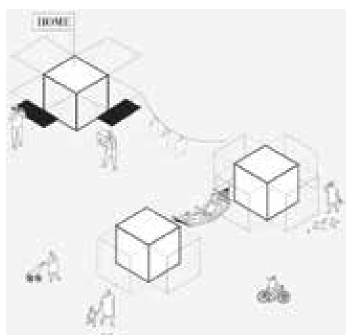


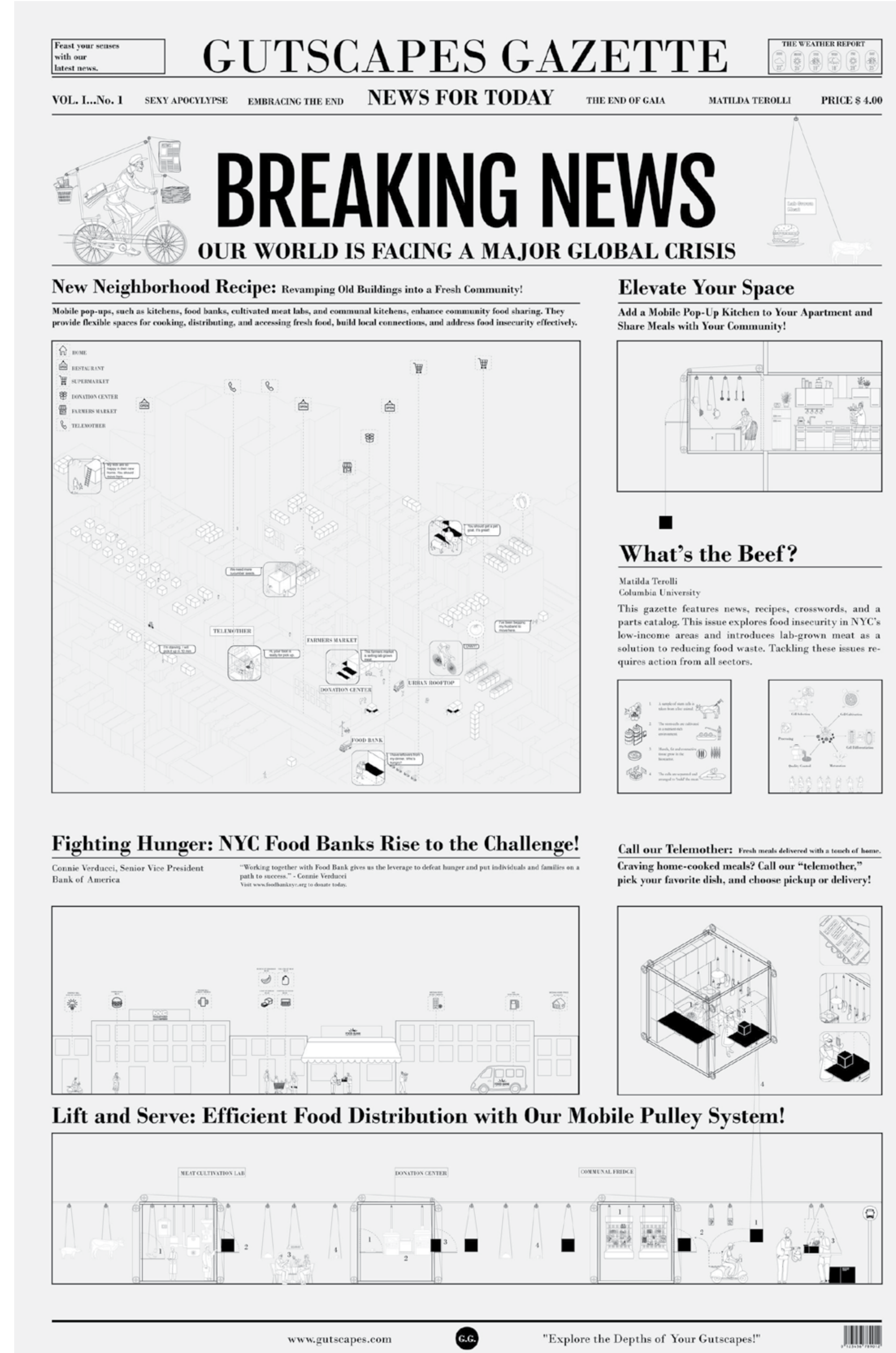
Matilda Terolli

Gutscapes Gazette

Year: 2024
Professor: Uriel Fogue
Site: New York

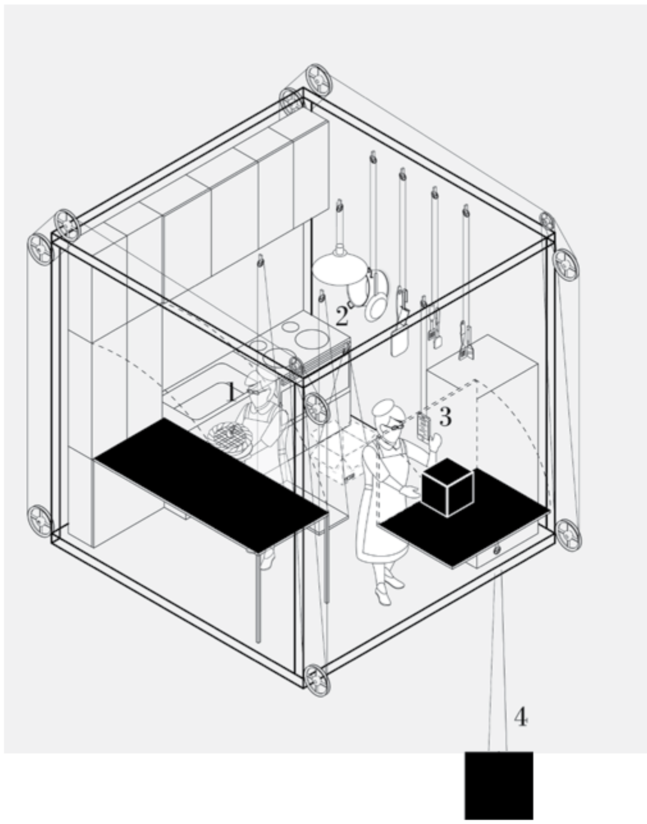
Gutscapes Gazette, a ‘mobile food bank’ gazette featuring the latest news, ideas, food recipes, crossword puzzles, books, and catalog of parts. For this month’s issue, the gazette contains current initiatives and future explorations on food insecurity and impacts in the Bronx, New York. Capitalism plays a major role in shaping our neighborhoods as well as food production and consumption. To address this issue; the government, non-profit organizations, farmers, supermarkets, restaurants and humans must all take on the responsibility.

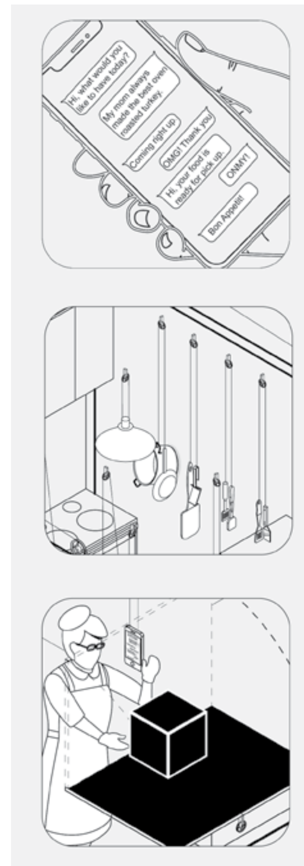
The mobile food banks are used as meal distribution centers which contain urban rooftop gardens, mobile farmers’ markets, workshops, donation centers, communal kitchens and cultivation labs. There are 3 different stations and each one contains 3 different scenarios. For example, mobile station 1 is a cultivation lab, where artificial meat is being cultivated while the person sitting outside the lab waits for their order to be processed and picked up at the window. The person can then walk to mobile station 2, where a communal kitchen and fridge can be used and then walk to mobile station 3 to enjoy a meal with their community or drop off leftovers inside the donation center. To learn more and be a part of Gutscapes Gazette, pick up a copy at your local ‘Mobile Food Bank’ near you.



Cultivation Lab Module

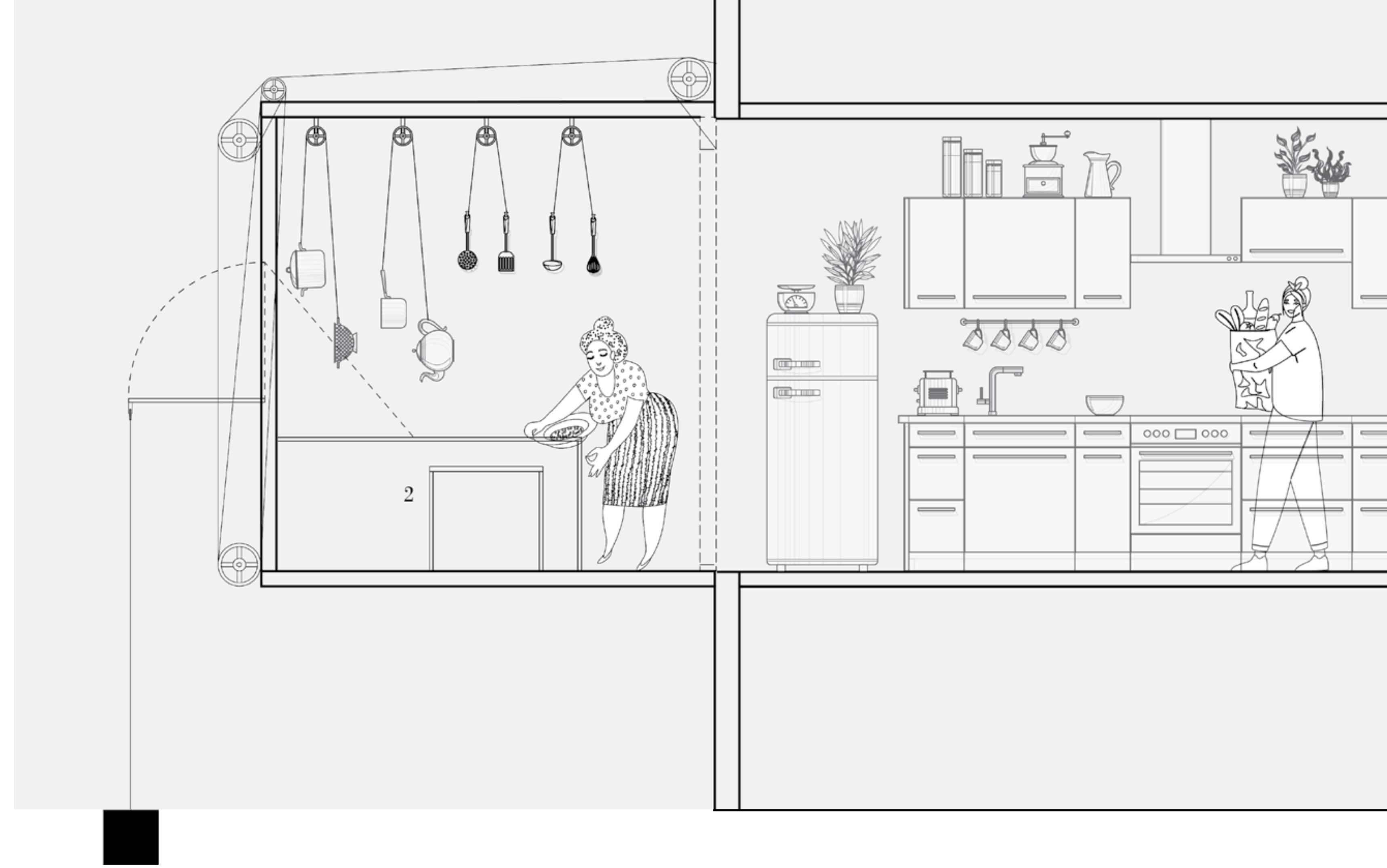
A spatial breakdown of the meat cultivation station, showing how lab-grown food is produced and distributed directly to the public.





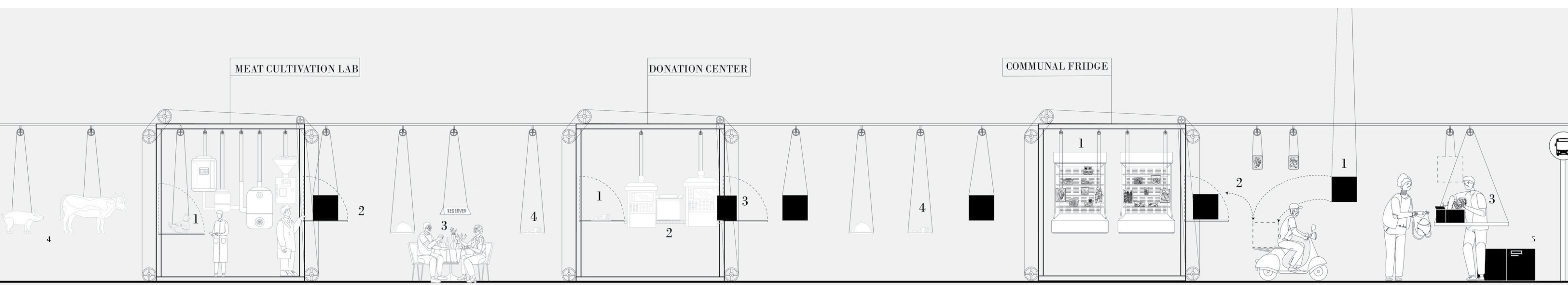
Communal Kitchen & Fridge

Sectional view showing the interior dynamics of the communal kitchen, where people cook, store, and share meals together.



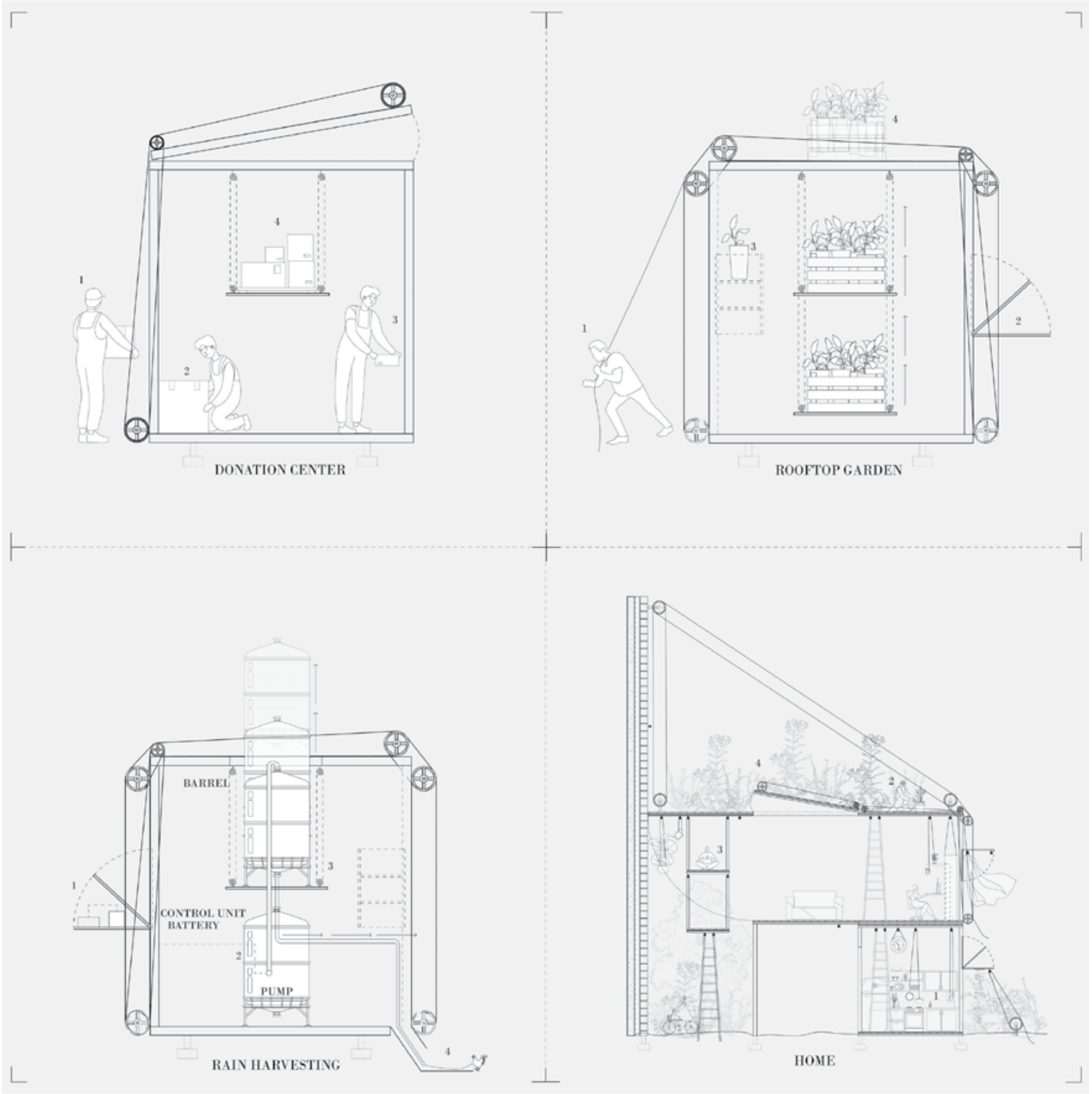
Cultivation Workflow

Sequential illustrations narrating how a customer interacts with the cultivation lab: placing an order, processing, and pickup.



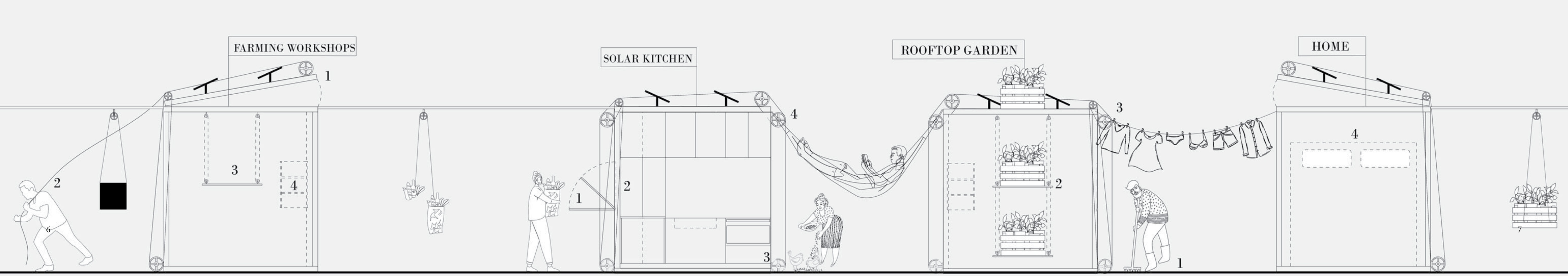
Modular Infrastructures for Shared Resilience

These mobile installations serve as adaptable community anchors-designed to meet urgent local needs in under-resourced neighborhoods. Whether as rooftop gardens, solar kitchens, farming workshops, or public showers, each module transforms vacant or neglected urban space into a site of collective care, nourishment, and ecological agency. By linking these units through flexible systems like clotheslines and shared utilities, the project fosters everyday rituals of maintenance, learning, and mutual support. In a city shaped by systemic food and housing inequality, these self-sufficient modules empower residents to grow, cook, and redistribute resources on their own terms.



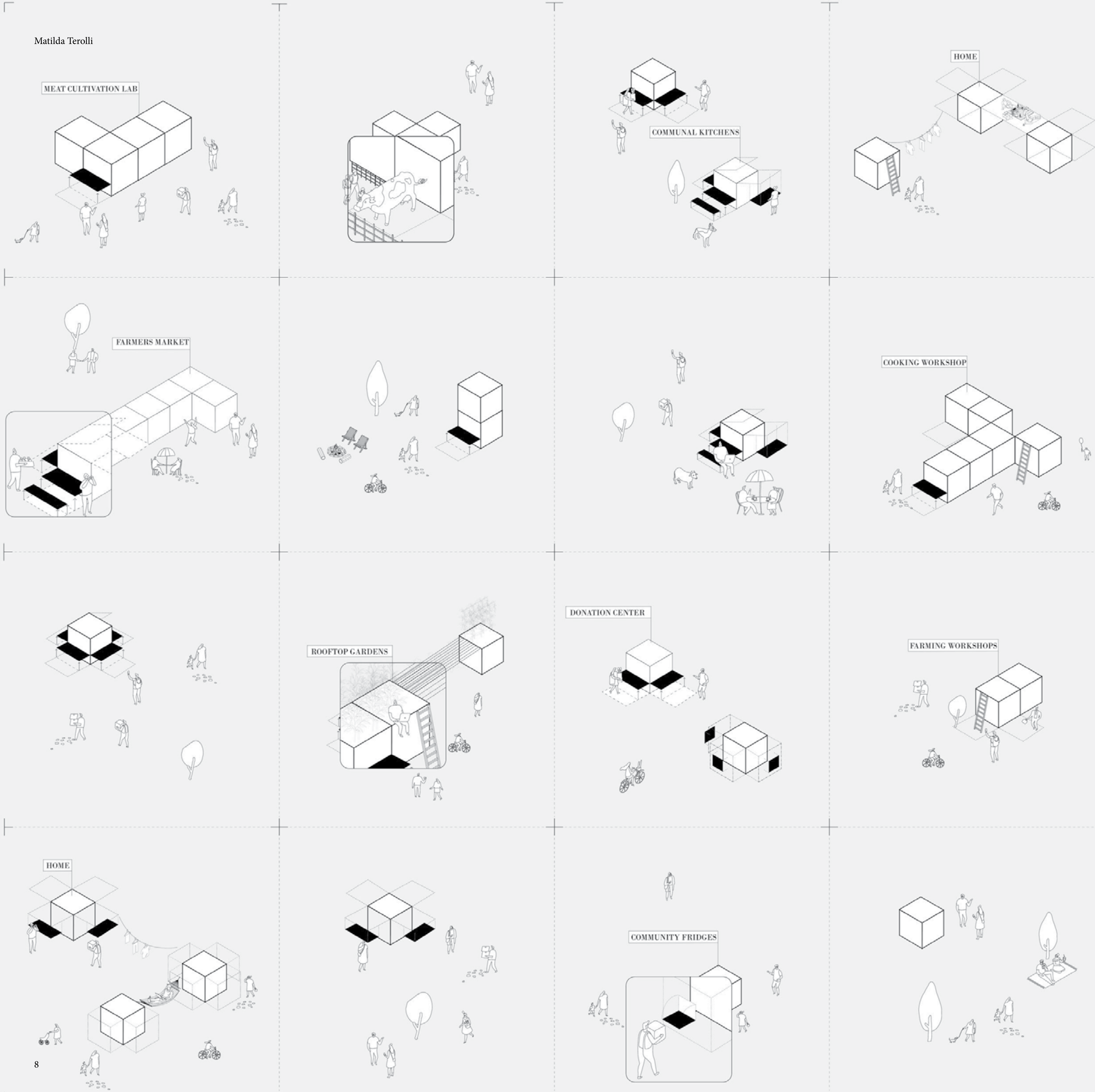
Communal Toolkit

Four modular interventions:
Donation Center, Rooftop Garden, Rainwater System, and Home Unit-demonstrate how each structure is customized for shared community use and self-sufficiency.



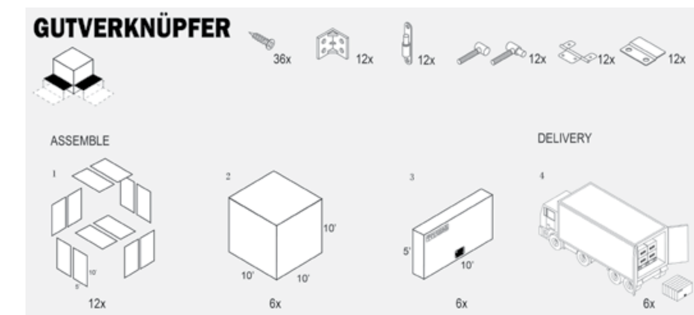
Everyday Uses in Sequence

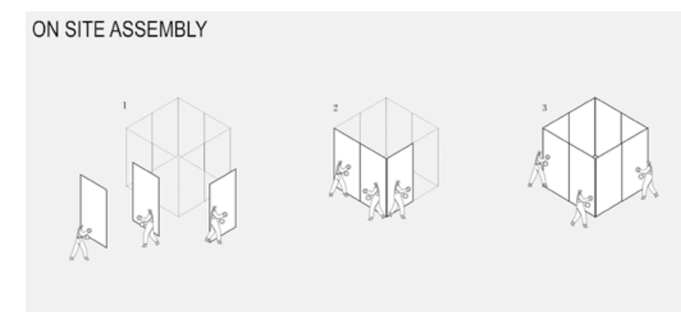
A linear section showing how neighbors interact with the modular stations throughout daily life: learning to farm, cooking in solar kitchens, harvesting food, doing laundry, and resting in personalized housing pods.



Modular Typologies in Context

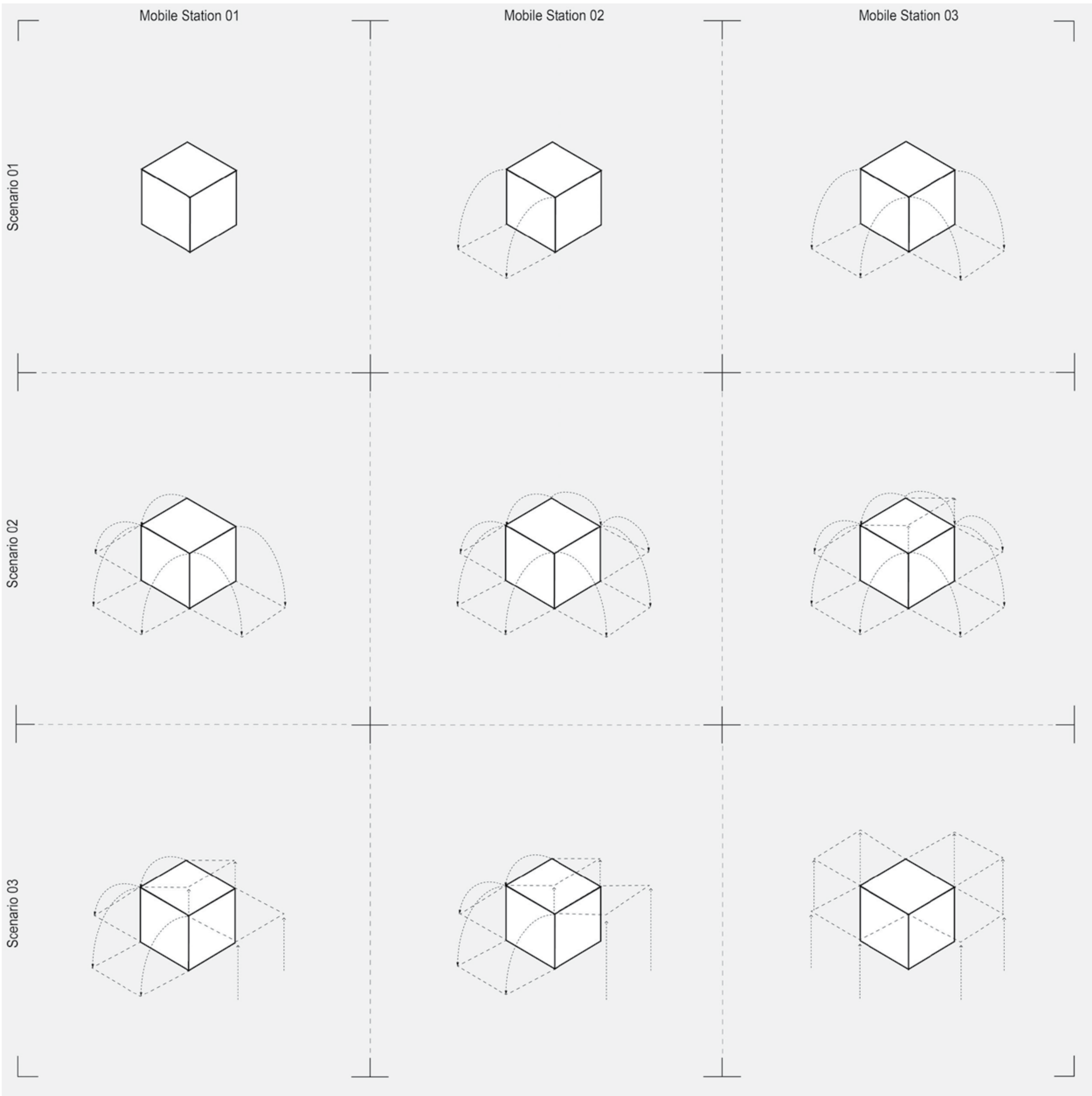
A grid of axonometric scenes showing how each unit functions in public life—from cooking and cultivating to resting and redistributing food-emphasizing social interaction and accessibility.

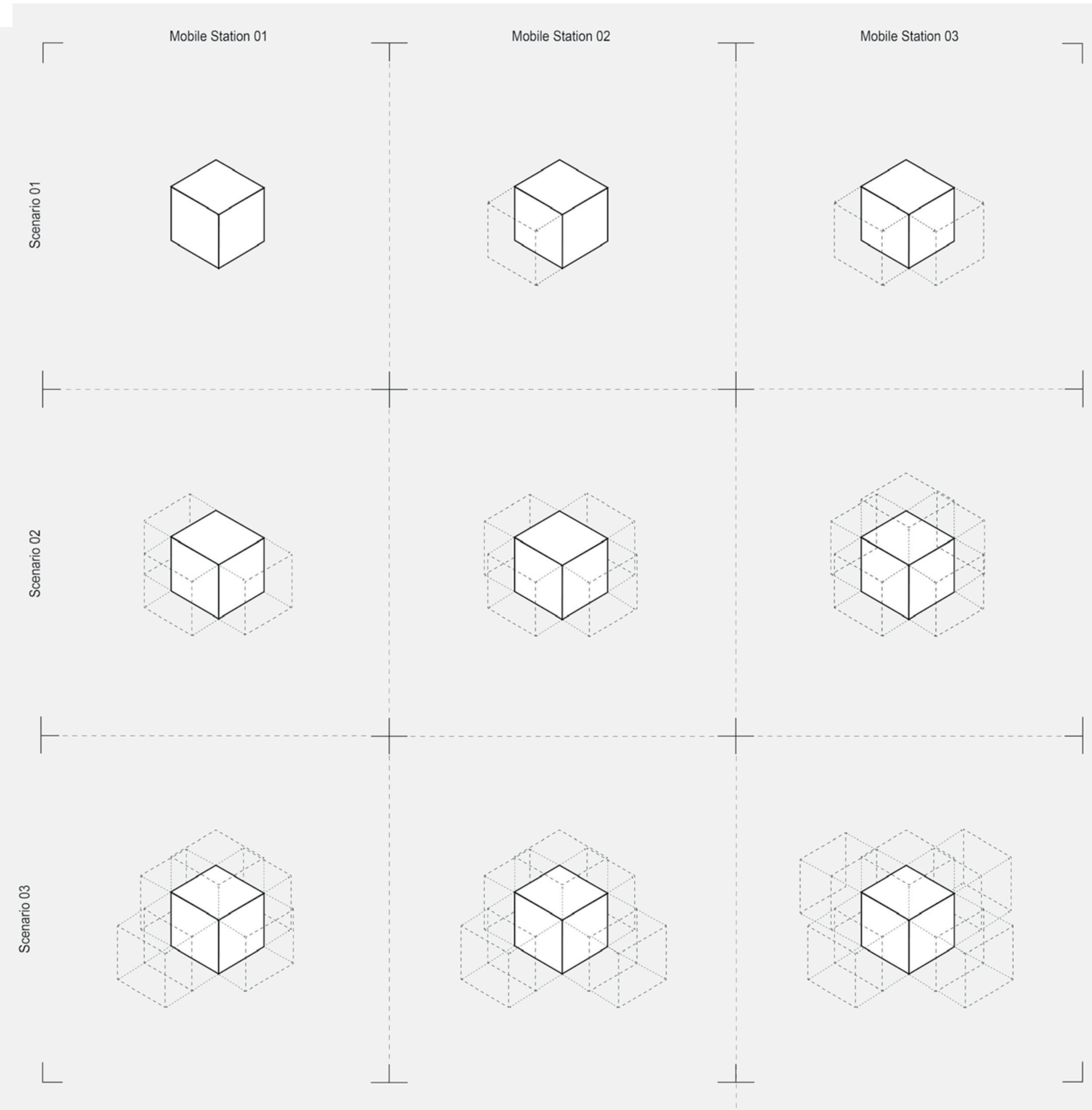


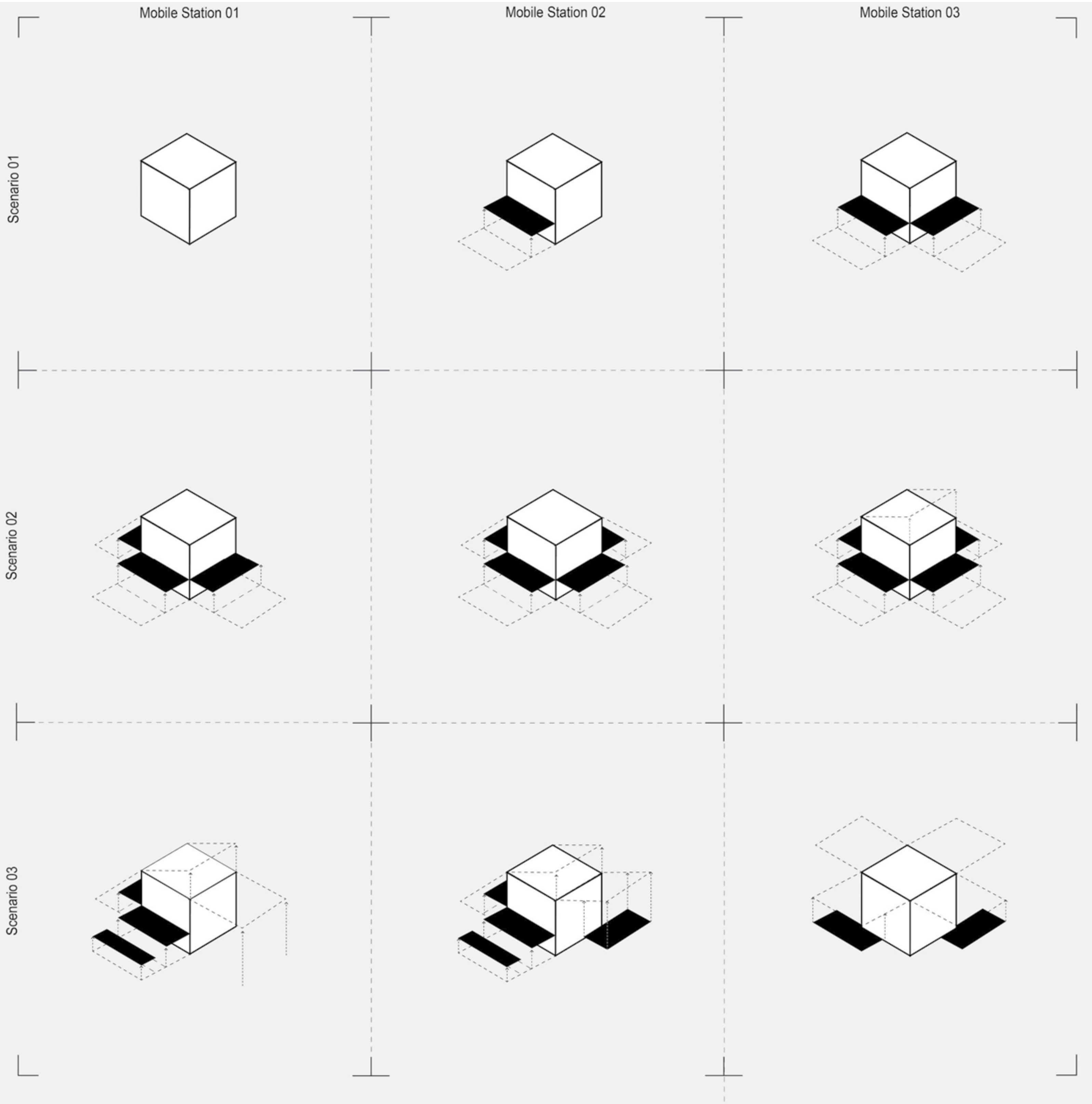


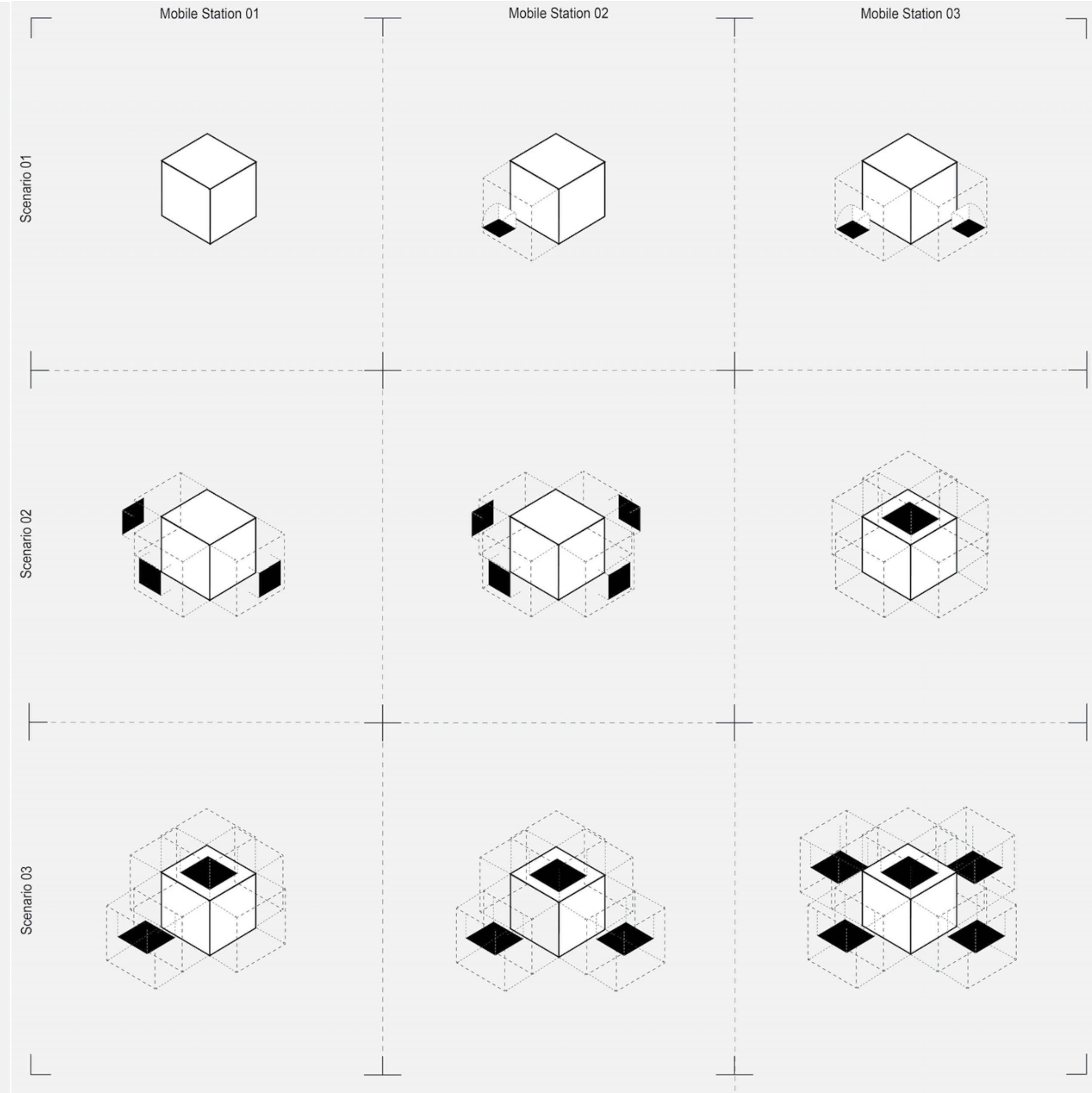
Assembly & Deployment

Exploded and sequential diagrams detailing how each module is pre-assembled, transported, and installed on site, enabling community-controlled infrastructure with minimal labor and tools.


Mobile Station 01
Mobile Station 02
Mobile Station 03
Scenario 01
Scenario 02
Scenario 03


Mobile Station 01
Mobile Station 02
Mobile Station 03
Scenario 01
Scenario 02
Scenario 03


Mobile Station 01
Mobile Station 02
Mobile Station 03
Scenario 01
Scenario 02
Scenario 03


Mobile Station 01
Mobile Station 02
Mobile Station 03
Scenario 01
Scenario 02
Scenario 03

Domestic Atmospheres

Year: 2024
Professor: Philippe Rahm
Mariami Maghlakelidz
Site: Paris

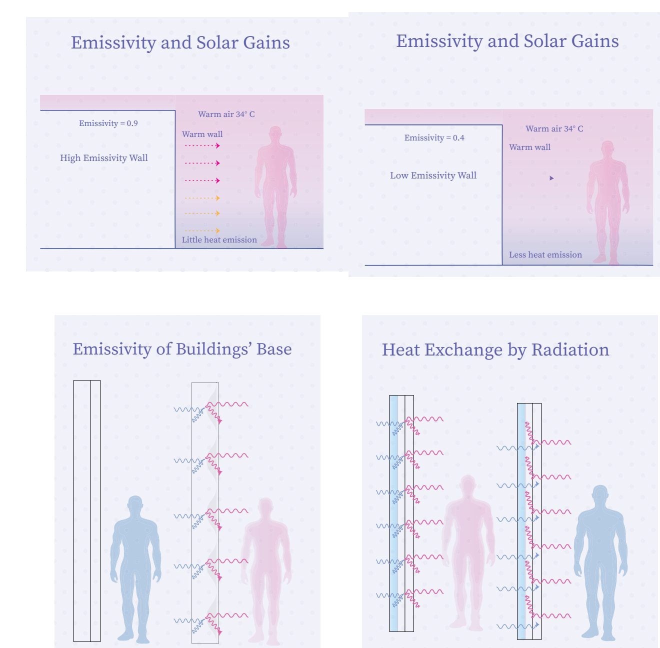
Paris 2100 is a climate-adaptive housing proposal that transforms existing buildings into thermally responsive micro-homes. As the city faces hotter summers and rising energy demands, this project addresses thermal comfort through passive design while reducing building-related emissions-currently responsible for 39% of global CO_2. The homes are divided into three seasonal volumes: a flat-roofed winter space for heat retention, a shed-roofed spring space for ven tilation, and a pitched-roof summer space for passive cooling. Bedrooms shift according to season-highest in winter, mid-level in spring, and lowest in summer-connected by ladders and compact floors to reduce spatial and energy waste.

Each volume is wrapped in 25cm of insulation and maintains a temperature range between 20–28°C with little to no mechanical systems. The modular units are inserted into a retrofitted 5x18x30m structure, allowing multiple families to occupy separate climate zones throughout the year. In a city shaped by historical density and future climatic extremes, Paris 2100 proposes a low-carbon alternative that centers comfort, adaptability, and seasonal mobility as strategies for sustainable urban living.

PHASE 01

Thermal Behavior Across Scales

This diagram explores how thermal emissivity and heat absorption affect buildings, clothing, and the human body. It illustrates how materials, colors, and wavelengths impact heat retention and release-shaping comfort at multiple scales. From albedo and emissive flooring to skin and water absorption, it reveals how design choices can modulate temperature, setting the foundation for thermally responsive architecture.



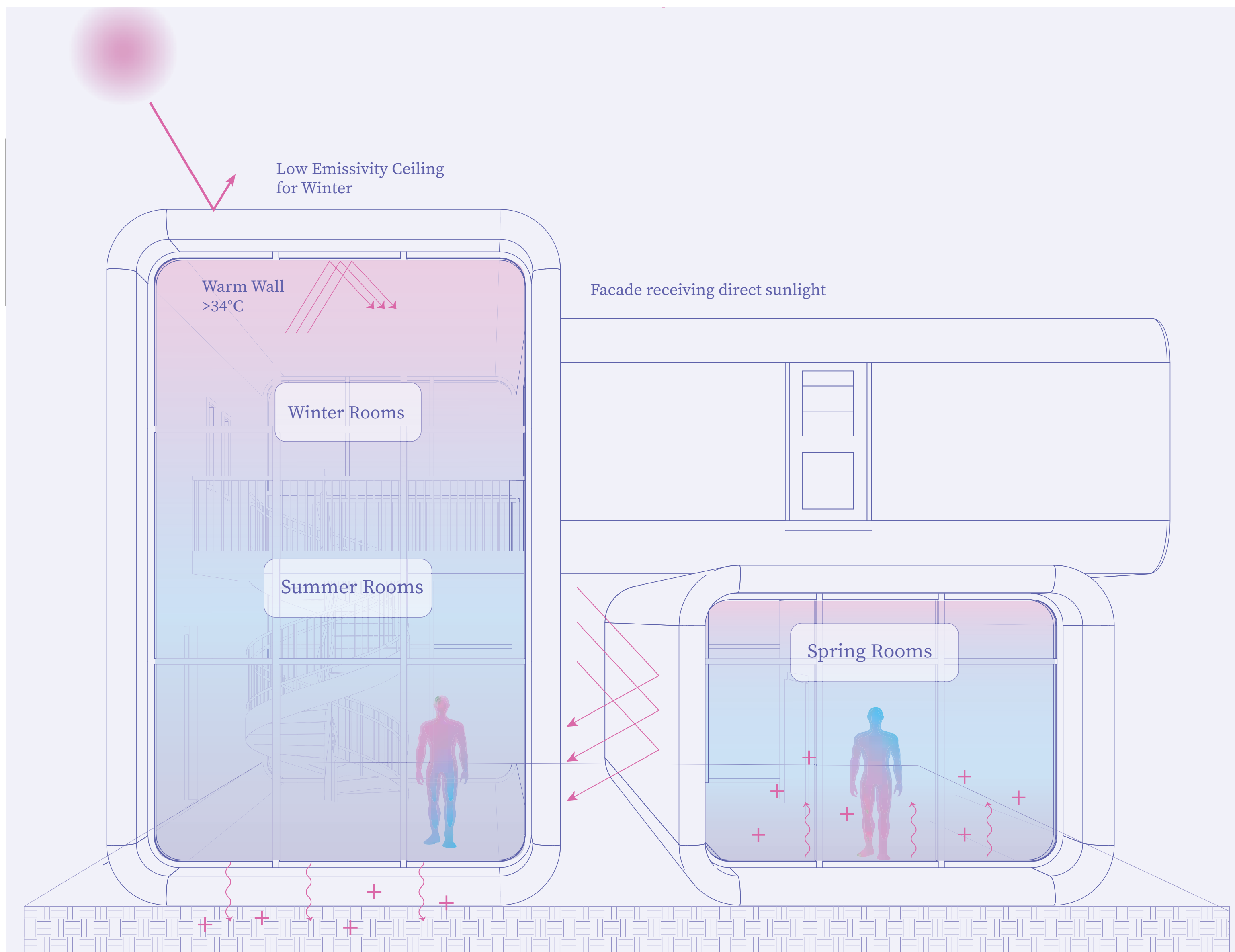
Material Emissivity and Radiative

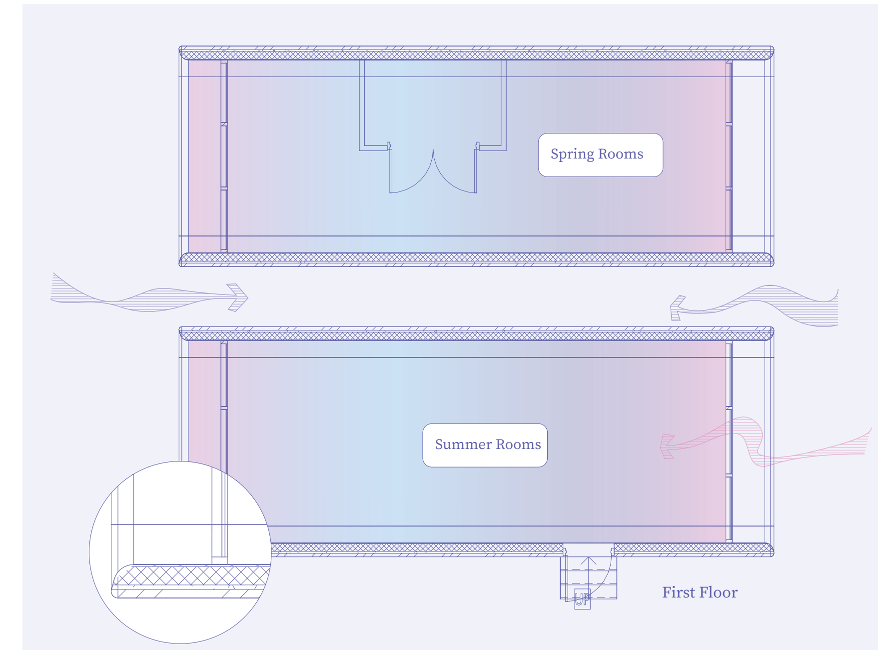
This set of diagrams emphasizes how material emissivity impacts the thermal comfort of people by regulating how much heat is radiated to and from building surfaces. High emissivity = more radiation and potential heat gain/loss; low emissivity = better thermal insulation from radiative heat flow.

PHASE 02

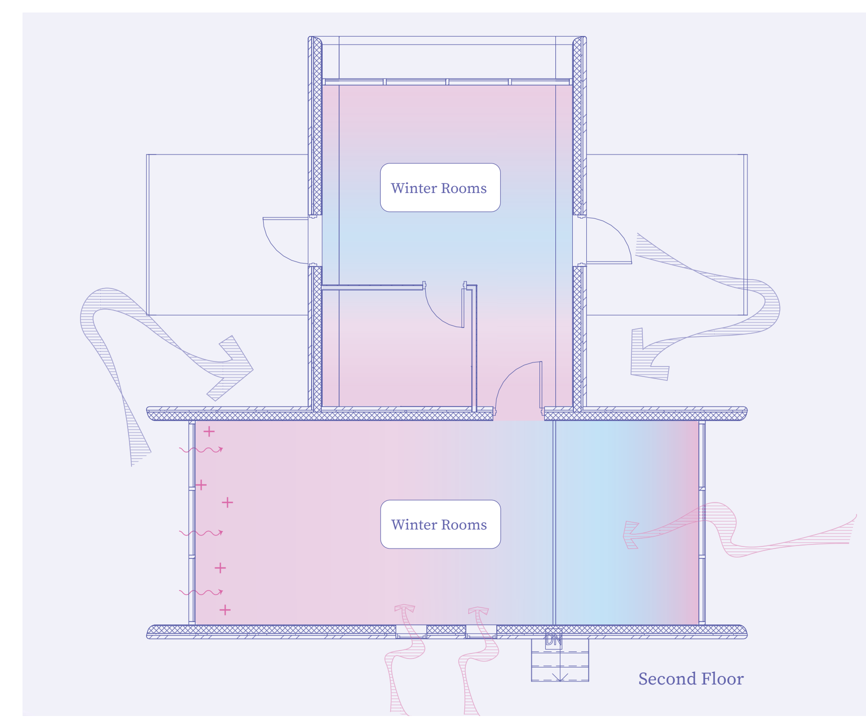
Thermal Zoning by Season

Section perspective showing how thermal comfort is distributed vertically and seasonally: winter rooms occupy the upper volume for warmth retention, spring rooms sit at mid-level for balanced ventilation, and summer rooms are grounded for cooling. Each space uses targeted materials (e.g., low-emissivity ceilings, warm walls) to regulate internal temperature and reduce energy use.

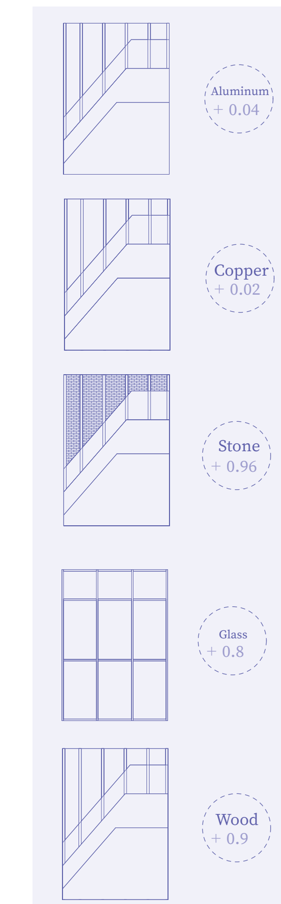


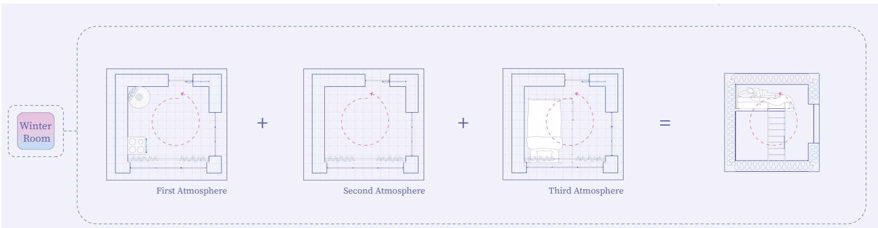


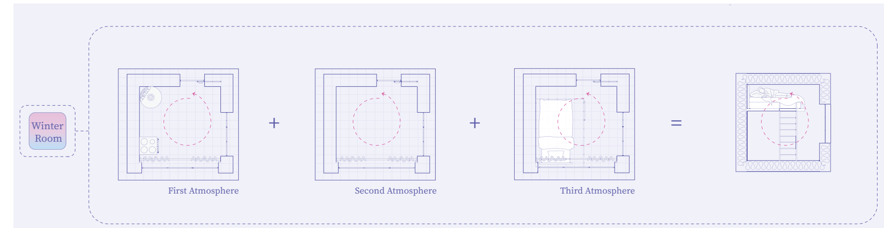
Plan diagrams show how spring and summer rooms use cross-ventilation and low-emissivity materials to regulate airflow and reduce heat buildup.

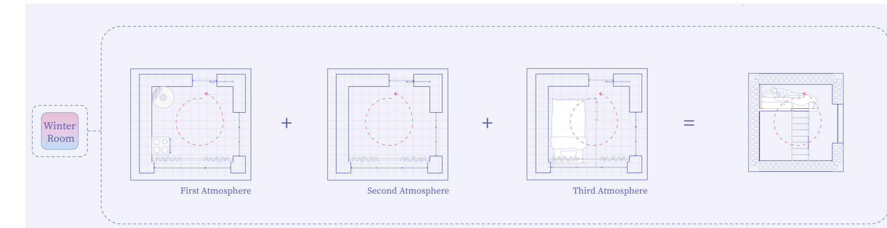


Winter zone section highlights vertical insulation, heat retention strategies, and facade adjustments to maximize passive solar gain.





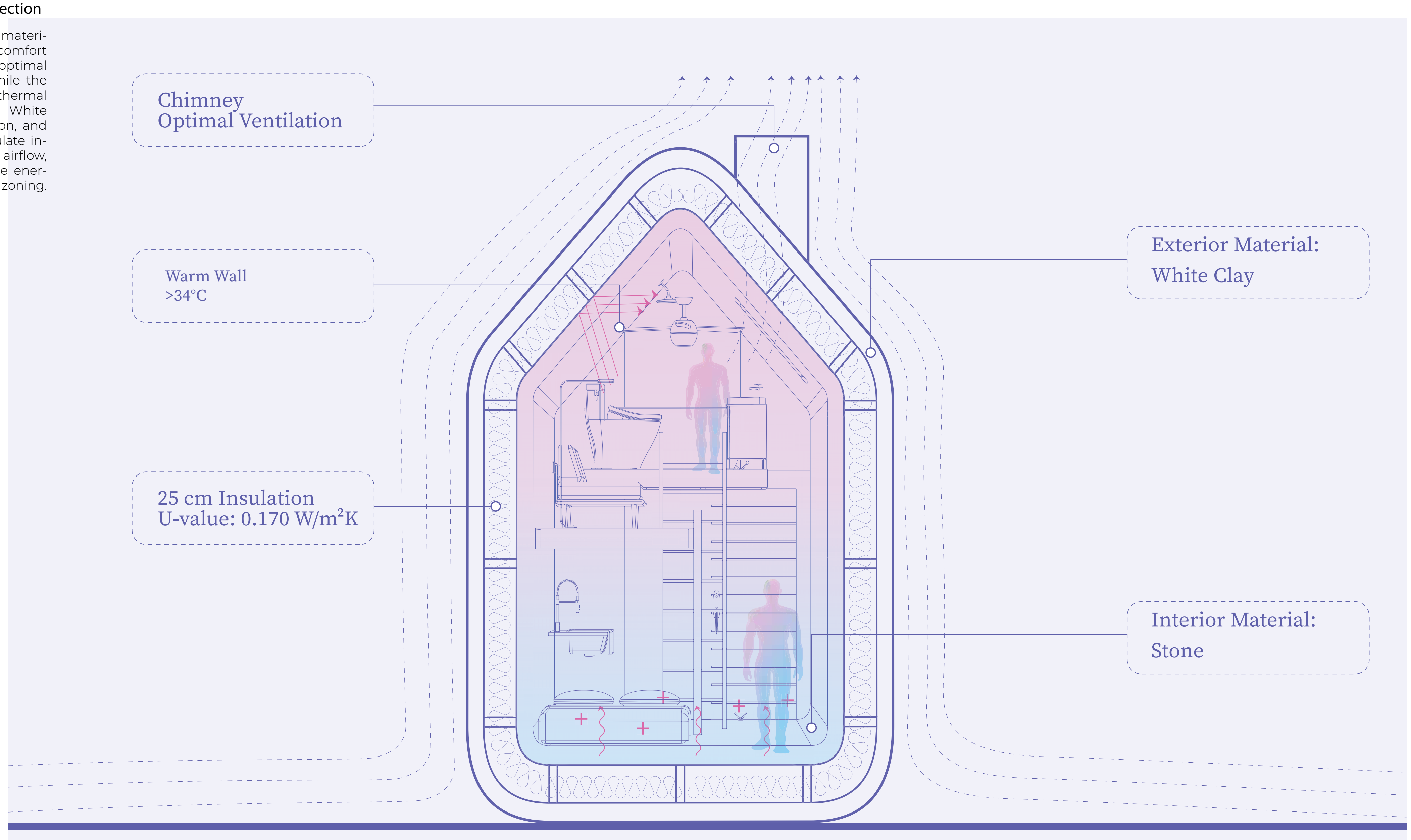


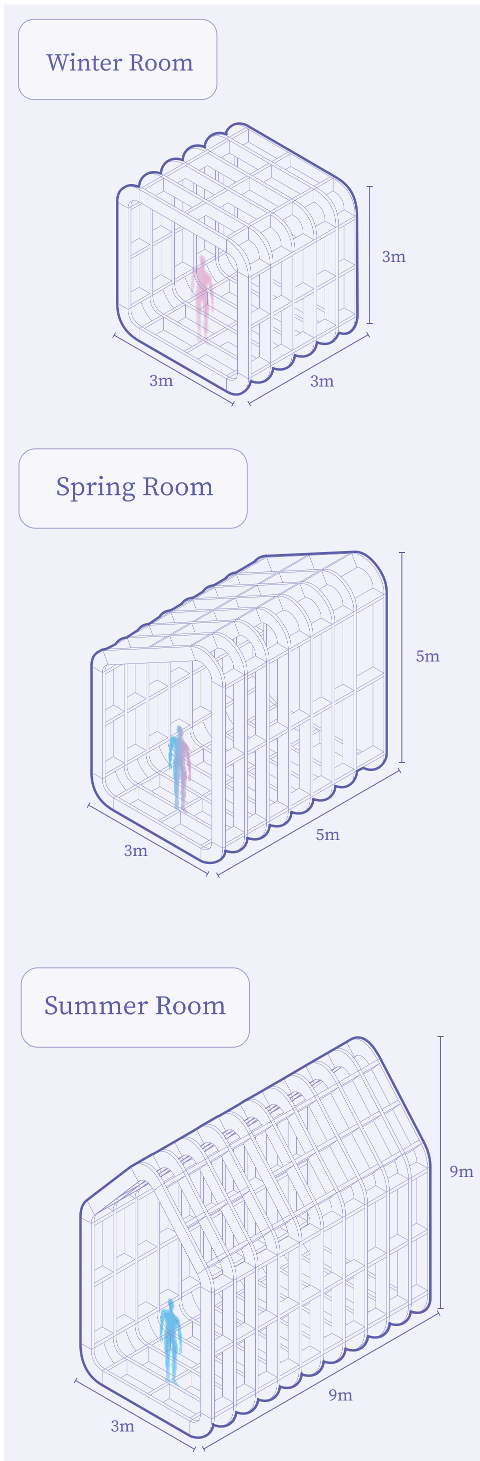


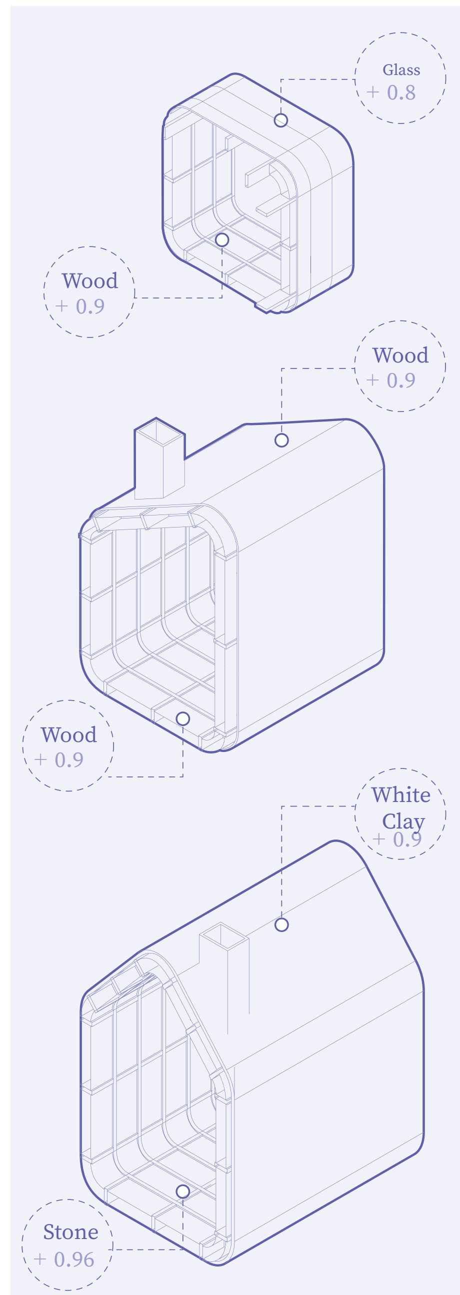
PHASE 03

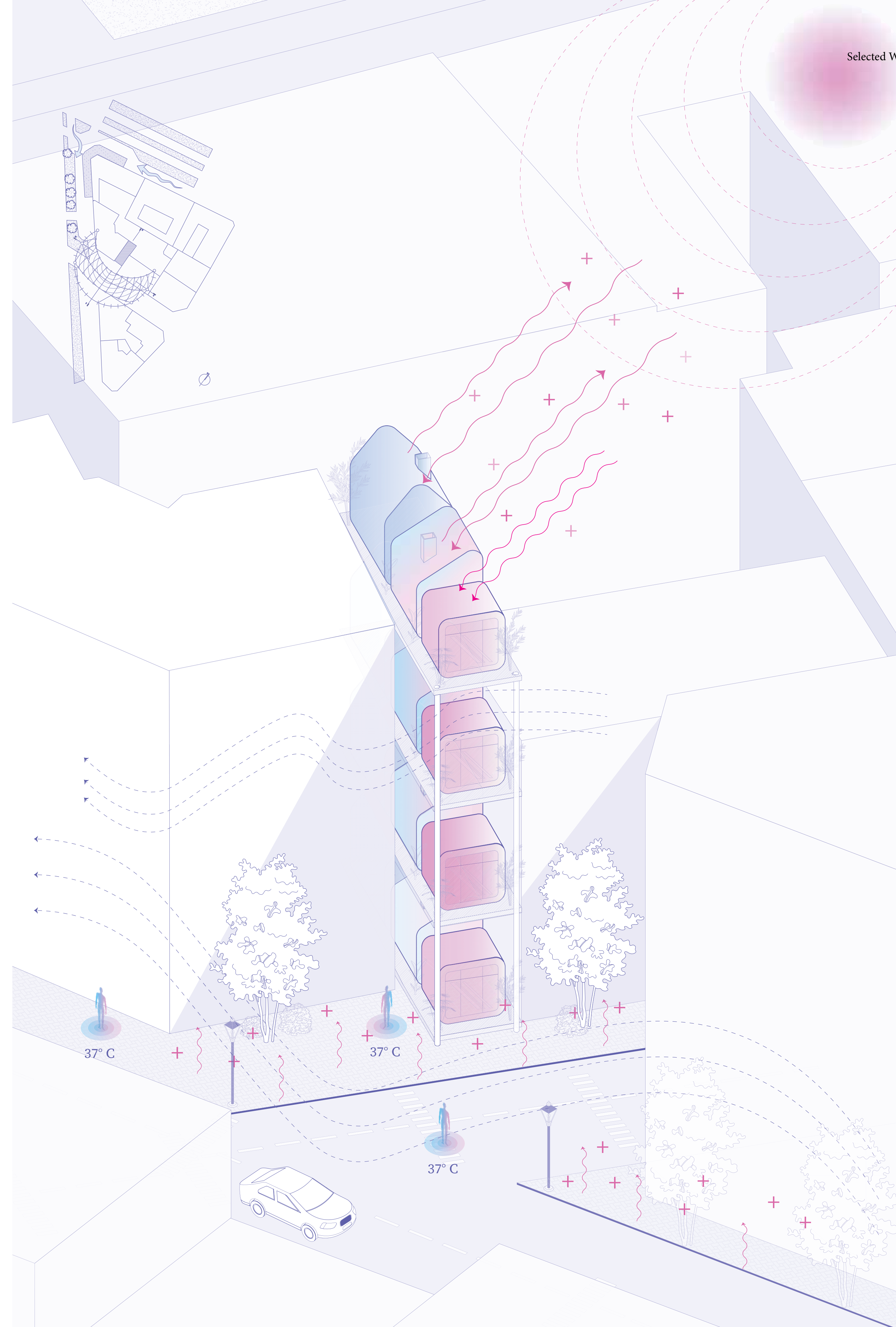
Passive Thermal Envelope – Seasonal Section

This section highlights the formal and material strategies used to maintain internal comfort year-round. The pitched form promotes optimal ventilation through a chimney effect, while the 25cm insulation envelope ensures low thermal transmittance (U-value: 0.170 W/m²K). White clay on the exterior reflects solar radiation, and interior stone helps retain heat and regulate indoor humidity. Warm walls, directional airflow, and compact spatial organization reduce energy dependency and enhance thermal zoning.



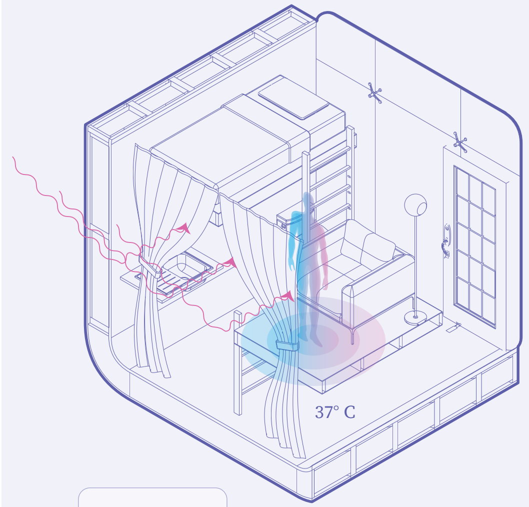




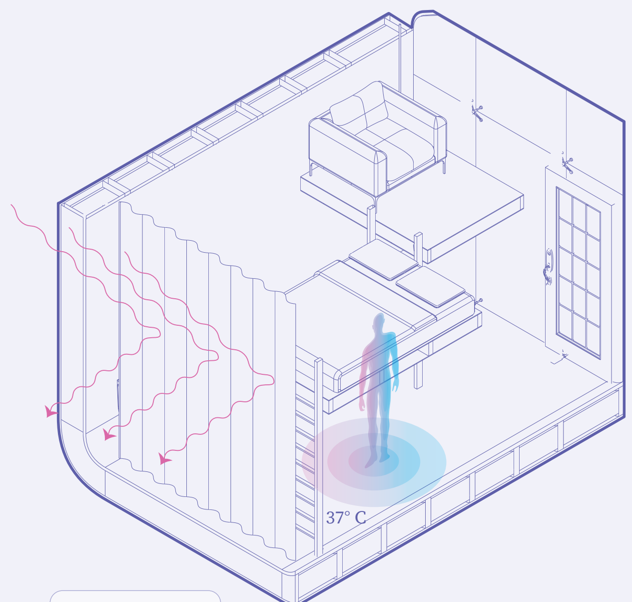


Volumetric Typologies – Seasonal Frameworks

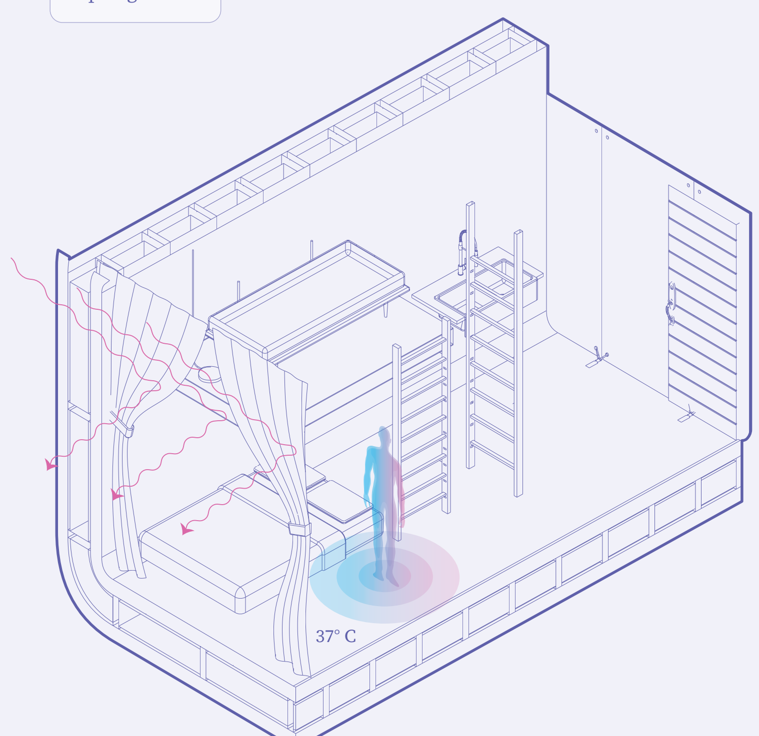
Each room is dimensionally calibrated to suit its seasonal function: compact winter modules (3×3×3m) for heat retention, ventilated spring modules (5×3×3m), and expansive summer volumes (9×3×3m) optimized for airflow and shading. Their structural ribs reflect their thermal demands and spatial rhythms.



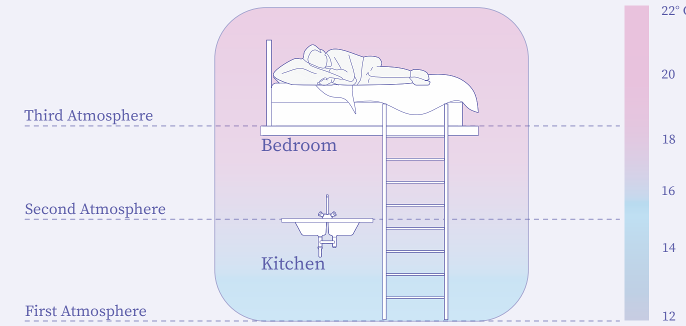
Winter Room



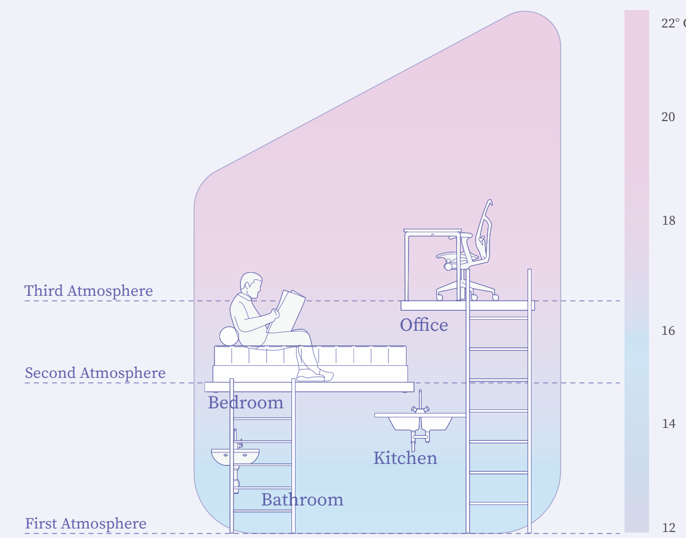
Spring Room



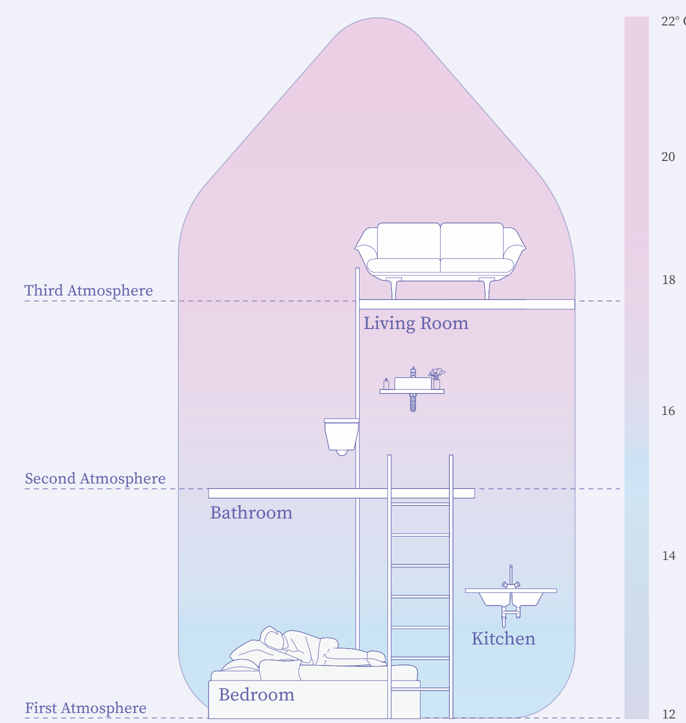
Summer Room



Winter Room



Spring Room



Summer Room

Cloud

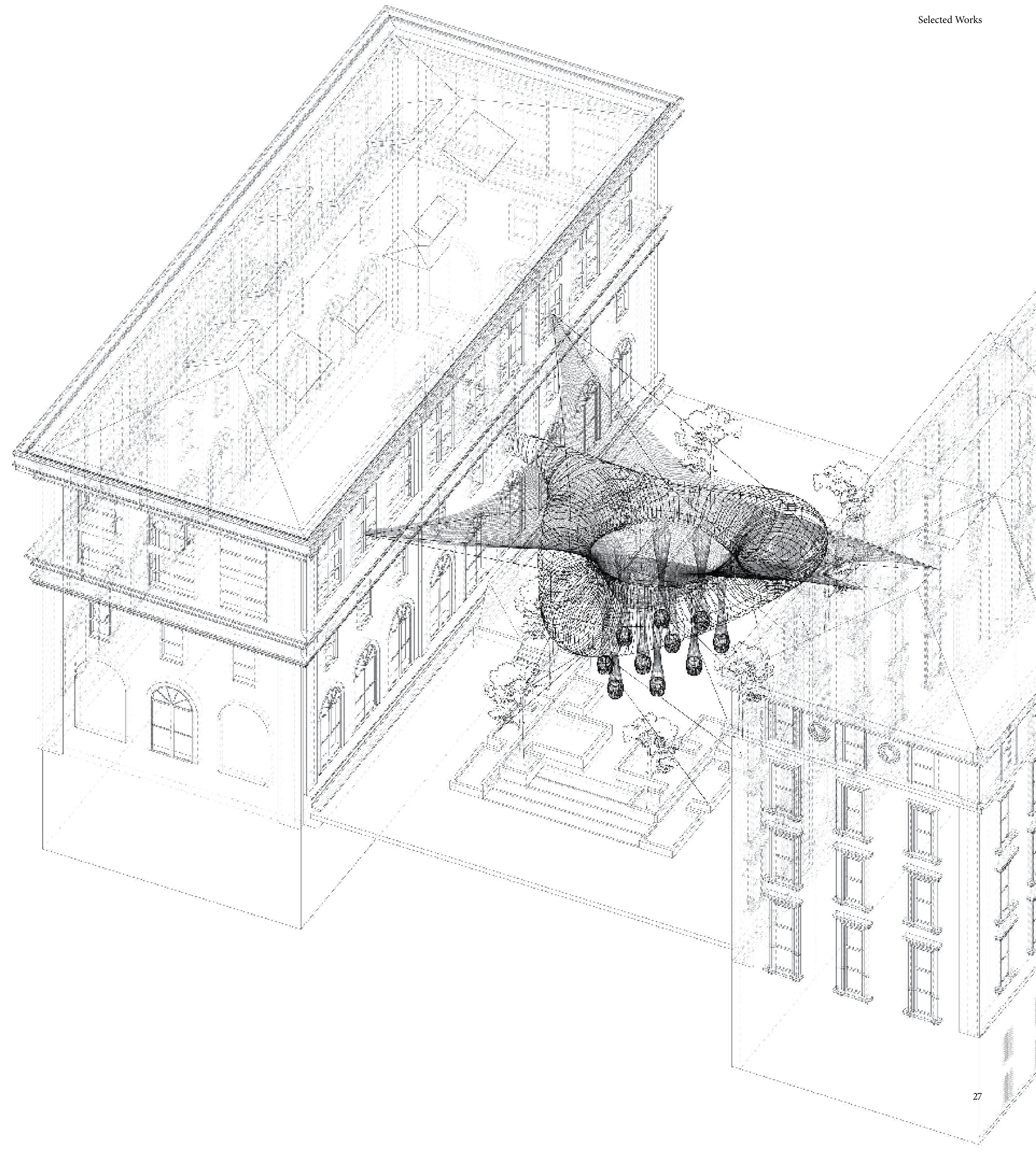
Year: 2024
Professor: Galia Solomonoff
Laurie Hawkinson

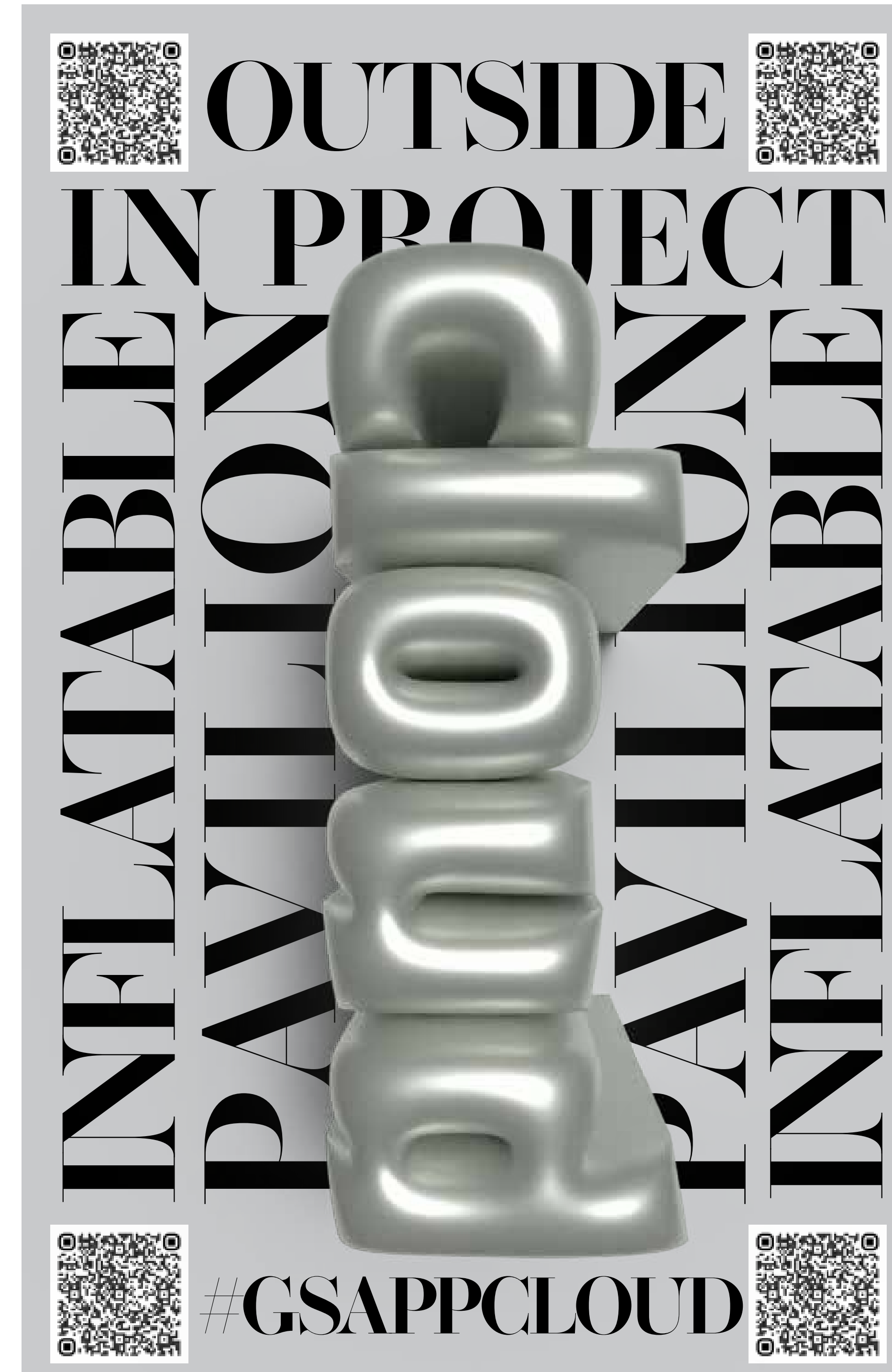
Site: Columbia University

As part of the "Outside In Project" seminar at Columbia GSAPP, I collaborated with classmates to design and build Cloud-a large-scale inflatable installation suspended between Avery and Fayerweather Halls. Led by Professors Galia Solomonoff and Laurie Hawkinson, the project challenged us to move quickly from concept to construction.

The pavilion featured a 20-meter inflatable ring, tethered by cables and powered by four blowers, paired with a descending net that formed eight flexible seating elements. Visitors could pull and twist the netting, reshaping the space in real time and sparking spontaneous interaction.

Inside Avery Hall, we created a contrasting reflective space for quiet contemplation. I was involved in prototyping, material testing, and onsite assembly. Cloud was a hands-on experiment in collective making, public engagement, and the transformative potential of temporary architecture.





Promotional Strategy – Cloud Pavilion Flyers

To support our team's inflatable pavilion installation for GSAPP's Outside In Project, I designed and distributed a series of promotional flyers across campus. The flyers featured a bold, inflatable 3D text graphic spelling "cloud," visually tying into the materiality and softness of the pavilion itself. I created two poster variations: one with a vertical layout for event branding, and one listing detailed programming during the Open House and installation week.

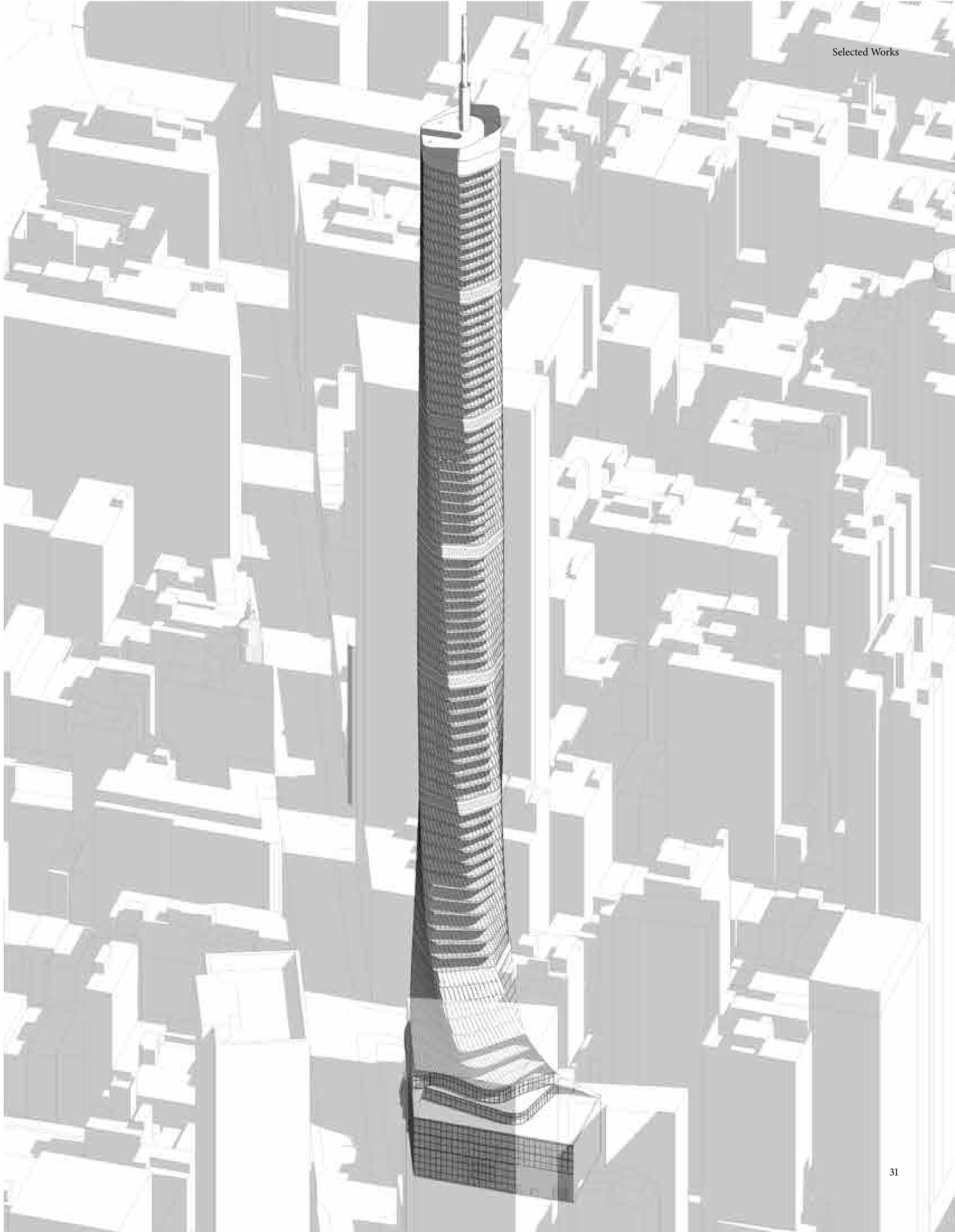
Each flyer included scannable QR codes that I linked to a live website with project information, photos, event schedules, and sneak peeks. I placed the flyers at key student hubs and building entry points—including Avery Plaza, Buell Hall, and studio entrances-to guide students and visitors toward the installation and its events.

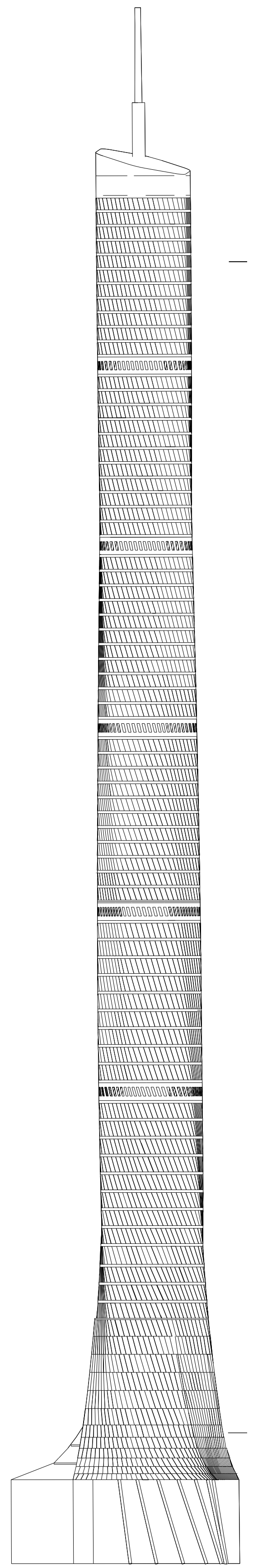
BIM Workaholics

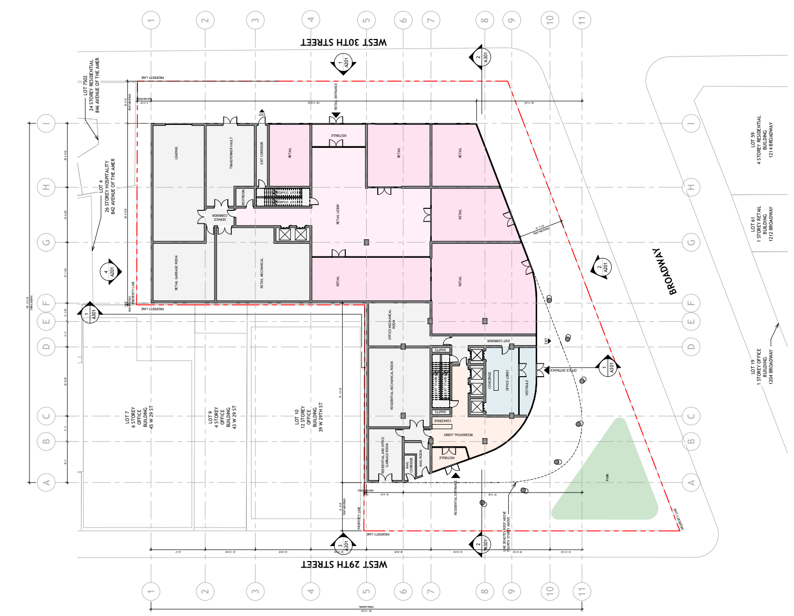
Year: 2024
Professor: Joe Brennan

Site: New York
Teamwork

As part of a semester-long BIM course, our team collaboratively designed a high-rise mixed-use tower in New York City using Revit as our central modeling and coordination tool. The tower combined residential, commercial, and communal programs arranged vertically to respond to the city's density and zoning constraints. Each team member took on a different system-architecture, structure, MEP, and façade-working through linked Revit models that allowed for real-time coordination and efficient collaboration. We utilized Revit's worksharing tools, view templates, and phasing strategies to manage drawing sets and visualize construction sequencing. Custom parametric families were created for modular units, core layouts, and curtain wall components, while schedules and tags ensured accurate quantity takeoffs and material documentation. Throughout the project, section boxes, 3D views, and live model updates enabled us to resolve design clashes and refine building performance. This BIM-driven process not only emphasized precision and efficiency but also simulated the collaborative workflow of a professional design team delivering a coordinated construction document set.






WEST 30TH STREET
BROADWAY
WEST 29TH STREET

Plastic Shores

Year: 2025
Professor: Marina Otero
Dan Miller
Site: Tuvalu

This project investigates Tuvalu's waste landscape as both material crisis and living archive. Through fieldwork with the local waste management team-collecting, documenting, and sorting materials across the island-the research builds a taxonomy of discarded objects: plastic bottles, aluminum cans, caps, foams, and fragments. Each was cataloged by composition, behavior, and chemical emission, transforming debris into data.

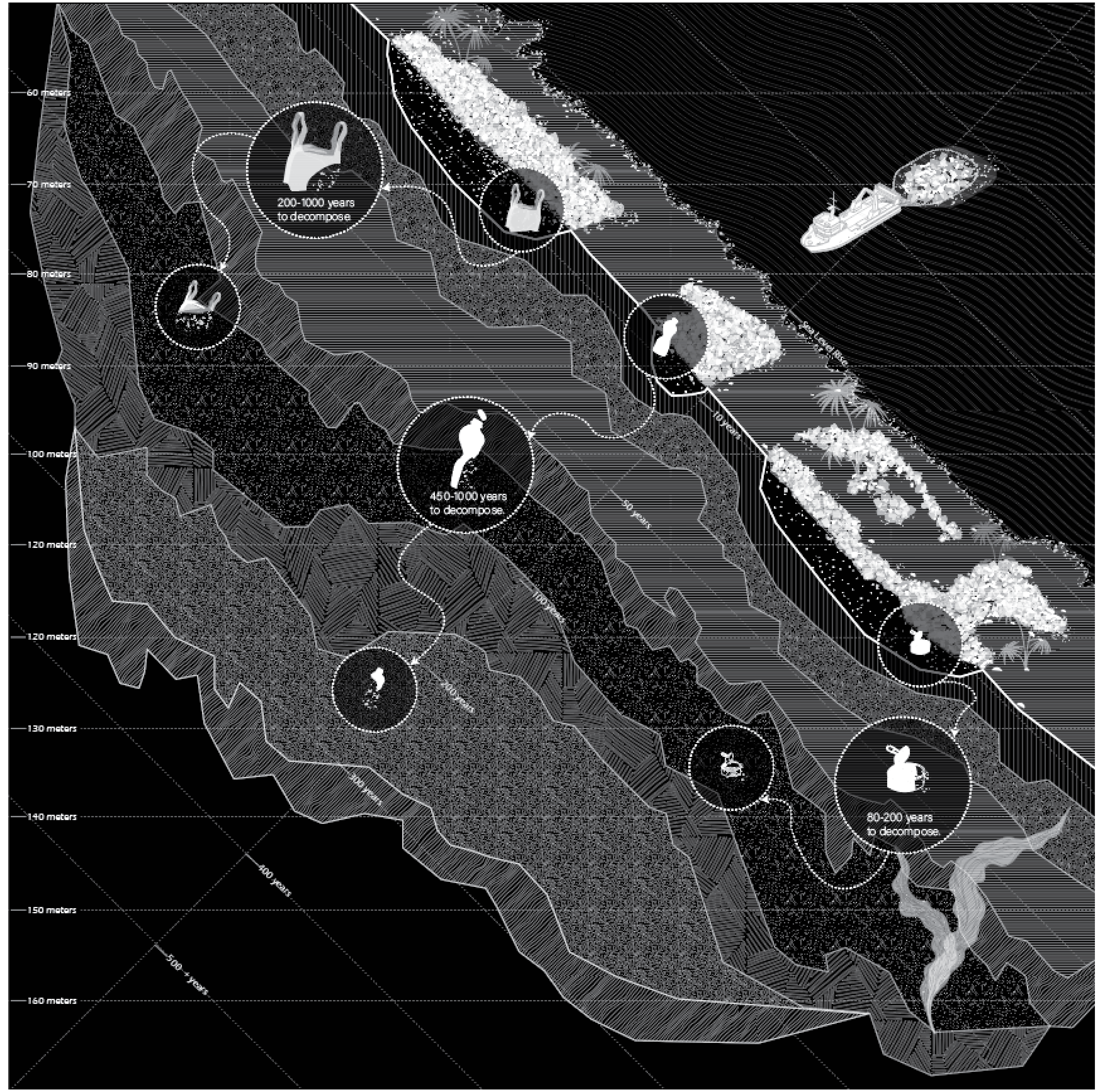
The installation merges film, drawing, projection, and physical waste to trace how these materials accumulate, burn, embed, and persist across Tuvalu's terrain. A large-scale section drawing reimagines the landfill as future geology-layered by decomposition timelines, thermal behavior, and environmental impact. Paired with a material taxonomy and a site-specific protocol known as the Data Mourning Agency, the project reframes waste not as residue, but as a temporal, political, and ecological witness in a place where land is disappearing, but matter endures.

Waste as Landscape

A large-scale, hand-drawn taxonomy of Tuvalu's landfill composed of scanned, collected, and observed debris: plastic bottles, aluminum cans, foams, bags, and unknown fragments. This layered mound is not only a drawing, but a geological timeline of decomposition, toxicity, and embedded memory-where the material outlives the land itself.

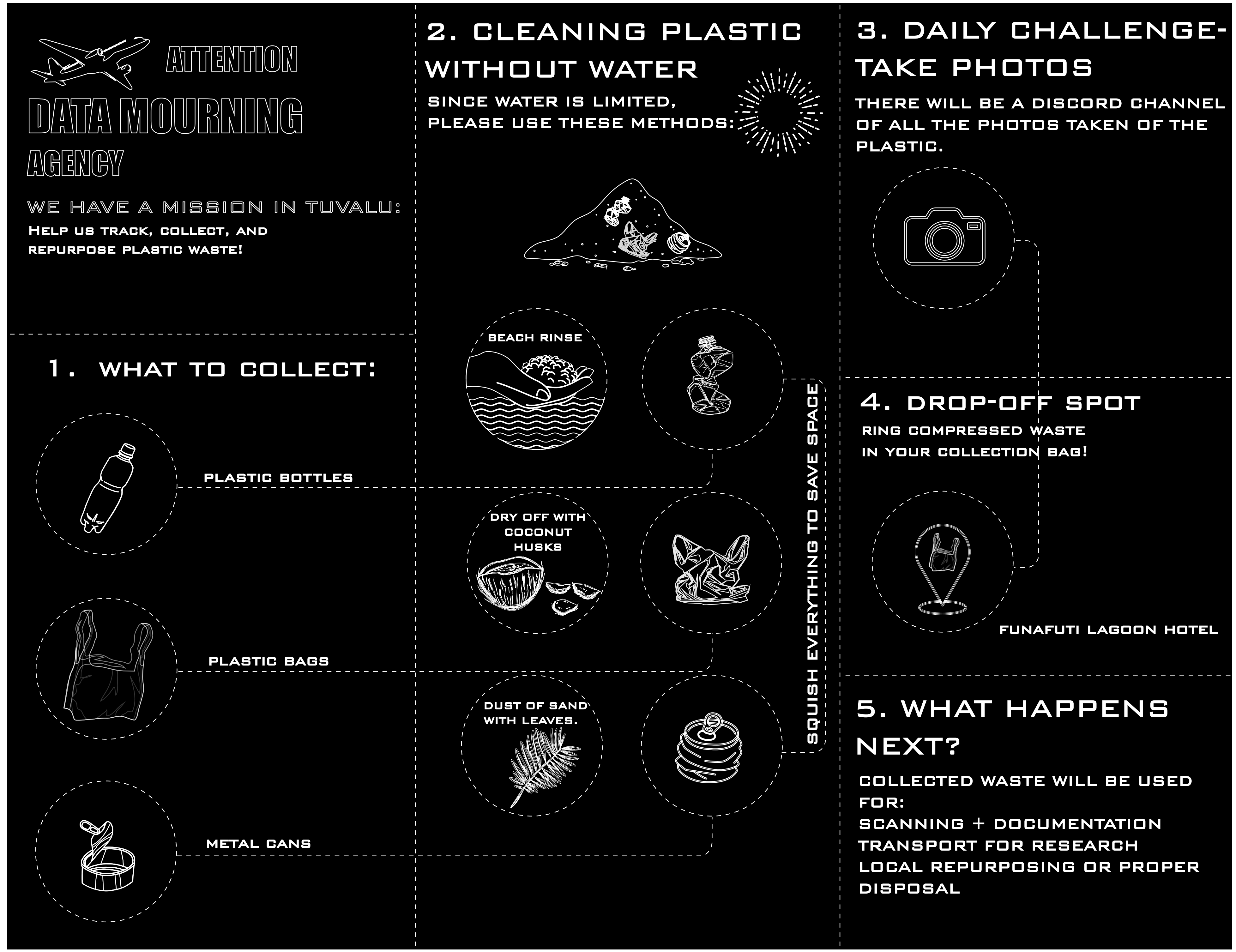
Waste as Geology – Decomposition Timeline Map

This map overlays Tuvalu's topography with a waste decomposition timeline, transforming the island into a stratified archive of human impact. Using a sectioned cut through the terrain, the drawing charts objects such as plastic bottles, EVA foam, aluminum cans, and fishing nets-each labeled with its estimated decomposition range (e.g., 80–200 years, 200–1000 years). Waste fragments are positioned by depth and temporal decay, reframing the landfill not as a dumping ground, but as a future geological layer. The map situates waste as both ecological data and material memory embedded in a vanishing landscape.



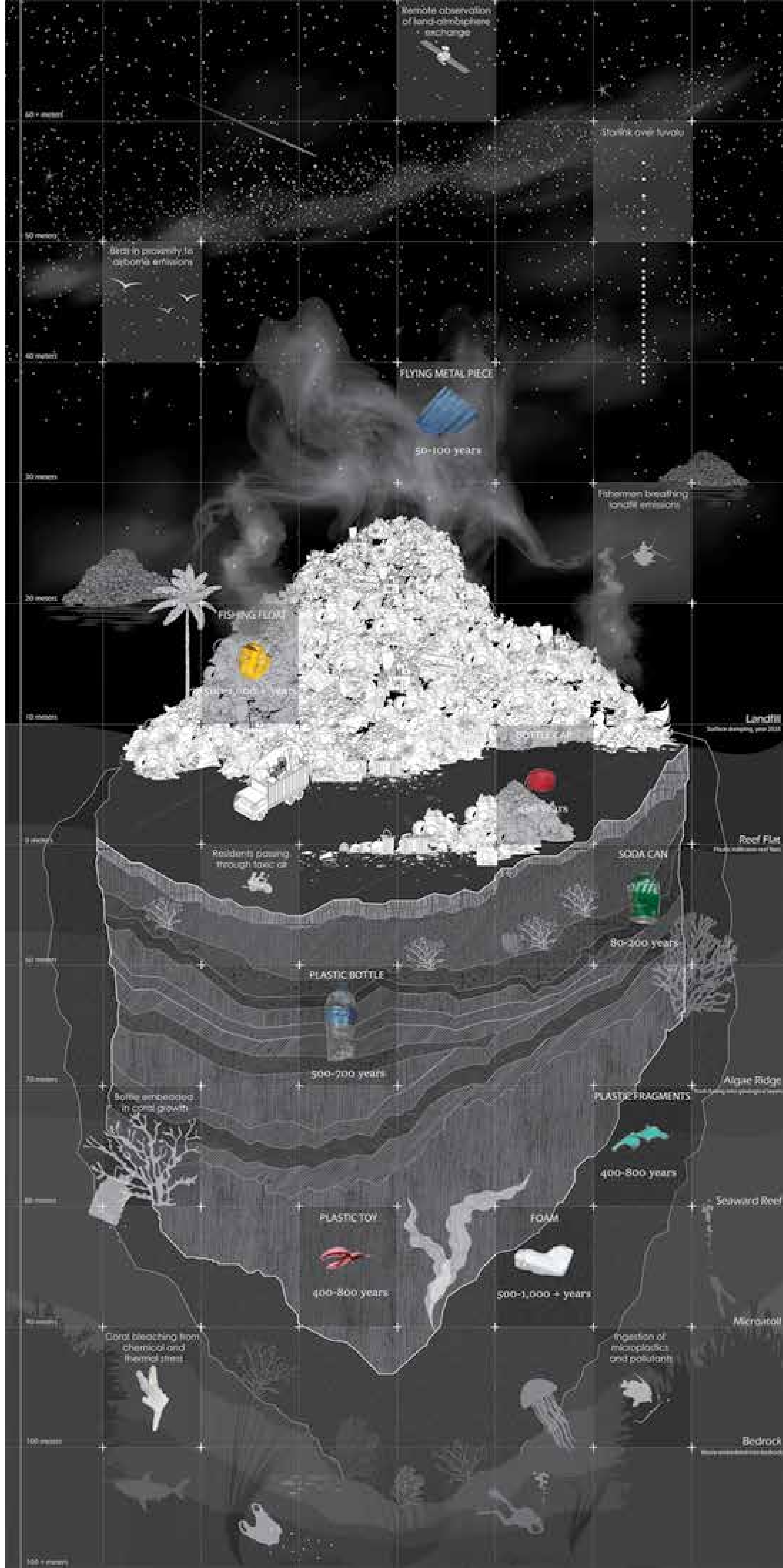
Fieldwork Protocol – Data Mourning Agency

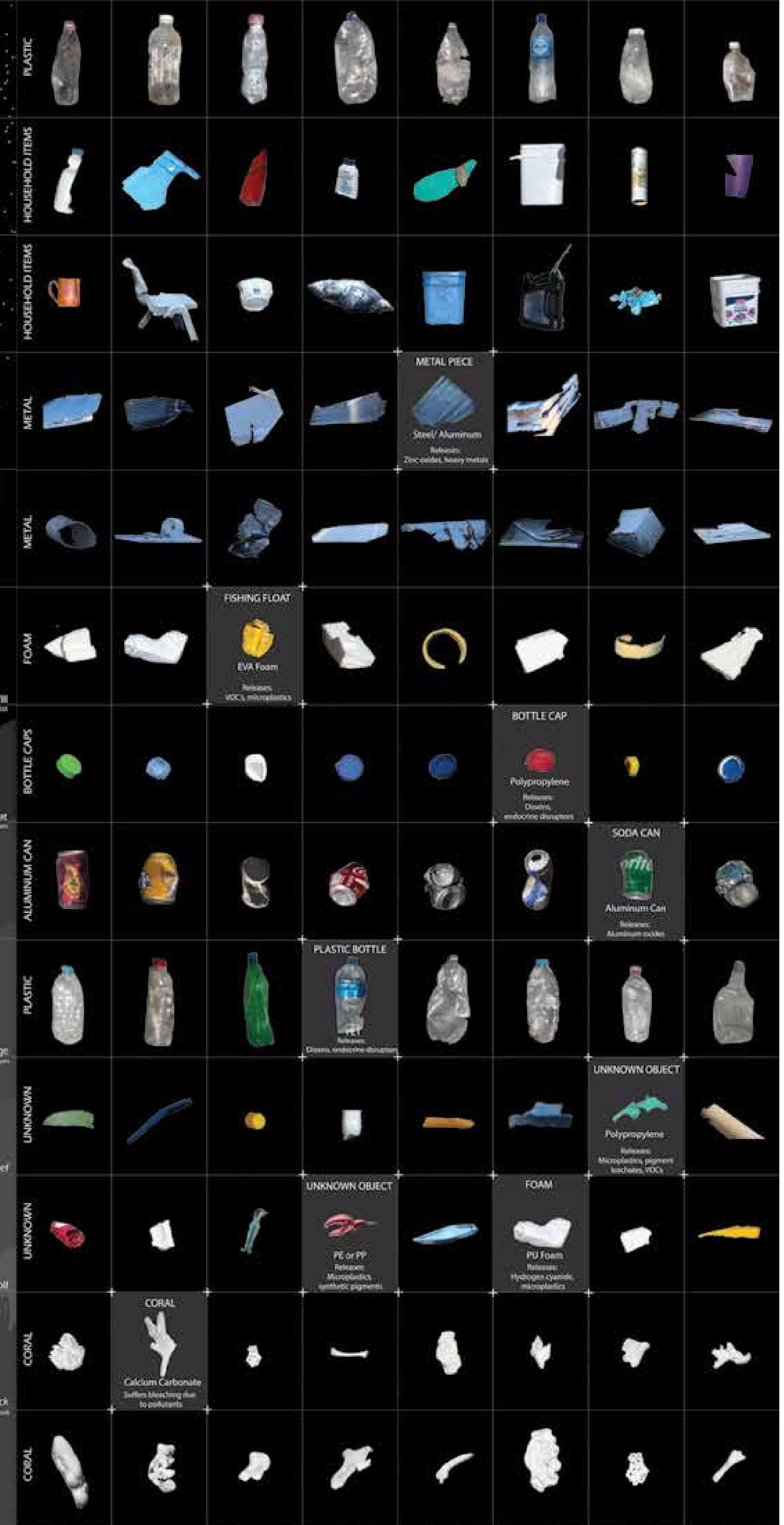
This brochure outlines the field protocol created for participants in Tuvalu to help track, collect, and repurpose plastic waste without burdening local systems. The guide includes five parts: what to collect (bottles, bags, cans), how to clean without water (using sand, sun, and hand methods), a photo documentation challenge, a drop-off system at Funafuti Lagoon Hotel, and an outline of what happens next. The collected materials were used for 3D scanning, thermal analysis, and community documentation. By turning waste collection into a shared mission, the protocol reframes debris as data and invites participants into the care and memory work of environmental witnessing.



Landfill as Stratigraphy

A speculative section of Tuvalu's landfill, layering waste by decomposition time and thermal behavior. Smoke, buried plastics, and shifting ground reveal how waste becomes future geology.





Material Archive of Debris

A photographic grid of collected waste, organized by material and type. Each object becomes evidence-documenting the chemical and ecological memory embedded in discarded matter.

HOUSEHOLD ITEMS
HOUSEHOLD ITEMS
METAL
METAL PIECE
Steel/ Aluminum
Releases:
Zinc oxides, heavy metals
METAL
FOAM
FISHING FLOAT
EVA Foam
Releases:
VOC's, microplastics
BOTTLE CAPS
BOTTLE CAP
Polypropylene
Releases:
Dioxins,
endocrine disruptors
ALUMINUM CAN
SODA CAN
Aluminum Can
Releases:
Aluminum oxides
EVA Foam
Releases:
VOC's, microplastics
BOTTLE CAPS
BOTTLE CAP
Polypropylene
Releases:
Dioxins,
endocrine disruptors
ALUMINUM CAN
SODA CAN
Aluminum Can
Releases:
Aluminum oxides
PLASTIC
PLASTIC BOTTLE
PET
Releases:
Dioxins, endocrine disruptors
UNKNOWN
UNKNOWN OBJECT
Polypropylene
Releases:
Microplastics, pigment
leachates, VOCs
UNKNOWN
UNKNOWN OBJECT
PE or PP
Releases:
Microplastics,
synthetic pigments
FOAM
PU Foam
Releases:
Hydrogen cyanide,
microplastics
CORAL
CORAL
Calcium Carbonate
Suffers bleaching due
to pollutants
CORAL

Thank You