AMMAR RASSAI AHR2152 COLUMBIA GSAPP ADVANCED ARCHITECTURAL DESIGN 2024

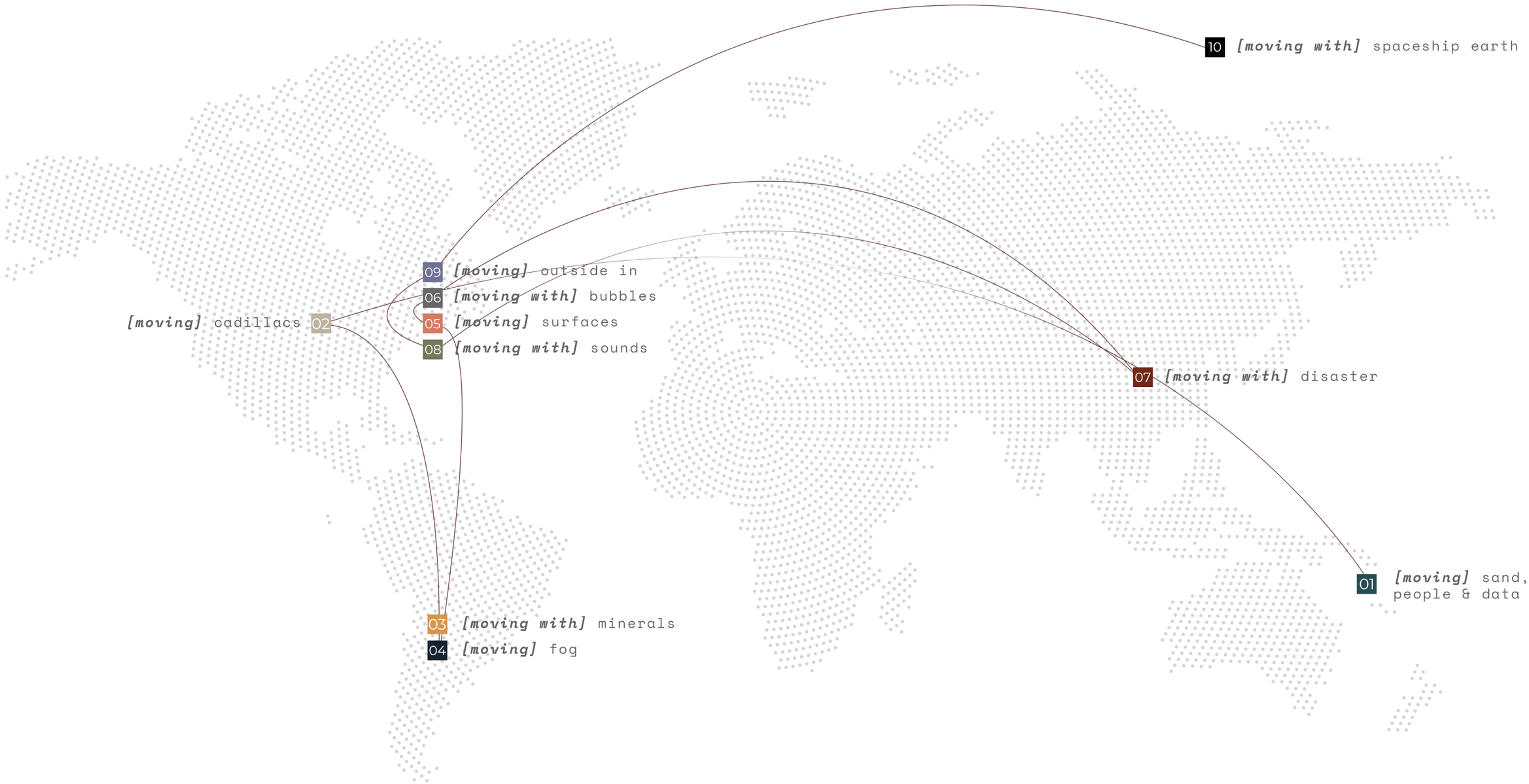
IF THE WALLS COULD TALK

conversations on how we move and how we are ***moved***

FOREWORD

"If the Walls Could Talk: Conversations on How We Move and How We Are Moved," is my exploration of architecture as both a shaper and an echo of the shifting landscapes it inhabits. In this portfolio, we uncover the dual roles of architecture: as a dynamic participant in the evolving environments and as a deliberate agent in choreographing the daily dance of life.

Each project in this portfolio seeks to transcend traditional boundaries, engaging with its environment in a continuous dialogue of adaptation and influence. The projects are curated thematically, yet positioned to provoke, allowing tensions to spark conversations. From the national to an object, from the geographical to the elemental, from the discursive to the playful, from calamity to calm, and iconic to whimsical - the cracks have been exposed, and the walls have begun whispering…



simultaneous table of contents

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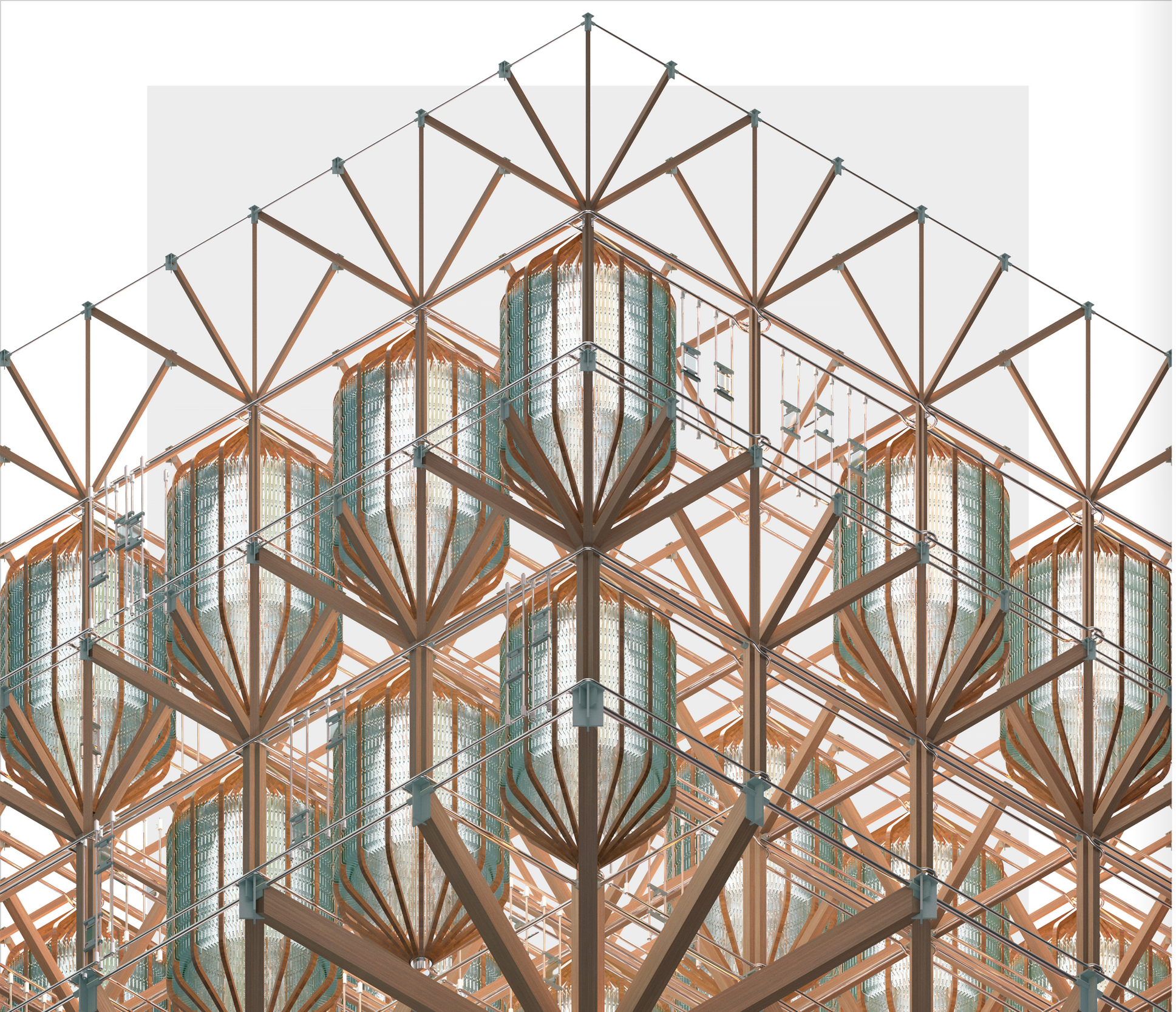
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01

the silica route

COLUMBIA **GSAPP** | SEMESTER **FALL 23'**

Tuvalu's story is a dance of land and water. They are compelled to epitomize an extraordinary synthesis of human ingenuity and environmental stewardship to redefine national identity in an era of digital advancement and ecological uncertainty. 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. The vessel, cartridge, and pier navigate the complexities of preserving statehood amidst the volatilities of rising sea levels and climate change.

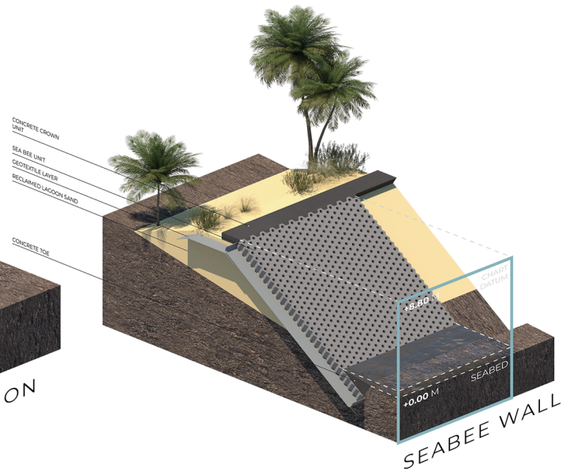
Studio: Data Mourning Clinic
Critic: Marina Otero, Farah Alkhoury
Programme: Mourning Ritual for People & Data
Site: Tuvalu & Diaspora
Contributors: Taha Ozturk, Will Cao

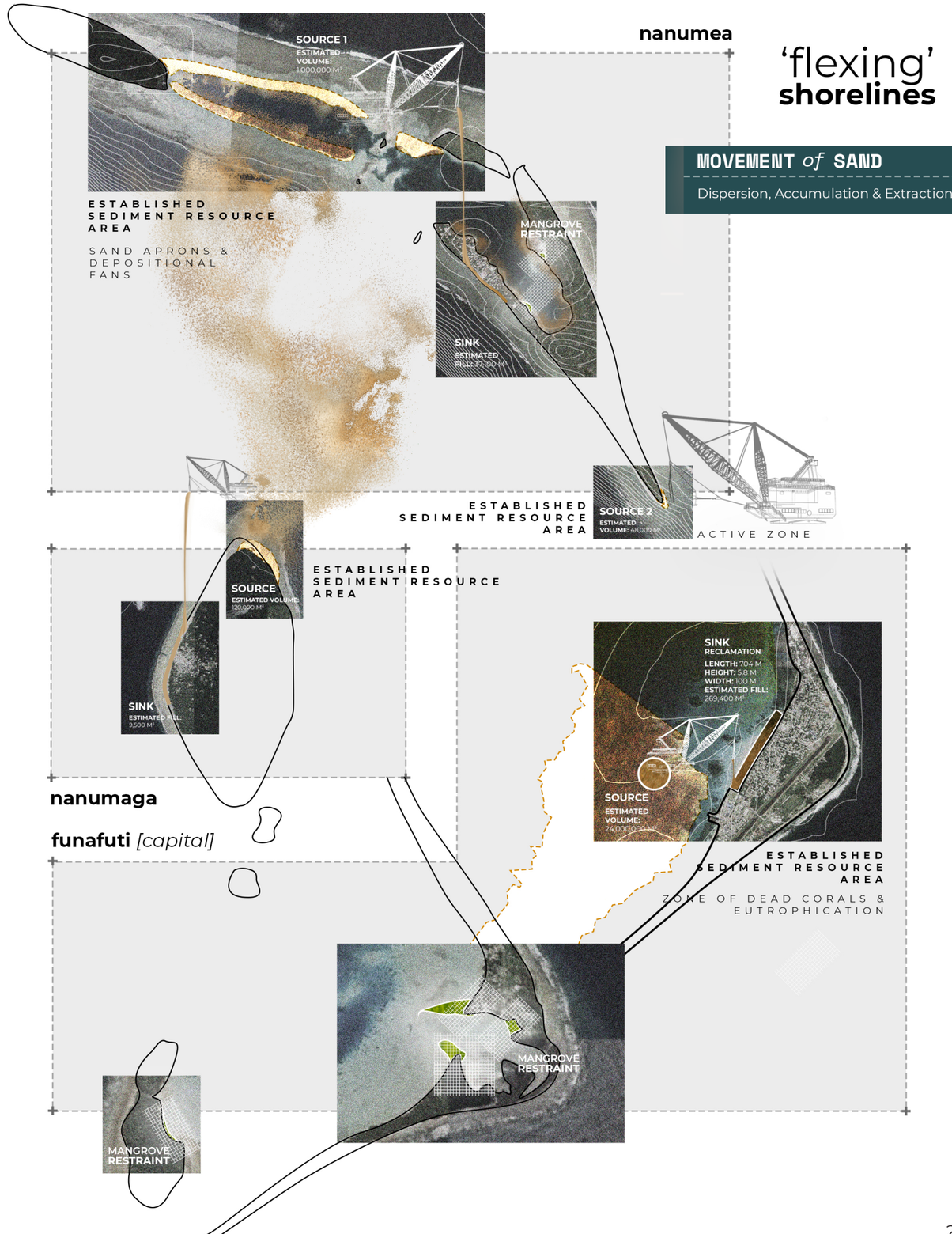
Sand is an essential component in Tuvalu's geological assembly. Its dynamic physical and chemical compositions, coupled with its abundance, render it a prime resource to mobilize in the islands' survival.

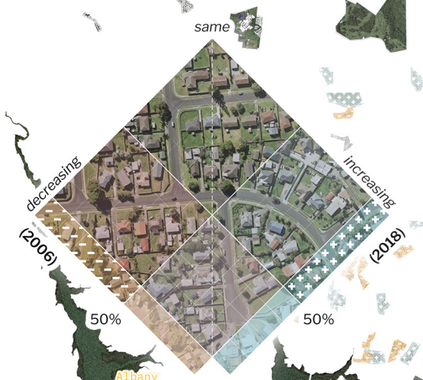
This illustration portrays the translocation of sediment, both through natural processes and human intervention, and how its ongoing accumulation and dispersion contribute to the formation of the landform, both before and after Tuvalu's coastal adaptation project's implementation.

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 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.



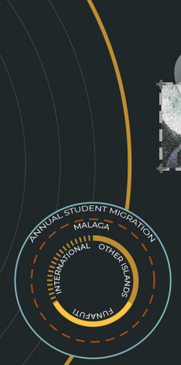




% Pacific Islander Population in Auckland Statistical Areas

North Shore
Ōrākei
Central City Library
Auckland War Memorial Museum
Waitematā and Gulf
KARANGAHAPE ROAD
Maungakiekie-Tamaki
University of Auckland, Faculty of Education and Social Work
5km
10km
Albert-Eden-Puketāpapa
TE ATATU ROAD
Fetufa Tokelau Akoga Kamata Early Childhood Centre
Whau
Tuvalu Sports Association New Zealand
The Fono Medical, Dental, Health and Social Services | Henderson
Enua Ola
DOWNTOWN HENDERSON
DOWNTOWN RANUI
Ranui Library
Kelston Community Centre
Tuvalu Christian Church
Rodney
Waitākere
10km
15km

nanumea
nanumaga
niutao
vaitupu
nui
funafuti
[capital]
nukufetau
nukulaelae
niulakita



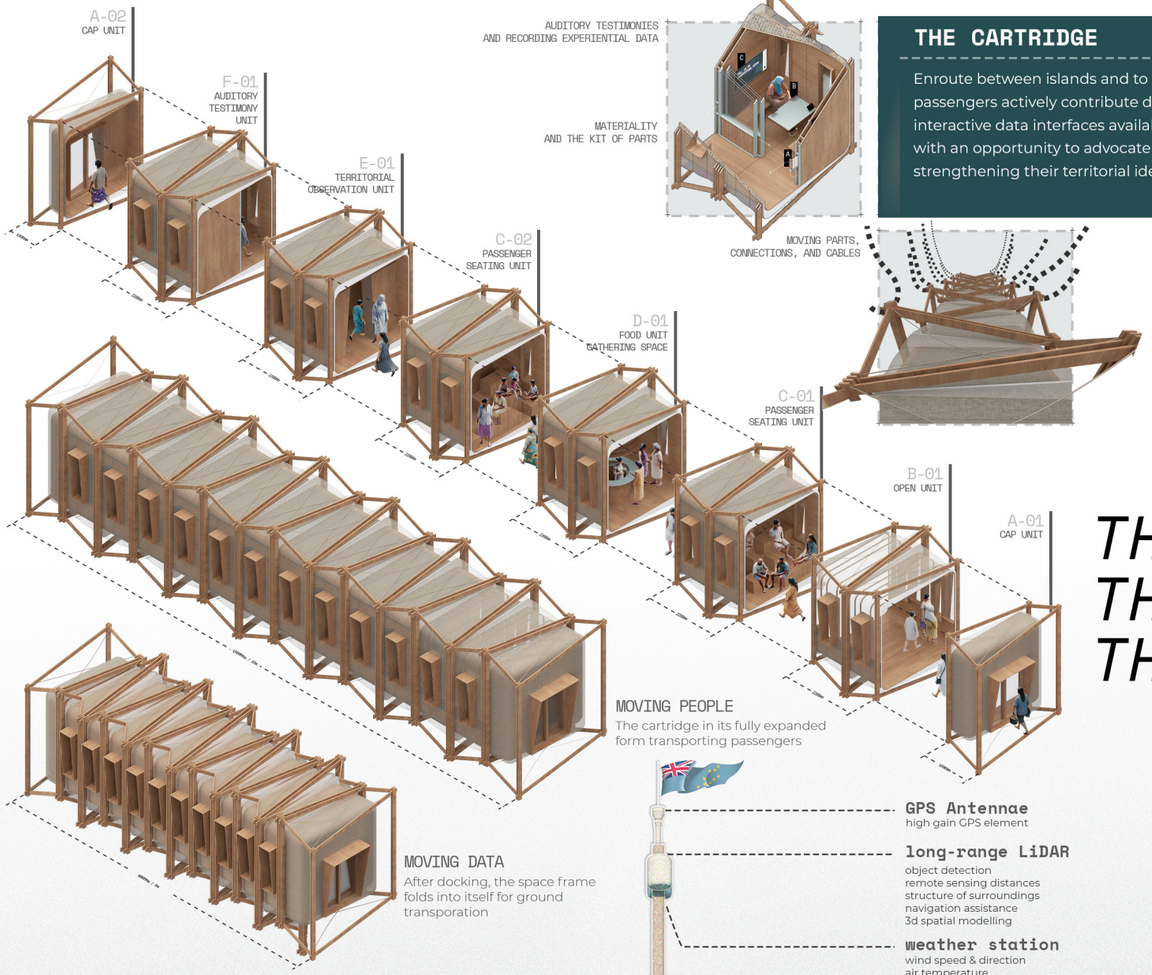
TUVALUAN DIASPORA IN AUCKLAND

Population concentrations & spaces for the community: places of collective knowledge and memory

experiences of *mobility*

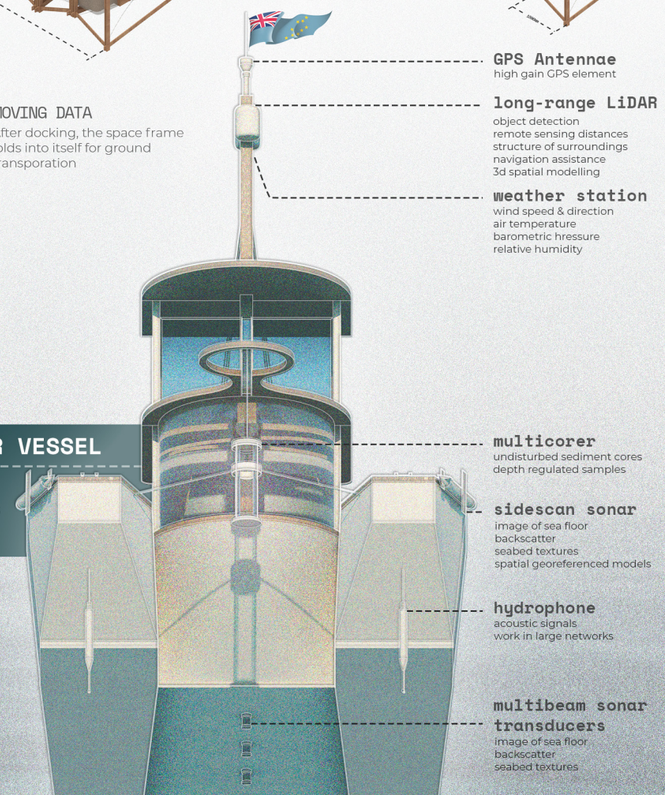
INTERNAL MIGRATION

Four migration patterns of the mobile Tuvaluan population as observed between a span of only three years.



THE CARTRIDGE

Enroute between islands and to other foreign diasporic communities, passengers actively contribute data by utilizing social media & other interactive data interfaces available onboard. This provides Tuvaluans with an opportunity to advocate for and actively participate in strengthening their territorial identity through data collection efforts.



REMOTE SENSING PASSENGER VESSEL

Designed to transport individuals while addressing Tuvalu's operational requirements for environmental and experiential data.

THE VESSEL.
THE CARTRIDGE.
THE LIBRARY.

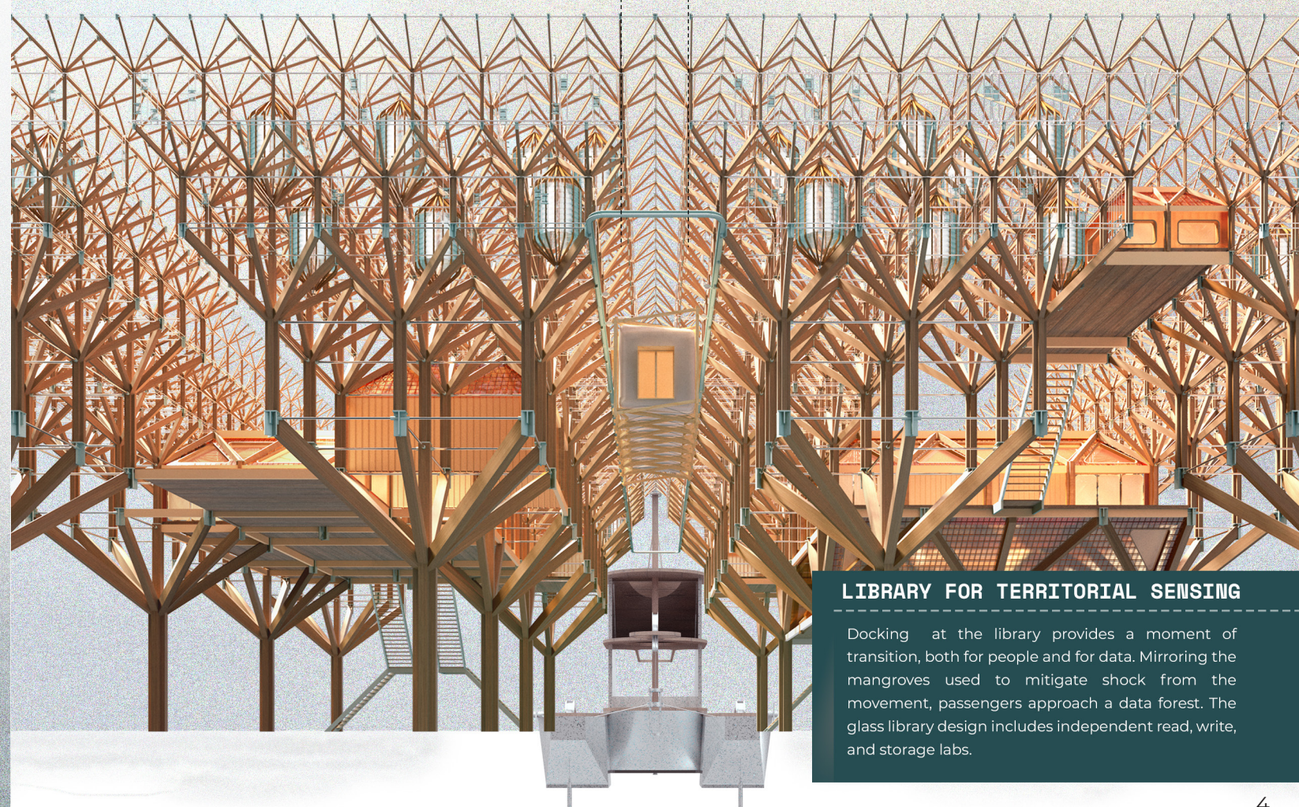
Lasers are used to etch nano-lamellas into a glass substrate.



Each just a few nanometers wide, the technology will allow millions of terabytes of data to be archived in a few square centimeters of glass.

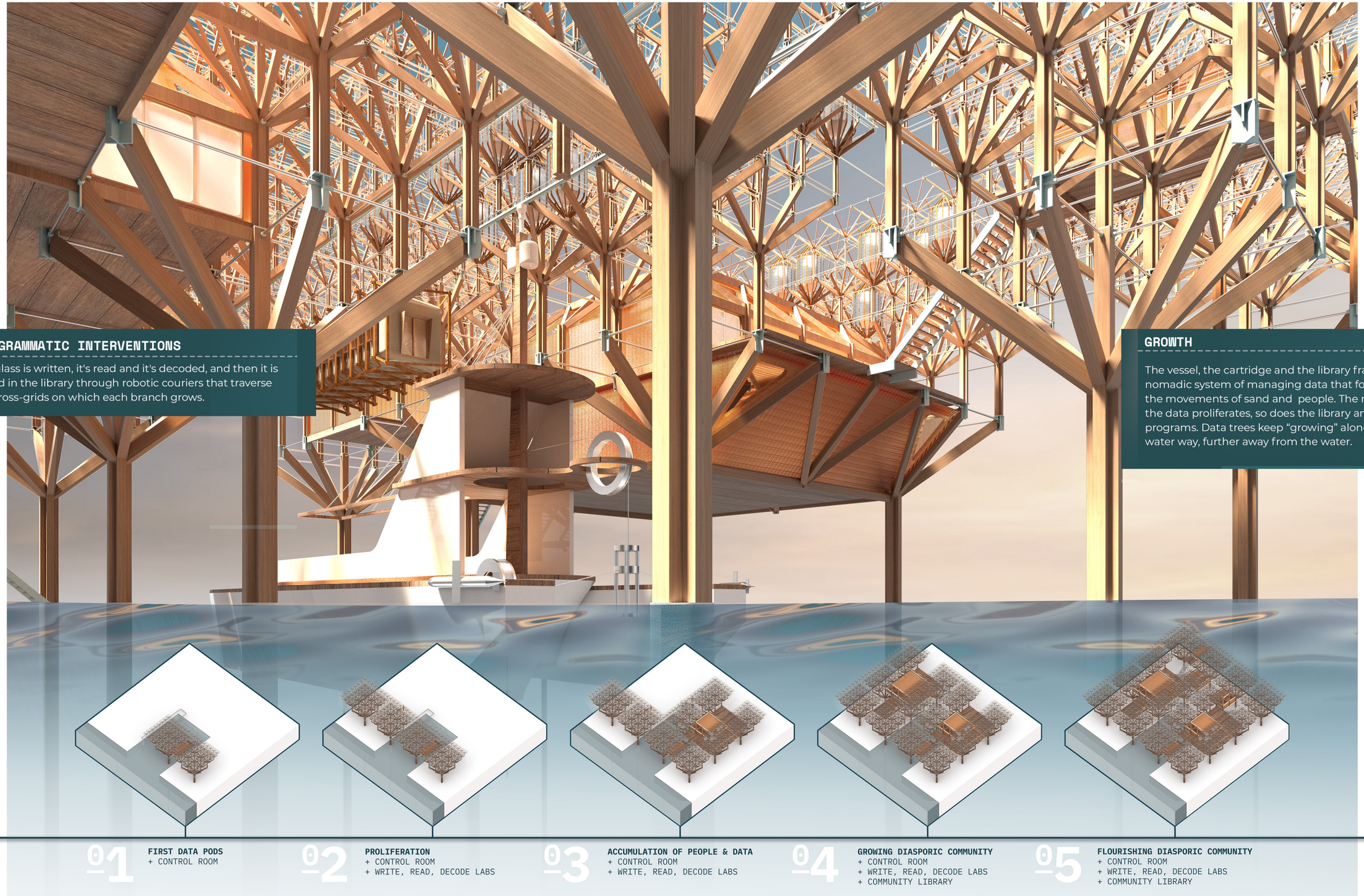
DATA LANTERNS

Data is archived utilizing 5-D optical glass data storage, which claims to offer millenia of longevity for archived data - made from the silica found in sand.



LIBRARY FOR TERRITORIAL SENSING

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. The glass library design includes independent read, write, and storage labs.



PROGRAMMATIC INTERVENTIONS

The glass is written, it's read and it's decoded, and then it is stored in the library through robotic couriers that traverse the cross-grids on which each branch grows.

GROWTH

The vessel, the cartridge and the library frame a nomadic system of managing data that follows the movements of sand and people. 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.

01 **FIRST DATA PODS**
+ CONTROL ROOM

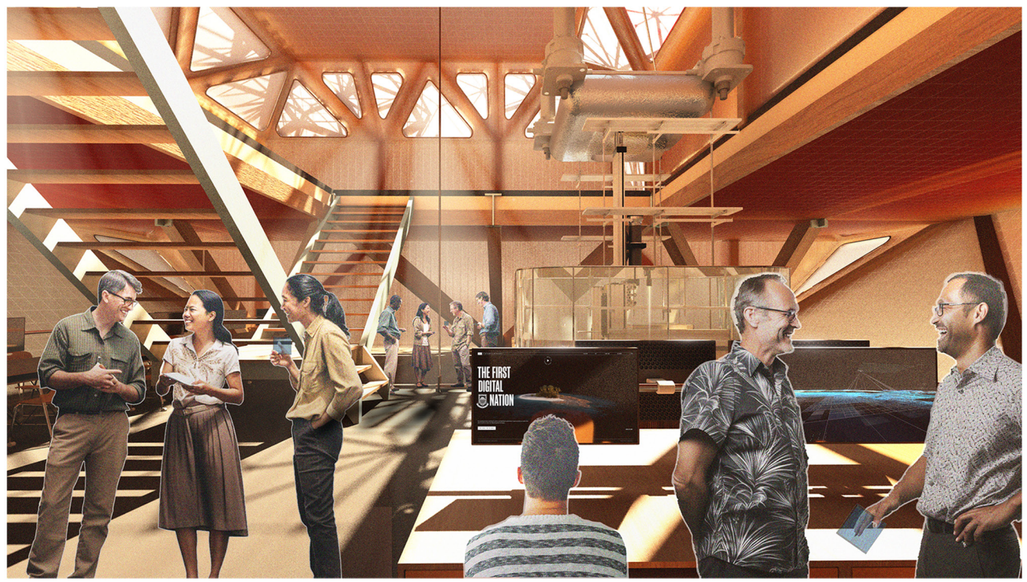
02 **PROLIFERATION**
+ CONTROL ROOM
+ WRITE, READ, DECODE LABS

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

READ-WRITE LABORATORY

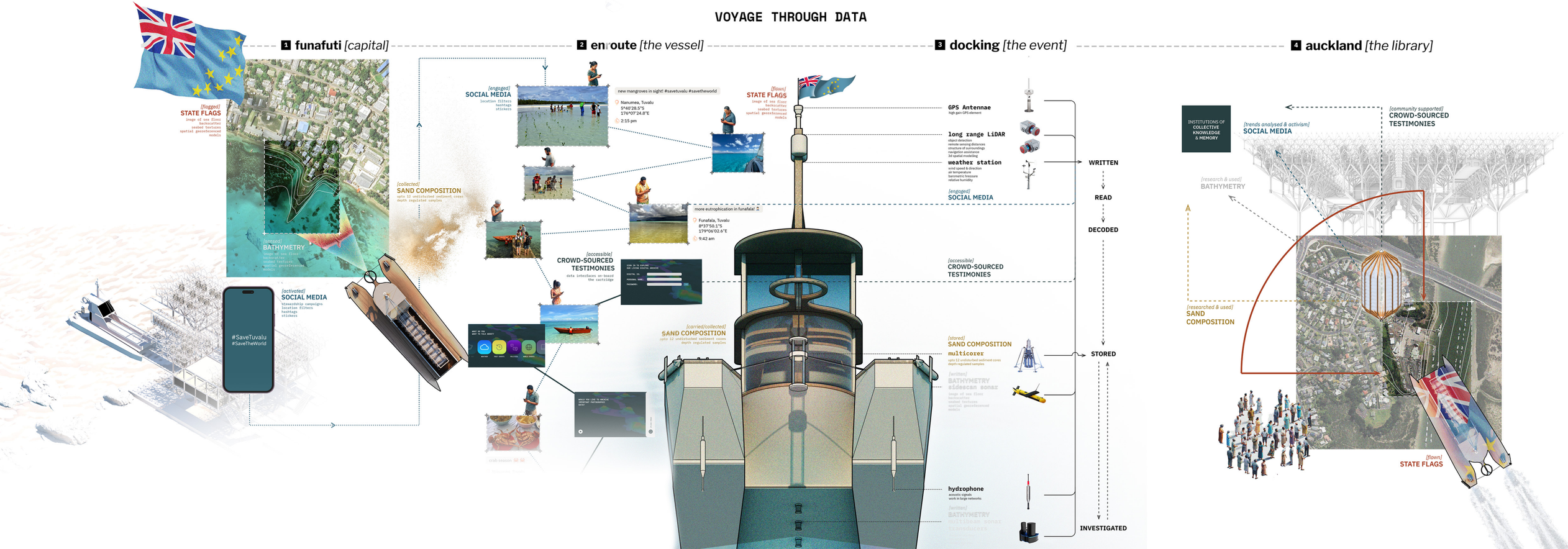


COMMUNITY DATA LIBRARY



VOYAGE THROUGH DATA

1 funafuti *[capital]* — **2 en route** *[the vessel]* — **3 docking** *[the event]* — **4 auckland** *[the library]*



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.

02

the cadillac ranch

SUMMER 23'

ARGUMENTS

Mentor: Guillermo Arsuaga

QUESTION:

Seldom, are designs sought to stray from the sparkling clarity of the architect's/artist's vision. Ant Farm's 'Cadillac Ranch' raises questions about memory. They embody traces and trajectories of livelihoods, icons of a foregone past and imaginations of potential futures. Understanding that decay offers space for growth is crucial to yielding a culture that looks forward to reinvention rather than the annihilation of art/architecture. What prompted Ant Farm to resign control and allow their artwork to be treated as a palimpsest: abandoning the throwaway mentality towards art/architecture for a more layered reflection of social and cultural place in the passage of time?

ESSAY:

The Cadillac Ranch is a public sculptural art installation in Amarillo, Texas; a brainchild of the art and architecture collective 'Ant Farm' in 1974 consisting of Chip Lord, Hudson Marquez and Doug Michels. They deployed ten evolutions of the epochal Cadillac, nose-first into the ground at the same angle as the Pyramids. Initially buried in factory paint and intended to rust and decay over time for metaphorical aspiration, they took on other lives as they became prime subjects of vandalism, ushering them into a patchwork of second sites.

In the process of its developing "secondness" , we can imply the true power of decay. As Karl Marx states, "Decay is the laboratory of life". Within large schemes of time, evolution festers; non-linear, making room for growth, leaving space for decomposition. One must recognize the value of architectural ruin in the advancement of civilization. The primal notion that natalist beginnings incur nihilist endings is logically fallacious because it encourages a throwaway mentality towards architecture and the Cadillac Ranch is exemplary in developing novel frameworks for us to reinterpret our creations.

In Cadillac Ranch, just as the idea of succession underscores the secondness of the site, it is important to understand what precedes it. ***The trajectory of the Cadillac Ranch can be widely traced by two complex, mutually inclusive timelines: that of memory and culture, and that of the physical object. At the intersections of these timelines is the evolutionary diagram Ant Farm wanted to create through their art – from its conception to its disappearance through decay*** – and mobilized the Cadillac, a cultural icon of the American dream that emerged from their fascination with cars, as a simulacrum.

Initially, Chip Lord from Ant Farm contends that they recognized the acts of vandalism as a challenge. However, deliberations regarding the possibility of housing the Cadillacs within a glass enclosure or an electric fence were deemed impractical, relegating the destiny of the artwork to the untamed influences of natures and cultures. The sincerity of Ant Farm's response affirms the understanding that James Nesbit's concept of the "second site" serves as a retrospective analytical tool to understand the organic evolution of design in its site and drafts their evolutionary diagram.

The artwork engages with the chronology of memories and cultures through the act of public participation and operates on the timeline of the physical object through its production. ***Rejecting viewers as passive consumers of media, Ant Farm's Cadillac Ranch probes the ways in which audiences become the producers of meaning through the passage of time.*** They consciously replace their natalist authority, turning architecture into a medium with a time-specific message.

Public engagement with the artwork began to exhibit the changing nature of popular memory and revealed the elaborate ways in which Ant Farm understood mainstream popular culture and its representation. For a fleeting moment, the vehicles reclaimed their original shades in an endeavor by Hampton Inn, a motel chain, to restore Route 66's landmarks. In less than twenty-four hours the new paint and plaque succumbed to fresh layers of graffiti airing the urgency with which American culture was trying to figure out what to do with such an art form. Theorist Erika Doss studied the documented shift from the official and didactic 'monument' to the more subjective and symbolic 'memorial' in American culture in the 1970s and 80s – at the precise moment of the installation. From the Black Lives Matter movement to advertising campaigns of luxury fashion houses, the Cadillac Ranch steers between mass culture, high culture, and counterculture. It is precisely these vast arrays of cultural allusions and modes of communication that sharpen its ability to reflect temporalities.

The enmeshing of cultures and symbolism recurs in Ant Farms' other projects too. Referring back to the iconic Cadillac in another performative art project entitled 'Media Burn', Chip Lord states: "It has the giant tailfin of the Dream Car era. It is a Cadillac and still conveys the power and prestige that that implies. It contains the myth of 350 horsepower and uses it to demolish forty-two TV sets. It embodies the lure of the demolition derby, the calculated planning of a lunar launch, the freedom of the open road, and the reality of cars that crash and burn."

Turning back to the production of the physical object, Patrick Maguire investigates the key concerns of the American avant-garde at the time and brilliantly notices the satire of Ant Farm's sculptural installation. He states, "The Cadillac Ranch memorializes modernism by rehearsing its formal techniques, but as a hybridized, participatory project, it also enacts modernism's end." In the book entitled 'Buildings Must Die', reflecting on new ways for architectural decay to exist in our world, Stephen Cairns and Jane Jacobs explain the purist version of architectural modernism which prioritizes formal clarity, light and hygiene – all of which are embodied in the form, position, color and organization of the Cadillacs. They are arranged in a neat, single-file line, aligning to an east-west axis and are buried nose-deep in chronological order, with the oldest vehicle positioned farthest to the west. Pioneers of modern architecture like Le Corbusier asserted that in America, "Cleanliness is a national virtue," characterized by an absence of dirt and dust. Ant Farm's resignation of control and encouragement of modes of participation then directly confronts the formality of its organization to produce a value for the specific moment and state in which it is being viewed. In agreement with the perceptions of art historian Alois Reigl, the advantages of age value eclipses that of historical value. The latter can be understood only by those possessing specific knowledge about the context within the broader scope of historical events whilst age value is inherently apparent and universally valid.

Akin to anything inhabiting our planet, art and architecture, too, must face the consequences of the recklessness of time. In Ant Farm's pursuit for planned obsolescence, they unveiled a new way for architecture to endure: one in which original histories have been effaced to make room for new cultural moments, but of which traces remain as memories.





03

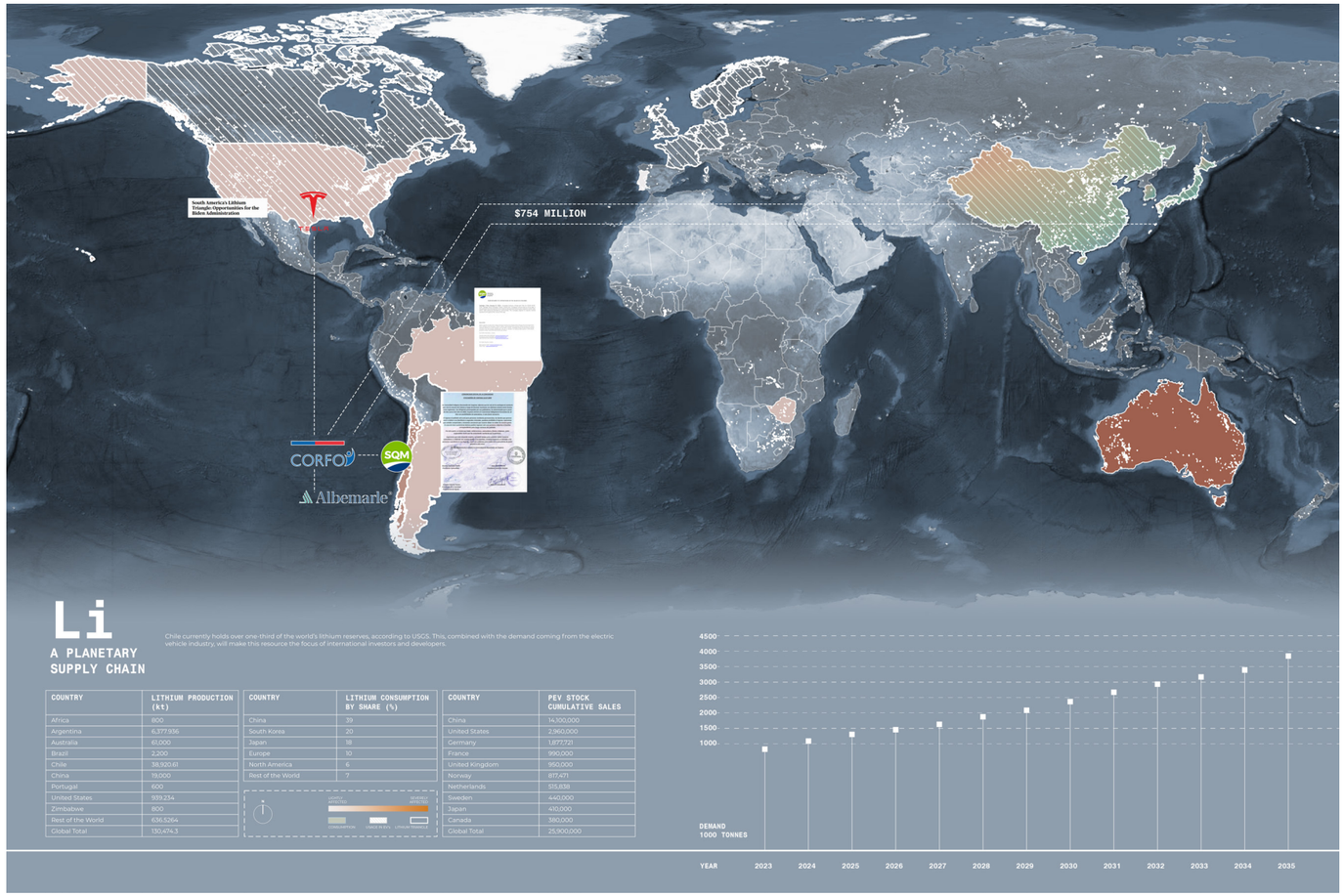
Li at the Limits of Life

COLUMBIA **GSAPP** | SEMESTER **SPRING 23'**

An atlas that wanders from the planetary to the atomic scale to expose the disparities of Lithium extraction. This practice of cartography enabled me to understand a desert caught in the vicious cycle of striving and struggling. The maps form a basis for a spatial rationale underpinning the emerging lithium economy in the Atacama.

Studios: Reparation Architecture
Methods in Spatial Research
Critics: Paulo Tavares, Max Goldner
Adam Vosburgh
Programme: An Atlas
Site: Atacama, Chile





COUNTRY	LITHIUM PRODUCTION (kt)
Africa	800
Argentina	6,377.936
Australia	61,000
Brazil	2,200
Chile	38,920.61
China	19,000
Portugal	600
United States	939.234
Zimbabwe	800
Rest of the World	616.5264
Global Total	130,474.3

COUNTRY	LITHIUM CONSUMPTION BY SHARE (%)
China	39
South Korea	20
Japan	18
Europe	10
North America	6
Rest of the World	7

COUNTRY	PEV STOCK CUMULATIVE SALES
China	14,100,000
United States	2,960,000
Germany	1,877,721
France	990,000
United Kingdom	950,000
Norway	817,471
Netherlands	515,838
Sweden	440,000
Japan	410,000
Canada	380,000
Global Total	25,900,000

Li: A Planetary Supply Chain

The pillaging of the Atacama is a climate disaster. An estimated 75 percent of the world's lithium supply is found in the Andean Altiplano: a region referred to as the "lithium triangle" by mining companies. These characteristics not only position the Atacama as a cornerstone in the transition towards sustainable energy but also as a key player in global efforts to combat climate change.

H_2O: A Contested Resource

In Chile, water is privatized, enshrined in the constitution as property. A legacy of the Pinochet era in Chile is the privatization of minerals and water, which gives companies ownership of those resources in an area. While mining operations squeeze this already dry region even drier, communities lose their access to potable water, leaving them relying on tankers to deliver it. Resource extraction hinges on the displacement of Indigenous peoples by separating them from their water resources— a reality that is intentionally hidden from most of the world, in an attempt to justify business as usual. The water is invisibilized. In the early years of the 20th century most Latin American countries were involved in border disputes where international arbitrage had to lead to definitive settlement of the conflict. Such was the case between Argentina and Chile, the results of which are shown, probably for the first time, in this archived atlas on which I have georeferenced Chile's current water resources.

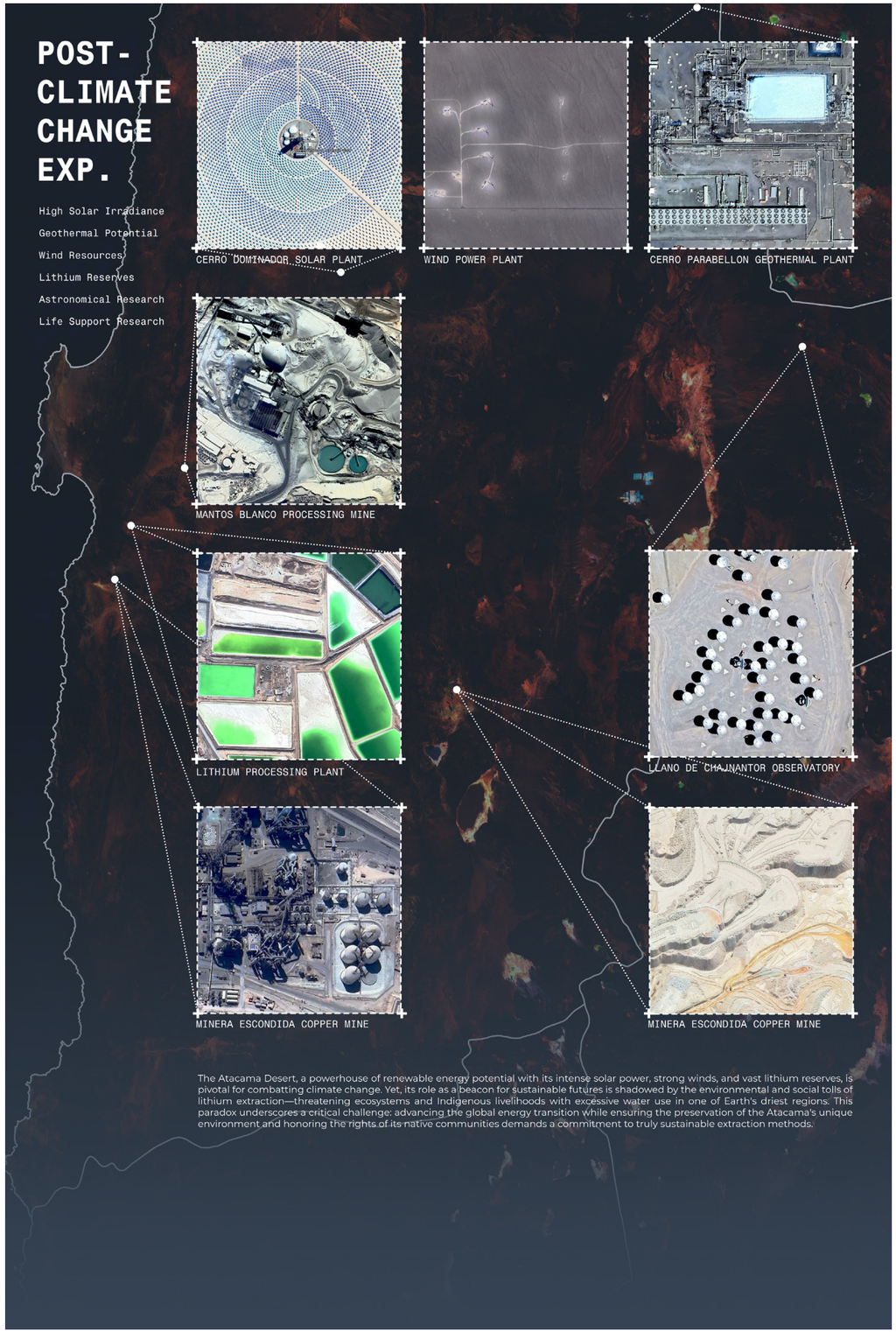


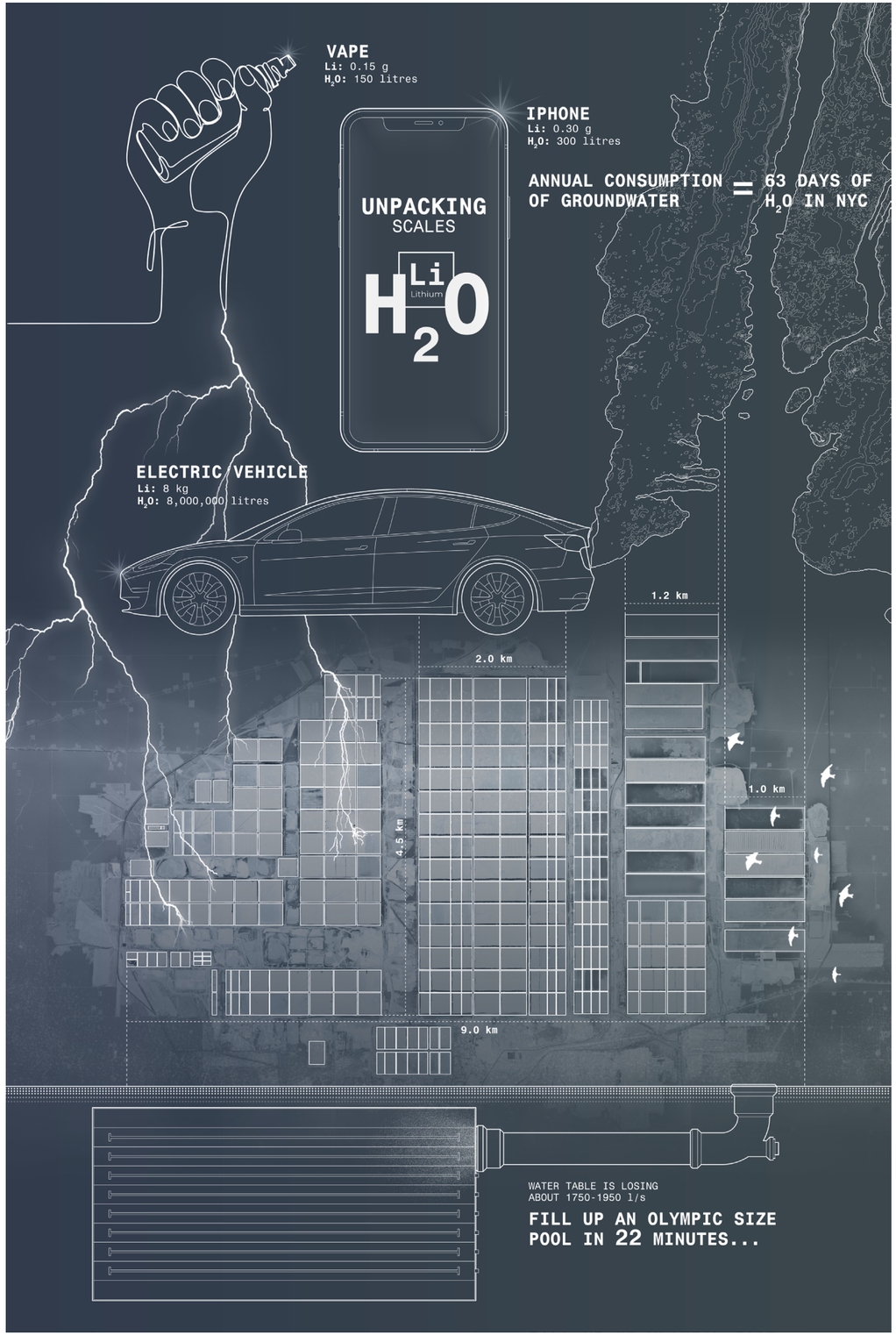
Indigeneity: Tensions & Ambivalences

The relationship of the indigenous with mining isn't always that of stark opposition. Indigenous peoples have commonly been portrayed as either victims of extraction or resistors to extractive industries. That is, they are represented as essentially passive or at most reactive. Besides outright opposition, negotiations have also encompassed diverse forms of participation, such as environmental monitoring, or benefit sharing in the form of jobs or compensatory payments. Indigenous people in Chile have established rights – and that only further complicates the situation. What it means to be indigenous, who has the power to define its meaning in legal and cultural terms, who can legitimately occupy this position, and to what effect?

Post Climate Change Experimentation:

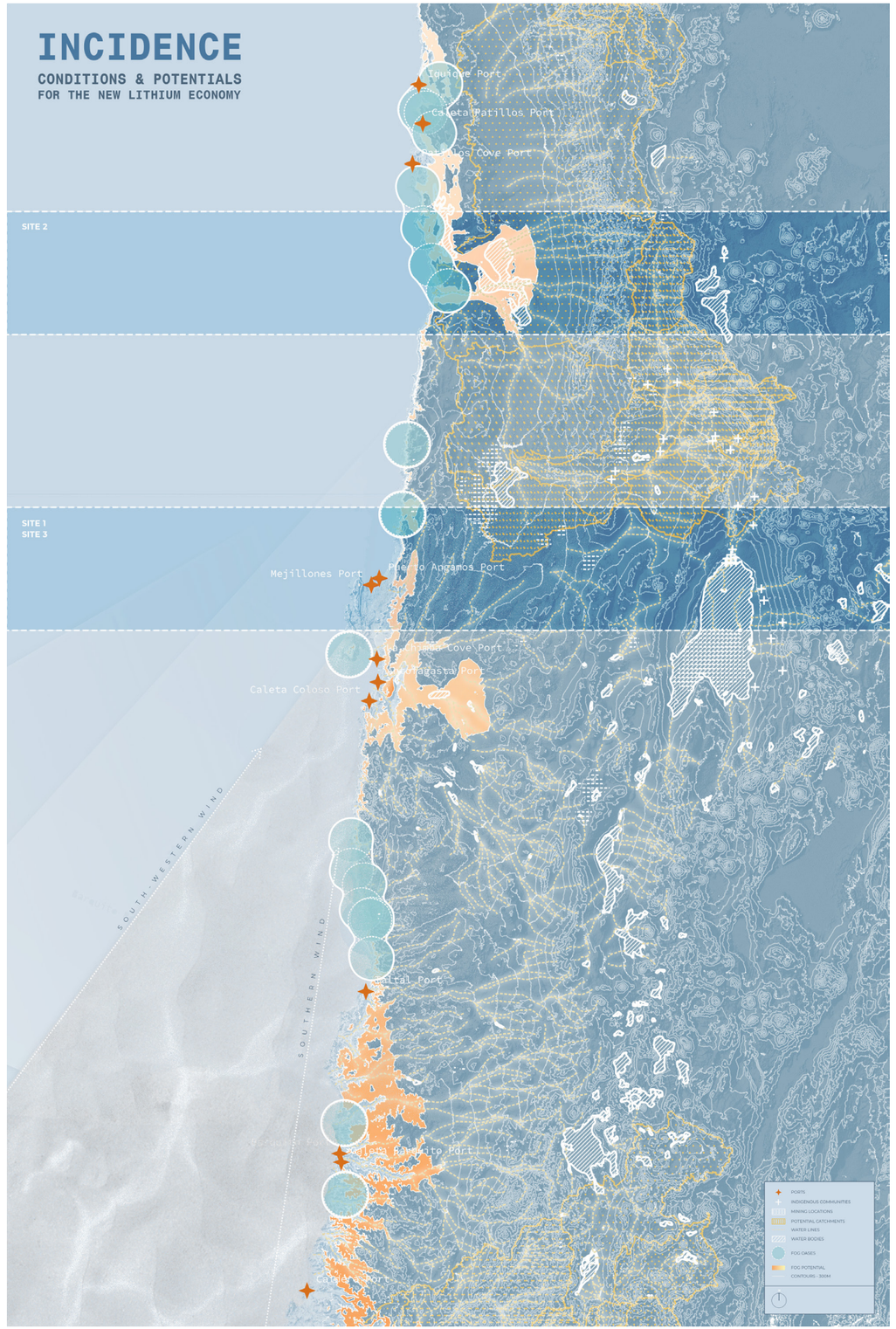
The Atacama Desert, stretching across Chile's northern expanse, emerges as an unparalleled site for post-climate change energy infrastructure experiments. Its unique geographical and climatic conditions—marked by some of the highest solar irradiance levels globally, consistent and powerful wind currents, and significant geothermal activity—make it an ideal natural laboratory for renewable energy projects. Moreover, the Atacama hosts the world's largest reserves of lithium, a critical component for battery storage technologies essential in the renewable energy sector.





The drawing helps unpack the scales at which water is being extracted and exploited in comparison to products at the end of Lithium's life cycle as well as other spatial measures to demonstrate the war on water in the Atacama.

The construction of my atlas so far serves as the foundation for developing this map that spatializes the conditions necessary for scaling up and implementing indigenous water management infrastructural systems in a post-lithium landscape.



04

mist over mineral

COLUMBIA **GSAPP** | SEMESTER **SPRING 23'**

The Salar de Atacama's greatest peril isn't climate change—it's our climate solution. Their waters are rich in one of the most sought-after elements in the world today: lithium. This extraction, crucial for the global shift towards renewable energy, hinges on the displacement of Indigenous peoples, masking the complex balance between economic gains and the socio-environmental toll on human and non-human communities' water resources.

My project forms a basis for technological interventions that foster the agency of indigenous knowledge by creating resilient infrastructures in the emerging post-lithium economy that challenge perceptions of power, indigenous notions of stewardship and the invisibility of water in the off-sites of mining operations.

Studio: Reparation Architecture
Critic: Paulo Tavares, Max Goldner
Programme: Infrastructures of Fog & An Atlas
Site: Atacama, Chile



ANTOFOGASTA,
CHILE

At the break of dawn, the fog catchers are breaking out a deep sweat. The dense camanchacas rolling in from the bustling port of Antofagasta, are sweeping in with wet respite. The stewards of this machine have begun their daily repairing of meshes, monitoring water levels, and rigging massive pumps to pipelines, channeling life-giving water to the arid valleys eastward, where miners will soon rise to face another grueling day in the dust of the mines.



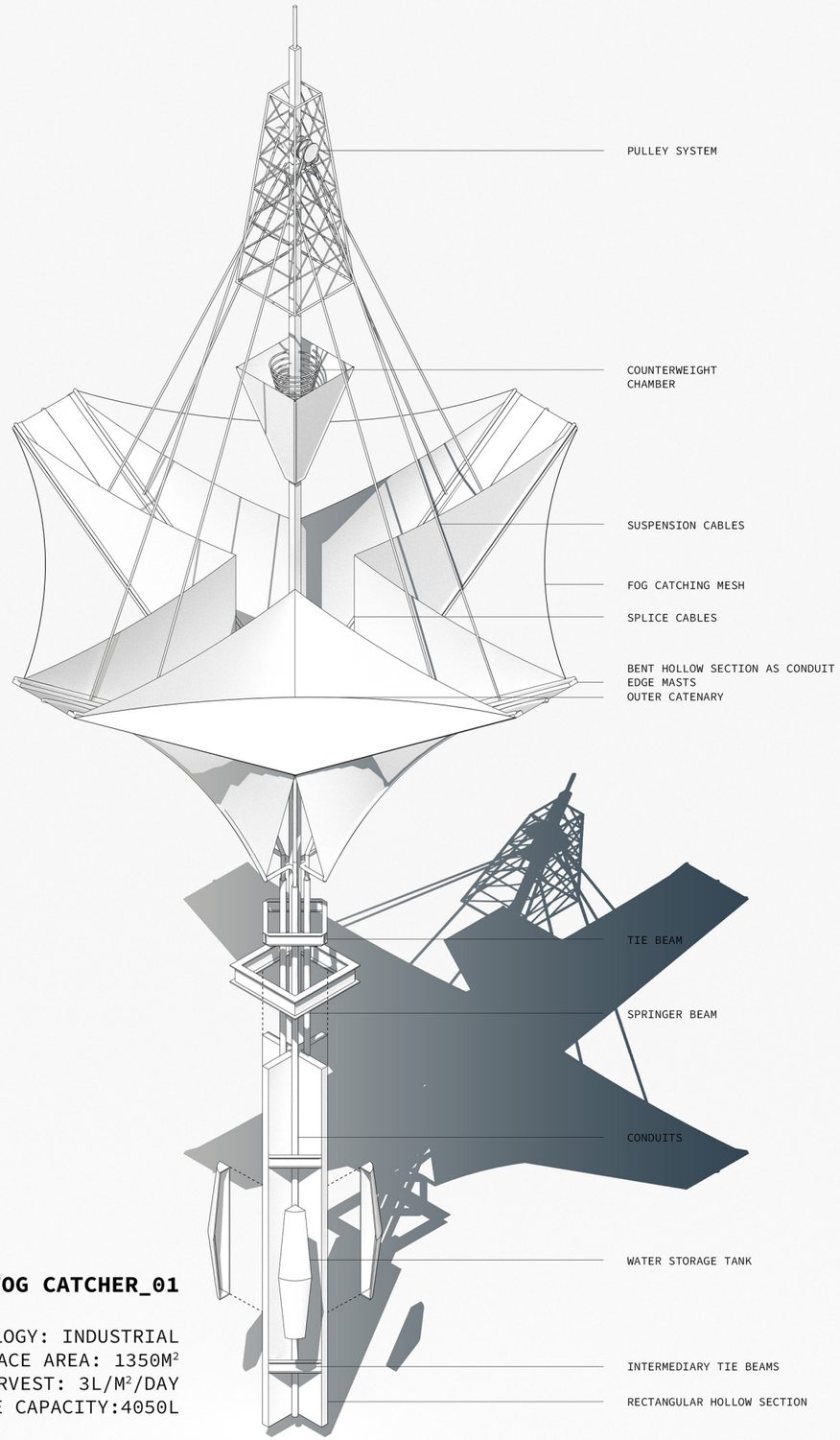
TARAPACA,
CHILE

In the cool, mystical reaches of the northern Andes, the desert is miraculously healing itself. Amidst one of the largest fog oases, innovative structures stand as beacons of indigenous authority, hydrating the soil and nourishing herds of grazing Vicuñas and burgeoning bird populations. The limanes in the valleys brim with water, sustained three years post-drought, micro dosing the earth with the moisture it desperately needs. Beyond its sturdy gabion walls, the resilient Baccharis concava thrives, revitalizing the barren land and aiding other flora by enhancing soil, providing shade, and naturally harvesting the fog with its leaves.



SAN PEDRO DE ATACAMA,
CHILE

East of the coast, indigenous farmers ingeniously use fog water to drip-irrigate fields of aloe vera, a miraculous super-crop that thrives on minimal moisture yet offers abundant hydration. It serves as food, drink, and a protective salve against the desert's brutal sun. Nearby, innovative modular fog catchers continuously replenish community wells, safeguarded by evaporation shields, ensuring a sustainable water supply for domestic needs.

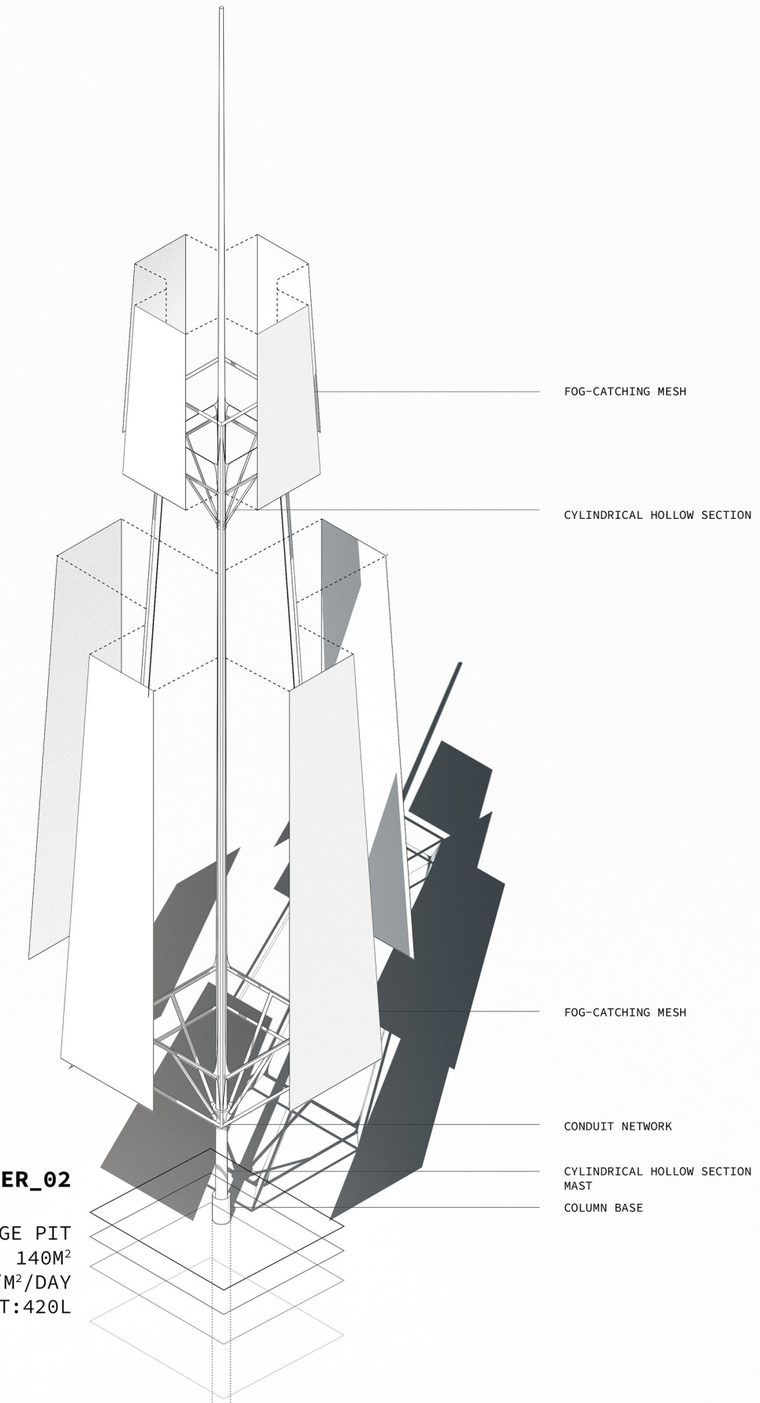


FOG CATCHER_01

TYPOLOGY: INDUSTRIAL
TOTAL SURFACE AREA: 1350M²
AVG. RATE. OF HARVEST: 3L/M²/DAY
TANK STORAGE CAPACITY:4050L

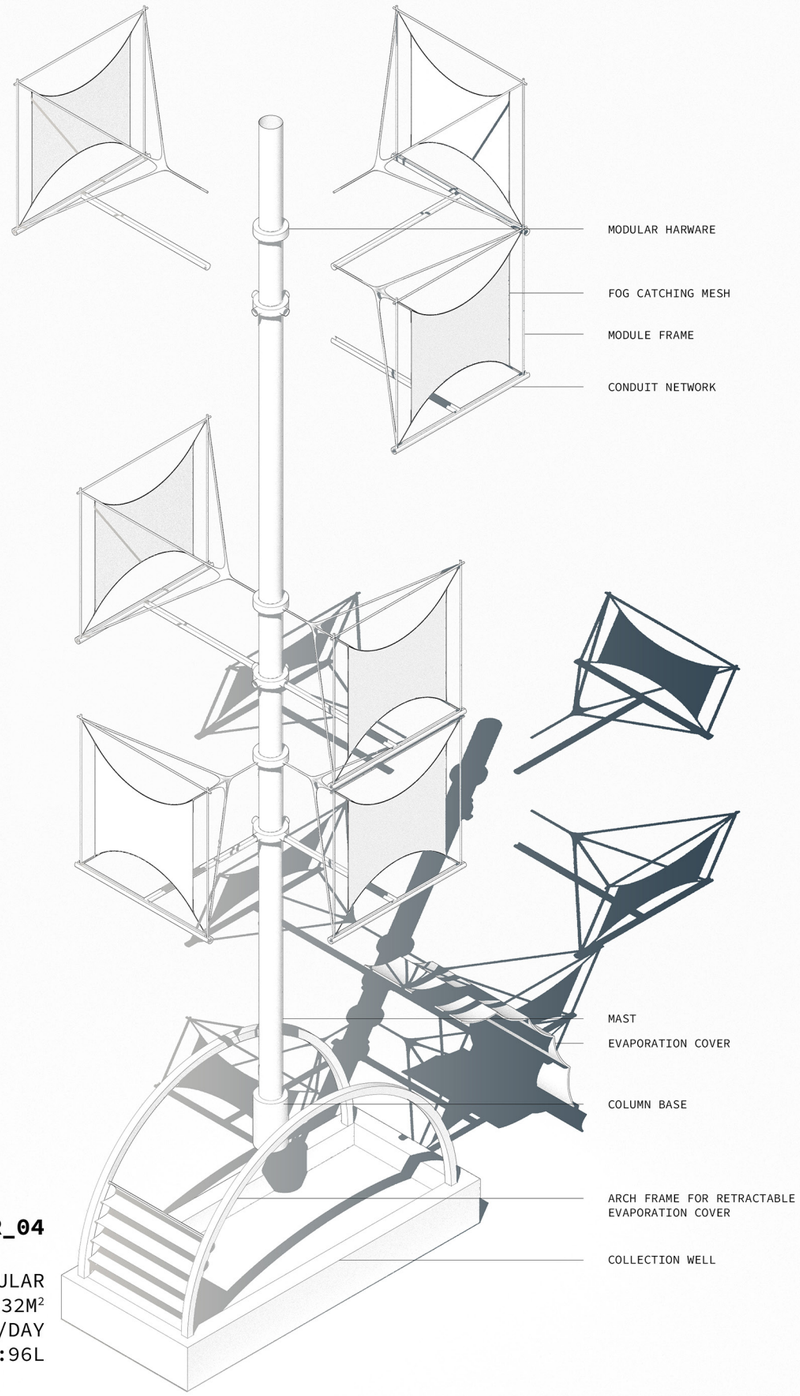
FOG CATCHER_03

TYPOLOGY: RECHARGE PIT
TOTAL SURFACE AREA: 140M²
TANK STORAGE CAPACITY:420L



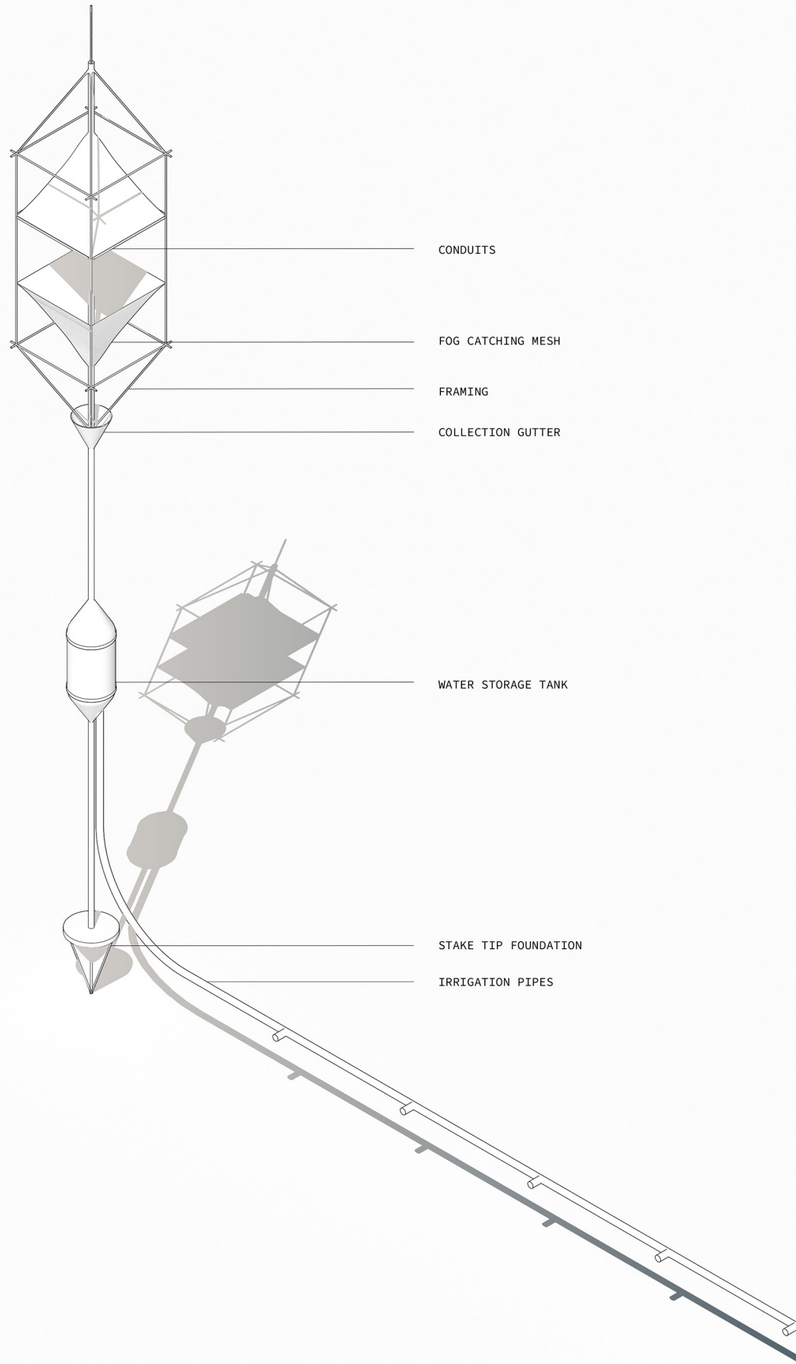
FOG CATCHER_02

TYPOLOGY: RECHARGE PIT
TOTAL SURFACE AREA: 140M²
AVG. RATE. OF HARVEST: 3L/M²/DAY
AVERAGE ESTIMATED HARVEST:420L



FOG CATCHER_04

TYPOLOGY: MODULAR
TOTAL SURFACE AREA: 2-32M²
AVG. RATE. OF HARVEST: 3L/M²/DAY
WELL STORAGE CAPACITY:96L



FOG CATCHER_03

TYPOLOGY: DRIP IRRIGATION
TOTAL SURFACE AREA: 8M²
AVG. RATE. OF HARVEST: 3L/M²/DAY
TANK STORAGE CAPACITY:24L

The extraction of Lithium wages ***war on water in the one of the driest regions of the world****, jeopardizing possible futures of the Atacama Desert while* ***protecting a prototype of energy security for the Global North.***

United in their resistance against displacement and in their quest for justice, through my project, I stand in solidarity with indigenous communities and the people of Palestine, affirming their ***right to land and life*** *free from colonial oppression amid the ongoing* ***genocide in Gaza.***

05

pavilion parade

COLUMBIA **GSAPP** | SEMESTER **SUMMER 23'**

The Coney Island of the 1960s and 70s would become known for its high levels of crime, arson, and racial unrest. Moreover, Coney Island lacks any truly public space for its residents apart from the boardwalk and the beach, most of which caters to its five million visitors each year.

Our designs strive to intervene at the nodes at which multiple racial groups or ethnicities co-exist alongside Mermaid Avenue. Through these "little infrastructures", equipped with moving parts and intersectional programs, we create space for unprecedented inter-communal interaction.

Studio: City Islands
Critic: David Eugin Moon
Programme: Network of Pavilions
Site: Mermaid Avenue, Coney Island
Collaborators: Yiyang Liao

BIG WORLDS
UNDER LITTLE TENTS

A BRIEF GENEALOGY
OF PAVILIONS & HUMAN ASPIRATION

I THE PAPILIO

In the ancient Roman Empire and beyond, these acquired the name 'butterflies' – papilio in Latin. This was possibly on account of their fleeting appearance in the landscape.

II POWER, WEALTH & PLEASURE

In palatial gardens, villa parks and country estates, the pavilion is still very much tied to power and wealth, as well as to land and territorial claims.

III MONUMENTAL, RIGID, AUSTERE

Amidst he classical revival, pavilions now took on the character of more permanent fixtures in the landscape.

IV COLONIAL & IMPERIAL FANTASIES

They served as lodges, boathouses, gazebos, seats, pergolas, stages, bandstands, conservatories, aviaries and cabinets. They were now built to resemble imperial aspirations and fantasies of remote times or places.

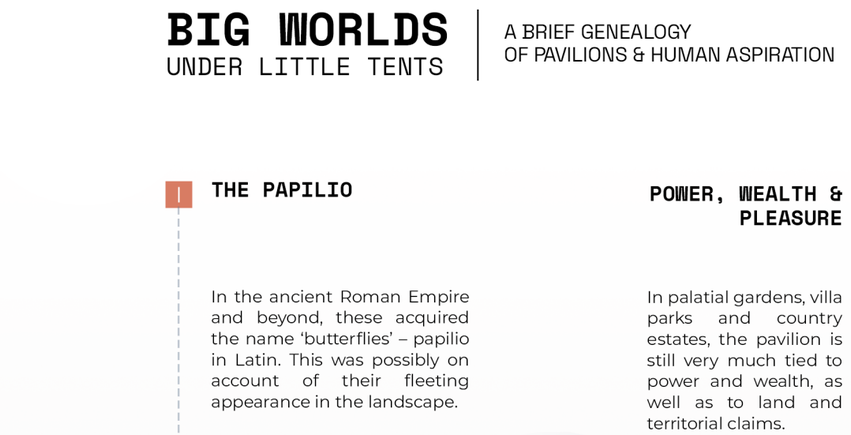
V IDENTITY & CULTURE OF SPECTATORSHIP

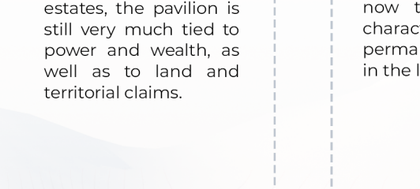
The modern pavilion was inseparable from a new culture of exhibition, of spectatorship and spectacle – of the kind that turned all and sundry into consumers. Pavilions were 'not just exhibitions of the world, but the ordering up of the world itself as an endless exhibition. This was the age of nation-building.

VI LABORATORY FOR EXPERIMENTATION

In modernist circles, the pavilion became a laboratory for experimentation and for showcasing new forms, materials or techniques. More than anything else, it was exhibiting itself, or the potential for architecture to be something else.

ROMAN TEMPORARY
& TRANSITIONARY PAVILIONS
27th CENTURY BC ONWARDS

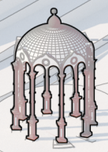


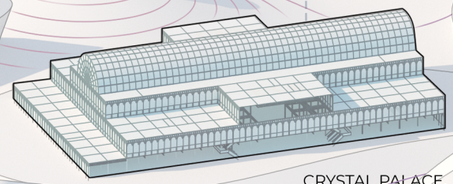


ANCIENT AGORA
OF ATHENS
6th CENTURY BC

PALATIAL & PLEASURE GARDEN
PAVILIONS FOR THE ELITE
15th CENTURY BC ONWARDS

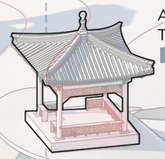




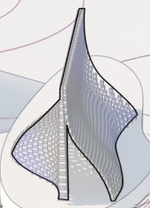


CRYSTAL PALACE,
GREAT BRITAIN
1851

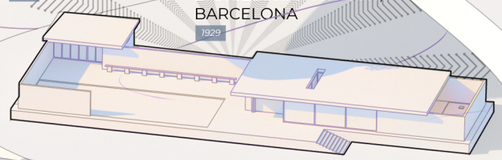
ASIAN GAZEBO'S
TURKISH/MOORISH ARCHWAYS
1800 AD ONWARDS



SERPENTINE PAVILION,
BJARKE INGELS
2016

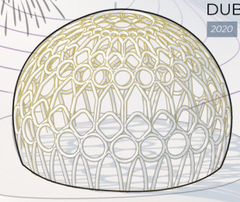


BARCELONA PAVILION,
BARCELONA
1929

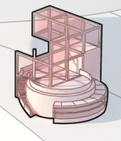


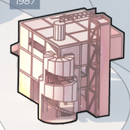


AL-WASL DOME,
DUBAI EXPO 2020
2020

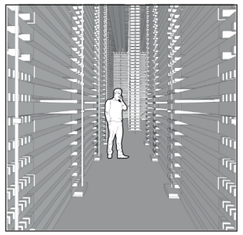


PARC DE LA VILLETTE,
PARIS
1987

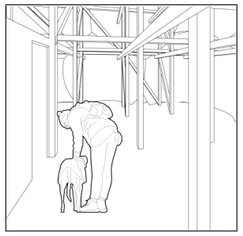




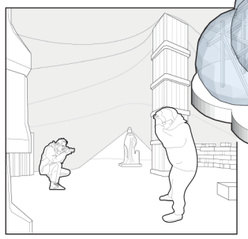
TEMPORAL MECHANICS
FROM STATIC TO MOBILE



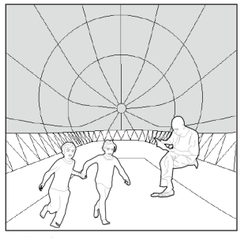
Swiss Pavilion



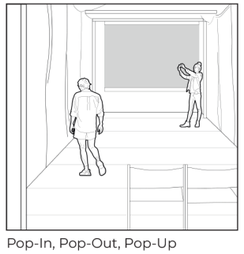
Pavilion of Naoshima



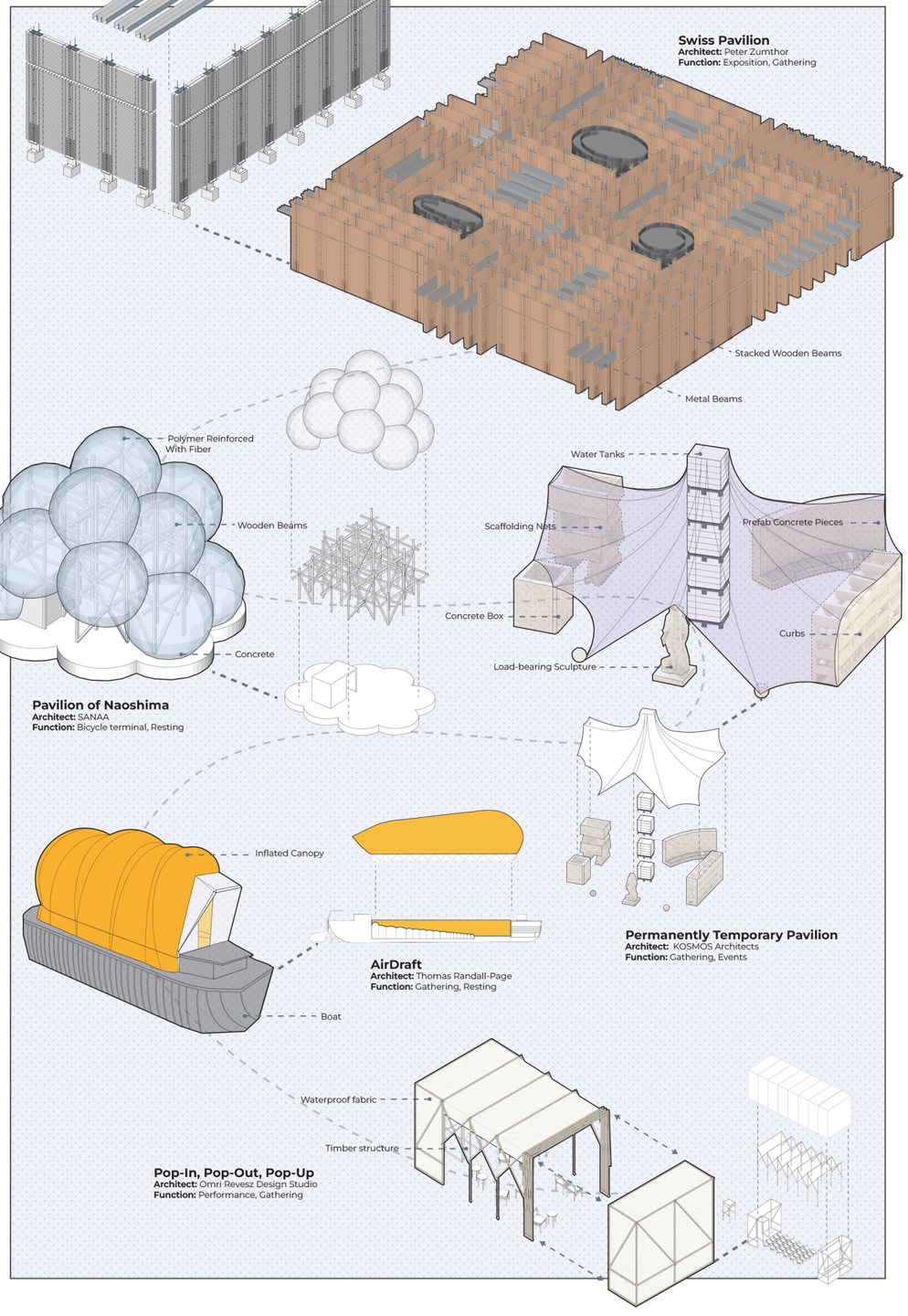
Permanently Temporary Pavilion



AirDraft



Pop-In, Pop-Out, Pop-Up



CONEY ISLAND
IMAGINARIES



Portals to the real, the hyper-real and the virtual on the boardwalk.



The endless kinetic over the static, as realities are produced and reproduced by diverse, contesting ethincities.



Speculative opportunity costs of abandonment: reconnecting the city to the sea through amusement.



LITTLE INFRASTRUCTURES

Through these “little infrastructures”, equipped with moving parts and intersectional programs, we create space for unprecedented inter-communal interaction. We treat the street as the true leveler of urban space: one which warrants use without force.

6

THOROUGHFARE//
//ATRIUM SEATING

COMMUNITY
MERRY-GO//
//EVENT SPACE

GALLERY//
//BRIDGE

INFORMAL GALLERY//
//TWO-WHEEL PARKING







1

OUTDOOR DECK//
//WORKSHOP

LOUNGING LAWN//
//SKATE PARK

5

PUBLIC PARK//
//PRIVATE SPACE

COMMUNITY SEATING//
//EVENT SPACE

AMPHITHEATER//
//COMMUNITY MERRY-GO





MOVING PARTS

Through the operatives of distortion, extension, rotation, translation, and convergence we transform the sidewalk and adjoining defunct plots to create urban spaces endowed with complimentary programs triangulated to existing ones.

While pavilions often masquerade as modest or ***innocuous amusement****, they are highly* ***rhetorical*** *and* ***discursive*** *objects of design.*



06

bubble buttressed

COLUMBIA **GSAPP** | SEMESTER **FALL 23'**

Exploring the art of form-finding through soap film experiments where the boundary conditions and compositions of the soap solutions were iteratively optimized. The results were subsequently translated into a 3D-printed paneled structure designed to withstand compression, originating from these tension-based experiments.

Critic: Robert Marino
Collaborators: Sizhe Wang, Abdullah Maddan



EXP. 05
SOAP : WATER : GLYCERIN
8 : 10 : 1

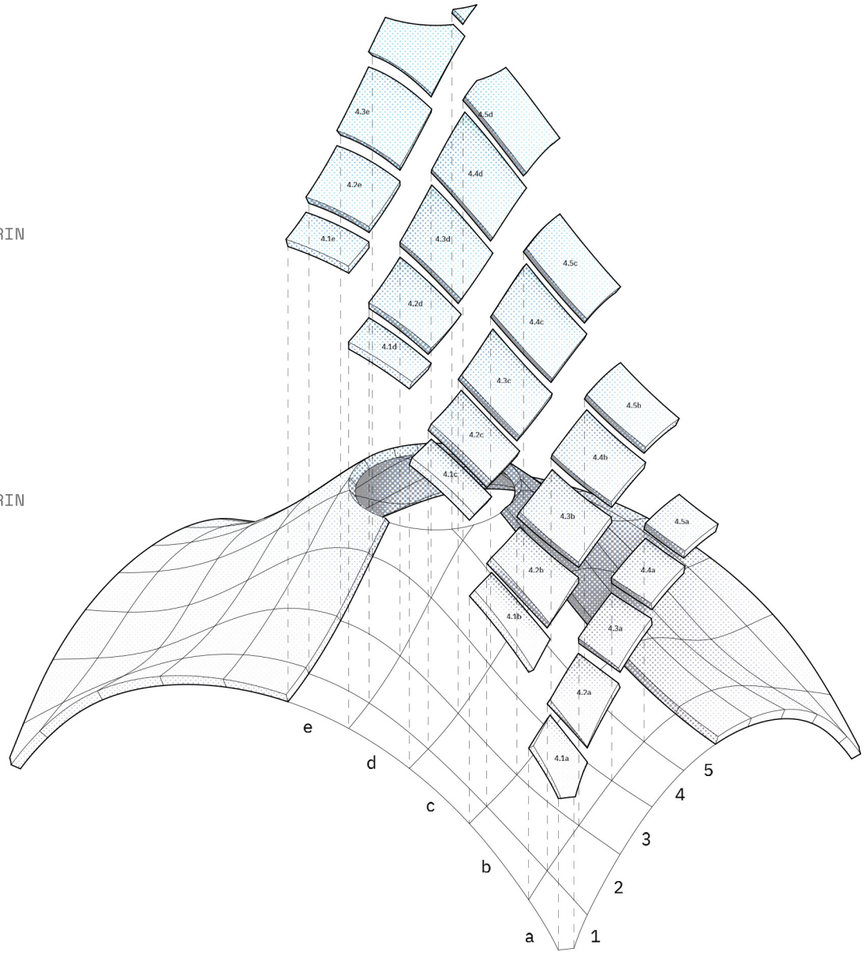


EXP. 06
SOAP : WATER : GLYCERIN
10 : 10 : 1



EXP. 09
SOAP : WATER : GLYCERIN
12 : 10 : 1

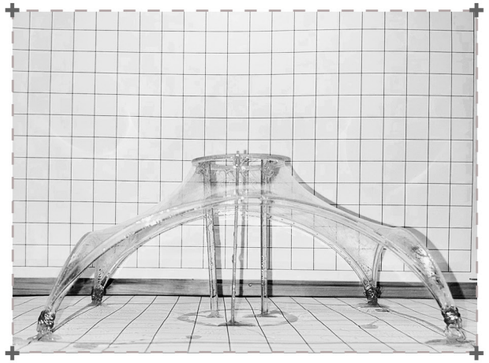
FORM-FINDING
EXPERIMENTS



EXPLODED - QUADRANT
AXONOMETRIC



SOAP FILM EXPERIMENT



SOAP FILM EXPERIMENT

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Quis ipsum suspendisse ultrices gravida. Risus commodo viverra maecenas accumsan lacus vel facilisis.



07

the rebirth brick

SUMMER 23'

ESSAY:

Imagine this: an architect exploits the debris and corpses of the Wenchuan Earthquake, promoting “bricks” which contain the souls of the dead, across China. Ultimately humanity discovers that the universe, built atop a ruin, is itself made of “rebirth bricks.” The culture market, neoliberal ideology, and digital media rapidly transform the brick into a simulacra, severing its vital connection with nature and the earth to its creators.

This is a snapshot from an anthology of stories written by science-fiction author Han Song in his book "Zaisheng Zhuan" which adapts the “rebirth brick” by architect Liu Jiakun to reveal its critical discourse through dystopian foresight. Albeit extreme, the imagination provokes us to trial the concepts of rebirth, obsolescence and disaster capitalism. “New life is more important than the truth, and its starting point is forgetting”, states Jia Liyuan as she assesses themes of feudal ethics and cultural cannibalism in mainstream Chinese science fiction.

The Rebirth Brick project was initiated in July 2008, a month after the devastating 8.0-magnitude earthquake in Wenchuan and was aimed at supporting local individual rebuilding efforts. First manually and then mechanically crafted using aggregated debris from the disaster site, straw fiber and cement; these bricks have been used to reconstruct distraught areas such as the Dongping Village, Pengzhou, entrusting new meanings to the ideas of renewable materials and communal regeneration.

Jiakun harnesses the power of evocation to communicate spiritual temperaments within the contexts of his architecture as a consolidated methodology to his practice. In ‘Hu Huishan Memorial’ he commemorates a young girl who lost her life in the earthquake. The vernacular structure is built to represent a disaster shelter and blatantly wields symbolism, through color and object, to evoke an individual memory. In ‘rebirth brick’, he embeds collective memory, an epistemological tool, within the tangibility of the brick, a single unit of construction, to transcend the concept of urgent relief, embody the rejuvenation of waste materials and contribute in the collective recovery from disaster.

The bricks visually lend to victimized territories, but claims beyond that appear as artistic rhetorics. While proponents of the Rebirth Brick argue that it offers mental recovery and communal regeneration, it manifests more economically than psychologically. The popularity of the brick relieved the rural industry as villagers established small-scale manufacturing plants and actively participated in the project. Owing to the stringent seismic provisions of building codes in China, however, Liu recommends using it as infill within reinforced concrete framed structures: entrapping the capitalist politics of concrete and tempting examination into its holistic sustainability.

As the rebirth brick is a contraption of circumstances, it currently finds itself nearing the stage of obsolescence. As the availability of earthquake rubble diminishes, Liu's technique faces challenges of social and financial feasibility. Initially cost-effective due to the abundance of debris, it now demands substantial investment and effort to find suitable demolition sites, making it less practical and sustainable.

Without exclusive rights, the true course of the rebirth brick remains uncharted, and even Jiakun's sensitivity cannot protect it from the pitfalls of ‘disaster capitalism’: where catastrophe is a window into a market full of financial opportunity.

Jiakun believes in using this technique strategically and when it is appropriate rather than contriving it as a means of architectural authorship which would impose limitations of what is possible within his personal practice.

Han Song’s narratives divulge these real-life paradoxes of the rebirth bricks—memory and forgetting, death and new life, the tangible and the intangible and systemically question the agency of inscribing certain individual and collective memories within architecture.



TRANSCALARITIES
Mentor: Bart Jan Polman



08

eternal echoes:

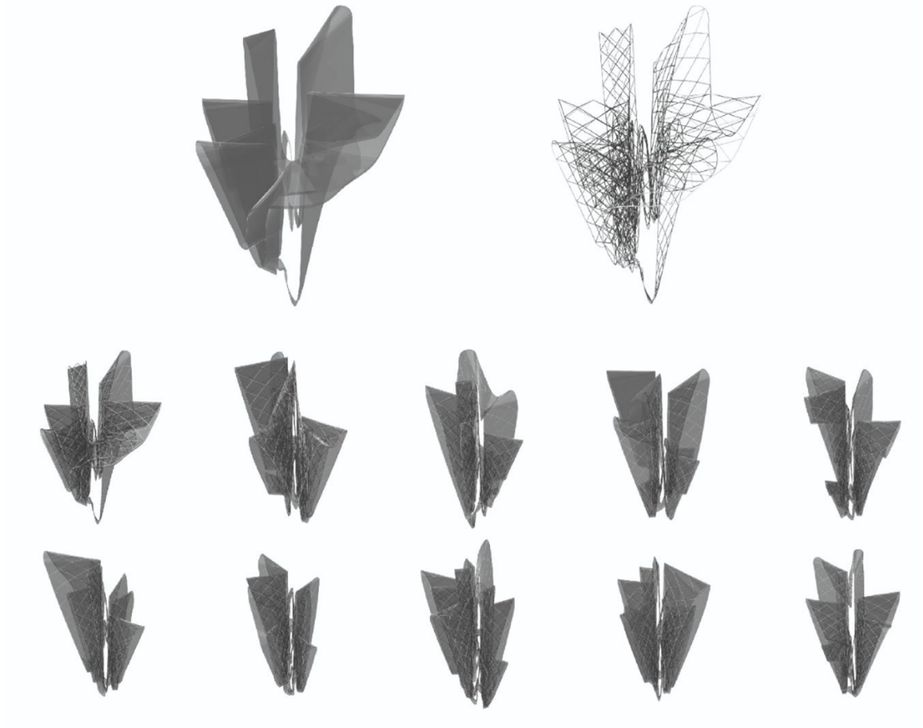
archiving memory through sound

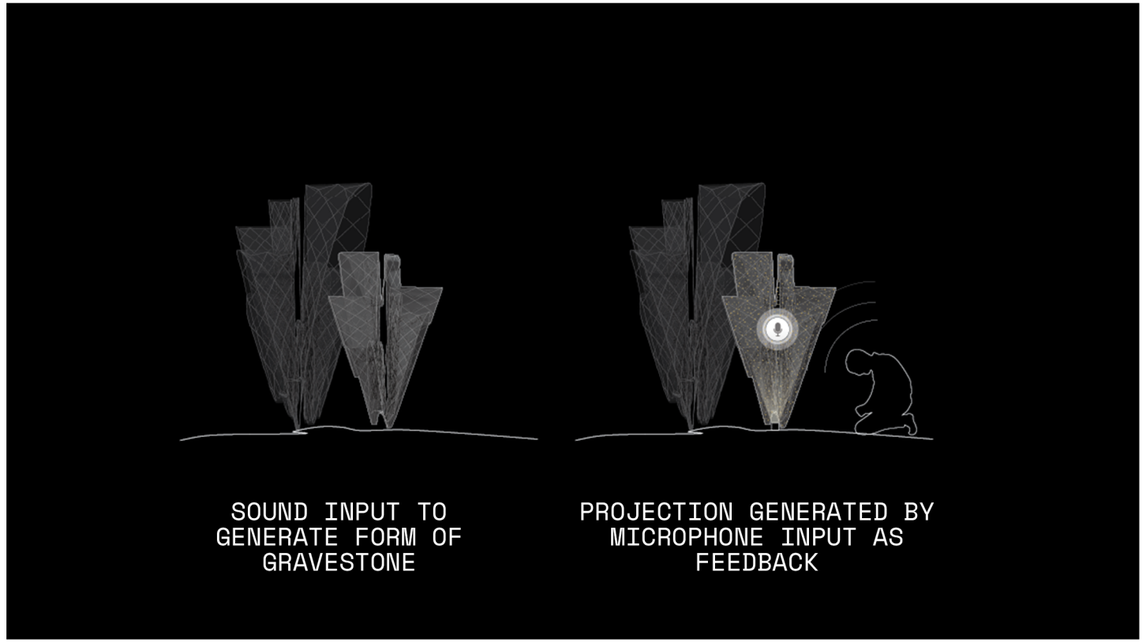
COLUMBIA **GSAPP** | SEMESTER **SPRING 23'**

The project introduces a approach to memorialization by transforming personal memories into a 3D sculptures, reimagining traditional graveyards as immersive sculpture parks. Reciprocally, through projection mapping, the gravestones respond to the person grieving through visual ephemera.

[work in progress]

Studio: Generative Design
Critic: Danil Nagy
Programme: Custom Gravestones
Contributors: Xiaoqi Shen, Devansh Shah, Yi Wu, Yifei Dong





GENERATIVE PROCESS

1.
Audio Source Input
Audio Analysis
Point Oscillation

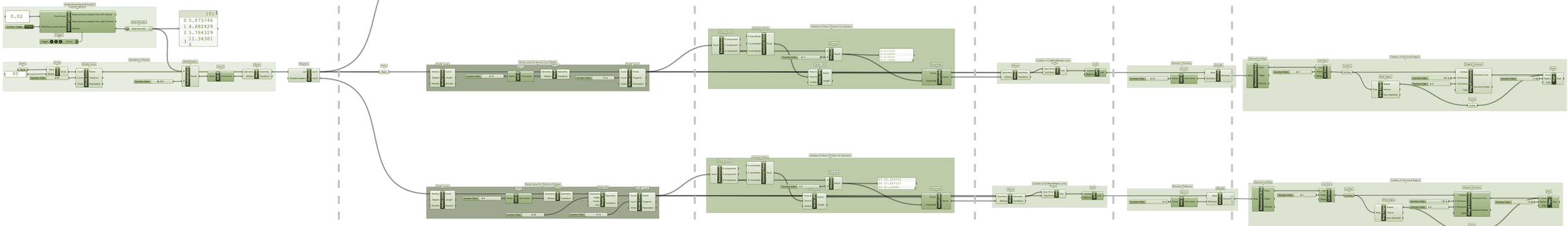
2.
NURBS Curve from Points
Dispatch List

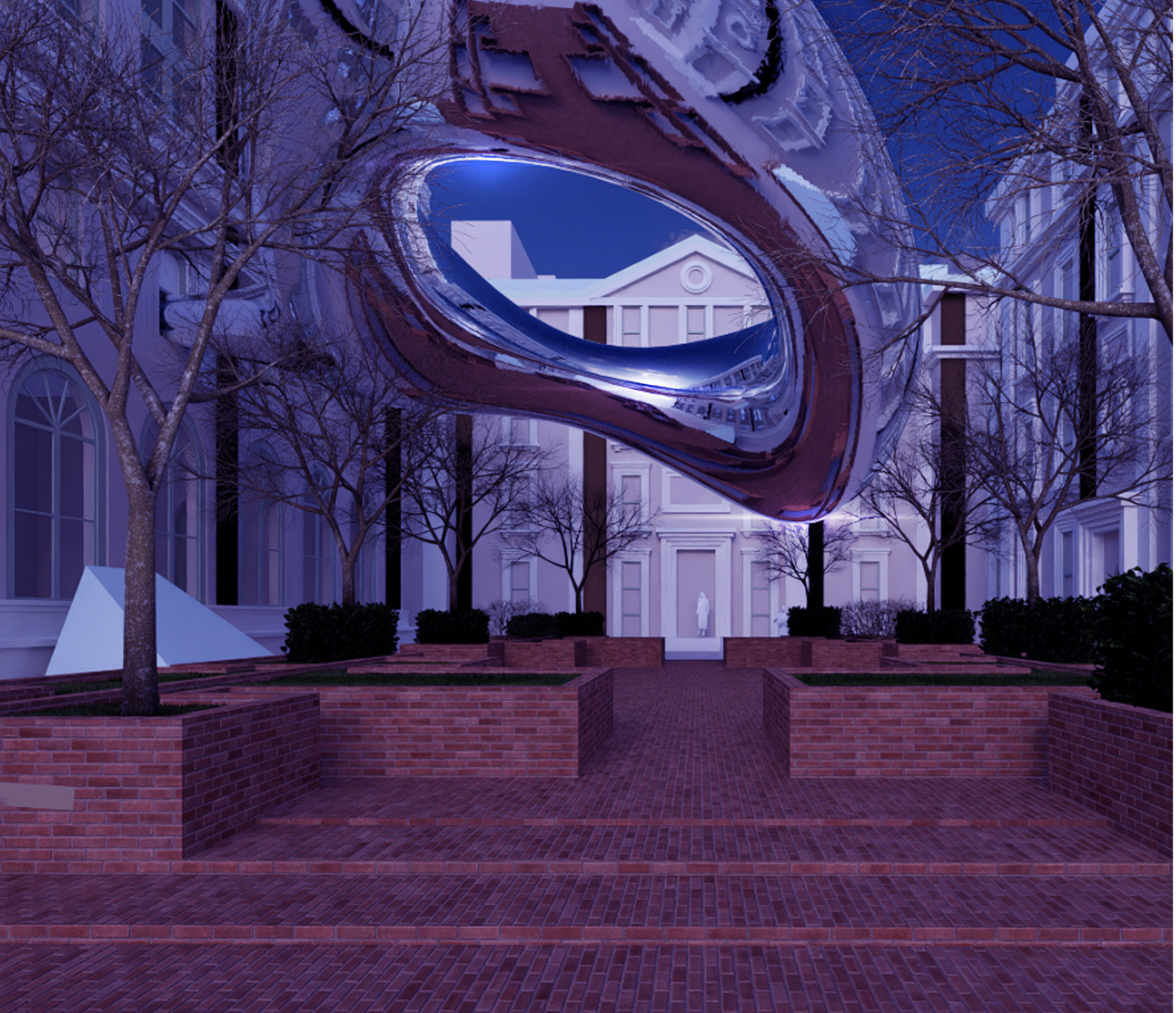
3.
Creation of Vector Direction

4.
Surface Between Curves

5.
Extrusion Thickness

6.
Creation of Structural Diagrid





09

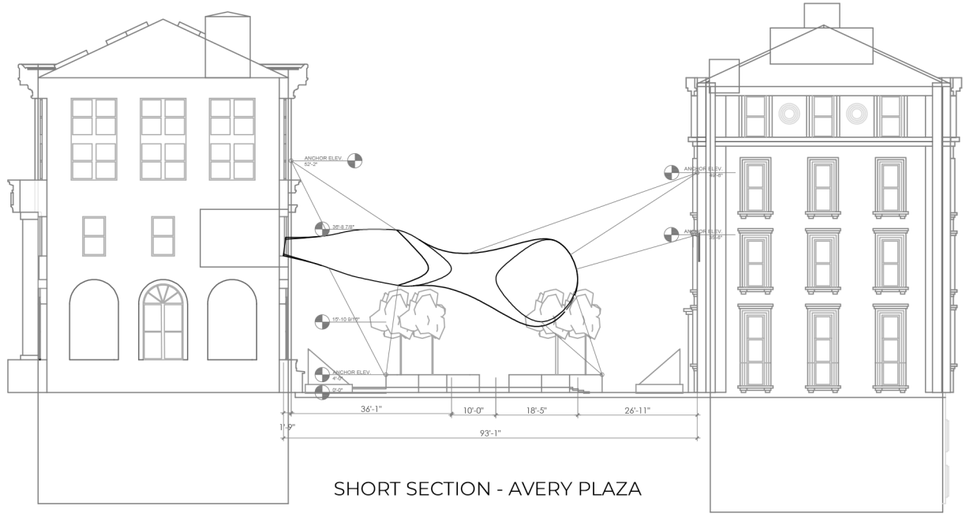
exhale.

COLUMBIA **GSAPP** | SEMESTER **SPRING 23'**

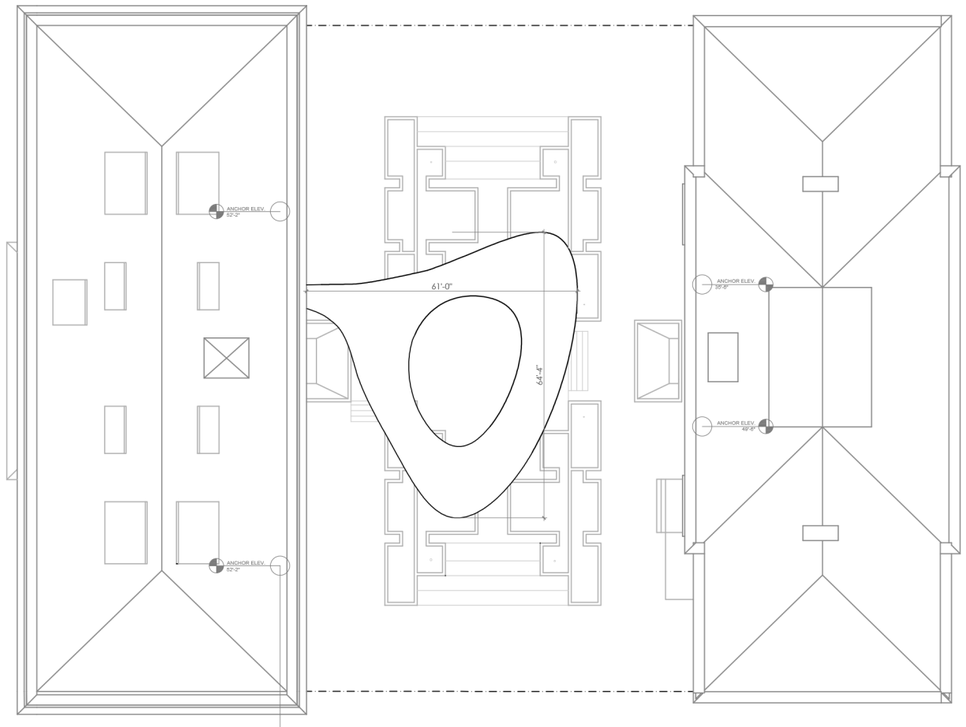
Exhale is a 2-part installation that plays with the viewer's perception of geometry and light, and invites a new element of activation and playfulness toin Avery Plaza.

The exterior portion is a 20.39 m long x 19.51 m wide x 7.84 m high inflatable donut powered by 4 blowers, suspended by 16 cables anchored to 4 steel beams in Avery and Fayerweather Halls, and tied to 9 points on the ground in Avery Plaza. A net rests atop the inflatable donut, descending into the center with 8 tube-like appendages that serve as moveable, adjustable seating.

Studio: The Outside In Project
Critic: Laurie Hawkinson, Galia Solomonoff
Programme: Pavilion
Site: Avery Plaza, Columbia University, New York



SHORT SECTION - AVERY PLAZA



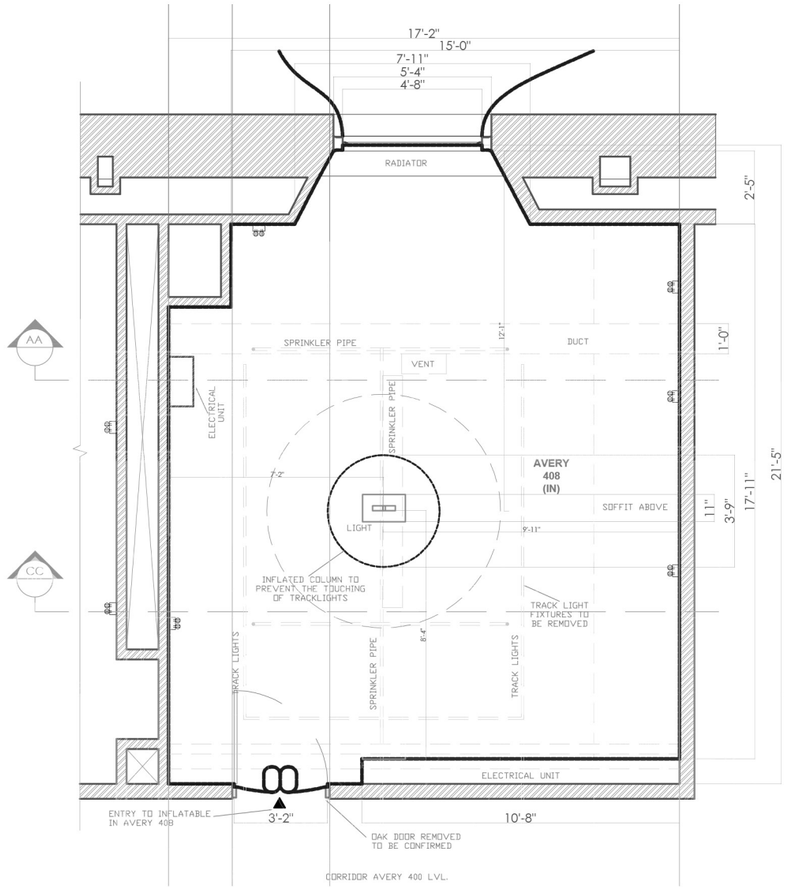
CHAPEL

ROOF PLAN - AVERY PLAZA

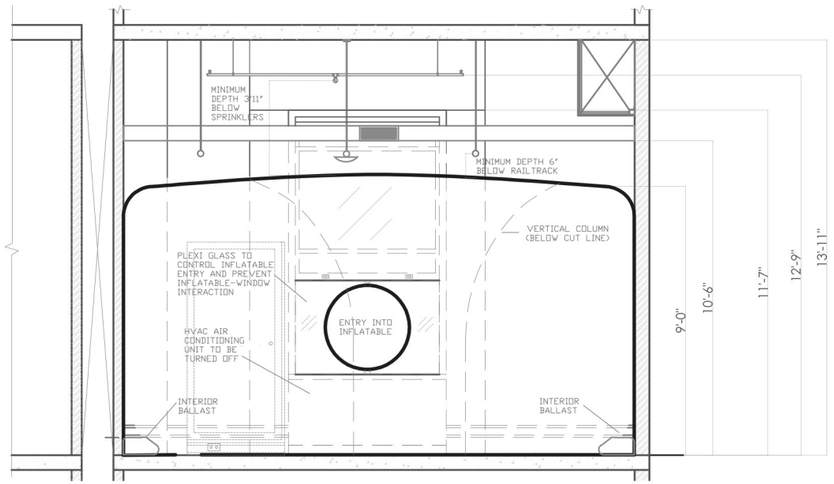




THE ***OUTSIDE***



ENLARGED PLAN - AVERY 400 LEVEL



INTERIOR - SECTION AA'

TURNED ***INSIDE***



10

operating manual for spaceship earth

CHAPTERS IN SENTENCES

Of Metaphors and Men

First published in 1969, Fuller builds on the symbolic act of steering ‘Spaceship Earth’ – the corporeal planet and its conscience – toward a sustainable future. Fuller establishes the metaphor of "Spaceship Earth" to draw attention to the fact that our planet operates as a closed system with finite resources.

Foreshadowing the Ventilated Prose

The relentlessly contrived vocabulary and verbal speed find their way into the construction of finer sentences as well as the holistic structure of this book. Fuller's anthology of books can then be considered as unconventional theoretical excursions, compounding his propensity for “thinking out loud” with the exploration of non-simultaneous, abstract ideas crafted in his distinctive linguistic style.

Reclaiming Comprehension

In ‘Operating Manual for Spaceship Earth’, he stakes his claims towards the detriments of over-specialization and the modern urgency for comprehensive thinking which perfectly align with his intellectual propensity to leverage the sciences to prepare for and realize the needs of the planet's expanding population.

The Macro-Comprehensive and Micro-Incisive

This framework bids readers to get involved in thinking holistically, recognizing the interdependence of all the working parts of the universal ecosystem in order to move beyond reductionist and compartmentalized resolutions.

Trust falls and Thought tools

Before his narrative touches base with the first milestones of the Industrial Age, Fuller begins to establish an anthology of assumptions and words which he will then exploit to reach his conclusion.

Entropy isn’t Exciting

Fuller provides a leveraged definition of wealth with an insensitivity toward the hard-hitting realities associated with the term in the complex world we inhabit. It reveals a fatal flaw in his approach toward comprehensive thinking – it flattens complexities down to the point of privilege that the author can afford. Addressing comprehensive wealth requires addressing these basic human rights, and ignorance of these challenges perpetuates human suffering. With Fuller’s knack for conjuring words and phrases, I find myself questioning why he refrained from doing so in this instance.

Optimistic Provocations

Fuller skilfully navigates the socio-political landscape, using his optimism not as a mere escape from reality but as a critical response: urging a paradigm shift toward collaborative technological solutions amidst of period of rising global tensions.

Yes, it is a Manual.

The book is not just a theoretical treatise but an actual “operating manual”– a call to action to redesign the collective apparatus of society’s systems to salvage our planet for eternity. It is a theoretical framework on how humans should govern and interact with the environment and an instrumental lesson in long-term thinking.



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Robert Marino
Paulo Tavares
Max Goldner
Saba Ardeshiri
Adam Vosburgh
Danil Nagy
Laurie Hawkinson
Galia Solomonoff
Syed Haseeb Amjad
Yiyang Liao
Taha Erdem Ozturk
Will Cao
Abdullah Maddan
Sizhe Wang
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Yi Wu