Emergent Mutations

Louis Amadeus Arteaga

Columbia GSAPP
2024-2025

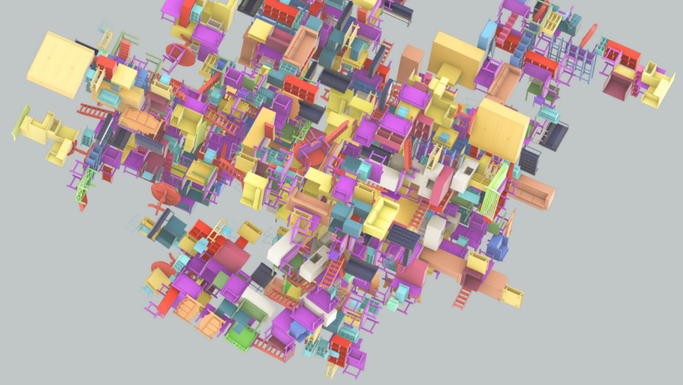
Framework

Mutation is an inherent process in the evolution of cities, spaces, and the objects we inhabit. In the urban and domestic context, the ordinary is in constant transformation, adapting to new social, ecological, and technological realities. This mutation is not a linear or static process, but a series of emergent changes that respond to the interactions between the built environment, the materials used, and the dynamics of the people who inhabit it.

Through the projects presented in this portfolio, I explore how the ordinary, the recycled, and the repurposed become new resources for creating livable and functional spaces. Each of these works seeks to demonstrate how urban and domestic spaces, as well as everyday objects, can evolve and transform to meet the needs of a constantly changing world.

Emergent mutation not only speaks to material adaptation, but also to a social evolution: design is not just an aesthetic response, but a form of resistance against the homogenization of space and the uniformity of objects. In this process, both architecture and objects have the potential to be active agents in the creation of a more sustainable, inclusive, and adaptable future.

Thank you to GSAPP, my instructors, and peers for helping shape my approach to design. The insights and collaboration throughout this journey have been invaluable.



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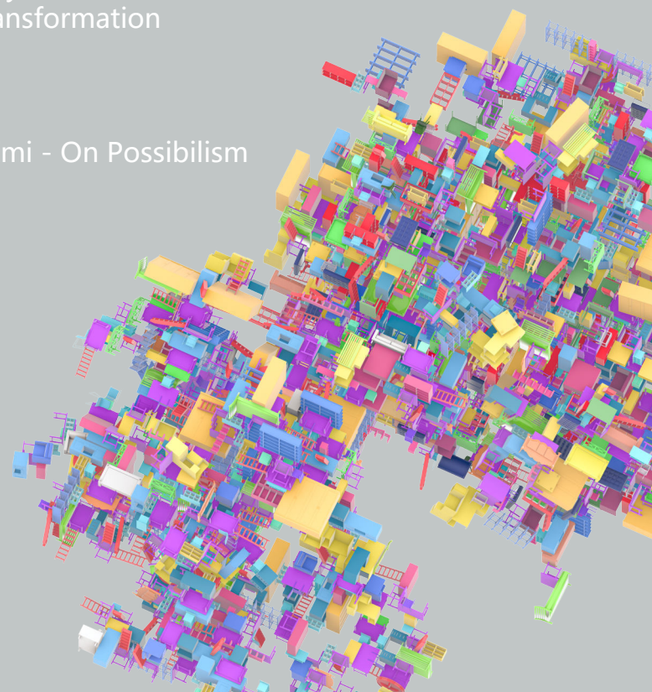
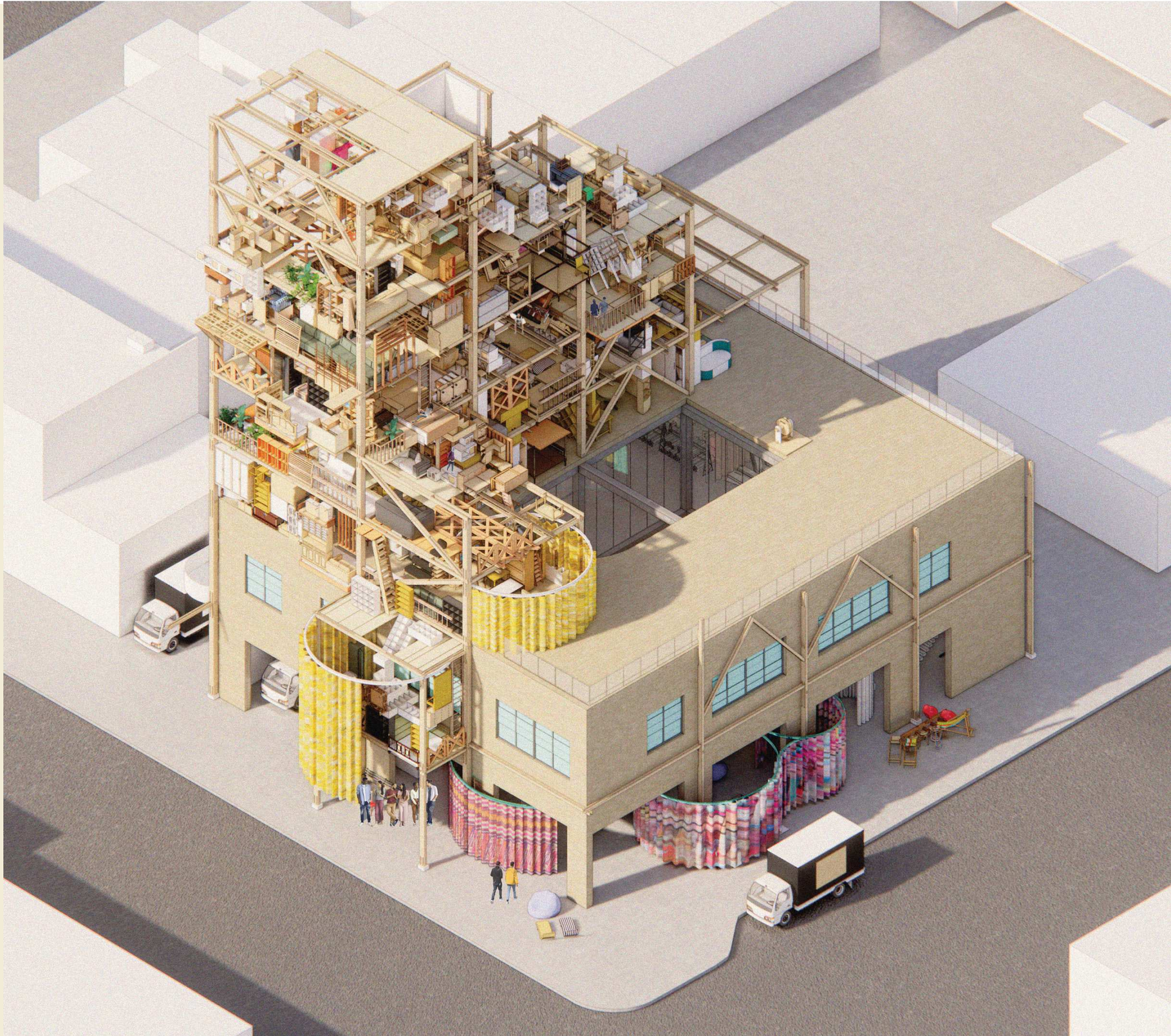


Urban Mutation

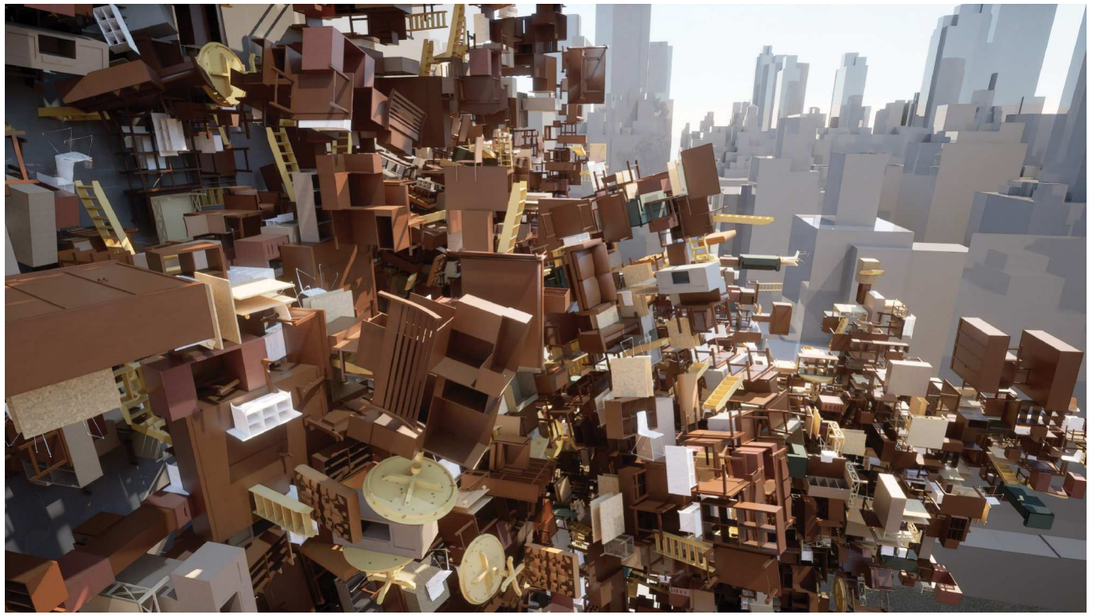
The Urban Mutation Factory

Adv V Studio	Reverse Logistics
Instructor	Cyrus Penarroyo
Semester	Fall 2024
Partner	Sofia Hernandez
Location	NewYork

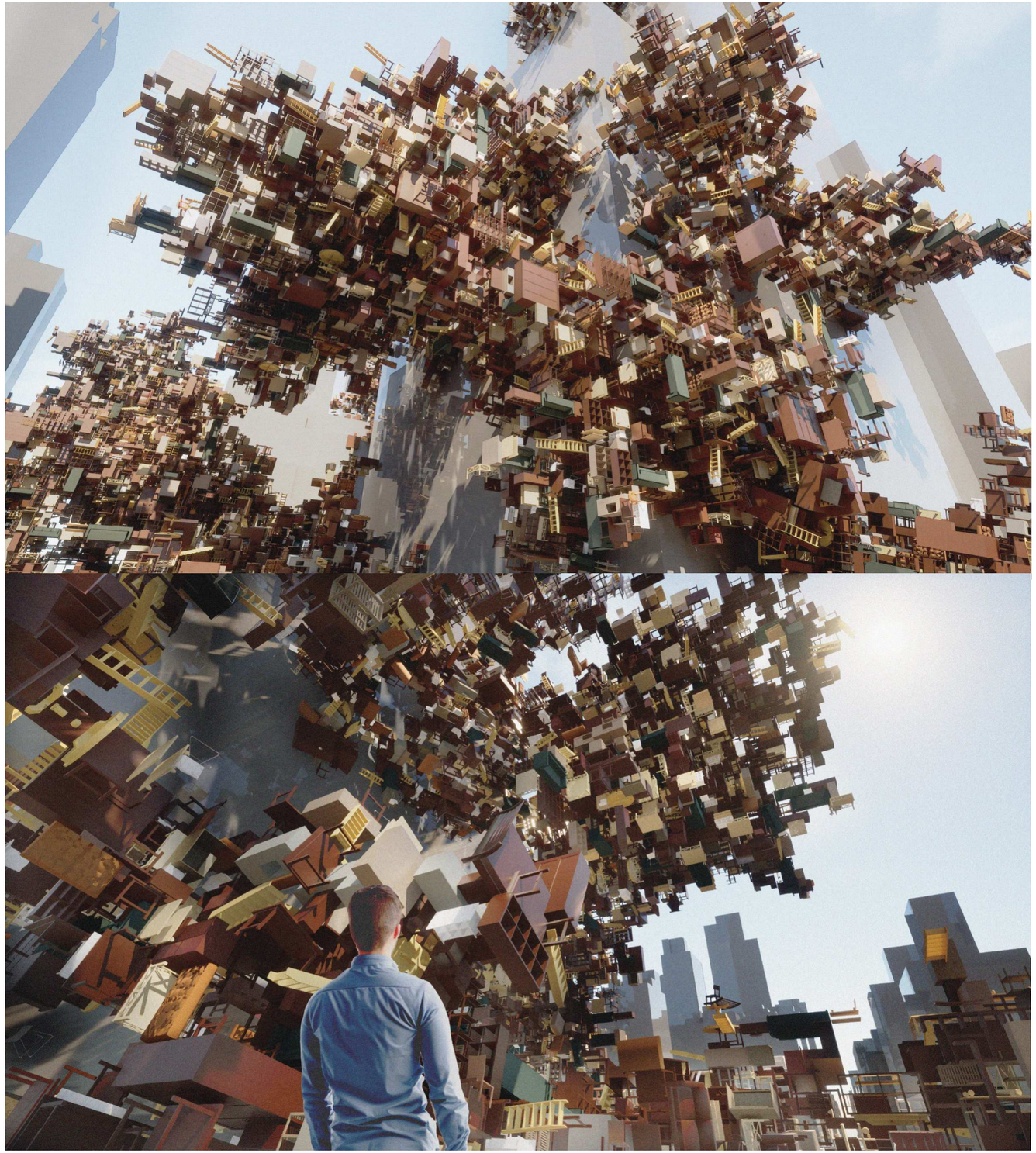


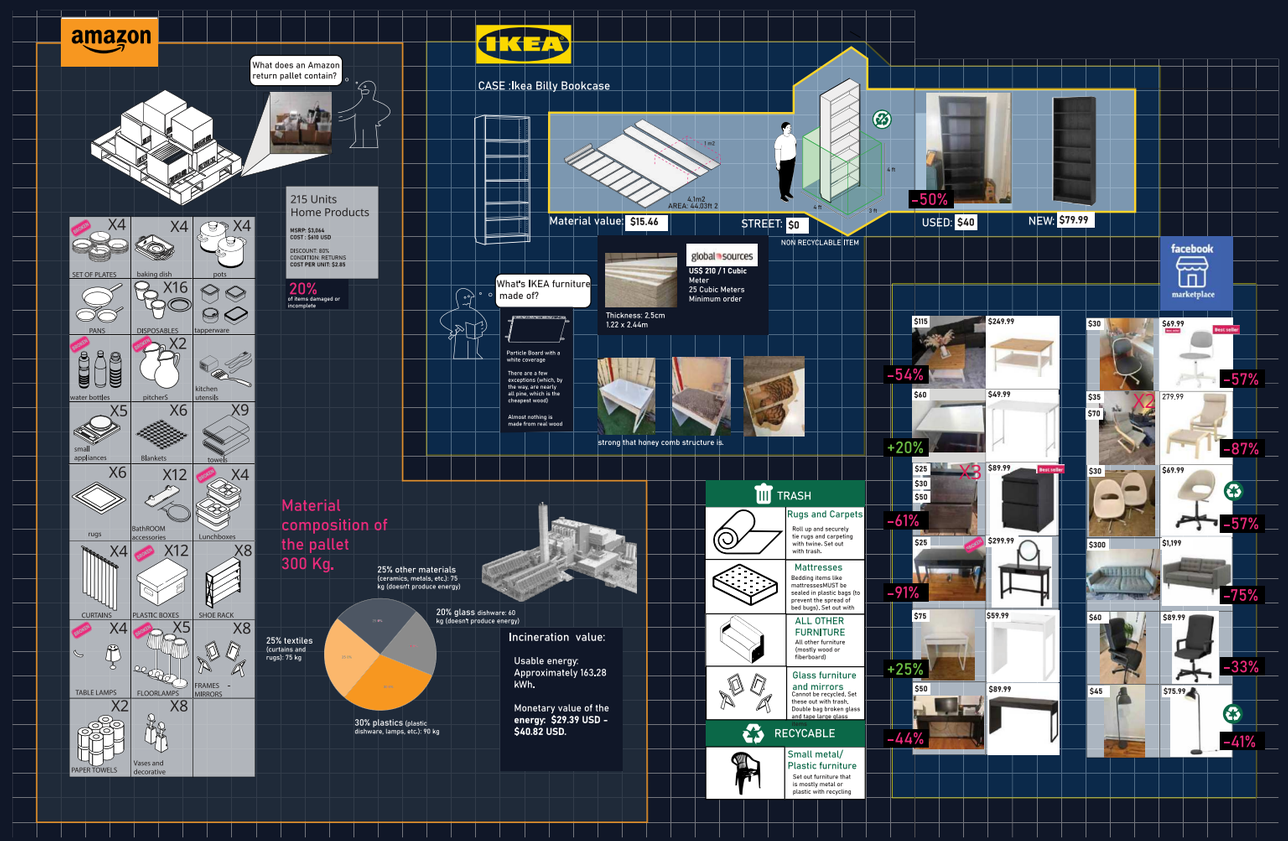
Reverse Logistics in a Consumer Society

Traditionally, reverse logistics refers to the process of returning products through the supply chain, from the end user back to the retailer or manufacturer. However, in this project, we view reverse logistics as the hidden infrastructure of consumerism, the invisible system managing the products we buy, discard, and return. More than just a functional process, reverse logistics becomes a critique of the consumption cycle that dominates our society, where mass-produced, standardized objects are quickly replaced and discarded, their value short-lived.



Imagine a future where cities become dynamic systems capable of digesting their own consumption. Instead of discarding the remnants of consumer culture, urban environments would absorb, reorganize, and reincorporate these materials into their fabric. This speculative vision positions discarded furniture and objects as the seeds of transformation—a virus that begins in buildings and spreads through the city, reshaping its spaces and structures.
In fact, this virus already exists today, growing relentlessly in landfills. These hidden infrastructures of consumerism are deliberately concealed to obscure the consequences of our wasteful habits. By bringing this process into the open, we aim to reframe consumption not as an endpoint but as a cycle the city itself can manage and transform. It is both a call to confront the realities of waste and an invitation to embrace these overlooked materials as integral components of our urban future.





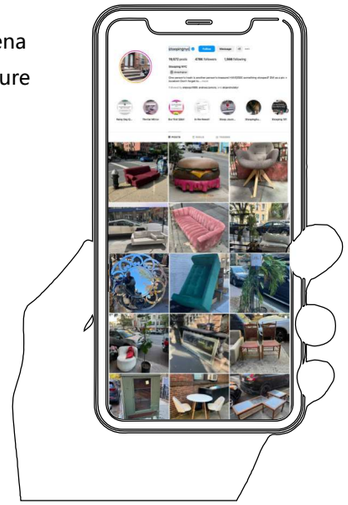
Managing abandoned furniture on the streets of New York

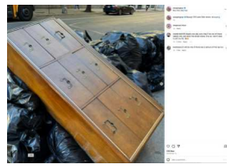
Our research focused on the housewares category, examining the logistics processes of large companies like IKEA, Wayfair, and Amazon. Handling returns of home decor and furniture involves significant energy, resources, and logistics. With high return rates—particularly in e-commerce, where companies like Amazon see up to 20% of items sent back—many of these still-usable products are discarded or sent to recycling centers. The decision to discard is often driven by cost-efficiency, making it cheaper for companies to send products to landfills rather than reintegrate them into the market.

CULTURE OF REUSE

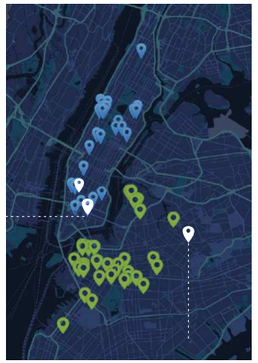
In parallel, there are digital phenomena in New York City that promote a culture of reuse, particularly for furniture. Pages like NYC Stoopers, with over 400,000 followers, feature 5-10 daily posts of furniture left on sidewalks, hoping someone will rescue these items before they end up discarded.

A map of “hot spots” reveals areas where most furniture is left, highlighting zones such as the Upper West and East Sides in Manhattan, as well as Brooklyn neighborhoods near Greenpoint and Park Slope.





NYC Furniture Disposal Map:



Manhattan: (Upper West Side & East Side):

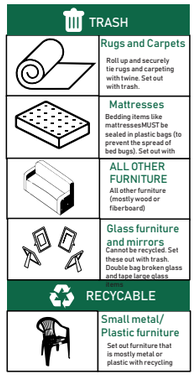
High activity in areas like Upper West Side (near 79th

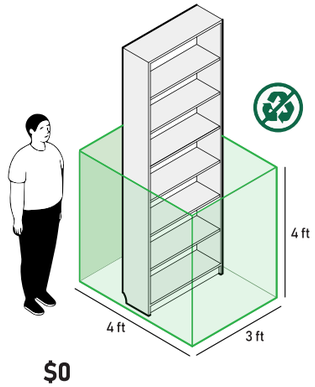
Hotspots in Brooklyn (Greenpoint & Park Slope):

Greenpoint and Park Slope show multiple instances of furniture disposal.

Thin line between trash and furniture in a home

Although many of these items are in good, usable condition, there is a fine line between what is considered trash and what becomes part of someone's home. This line is also defined by standardized parameters set by New York City's Department of Sanitation. Their list of trash includes rugs, sofas, and large furniture items; anything exceeding dimensions of 4x4x3 feet is automatically considered trash, meaning it won’ t even be recycled.





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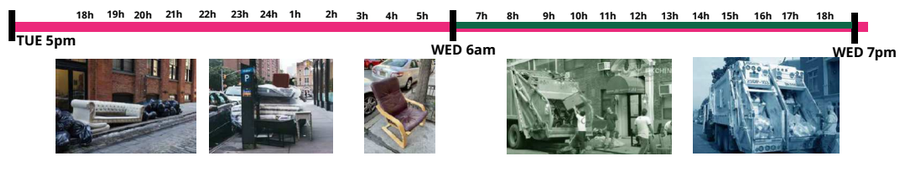
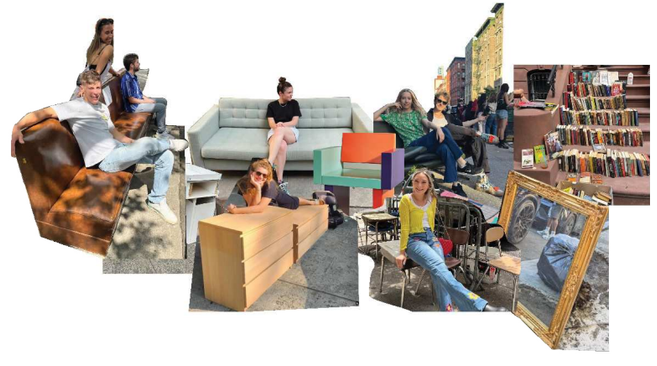
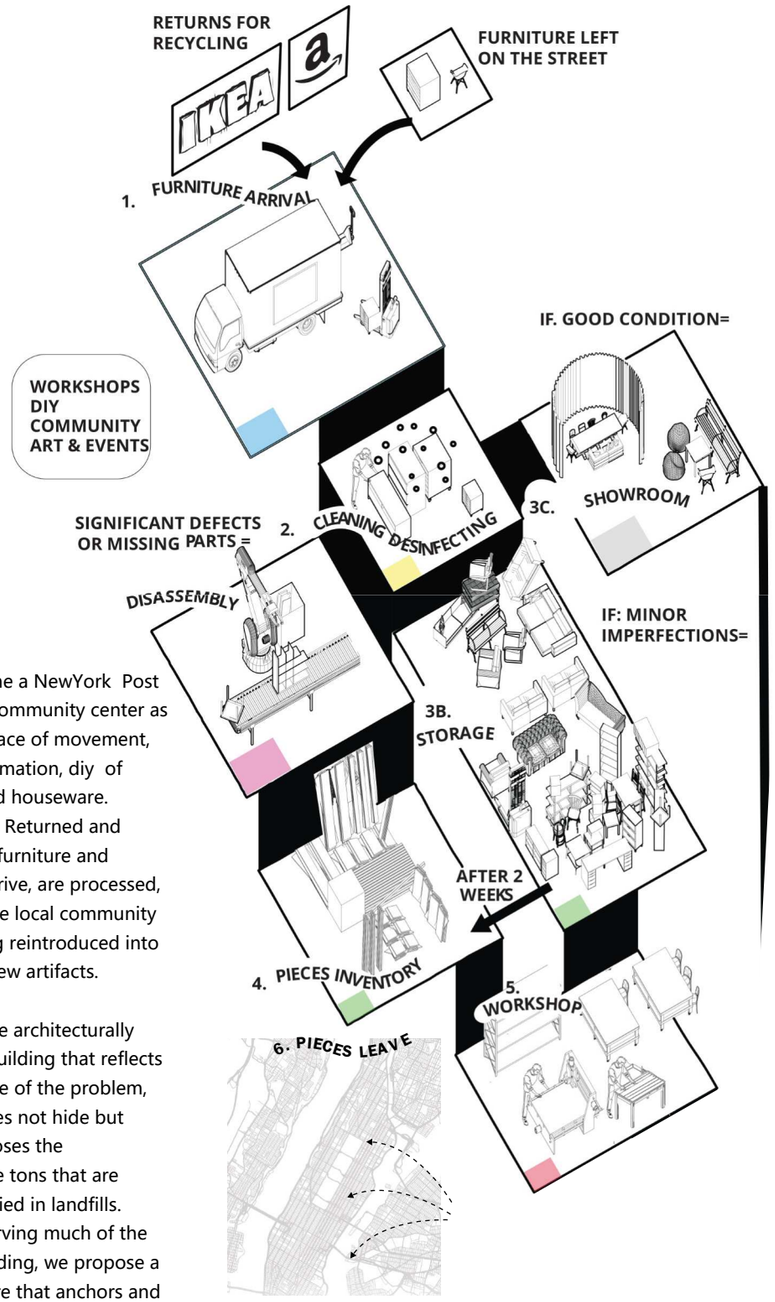


GO BACK TO SERVE THE CITY

TACTICAL URBANISM:

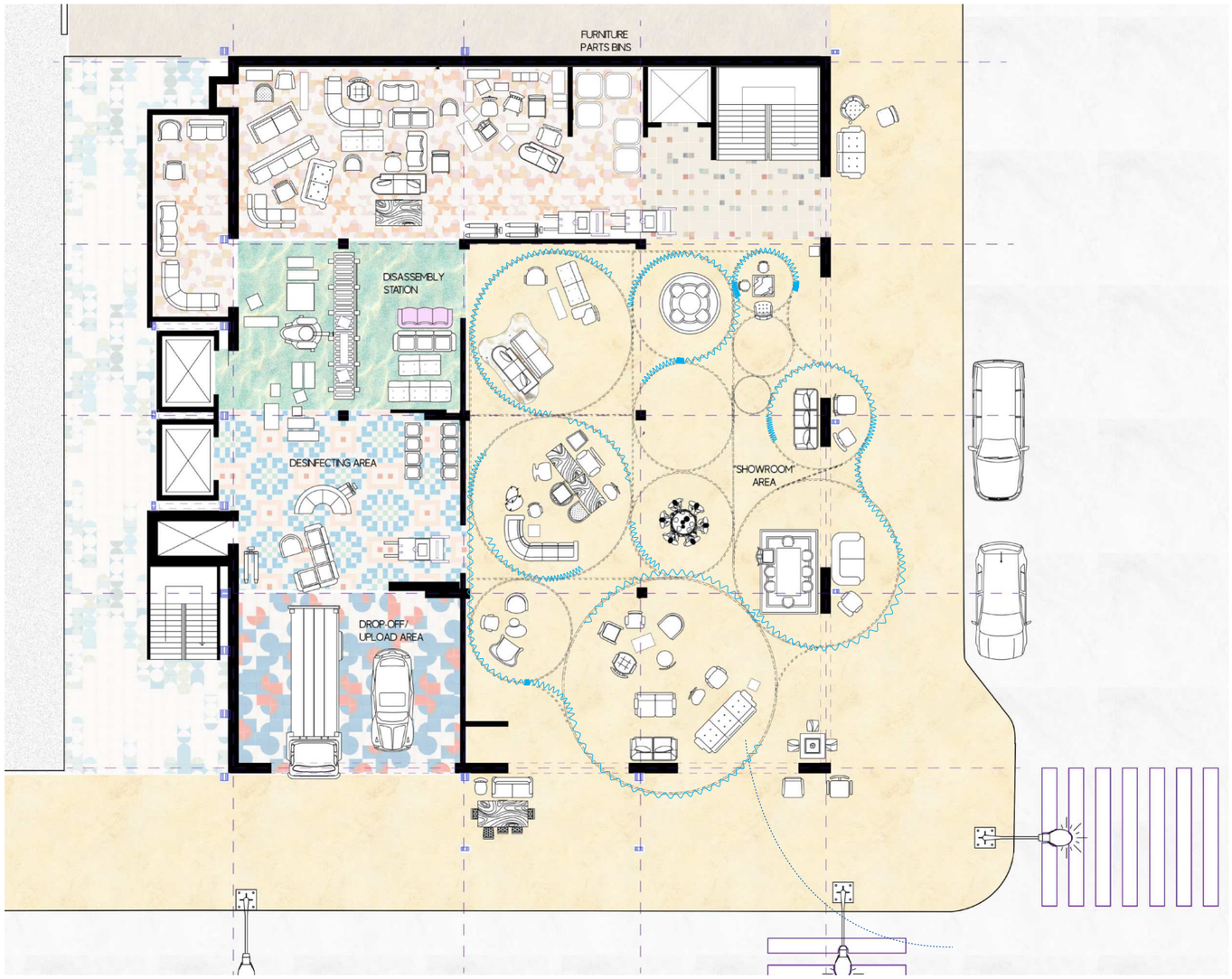
Short-term, low-cost, and scalable interventions making meaningful civic changes to neighborhoods, towns, and cities.

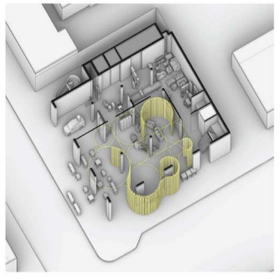


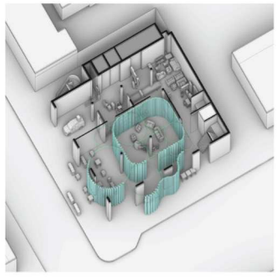


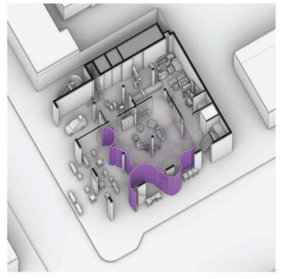
We reimagine a NewYork Post Office as a community center as well as a space of movement, and transformation, diy of furniture and houseware.
In this sense Returned and abandoned furniture and garments arrive, are processed, and serve the local community before being reintroduced into the city as new artifacts.

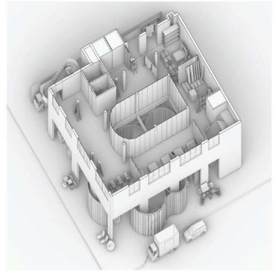
From this, we architecturally propose a building that reflects the true scale of the problem, one that does not hide but instead exposes the volume—the tons that are typically buried in landfills. While preserving much of the original building, we propose a new structure that anchors and supports this massive accumulation of discarded furniture.




SHOWROOM


CINEMA


GARAGE SEL


WORKSHOP 2nd FLOOR

Ground Floor Plan

We defined the ground floor as an extension of the street within the building. By appropriating part of the public space, we invite the street into the building.On the ground floor, spaces are divided into permanent activity zones and a transformative, mutable area, which is made of curtains as our main syste of space configuration

These curtains, also made from textile waste, provide the flexibility to create different configurations, such as a cinema, a garage sale, or a showroom where some of these pieces can be displayed and used for various activities..

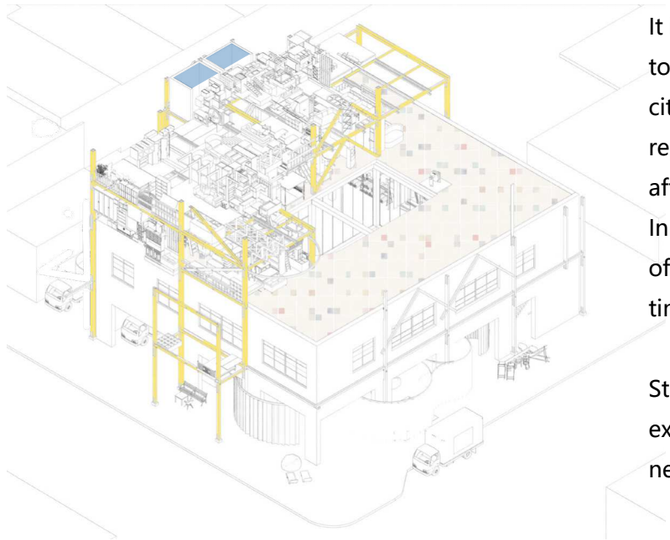
This pushes boundaries and invites us to reimagine the Post Office as a community center as well as a space of movement, and transformation, diy of furniture and houseware. In this sense Returned and abandoned furniture and garments arrive, are processed, and serve the local community before being reintroduced into the city as new artifacts.

From this, we architecturally propose a building that reflects the true scale of the problem, one that does not hide but instead exposes the volume—the tons that are typically buried in landfills.
While preserving much of the original building, we propose a new structure that anchors and supports this massive accumulation of discarded furniture.

A defining feature of the building is the use of discarded furniture as both material and display for the facade. By integrating these items into the architecture itself, the project transforms the exterior into a striking exhibition of consumer culture. This approach not only critiques the wastefulness of modern consumption but also breathes new life into objects that would otherwise end up in landfills, showcasing their potential for reuse and transformation.

Structure: A new skeleton for stacking

Timber strucutre



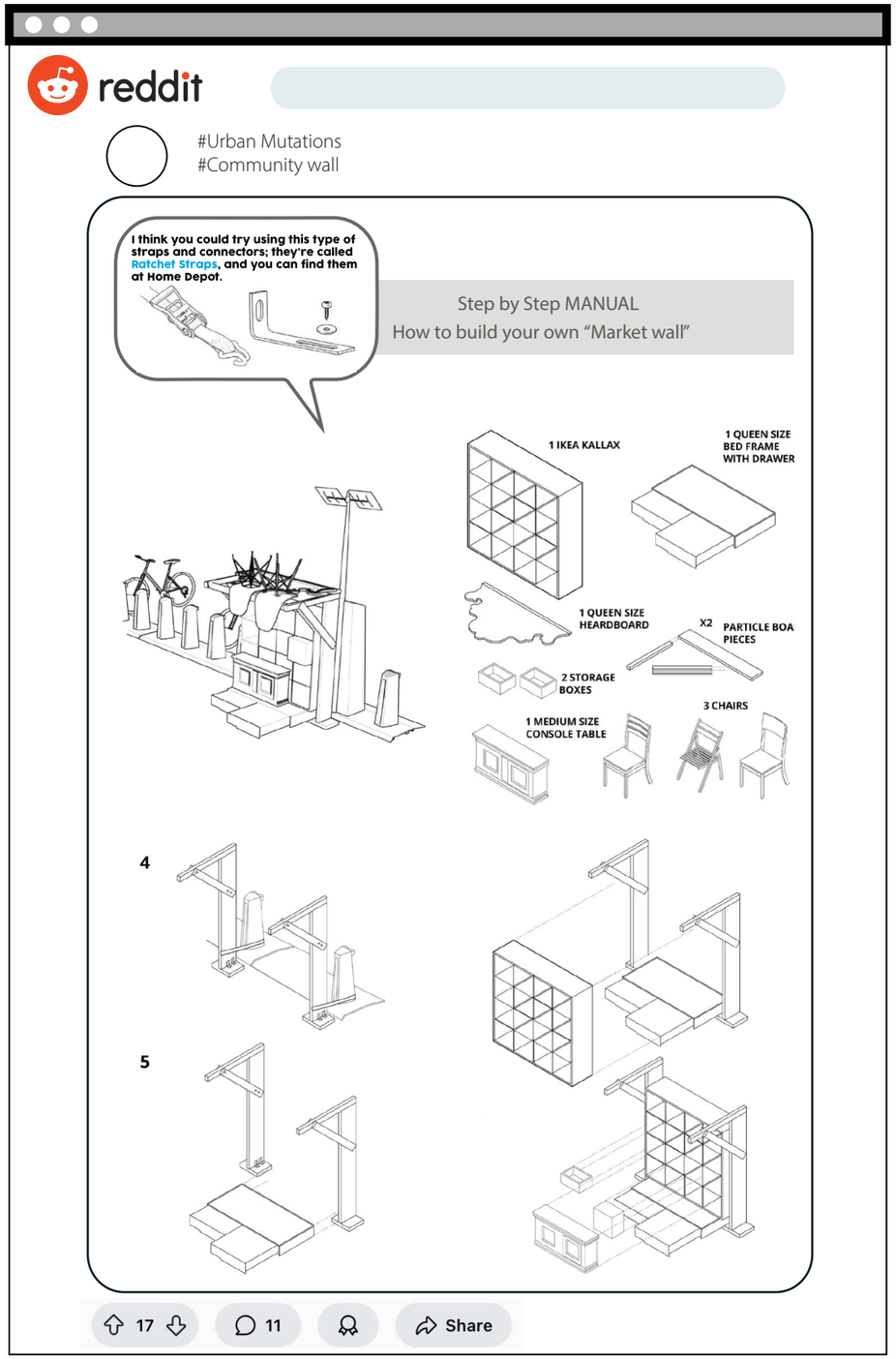
It is important to understand that the building is designed to "digest" these pieces of furniture and return them to the city. In other words, it serves as a temporary space to hold, repurpose, and give them new opportunities. However, after one month of accumulation, it must be emptied.
In this sense, it is fascinating to observe how the mountain of discarded furniture grows in density and height over time.

Structurally, this new timber framework is anchored externally, while also adding two furniture elevators and a new vertical circulation system.

In addition to housewares, we also incorporate the return of clothing. Considering the large supply of textiles, we aim to reuse and transform curtains into a performative device. Unlike IKEA's fictional showroom curtains, ours unveil real spaces for community use. These spaces can host diverse activities.

There are workshop spaces where individuals can transform their furniture, areas for designing creations for the city, showrooms displaying these creations for the community' s enjoyment, and residences for artists.

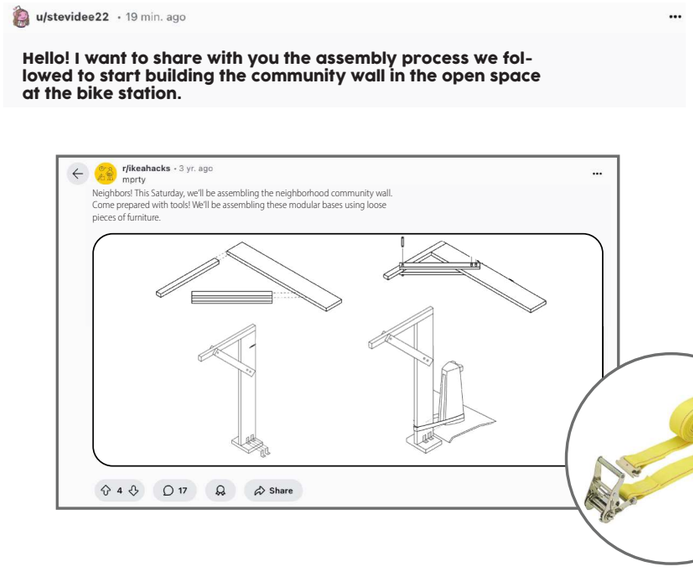
The Community

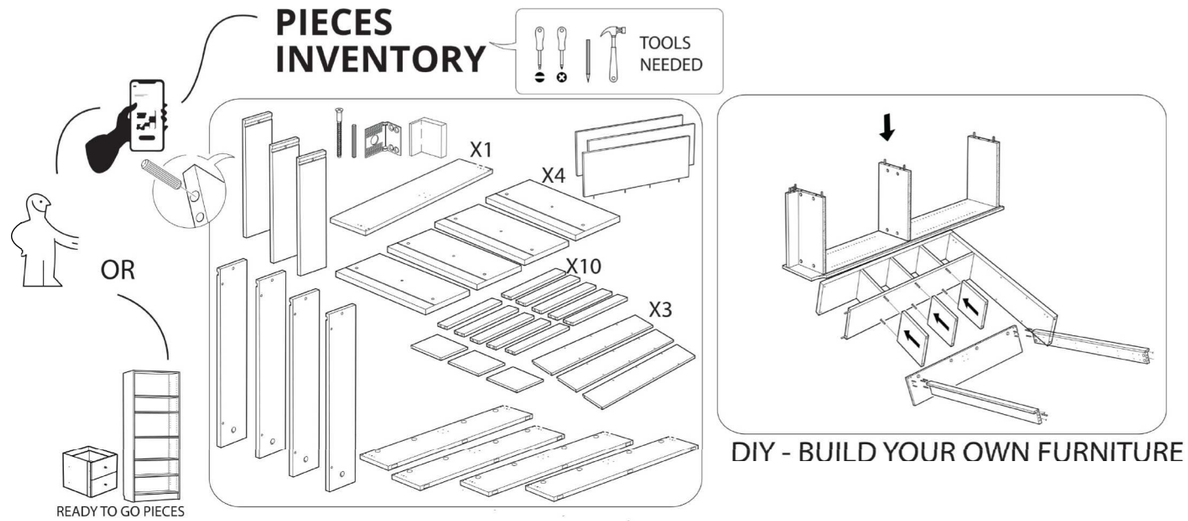


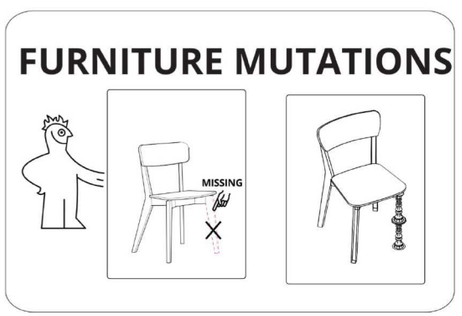
It is important to understand that our project also aims to work alongside digital trends, such as Instagram pages focused on furniture. Recognizing that there are already established communities on platforms like Reddit, where people frequently share tips for hacking IKEA furniture or promoting DIY culture, we proposed designing a series of basic steps for assembling these structures.

However, the goal is to USE these platforms as spaces where people THEMSELFS can get creative, suggest ways to connect the pieces, and collaboratively build these urban interventions as a community.

Envision an organic dialogue where passionate individuals propose new joining systems, design additional pieces that can be incorporated into the wall, and coordinate with others to assemble these interventions collectively.







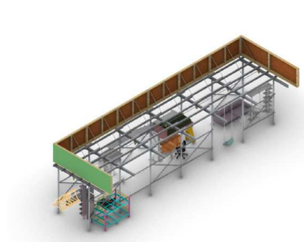
URBAN OPPORTUNITIES

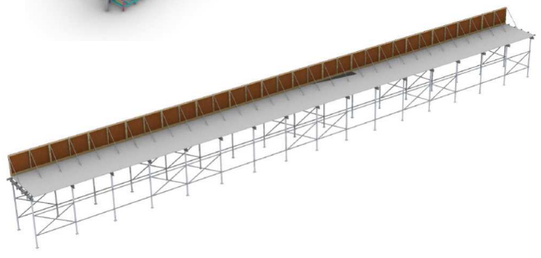
Octagonal Pole

Scaffolding

Bike Share Station

Scaffold as a public “Roof”
Public “Shelters”





Today it is a straight corridor

What are the city’ s urban furnishings? What opportunities exist in NYC?

The city has a standardized manual for urban furniture, specifying designs for public benches, newsletter stands, bike stations, fire hydrants, and light posts, all repeated hundreds of times across the city and adhering to specific dimensions. Analyzing NYC’ s urban landscape, we noticed scaffolding as a recurring feature. Many of these structures remain nonfunctional for over a decade due to tax loopholes that reduce property taxes for buildings undergoing "renovation." This standardized urban furniture and scaffolding present opportunities for tactical urbanism.

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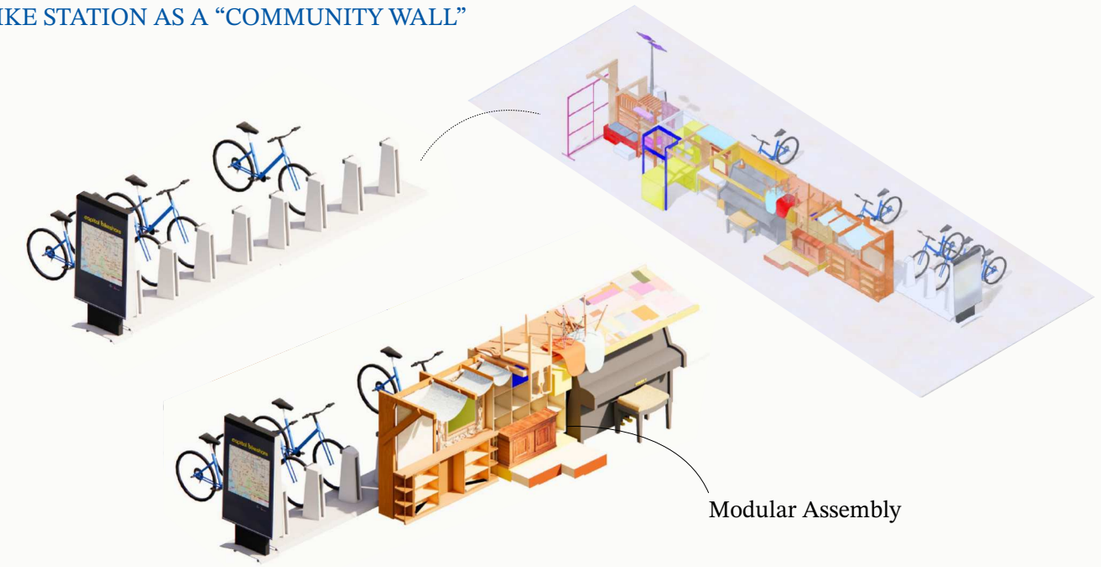
BIKE STATION AS A “COMMUNITY WALL”

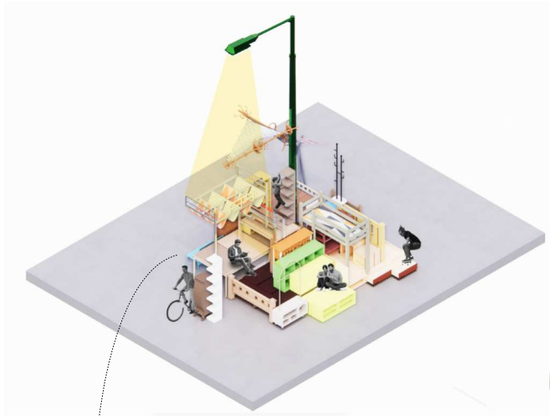


Communal wall - rest spot - music space

CHINESE MARKET

Scaffold as opportunity to develop “rooms”

URBAN PUBLIC STAGE



Floor explorarion

Vertical explorarion

We imagine a future where cities become dynamic systems capable of digesting their own consumption. Instead of discarding the remnants of consumer culture, urban environments would absorb, reorganize, and reincorporate these materials into their fabric. This speculative vision positions discarded furniture and objects as the seeds of transformation—a virus that begins in buildings and spreads through the city, reshaping its spaces and structures.

In fact, this virus already exists today, growing relentlessly in landfills. These hidden infrastructures of consumerism are deliberately concealed to obscure the consequences of our wasteful habits. By bringing this process into the open, we aim to reframe consumption not as an endpoint but as a cycle the city itself can manage and transform. It is both a call to confront the realities of waste and an invitation to embrace these overlooked materials as integral components of our urban future.

This is not just about saving two buildings; it is about shifting perspectives. Instead of demolishing the past to make way for the new, why not use what already exists to build a more inclusive, dynamic, and responsive urban environment? The six strategies outlined here demonstrate that even the most 'ordinary' buildings can hold extraordinary potential.

Times Square “Photo spot?”

Mutations of Home: Redesigning Domestic Spaces as Living Systems

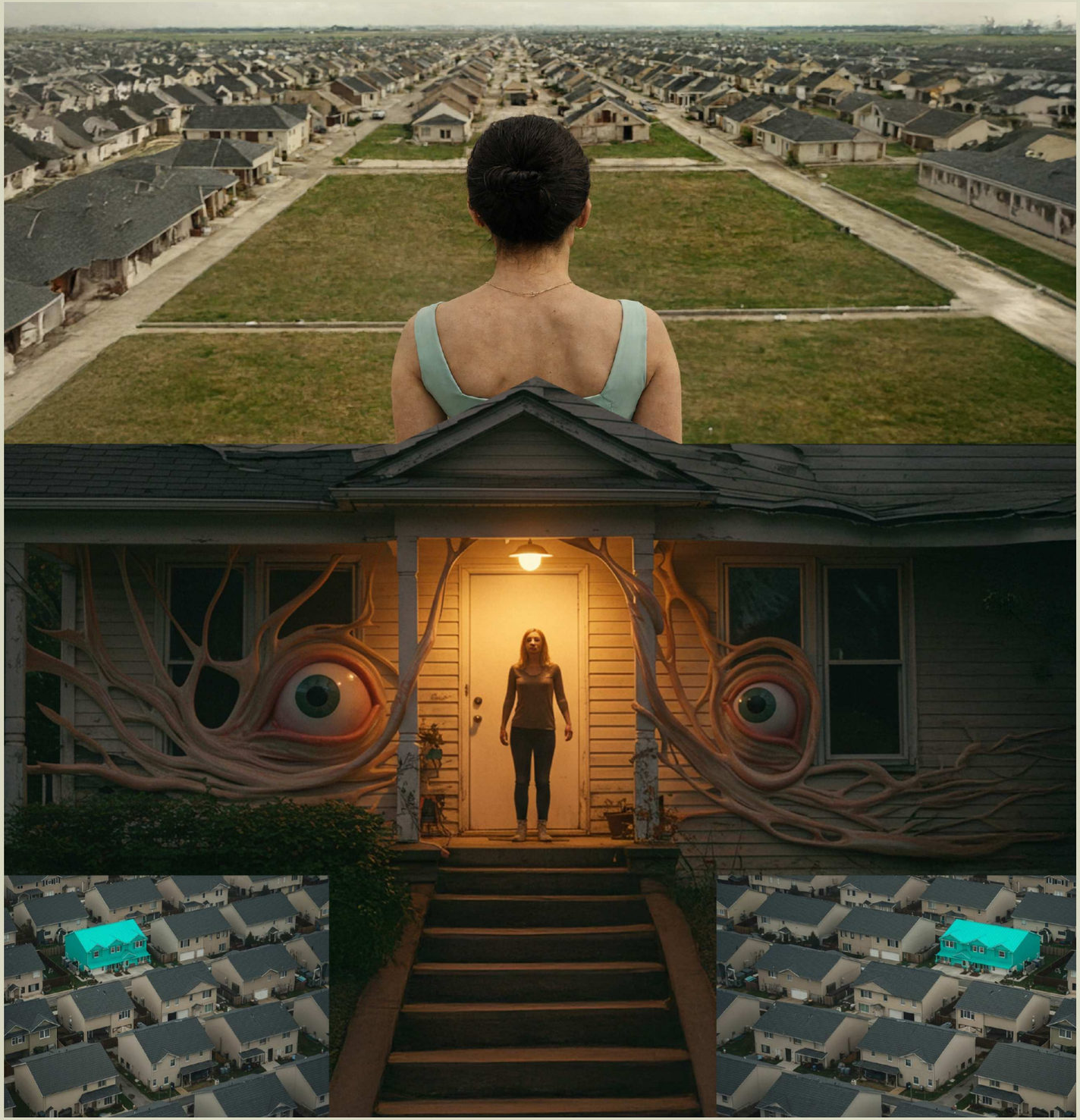
Adv VI Studio On possibilism
Instructor Mario Gooden
Semester Spring 2025

Olivia Erlanger shows us the home not as a static refuge, but as an organism in constant mutation. In Ida (2018), suburban facades, symbols of order and stability, transform into portals to the monstrous: mermaid tails emerge from the garages, revealing a domesticity crossed by the strange. These houses cease to be passive containers and become hybrid bodies, blurred boundaries between the human and the non-human.

"Training the natural world to create order is a form of power." Suburban architecture has been designed to domesticate the landscape, to impose order on the natural and the unpredictable. But Erlanger suggests that, beneath this structure of control, transformation is inevitable. The monstrous is not the exception, but a latent possibility within the house itself.

This mutation does not occur only in the structure, but also in its objects. Washing machines, everyday household items, take on an unsettling presence in her work. Here the metaphor evolves: from body as architecture to body as appliances, where the house is no longer just a refuge, but a processing machine, a system in constant flux. But what happens to the bodies that inhabit these spaces? Society has shaped us under rigid systems that seek to contain our own changing nature. Like the mermaid emerging from the washing machine’ s mouth, the repressed mutation always finds a way to escape. How long can a body resist its transformation before it bursts, before it vomits what it always tried to contain? The house, the body, the machine, everything mutates, and in that mutation opens the possibility to imagine new forms of existence.

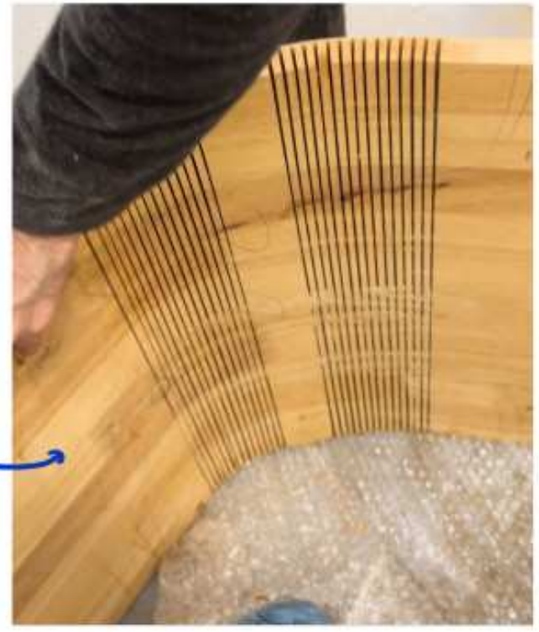
In my design practice, this raises the question of how we might redesign domestic spaces not just to meet practical needs, but to incorporate elements of transformation and change. Is it possible to create a home that is not just a static refuge, but a space of creation, of mutation, that opens the door to new ways of being?



Material Mutation

Timber echoes

Tech Elective	1:1 Crafting and fabrication details
Instructor	Zachary E. Mulitauao
Semester	Spring 2025
Partners	Sofia Hernandez
Location	NewYork

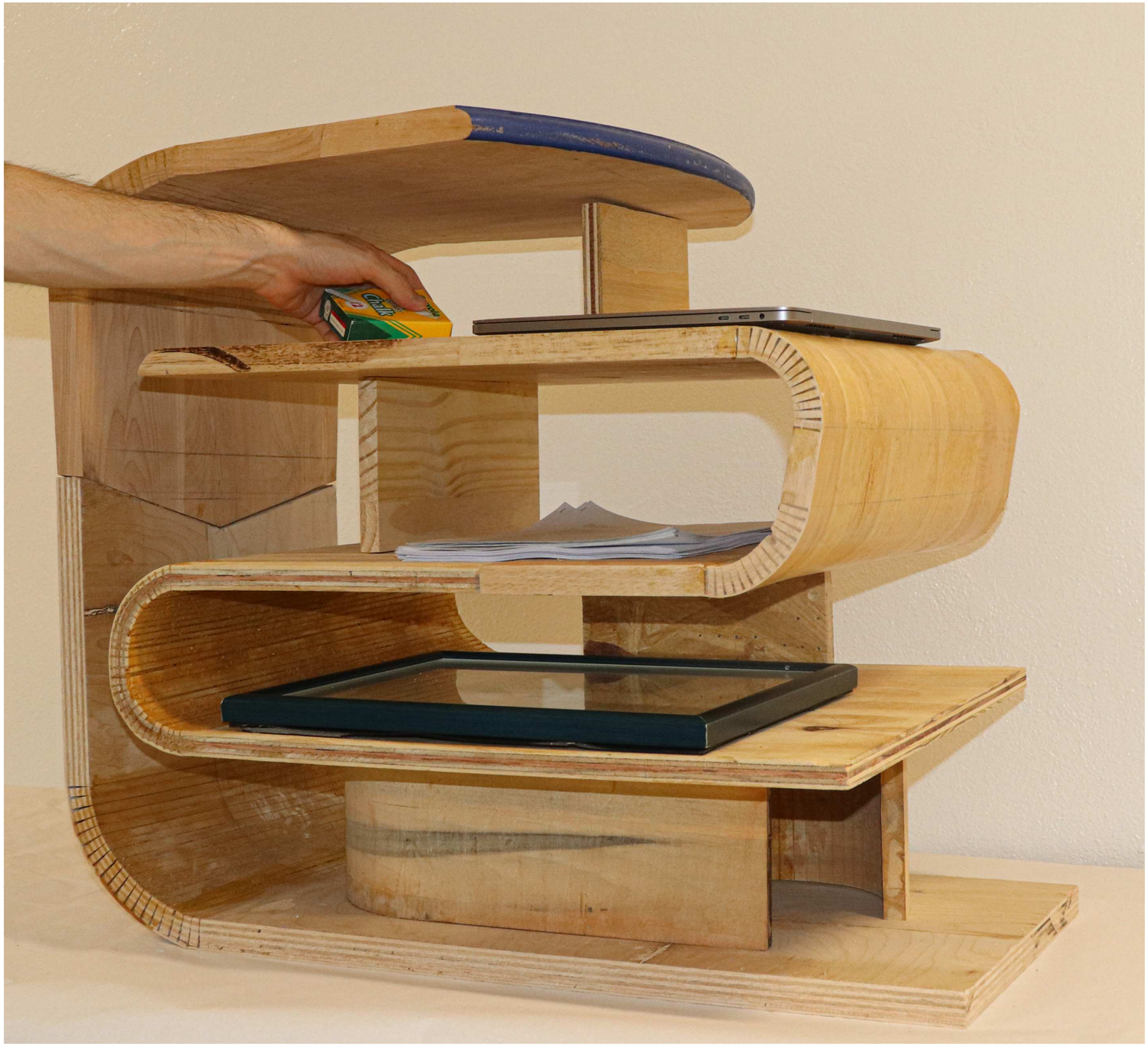


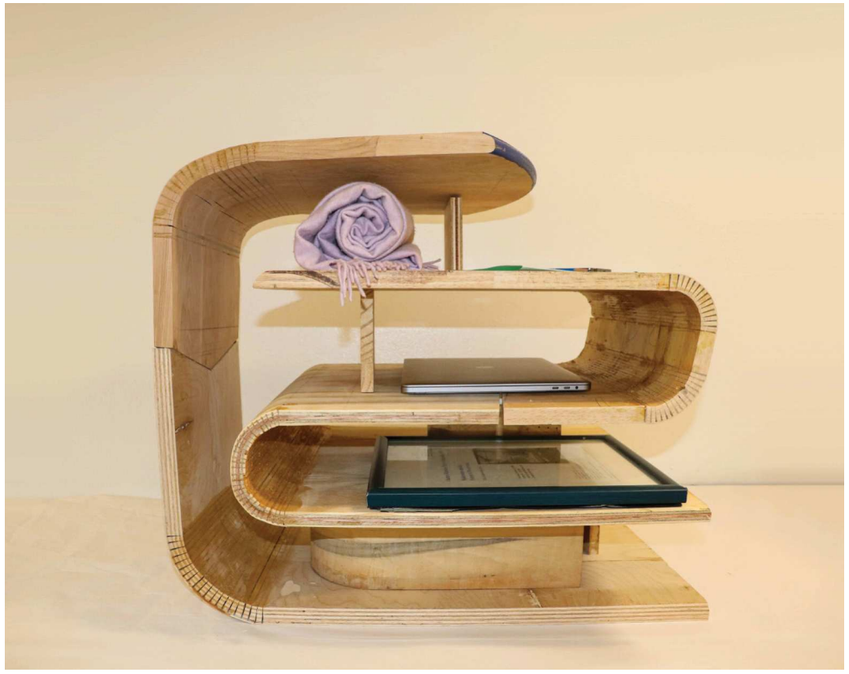
Transforming Urban Waste into Functional Art

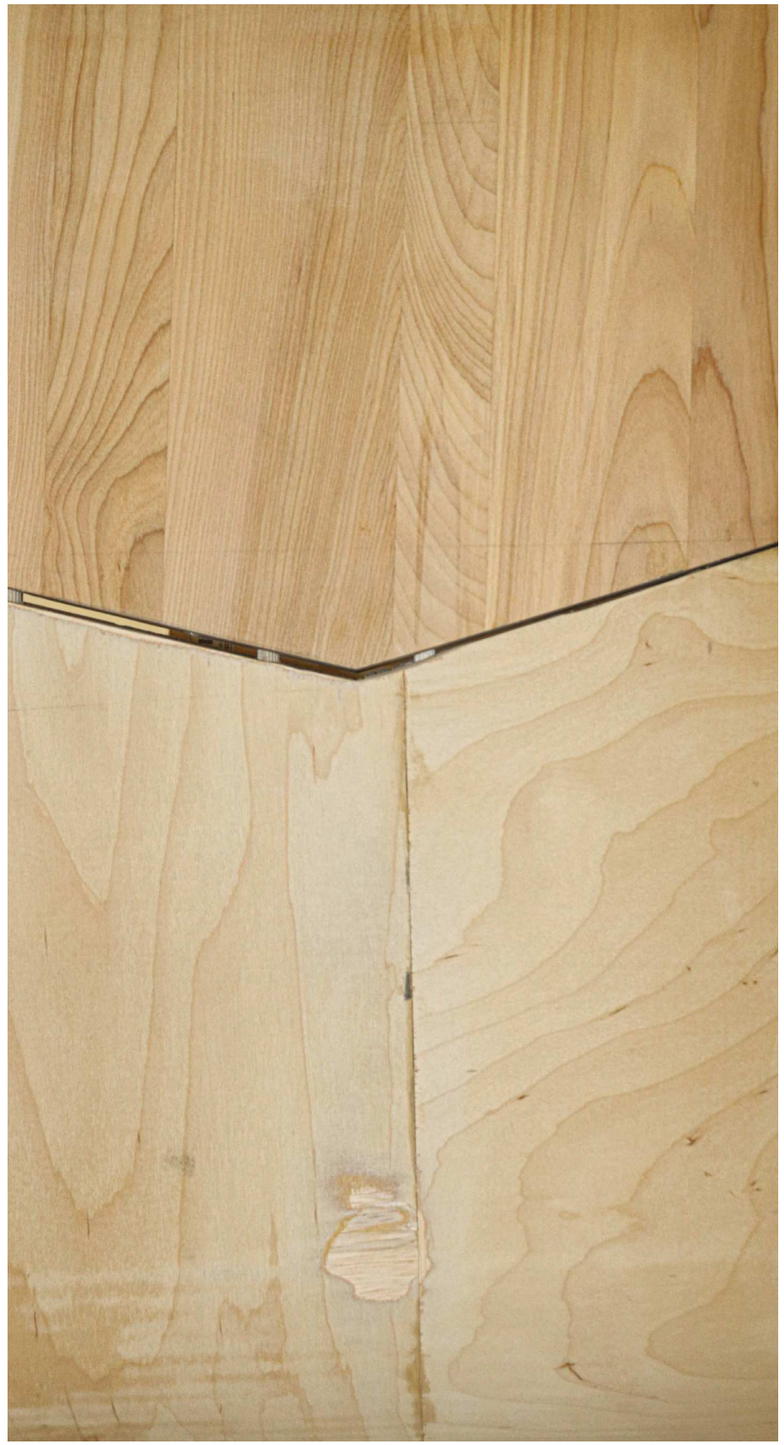
In the bustling urban environment, materials are constantly being discarded, overlooked, and replaced. "Timber echoes" aims to challenge the conventional understanding of waste by showing how these materials can be reclaimed, recycled, and reinvented. The table represents a mutative process, where the ordinary becomes extraordinary through creativity, craftsmanship, and the redefinition of value.

By reusing what would otherwise be discarded, "Timber echoes" also makes a statement about sustainability in urban environments. It invites a reflection on the life cycle of materials and challenges us to reconsider how we approach consumption, waste, and resources in our cities.

This table is more than just an object; it' s a reflection of the city' s enduring spirit, one that continues to renew itself despite the challenges it faces. "Timber echoes" represents the city's strength, its capacity to adapt and rebuild, and the resilience that can be found in even the most unexpected places.





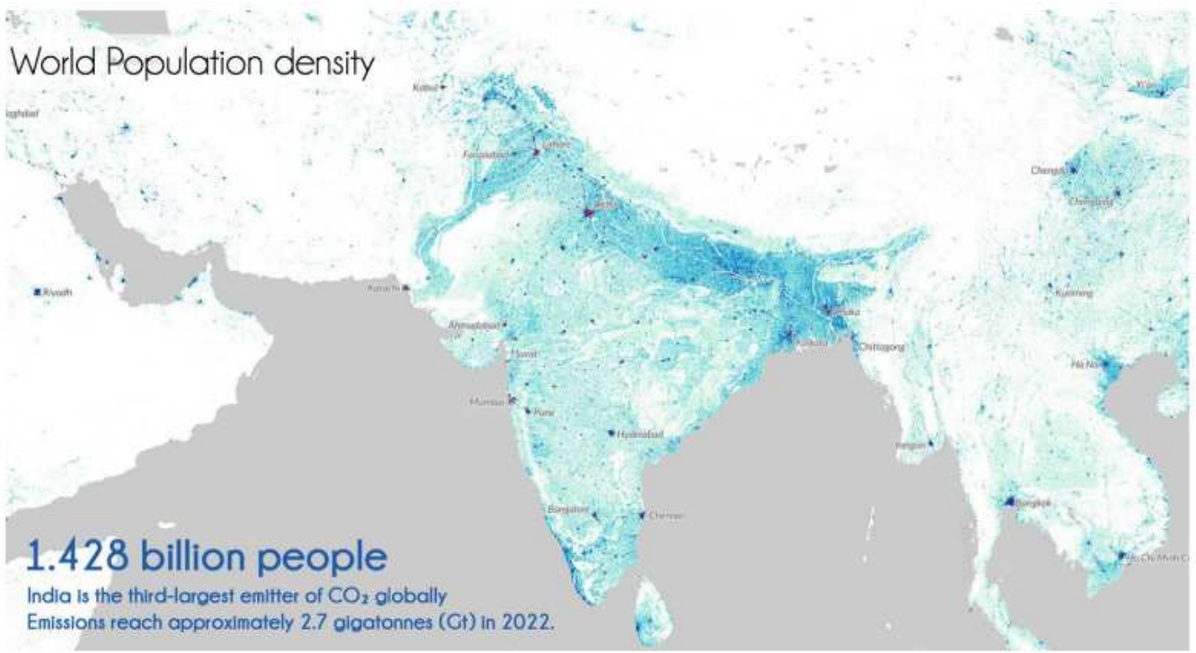


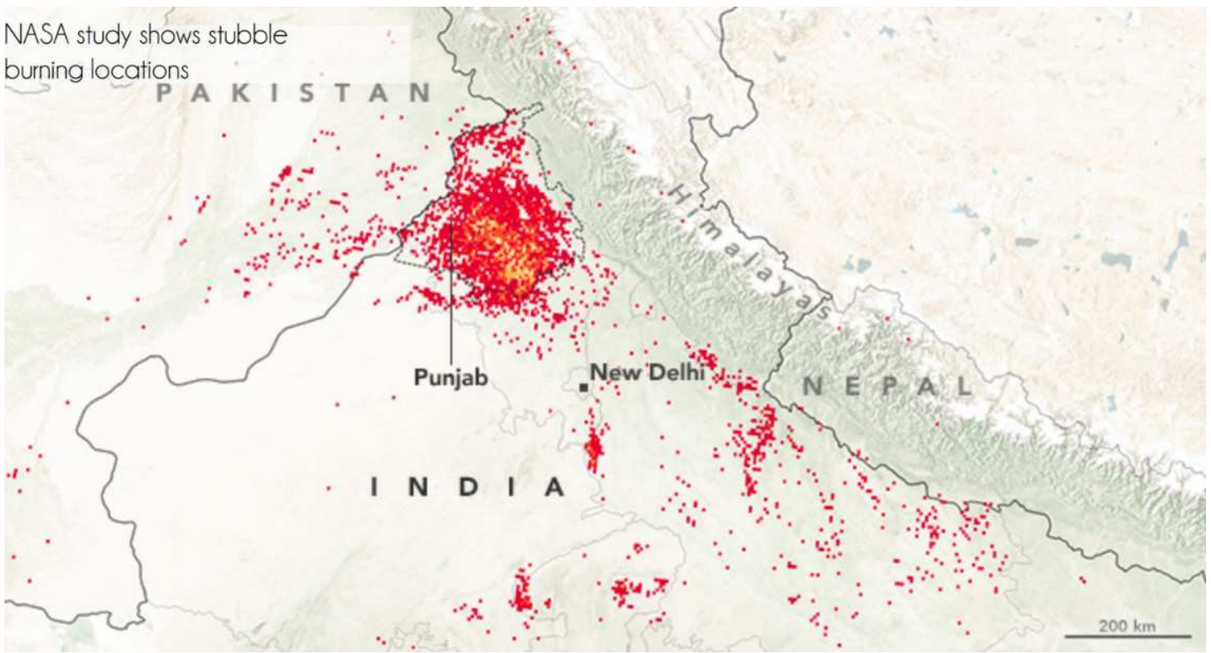

TO TRANSFORM
TO TRANSFORM

Material Mutation

MUSH-ROOMS: A progressive system for cultivated housing

Adv VI Studio	VITAL
Instructor	David Benjamin
Semester	Spring 2025
Partners	Sofia Hernandez
Location	India





Three Interconnected Crises

The project originates in India, where three critical issues were identified as major challenges affecting the country. The first is severe air pollution, largely caused by the burning of agricultural waste, such as rice straw. India generates 150 million tons of agricultural waste annually, with between 23 and 60 million tons being burned, making it one of the leading sources of environmental pollution.

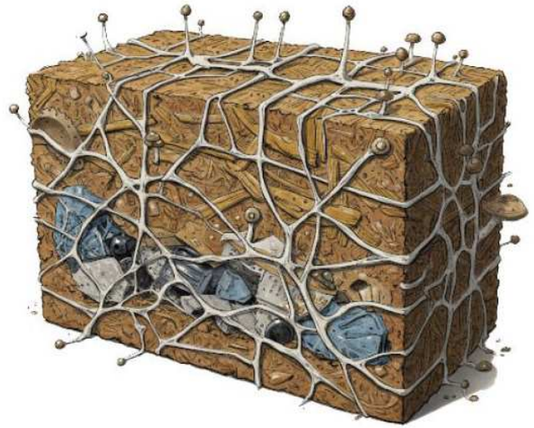
The second issue is the massive accumulation of plastic waste. India produces 9.5 million tons of plastic each year, and approximately 61% of this plastic is incinerated, disproportionately affecting vulnerable communities living in informal settlements.

The third issue is the housing crisis, which reflects the pressures of high population density. By 2030, it is estimated that over 30 million new homes will be required in India, a number that highlights the limitations of current construction systems in meeting this demand.

These three crises — agricultural waste burning, plastic waste, and housing shortages — are the focus of the project, which seeks to develop a material solution capable of addressing these challenges simultaneously through innovative material use and sustainable construction practices.

Mycelium + Agricultural waste
Rice straw & hulls waste

Shredded plastic
Increased strength and durability



Mycelium - Plastic Brick
Mycelium: Absorb CO2
As a Binder

Mycelium

In response to these intertwined challenges, mycelium emerges as a key material that symbolically and literally connects these issues. As a living organism, mycelium functions as a natural adhesive, linking diverse elements into a cohesive system.

Symbolically, it represents regeneration and transformation, as it thrives on organic matter and can heal and restore damaged environments. Literally, mycelium offers a unique solution: its ability to bond agricultural waste, such as rice straw, with recycled plastic, creating a new material for construction. This process not only repurposes the waste that would otherwise contribute to pollution but also creates a durable, sustainable building material. Mycelium' s regenerative properties allow it to function as both a binder and a symbol of resilience, providing a physical and philosophical solution to the environmental and housing crises.

By integrating mycelium into the construction process, it becomes more than just a material; it becomes the glue that holds together solutions for agricultural waste, plastic pollution, and the urgent need for affordable housing, offering a holistic response to these critical issues.

The Prototype Process: Developing the Mycelium-Based Material

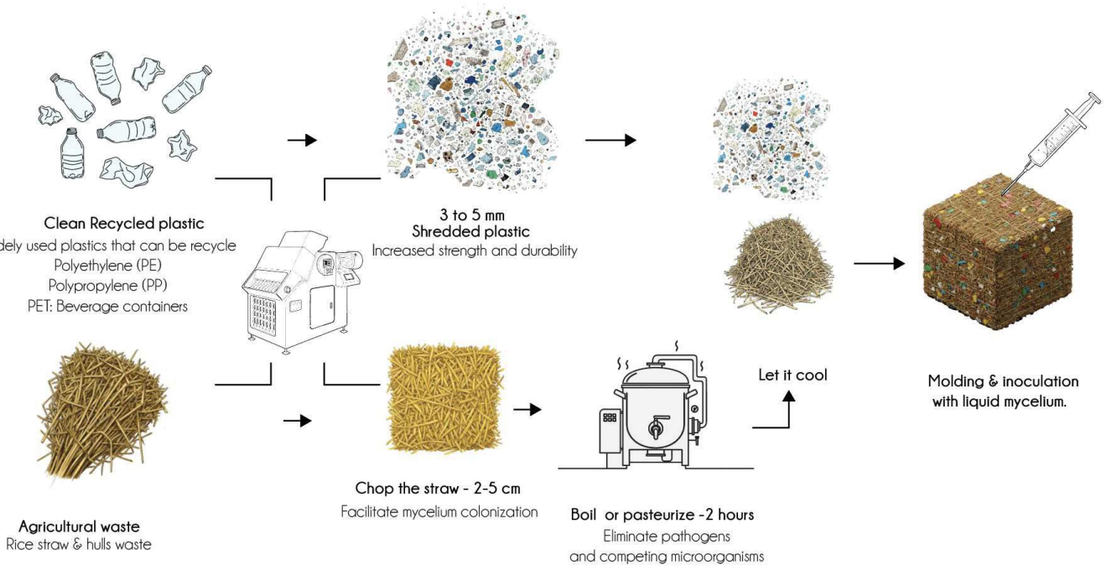
TThe development of the mycelium-based material begins with the preparation of agricultural waste, specifically rice straw, which is shredded into small fibers. This agricultural byproduct, often burned or discarded, serves as the primary structural component of the material. Simultaneously, plastic waste, mostly from bottles and packaging, is shredded into fine pieces to reinforce the material and contribute to addressing plastic pollution.

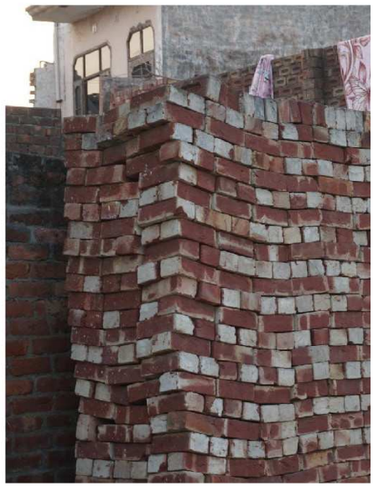
Mycelium, a naturally occurring fungus, is then introduced to bind the agricultural waste and plastic particles. A small amount of starter culture is added to the mixture, and the mycelium begins to grow, forming a living network that naturally binds the materials together. The growth process is carefully monitored to ensure effective bonding and the creation of a stable, cohesive composite.

Through iterative testing, different proportions of agricultural waste, plastic, and mycelium are explored to optimize the material's properties, such as strength, flexibility, and weight. The goal is to refine the formula to create a sustainable, lightweight material that has the potential to address environmental issues while offering a versatile, eco-friendly solution for future construction.

15% Plastic

Material Process



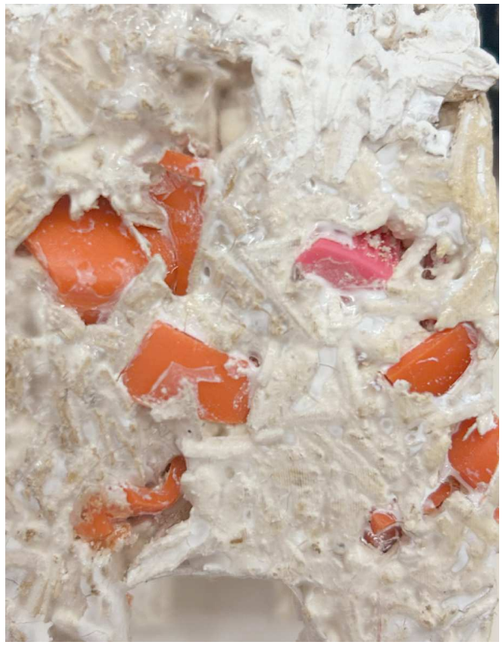


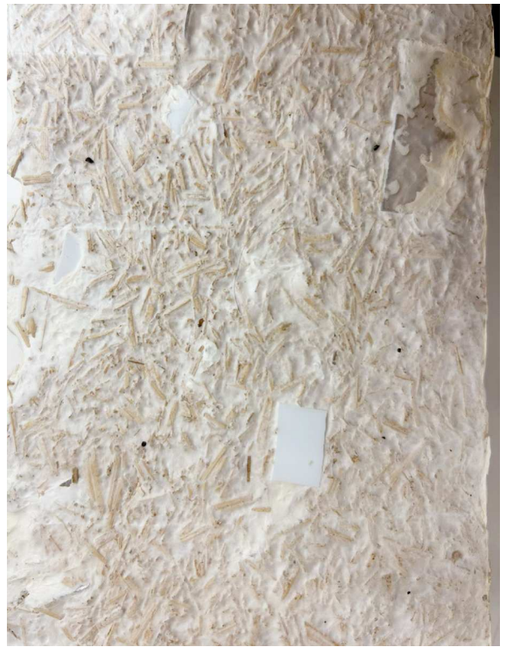
The Importance of the Brick in India: Evolving the Material and Its Form

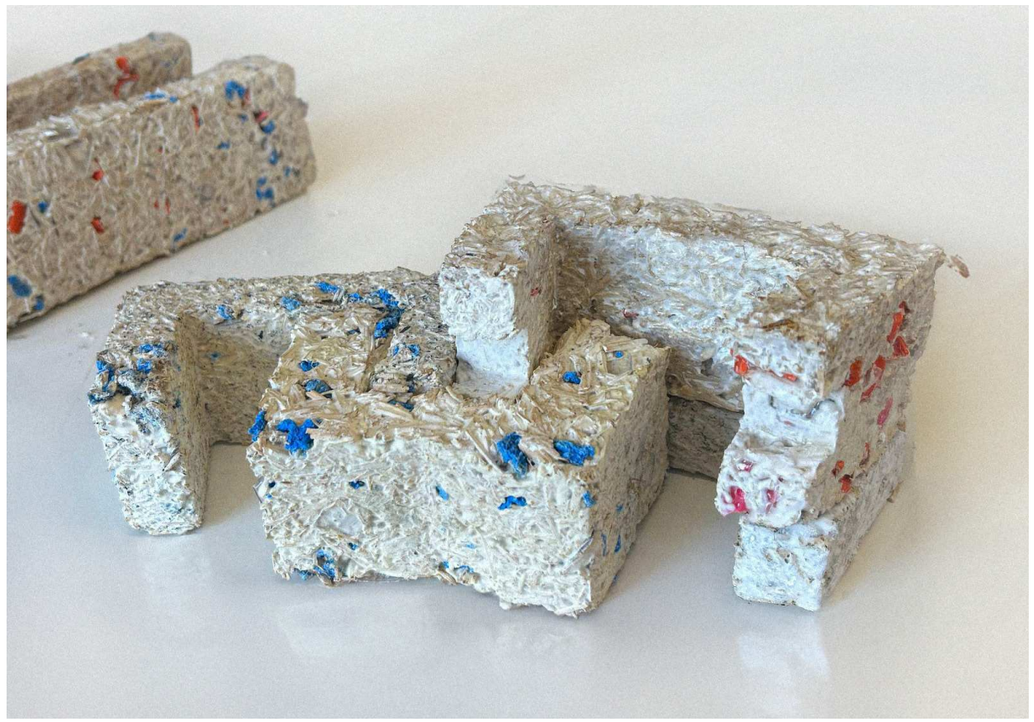
In India, the brick holds significant cultural and symbolic value. It represents not just a building block, but an aspiration for progress and stability. Bricks are often seen stacked in front of construction sites, symbolizing the potential for growth and the promise of a better future. For many, the brick is a tangible marker of upward mobility, a material that signifies the hope of creating something lasting—be it a home, a business, or a community.

However, as the need for housing and sustainable construction grows, it becomes increasingly important to evolve the brick—not just in terms of its material composition but also in its form. Traditional bricks, though foundational in many construction systems, come with significant environmental and practical limitations. The use of mortar, for instance, adds weight and complexity to structures, making them less adaptable and harder to modify as needs change.

To address these challenges, new innovations in brick design are essential. By creating bricks that can interlock without the need for mortar, we can introduce greater flexibility and adaptability into the construction process. These bricks can be easily assembled and disassembled, enabling structures to evolve with the needs of the inhabitants. This shift not only reduces the environmental impact by eliminating the need for cement but also offers a more sustainable, modular approach to housing that allows for future growth and transformation.





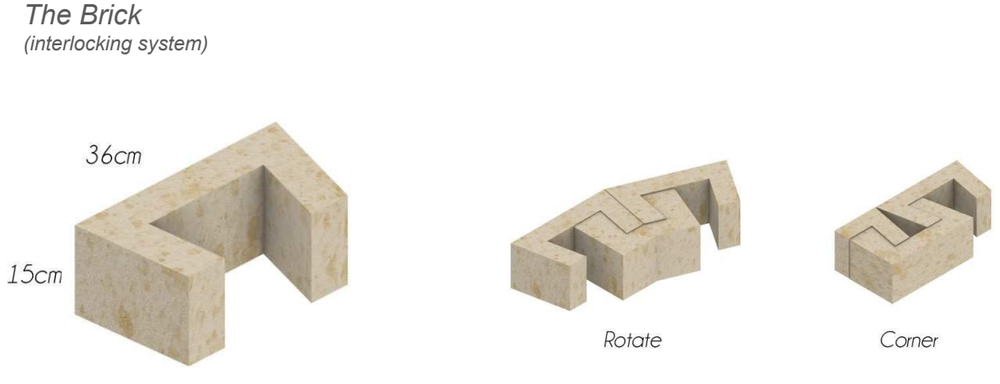


Developing a System of Curved Walls and Diverse Compositions

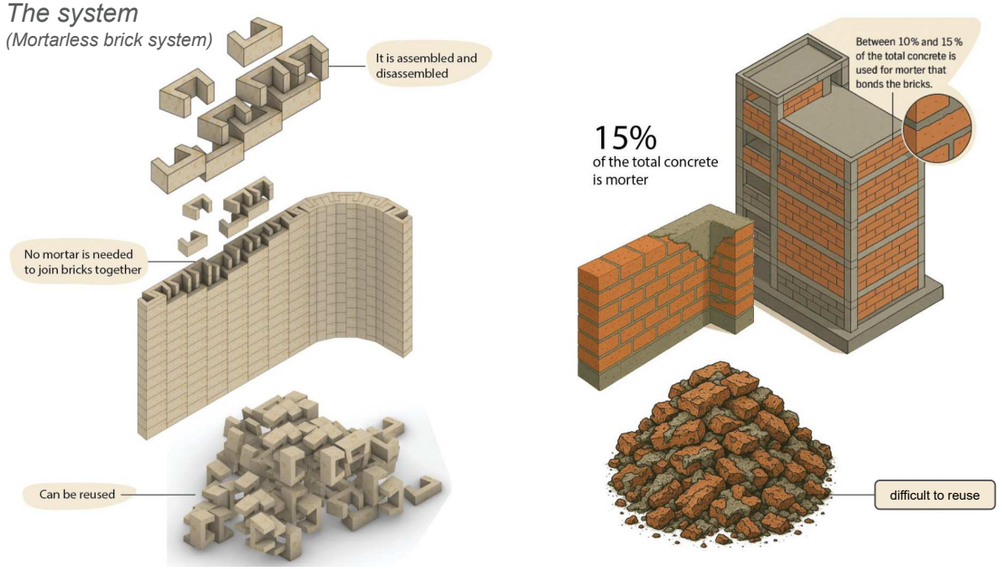
The potential of mycelium-based bricks extends beyond traditional straight walls. By designing a system of interlocking bricks with varying shapes and sizes, it is possible to create curved walls and more complex forms, expanding the range of architectural possibilities. This flexible brick system allows for the creation of dynamic, organic shapes, offering new opportunities for architectural expression and structural efficiency.

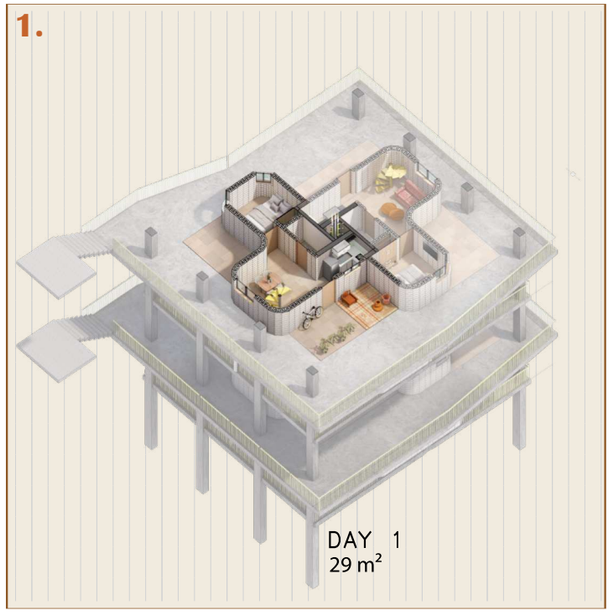
One proposed version of this system includes bricks that can fit together in both linear and curved configurations, making it possible to construct walls with gentle curves, arches, and even spherical shapes. The modularity of these bricks encourages creativity in design, enabling not only conventional building forms but also more fluid, adaptable spaces that respond to specific needs and environments. By eliminating the need for mortar, this system also reduces the amount of concrete typically required in construction. As mortar accounts for approximately 10-15% of the total concrete used in conventional buildings, the removal of this material results in a significant reduction of the environmental footprint of the project.

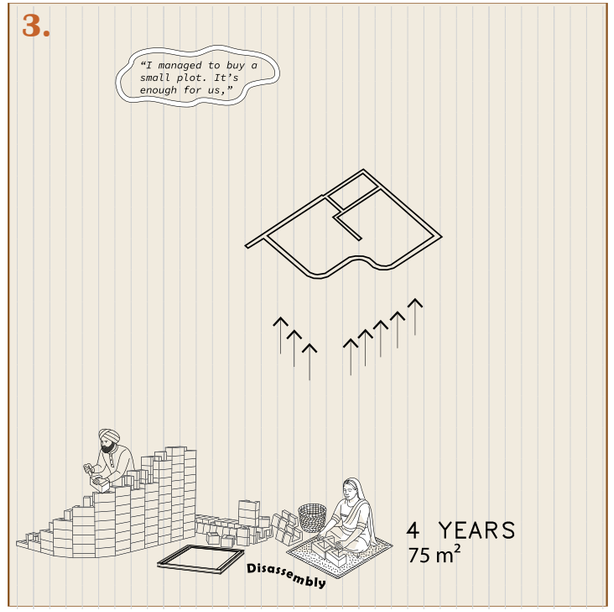
However, the true innovation lies in empowering local communities to take ownership of the process. By encouraging individuals to experiment and create their own versions of bricks—whether through different compositions, sizes, or shapes—this system fosters a participatory approach to construction. Local artisans and residents can explore new possibilities for building structures that reflect their unique needs and environments. With mycelium, the boundaries of what is possible are not fixed; the material itself invites exploration and adaptation, enabling the creation of not just homes, but entire ecosystems of ever-evolving structures.

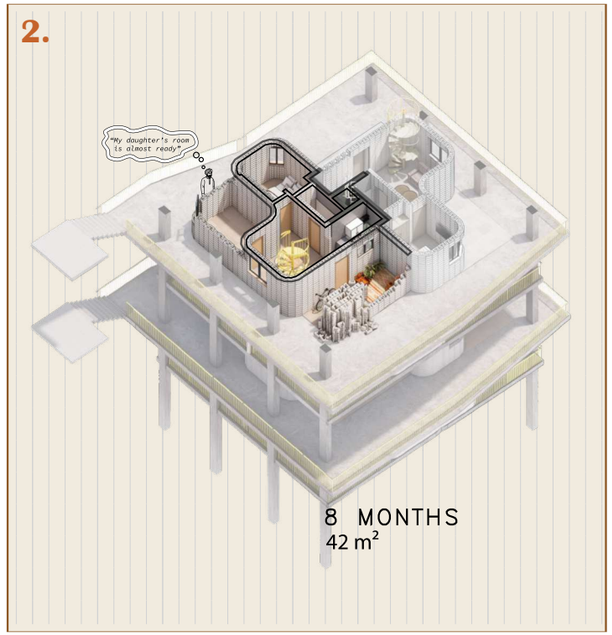


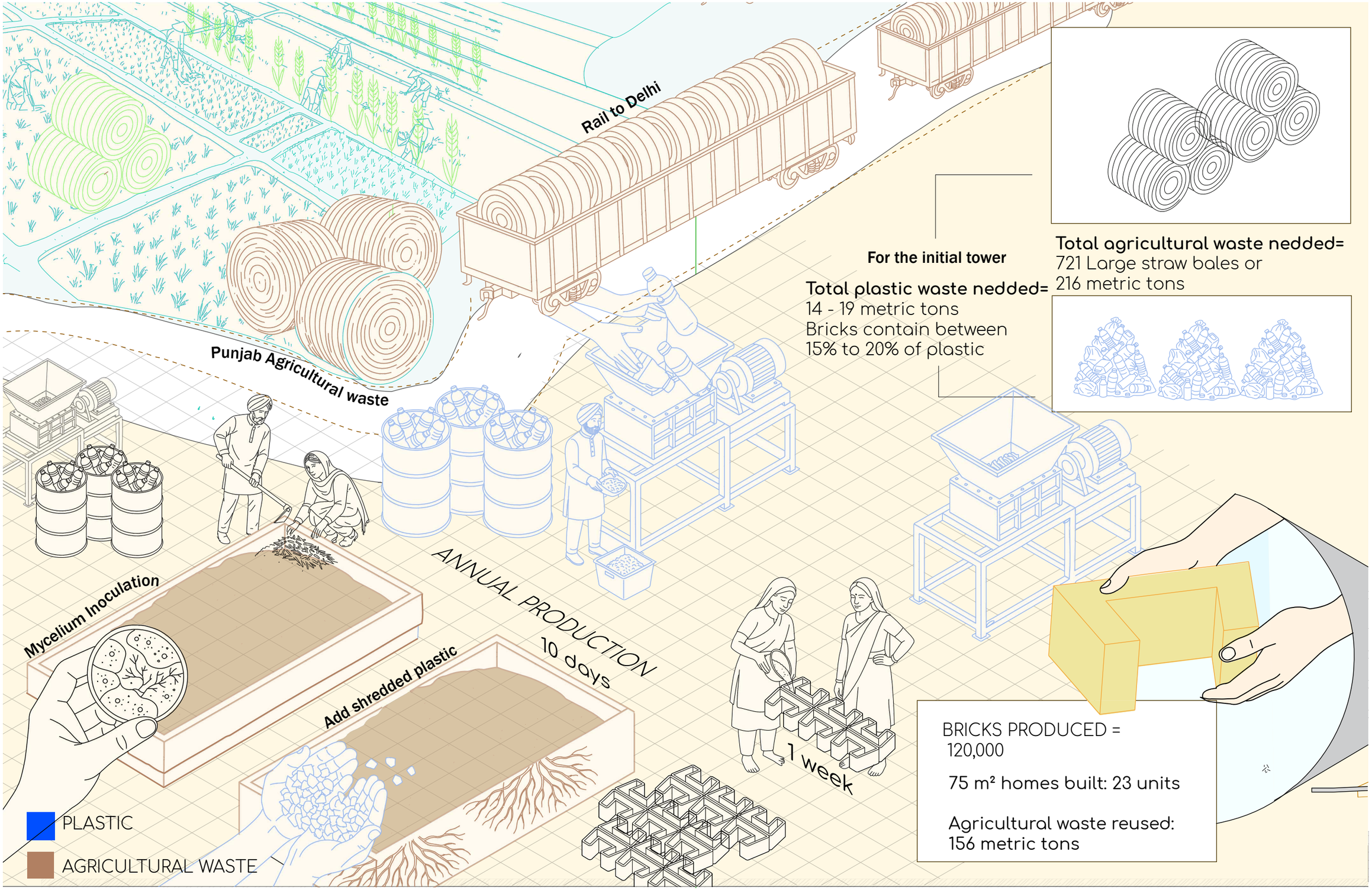
The system
(Mortarless brick system)





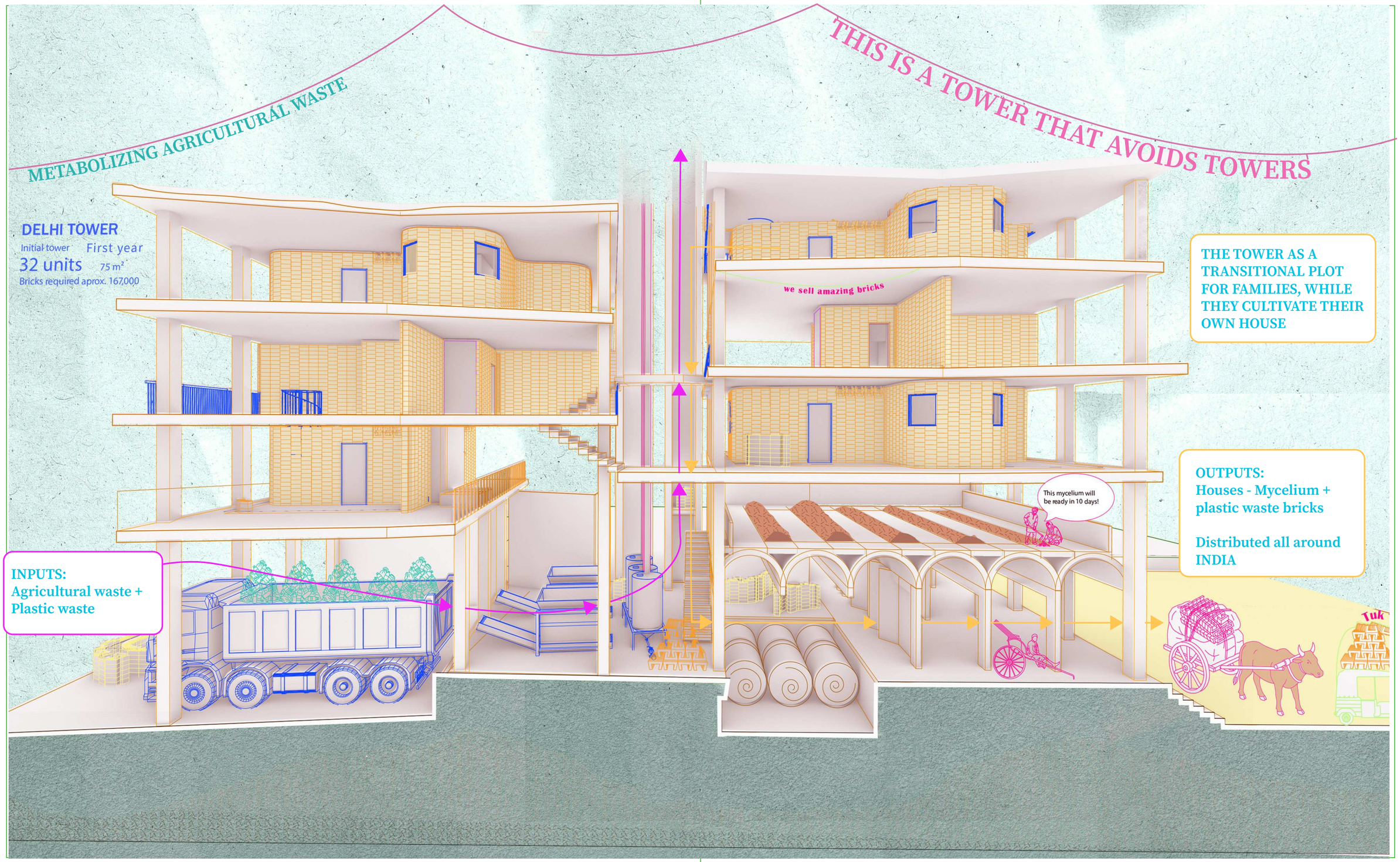





Rail to Delhi
Punjab Agricultural waste
For the initial tower
Total plastic nedded=
14 - 19 metric tons
Bricks contain between
15% to 20% of plastic
Total agricultural waste nedded=
721 Large straw bales or
216 metric tons
Mycelium Inoculation
Add shredded plastic
ANNUAL PRODUCTION
10 days
1 week
PLASTIC
AGRICULTURAL WASTE
BRICKS PRODUCED =
120,000
75 m² homes built: 23 units
Agricultural waste reused:
156 metric tons

METABOLIZING AGRICULTURAL WASTE

THIS IS A TOWER THAT AVOIDS TOWERS



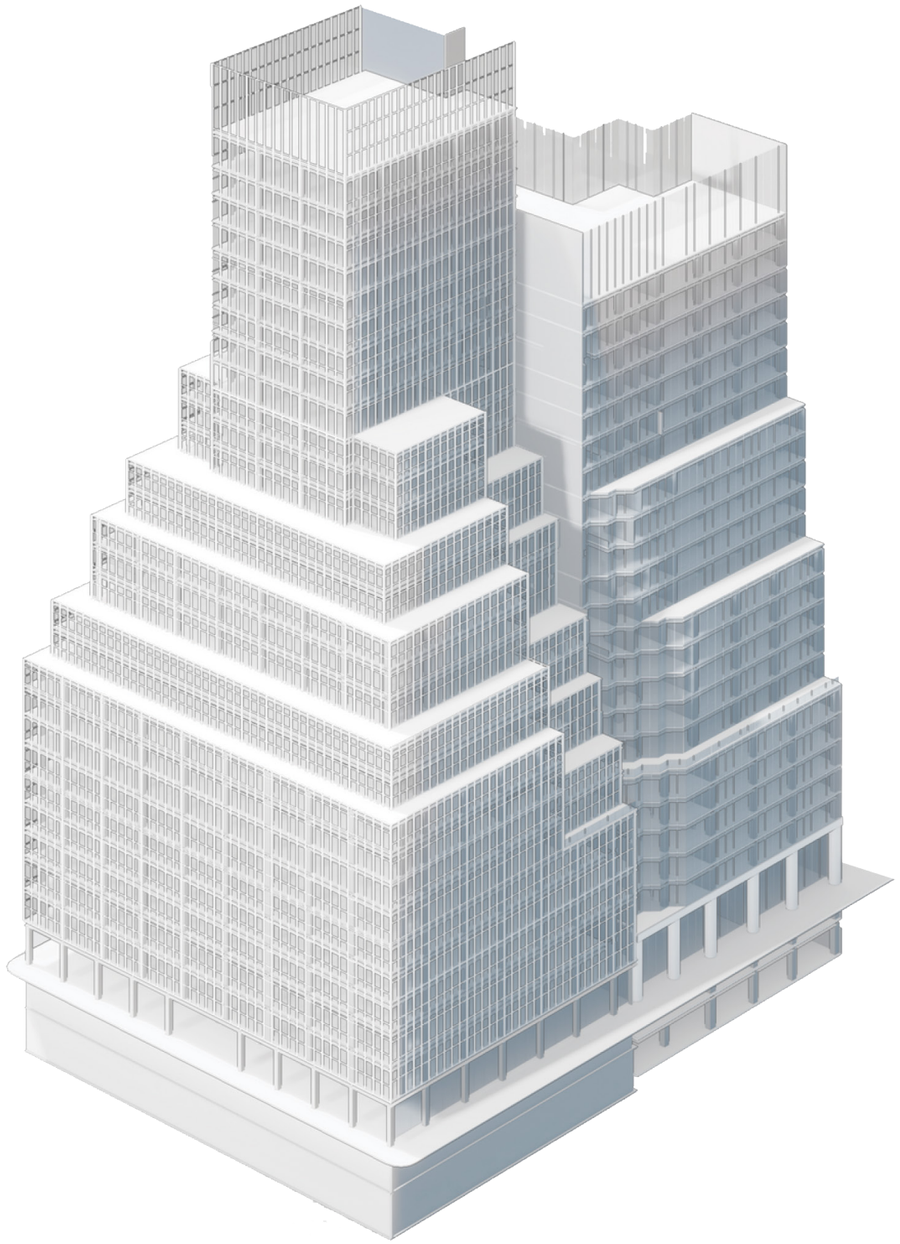
A Tower that Prevents More Towers: Promoting Homeownership for the Future

The concept behind this tower is not just about adding another vertical structure to an already crowded skyline, but rather, it serves as a solution that ultimately reduces the need for future towers. The design of the tower focuses on progressive housing that allows families to build their own homes over time, creating a system where residents can gradually accumulate the materials and space they need to transition from temporary living conditions to permanent, individualized housing.

By offering a flexible, modular system where families can purchase or cultivate the materials (such as the mycelium-based bricks) needed to expand their homes, this tower becomes the starting point for future self-sufficiency. The idea is that the tower acts as a temporary home for people as they begin their journey towards homeownership. Over time, families can deconstruct or expand their living spaces, using the same materials to build new structures in different locations if needed.

The ultimate goal of this approach is to shift the paradigm from urban dependence on high-rise towers to a more sustainable model where people have the freedom to create their own homes. This system encourages the gradual decentralization of urban populations, reducing the pressure on city centers and promoting community-driven growth. By empowering residents with the ability to grow and adapt their homes, we move towards a future where homeownership is within reach for all, and the need for more high-rise towers becomes unnecessary.

Spacial Mutation



Six Strategies for the “UNDESIRABLE”

Adv IV Studio	Re: Park Avenue
Instructor	Sebastian Adamo
Semester	Summer 2024
Partner	Sofia Hernandez
Location	350 Park Avenue, NewYork

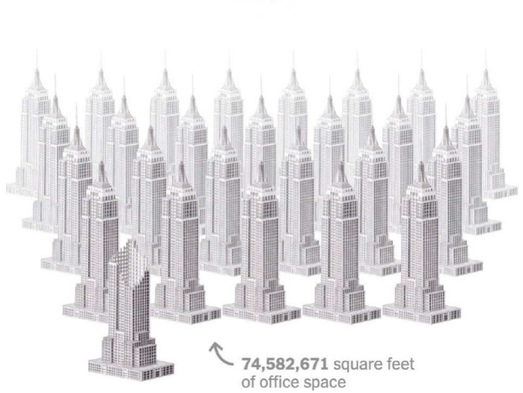
Housing Laboratory

In a context of accelerated urban transformation, New York City faces a paradox: while millions of square feet of office space remain vacant, the demand for new housing continues to rise. Given this reality, the future of 350 Park Avenue and its sister building, the Black Rock Building, is now under debate.

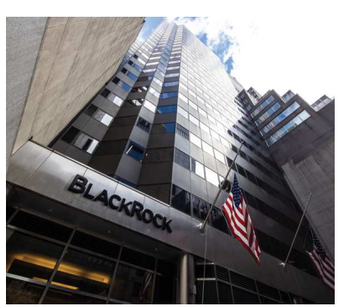
Currently, the plan is to demolish both structures to make way for a new office skycraper four times taller. However, this proposal explores an alternative that, instead of demolishing to build from scratch, seeks to repurpose and reimagine these buildings through an innovative approach. By implementing six architectural strategies, the goal is to transform the apparent limitations of these towers into opportunities for the creation of diverse and functional housing.

This approach is based on the concept of the ordinary, developed by Yoshiharu Tsukamoto, which encourages observing the city without preconceived judgments about what constitutes "good" or "bad" architecture. Instead of dismissing buildings considered mediocre, the focus is on identifying their spatial and functional potential to redefine their role in the urban fabric. Additionally, inspiration is drawn from the philosophy of Aikido, where existing energy is not opposed but redirected to create a new balance.

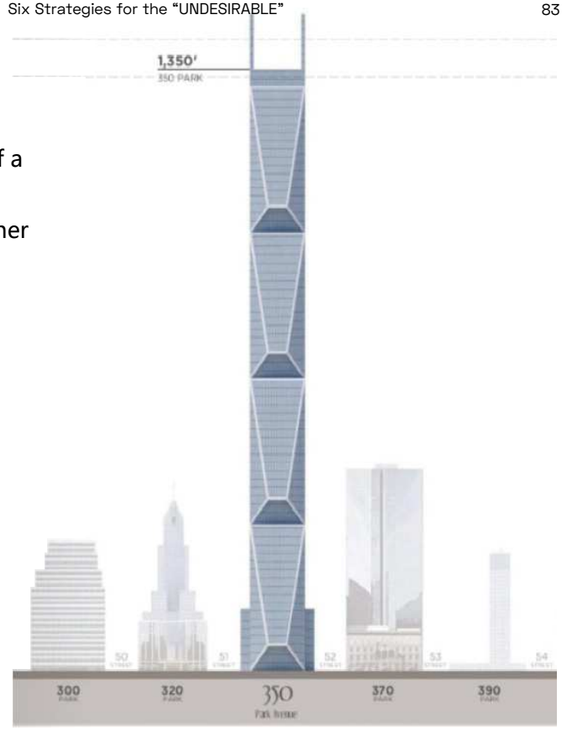
Beyond the transformation of 350 Park Avenue and the Black Rock Building, this methodology offers a scalable model that can be applied to other buildings with similar characteristics worldwide. At a time when many cities are simultaneously facing hight office vacancy rates and a growing housing crisis, this approach demonstrates that what is seemingly ordinary can become a key resource for urban and social development.

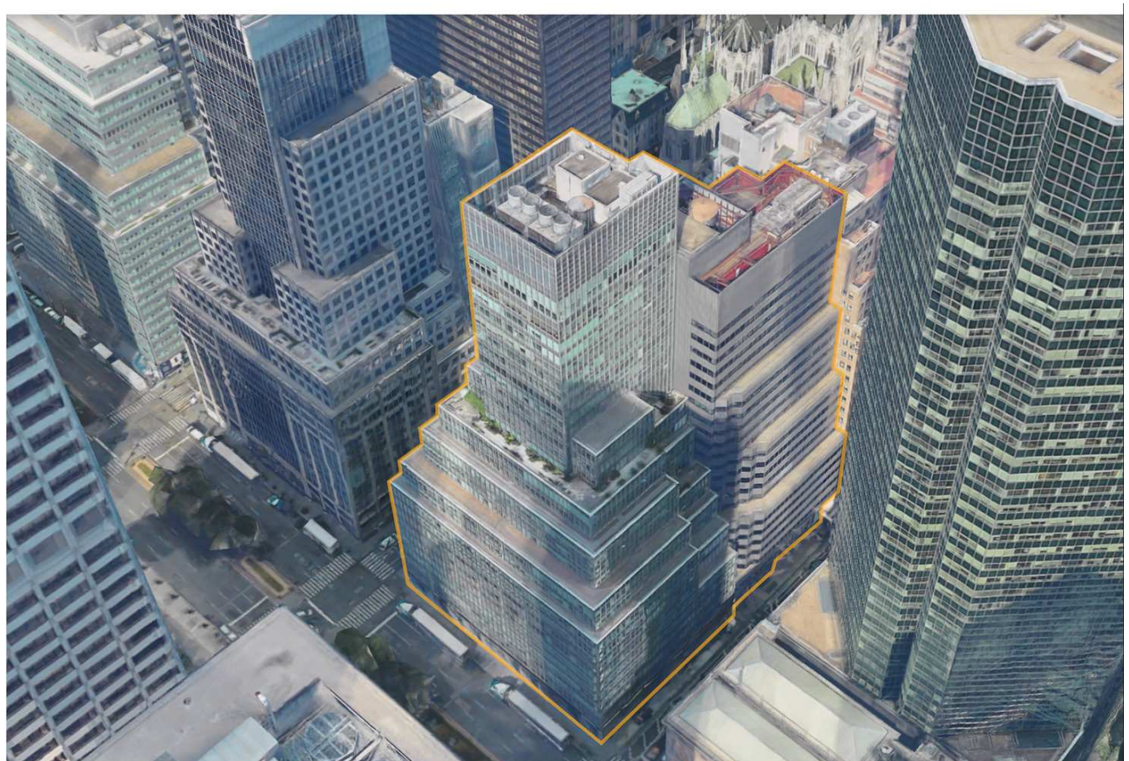


More than 95 million square feet of New York City office space is currently unoccupied –the equivalent of 30 Empire State Buildings.

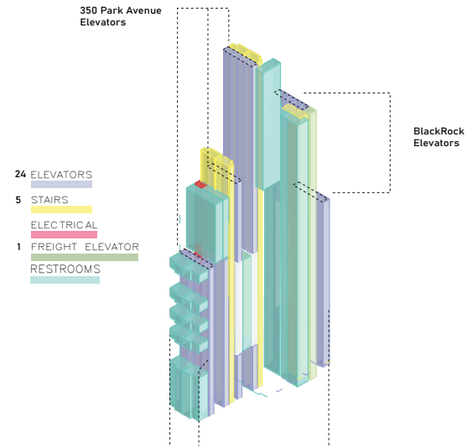


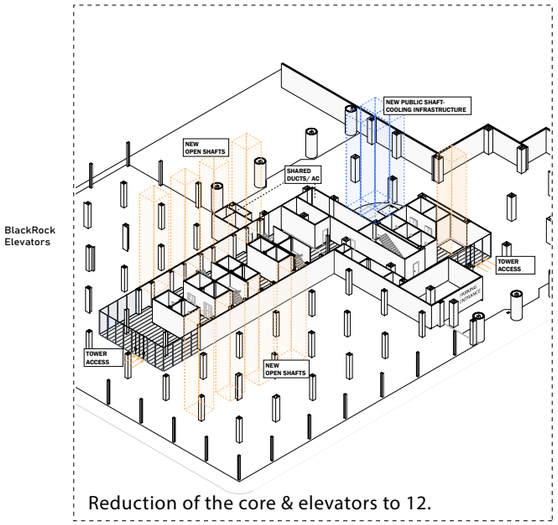
While current redevelopment plans propose the complete demolition of 350 Park Avenue in favor of a new supertall office tower, this project presents an alternative path —one rooted in adaptive reuse rather than erasure. Instead of contributing to the oversaturation of commercial space, our proposal transforms the existing structure into a housing prototype.



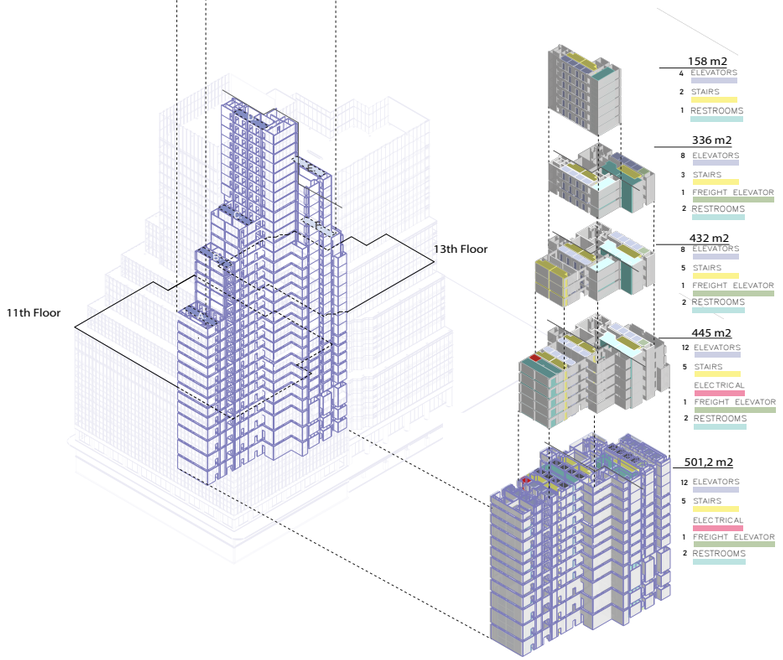


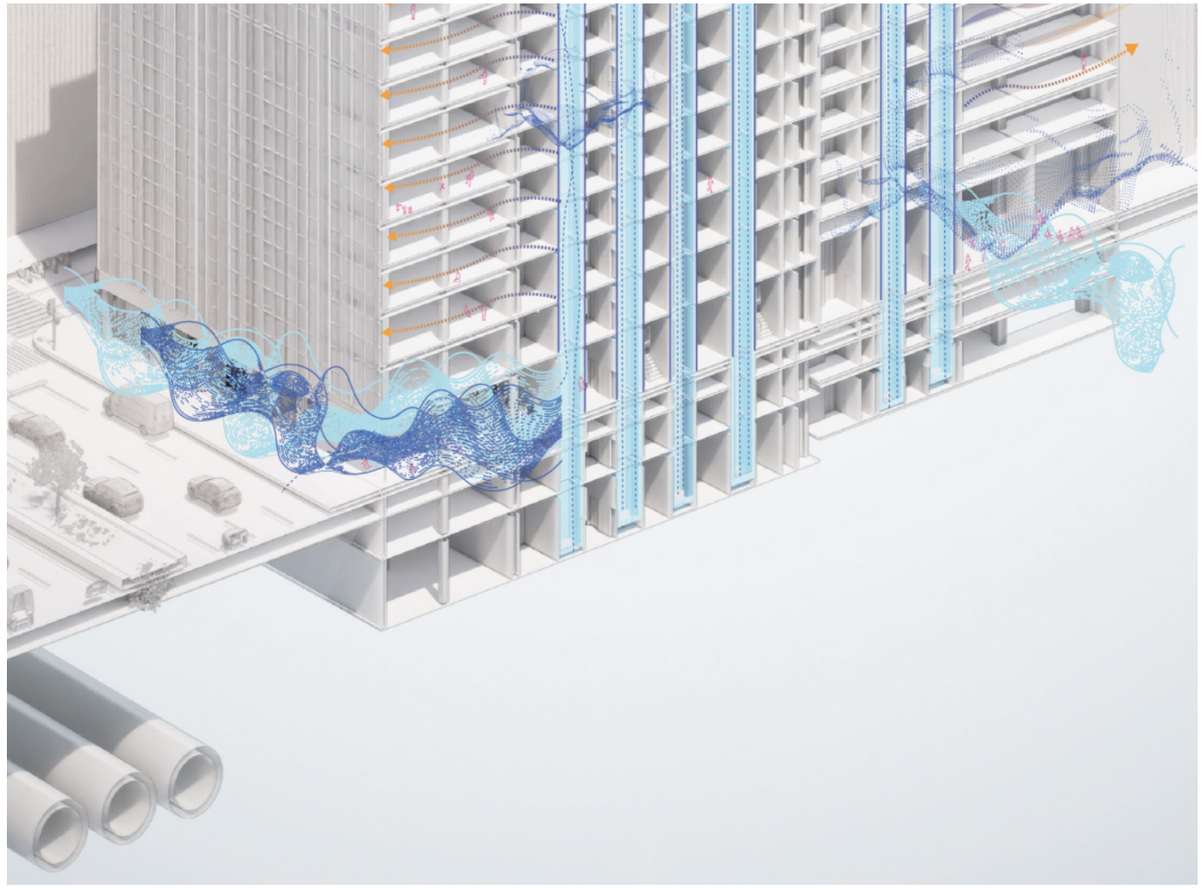
// LARGE CORE AREA //
“Undesirable condition”

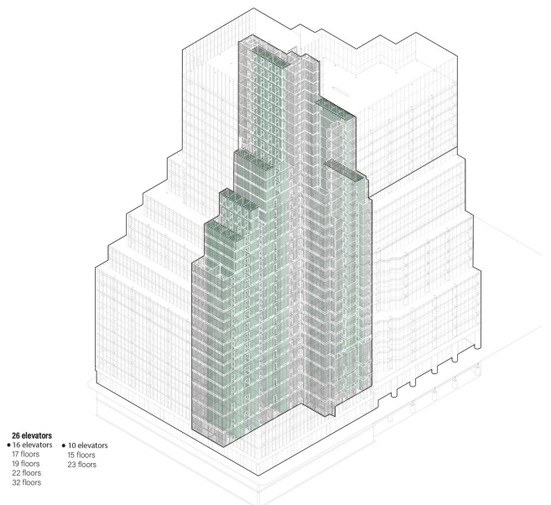




Reduction of the core & elevators to 12.





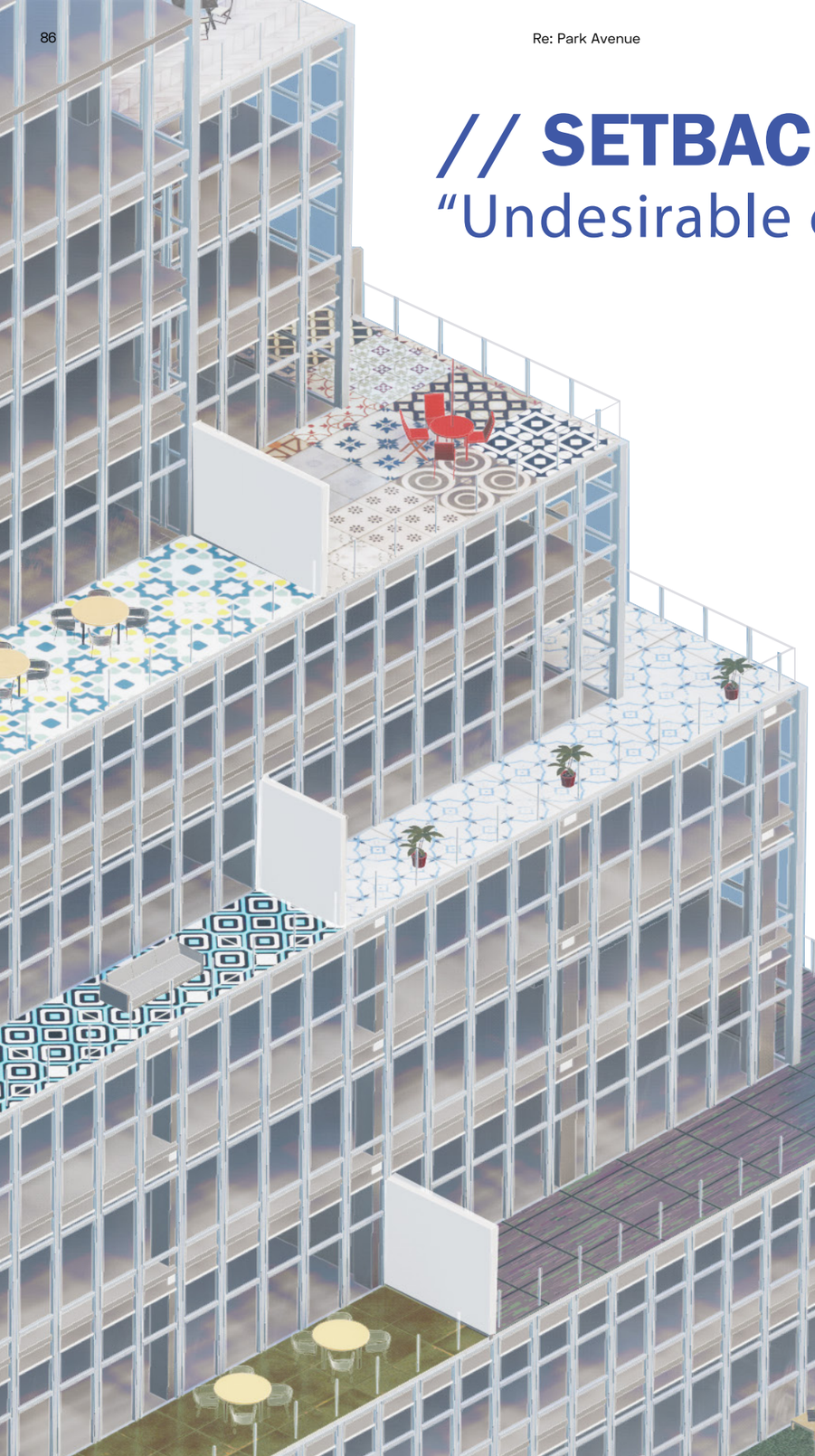


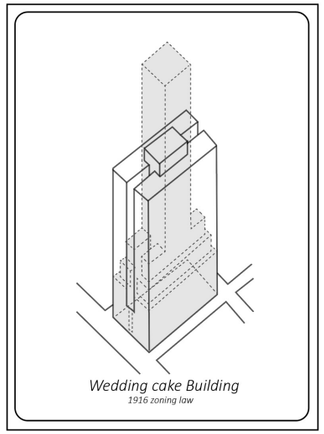
The buildings' oversized central cores, originally designed for office circulation, limit usable space. By optimizing elevator placement and removing redundant spaces, new vertical shafts can be introduced to enhance natural ventilation and improve air circulation within the residences.

If this approach can work for these two towers, it can work for countless others. Around the world, cities are filled with underutilized office buildings, waiting to be repurposed into vibrant spaces for living, gathering, and growing. By embracing the ordinary, it is possible to unlock a future where sustainability, creativity, and urban vitality go hand in hand.

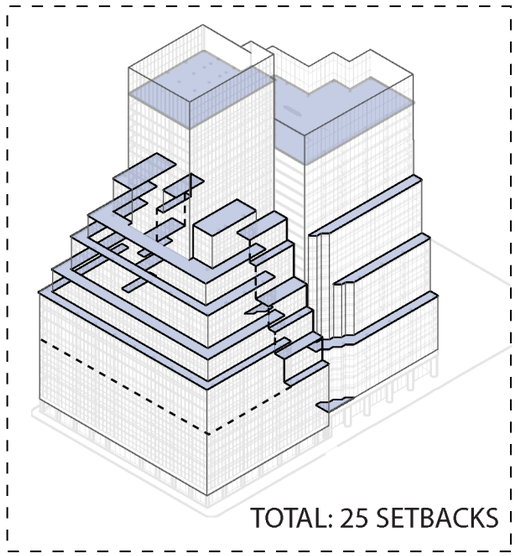
// SETBACKS //

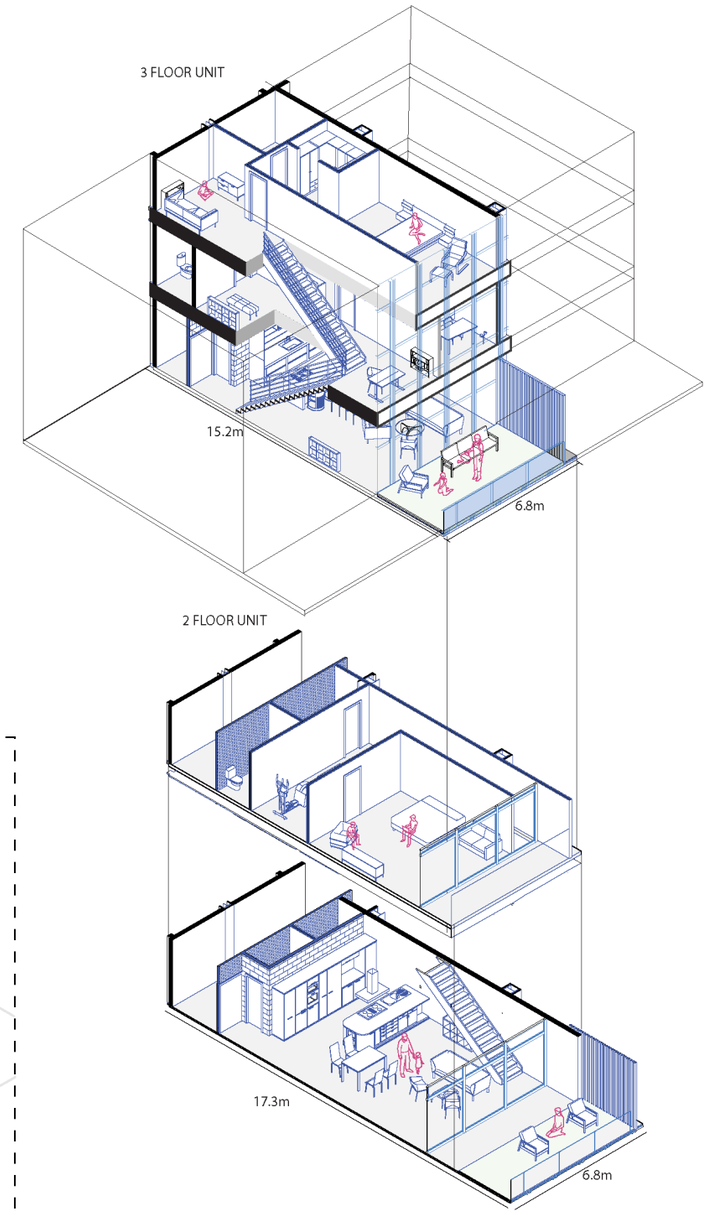
“Undesirable condition”

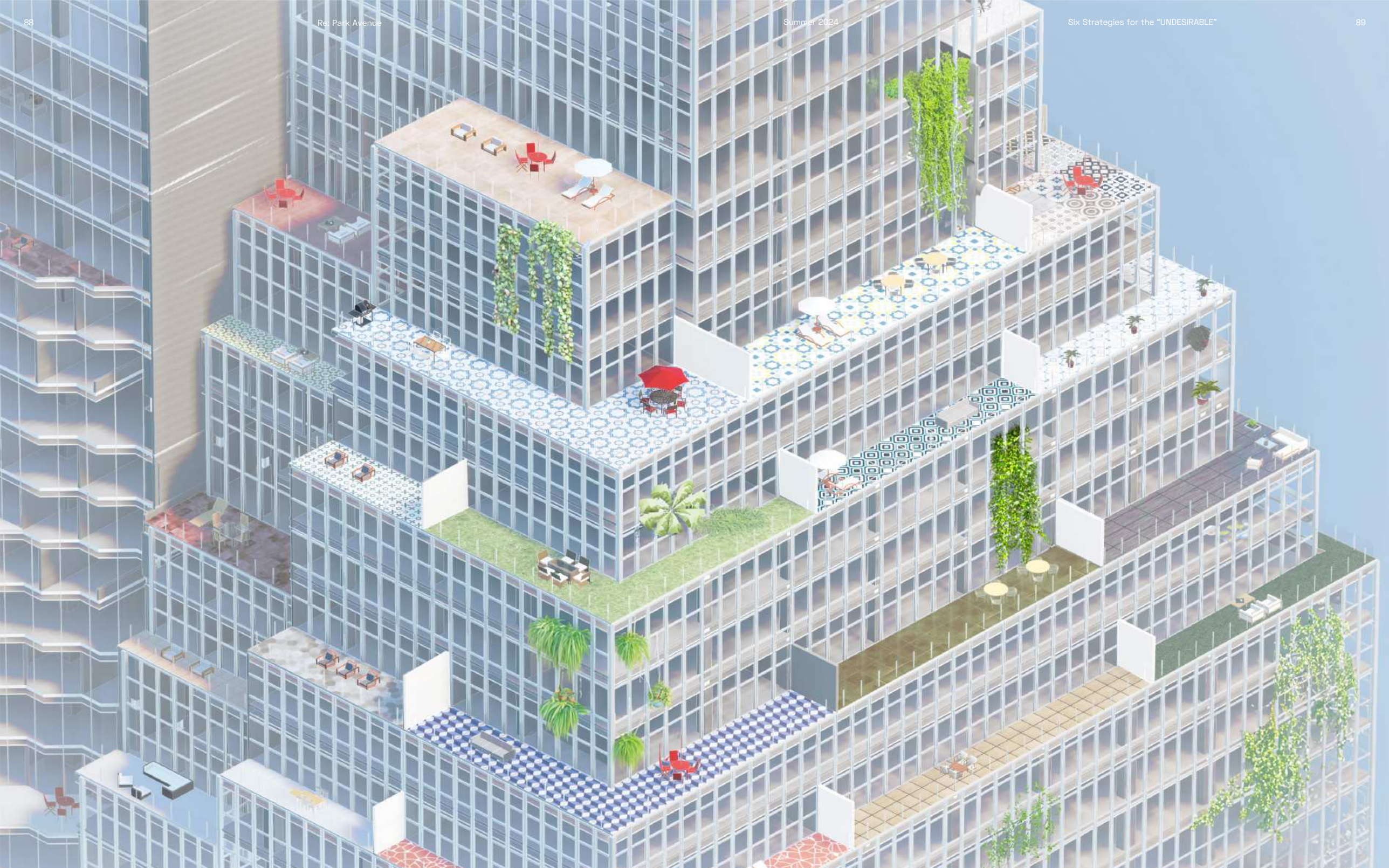




The zoning-required setbacks, which currently contribute to the outdated 'wedding cake' aesthetic, are reimagined as opportunities for new housing typologies. Multi-story residential units with private terraces are integrated into these spaces, creating unique living environments with access to outdoor areas.

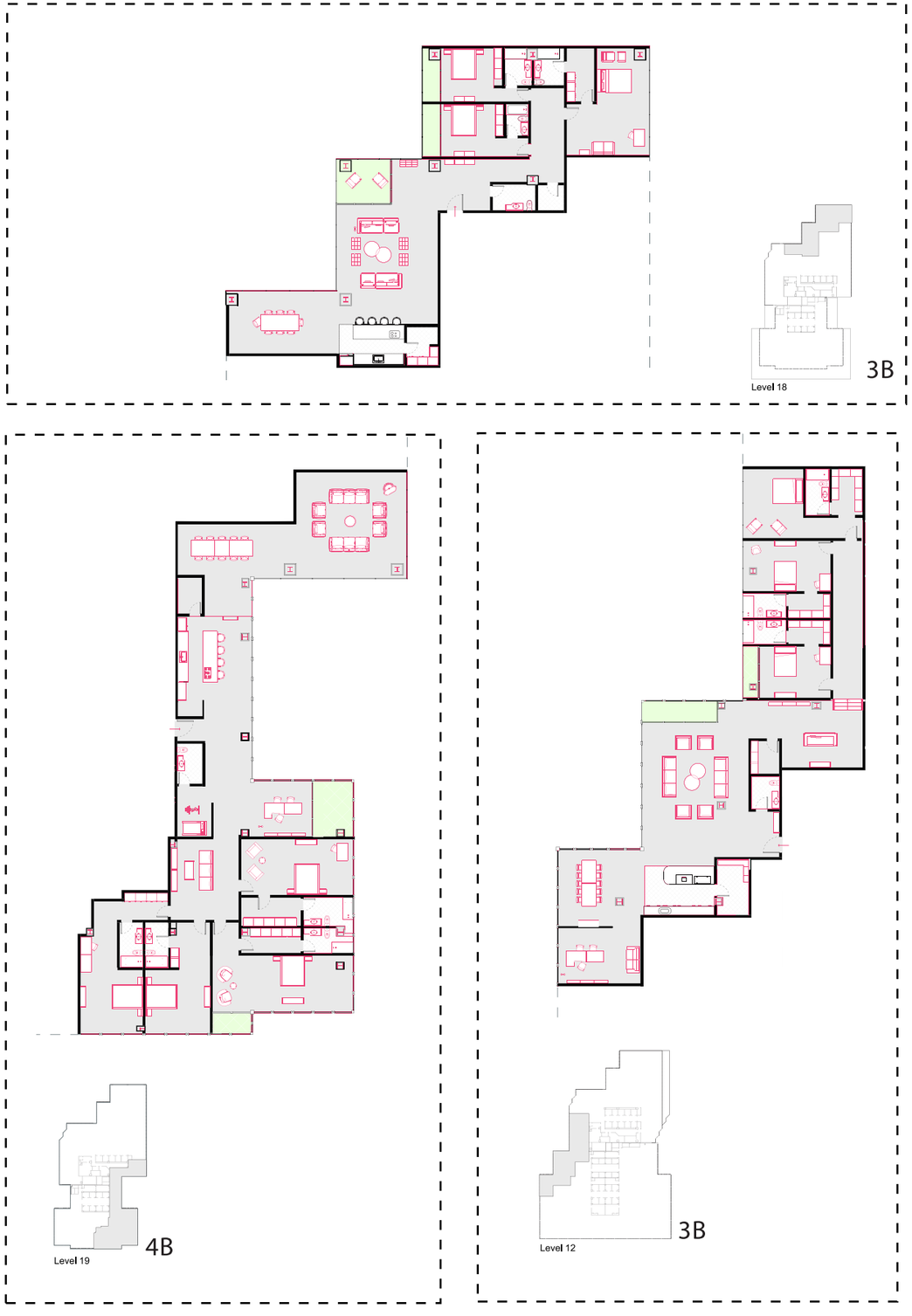






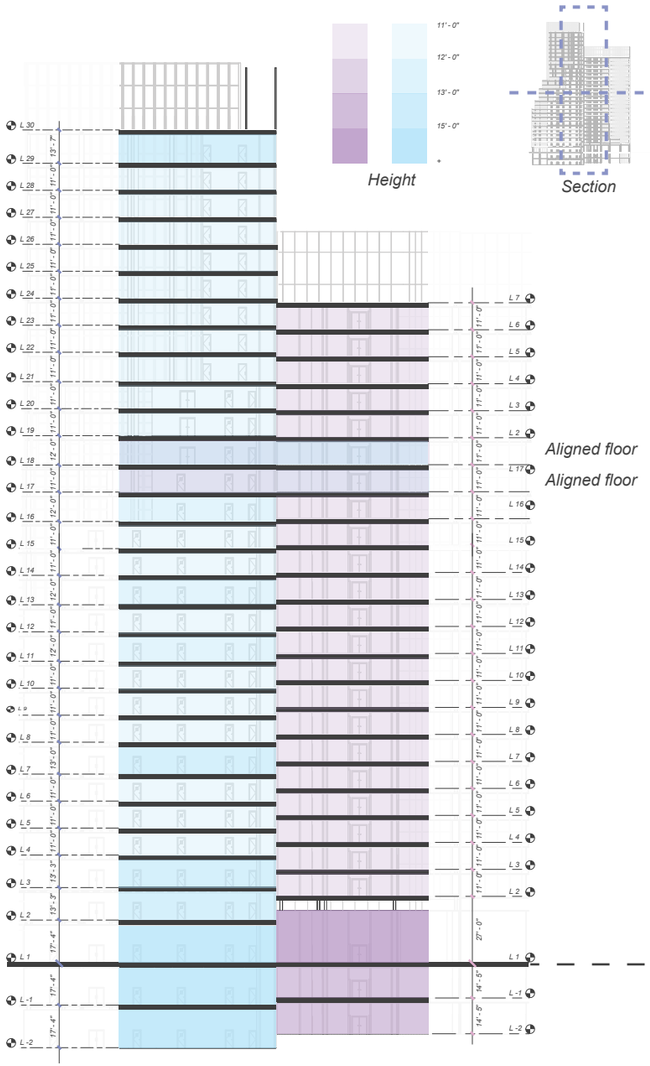
// IRREGULAR FLOORPLANS //
Undesirable condition

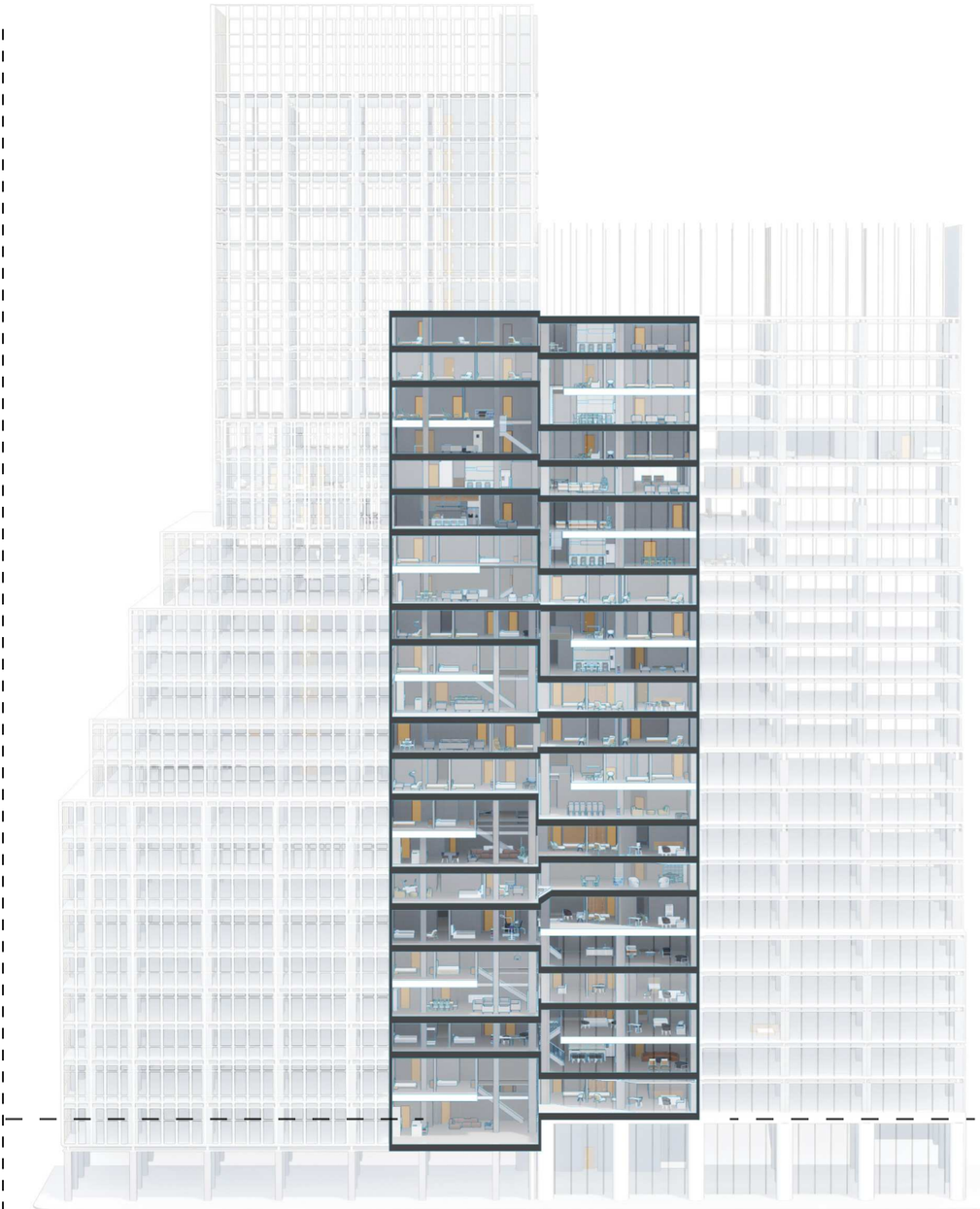
The combination of two buildings results in highly irregular floor layouts, which are typically undesirable for office use. However, in housing, these irregularities become an asset, allowing for unique apartments with multiple corners, diverse spatial qualities, and expansive views.

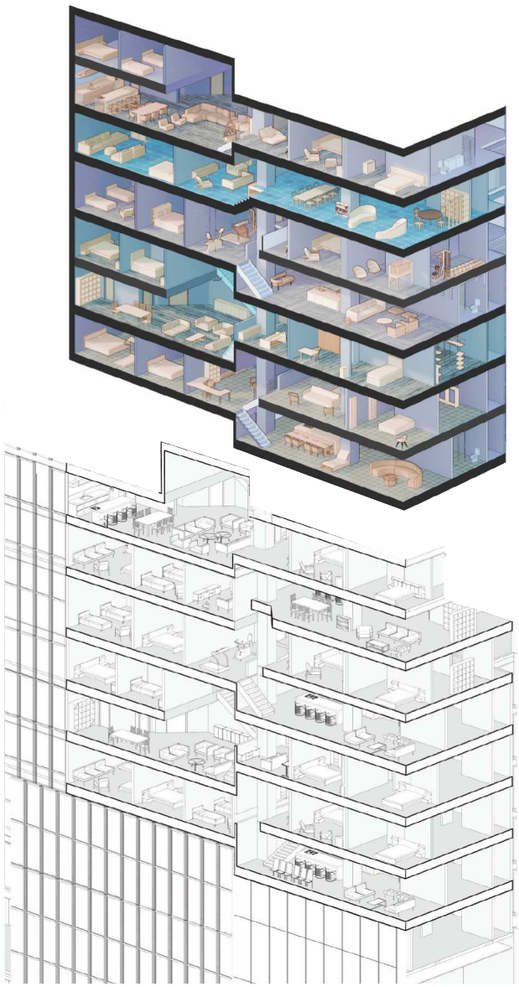


// MISALIGNED FLOORS //
Undesirable condition

350 Park Avenue | Blackrock Building

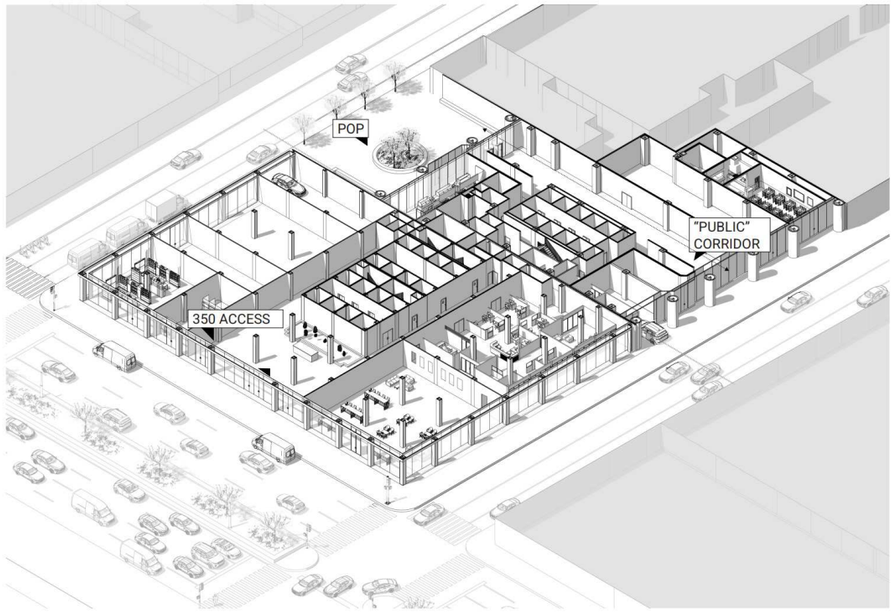


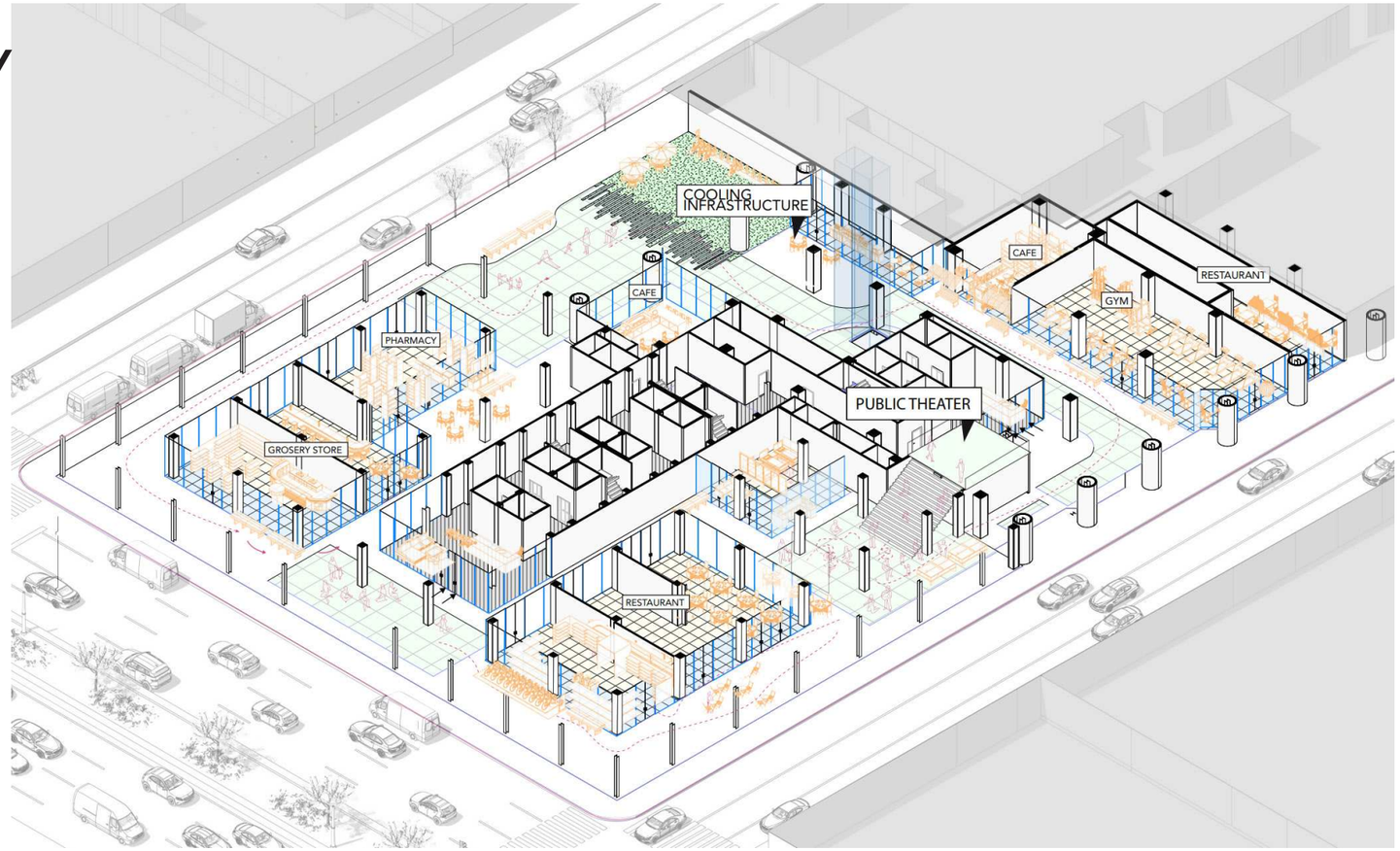




Differences in floor levels complicate internal circulation, a drawback for office buildings. By embracing these variations, a new residential typology is introduced, incorporating multi-level lofts with dynamic spatial relationships and varied ceiling heights.

// UNINVITING FIRST FLOOR //
Undesirable condition



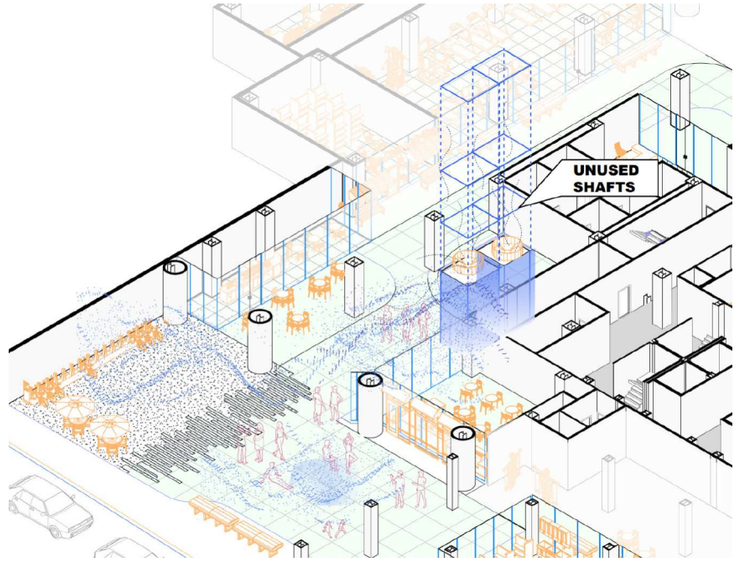


Actual floorplan

The existing design prioritizes private use, limiting interaction with the public realm. By opening the ground level and integrating commercial spaces, public seating areas, and a cooling infrastructure, the street-level experience can be transformed into a vibrant and engaging urban space.

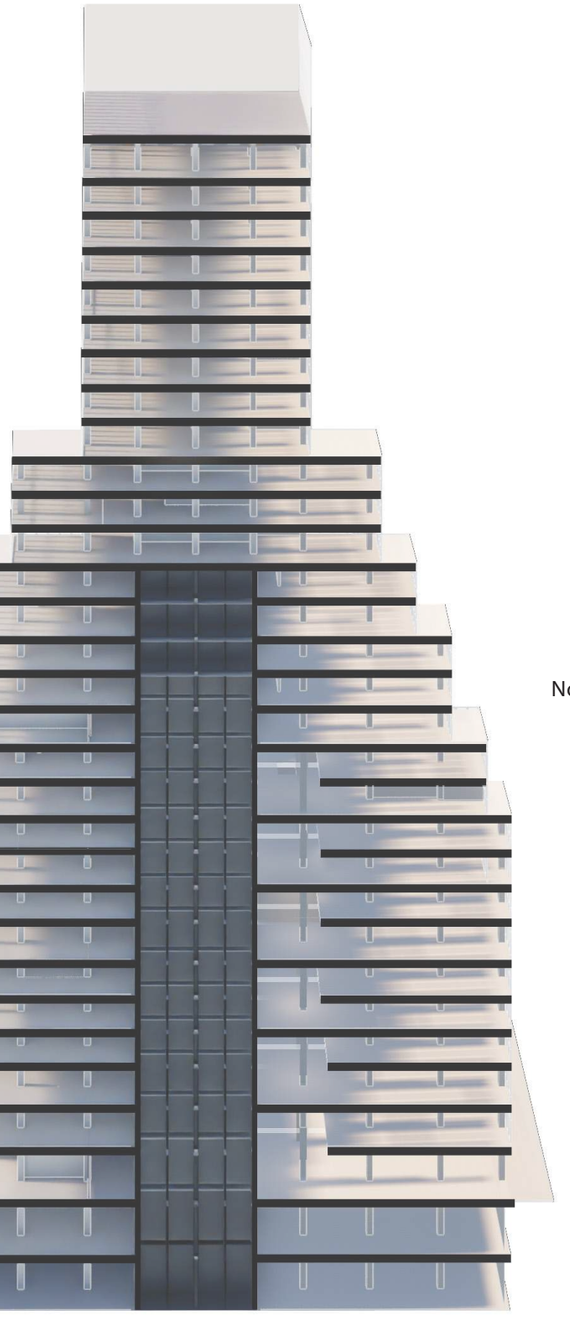
POP Space

The POP activates the ground level, allowing public life to permeate the privately owned space and fostering a more porous and engaging urban interface.



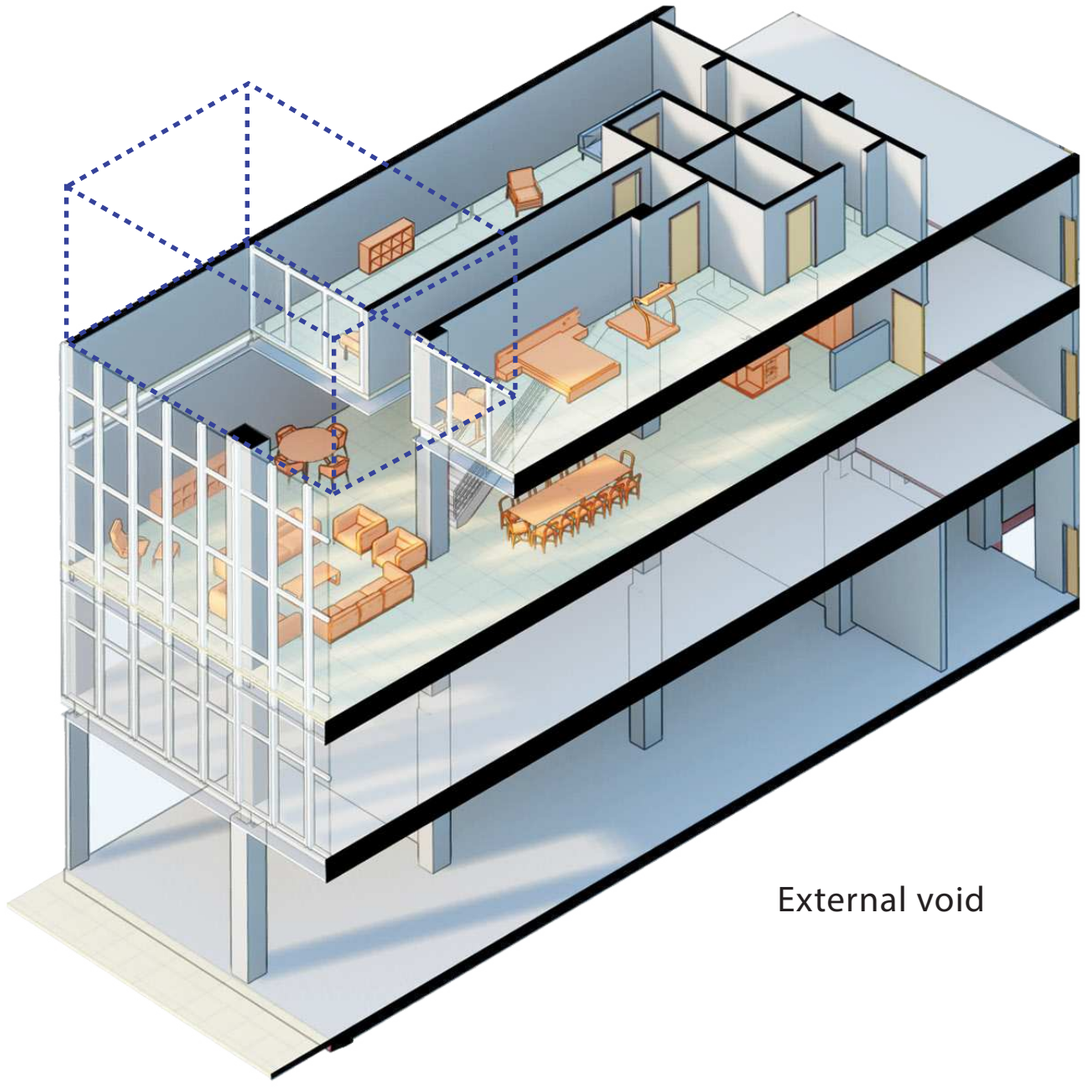
// DEEPNESS OF THE FLOORPLAN //

Undesirable condition



South Facade

North Facade



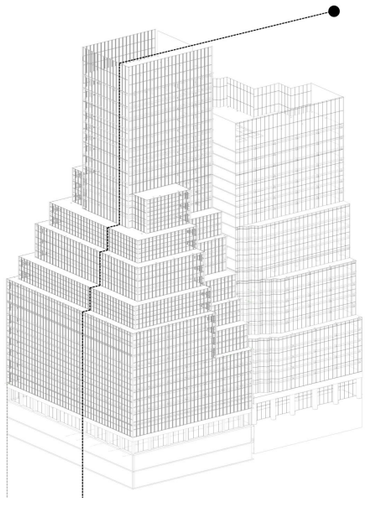
External void

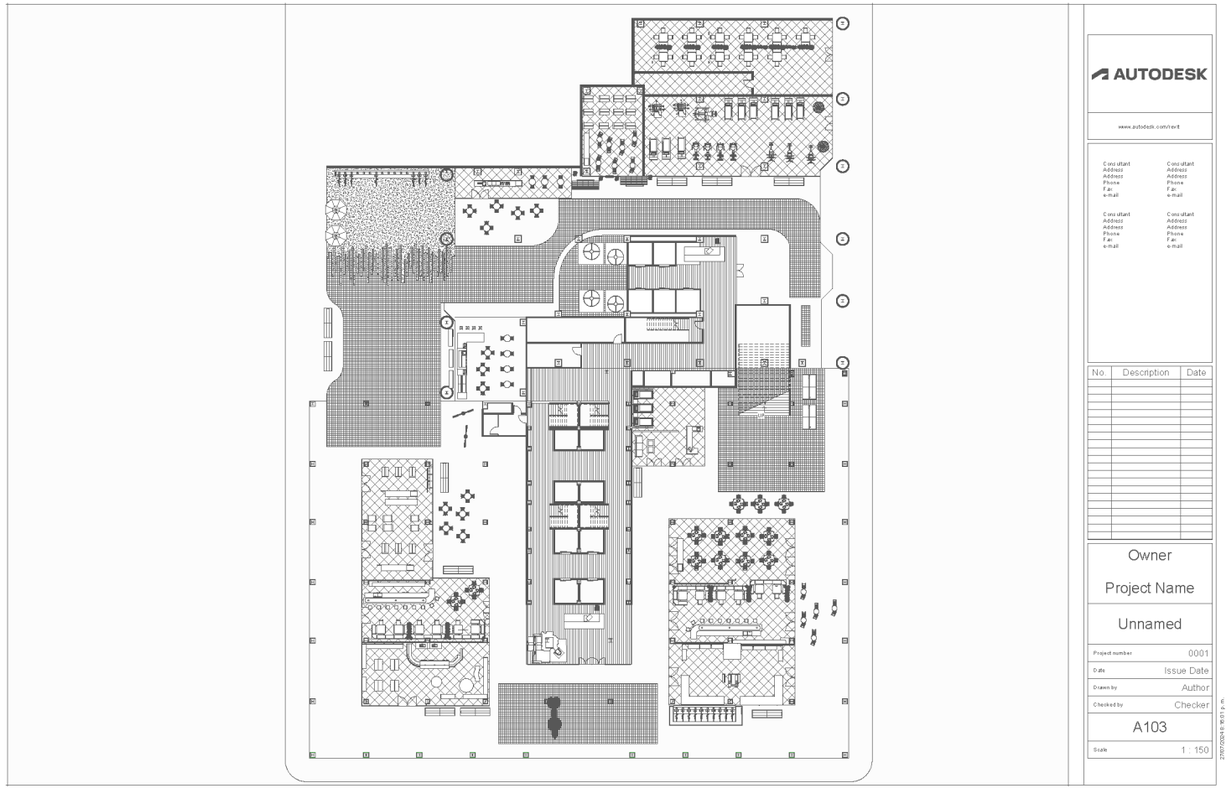
The excessive depth of the buildings results in dark interior spaces with limited natural light. To counteract this, strategic perforations and voids are introduced, enabling cross-ventilation and allowing for the development of duplex apartments with better lighting and airflow.

The Transformation of the Ordinary - Yoshiharu Tsukamoto

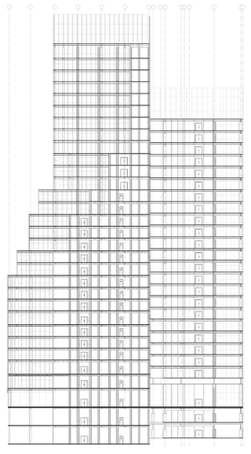
Arguments Yoshiharu Tsukamoto Lecture
Semester Summer 2024
Intructor Claudia Tomateo

Vernacular self-built environments offer crucial lessons on resilience and adaptability. These spaces, created based on the immediate needs of their inhabitants, demonstrate an intimate relationship between the built environment and local social dynamics. The flexibility and adaptability observed in these environments are essential for urbanism that truly serves its users. To avoid limiting these interactions, formal architecture must adopt a more inclusive and participatory approach. This involves engaging communities from the planning stage, allowing them to influence the design of their spaces. Additionally, formal architecture can intervene in existing constructions by creating infrastructures that facilitate social interaction, such as public plazas, community markets, and green spaces. Implementing design elements that allow future modifications by inhabitants can also help maintain the adaptability characteristic of self-built environments. This approach will not only restore but also enhance social activities and community cohesion in these neighborhoods.
Rather than seeing 350 Park Avenue and the Black Rock Building as obsolete structures destined for demolition, this proposal reimagines them as opportunities for innovation. By embracing their irregularities, misalignments, and structural constraints, these buildings can be transformed into a model for adaptive reuse—one that not only addresses New York' s urgent housing needs but also redefines how cities approach architectural preservation and sustainability.



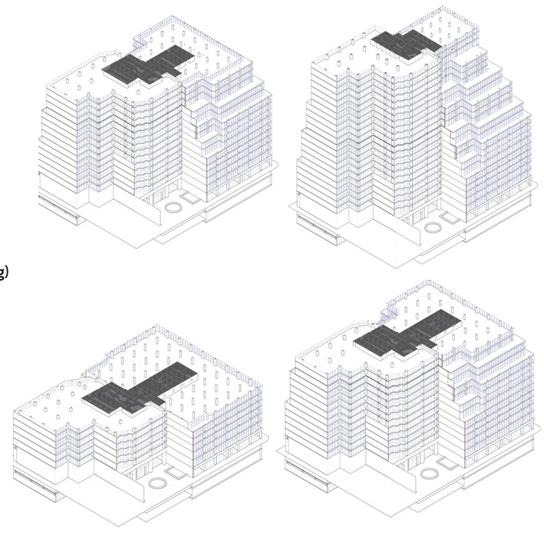


1960 (350 Park Avenue)
32 Stories
"Wedding cake"
Multiple setbacks

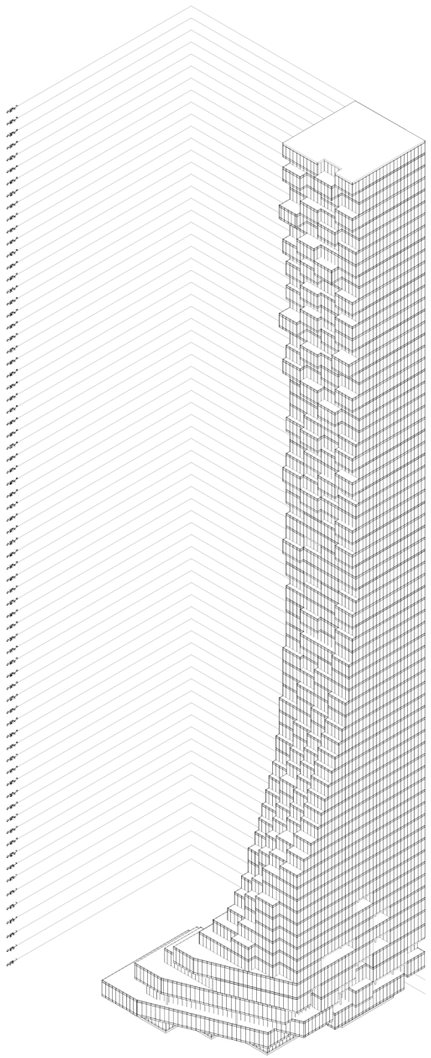


Office
Steel Frame structures

1986 (Black Rock Building)
23 Stories
35,768 m2
POP



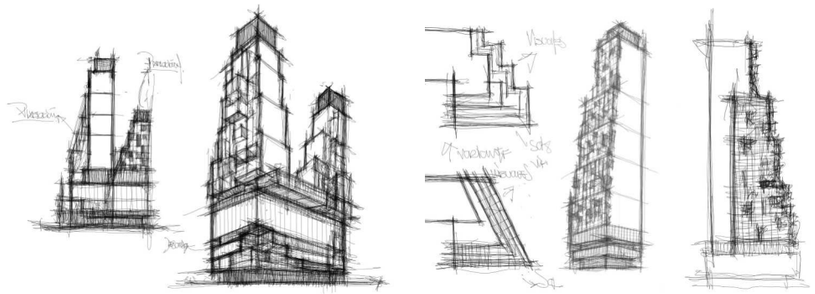
Spacial Mutation



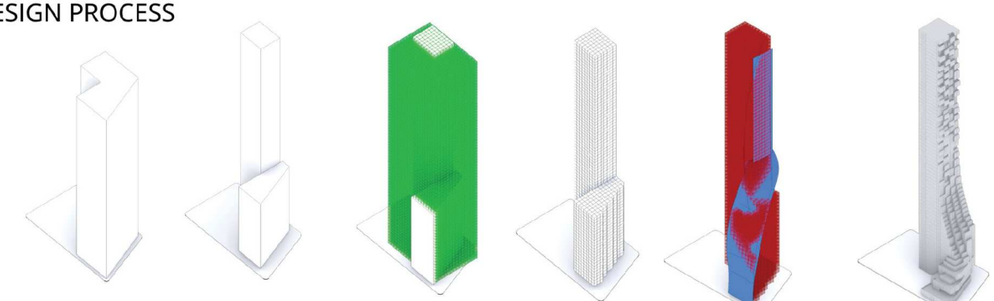
Pixelated Spaces:
A Parametric Transformation

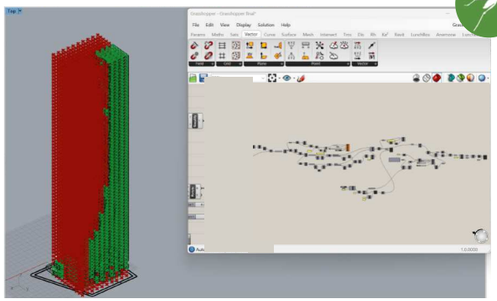
Tech Elective	Re Thinking BIM
Instructor	Joseph A. Brennan
Semester	Fall 2024
Partners	Sofia Hernandez and Sebastian Dominguez
Location	NewYork

INITIAL SKETCHES



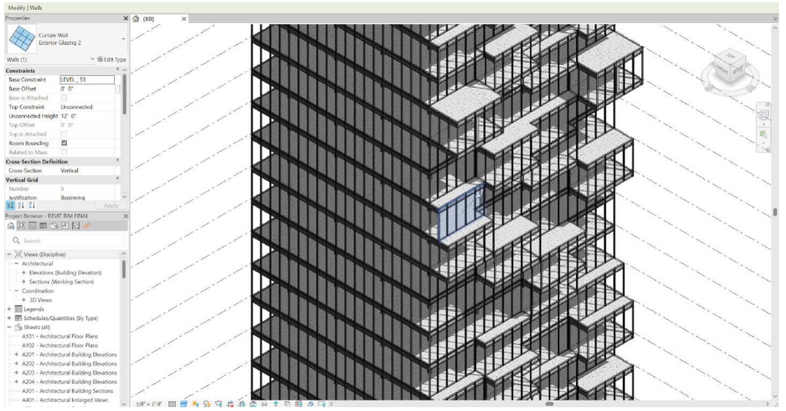
DESIGN PROCESS



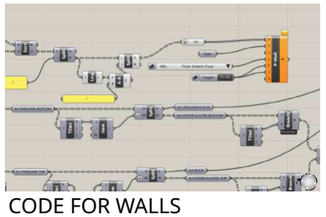


GRASSHOPPER

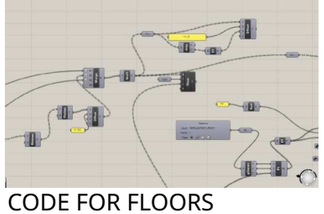
Through Grasshopper, the initial form of the building was defined, allowing for the parametric generation of all components, including slabs, columns, walls, and windows. This process enabled iterative explorations of different design approaches, optimizing spatial and structural relationships.



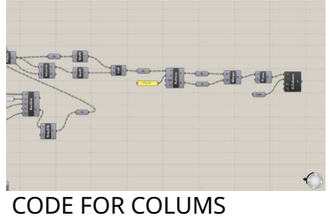
Revit not only facilitates the transfer of parametric models but also enables dynamic interaction with Revit's family system. Once the model is fully integrated, elements like the façade can be adjusted directly within Revit, allowing for design modifications that respond to technical, aesthetic, or performance requirements while preserving parametric control.



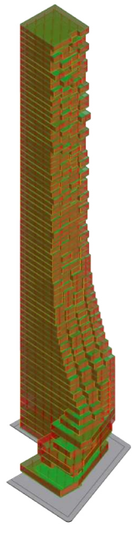
CODE FOR WALLS



CODE FOR FLOORS

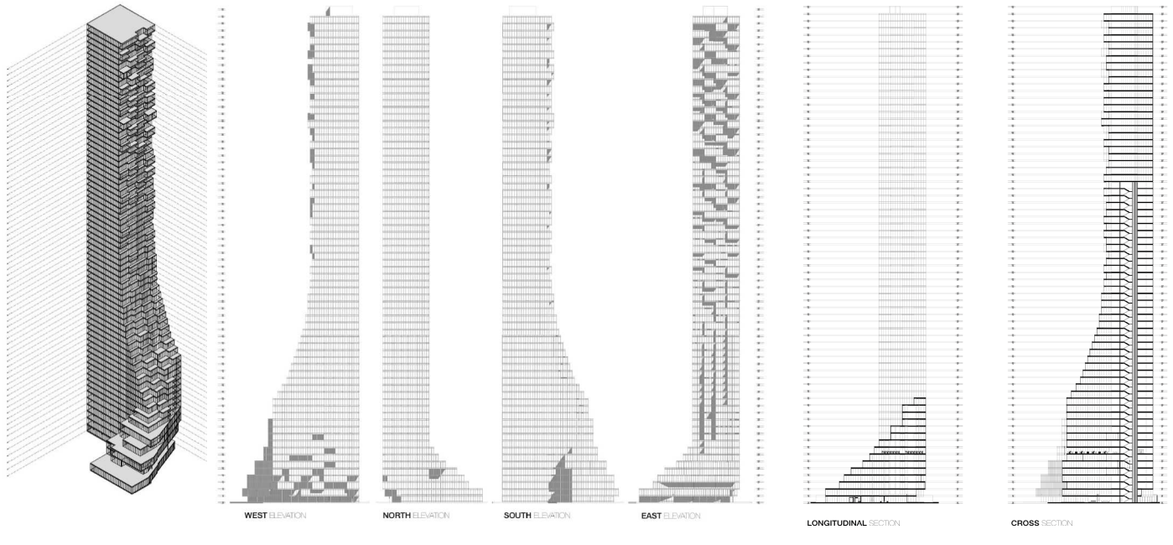


CODE FOR COLUMS



RHINO INSIDE REVIT

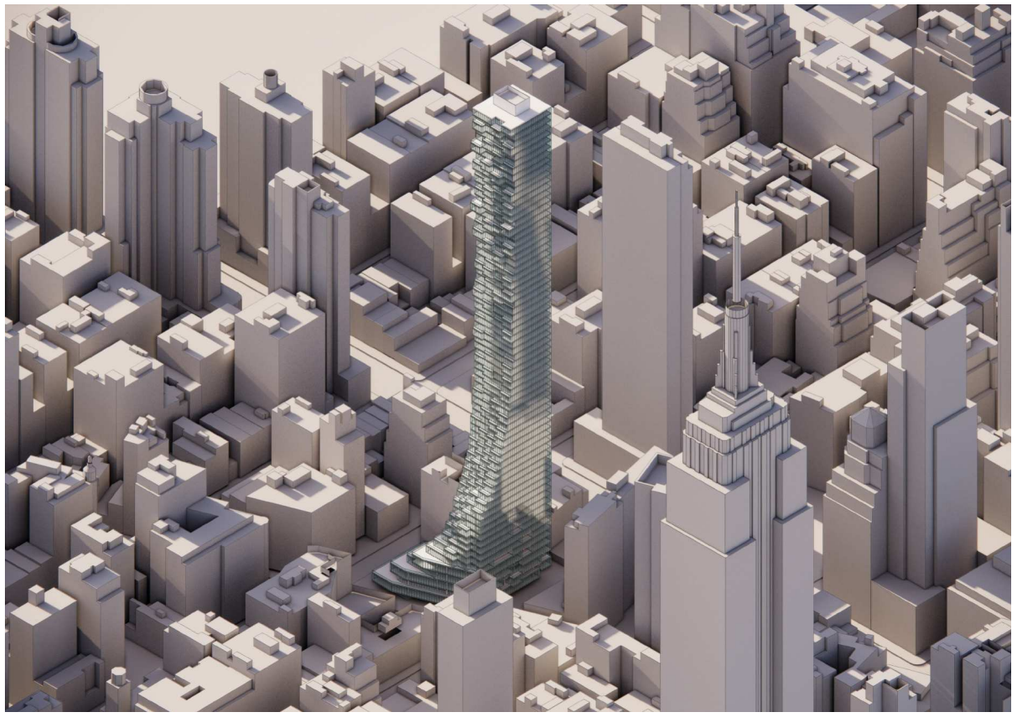
Rhino.Inside Revit enables the seamless integration of Rhino and Grasshopper models into the Revit environment, bridging the gap between parametric design and architectural documentation. This technology allows for a more constructible representation of the project while maintaining design flexibility through iterative explorations using Revit's family system.

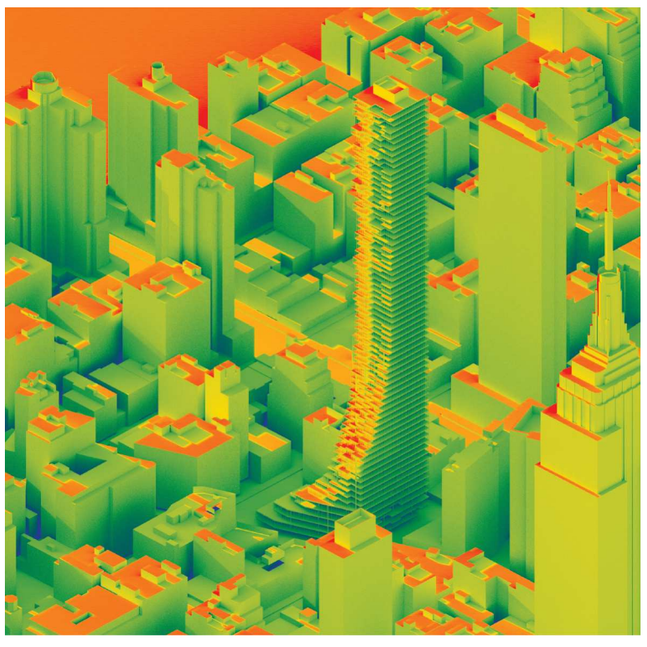


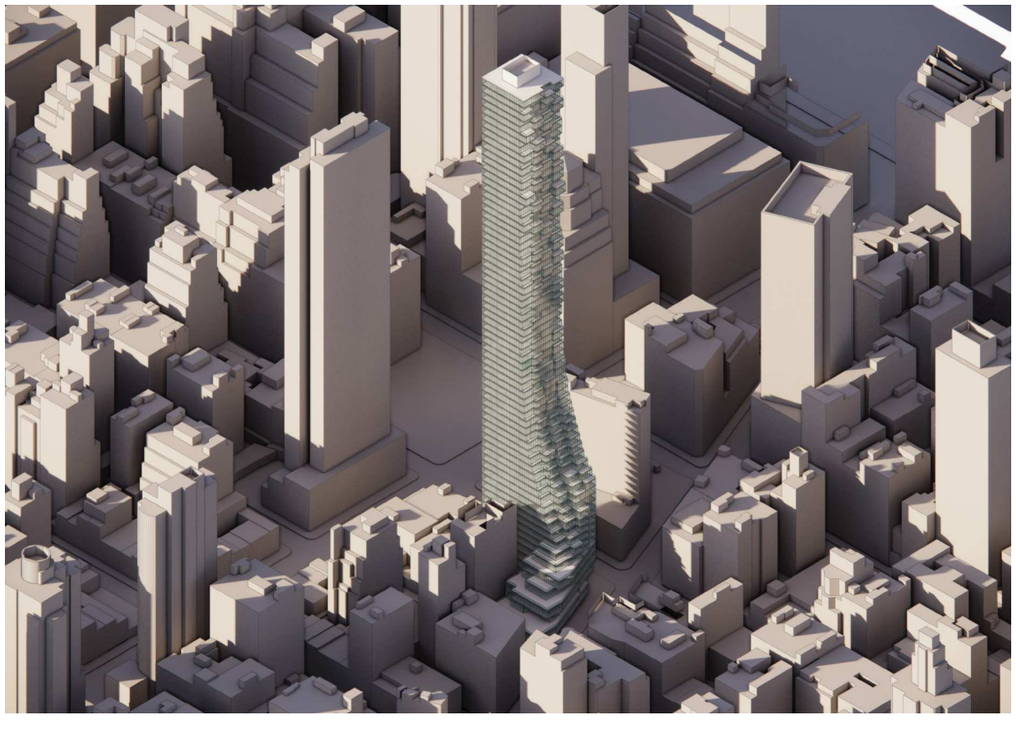
In traditional architectural practice, space is often a fixed entity—designed, built, and inhabited without much room for evolution once it is complete. However, with the advent of digital tools and parametric design, architecture is no longer limited by static forms or predefined solutions. Instead, spaces can be reimagined and reconfigured according to the shifting demands of its users. Dynamic Form brings to life the potential for architecture to evolve, much like the way a living organism adapts and responds to its environment.

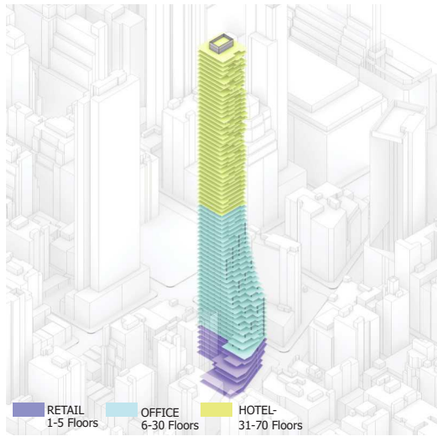
By incorporating real-time data and flexible parametric models, Dynamic Form creates an architecture that is responsive, efficient, and ever-changing. This project questions the rigidity of traditional architectural methods and embraces a vision of spaces that can mutate and transform in response to their environment, their users, and even the passage of time. In doing so, it introduces a new paradigm of adaptive architecture that not only meets the needs of today but is capable of evolving to meet the challenges of tomorrow.

This project goes beyond just form-making: it explores the relationship between design, technology, and construction, examining how digital design can be seamlessly integrated with building systems to create more sustainable, responsive, and efficient spaces. The use of parametric design allows for the creation of dynamic forms that can change in real-time, optimizing energy efficiency, spatial organization, and user comfort.

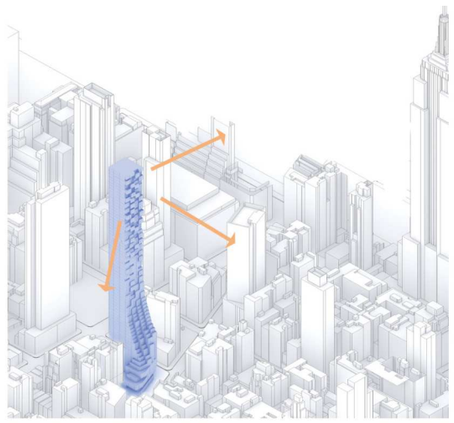




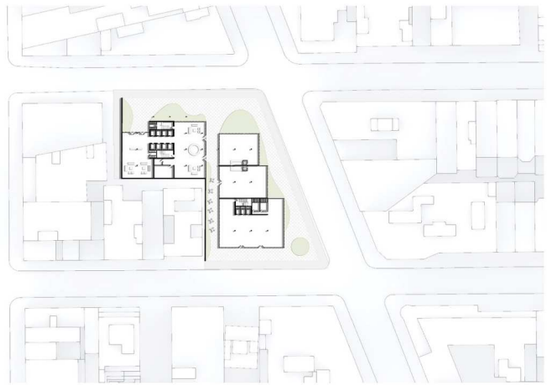




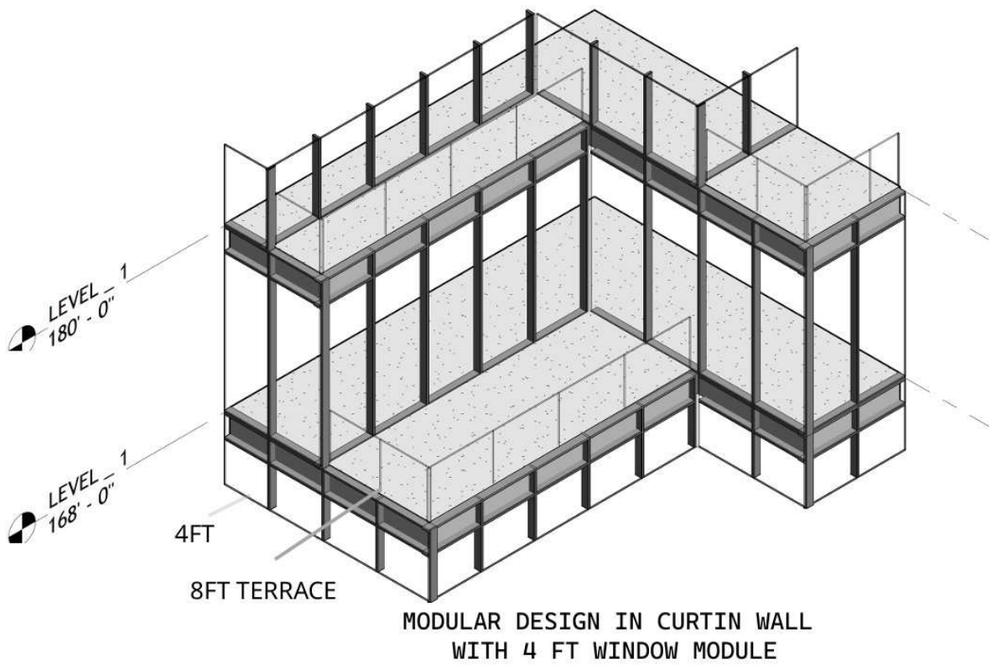
SEPARATION OF USES



MODULES TOWARDS VISUALS

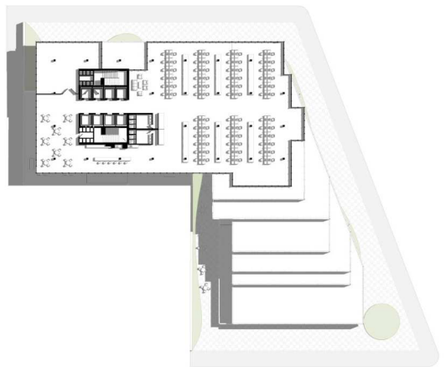


SITE PLAN

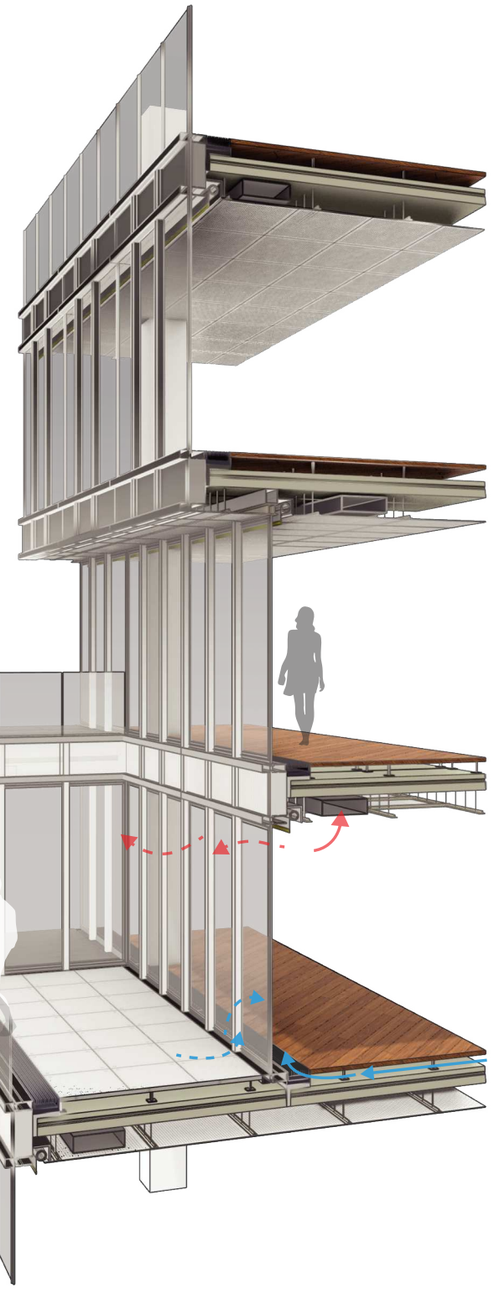


MODULAR DESIGN IN CURTIN WALL
WITH 4 FT WINDOW MODULE

The design intention was to create a pixelated pattern on the façade, enhancing the spatial richness of the upper floors where the residential units are located. This pattern not only provides a dynamic visual experience but also frames incredible views of the iconic **New York City skyline**. The play of light and shadow across the façade adds depth to the building while offering residents a unique connection to the ever-changing urban landscape of New York, a city defined by its contrast of dense structures and expansive vistas.



FLOOR PLAN



FACADE DETAIL

At the intersection of technology and design, this project seeks to reimagine the way we approach the mutations of spaces within the built environment. Through the integration of parametric design tools, such as Rhino.Inside Revit and Grasshopper, the project explores how flexibility can be embedded into the very structure of a building, allowing it to evolve and adapt to new functions and needs over time.

Echoes in the Water: The Fluidity of Identity and Transformation

Adv VI Studio On possibilism
Semester Summer 2025
Instructor Mario Gooden

Social Mutation

Olivia Erlanger shows us the home not as a static refuge, but as an organism in constant mutation. In Ida (2018), suburban facades, symbols of order and stability, transform into portals to the monstrous: mermaid tails emerge from the garages, revealing a domesticity crossed by the strange. These houses cease to be passive containers and become hybrid bodies, blurred boundaries between the human and the non-human.

"Training the natural world to create order is a form of power." Suburban architecture has been designed to domesticate the landscape, to impose order on the natural and the unpredictable. But Erlanger suggests that, beneath this structure of control, transformation is inevitable. The monstrous is not the exception, but a latent possibility within the house itself.

This mutation does not occur only in the structure, but also in its objects. Washing machines, everyday household items, take on an unsettling presence in her work. Here the metaphor evolves: from body as architecture to body as appliances, where the house is no longer just a refuge, but a processing machine, a system in constant flux. But what happens to the bodies that inhabit these spaces? Society has shaped us under rigid systems that seek to contain our own changing nature. Like the mermaid emerging from the washing machine’ s mouth, the repressed mutation always finds a way to escape. How long can a body resist its transformation before it bursts, before it vomits what it always tried to contain? The house, the body, the machine, everything mutates, and in that mutation opens the possibility to imagine new forms of existence.

In my design practice, this raises the question of how we might redesign domestic spaces not just to meet practical needs, but to incorporate elements of transformation and change. Is it possible to create a home that is not just a static refuge, but a space of creation, of mutation, that opens the door to new ways of being?

Stitches and Traces: Architecture, Fashion, and Technology in the Construction of Identity

Arguments
Instructor Claudia Tomateo
Semester Summer 2024

Architecture and fashion, though they may seem like distinct disciplines, share a profound capacity to express and construct cultural identity. Emanuel Coccia, a theorist who explores this relationship, describes fashion as "the architecture of identity," a phrase that captures the essence of how these two art forms shape who we are. On the other hand, the work of Suneil Sanzgiri, a filmmaker and visual artist, uses modern technologies like photogrammetry and LIDAR scanning to uncover and preserve forgotten historical narratives. In this essay, I explore how these concepts connect with my personal experience as an architect and designer born in the Claret neighborhood of Bogotá, Colombia, a place where popular architecture not only reflects the cultural identity and traditions of its inhabitants but also resists the homogenization imposed by external forces.

I grew up in a place where the streets are full of life and every facade tells a story. These are not simply physical structures but living testimonies of a community that has built its environment with its own hands. The architecture here does not follow traditional canons but is the result of a collective self-construction, where each home is a unique blend of cultural influences, from Muisca roots to colonial heritages and modern touches. This architectural syncretism taught me from a young age that architecture is not just a design exercise but an expression of identity, a reflection of who we are, and how we resist the forces that try to homogenize us.

The houses in my neighborhood are a mix of styles and eras, each adorned with elements that reflect the stories and beliefs of their inhabitants. I remember walking through the streets and observing how neighbors decorated their facades with a unique combination of influences: Doric and Ionic columns that evoke classical architecture, but reinterpreted with vibrant colors, interwoven with personal symbols, and in many cases, crowned with images of the Virgin Mary, the Divine Child, or the saints of their devotion, seeking protection for the home. These facades are, in many ways, a mirror of the community, a declaration of resistance against the standardization imposed by modernity.
While in other parts of the city, office buildings and multifamily housing resemble impersonal glass boxes, the houses in my neighborhood tell a different story, deeply rooted in cultural identity.

Fig 1. Evolution of the Symbolism and Identity of the Claret Neighborhood: Rock Art; Muisca Blankets; Claret Houses.

Fig2. House in the Claret neighborhood using Ionic columns as ornaments on the terrace.

Fig3. House in the Claret neighborhood crowned by the Divine Child on its facade.

Fig4. House in the Claret neighborhood with Muisca rhombus symbolism and characteristic vibrant colors.

Social Mutation

Emanuel Coccia's Work

Through these observations, I began to understand how cultural identity can be expressed and preserved through visual and architectural elements, an idea that transcends physical construction and resonates in fashion as well. It was at this point that I found a fascinating parallel with Emanuel's work. In his 2018 Gucci collection, Emanuel explores the intersection between fashion and architecture, using his design to construct and express complex and multifaceted identities. Just as the houses in my neighborhood dress their façades with a unique combination of colors, textures, and symbols that reveal the identity of their inhabitants, Emanuel's collection challenges the idea of a fixed identity, showing how it can be reinvented and reinterpreted across time and space.

However, while Emanuel addresses the creation of a personal and unique identity through fashion, his approach may overlook the richness of folkloric and indigenous expressions, which have much deeper and older roots. Fashion, after all, began long before Chanel, with traditions that have carried cultural identity for centuries. Despite this, Emanuel manages to juxtapose brands, textures, and materials in a way that creates an identity that, like the façades in my neighborhood, is a rich and diverse mix of cultural influences.

Emanuel's exploration of identity through fashion also led him to reflect on how certain elements of clothing, like the male suit, have remained virtually unchanged for decades. In his analysis, Emanuel points out that the suit has become a symbol of power and wealth, but not necessarily of identity. This observation has a direct parallel in formal architecture, where office buildings and modern multifamily housing often lack character, becoming mere "glass boxes" that prioritize the ostentation of power and wealth, leaving aside the expression of identity or cultural connection. In contrast, the houses in my neighborhood, built by their own inhabitants, are an affirmation of identity and resistance, challenging homogenization.

Fig.6 The clothing of the body and the clothing of the house.

Fig5. Juxtaposition between the houses in the Claret neighborhood and Emanuel's work in the 2018 Gucci collection. And juxtaposition between office buildings and men in suits.

Suneil Sanzgiri's Approach

This reflection on the loss of identity in modern architecture, driven by standardization and globalization, led me to consider how contemporary tools can be used to combat this phenomenon, rescuing and preserving cultural meanings that have been eroded or lost. This is where Suneil Sanzgiri's approach becomes relevant.

Suneil Sanzgiri uses technology not only as a tool for historical reconstruction but as a means to address and fill the gaps that colonization has left in our cultural memories. Through techniques such as photogrammetry and LIDAR scanning, Suneil uncovers forgotten or suppressed details, creating visual narratives that reveal the complexity and depth of stories that would otherwise remain hidden. These technologies, however, are not perfect; they often produce gaps and voids in the data, which Suneil turns into powerful metaphors for the gaps in history and memory caused by censorship and colonization.

Fig.7 Photogrammetry used by Suneil to capture visual narratives of his cultural identity.

This approach directly connects with what happens in my neighborhood, where many of the inhabitants continue to replicate Muisca symbols on their facades, often without knowing their true meaning. During the processes of colonization, much of this knowledge was lost, fragmented, or suppressed by colonial forces. However, it is remarkable how these expressions have survived through the manual work of laborers, artisans, and craftsmen who, being descendants of the Muiscas—who were the labor force during the colonial era—have maintained these traditions through generations despite censorship and oblivion.

Here, technology could play a crucial role in the recovery and preservation of this cultural heritage. As architects and designers, we have the responsibility to investigate and use these technological tools not only to reconstruct but to give new meaning to these symbols, preserving and revitalizing the cultural identity that colonization has tried to erase.

Suneil also explores how resistance is not limited to the preservation of the past but can involve a revaluation and reintegration of cultural roots in the present and future. In this sense, while Emanuel focuses on the juxtaposition and blending of identities, the narrative around cultural resistance and preservation, as manifested in the Claret neighborhood, suggests the need for an approach that values and protects the original meaning of these cultural expressions.

Identity and Cultural Resistance in Bogotá

Identity and Cultural Resistance in Bogotá

The Claret neighborhood in Bogotá is a living example of how architecture can be a form of cultural resistance. Through self-construction, residents have created an environment that not only reflects their individual identities but also resists the standardization imposed by global capital. This resistance is not just a reaction but an affirmation of identities that have deep roots and break with the conventional idea of development and modernization.

In my experience as an architect and designer, I have seen how cultural resistance in my community not only preserves past traditions but also creates new forms of identity that emerge from the encounter between the old and the new, the local and the global.

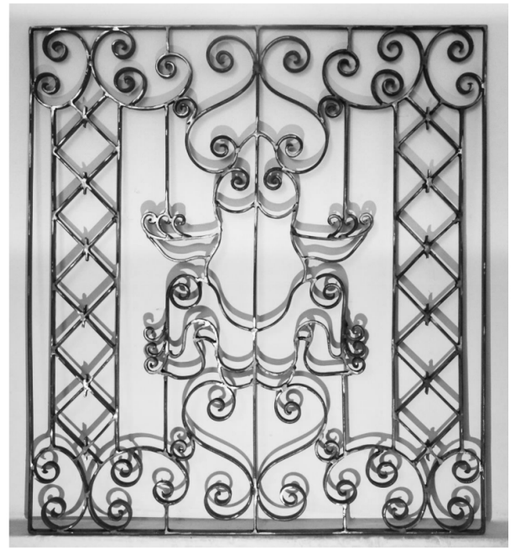


Fig. 8 Ornamentation of the 'El llamado del Claret' project that recovers the meaning of the rhombus as the Muisca Frog.

The importance of preserving our cultural roots is crucial in a world where homogenization and the loss of identity are constant threats.

The intersection between fashion, architecture, and technology offers a rich and complex vision of how cultural identity is constructed and preserved in a globalized world. Fashion, like architecture, acts as a reflection of our identities, and its power to combine diverse elements demonstrates that identity is both a personal and collective construction. Cultural resistance not only protects inherited traditions but also gives rise to new expressions of identity that emerge from the interaction between different influences. Whether through the facades of a popular neighborhood in Bogotá or through the use of digital technologies to reconstruct historical narratives, cultural identity continues to find ways to survive and adapt, facing the challenges of modernity and globalization.

Light, Space, and Social Mutation

Tech Elective Architectural Photography
Instructor Michael J. Vahrenwald
Semester Spring 2025

This section presents a selection of photographs that explore the subtle yet profound mutation of urban spaces and the interaction between people and architecture. Each image captures a specific moment where light, time, and human presence alter the environment, revealing how spaces are constantly reshaped by their inhabitants.

Throughout the day, as light shifts, the architecture around us mutates—becoming more intimate, more public, more functional, or more reflective. These transitions are often unnoticed but are critical to understanding how our built environment is not static. The social dynamics of a place evolve, just as the light transforms, offering new perspectives and uses for the same spaces at different times.

The photographs in this section reflect these mutations, not just as changes in space, but as a dialogue between the people who occupy these spaces and the architecture itself. Some images focus on landscapes, where nature and urban environments meet, subtly showing how both human presence and natural light influence and reshape the landscape.

In this sense, architecture becomes a living entity, not merely a physical structure but a responsive, evolving space, shaped by the interactions and movements of those who inhabit it, and by the constant, shifting light that transforms its form and function. The landscapes too, despite their stillness, share in this mutation, constantly reshaped by time, light, and the subtle changes in the urban fabric around them.

18mm - f/4.0 - 1/200 - ISO-400

18mm - f/4.0 - 1/200 - ISO-400

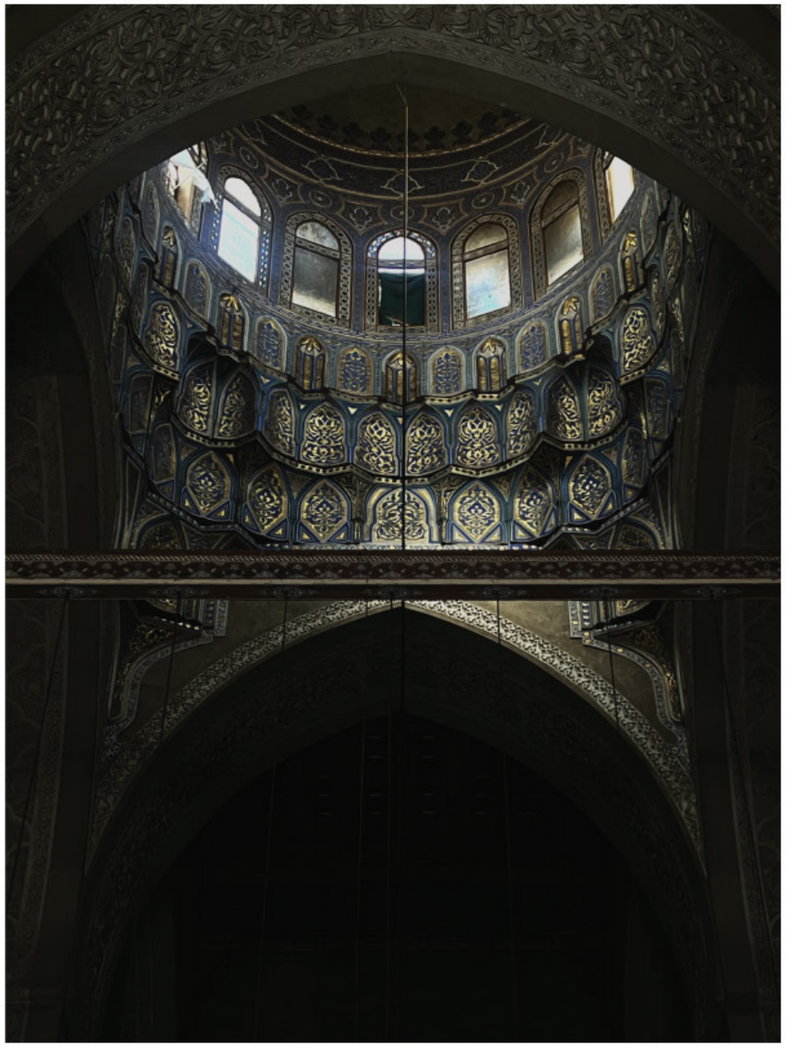
Location: India

35mm - f/5.6 - 1/200 - ISO-400

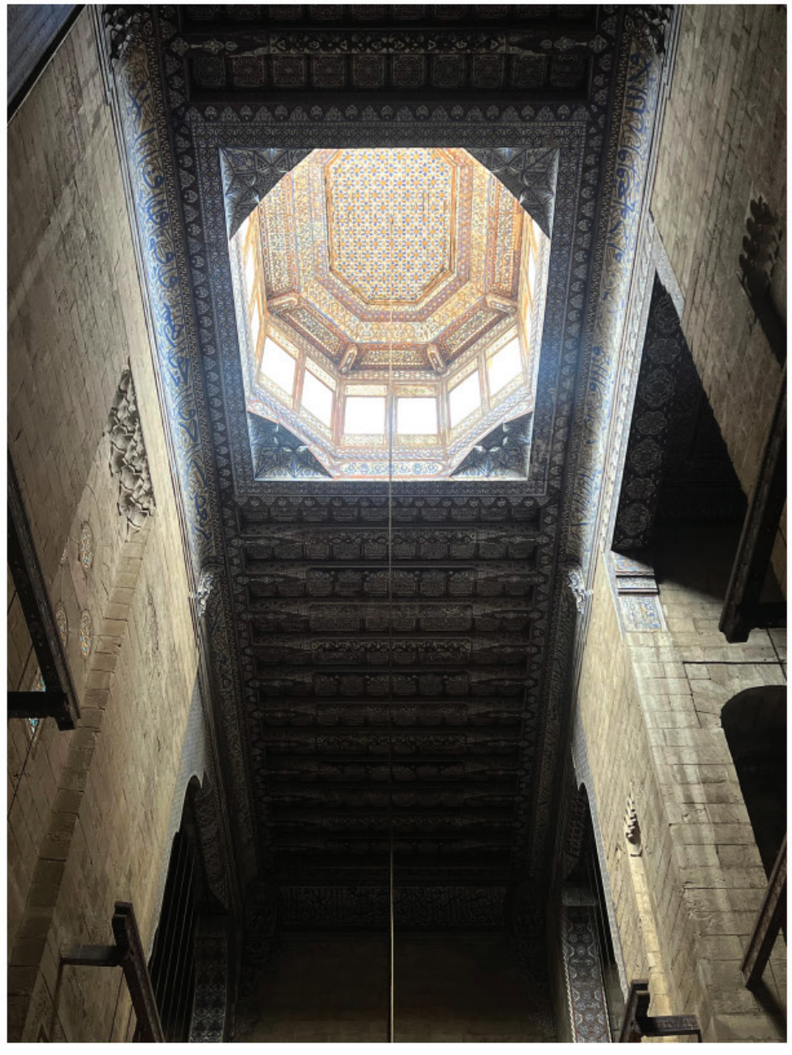
35mm - f/5.6 - 1/200 - ISO-400

35mm - f/5.6 - 1/200 - ISO-400

Location: NewYork



55mm - f/4.0 - 1/100 - ISO-800



35mm - f/5.6 - 1/200 - ISO-400

18mm - f/5.6 - 1/400 - ISO-1600

Location: Egypt

18mm - f/4.0 - 1/30 - ISO-6400

18mm - f/4.0 - 1/30 - ISO-6400

18mm - f/4.0 - 1/60 - ISO-5000

Location: NewYork

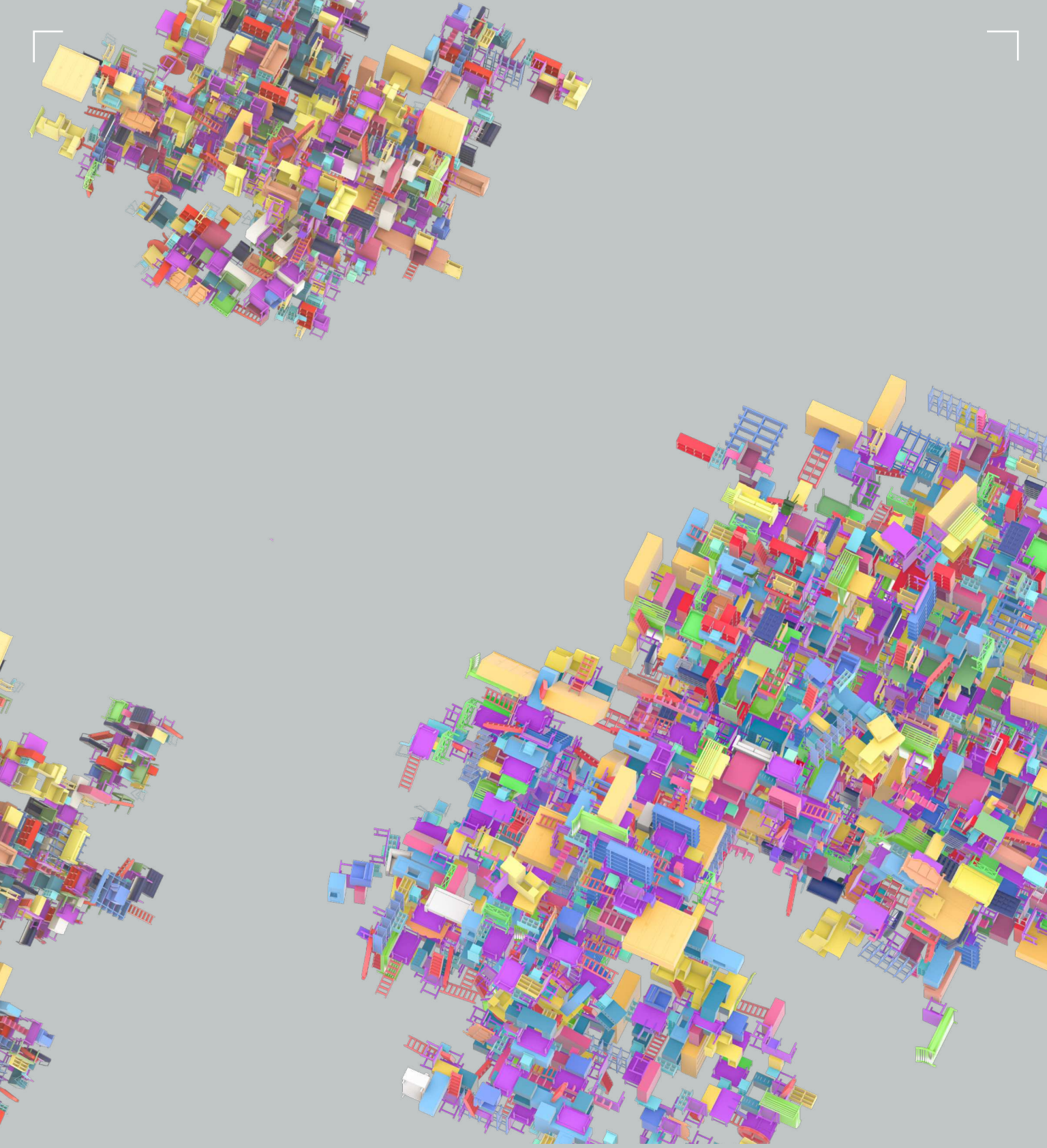
55mm - f/5.6 - 1/200 - ISO-6400

Location: NewYork

33mm - f/5 - 1/50 - ISO-6400

55mm - f/5.6 - 1/125 - ISO-6400

Location: NewYork



Louis Amadeus Arteaga

Columbia GSAPP
2024-2025