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01. THE CURSED EDEN GARDEN

CIRSIUM 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 Eve 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

litter caught on thistle spikes

heavier litter on ground

degradable (food) waste

chicken manure compound

fabric waste (cloth, sheets)

non-degradable (bottle, can) waste
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 Ooegees’ Dream-sharing events, I propose an annual event of one-week dream-sharing along with a giant tendril 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.
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 breadth of the quarry allows us to see the truth of the earth, which is a dynamic, extensively-related, unpredictable system.
GEOGRAPHY and TOPOGRAPHY

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

Ongers believe that each individual living body is made up of two distinct parts. The first part, mateesh, is the external body that is visible and concrete, responding to the time and surrounding conditions. The second part, enteesa, is the internal body, internal that is invisible and abstract, directing the activities and feeling 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 Ongers evidently did not notice the first time around. This process of collecting "smell fragments or bits" is known as donkoare, 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.

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<td>hunting+gathering</td>
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- decide to follow
- dream to share
- smell to retrieve
Based on the above analysis, concept, and interpretation, I propose a giant terrilite 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 engrained 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.入口模型 with Sectional Site Model
6. Close-up Showing how Entrance attaches to the Terrain
7. Section Model 1st View
8. Close-up Showing the Human Scale in the Web
9. Close-up Showing the Section of Entrance and Anchor Point
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.

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.
03. TO SEE A WORLD IN A FLOWER

TECHNIQUES OF THE ULTRAREAL

Columbia GSAPP Visual Elective
2022 Fall
Instructor: Phillip Crupi
Collaborator: Chaocui Zhang, Chengai 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 bench 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 sitting in the landscape in the first panel is only a corner of the bench 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 space, 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 woven 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 unwavering index of identities. How can the combination of music and port help to maintain the identificational sustainability in the future?
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 drew 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, these 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 impermeable and stubborn web. How can Cape Verdeans challenge these boundaries defined by trade, and reclaim its own position in community and cultural development?
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.
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 disturbing waves. The size of the space for musicians and music is regulated by a movable boundary.
COUNTRIES WITH CAPE VERDEAN COMMUNITIES

CAPE VERDE

COUNTRIES WITHOUT CAPE VERDEAN COMMUNITIES

**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 free access to Cape Verdean diaspora musicians.

Initially, the boundaries are 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 diaspora, 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 continue to increase and the freight part will shrink accordingly. At this point, music starts to become the driving force in negotiating the boundaries.
05. TWIST
MAKING WITH EARTH
Columbia GSAPP Elective
2023 Spring
Instructor: Lola Ben Alon
Collaborator: Shuran 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.