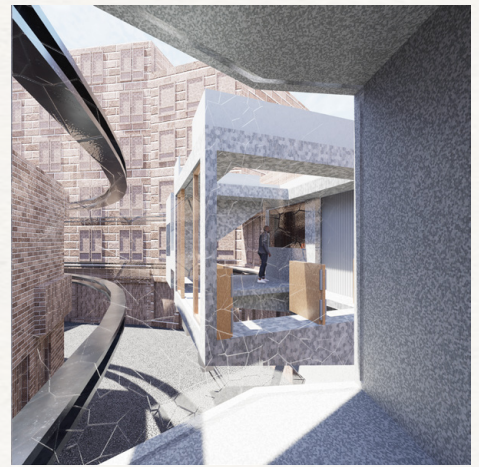
Doyers Street—short, curved, and deeply layered within Manhattan’s Chinatown—feels like a fragment of time that has glitched out of the city’s linear narrative. I chose this site as the ground for my thesis, translating the concept of digital decay into the physical fabric of urban memory.

Here, the glitch becomes an architectural language—not an error, but a revelation. Suspended capsules, fragmented pathways, and aerial tracks intervene within the dense urban texture, functioning like data packets transmitting between past and present.

These floating structures act simultaneously as buildings and as signals. They archive the collective unconscious of the community, reconstructing identity through interruption and reassembly. Each flicker in space becomes a pulse of memory—a moment where architecture and data remember together.

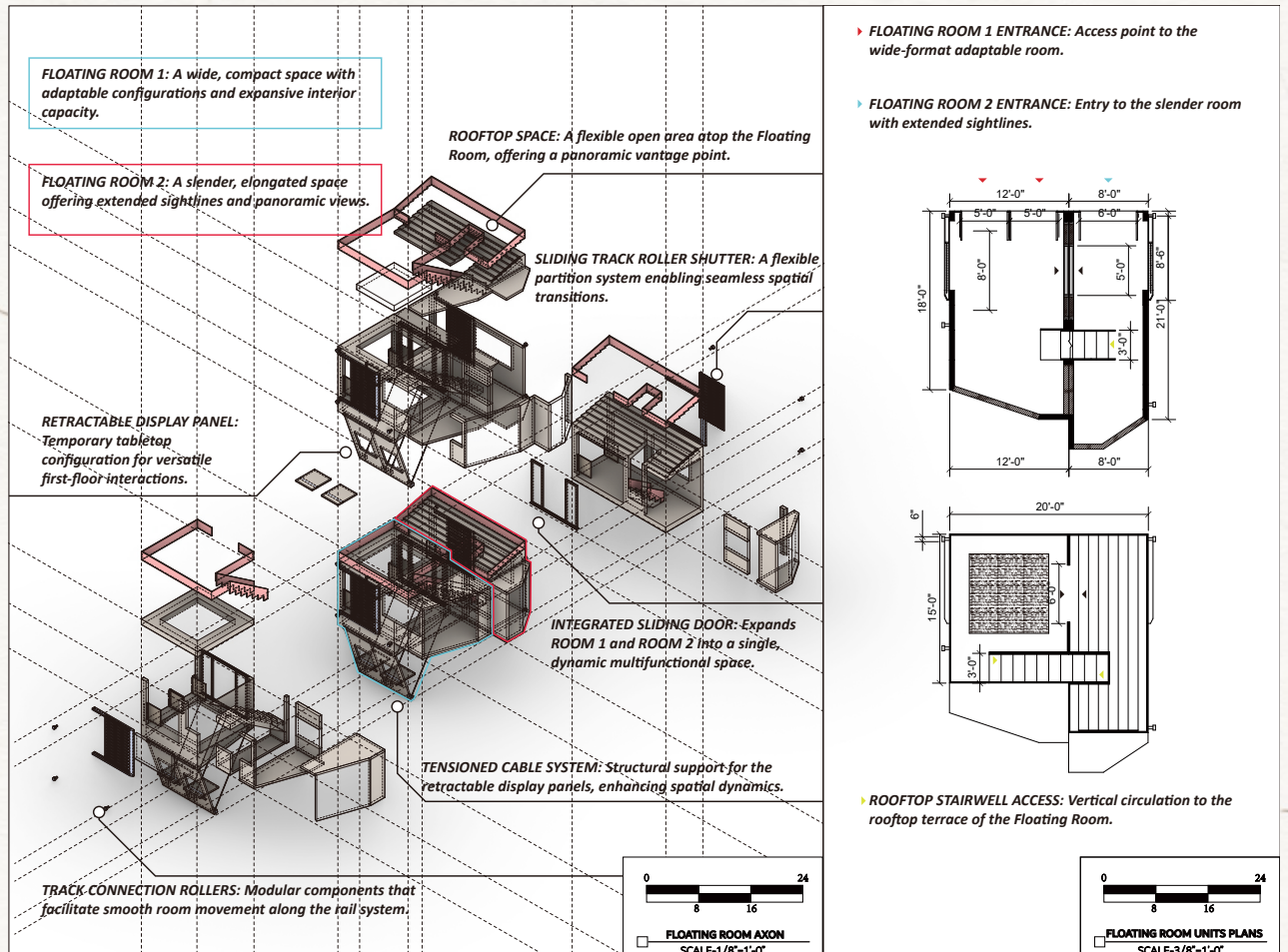


OPPORTUNITY1-PELL STREET ENTRANCE Site Feature: Narrow street with cramped vendor stalls Intervention: As a potential starting or ending point of a rail system, propose an elevated walkway and platform to improve access and visual flow	
OPPORTUNITY2-NAN WAH TEA HOUSE Site Feature: Abandoned beauty clinic on 2F, visitor flows in conflict Intervention: Tea parlor function is singular; reuse 2F for multi-use cultural activities to ease circulation and enrich programming	
OPPORTUNITY3-POST OFFICE ROOF Site Feature: Flat ground level with an under-used rooftop Intervention: Introduce mobile or modular programs on the roof to activate unused space and expand public functions	
OPPORTUNITY4-VACANT BUILDING Site Feature: High-rise structure, large-scale redevelopment potential Intervention: Create multi-height moving platforms as rail access points, allowing spatial expansion and transformation	
OPPORTUNITY5-BOWERY STREET Site Feature: Major road separates Doyers Street from surrounding areas Intervention: Ground occupation is restricted, propose elevated connections or skywalks to bridge the divide	

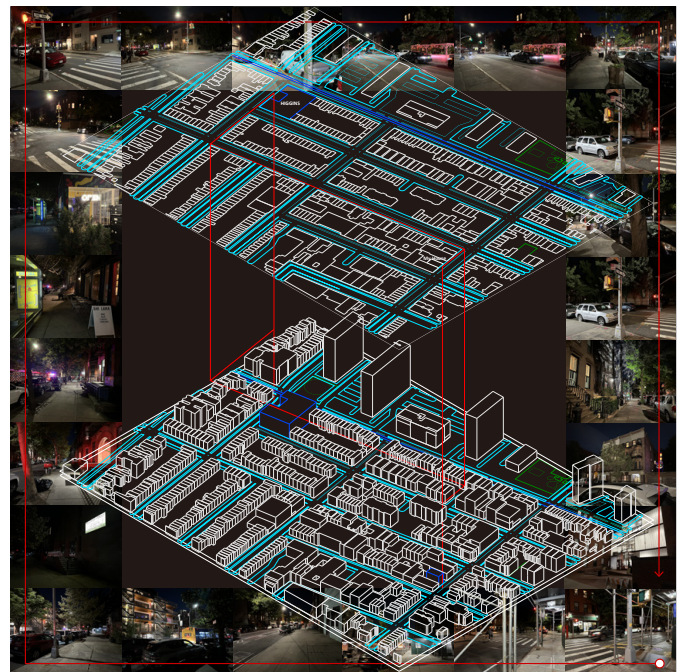
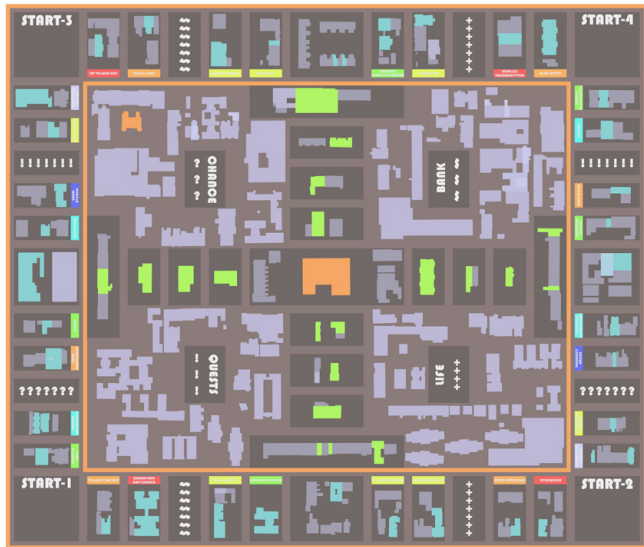


Doyers Street | Spatial Rupture

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2025FALL



PRATTOPOLY

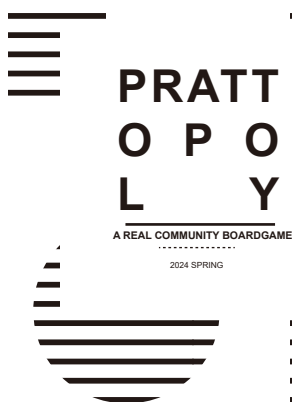


PART III — Independent Works

Prattopoly is a real, fully playable board game inspired by the Pratt Institute community—an anti-capitalist reinterpretation of the classic Monopoly system.

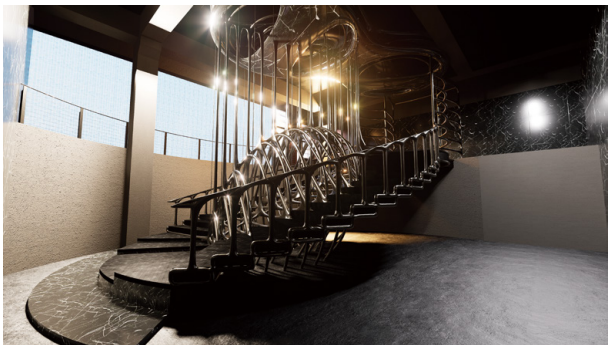
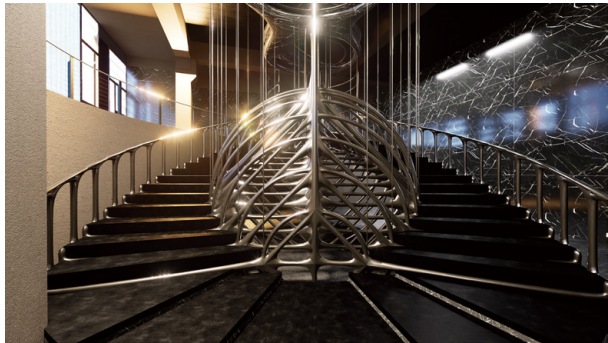
Instead of rewarding property accumulation, it encourages collaboration, mutual aid, and community engagement. Each tile on the board corresponds to an actual location on campus—studios, dorms, cafés, galleries—where players complete design challenges, share resources, and build connections rather than empires.

Prattopoly functions both as a game and a social critique. It questions the competitive logic often embedded in design education, and proposes a cooperative alternative: an architecture school imagined not as a marketplace, but as a collective ecosystem of creativity and care.



Rebirth of Structure and Flesh

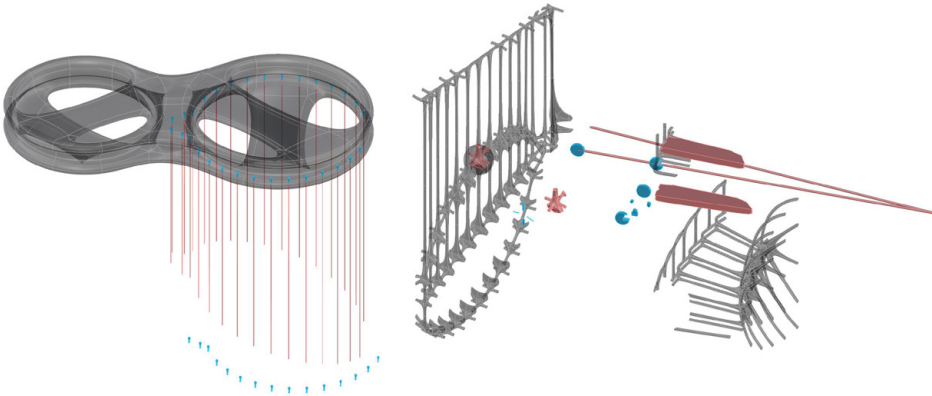
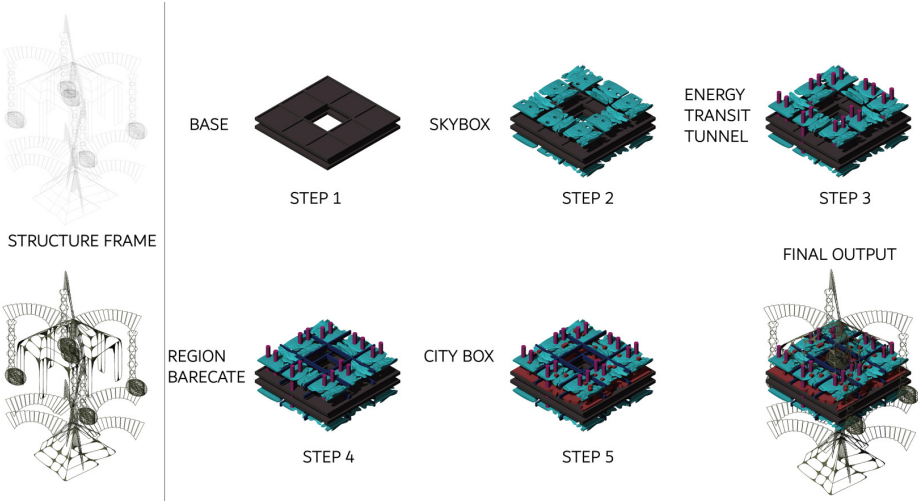
2024 FALL



This redesign proposal for the Higgins Hall Lobby Stair draws inspiration from the Necronomicon concept art and the biomechanical imagination of Hans Rudolf Giger.

Using a hybrid system of engineering plastics and tensioned steel cables, the design redefines architecture as both structure and flesh—a synthesis of muscular form and structural intelligence.

The staircase becomes more than circulation; it transforms into a cocoon of inspiration, a living organism where architects and students are metaphorically reborn—breathing, evolving, and rediscovering the creative pulse of architecture itself.

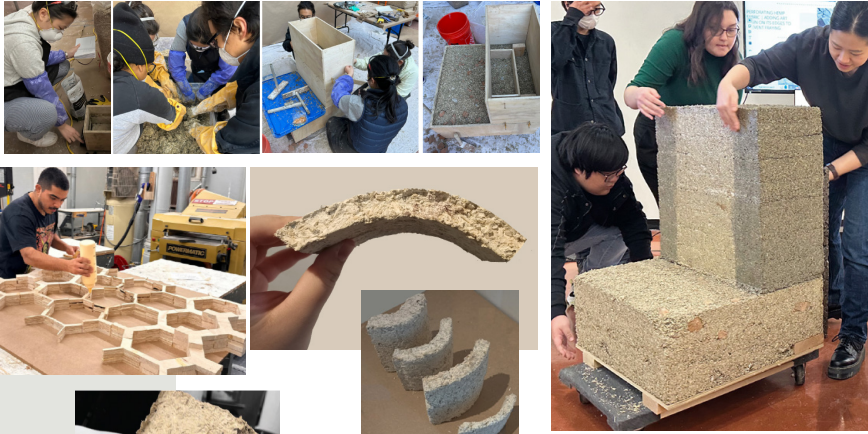


Bio-based Materials Collaborative Research

Melisa Alatas, Jason Barajas-Valdivia, Alexa Ortiz-Reyes, Zophia Li, Adam Abodalo, Andrew Dionne, Jacqueline Chou, Delgersaikhan Davaadorj, Penghan Pan

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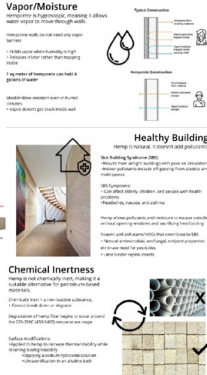
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Consultant,
Bhavini Kapur, Pratt SOA
William 'Bill' Menking
Travel Award recipient



Bio-based Materials Collaborative Research aims to understand the potential of bio-based materials and how they will change the kinds of construction materials and the architecture we make. The research and material testing focus is on hemp and other bio-based materials, such as cork and biochar. We research their origins—where do they come from? How has it been used? Practically—what does it do well? Experimentally—what else could it do? Through sourcing, material testing, experimentation, and prototypes at a 1:1 scale. We prioritize the craft of making as a collaborative and creative act that is inseparable from the craft of making architecture. We consider this material's potential effects on the traditional linear model of products and materials and the relationship between building and the environment.



What does it do well?
Material Properties of Hempcrete
Carbon Sequestration
Thermal Resistance
Healthy Building
Vapor/Moisture
Chemical Inertness



The building industry extracts, consumes, and ultimately discards more than 3 billion tons of raw material each year. Conventional building materials are globally sourced, carbon-intensive, often minimum performance and account for approximately 11% of global carbon emissions. New York City construction produces 5.7 billion tons of CO2 each year. In a post-waste, post-carbon, near-future world, we will have to reimagine how radically and with what we build our buildings. The development of applications of bio-based materials for building and the adoption of new construction practices demands creative, thorough, and quantifiable research for their introduction to elicit meaningful change in the building industry.

Bio-based Materials Collaborative Research

Layering Biomaterials

Cork, Biochar, Beeswax and Hemp & Lime

This study investigates the integration of plants with hempcrete to maintain its structural integrity against water exposure, offering a novel approach to sustainable construction. By utilizing a biomaterial layering process over hempcrete, it seeks to develop water-resistant solutions that avoid the use of conventional, toxic methods. Furthermore, the research explores the incorporation of additive materials to enhance the structural integrity of hempcrete, enabling it to withstand greater loads while preserving its eco-friendly characteristics. This dual focus aims to expand hempcrete potential applications in construction, ensuring it remains a durable, versatile, and sustainable building material.

Testing Process:

Description:
For this study, we will use six molds, each with dimensions of 6"x6"x6", to hold our biomaterials. The 6-inch depth ensures the even distribution of 1 cubic foot of hempcrete across the six molds, providing sufficient space to incorporate additional biomaterials and accommodate a desired thickness.



Materials List:

6 plywood molds of 6"x6"x6"
Hempcrete, Lime, Water (1CFX1CF of hemp mixture)
Tree Cork
Gelatin Starch (Bioplastic)
Beeswax
Biochar (Pistachio Rice Husk)

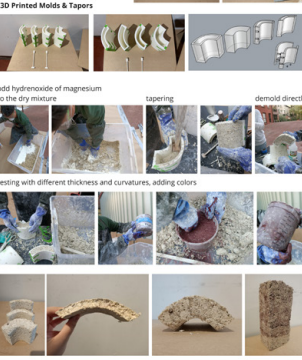
Mixing Minerals

Magnesium and Hemp & Lime

Material Testing:

This study explores the potential applications and new construction relationships of hemp concrete reinforced with magnesium hydroxide and iron oxide. By fabricating thin curved shells, the research tests the enhancement of hemp concrete's strength, achieved through the addition of these metal compounds, while enabling thinner thicknesses and more complex curved geometries.

Testing Process:



Materials List:

Herd: 4 lb; Cement: 3 lb; Water: 6 lb
Magnesium Hydroxide powder: 15%
Iron oxide
Mold: PLA 3D Printing Wood

Bio-based Material Testing and Material Studies 1:1

1. Thickness
Bio-Materials & Recycled Materials Wall & Floor Construction

Hemp Hurd, Hemp Fiber & Biochar & Cork
Construction Waste Agggregate

Alexsa Ortiz-Reyes, Jacqueline Chou, Yifei Shen,
Delgersaikhan Davaadorj & Melisa Alatas

2. Thinness

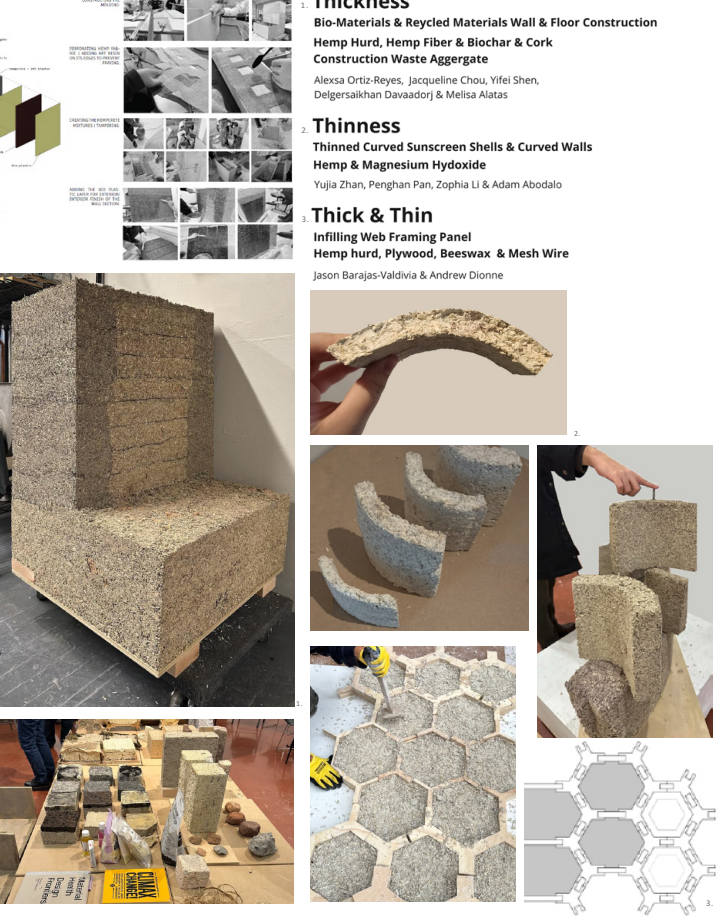
Thinned Curved Sunscreen Shells & Curved Walls
Hemp & Magnesium Hydroxide

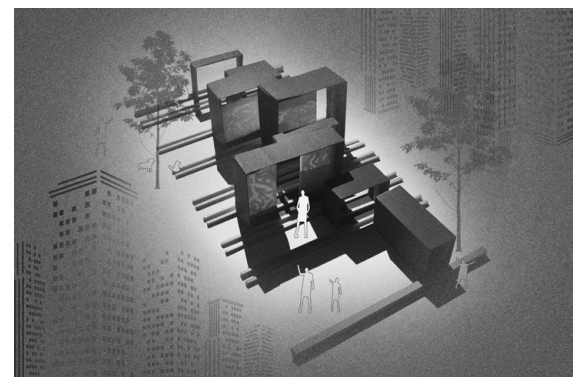
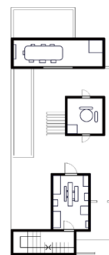
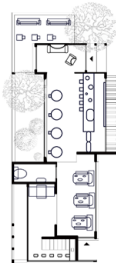
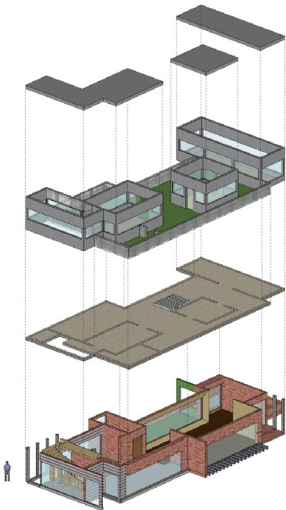
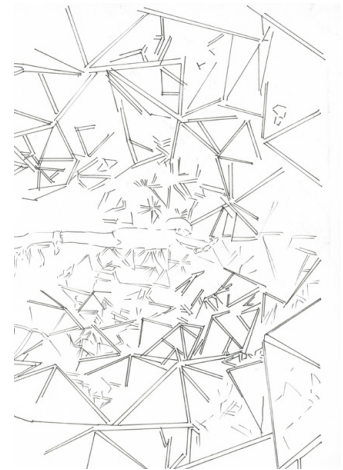
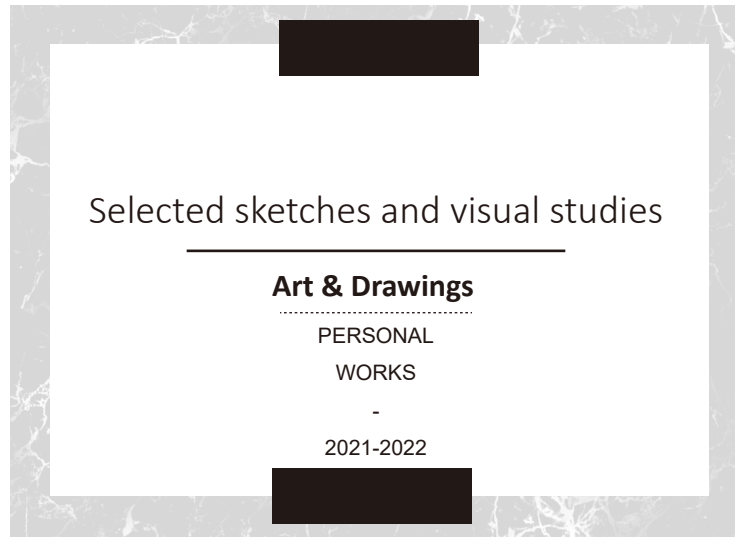
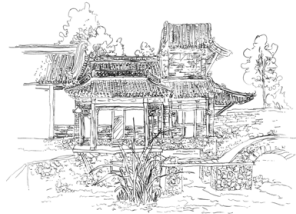
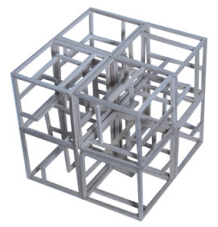
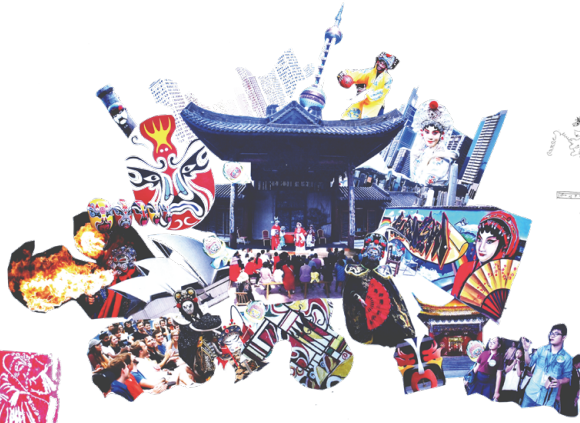
Yujia Zhan, Penghan Pan, Zophia Li & Adam Abodalo

3. Thick & Thin

Infilling Web Framing Panel
Hemp hurd, Plywood, Beeswax & Mesh Wire

Jason Barajas-Valdivia & Andrew Dionne





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PORT

PRATT INSTITUTE

2020 - 2025

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