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Inner Jetty

Site: Jeju Island, South Korea
Collaborators: Benjamin Tasistro-Hart + Sacha Moreau

Extending existing intertidal basalt pathways to support traditional diving practices and seaweed cultivation.

Off the coast of South Korea, Jeju Island is home to a centuries-long female-dominated diving profession. These divers, called haenyeos, have produced and maintained extensive knowledge of regional maritime conditions for generations. We are proposing an architecture that supports both diving practices and seaweed farming. Haenyeo diving practices and seaweed cultivation are interdependent as diving is required to collect seaweed that is used to produce the season’s crops.

Haenyeo use networks of basalt walkways around Jeju Island to access the sea for their diving activities. Through reinforcement by rubble jetty construction, these exposed basalt pathways are enclosed by heavy walls to become the inner jetty. Within this new protected space, a shared pathway links communal and intimate spaces for the haenyeo to take shelter from the elements, sort their catch, socialize by a fire pit, and operate a market. The mass of the protective jetty walls functions as an anchor for low-intensity seaweed production through the long-line method to supplement the income of haenyeo.
Construction System

The inner jetty uses a combination of traditional rubble jetty and lightweight steel construction to create communal and intimate enclosures. Large armor stones at the outer edge of the jetty attenuate wave energy while smaller stones create intimate spaces through the use of a steel mesh and columnar basalt boulders. Prestressed steel sections span the shared pathway pinned in place by large basalt boulders. These sections can hold the daily catches of the haenyeos and harvested
Staggered Ground

Site: Bangor, ME
Collaborators: Benjamin Tasistro-Hart + Sacha Moreau

Staggered Ground assumes a lack of control, critiquing the tabula rasa site and picturesque gaze that render landscape static.

Staggered Ground embeds architecture in processes of environmental remediation centering on the capacity of seaweed to clean water and fertilize our food. It proposes the use of seaweed fertilizer in order to both support local farms on a regional scale and reduce harmful agricultural runoff into the Penobscot watershed. It is important to recognize and support the ongoing work of the Penobscot Nation to protect, enhance, and restore water quality of the Penobscot River.

Thick walls operate across a range of scales blurring the relationship between land and architecture. The walls contain stone to passively regulate temperate, deploy water catchment systems, and extend to organize circulation and furniture-scale installations. They question the assumption that poche space is residual space and forefront it as the driver of the architectural concept. More importantly, the walls, through their materiality, ask if it is possible to create an animistic relationship between the users of the space and the walls. Asking users to not only see the multifaceted utility of the thick walls, but also see them as observers and participants in a complicated extractive and pollutive history of the site and nearby region.
These three scenes capture diurnal, seasonal, and decade-long changes on site. They project forward based on already existing evidence of natural growth on-site supplanting prior built interventions. Ideally, our project does not fall into the trope of nature taking over architecture. Quite the contrary, our building begs the question of how nature can act in symbiosis with a building, its human inhabitants being just one part of a network of subjects.
The workspace configures to fit both the requirements of seaweed production and a CSA distribution area. Combining these two programs runs on annual timescale as seaweed is harvested and processed during the spring and winter months and crops are harvested mainly during the summer and fall months. The two spatial configurations are didactic over the course of the year, creating reciprocal links between seaweed production in the Penobscot River and farming in the region.
Trombe Wall
Overlapping YMCA

**Site:** Williamsburg, Brooklyn, NY

Through the dissipation of a core both outward and upward, this project imagines the YMCA as a way to mediate density and dispersion of activity.

The YMCA, both today and historically, is an institution with the simple goal of bringing people together. Whether that be through sports or education, the YMCA responds to changing community needs and seeks to address a growing problem of social isolation and loneliness in NYC. Overlapping YMCA is centered on a chaotic core dissipating towards slower-paced intimate spaces. This project calibrates the program to the building, the building to the site, and the site to the city and river.

The massing consists of 4 volumes that unify the YMCA and residential towers, highlighting their intersection as an important space for both residents and YMCA members. At first glance, the proposal rejects the existing street grid. However, the central space of intersection is in line with Metropolitan Avenue. The rotated volumes appear as extensions of the street towards the main entrance of the complex. Bringing the city into the central portion of the space not only creates a welcoming and energetic space, but also contrasts with smaller rooms, walkways, nooks, and corners. This proposal simultaneously celebrates the city and provides respite from it.
lobby

pool + climbing wall with view of east river
The People’s Pool is an imaginative proposal for the East River inspired by Lina Bo Bardi’s 1982 SESC Pompéia project in São Paulo, Brazil. Our proposal is made up of three platforms that float outward in summer months, requiring visitors to travel in inner tubes. The platforms compact neatly back into the carved-out site during the winter. This proposal embraces the playful boldness of SESC Pompéia, acting as an unusual beach oasis in the middle of a dense urban setting.
Intersecting Vaults

A precise geometry made up of a series of tapering vaults that have been duplicated, flipped, superimposed, and cropped drove this investigation. The first two iterations proved the form was developable, the following two discretized the object into horizontal elements and tension tied ruled surfaces, and the last explored a joint solution. By iterating through scale and media from 3D printed object to hand carved joint, I was able to fully understand the complexities of constructing a nonstandard geometric form.
Folded Plate Market Hall
Collaborator: Daisy Zhang

This market hall is a funicular system that uses folded plates as a strategy to construct the parabolic arch.

The structure is composed of 10 modules that are structurally independent, which allow for a great degree of freedom to design in between the modules. Considering this, we increased the opening on one end of the module by adjusting the angles of the plates to create a series of skylights. Vertical wooden mullions connect each module to the next and create visually interesting shadows within the market hall. It is possible to enter the hall in two ways: through the grand arched opening and through smaller, localized entrances on the longer ends of the structure. These smaller entrances occur on every other module and are made by rotating the plate along its upper seam to create an opening on the ground. This strategy changes the direction of internal forces and therefore would require local reinforcement.

Initially, we determined the shape of the arch through the use of graphic statics. We considered asymmetrical loading, compressive force, bending localized to a single plate, and deadload when designing the structure and determining the depth of the wood. In order to resolve the reaction forces of the structure, there is a hidden tension cable below the slab.
Exposed Fly Tower
Site: Emerald Necklace, Boston, MA

This project reveals the artifice of stage and performance through an examination of the fly tower on the artificial nature of Olmsted’s Emerald Necklace.

The performance highlights activity that is traditionally hidden, tucked away above a stage, serving only to enable a different performance below. The performance is a choreographed effort of pulling scrims up and down from the catwalk. It contains three acts, each sequentially viewed from a closer position by the audience. The culminating act invites the audience to experience the act from below, as an undulating roof that rises and collapses, continuously changing the enclosing space and relationship between the scrim canopy and ground. The audience is now fully aware of the work required to produce the effects that they experience. Year round, this project serves as an interactive architecture that invites play.
Model Making

References: Old St. Peter’s Basilica and One Week

This model of Old St. Peter’s Basilica synthesizes information from seventeenth-century drawings and plans, scholarly reconstructions, and comparisons to other existing cathedrals.

This first model explores the humorous “construction techniques” employed in the short film One Week (1920) by Buster Keaton and Edward F. Cline. The second demonstrates what the house should have looked like had it been built properly, based on Sears catalogs and existing prefabricated houses.
Landscapes

**Medium:** Ink Drawings on Paper and Oil Paintings on Wood, Canvas, Paper, and Cardboard