

## The Bosphorus Company of Pharmaceuticals

Istanbul, Turkey

The Bosphorus Company of Pharmaceuticals is a powerful private company with its headquarters office and production plant in Beylerbeyi, a coastal neighborhood on the Asian side of Istanbul. This conglomerate is a 'fictional' antagonist to the current power figures of the society, who hold and control all the means of accessing unaltered, accurate information. The Bosphorus Company utilizes its technology and location in the city into an anti-monument that simultaneously communicates the public sentiments to 2.5 million people crossing the Bosphorus Bridge every day.

It does this by a series of chemical processes that turn the botanical plants on this urban anti-monument into a responsive, dynamic broadcasting tool. Located nestled on a hill facing one of the most crowded intercontinental routes in the country, this 'anti-monument' is a reminder to the sixteen million Istanbulites that they are not alone. So, the next time when all news outlets claim how great the Turkish economy is doing - and it just does not register with you, a trip over the bridge would be enough to see whether the botanical garden's plants' color has turned into the purple color of the stress hormone, cortisol, or not.

### The Botanics Complex

The Botanics Complex acts as a broadcasting medium, an urban anti-monument that disseminates unaltered information. The way how the hormones are collected and paired up with different colored pigments is used to make the plants that are fed with the particular colored plant meal to change their colors. Thus after a series of photosynthesis and biological food/sugar storage, their leaves and the other body parts store this pigmented hormone that causes the leaves to change color.

The citizens' emotional data, hormones, is fetched from Istanbul's sanitary system and chemically processed into individual pure hormones. Then these hormones are actively pushed through the pipes that feed the botanical plants.

During an event when causes a great majority of the citizens to feel alike, say in a much-like economic crisis to Turkey's long-deteriorating economy, the cortisol hormone would be simultaneously infused with the 'purple' pigment and then pushed up to the garden above. Just like the well-known elery experiment, the plants store this hormone-infused food in their leaves, which causes a temporary color change.

### Presentation

- 14 Posters
- 1 Master Model
- 3 Pin-Ups
- 1 Final Jury

This project was awarded with MimED 2019 in 4th-Year Category.

## The Public Authority For Environmental Acts

Istanbul, Turkey

The UN Climate Summit 2019 has again shown how ignorant the decision-making positions could be regarding scientific data and environmental agenda. Yet, these would be the same decision-makers sponsoring 'environment-friendly' campaigns to extend their base for political gain. Inspired by this unsentimental relationship of the decision-makers, particularly one embodied in the form of a highway sign on Henry Hudson Parkway in NYC, this project investigates a new social structure, in which the 'capital owners' and 'politicians' would have to comply with the scientific research. In 2050, pollution and overpopulation cause an exodus to the rural.

Abandoned these market-driven production machines of the capital, mega-cities, a privately-funded, science-led, publicly-owned institution has emerged to develop methods and technologies that

roomer house material, or 2/3, is based upon the first construction project that started in the hillside lot in Istanbul's Etiler neighborhood. This condensed summer project uses the line weights, CAD drawings, and architectural design language in a beautiful, clean, and technical way. The material choices from BRICS blocks to the zinc cladding have been made in mind with local production and environmental impact throughout.

## A House in Forest Hills

Queens, New York, NY  
Archi-Tectorics Professional Project

Designed by Grosvenor Atterbury & Frederick Law Olmsted, the Forest Hills Housing project has been a prominent frontier for the suburban housing boom. This project is one of the first to implement prefabricated construction techniques - which later became an industry standard. This renovation project approaches the building's heritage with respect, aiming to achieve much with light design decisions. As part of the summer internship in Archi-Tectorics, NYC, I was responsible for a wide array of duties, from surveying, drafting, conceptual and architectural design, interior design - including custom furniture design & furniture specs, engineering solutions, legal obligations, and architectural representation and visualization.

Collaborations include: Department of Buildings, for building codes, zoning documents, legal works. 2LS Engineering, for structural, electrical and mechanical engineering solutions.

### Architectural Services Provided

Survey, Drafting, Conceptual & Architectural Design, Engineering (Structural & Mechanical), Interior Design (incl. custom furniture design)

## The Cherrytree Machinery

Moscow, Russia

Sixth semester studio project in Istanbul Technical University with A

apartments for a shorter amount of time.

This is the time the "Panel-Block Apartment Buildings" boomed - they were everywhere, rising up from the greeneries of mikrorayons with their cold, low-quality, out-of-scale bodies.

Thus today, a once-thriving mikrorayon of Moscow, Chertanovoy Severnoye, is one of the most dangerous places to live in the city, just like its many other successors. Many share the same repeated patterns in where they failed: Absence of social condensers, enormous blocks that disregard entirely the concept of scale, desolated neighborhoods at specific hours, lack of eyes on the streets, and several more.

### The Algorithm to Save The Suburbs

Welcome to the Soviet Suburbial! Once an icon of the progressive ideals of the Soviet Union, the dreams of equal opportunities and quality housing for all ended up becoming endless fields of concrete blocks. Although these very ideals have started the much-admired Russian Constructivist movement, the population boom following the Union's international success has forced the country's leaders to find a viable, scalable solution to provide every Soviet citizen with an equal quality of living.

Hence were born the Khrushchovkas! On the contrary to its detached single-family housing counterparts in America, these panel block apartments were much denser and significantly more effective and cheaper to build. Yet, with an unprecedented need for public housing, this 'Soviet Panel Apartment Block Experiment' ended up as mechanic, repetitive and dorm-like functioning bete-noire neighborhoods.

Sixty years later, at a time when accessing public and urban data is easier than ever, what do the emerging technologies and trans-disciplinary architectural practices have to offer for reclaiming these long-neglected Sleeping Districts of today? If so, can an algorithm

to interact as much as we would with the surrounding parcel owners and build a sustainable residential project with a sub-function.

During the studio, each lot was supposed to create a narrative, a scenario, a set of characters and their roles and as a result, come up with a list of requirements.

Connecting two unreachable points between parcels 20 and 22, and letting them use the project building as a shortcut was the main idea of the project. As a characteristic, the building evolved around a socially important point of view and the most recognizable look became this staircase looking almost like an amphitheater.

The building was owned by a Maker couple and they would've invited interested people to their houses - for them to use their workshops and tools: Some sort of a communal housing project, just like a maker campus. These people would live here for a short period of time, while the original two owners temporarily reside in the building.

### Presentation

- 5 posters
- 1 model

AA

## BBVA Compass Bank

Auburn, Alabama

This project is awarded with 2nd Place in Concrete Competition 2018 in Auburn University CADD.

The perfect example of an American College Town, Auburn's downtown, recently went under several renovation projects. The existing BBVA Bank building was located right at the south-eastern corner of two of the city's busiest avenues, placing it in a significantly prominent position in the city's urban front.

As part of Auburn University's fifth-semester Architectural Design Studio, this project aims to bring the European urban fabric to the beloved,

# A Book of Selected Architectural Works Between 2021-24

Portfolio by Taha Erdem Öztürk

so much more than the others in the particular event time, the tank will fill up faster - thus causing this specific hormone to be the dominant one to be used. Let's assume that this hormone is paired up with Quinacridone, which is an organic violet pigment. So the violet is directly associated with stress, a.k.a. Cortisol. Violet colored plant meal is given to the plants, plants will do their jobs and store the violet pigmented sugars & foods & water in their cells. Causing their green color to turn into Quinacridone color, which is violet.

- 3 Posters
- 28 Construction Set Sheets
- 4 Interior Renders
- 2 Exterior Renders

Over +15 Detailed Drawings  
AA

### Rarities: Adaptive Re-Use

Interior Architecture Project III

Welcome to the Soviet Suburbia, once promising a much brighter lifestyle to generations, the dream of Soviet suburbs are now nothing but endless fields of concrete blocks that are all derivatives of each other. As future folks, a new methodology is a must to create the new generation of suburbs that works not as a sleeping district but a quality, living organism.

Can such a computer, such a tool, be used to create the perfect neighborhoods of the future?

## Headquarters for The Huber Dispatch

Allianz Tower, Turkey

Once located in Tarabya, one of few remaining Bosphorus neighborhoods that managed to stay comparatively less inhabited, this Istanbul based media company, The Huber Dispatch, decided to relocate their headquarters to a high-rise building. This project investigates

by the erse street on, Rome, to create thing the ction by cial tenant:

in a more downtown, ed out an en-came the can hang talk to their colleagues. This studio was made,

The new BBVA Compass Bank building starts from a single solid block shaped with the soft curves, indents, and outcets create a dynamic, inviting facades. The form's movement supports the design intention of creating a new social condenser for Auburn's most central point.

On the backside, the set-backs create outdoor spaces bridging different floor levels. Previously having only one blind door on the brick facade; this dynamic form communicates with the neighborhood. Involving the street and the



Fig. 0  
Famed Architect Vanishes

Here's to three years in Avery Hall where you knew there was at least someone in the studio no matter what time of day, passionately working on something you truly do not give a damn about

Being a part of this is how I made it through

This project is all about water, some pools and having good times.

Inwood, Manhattan's northernmost neighborhood that's embraced by the Hudson and Harlem Rivers and the Spuyten Duyvil Creek, was once a nexus of water. However, initial mapping reveals a stark disconnect between the neighborhood and its waterfront. Water-side lots, occupied by sanitation facilities, car parks, or isolated buildings, sever the community's fabric.

The 215th Stairs is the embodiment of Inwood's topographical dichotomy for quality of life, rent, and urban fabric. Broadway's auto repair shops contrast with the upper neighborhood's high-end restaurants and communal gardens, bridged by stairs that function as urban rendezvous points. Amidst this duality, there is a need for social cohesion and engagement. The Public Pools and Baths aims to reconnect the neighborhood with water through urban swimming pools that act as social condensers and democratic spaces.

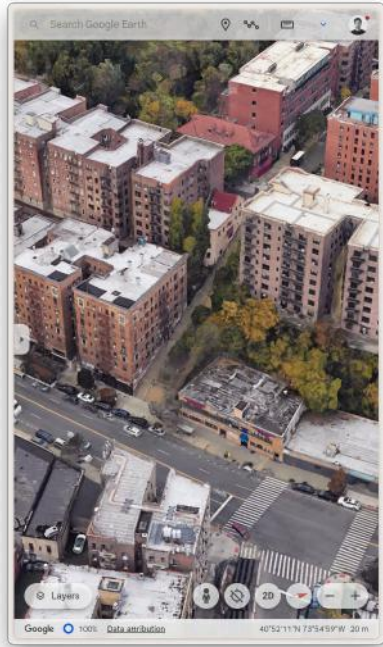


Fig. 1  
Axonometric view of  
Inwood with Historical  
FEMA Flooding Data

# THE PUBLIC POOLS AND BATHS OF INWOOD

2021 FALL  
CORE I: BROADWAY STORIES

Fig. 3  
Aerial Google Earth  
view of the 215th Stairs



The 215th Stairs is the embodiment of Inwood's topographical dichotomy for quality of life, rent, and urban fabric. Broadway's auto repair shops contrast with the upper neighborhood's high-end restaurants and communal gardens, bridged by stairs that function as urban rendezvous points. Amidst this duality, there is a need for social cohesion and engagement. The Public Pools and Baths aims to reconnect the neighborhood with water through urban swimming pools that act as social condensers and democratic spaces.

Fig. 2  
Axonometric drawing of  
the block containing the stairs

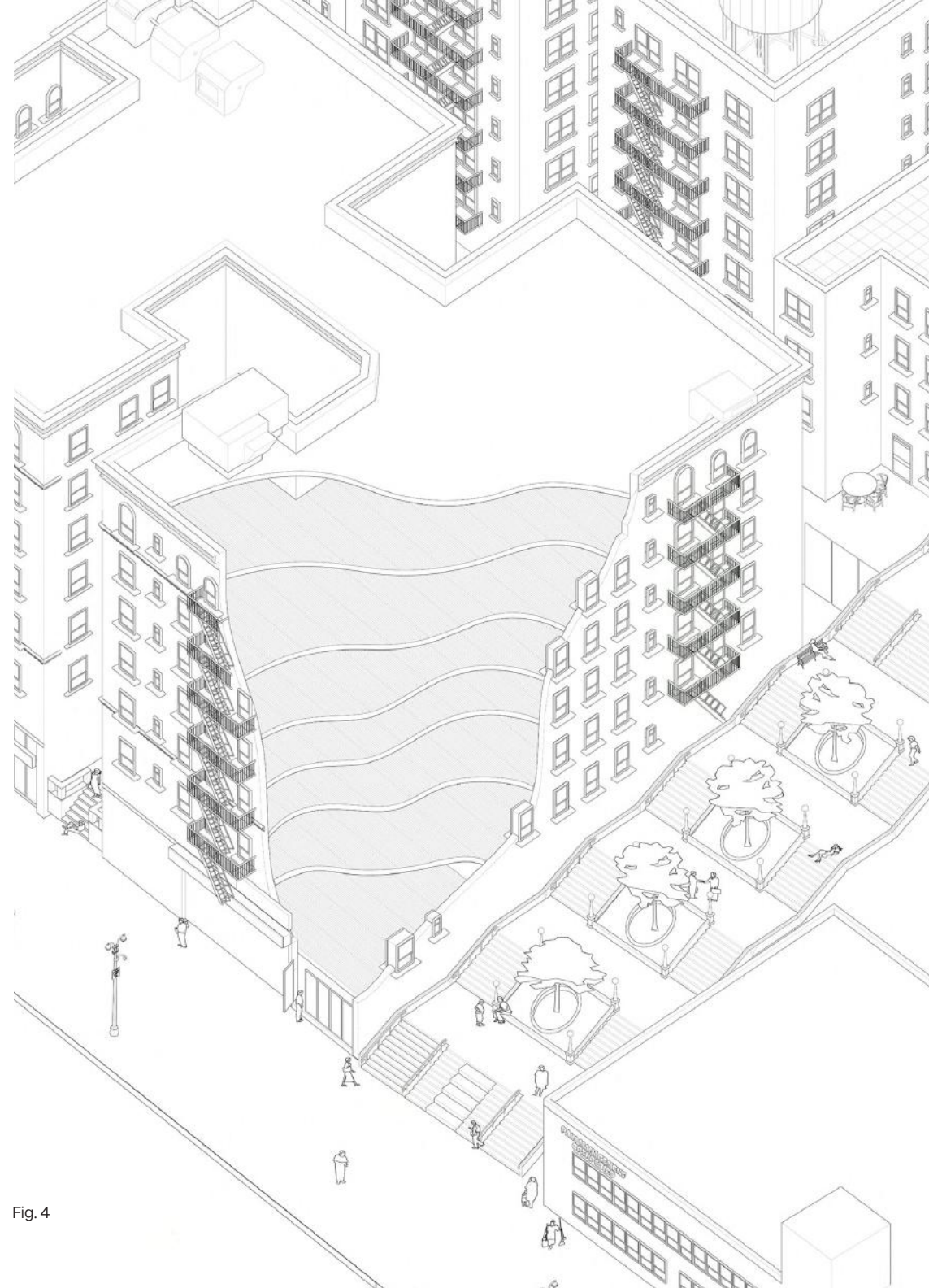


Fig. 4

Fig. 5  
Plan section

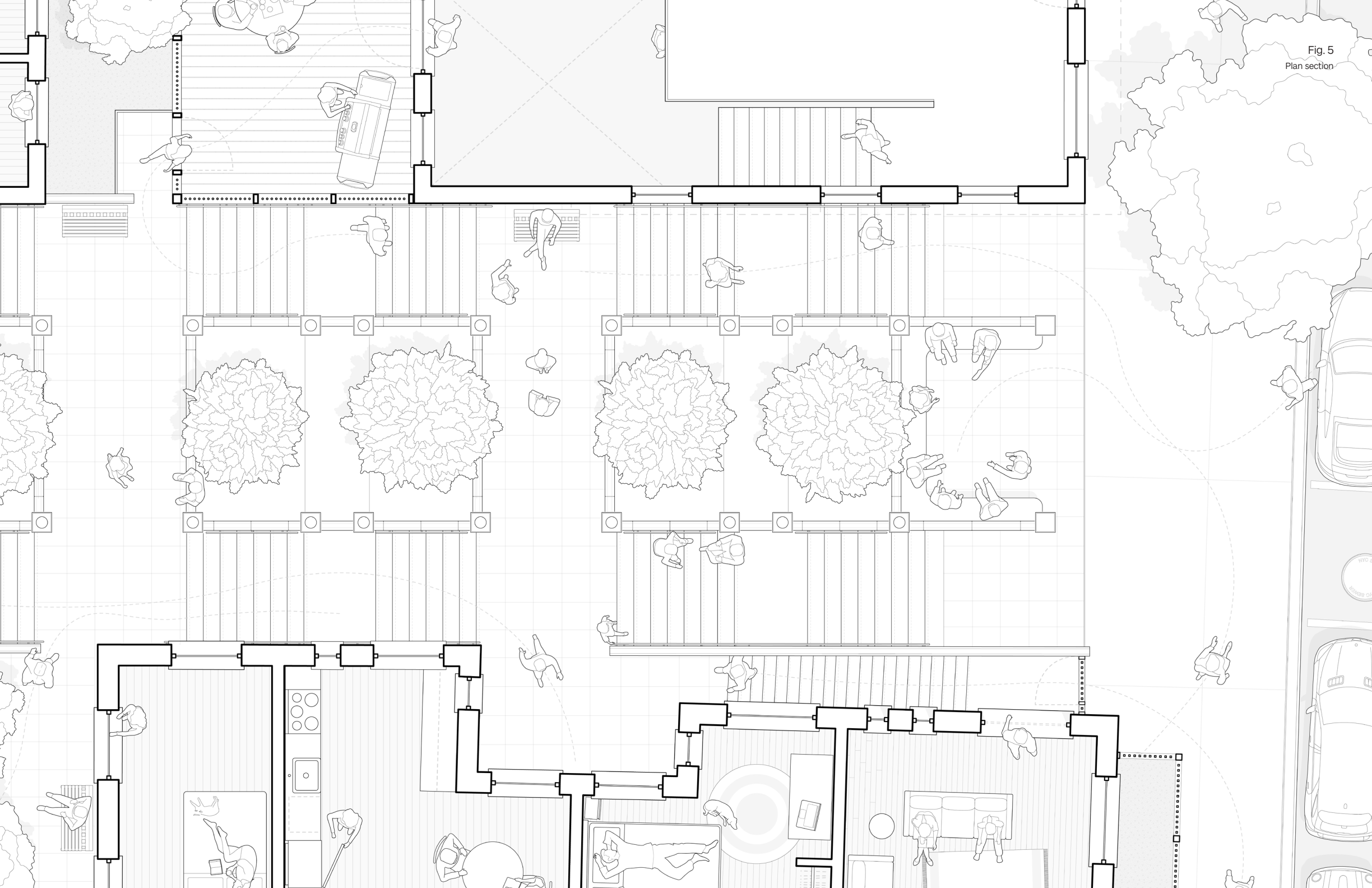




Fig. 6  
Proposed public  
pool complex, Rhino  
Viewport Capture

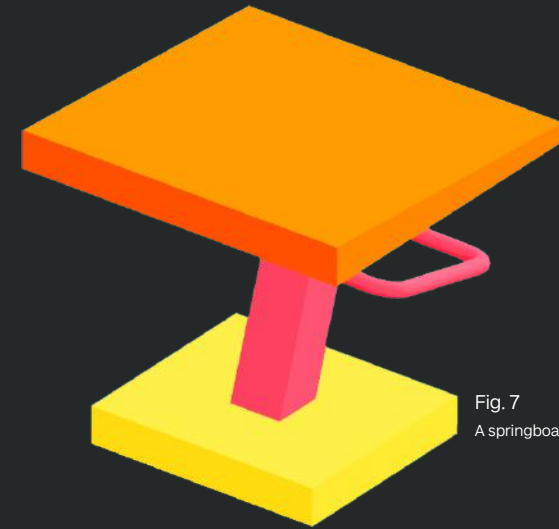


Fig. 7  
A springboard

The Public Pools and Baths aim to restore Inwood's forgotten water legacy through urban swimming pools as social equalizers and democratic spaces. Inspired by the 215th stairs, the pools' architecture extends this accidental social infrastructure. An orthogonal grid aligns with the staircase, defining action spaces, while a secondary grid creates interstitial spaces for relaxation and leisure. Constructed from concrete and marble, the pools meld with the topography, forming rocky surfaces and sandy beaches. Aligned with stair levels, the pools create multi-planar interaction spaces, with enclosed areas housing communal sanctuaries.

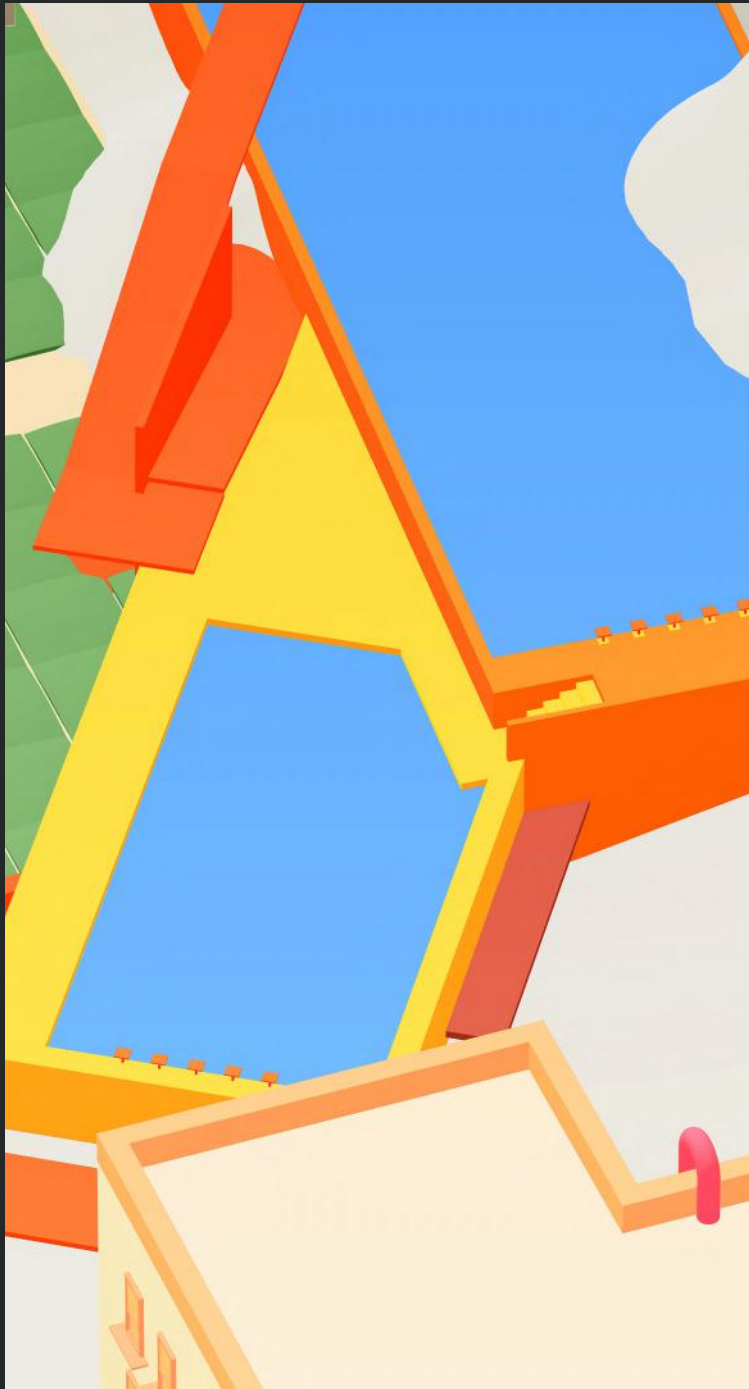


Fig. 8



Fig. 9

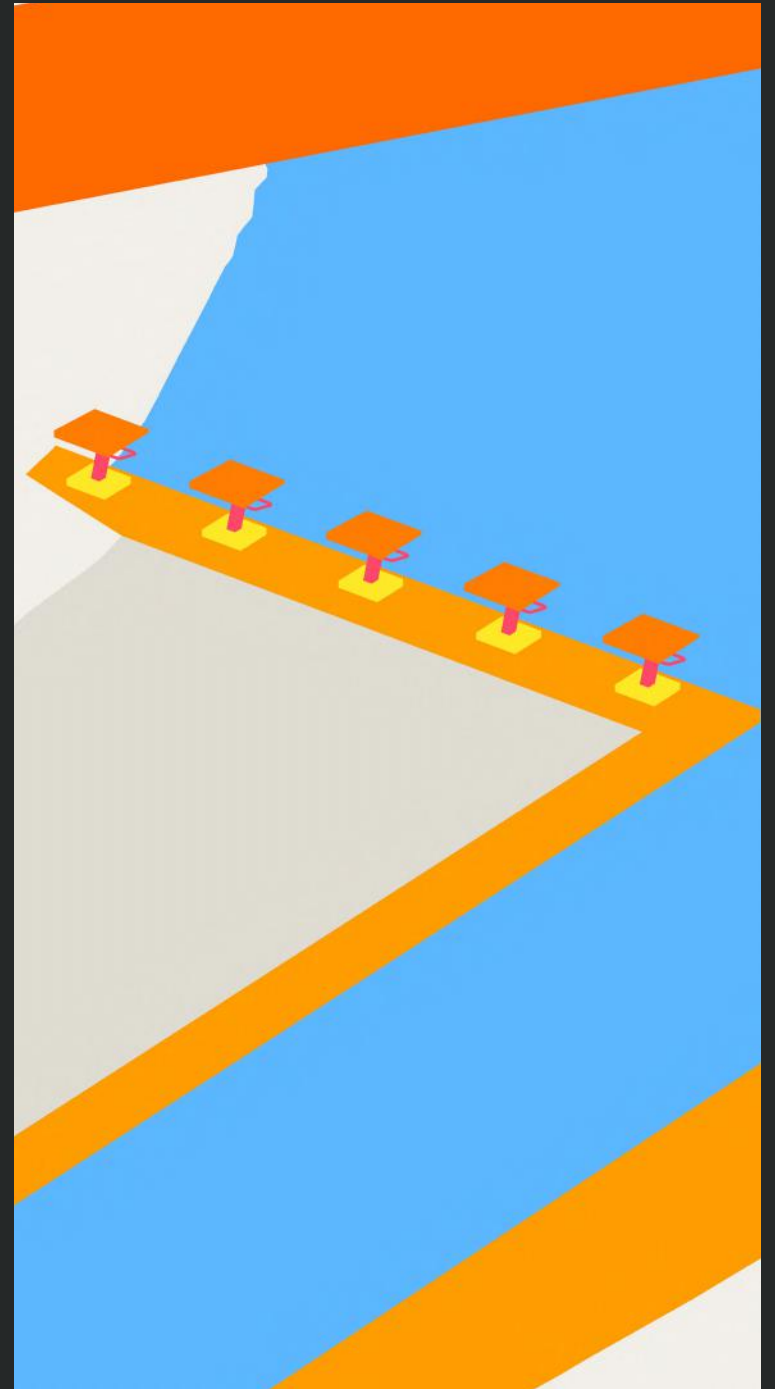


Fig. 10

Architecture of the Pools and Baths extends the, perhaps accidental, social infrastructure in the area - the 215th Stairs. An orthogonal grid aligns with the staircase, defining action spaces, while a secondary grid creates interstitial spaces for relaxation and

and leisure. Constructed from concrete and marble, the pools meld with the topography, forming rocky surfaces and sandy beaches. Aligned with stair levels, the pools create multi-planar interaction spaces, with enclosed areas housing communal sanctuaries.

Magenta pigmented concrete creates an CMYK contrast between the rocks, water, and vegetation on site to spark curiosity and intrigue.

Fig. 12



Fig. 11

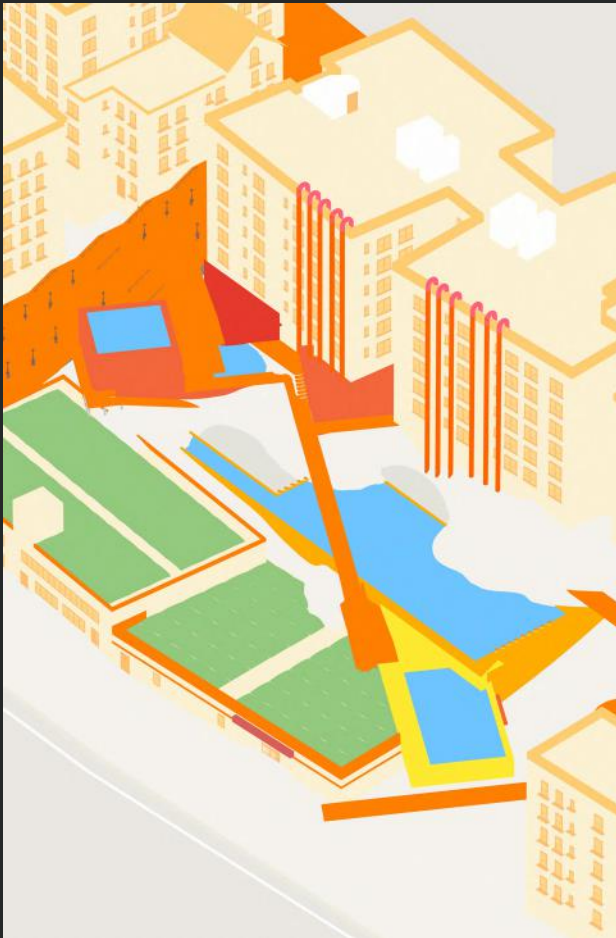






Fig. 13



Fig. 14



Fig. 15  
Creating rock base from  
Insulation Foam Panel

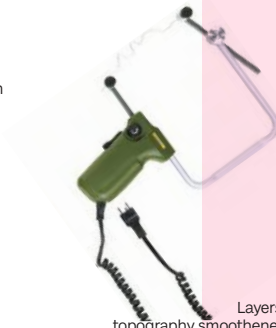


Fig. 16  
Layers glued and  
topography smoothed using  
a handheld hot wire cutter

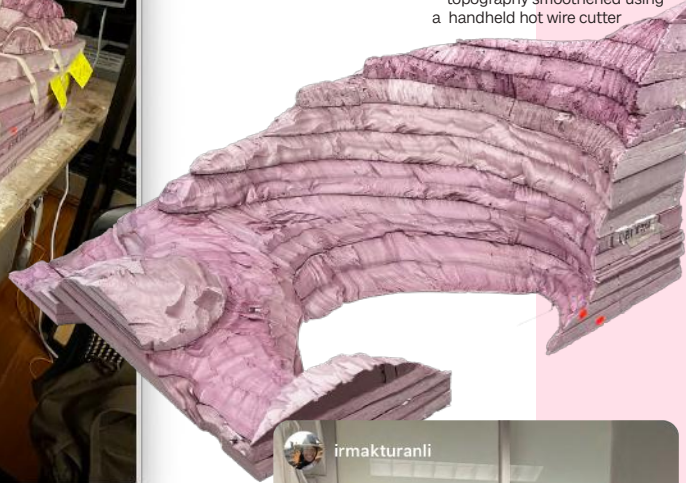


Fig. 17  
Rockite molds for  
the concrete wall section



Fig. 18  
Spray painting  
foam rock



Fig. 19  
Axonometric image of  
the concrete corner detail

Fig. 20

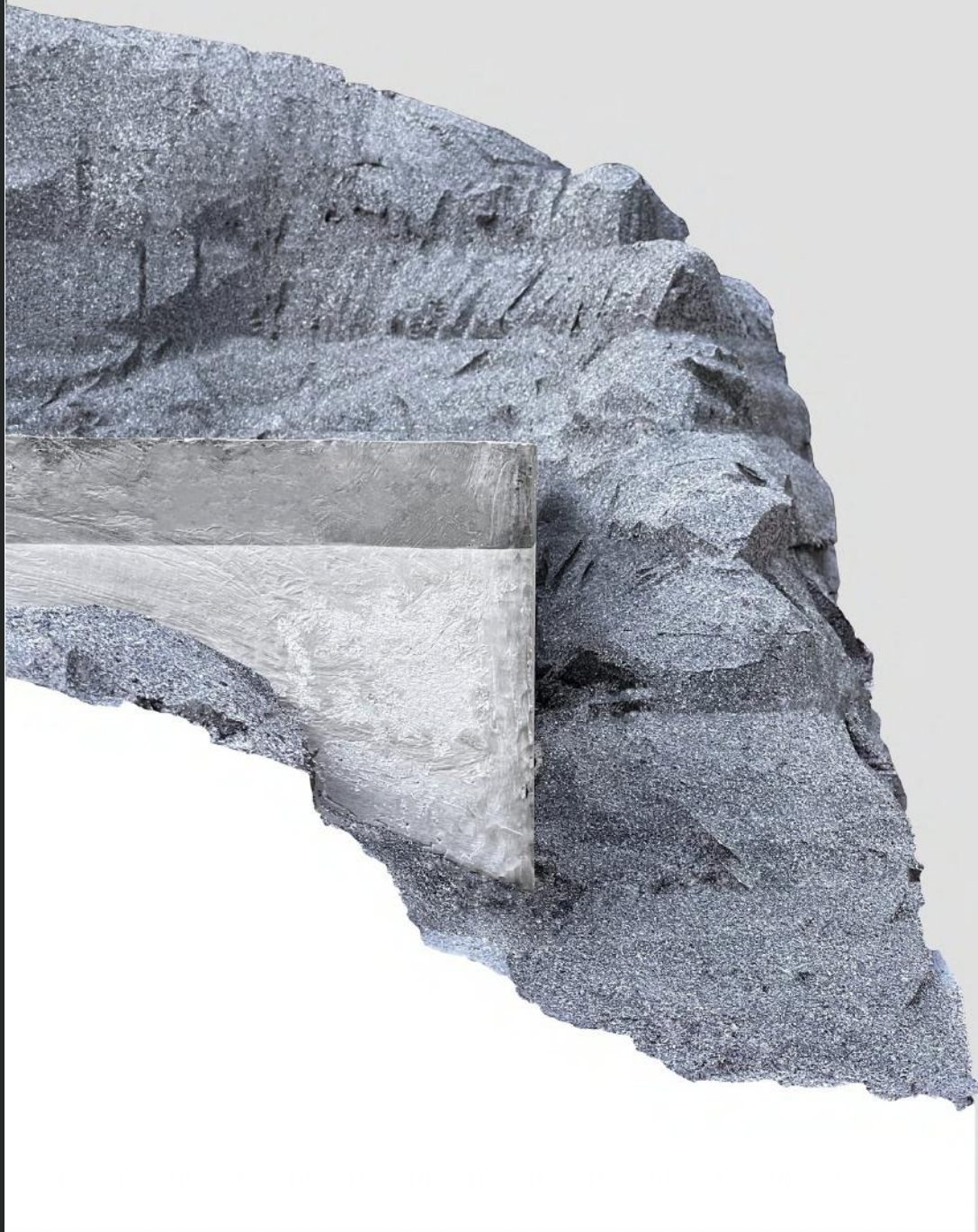


Fig. 21



The Plug-in School reimagines educational architecture by inverting the core and facade, creating an active, permeable membrane that engages with the urban context. Inspired by Turkish Village Institutes, the curriculum emphasizes practical skills and hands-on learning through a mandatory two-week apprenticeship with the school's "masters" who handle daily operations.

The school's interior features interconnected volumes defining unique classroom typologies, tailored to diverse pedagogical needs. This fluid spatial configuration employs ceilings as ramps, walls as floors, and the facade as the building's core, fostering an interactive learning environment.

The hash-section structure incorporates a crane system that enables dynamic manipulation of facade elements, allowing the building to interact with its surroundings. Retractable ramps invite visitors, blurring public and private space, while the New York Public Library's pop-up library on the West facade promotes community integration.

The auditorium serves as a hub for knowledge dissemination, broadcasting them to the urban realm via exterior attachments. As classrooms dissolve into the East side of Manhattan, the Plug-in School becomes a catalyst for social and educational change, advocating for an inclusive, hands-on approach to education that cultivates engaged and socially conscious citizens.

## THE PLUG-IN SCHOOL IN LOWER EAST SIDE

2022 SPRING  
CORE II - ESTEBAN DE BACKER

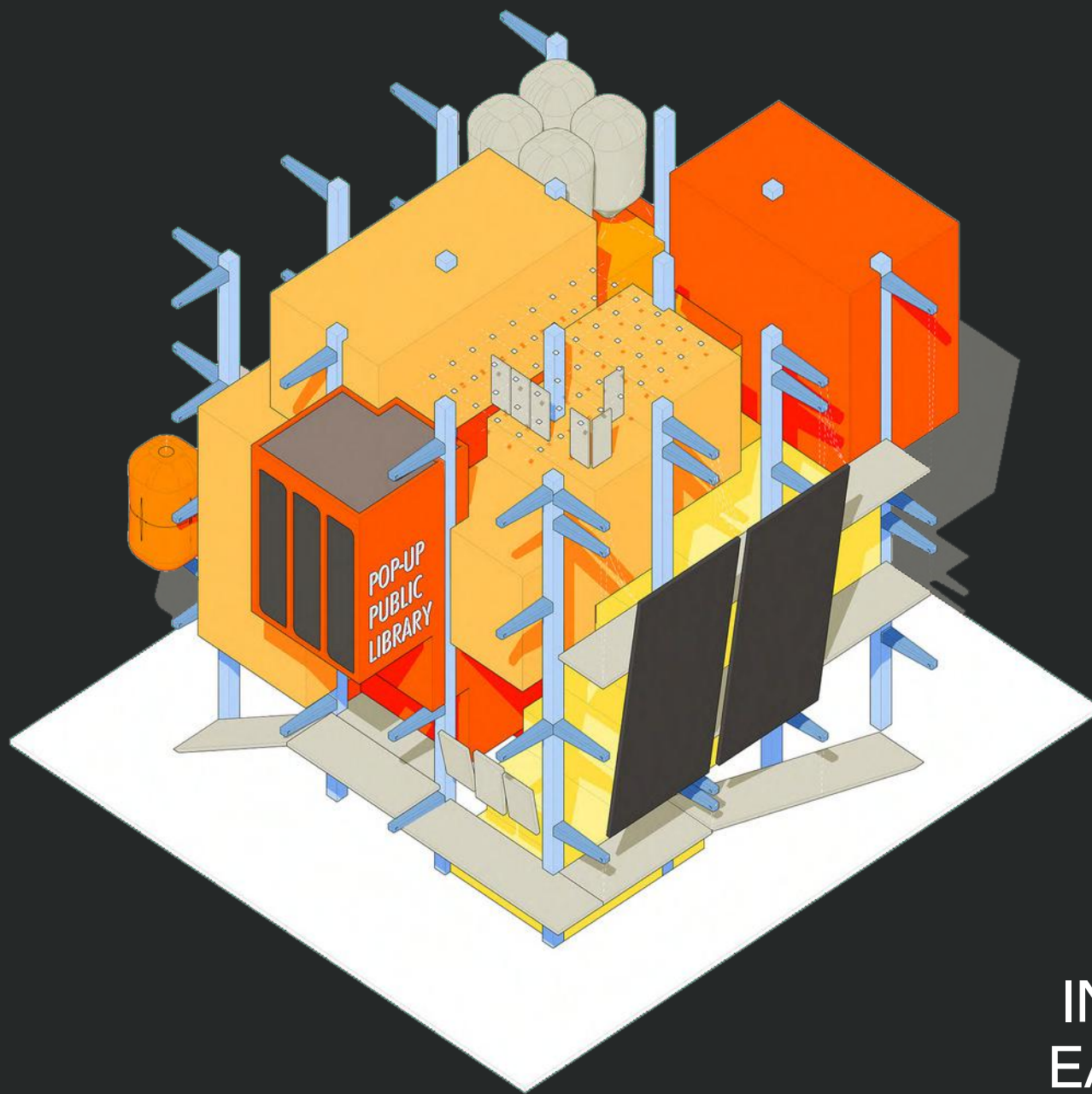




Fig. 22  
Section perspective

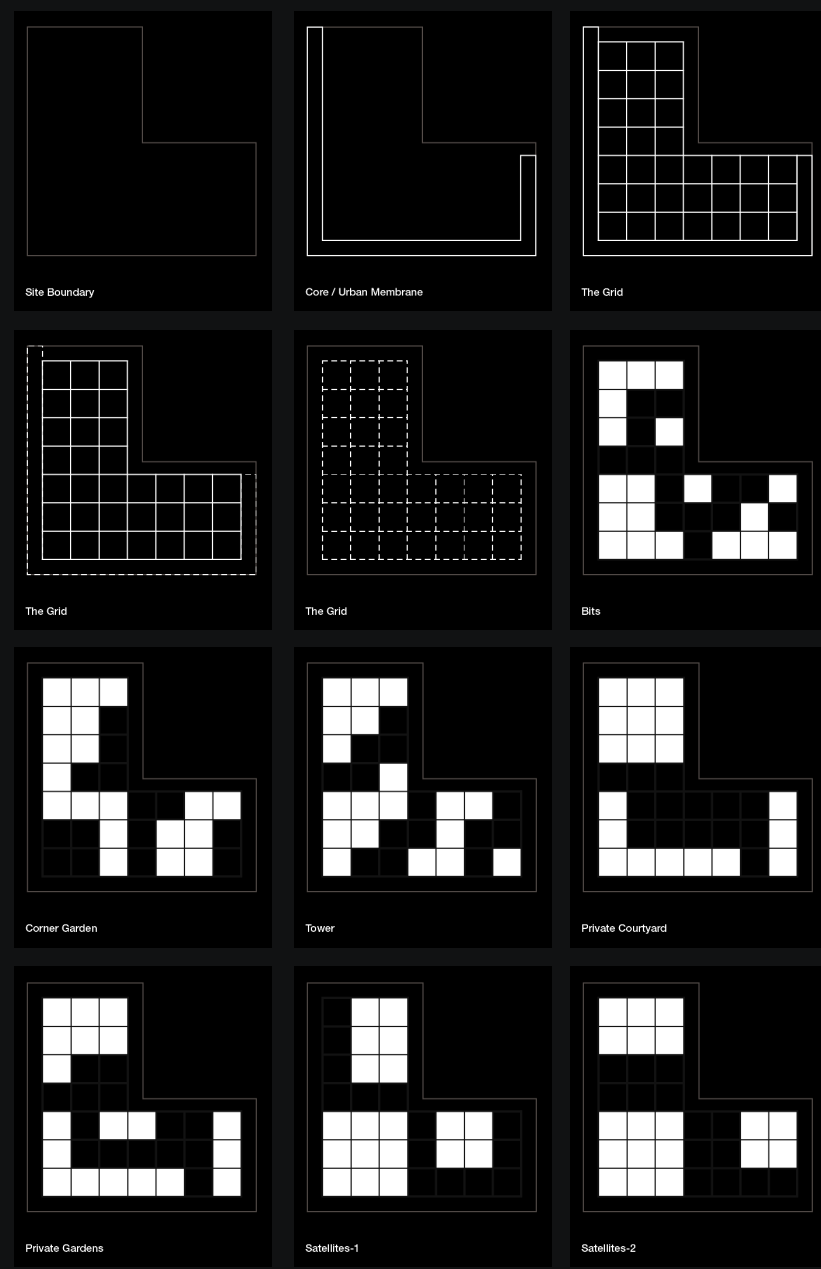


Fig. 23  
Axonometric view of the school, showing multiple temporal attachments that allows the school to extend into the urban realm

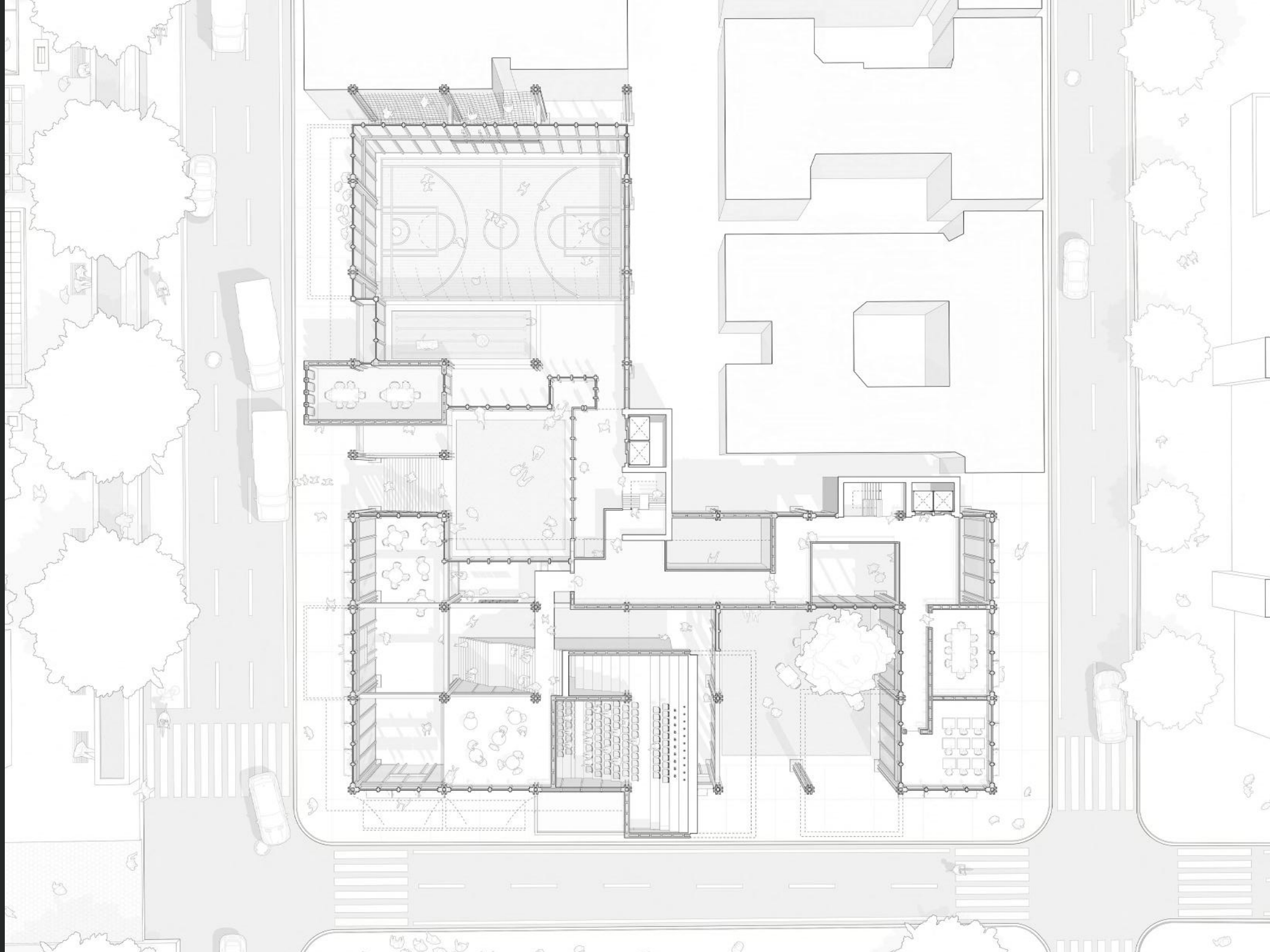
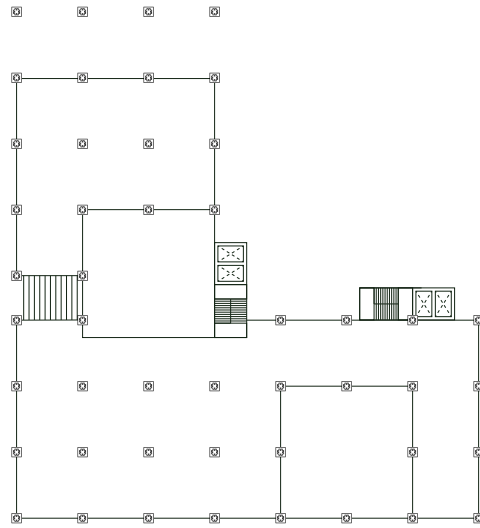
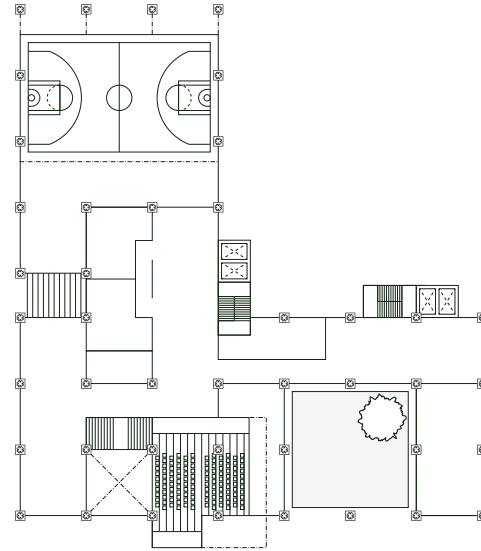


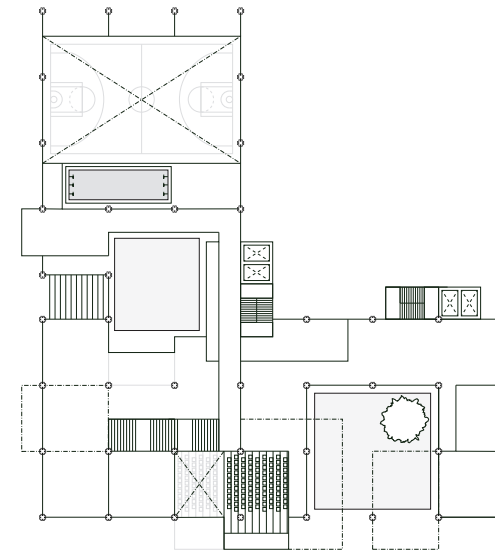
Fig. 24  
Plan Perspective



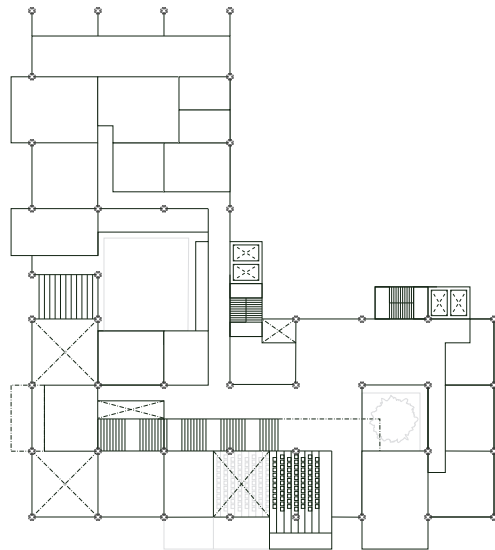
Level 0



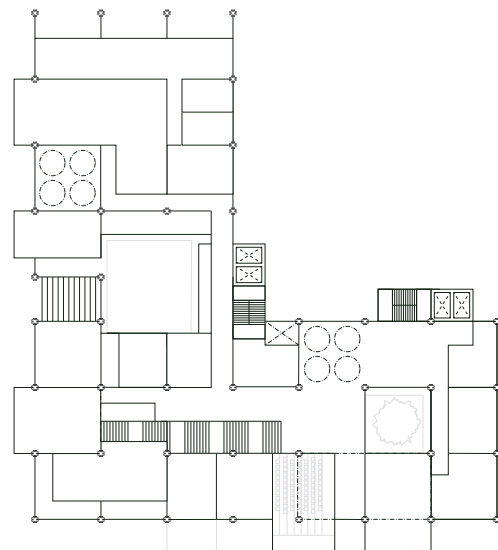
Level 1



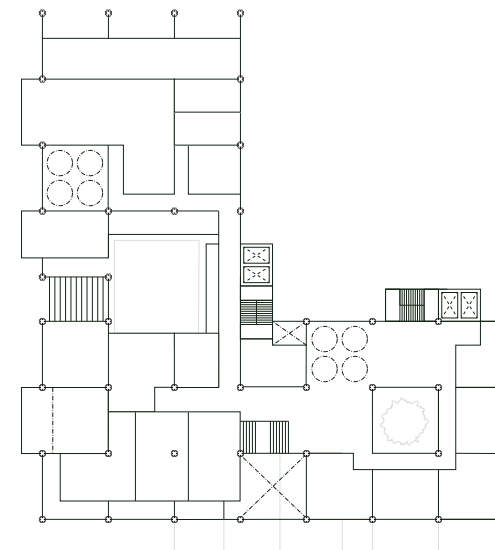
Level 2



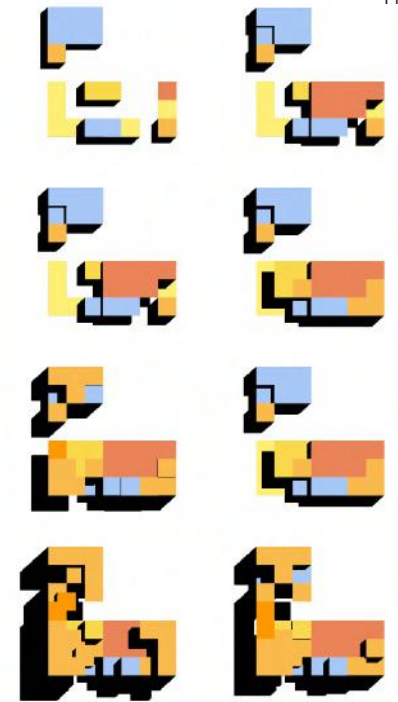
Level 3



Level 4



Level 5



The driving force was to create a space that nurtures growth, fosters collaboration, and adapts to the ever-changing needs of its occupants. The design philosophy centers around the idea of creating a dynamic, living ecosystem that evolves with the people who inhabit it.

The logic behind the floor plans stems from a deep understanding of how people interact with their environment and with each other. By strategically layering and interweaving various functional zones, the aim is to create a space that encourages serendipitous encounters and sparks meaningful connections. The open, fluid layout allows for a natural flow of movement and ideas, breaking down silos and promoting cross-pollination between different disciplines and groups.

The vertical progression of the building is a key aspect of the design, mirroring the journey of growth and development. As one moves through the levels, the spaces become more specialized and adaptable, accommodating the changing needs and aspirations of the occupants. This flexibility is crucial in ensuring that the building remains relevant and responsive over time, able to evolve alongside the people who call it home.





Fig. 26



Fig. 28  
 Temporal and Spatial Analysis of  
 Users and Spaces within a School

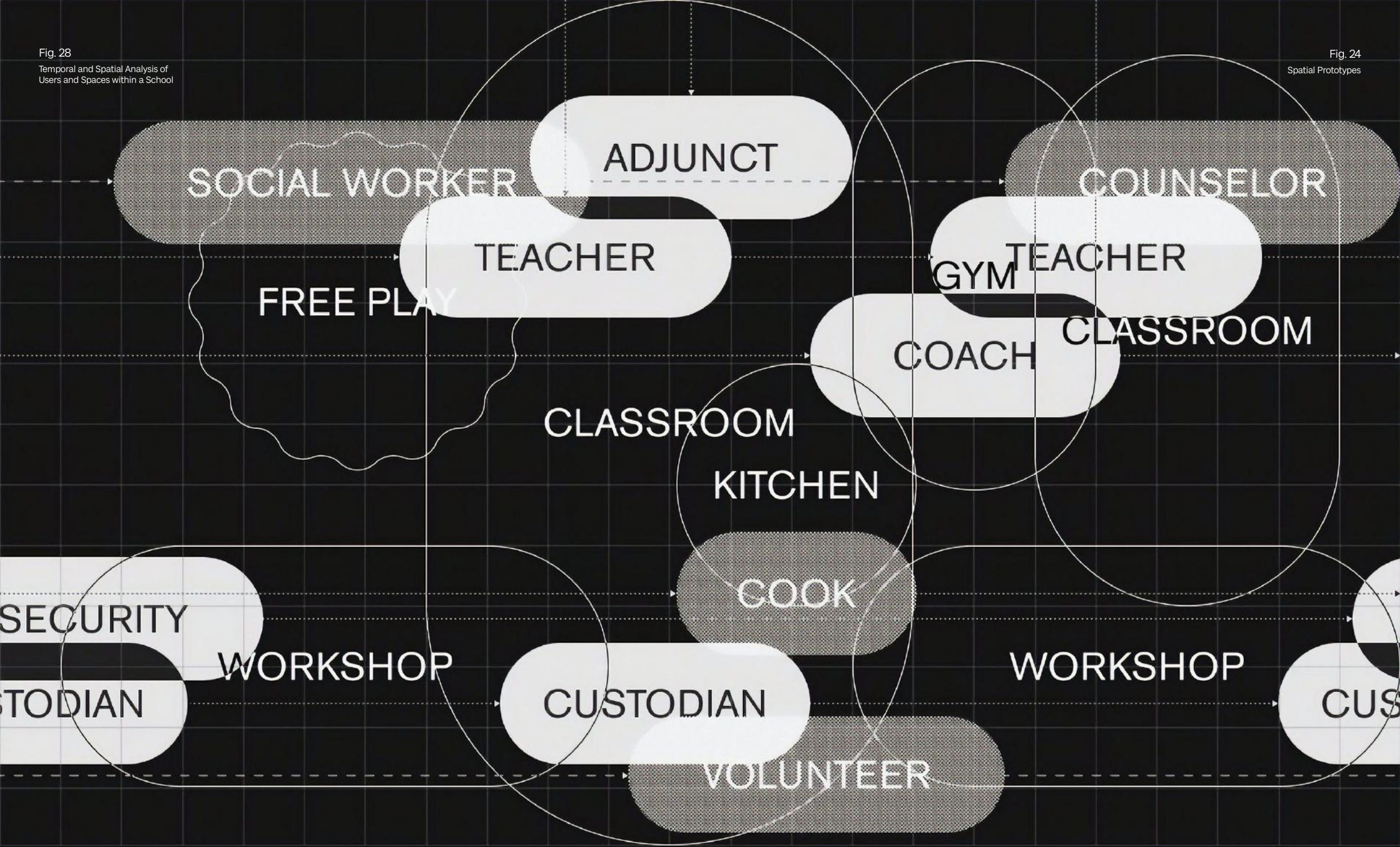


Fig. 24  
 Spatial Prototypes

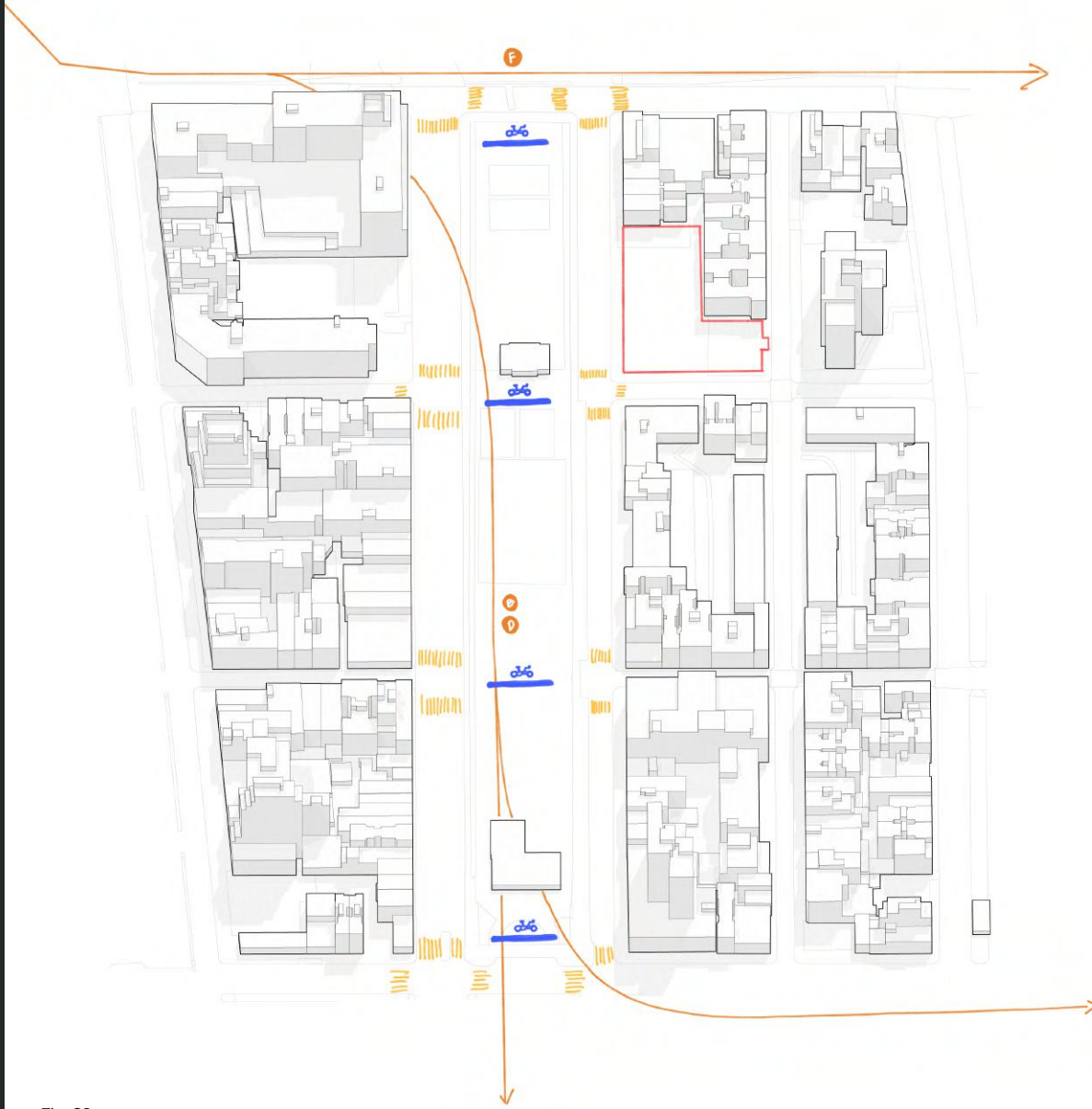


Fig. 29  
 Egyptian perspective of the Lower East Side, displaying public transportation axes, shared bike docks, ped xings, and the site of Plug-In School



Fig. 30  
 A precedent study of the Reggio School by OFFPOLINN

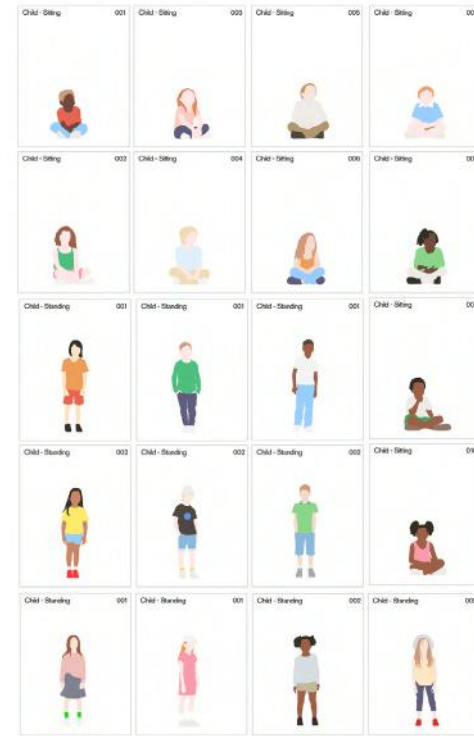


Fig. 31  
Custom colored  
student cutout drawings

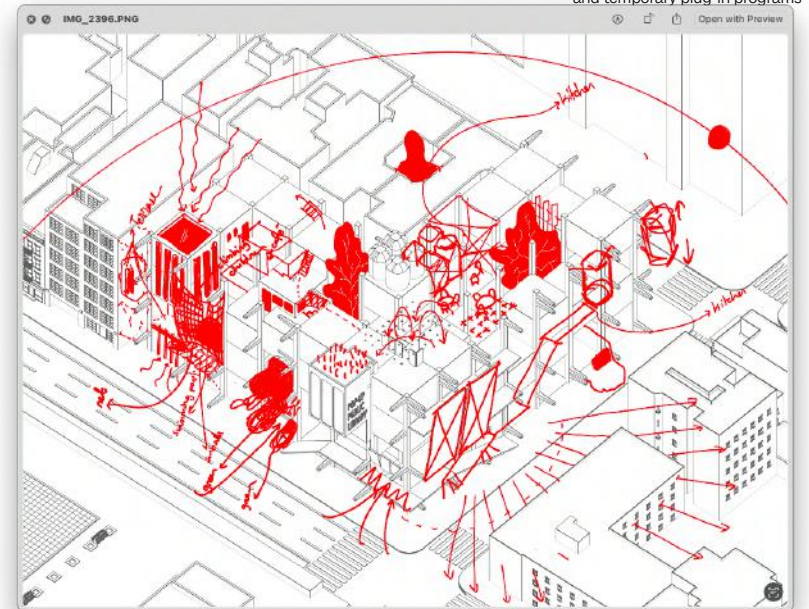


Fig. 32  
An iPad Sketch of the additional attachments  
and temporary plug-in programs

Fig. 30  
Interior Perspective  
from the main dining area

Housing, Inc. is a community for makers that reintegrates manufacturing into the heart of collective living spaces, recalling the neighborhood’s former identity as the ‘Piano District.’ The project acknowledges the significance of block parties in shaping the South Bronx’s legacy as the birthplace of hip-hop and recreates the spatial and atmospheric conditions necessary for the impromptu exchange of culture, music, arts, and lived experiences.

This project posits that the symbiosis of blue-collar ‘material makers’ and white-collar ‘knowledge makers’ at both formal workplaces and informal living spaces presents opportunities for reciprocal teaching and learning. By reigniting the neighborhood as a place of production that benefits the community rather than downstream consumers, Housing, Incorporated aims to amplify serendipitous ideation, creation, and collaboration.

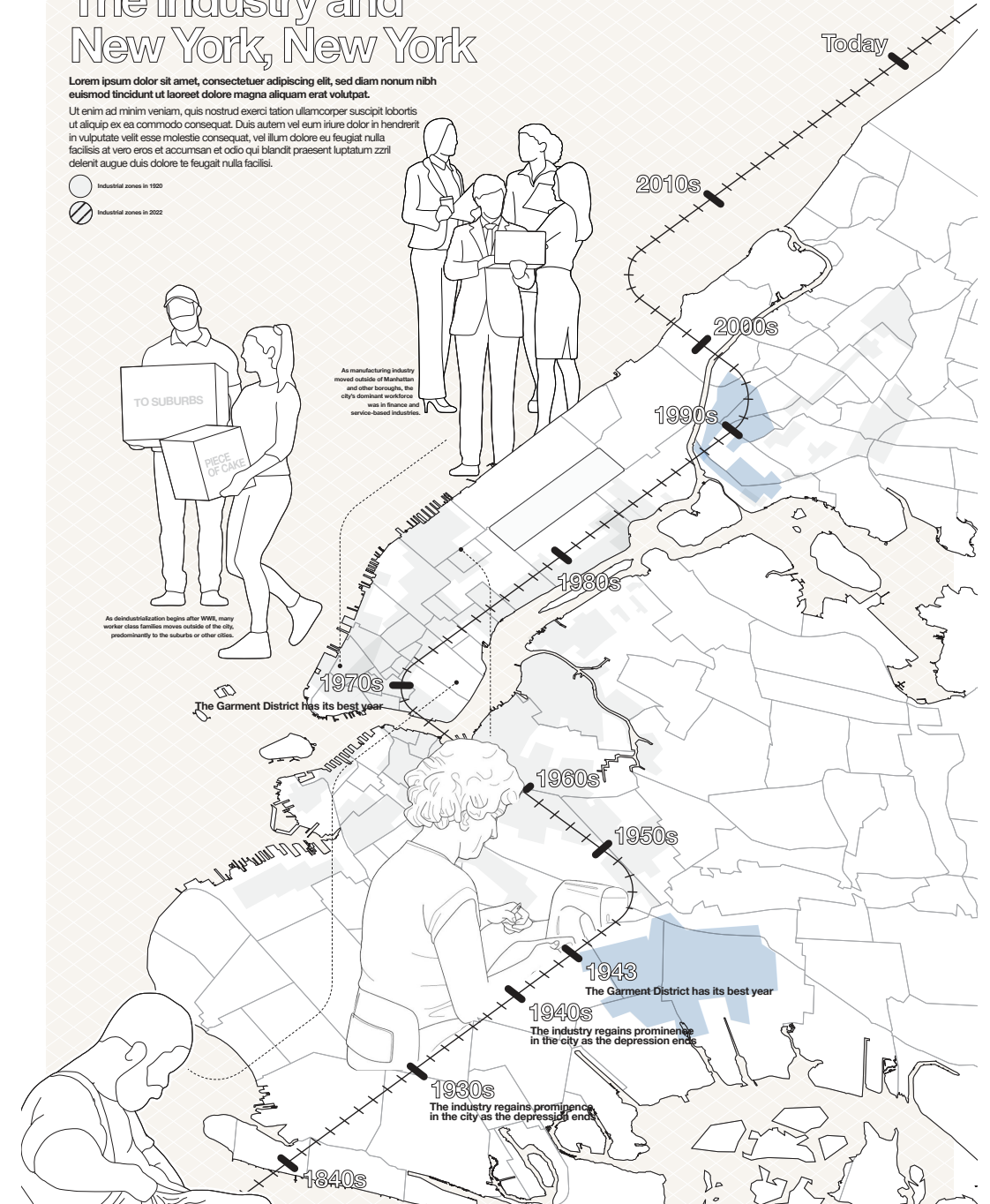
The integration of manufacturing into residential spaces challenges traditional zoning and land-use patterns, fostering a more dynamic and inclusive urban environment. By providing a platform for makers to live, work, and interact, the project promotes the cross-pollination of ideas and skills, ultimately contributing to the development of a more resilient and innovative urban economy.

# The Industry and New York, New York

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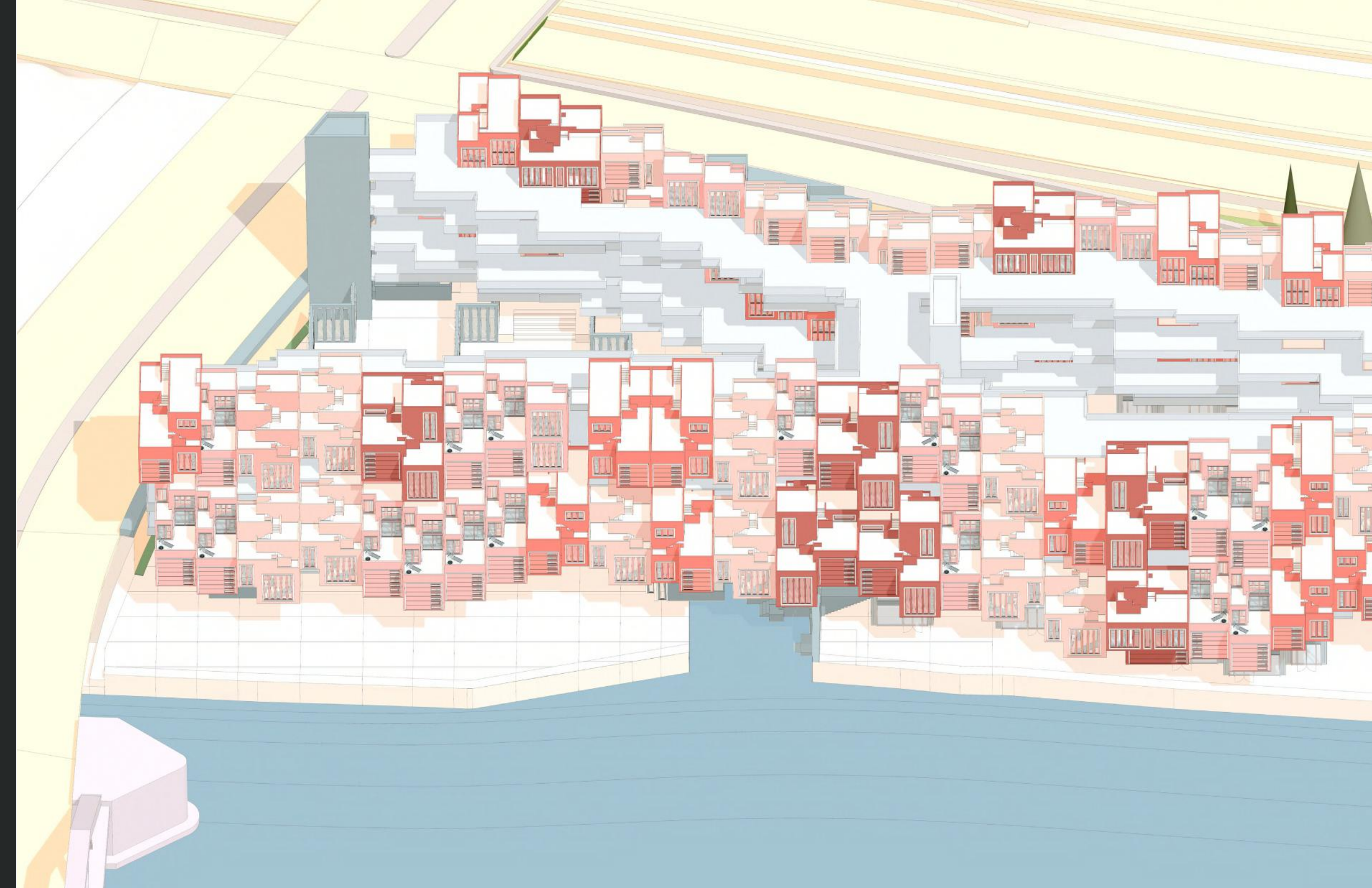
- Industrial zones in 1920
- ◐ Industrial zones in 2022



# HOUSING, INC.

2022 FALL  
CORE III - BENJAMIN CADENA

IN COLLABORATION WITH  
KATERINA GREGOURIOU



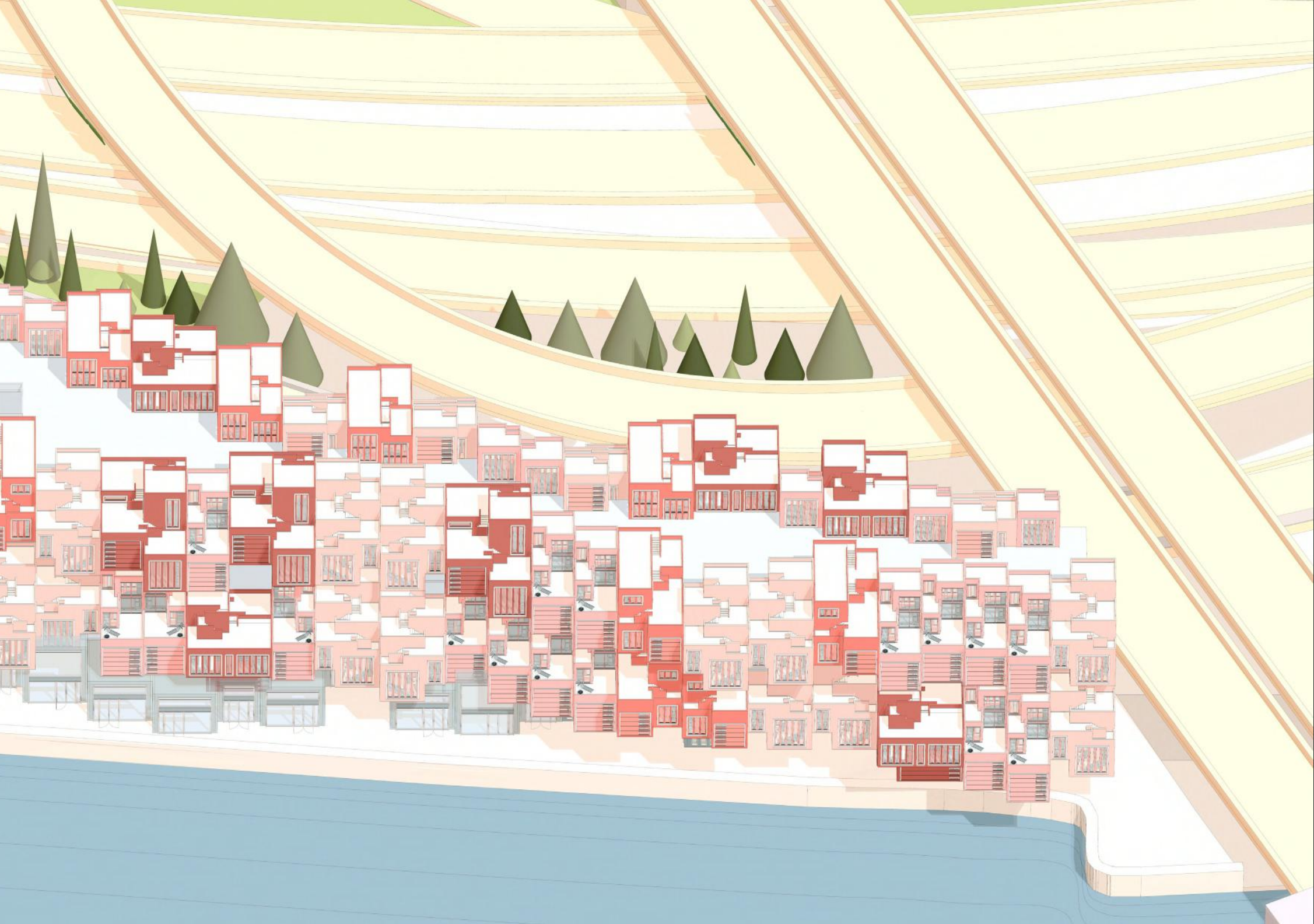


Fig. 34

A panoramic  
gyptian perspective  
of the housing coop  
and its precincts

Fig. 36

Apple Maps view of the site, showing details about the infrastructure in the area

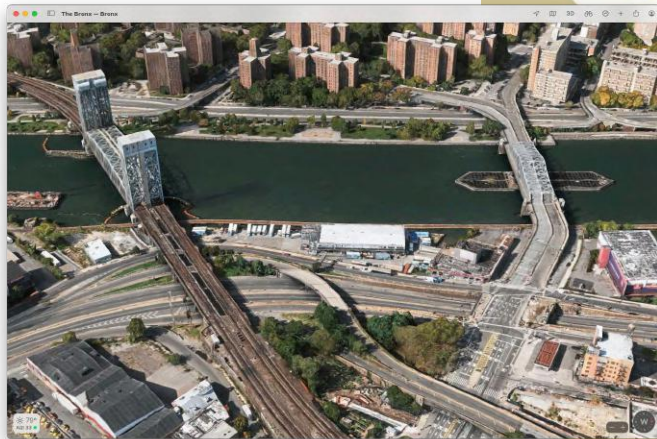


Fig. 35  
The industrial past of the area  
46

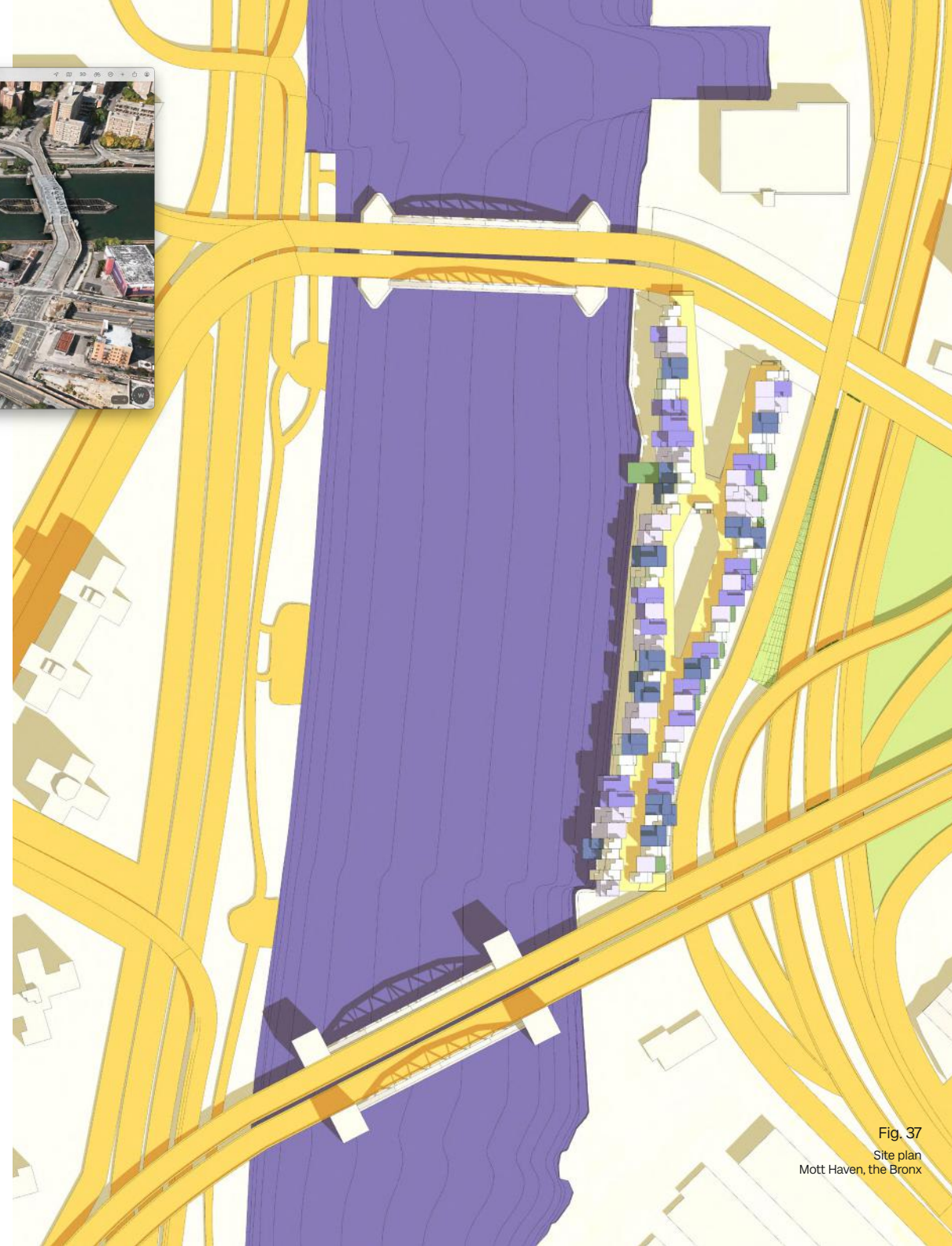


Fig. 37  
Site plan  
Mott Haven, the Bronx





Fig. 38  
Section perspective

Fig. 39  
Proximity Analysis

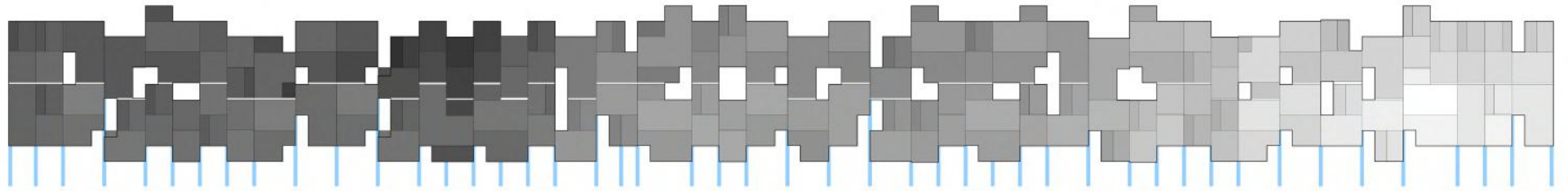


Fig. 40  
Shadow Analysis

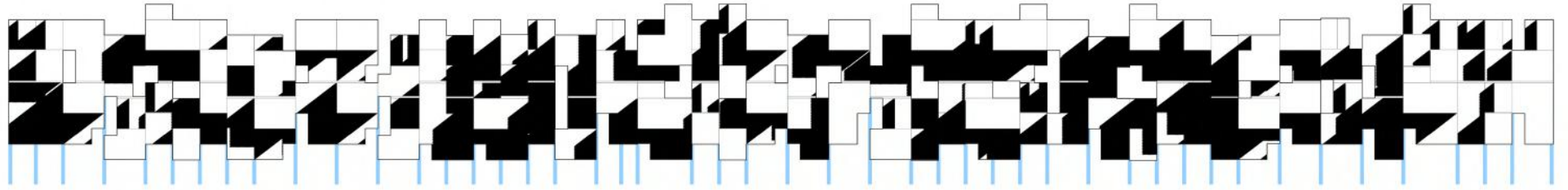


Fig. 41  
Facade daylight  
analysis - Morning

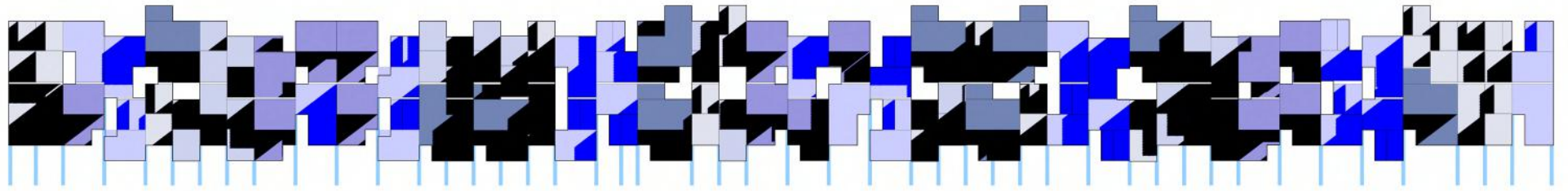


Fig. 42  
Facade daylight  
analysis - Evening

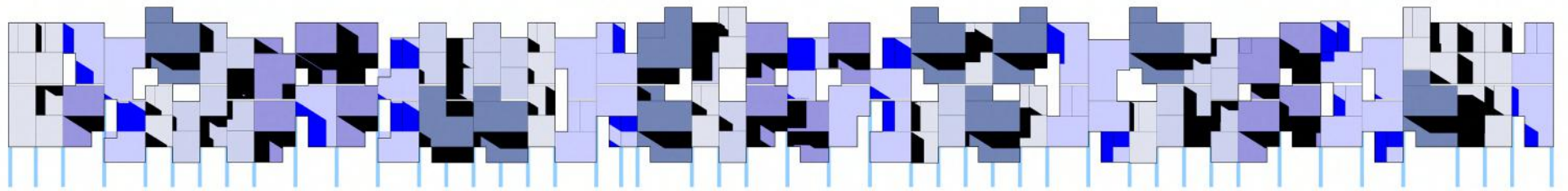
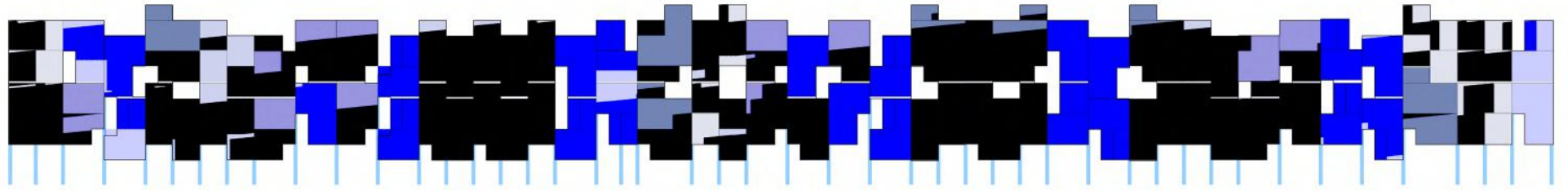


Fig. 43  
Facade daylight  
analysis - Dawn



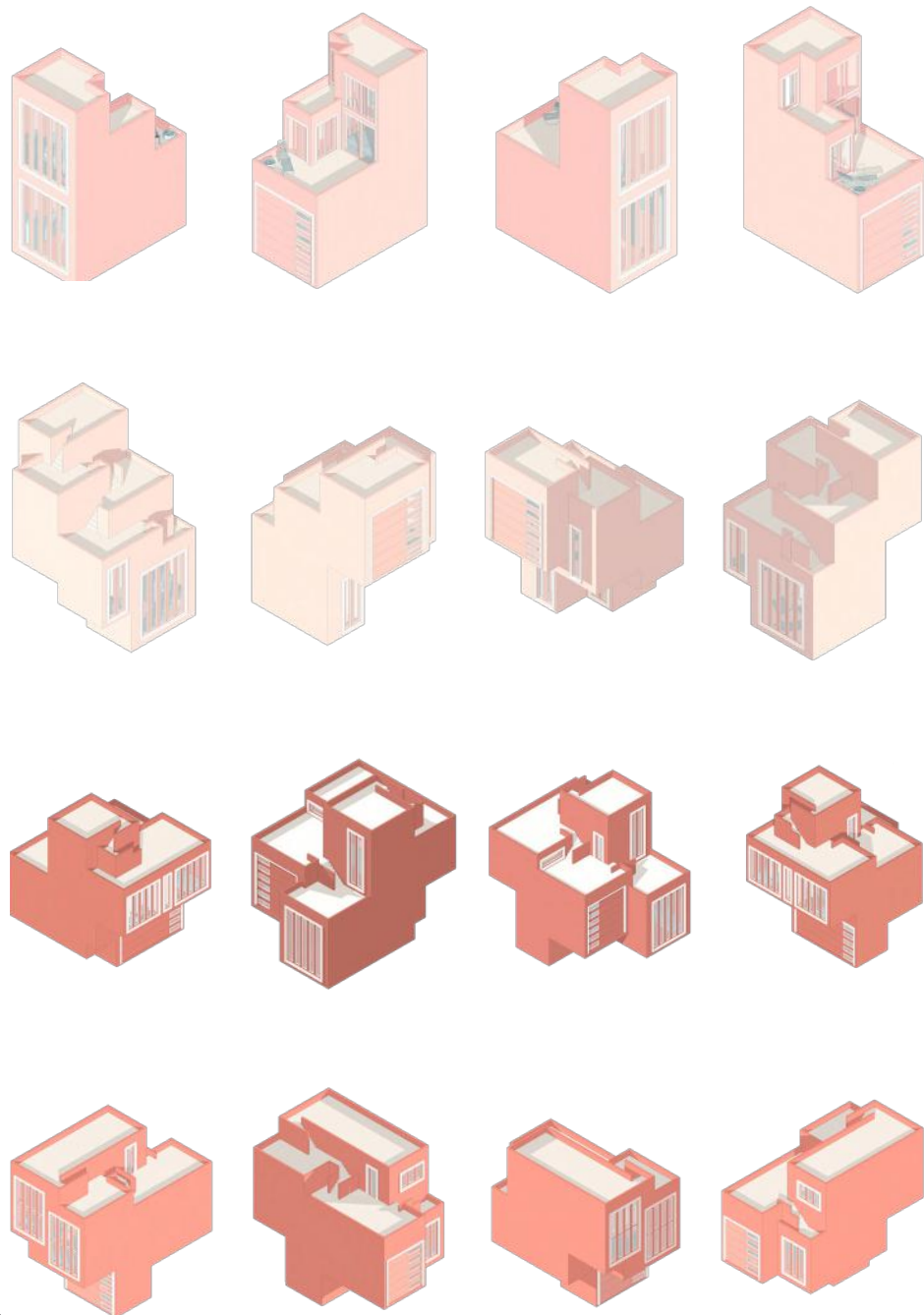


Fig. 44  
Units of various  
types, sizes, and uses  
52



Fig. 45  
Interior corridor  
and elevated streets

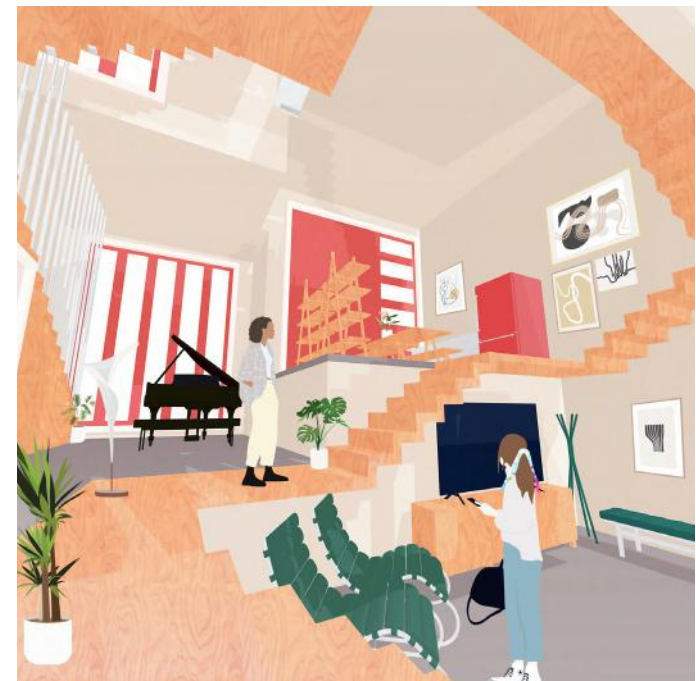


Fig. 46  
Typical interior of a  
house type 'C'  
53

In the face of the post-Anthropocene era, where the unpredictable has become the norm, architecture finds itself at a critical juncture. The Amagansett Coastal Research and Response Center, situated in the ever-shifting landscape of Amagansett, New York, emerges as a provocative response to this paradoxical condition. In a region where the relentless forces of coastal erosion and rising sea levels have reshaped the very fabric of the land, the project confronts the limitations of traditional architectural paradigms head-on.

At first glance, the center appears to conform to the rational grid, a nod to the well-worn principles of architectural design: the well-planned, the highly articulated, the technical, and the stable. Yet, upon closer inspection, it becomes clear that the true essence of the project lies not in its adherence to this grid, but rather in its willful deviation from it. The Amagansett Coastal Research and Response Center is a structure that embraces the unpredictable, the unplanned, and the unstable, recognizing that these qualities are not mere aberrations, but rather the defining characteristics of our time.

# AMAGANSETT COASTAL RESEARCH AND RESPONSE CENTER

2023 SPRING  
ADVANCED IV - ROBERT MARINO

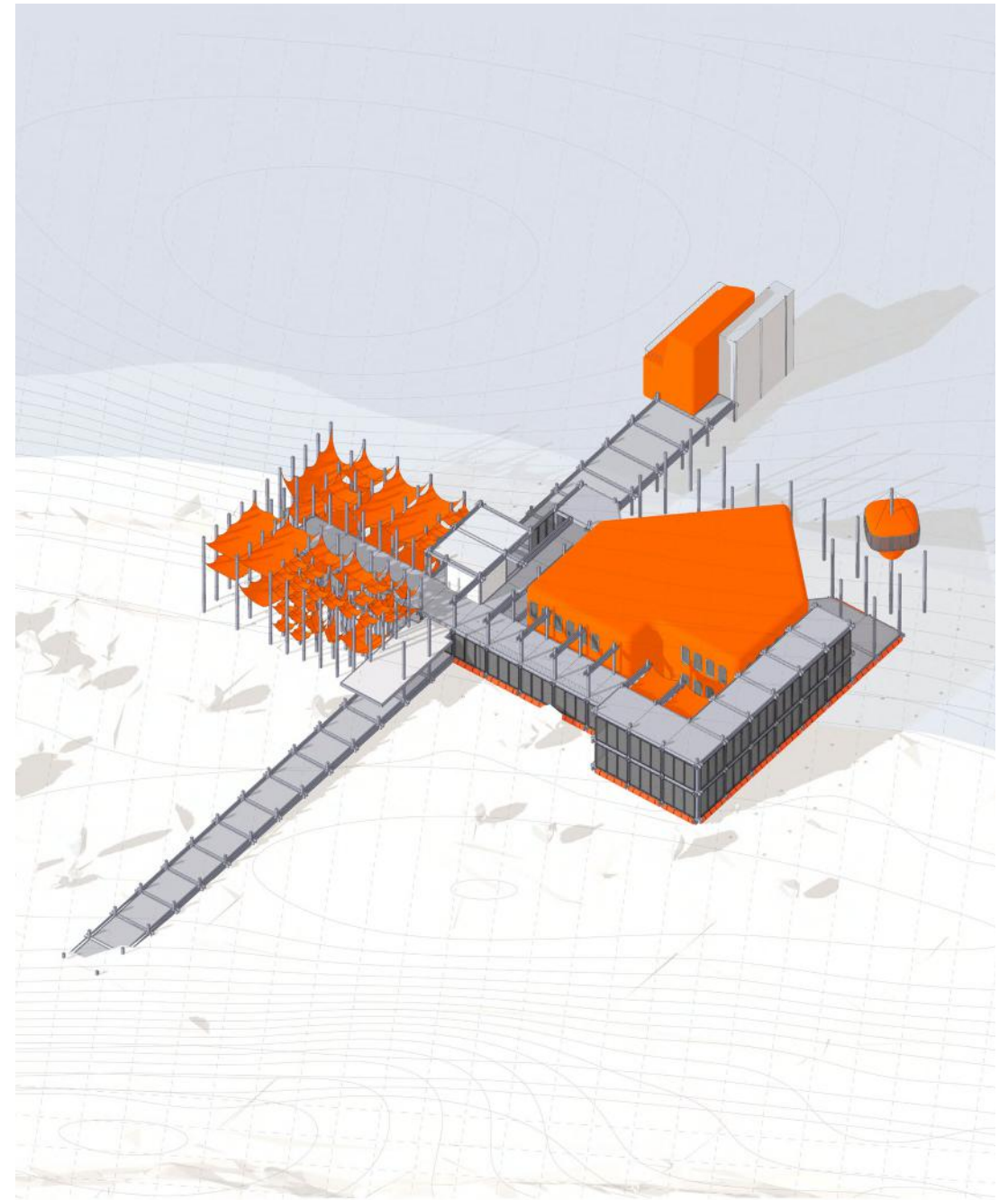


Fig. 47  
Axonometric view  
of the coastal building

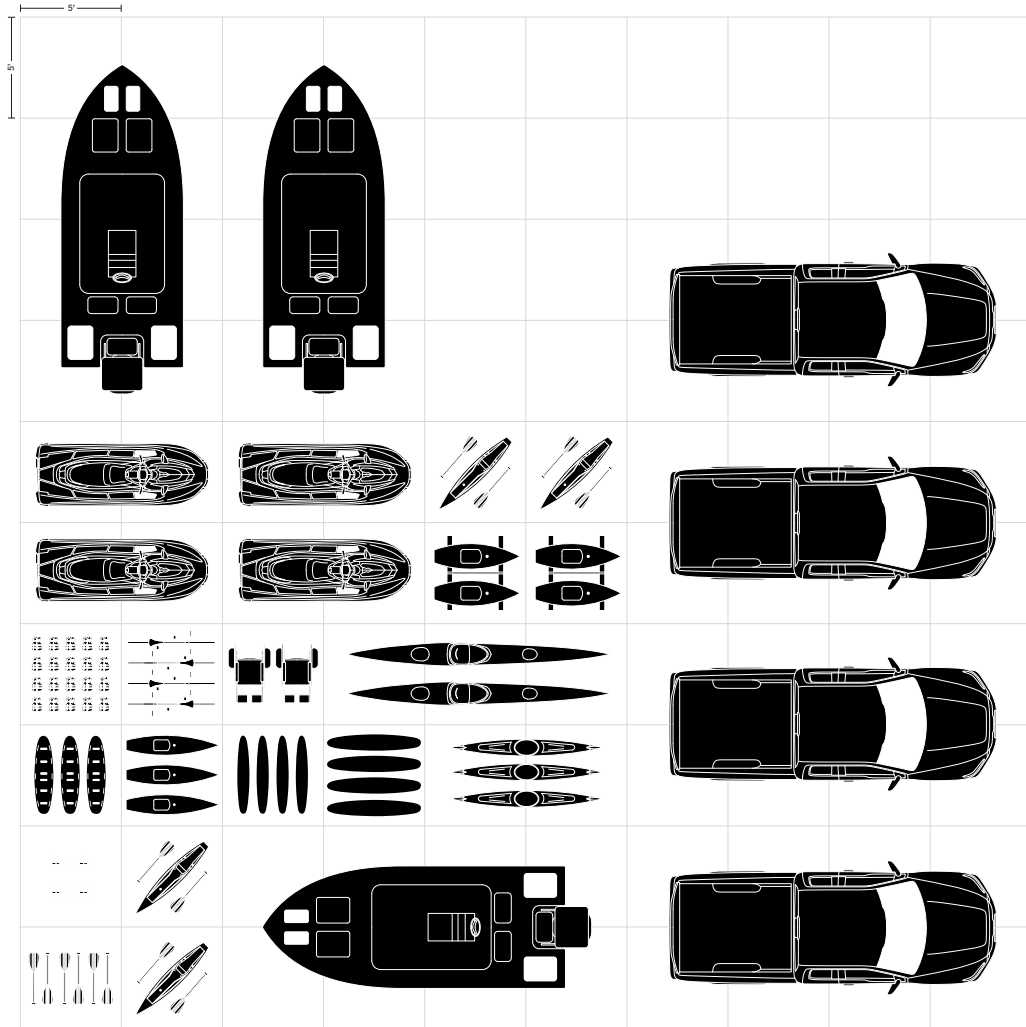


Fig. 50

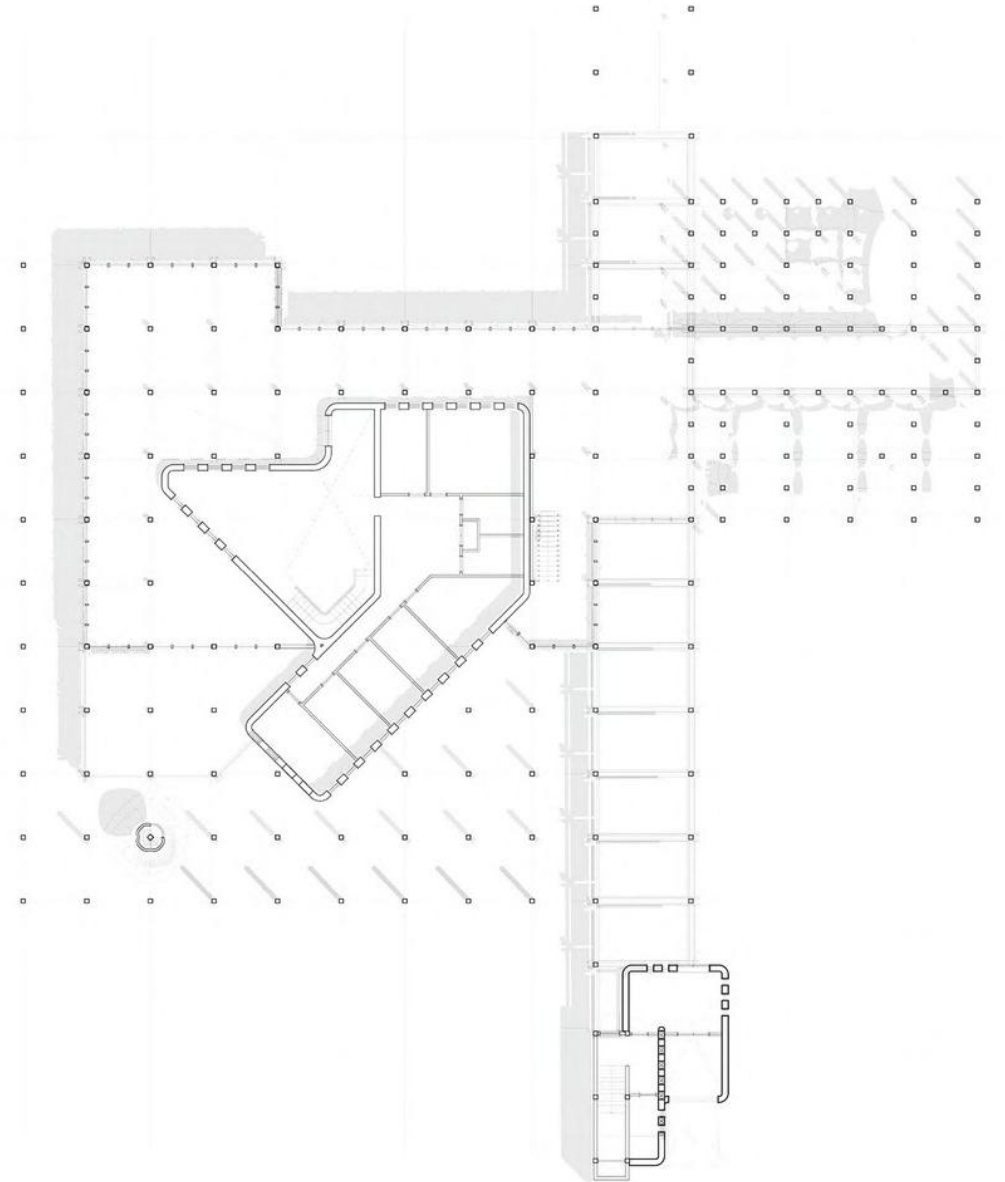


Fig. 51



Fig. 48  
Site map  
58

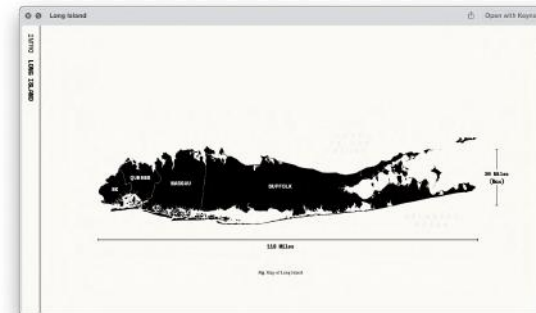
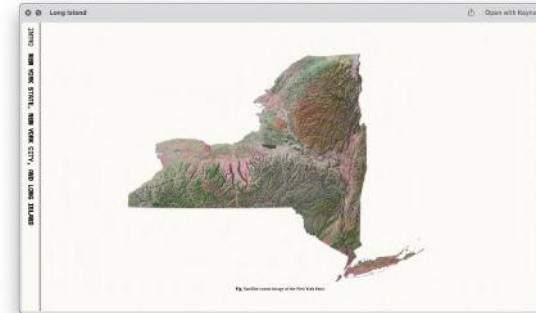
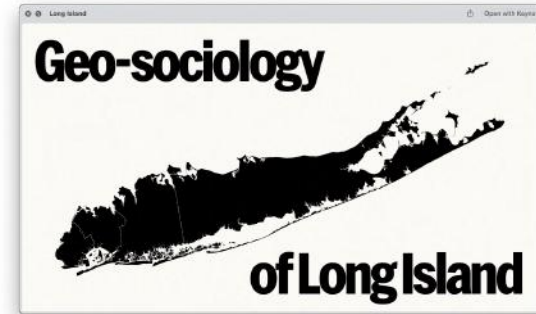


Fig. 49  
Research and mappings on  
Geo-sociology of Long Island

The center's proximity to the ocean coast and its role as a lifeguard station only serve to underscore the necessity of this approach. Here, the "off-the-grid" elements take center stage, designed to not merely withstand, but to actively engage with the unforeseen agents of extreme wind, flooding, and hurricanes. These adaptable components ensure that the station can continue to function not in spite of, but in harmony with the ever-changing conditions that surround it.

In this context, architecture serves not as a rigid framework, but rather as a porous foundation, a base from which the non-architectural can emerge and flourish. This project recognizes that it is precisely these non-architectural vehicles, working in tandem with the base structure, that hold the key to unlocking the potential of adaptive design in the face of an uncertain future.

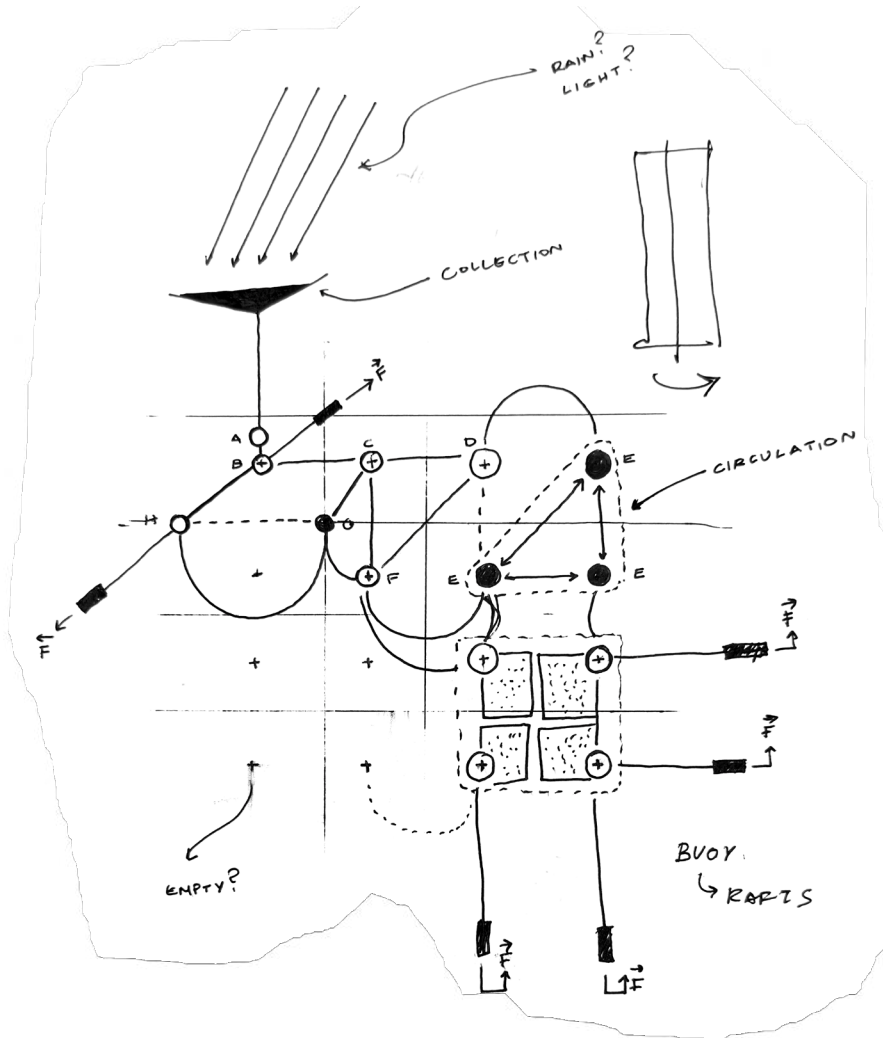


Fig. 52

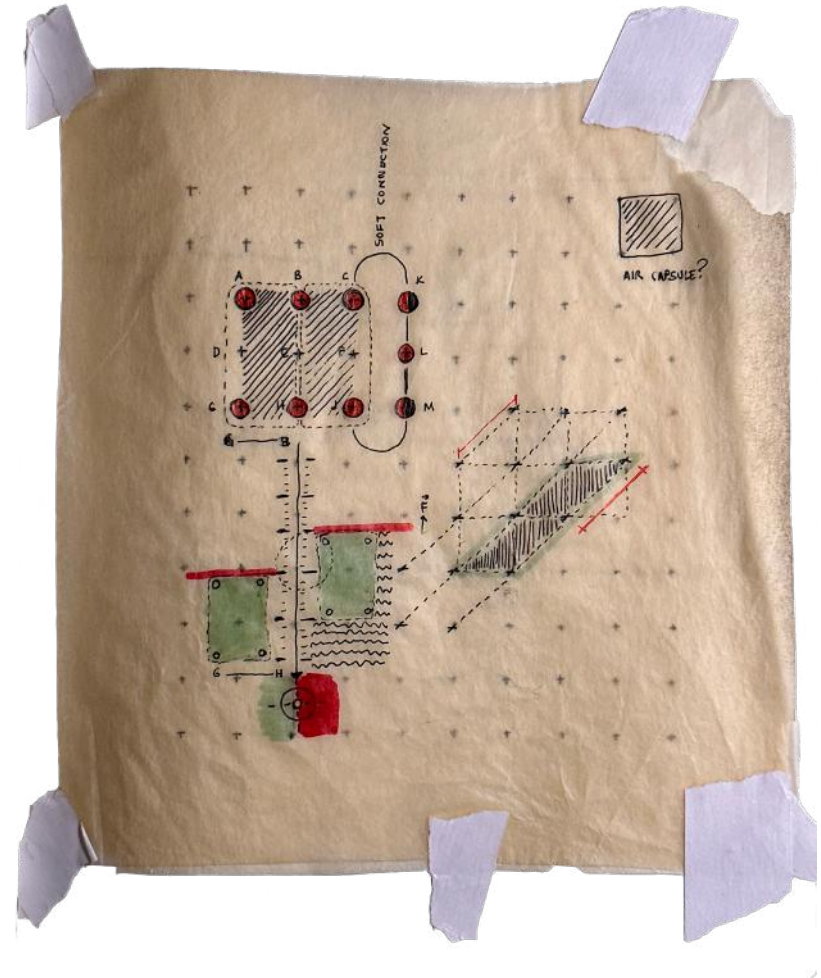


Fig. 53

Fig. 54

Data forests at the Library  
Auckland, New Zealand

# LIBRARY FOR TERRITORIAL AND ENVIRONMENTAL SENSING

ADVANCED V: DATA MOURNING STUDIO  
DIRECTED BY PROF. MARINA OTERO VERZIER

IN COLLABORATION WITH  
AMMAR H RASSAI AND WILL CAO

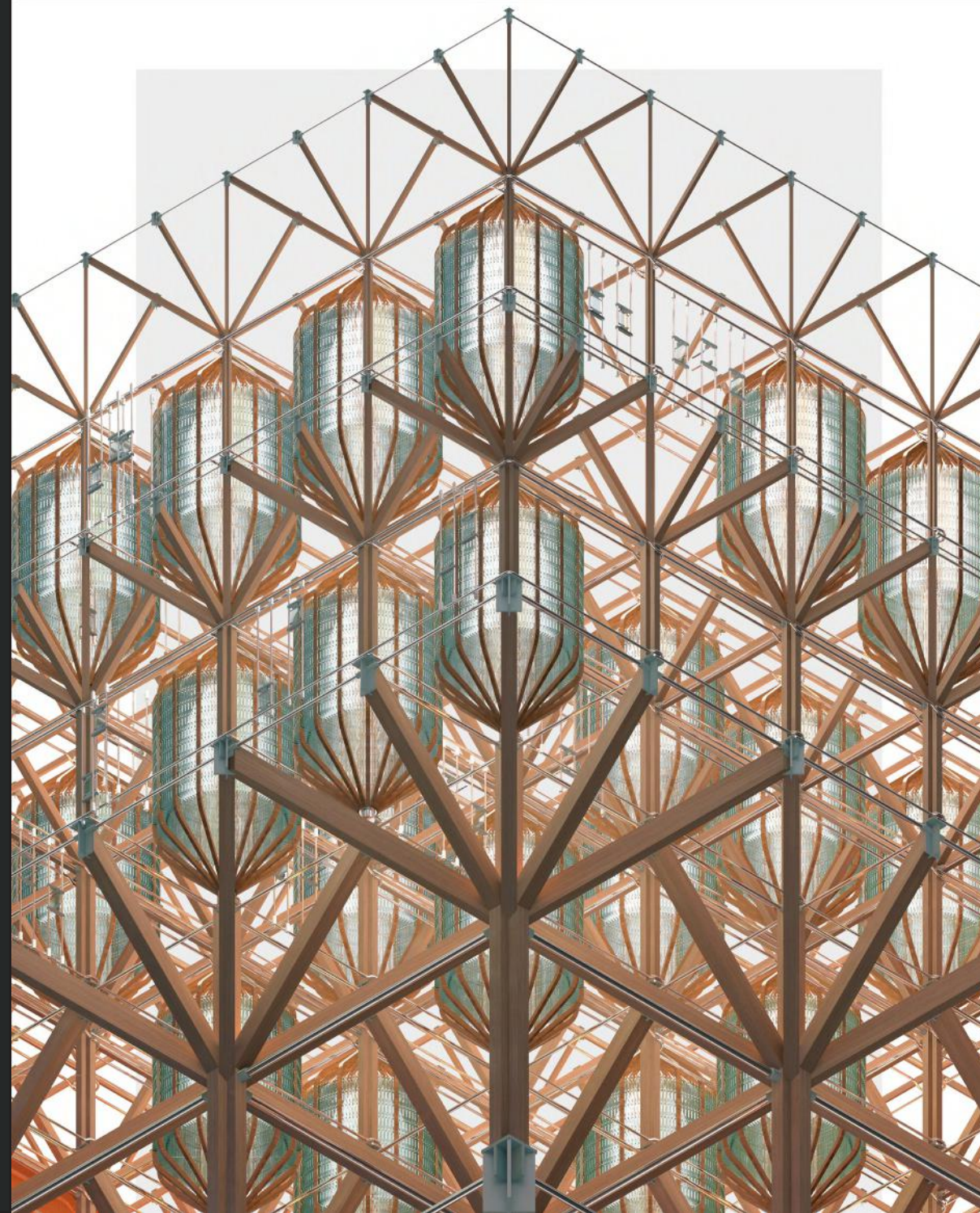






Fig. 55

Fig. 56  
Tuvalu's  
Prime Minister  
at the COP26

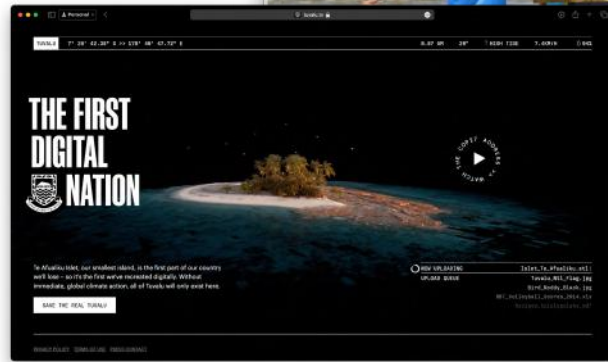
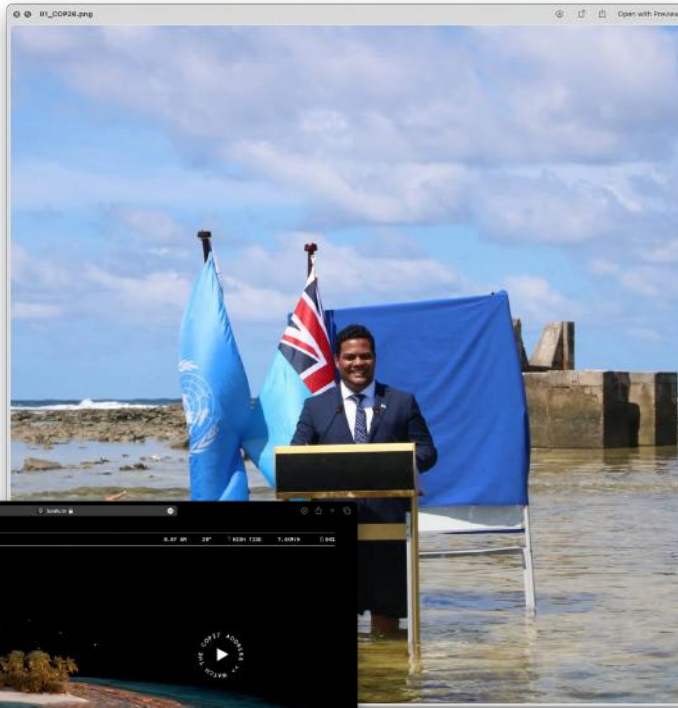


Fig. 57

Tuvalu's  
Landing Page on the Web:  
The First Digital Nation

Tuvalu's appeal to the world at COP26 calls us to reinvestigate how "territory" defines a "state." The government has recently announced their attempt at becoming the First Digital Nation by creating a digital twin of themselves, a project by Accenture. "Territory" has been considered an essential component of the legal definition for a "state" as evidenced by the Pan-American convention on the Rights and Duties of State, as well as a popular legal treatise by scholar Frederick Tse-Shyang Chen. Thus we've approached Tuvalu's situation with the question, "how does the movement of sand, people, and data redefine territory?"

Situated along what is often portrayed as the "edge" of the world, Tuvalu is rendered invisible on a map when land is considered separate from water. Tuvalu is an amalgamation of forces operating on a geologic and epochal scale, both below the water and below the earth. Fissures along the Pacific Plate erupt and are forged into geologic provinces of igneous rock. The slow death of one of these volcanoes marks the birth of an atoll. As plates shift, magma plumes recede back in the earth, causing volcanic islands to sink, or subside. All the while, ocean currents exchange sand between distant shores. As the island continues to sink, the fringe reef breaks off to become a barrier reef. Water collects into the gap, creating a lagoon. Eventually, the only remaining landmass is a ring of coral and sand in an atoll. Its profile will continue to shift and reform with the movement of the sand. Should currents and conditions change drastically, landmass above water may be carried away entirely. Even then, beneath the water's surface, a platform reef will survive, along with Tuvalu's life below the water. The sand, and thus the territory, does not disappear. Although dispersed, it assists in the formation of future atolls, reconfiguring Tuvalu's territory.

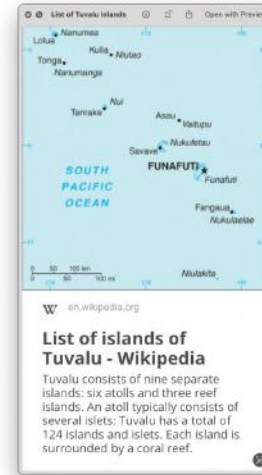


Fig. 58

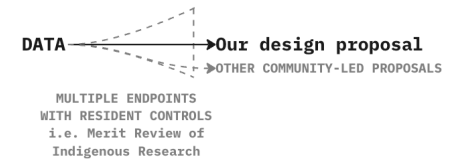
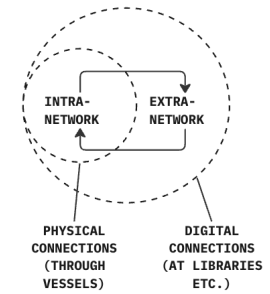
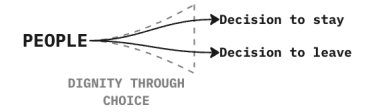
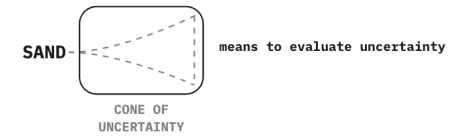


Fig. 59

How to Start  
Your Own Country  
by Erwin S. Strauss

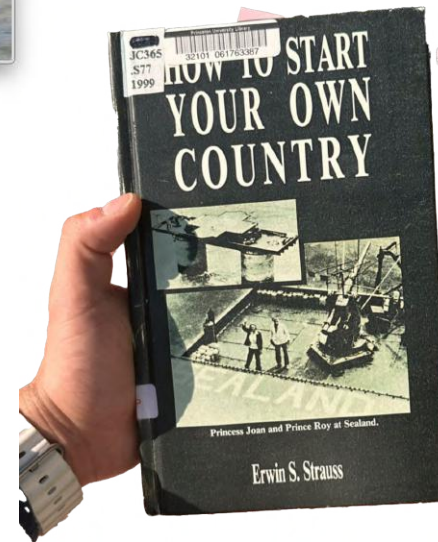
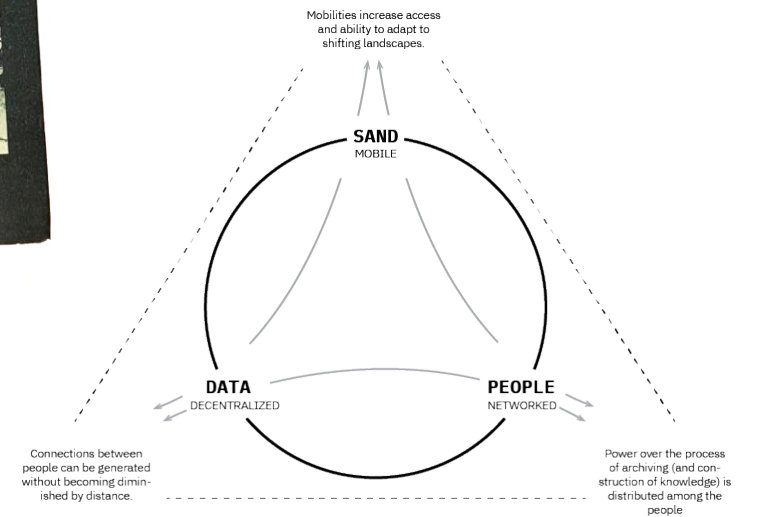


Fig. 60

Diagrams showing stances and positions taken as to how the movement of sand, people, and data will be distributed across the network



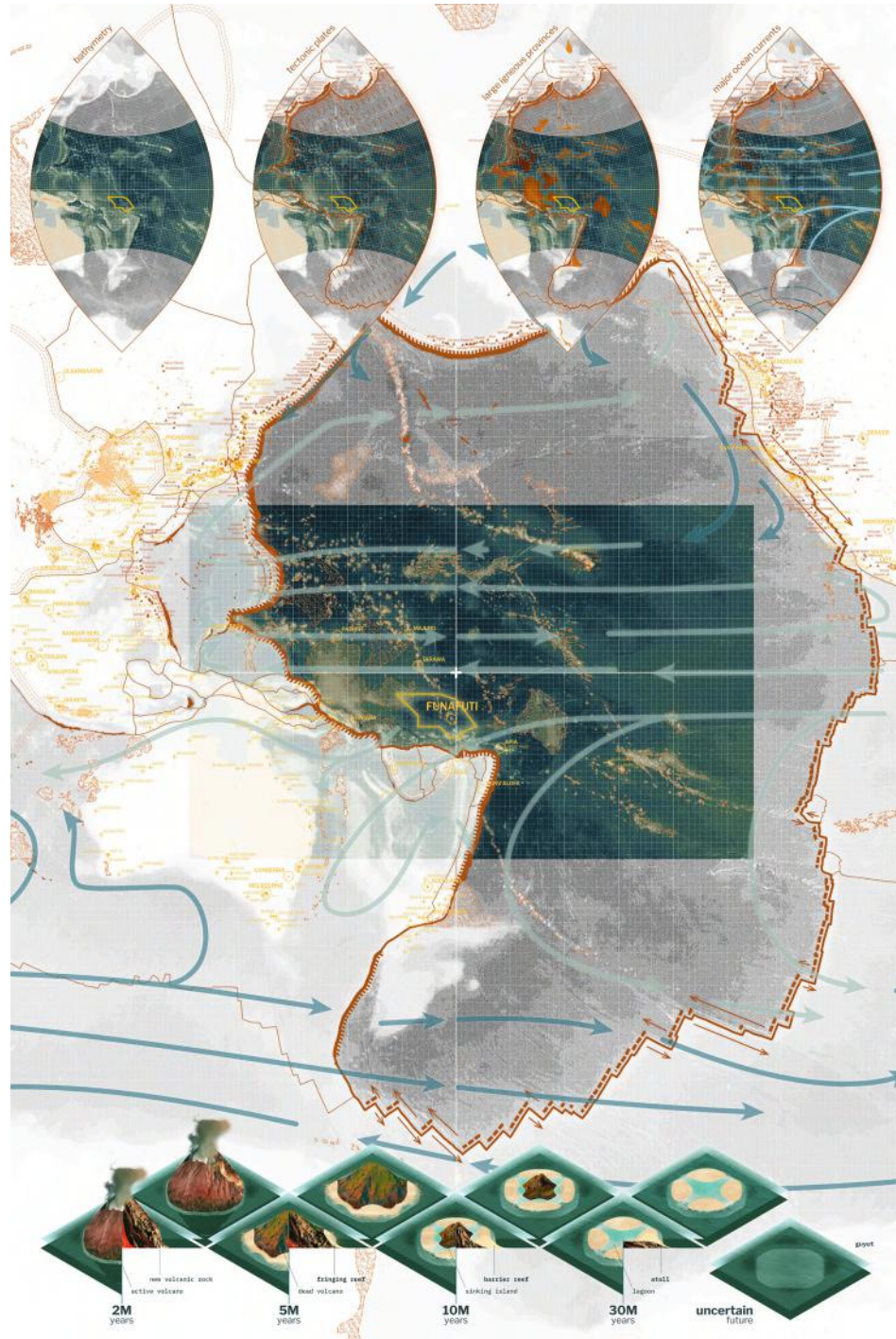


Fig. 61

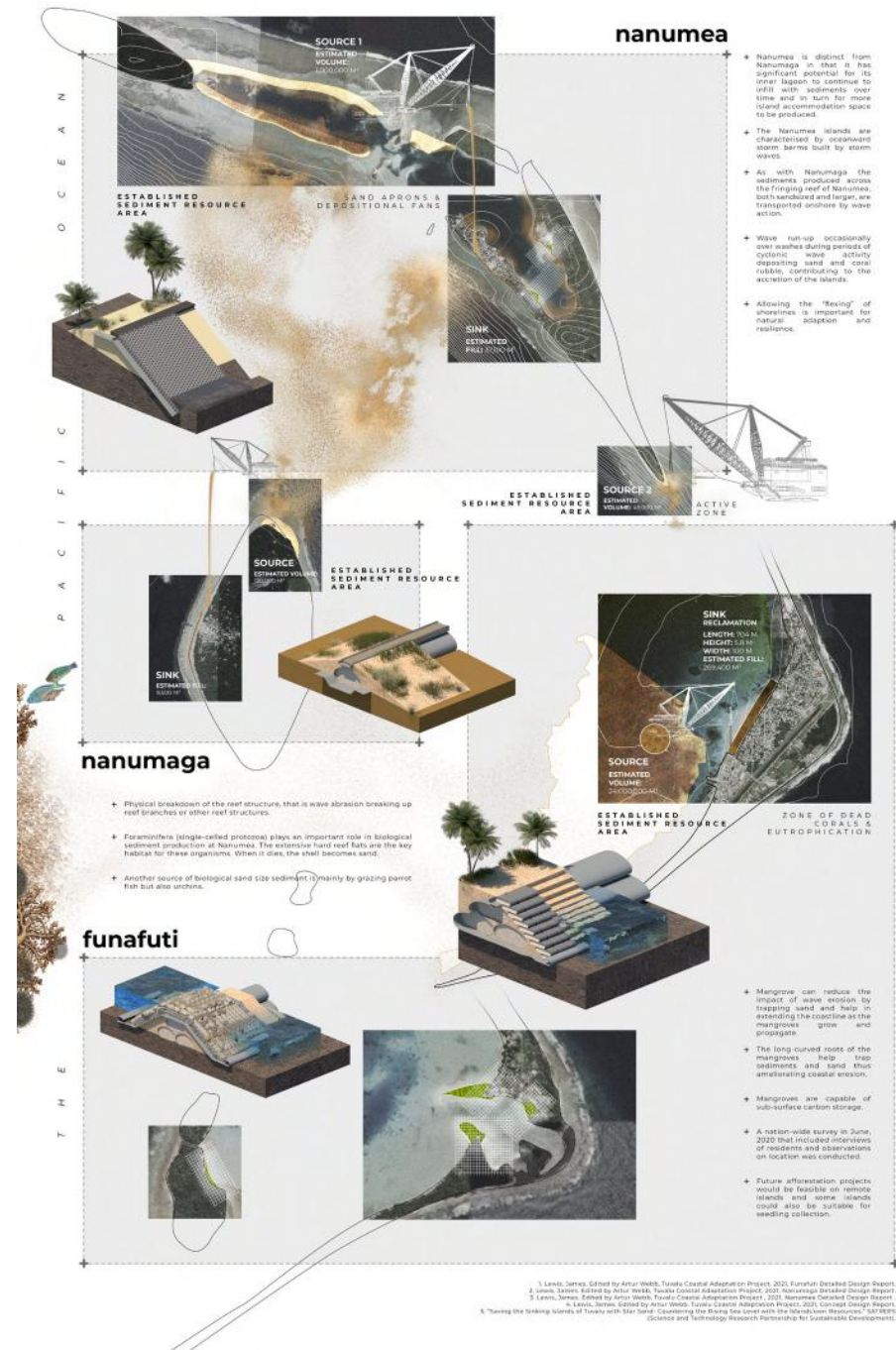


Fig. 62

Sand is an essential component in Tuvalu's geological assembly. Its dynamic physical and chemical compositions, coupled with its abundance, render it a prime resource to mobilize in the islands' survival.

Three out of the nine islands have been proposed and approved as potential locations for the implementation of the Tuvalu Coastal Adaptation Project. With US\$36 million financing from the Green Climate Fund and US\$2.9 million co-financing from the Government of Tuvalu, the 7-year Tuvalu Coastal Adaptation Project is focused on strengthening the resilience of one of the world's most vulnerable countries to climate change and sea-level rise.

The natural 'flexing' of Tuvalu's shorelines is vital to the island's resiliency in the face of sea-level rise, situating the community within an environment constantly in flux. Another way of mobilizing sand is through restraining it. Mangrove planting has proven to be an extremely effective means of tackling coastal erosion whilst benefitting human and non-human ecosystems. A nation-wide survey in June 2020 highlighted potential locations for this endeavor.

The volatility of Tuvalu's shorelines, however, widens the disparities between people and land as the propagation of the land form explicitly threatens the 'settlement'. But the Tuvaluan's are a resilient community. It's crucial to recognize and denounce the label of "climate refugees", often used by Western researchers when referring to them. For Tuvaluan communities, mobility is an indigenous trait, akin to other Pacific Island cultures.

Hence, our project naturally gravitated towards better understanding Tuvaluans' experience of mobility within the Island. It reveals that the movement of people within Tuvalu doesn't always follow a linear journey from one point to another. Instead, it may encompass circular or back-and-forth movement, often adhering to a relatively consistent pattern.

Nevertheless, the four major patterns of movement we found are:

- The steady movement of people to and from their urban capital, Funafuti.
- The traditional inter-island group visits, known as malaga.
- The annual migration of students from their hometowns to Vaitupu.
- Other internal and international migration.

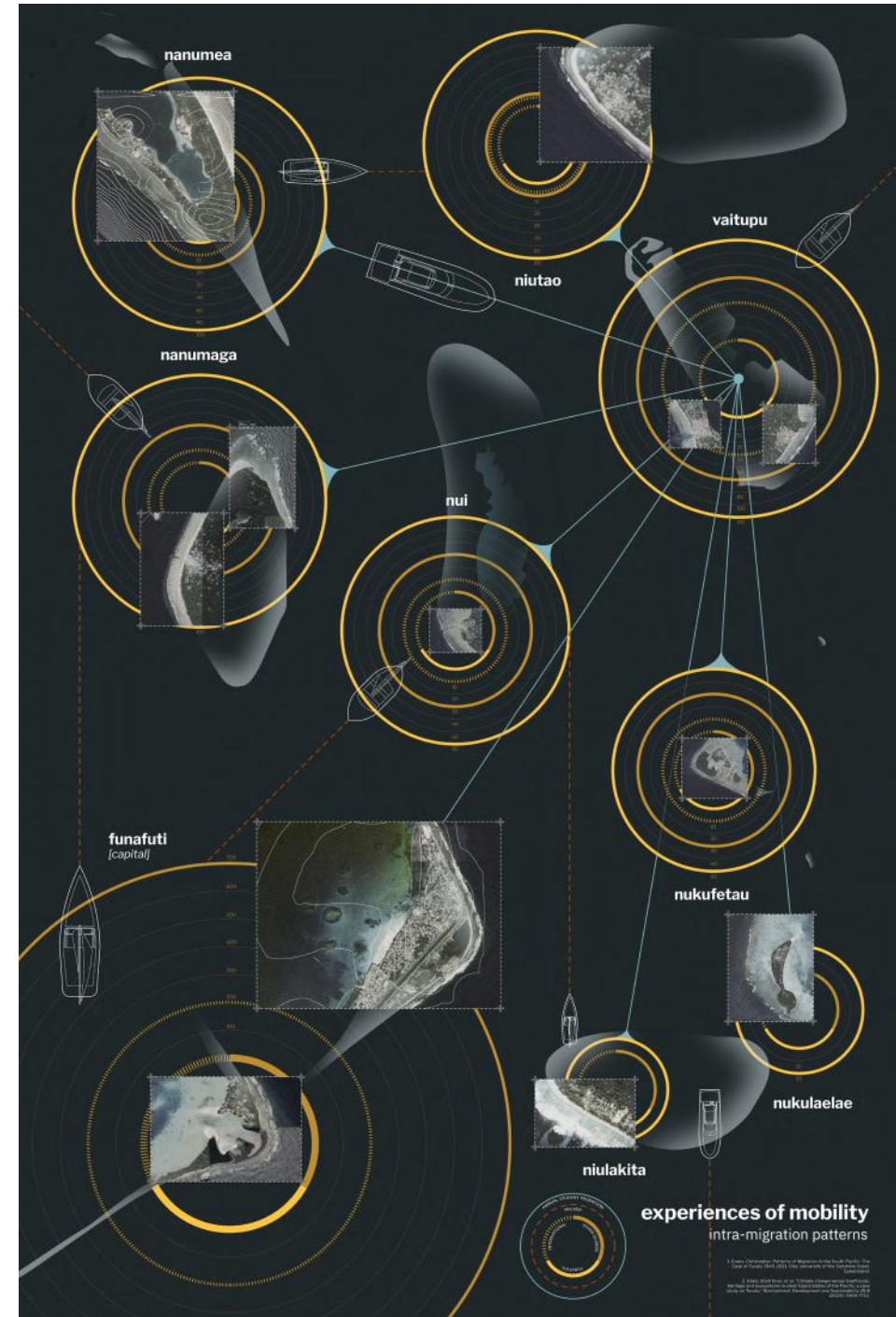


Fig. 63



Fig. 64  
Mobility between islands created its own tectonics, visible from the satellite view

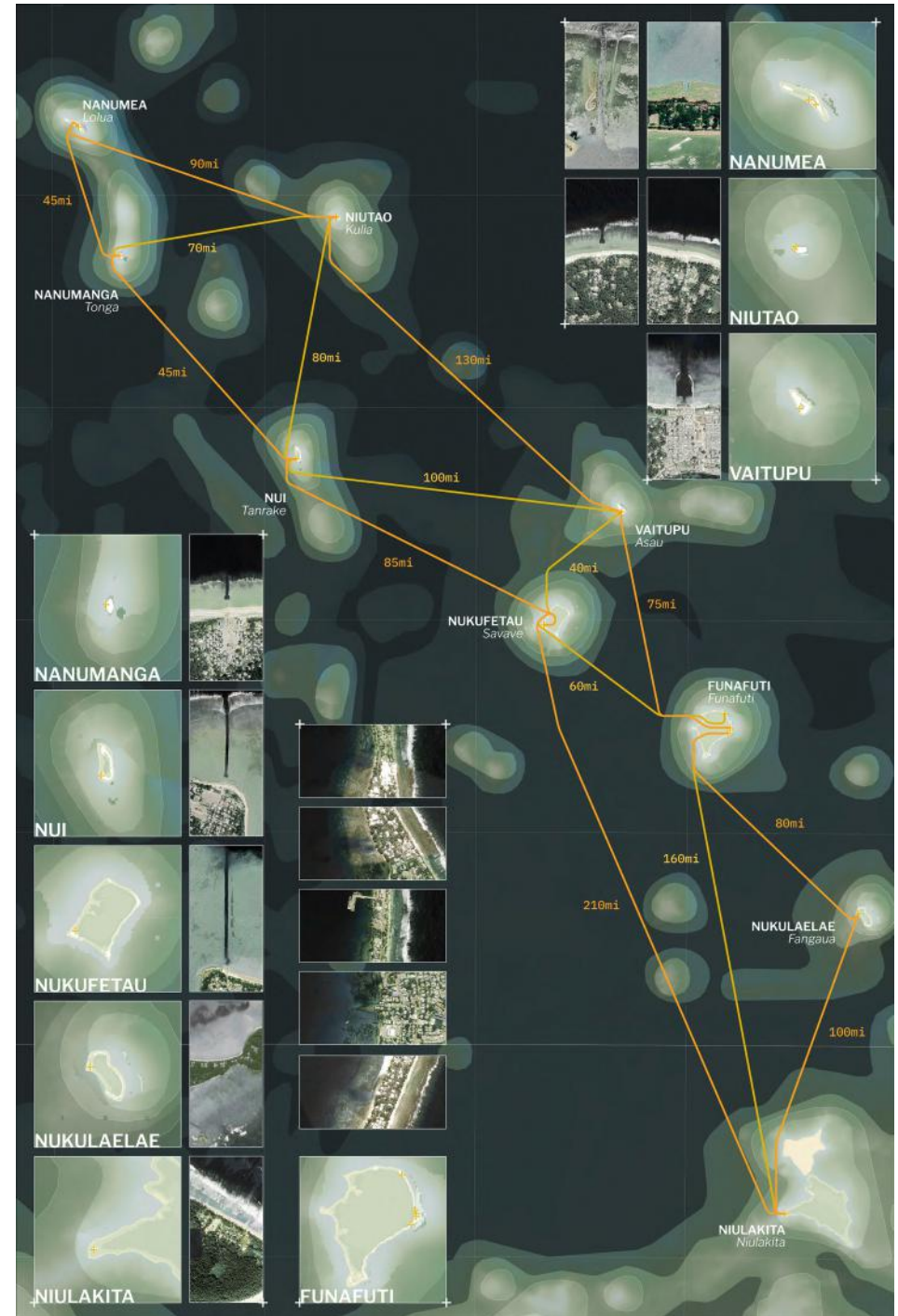


Fig. 65

A lack of access to technology and obsolescence in the face of climate change places Tuvalu's national archives in a position of precarity.

In the most populated island, Funafuti the Tuvalu National Library and Archives provides archival and community functions for residents of Funafuti such as climate and cultural education for children, as well as preserving and maintaining the documents that are vital to the nation's history and governance. Yet, current connections between islands can occur only within a limited window. The two mid-size vessels owned by Tuvalu stop by each island once a month or once every two months.

From waiting for schedules to be finalized and to embarking on the voyage, a rare trip to another island can involve almost a week. The atoll geography also provides challenges for the access of vessels. Larger vessels have difficulty surpassing the coral shelf, requiring cuts to create channels, t-turns, or openings for boat ramps visible in satellite imagery. As a result of these challenges of access, Tuvaluans often have more than one island of residence according to their national census, a unique form of kinship that defies distance, funds have been directed toward new public transportation projects that may reinstate these connections.

We envision a system that can preserve Tuvalu's territory and statehood despite the shifting qualities that its sand, people, and data share. Tuvalu's territory survives through tracing sand, its diaspora, and by a new cognizance of data it will employ. Regular routes provide opportunities for both people and data, reinforcing both cultural connections between islands and furthering insights within the slices of time and space Tuvaluans occupy.

Beyond the islands, the growing exodus of Tuvaluans from their homeland in pursuit of better employment and educational opportunities on more stable geographies has produced microcosmic Tuvalus in cities like Auckland.

Despite historic connections to industry and military activity at ports near Auckland Central, many Pacific Islanders have been pushed to adjacent suburbs, where more than 50 percent of the population may be non-Maori Pacific Islanders. Within these enclaves, institutions such as libraries, community centers, and houses of worship have been adapted into landing points of the communities.

Our intervention aims to accommodate the differing needs for between the contexts and localities that are or have become Tuvaluan. Although the environmental data that Accenture focused on is one component of what is necessary to preserve, involving the parallel experiences and recollections by Tuvaluans of these events and their lives is necessary to encompass the extent of climate change. These are also data, and can no longer be considered externalities.



Fig. 66  
Mapping the largest Tuvaluan diaspora,  
which is in Auckland, NZ

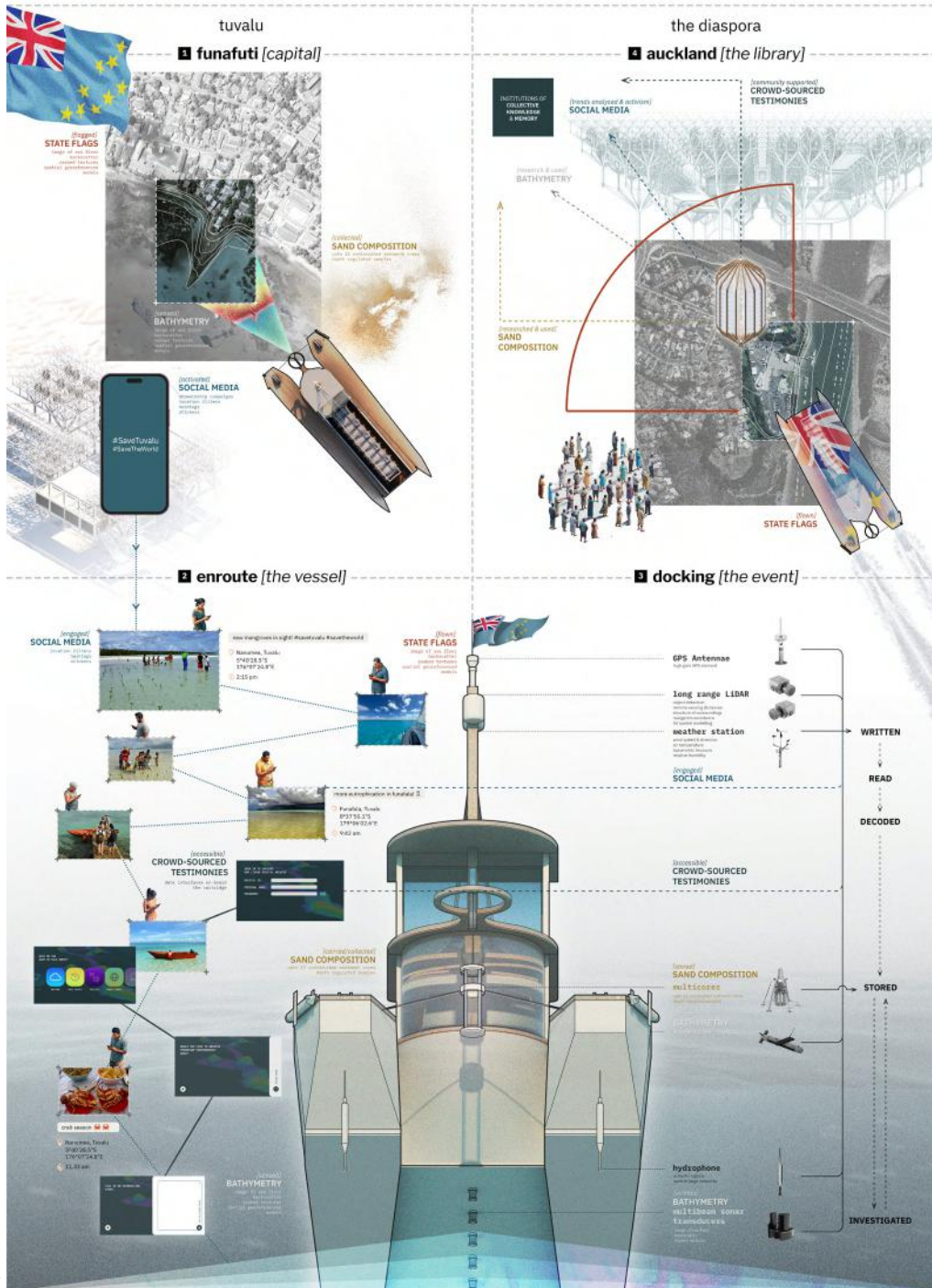


Fig. 67  
74

## TRACING DATA

As proposed by the Tuvaluan government, environmental data like accurate bathymetry helps assess risks like inundation, cyclones, and tsunamis. Its applications span marine and coastal land conservation, fishery management, natural resource extraction, and tracking ecological hazards in various sectors.

Here, we introduce the prototype of a remote sensing passenger vessel designed to transport individuals while concurrently addressing Tuvalu's operational requirements for environmental and experiential data. The vessel can be used for inshore and shallow water acoustic monitoring, distance and spatial modeling, generation of bathymetric data, as well as sensing to inform the collection, deposition, and dredging of sediment.

Passengers on the vessel, between islands and to other foreign diasporic communities, actively contribute data by utilizing social media and other interactive interfaces available onboard. This includes recording oral histories and geolocating photographic data, providing Tuvaluans with an opportunity to advocate for and actively participate in strengthening their territorial identity through data collection efforts.

We've selected five data types and followed their paths during voyages connecting the island of Tuvalu with the wider diaspora. These include bathymetric data, sand composition, social media, crowdsourced testimonies, and state flags. As the journey commences at the pier, Tuvalu bathymetry is sensed, social media filters and geotags are accessible, the state flag is raised, and sediment cores are extracted as needed.

As the vessel crosses the Pacific, bathymetric models undergo continuous refinement with regular passes. Passengers have the opportunity to engage with data interfaces on the vessel, social media tagging is actively encouraged, and the flag declares the vessel as Tuvalu's territory, irrespective of its geographical location on land. Upon docking in Auckland, each different data type is processed in specific ways. Before it is decentralized into active diasporic institutions of knowledge and collective memory.

## THE CARTRIDGE

It all starts at the piers off the coast of the islands of Tuvalu. Here, the cartridge is lifted up onto the pier, moved across the library from the inlands towards the water, and loaded onto the vessel - where people could walk into the cartridge, and it could be sent off to its way to its next destination. As departs the archive, so do the passengers, as well as their stories, and the data that's been collected in and outside of the vessel. The departure (and arrival) is a celebration – of people coming together, of and knowing and understanding of home and everything else that surrounds it. The cartridge is designed in a modular way, with each module expanding its program through different spatial configurations as well as special equipment for sensing and experiencing.

Every cartridge is a meaningful group of 6 different modules. These modules can be as simple as a fully enclosed space, or full of complex machinery, servers, and data storage devices like the auditory testimony “module” in which people can share their experiences in a quiet space, or units that allows people to gather together and connect.

This modular approach allows countless spatial combinations, that could be utilized in various different ways – both on the vessel, and off when transported to community centers scattered all across the city to adapt to the needs of the journey, as well as the community.

In this combination, we are seeing two cap modules and six passenger modules in between. Starting with the cap modules, which are two for each end, every cartridge is a mix of the caps and 6 different modules. These modules can be as simple as a fully enclosed space.

While moving people, all units are fully expanded, allowing them to provide enough spaces for the passengers to make their trip, while also When it arrives at the pier and people leave the boat. In its fully compressed form, the cartridge could be fully loaded onto a semi-truck to be transported to community centers and various crucial locations in the diasporic communities once it reaches its destination.

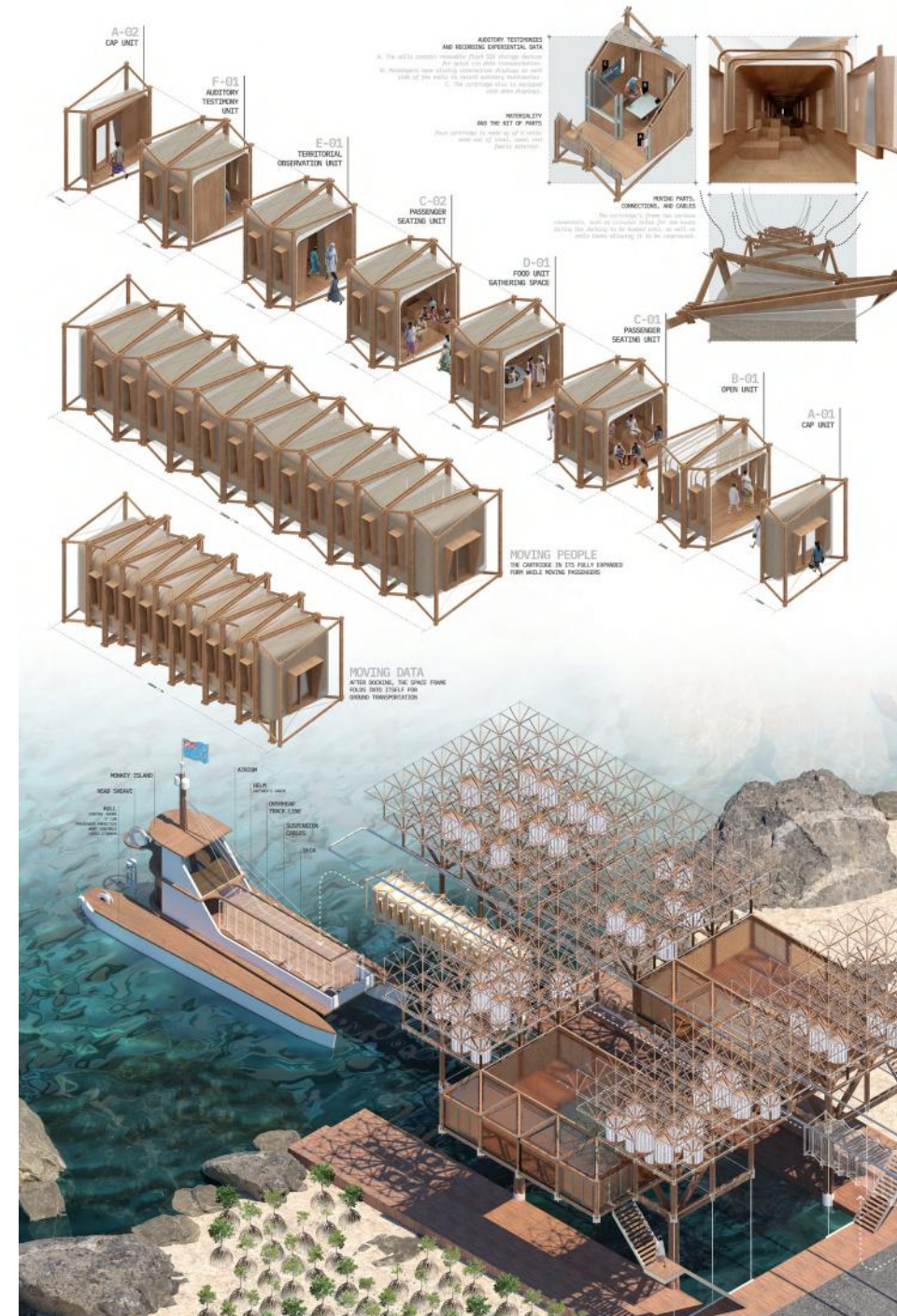
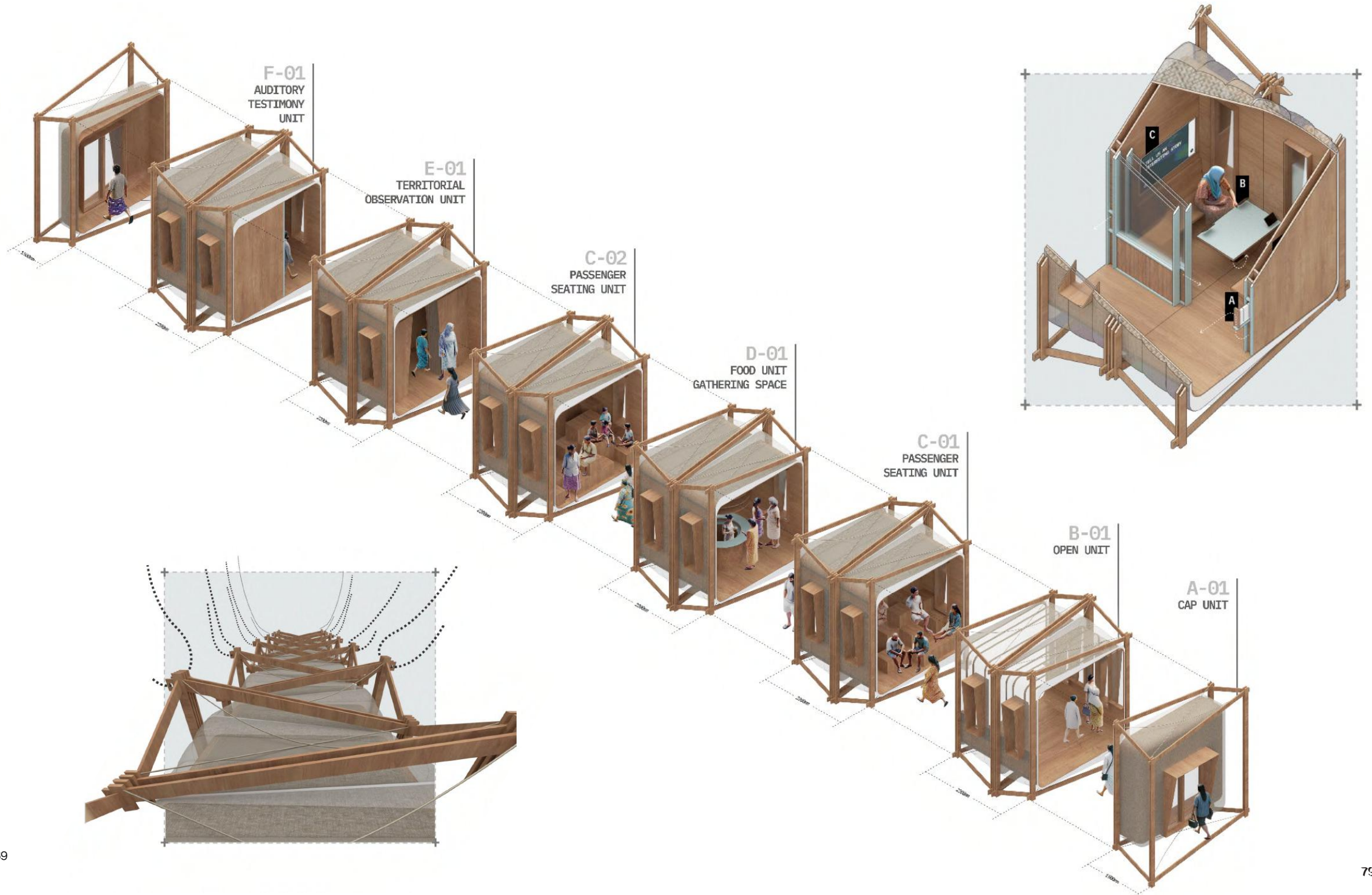


Fig. 68  
Cartridge,  
the pier, and  
data recording





# remote sensing passenger vessel

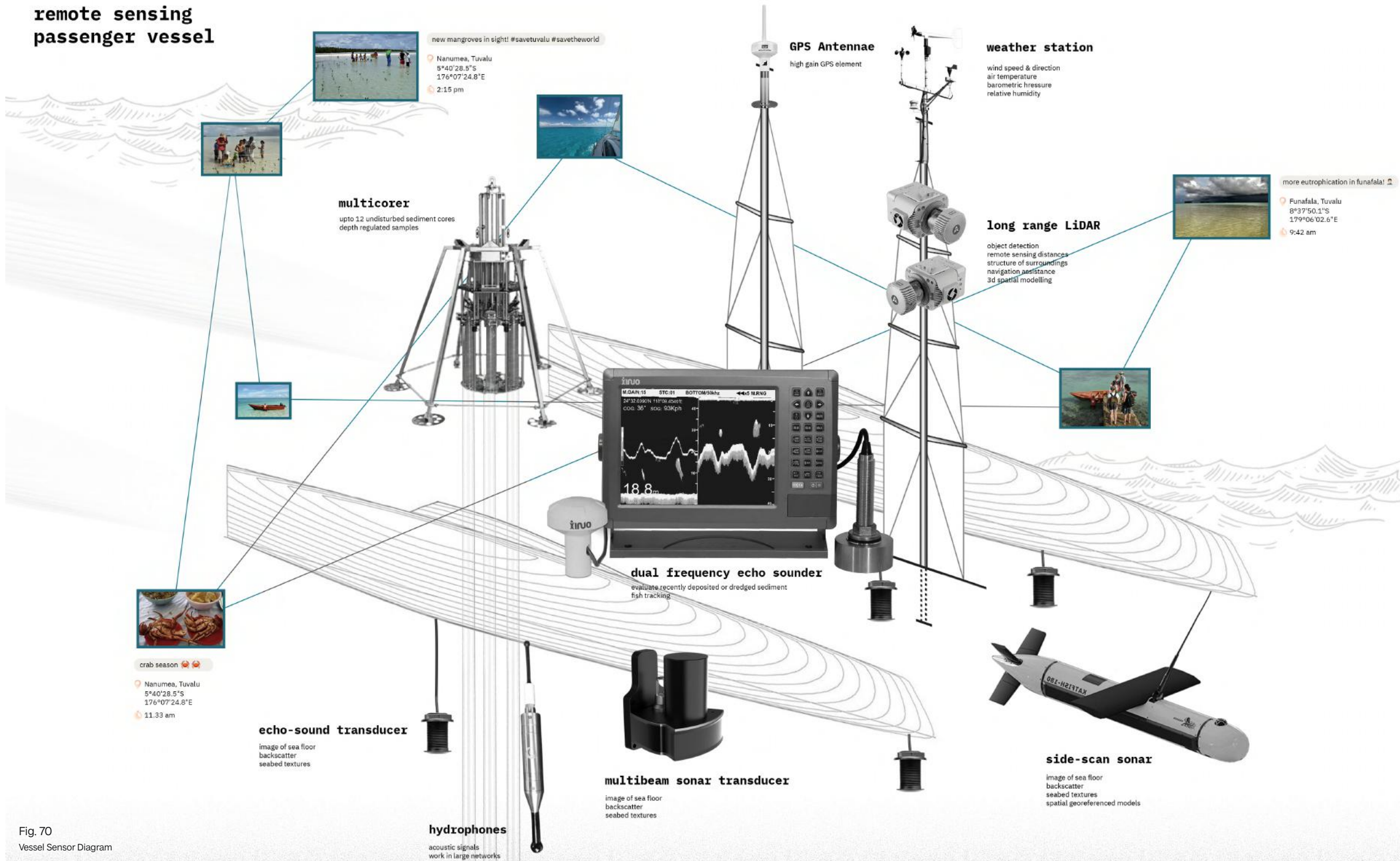


Fig. 70  
Vessel Sensor Diagram

tuvalu library for territorial sensing

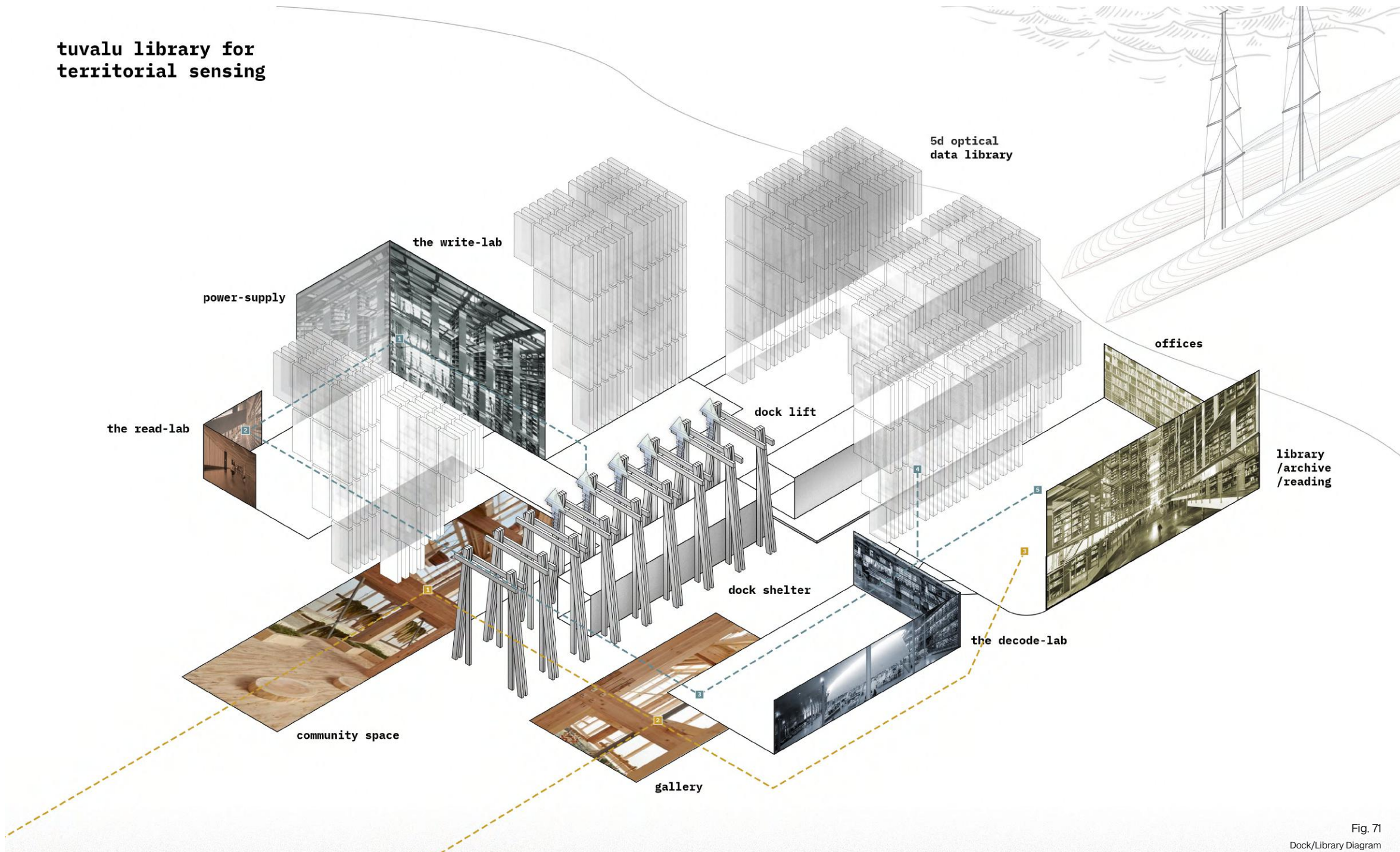
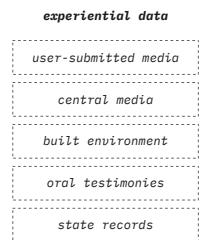
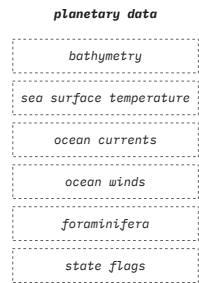
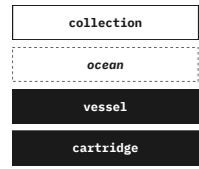


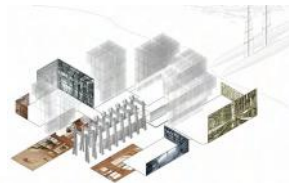
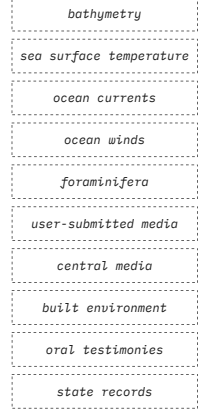
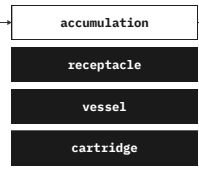
Fig. 71  
Dock/Library Diagram

Fig. 72  
Data flow chart

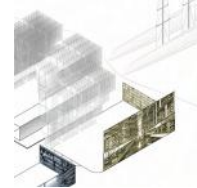
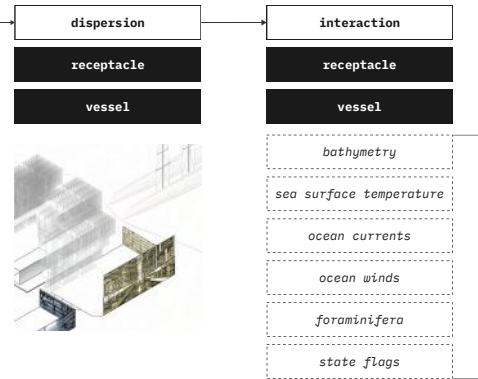
VOYAGE



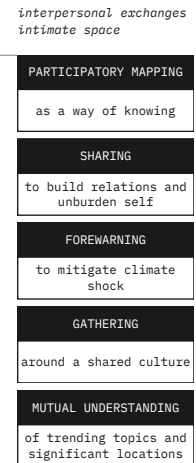
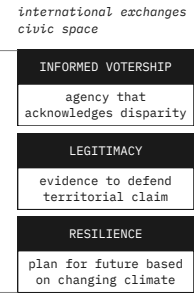
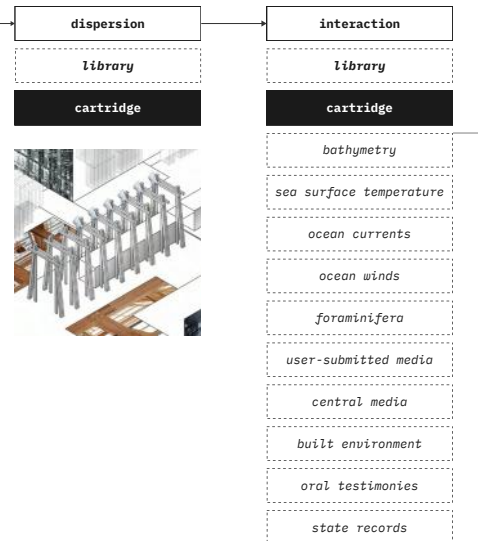
EVENT



[1] DATA TO GOVERN TERRITORY



[2] DATA TO ENGAGE COMMUNITY



THE LIBRARY FOR TERRITORIAL AND ENVIRONMENTAL SENSING

<b>Jingru Chen</b>	<b>Paula Vilaplana</b>	<b>Andrea Molina Cuadro</b>	<b>Dan Miller</b>	<b>Marina Otero</b>	<b>Khadjaann Tarver</b>
Where do you see the future of the library? ...	How do you see the future of the library? ...	Where are the challenges? ...	Where are the challenges? ...	Where are the challenges? ...	Where are the challenges? ...
Accumulation and interest ...	Accumulation and interest ...	Accumulation and interest ...	Accumulation and interest ...	Accumulation and interest ...	Accumulation and interest ...
Use in ...	Use in ...	Use in ...	Use in ...	Use in ...	Use in ...
Threats to ...	Threats to ...	Threats to ...	Threats to ...	Threats to ...	Threats to ...
Opportunity to ...	Opportunity to ...	Opportunity to ...	Opportunity to ...	Opportunity to ...	Opportunity to ...
500 years too far ...	500 years too far ...	500 years too far ...	500 years too far ...	500 years too far ...	500 years too far ...
How do you see the future of the library? ...	How do you see the future of the library? ...	How do you see the future of the library? ...	How do you see the future of the library? ...	How do you see the future of the library? ...	How do you see the future of the library? ...
Very much and ...	Very much and ...	Very much and ...	Very much and ...	Very much and ...	Very much and ...
Think about ...	Think about ...	Think about ...	Think about ...	Think about ...	Think about ...

Fig. 73  
Many, many notes; interviews, and research

COMMUNITY LIBRARY

READ WRITE LAB

THE LIBRARY FOR TERRITORIAL AND ENVIRONMENTAL SENSING

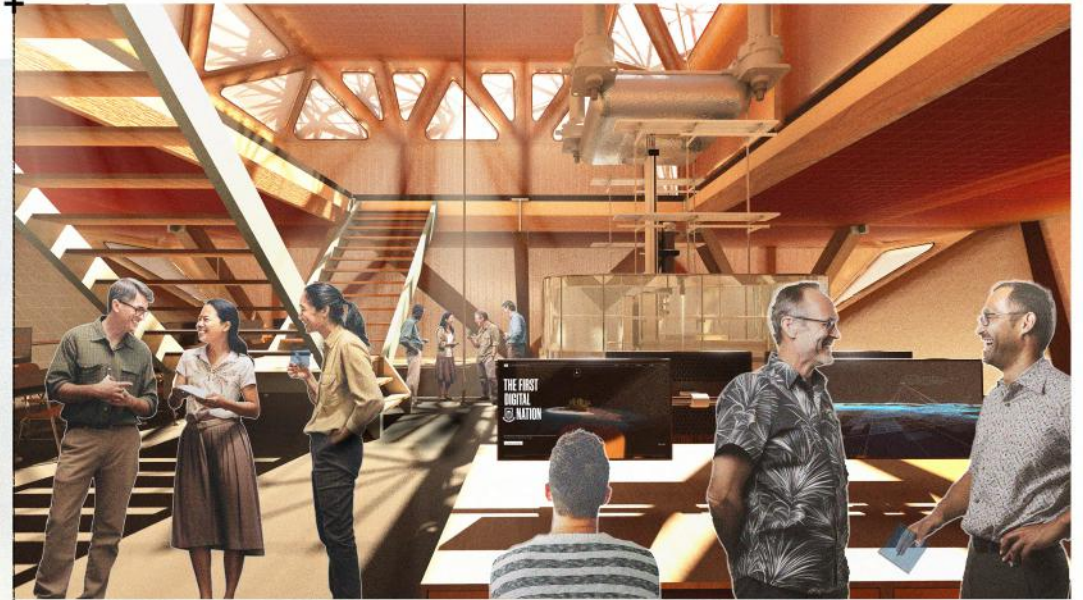


Fig. 74  
Library, arrival from the vessel

## THE LIBRARY

Docking at the library provides a moment of transition both for people and for data. Mirroring the mangroves used to mitigate shock from the movement, passengers approach a data forest. Although we might imagine data as immaterial, data must be cleaned, cataloged, processed, and compressed before being archived, all activities that occur within space and over time.

Upon docking at the pier in Auckland - the cartridge is ejected into the dock shelter where it transfers the data. The glass library design includes independent read, write, and storage labs.

The Write-Lab is where the glass plates are etched with symbols through very sharp laser pulses to store all the data in it.

The Read-Lab is where data in the glass is read through a computer controlled, very high speed, very accurate microscope.

The Decode-Lab is where the information written into the glass is now processed by decoding the symbols.

Just as information progressively accumulates over time, so does the pier. At first, it starts with a simple indent into the coast and few data branches near this waterline. At this starting phase, only the most essential program; such as the structure, data pods, the crane which allows the cartridge to be transported onto a ground vehicle, as well as a control room. The more the data proliferates, so does the library and its programs. Data trees keep “growing” along the water way, further away from the water; giving way for more sophisticated program elements to be built in between.

As the library keeps growing, it also becomes a space where the community congregates – giving the diasporic community a space where they can further proliferate their communal experiences.

As long as there will be people to be moved, and experiences to be shared; we envision these libraries to keep growing, places that are always dynamic and responsive.

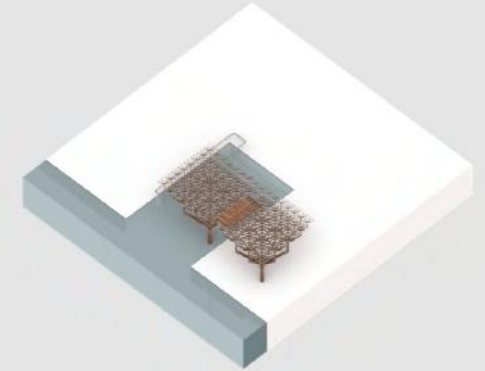
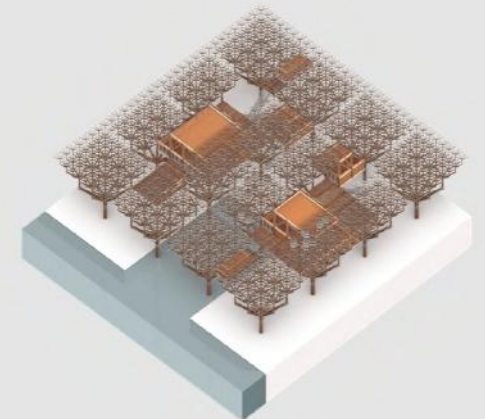
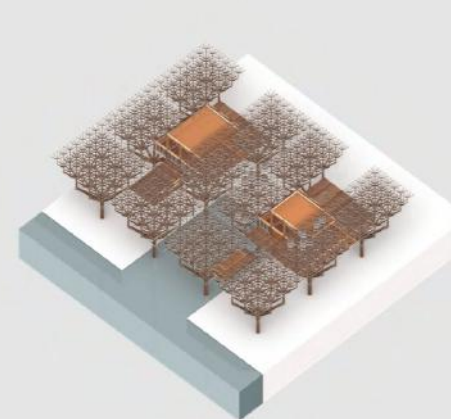
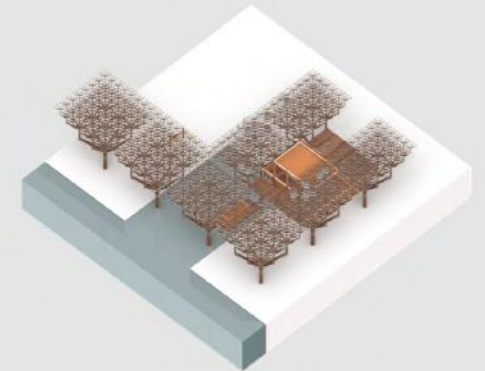
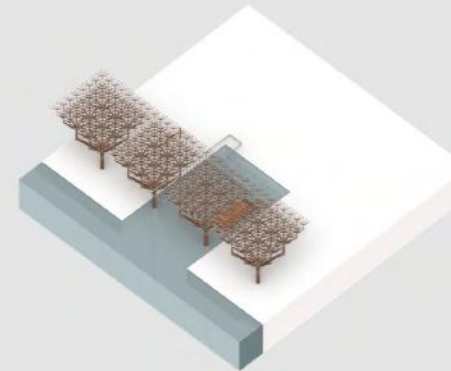
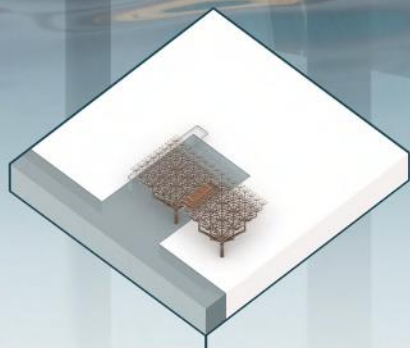
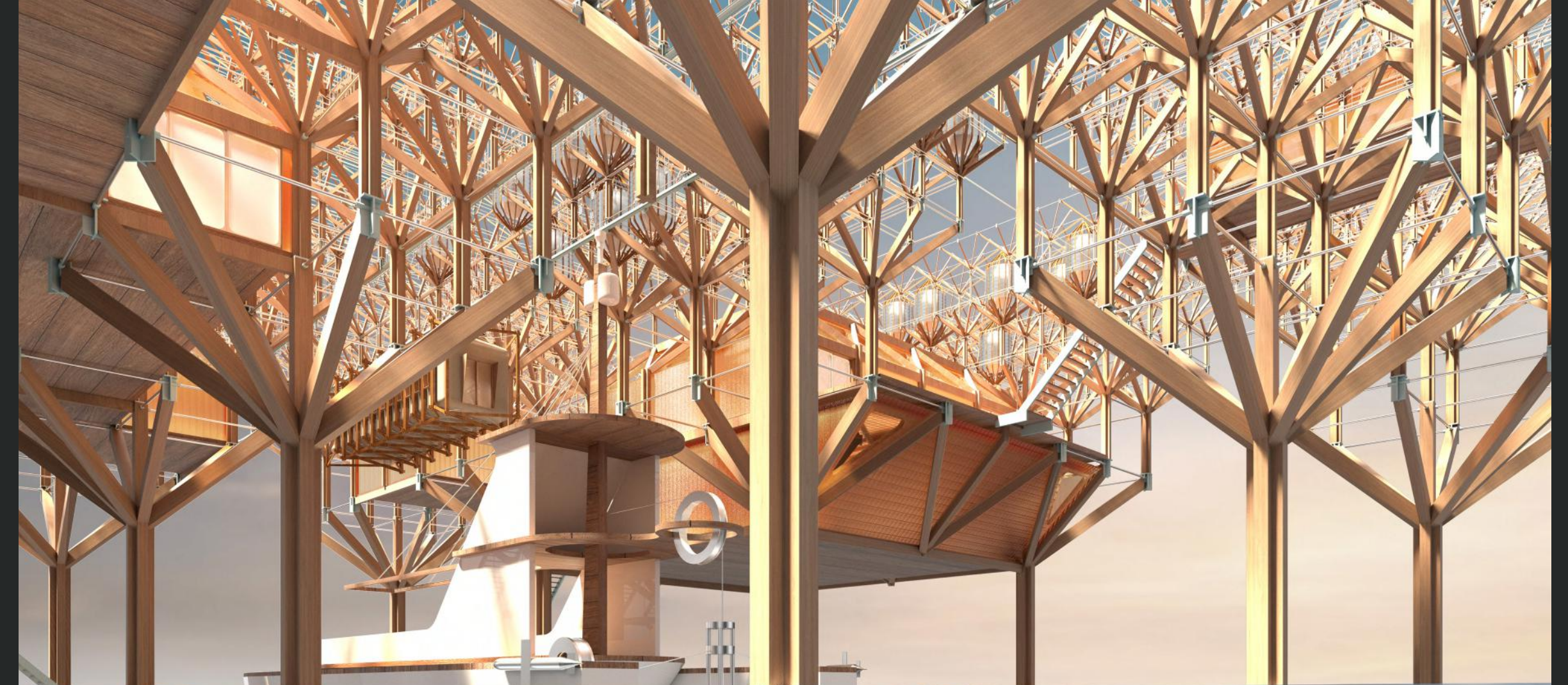


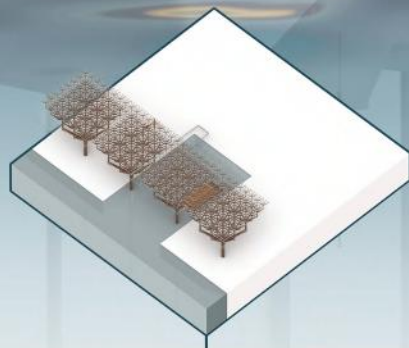
Fig. 75  
Growth over time





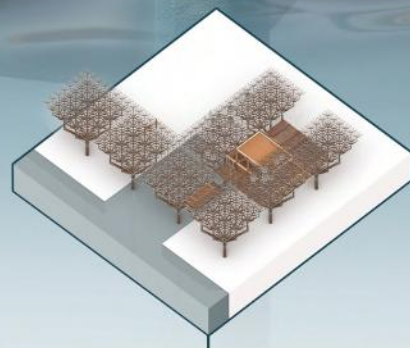
01

FIRST DATA PODS  
+ CONTROL ROOM



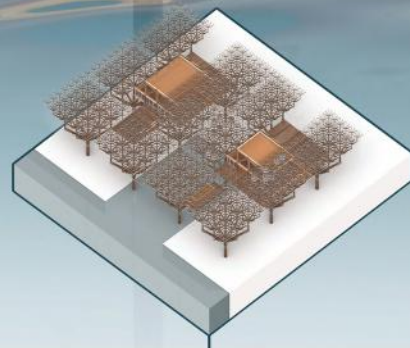
02

PROLIFERATION  
+ CONTROL ROOM  
+ WRITE, READ, DECODE LABS



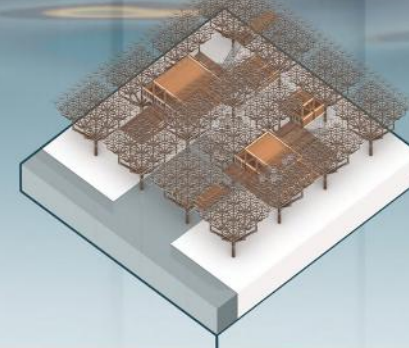
03

ACCUMULATION OF PEOPLE & DATA  
+ CONTROL ROOM  
+ WRITE, READ, DECODE LABS



04

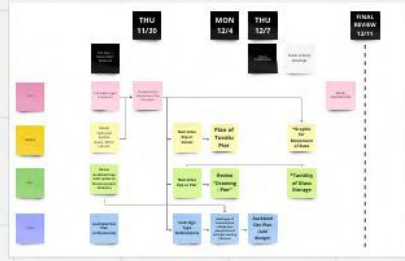
GROWING DIASPORIC COMMUNITY  
+ CONTROL ROOM  
+ WRITE, READ, DECODE LABS  
+ COMMUNITY LIBRARY



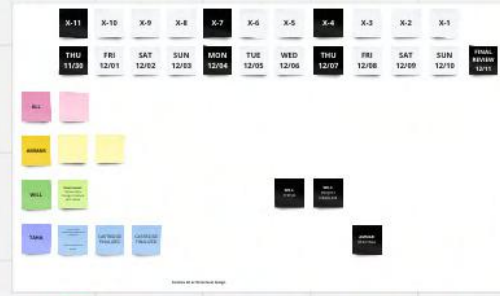
05

FLOURISHING DIASPORIC COMMUNITY  
+ CONTROL ROOM  
+ WRITE, READ, DECODE LABS  
+ COMMUNITY LIBRARY

Frame 1



Frame 2



23.11.09 Fe... 23.11.11 Art... 23.11.11 Posit... 23.11.11 Introduction

23.11.11 Moving Sand

23.11.11 Moving People

How to Build...

Data Sensing

MOBILITY IN TUVALU

TUVALU TO AUCKLAND

23.11.11 Moving Data

By designing a system that can expand across a vast landscape instead of a single physical location, our aim was to mirror this by not only congregating, but also dispersing the knowledge and the experiences of the people of the nation. The Cartridge, here transported to its temporary location at the Ranui Library, not as a means of transportation or aggregation, but also our final act in bringing an ever-flourishing community together.

To sum it all up, going back to sand, once the backdrop of the island's existence, Now becomes the substrate for Tuvalu's digital reincarnation – a self-referential act of survival in the age of rising tides.

The tensions between sand, people, and data, through their dispersion and accumulation, continuously reproduce territory. Our project operates at these intersections, overlaying social and technological infrastructural systems that flex with Tuvalu's morphing territory.

# MANUAL 10-222 PROTOTYPE HALF-VILLAGE

ADVANCED VI: OPEN STUDIO  
DIRECTED BY PROF. DAVID BENJAMIN

IN COLLABORATION WITH  
JINGWEI WU

About 3 million years ago, humans learned how to use tools, and since then, we have perfected agriculture, built complex product lines, and created global shipping networks to make and exchange goods that form the cities we live in today. However, these cities are increasingly being challenged by the byproduct of this ever-growing production. As India emerges as a major production hub, our mission finds fertile ground to develop a new form of production by repurposing millions of tons of agricultural waste into novel construction materials. These materials could be used to build the foundations and expand the new communities of tomorrow within a sustainable, close-circuited financial and material system.





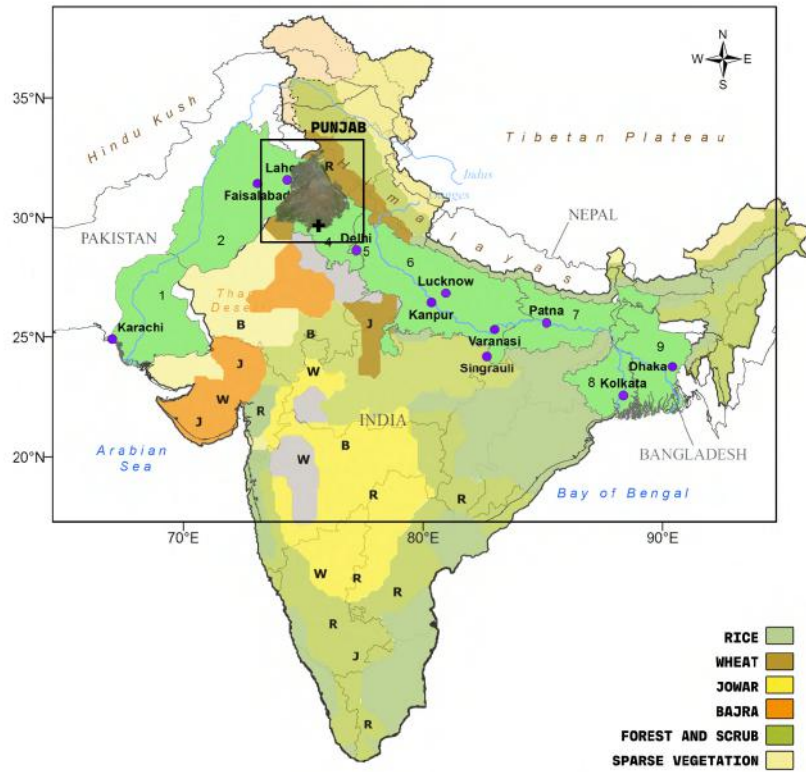


Fig. 79

The Indo-Gangetic Plain, which includes states like Punjab, Haryana, and Uttar Pradesh. These states are among the most productive agricultural regions in India, thanks in part to this effective crop rotation strategy.

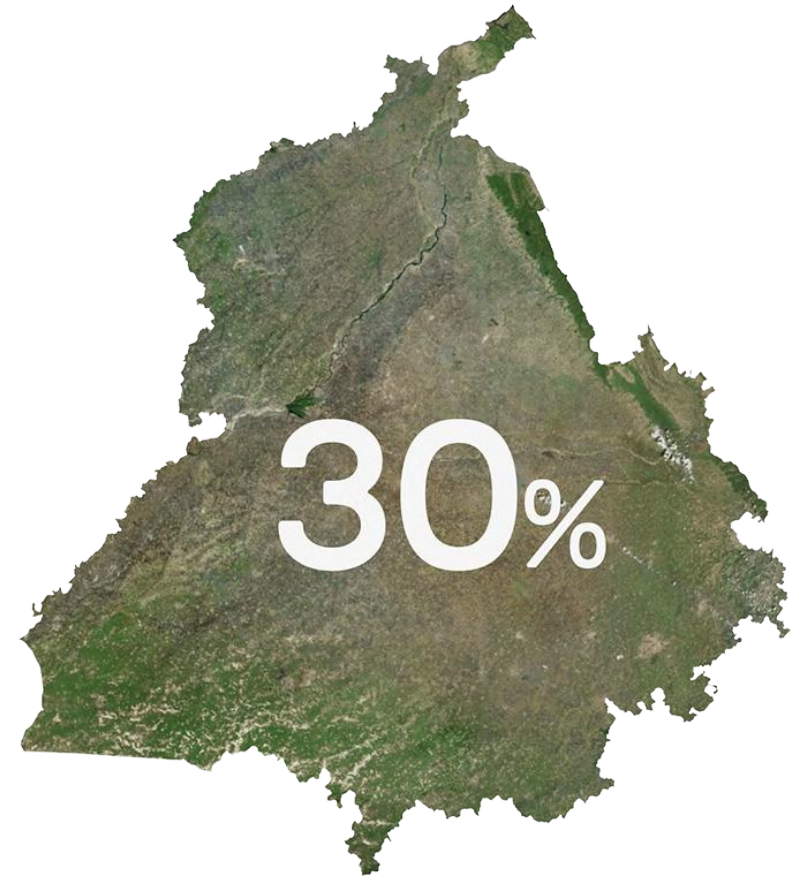


Fig. 80

Punjab is the main wheat and rice producer of the country contributing to 1/3rd of all food reserves in India



# Rabi

MAR-NOV

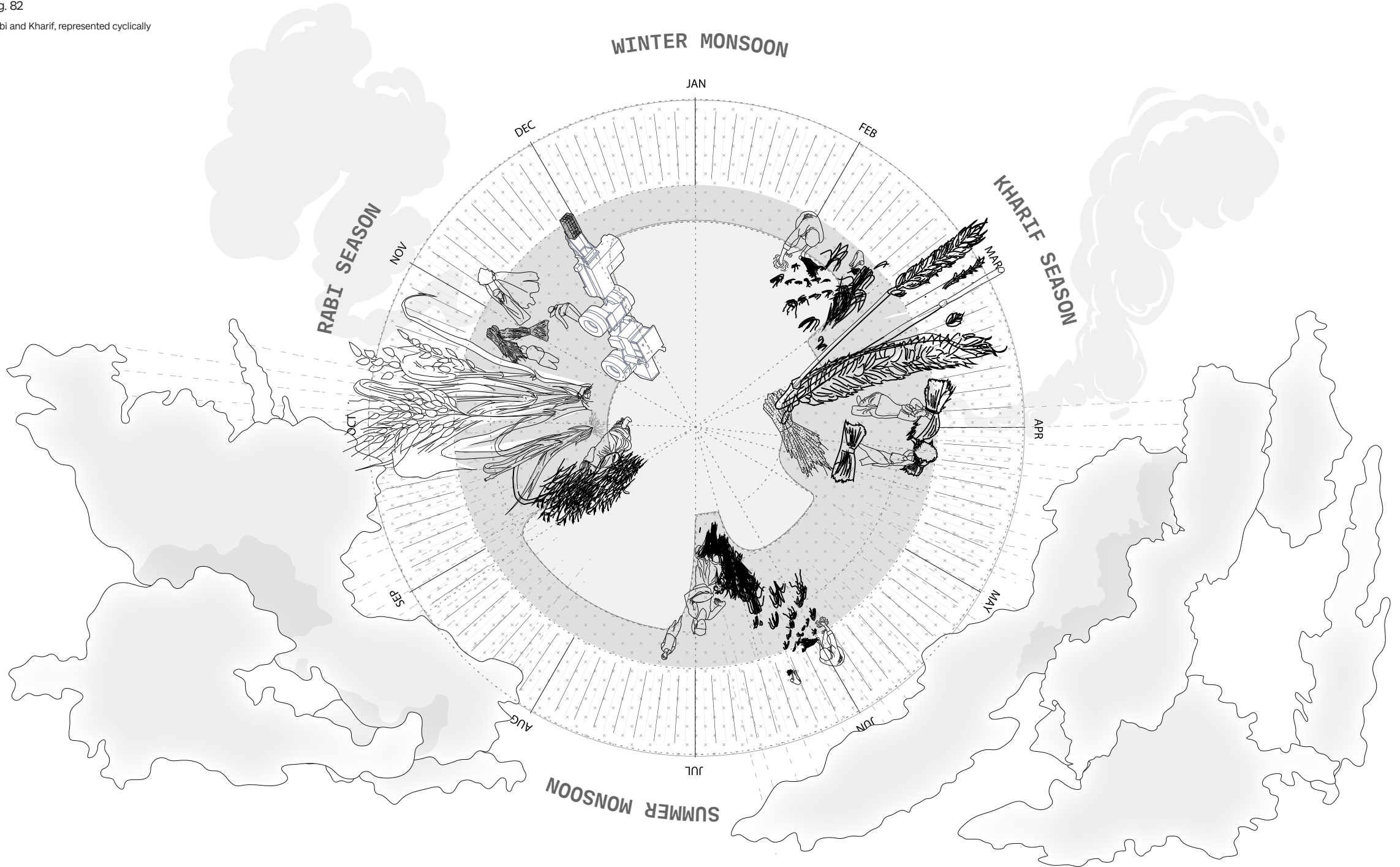


# Kharif

JUN-SEP

Fig. 81

Rice and wheat - two most fundamental crops that are sown and harvested interchangeably all within the same field, in different seasons of the year named Rabi and Kharif. These seasons are separated by the summer and winter monsoons.



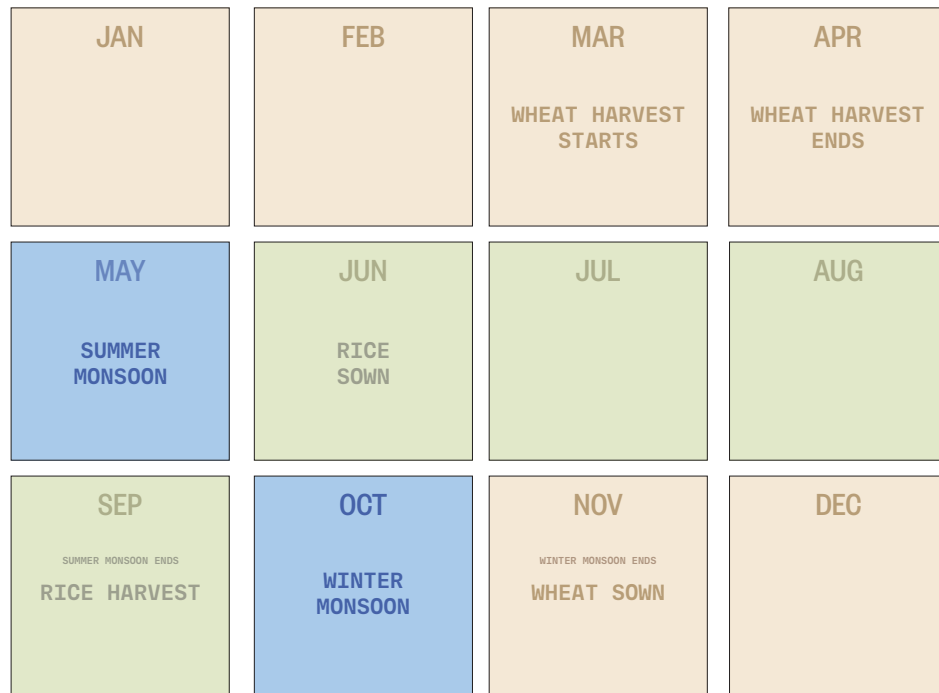


Fig. 83  
India's Agricultural Seasons  
for Rice and Wheat Production



Fig. 84  
Calculating the carbon footprint of agricultural production



CLAY BRICK  
PRODUCED IN INDIA PRODUCES



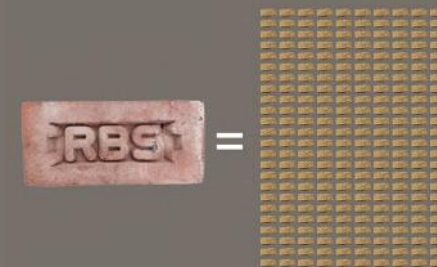
BIO-RESIN INFUSED RICE STRAW BRICK  
PRODUCED ON SITE



BRICK IS THE MOST WIDELY USED  
CONSTRUCTION MATERIAL ACROSS INDIA

**1.2KG**  
CO2 PER BRICK

**0.005KG**  
CO2 PER BRICK



With the carbon emitted to produce 1 fired-clay brick,  
240 Bio-resin Infused Rice Straw Brick could be produced

Fig. 85

Almost 50% of all houses in India use fired-clay bricks, and the demand for brick production is expected to rise even further due to the fast-increasing demand. By 2050, the need for housing will be doubled.

Fig. 86

Ordered materials from India for material research.



**PLASTER + HUSK + STRAW + ROCKITE**

**PLASTER + STRAW + RICE HUSK**

**CLAY + RICE HUSK + STRAW**

**BIO-RESIN + RICE HUSK + STRAW**

**BIO-RESIN + RICE HUSK + STRAW**

**BIO-RESIN + RICE HUSK + STRAW + SAND**

**ALGINATE + RICE HUSK + STRAW**

**ROCKITE + PLASTER**

**CLAY + ALGINATE + RICE HUSK**

**PLASTER + ROCKITE + STRAW**

Fig. 87

Material recipes and bricks made using them.



1



9



8



5



2



4



3



6

1 PLASTER + HUSK + STRAW + CEMENT 9 CLAY + ALGINITE + HUSK 8 QUICKRETE + PLASTER 5 BIO-RESIN + HUSK + STRAW  
 2 PLASTER + HUSK + STRAW + CEMENT 4 RESIN + HUSK + STRAW 3 CLAY + HUSK + STRAW 6 PLASTER + HUSK + STRAW + SAND





# A VISUAL MANUAL OF STARTING YOUR VERY OWN SELF-GROWING TOWN

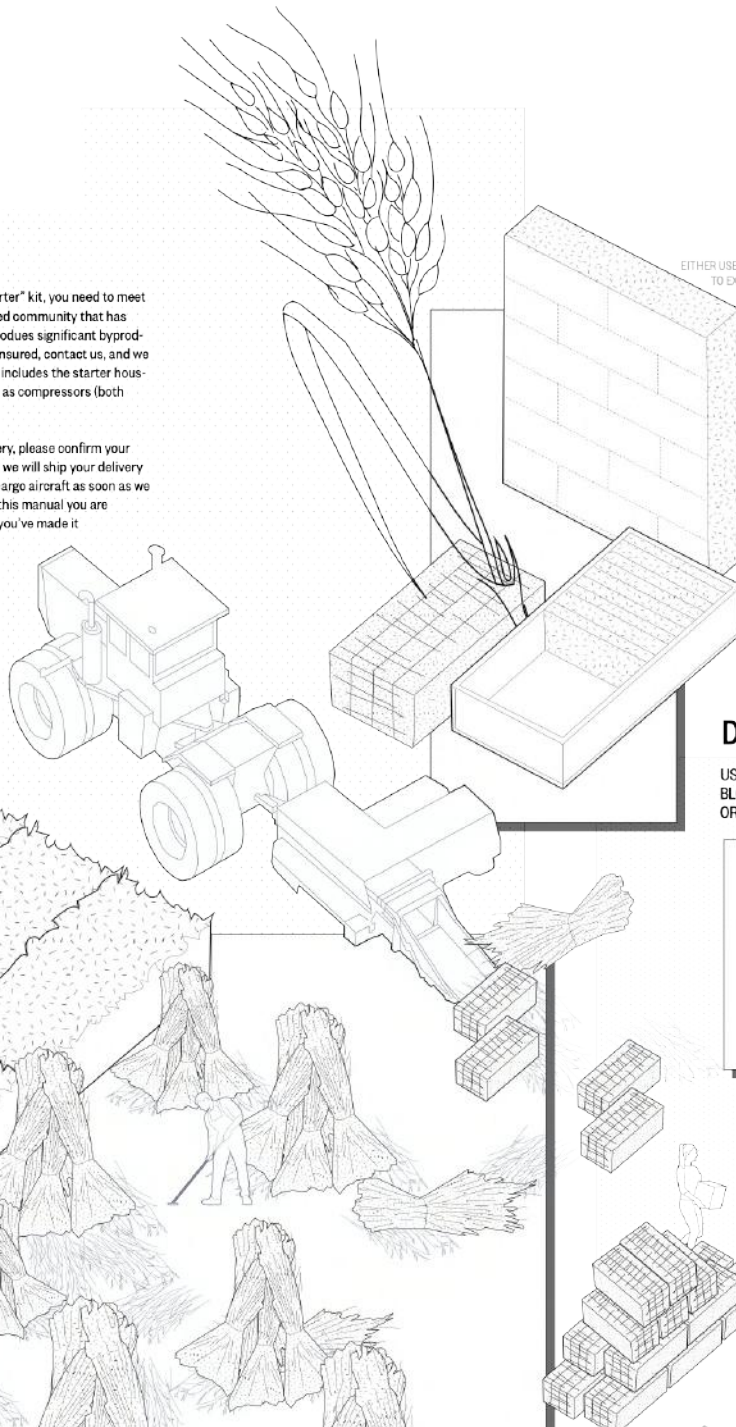
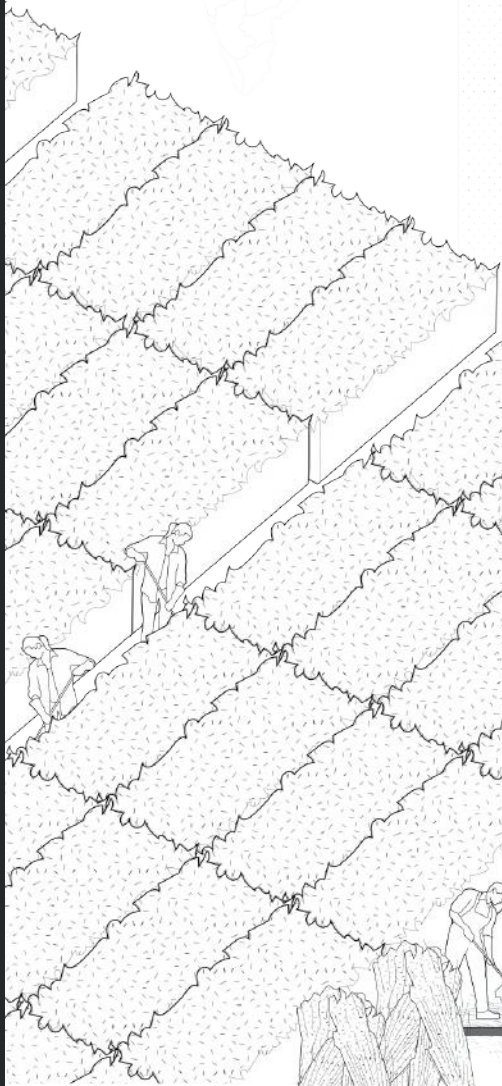
16<sup>TH</sup> EDITION

## STARTING WITH THE BAREBONES

To order your "self-building town starter" kit, you need to meet basic criteria, such as an incorporated community that has agricultural land and product that produces significant byproduct or waste after harvest. If this is ensured, contact us, and we will send you your starter kit - which includes the starter housing units and production hall, as well as compressors (both manual and mechanical) to you.

To make sure you receive your delivery, please confirm your geolocation information with us, and we will ship your delivery via a solar powered vintage looking cargo aircraft as soon as we can. Included with your shipment is this manual you are holding right now - congratulations, you've made it this far.

Proceed to Step 1 to continue.



EITHER USE THE MATERIALS  
TO EXPAND AND DEVELOP  
YOUR SETTLEMENTS,  
OR SELL AND TRADE  
THEM FOR PROFIT!

**A**  
RECEIVE THE  
BUILDER'S STARTER KIT

PLANNED HOUSING UNITS  
TO BE BUILT WITH YOUR  
BUILDING BLOCKS!

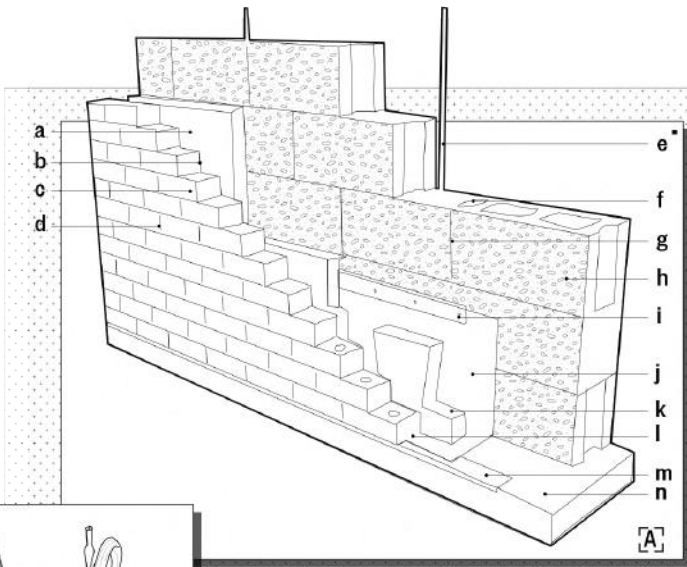
**B**  
CONSTRUCT THE STARTER  
FACILITIES FOR HOUSING AND  
PRODUCTION

The starter kit is designed in a way that anyone can (if followed the manual) build in less than 30 minutes. It includes housing units and production hall, as well as compressors (both manual and mechanical) - no additional material or tool required. Infrastructure (piping, wiring) is also inclid.

**D**  
USE BUILDING  
BLOCKS TO EXPAND  
OR EXCHANGE

**C**

STORE AND PROCESS AGRICULTURAL  
WASTE INTO CONSTRUCTION MATERIALS

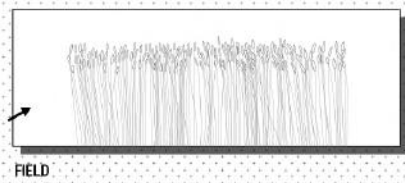


- a rigid insulation
- b air space
- c brick
- d mortar joint
- e vertical reinforcing bar
- f grout
- g mortar joint
- h concrete masonry unit
- i termination bar
- j flashing membrane
- k cavity drainage net
- l weep vent
- m metal drip edge
- n concrete foundation

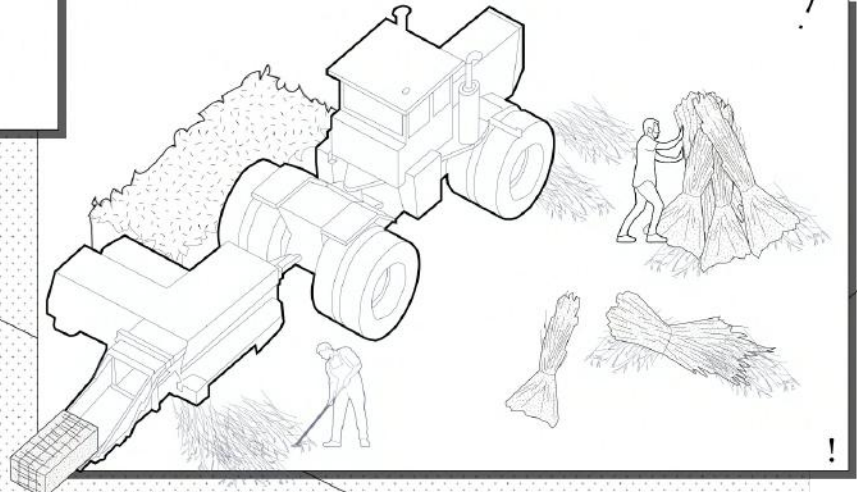
EXISTING TYPICAL WALL SECTION



STRAW RICE / WHEAT

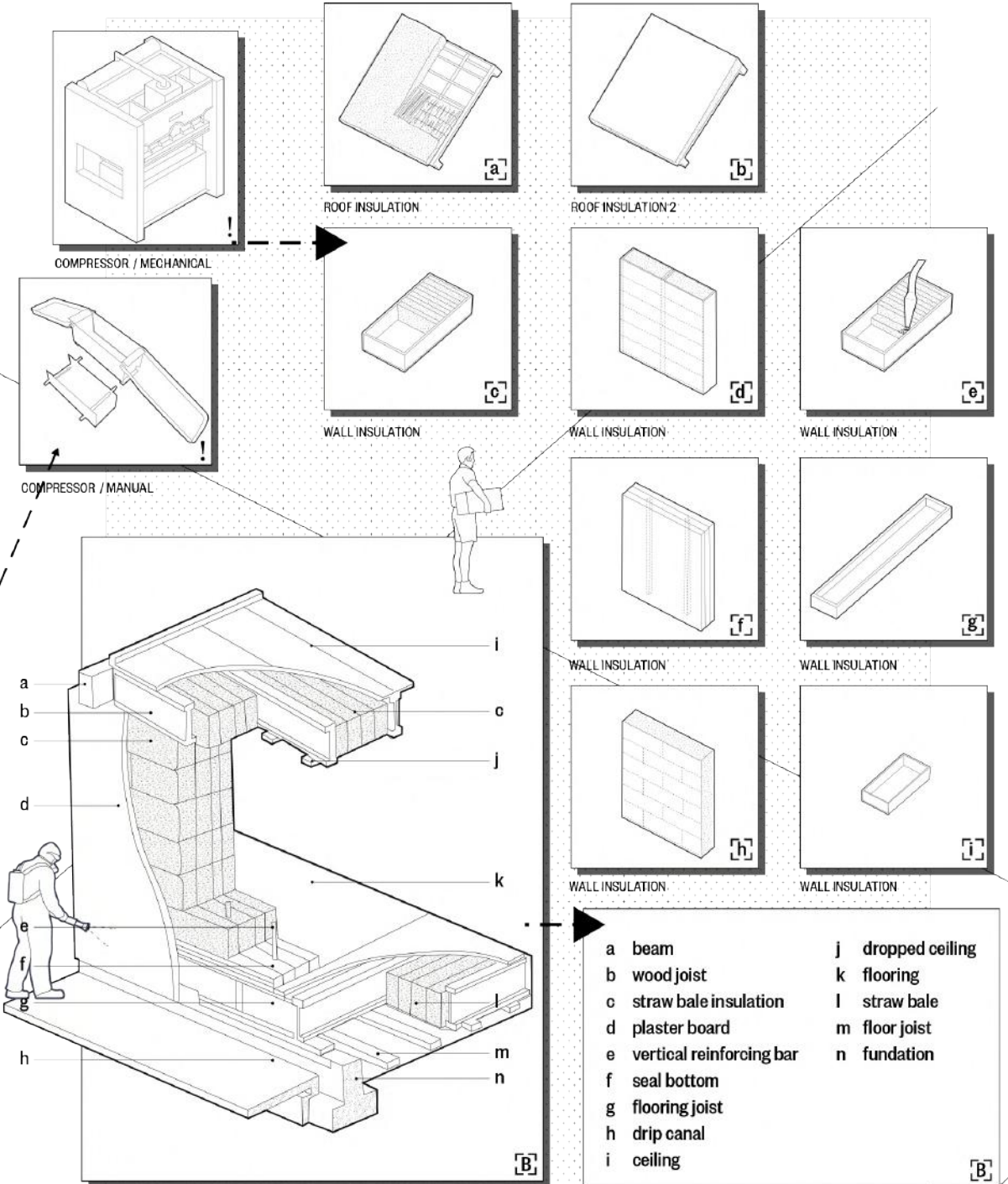


FIELD



HARVESTING / COLLECTING

Construction diagram from farming byproducts



COMPRESSOR / MECHANICAL

COMPRESSOR / MANUAL

ROOF INSULATION

ROOF INSULATION 2

WALL INSULATION

WALL INSULATION

WALL INSULATION

WALL INSULATION

WALL INSULATION

WALL INSULATION

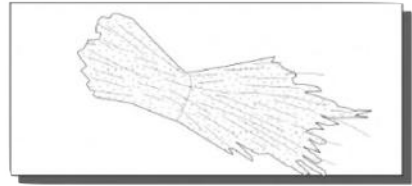
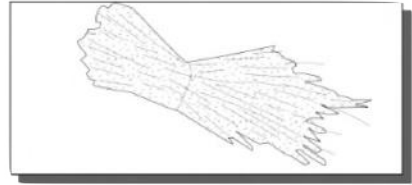
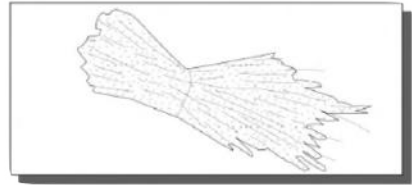
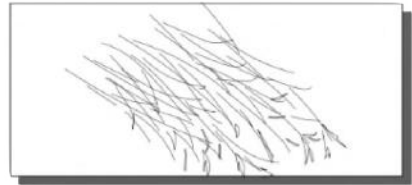
WALL INSULATION

- a beam
- b wood joist
- c straw bale insulation
- d plaster board
- e vertical reinforcing bar
- f seal bottom
- g flooring joist
- h drip canal
- i ceiling
- j dropped ceiling
- k flooring
- l straw bale
- m floor joist
- n foundation

WALL SECTION w/STRAW PRODUCTS

# MATERIAL RECIPE CHART

## AGRICULTURAL BASE



## ADDITIVES, BINDING AGENTS



## METHOD

CHEMICAL MIXING + DRYING

COMPOSTING

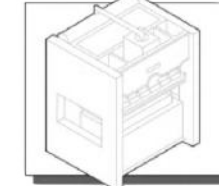
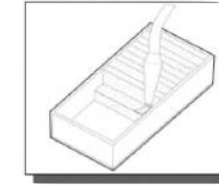
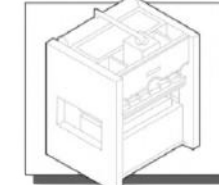
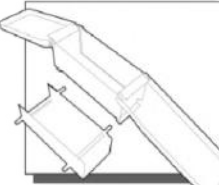
COMPRESSION MouldING (MECHANICAL) (ONDULATED)

MECHANICAL BINDING

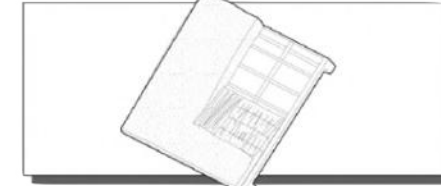
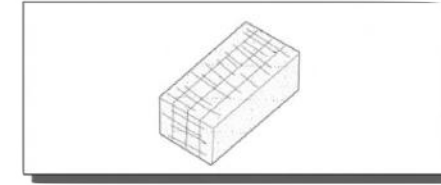
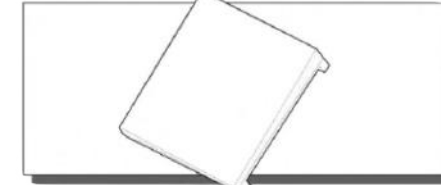
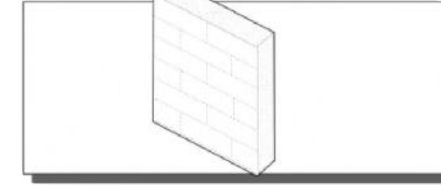
MIXING AND COMPRESSING

COMPRESSION (MECHANICAL)

## TOOL



## END PRODUCT



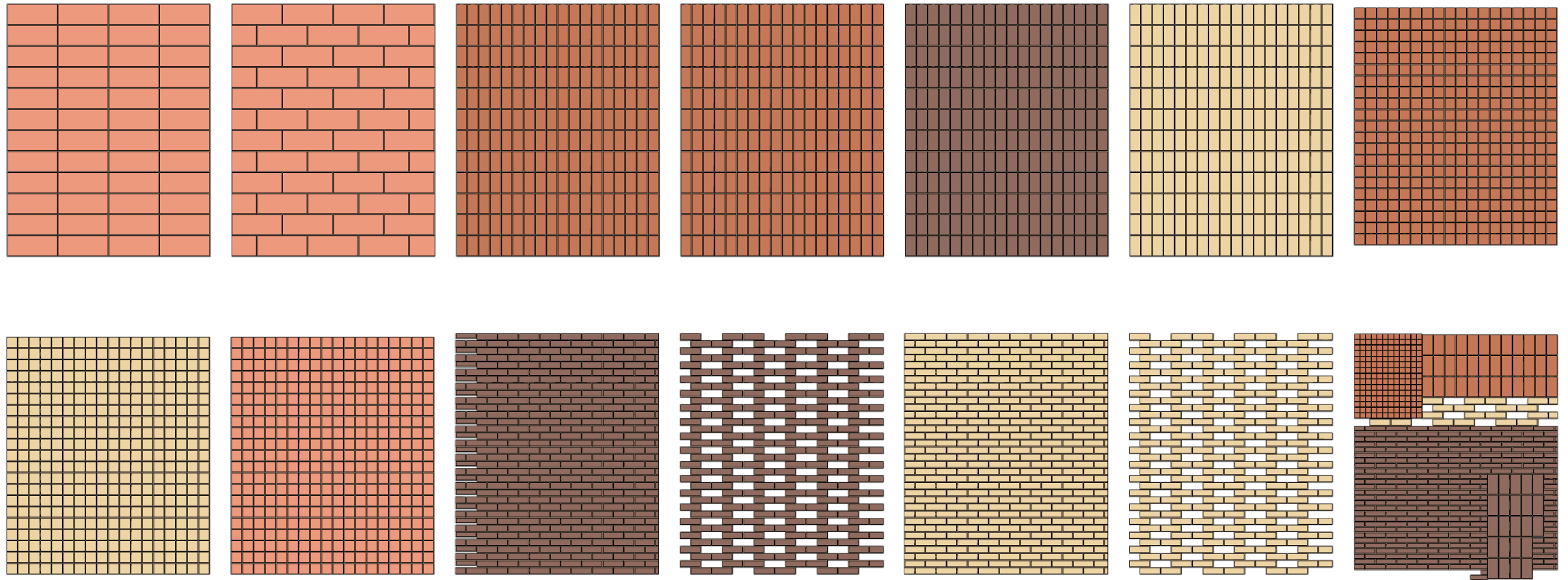


Fig. 90

Representations of masonry produced using recipes selected from the matrix - notice the last one.

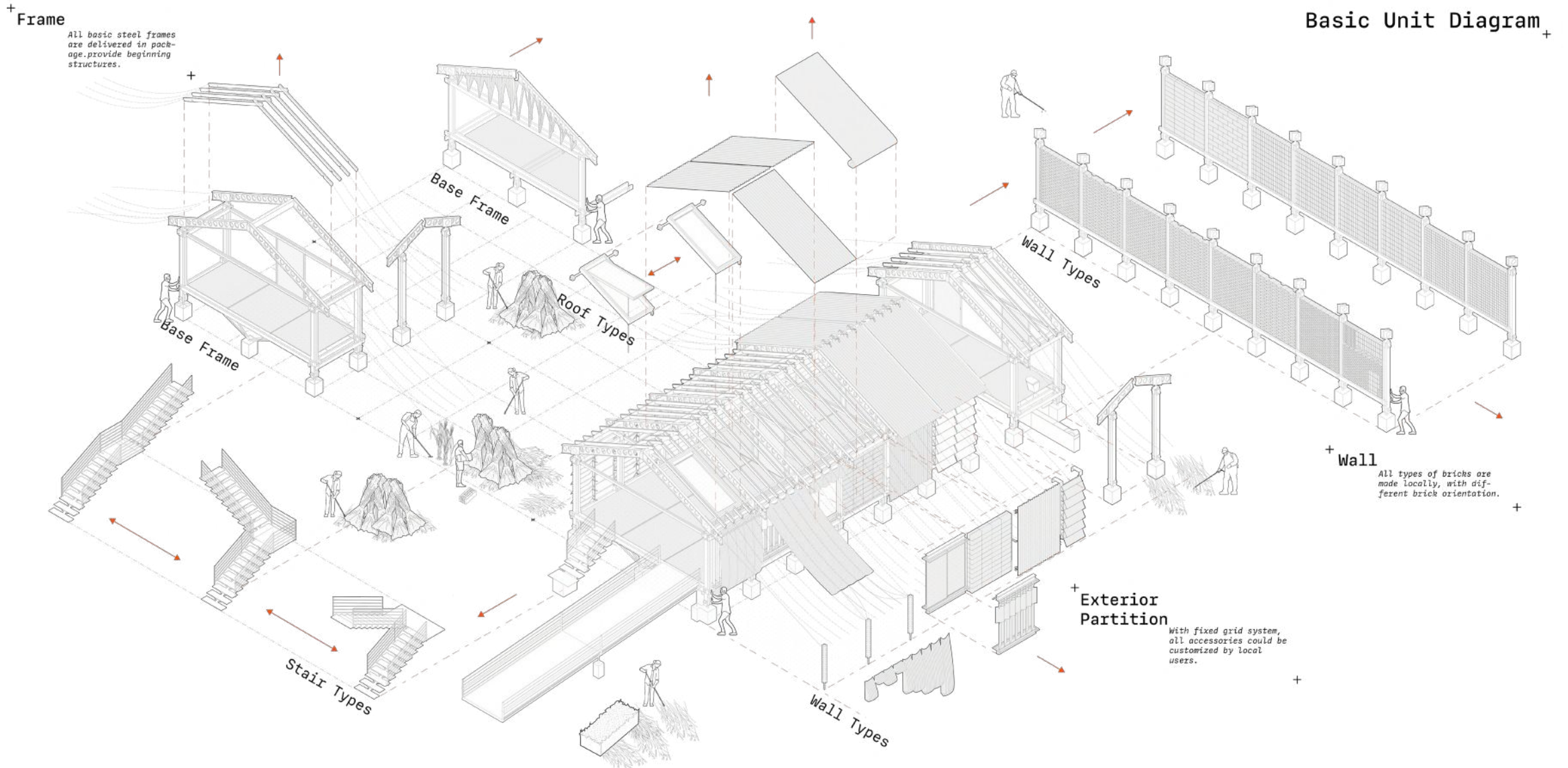


Fig. 91  
Building elements chart.

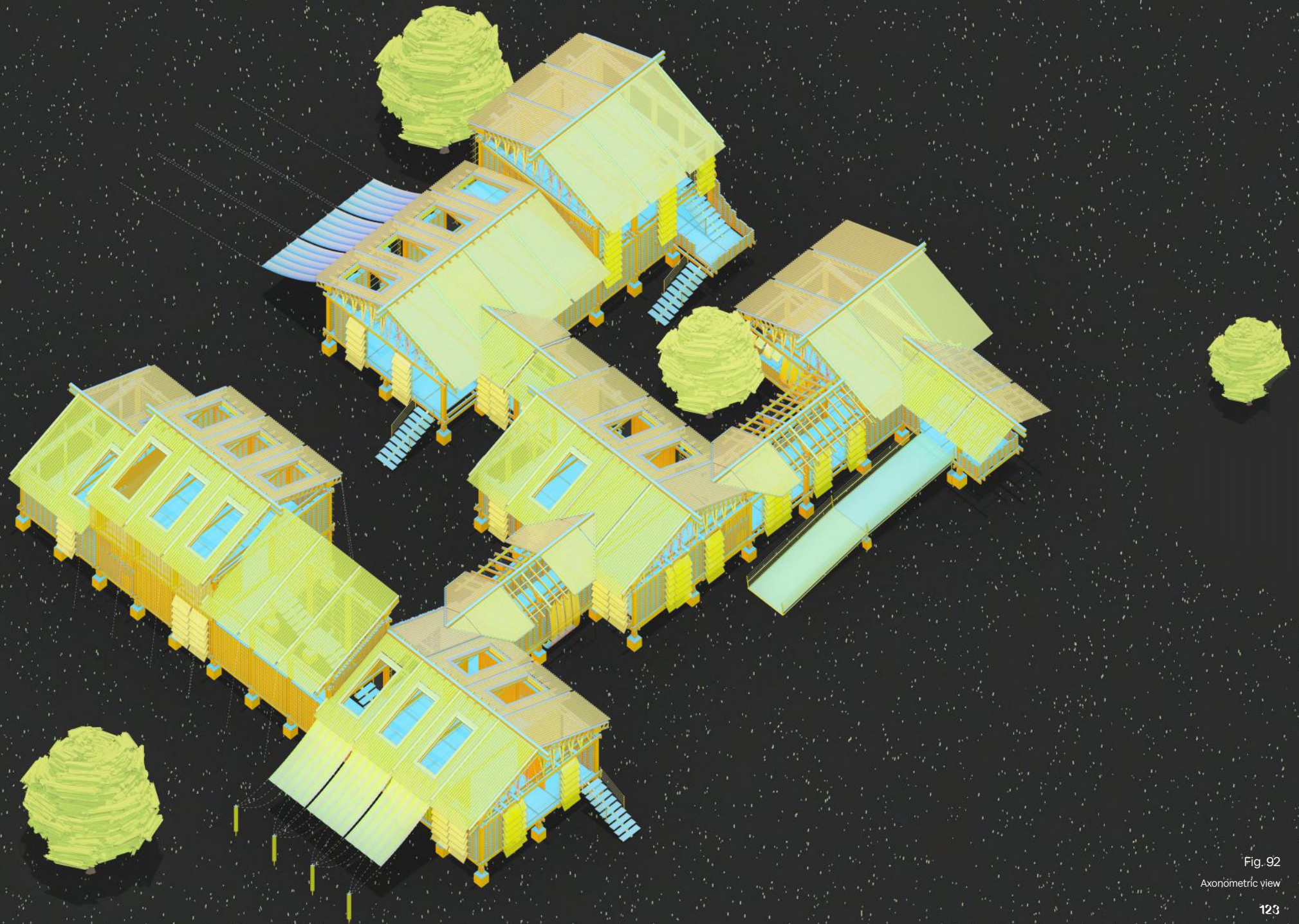


Fig. 92  
Axonometric view

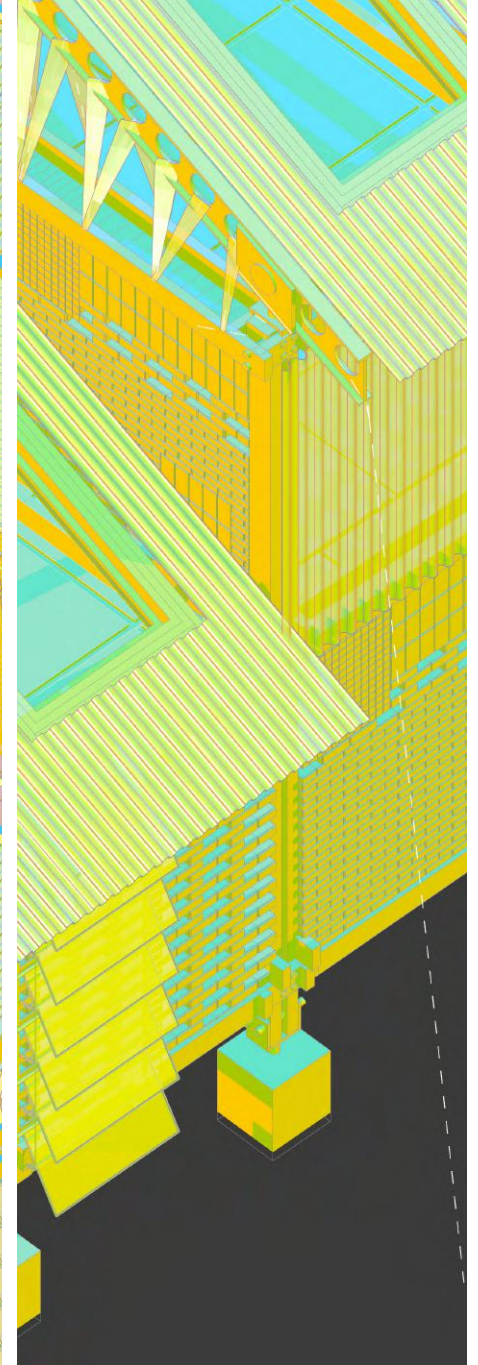
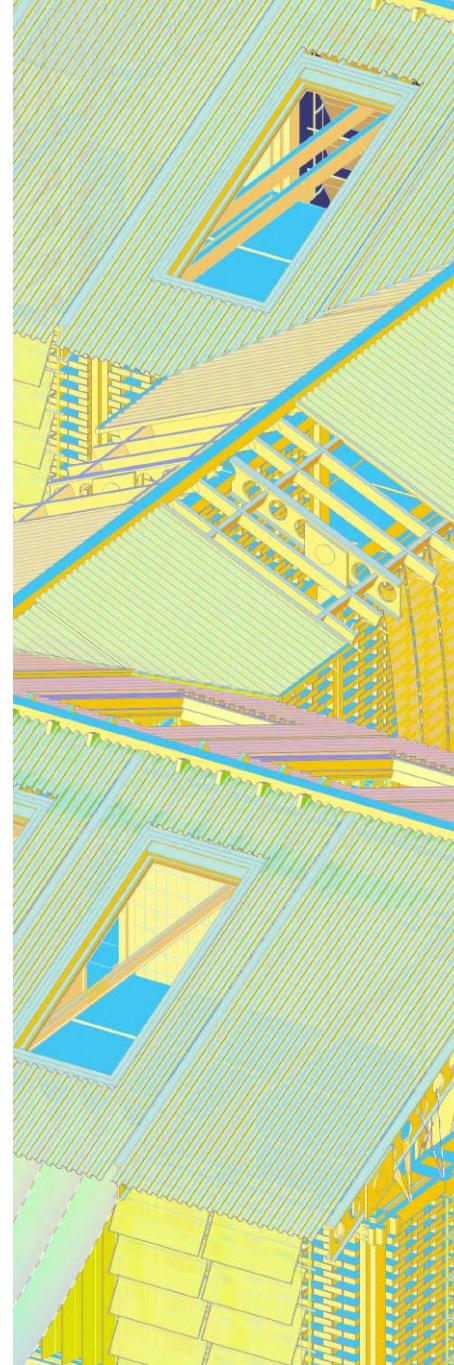
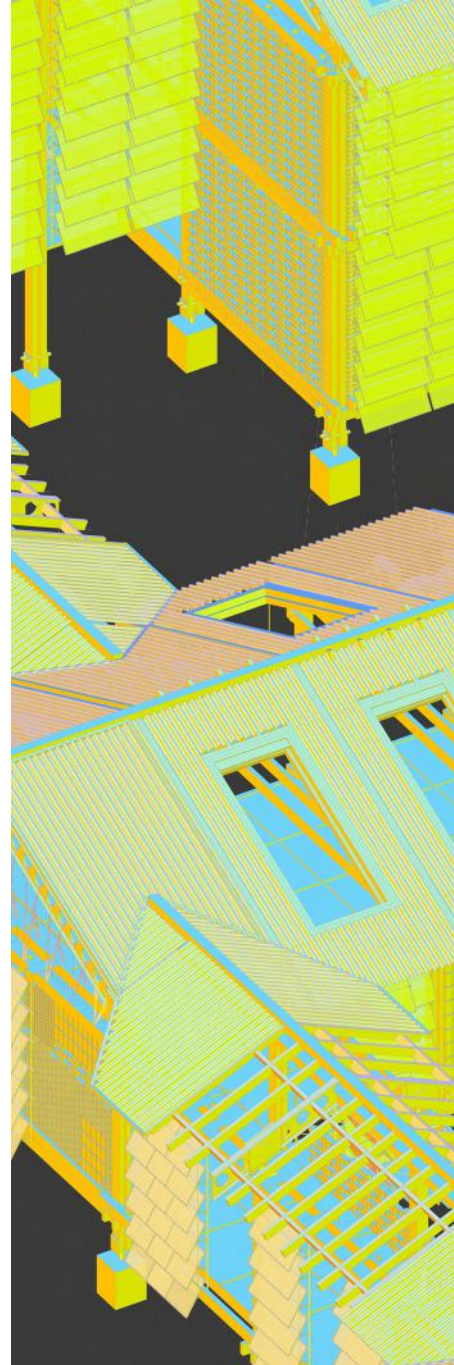
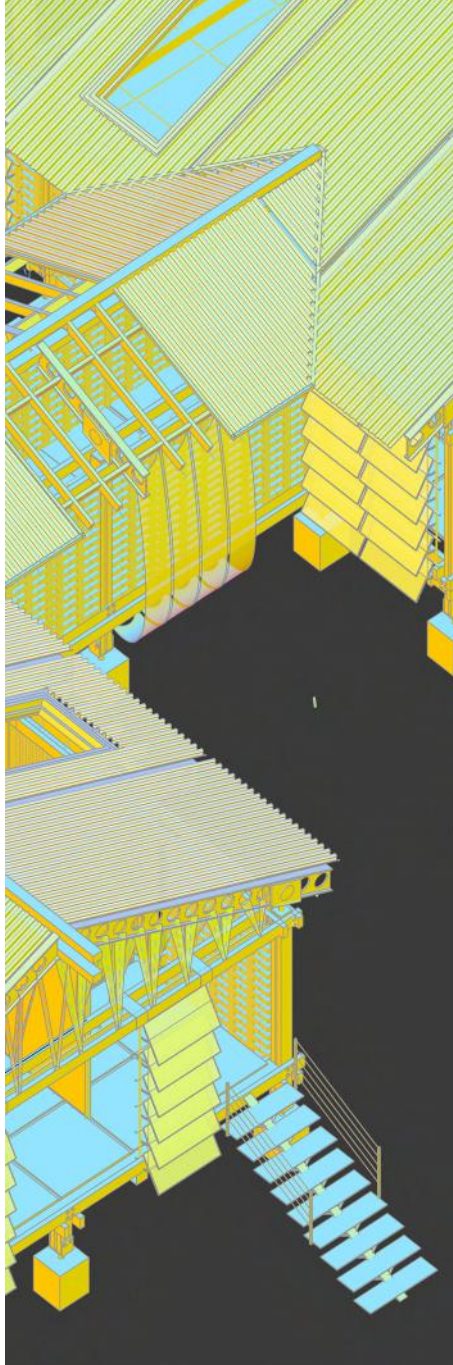


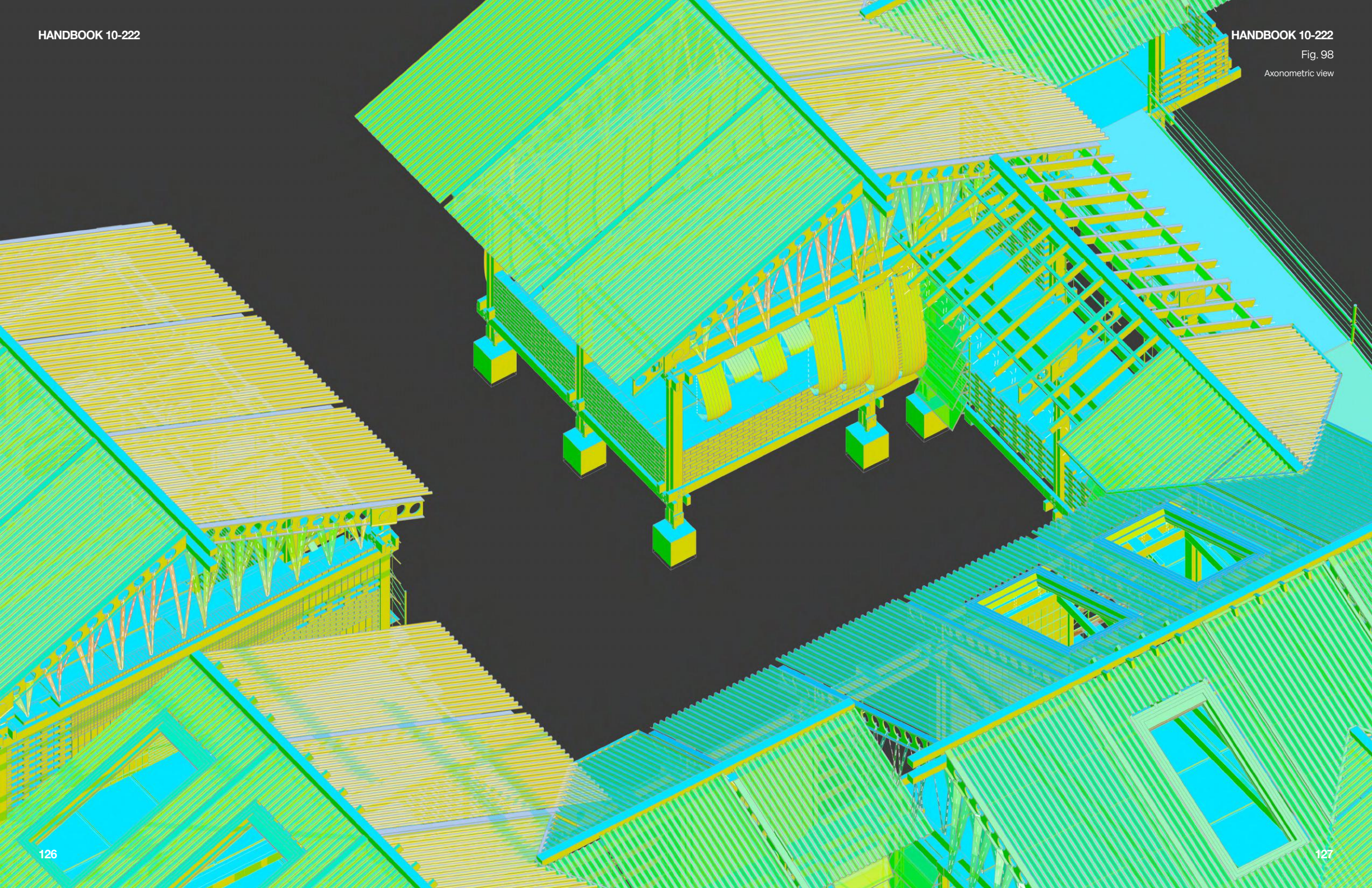
Fig. 93

Fig. 94

Fig. 95

Fig. 96

Fig. 97





# FaultLines

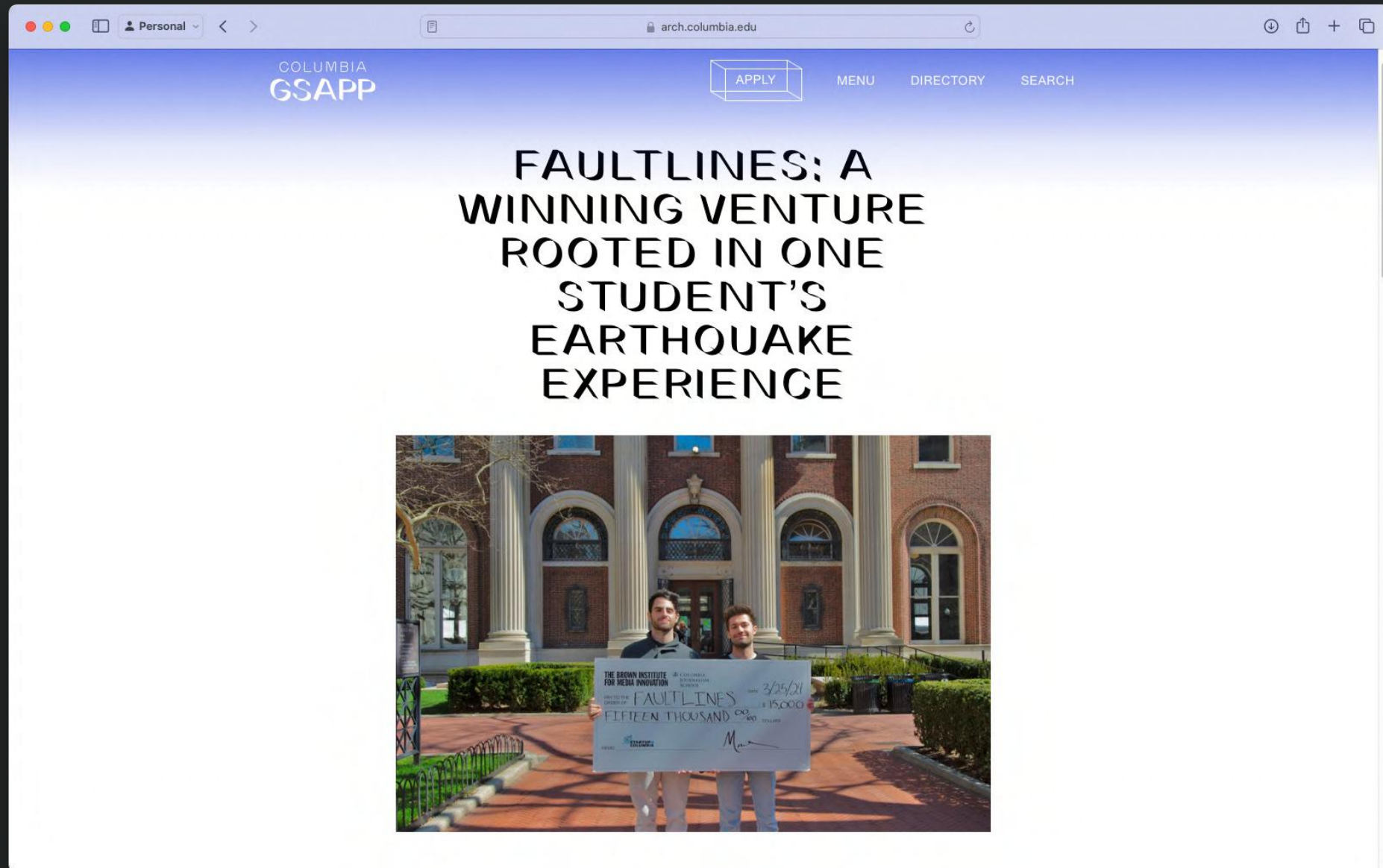


Fig. 99

Me, in front of Avery - with a big fat check in our hands



Fig. 100  
I made it!

# Urban Monument

Istanbul, Turkey

bridge you cross everyday  
crosses your mind.

place we walk, laugh, live and  
in shape your mind.

school you walk into would  
be it, the bus you take would  
be it, even the names of them  
see on a sign would, eventually,  
be your mind so subtly and  
unconsciously that you will think  
you will forget that you've ever  
molded into it.

uncontrolled power brings  
artificial freedom to the ones  
own it. To own and control the  
of the others who live under  
power.

agine this: You have such an  
ense control that you can  
nge the name of the bridge  
ons of people cross everyday,  
your own political propaganda.  
u could -only- skew millions  
inds -if only by 1%- in the di-  
on that could benefit you, in  
that would be! Nevertheless,  
the dominant tech companies,  
Google, Apple or Facebook,  
y similar unlimited powers that  
ad enable them to alter the  
am of information in line with  
profits.

## Riverbank State Park

Bosphorus Company of Phar-  
maceuticals' graphics language  
spired by the Riverbank State  
in Henry Hudson Pkwy in New  
City.

ct, every project in this book is  
red by the unconscious stream  
ought of mine. This book is my  
own thought registry. Starting  
'The Bosphorus Company of  
maeuticals' to 'The Public  
ority for Environmental Acts,'  
are invited to my observations,  
actions and optimistic  
lutions to the problems I have  
puntered at some point in my  
The places I visit, the music  
to, the people I meet, the  
< I read - what you see on the  
you'll find them in some way  
hroughout the portfolio. The works  
I see in these next few pages  
the ultimate and most refined  
products of all my stream of  
consciousness. A therapy of some  
s...

tions don't lie. So doesn't  
logy. At a time when the political  
es gain immense control over  
stream media, they also hold  
means that may enable them to  
news, facts and other types of  
mation.

## Garbage Tax

The Public Authority gives an opportunity to the dwellers who don't have a chance to leave the city. Instead of going to their day jobs, they can farm the colonies, have a word in the parliament and send their kids to the new Anthropogenic colleges in exchange to their expected deposits of household trash of a certain amount every week.

The children of the public members

Sunflowers have been used for many times in order to fight with pollutants and toxic chemicals that were released after such events like a nuclear explosion, just like the one back in 1997 in Chernobyl, or more recently in Fukushima. Halophyte sunflowers have been in research and development for long periods of time. For instance, during the remediation works of Chernobyl, halophyte sunflowers have been extensively used for cleaning the water on special containers, or boats. These boats contain a certain amount of nutrients to keep the sunflowers working. This way, this hydroponic remediation process' longevity is ensured. The main goal of "The Public Authority for Environmental Acts" institution is to create a new generation of people who will live in the age in which the humankind is directly affecting the nature.

## Designed & Published by Taha Erdem Ozturk

2024 · New York, New York

## The Science Movement Project with Twin Science

The children understand the working logic behind technological devices via the electronic blocks that can be easily put together with the help of the magnets inside and discover how the latest technology is developed. Science Kits that are developed for secondary school students make science more comfortable to learn with fun experiments.

The children can develop the latest technologies, such as autonomous cars and robots that are thought to be inaccessible. They can also transform their curiosity into inventions by using their imagination and their gained innovation-oriented thinking abilities. Under the scope of the protocol signed with the Ministry of Education, 10-15 science kits are sent to each secondary school that needs science material in every corner of Turkey.

Twin Science Kits are not only used in disadvantaged schools but also used by prestigious private schools as Knightsbridge College, Koç Schools, etc. The goal is to reach 2 million students by 2021 in Turkey alone. 2020 will be the year to expand the project internationally. LBS, Imperial College, UCL, Seven Oaks, and Marlborough College from UK will be the educational partners in international expansion.

## The Melon Samurai

Helsinki, Finland

Melon Samurai is a game that was developed by Petri Niskanen and myself, with the goal of having a Fruit Ninja-like game experience in Nokia phones that did not have enough graphics capability.

Symbian Türkiye was born as a personal blog, in which I was sharing my own comments on the emerging smartphone industry. Later, it became a medium where I shared custom apps, firmware, and services with the Turkish.

chool corporations, bureaucrats, shareholders, and private investors are the financial supporters of this institution. They try to make the biggest bids in the tenders to get the biggest advertising space on the colonies. Ultimately, these advertisements will boost their reputation in an ever-increasingly environmentally-aware society. Thus the capital aims to increase its popularity and profits in the future by sponsoring this institution.

## The Parcel 21

Şile, Istanbul  
Foundation Studio

Parcel 21 project is located in one of the north-easternmost boroughs of Istanbul, Şile and the name Parcel 21 comes from the 30 different parcels the other project members got from a large empty area that is planned to be an off-the-scale mass housing project is going to be constructed in real life. As the 2ND year studio, the goal was to interact as much as we could with the surrounding parcel owners and build a sustainable residential project with a sub-function.

During the studio, each lot was supposed to create a narrative, a scenario, a set of characters and their roles and as a result, come up with a list of requirements.

Connecting two unreachable points between parcels 20 and 22, and letting them use the project building as a shortcut was the main idea of the project. As a characteristic, the building evolved around a socially important point of view and the most recognizable look became this staircase looking almost like an amphitheater. The building was owned by a Maker couple and they would invite interested people to their houses for them to use their workshops and tools: Just like a university campus, but for makers!

## The Baking Models Initiative

Istanbul, Turkey

A series of workshops and lectures to introduce first and second year architecture students with computational design

Baking Models is a voluntary group work of some series of lectures and workshops, started in 2019 with winning the MEF University's Faculty of Architecture and Design Workshop Week Competition/ Open Call.

Baking Models aims to spread the know-how of digital fabrication techniques in architectural education, as well as disseminate theoretical and historical knowledge about the previous and current digital 'revolutions', predominantly in the design and architecture industry.

In the first lecture & workshop set we have worked on Grasshopper & Laser Cutting - Contouring tools to create a 3D topography out of cardboard. One of the end results was also The Wiggle Chair by Frank Gehry.

With the best co-founders:  
Esra Öner & Serra Keklik

ness methodology to be ignored to supply cheaper apartments for a shorter amount of time.

This is the time the "Panel-Block Apartment Buildings" boomed - they were everywhere, rising up from the greeneries of mikrorayons with their cold, low-quality, out-of-scale bodies.

Once-thriving mikrorayon, Çeratanovo Severnoye, is one of the most dangerous places to live in the city, just like its many other successors. Many share the same repeated patterns in where they failed: Absence of social connections, enormous blocks that disregard entirely the concept of scale, desolated neighborhoods at specific hours, lack of eyes on the streets, and several more.

## The Algorithm That Will Save The Suburbs!

```
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
import random
```

```
# Load Building Data -----
```

```
data = pd.read_csv("comm.csv")
xcoord = data["X"].values
ycoord = data["Y"].values
s = data["STRENGTH"].values
rad = data["RAD"].values
```

```
print(data)
```

```
Xsize = 1392 # Çeratanovo Severnoye Raster Map Dimensions
Ysize = 1000 # Çeratanovo Severnoye Raster Map Dimensions
```

```
# Define function to generate gaussian kernel based probability density distribution
```

```
def generate_distributions(Xsize,Ysize,xcoord,ycoord,s,rad):
    x = np.arange(0, Xsize)
    y = np.arange(0, Ysize)
    arr = np.zeros((y.size, x.size))
    plt.figure(figsize=(6, 6))
```

```
for k in range(xcoord.shape[0]):
    cx = xcoord[k]
    cy = ycoord[k]
    r = rad[k]
```

```
mask = (x[np.newaxis,:]-cx)**2 +
(y[:,np.newaxis]-cy)**2 + r**2
mask_fit = np.zeros_like(arr)
print(mask_fit.shape)
```

```
sig = 5 # if this is a parameter defining the density of the gaussian kernel
```

```
for l in range(0,arr.shape[0],1):
    for m in range(0,arr.shape[1],1):
        if mask[l,m]==False:
            continue
            kernel = np.exp(-0.5 *
np.sqrt(np.square(x[l]-cx)) +
np.square(y[m]-cy)) /
np.square(sig)) * s[k]
            mask_fit[l,m] = kernel
```

```
if s[k]>0:
    mask_fit = mask_fit -
np.unique(mask_fit)[1]
        else:
            mask_fit = mask_fit -
np.unique(mask_fit)[2]
```

```
arr[mask] += mask_fit[mask]
mask = False
```

```
np.save("z.npy",arr) # save the produced distribution in a numpy file
```

```
plt.pcolormesh(x,y, arr)
plt.scatter(xcoord,ycoord)
plt.colorbar
```

be passionate about and build global connections along with the way. This would bring me closer to my goal: Becoming an entrepreneur architect and building intelligent systems to solve urban issues around the world.

As the plane was descending for Istanbul, I was happy that I'd finally come to Finland thanks to this travel grant for a VR game workshop.

Although we never lost touch, I had finally met my old friend Petri in person. All these reflections reminded me of how I never lost that creative urge to build things that touched people's lives; it only grew stronger in me as I discovered myself and my purpose in college. Happy to be back home, I left the plane feeling a sudden excitement about the next chapters in my life.

## Hardworking Sunflowers?

Phytoremediation is an established phenomenon that utilizes specialized or genetically modified plants to filter and remove toxic substances and excess contamination. Driven by the ever-increasingly pressing environmental changes, the last decade has seen exponential growth in the number of publications made on a particular sub-set of these plants: hyper-accumulators. Most notably executed after the Chernobyl explosion, Sunflowers helped a long way as scientists struggle to find cheaper, more sustainable, and more deployable agents that can be used for environmental remediation.

As the mega-cities started demanding an ever-growing portion from the crust of the earth, can the built-environment disciplines find ways of utilizing these hard-working cleaning agents to reduce the toxic burden of our urban centers? Until we can finally manage to convert and rebuild our cities into zero-energy, environmentally friendly places; the hybrid methods present a realistic potential for the short run. In light of this investigation, a similar hybrid strategy would be a good fit to tackle with the effects of climate change and pollution in the context of the mega-city of 16 million people that is Istanbul.

## The Fulbright Scholarship 2020

Letter From The Director

Mr. Taha Erdem Ozturk has been nominated as a principal finalist for the 2021-2022 Turkish Fulbright Student Program.

Subject to successful placement, he is eligible for Fulbright funding up to a maximum amount of \$50,000 which will be renewed for a second year of study, given that the student is in good academic standing, to cover study costs calculated at the Fulbright rate.

Calculated study costs will take any university cost-sharing into account, and if the Fulbright calculated study costs are below the maximum grant amount, the finalist will only be eligible for the lesser amount.

If you have any questions about Mr. Taha Erdem Ozturk's Fulbright funding, you may contact the Turkish Fulbright Commission for further information.

The Fulbright Student Program requires all grantees to return to their home countries upon the completion of their academic exchange activities in the United States.