

Jingjing Wu

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01

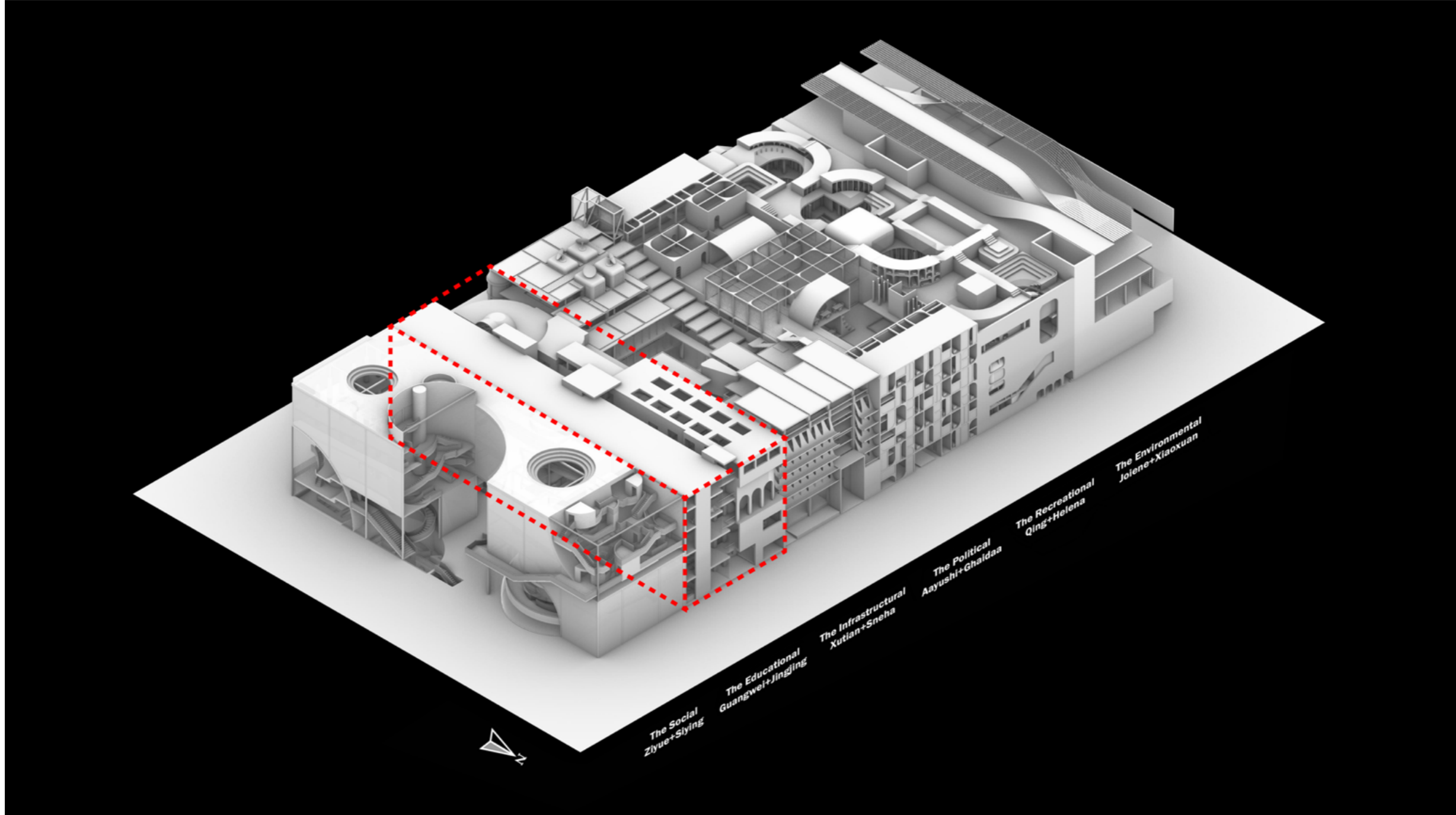
ADV STUDIO V

DIALOGUE

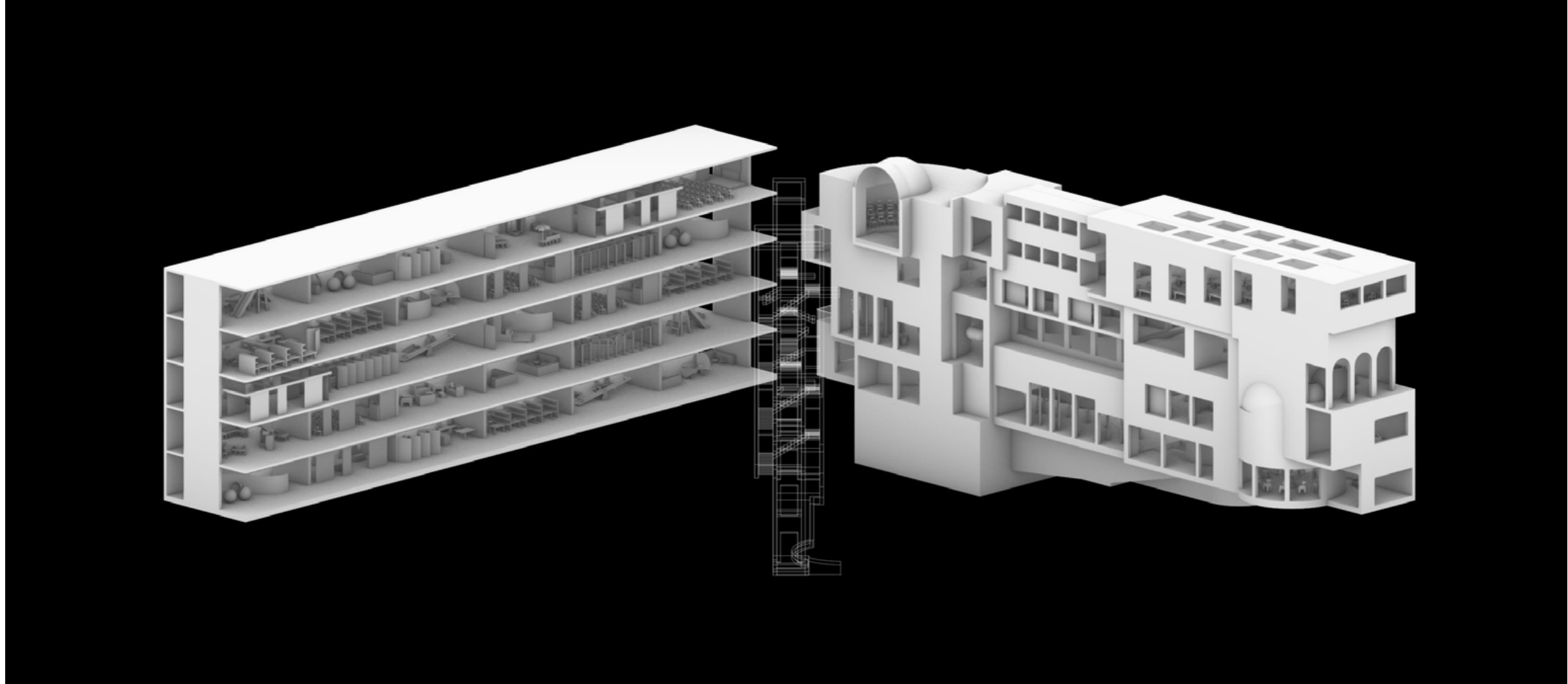
A New Type of School

Professor: Bernard Tschumi

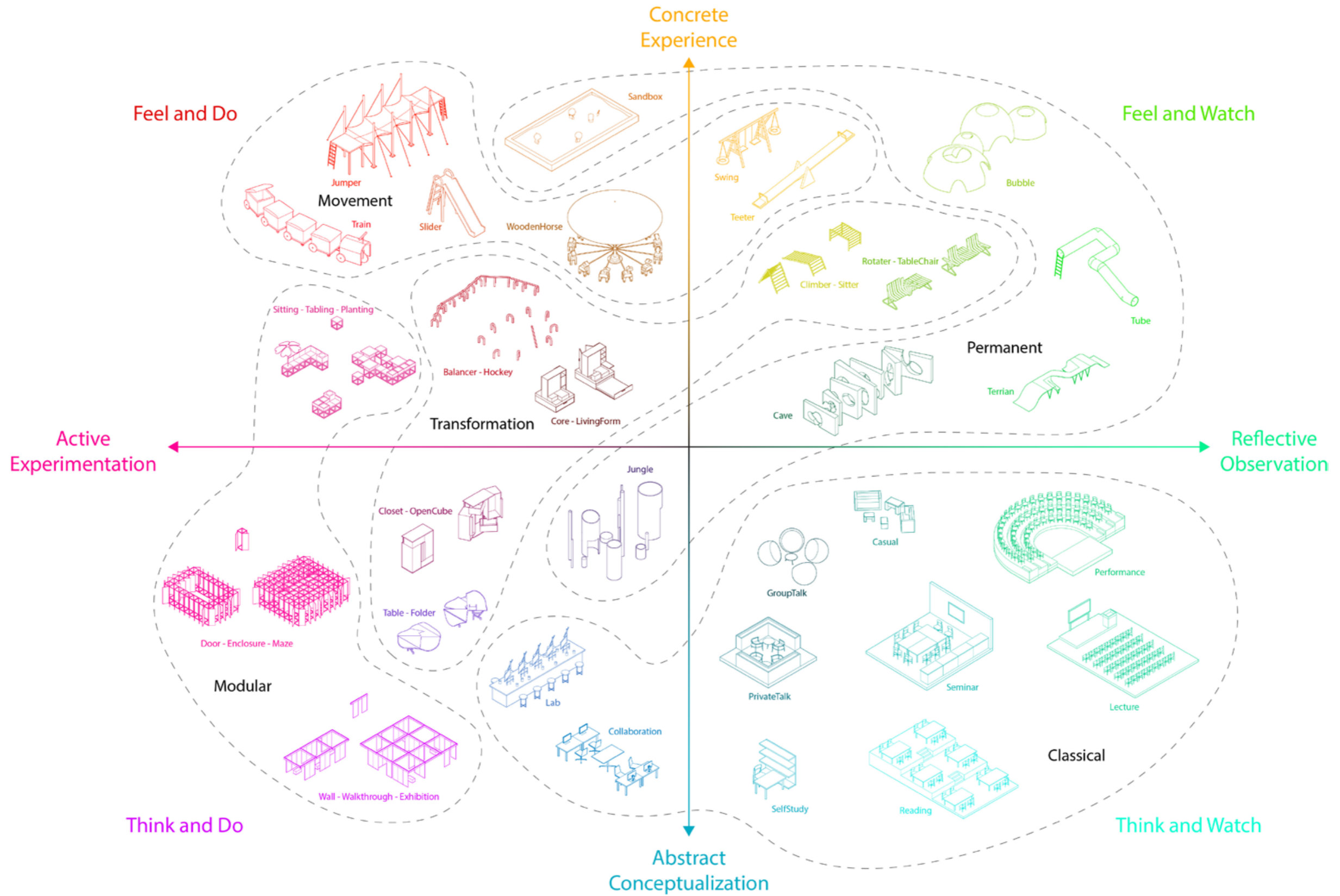
Collaborator: Guangwei Ren

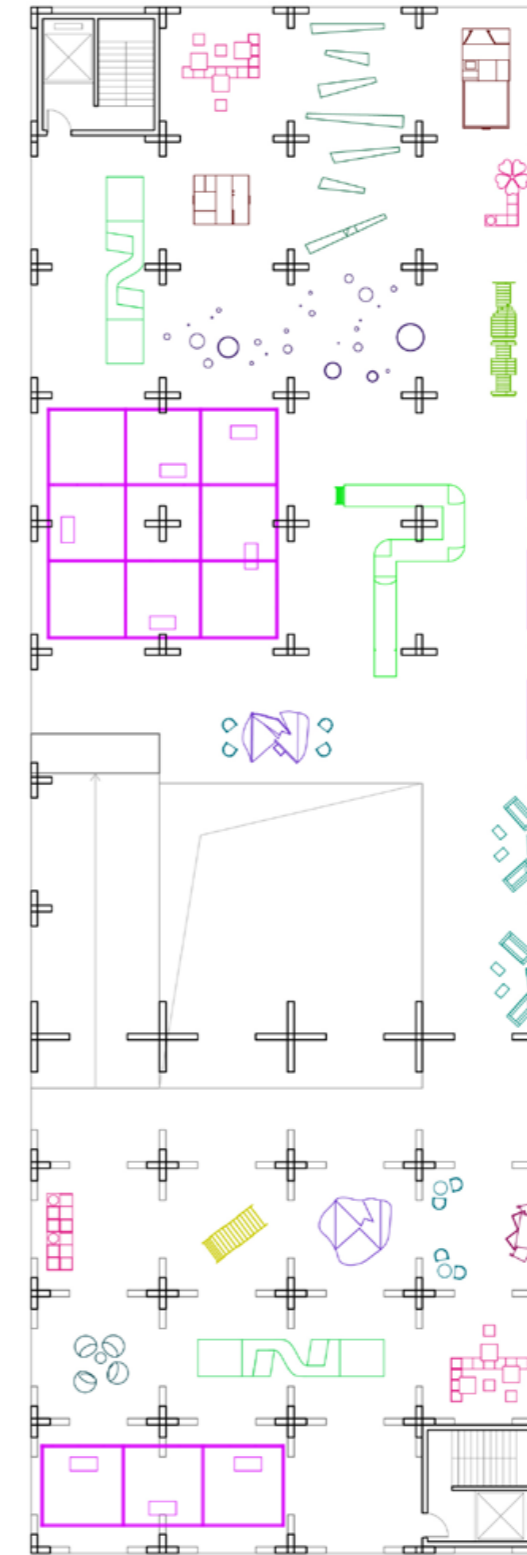
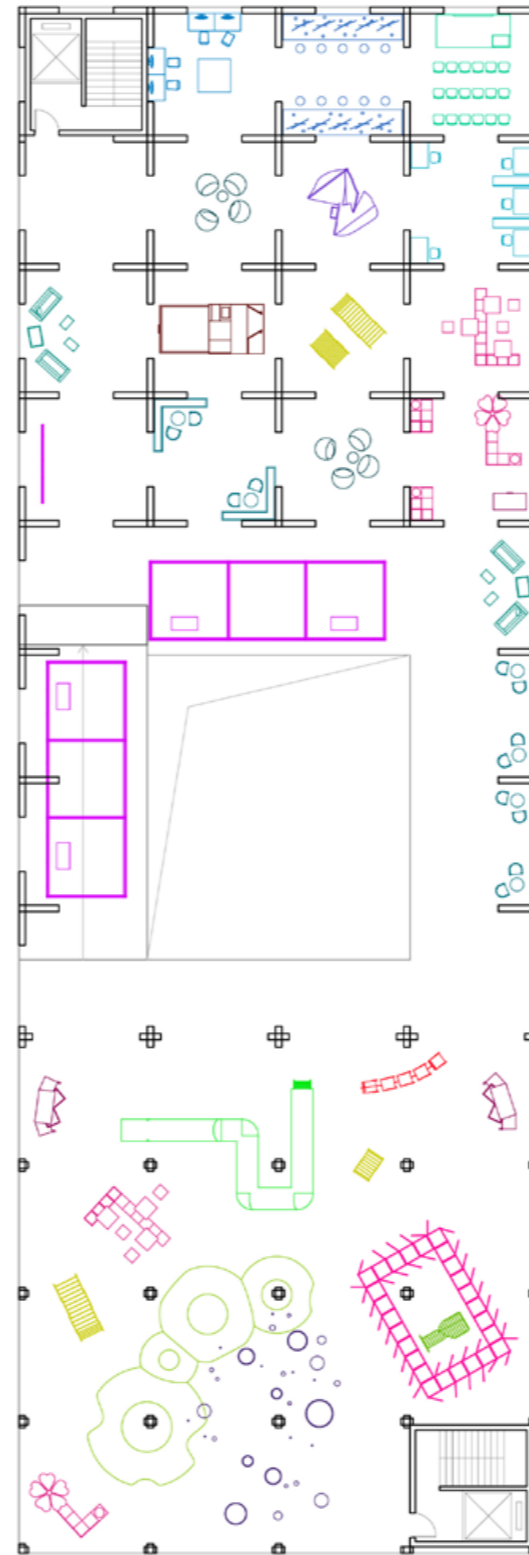
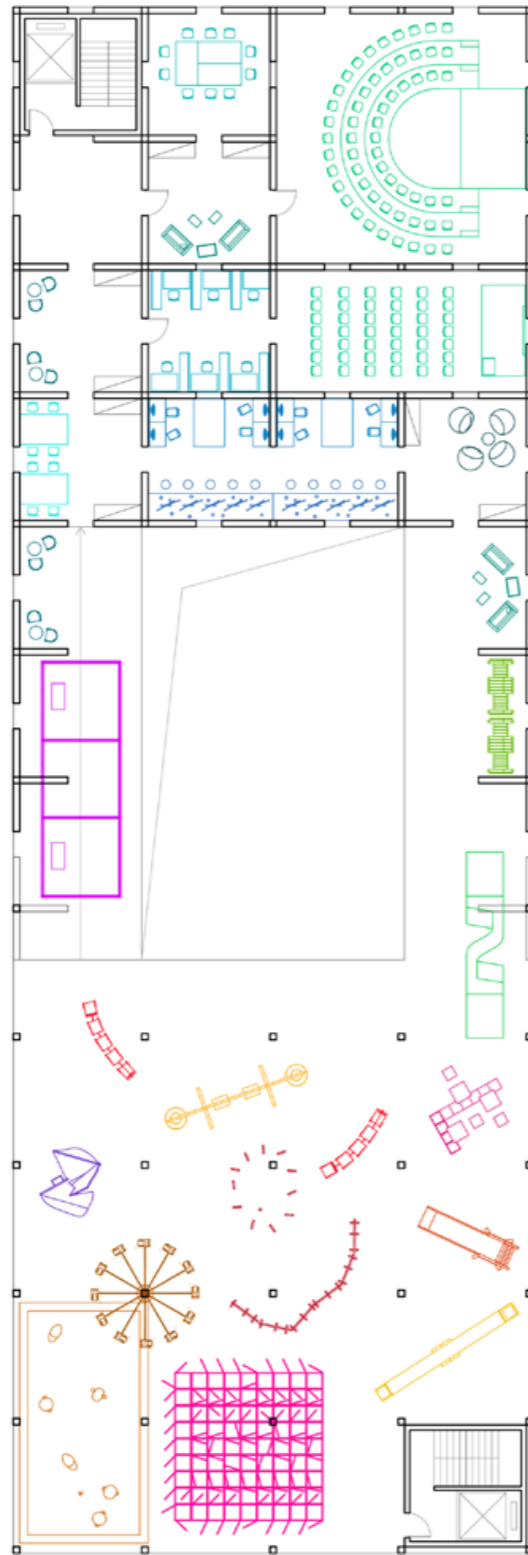


GROUP AXON

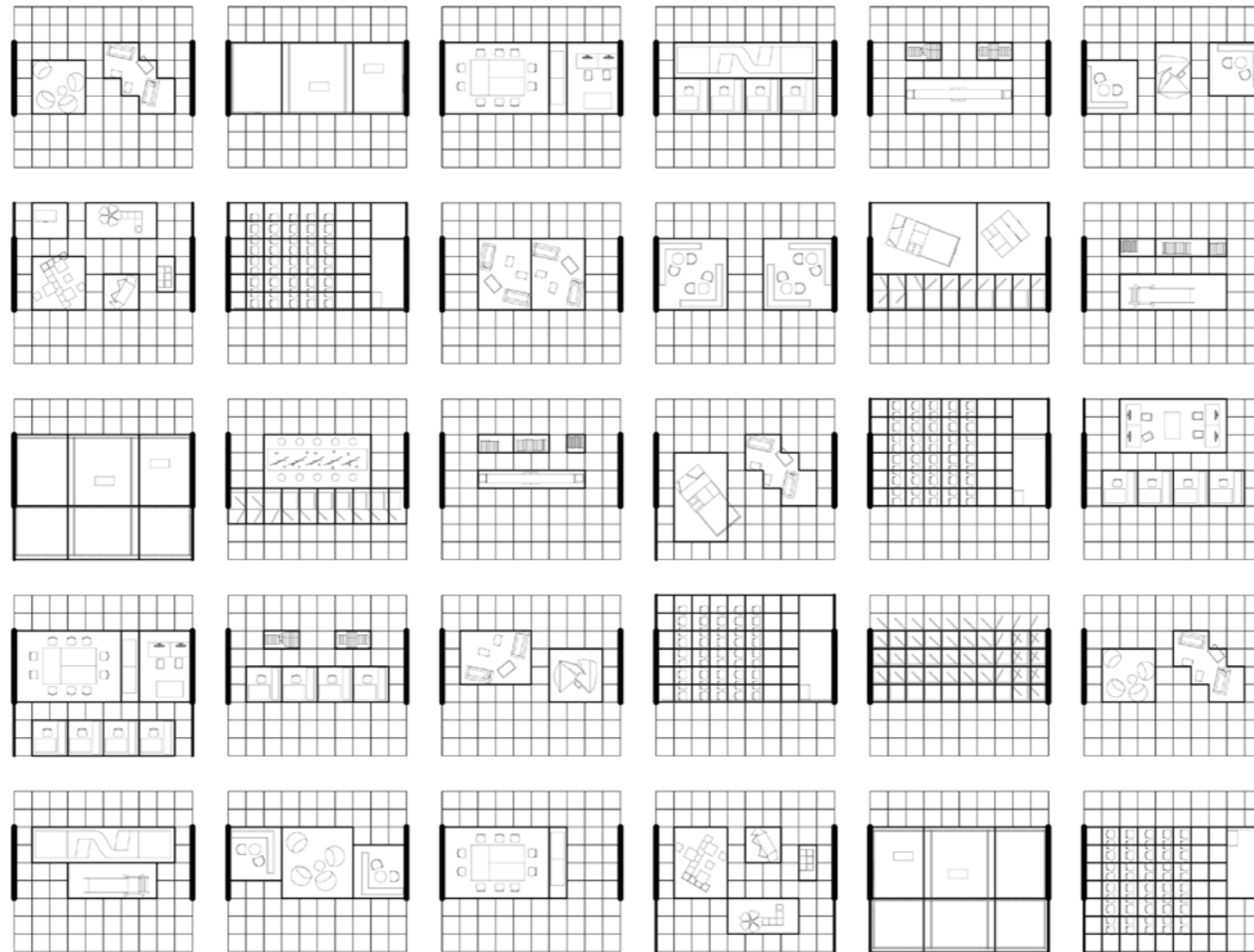


SPLIT AXON

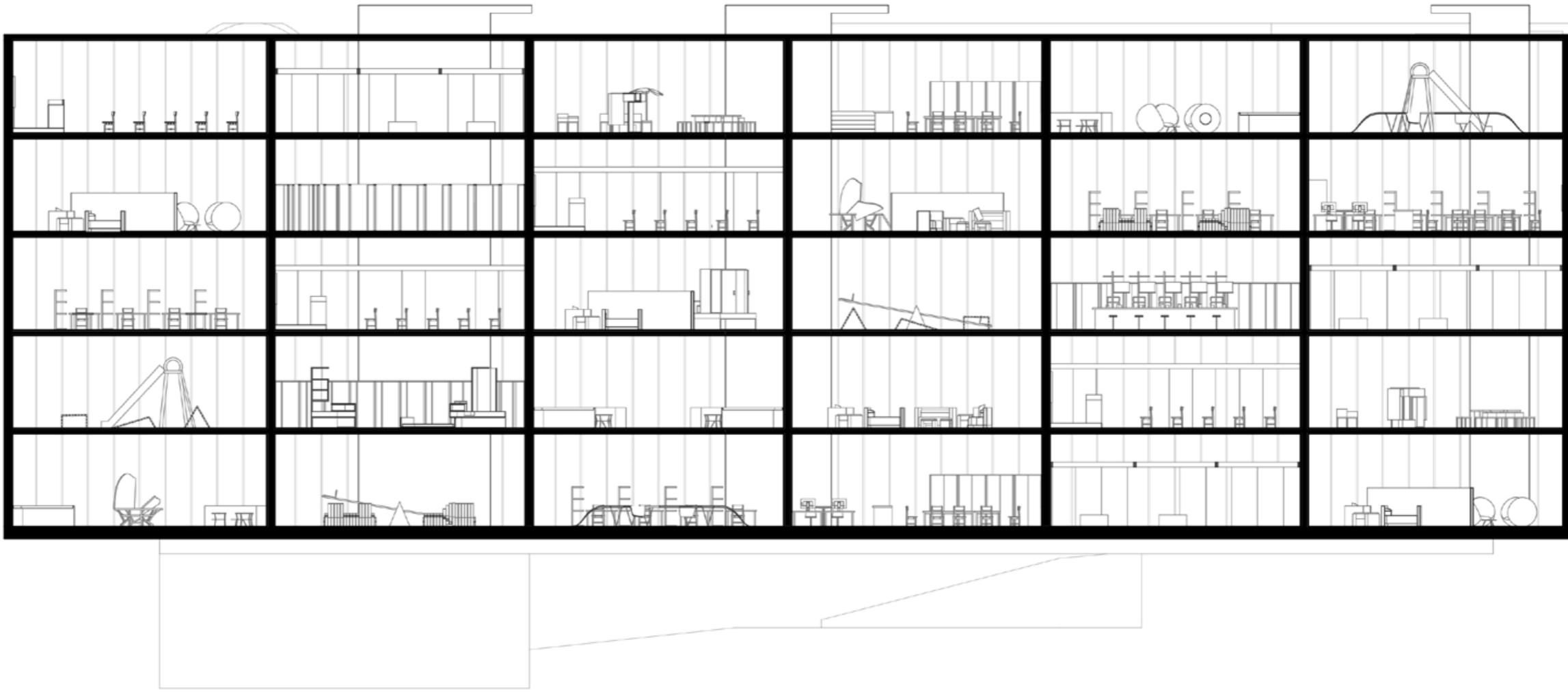




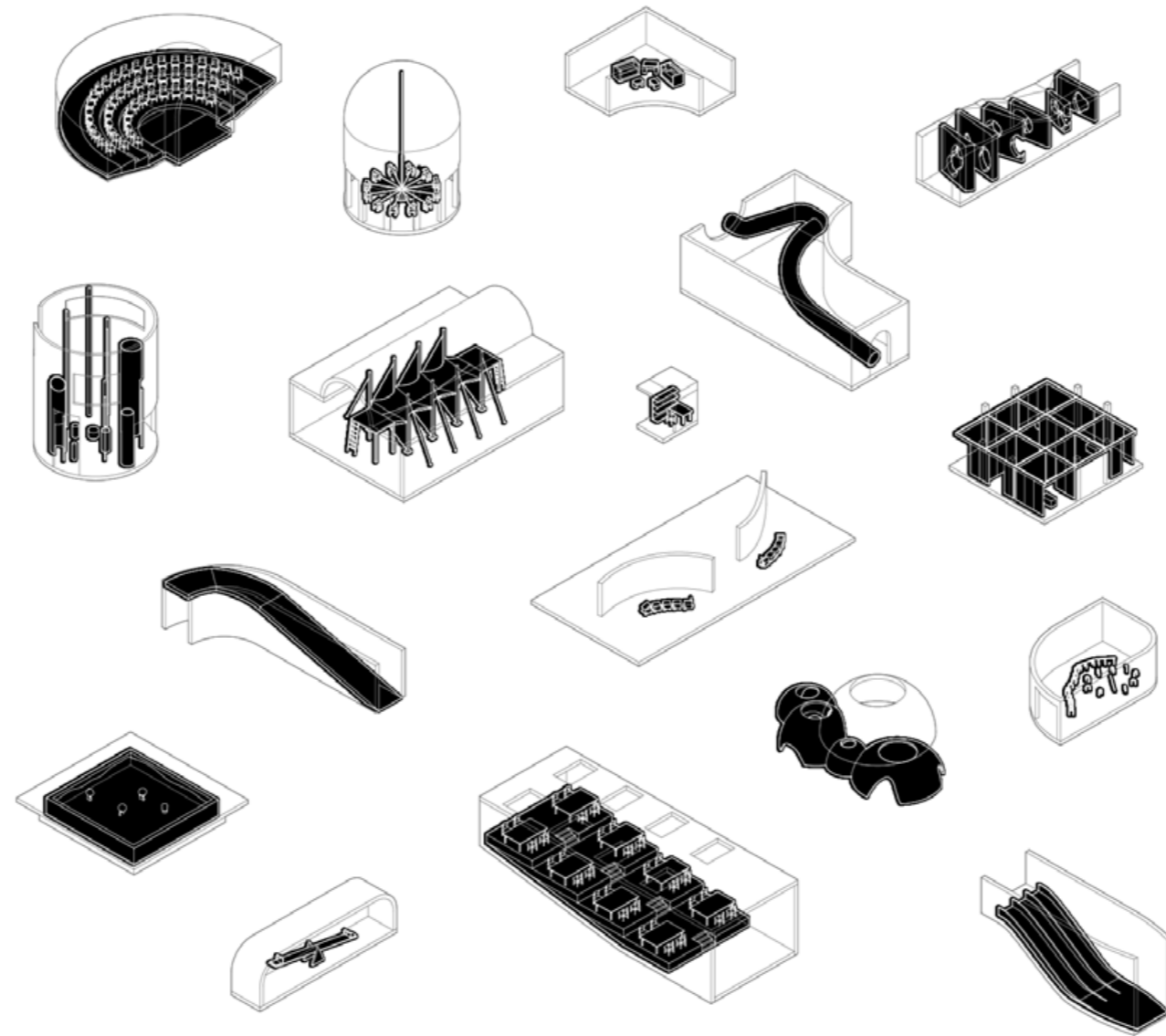
CONCEPT OF ROOM & FURNITURE



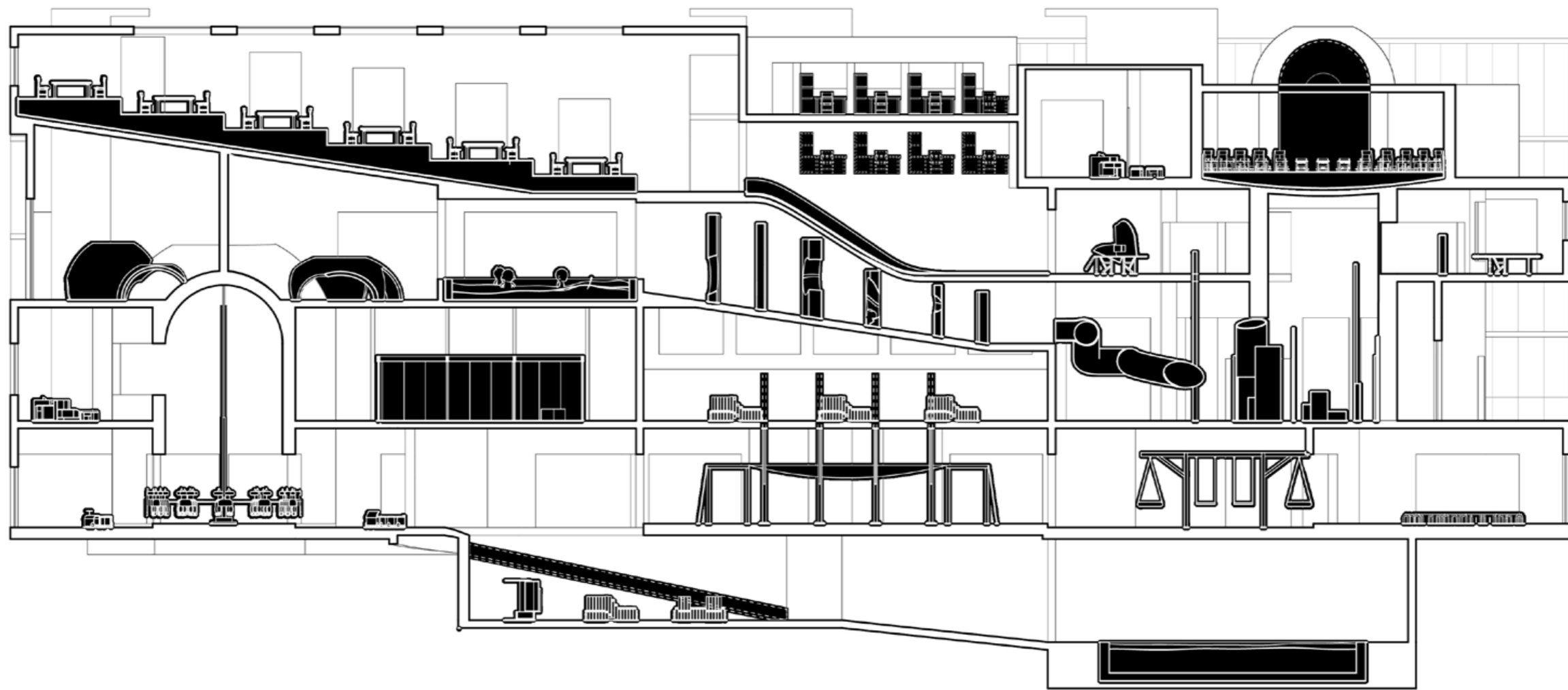
FROM TYPE TO PROGRAM



EAST SECTION



FROM PROGRAM TO TYPE



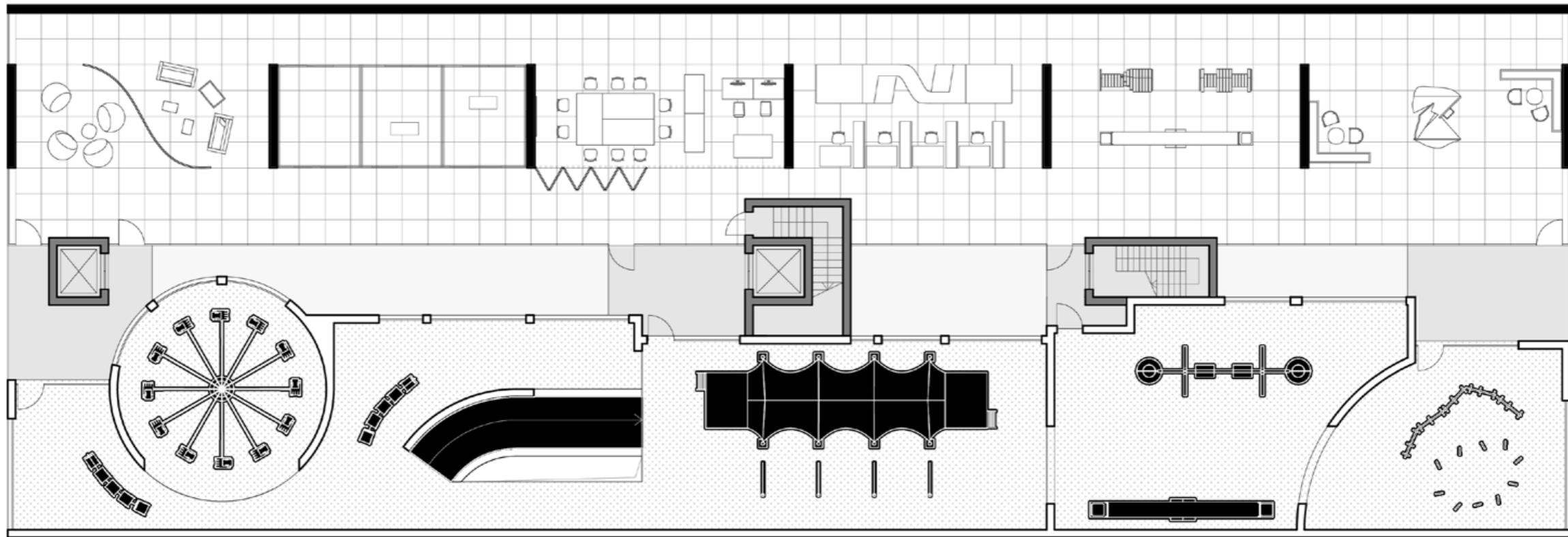
WEST SECTION

As we juxtapose these two approaches in the longitude of the site, the dialogue between them leads to the complexity of spatial and conceptual relationship.

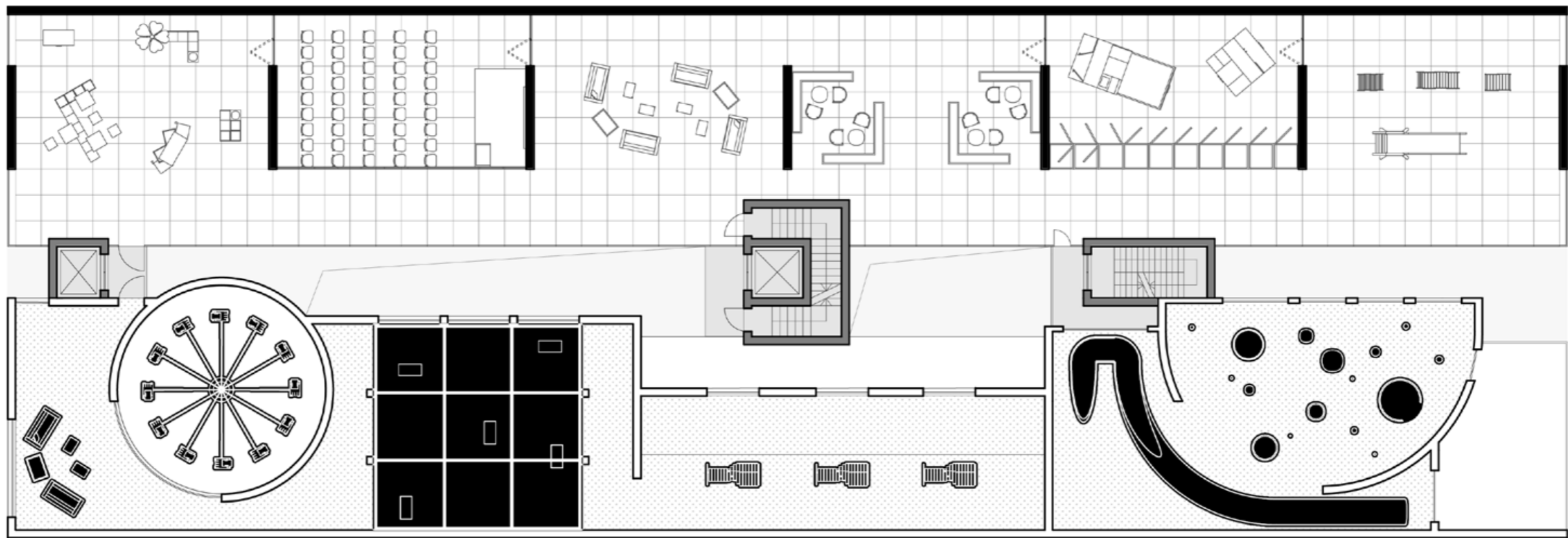
The gap space in the middle both connects and divides these two parts, providing necessary skylight and somewhere visitors can feel the contrast.

Vertical transportation is also on the middle axis, because if we think elevator/staircase as furniture and the core as room, it can achieve both of the principles: furniture and architecture follow each other at the same time.

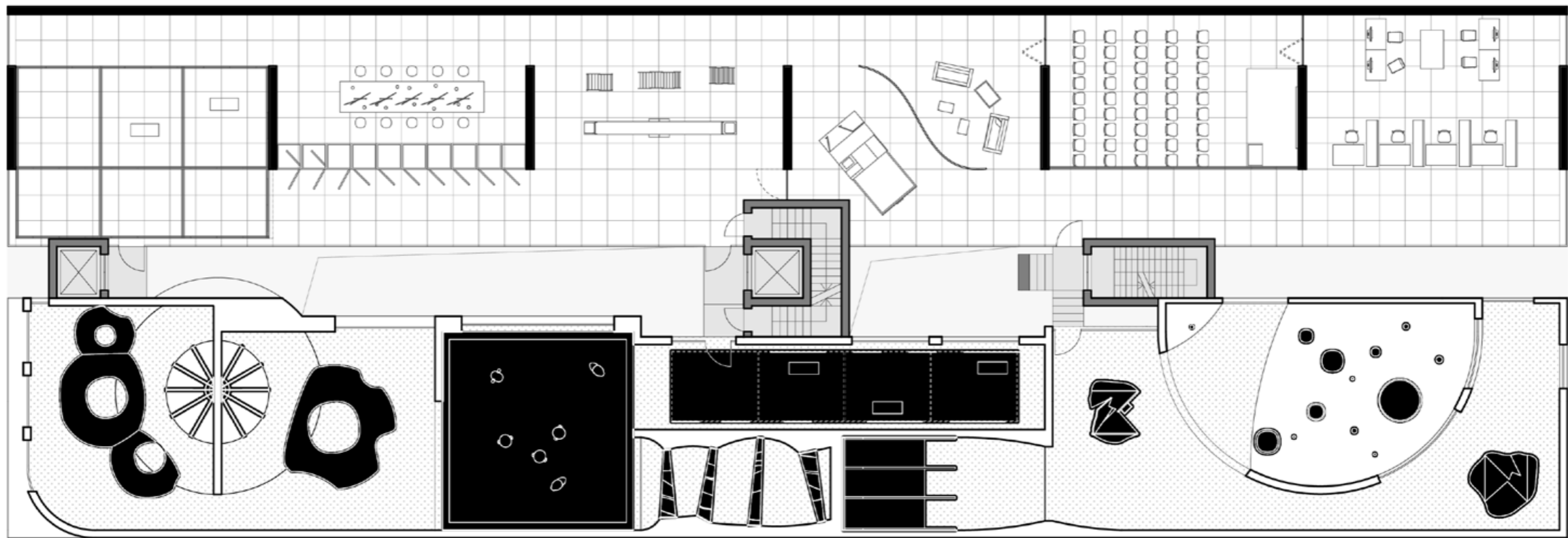




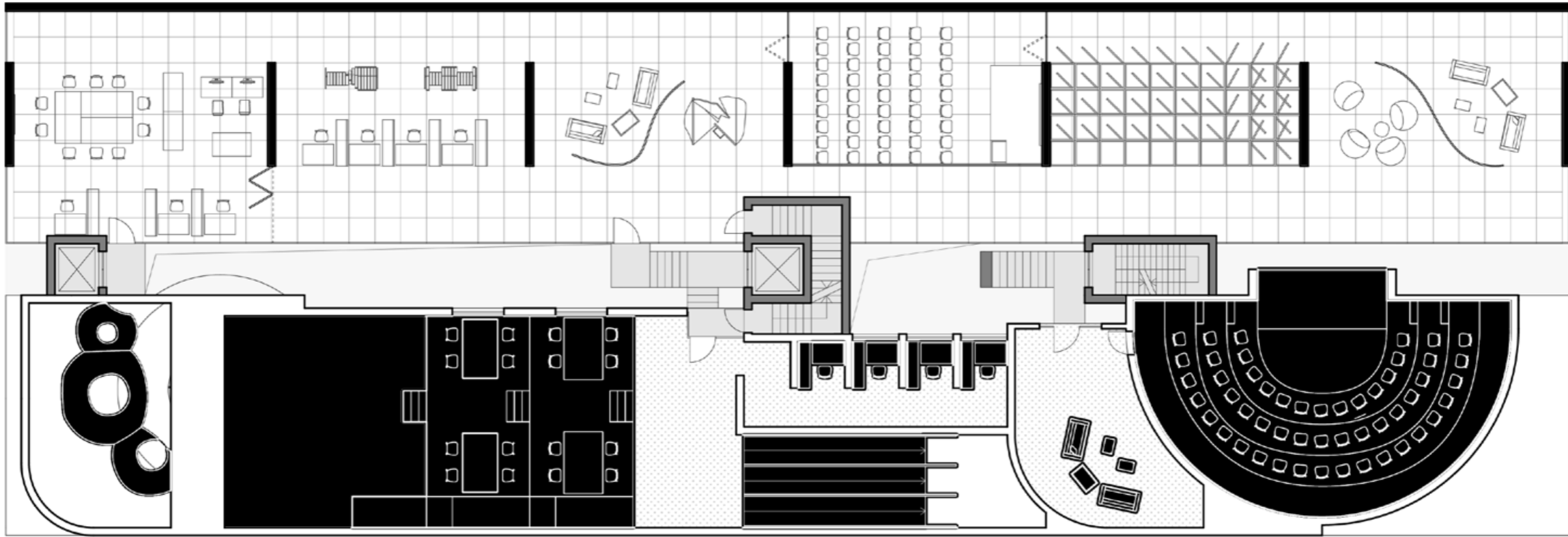
GROUND FLOOR PLAN



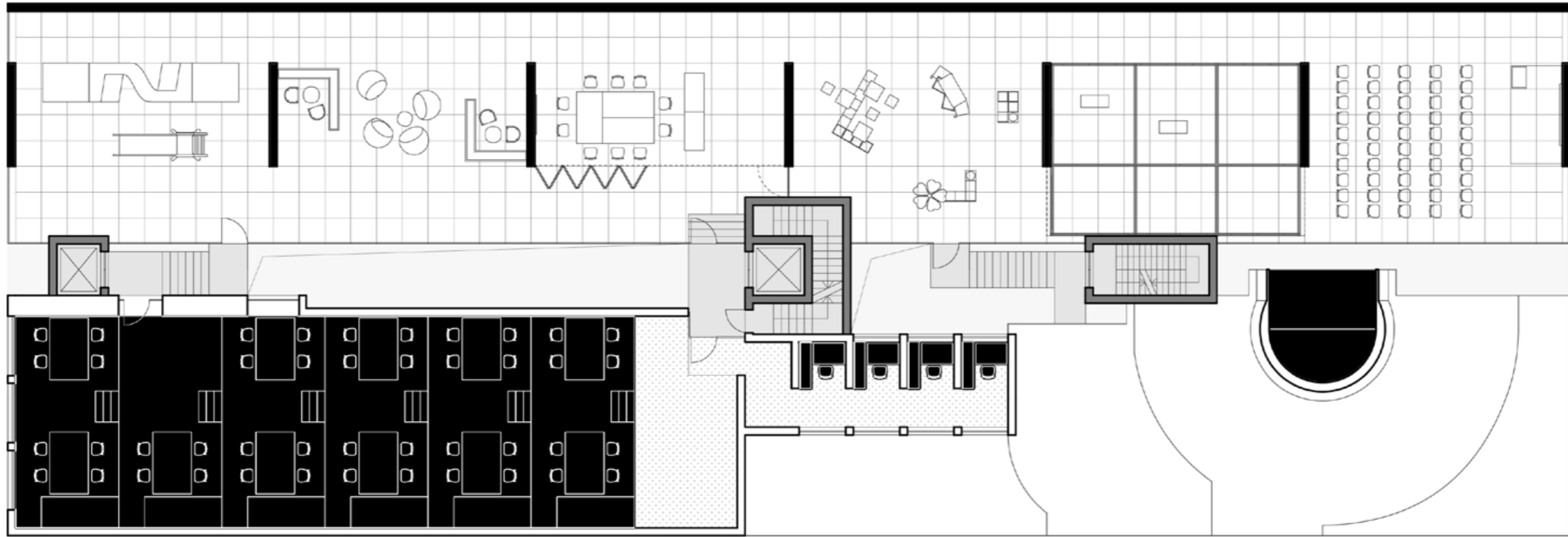
SECOND FLOOR PLAN



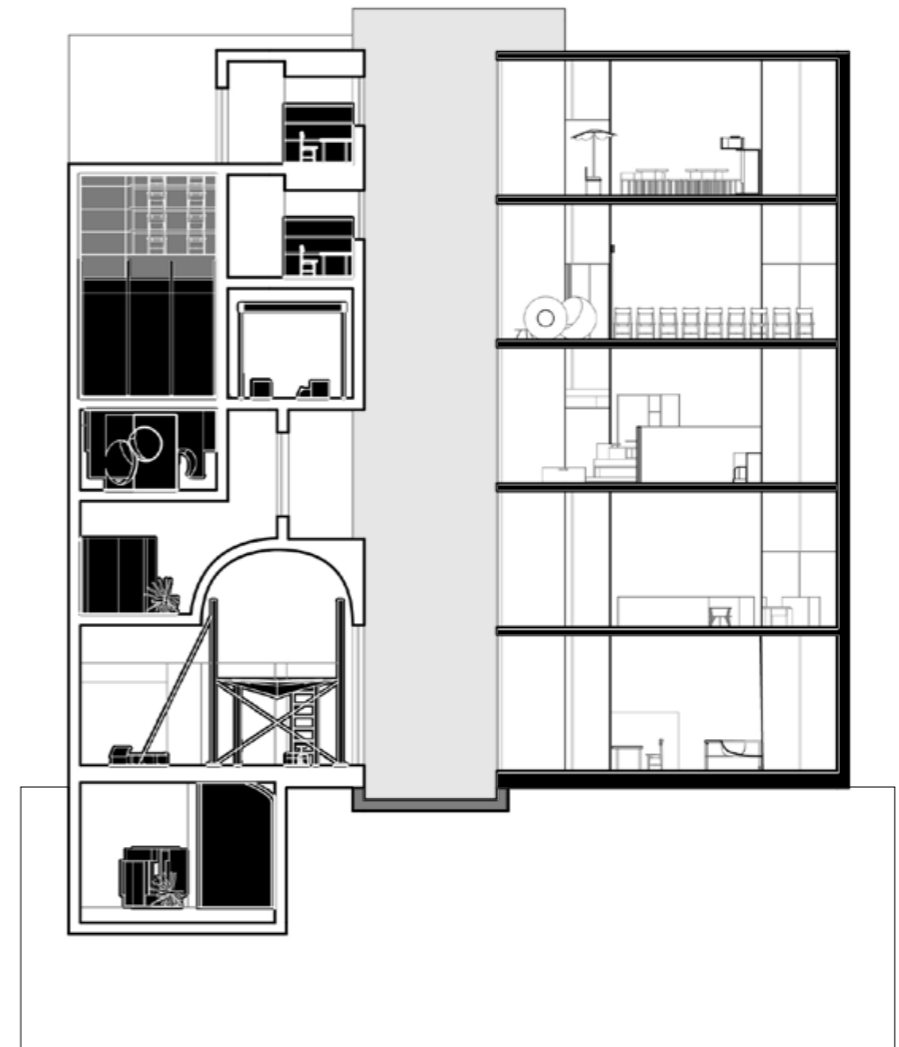
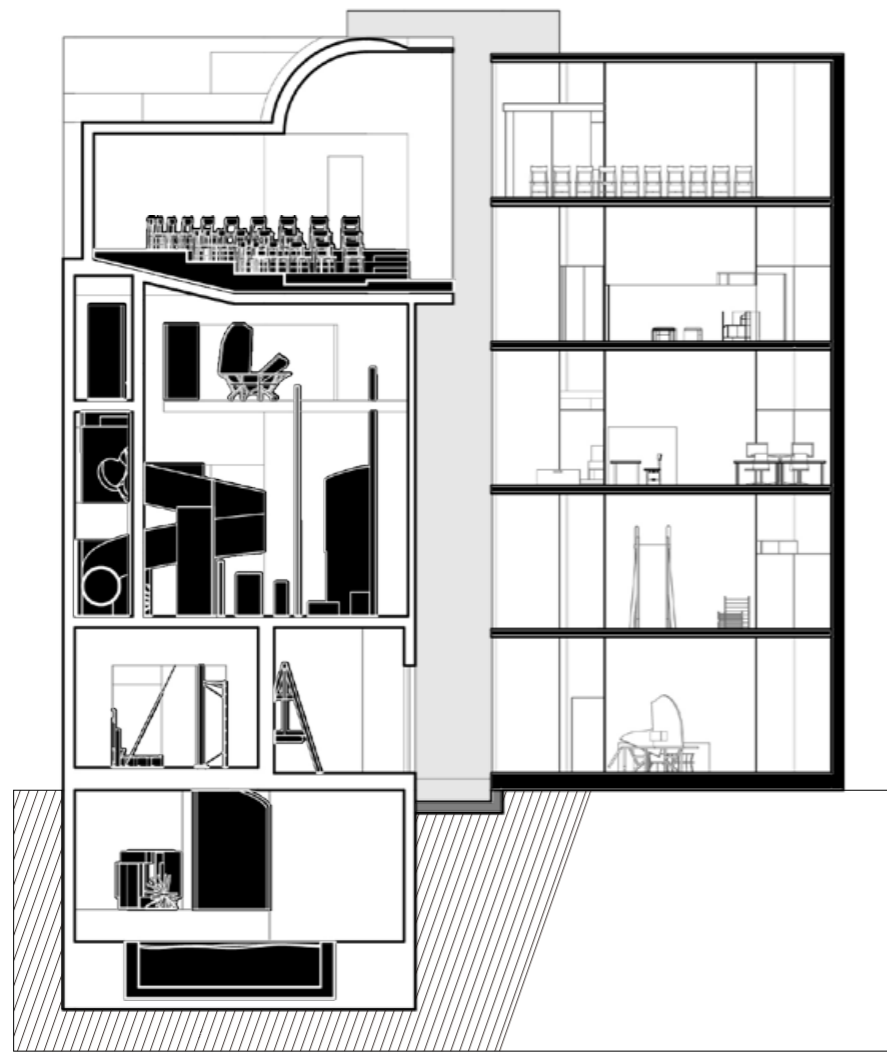
THIRD FLOOR PLAN



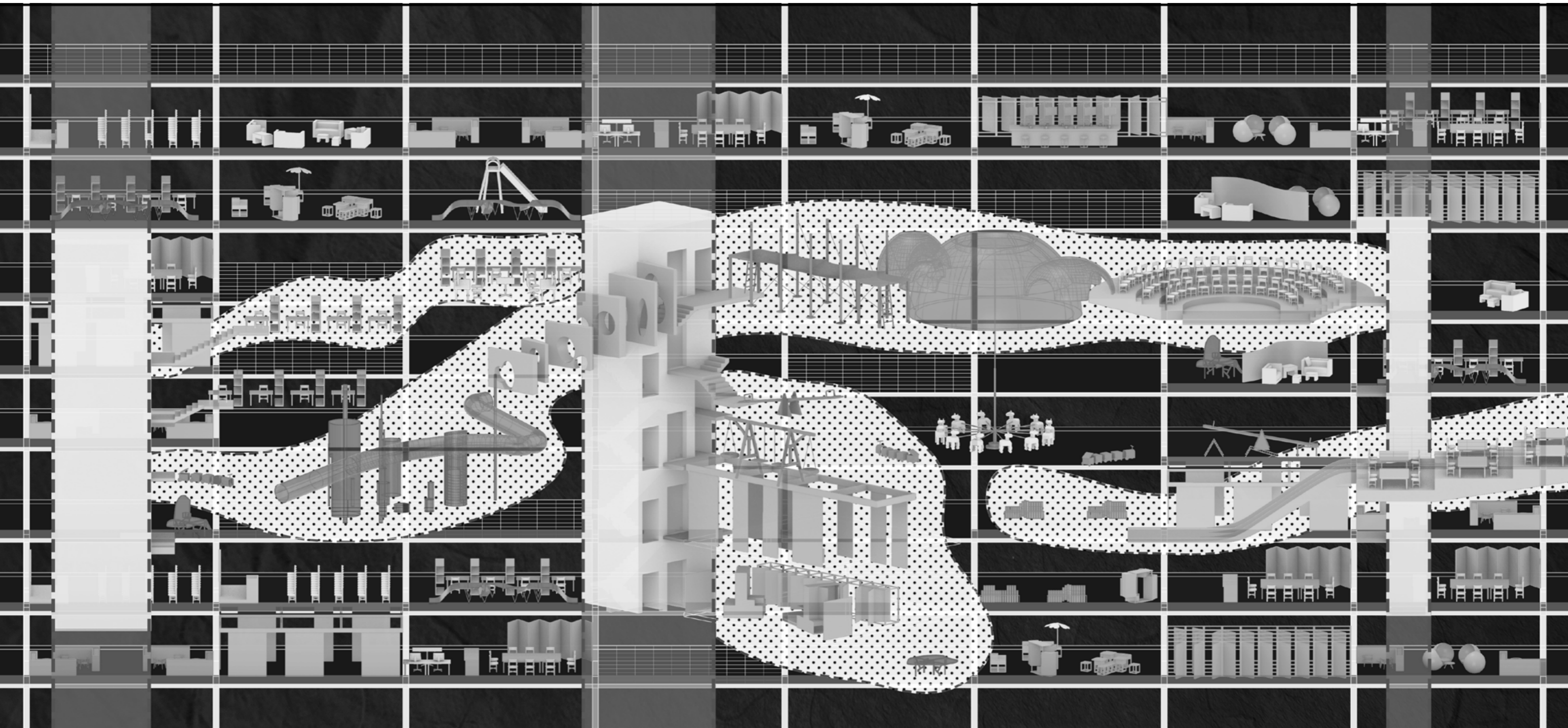
FOURTH FLOOR PLAN



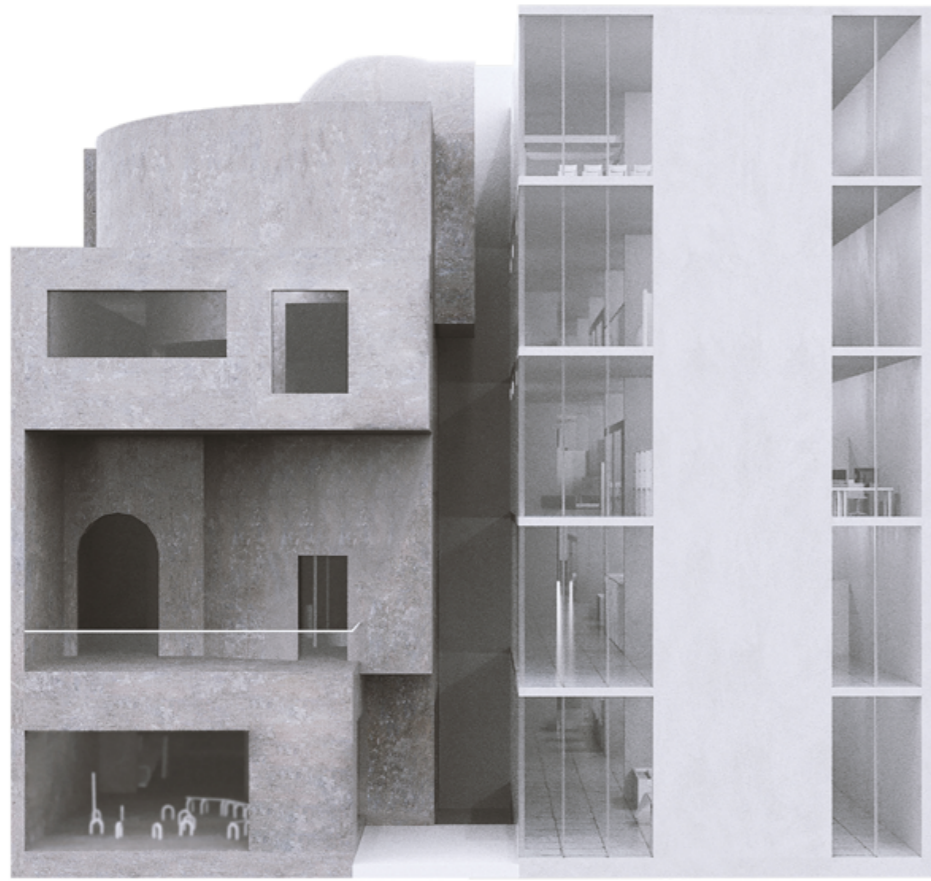
FIFTH FLOOR PLAN

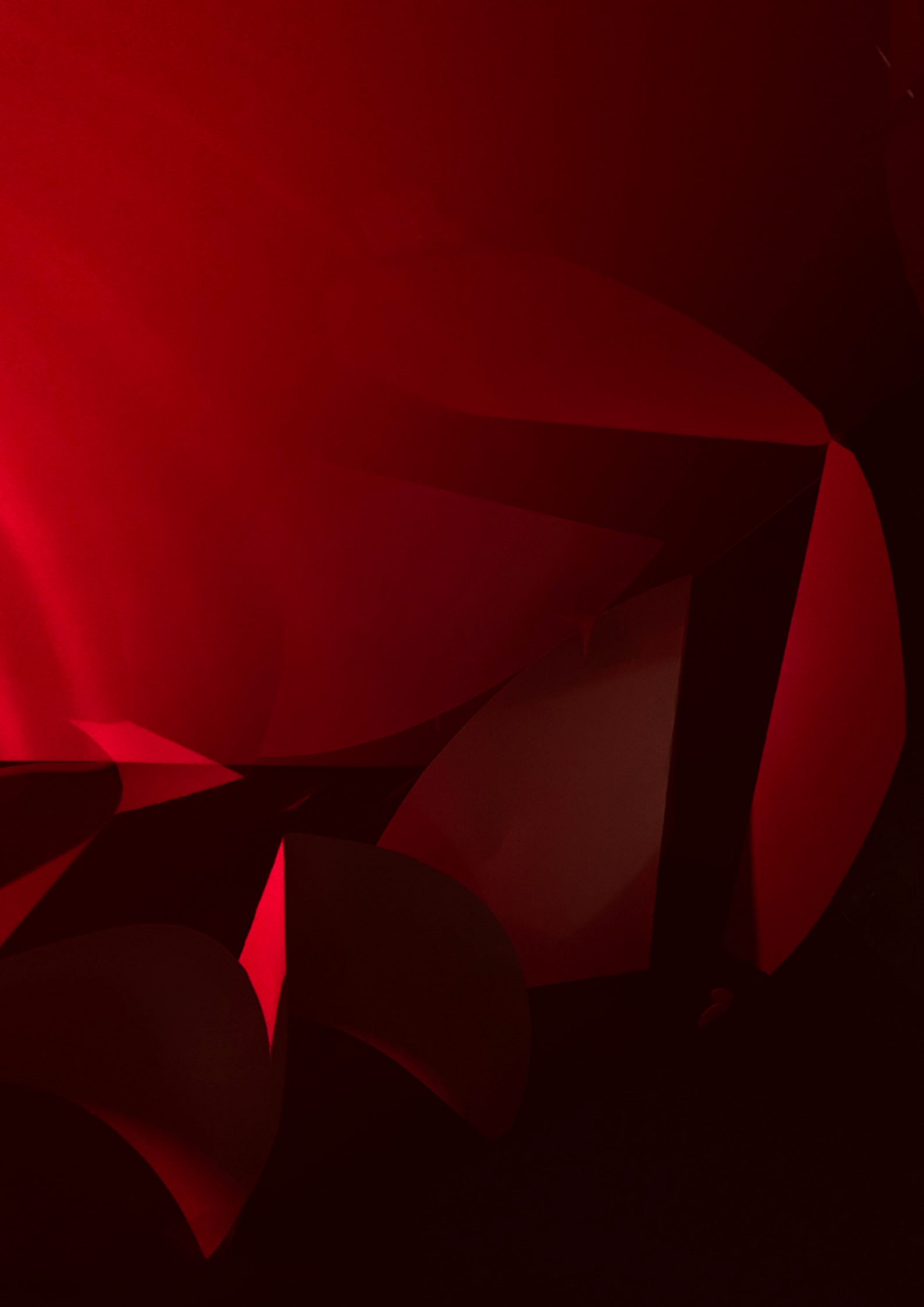


CROSS SECTION



FRAMING AND FLOWING





02

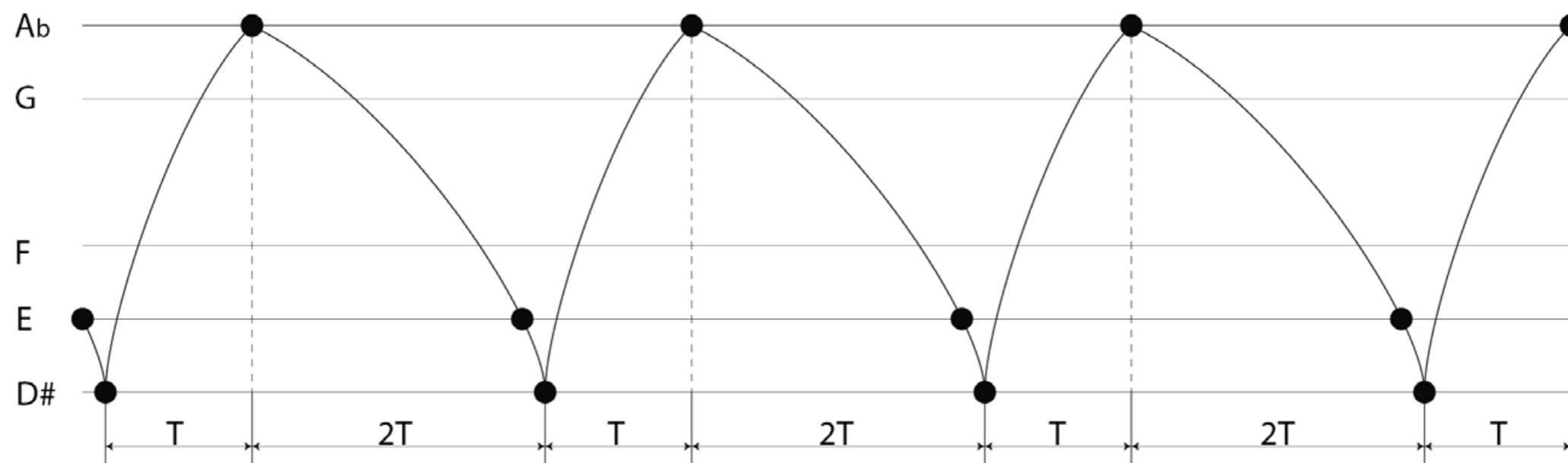
ADV STUDIO VI

MIRROR IN THE MIRROR

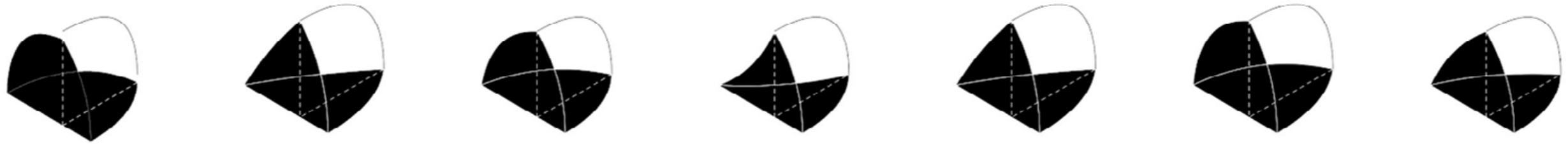
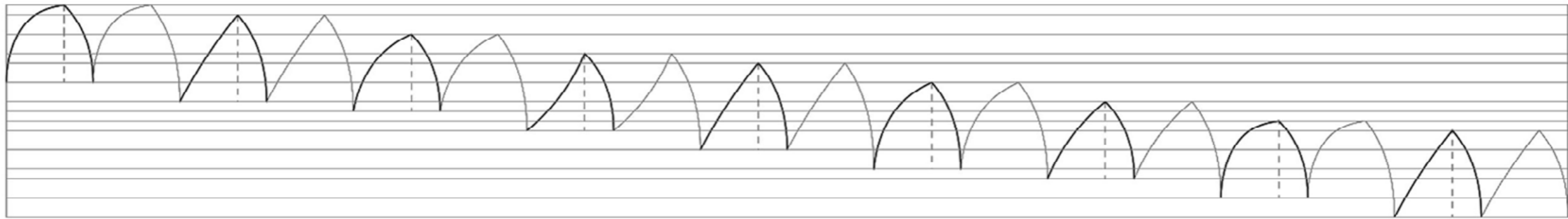
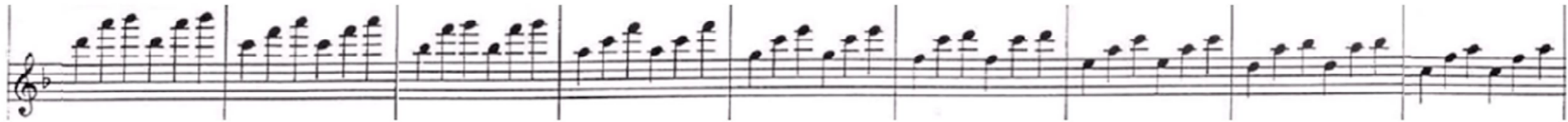
A Concert Hall in Prague

Professor: Steven Holl, Dimitra Tsachrelia

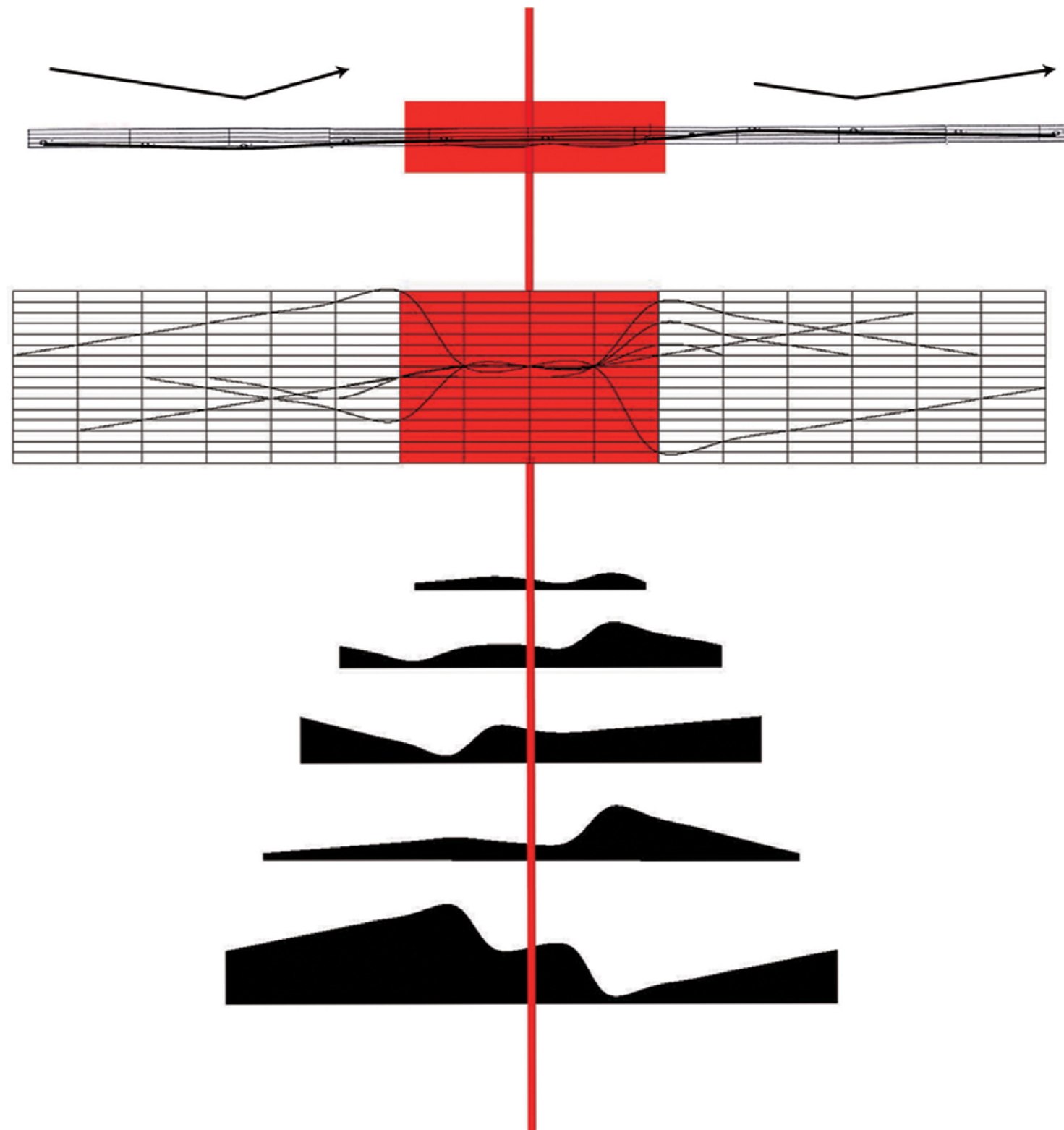
Collaborator: Ziyue Wang



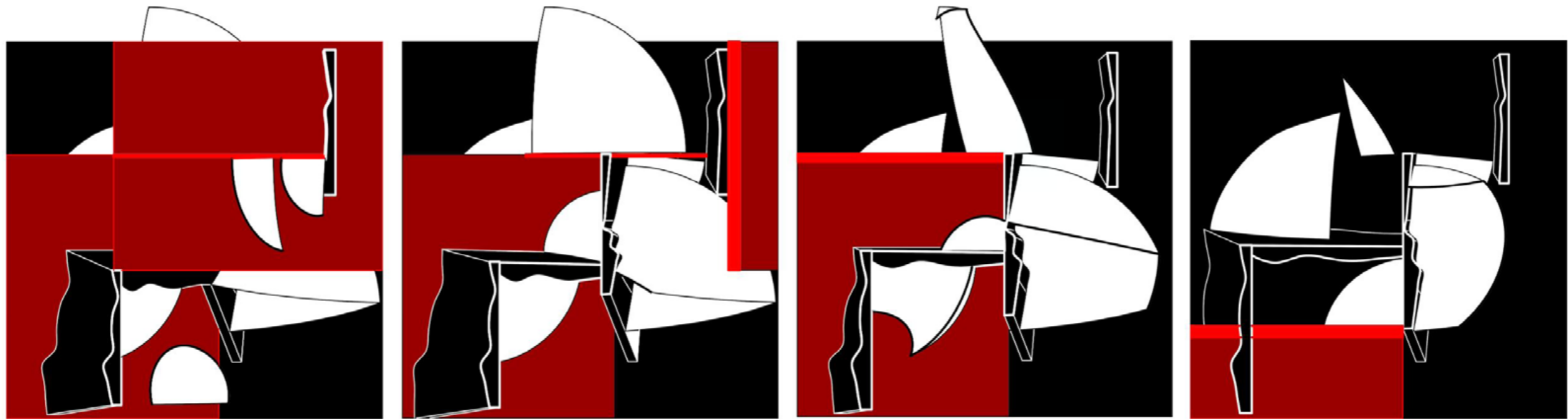
TRIAD TRANSFORMATION



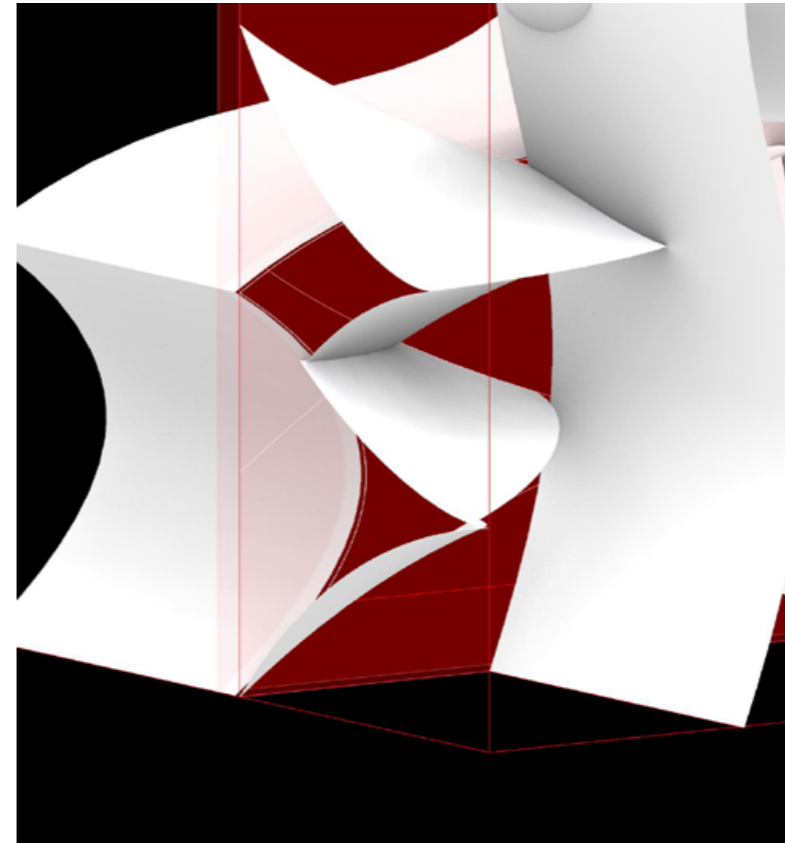
TRIAD SEQUENCE



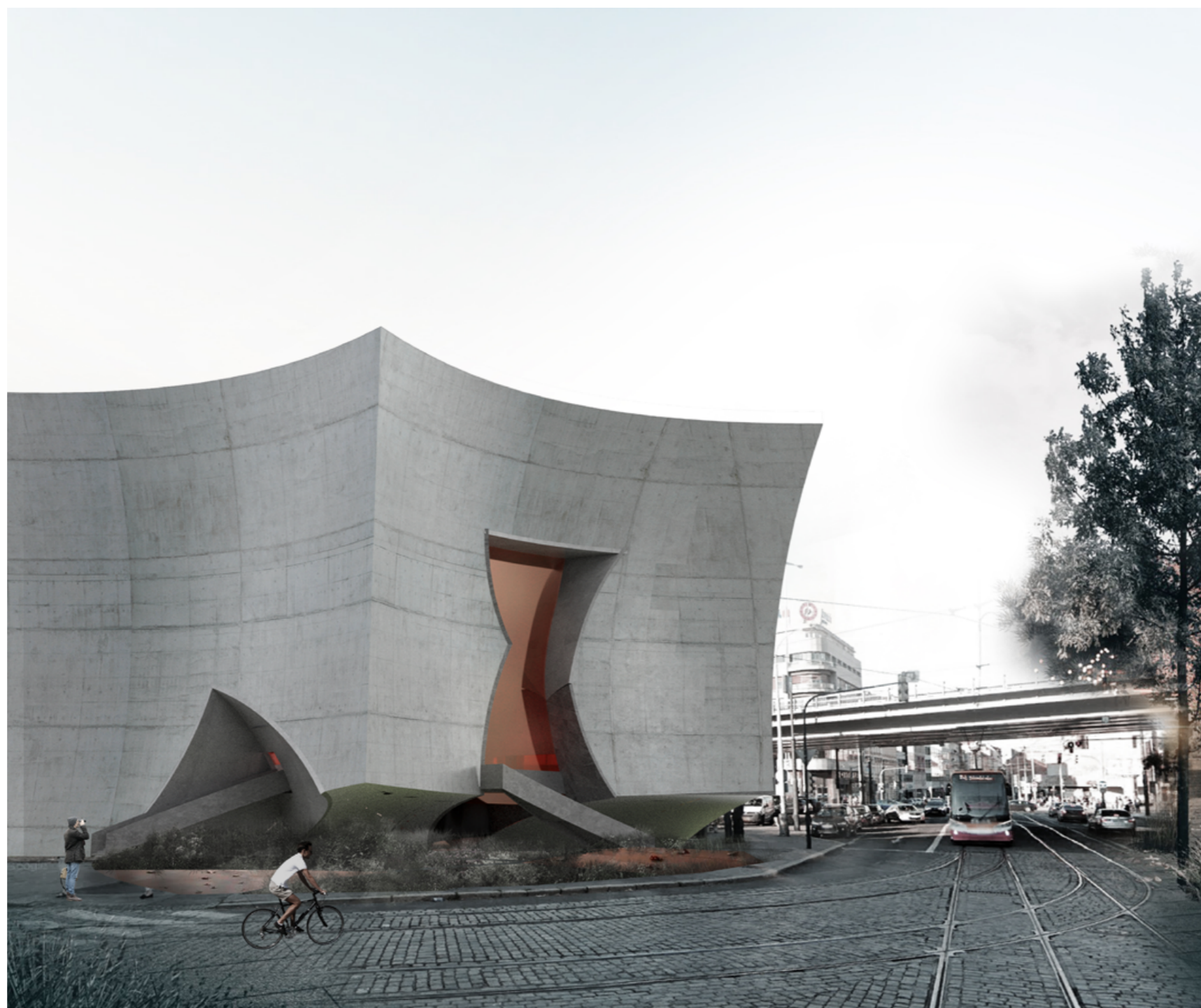
MELODY TRANSFORMATION



CONCEPTUAL PLAN

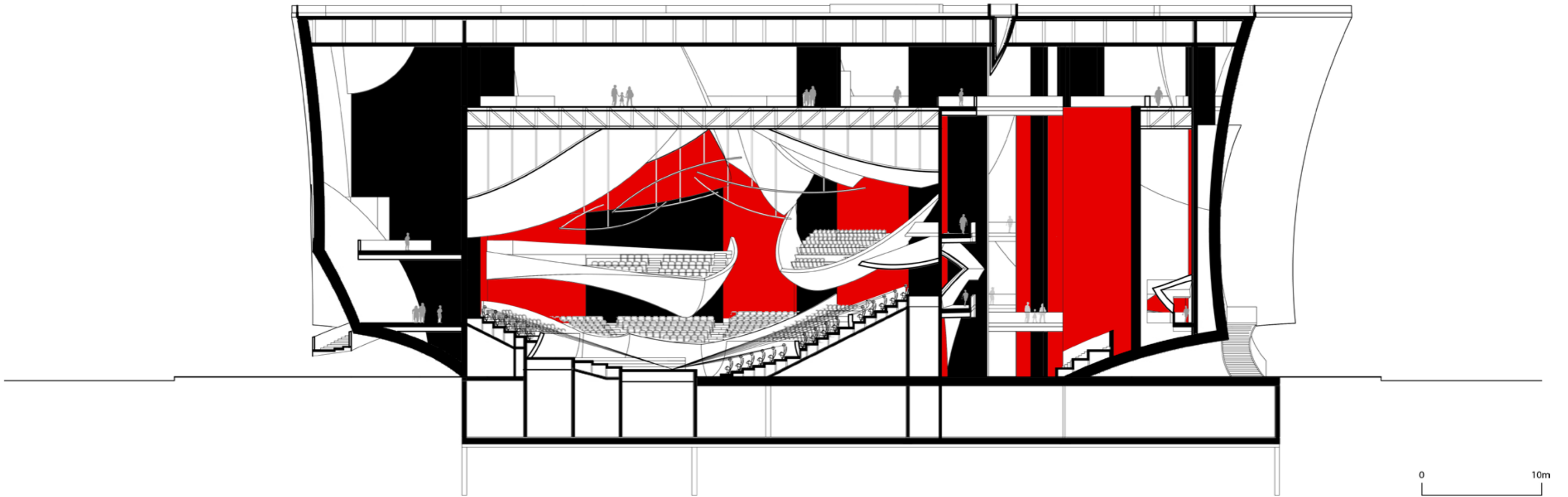


SPATIAL STUDY

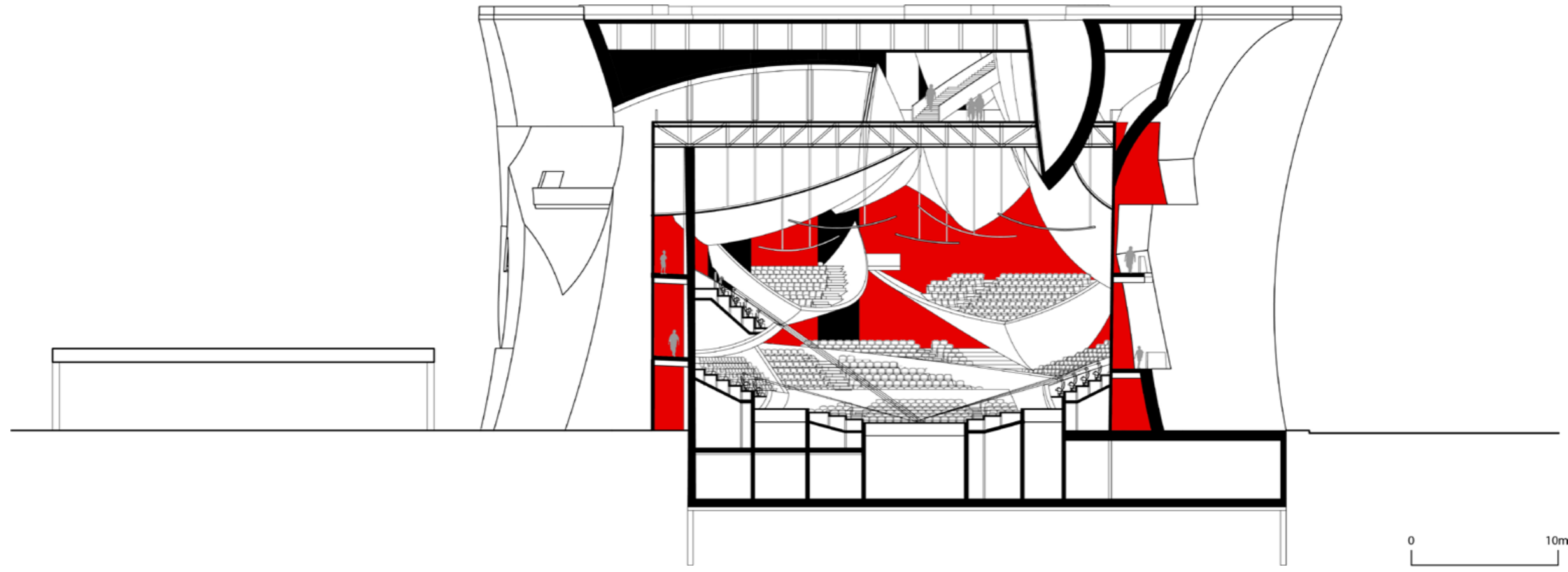






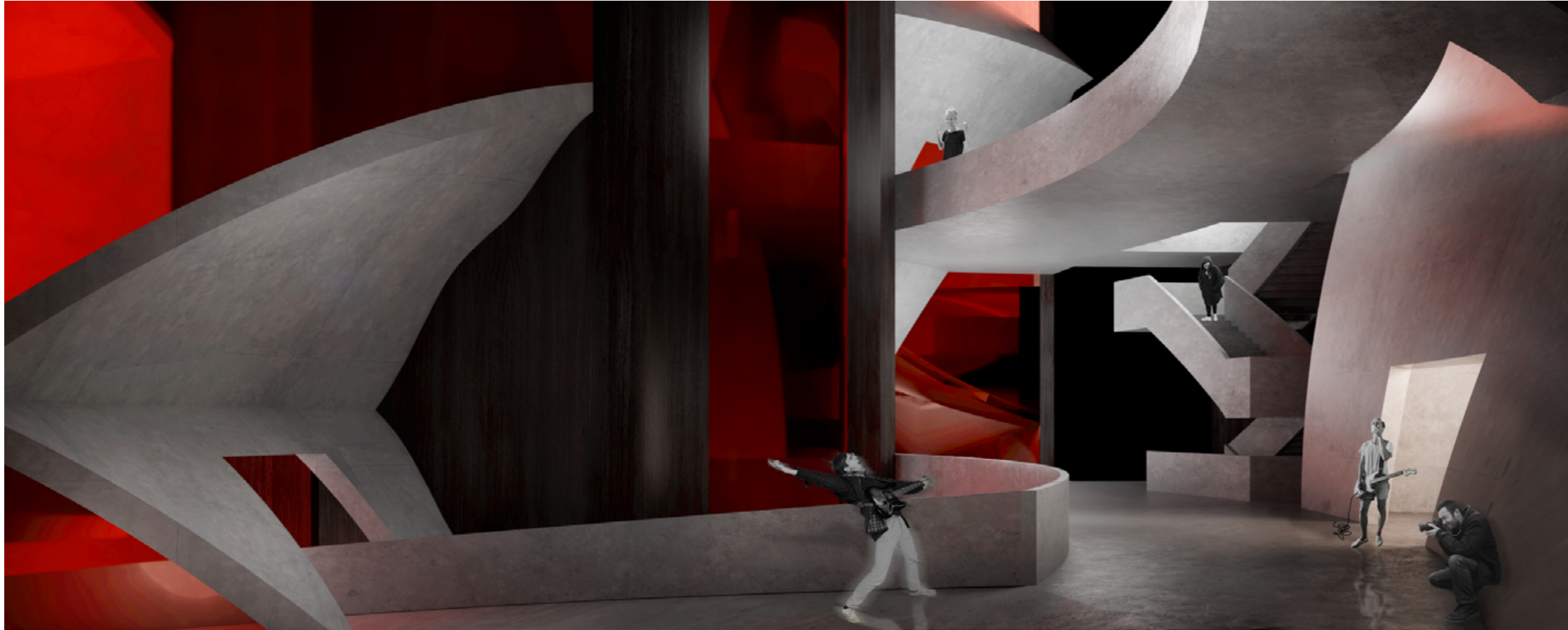


NORTH-SOUTH SECTION

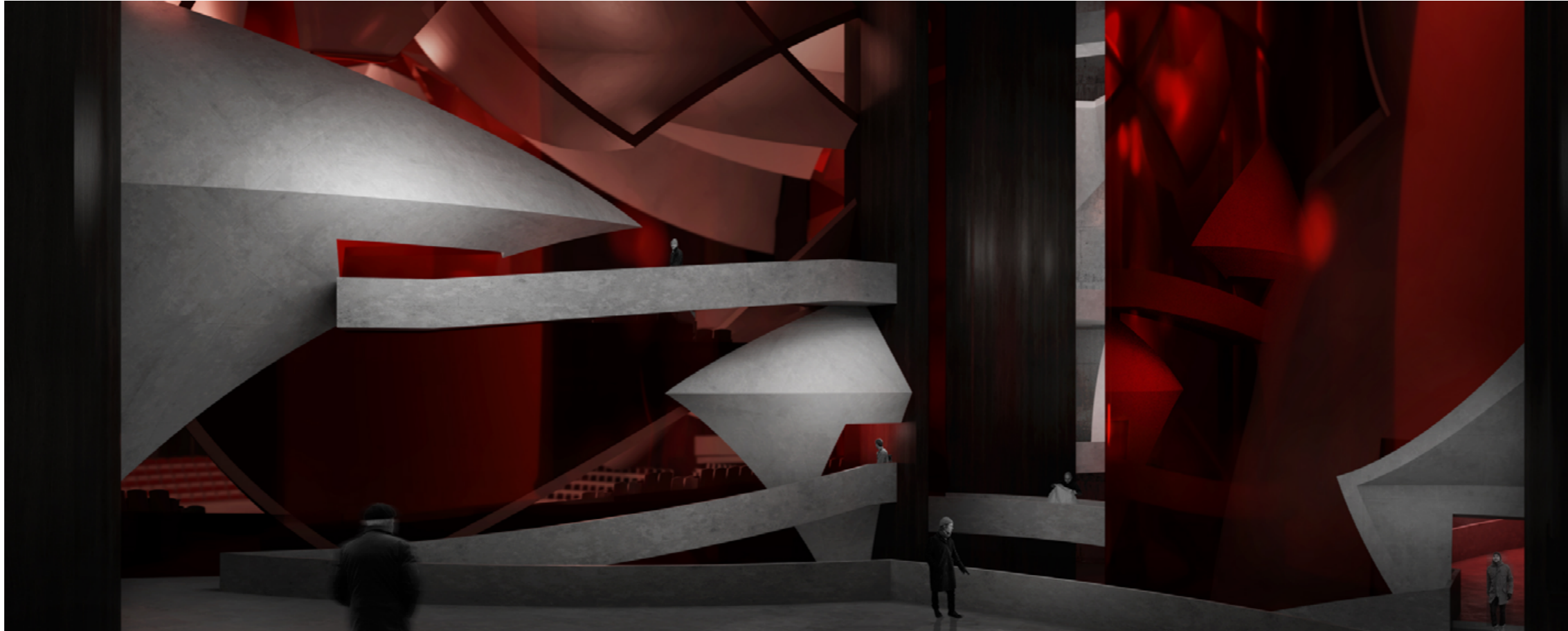


EAST-WEST SECTION

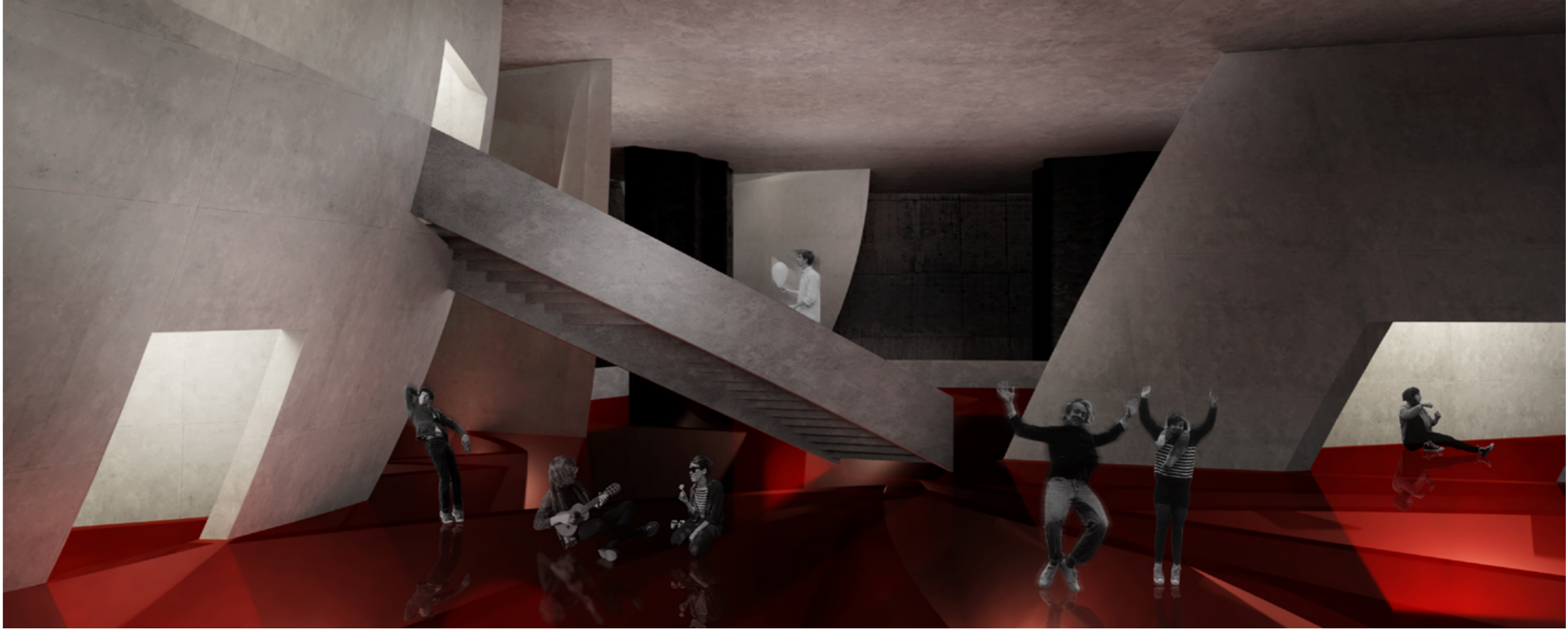




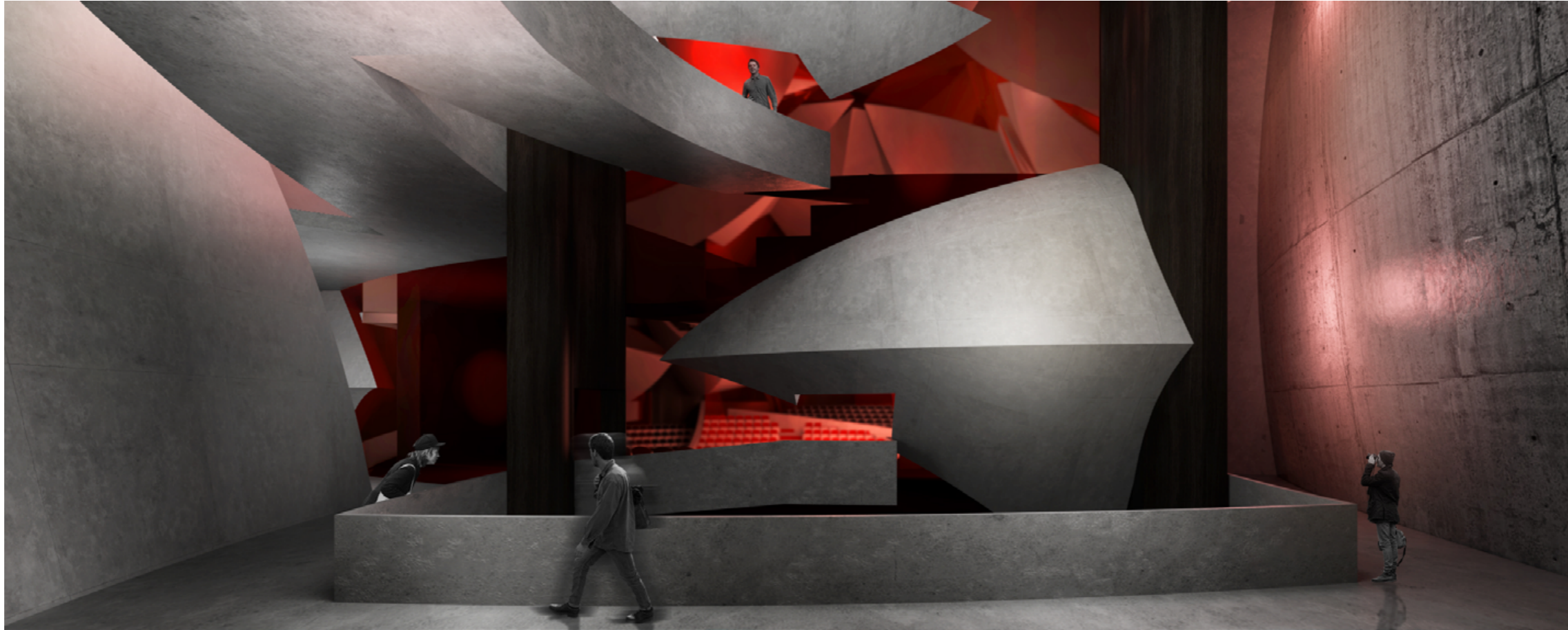
INTERIOR



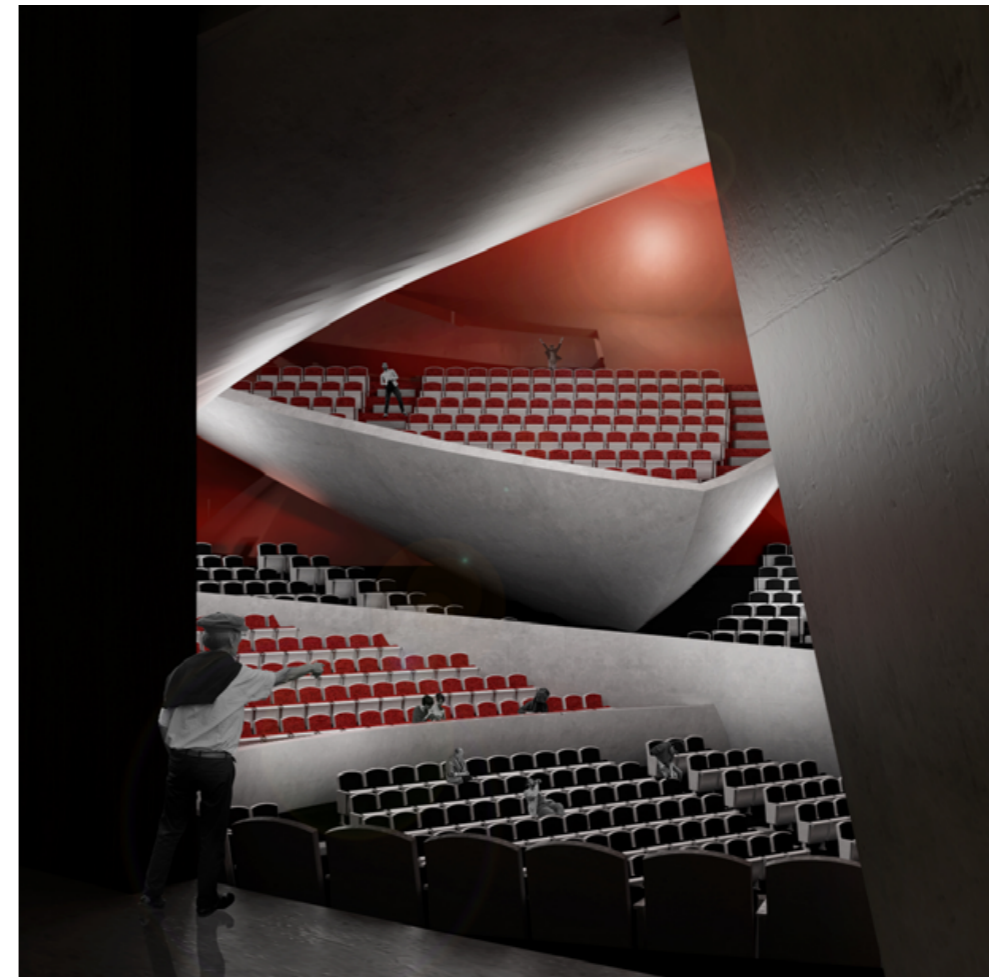
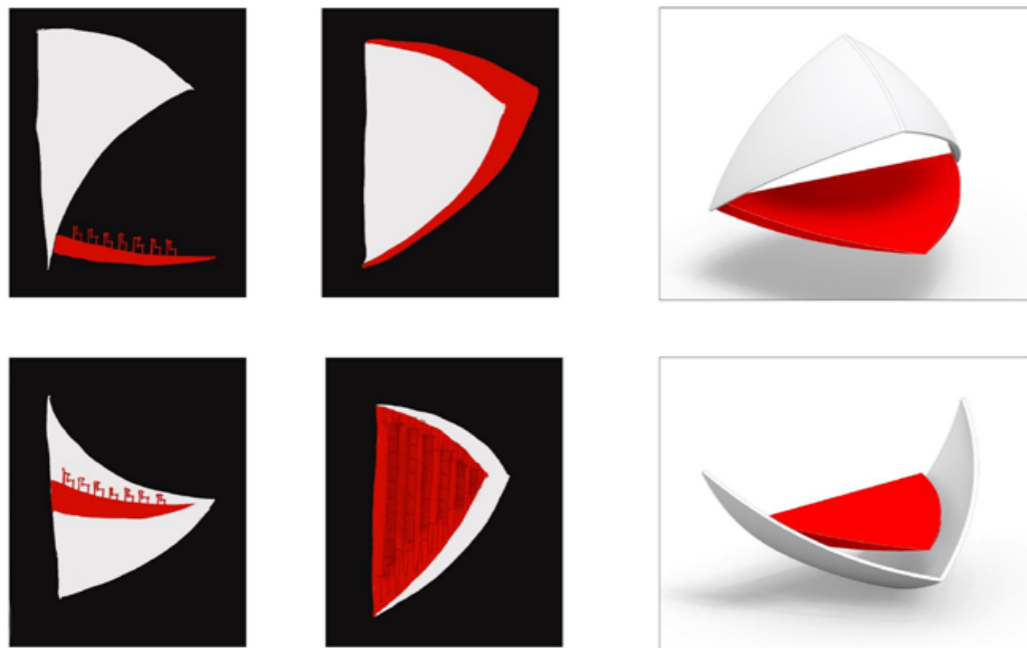
INTERIOR



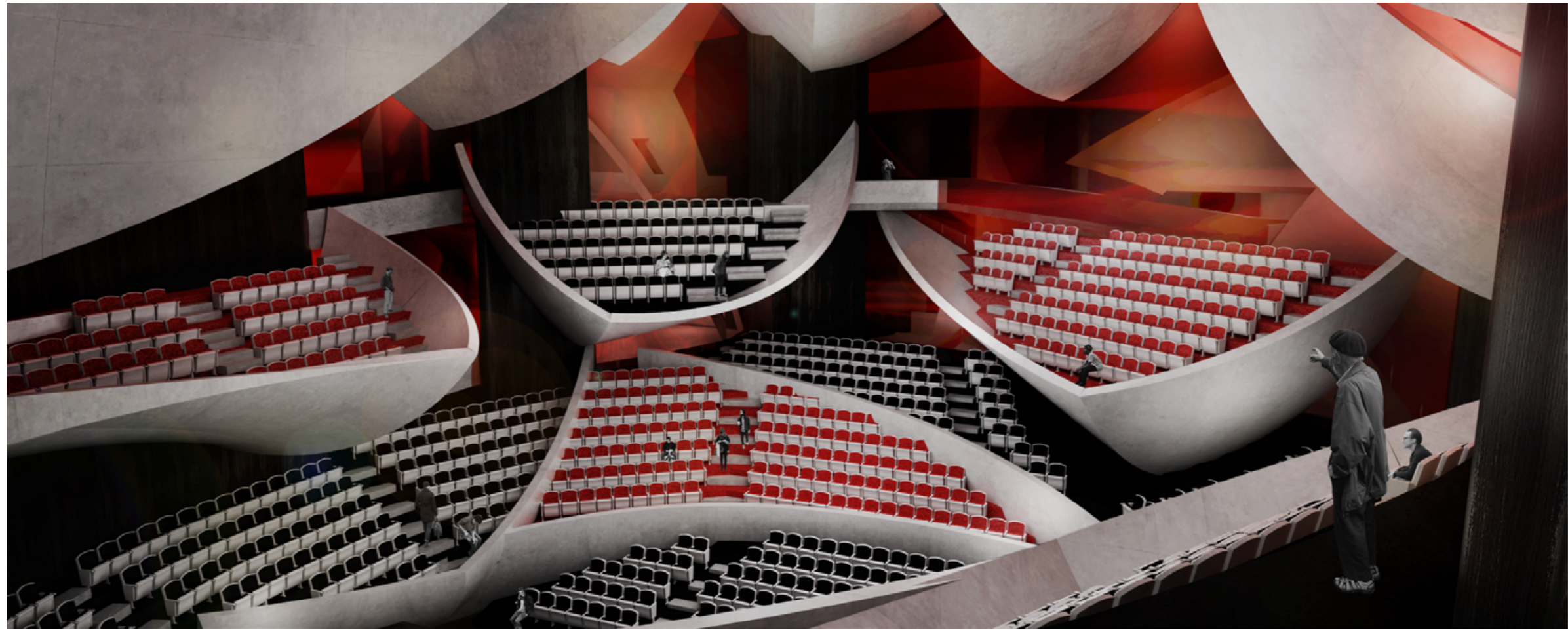
INTERIOR



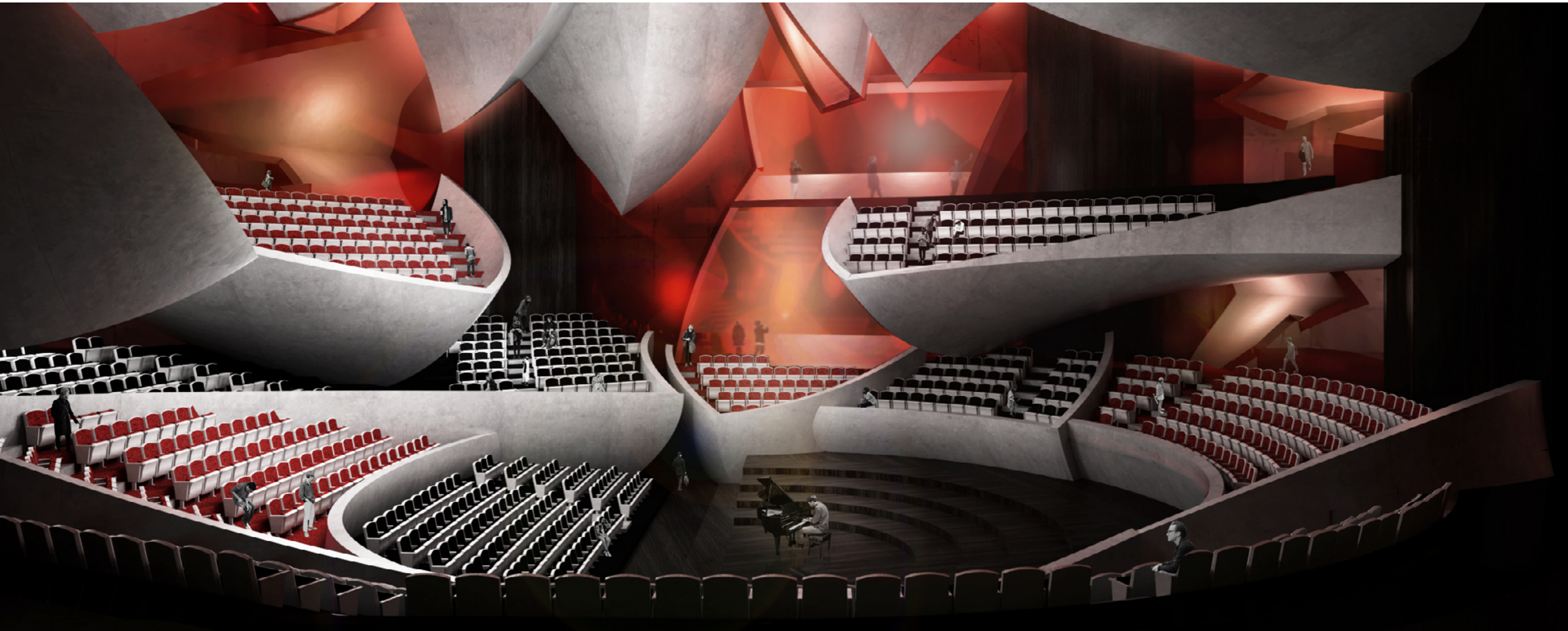
INTERIOR



SEATING CONCEPT



CONCERT HALL



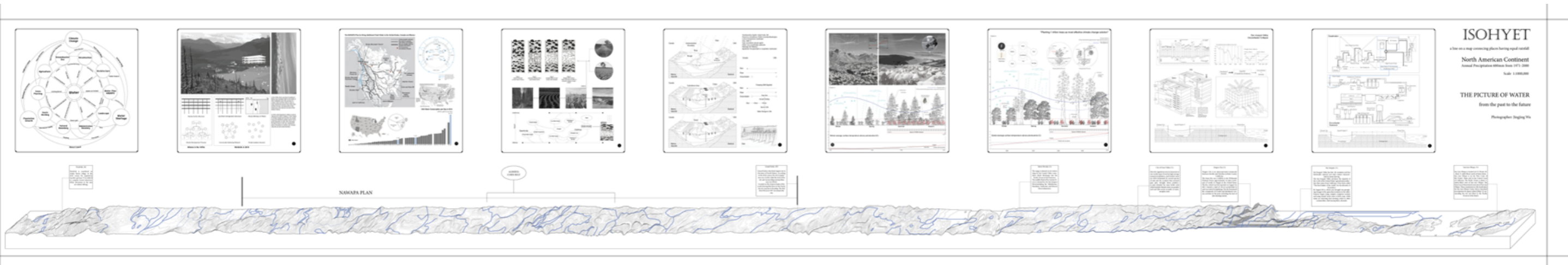
CONCERT HALL

ISOHYET

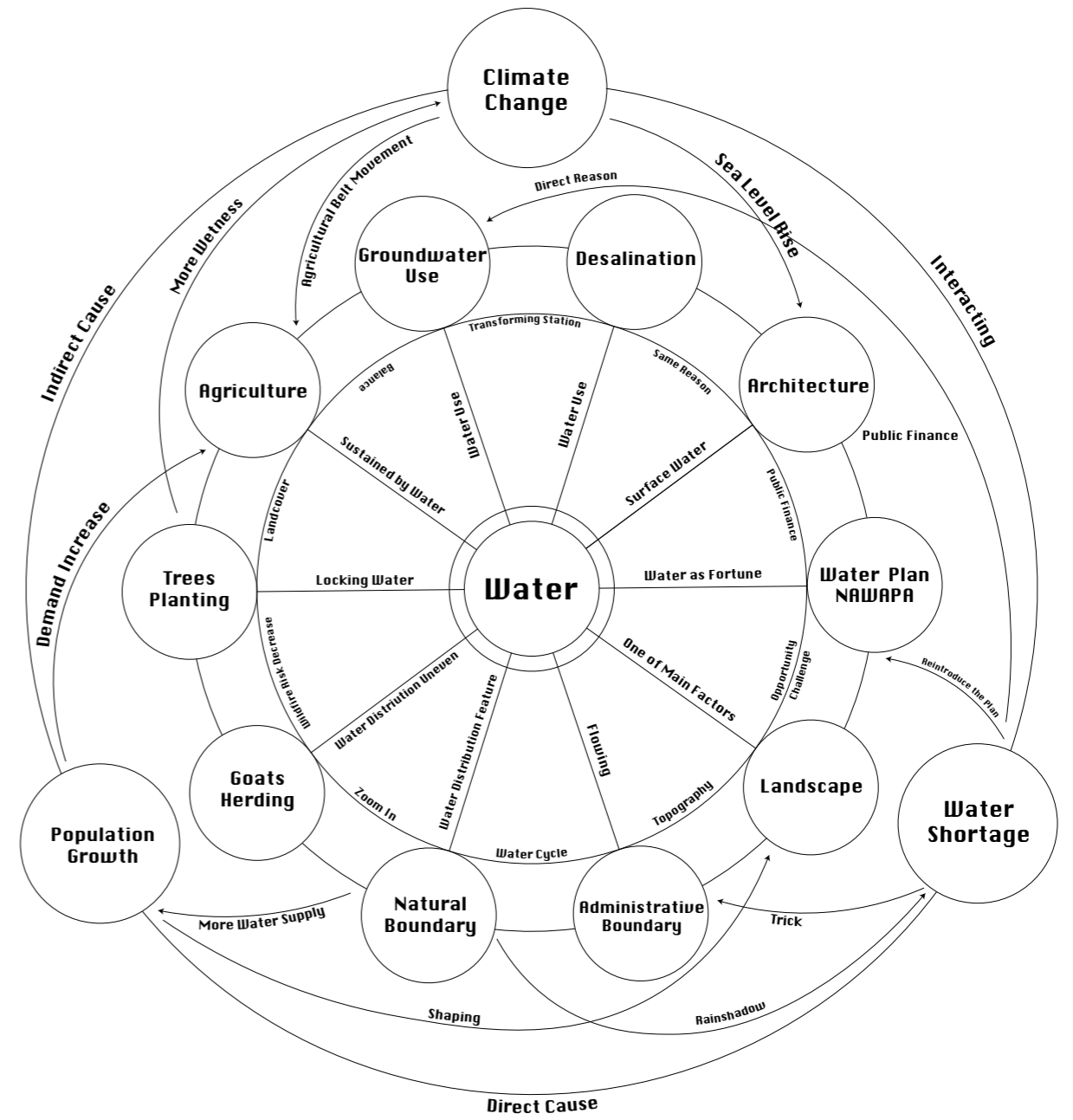
03

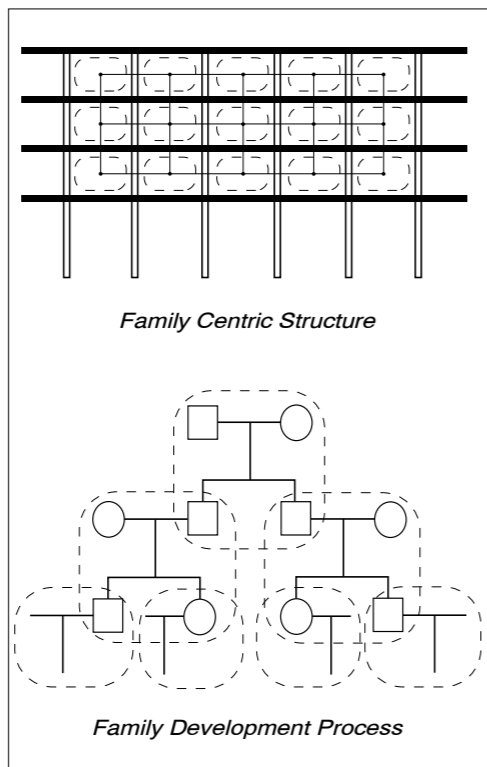
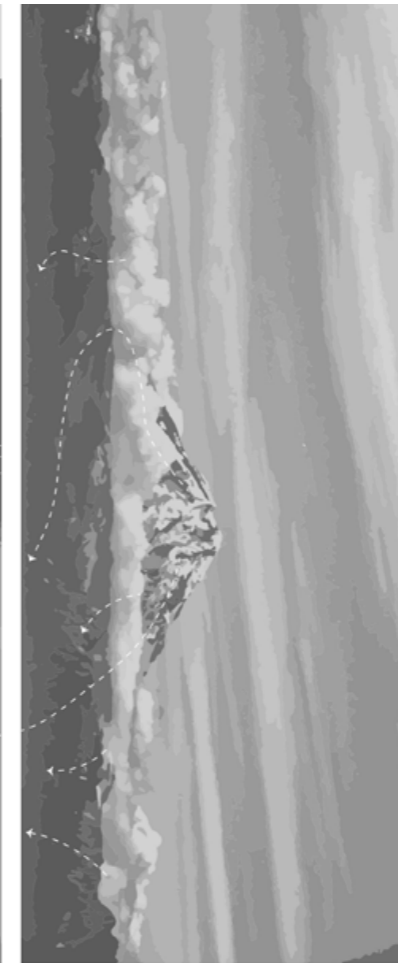
ADV ARCH STUDIO

Professor: Marco Ferrari

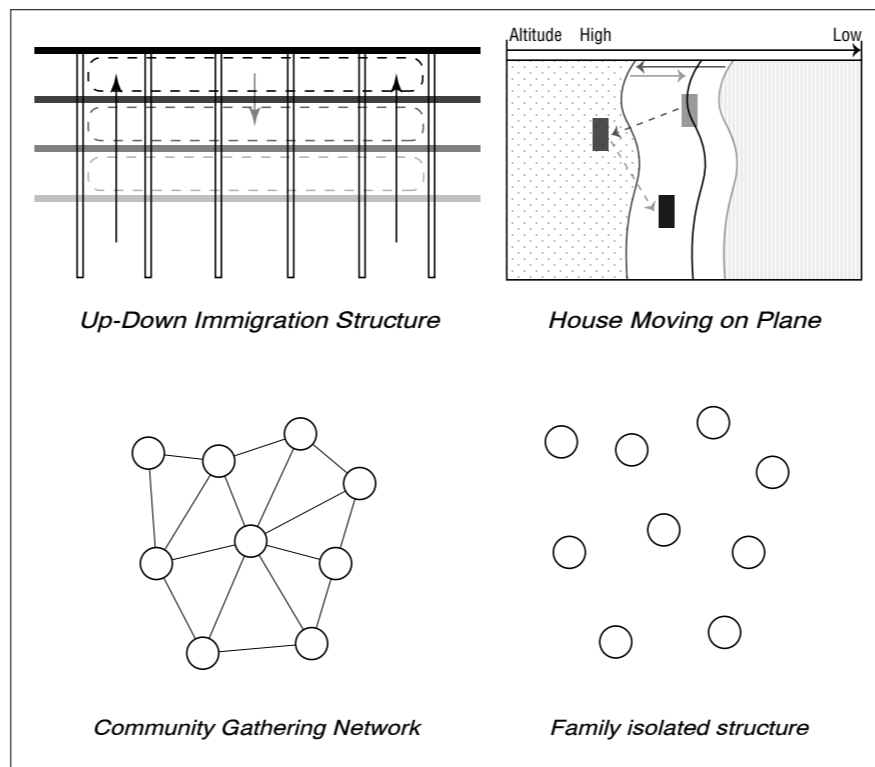


Water covers 71% of the earth's surface, playing an important role in sustaining the world. In the dynamic water cycle, water shows as different forms—cloud, rain, river and vapor. It is closely related with human activities, functioning differently in both visible and invisible way. In the context of global warming and water shortage, it is basic to speculate how water will affect the world. In my scenarios, water, the main character, shape the world with architecture, landscape, plants, animal and infrastructure as mediums. Besides, it also functions in immaterial networks, leading to redistribution of source and economy. Water is not just material. Water is power.





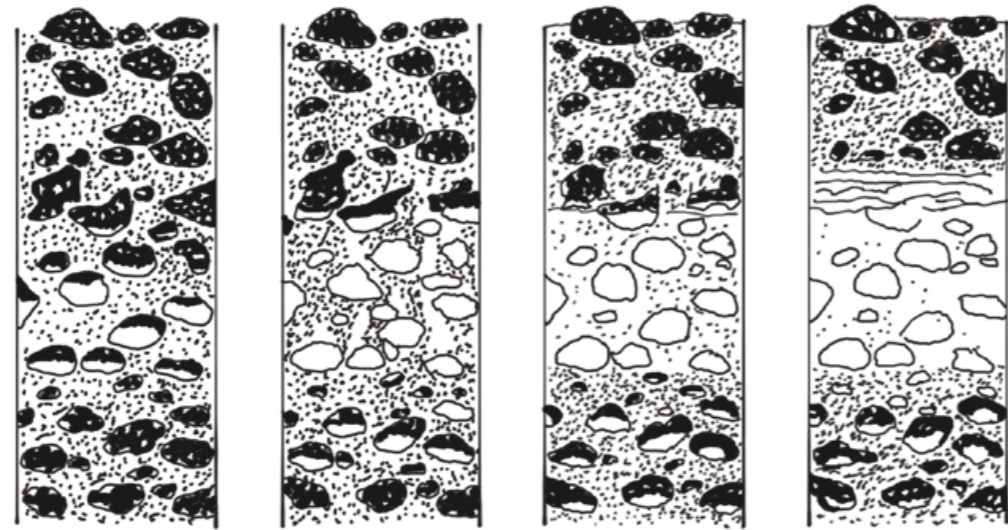
Athens in the 1970s



Ninilchik in 2019

In the 1970s, there was kind of building in Athens that competes itself as the needs of their inhabitants arise; they produce no surplus space and they need no loans or large investments because they follow their families fortunes. By being built as their family grow, they become records of their family's history.

In 2019, what happened in Athens could be reference for today's building. In the context of climate change and sea level rise, people living near Ninilchik coastline need to immigrate frequently on plane. We could apply the Athes-frame to this site, changing the plane immigration to vertical, also reorganising the use and social structure.

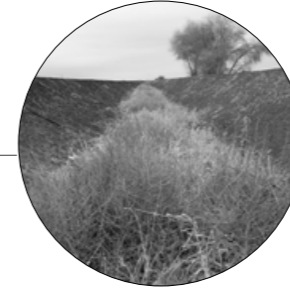


Stage 1
Calcium carbonate
on lower sides of stones

Stage 2
Carbonate starting to fill in
areas between stones

Stage 3
Complete filling of calcic
horizon with carbonate

Stage 4
Plugged calcic horizon;
further carbonate acculates in
laminated coatings on upper
surface

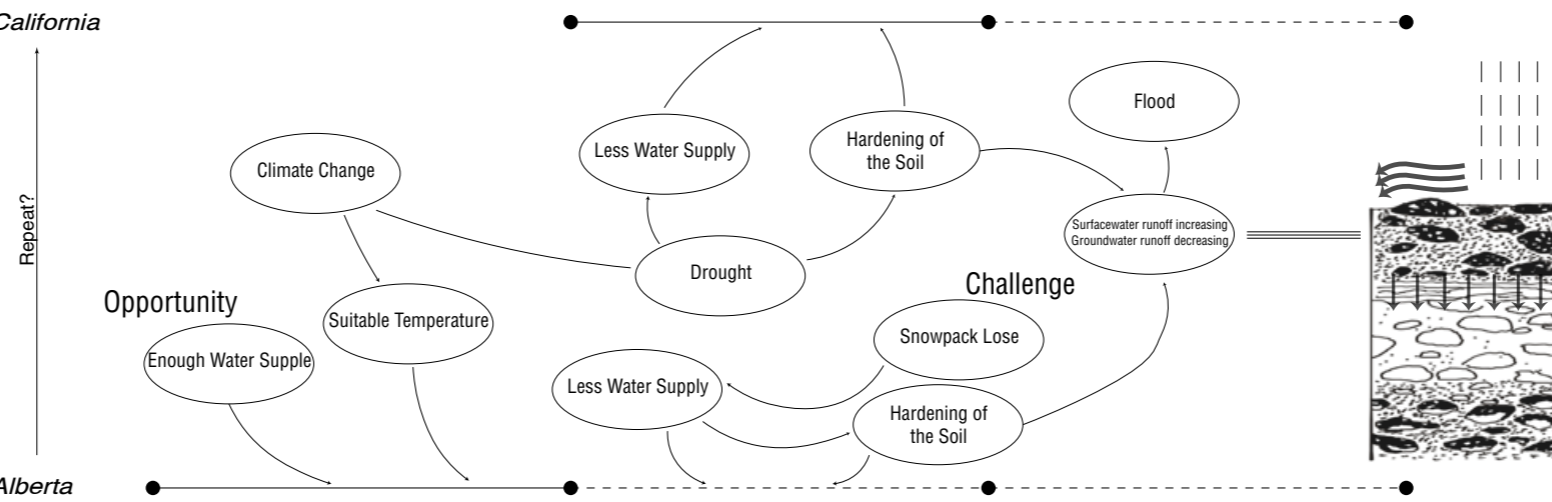


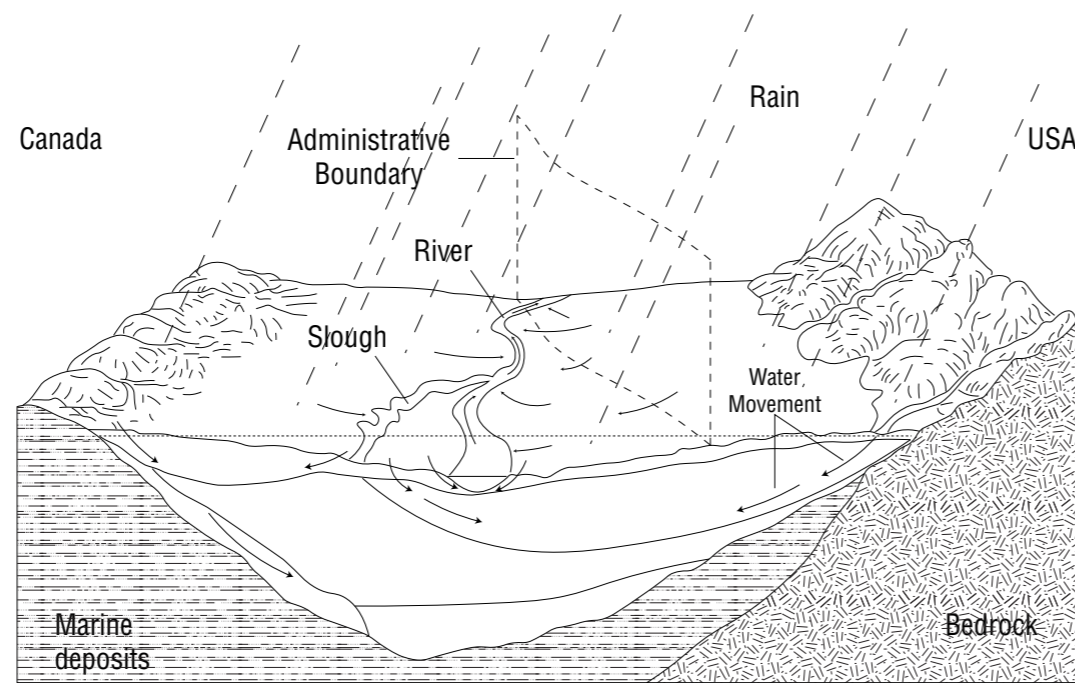
ZOOM IN



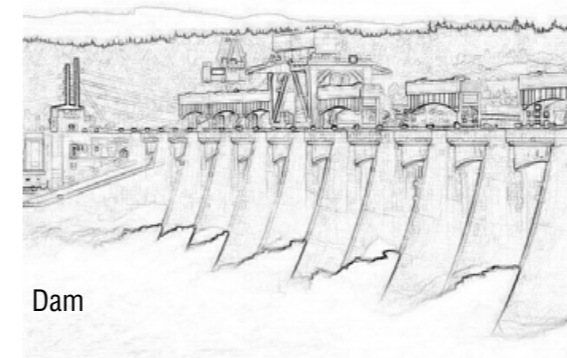
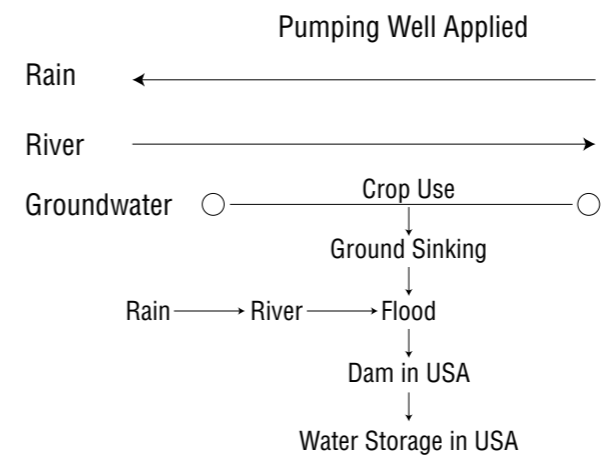
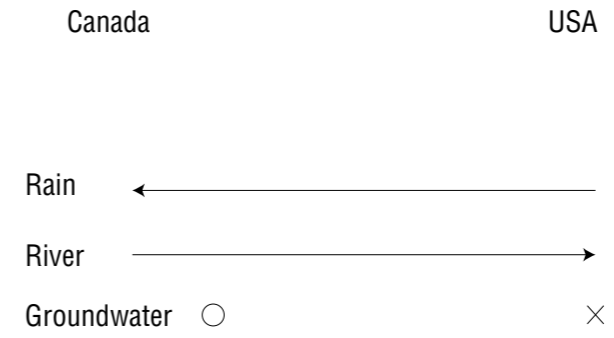
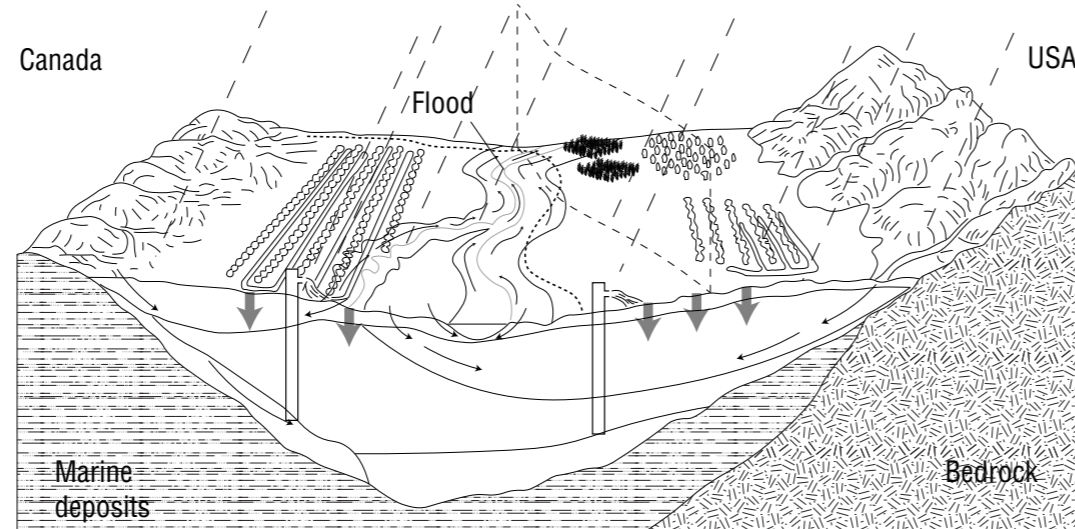
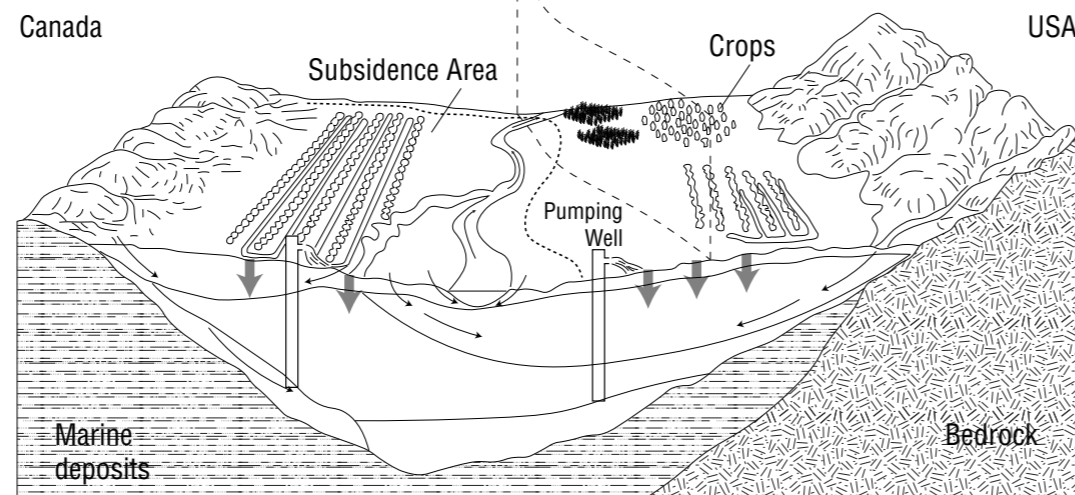
California

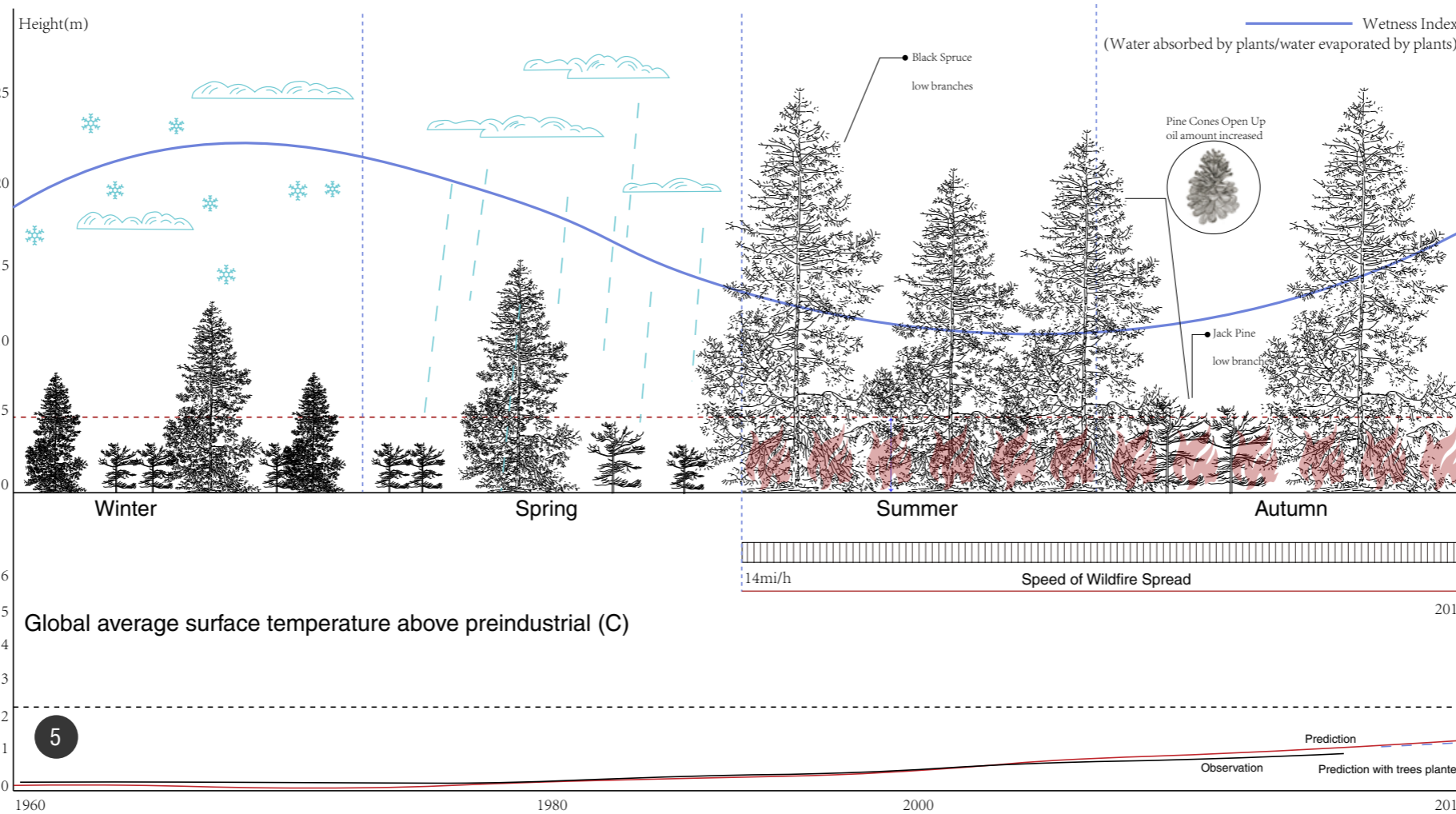
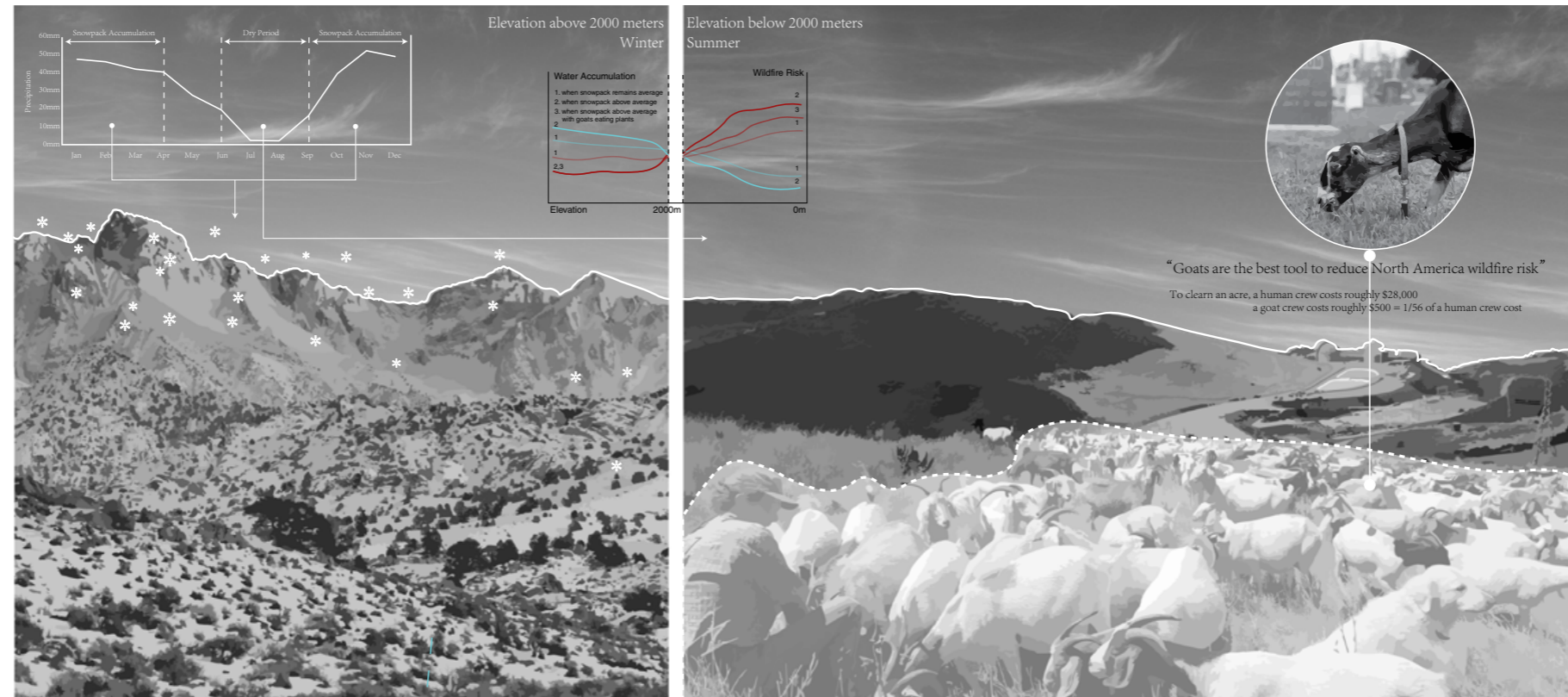
Alberta



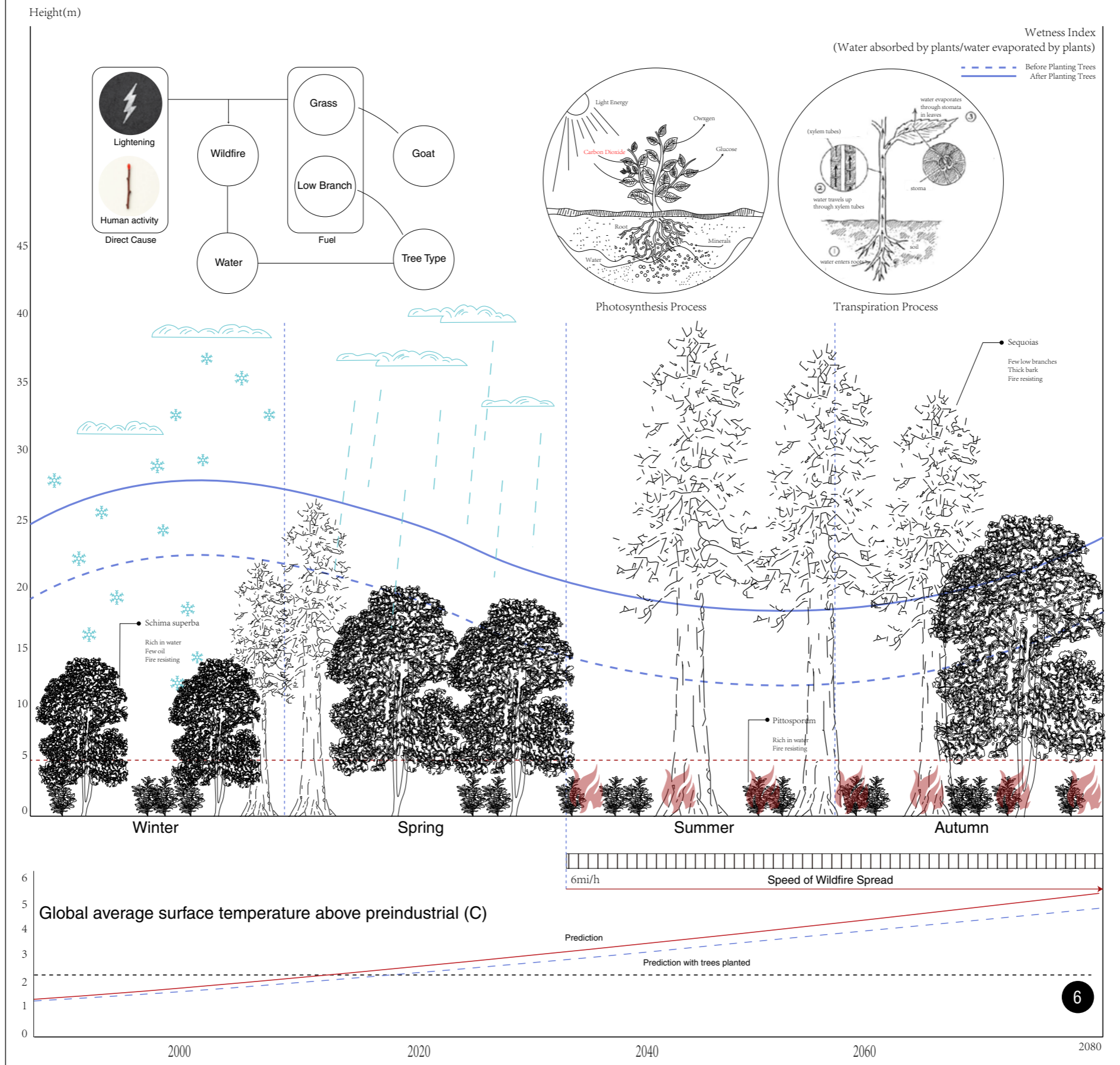


Transboundary Aquifer: Grand Forks, ND
 Shared by Jurisdictions: British Columbia/Washington
 Level of assessment: Insufficient
 Area: 34km²
 Type: unconfined, alluvial aquifer
 Rocks: non-consolidated sediments
 Recharge: 50-100mm/y
 Agreement: No agreement or cooperation mechanism

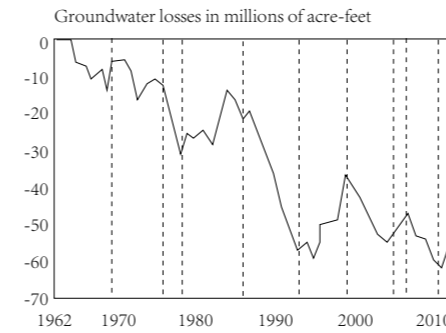
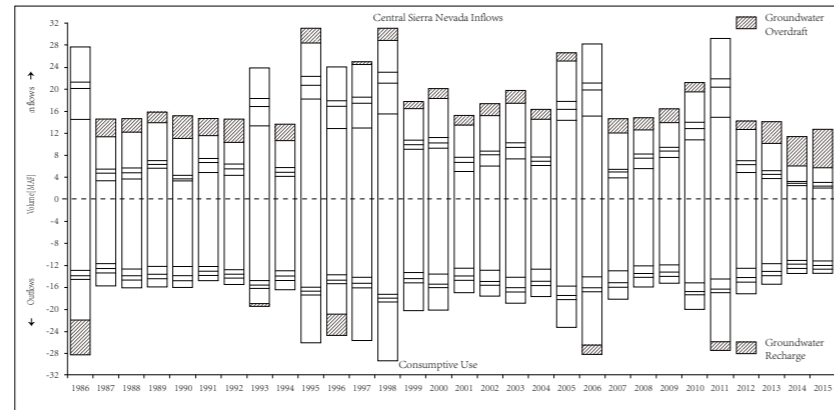




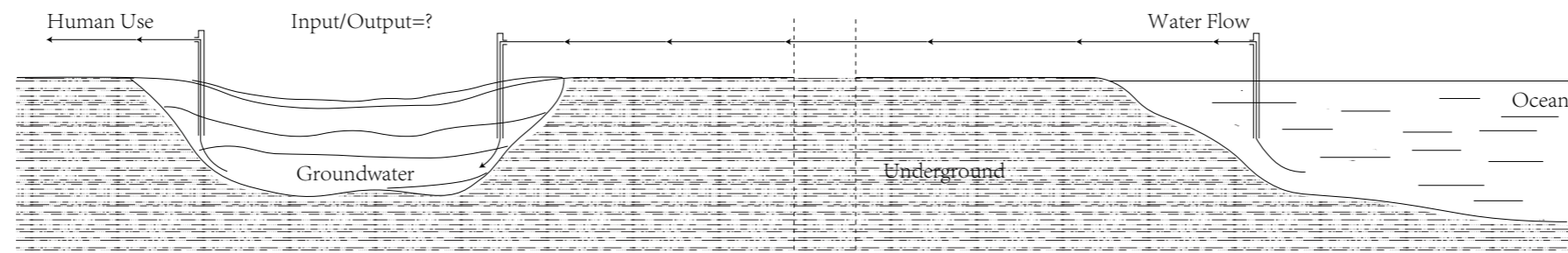
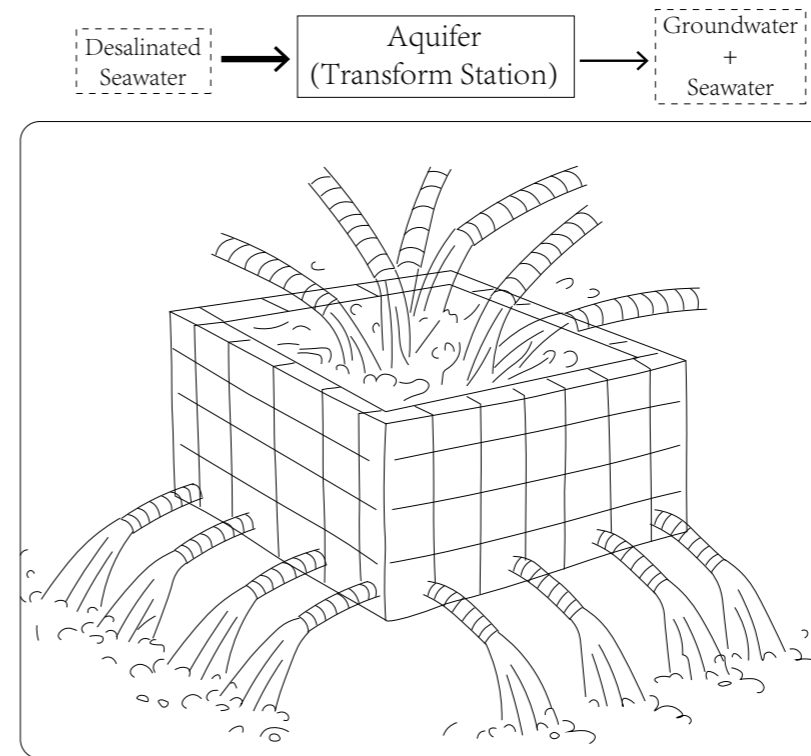
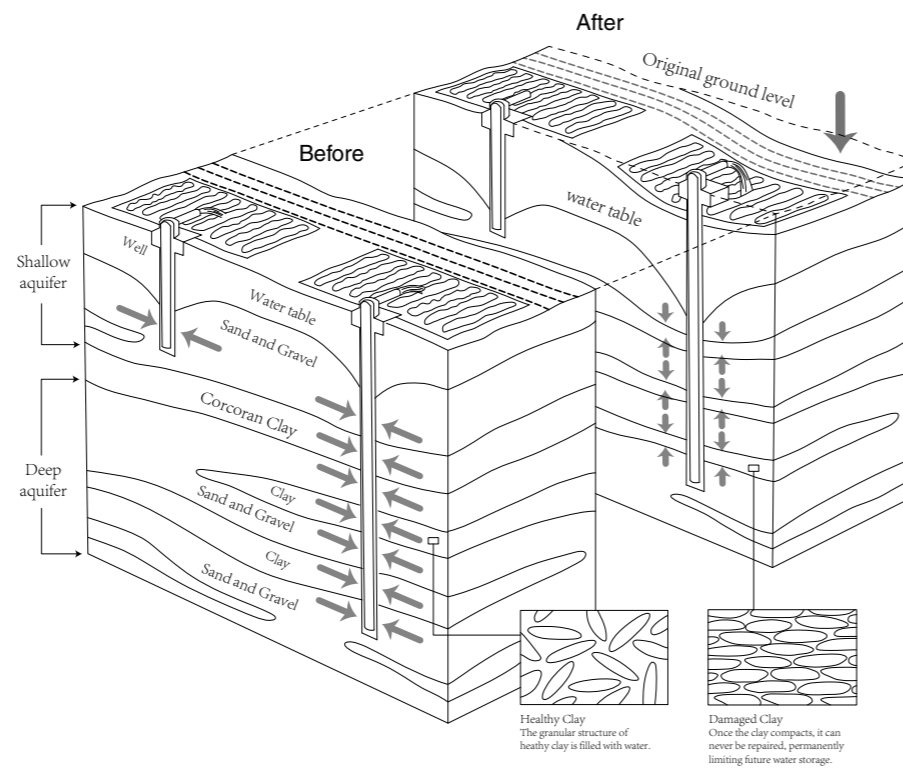
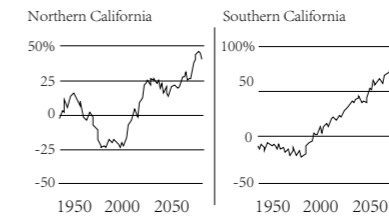
"Planting 1 trillion trees as most effective climate change solution"

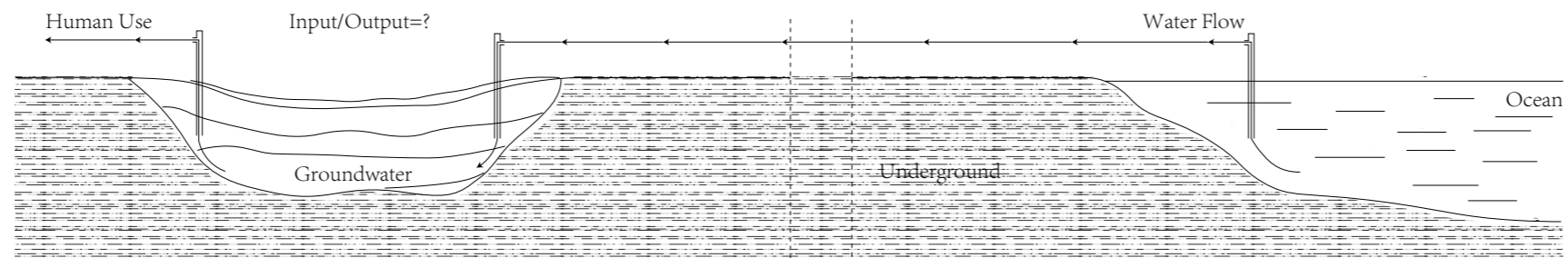
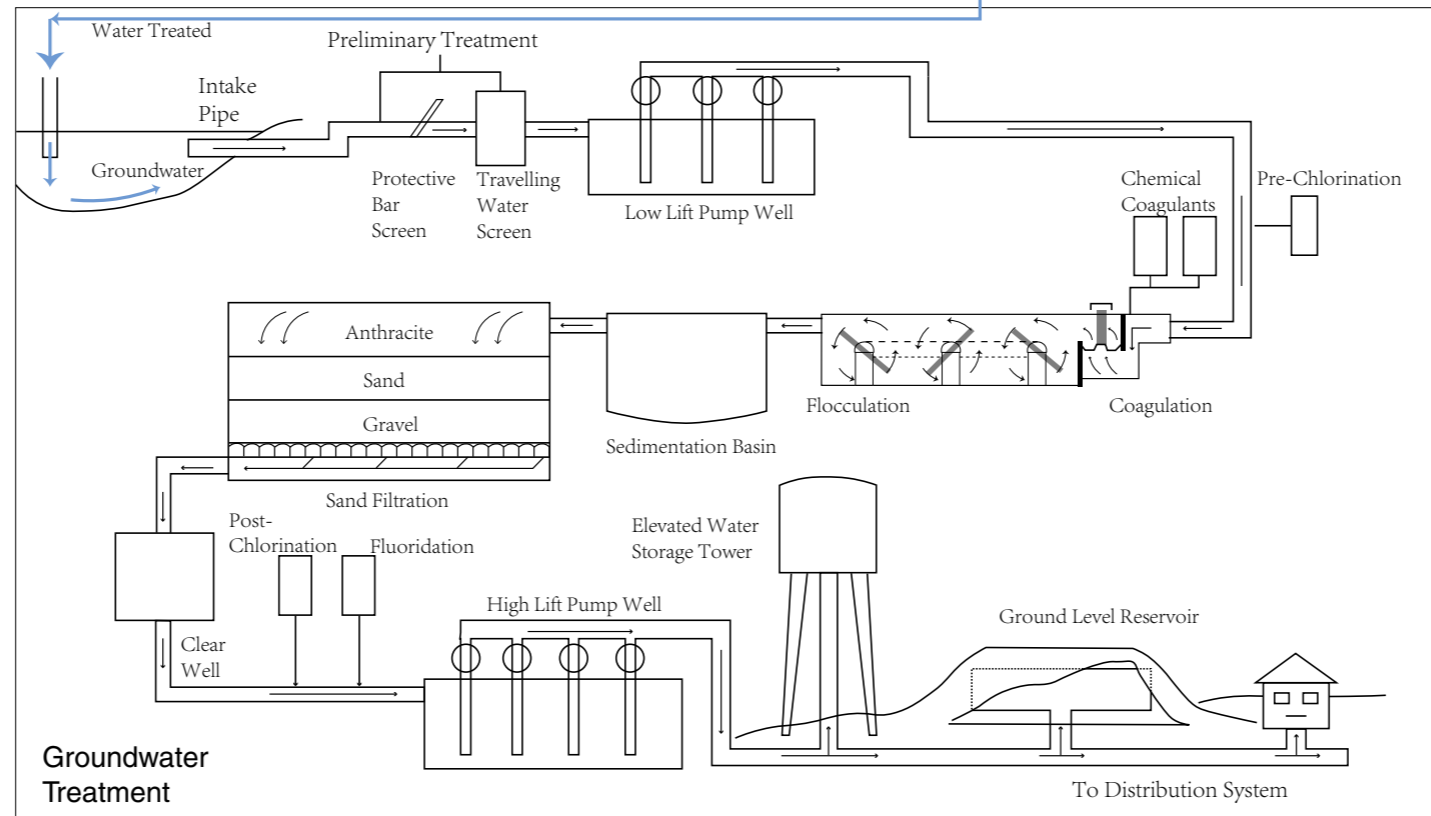
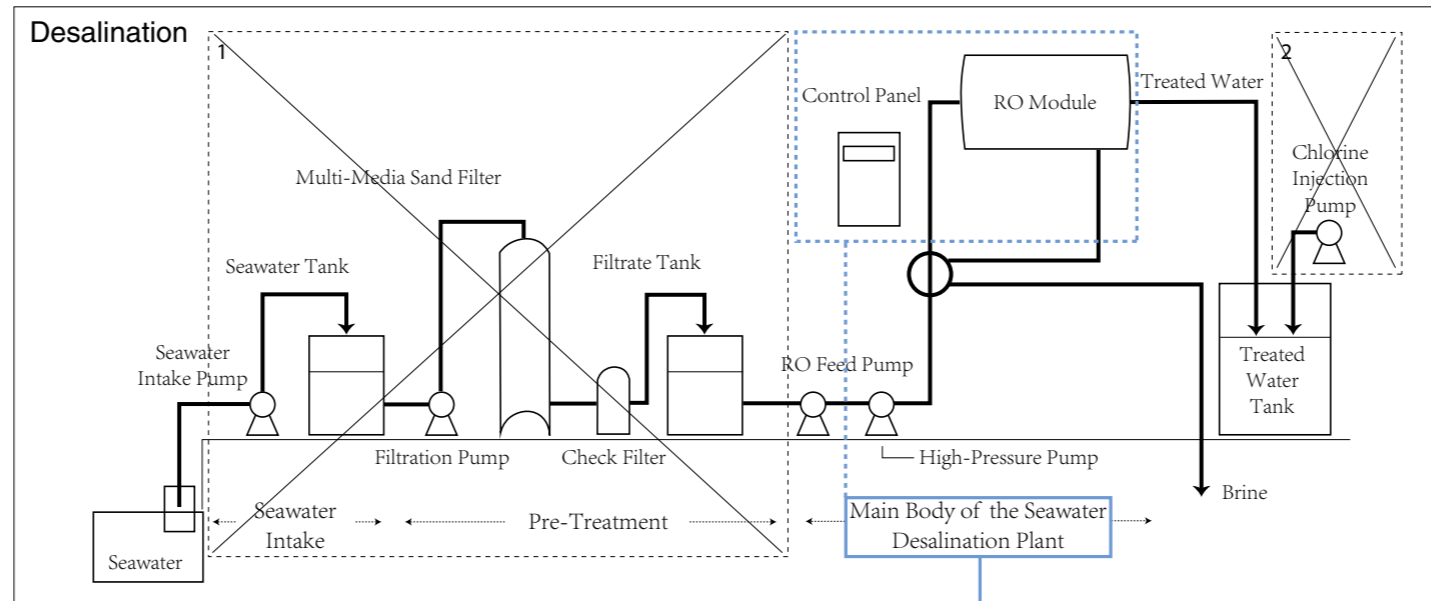


San Joaquin Valley Groundwater Collapse



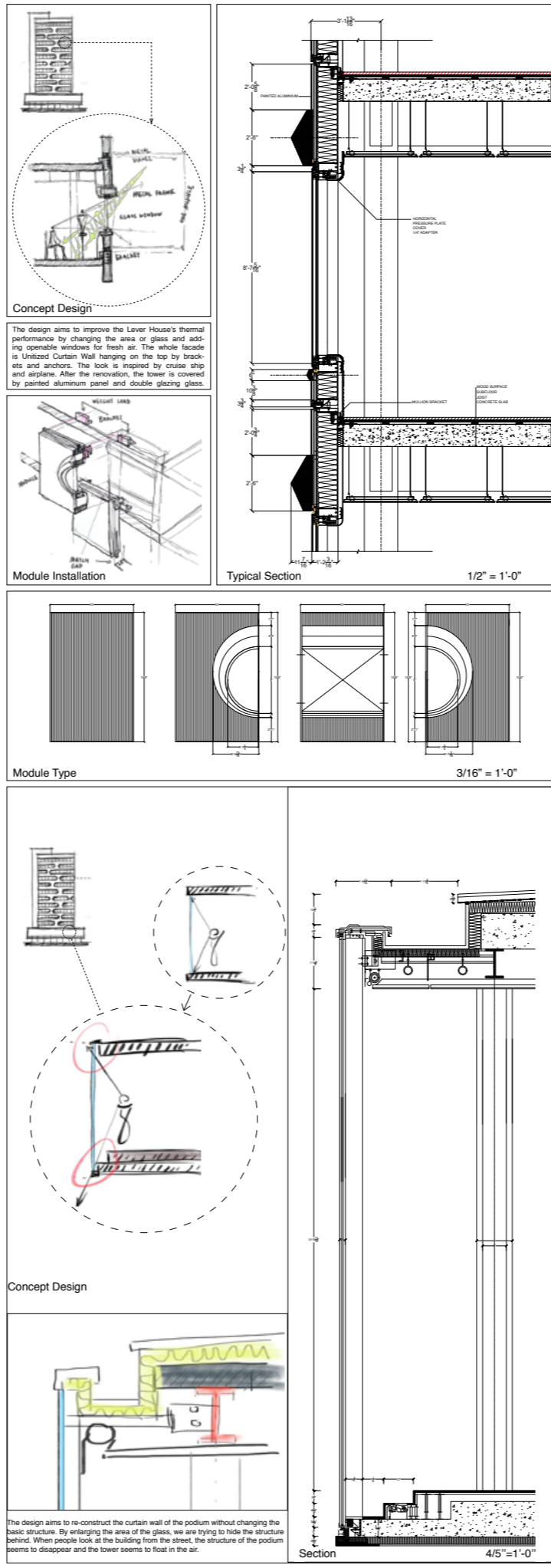
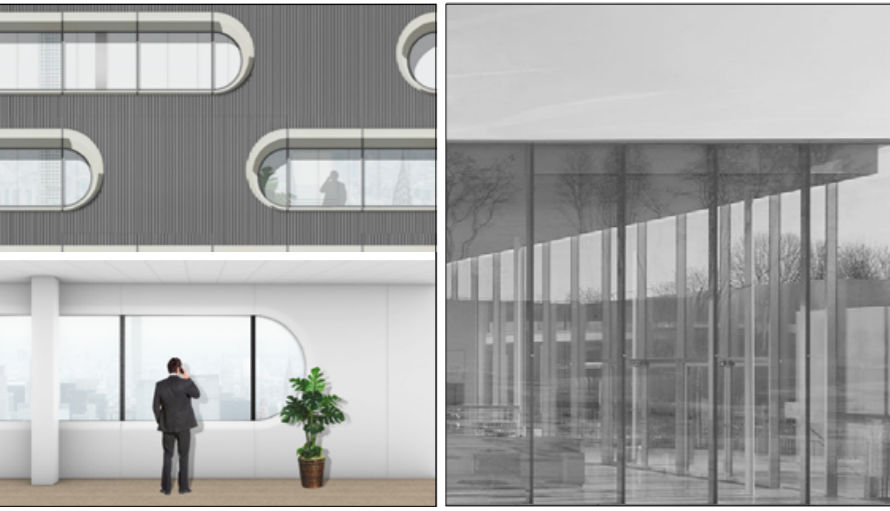
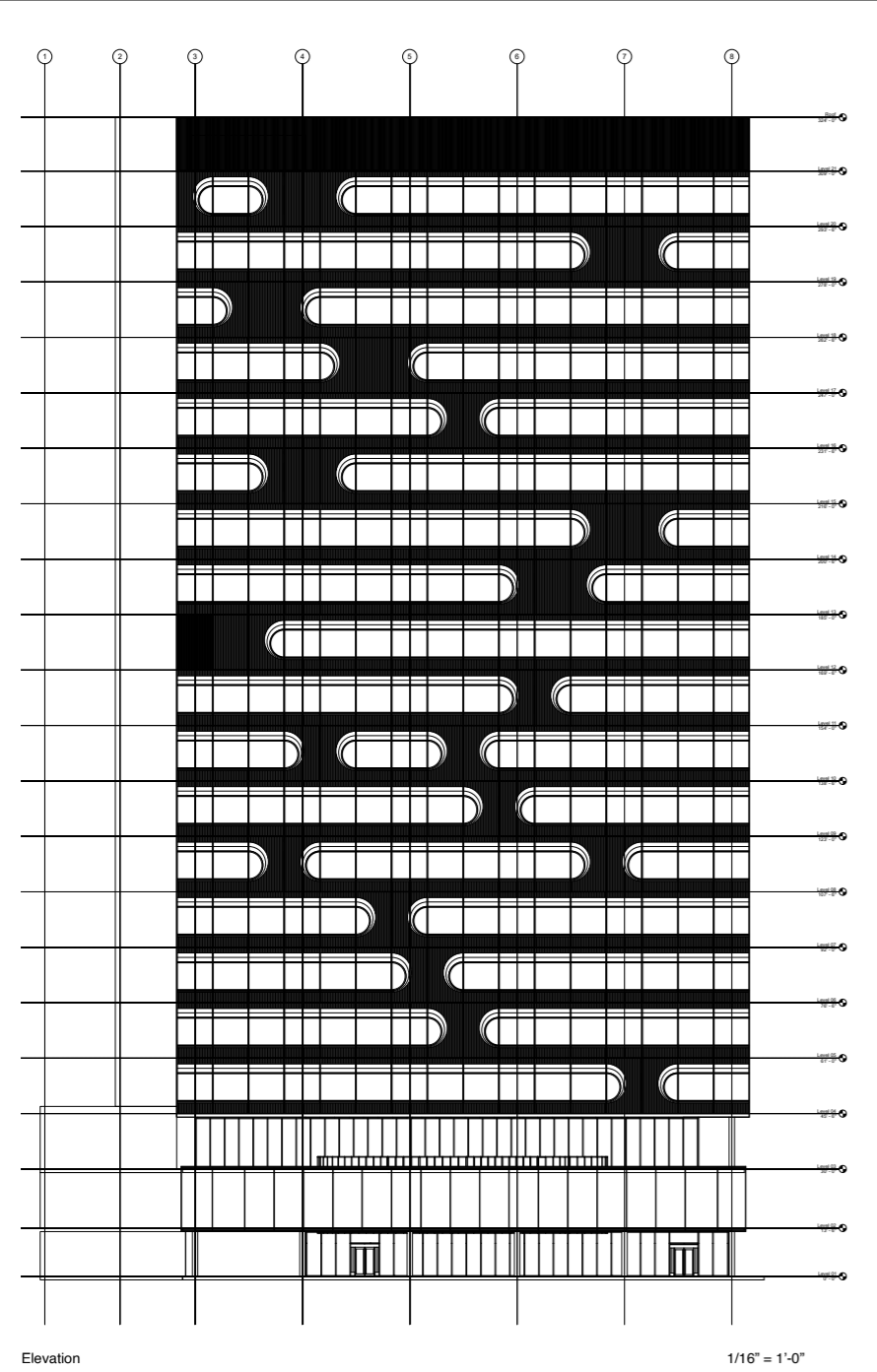
Drought, Flood, California





Project Name: Lever House Facade Renovation **Construction Time:** 1950–1952
Design: Xutian Liu(Tower); Jingjing Wu(Podium) **Original Architect:** Gordon Bunshaft; Natalie de Blois (SOM)
Instructor: Kevin L. Schorn
Site: New York City, New York
Facade Detailing, Spring 2020
GSAPP, Columbia University

ARCH E

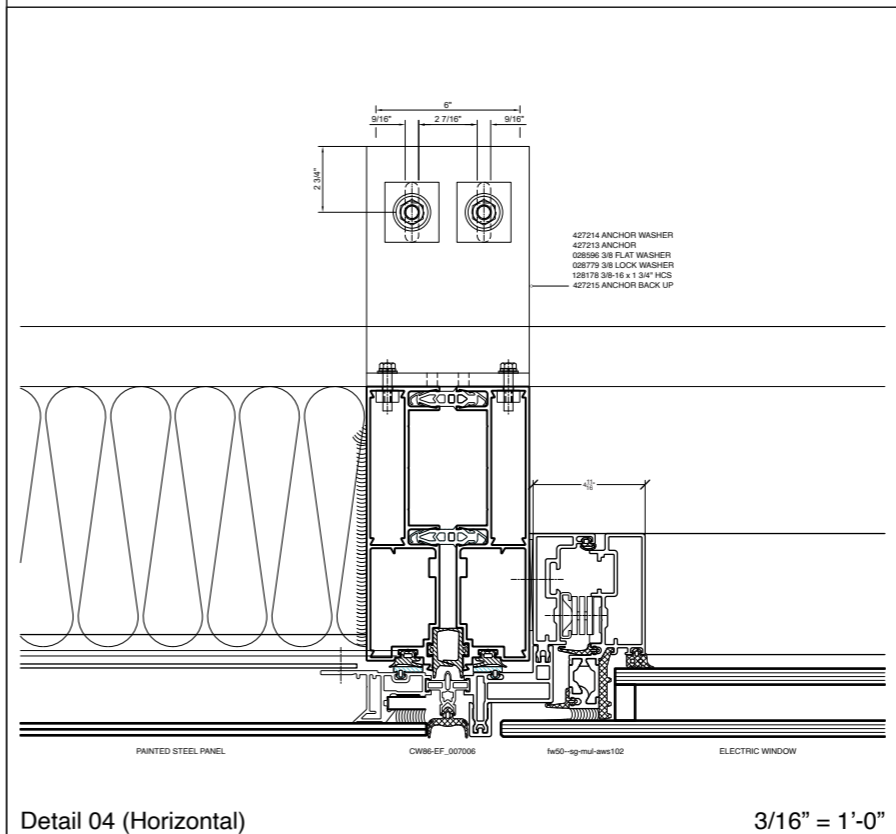
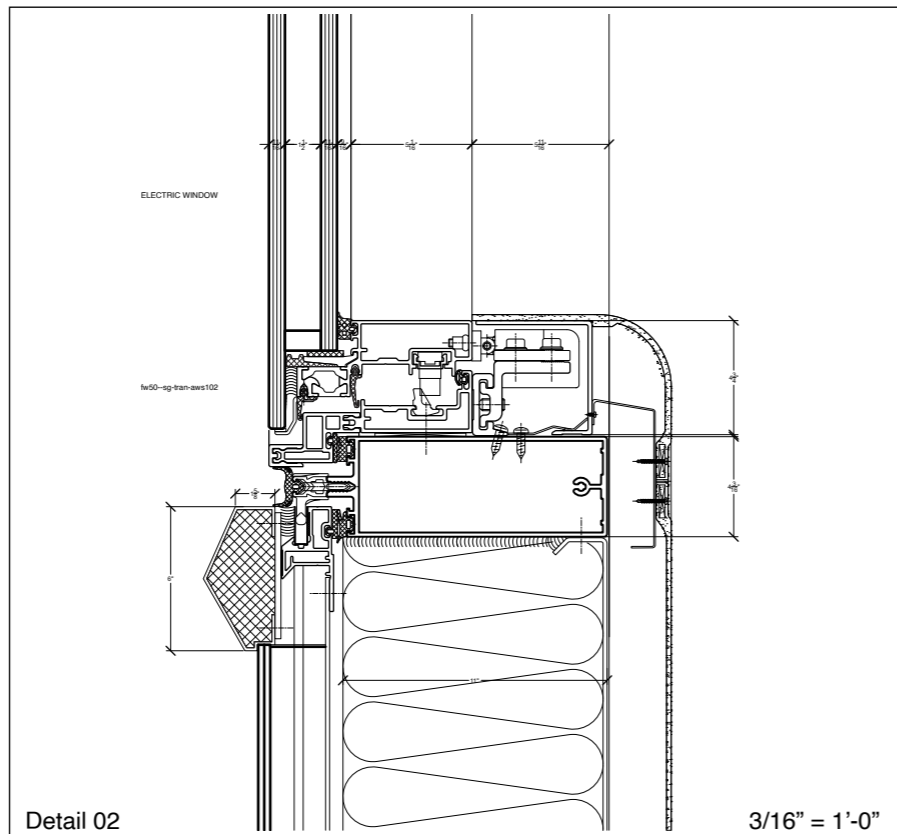
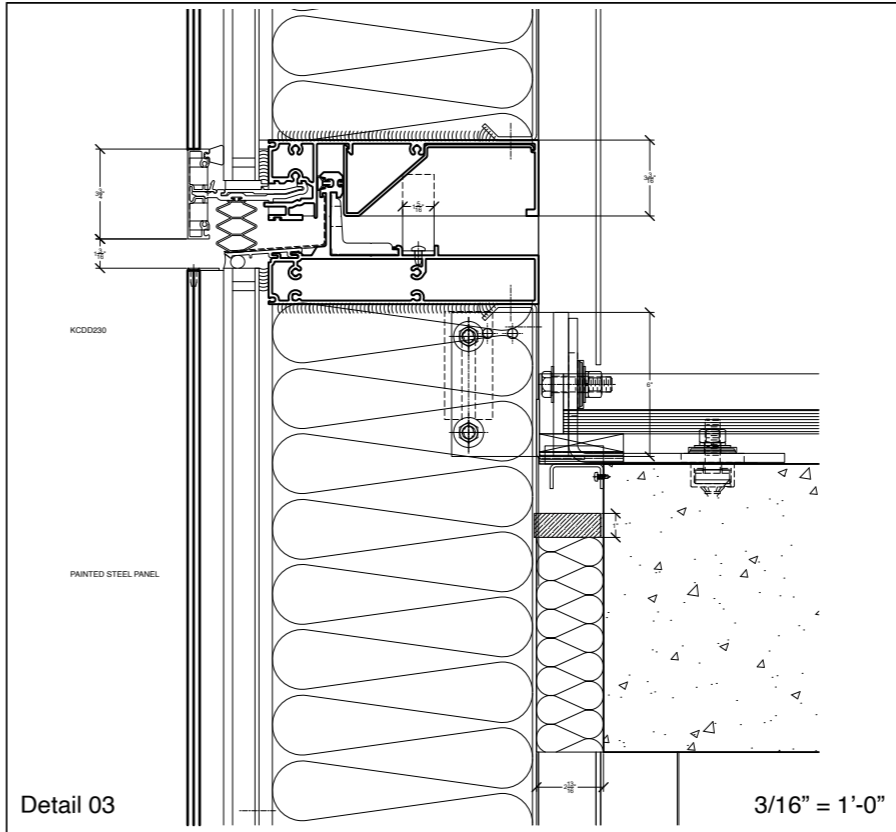
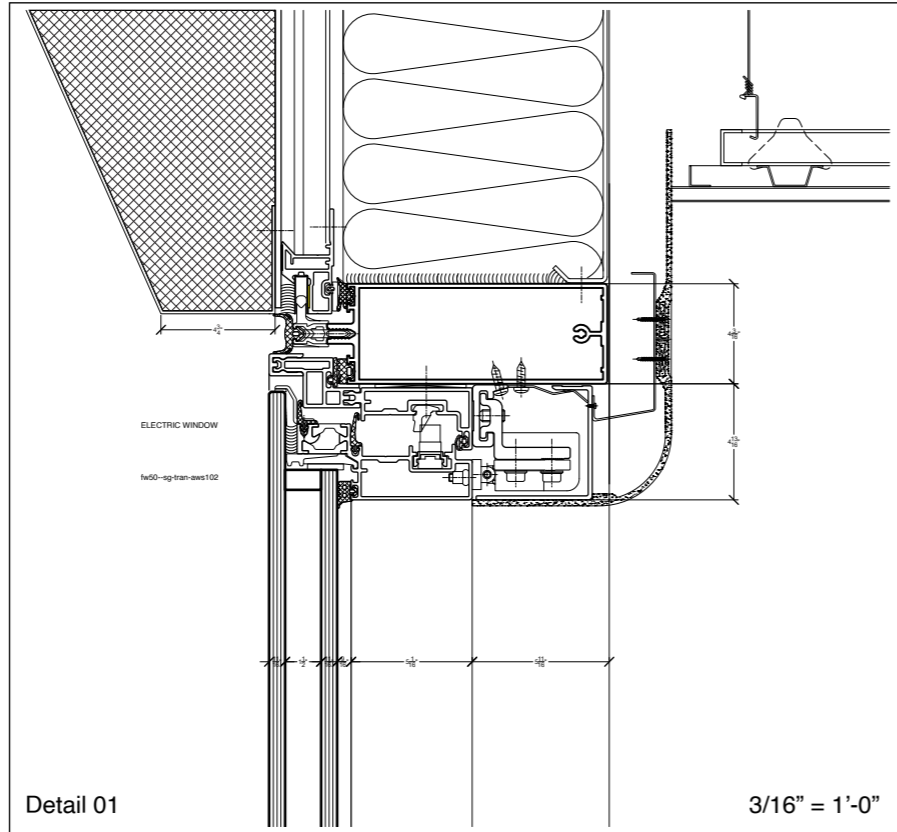


Lever House Facade Renovation

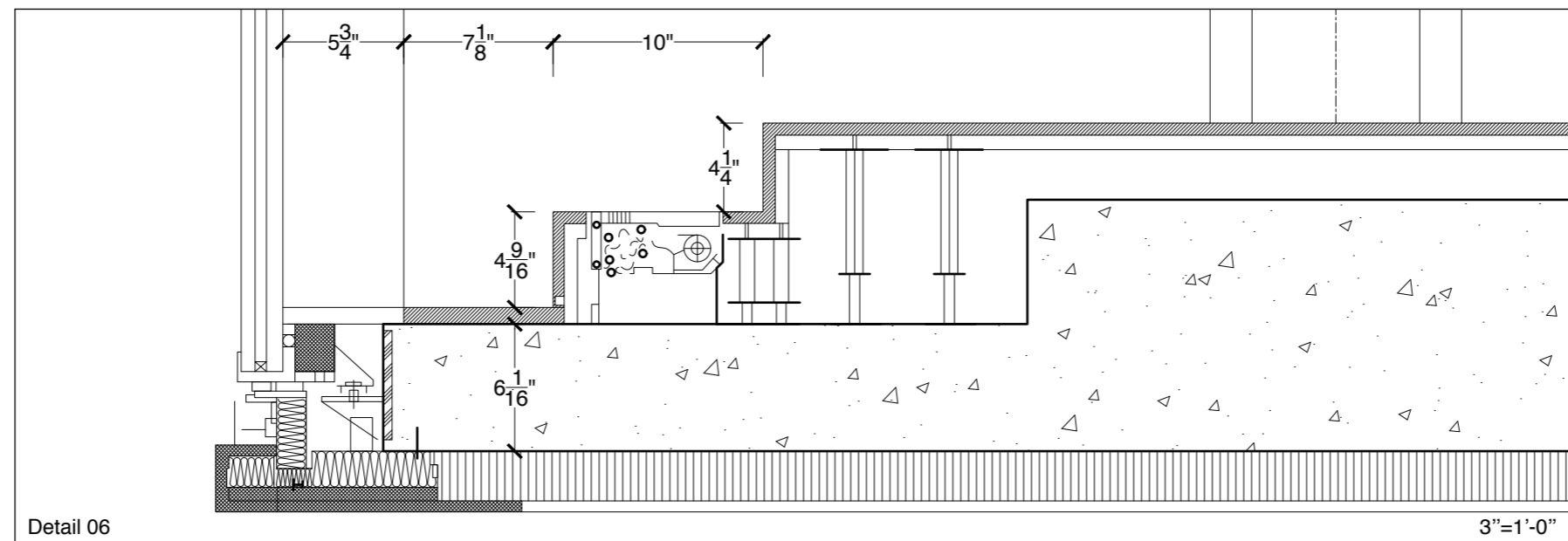
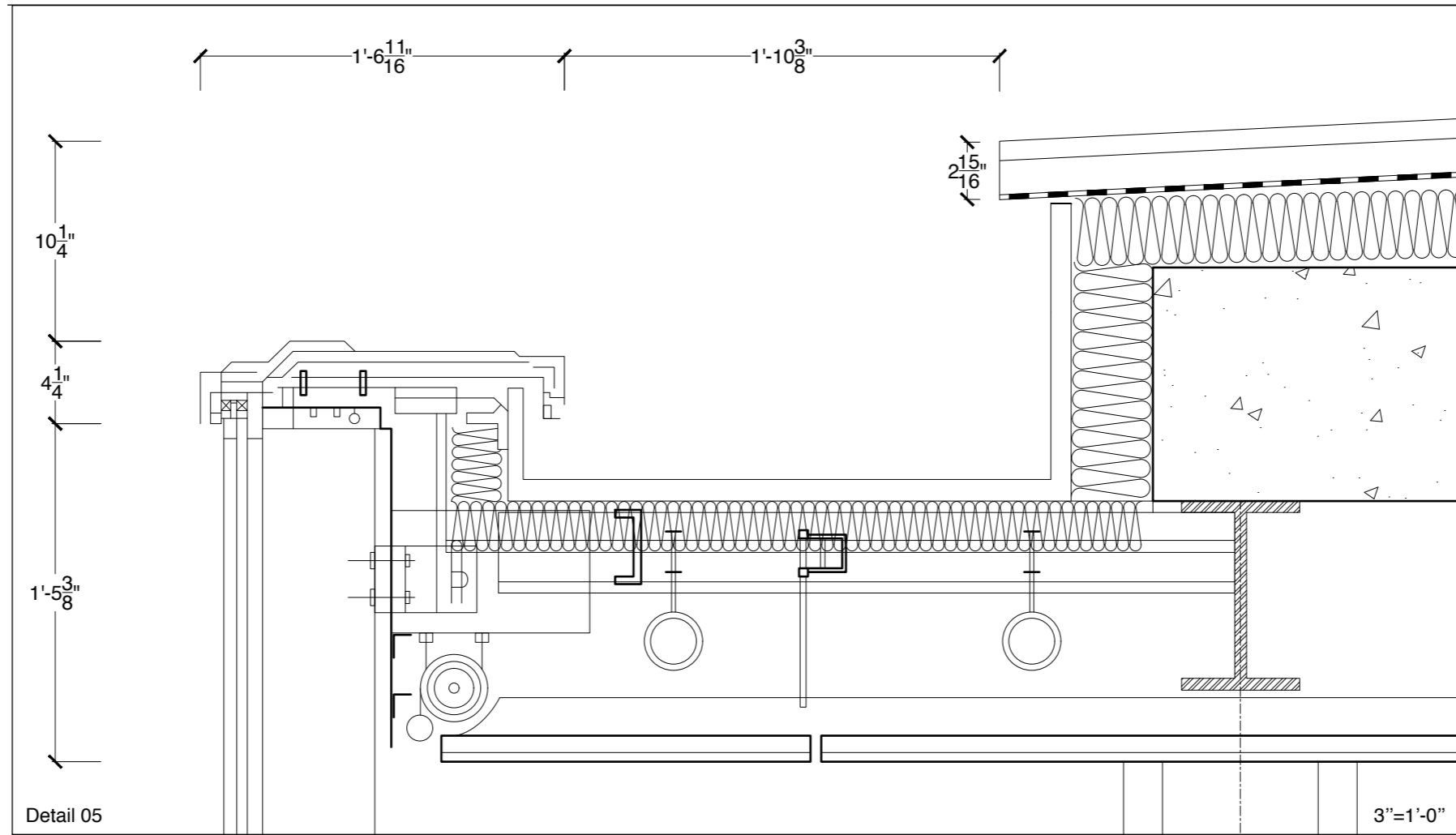
04 ARCH A4444_FACADE DETAILING

Professor: Kevin L. Schorn

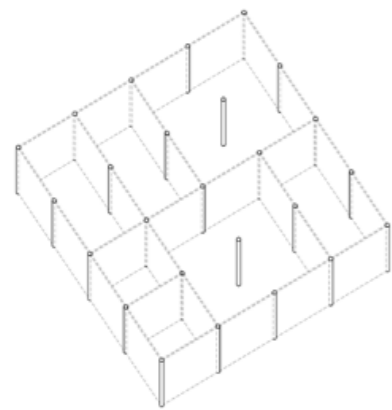
Collaborator: Xutian Liu



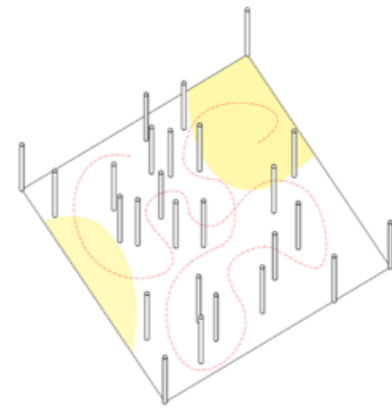
DETAIL DRAWING OF TOWER



DETAIL DRAWING OF PODIUM



Regular Column-Grid Frame



Aim: Irregular-Arranged Columns



Metaphor: Forest-like Space

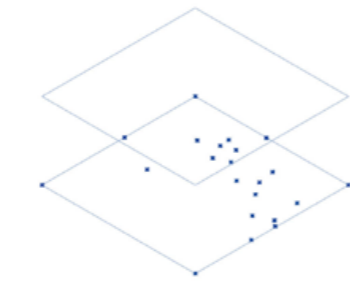
Forest-like Room

05

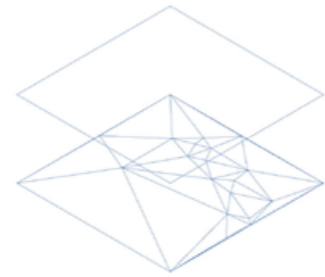
ARCH A4845_GENERATIVE DESIGN

Professor: Danil Nagy

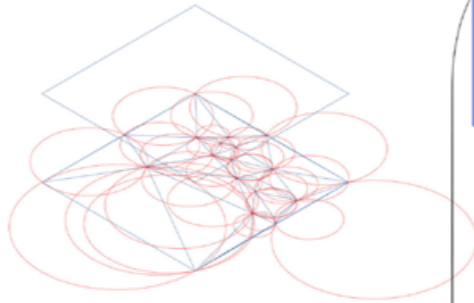
Collaborator: Jingyuan Zhang, Wei Wang



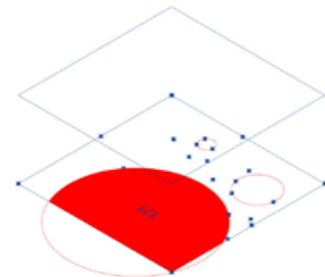
01 18 points are generated under a 20x20m roof



02 Delaunay Triangulation

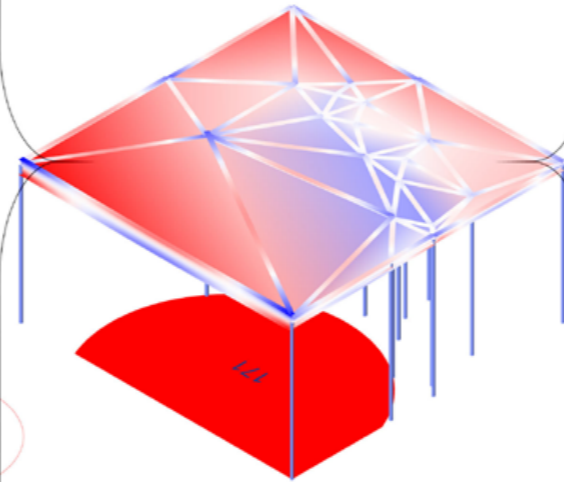


03 Circumcircle of Delaunay triangles as area



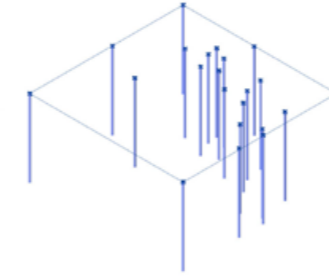
04 Maximum room area

Objective :
Maximum Room Area

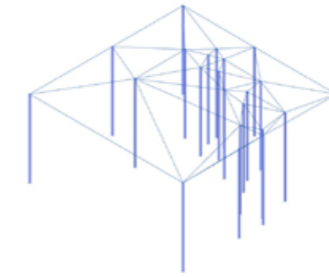


Constraint:
Maximum Displacement < 1

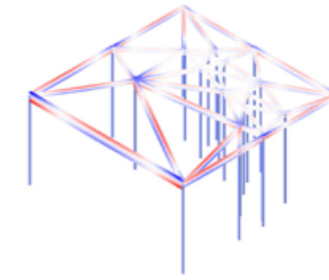
Objective :
Minimum Beam Cost



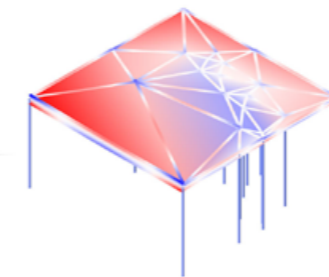
Randomly generated columns 01



Delaunay Triangulation edges as beams 02



Crosssection height determined by span 03

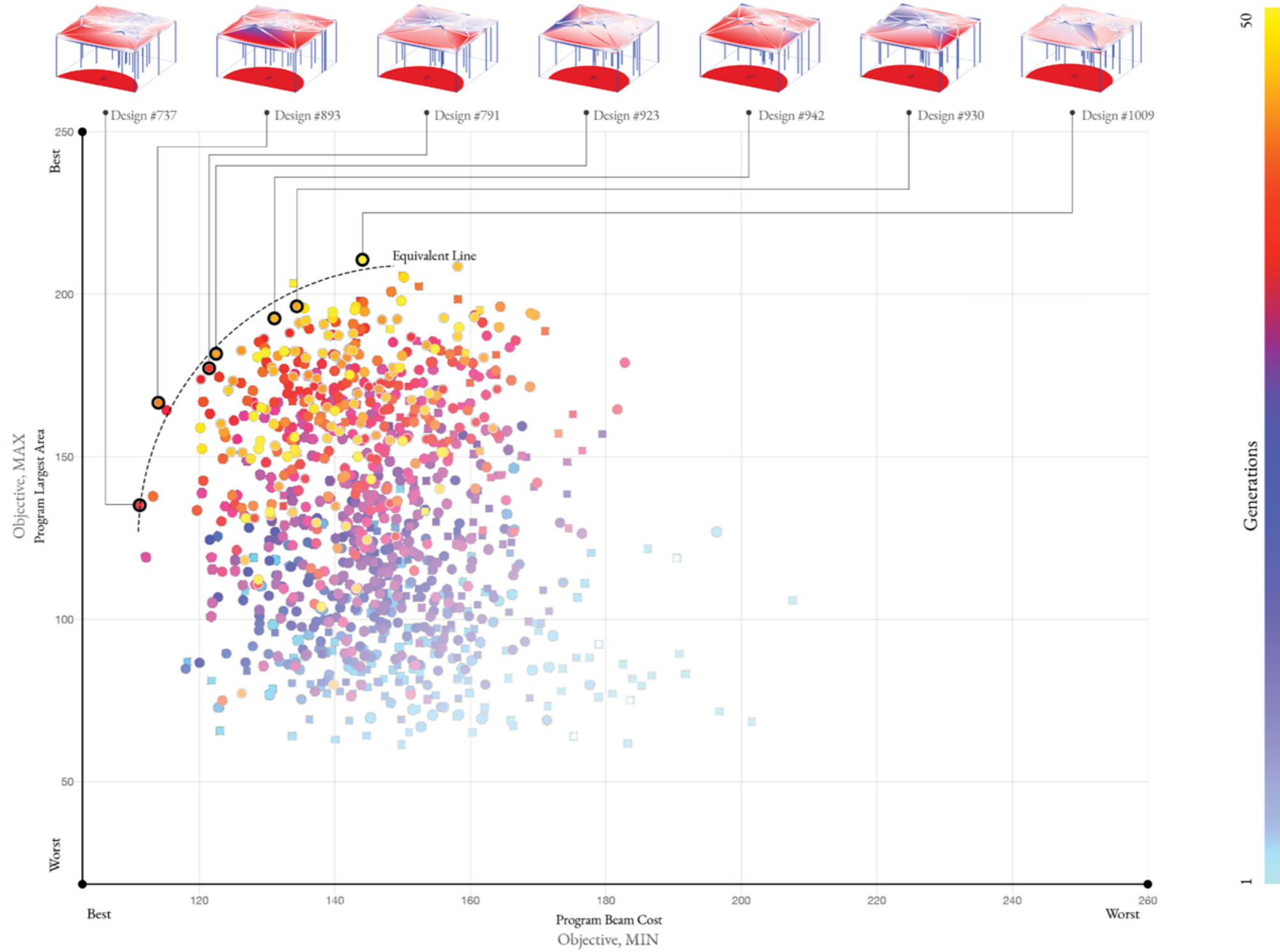


Structural analysis in Karamba 04

OBJECTIVE

CONSTRAINT

MODEL PERFORMANCE [Largest Area VS Beam Cost]

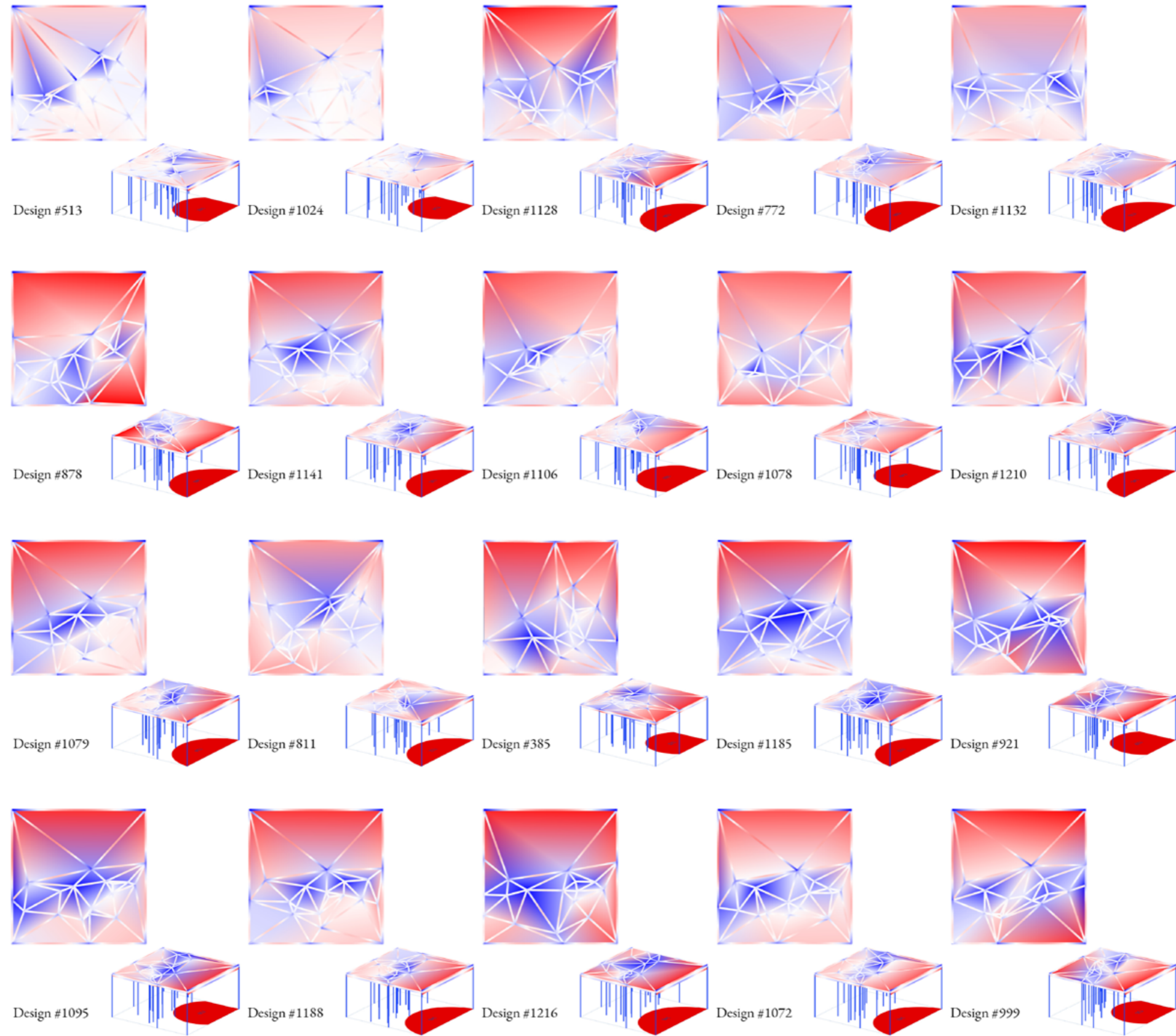


OBJECTIVE *2 // Largest Area & Beam Cost

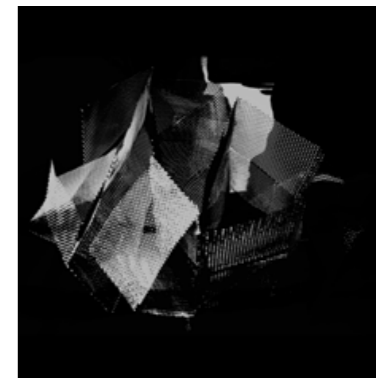
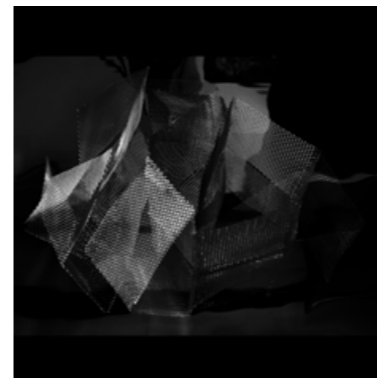
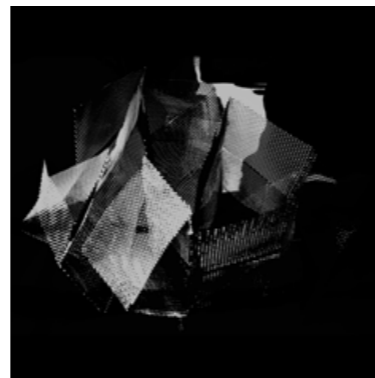
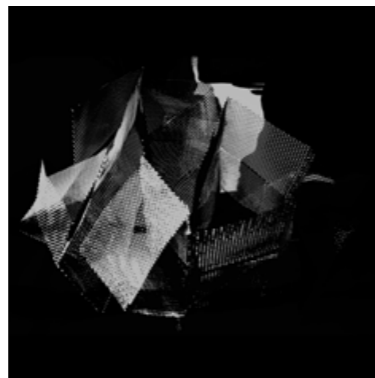
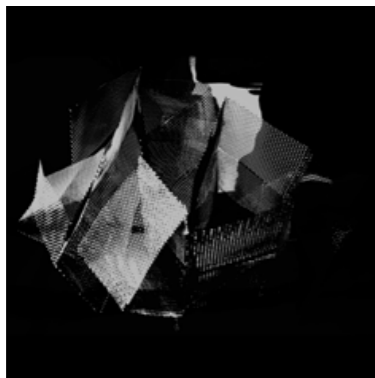
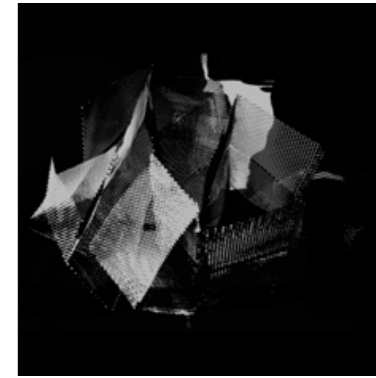
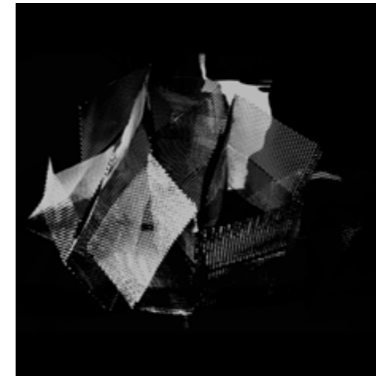
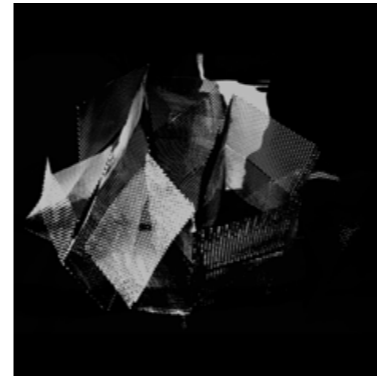
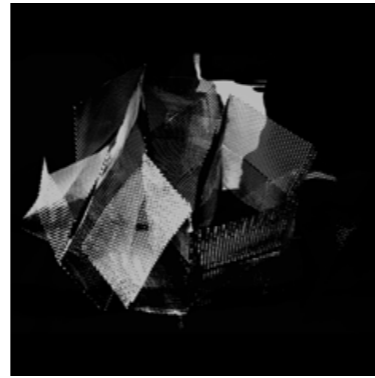
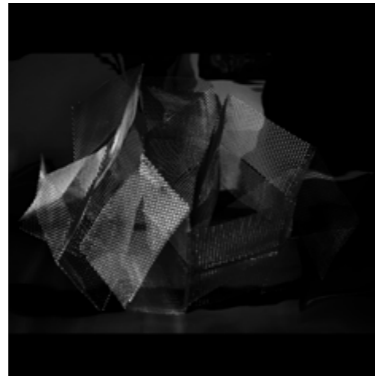
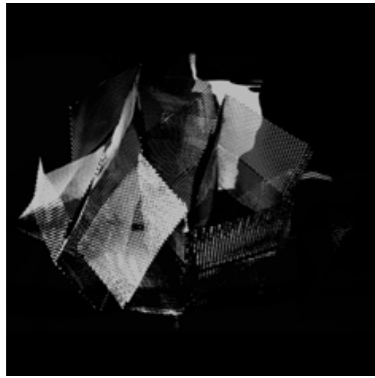
MODEL PERFORMANCE [Largest Area based on similar beam cost]



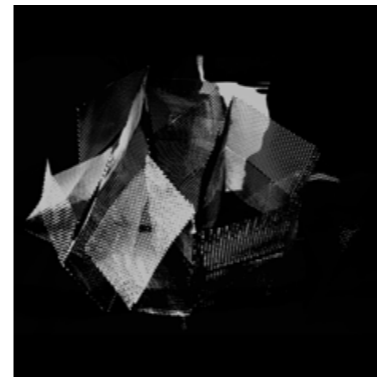
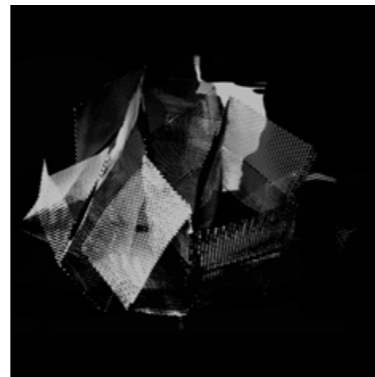
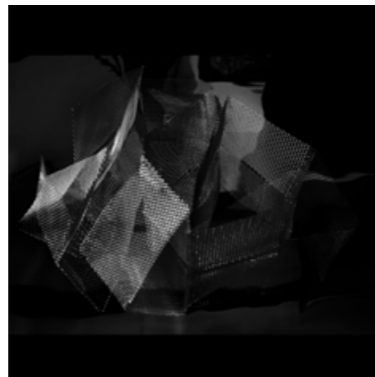
OBJECTIVE *1 // Largest Area



OBJECTIVE $*_1 // 20$ Best Designs in terms of Beam Setting



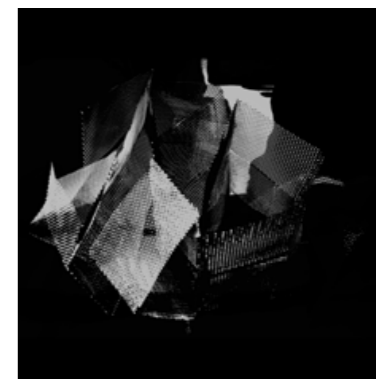
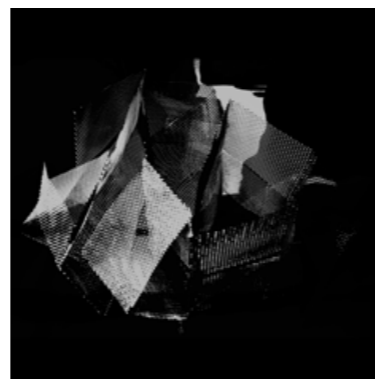
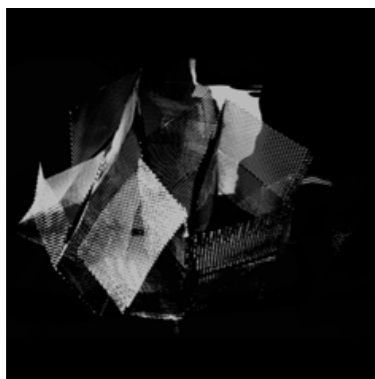
Texture



Professor: Christoph Kumpusch

06

ARCH A4832_LINES NOT SPLINES







The Journey Ends Here.

2020-05-10