



GSAPP PORTFOLIO

2022 Summer - 2023 Spring

Runxin Fu

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01. THE CURSED EDEN GARDEN

CIRSIIUM VULGARE / SPEAR THISTLE

Columbia GSAPP MSAAD Studio
2022 Summer

Research-based Design

High Pass Studio Work

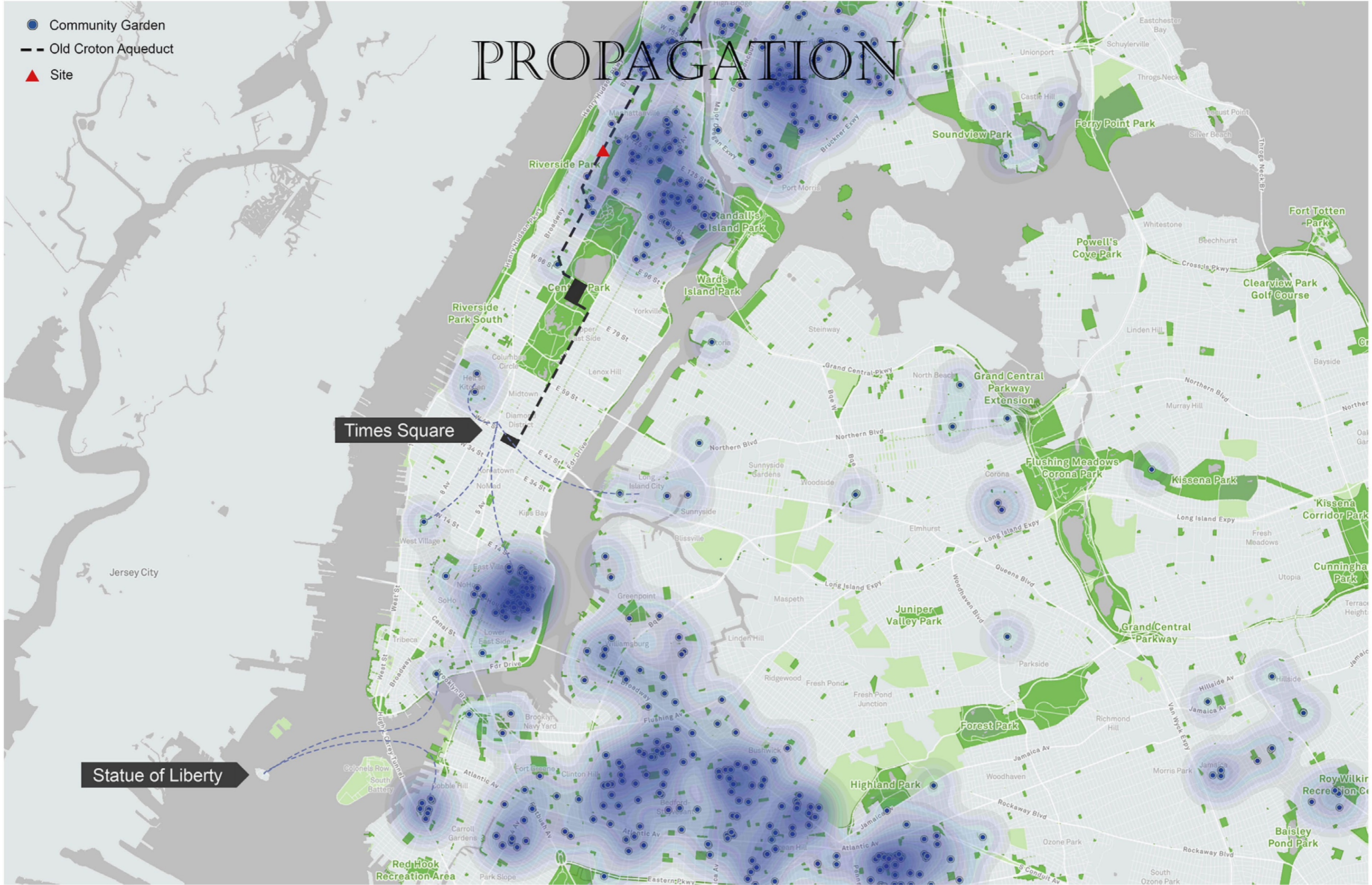
Instructor: Lindy Roy

Collaborator: Ann Long



This project was inspired by the Bible Genesis, which tells the story of God punishing Adam and Eva through the toil of eating food from the field and growing painful thistles. We rearticulate Genesis by illustrating a hypothetical phenomenon of future New York City as the Cursed Eden Garden. Spear thistle has been considered a noxious, non-native, invasive weed that has been banned by communities and even regulated by law. We apply different actors to trigger the four distinct forms of spear thistles to allow this weed to grow and reproduce, feed insect species, and help produce food in the community garden. However, human society tries to build "Eden Garden" upon the waste colonialism towards other regions worldwide. Spear Thistle practices her physical property as a litter collector, possibly mitigating the waste colonialism process and turning it into the curse originated by human actions. In this project, we examine the relationship between "bad" plants, the ecosystem, and human society by showing the consequence of extreme situations of so-called invasive plant spear thistle and environmental clean-up human actions.





LITTER RETAINER





2024 SPRING, 119TH ST & AMSTERDAM AVE



2028 SUMMER, 119TH ST & AMSTERDAM AVE

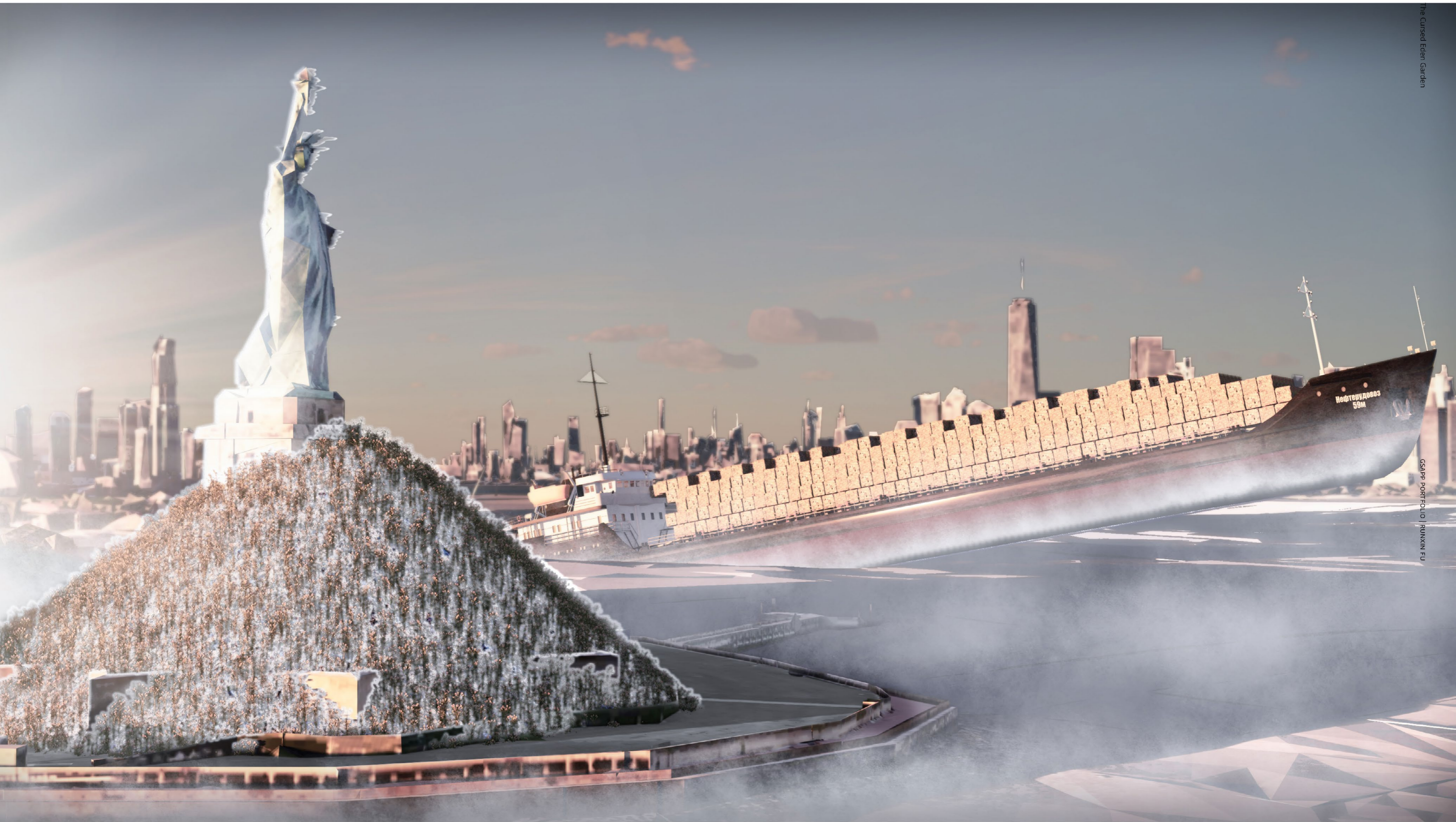


2030 FALL, 119TH ST & AMSTERDAM AVE



2030 WINTER, 119TH ST & AMSTERDAM AVE



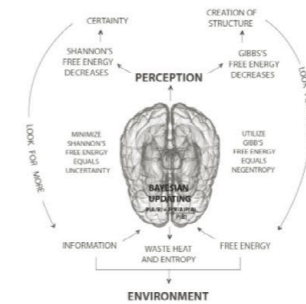




02. THE COGNITIVE CRADLE

A TENSILE STRUCTURE TRAINING TERRAIN FOR A COLLECTIVE BRAIN

Columbia GSAPP MSAAD Studio
2022 Fall
Research-based Design
High Pass Studio Work
Instructor: Lindy Roy
Individual Work



The cyclic flow of calcium at different scales and in both biotic and abiotic matters proves that the Earth is a dynamic, extensively-related, unpredictable system. However, to better control the earth, we civilized humans attempt to use the dichotomy to construct a static pyramid of hierarchy, which is destroying the earth in an accelerating pace.

Inspired by Ongees' Dream-sharing events, I propose an annual event of one-week dream-sharing along with a giant tensile structure suspended in Tompkins Quarry. During the day, 10,000 people walk and climb through the huge quarry, looking for clues of connections among different spheres. At night, they would share and discuss the day's discoveries and the previous night's dreams and then go to sleep together.

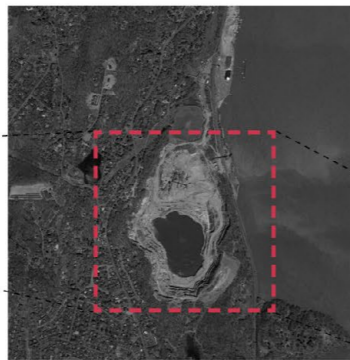
Based on the cognitive map theory in neuroscience, the whole event, which acts as a collective brain, can help people from all over the world harmonize their experiences from different cultures and build a more coherent future. The shared dreams as shared cognitions can replace the dichotomous hierarchy and finally restart the dynamic system of the earth.

GEOGRAPHY and TOPOGRAPHY



NEW YORK AGGLOMERATION

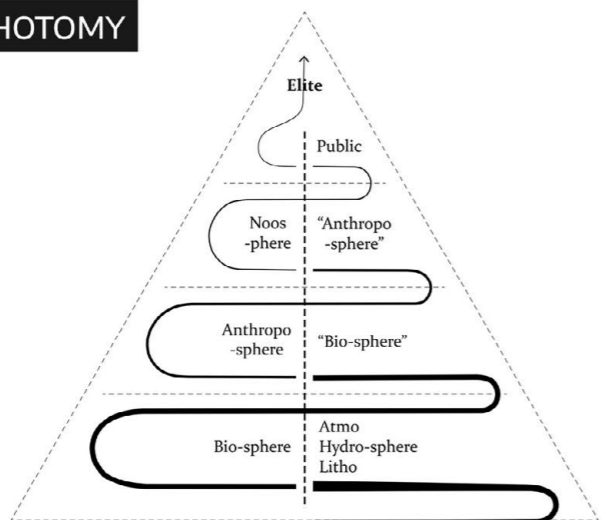
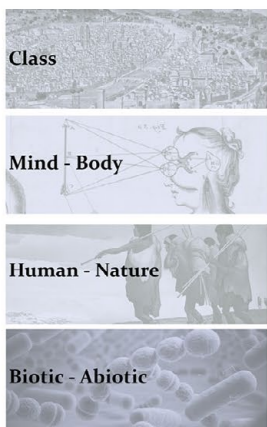
Based on the Satellite Night Map, the site is situated between darkness and city lights. Here is the intersection where the city meets nature, and human society meets the habitats of other creatures.



TOMKINS COVE QUARRY

The Tomkins Cove Quarry is located in northern Rockland County along the western bank of the Hudson River. The quarry was formerly an active open pit limestone quarry that supplied crushed stone for construction to New York City.

THE PYRAMID of DICHOTOMY



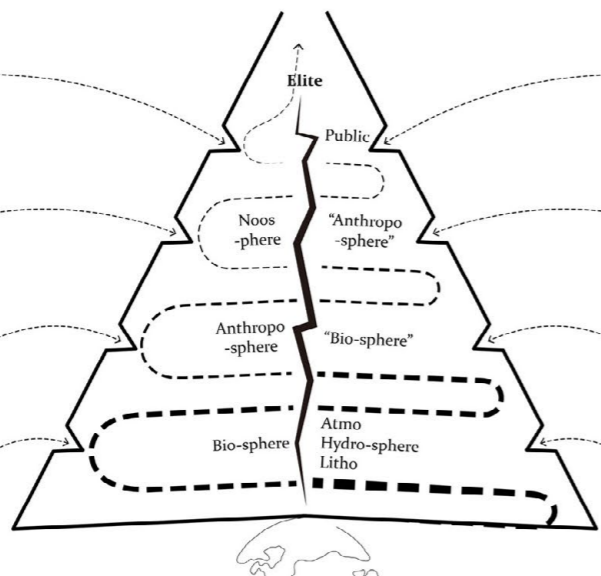
Karl Marx
The history of all hitherto existing society is the history of class struggles.
Capitalist production, therefore, develops technology, and the combining together of various producers into a social whole, only by sapping the original source of all wealth — the soil and the labourer.

René Descartes
"On the one hand I have a clear and distinct idea of myself, in so far as I am simply a thinking, non-extended thing (that is, a mind), and on the other hand I have a distinct idea of body, in so far as it is simply an extended, non-thinking thing. And although, it is certain that I am really distinct from my body, and can exist without it."

Vladimir Vernadsky
"You might say that within the last few thousand years the continuous creation of the 'noosphere' has proceeded quite, our reasoning or tempo, and that the increase of the cultural biological energy of mankind is advancing steadily without fundamental regressions, albeit with interruptions continually diminishing in duration. There is a growing understanding that this increase has no unreasonable limit, that it is an elemental geological process."

Eduard Suess
"One thing seems to be certain on this large selected field consisting of spheres, namely, organic life, that this life is based on a chemical basis at the surface of the lithosphere. The plants, which draw their energy from the soil, and which at the same time give out oxygen to the air, is a good illustration of organic life in the region of interaction between the upper sphere and the lithosphere, and in the nature of organisms it is possible to single out an independent biosphere."

Colliding
Culture ← → Nature



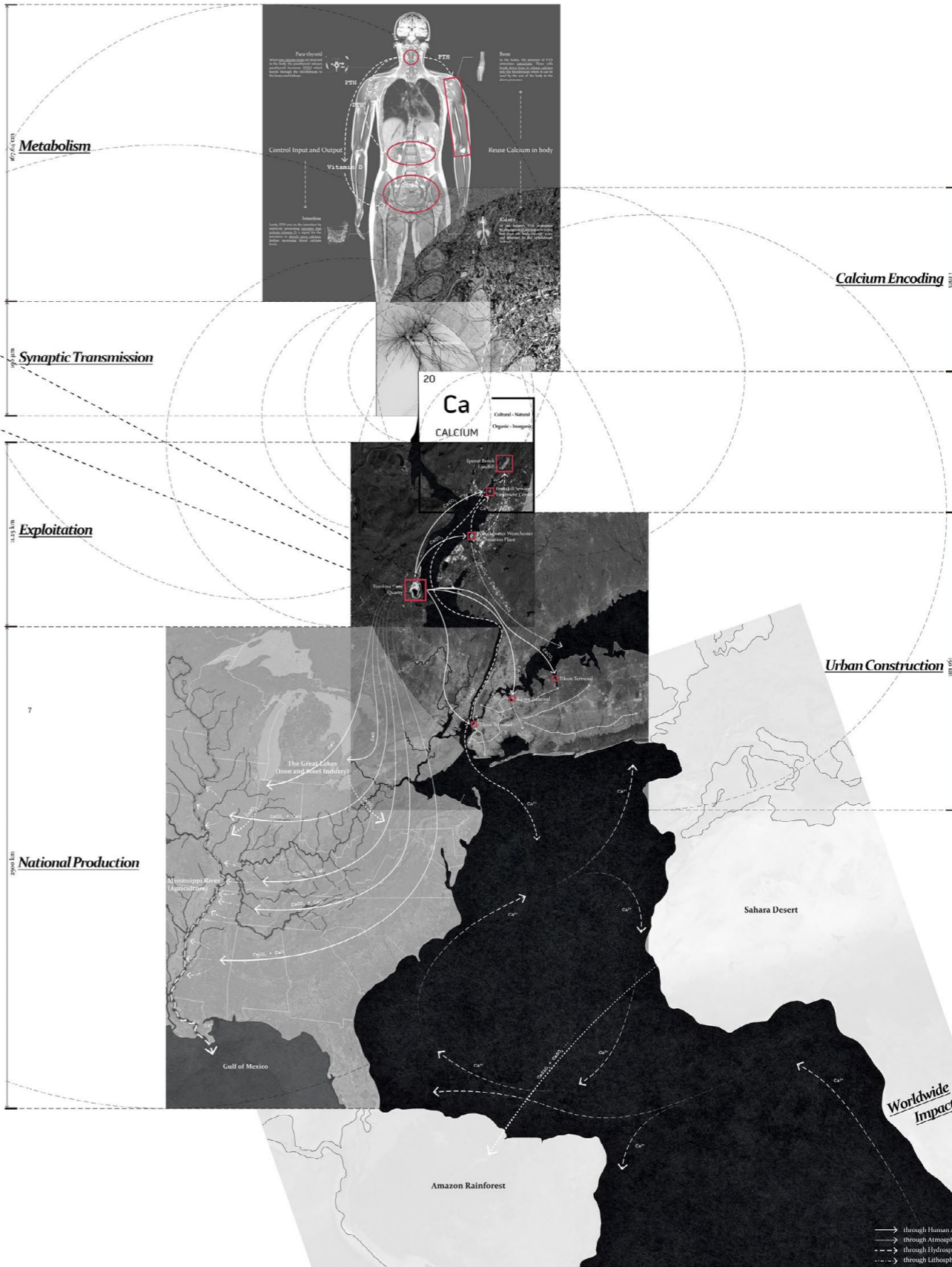
Food Insecurity
Food insecurity in New York City has surged 60% since the beginning of the pandemic. Higher prices fall equally across the city, it hits particularly hard in low-income communities and communities of color that have been disproportionately harmed by decades of policy inequities and systemic failures.

Mental Health
After the November California elections in October 2021, the number of people seeking mental health services in Sonoma County nearly doubled. Many of the calls came from new patients. Low-income populations, the elderly, people of color, women, and children are especially vulnerable to the mental health-related impacts of natural disasters.

Locust Infestation
Locusts have infested the west in 20 years in Kenya and the west in 20 years in Ethiopia, Somalia, and Sudan. The plague began in June and continued into August. A million people are facing acute food insecurity in Ethiopia, Kenya, Somalia, South Sudan, Uganda, and Tanzania.

Floods
Since June 24, 2021, floods in Pakistan have killed 1,207 people, including 500 children, and an additional 20,000 have been injured. Over 10 million people were left homeless or are living in temporary camps because of the floods. The floods were caused by historic rain and melting glaciers.

CALCIUM CIRCULATION and EARTH as a DYNAMIC SYSTEM



To better control the earth, we, civilized humans, attempt to use the dichotomy to build a static structure in the dynamic system. But such a static structure can never fit in a dynamic world for a long time. In recent years, various crises have been happening at an accelerating pace. Human society destroys nature, and the feedback of nature also makes human society suffer huge losses. The colliding history of Culture and Nature is destroying the pyramid. This pyramid is the underlying layer of the global environmental problem. Facing such a huge problem involves everyone in the world. If we don't touch on the problem at the top, we can never reach the problems we want to solve at the bottom.

In fact, the earth is always broader and more complex than we realize. If we take Calcium, the major element in the quarry, as a clue, we can find that different things in different scales actually connect with each other in a huge and invisible calcium circulation. All these social and natural, organic and inorganic things are entangled. The interaction of all the different spheres, like the Atmosphere, the hydrosphere, the lithosphere, the biosphere, the anthroposphere and the noosphere, is complex and fluid. The broadness of the quarry allows us to see the truth of the earth, which is a dynamic, extensively-related, unpredictable system.

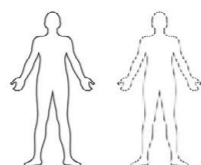
Forest Smells and Spider Webs: Ritualized Dream Interpretation Among Andaman Islanders

Vishvajit Pandya

Dhirubhai Ambani Institute of Information and Communication Technology

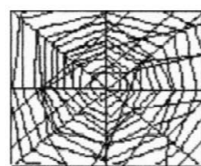
1. EXTERNAL AND INTERNAL BODY

Ongees believe that each individual living body is made up of two distinct parts. The first part, mateeah, is the external body that is visible and concrete, responding to the time and surrounding conditions. The second part, enteeah, is the internal body, internal that is invisible and abstract, directing the activities and feelings of the external body.



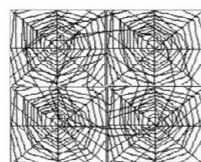
2. MAKING INDIVIDUAL WEBS

Dreaming is conceived to be a process of body internal movement around the entire island to collect the smells scattered by the individual and to smell things that Ongees evidently did not notice the first time around. This process of collecting "smell fragments or bits" is known as dane korale, a spider making its web, also a term for dreaming.



3. MAKING A COLLECTIVE WEB

Because all individuals share the forest campsite and activities, it becomes possible to connect the smells and places from dreams and to construct the interpretation of a dream. Each individual's dream is like a spider web, but in the process of collective interpretation small webs get interconnected to form a large spider web.

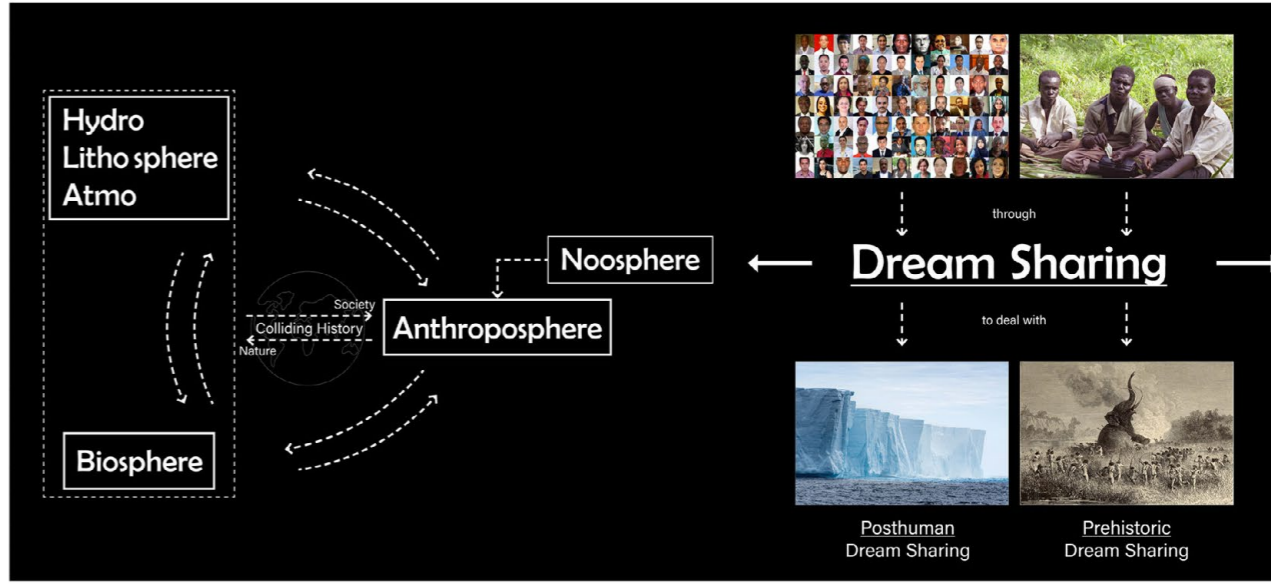
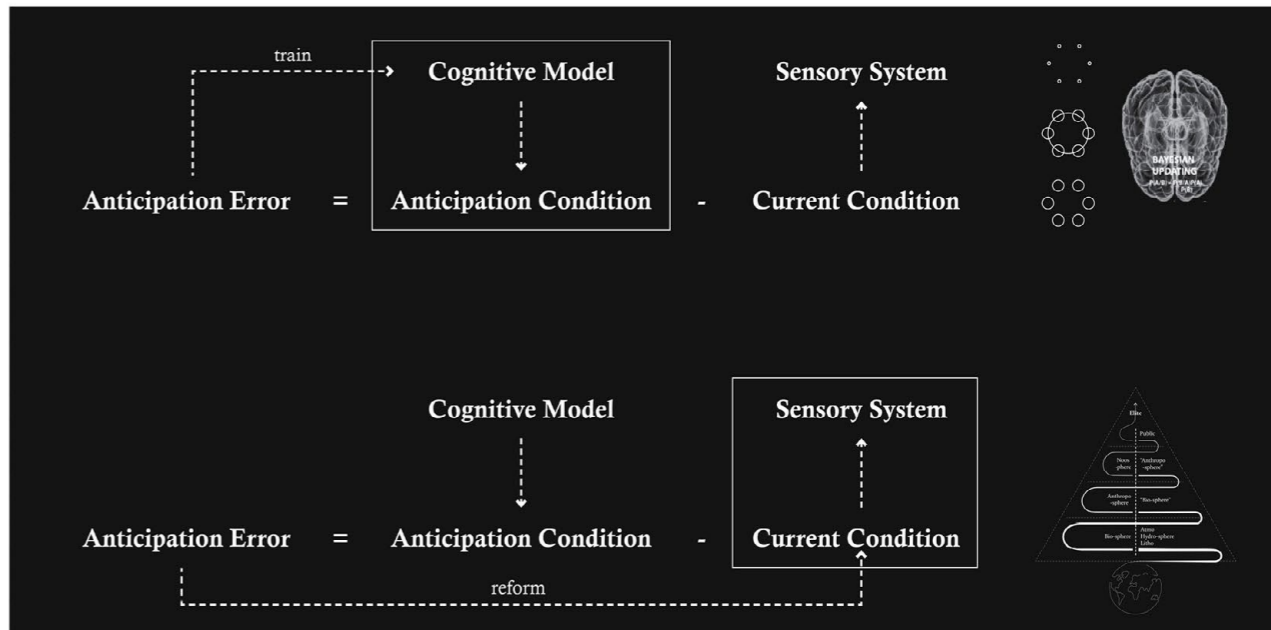
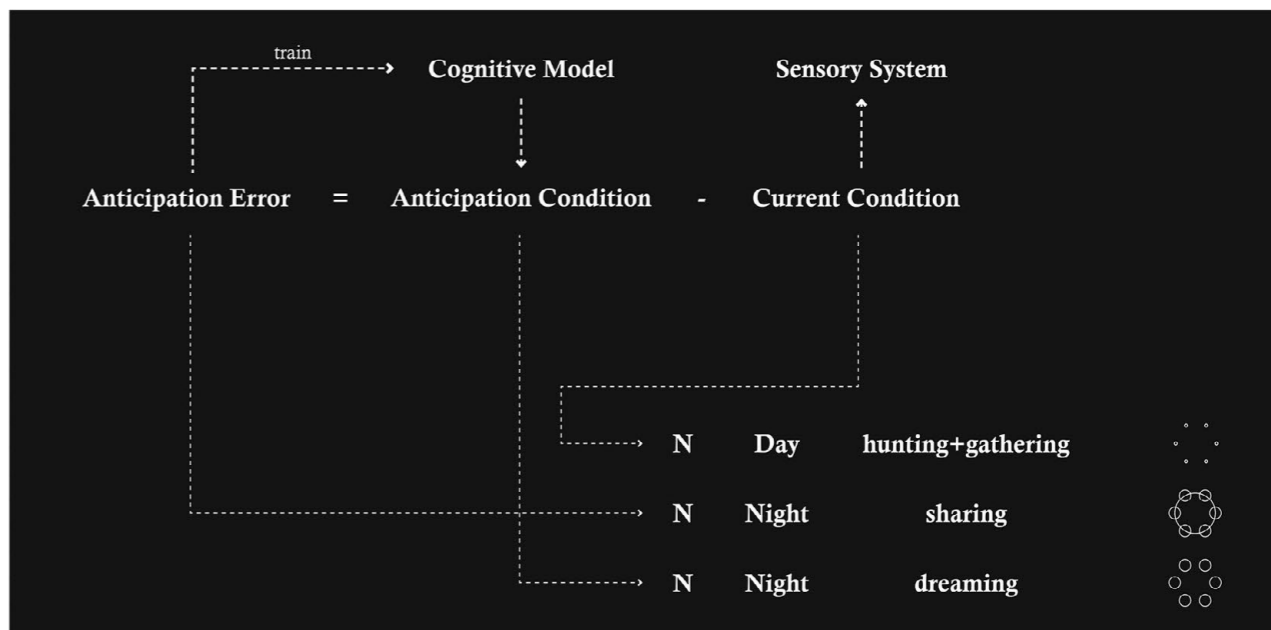


Interpretation | Three Moments

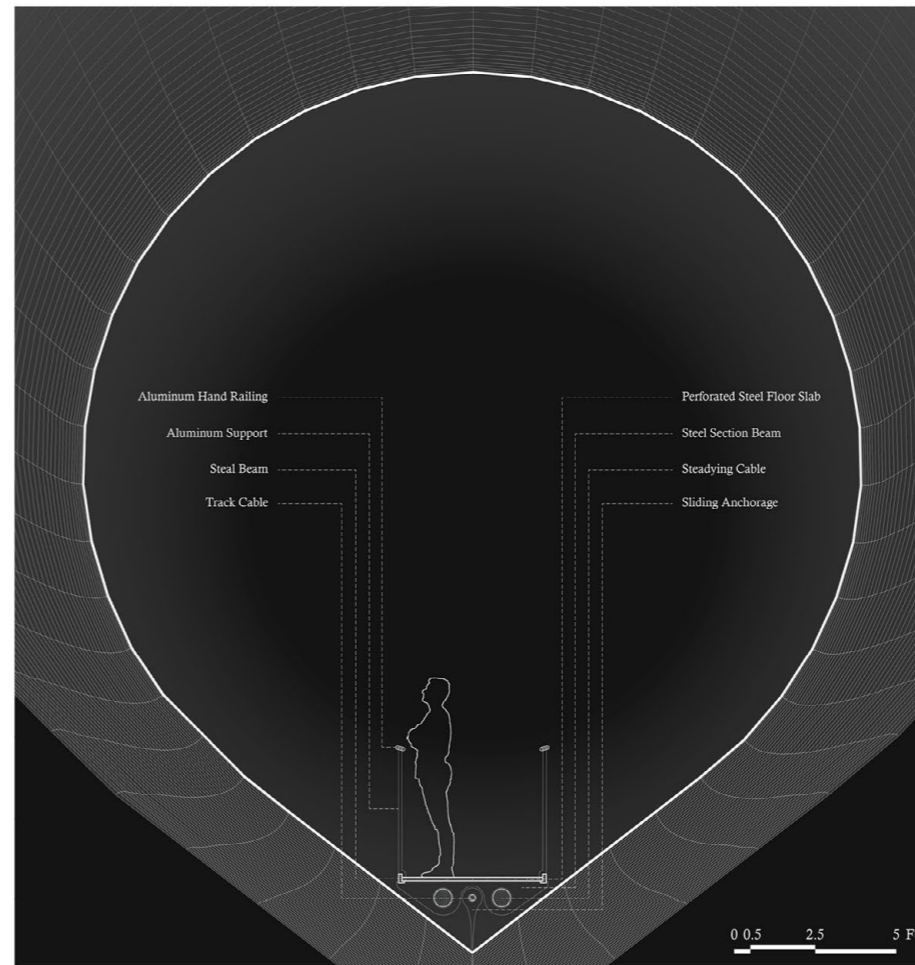
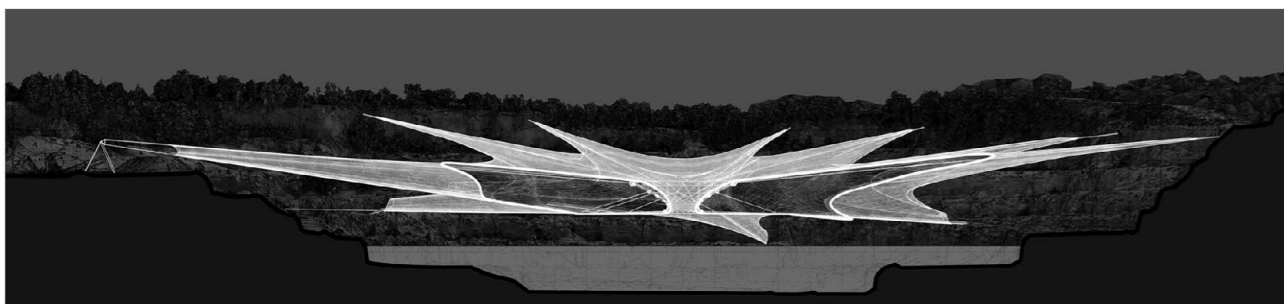
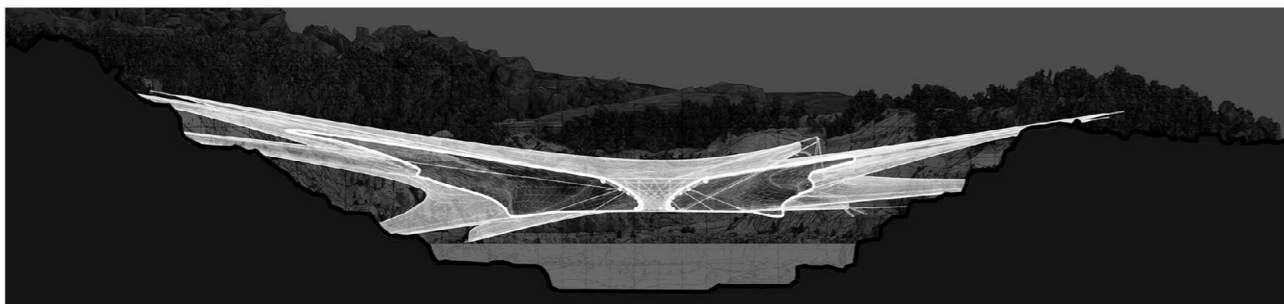
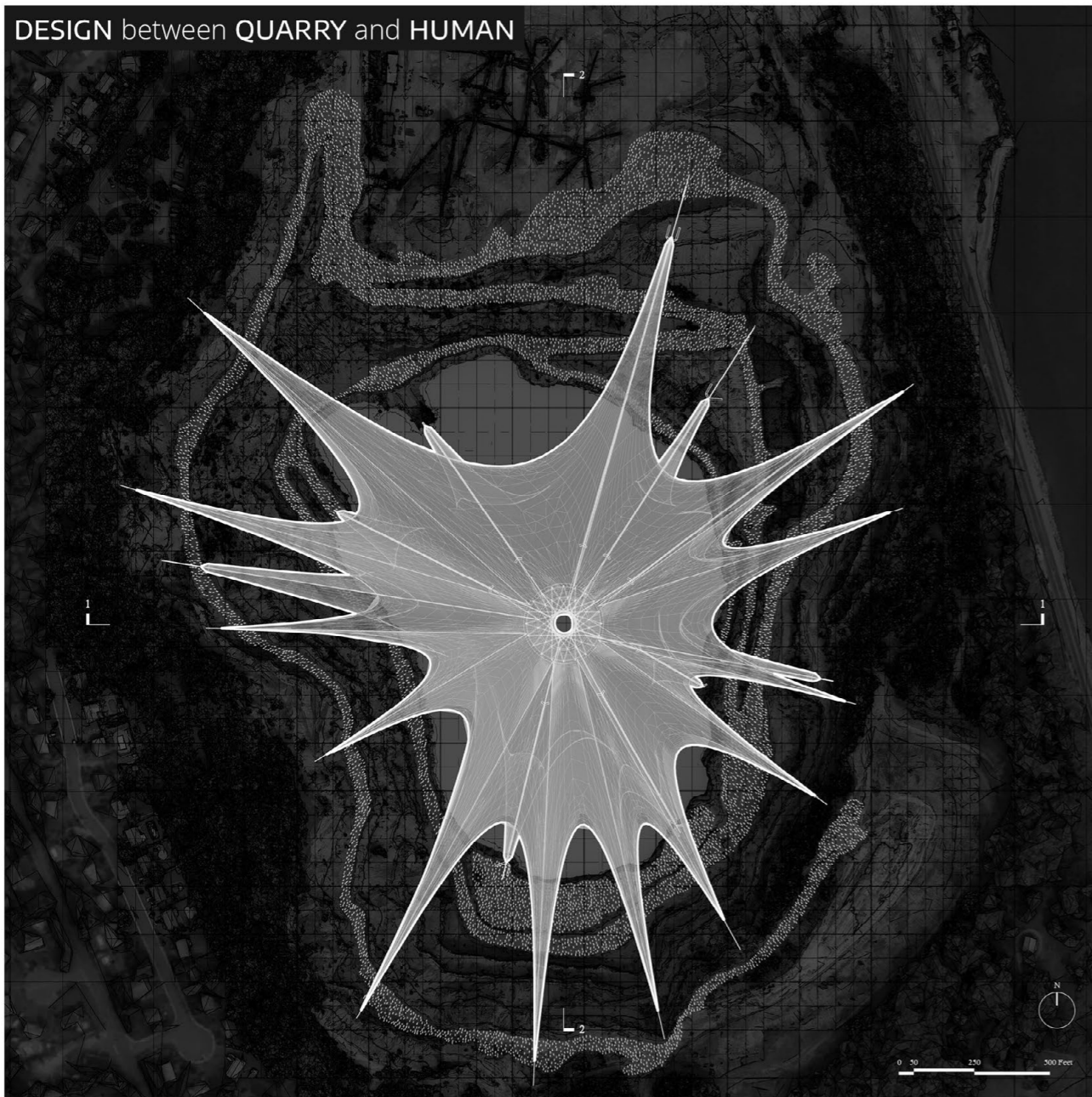
N-1	Day	hunting+gathering
N-1	Night	sharing
N-1	Night	dreaming
N	Day	hunting+gathering
N	Night	sharing
N	Night	dreaming
N+1	Day	hunting+gathering
N+1	Night	sharing
N+1	Night	dreaming



decide **plan to follow**
 decide **dream to share**
 decide **smell to retrieve**



DESIGN between QUARRY and HUMAN



Based on the above analysis, concept, and interpretation, I propose a giant tensile web suspended in the Tompkins Quarry. Here is the intersection where the city meets nature, and human society meets the habitats of other creatures.

For one week out of the year, people from all over the world come here from airports in and around New York City. When the tide of the Hudson River reverses, barge can take them to the dock besides the quarry.

During the day, they walk and climb through the huge quarry, looking for clues of connections among different spheres. At night, they would share and discuss the day's discoveries and the previous night's dreams and then go to sleep together. After a week, the shared dreams are engraved on their minds and become collective cognition that will affect them for the rest of their lives. They then return to their homes with these cognitions and influence more people.

According to the topography and circulation of the quarry, I designed ten entry points and twelve structural anchor points for the web. At night, 10,000 people would change their clothes on the flat ground above and enter the web from walkways at different heights.

The entire structure was designed to be retractable. It is unfolded after sunset and retracted during the day in order to have a minimal ecological impact on the entire quarry and act as a metaphor for the two different phases in the quarry.

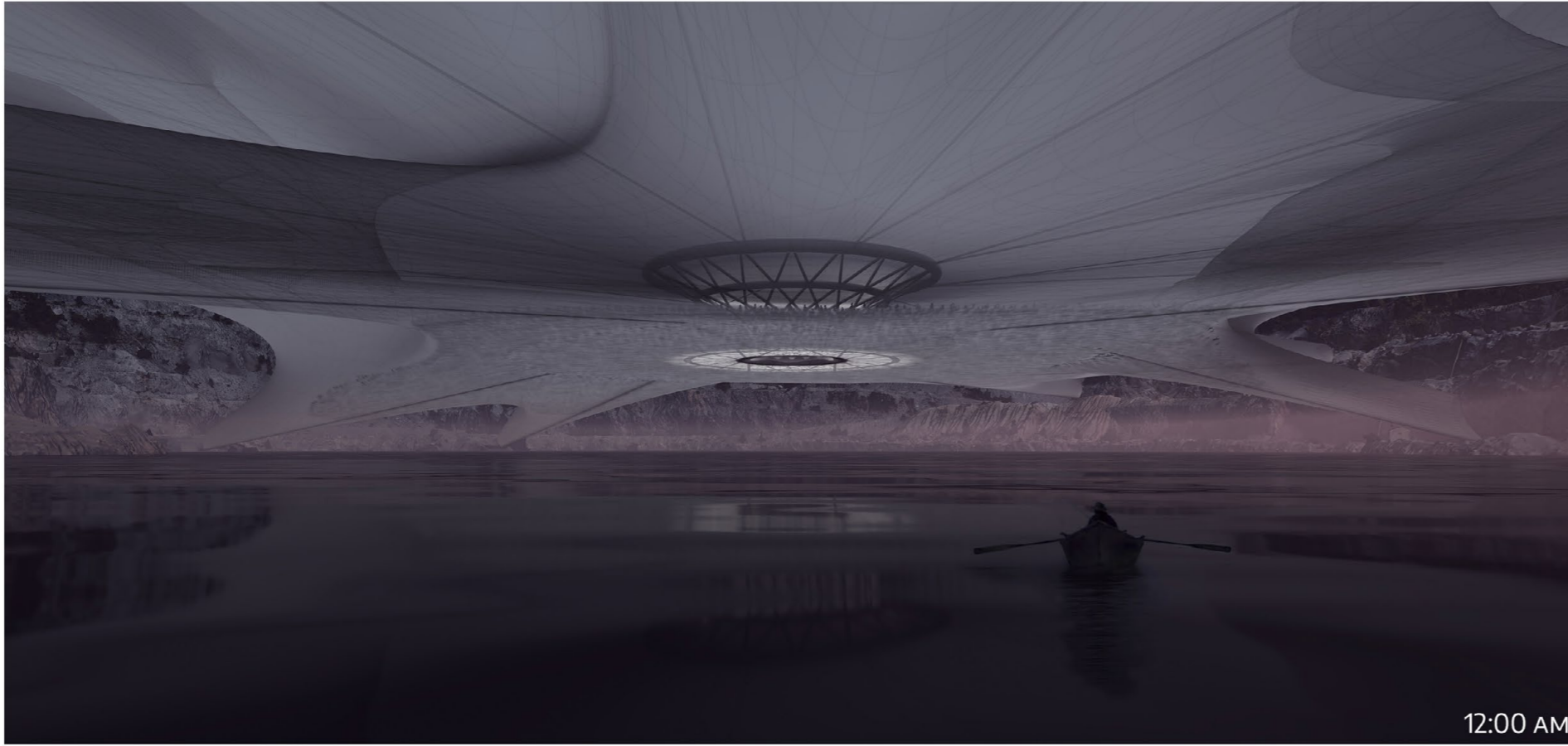
- 1 Master Plan with 10,000 People in the Quarry
- 2 Section 1-1
- 3 Section 2-2
- 4 Typical Entrance Detail Showing Retractable Component
- 5 Volumetric Model with Sectional Site Model
- 6 Close-up Showing How Entrance Attaches to the Terrain
- 7 Section Model Full View
- 8 Close-up Showing the Human Scale in the Web
- 9 Close-up Showing the Section of Entrance and Anchor Point

1	4	5
2		6
3		7
		8
		9

GALLERY



RETRACTABLE STRUCTURE and TWO PHASES



PHASE 1: UNFOLDED-DREAMING AND SHARING

The alternating presence of the atriums and the interiors increases the transparency of the space. On the one hand, the dislocation of indoor and outdoor space on the plan creates many gaps, avoiding mutual occlusion, so that each space can give hints in people's sight. The alternating outdoor space on the plan creates many gaps, avoiding mutual occlusion, so that each space can give hints in people's sight. The alternating presence of the atriums and the interiors increases the transparency of the space. On the one hand, the dislocation of indoor and outdoor space on the plan creates many gaps, avoiding mutual occlusion, so that each space can give hints in people's sight.



PHASE 2: FOLDED-WAKING AND EXPLORING

The alternating presence of the atriums and the interiors increases the transparency of the space. On the one hand, the dislocation of indoor and outdoor space on the plan creates many gaps, avoiding mutual occlusion, so that each space can give hints in people's sight. The alternating outdoor space on the plan creates many gaps, avoiding mutual occlusion, so that each space can give hints in people's sight. The alternating presence of the atriums and the interiors increases the transparency of the space. On the one hand, the dislocation of indoor and outdoor space on the plan creates many gaps, avoiding mutual occlusion, so that each space can give hints in people's sight.

03. TO SEE A WORLD IN A FLOWER

TECHNIQUES OF THE ULTRAREAL

Columbia GSAPP Visual Elective
2022 Fall

Instructor: Phillip Crupi

Collaborator: Chaoqun Zhang, Chengxi Liu, Weiheng Zhao

Role: 60% Concept Design, 40% Form Design, 25% Render

Software: Rhino - 3ds Max - Vray

This set of five riser renderings is inspired by the concept of seeing the big in the small in Chinese aesthetics, which also resembles the old saying in Buddhism: To see a world in a flower, and a bodhi in a leaf. From the first to the fifth panel, the perspective of the picture is slowly enlarged and the secrets of space are gradually revealed. The complete scene of a boat rafting in the landscape in the first panel is only a corner of the bonsai in front of the moon cave door in the fifth panel. These five renderings are designed as a set of folding screens. The screens act as a division of quasi-architectural forms, inserting another layer of space within the space.



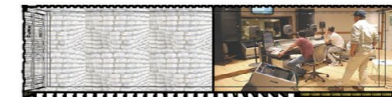




04. NEGOTIATING BOUNDARIES

DESIGNING THE VOIDS IN ATLANTIC MARITIME TRADE FOR CULTURAL EMPOWERMENT
IN CAPE VERDEAN DIASPORA COMMUNITY

Columbia GSAPP MSAAD Studio
2023 Spring
Research-based Design
Instructor: Patricia Anahory
Individual Work



My work investigates the dynamic Cape Verdean community web weaved through the continuous diaspora history in order to strengthen the identificational sustainability in Cape Verdean society. The research themes include Cape Verdean music as the media for identification and ports as the occasions where the process of identification occurs.

With two thirds of the population living abroad, Cape Verde maintains its society through the socio-cultural feature of identity rather than the geopolitical feature of territory. Limited by the isolated physical environment, the sustainable development of Cape Verdean society profoundly depends on its identificational sustainability in the future.

Music is an intangible but penetrative form of culture. It represents Cape Verdeans' historical experiences through textual lyrics and symbolic melody, thus contributing to a large part of identity establishment. Ports are occasions predicting geographical variation which call for an unvarying index of identities. How can the combination of music and port help to maintain the identificational sustainability in the future?



DIASPORA COMMUNITY

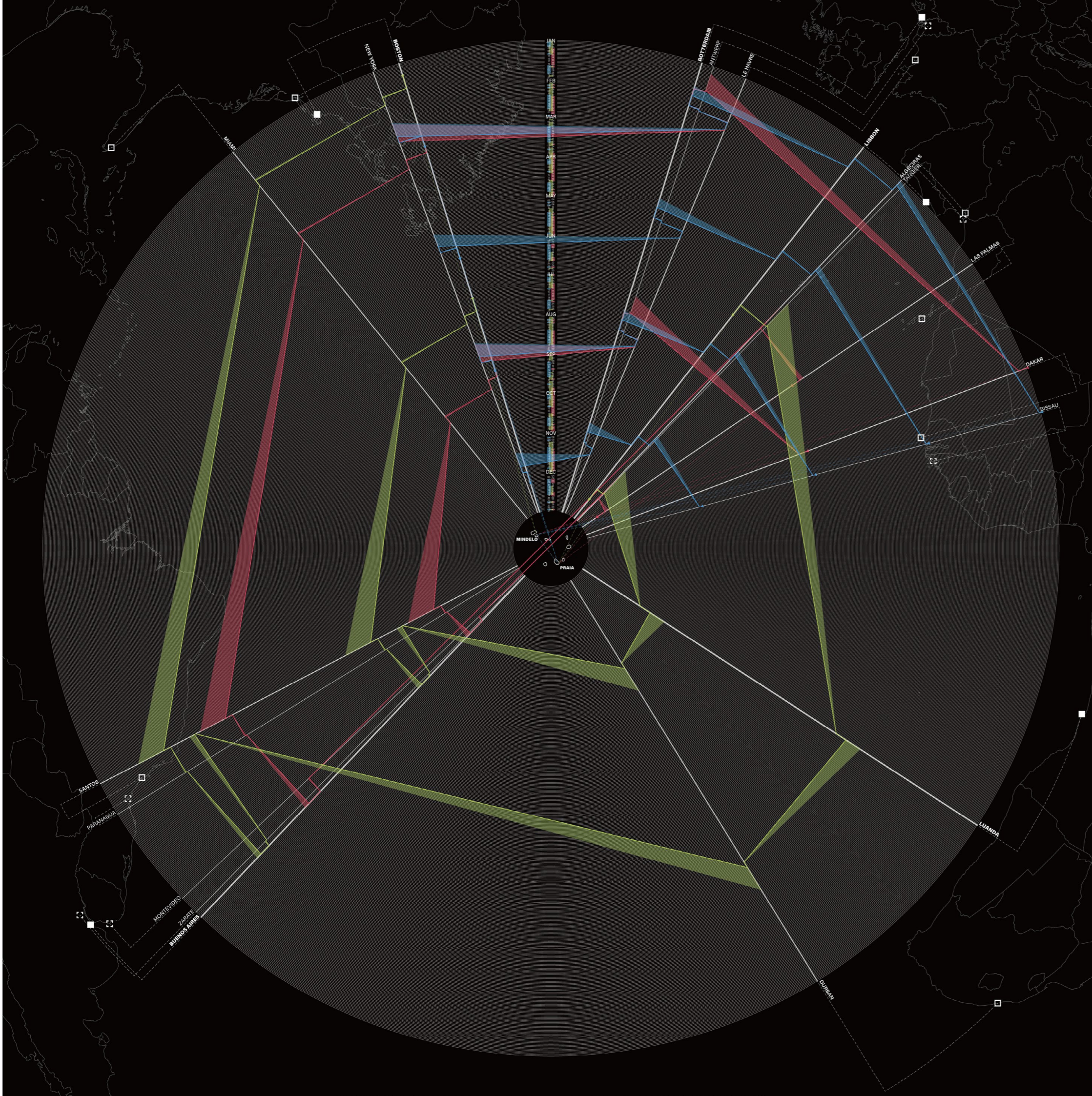
As a country actively participating in the Atlantic triangle trade, Cape Verde's socio-economic development directly mirrors the changing trends of maritime trade. While the slave trade made it prosperous, the improvement of navigation technology and the abolition of slavery gradually drove it out of the international trade system.

Accompanied by repeated natural disasters and famine, a great number of Cape Verdean inhabitants were forced to migrate to other countries along the Atlantic coast, forming a lot of diaspora communities. With two-thirds of its population living abroad, the concept of Cape Verdean community has extensively gone beyond its territory.

However, even after breaking through the geographical boundaries defined by islands and oceans, Cape Verdeans are still alienated from local communities and their culture. The new generation of Cape Verdeans, whose predecessors worked as whalers in North America and as servants in Europe, still live within the same zones.

At the same time, Cape Verdean music, as the major part of its culture, is still being consumed and marginalized under the name of "world music". In contrast to the clearly defined geographical divisions, those latent boundaries, set by economic hegemony, are intangible yet pervasive.

With intermodal containers standardizing the freight transportation, the contemporary Atlantic trade is weaving a more impenetrable and stubborn web. How can Cape Verdeans challenge these boundaries defined by trade, and reclaim its own position in community and cultural development?

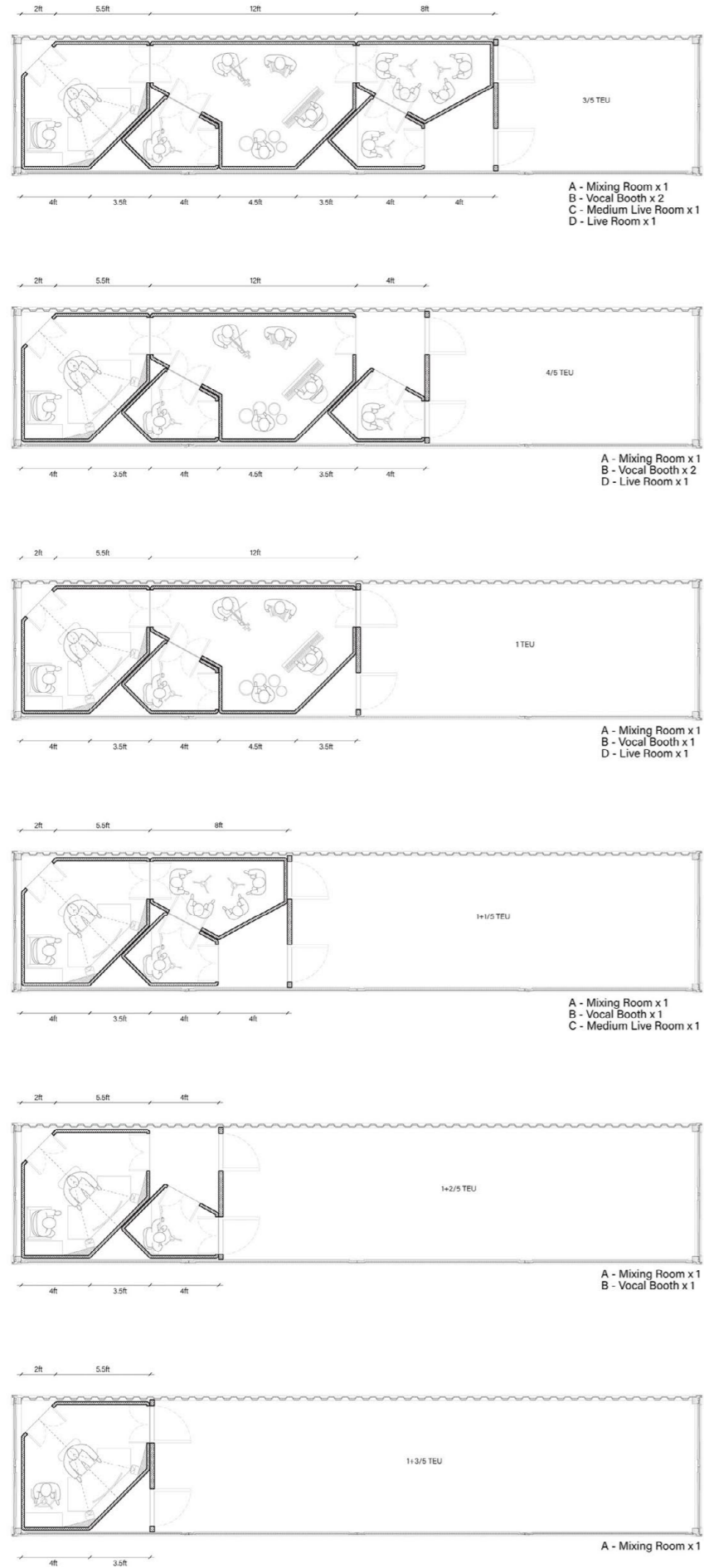


DESIGN: SHIPPING ROUTE

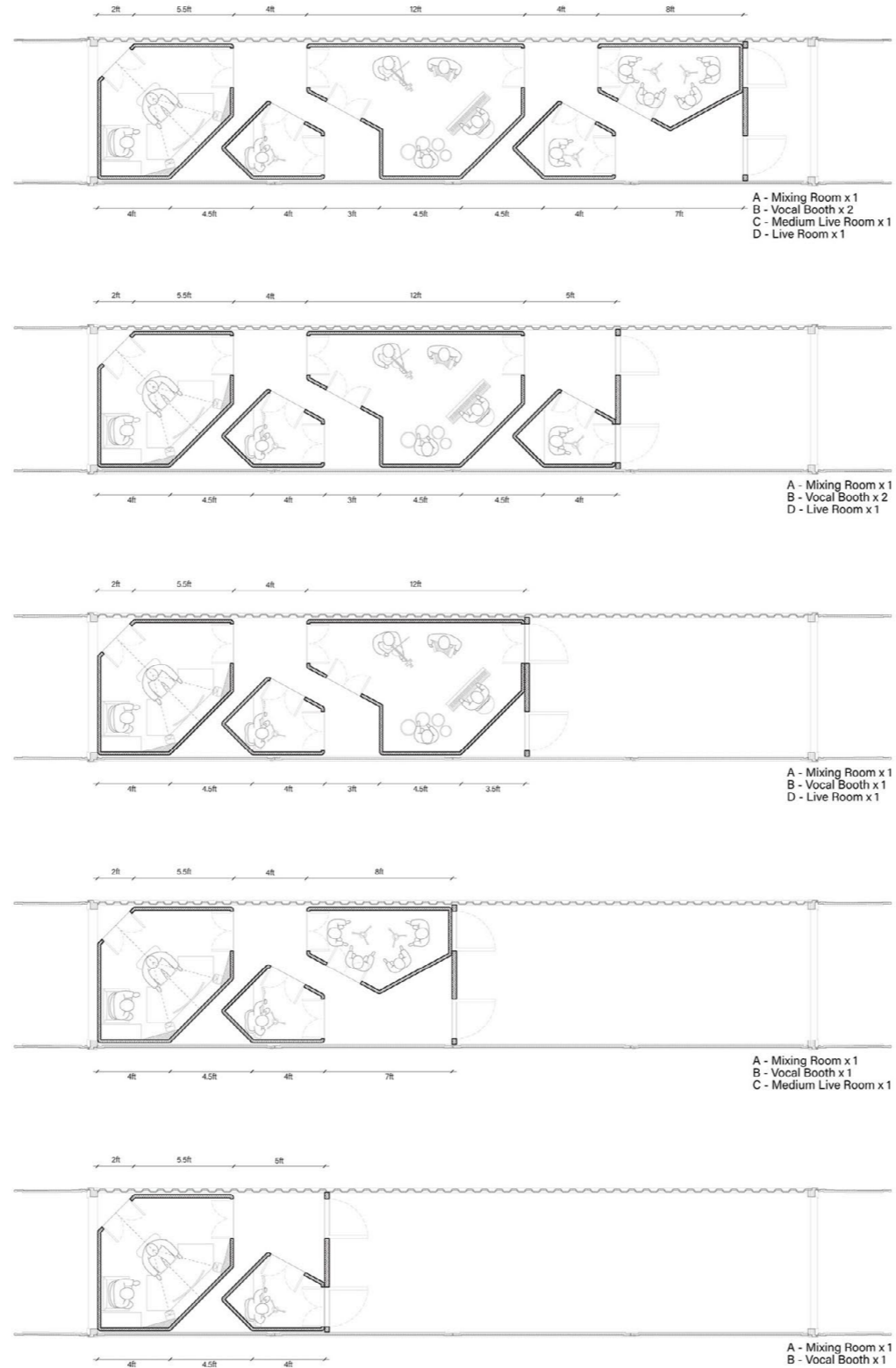
On a large scale, I connected the local shipping routes in Cape Verde to the existing shipping routes of the top 10 container-shipping companies. Three circular shipping routes connect Cape Verde to the countries with the largest Cape Verdean diaspora communities. Starting from Mindelo, the first stop of every route is the main supplier of Cape Verde. The large trade deficit provides enough void for recording studio units to spread out.

In the timetable, the heights of the triangles indicate the duration when containers are used for freight. In the rest time, the containers were used by Cape Verdean immigrants in different cities for music production and performance.

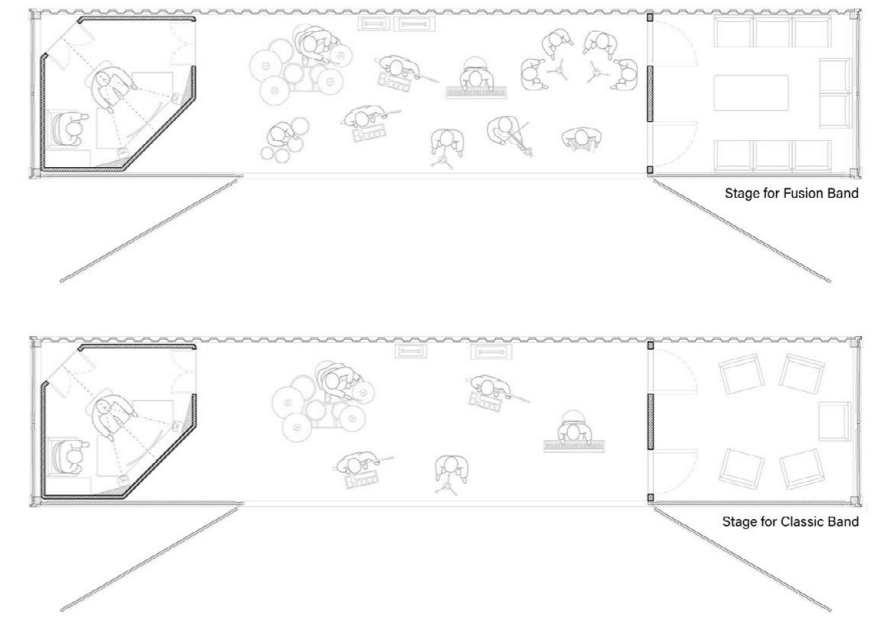
Basic Modes



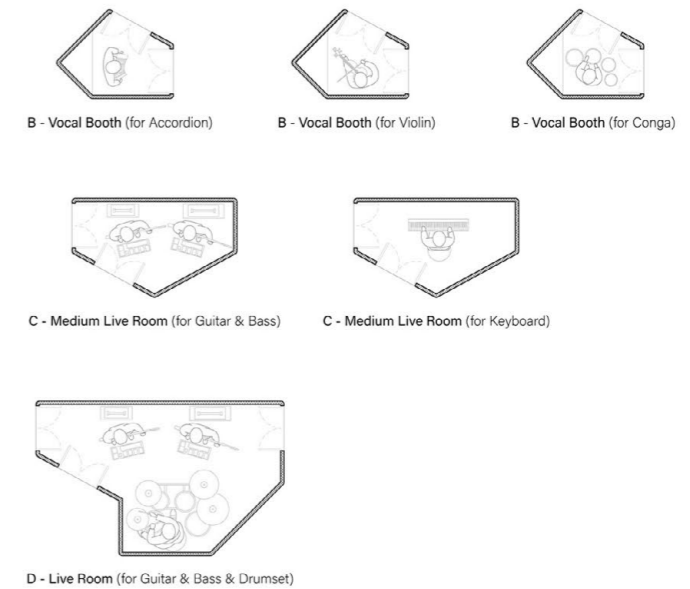
Ventilation Modes



Performance Modes



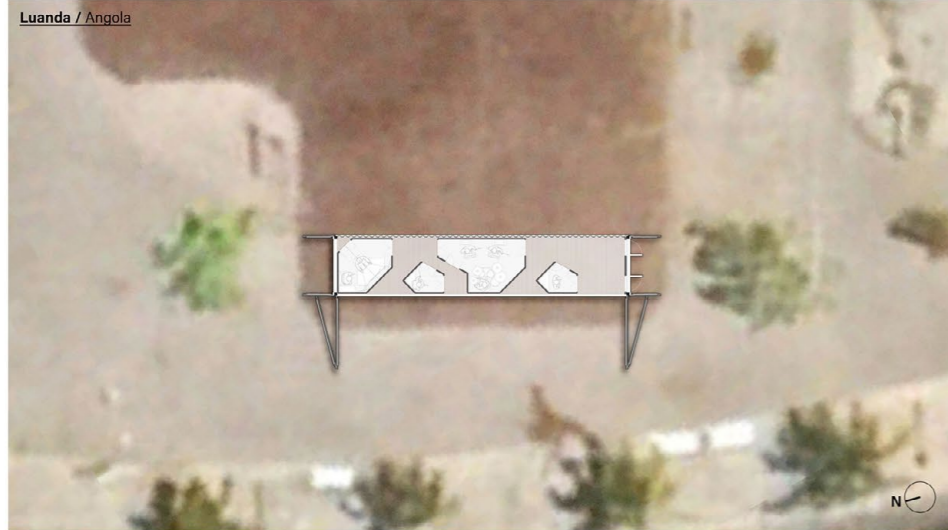
Other Unit Layouts



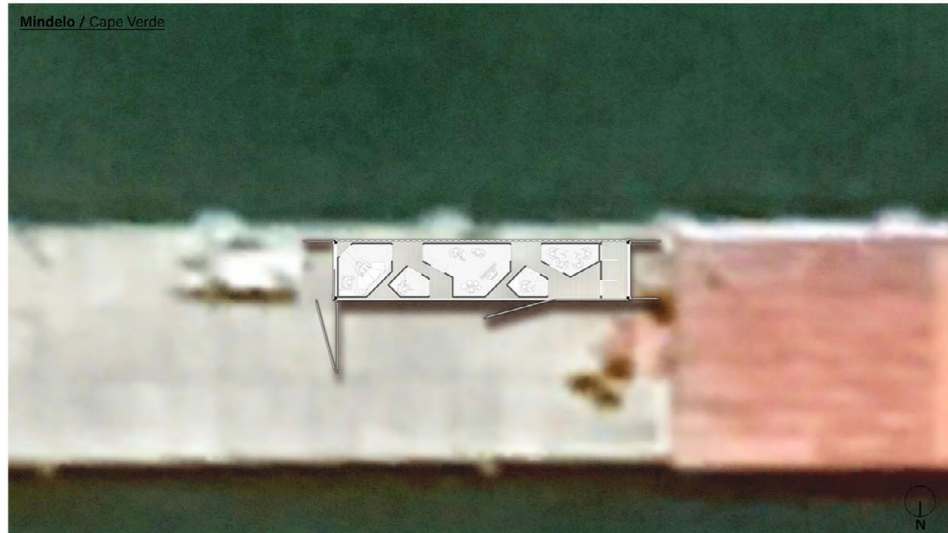
DESIGN: RECORDING STUDIO UNITS

On a smaller scale, I design different shapes and sizes of acoustic units to fit in a 40 feet container. The tangram-like units can provide various possibilities of arrangement and good acoustic environments without standing waves. The size of the space for freight and music is regulated by a movable boundary.

COUNTRIES WITH CAPE VERDEAN COMMUNITIES



CAPE VERDE



OCASSIONS

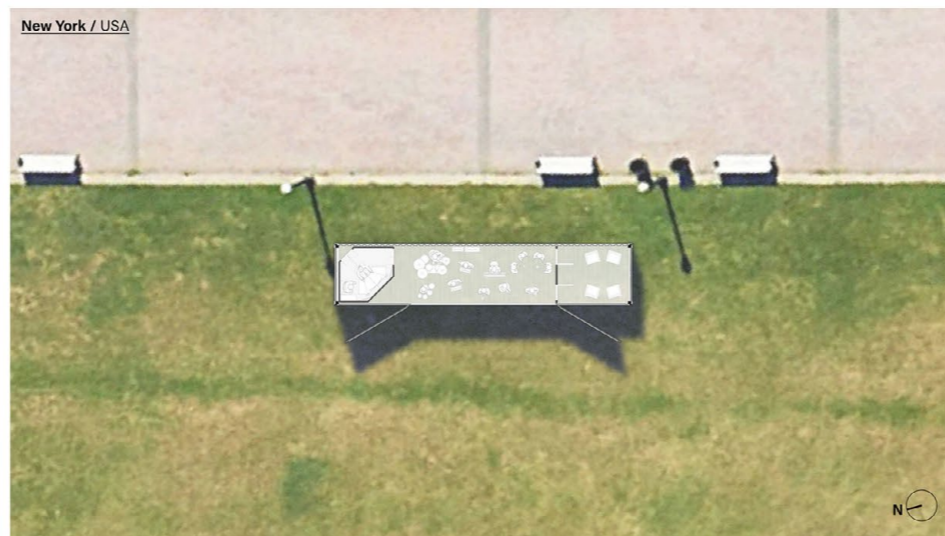
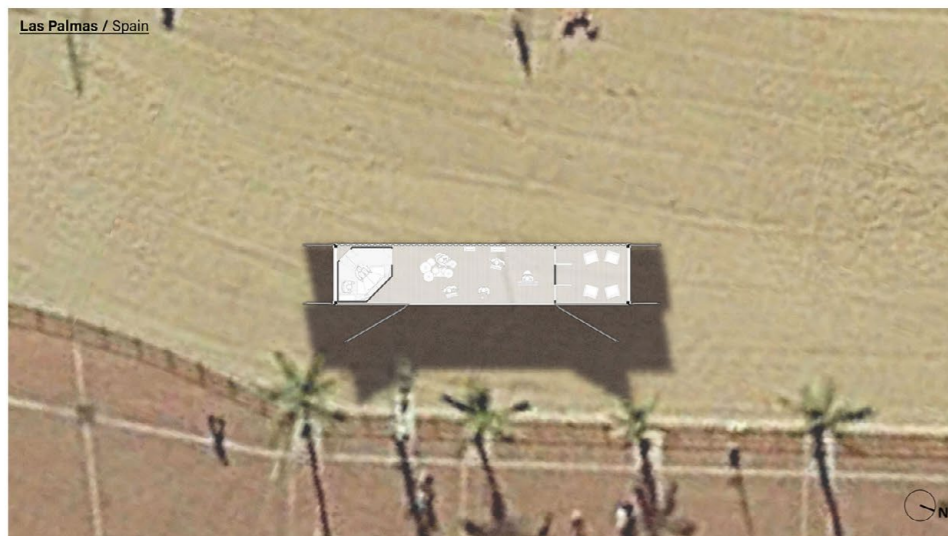
An NPO in Cape Verde is responsible for the operation of three containers. The recording studio units serve as compensations for the empty repositioning of these containers, and are supported by the profit from the freight part for its free access to Cape Verdean diaspora musicians.

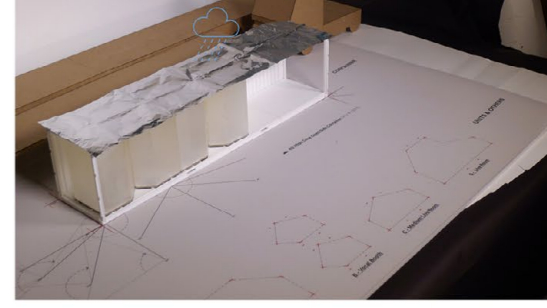
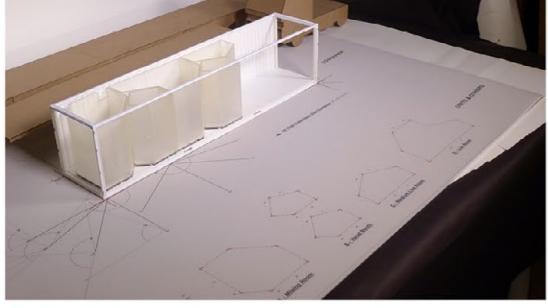
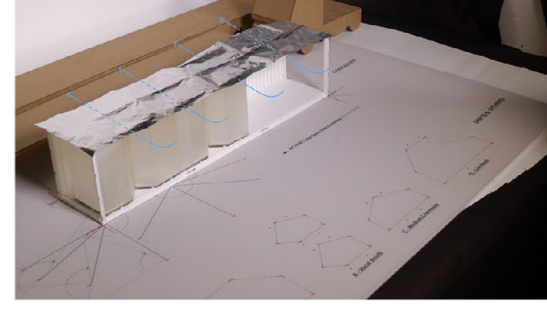
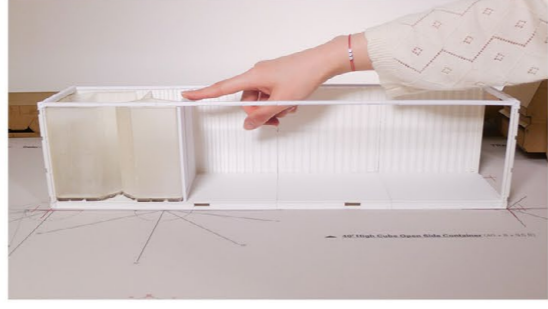
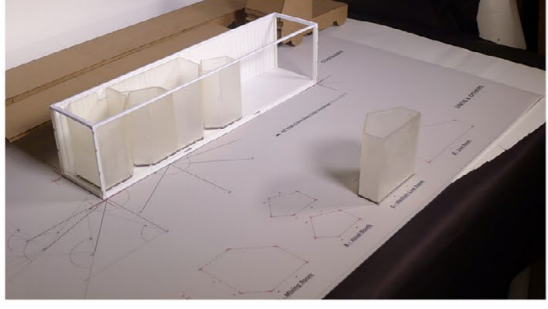
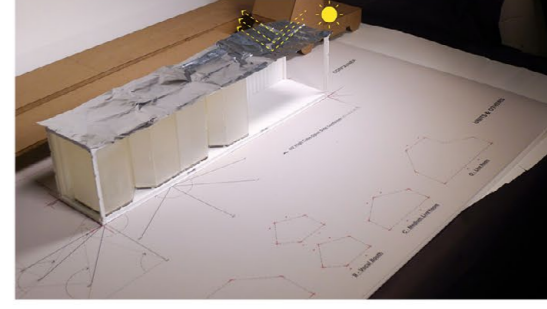
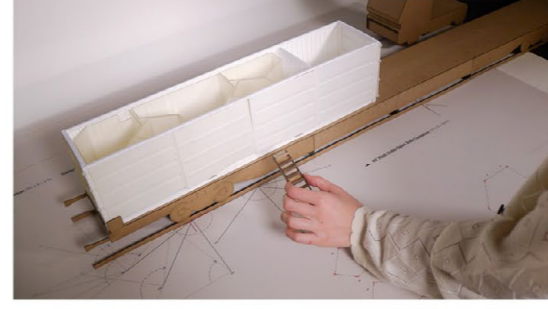
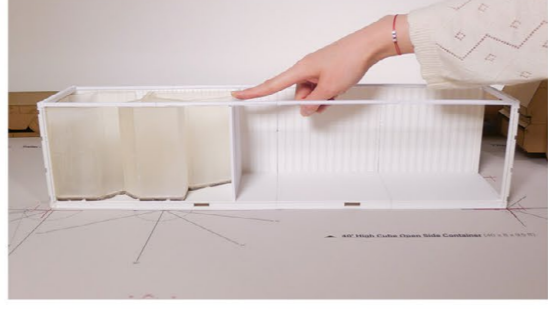
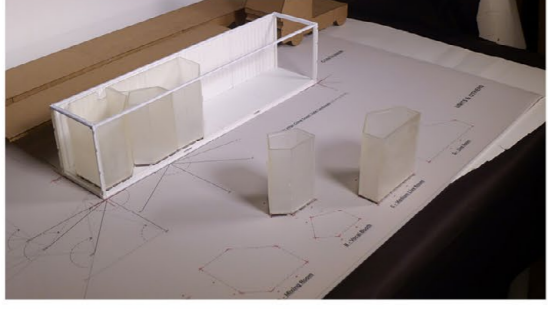
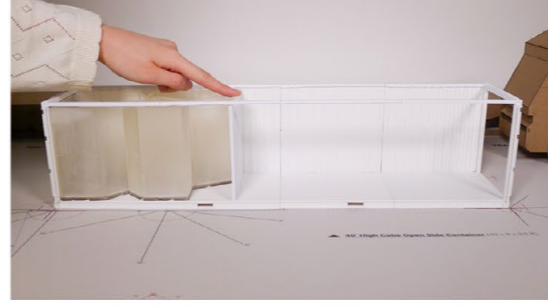
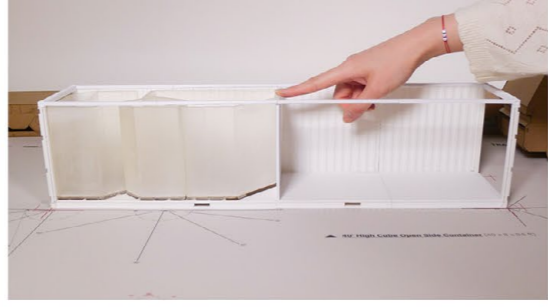
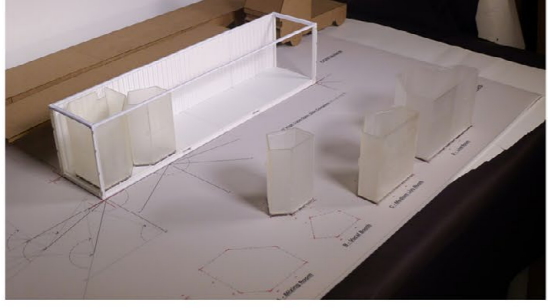
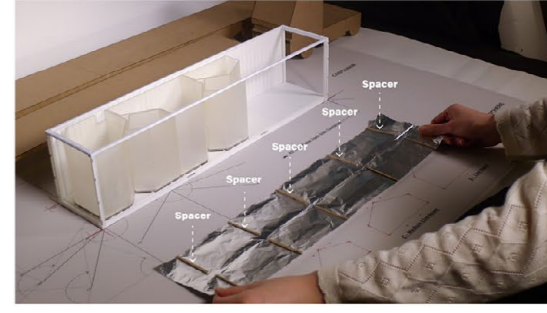
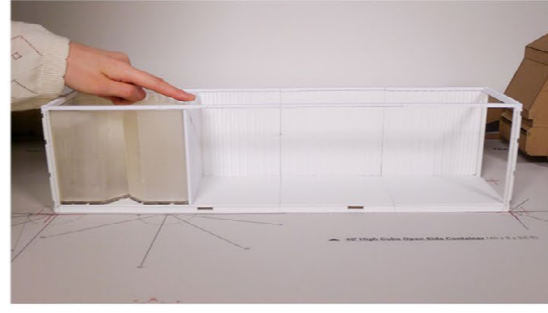
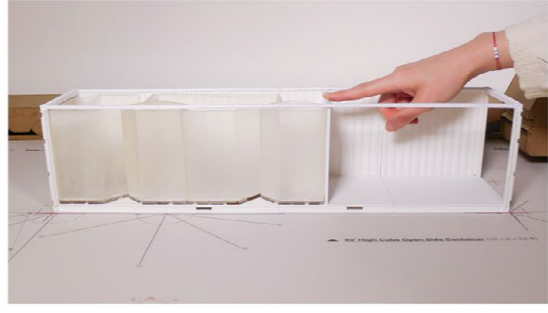
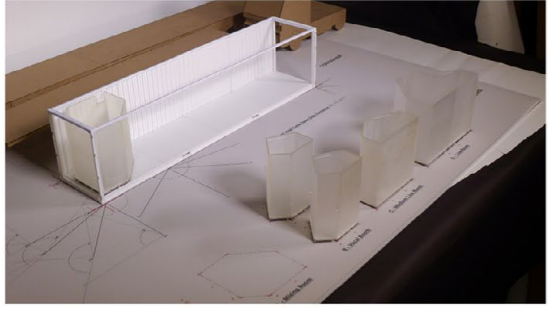
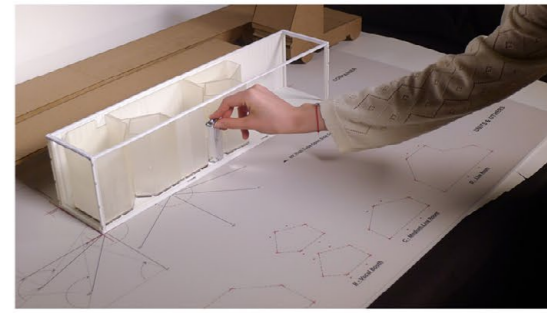
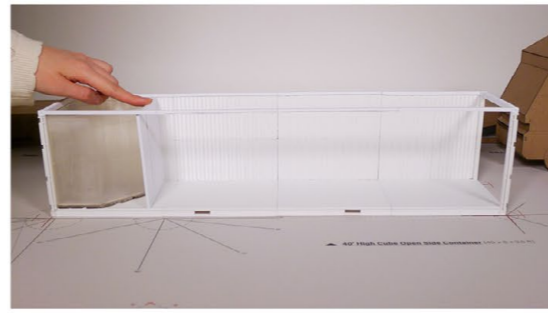
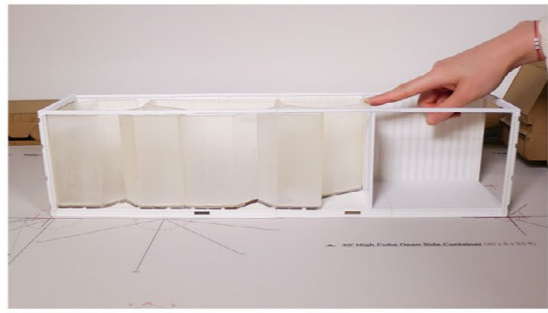
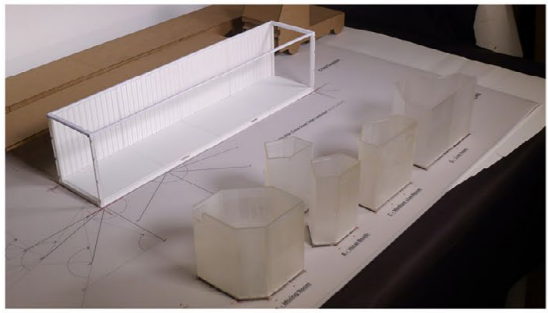
Initially, the boundary was entirely determined by the freight function and the recording studio should shrink accordingly, if there's more goods to be shipped.

When the container is shipped to cities without a large number of Cape Verdean diasporas, the empty containers will be used as stages where Cape Verdean musicians are invited to interact with local musicians in performances.

As Cape Verdean music is promoted and disseminated in publication and performance, the demands for space and time of Cape Verdean musicians continues to increase and the freight part will shrink accordingly. At this point, music starts to become the driving force in negotiating the boundaries.

COUNTRIES WITHOUT CAPE VERDEAN COMMUNITIES





05. TWIST

MAKING WITH EARTH

Columbia GSAPP Elective
2023 Spring

Instructor: Lola Ben Alon

Collaborator: Sixuan Chen, Xiangyi Deng

Twist explores how geometric complexity, formwork efficiency, and material strength interact with one another, through double-curved rammed earth elements. Hemp fibers and wood shavings are added to improve tensile strength while reducing density.

