



Tianhui Zhang
2013-2022

ART/CULTURE THEORY

ORCHARD CAMPUS
THE BARN AND ITS OTHERS

ILLUMINATING ARTIFACTS
PENN MUSEUM ARCHIVE EXPANSION

RELATIONSHIP WITH ENVIRONMENTS

CURATED DECAY
CHERRY STREET PIER RESIDENCE

TUBULAR INTERFACE
SEOUL MADE MUSEUM PROFESSIONAL COMPETITION

DISOBEDIENT GRIDS
MANAYUNK SOIL MARKET

FERMENTED COMMONS
ARCHITECTURE OF CHEMICAL TRANSFORMATION

COMPUTATION TOOL

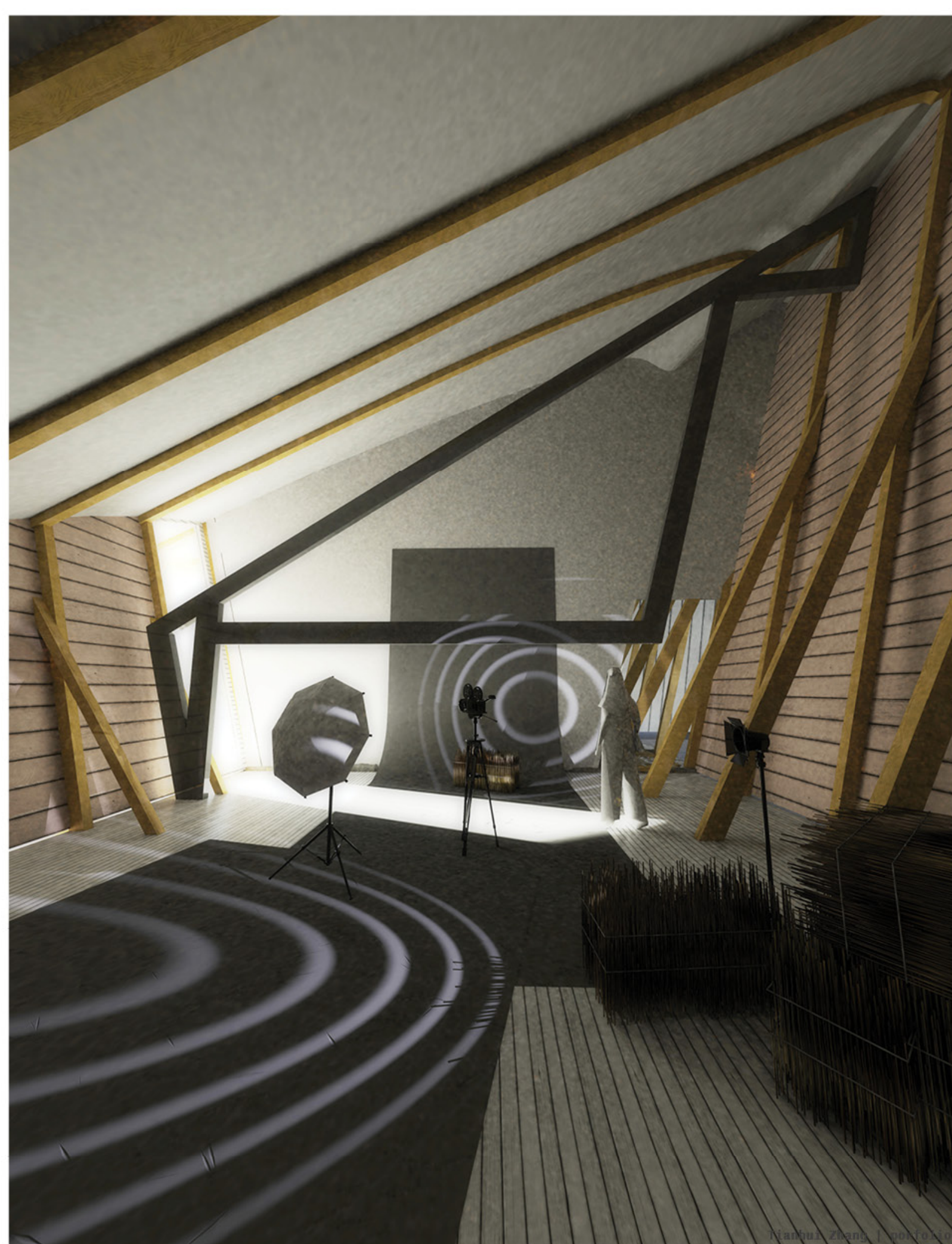
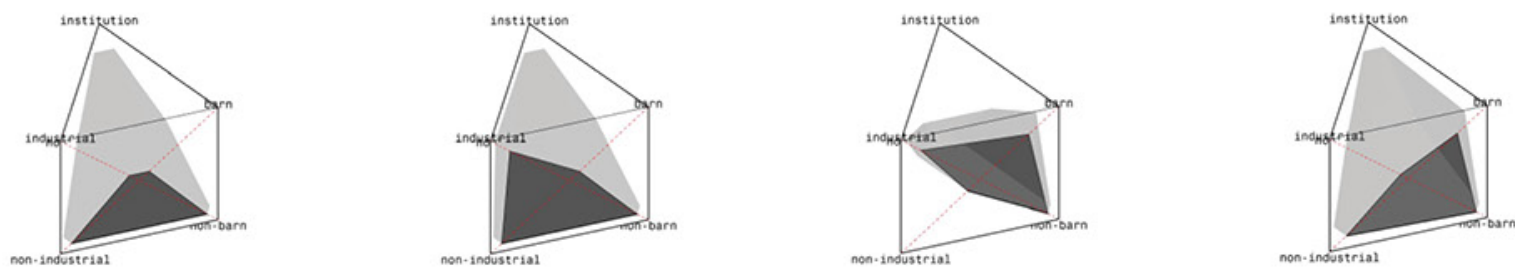
PLAN MACHINE
SPACE PLANNING WITH ML TOOL

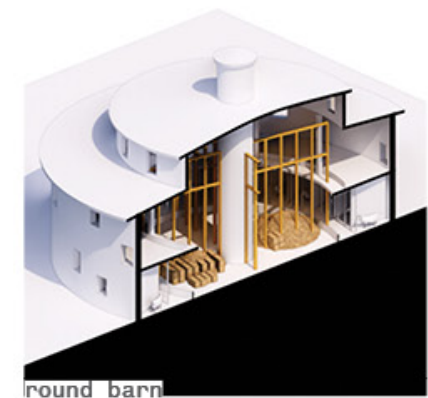
SCHUYLKILL PEDESTRIAN BRIDGE
COMPUTATIONAL GRAPHIC STATIC

Orchard Campus

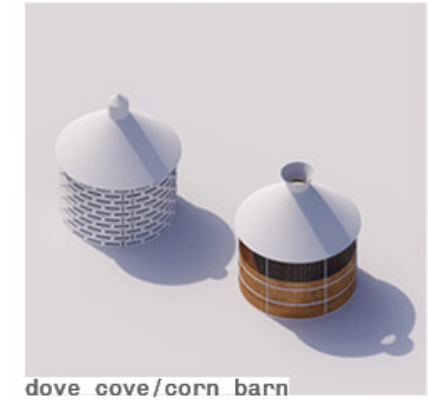
The Barn and its Others

Taking the barn as a starting point, the orchard campus establishes a design framework that codifies the 'sculptural meaning' of multiple mutually exclusive structural/construction concepts. The goal is to avoid categorical thinking, and find a method to create spaces with distinct qualities, yet consistently reject singular reading.





round barn



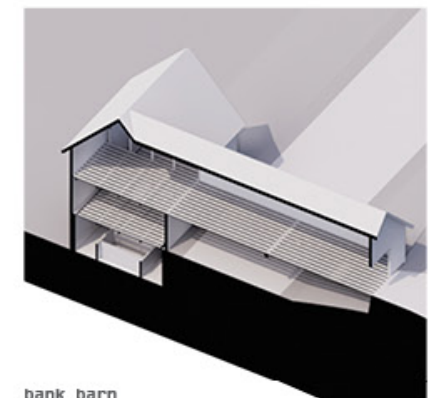
dove cove/corn barn



hay barn

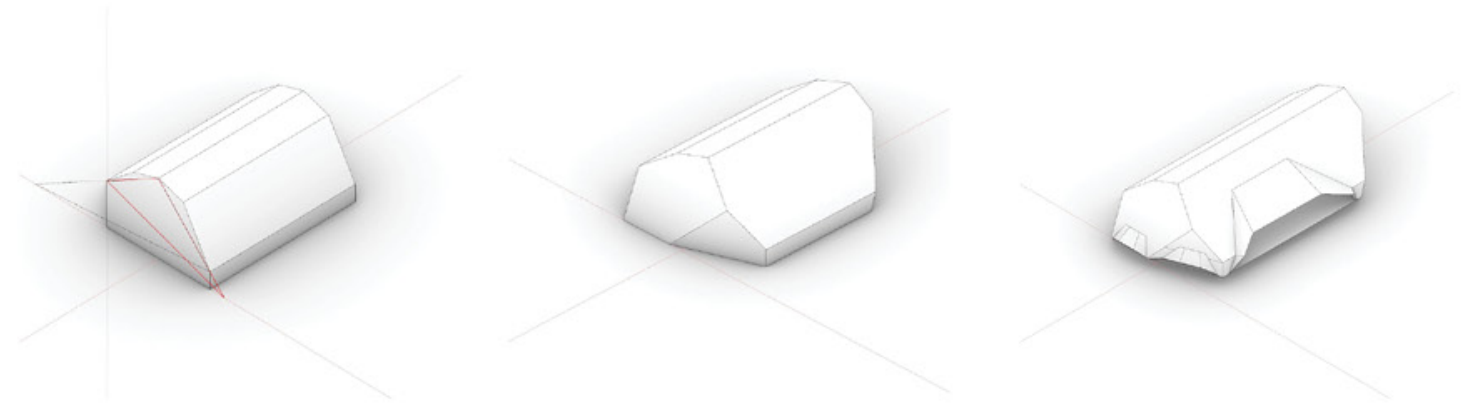
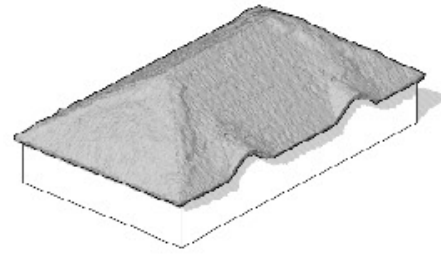


bank barn



bank barn

barn
↑
sculptural quality studied in 3 parts of the barn
↓
non-barn

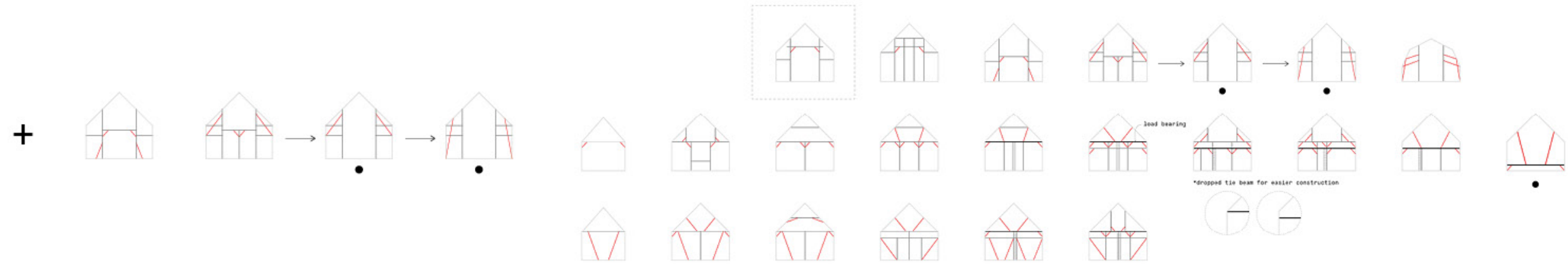


1. sculptural roof: destabilized geometry + contingent construction (thatch)

asymmetrical slopes

missing corner

lifted openings



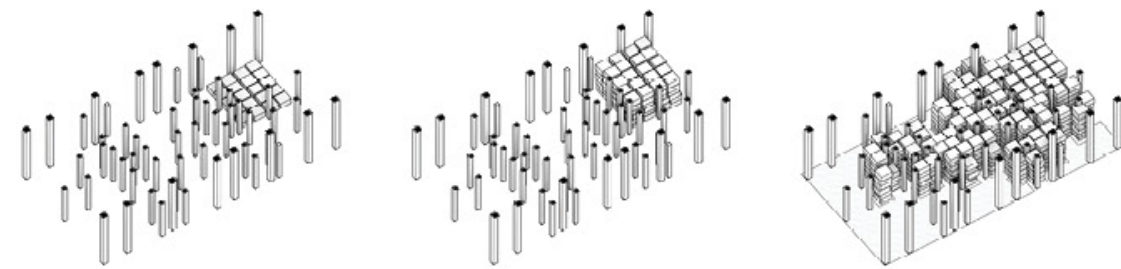
2. sculptural framing: redundant offset ordering

catalogue of framing variation



3. sculptural base: patterns of accretion

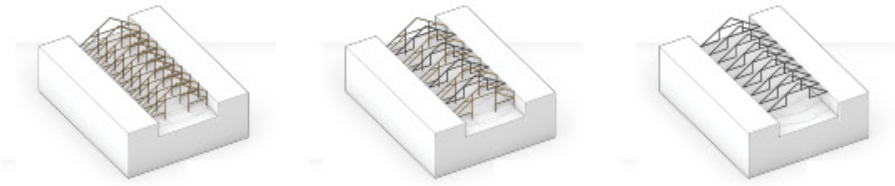
misalignment accumulates through the action of stacking vertically



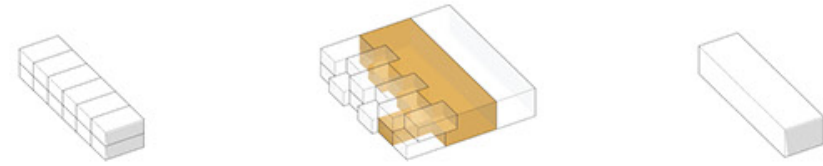
patterns of accretion forming around structure

"This "difference" is their *sculptural meaning*; and this meaning is dependent upon the connection of these shapes to the space of experience."

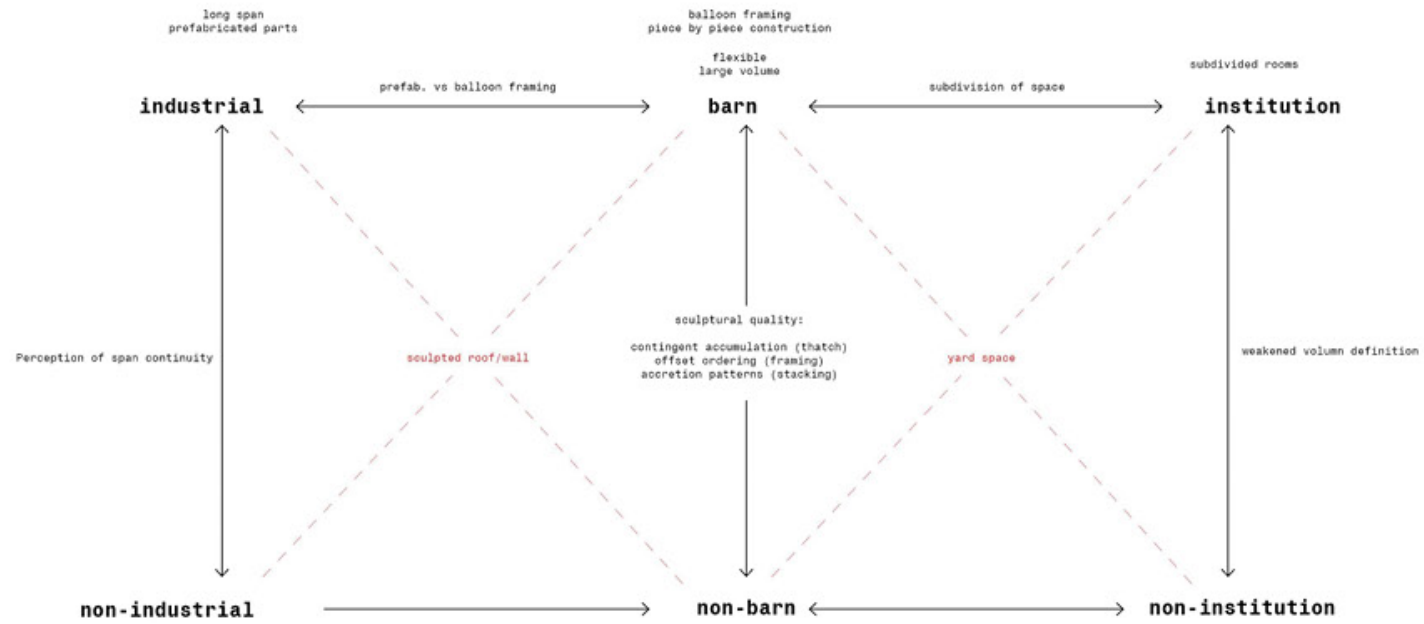
Rosalind Krauss, *Passages in Modern Sculpture*



barn ← industrial

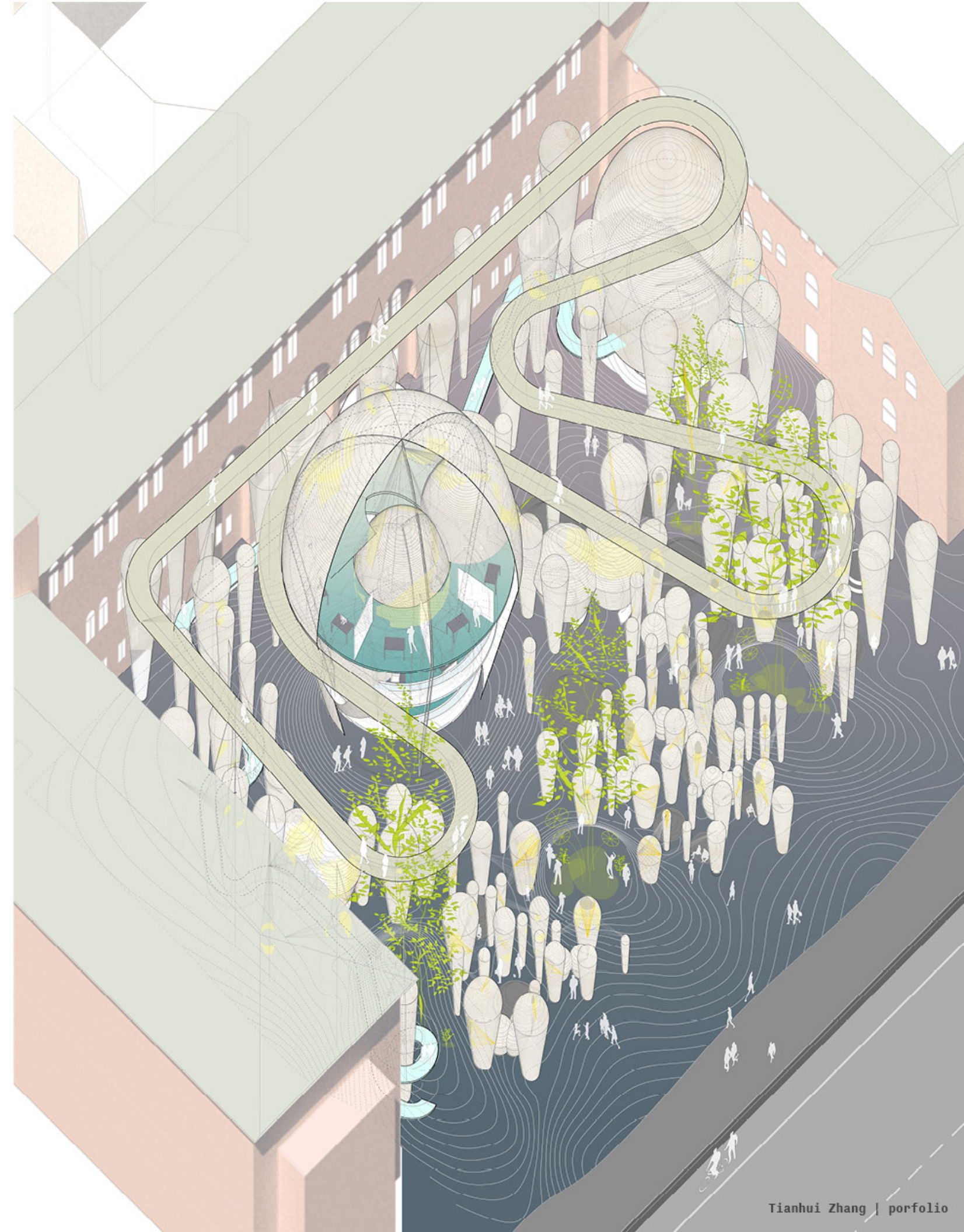
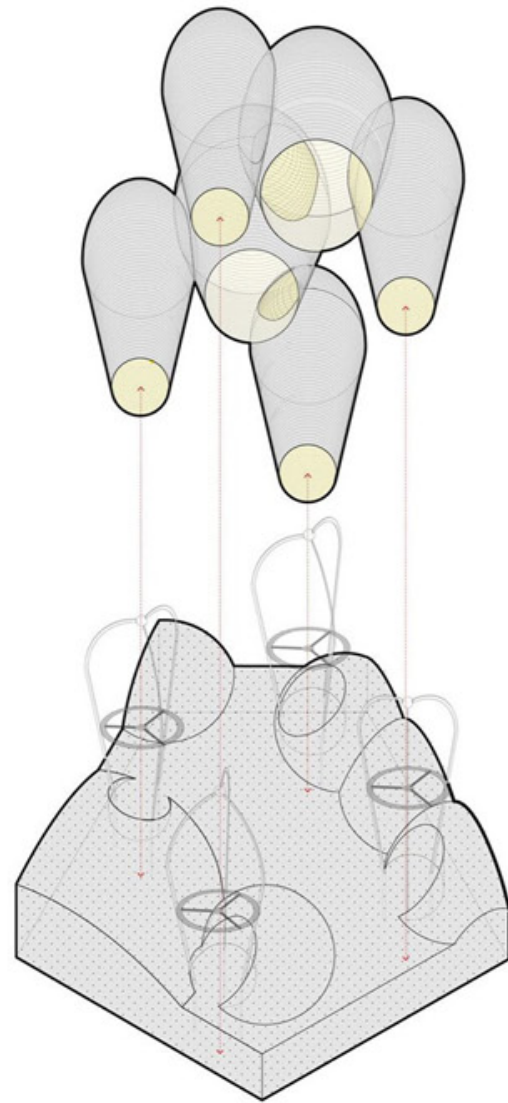


barn ← institution



illuminating Artifact Penn Museum Archive Expansion

Archeology museums often present many historical complications due to their colonial past. The project presents museum with no artifacts, offering a new type of exhibition and museum architecture in a decolonized environment.



iv. The Replica Factory



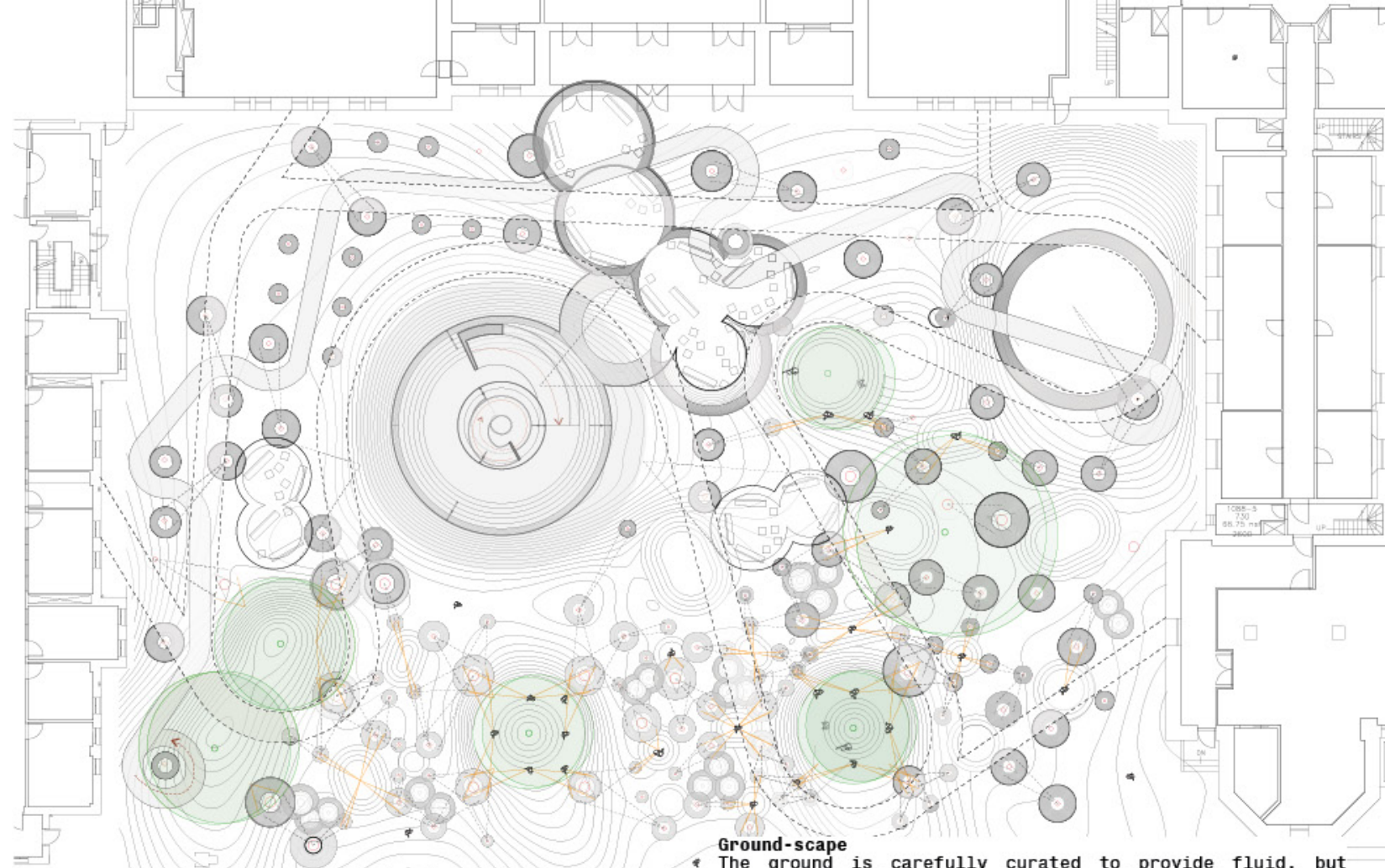
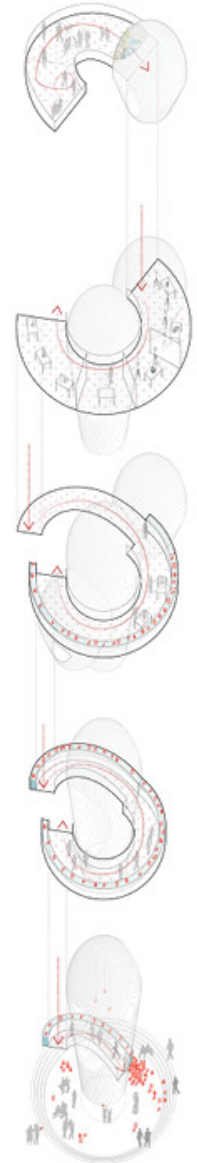
THEATER
A theater is located on top of the replica factory to screen a documentary on the process of creating replicas.

DOCUMENTATION
Original artifacts are first sent here for 3D photo-documentation

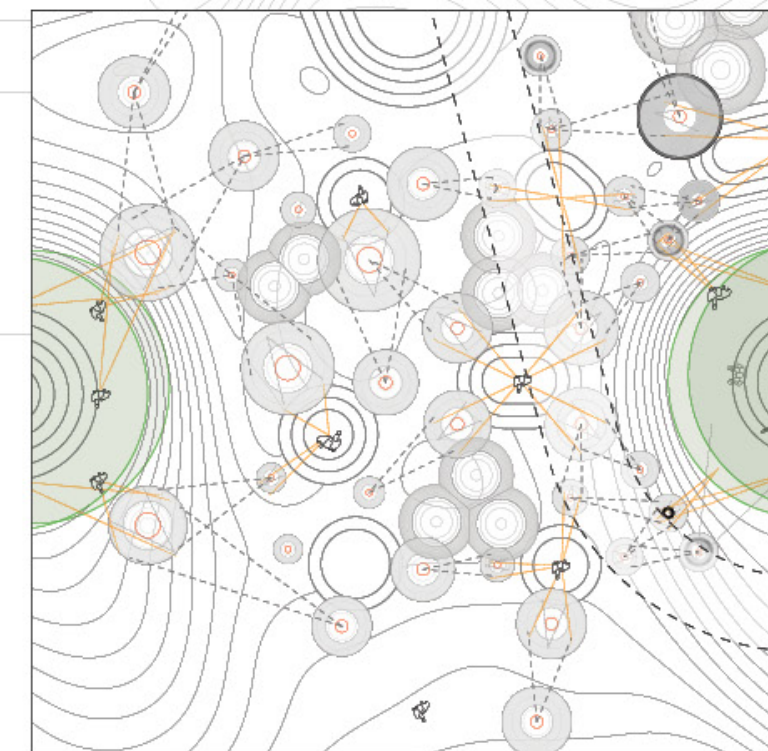
PRODUCTION
Documentations of the original artifacts are then sent here for production of replicas, utilizing 3D printing technology

EXHIBIT/DELIVERY
Finished products are then delivered to the lower level on the conveyor belt. Exhibits are curated around the moving replicas.

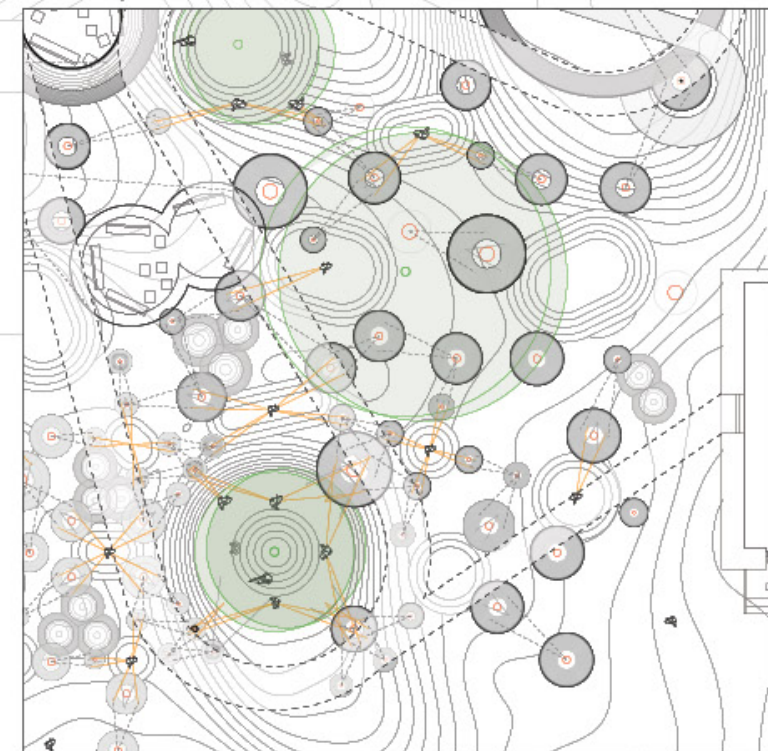
DISTRIBUTION
A portion of the replicas are dedicated to onsite display, while the rest are distributed to the public.



Ground-scape
The ground is carefully curated to provide fluid, but choreographed circulation. Moments of progress and repose are sprinkled all through out the site. It also serves as a seamless connection to the sidewalk.



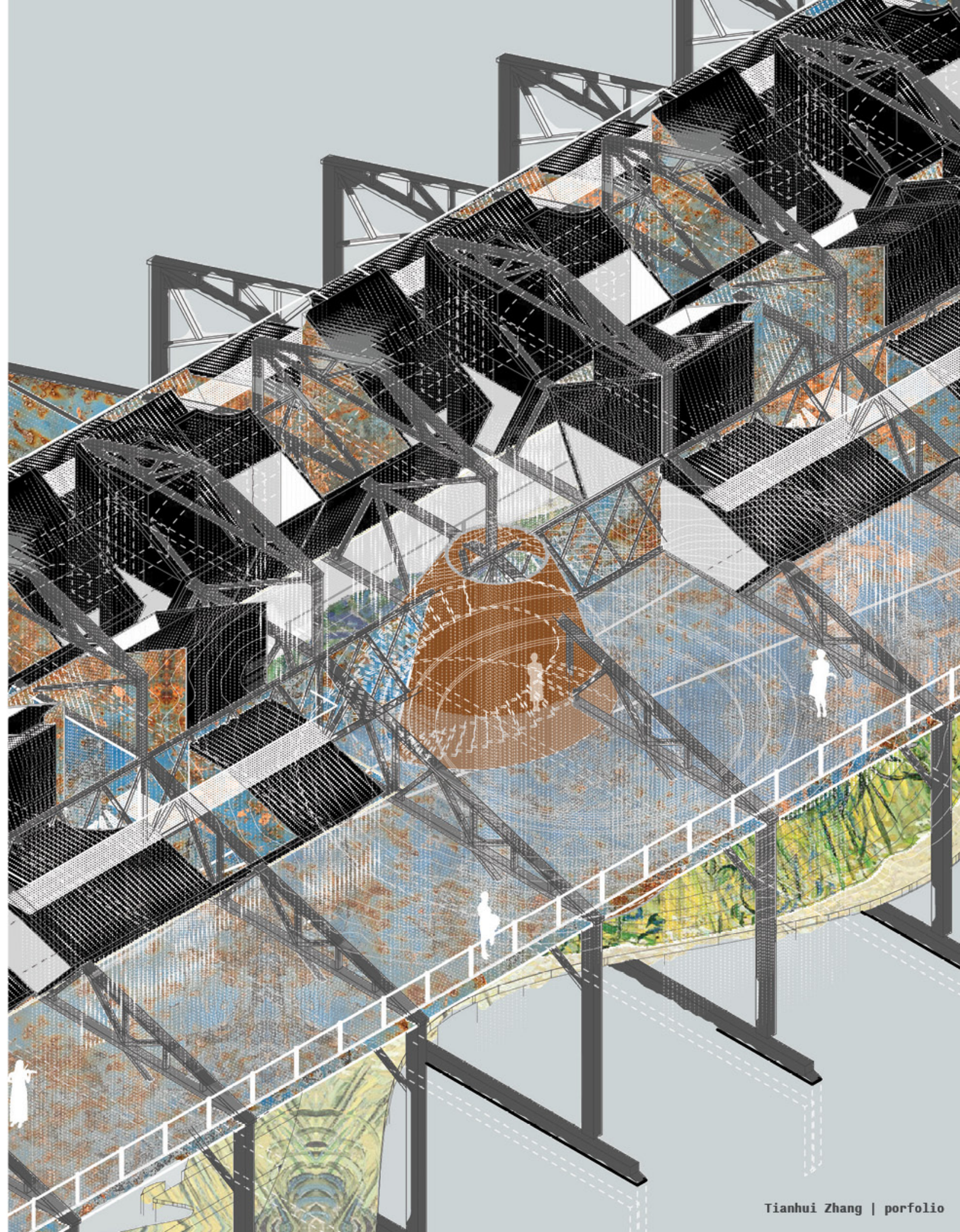
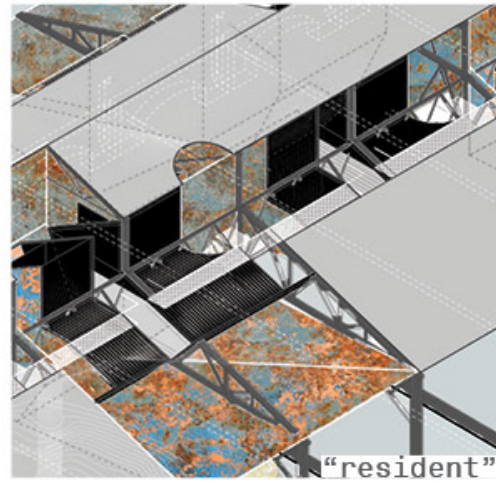
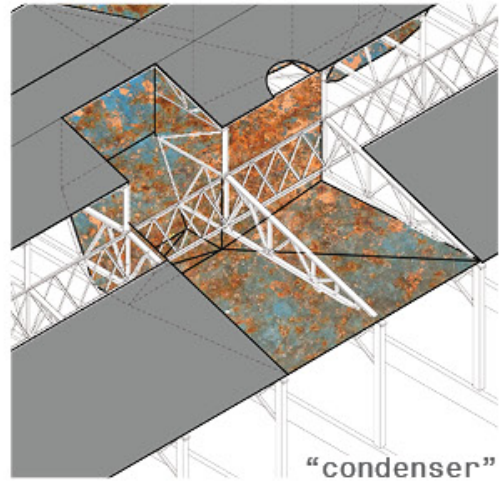
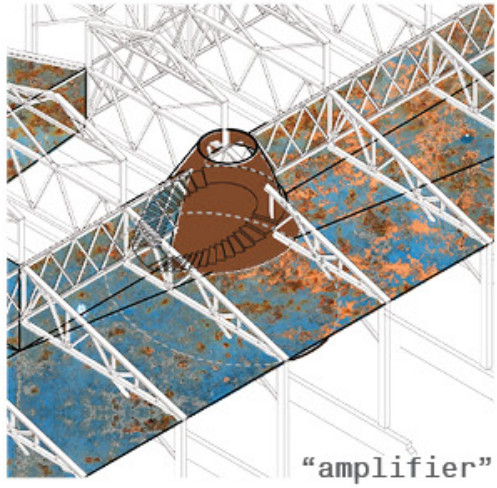
Display Clusters
The area closer to the sidewalk (public) are organized into small clusters of display cocoons. Integrated with the ground to provide seatings and areas of quiet contemplation.

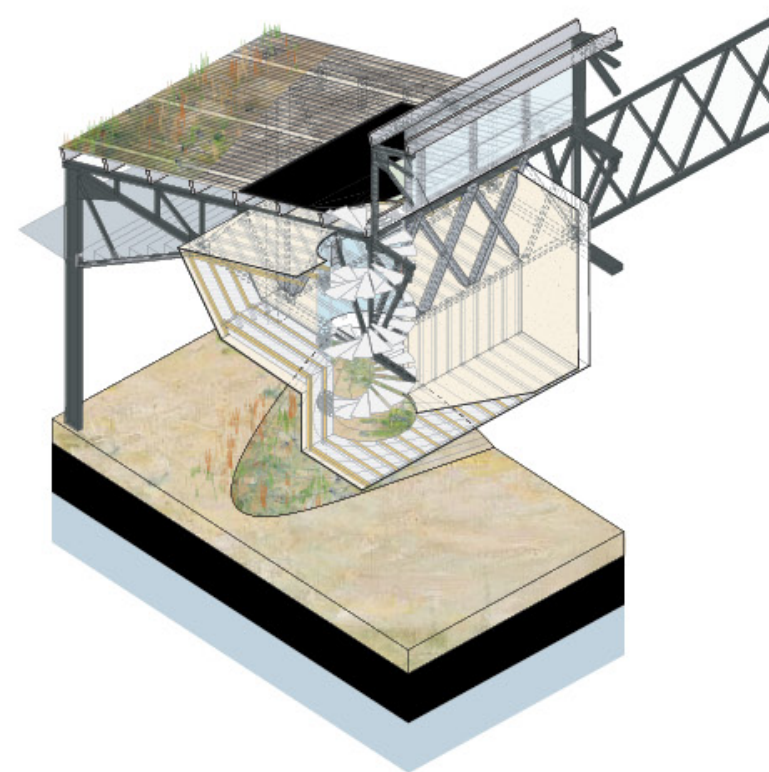
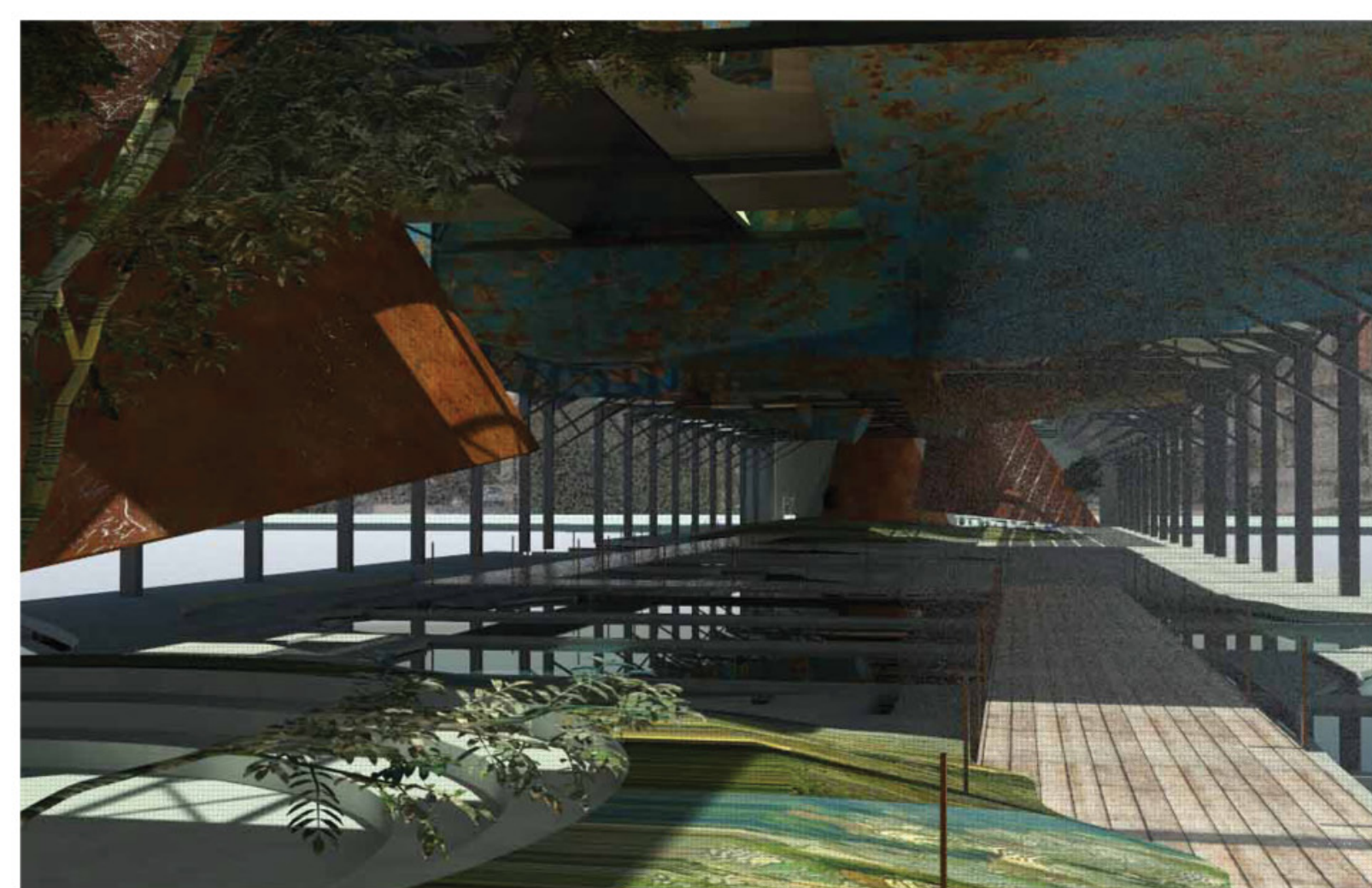


Circulation
The circulation of the project is organized in 3 interlacing layers. While the ground topography serves as the primary flow for visitors, the suspended paths serve as secondary visitor circulation & private artifacts circulation.

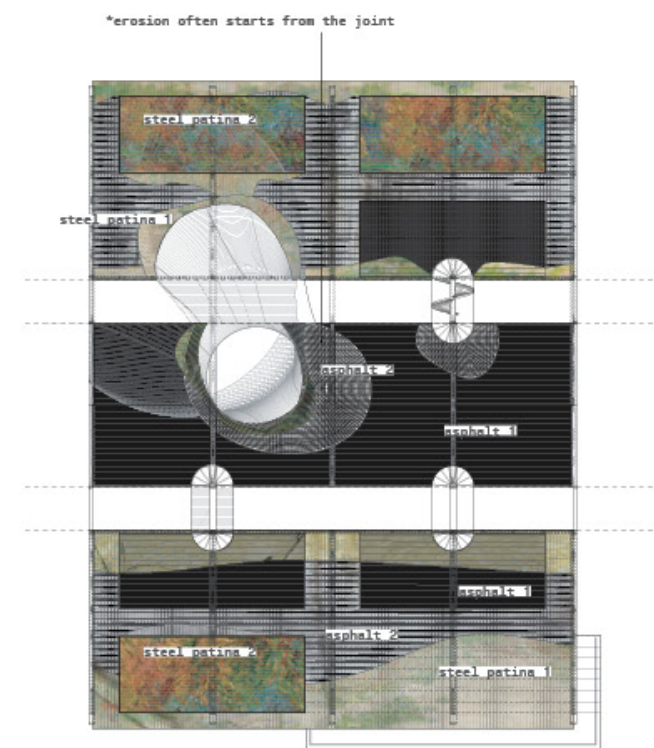
Curated Decay Cheery Street Residence

The project proposes a light-touch approach to housing which provides residents with a uniquely local and specific view into the past of the cherry street pier's industrial and natural contexts.

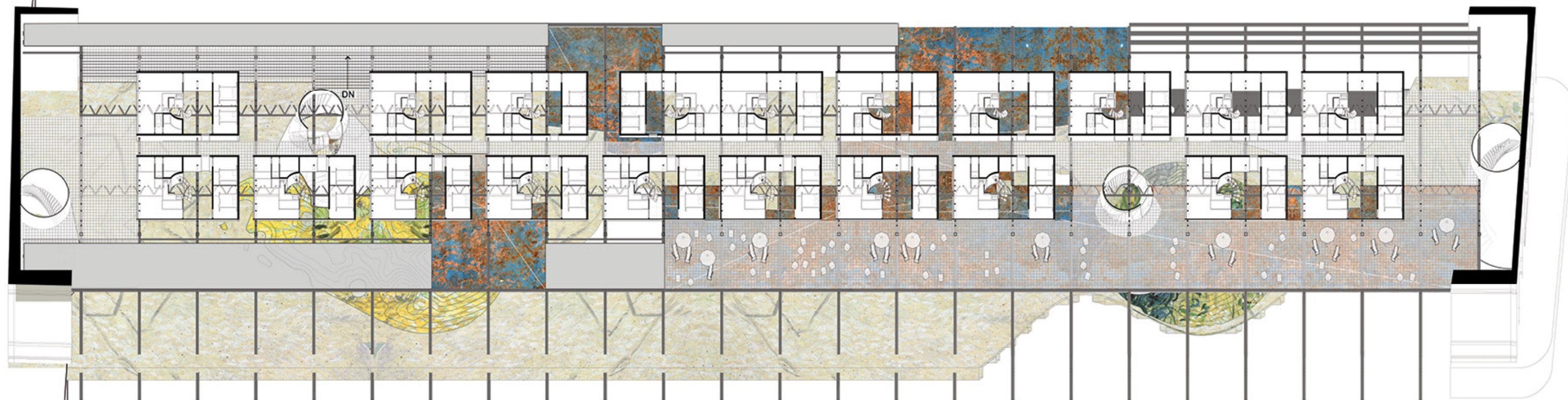




assembly



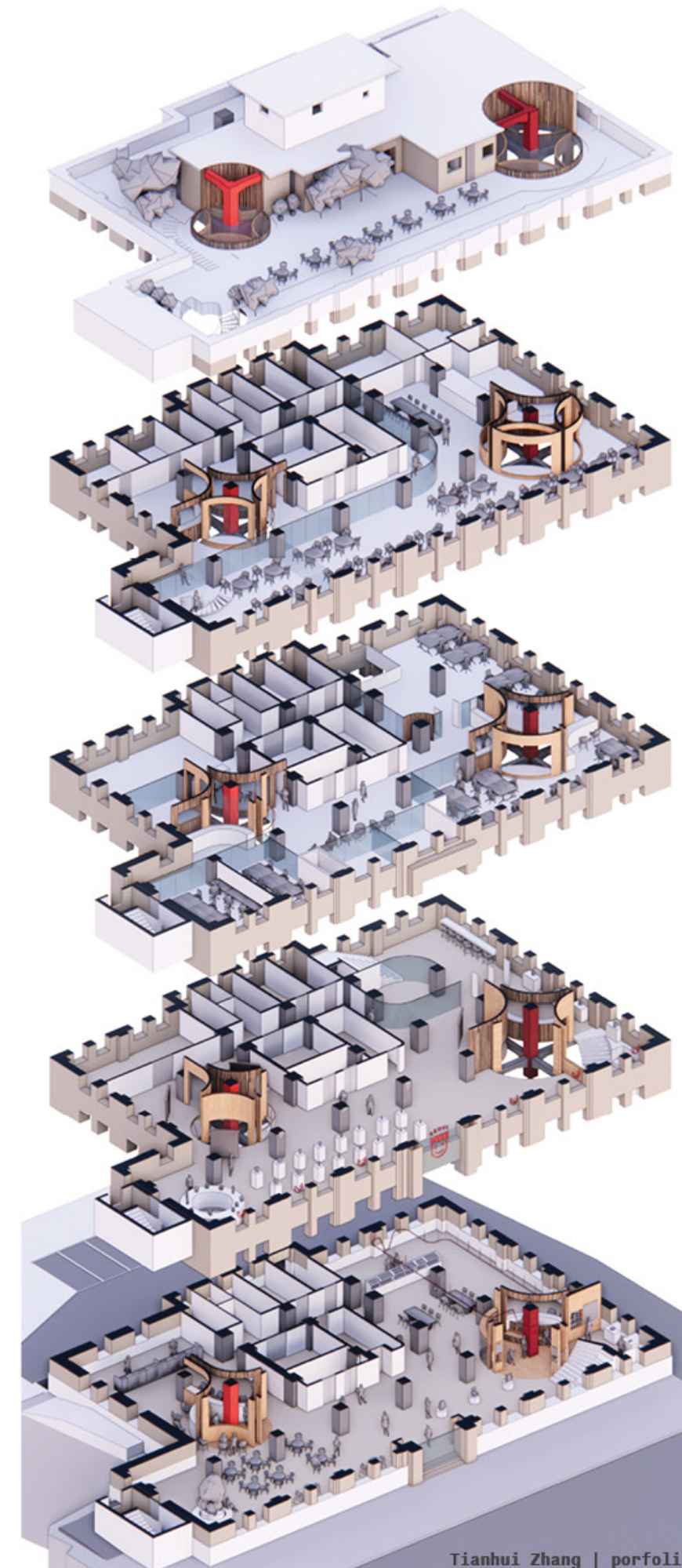
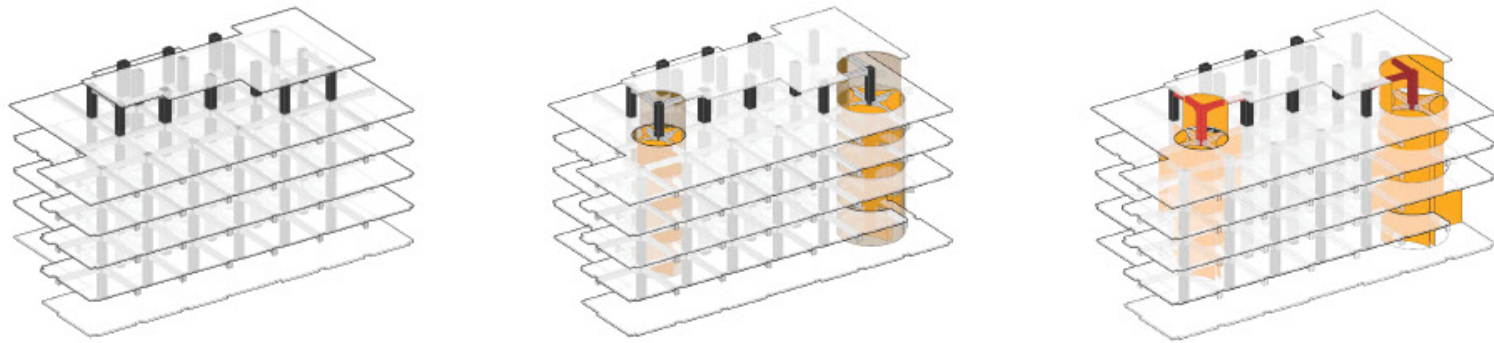
order of erosion



typical plan

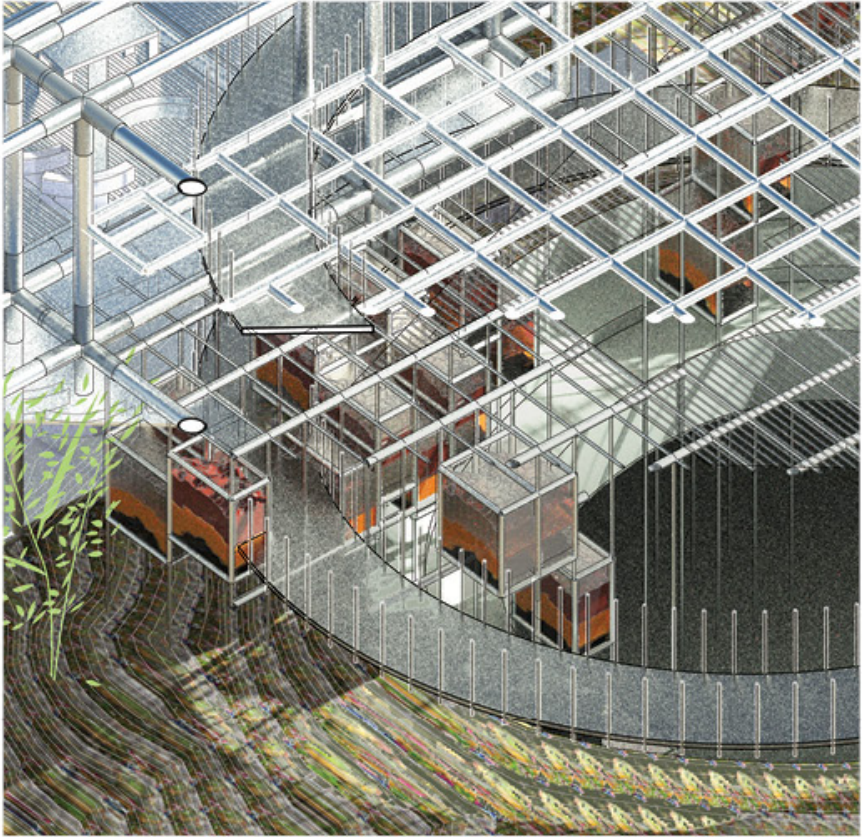
Tubular Interface Seoul Made Museum

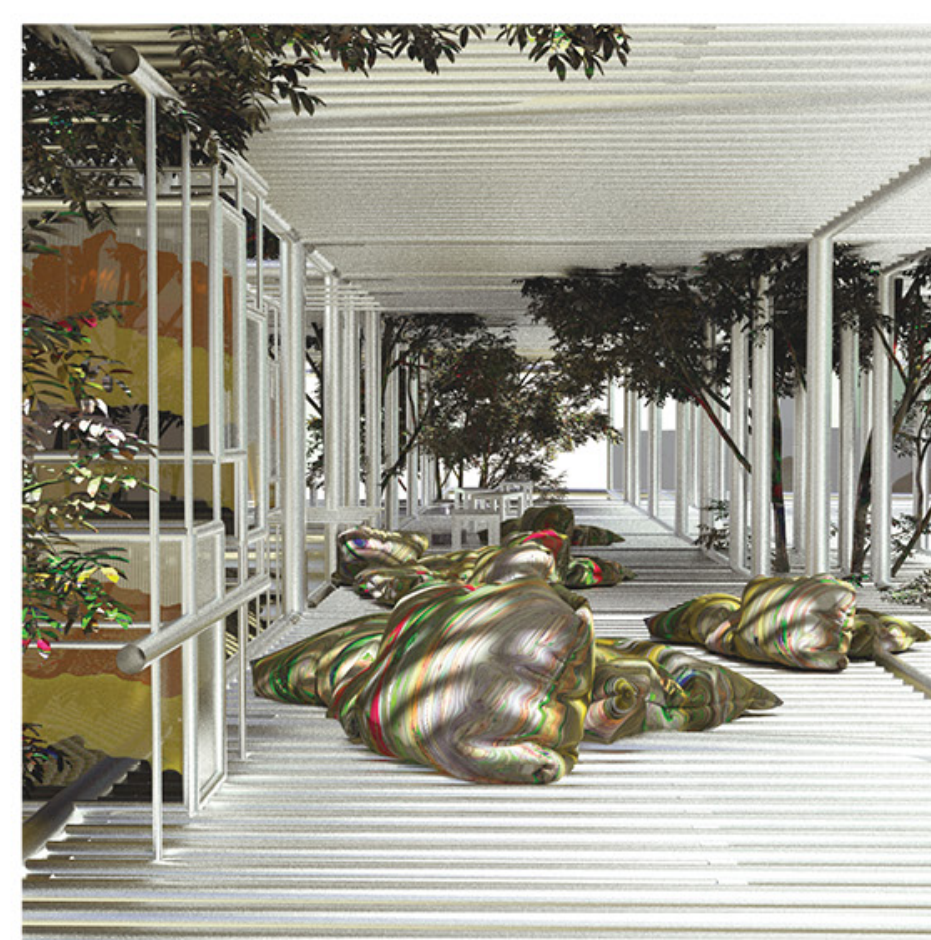
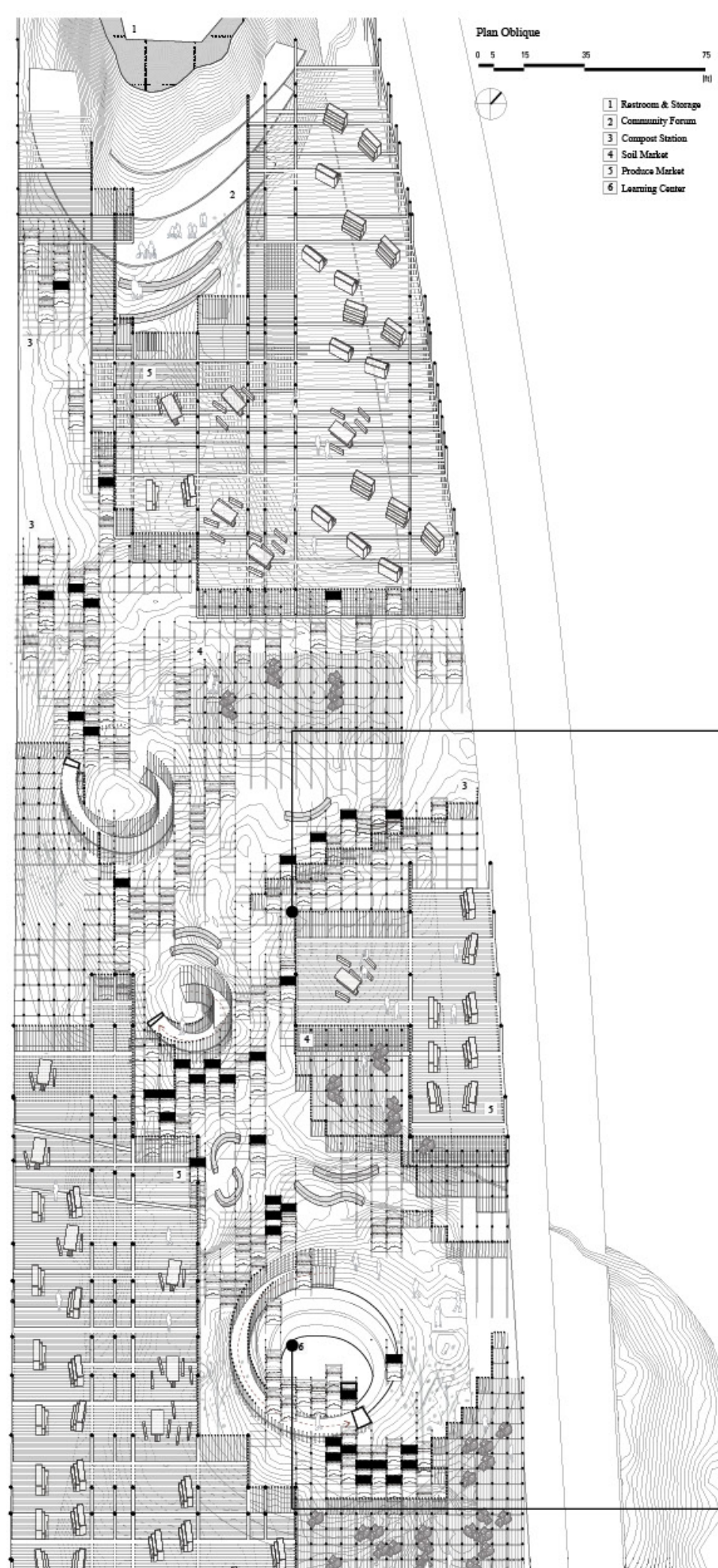
The project reinvents the historic American Cultural Center building into a living museum of history, food and entrepreneurship. The tubulars serve as the interfaces between interior and exterior, seoul-made's products and the consumers, the history of the building and the general public.



Disobedient Grids Manayunk Soil Market

The project explores the potentials of the urban grid systems through its relation to the production of soil (programatically) and sedimentary volumes (formally). The grid system is a "machine" for the production of soil, as well as the production of 'site construction'.





collection/market cluster:
organic forms in different containers

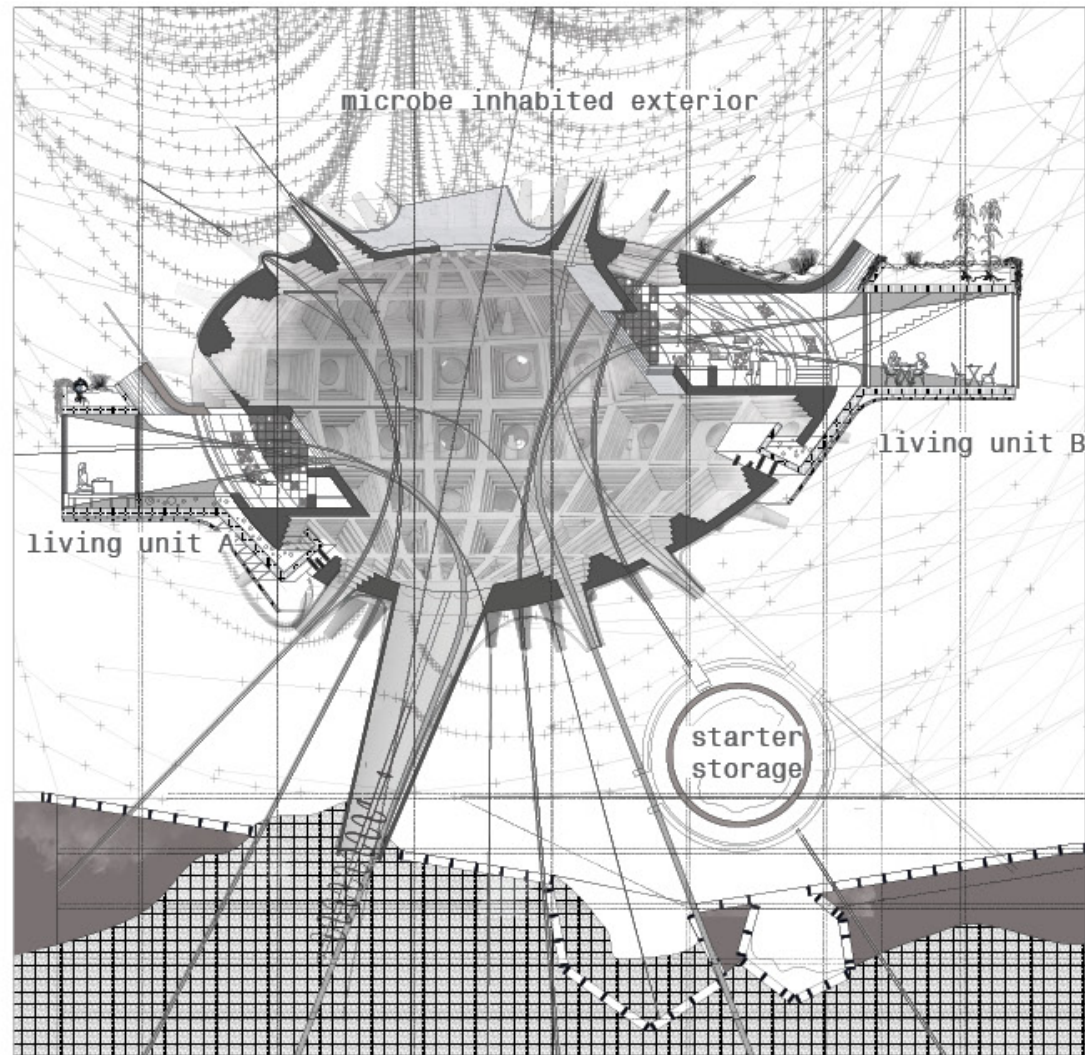


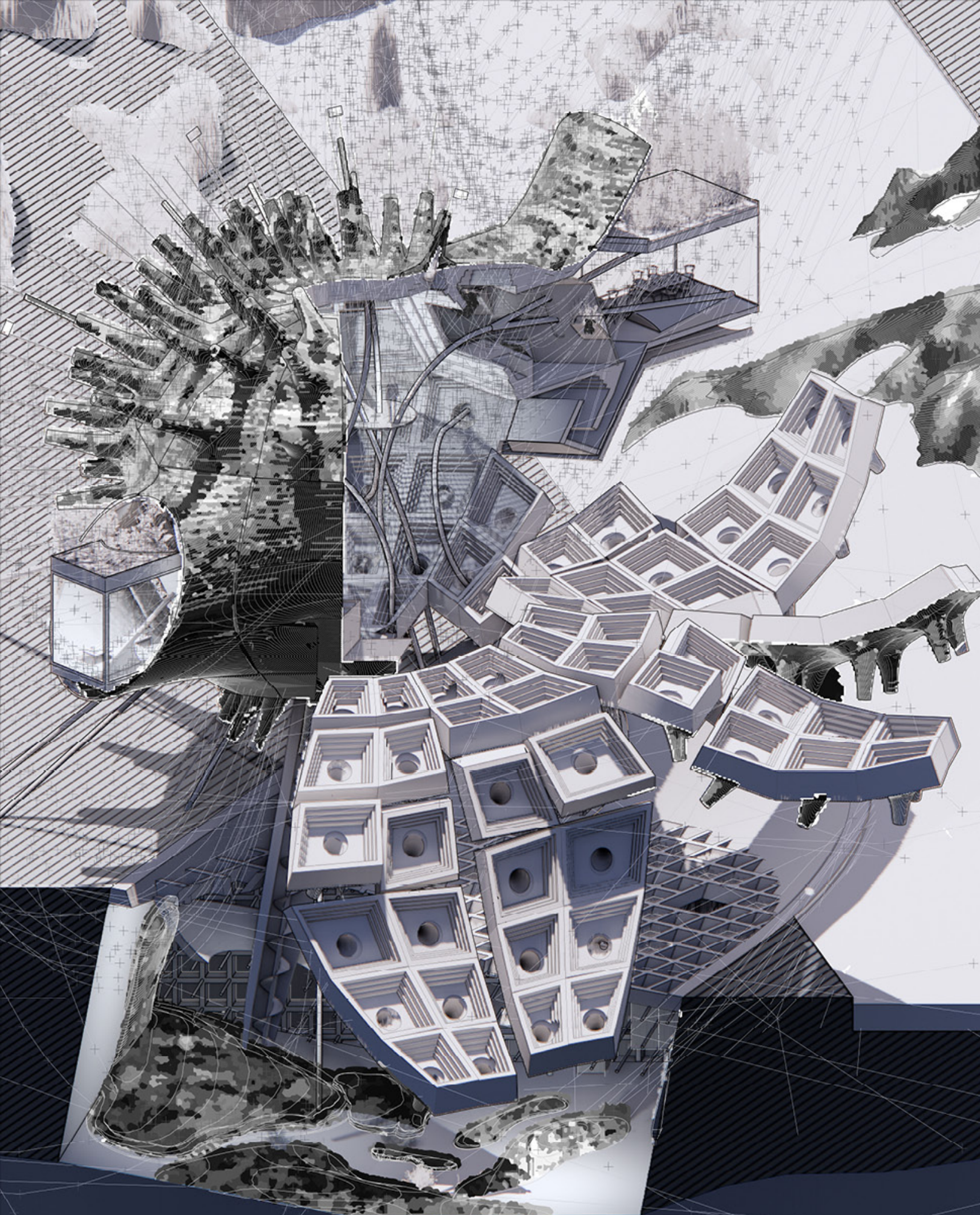
educational center:
organic form in collection(boxed) and production stage(sedimentary)

Fermented Commons

Architecture of transformation

The project envisions architecture as a character of chemical transformations. Positioning microbes as foreigners of the human body, Fermented Commons offers spaces for dialogue between 'pristine' environments and their transformations to the 'fermented' and the 'spoiled'.





FERMENTED COMMONS KITCHEN MENU

STARTER

lactobacillus kimchi
3-6 months

lactobacillus toshi seer
3months-10years

lactobacillus plantar um sauerkraut
3-20 days

MAIN DISH

fungal torshi seer
3months

DRINKS

enterobacter mabi
6hrs - 2 weeks

medusomyces gisevii kombucha
7-30 days

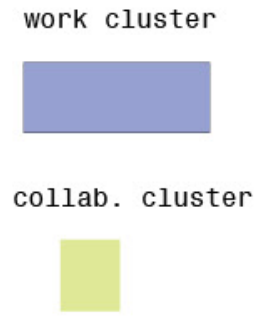
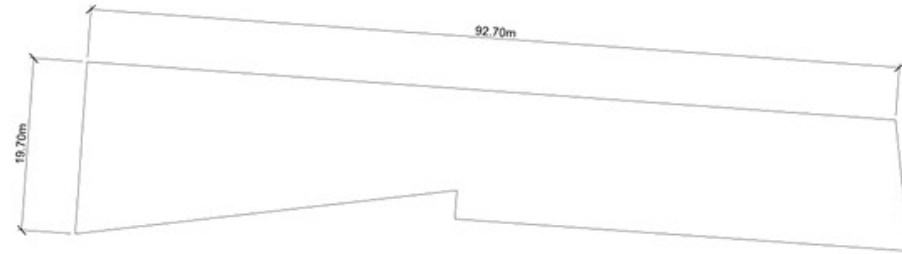
penicillium blue cheese
2-3 months



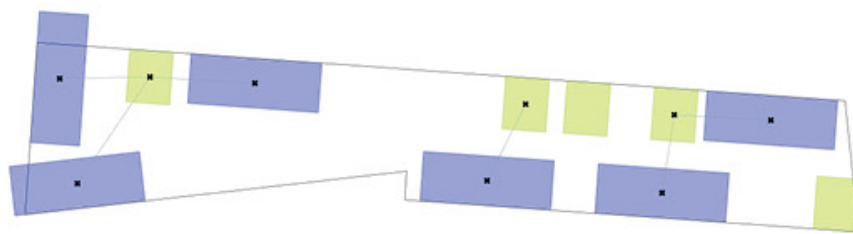
Plan Machine

Space Planning Optimization

Problem
Activity based
work space
optimization
within set
boundary

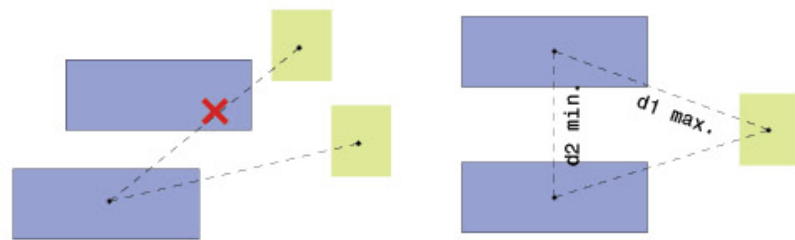


Environment:

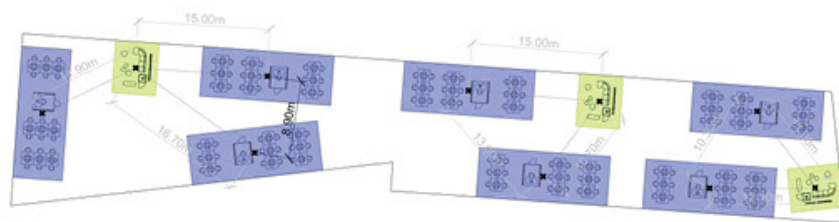


- minimize visual obstruction to collab. area
- min. distance to nearest collaboration area
- max. distance between two work cluster

Parameters:



Evaluation:



Generative Solver

parameter input

output (scores)

Schuylkill Crossing

Computational Graphic Static

