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Drew Busmire Architecture Portfolio

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Drew Busmire

dbusmire@gmail.com | +1 (713)-702-6252

EDUCATION

Master of Architecture, Yale School of Architecture — 2015-2018
New Haven, Connecticut

Bachelor of Arts in Environmental Design, Texas A&M, College of Architecture, College Station, Texas — 2009-2014
Deans List | 2011, 2013

Barcelona Architecture Center, Barcelona, Spain, College of Architecture and Design — 2012

EXPERIENCE

Tom Wiscombe Architecture, Los Angeles, California — 2016-2017
Architectural Designer
Facade System Resolution; Cultural Architecture Design; Installation Architecture; Exhibition Design; Marketing Render; Documents and Drawings
Reference: Tom Wiscombe | tom@tomwiscombe.com

Studio Roland Snooks, Melbourne, Australia — 2014-2015
Architectural Designer
Installation Architecture; Digital Fabrication; Exhibition Design; Design Development; Programming; Kuka Programming; Documents and Drawings
Reference: Roland Snooks | roland@kokkugia.com

Mayfield and Ragni Studio (MaRS), Houston, Texas — 2013
Architecture Intern
Residential Architecture Design; Commercial Design and Programming; 3D Modeling and Rendering; Construction Documents and Drawings
Reference: Erick Ragni | ragni@marsculture.com

MK Global Services, Houston, Texas — 2013
Freelance Designer
Programmatic and Site Design for Production Campus in Iraq

Kivi Sotamaa, Helsinki, Finland — 2012
Architecture Intern
Installation Architecture Design; Exhibition Design; Design Development; Renderings; 3D Modeling; Documents and Drawings
Reference: Kivi Sotamaa | kivisotamaa@gmail.com

WOOD GROUP, Offshore Production Platform, Lake Charles, Louisiana — 2010
Roustabout
Manual Labor; Pressure Readings; Chemical Testing; Craining and Rigging; A/C Repair

ACADEMIC

Yale University, Teaching Assistant to Brennan Buck — 2017, 2018
Architecture and Illusion
Prepared Discussion Readings; Taught Tutrorials; Gave Critiques; Jury of Final Review

Yale University, Teaching Assistant to Peter De Bretteville — 2017
Composition
Weekly Reviews with Students; Jury of Final Review

RMIT, Teaching Assistant to Roland Snooks — 2014
Composite Wing Fabrication Seminar
Taught fabrication techniques, Oversaw fabrication of Composite Wing

Texas A&M University, Studio Assistant to Gabriel Esquivel — 2013, 2014
Taught multiple softwares, Gave Critiques, Led a Team of 4 members
Taught tutorials on drawings and software, Gave Critiques, Participated in the Final Review Panel

Best Integrated Studio Project (Ferro | Voted by faculty) — 2014

EXHIBITED WORK

Satellite : Rhea, New Haven, Connecticut — 2017
Design of Exhibition Architecture,Virtual Reality, Projection Art | https://vimeo.com/203293541

Composite Wing, Studio Roland Snooks, Melbourne, Australia — 2014
Design, Fabrication and Installation of Exhibition Architecture

Design Colours Life, Sotamaa Design, Shanghai, China — 2012
Design of Exhibition Architecture, Layout of exhibited pieces

PUBLISHINGS

Composite Wing, Studio Roland Snooks — 2014
The Future is Here Exhibition| *rolandsnooks.com/#/compositewing/*

Poro-Ecologics, Texas A&M — 2014/2015
https://vimeo.com/92535793 | Texas Architect Magazine

Fibrous House, Kokkugia — 2012/2014
City Vision Magazine Issue 7 | *Kokkugia.com* | *Suckerpunchdaily.com*

Molt, Eric Goldemburg, Niccolo Casas — 2013
Suckerpunchdaily.com

Present Materiality, Texas A&M — 2014
Axiom Magazine (Architectural Essay)

Allegro House, Mayfield and Ragni Studio — 2013
http://www.youtube.com/watch?v=mzxLk6lN1Rs

WRITTEN WORK

Apolitical Aesthetics of Accelerationism, Yale University — 2016
Michael Young's Aesthetics of Abstraction Seminar

Architectural Uncanny of the Virtual, Yale University — 2016
Marta Caldeira's Architectural Theory I: 1750-1960

Algorithms and Geography, Yale University — 2016
Keller Easterling's Globalization Seminar

How to Accel at Architecture, Yale University — 2016
Anthony Vidler's Architectural Theory II: 1968-Present Survey

The Ethereal Fold, Yale University — 2015
Kurt Forster's Modern Architecture Survey

Present Materiality, Texas A&M University — 2014
Axiom Magazine

SKILLS

CAD/3D SOFTWARE

Rhinocerous
Grasshopper
Maya
AutoCAD
Cinema 4D
Z-Brush
Pepakura
Revit
Geomagic

FABRICATION

Kuka PRC
3 Axis MasterCad
CNC Milling
Industrial Laser Cutting
3D Printing

RENDERING PACKAGES

Octane Render
Maxwell
Keyshot

GRAPHIC/MEDIA

Adobe Photoshop
Adobe Illustrator
Adobe InDesign
Adobe Premiere
Adobe After Effects
Ableton/Max/MSP

PROGRAMMING LANGUAGES

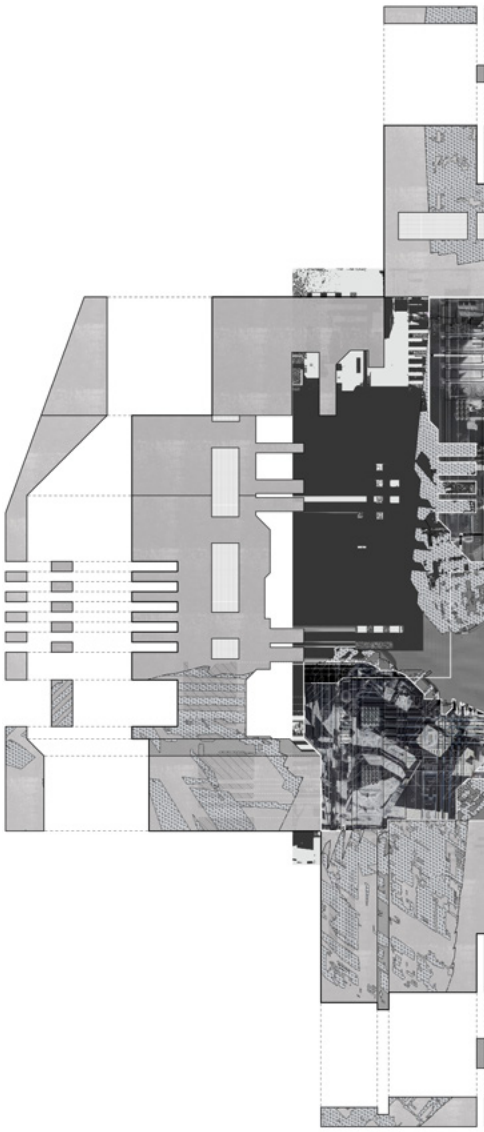
Processing/Java
Python
VB

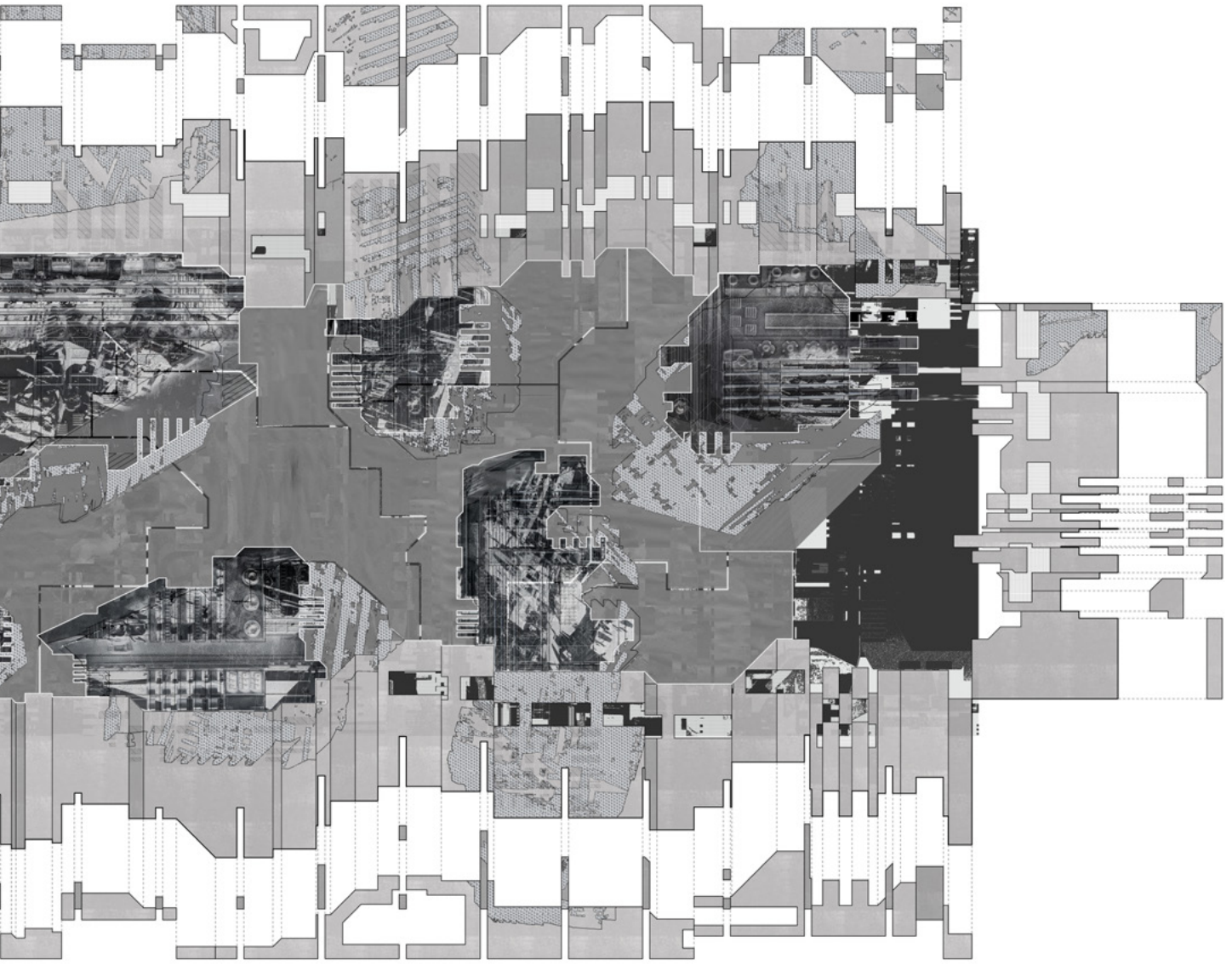
ACADEMIC

Incognizant Occupation

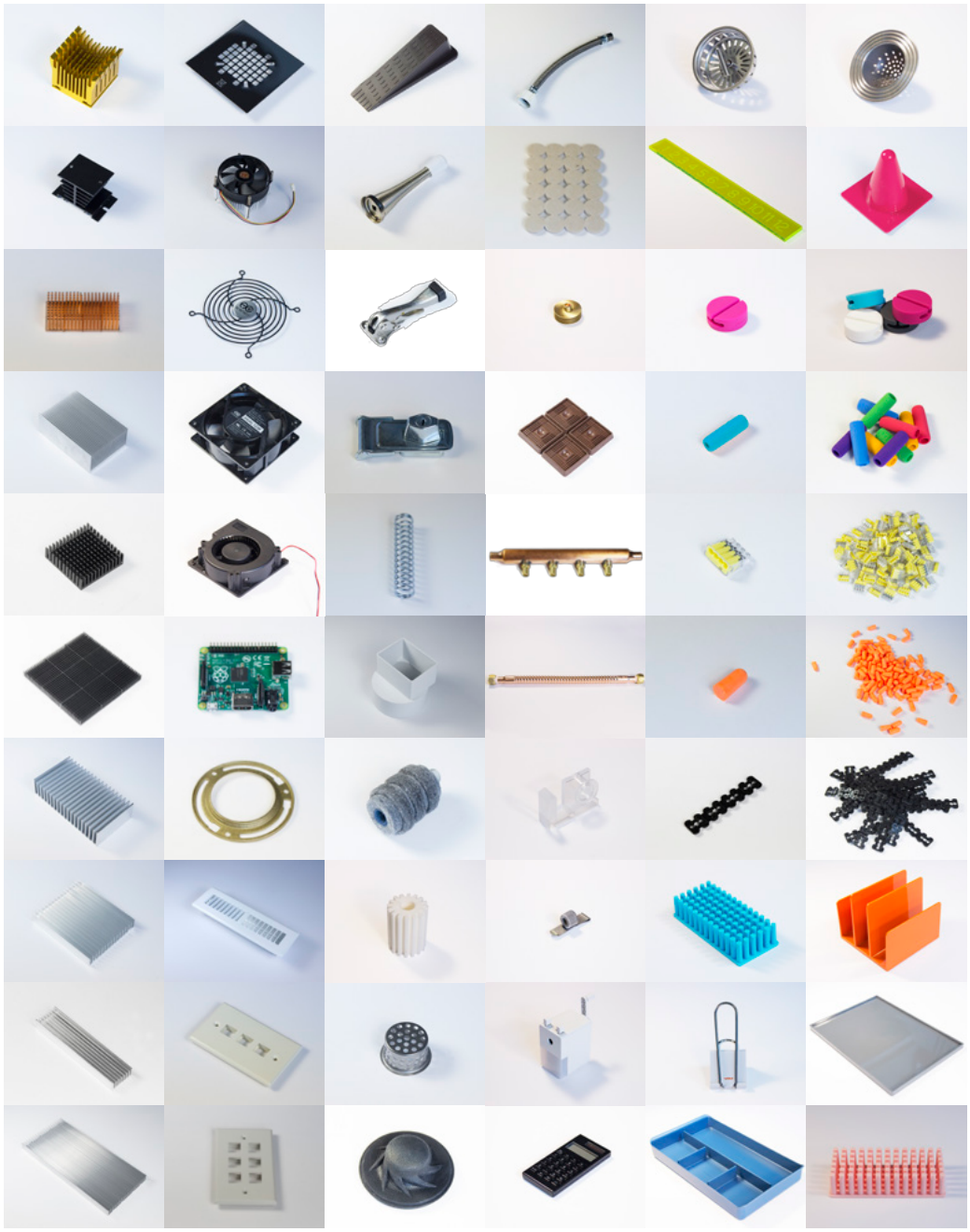
Los Angeles, California
Spring 2018 Advanced Studio - Yale
Critic: Florencia Pita, Jackie Bloom and Miroslava Brooks

Incognizant Occupation is a part of Pita and Bloom's Easy Office Studio. The studio itself sought to take on the easiness of Warhol's appropriation of the Brillo Box as art, by use of the Readymade. The first half of the studio was divided into three phases, Collect, Collage and Compress. In these there phases students where to find Readymade objects, aligning with their intuition as Architects, Collage images of them, and finally vacuform collections of them so as to abstract their qualities and define new relationships. The second half of the studio focused on designing an office using intuitions gainef from the first three phases, as well as taking formal and relational ques from the readymades. Incognizant Occupation challenges the privacy of the current tech office by grafting a private VFX Studio and a public workshare space. The first floor is entirely open air, accessible from either end of the warehouse allowing an open floor plan for the Workshare space. The interior walls deviate from the exterior shell, creating a liner housing the circulation for the VFX studio. A thick roof houses the primary studio space, while the 'Rooms,' housing task oriented program, project into the Workshare space. Further these 'Rooms' carve the ground plane allowing an interconnected infrastructural system to exist underground. The enclaved 'Rooms' confront the user of the Workshare space, enabling an acknowledgment of contingent program as well as their own incognizant occupation of the Stack. We are more inside of the network of data and computation than we are outside of it.

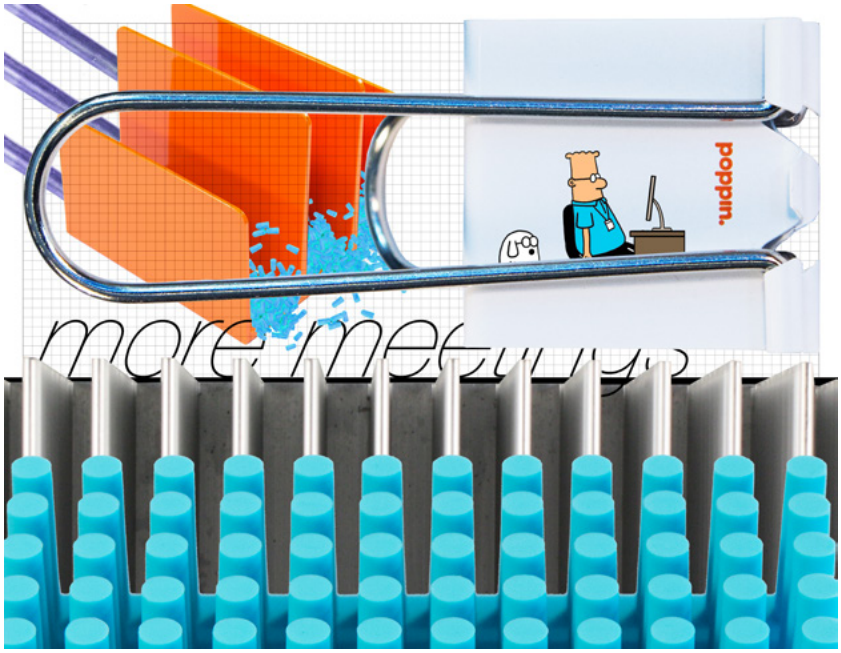




PHASE : 1



READYMADE COLLECTION



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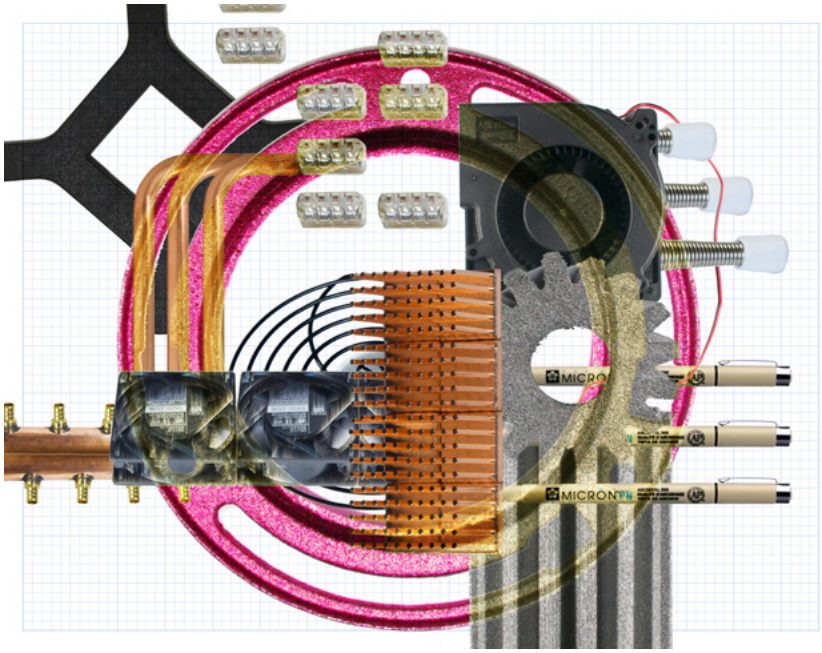
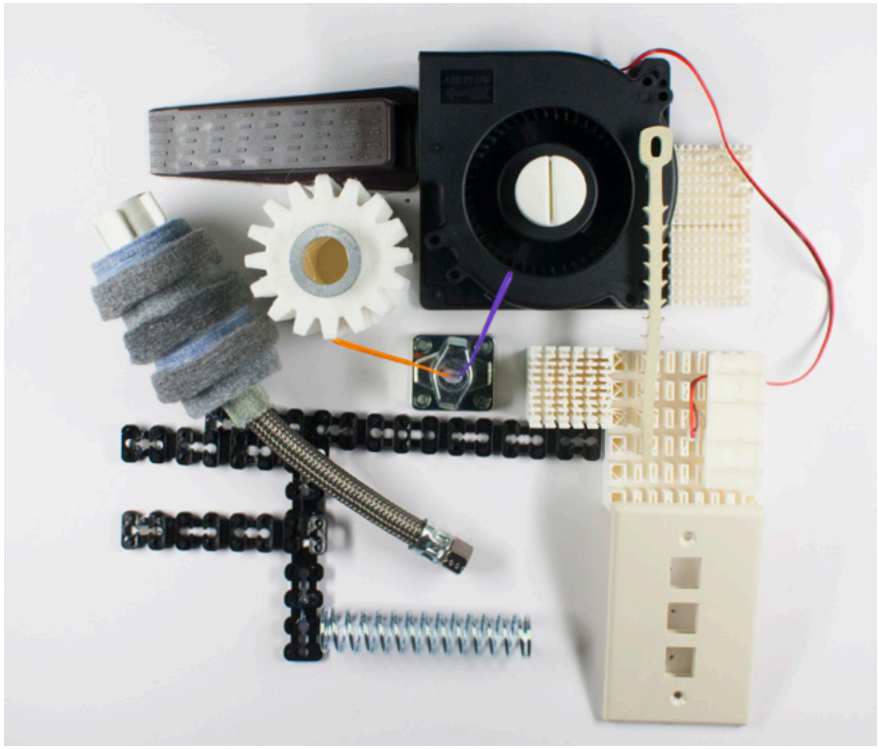
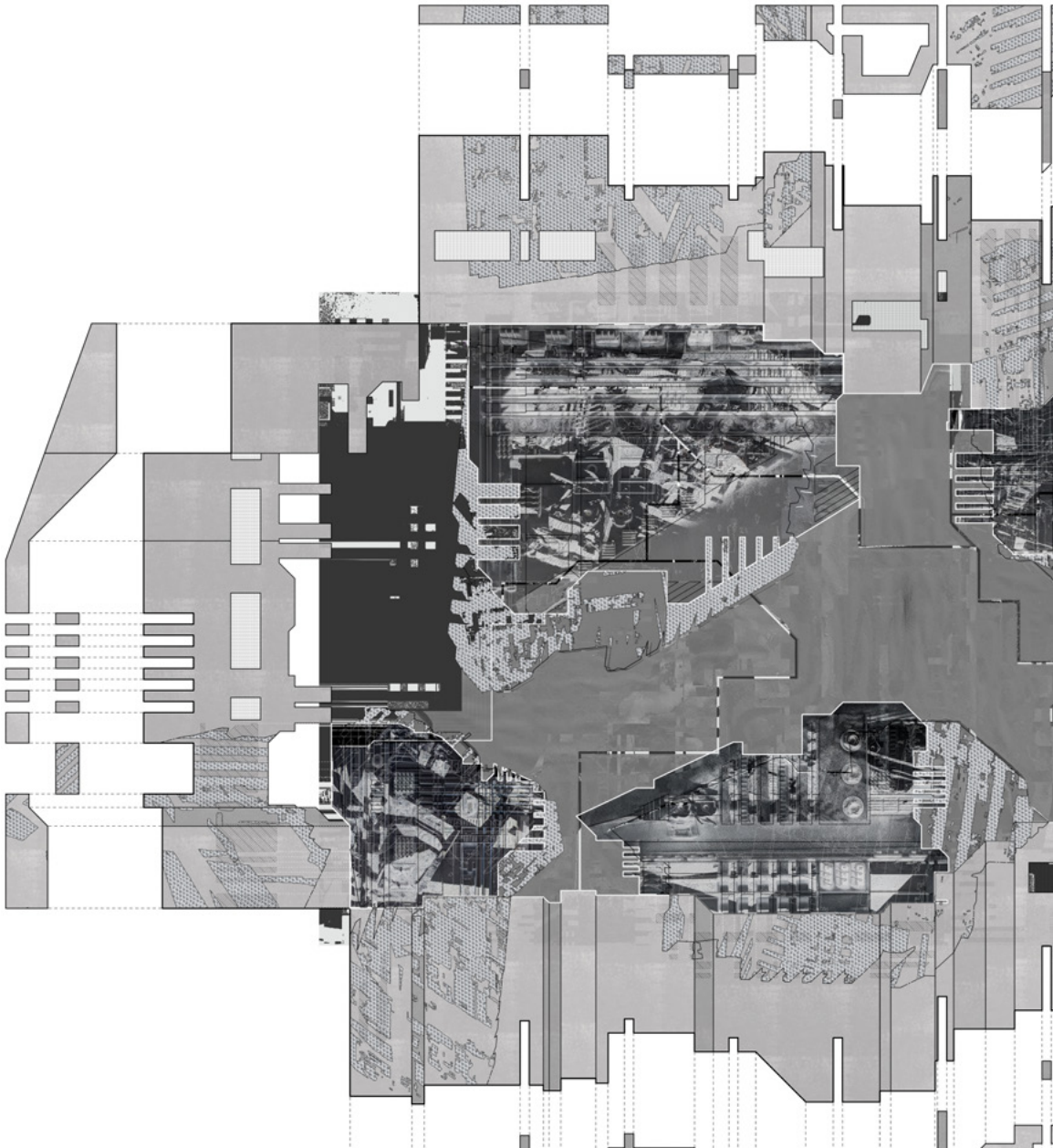


READYMADE COLLAGE

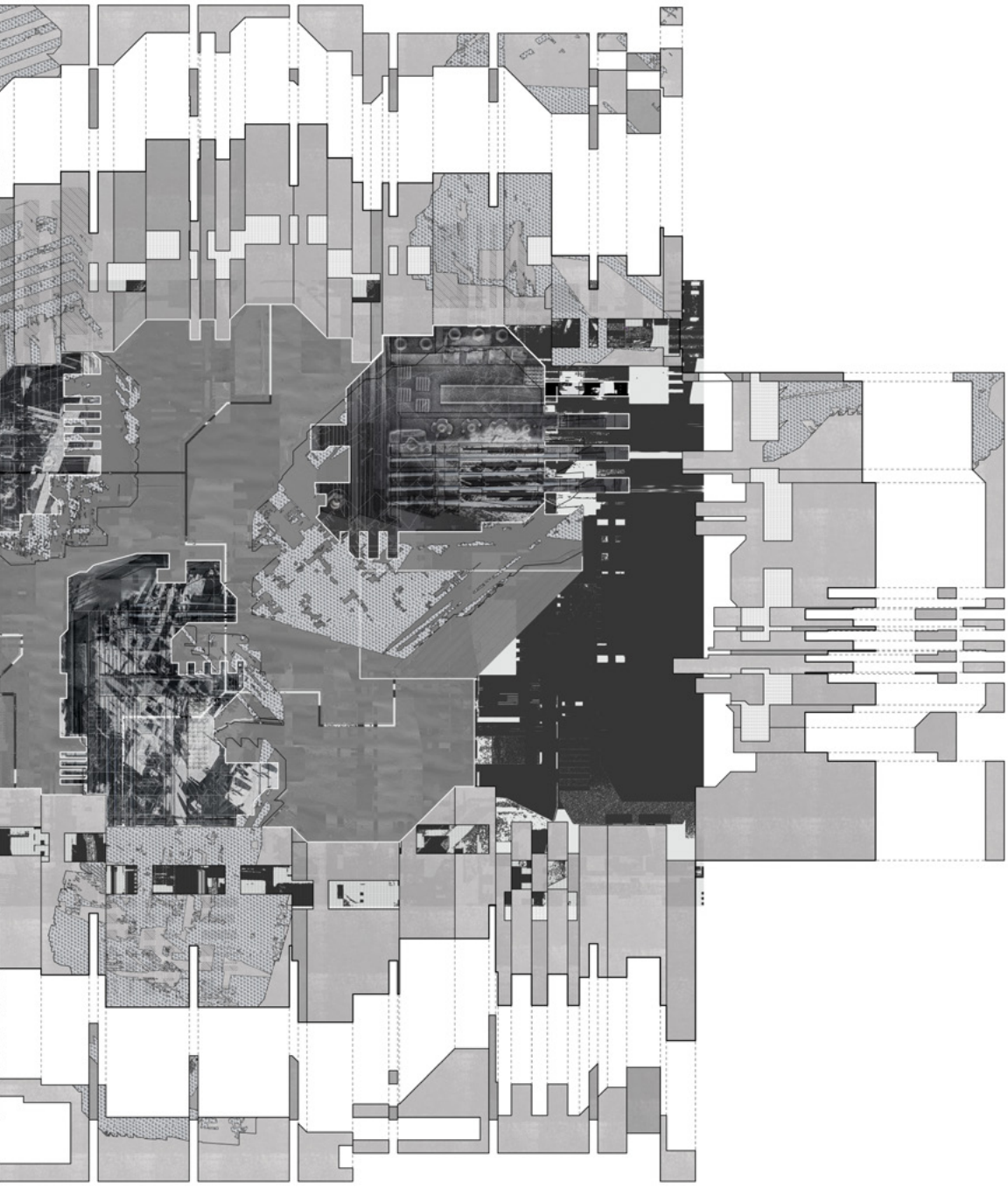
PHASE : 3

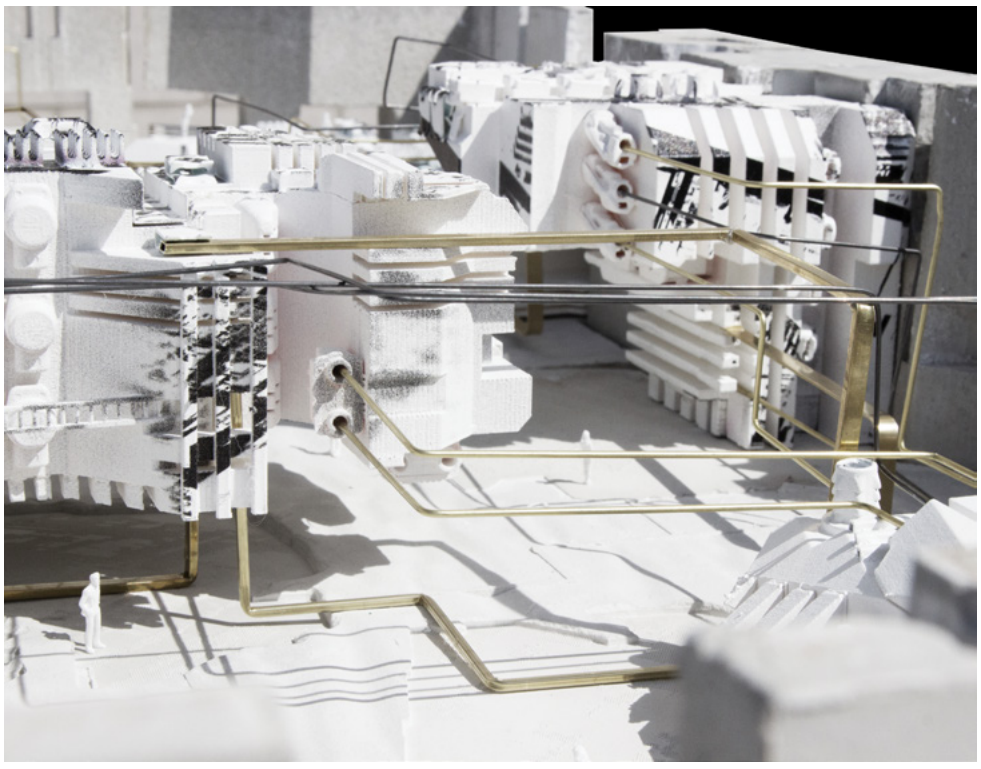
VACUFORM COLLAGE



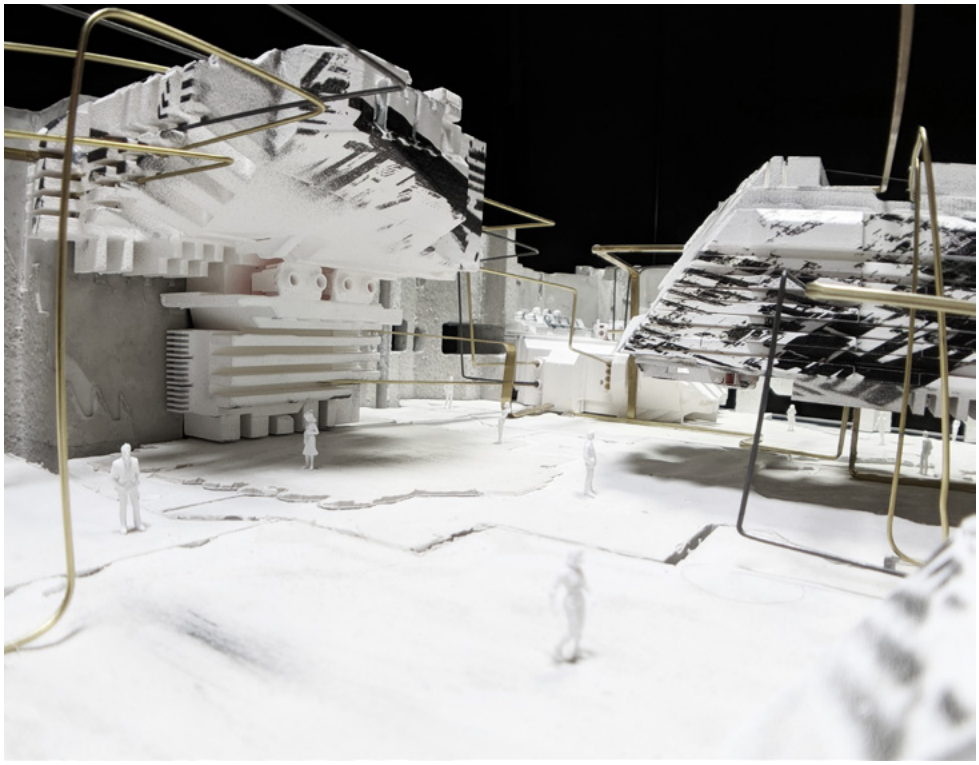


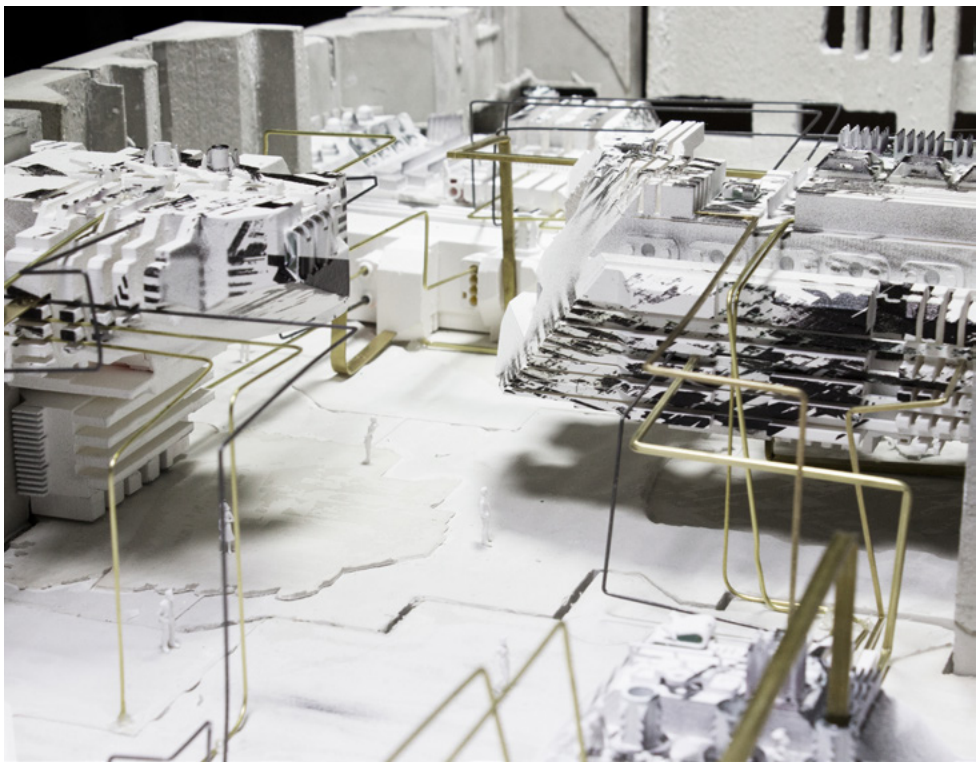
DEVELOPED SURFACE





MODEL PHOTOS





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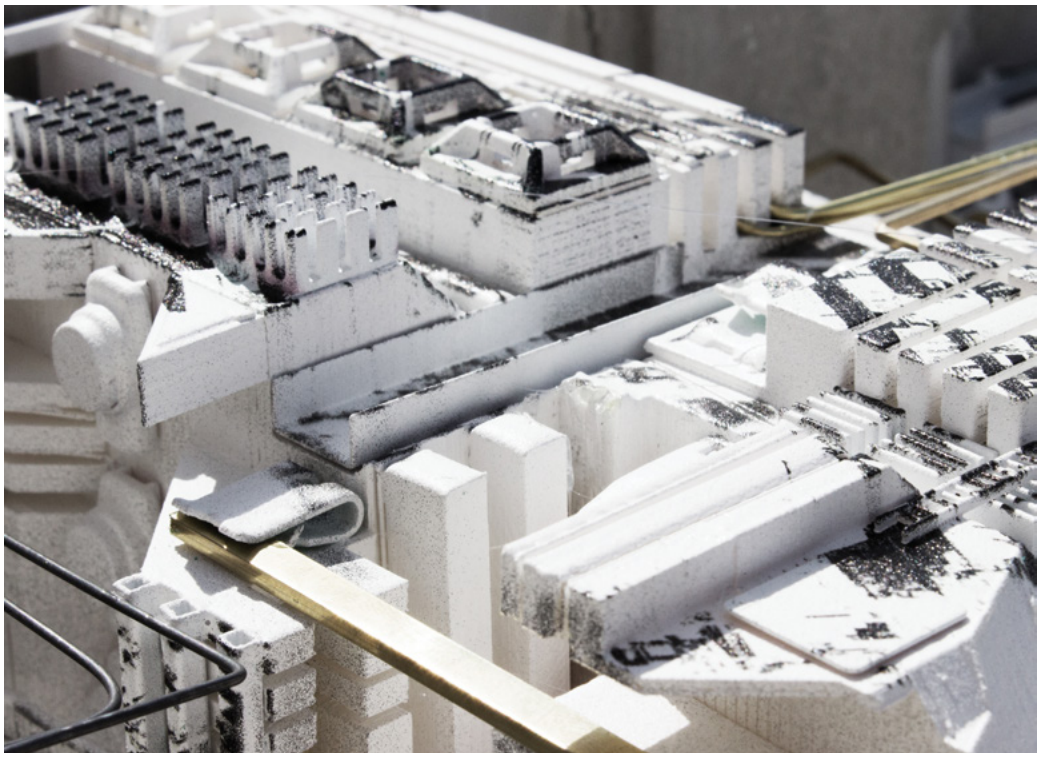
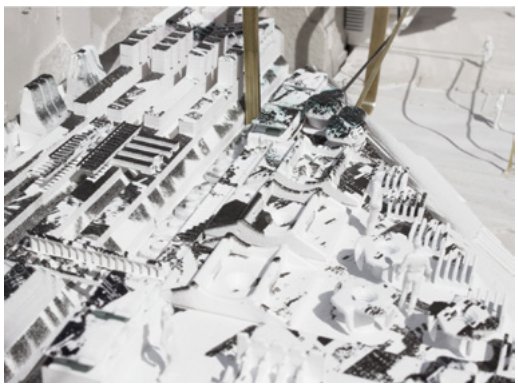
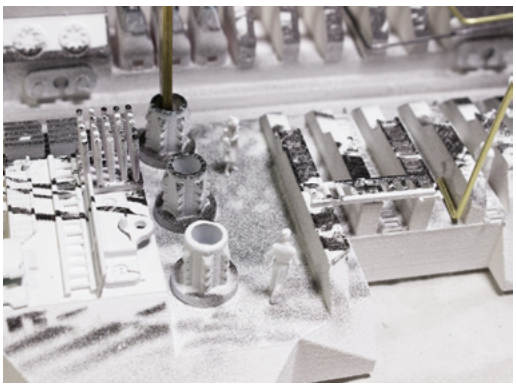
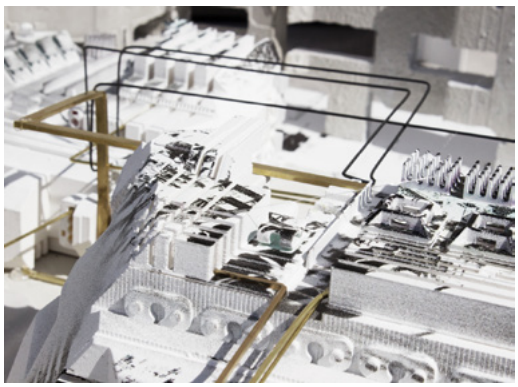
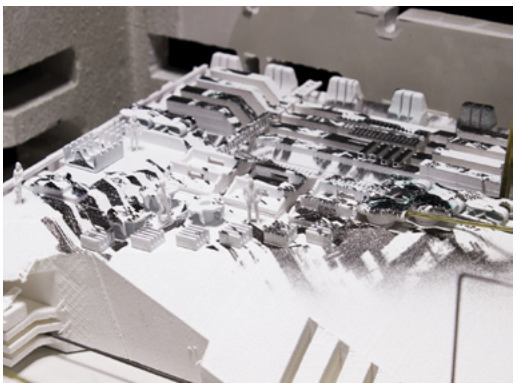


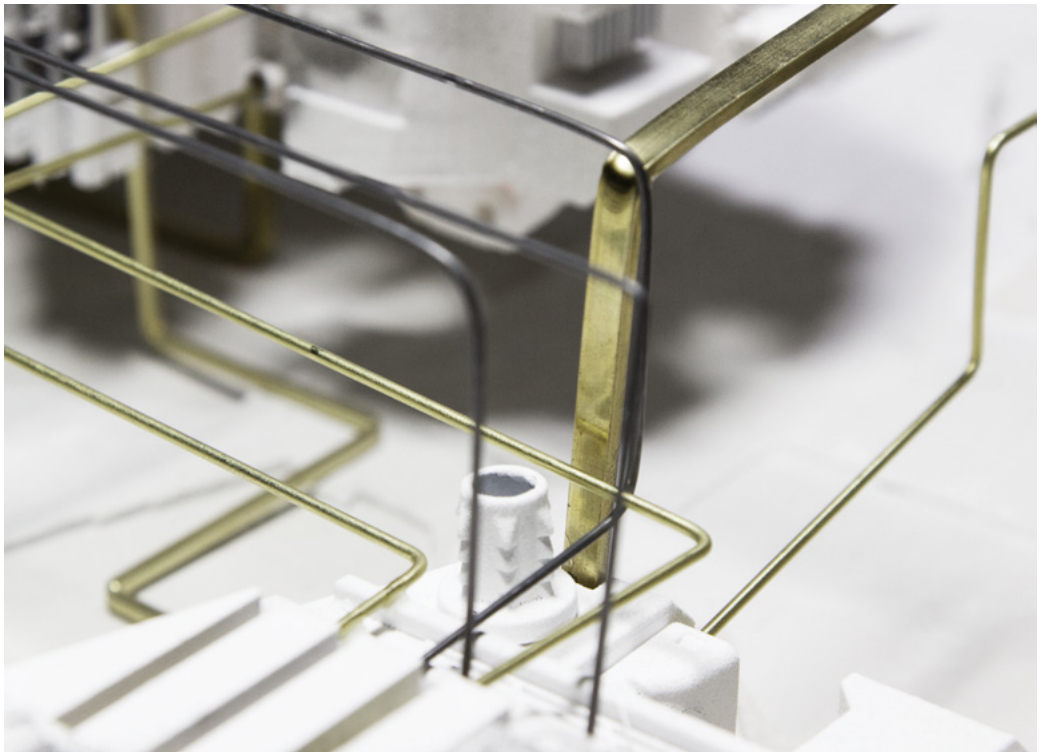


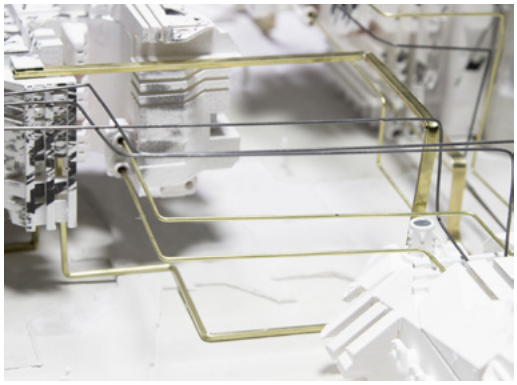


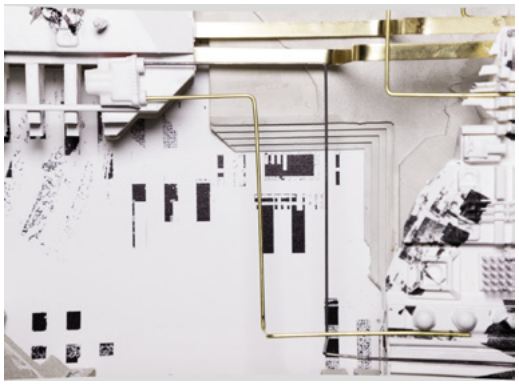


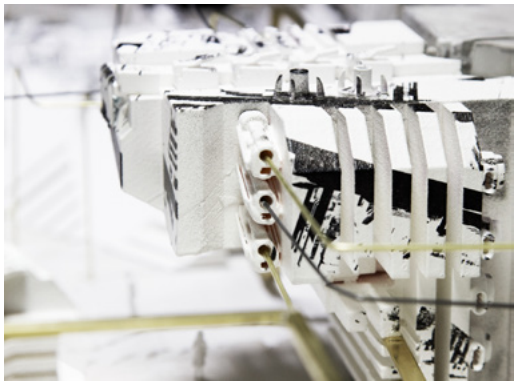


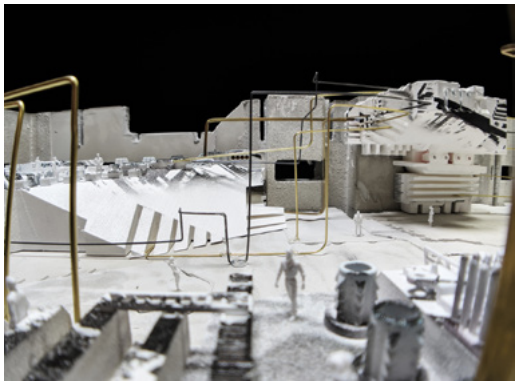
MODEL DETAILS











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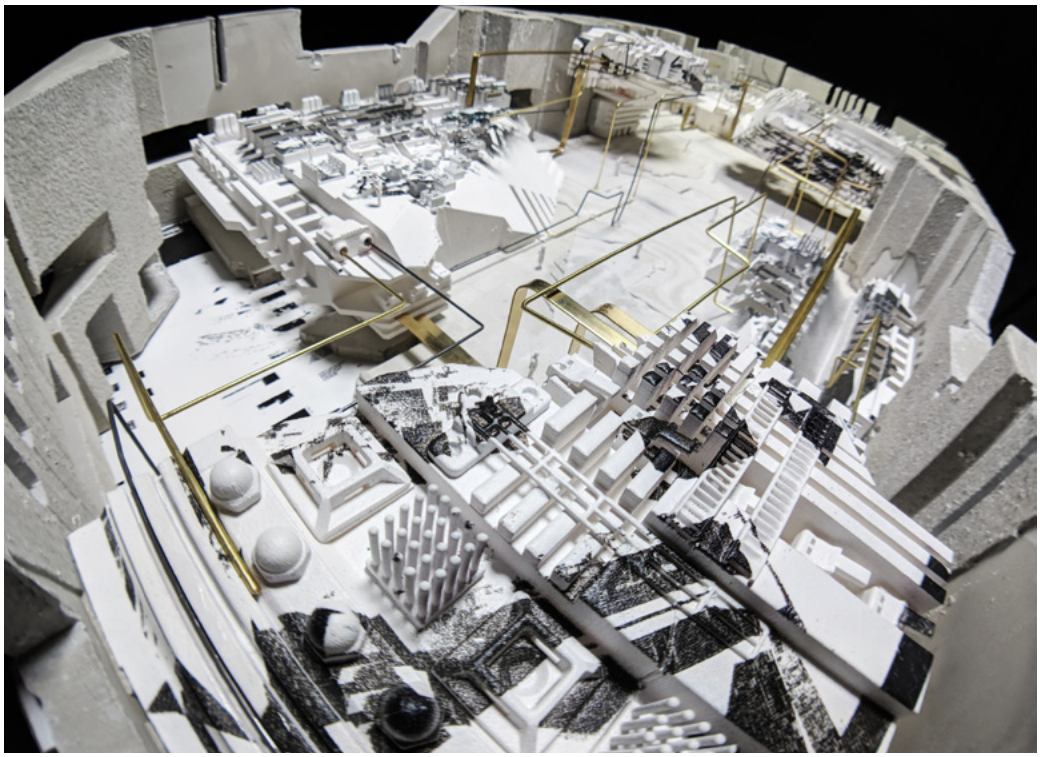
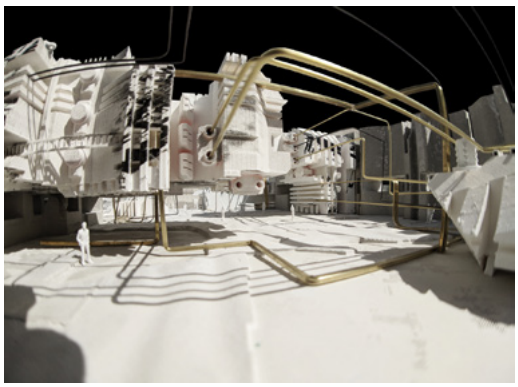


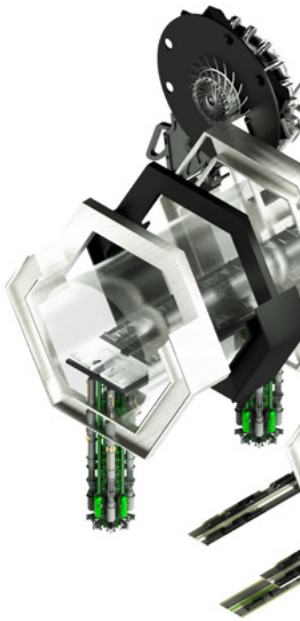


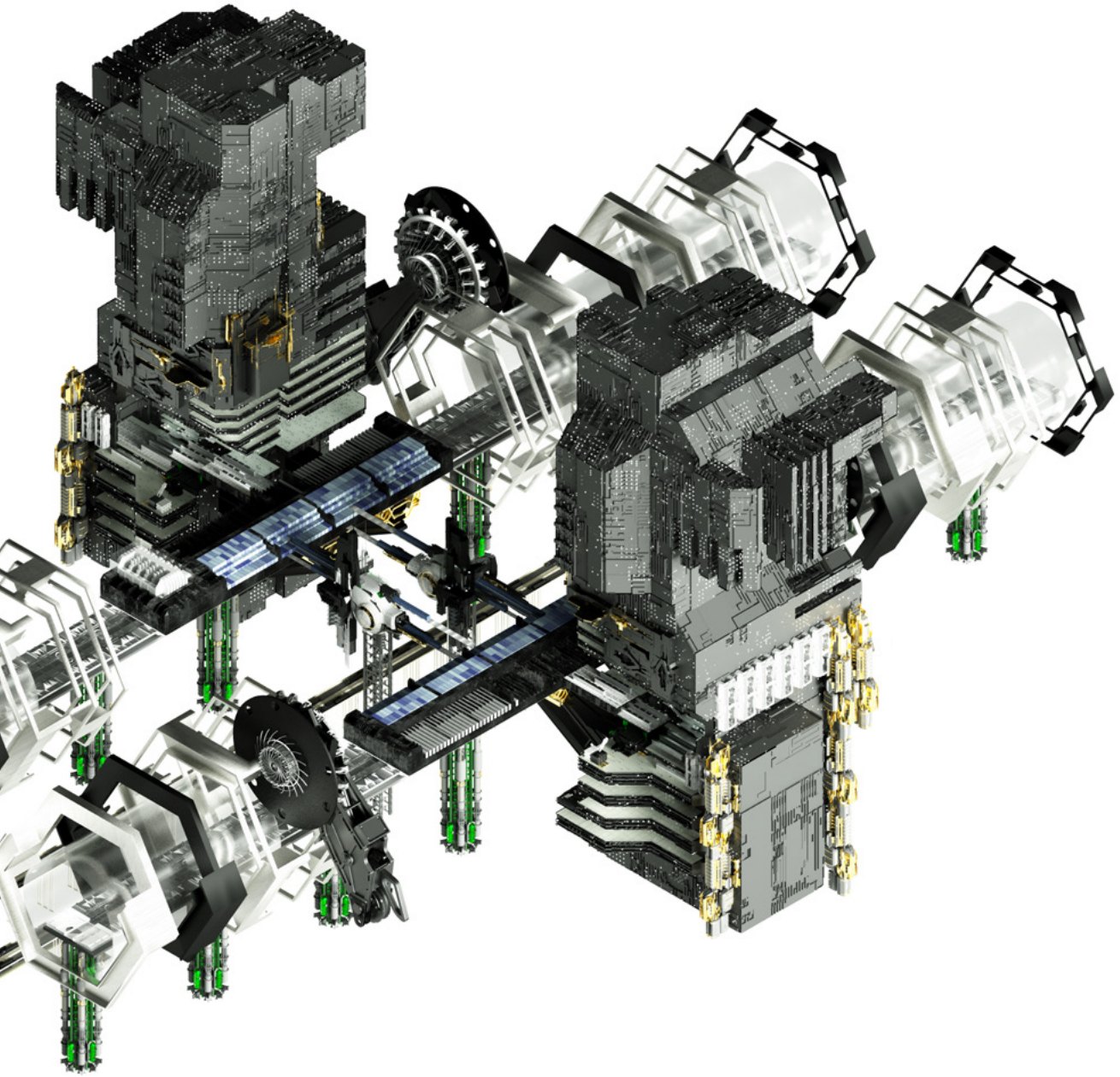
MODEL DETAILS

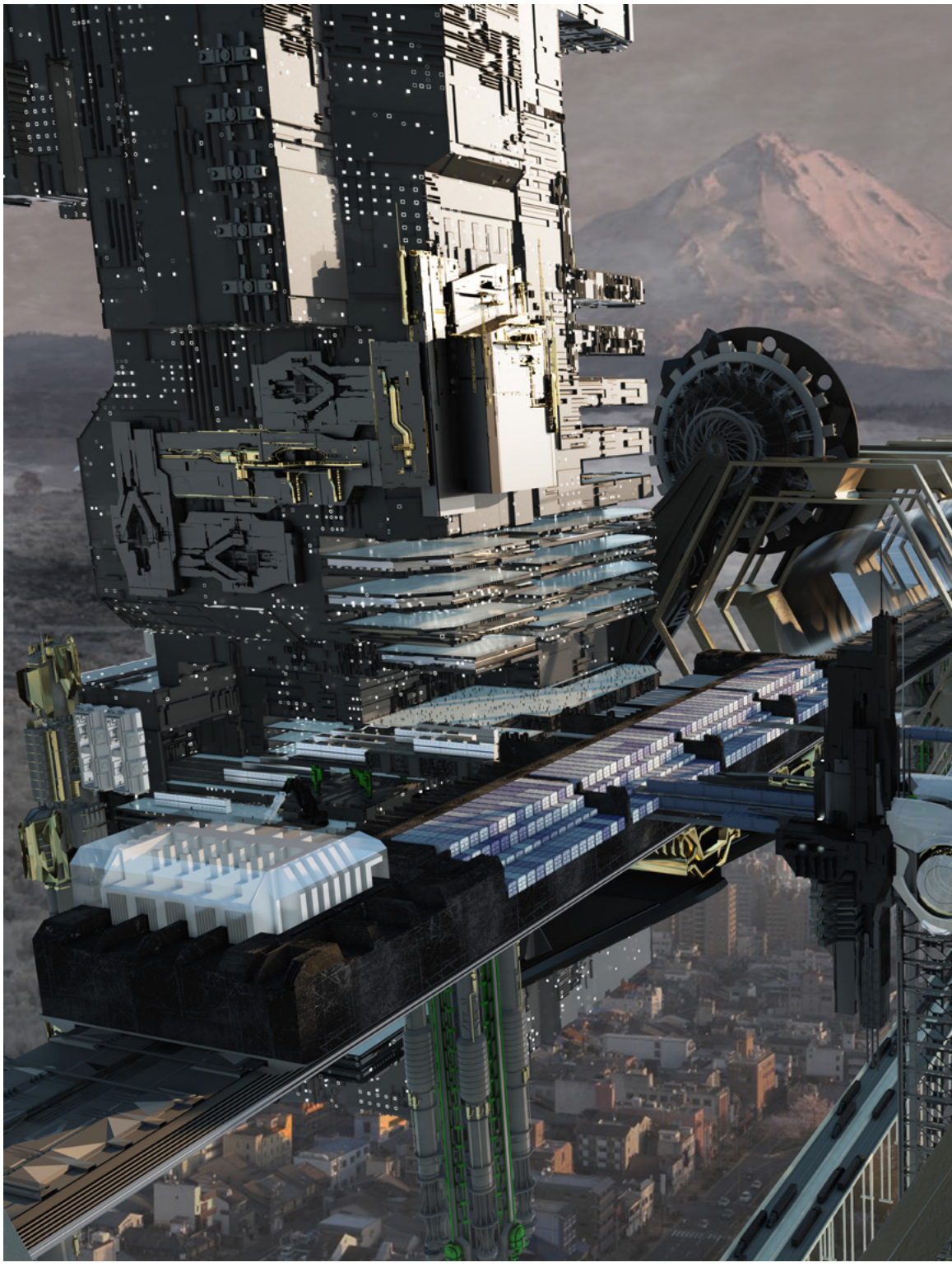
Muskinhower MagVac

Denver, Colorado
Spring 2018 Seminar - Yale
Critic: Mark Gage

The Muskinhower MagVac speculates on the future of domestic and international shipping in the United States. It speculates that with an increasing trend of decentralized manufacturing it will be necessary to move large amounts of produce, water, heavy cargo and other resources across the United States, particularly from the middle outwards. The thirteen trillion dollar shipping industry is developing at such a rate that it necessitates reconfiguration. The Eisenhower Interstate system, along with the freight rail system are based on a model of interconnection in the United States during a time of gross suburbanization. This model did not consider the re-urbanization that would inevitably happen, thus, **The Muskinhower MagVac streamlines connection by focusing on four main locations; New York, Chicago, Denver and Los Angeles. This large-scale infrastructural project expands upon the existing condition of shipping containers by increasing quantity, frequency, and speed.** It is a large scale MagLev VacTrain. The image depicted represents one of the changing stations located in Denver. The two tracks have large rotating doors that allow the vacuum to be sealed. At the changing stations, these doors open up allowing both shipping container and pedestrian boarding. The towers hold storage facilities for shipping containers, and pedestrian-train cars, travel centers, hotels as well as the large amount of industrial machinery required to operate the MagLev transport. The large pavilion level is at the same height of the track allowing pedestrians to occupy the open air space. This pavilion hopes to garner a nostalgia for American Infrastructure, that allows one to realize how small they are in the large scale economic machine in which they exist.





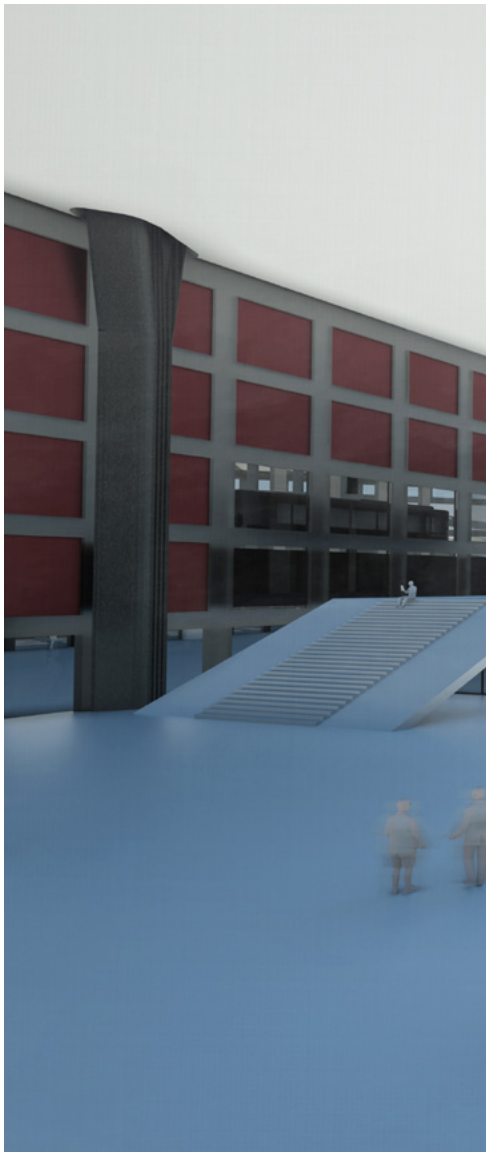


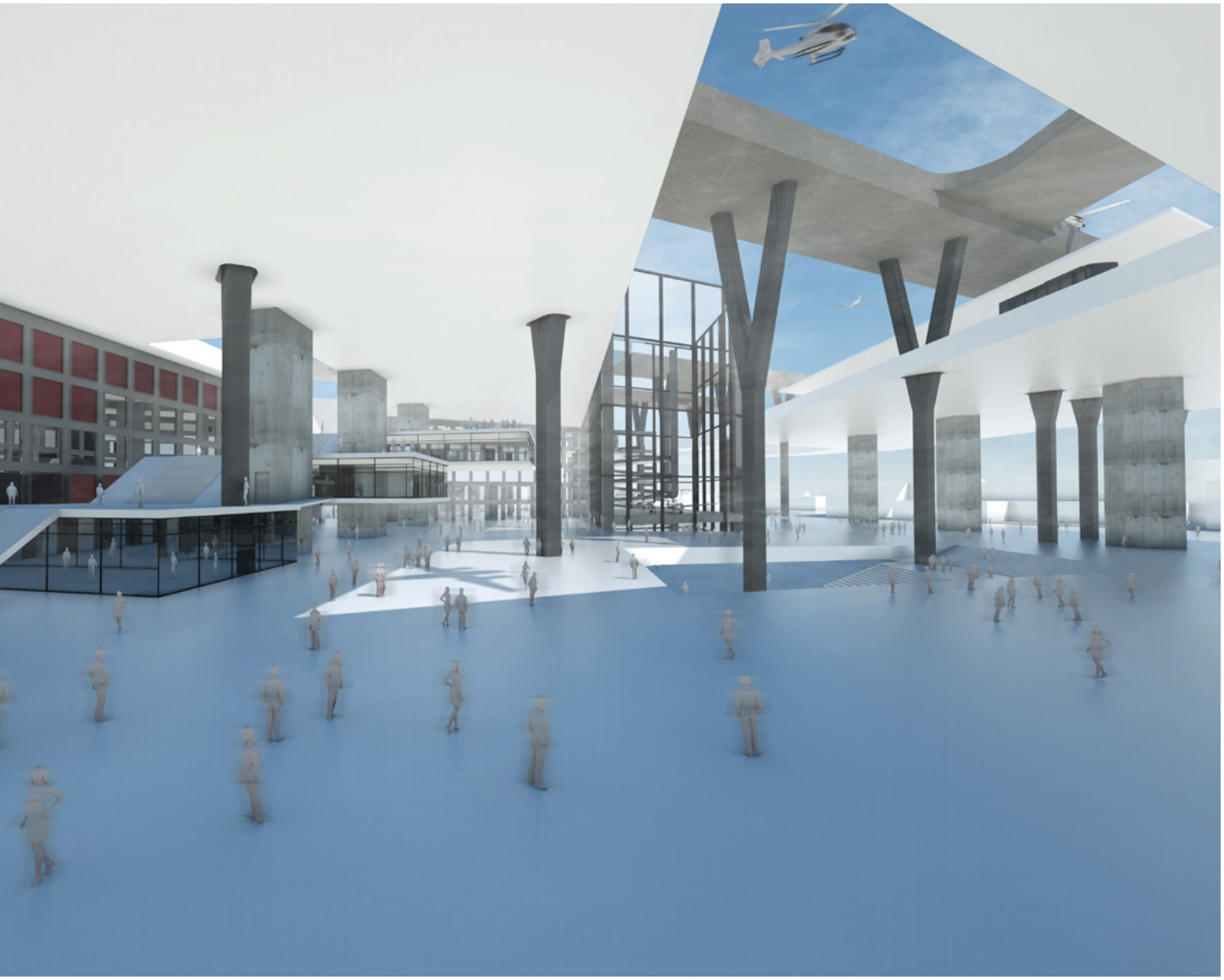
MATTE PAINTING

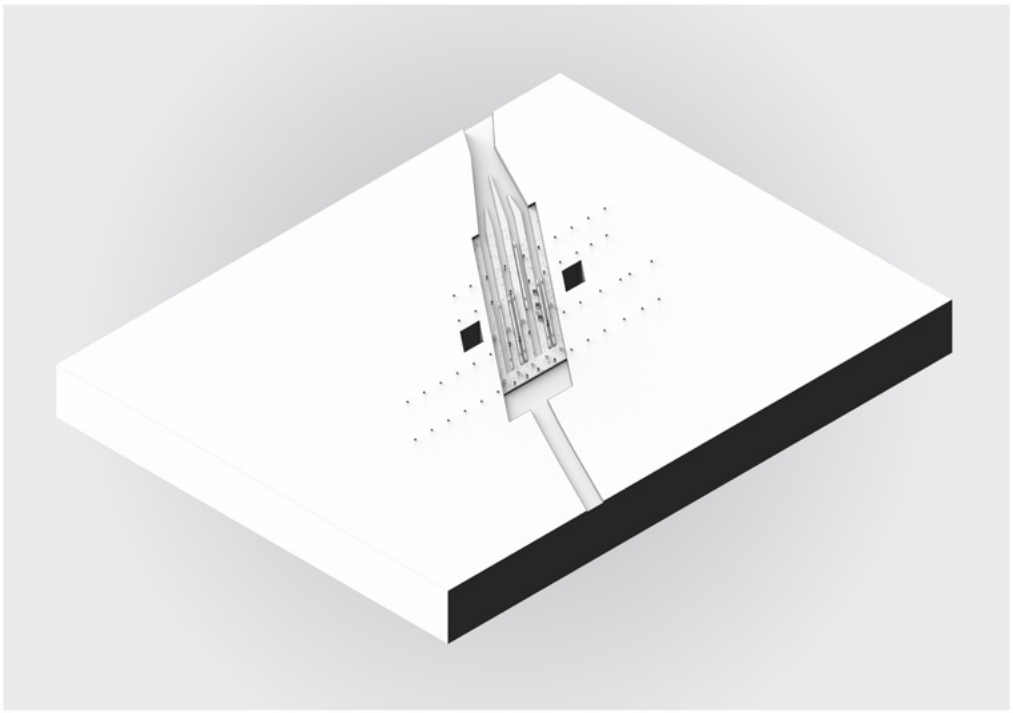
Contingent Flow

Athens, Greece
Fall 2017 Advanced Studio - Yale
Critic: Elia Zenghelis and Andrew Benner

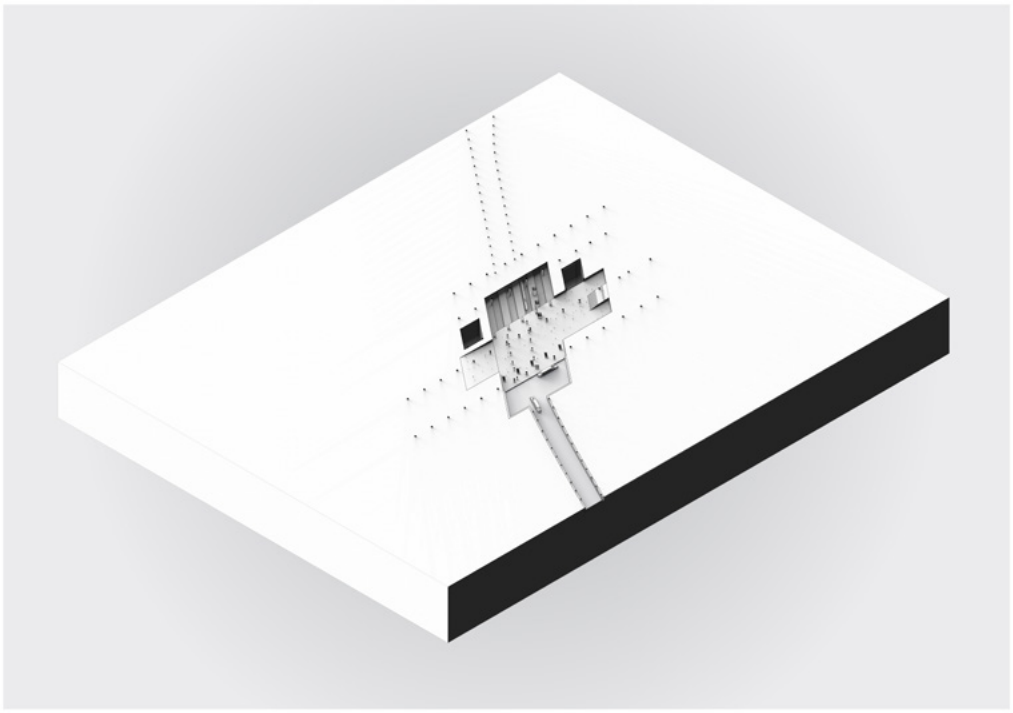
Contingent Flow is a transportation hub and cultural center in Athens, Greece. The project acts as a central knot unifying disparate neighborhoods along the long walls of antiquity. It services both locals and those traveling regionally throughout Greece. **The transportation hub questions the formality of travel by providing multiple contingent modes of travel. The hub includes a regional train, local subway, bus depot, highway interchange, Helipads and Landing strips. This allows one to travel to the hub and then take any mode of transportation to their final destination.** Contingent Flow asks why the process of travel is always associated with such a formality, and could it operate more freely? Further this project attempts to ramify social connectivity through its programmatic typology and location in a central location of a city. Formally the project is a series of stacked planes, each performing a different mode of transportation. The grid system is founded on the intersection of Greek Motorway 1 and the existing Piraeus Avenue, providing a direct view of the Acropolis. Additionally there are many vantage points to view different levels so as to W all modes of travel simultaneously.



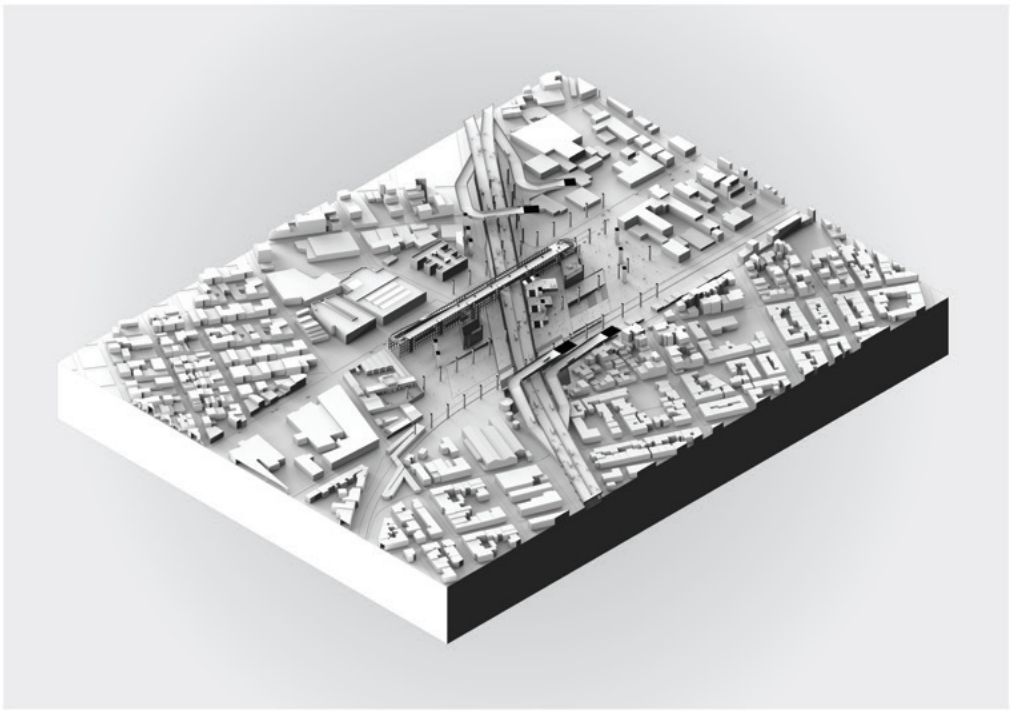




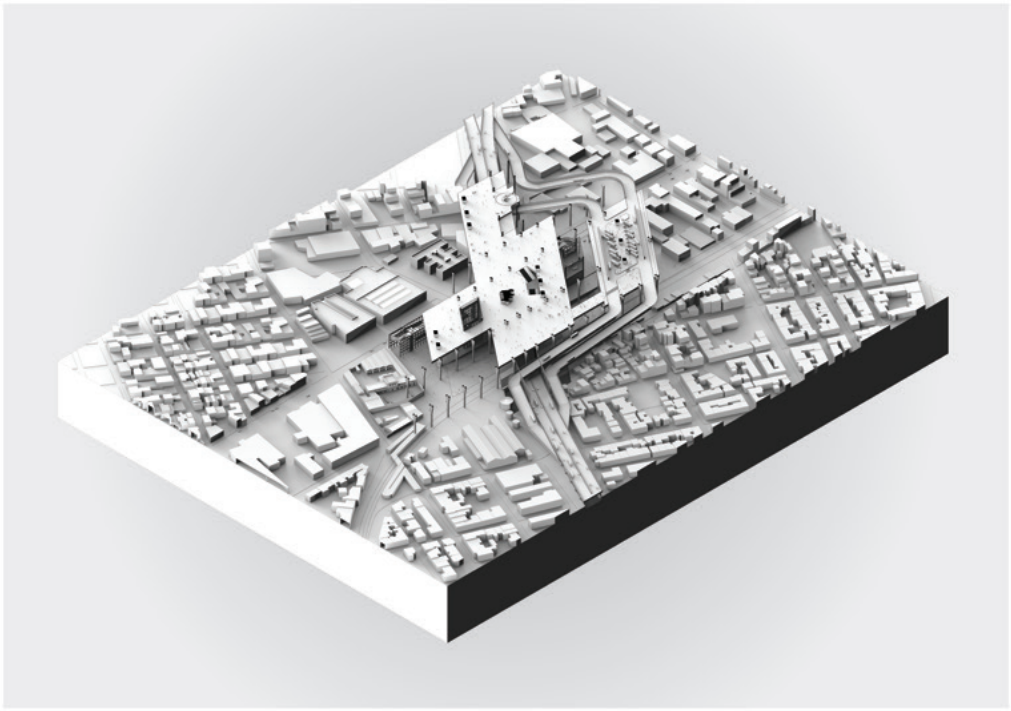
FLOOR PLAN -2



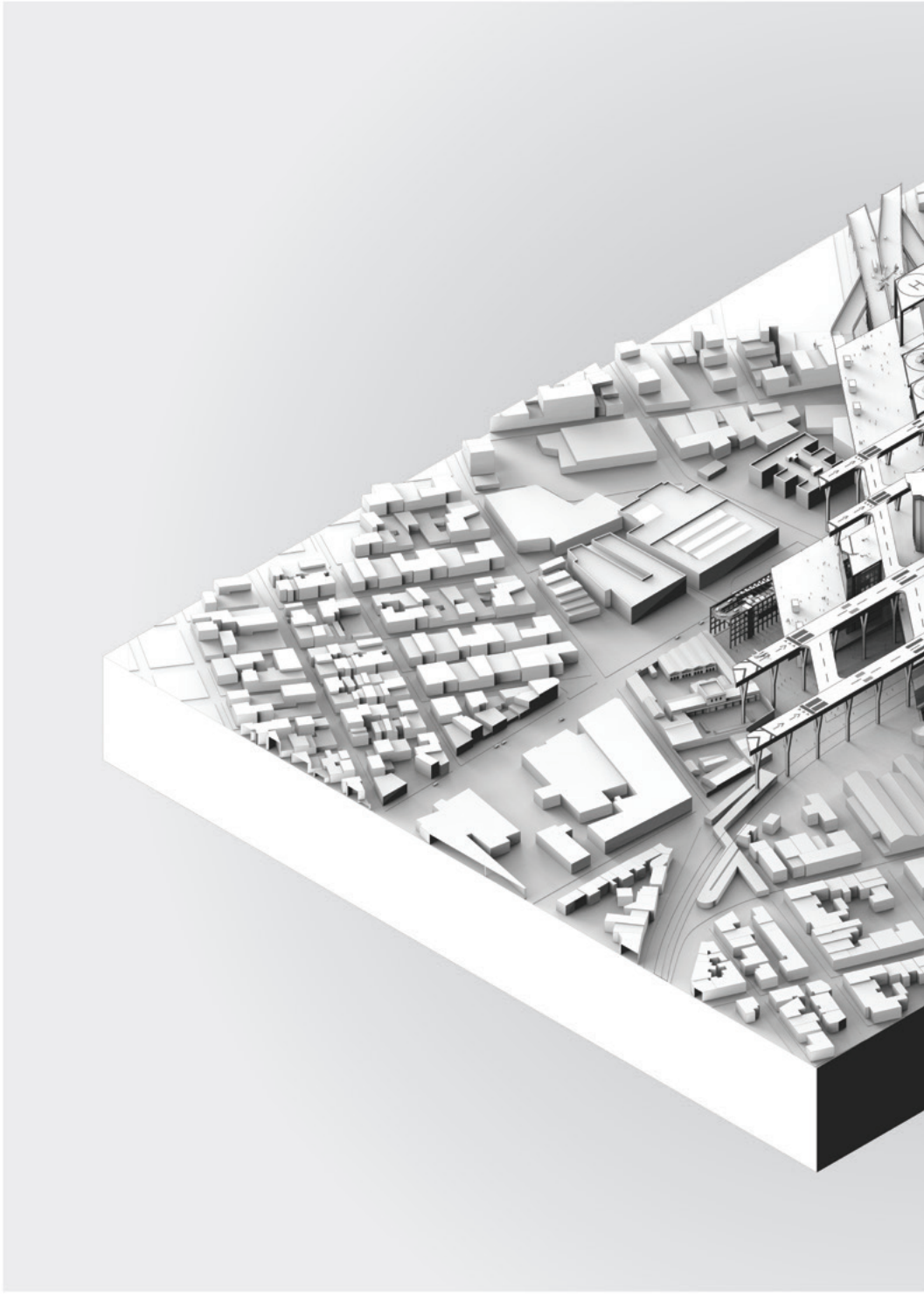
FLOOR PLAN -1



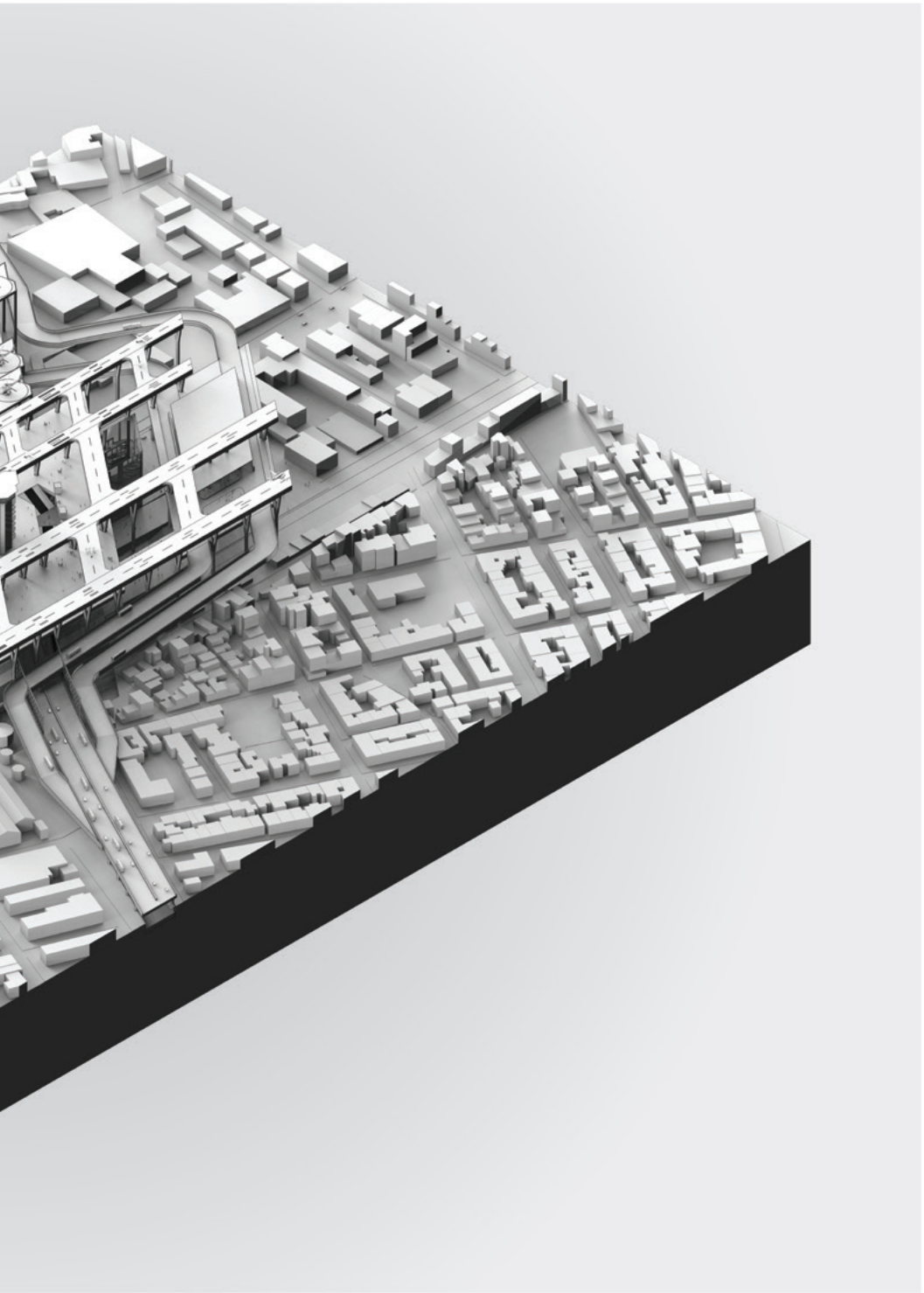
FLOOR PLAN 0

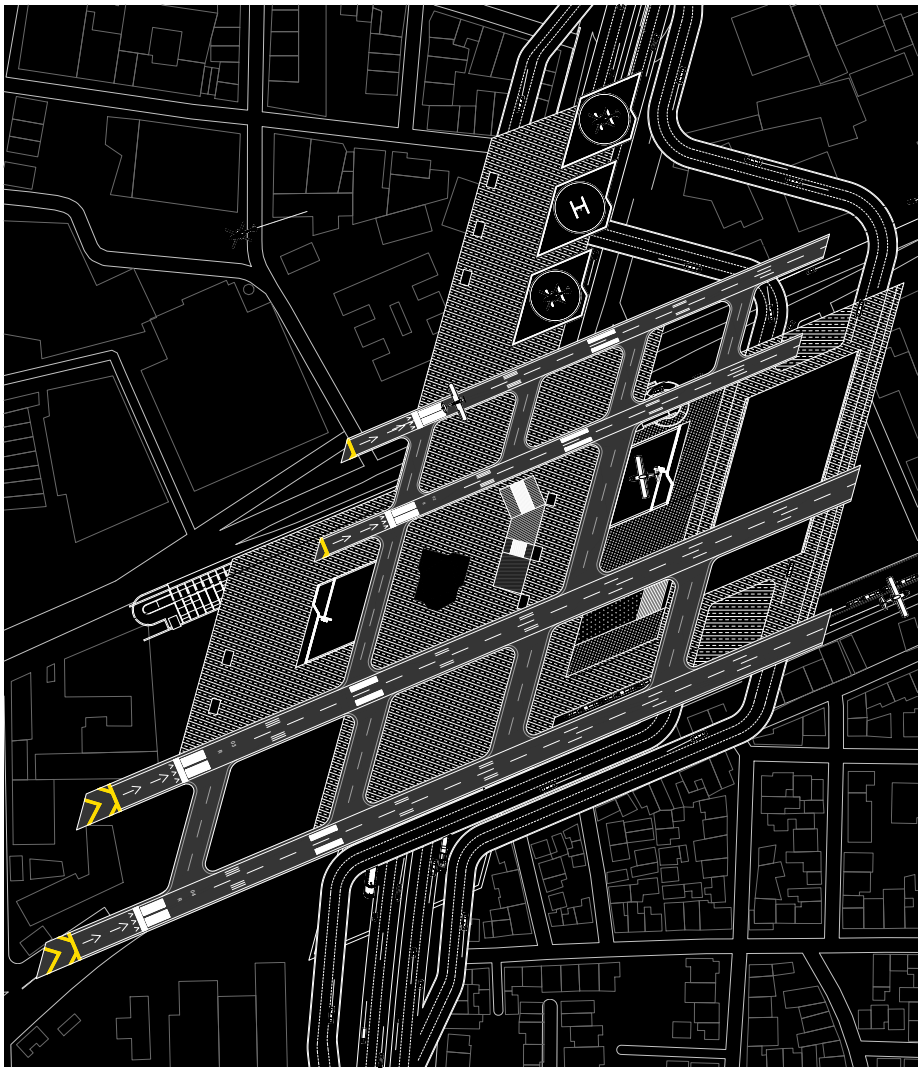


FLOOR PLAN 1

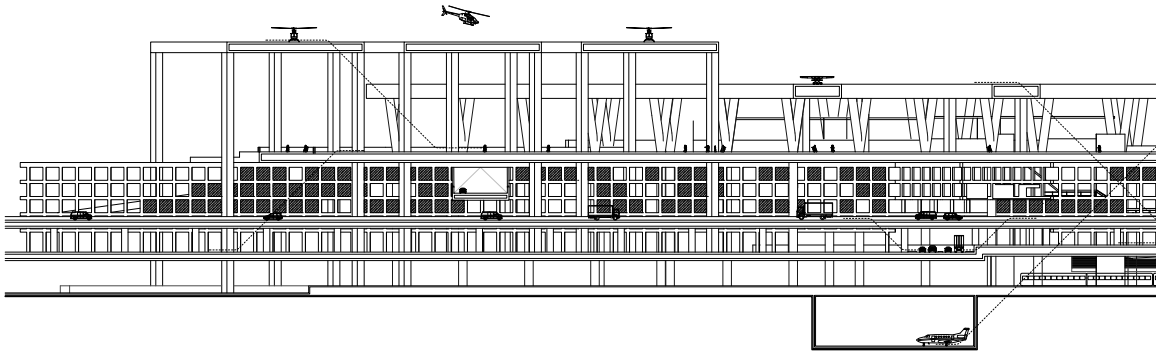


AERIAL SITE PLAN

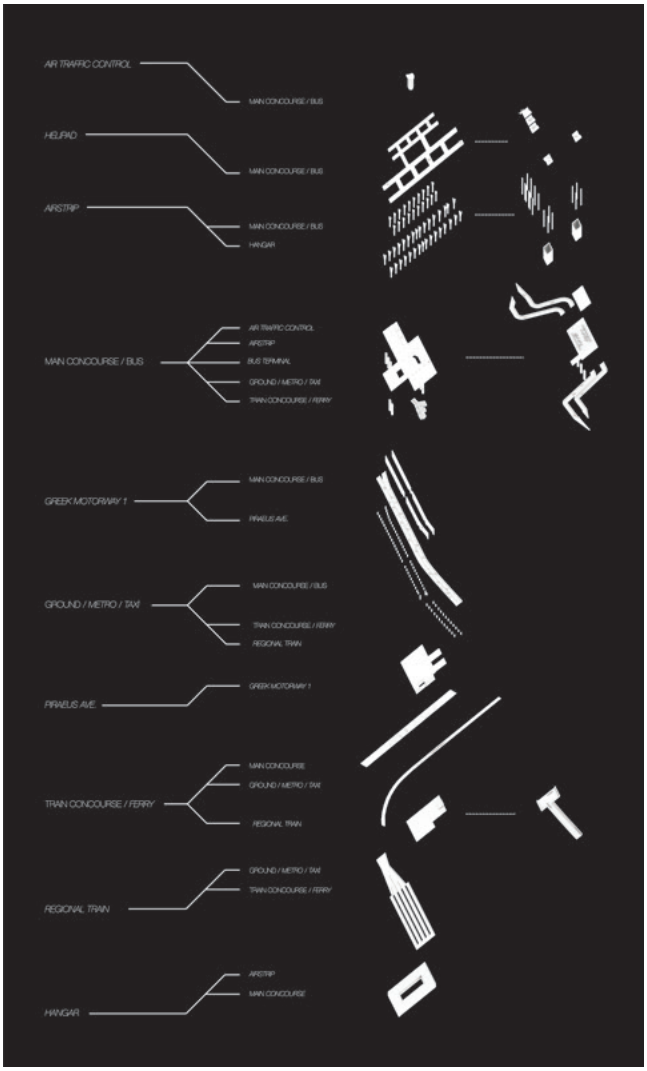




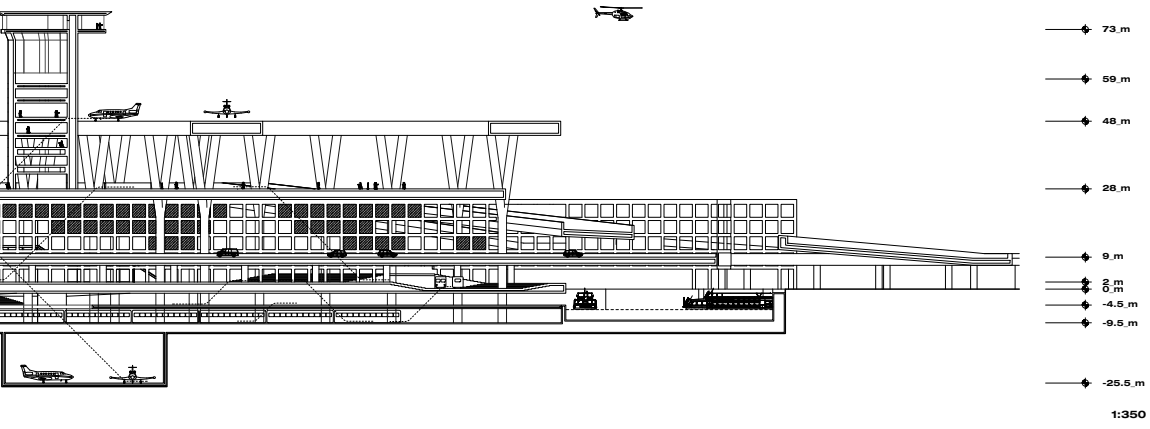
ACTIVE SITE PLAN

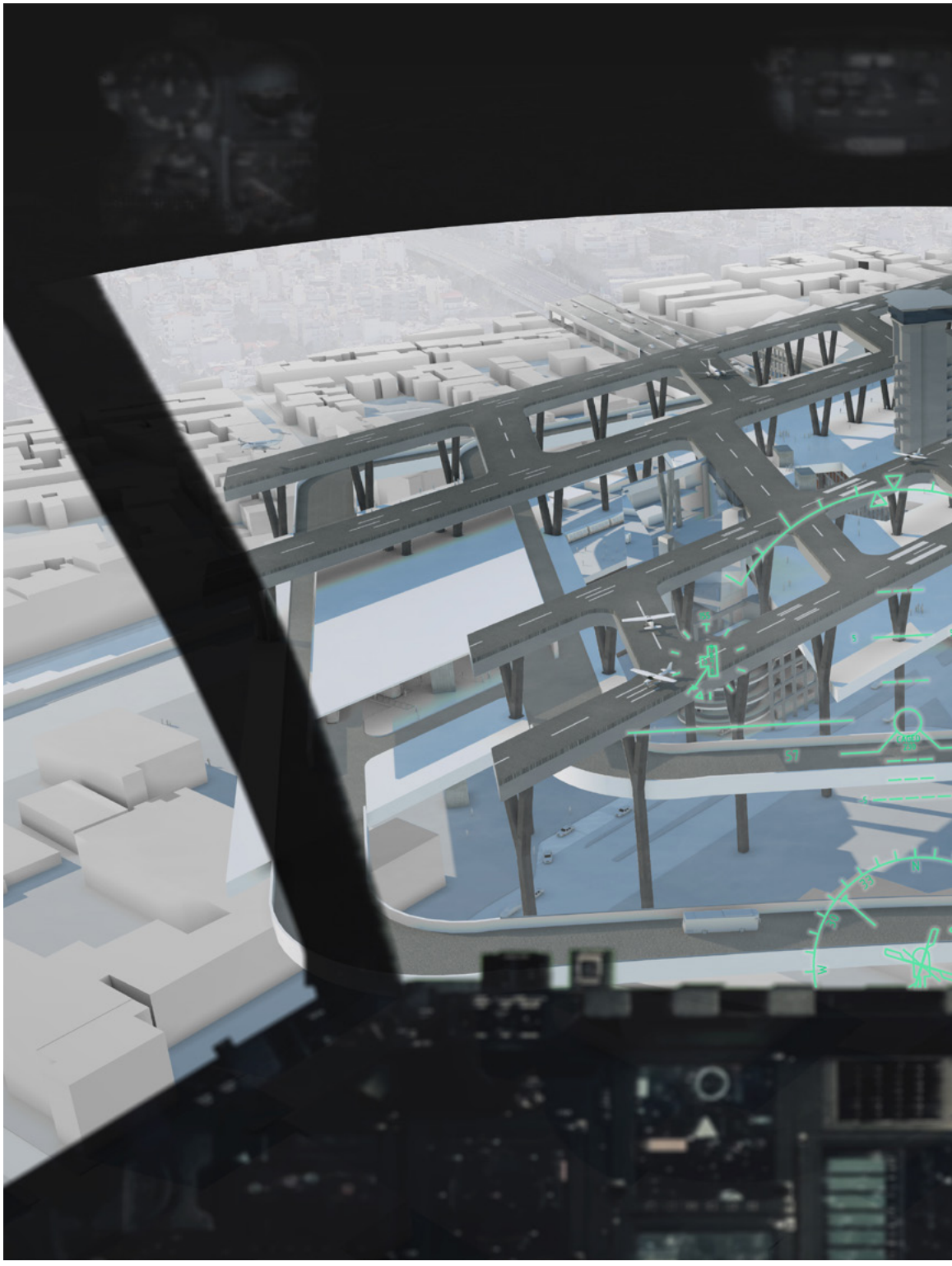


LONG SECTION

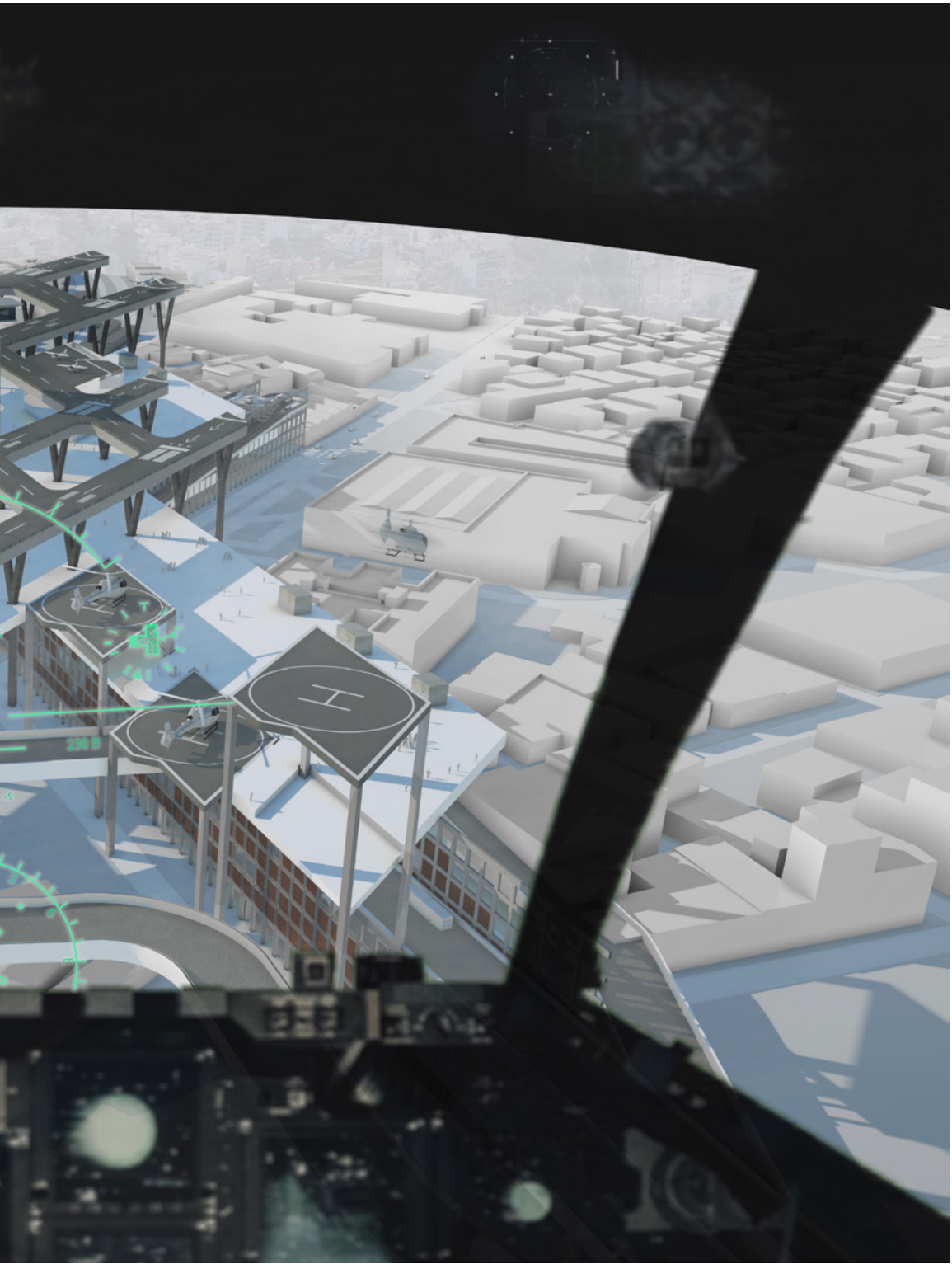


CONNECTION DIAGRAM





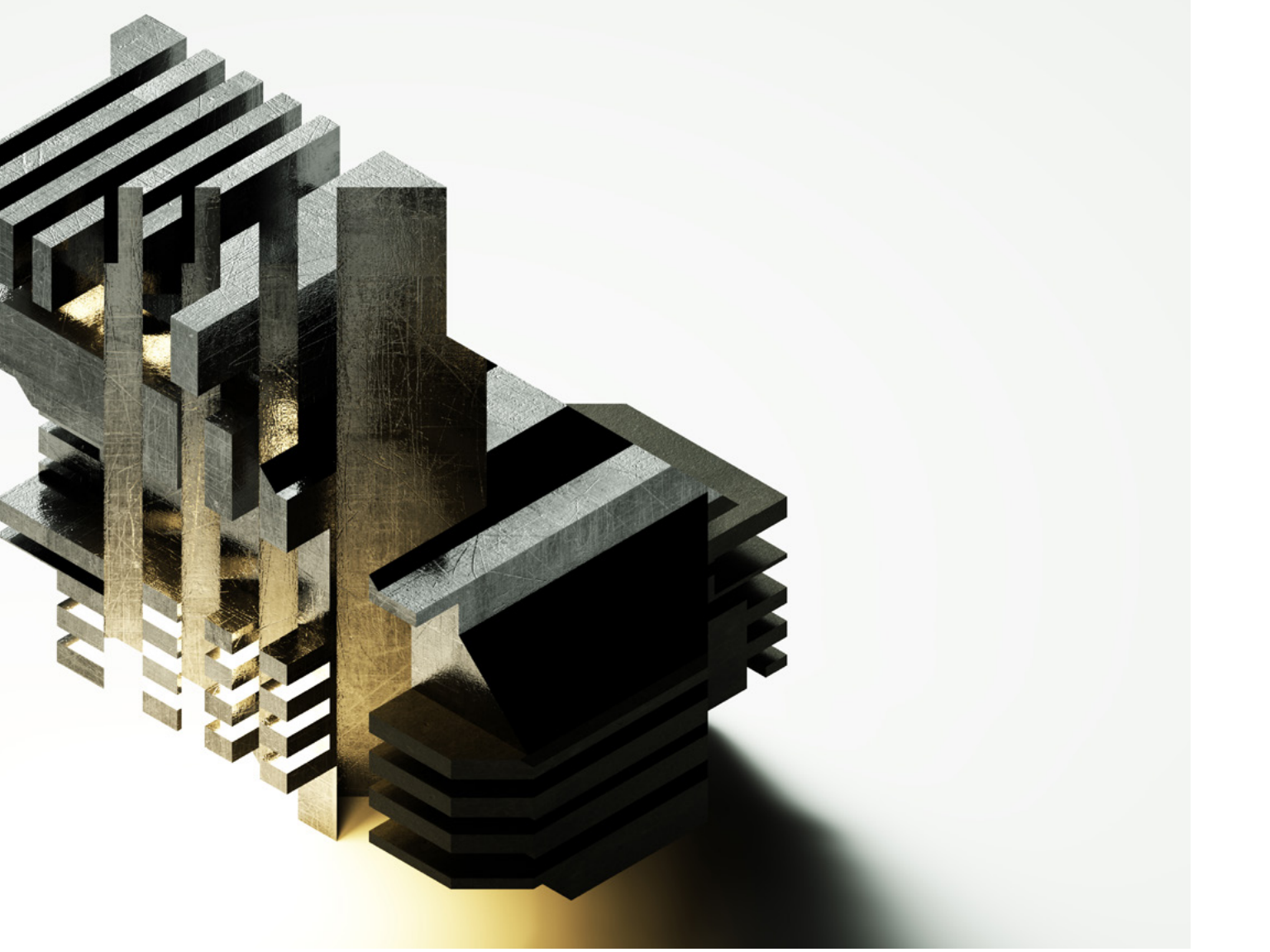
AERIAL RENDER

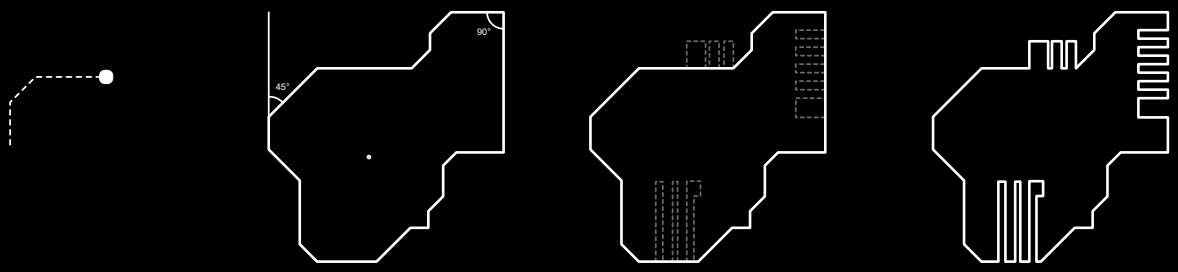


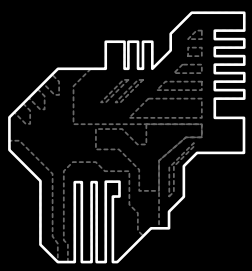
Contingent Array

New Haven, CT
Fall 2017 Seminar - Speculative Forms - Yale
Critic: Ezio Blasetti

Contingent Array is a speculation into the formal implications of Contingency. This speculation looks at contingency not in the conventional definition; of alternate plans relying on predictive futures, but rather as something external to ourselves. Something that happens that is not planned or predicted. It follows the logic that all truths exist simultaneously. ***The formal implications in this project address Contingency through a series of stacked levels and modes, acting simultaneously and in isolation yet intertwined via its directional array.*** Contingent truth operates through a mode similar to Bratton's "The Stack," however it is closer to the infinitum of Borges' Library of Babel. Through this mode, this project begins to study the aesthetic quality, embodying the clear definition of truth, yet the multiplicity of truths existence. The project is implemented through a series of recursive python algorithms attempting to create a closed loop. The fabrication is executed via hacking a CNC Wire Cutter.W





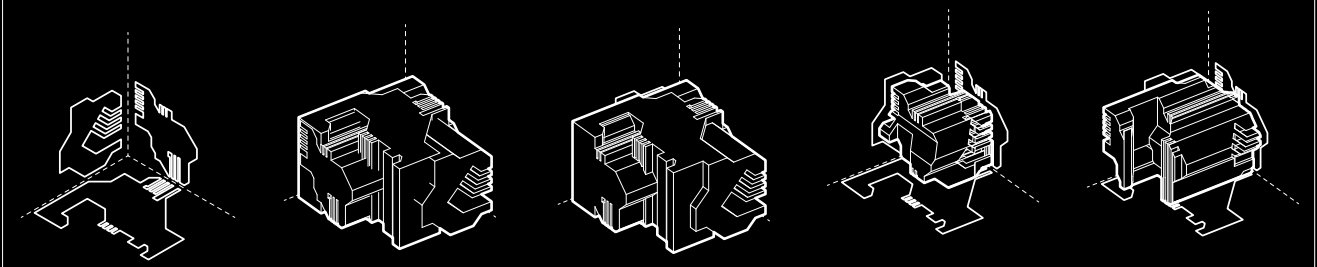


2D Rule Set

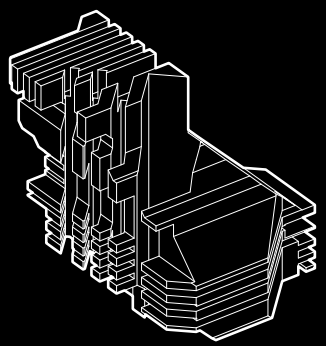
Inputs: Approximate Center, Start Point, Minimum Edge Length, Maximum Edge Length, Number of Edges.

From the Start point the agent chooses random floats between the minimum and maximum edge length. It walks the distance of the float on either a 90˚ or 45˚ angle. After it walks this distance the agent chooses a new angle to move and again selects a random float. The angle it selects is effected by a pull factor coming from the approximate center. It moves half of the times inputed from the Number of Edges and then takes the vector list , shuffles it, and walks back. On the agents walk back to the start it looks for intersection in order to guarantee a closed curve. Next a series of rectangles are arrayed along edges that are long enough. These rectangles are booleaned from the underlying curve. Finally secondary inner detail is added via other curves navigating the interior of the Outline curve.

#.0



Union | Intersection | Union/Intersection

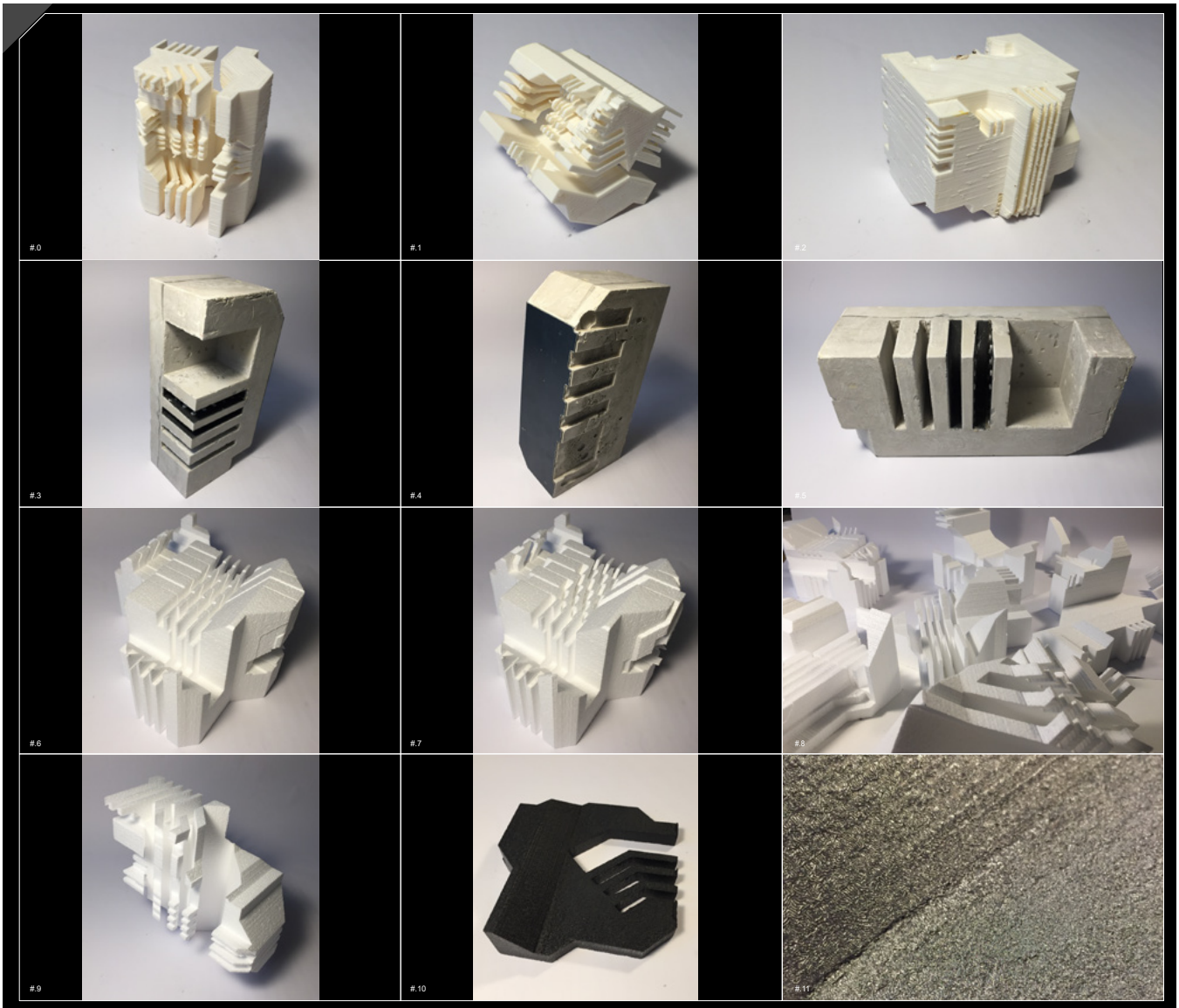


3D Rule Set

Inputs: 3 Closed Curves

This operation takes 3 curves as an input. These curves are a reseult from the 2D phase preceding. There are then a series of 3 planes generated within a distance of one another. These planes can snap to either a 45˚ or 90˚ orientation. Once the curves are oriented to the planes they are then extruded to create massing. The massing of these extruded objects then goes through iterative boolean operations. These combinations of operations begin to create different types from massive to linear. The array of levels generated from the curves becomes apparent and amplifies as it reaches a 3-Dimensional form.

#.1



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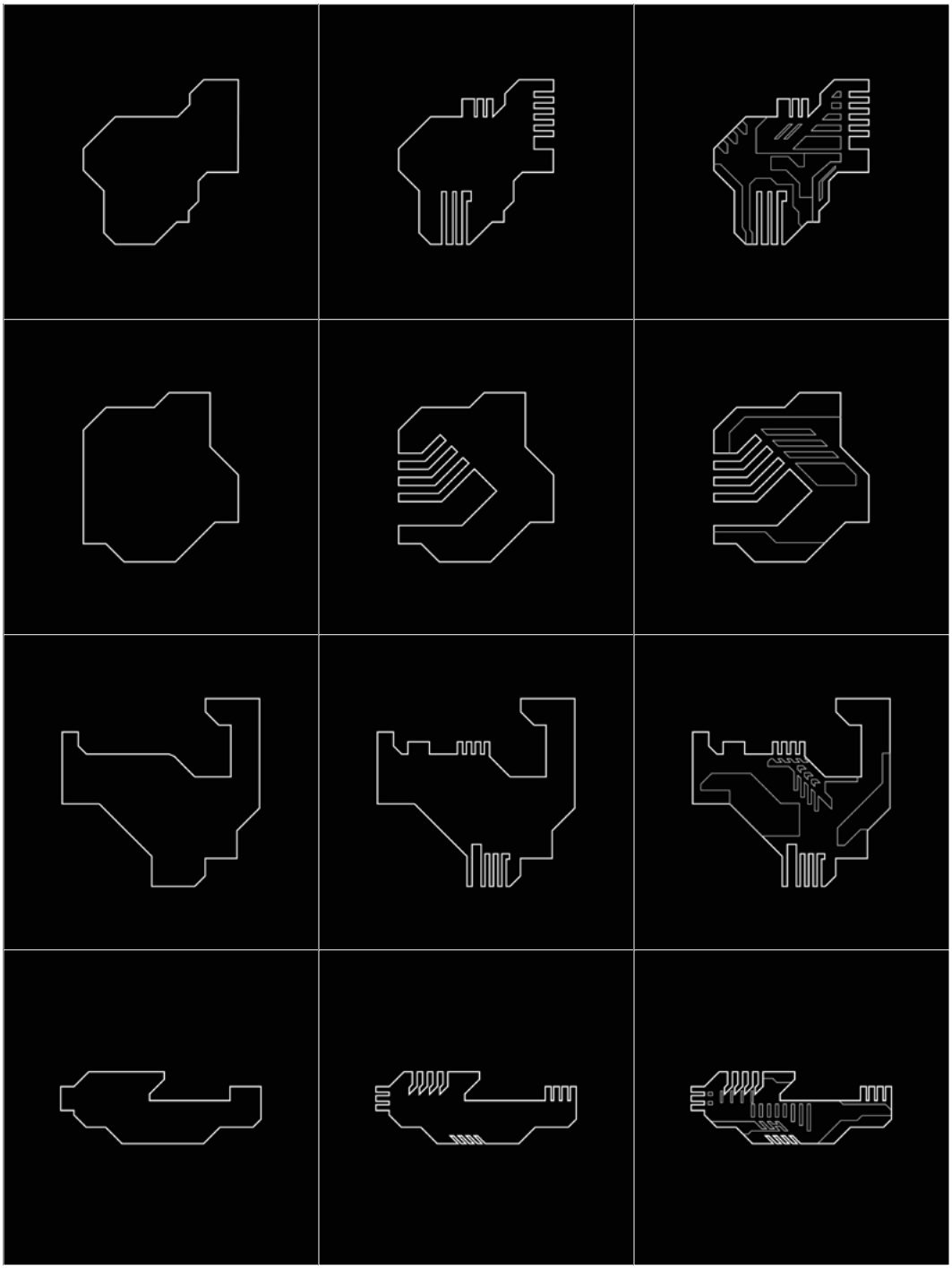
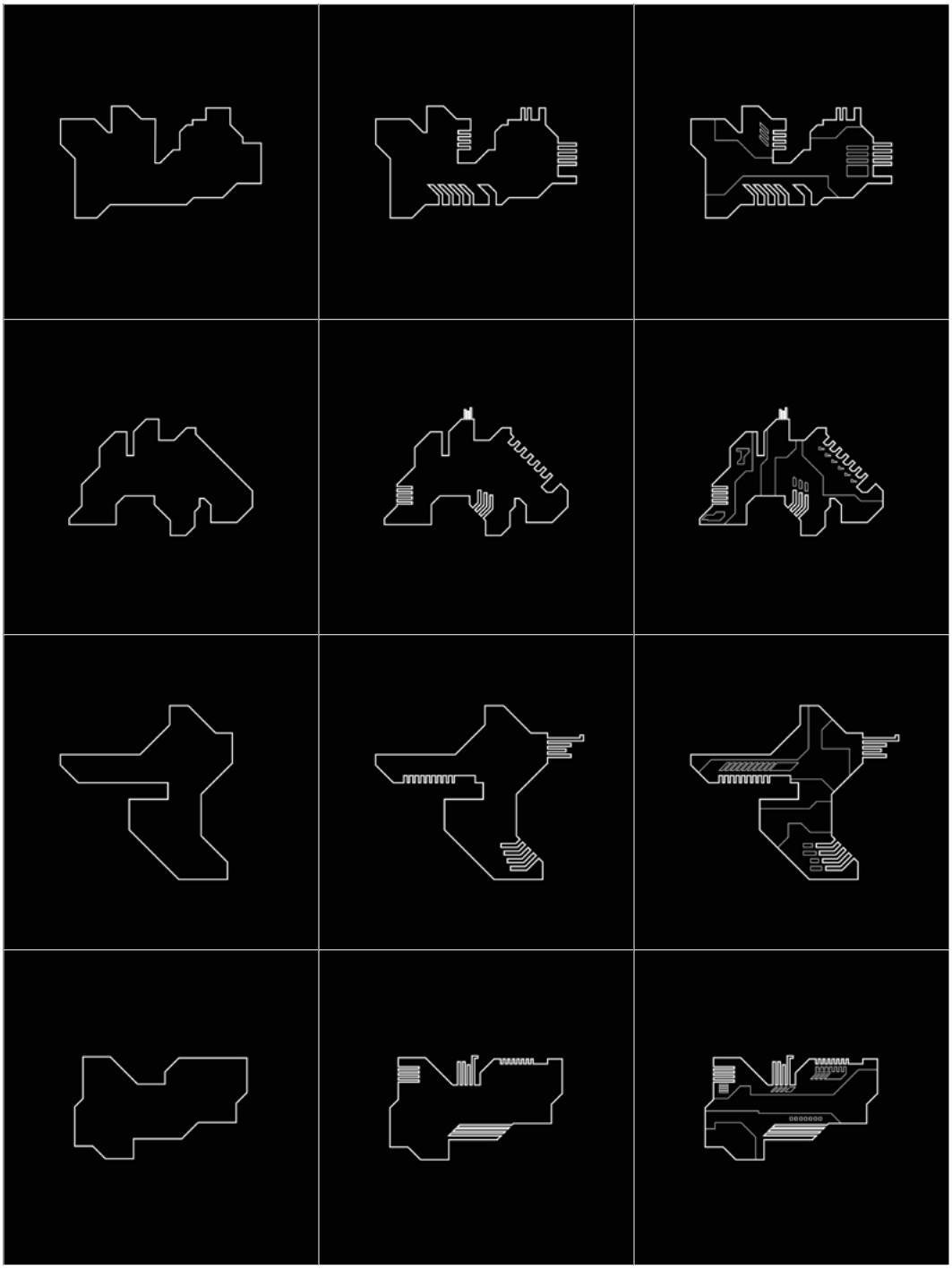
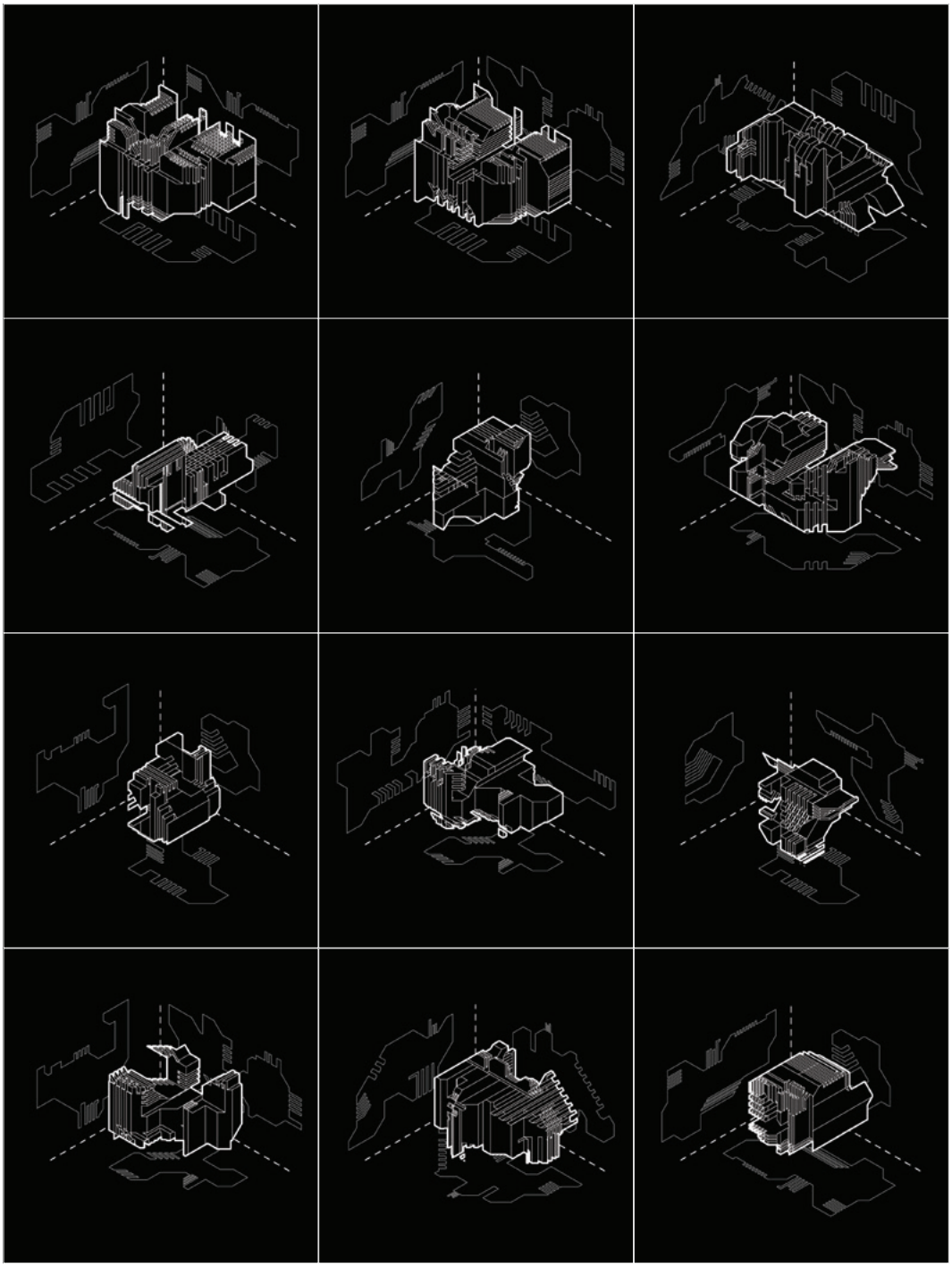
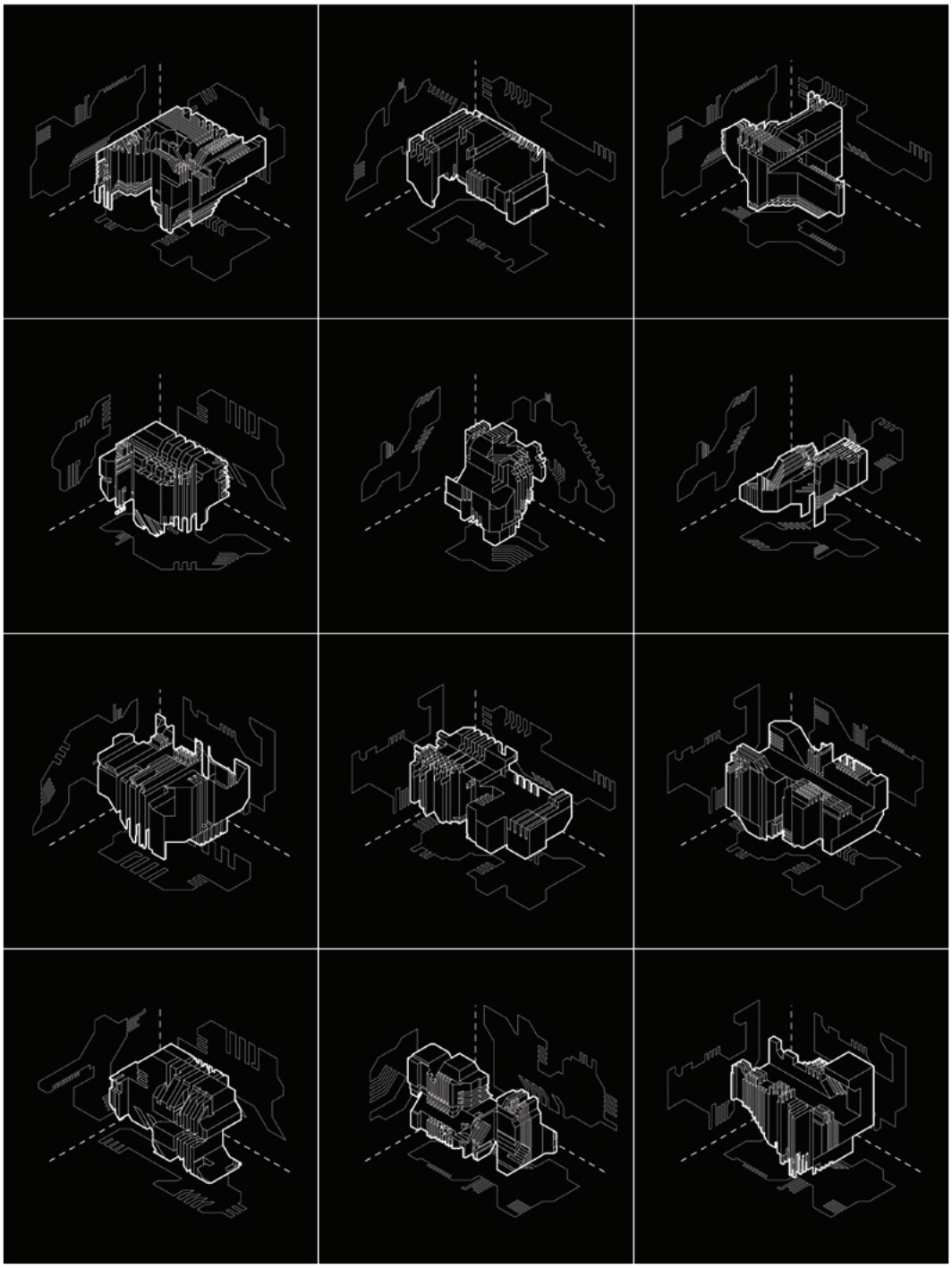


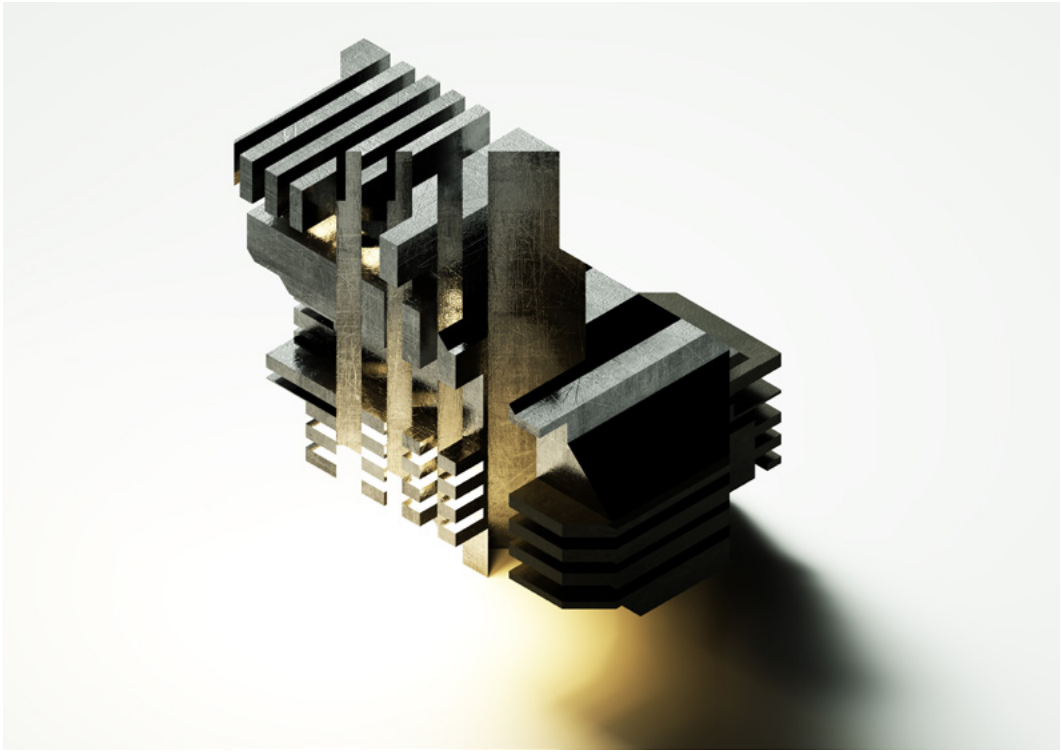
2D CATALOGUE

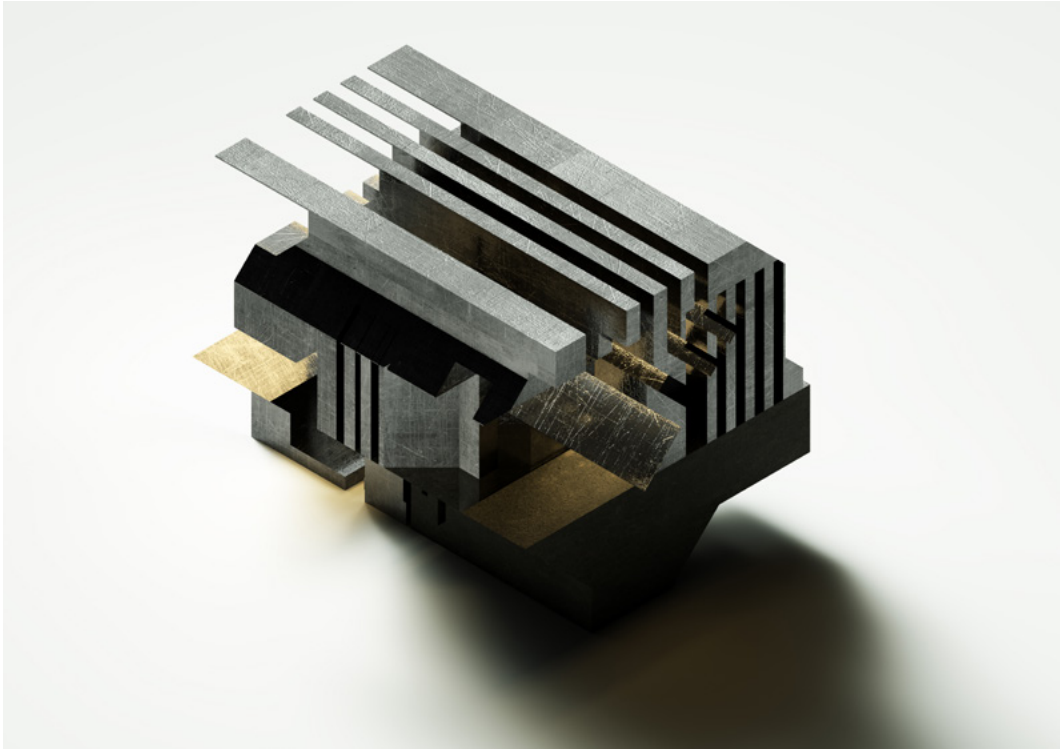




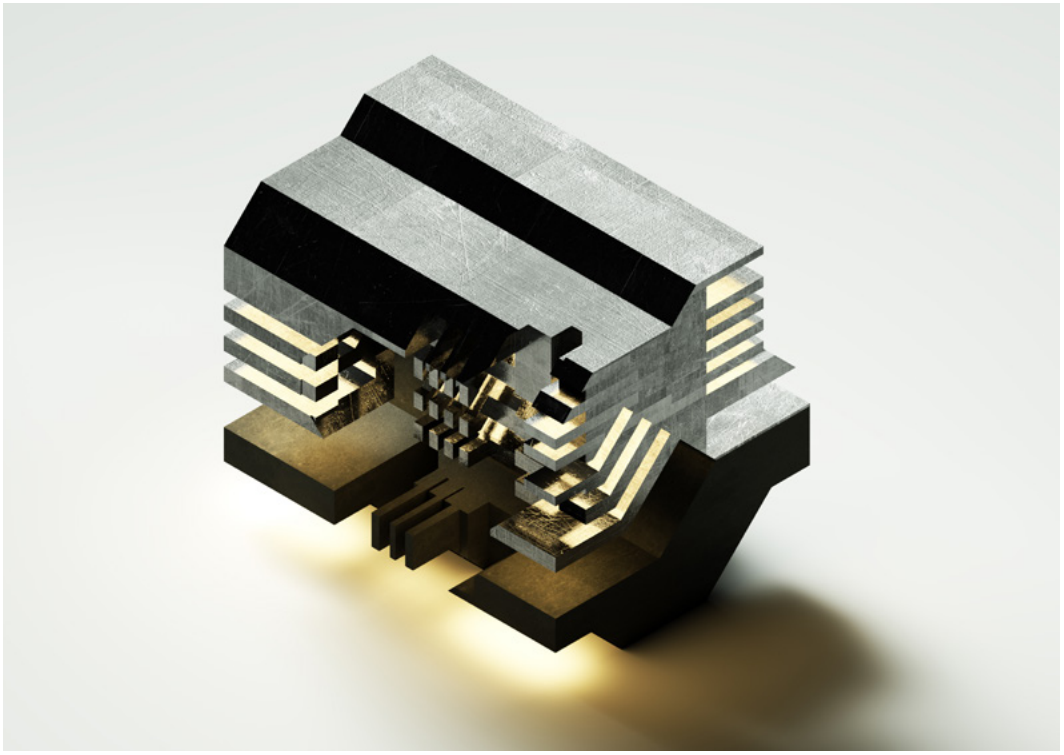
3D CATALOGUE

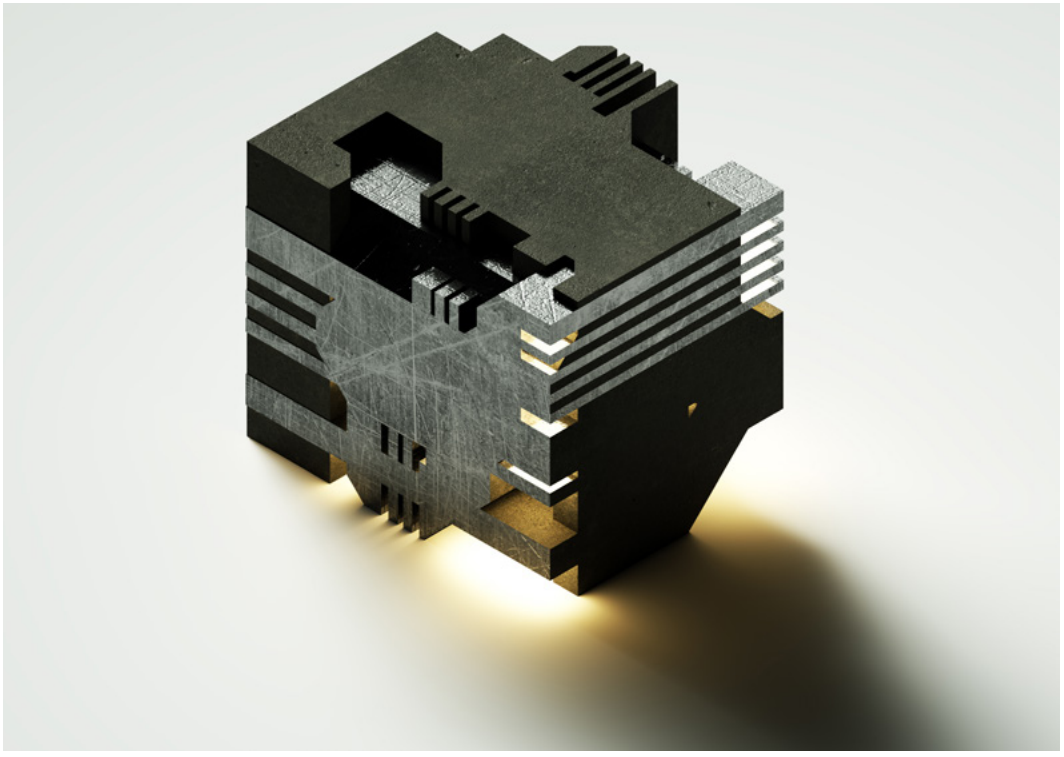






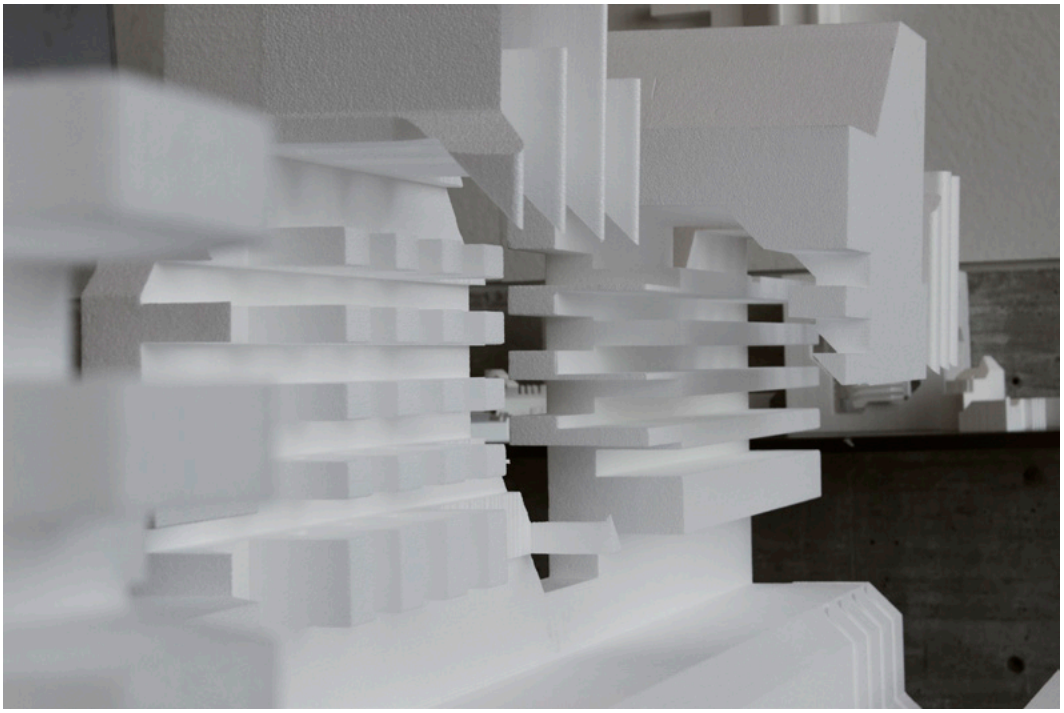
FORM STUDIES

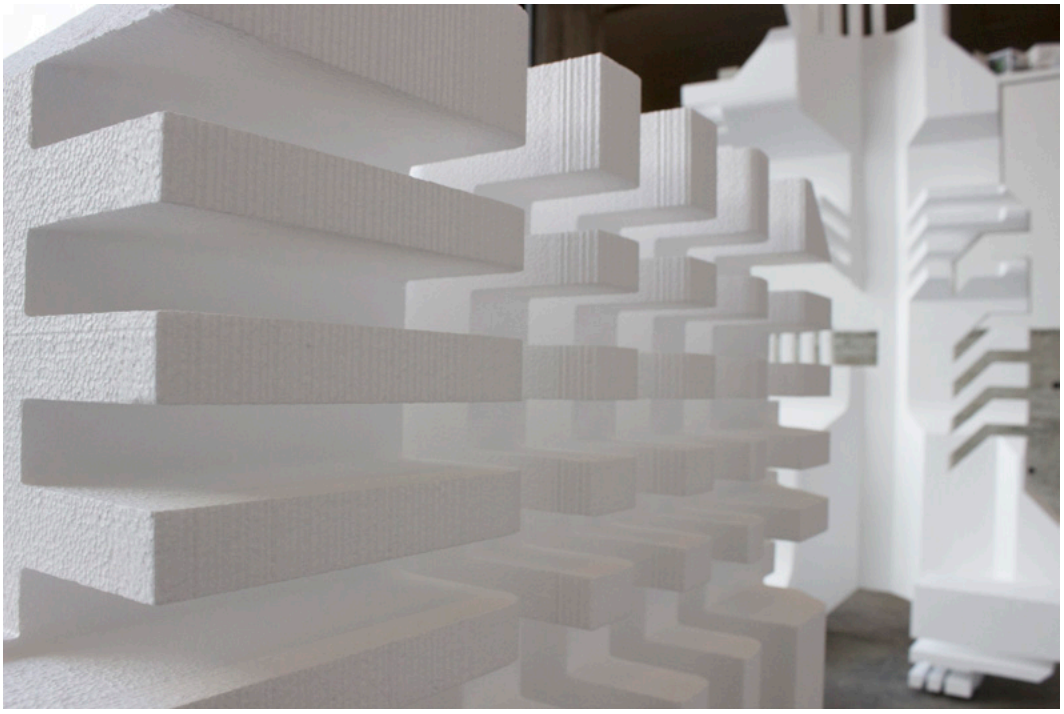


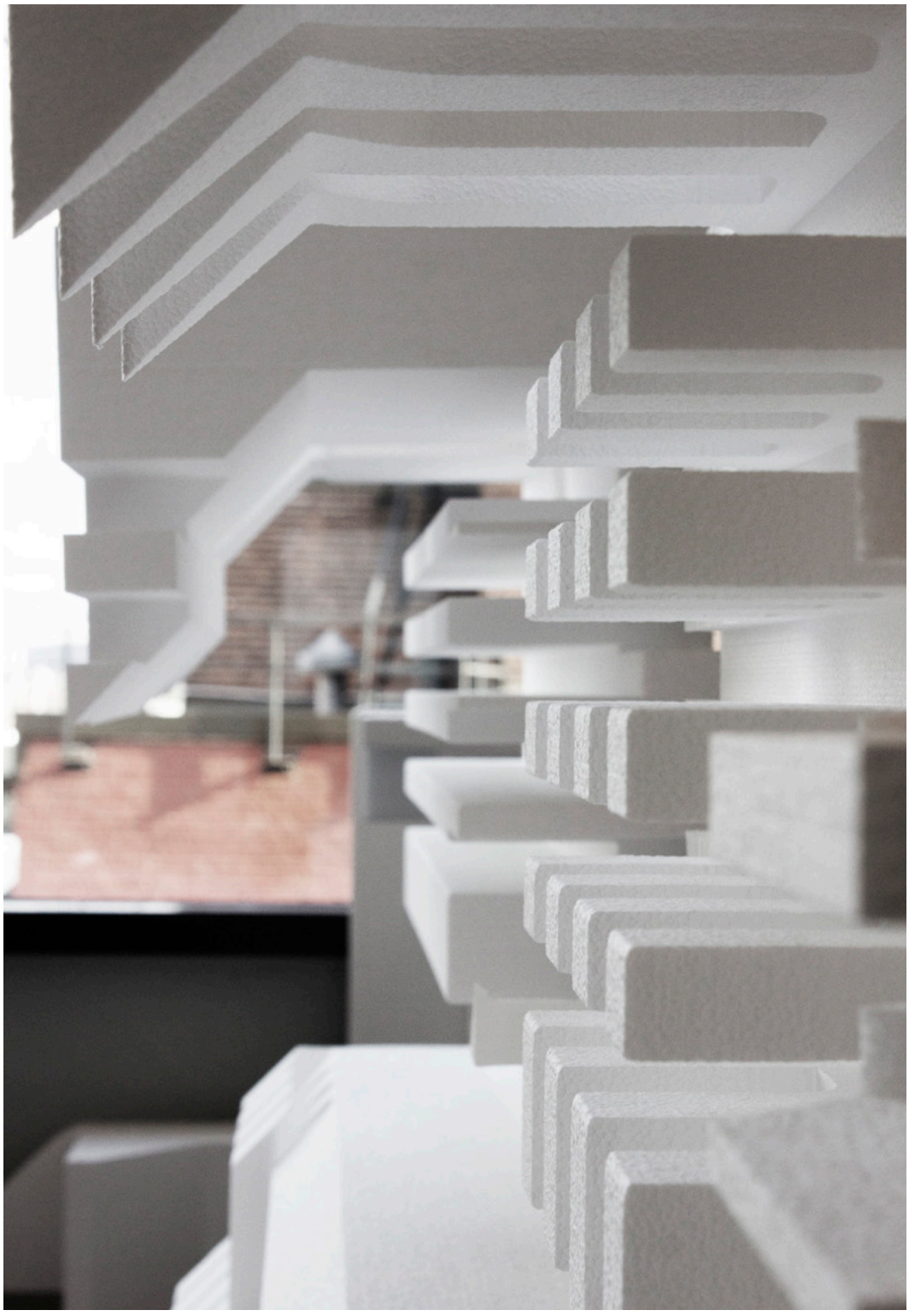


EXHIBITION OVERVIEW

DETAILS



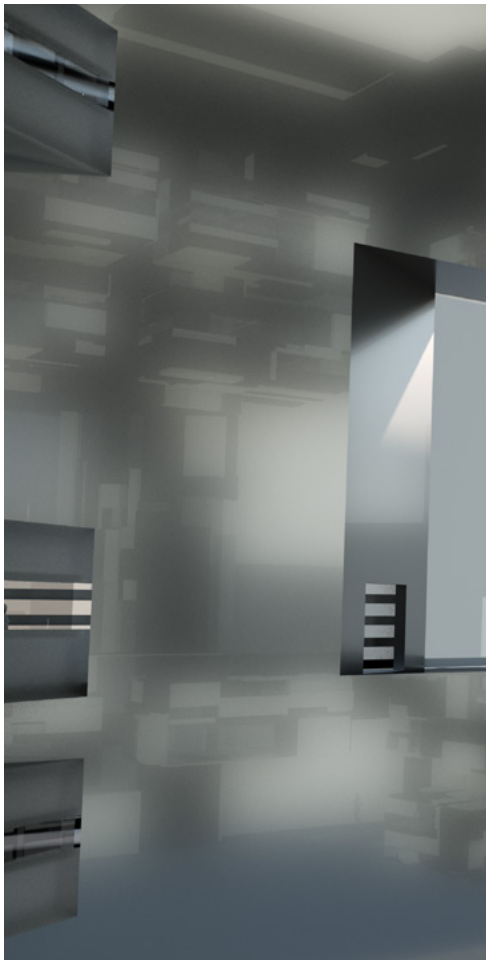




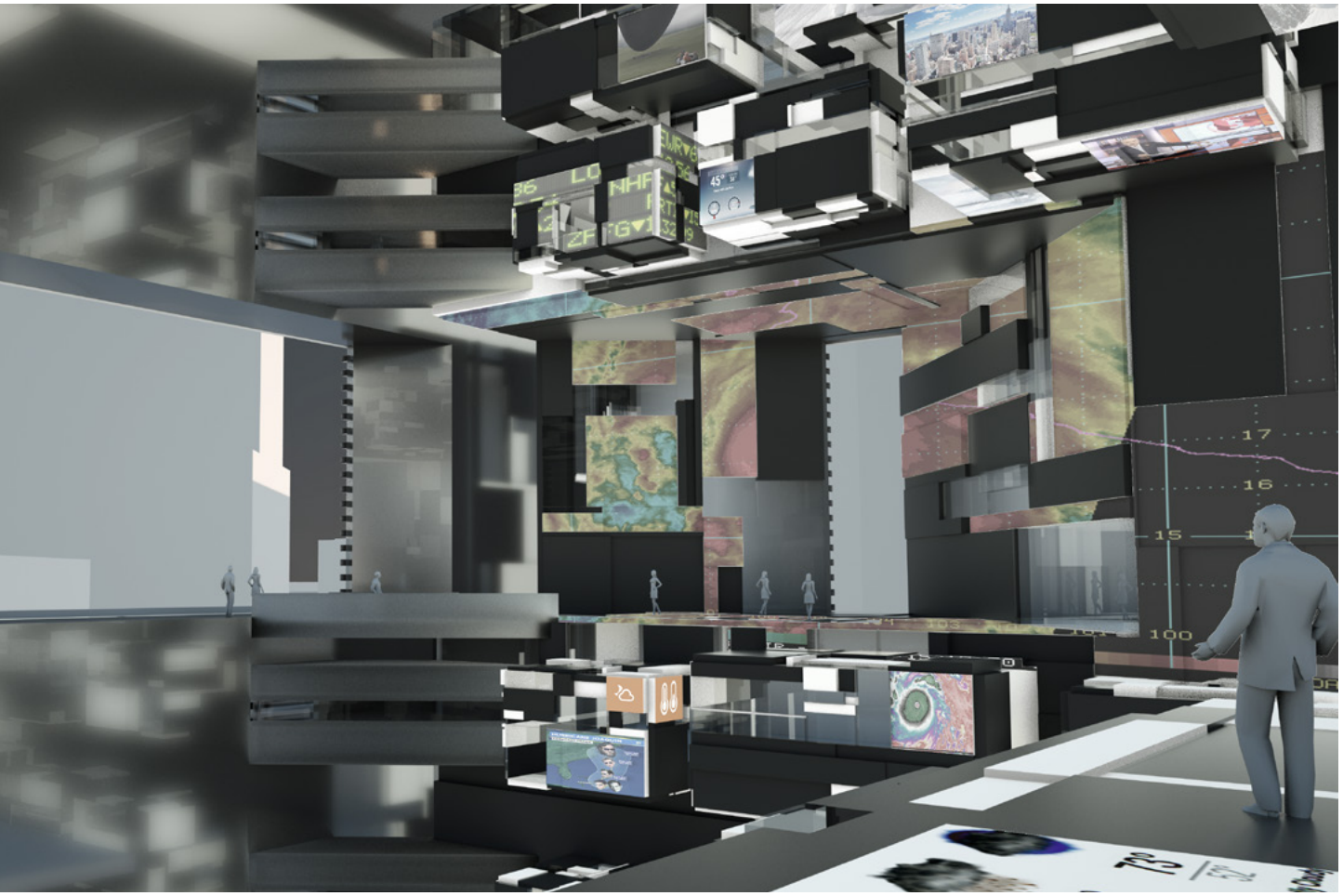
DETAILS

Office of Emergency Management

New York City
Fall 2016 Studio - Yale
Critic: Peggy Deamer



The Office of Emergency Management in New York is a complex program needing to serve as the primary center for disaster relief and coordination to the five boroughs of New York. ***This speculation on the NYC OEM is an attempt at making a more conscious architecture using public program as a catalyst for change.*** During a natural disaster one is often in familiar places with unfamiliar conditions. The contrast of setting and condition contribute to ones awareness in that given situation creating a defamiliarization. Thus a defamiliarization was implemented by taking the immediate context of surrounding high rises and scaling their facades to create a new density. There was then a second scalar shift and inversion of the larger context of the city. By creating a city within a city there is again a likeness to a form one knows but a strangness from the relation of scale one has to it. Familiar Places with unfamiliar conditions. Further there is a large interior reflective surface which acts two-fold. First is to amplify the intensity of the interior city, and secondly to separate the experience of being inside the interior city to that of viewing Manhattan in isolation.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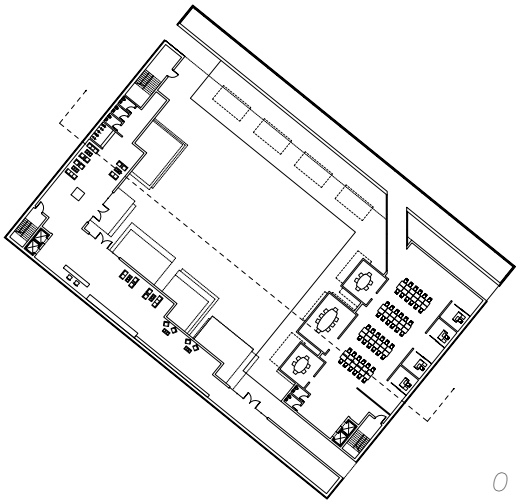

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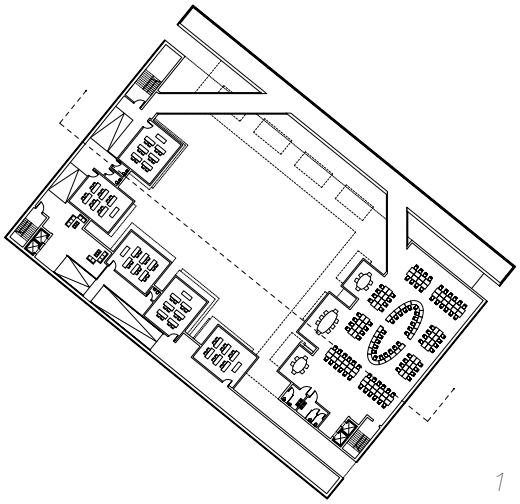

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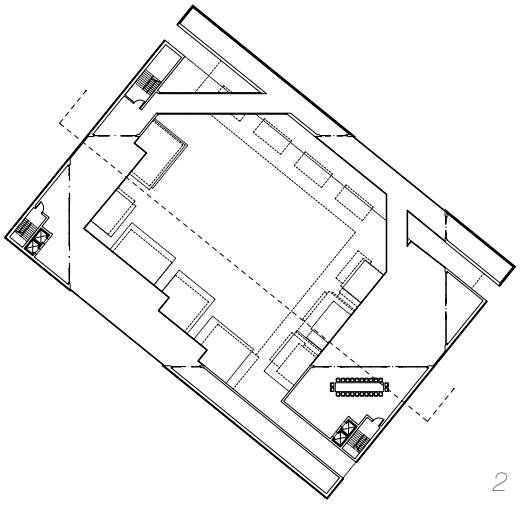

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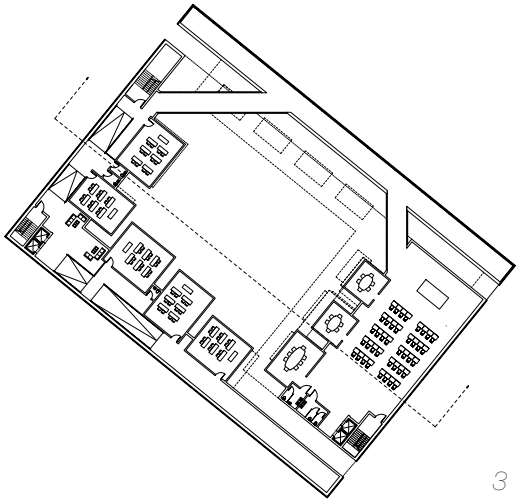

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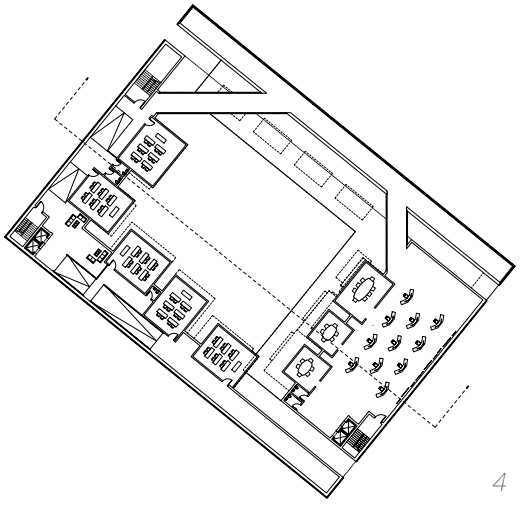

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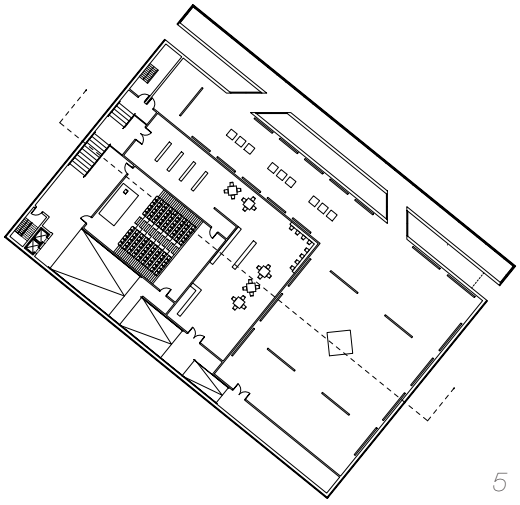

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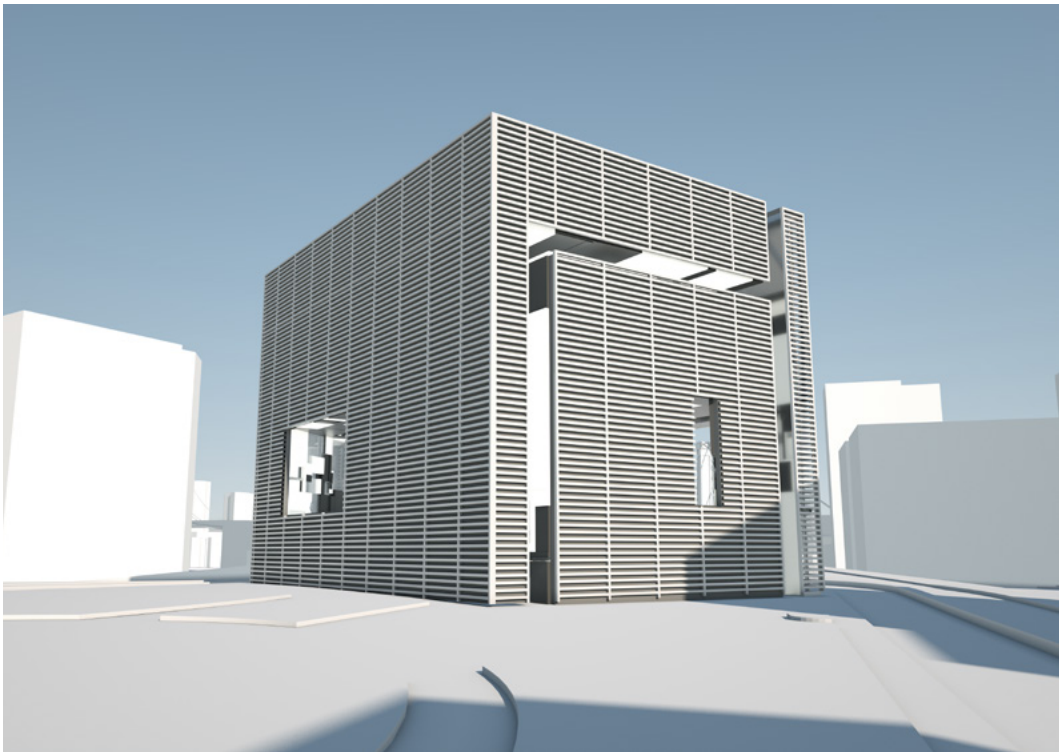
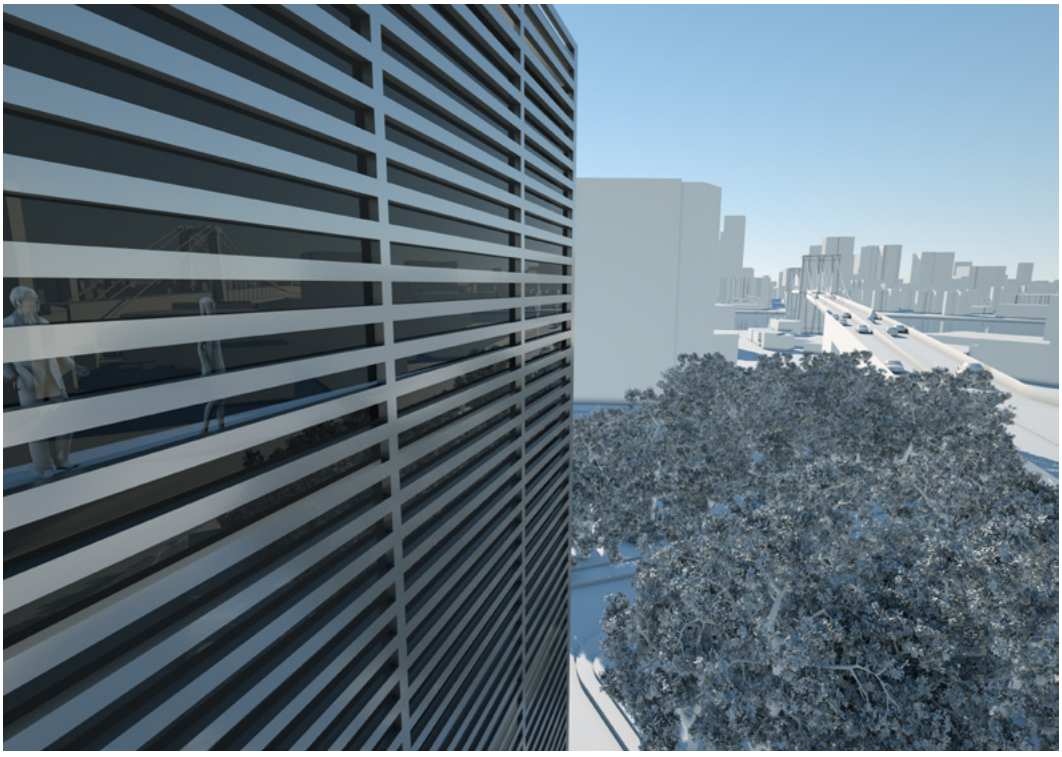
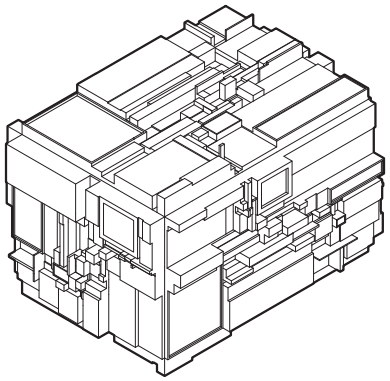
FLOOR PLANS

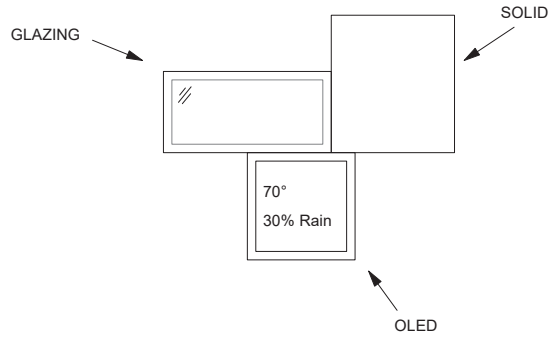


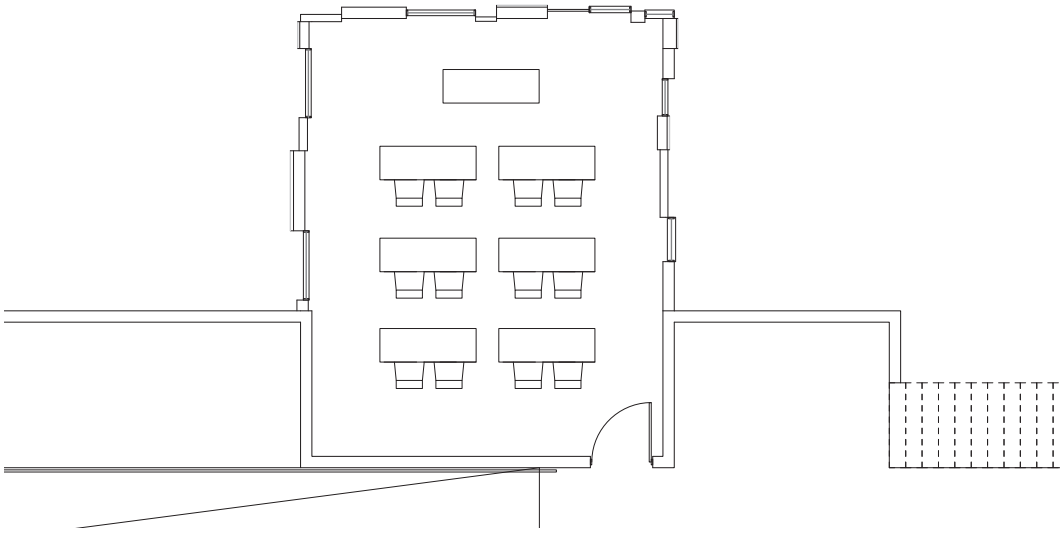
EXTERIOR PERSPECTIVE



VIEW OF MANHATTAN

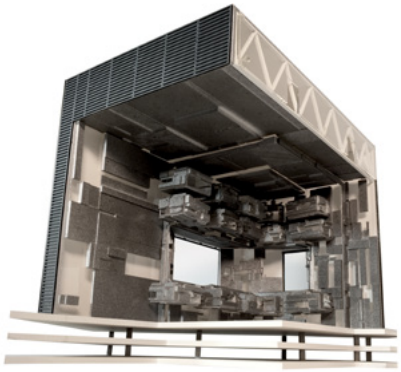


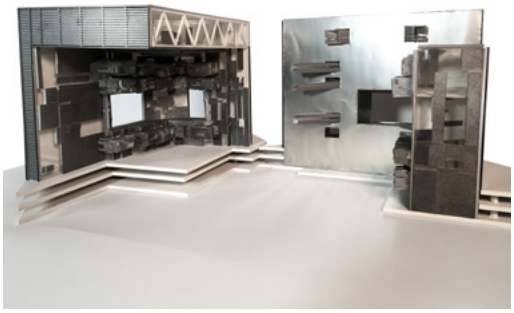


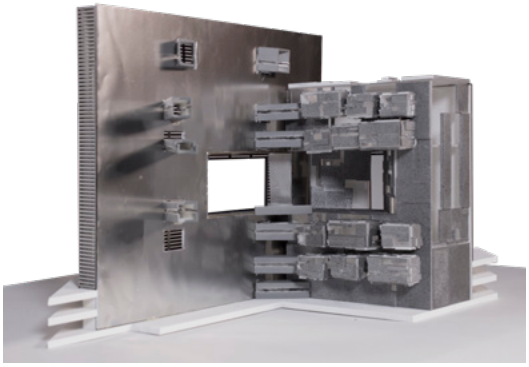


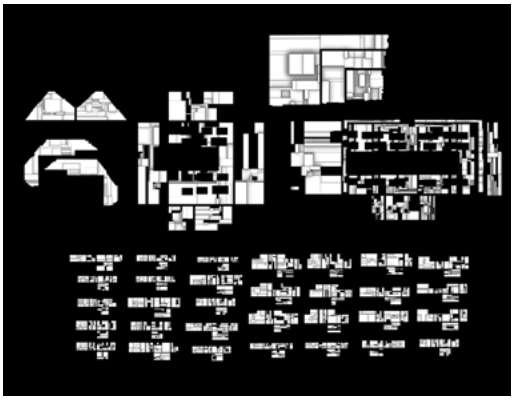
DETAIL ARTICULATION

The interior void space of the Office of Emergency Management deals with a scalar shift of the larger aggregated context of New York and inverts itself to become a city within a city. The subdivided surface inside becomes has three parts. First being solid panels, second glazing, and third information display systems. This information displays not only act as a method of conveying important information about disaster and emergency relief, but also world affairs and news.

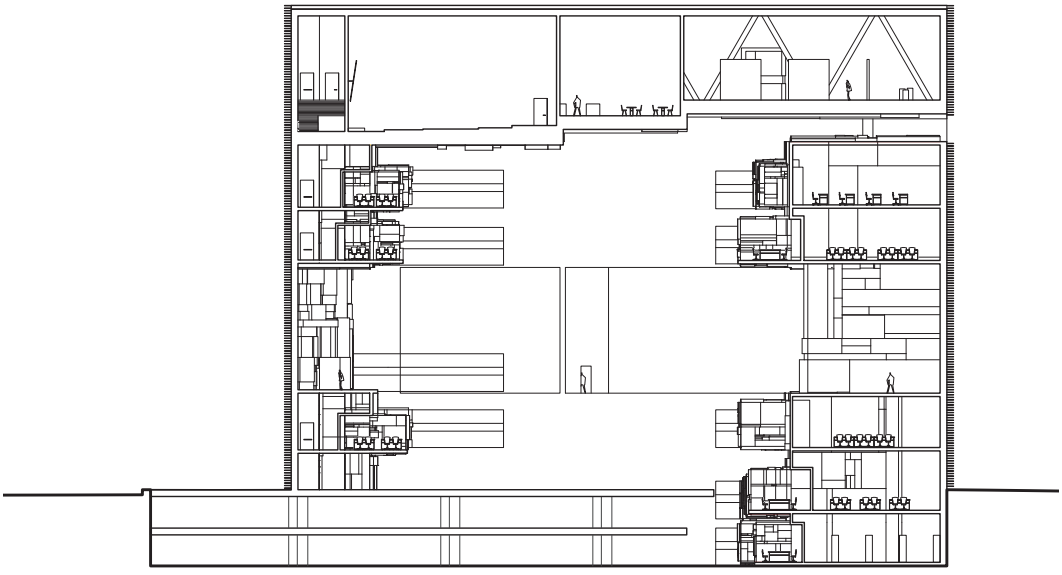








MODEL / PARTS

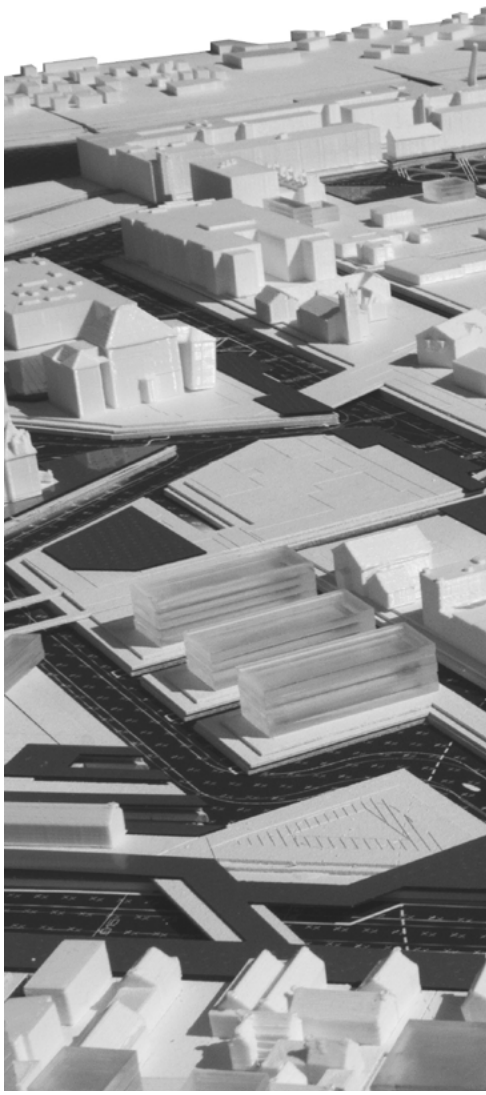


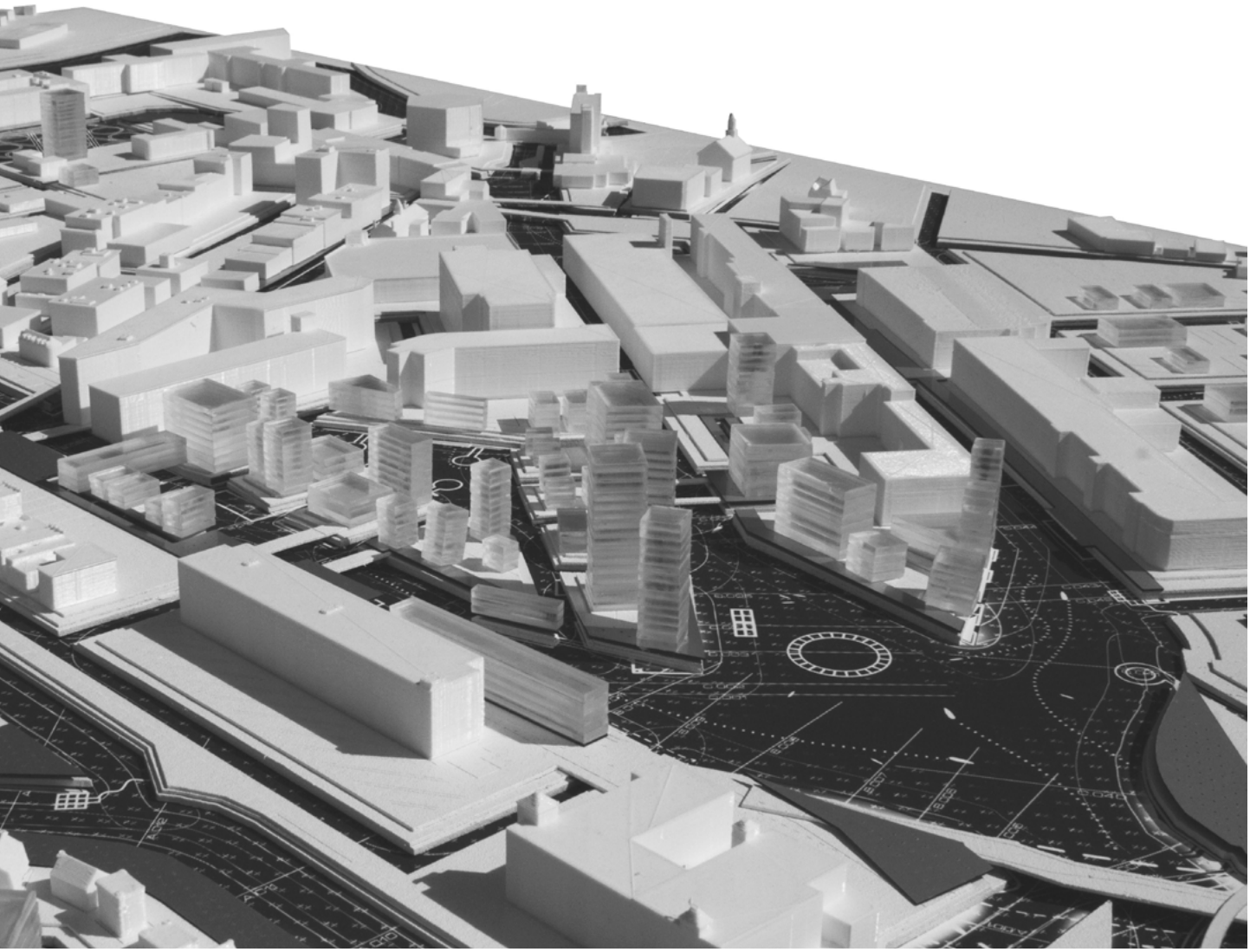
SECTION

Urban Canal

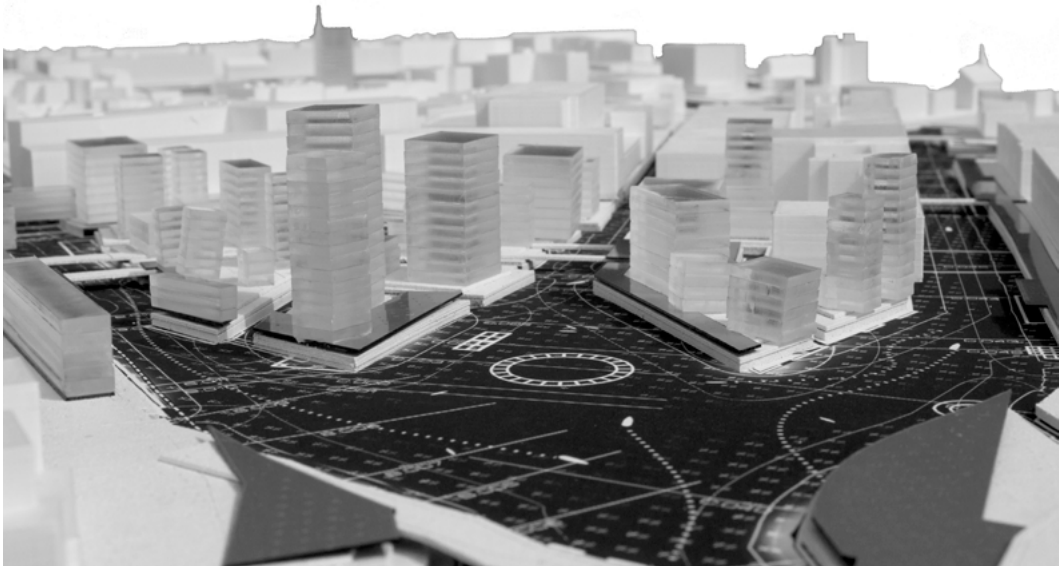
Lowell, Massachusetts
Spring 2017 Studio - Yale
Critic: Biman Mendis
Team: Justin Lai, Guillermo Castello

Once a city heavily involved in the textile industry, Lowell, Massachusetts is now a city in need of a strong intervention capable of reinvigorating the urban center. Lowell was originally a factory city, and because of this there wasn't much consideration given to the planning of the city. A series of canals were excavated and these acted as the centers from which the city developed. Now in the time where the canal is inert, there is a need to give them new life. In our scheme we have taken the three primary canals that parcel Lowell and used them to define new urban centers with differing functions based on their axiality and location. Through a series of section studies we have analyzed conditional changes of the canal as it progresses through Lowell. These sections then became a design tool allowing a better understanding of modifications to the canal conditions. The three branches are divided into public park space, public commercial space, and lastly a residential sector.



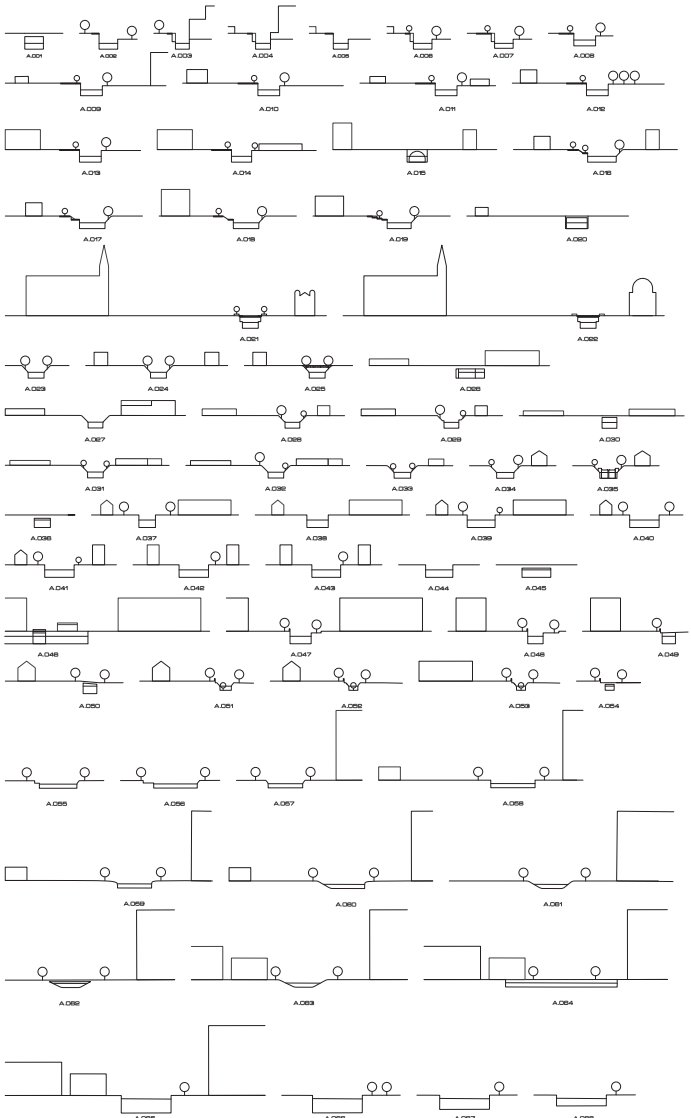


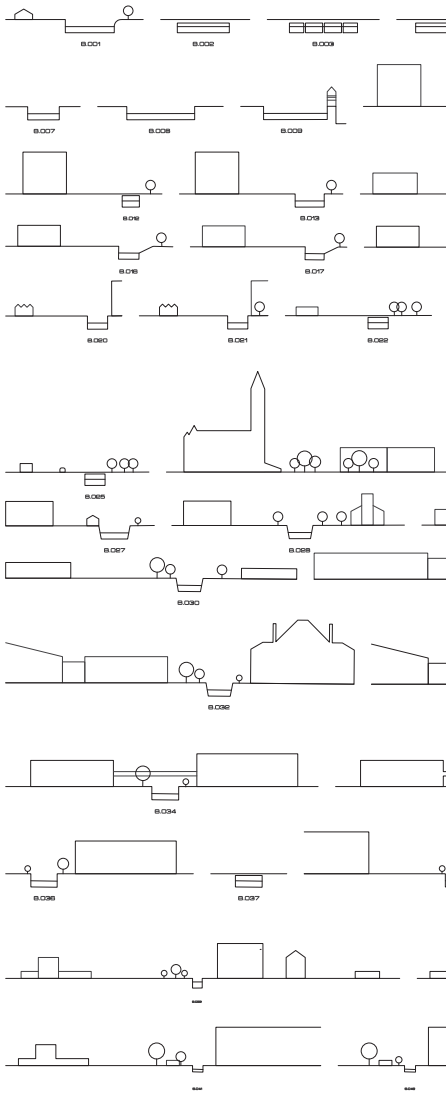
SITE PLAN



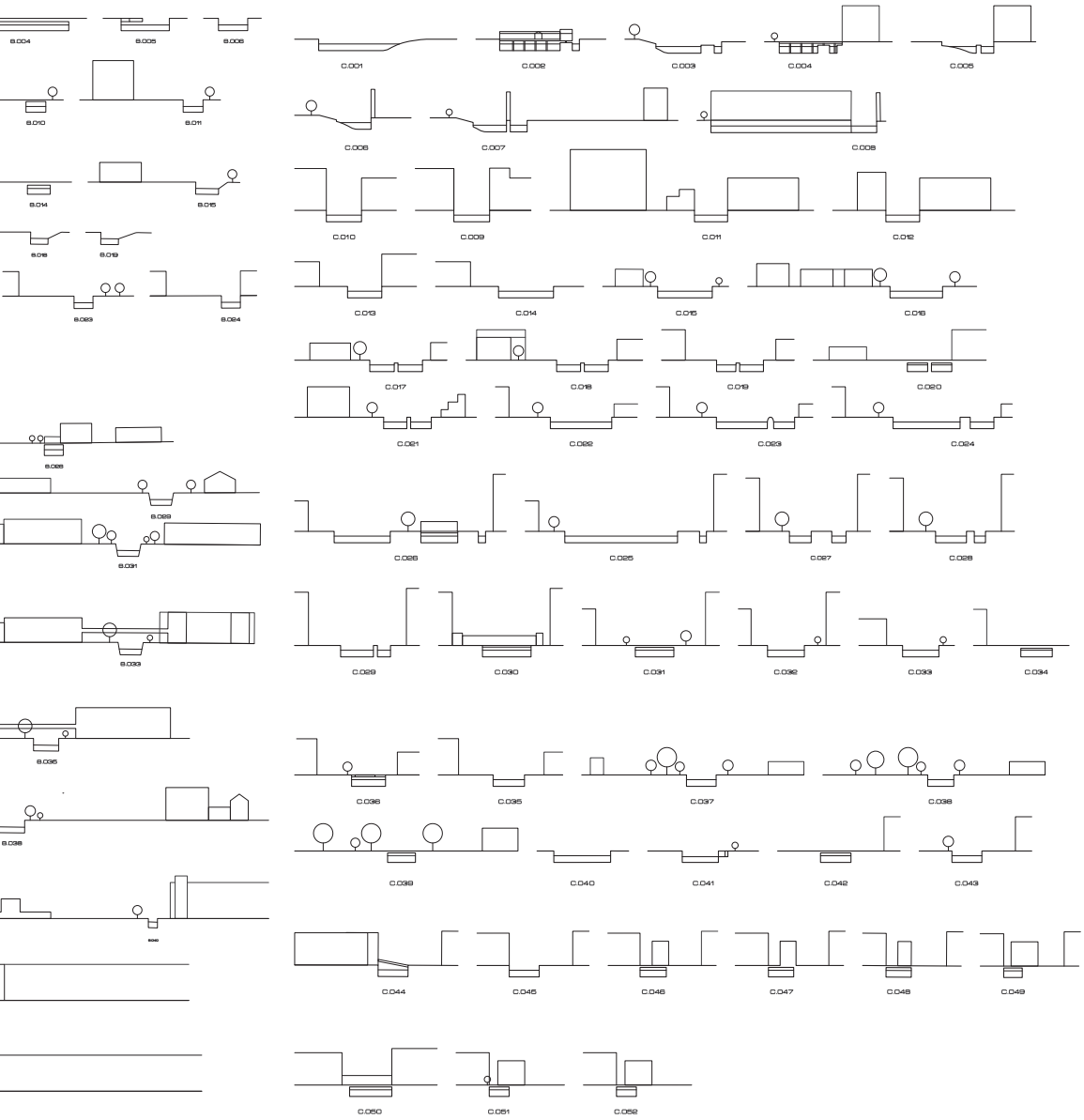
PRIMARY NODE

AERIAL VIEW





SECTION STUDIES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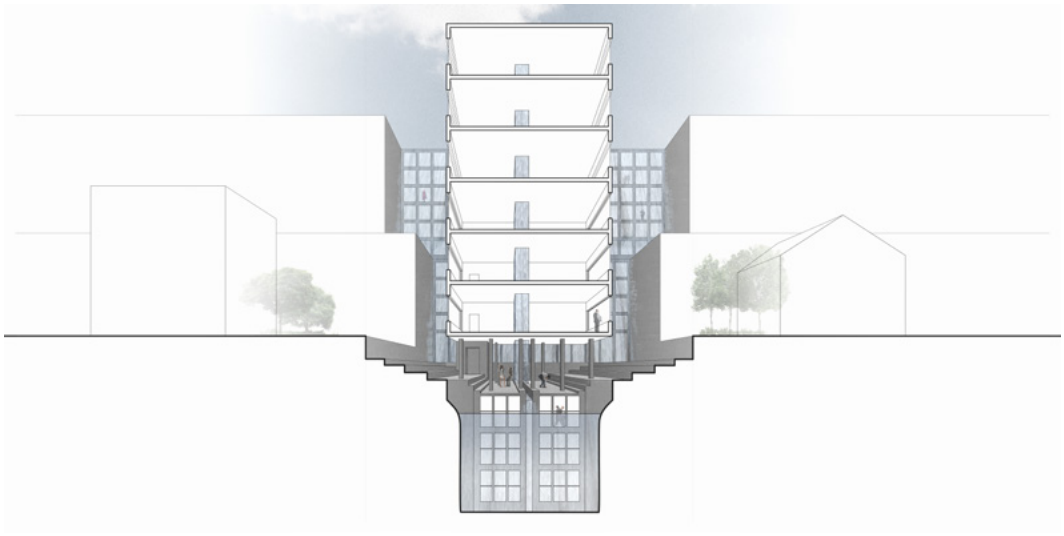
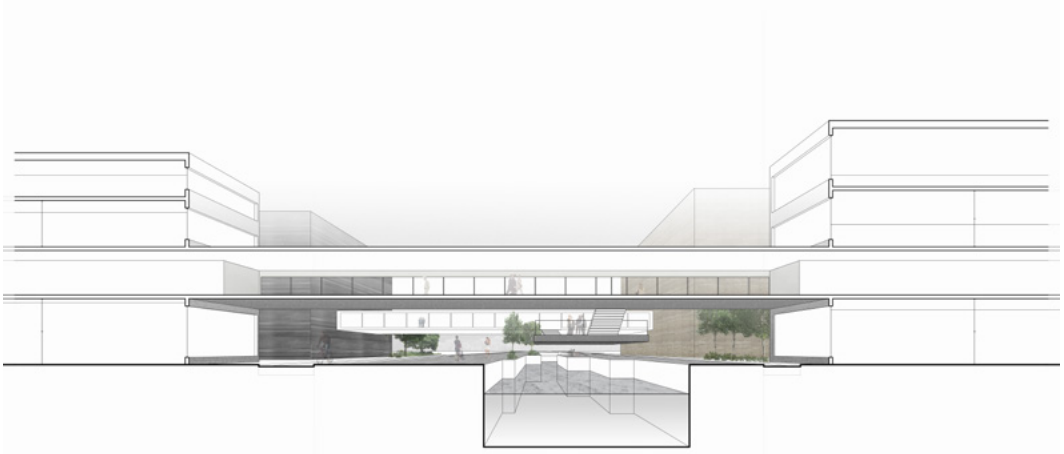
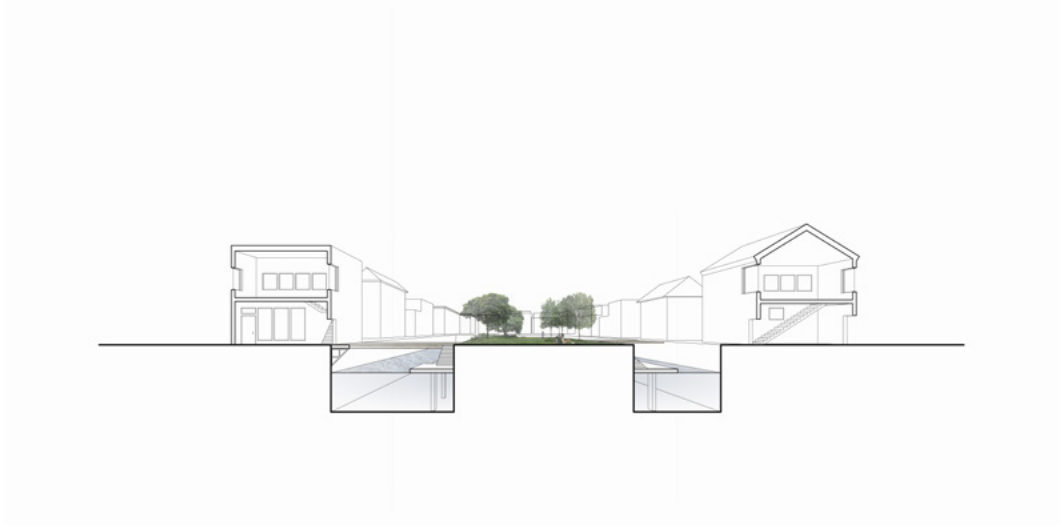
SECTION OFFICE



SECTION DAM

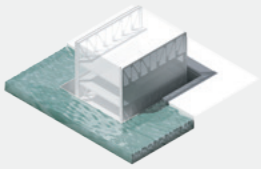


SECTION COMMERCIAL

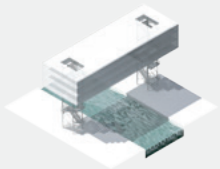


SECTION RESIDENTIAL

INTERVENTION NODES

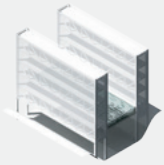


Seize

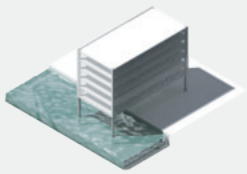


Bridge

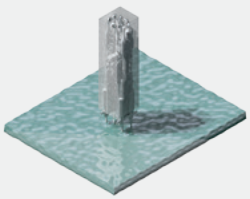
Distill



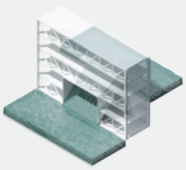
Bound



Hover



Collect



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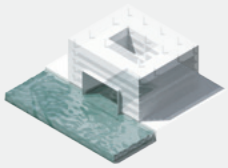

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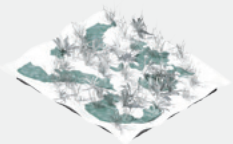
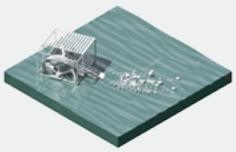


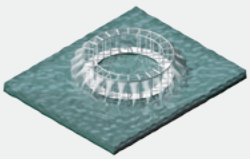
Filter

Build

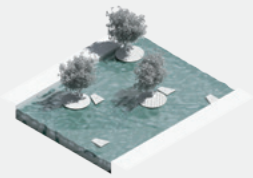
Pr



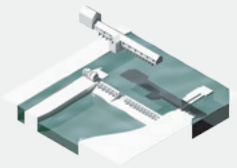
Harvest



Project

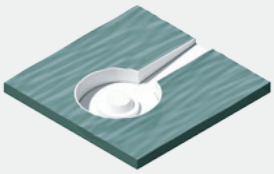


Shift

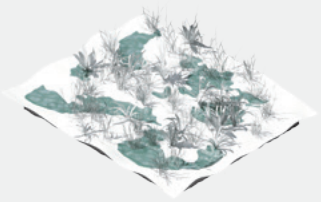


Re-Generate

Re-Surface



Sink



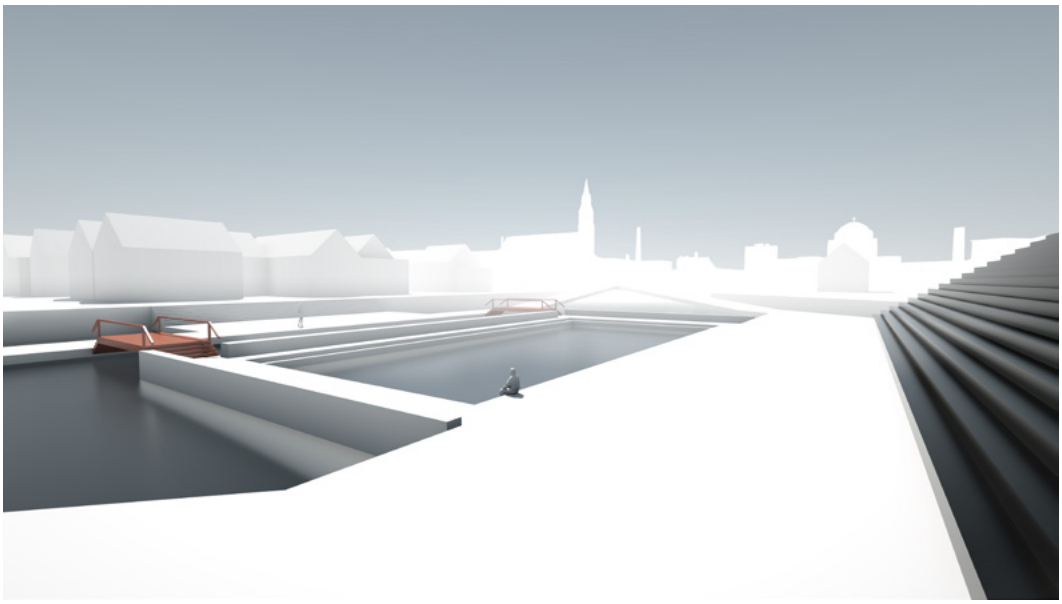
Reverse

Contain

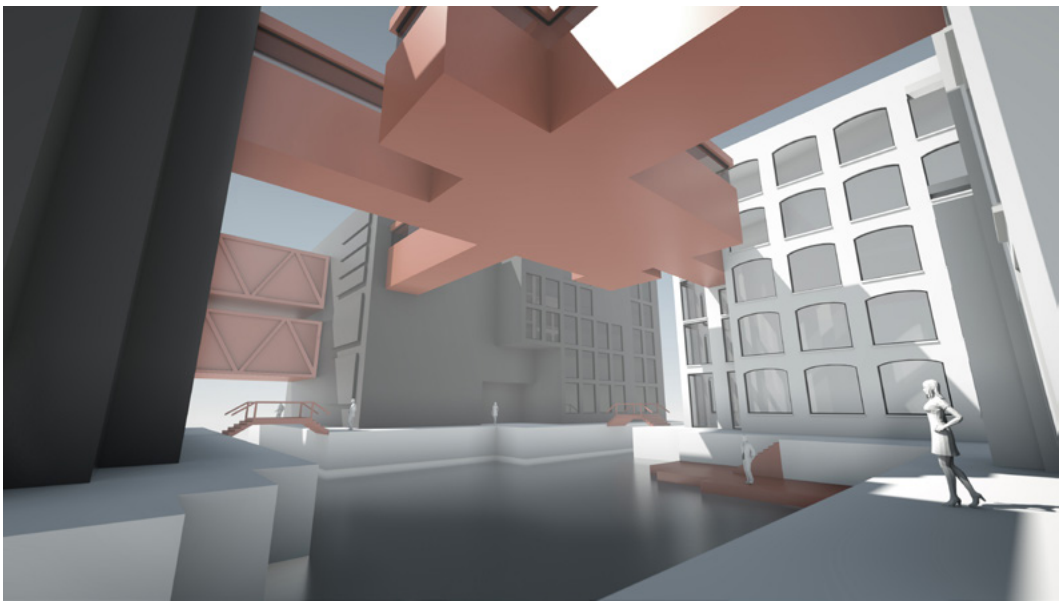
ll

Play

TRAIN STATION



PARK VIEW

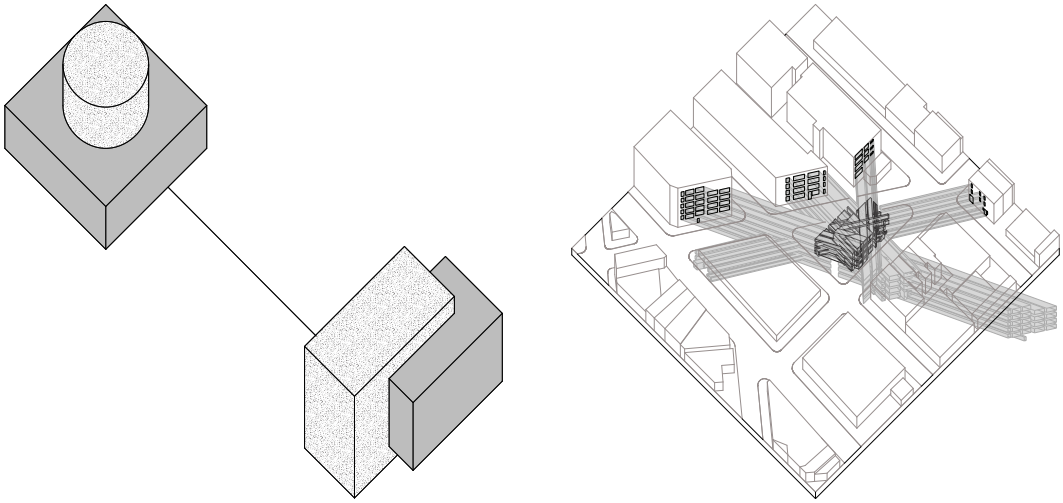


RESIDENTIAL VIEW

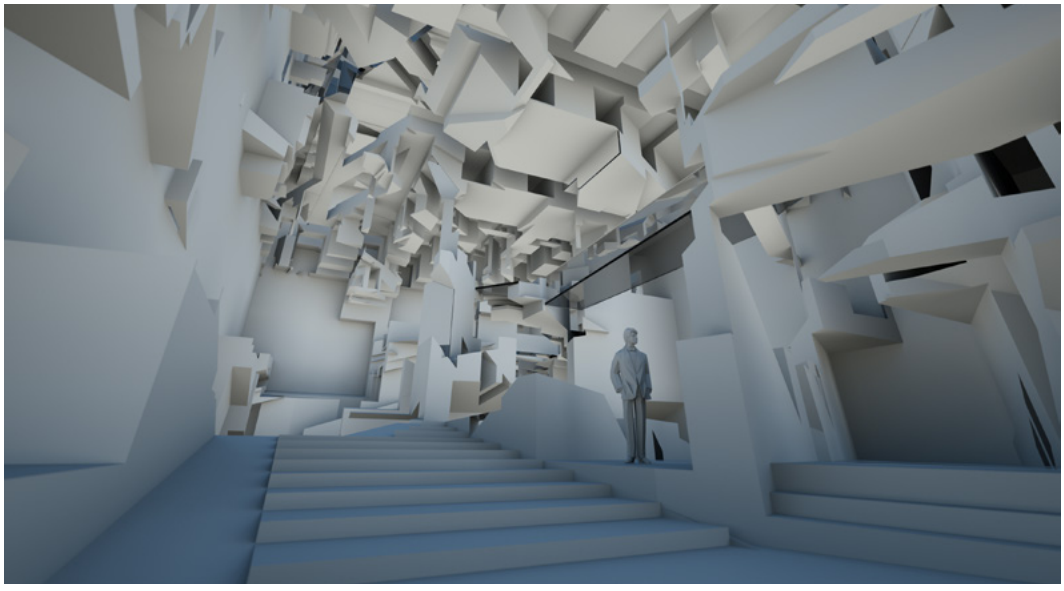
Bushwick Public Library

New York City
Fall 2015 Studio - Yale
Critic: Brennan Buck

The new location of the Bushwick Public Library finds itself straddling a residential neighborhood and a series of blocks that used to be filled with industry. This blend has caused an interesting development in the area, not only in the form of community and business but also that of art. This blended idea of a neighborhood inspired my interest in contextualism. Contextualism in Architecture can be defined as designing a building such that it coheres with its surroundings. ***What if this notion is taken to its extreme where the building is receiving more influence than it typically would? Does it still yield similarities to its surroundings, or does it become something new? This moment of uncertainty creates a hyper-contextualism.*** When looking at this library amidst its odd form, there begins to be recognizable characters and elements hinting that its origin is derived from existing architecture. There is a recognizable repetition of glazing occasionally adhering to the form and other times completely ignoring it.

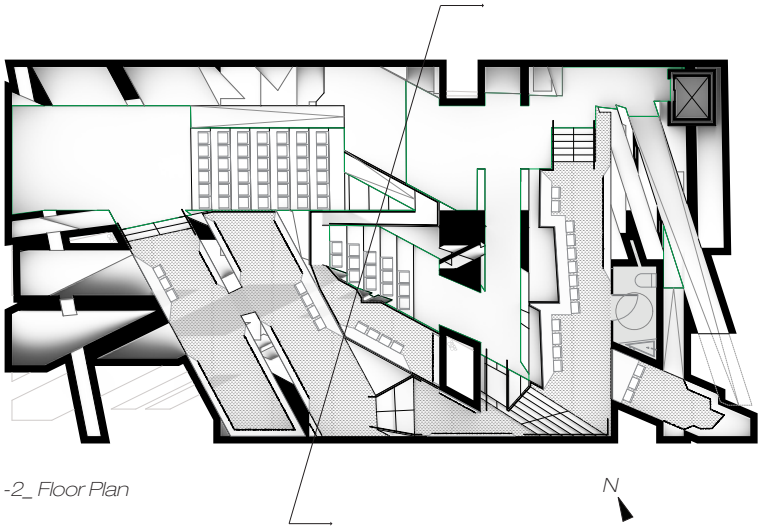


PARTI / CONTEXT



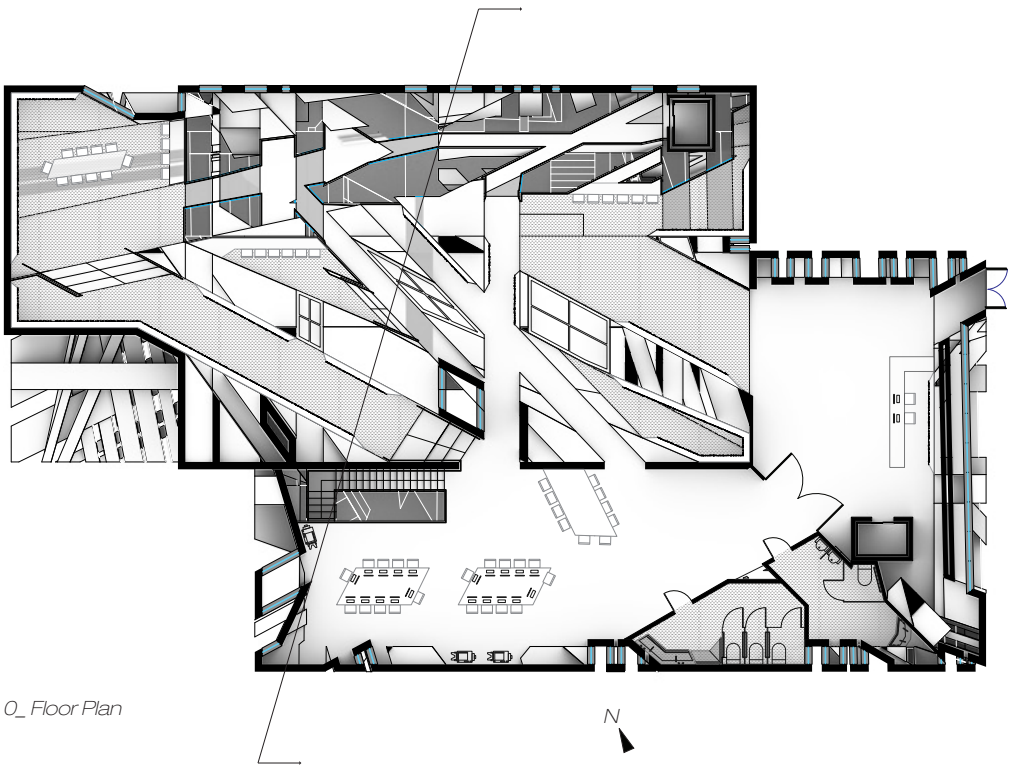
INTERIOR PERSPECTIVE

As you enter the lobby you understand the space to be merely an engaged poche with volumes minimally pushing and pulling, but when you progress further the initial perception of organization is estranged. The labyrinth space opens below and compresses as it moves upward. The progression of contextualism to hyper-contextualism pushes this object from blending in to standing out and becoming alien to its surroundings. The recognizable elements causes the viewing to become estranged in that it is presented as a building based on size and location, but is then subverted based on the complexity and geometry. Finally it is then re-established as a building based on recognizable architectural elements and function.



-2_ Floor Plan

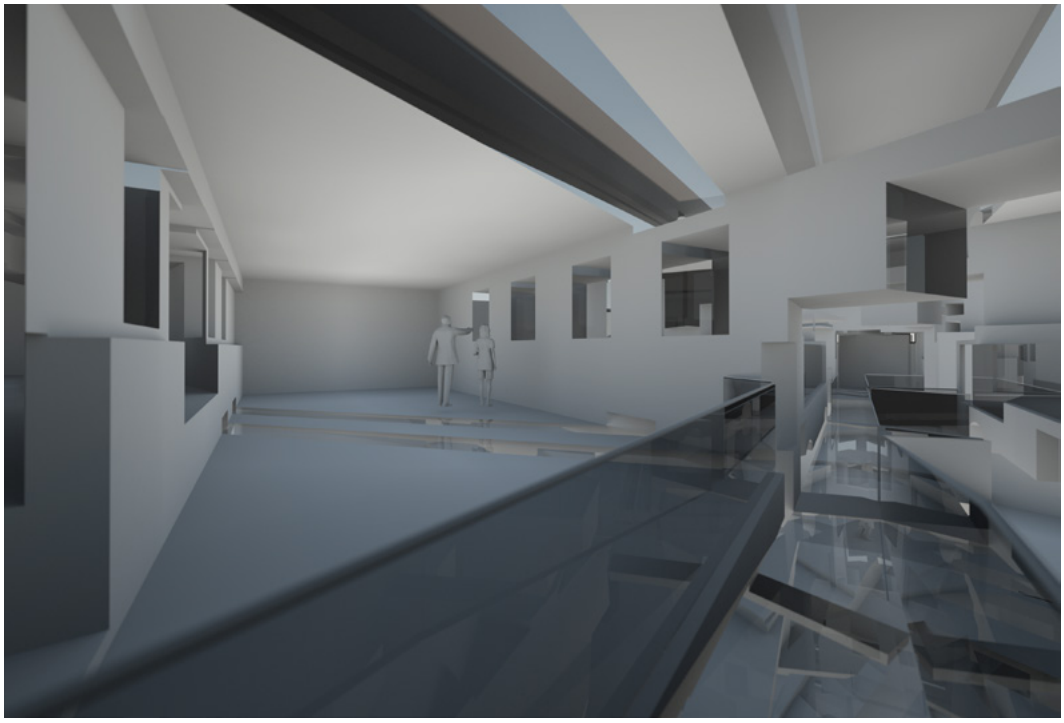
N



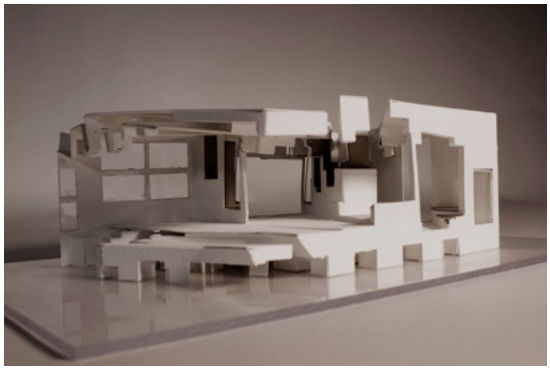
0_ Floor Plan

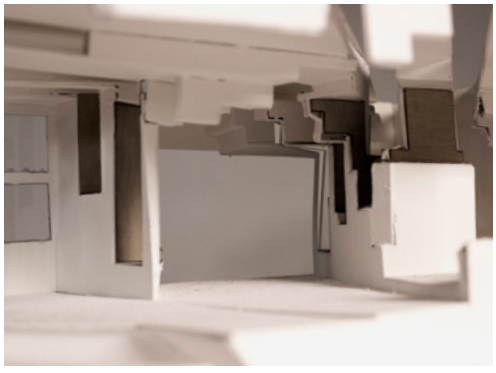
N

FLOOR PLANS

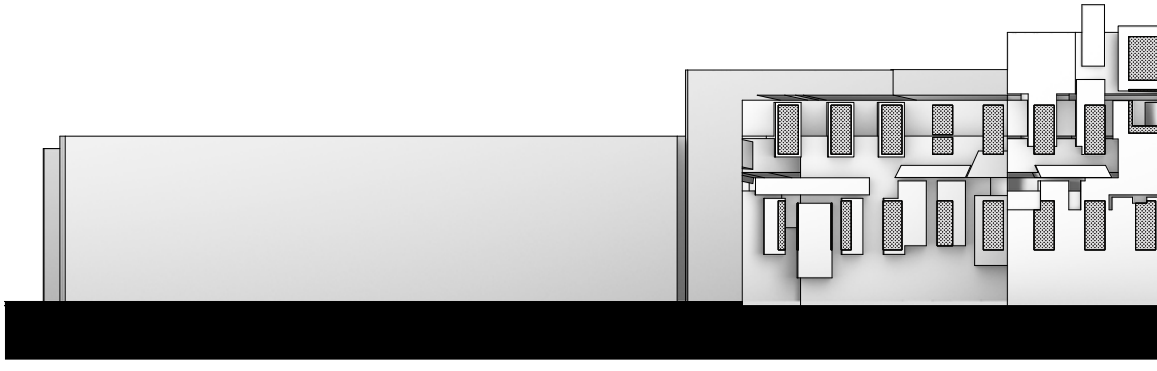


INTERIOR PERSPECTIVE

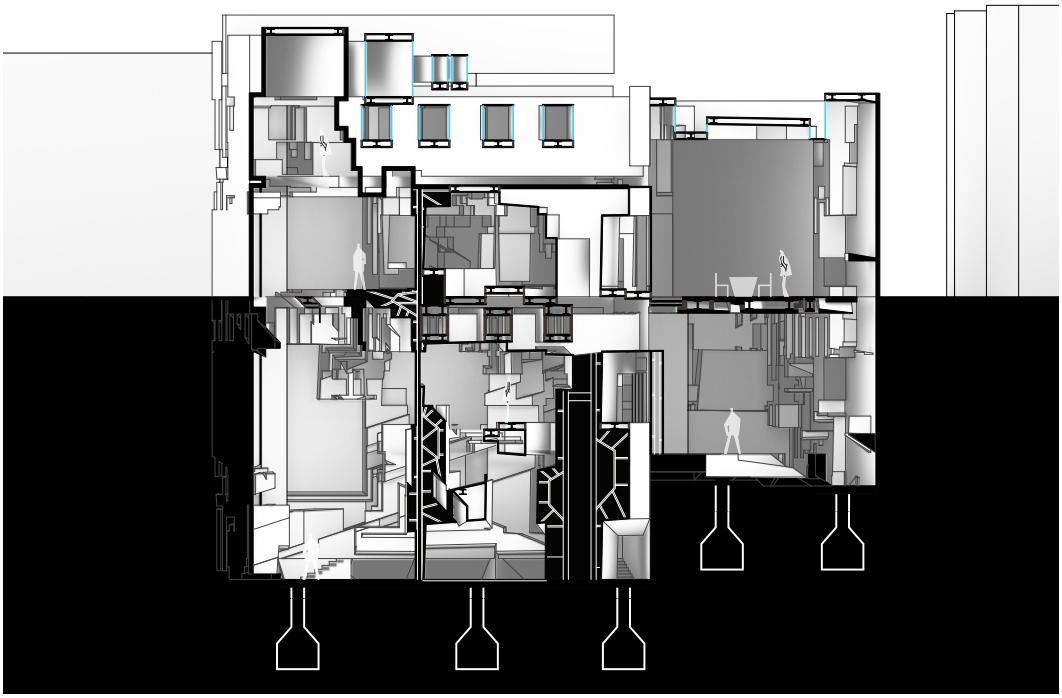




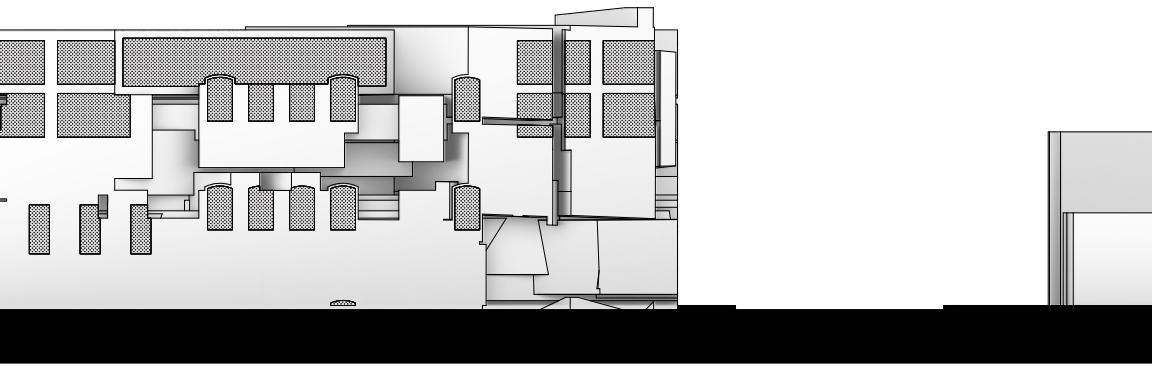
DETAIL MODEL



ELEVATION



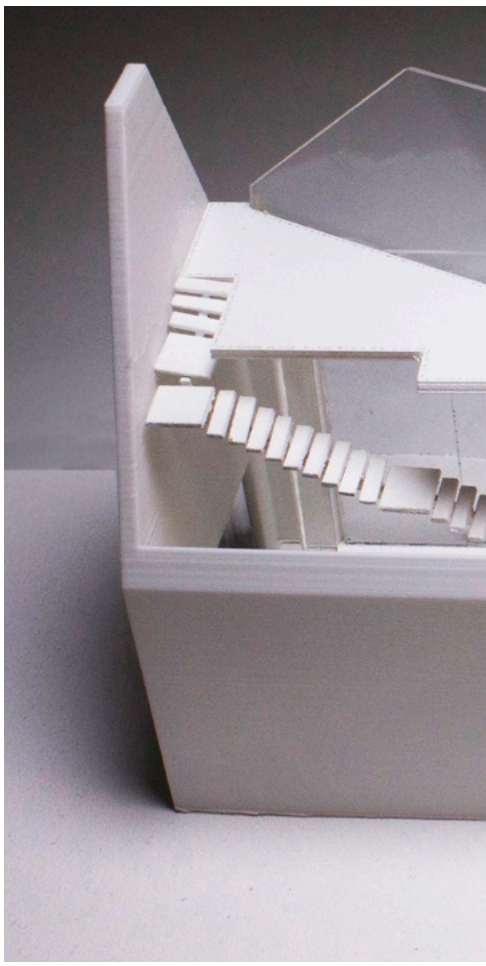
SECTION

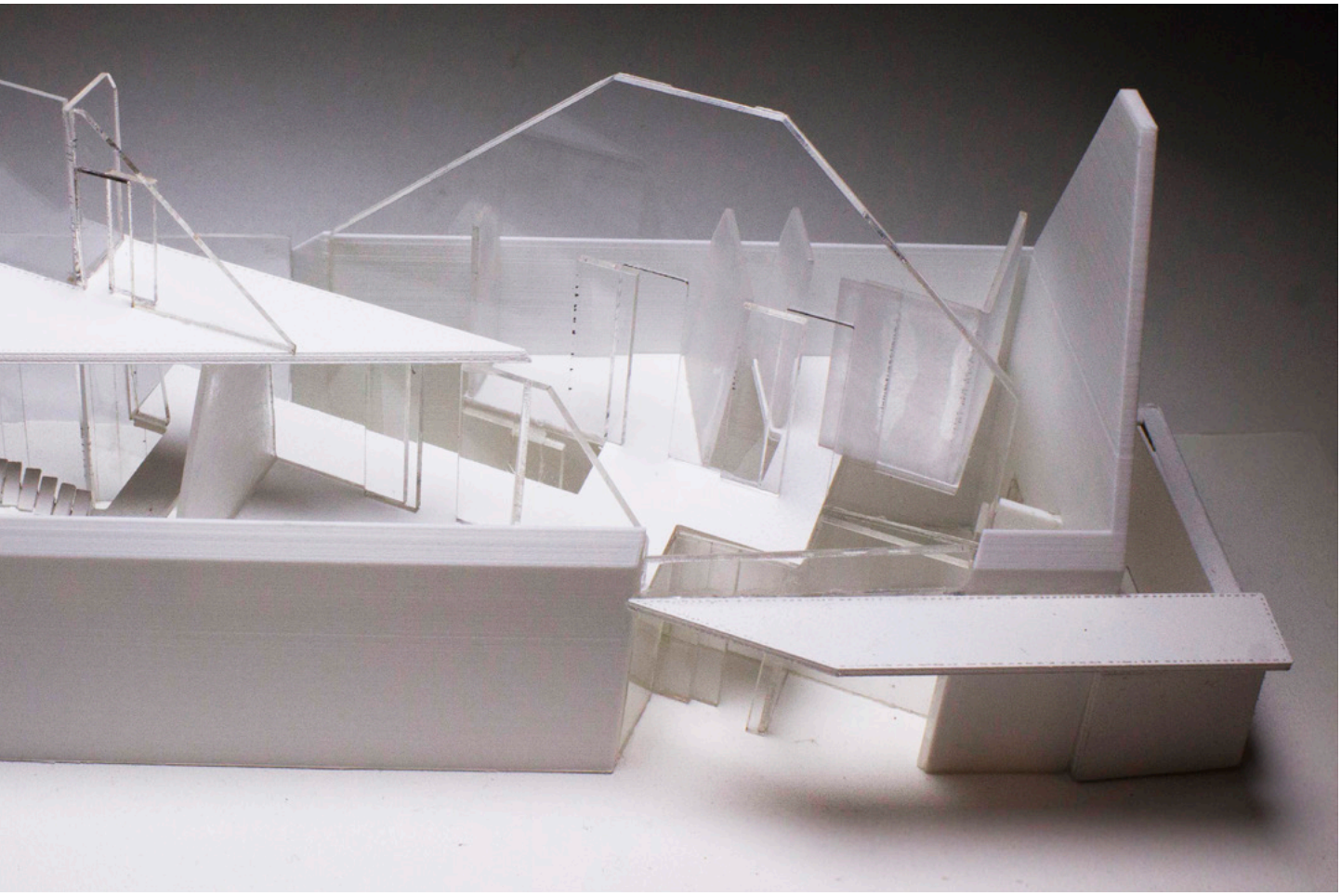


Slice

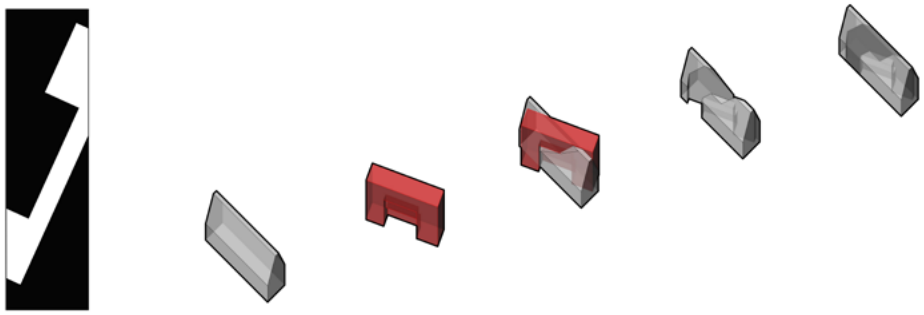
New Haven, Connecticut
Spring 2016 Studio - Yale
Critic: Peter Debretteville

Slice is a single family residential study for the Jim Vlock Building Project at the Yale School of Architecture. It is the first phase of what later becomes the larger group project of designing and building a house. ***The strategy was to treat the maximum buildable mass as larger container from which to carve new space.*** The initial void that is carved serves multiple purposes. First is to create a programmatic separation of the kitchen and dining space from the living space. Second to create a secondary nested indoor/outdoor atrium space. It acts as a circulative connector that spans between levels allowing each room access to the interior courtyard. Lastly the void allows for a large amount of natural light to penetrate into all spaces of the house. Privacy is a achieved through varying degrees of fogging glass. The entry sequence was important for means of privacy from the neighboring houses and the street. The off axis entry also creates the confrontation of entering a space other to the canonical houses that neighbor.

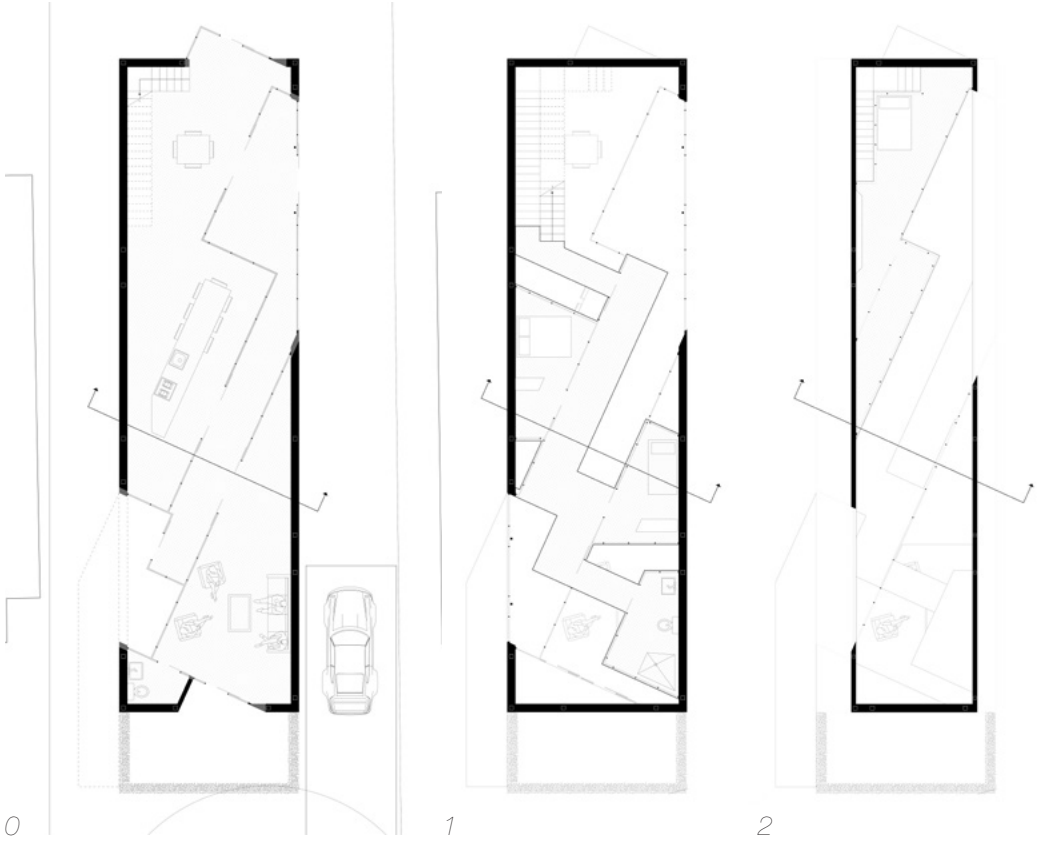




PARTI / PROCESS

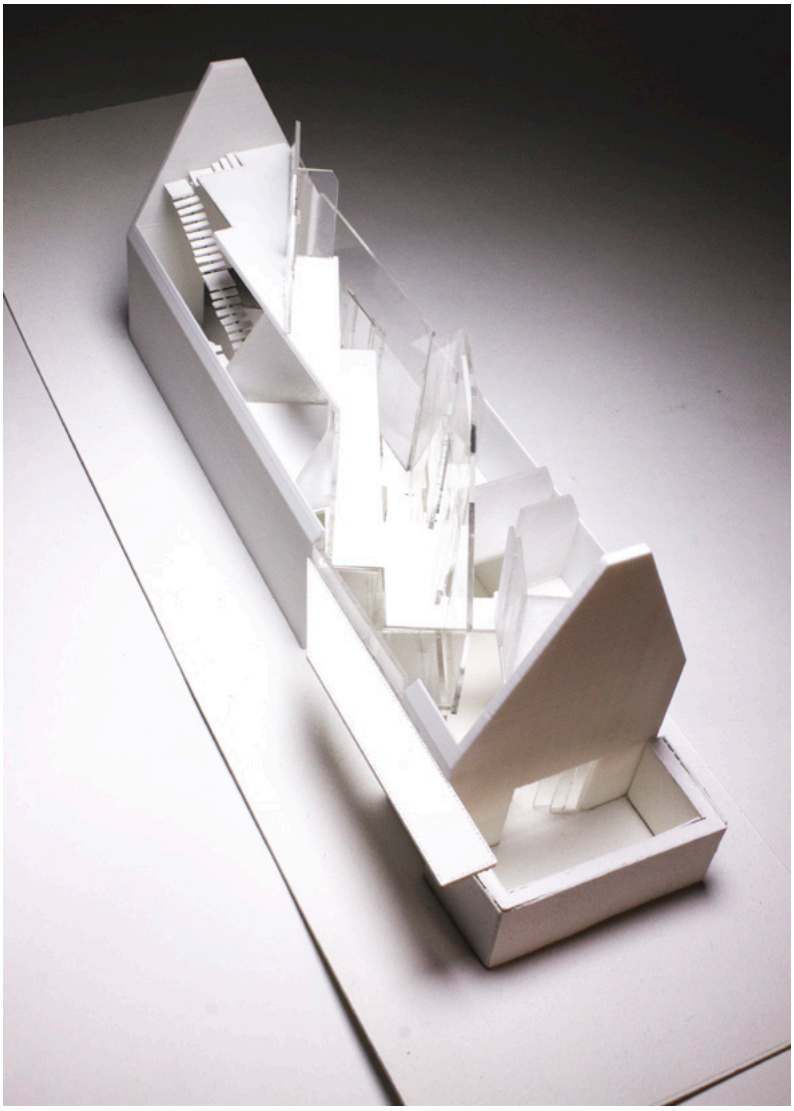


FLOOR PLANS



ELEVATIONS

Lighting can profoundly affect the nature of social interactions. In my scheme I created multiple instances of aperture and interiority to create social interaction. This was derived from my interested in the solar and social conditions of the site. There needed to be a controlled openness to inspire social engagement, however, there also needed to be privacy to prevent those living in the house from feeling on display. This caused me first to decide the main circulation through the house to be off-axis. I then decided to take an initial typology of a building form responsive to solar conditions and subtract if from the overall building envelope. This created the primary divide running through the house.



SITE MODEL

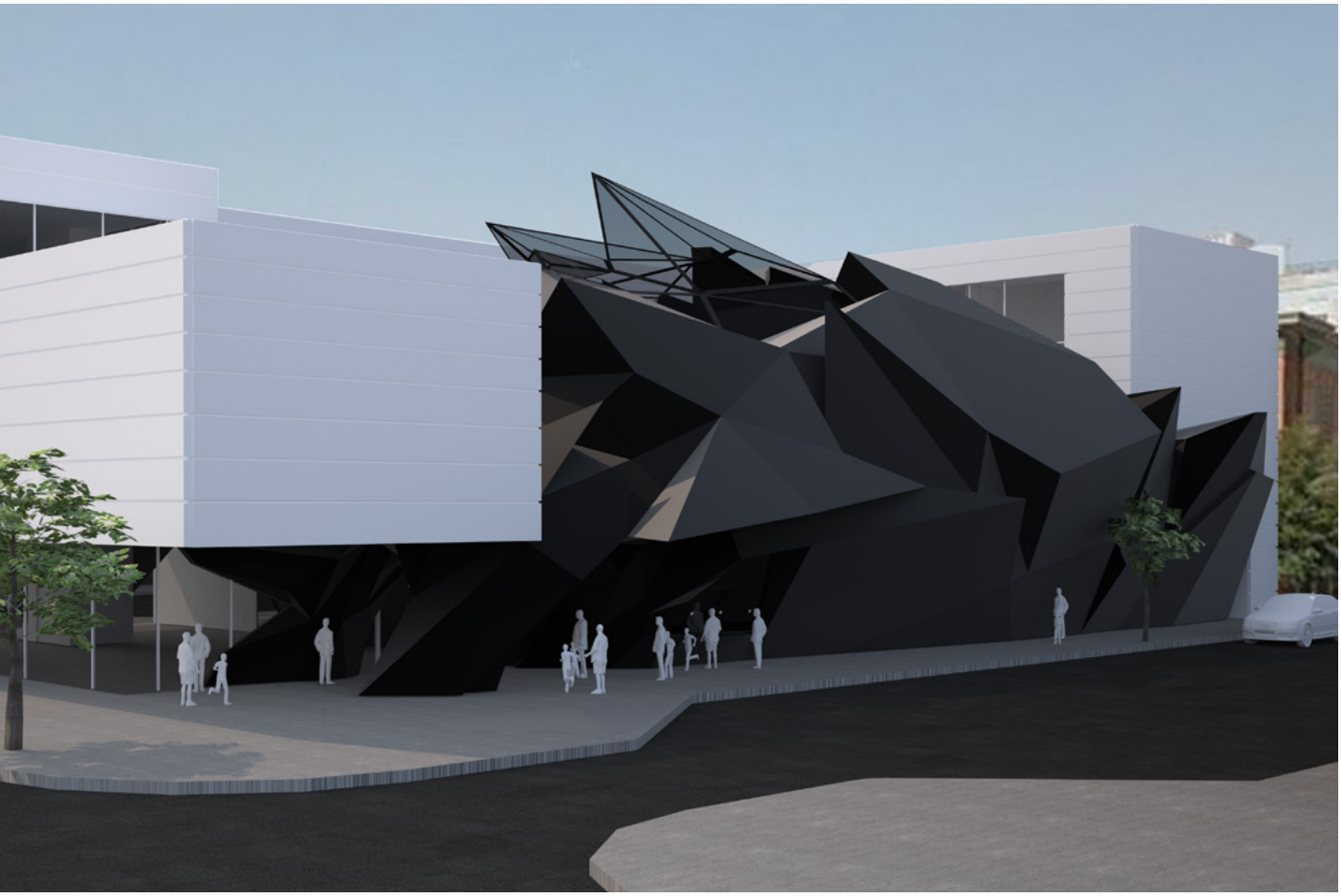
The house then became a discussion of exterior, interior/exterior, and interior space all having flexibilities in privacy. There was the primary exterior which in places would slip into the envelope of the building. The interior/exterior space which acted both as a circulation space for people and air given the proper weather conditions. Lastly the interior space which was the primary living space for the residents which depending on the functions would engage with the various other spaces.

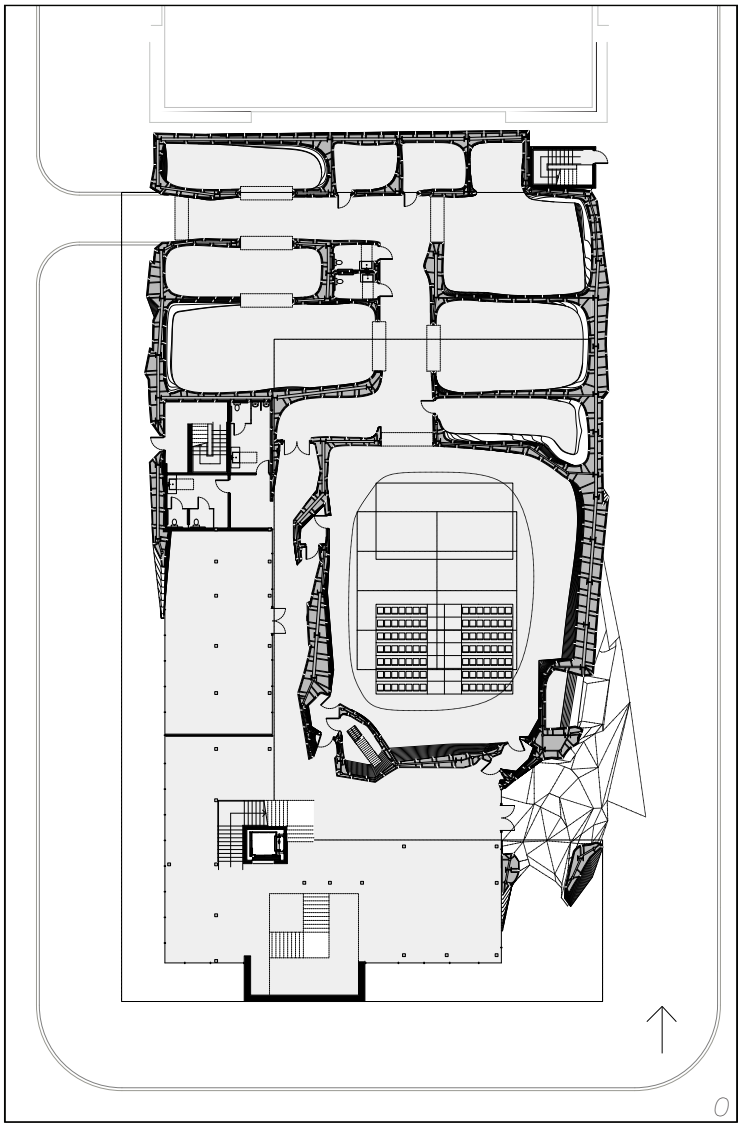
SECTION MODEL

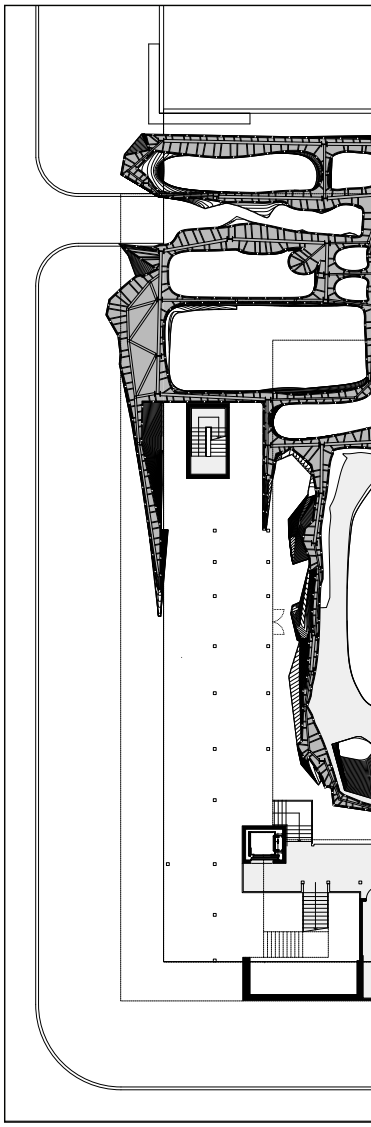
Ferro

Bryan, Texas
Fall 2013 Studio - Texas A&M
Critic: Craig Babe
Team: Ryan Wilson

Ferro is a speculative Theatre in Bryan, Texas. ***Ferro studies the notion of the object in the court as well as the precedent of Potzampark and his original theatre emerging as an object.*** We formed a dialectic relation between a normalized form creating the perimeter and a volatile object emerging in the court. The relation of the object to perimeter is dialectic in the sense that the object is repelling the Typological "C" by lifting it. The object does however embrace the voided form below. We can see moments of repulsion and juxtaposition when the object comes close to the perimeter forming tight interstitial spaces controlling circulation, light and affect. Since this project was to be one of the first new buildings in this downtown area it was necessary to create a stimulating design. Our objective was to take the user from a mundane environment to a quixotic atmosphere.

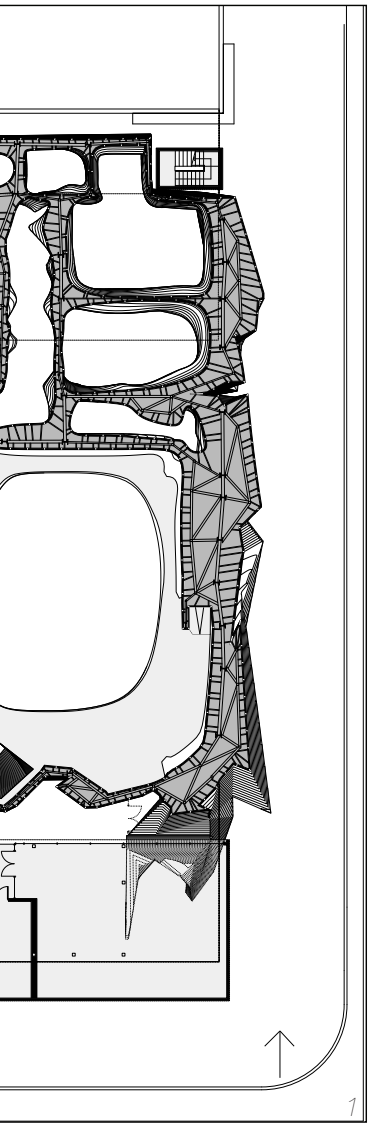


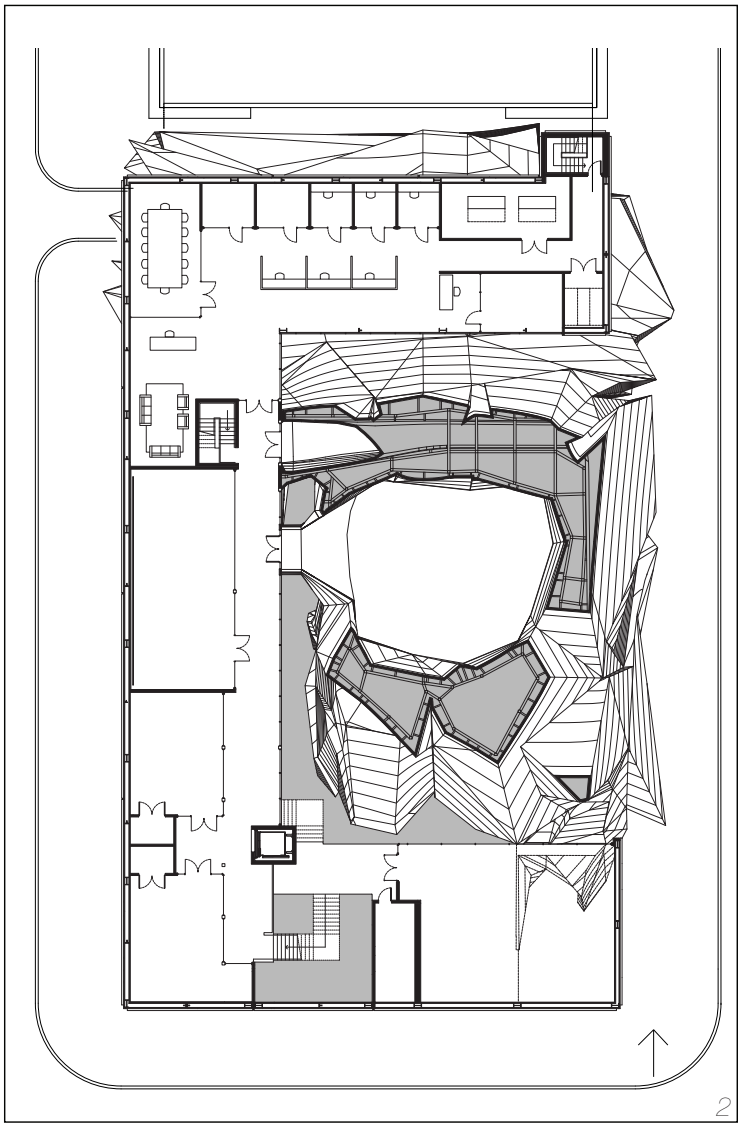




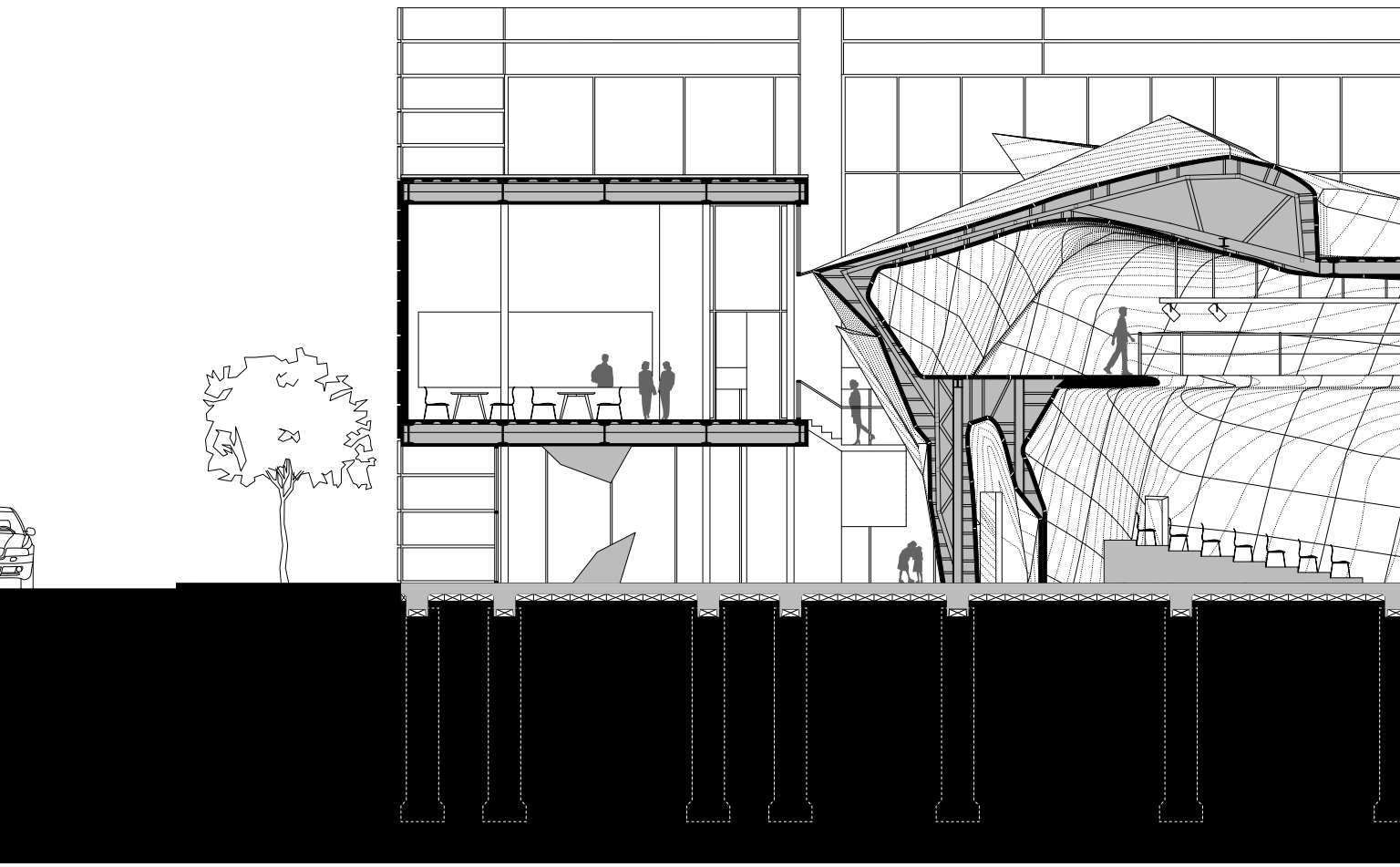
FLOOR PLANS

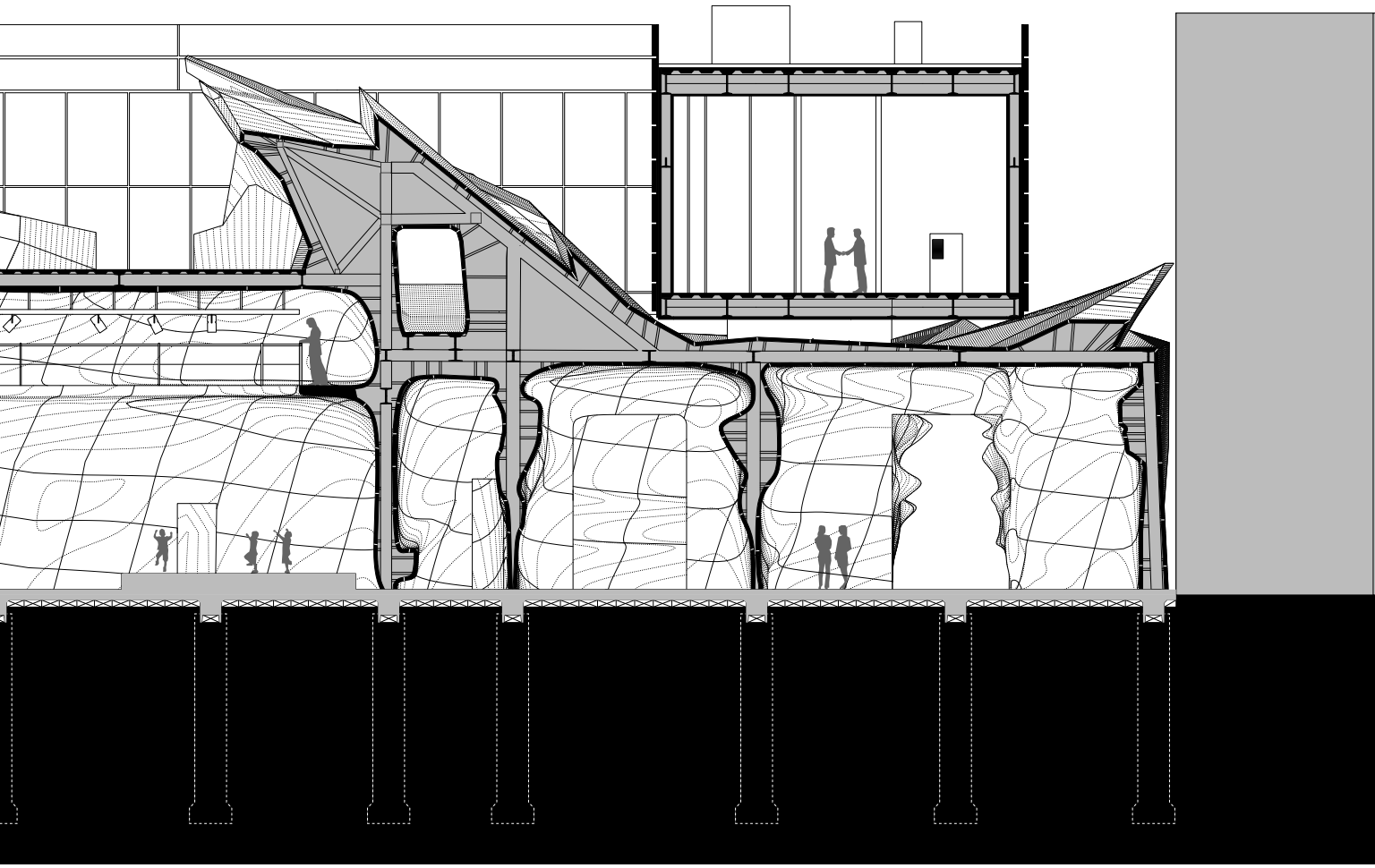
This project came predefined with a very strict program. There needed to be a black box theatre with theatre support spaces behind such as scene shops, a green room, and dressing rooms. Secondly classroom space was required since this is an instructional theatre. Lastly there was an administration area containing offices and conference rooms for those in charge of running the theatre. An important aspect we wanted to implement was the connectivity of the interior public space to the outside community, while maintaining a very private back of house area. The public foyer is the second largest programmatic feature to our black box. This was done intentionally so that the subject's experience could have the most profound affect. We also have added a rooftop performing space inside of the "crystalline object" for less formal performances.

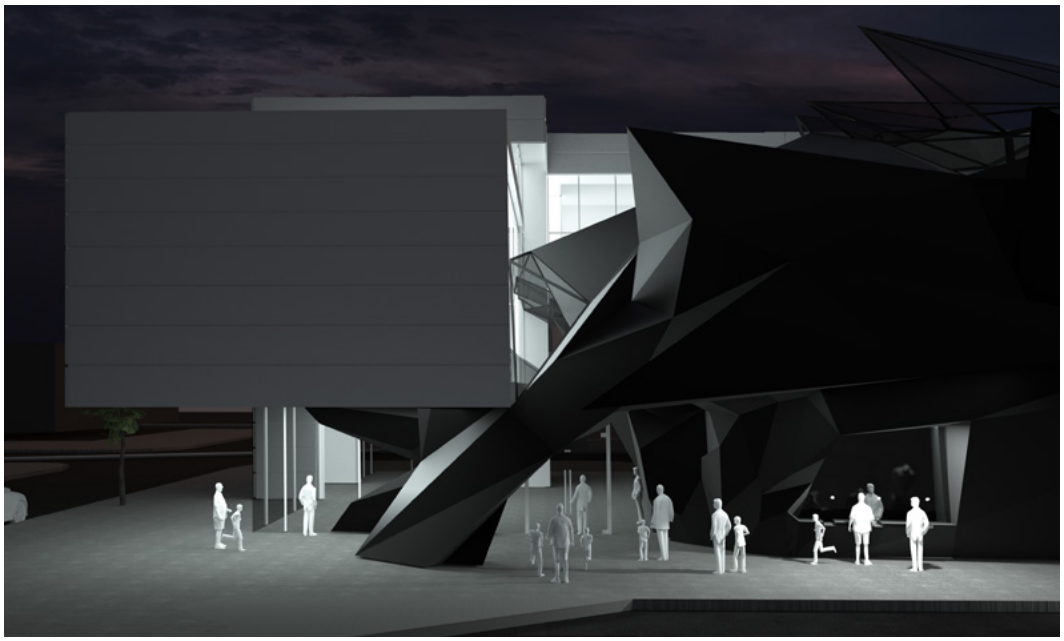




The form of the object is reminiscent to slot canyons such as those seen in Moab, Utah. There is an intricacy of circulation and light filtration which can be derived from this. The park immediately adjacent to the theatre site was also required to be designed. In this implementation we had another interpretation of these crag forms and their extrusion from the ground forming a field condition. The crags create affordances for seating and congregation since this park functions as an outdoor theatre. The “community” mentality is one that has been lost in Bryan, Texas, however in recent years there has been an reinvigoration, and so the creation of public outlets is more than necessary.

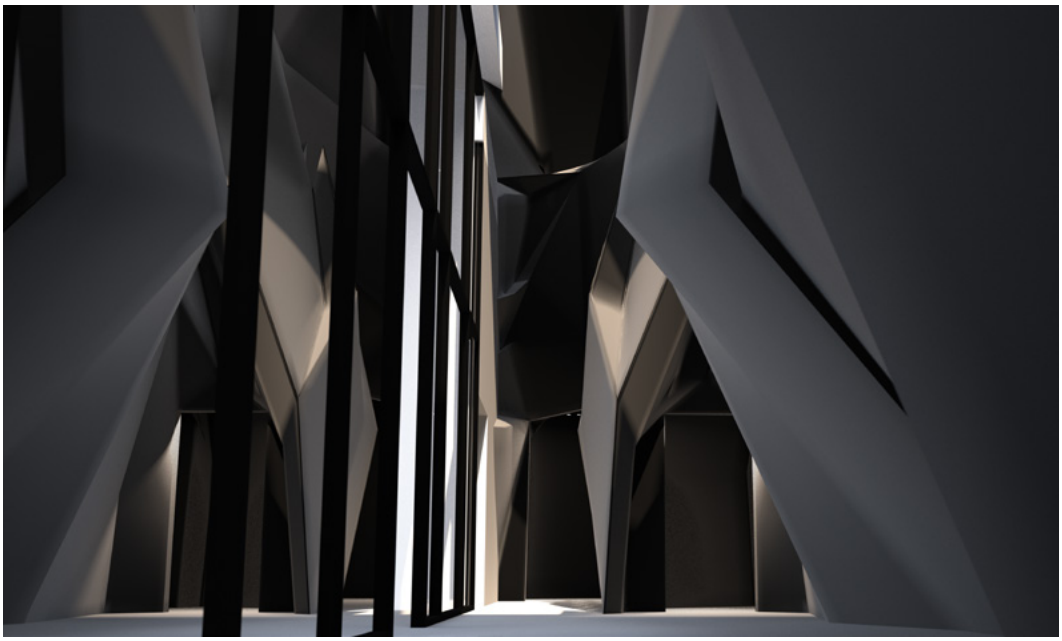




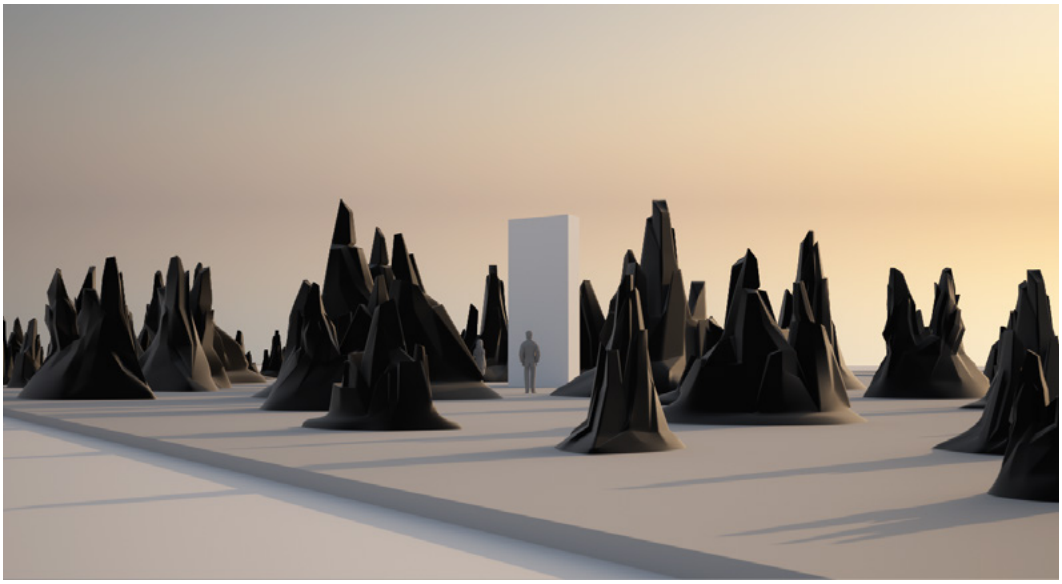


ENTRY NIGHT

STREET VIEW NIGHT

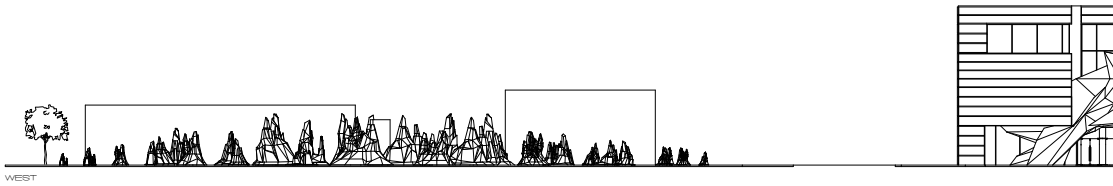


INTERSTITIAL SPACE

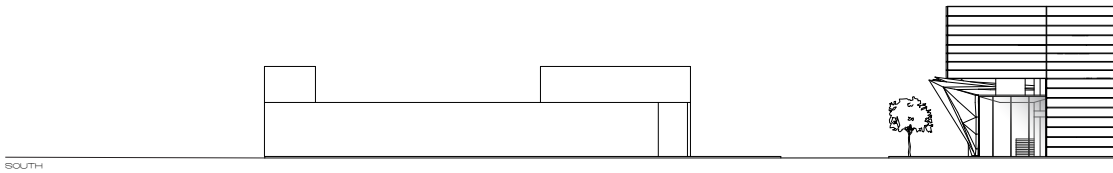


PARK VIEW

ELEVATION WEST

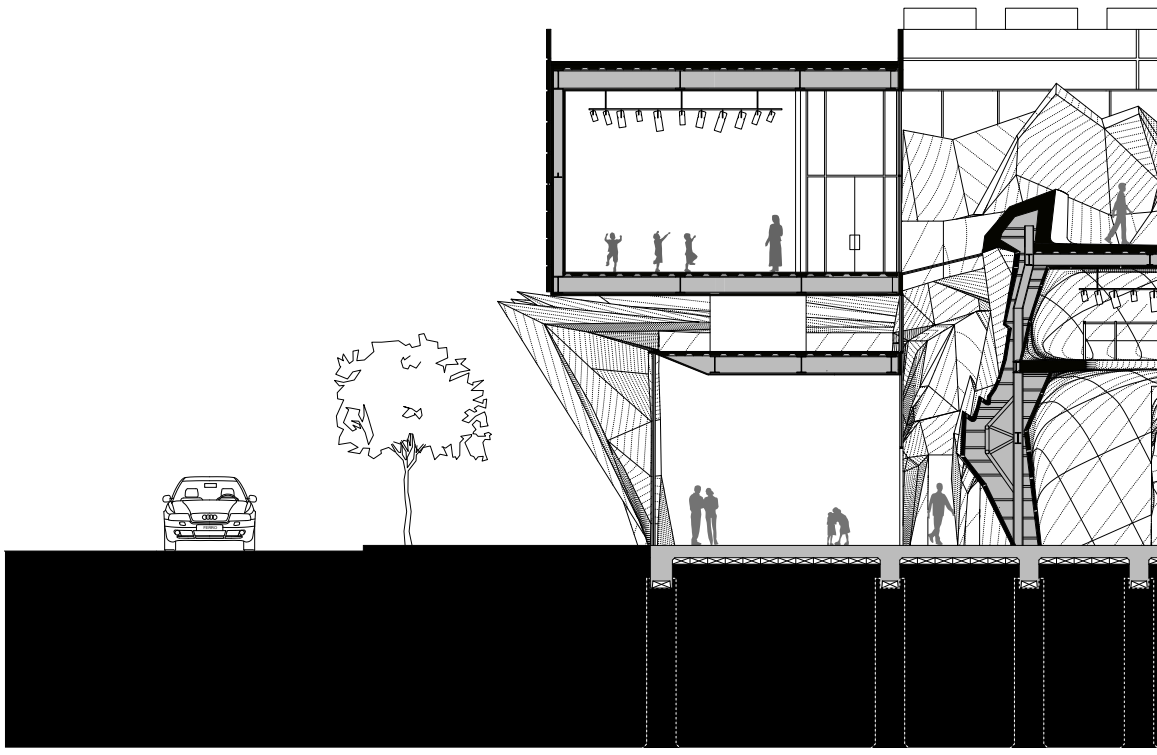


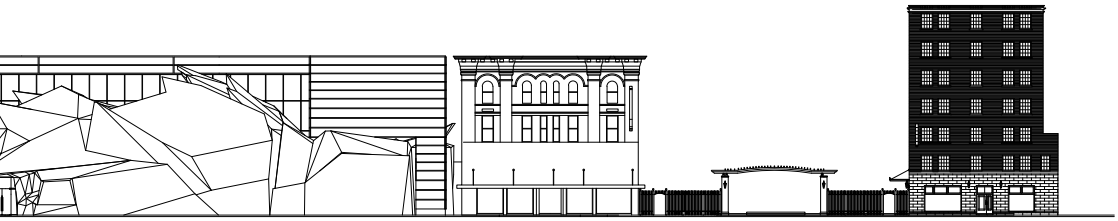
ELEVATION SOUTH

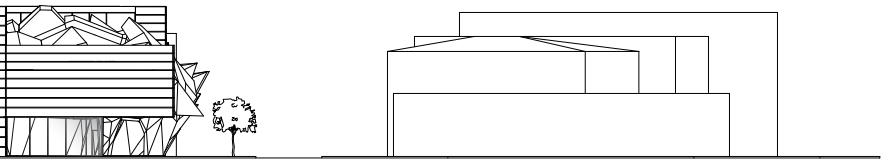


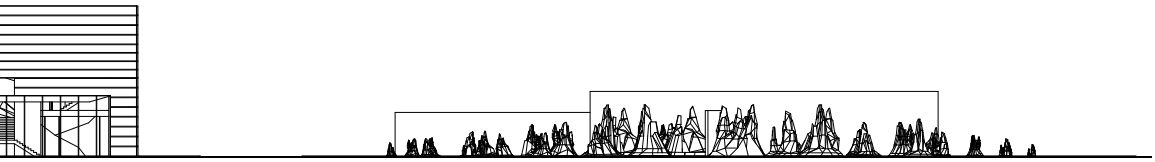
ELEVATION EAST

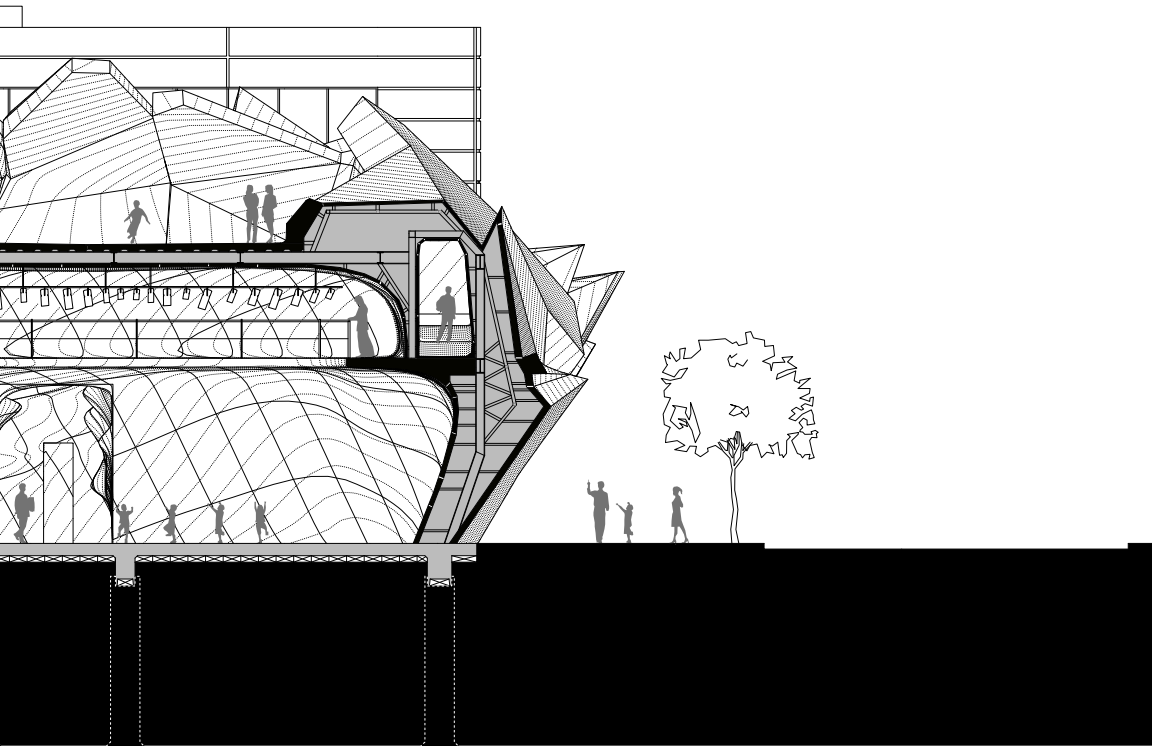
TRANSVERSE SECTION



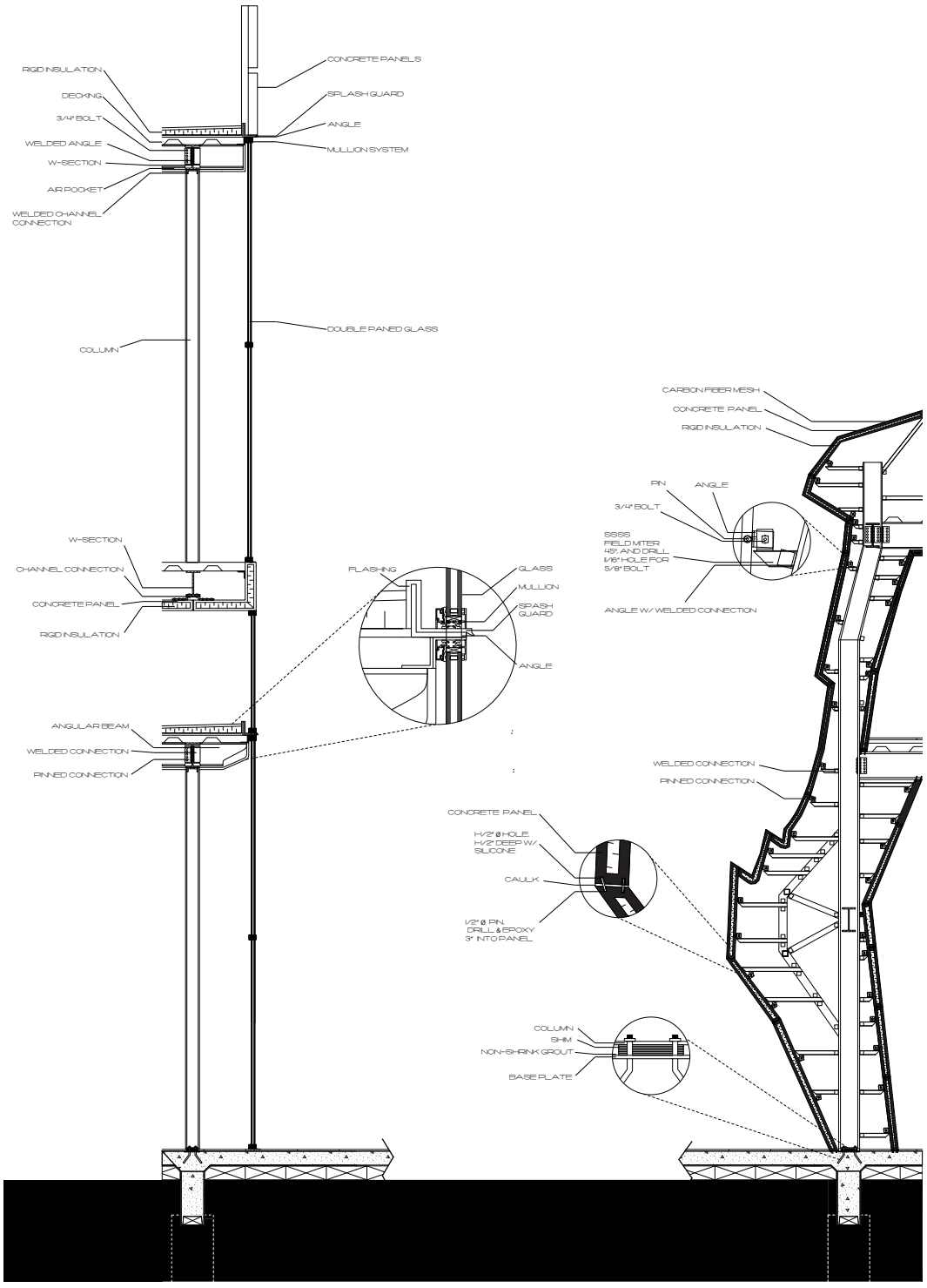




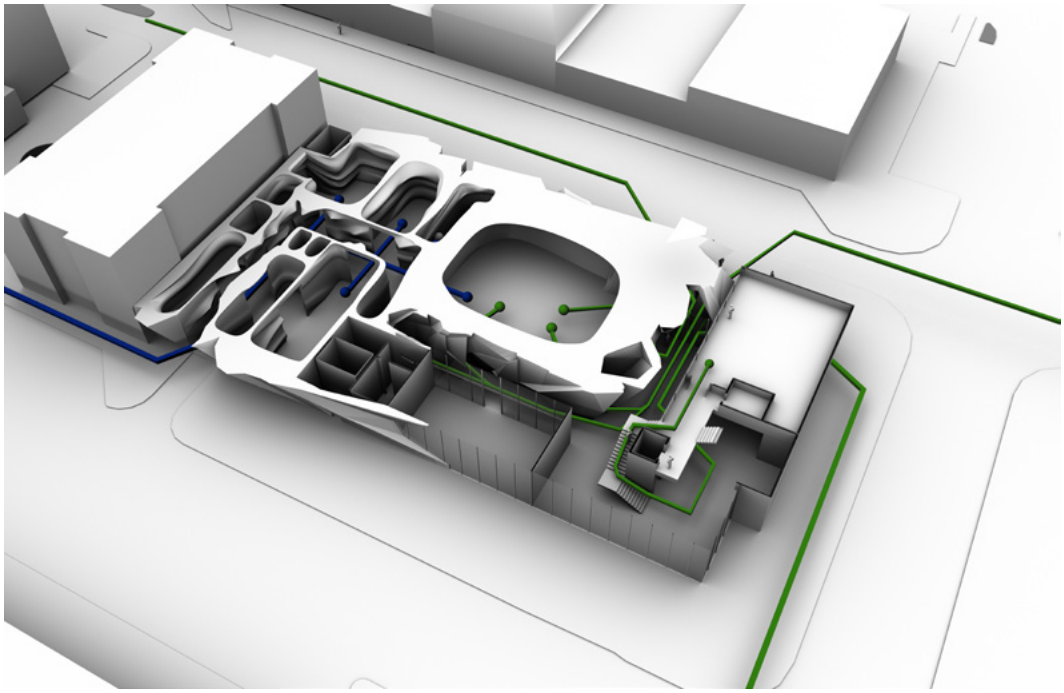




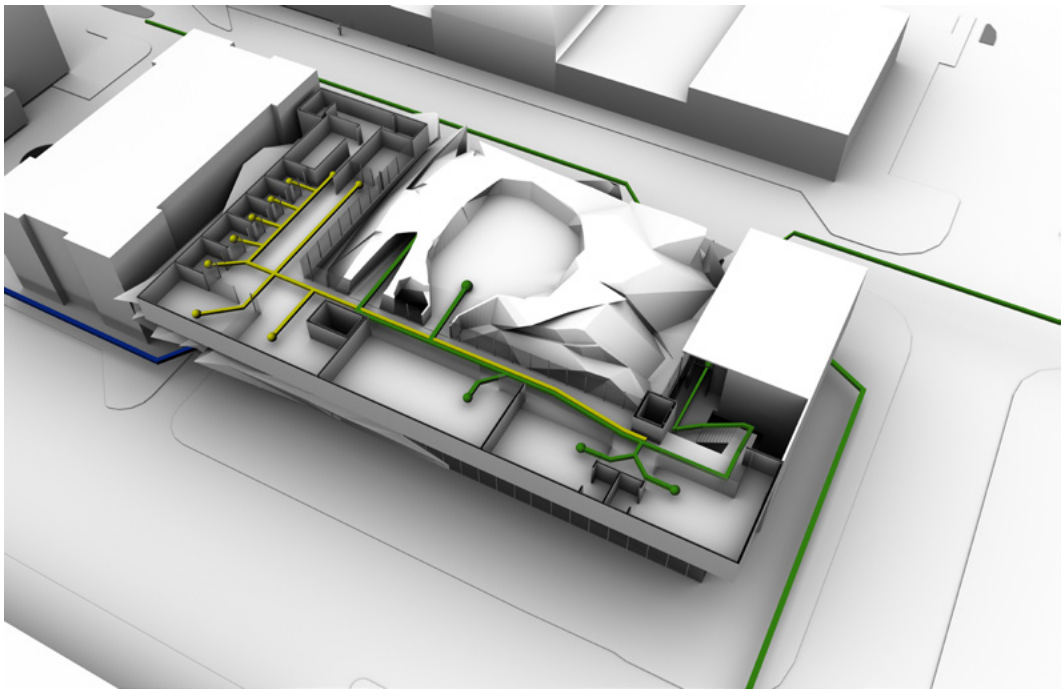
This wall section includes the details of most connections that would be required. For the perimeter form on the left we looked at the Louvre in Lens by Sanaa in order to have a minimal and seamless connection of glass. The form on the right required a much further study into the structure and the requirements in order to realize this form. We looked at projects such as Morphosis' Perot museum as well as Trahan Architects Louisiana Sports Hall of Fame. The panels had to be divided into specific sizes which were both optimized in the geometry as well as square footage of each individual panel. The panels had to have a water tight membrane along with insulation in between. There needed to be a fairly regularized system in order for the structure to work on the interior. This consisted of a few variations of vertical columns, which had tubes connecting them with a welded connection. From here they would extend and connect to the panels. In order to adjust to the varying angles in which the panels where arranged it was necessary to have a double pin connection. This not only allowed the angles to have a certain tolerance but also made it so the angles would be able to be mass produced rather than individually made.



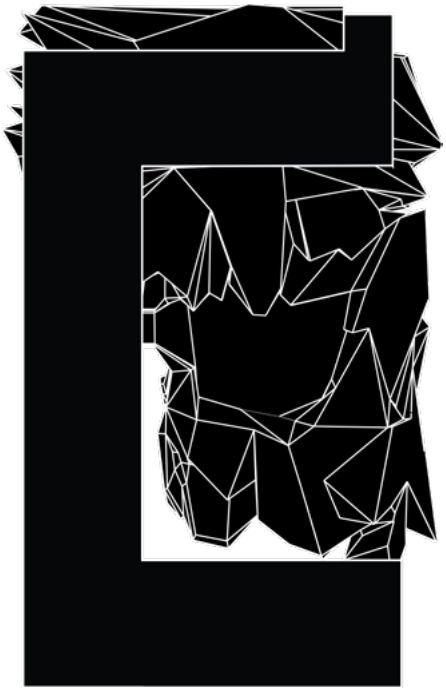
WALL SECTION



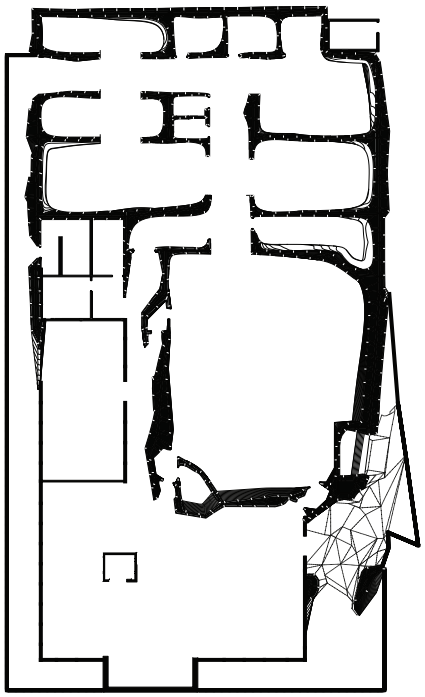
CIRCULATION @ 0



CIRCULATION @ 2

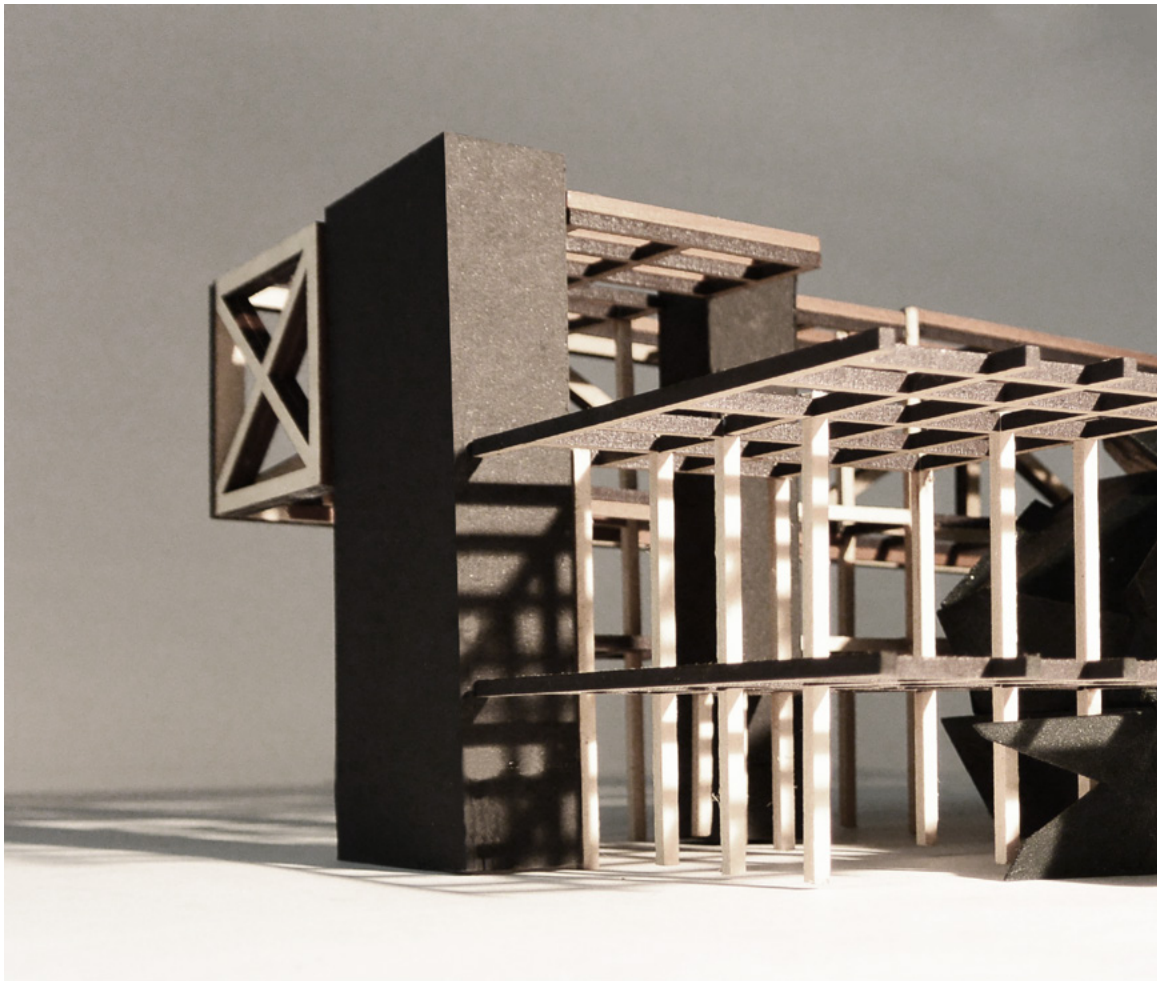


PARTI

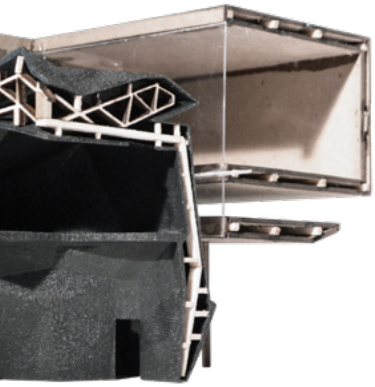


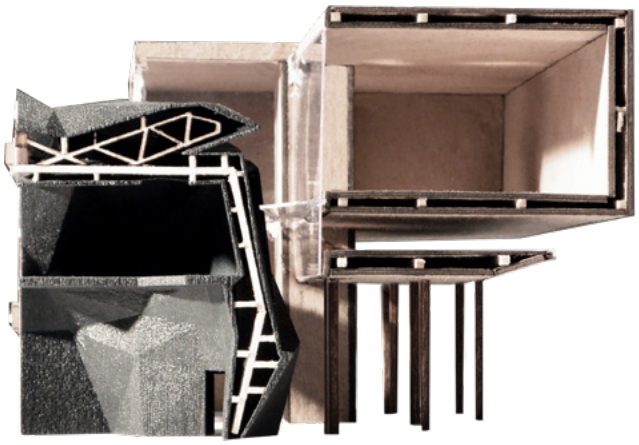
LAYERS

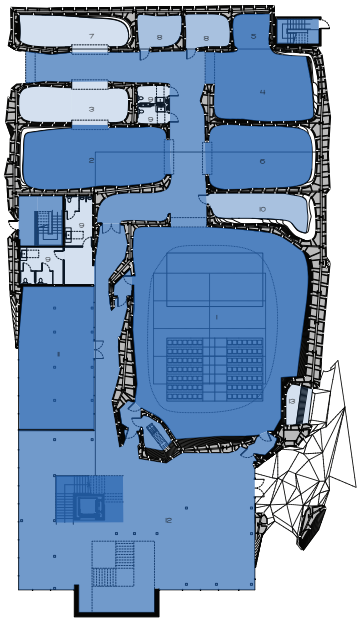
SECTION MODEL

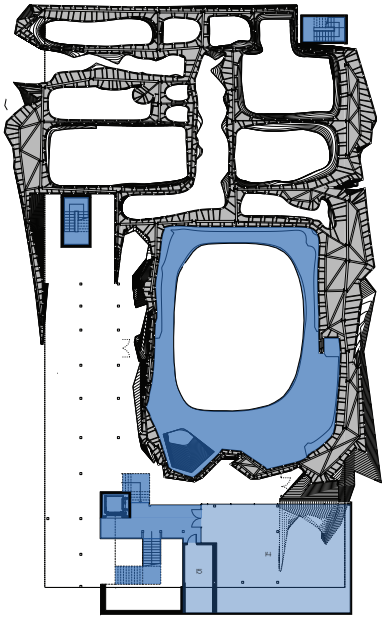


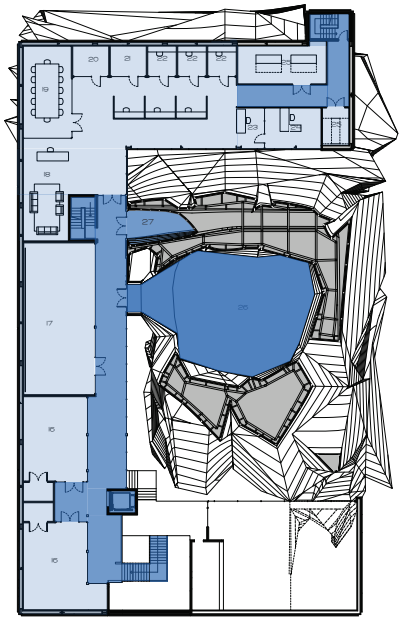
STRUCTURAL MODEL











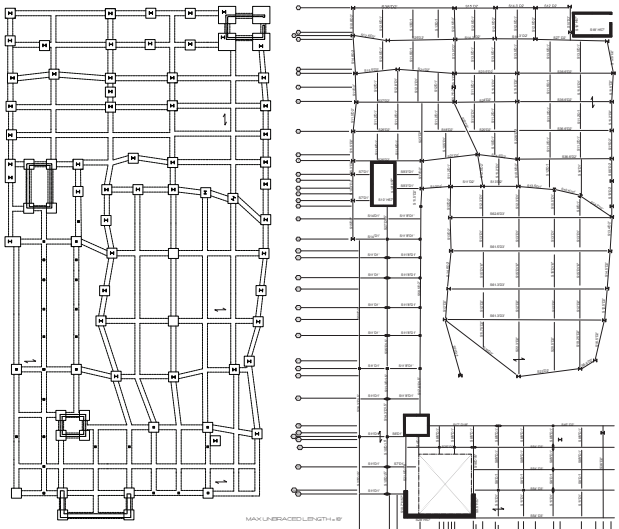
1 THEATRE
2 SCENE SHOP
3 SCENE SHOP STORAGE
4 PAINT SHOP
5 PAINT SHOP STORAGE
6 PROP SHOP
7 GENERAL STORAGE
8 DRESSING ROOMS
9 BATHROOMS
10 GREEN ROOM
11 COSTUME SHOP
12 FOYER
13 BOX OFFICE
14 CAFE
15 SERVICE BAR
16 CLASSROOMS
17 DANCE STUDIO
18 RECEPTION
19 CONFERENCE ROOM
20 SUPPLY CLOSET
21 MEETING ROOM
22 EXECUTIVE SUITES
23 SECRETARY SUITE
24 DIRECTORS OFFICE
25 MECHANICAL ROOM
26 OUTDOOR PERFORMANCE
27 CATWALK

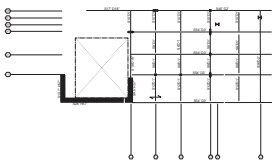
150 PSF
100 PSF
80PSF
50PSF

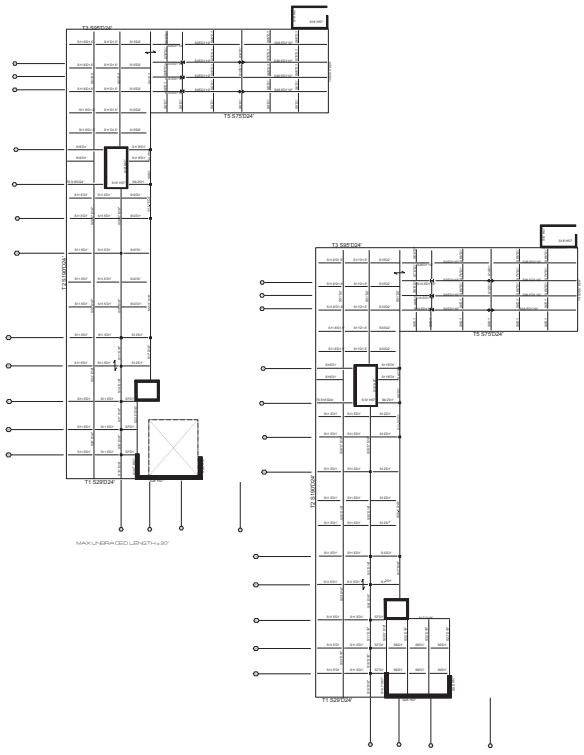
25' 50'

N

LIVE LOAD







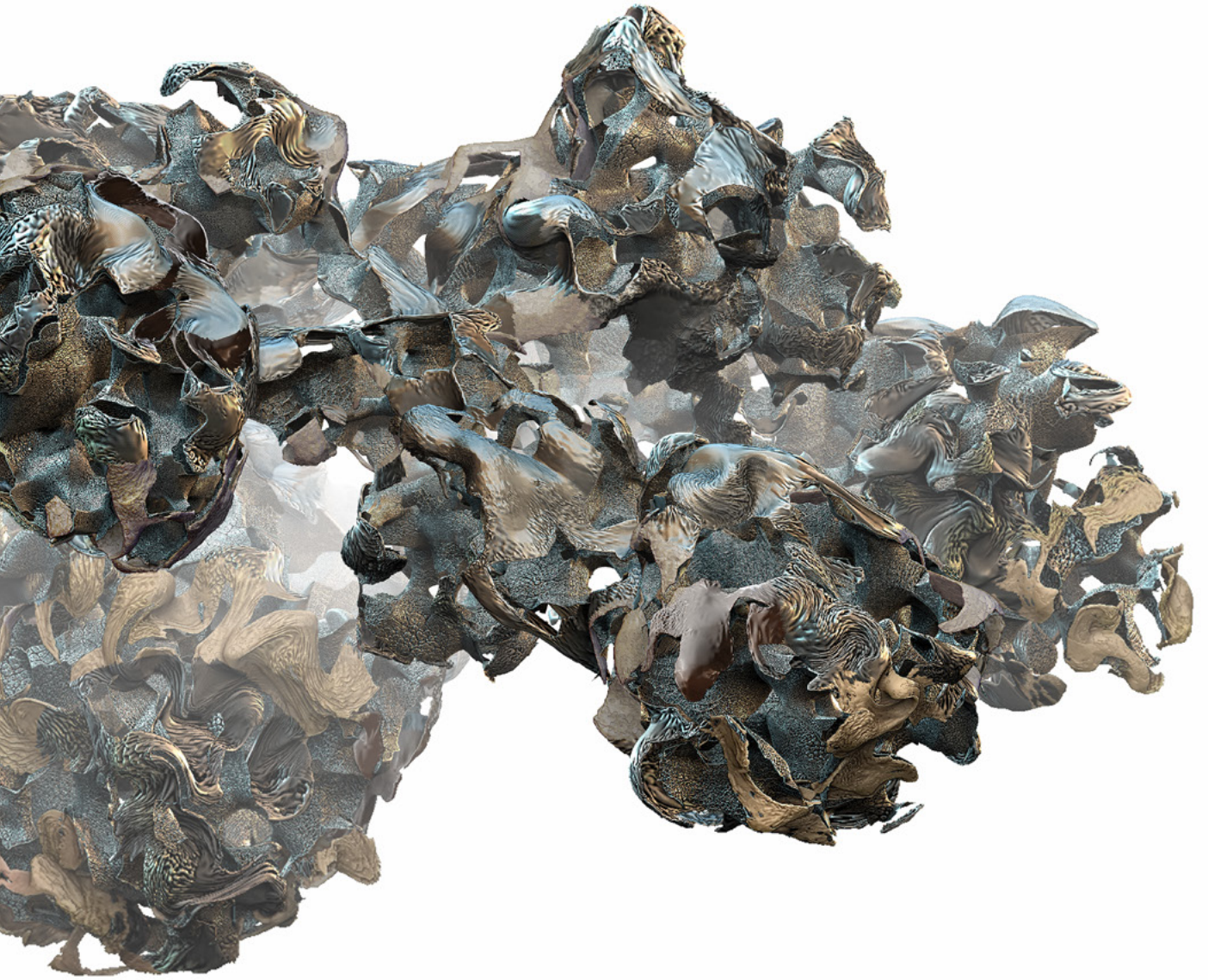
FRAMING DIAGRAMS

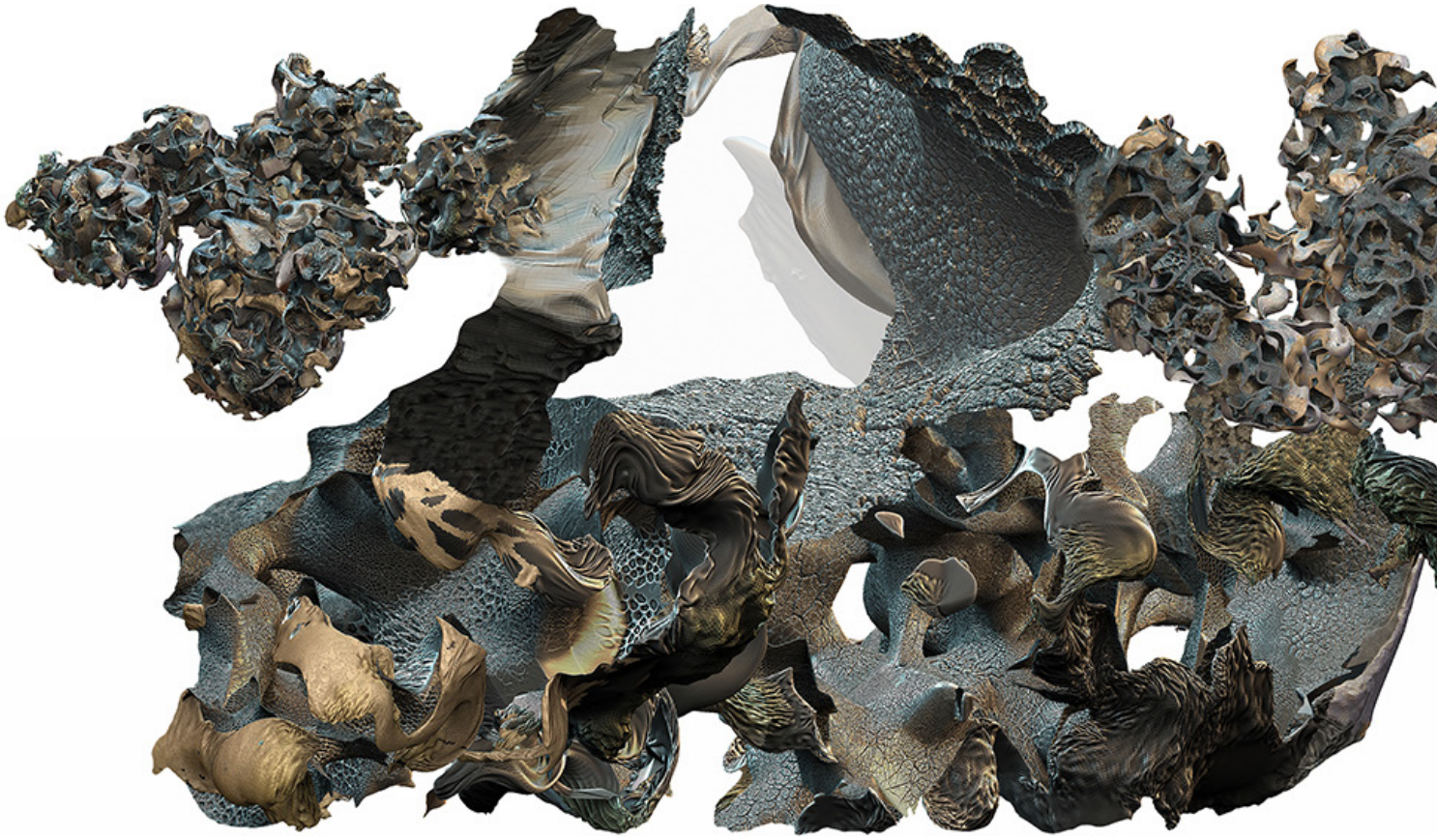
Drawing Without Paper

College Station, Texas
Spring 2014 Studio - Texas A&M
Critic: Bruno Juricic
Team: Adam Wells, Justin Zumel, Kathleen Sobzak

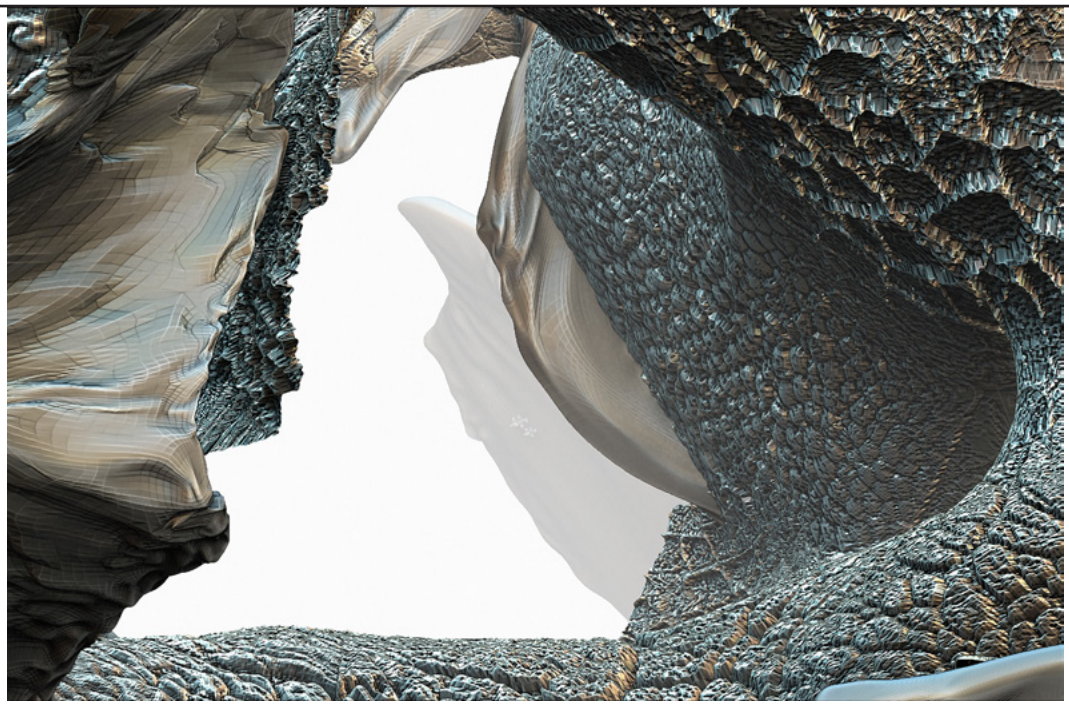
Drawing without Paper attempts to remove the anthropocentric idea by means of the Eisenmanian challenge of scale. The development of this argument led to the notion of the Proto-Synthetic and Synthetic. ***We have framed the discussion of the Proto-Synthetic and Synthetic in terms of Eisenman's Arrows, Eros and other Errors, which discusses discontinuity, recursivity, and self-similarity.*** A result of this discussion produces an idea we call the scientific image and enstranged object of desire.

Self-Similarity in origin "confronts representation and the aesthetic object." In our case it can be argued by its relation to proto-synthetic and synthetic through confrontation and counter figuration. Confrontation is relevant to the reticulation of the overall massing. Counter figuration is in relation to the massing of the object and its visual representation. The object is represented as a singular mass however after closer inspection it is apparent that there is a stacking effect creating a collage of masses. This creates different moments that fluctuate between one single mass and multiple.





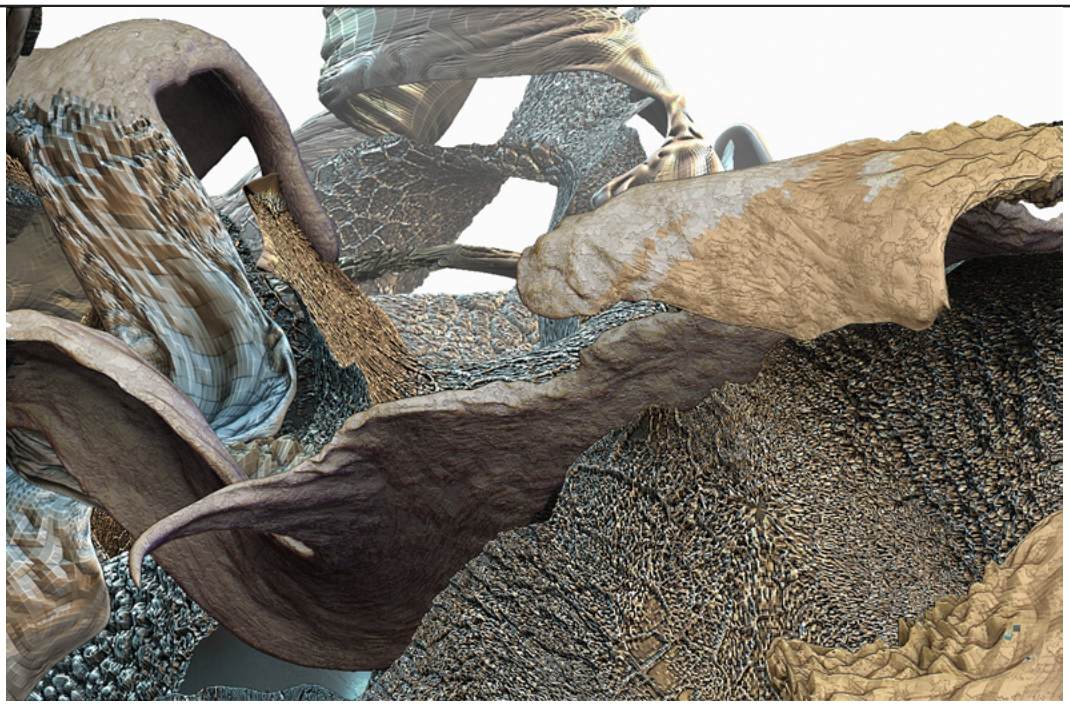
GRAFTED DRAWING



DETAIL_1

PANORAMA

Discontinuity in origin confronts metaphysics of presence. In our argument it allows a new frame of representation through translations of medium and manipulation of scale, to create a perspectival Hi-Fi/Lo-Fi. This representation lends itself to the notion of the rendering as a drawing machine. The drawing highlights the reticular qualities of the object. One sense of the reticularity is in the argument of part-to-whole, where there is a comparison of zoomed detailing of the object to the massing of the form. Thus creating a Hybrid Reticulation as a state of flux where the reticular qualities at any moment are neither working for or against the object.



DETAIL_2

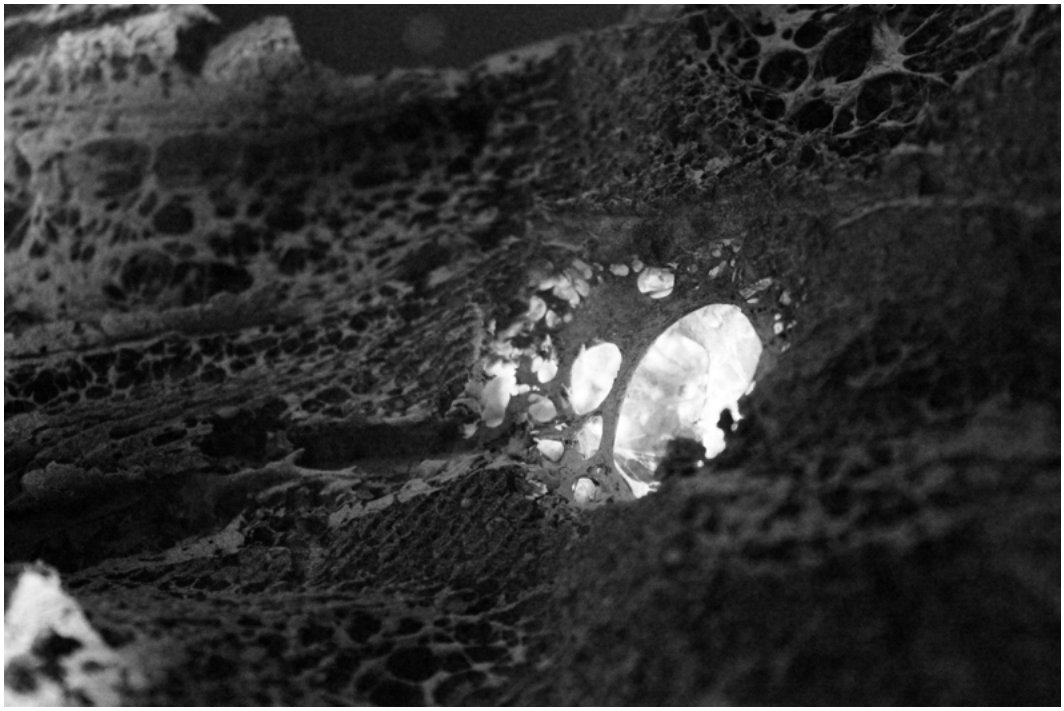
Recursivity confronts origin, and in our case it looks at reticulation. The recursivity is created by defamiliarization and hyper association to the object enstranging it and creating the Object of desire. Hyper association is rationalized in two ways. First through the confrontation of sinuous qualities and sinuous objects. Second by the allure which creates an appellation difference in the Derridian sense, where a vocabulary of words can be used to describe the object however no singular term describes it fully. Defamiliarization can also argue material instability causing a hyper association of "familiar" objects or as Jason Payne writes "objects that float across signification…that lend themselves to difficult, perhaps multiple readings."

PERSPECTIVE_2

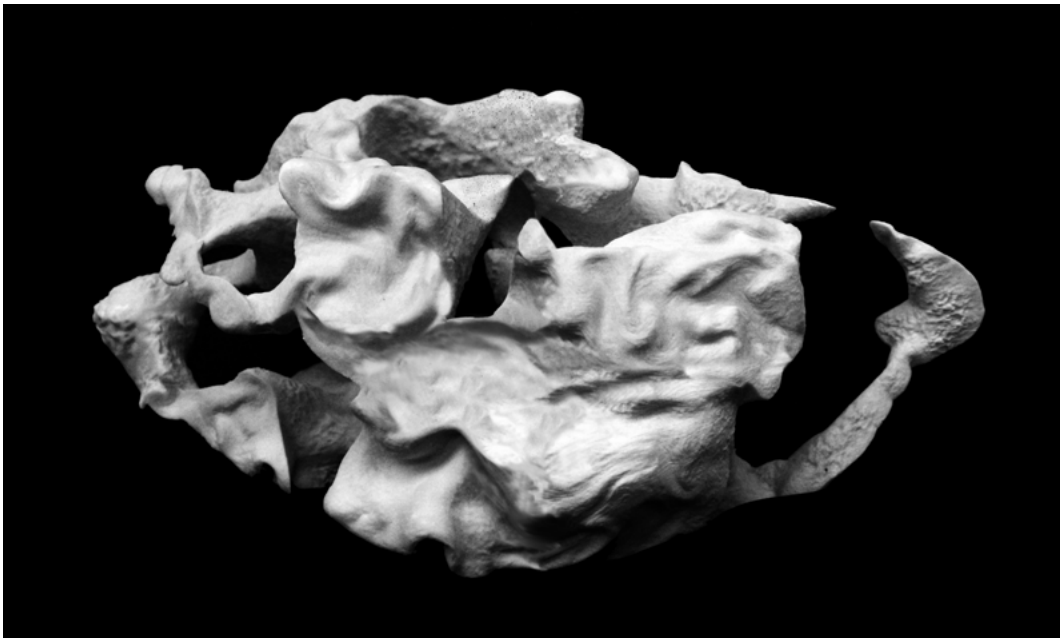
The notion of the medium comes into play because the project relies on multiple mediums to form the true object of desire. Text, image, drawing, and video are inseparable for the true object. In reference to the Para-fictional scenario the medium is manipulated to question the recursivity of the object. The image on the first page of this project is not one image but rather a collage creating a rhythm removing the ability to locate an origin.

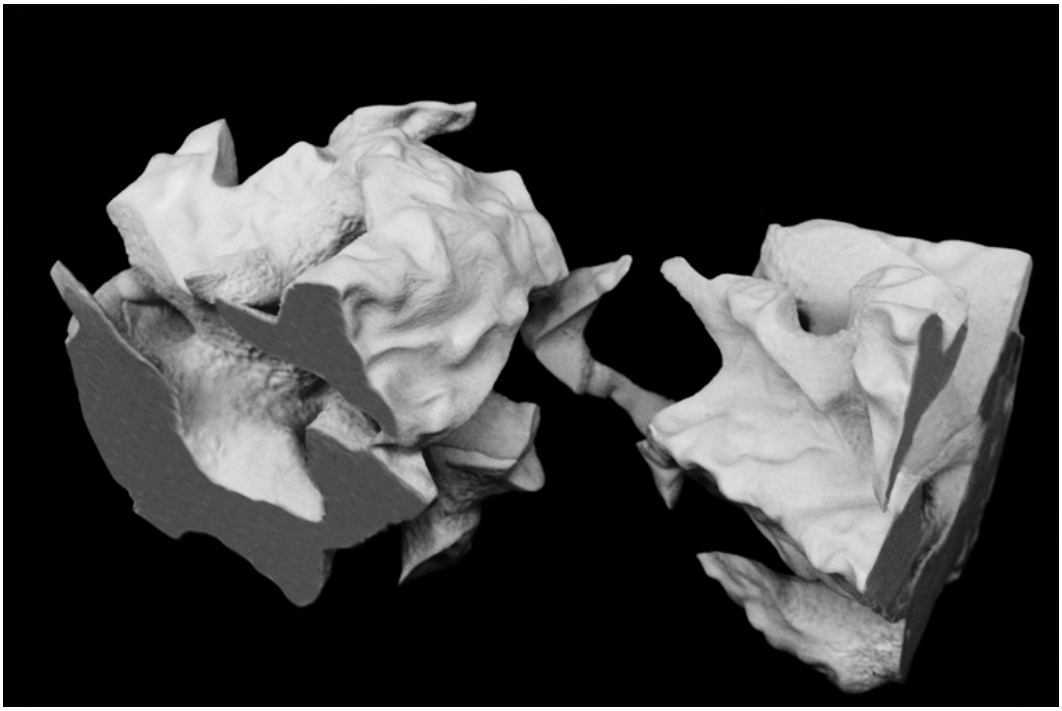
SECTION

After this we can understand that the proto-synthetic was self-manifested and omnipresent from the synthetic. The raw should be viewed as a direction rather than a destination and from this we can speculate on the notion of the medium. When looking at the 3D prints we instead view them as 3D drawings since they are in fact a series of 2D lines which have been layered to create the whole object. These 3D drawings move in the direction of the raw but reside as proto-synthetic. The CNC model is worked in the opposite way, where the origin was a block of foam, and through a series of corroding steps it has reticulated the object to form a proto-synthetic representation.



ANALOGUE MODEL



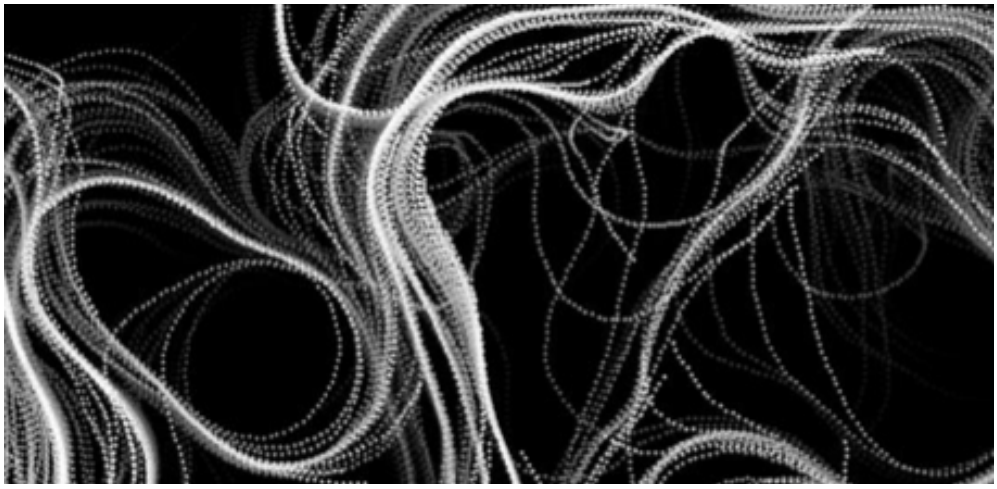


3D PRINTED MODEL

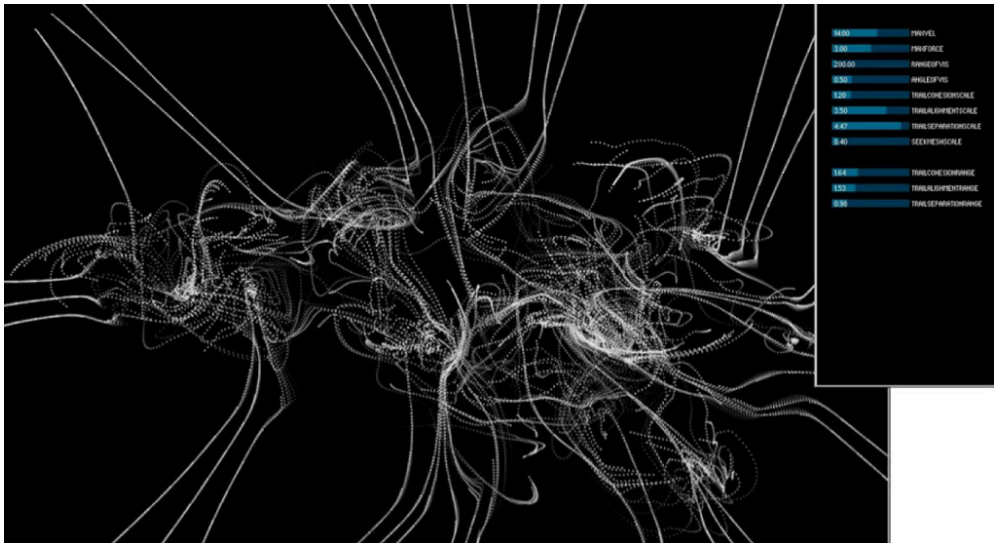
Fibrous House

College Station, Texas
Spring 2012 Studio - Texas A&M
Director: Roland Snooks
Critic: Gabriel Esquivel
Team: Ryan Wilson, Jacob Patapoff, Hong Bae Yang

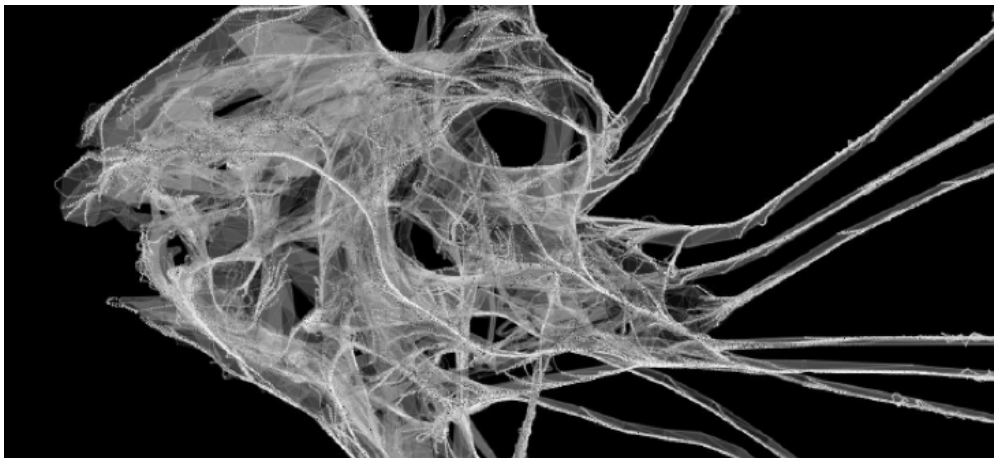
The Fibrous house was a speculative studio led by Roland Snooks of Kokkugia. It was an exploration in algorithmic architecture generating swarm relationships to create fibrous assemblages. ***Fibrous House explores designing on a polyscalar front entirely with one tectonic form, the strand.*** It further studies the ability of generative design and its ability to create enclosure. The entire form is generated in different layers with only small programmatic pods to designate interior space. It is intentionally chaotic to accurately reference the origin of its creation.



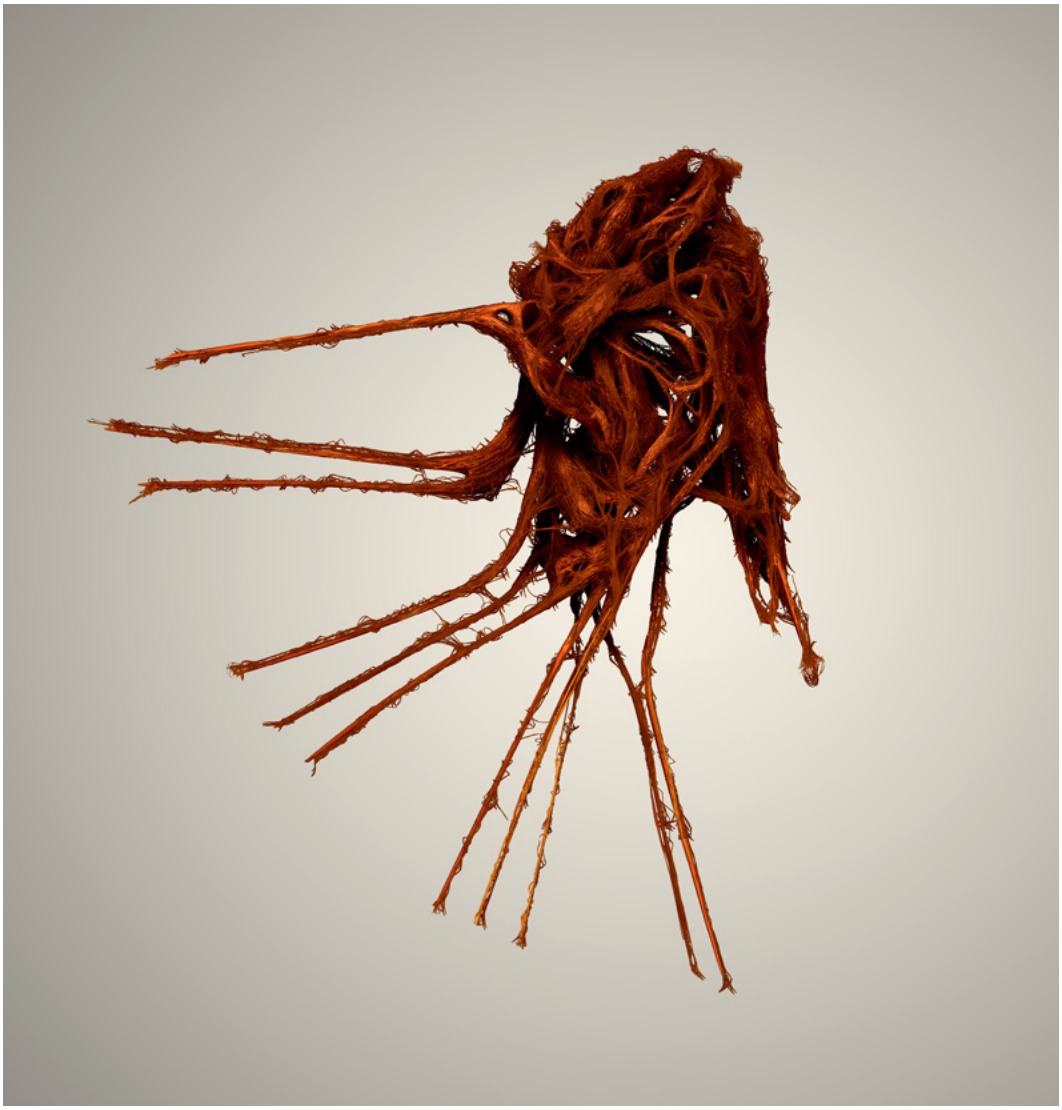
2D SWARM



3D SWARM

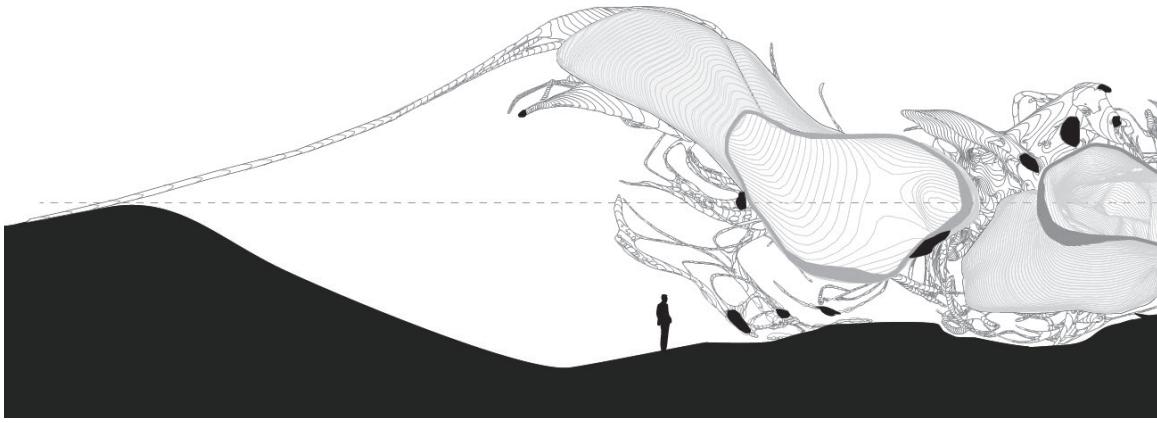


POLYSCALAR SWARM

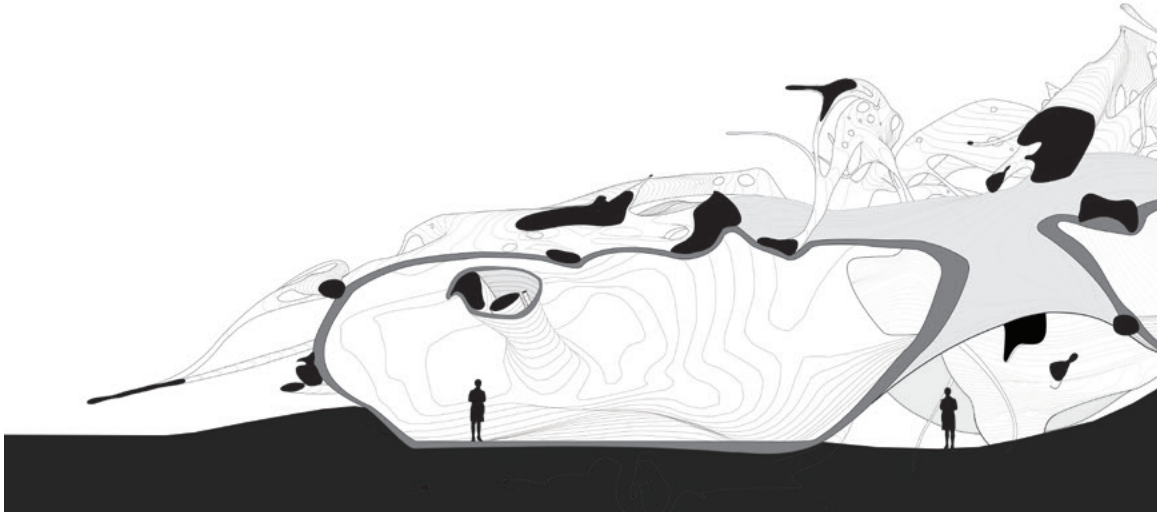


PROTOTYPE 1

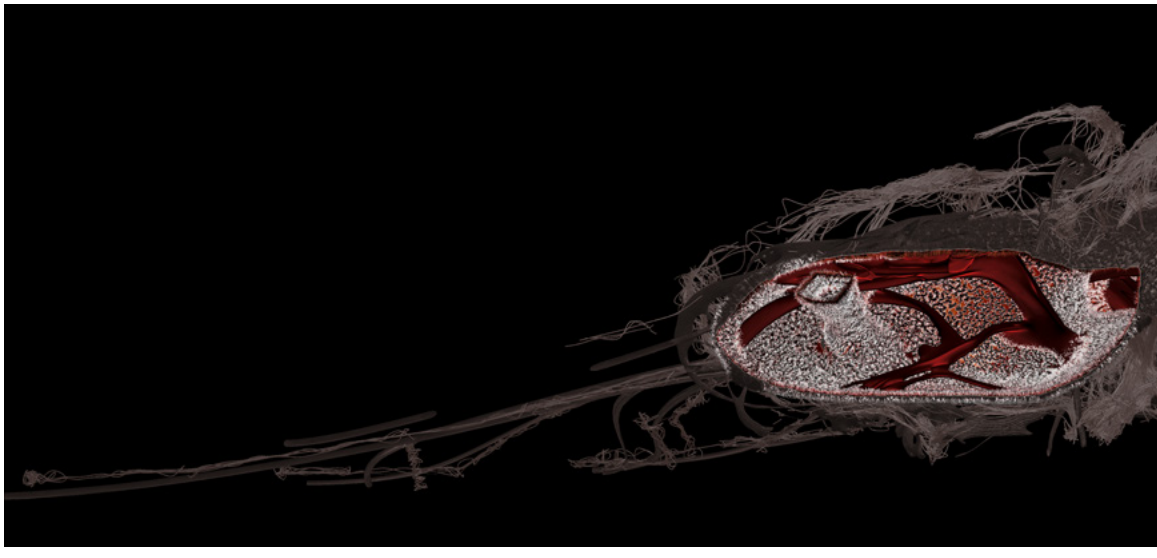
We began by writing swarm algorithms in Processing in order to emulate the volatile self organizing systems visible in nature. It is vital to view generative design not as something that is left to chance, but rather a set of parameters from which to control the design. In order to create structural integrity we created strands surrounding the large programatic pods. We then implemented a smaller sized strand to create a more cohesive appearance. This difference in size of similar systems led to the further exploration in polyscalarity. The exterior includes two of these scales and the interior space led to the third. The ground is ultimately a system that works on its own, just as the house, however when the two interact they cohesively resolve with the legs of the house falling into the rifts of the ground plane.



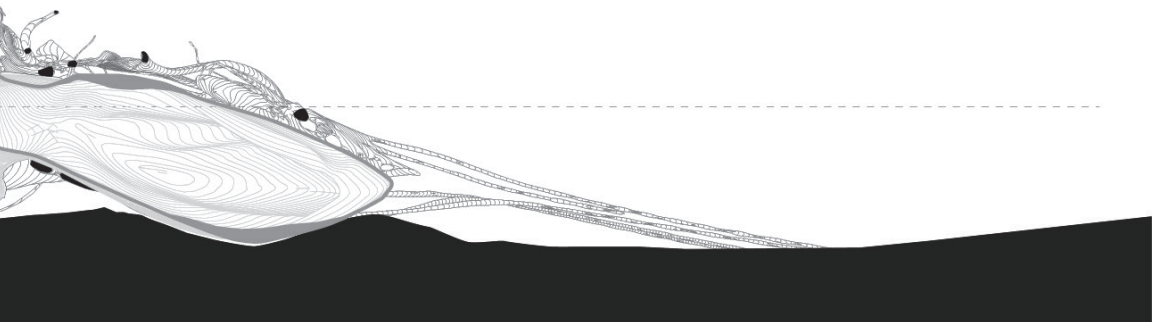
SECTION AA

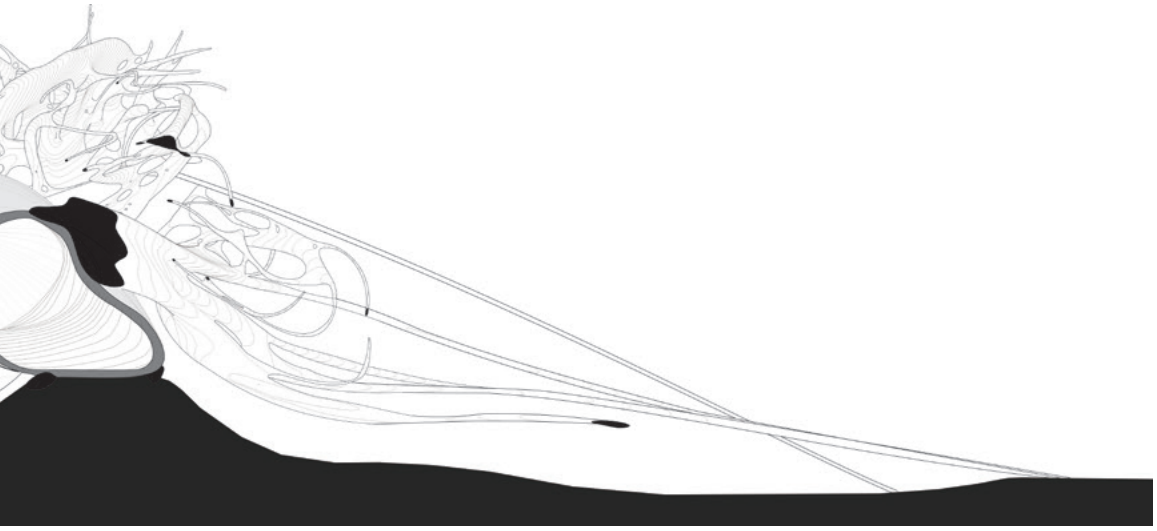


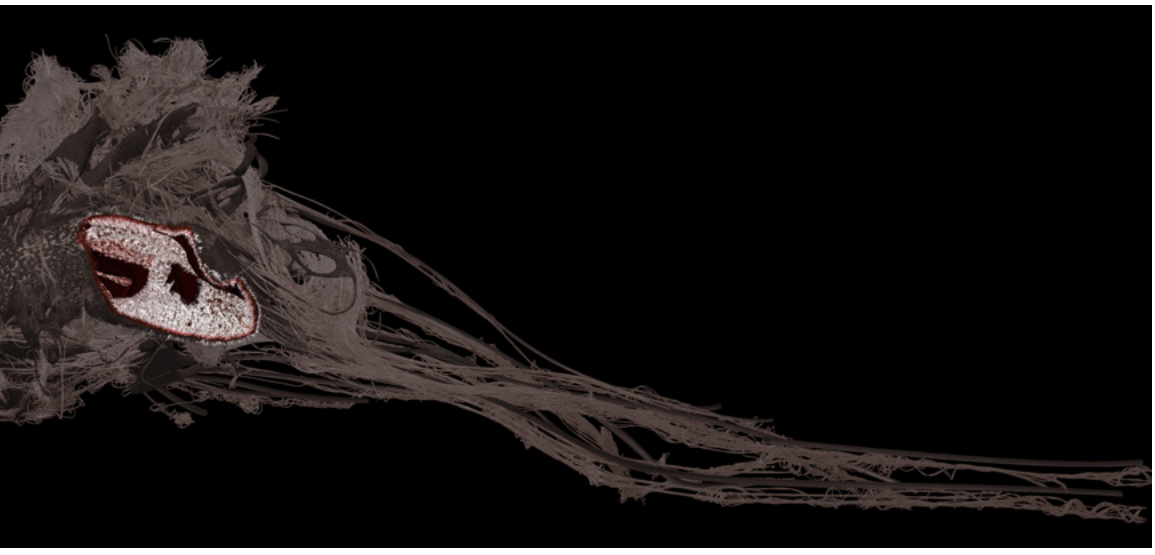
SECTION BB

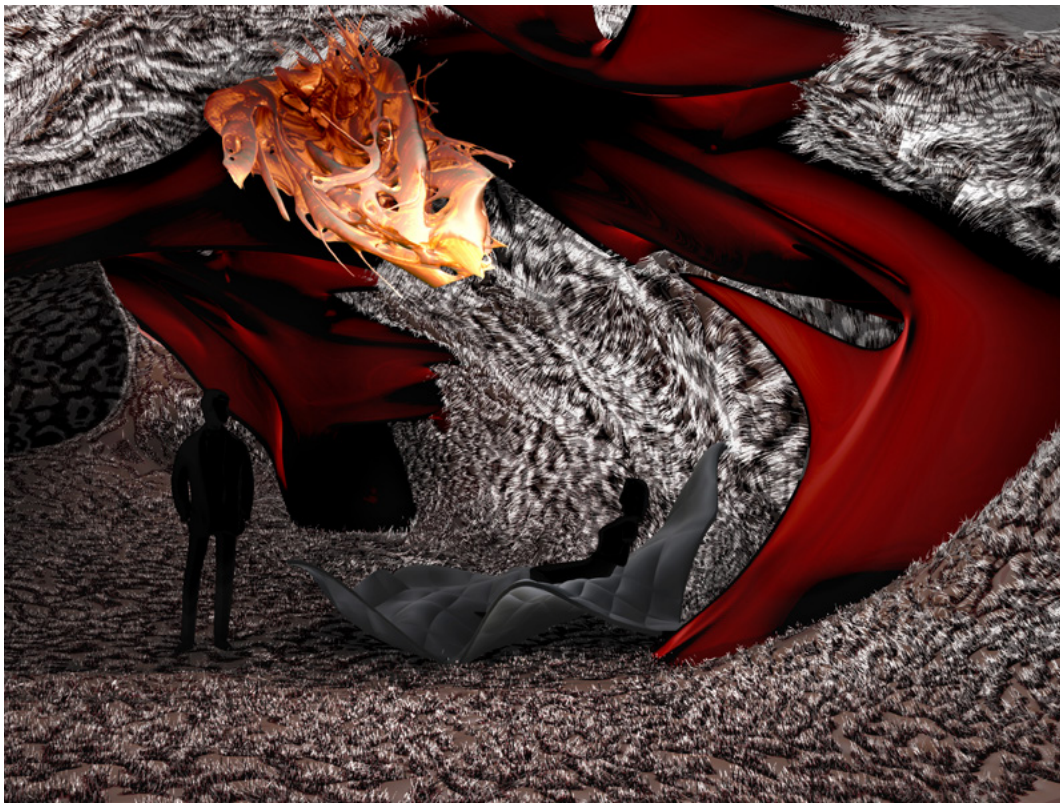


SECTION CC



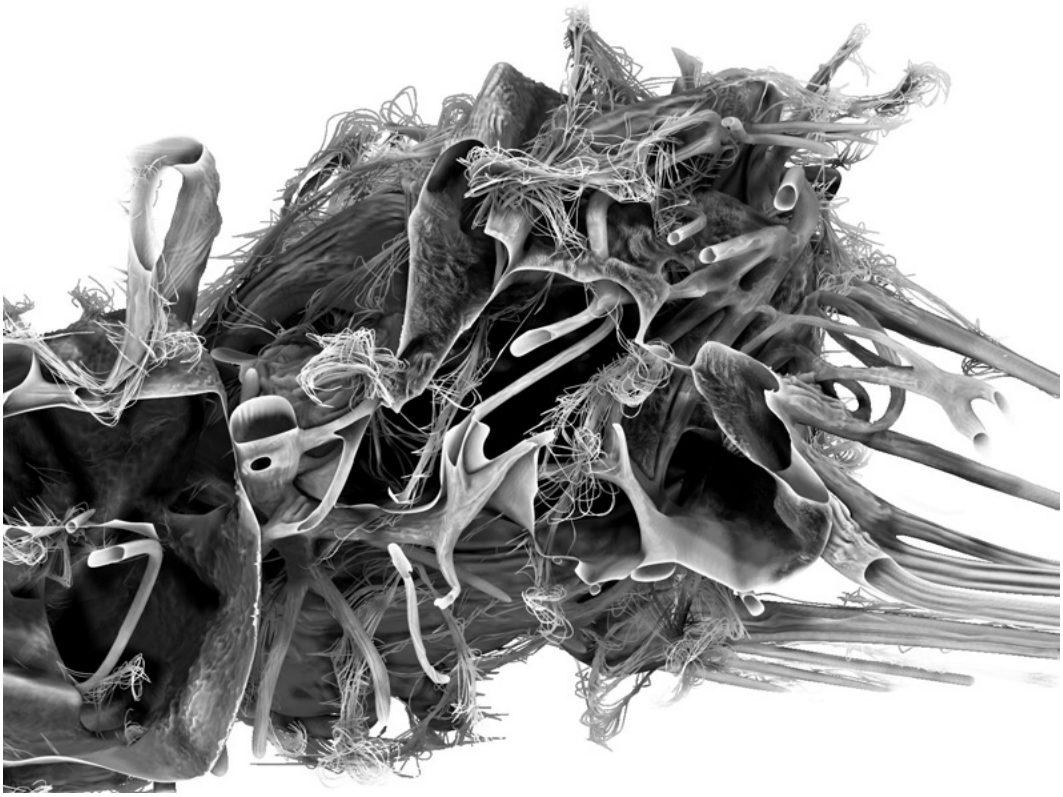






INTERIOR

SITE VIEW



SECTIONAL STUDY

Fabrication Fibrous House

Director: Roland Snooks

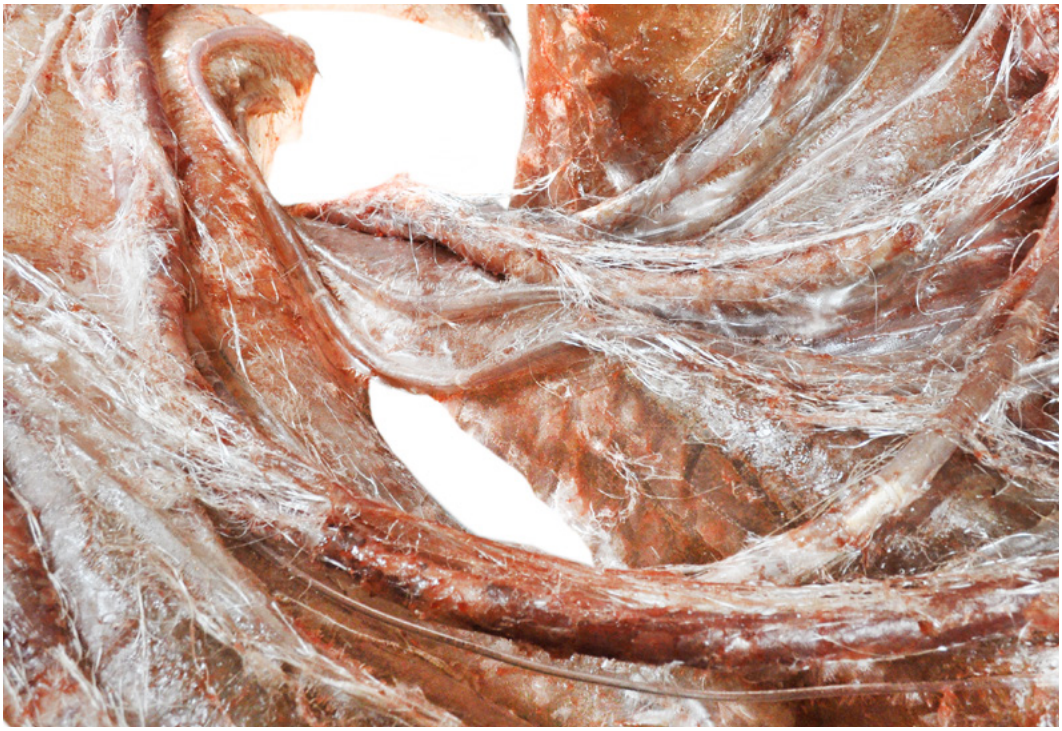
Critic: Gabriel Esquivel

Team: Ryan Wilson, Jacob Patapoff, Hong Bae Yang

This project required the design and prototyping to be executed simultaneously. ***The complexity of the design led us to experiment with performative materials such as composites.*** In our case we used fiberglass due to its transparency as well as its ability to mold into very complex geometric forms. We started by taking an initial surface and used the CNC mill to cut this surface out of foam. We then coated the foam pieces in truck bed liner in order to prevent the foam from melting during the resin curing process. Next we laid down pieces of fiberglass, and coated it with resin to build up layers. Once we had laid a few layers we were able to gain structural integrity by laying string and tubes into the fiberglass. The larger the tube, the more structural it became. Once the thickness was correct and we had securely sandwiched the structural tubes between the fiberglass, we let it cure.

FABRICATION PROCESS

DAY/NIGHT



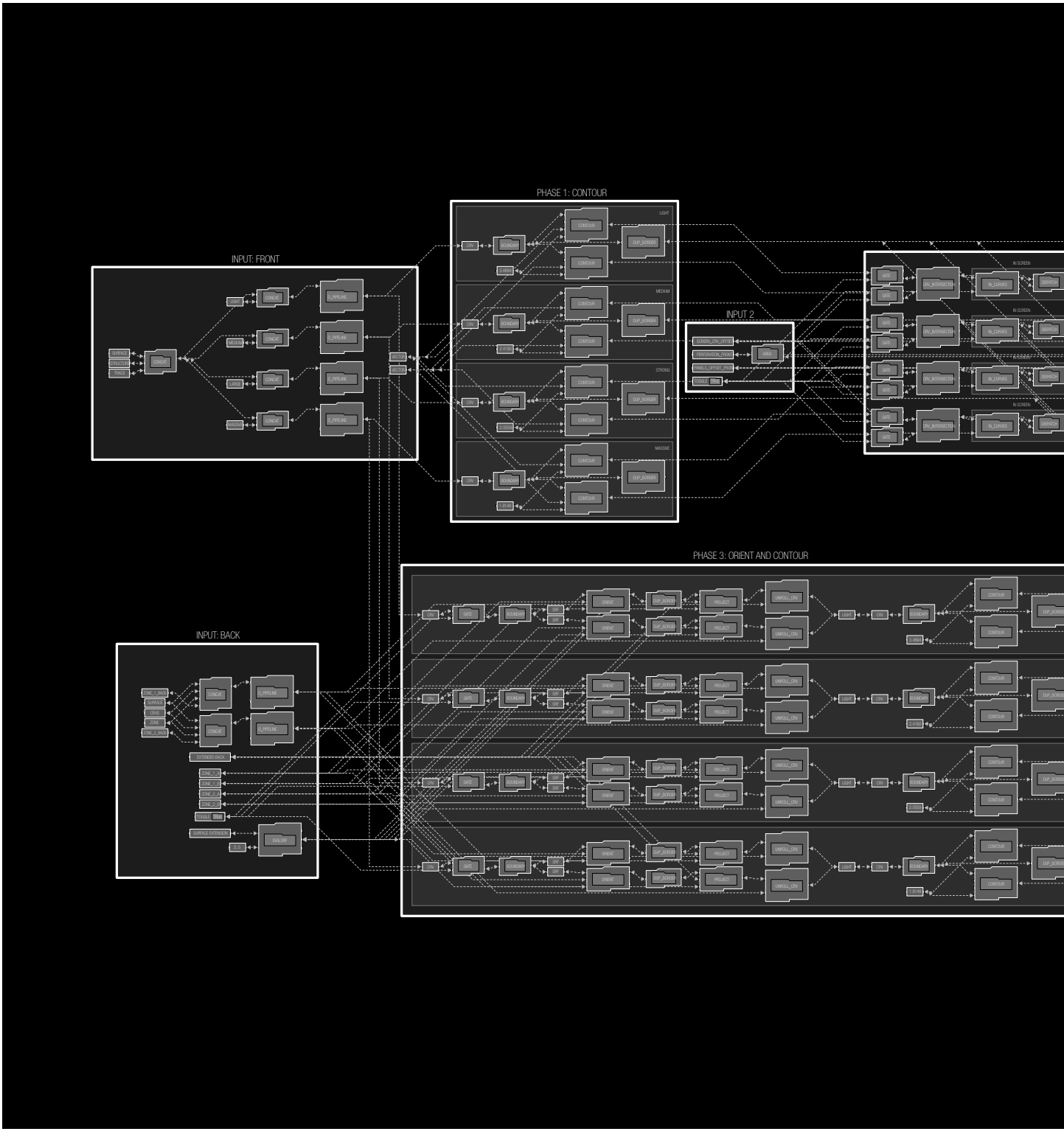
DETAIL

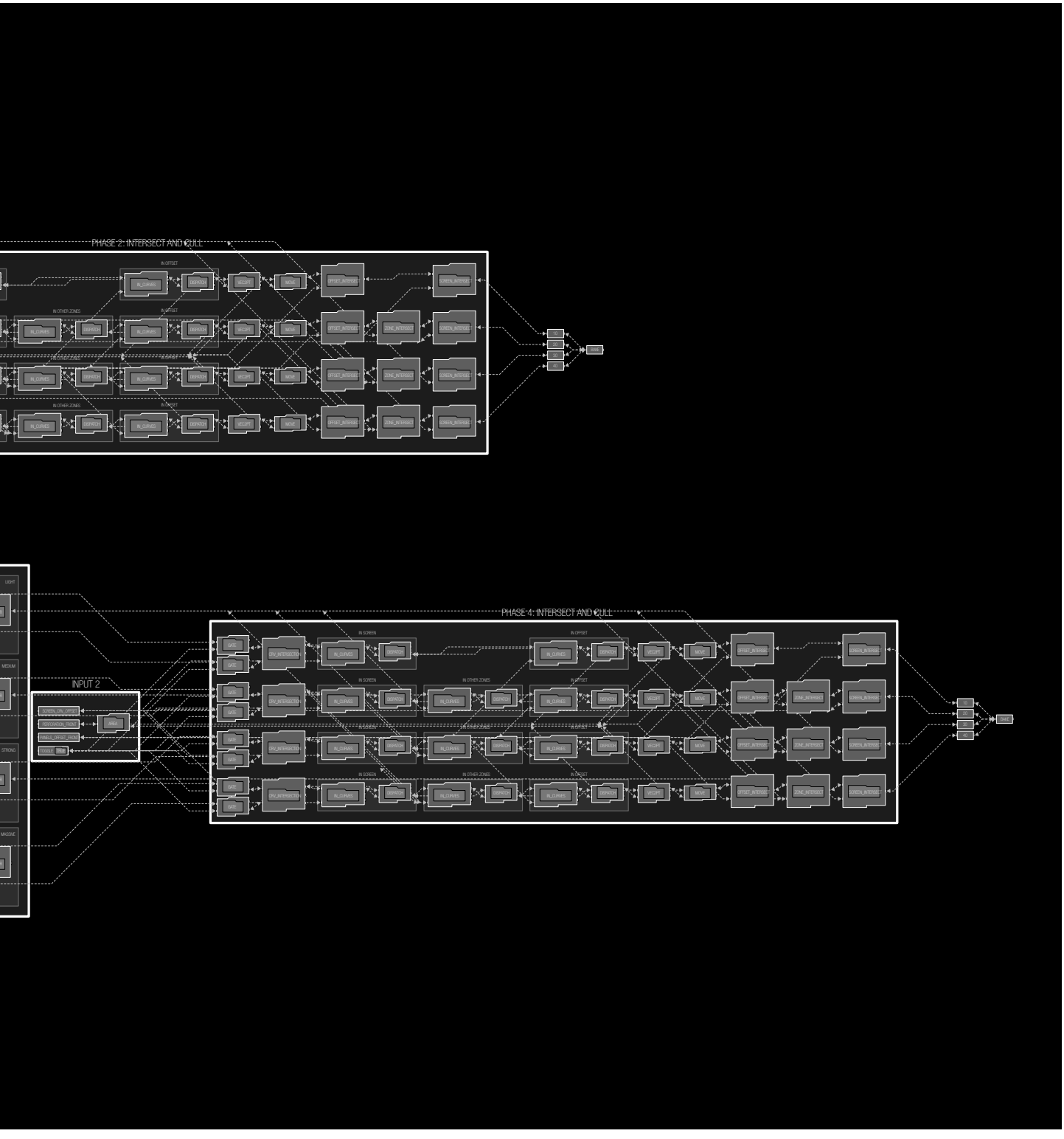
PROFESSIONAL

West Hollywood Belltower

Los Angeles, California
Tom Wiscombe Architecture
Team: Dylan Weiser, Xavier Ramirez, Chris Arth, Michael Royer
Role: Custom Facade Studies for Aluminum Panels

The West Hollywood Belltower is a historical reflection of the Billboard type, as both functional advertisement and icon, and a speculation into how the billboard can be reinvigorated by having a more personal connection to the viewer. This project makes the move from two-dimensional signage, to three-dimensional object and media. ***The portion of the project highlighted here are the multiple systems of perforated aluminum facade elements that were resolved parametric cally.*** The logic behind the density of patterning is twofold. First it is a 'fuzzy' translation of the finite element analysis of the ribbing structure. Second is to allow for ample visibility through the structure at ground level. The patterning executes itself in 4 degrees of densities, sometimes resulting in solid panels. This development was intended to create a tool to be able to further design and finely tune the spacing and pattern, thus it is fully parametric and will update based on more optimized geomitries.


PHASE 1: CONTOUR
INPUT: FRONT
INPUT 2
PHASE 3: ORIENT AND CONTOUR
INPUT: BACK

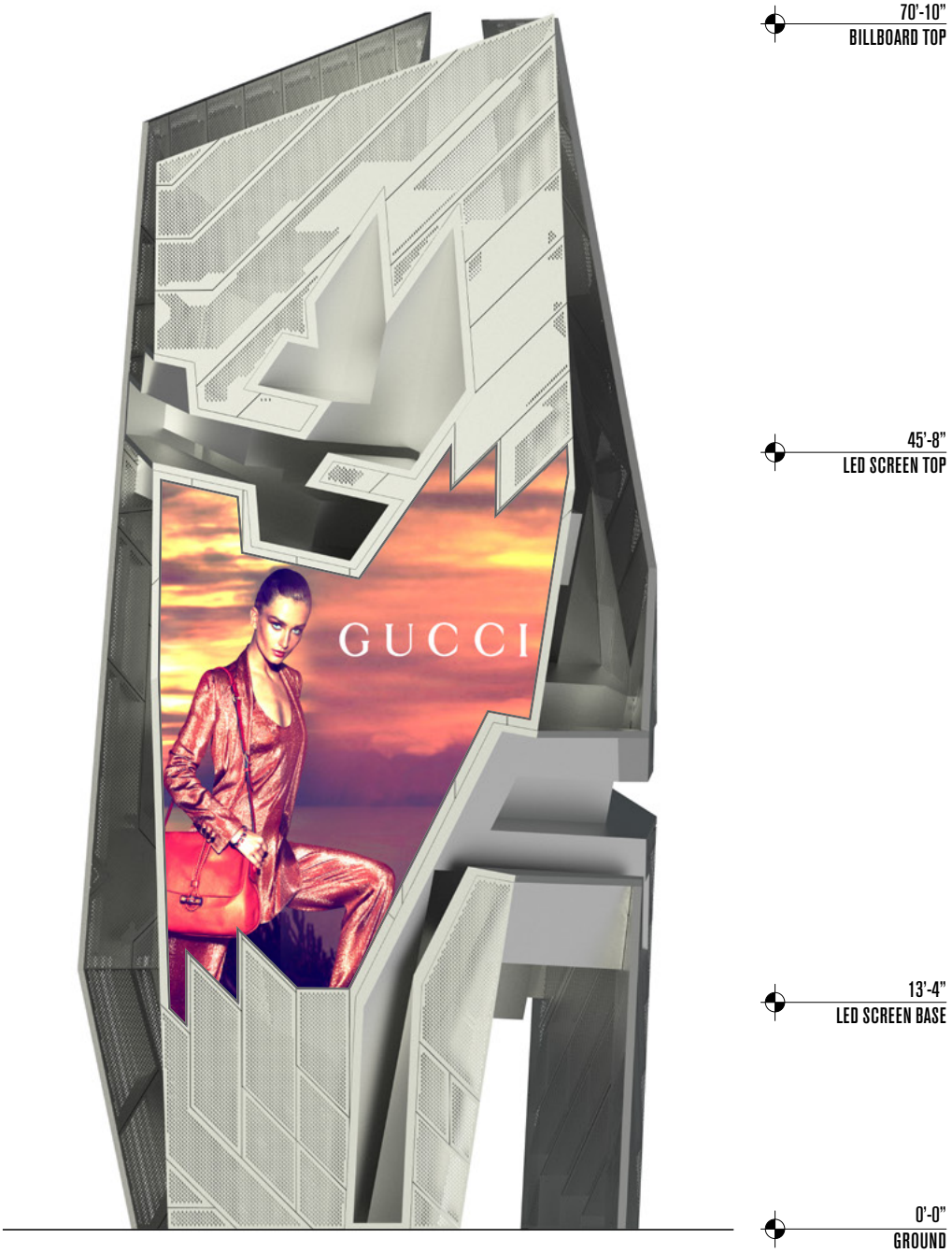

PHASE 2: INTERSECT AND CULL
PHASE 4: INTERSECT AND CULL
INPUT 2
AND
IN_CURVES
DEPATCH
VECOPS
MOVE
OFFSET_INTERSECT
SCREEN_INTERSECT
ZONE_INTERSECT
SCREEN_CTRL_OFFSET
PANELS_OFFSET_PACK
TOGGLE
SAVE

70'-10"
BILLBOARD TOP

45'-8"
LED SCREEN TOP

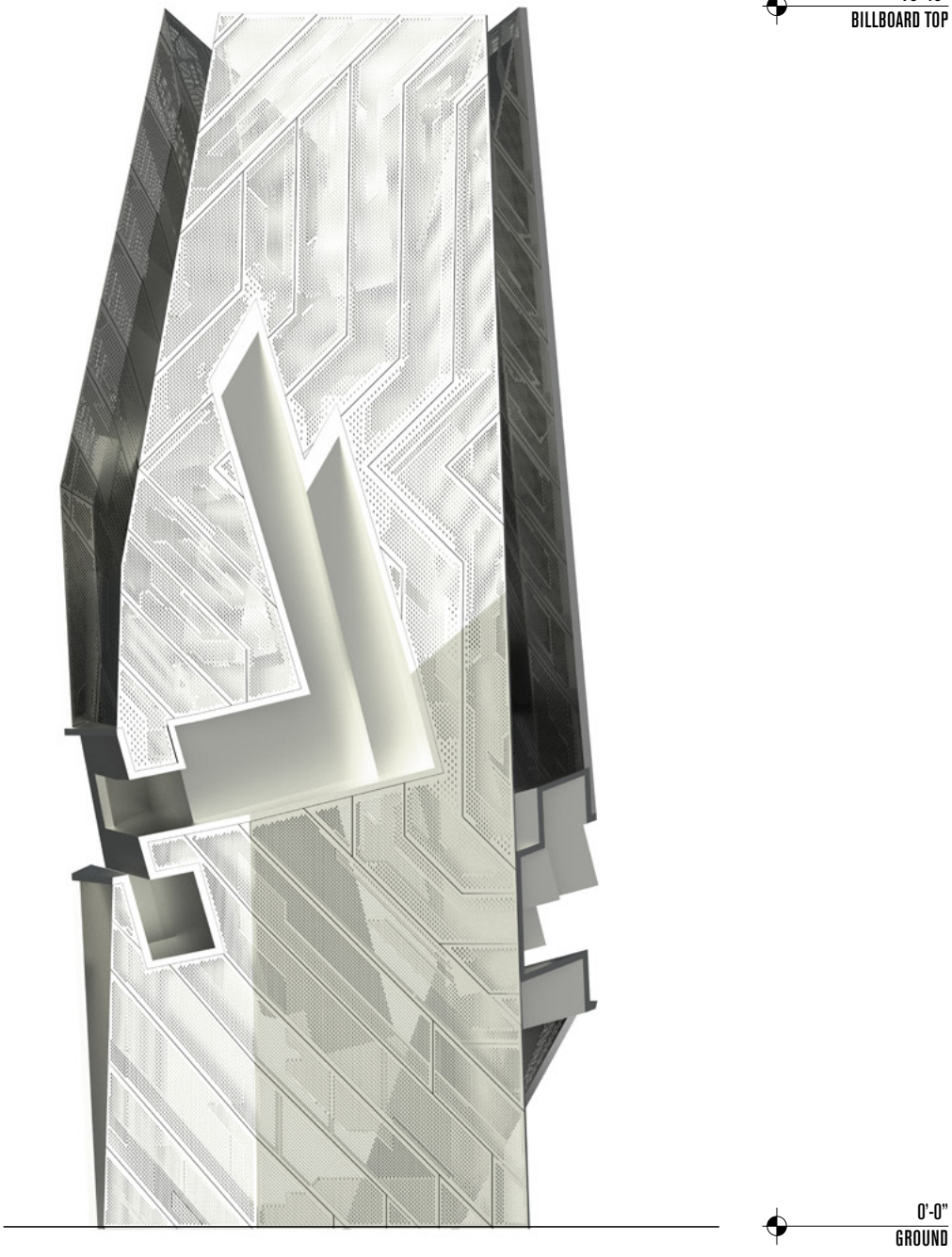
13'-4"
LED SCREEN BASE

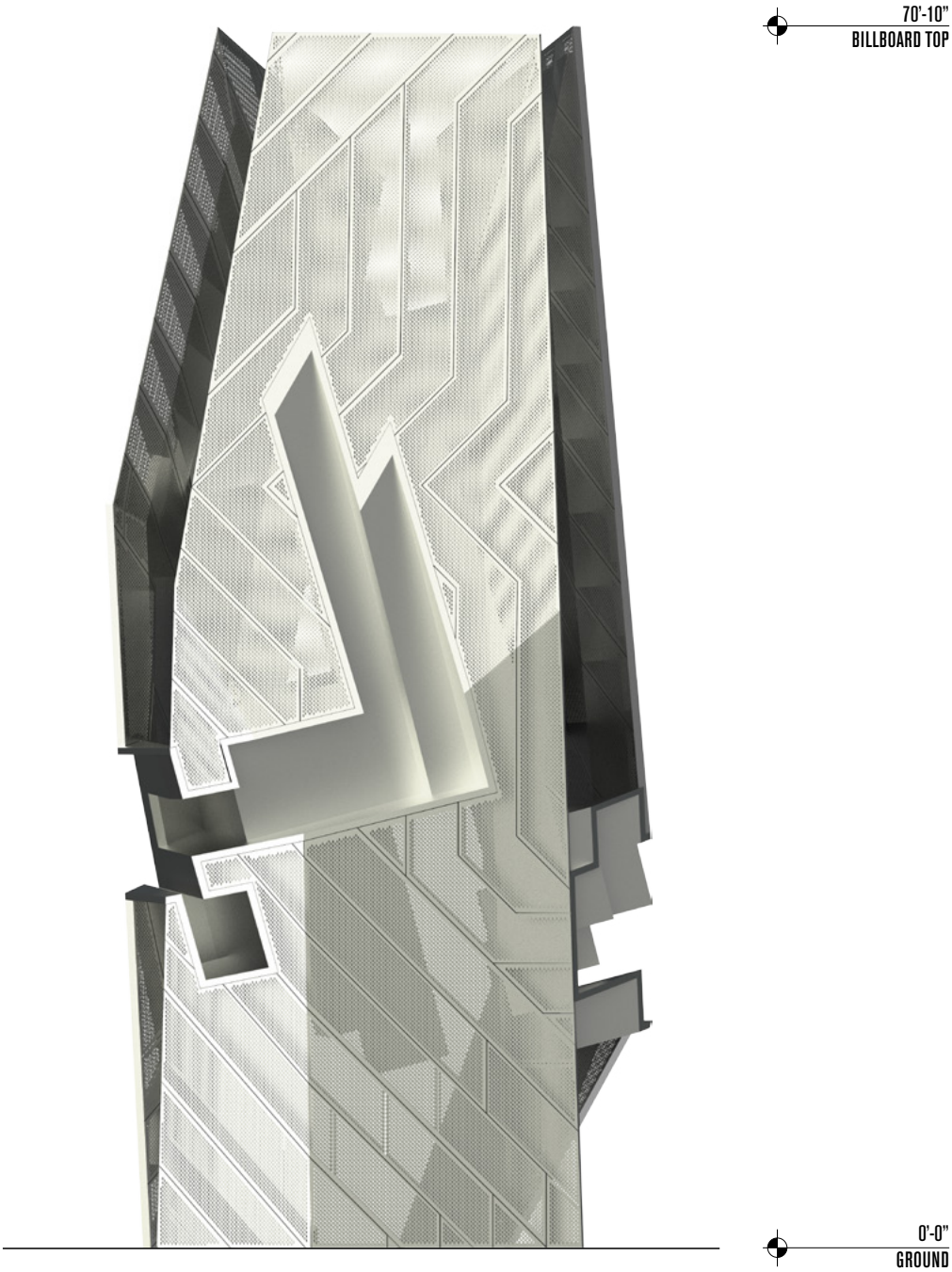
0'-0"
GROUND


GUCCI
70'-10"
BILLBOARD TOP
45'-8"
LED SCREEN TOP
13'-4"
LED SCREEN BASE
0'-0"
GROUND


70'-10"
BILLBOARD TOP
69'-4"
LED SCREEN TOP
16'-4"
LED SCREEN BASE
0'-0"
GROUND


70'-10"
BILLBOARD TOP
69'-4"
LED SCREEN TOP
16'-4"
LED SCREEN BASE
0'-0"
GROUND


70'-10"
BILLBOARD TOP
0'-0"
GROUND

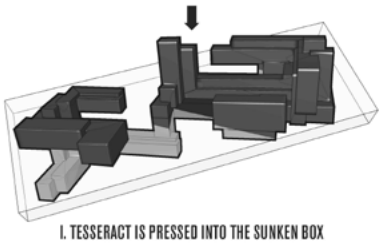

70'-10"
BILLBOARD TOP
0'-0"
GROUND

LIMA MALI CONTEMPORARY ART

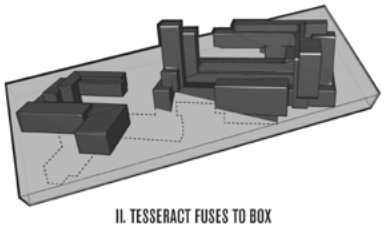
Lima, Peru
Tom Wiscombe Architecture
Team: Dylan Weiser, Xavier Ramirez, Siddhardha Chalamala, Kiran Nayak
Role: Conceptual Design, Modeling, and Visualization

The Lima Art Museum competition asked for an expansion that was largely subterranean, but created key frames from which to view the existing museum. The program required a large flexible gallery space with natural light. ***There are a series of aggregated bars that act as light towers, providing natural light to the gallery space.*** The roof of the gallery acts to create a new ground onto which one can occupy and circulate, transitioning themselves from the urban context to that of the museum all while framing the existing museum. Beyond producing light the light towers provide views, as well as a physical transition into the "other world" of the gallery. The orientation of the light towers creates a strong contrast to that of the existing museum and promotes a different relation of how one views contemporary art.

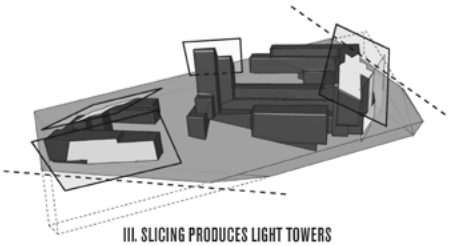
MASSING CONCEPT



I. TESSERACT IS PRESSED INTO THE SUNKEN BOX
FRAMING VIEWS OF THE EXPOSITION PALACE



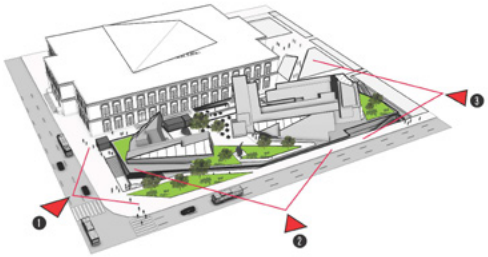
II. TESSERACT FUSES TO BOX
CREATING A NEW INTERIOR WITH DEEP LIGHT TOWERS



III. SLICING PRODUCES LIGHT TOWERS
AND INDIRECT DAYLIGHTING TO THE OPEN GALLERY

The building design features a Tesseract fused into a sunken box. The Tesseract is oriented to imply a different gravity or physics than that underlying the formal sensibility of the Palace. Its obliqueness is emphasized by glance-cut apertures that provide both view and daylighting for the interior.

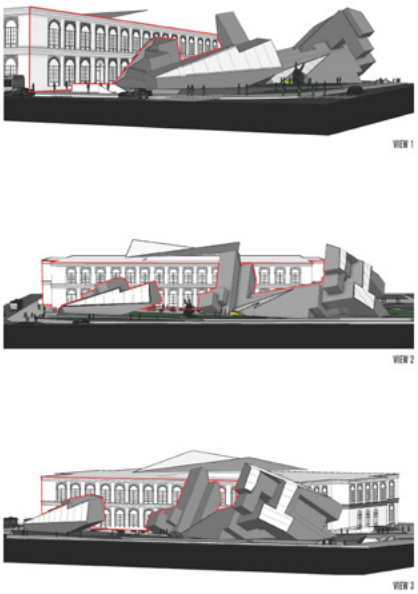
FACADE FRAMING

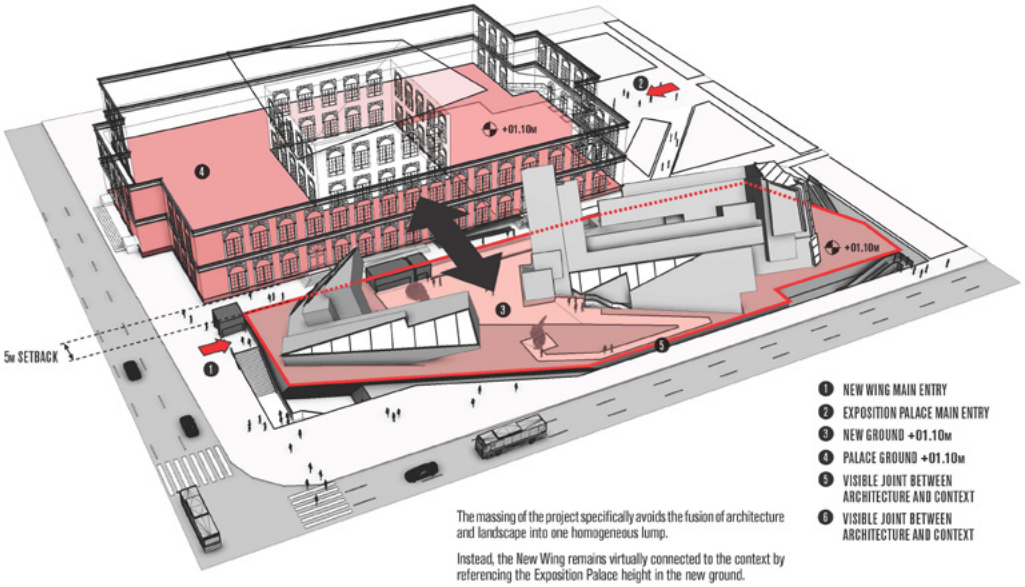


Instead of blocking the elevations of the Palace, our project creates a largely subterranean space that rises up to a New Ground above street level.

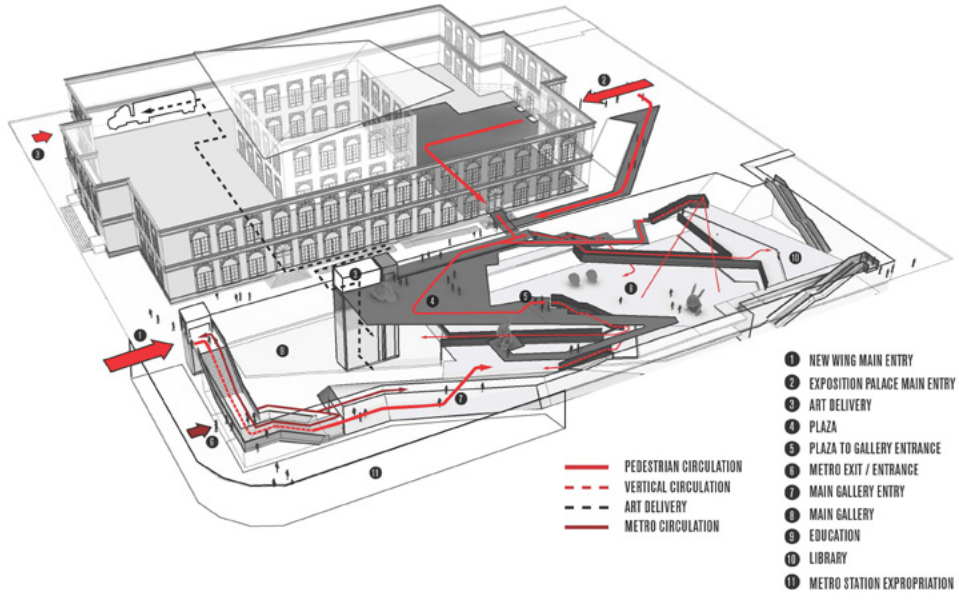
Further key locations push up to create Light Towers which frame the Exposition Palace facade, and provide indirect daylighting to the sunken Gallery spaces.

90% of the exposition palace is visible by a passing audience





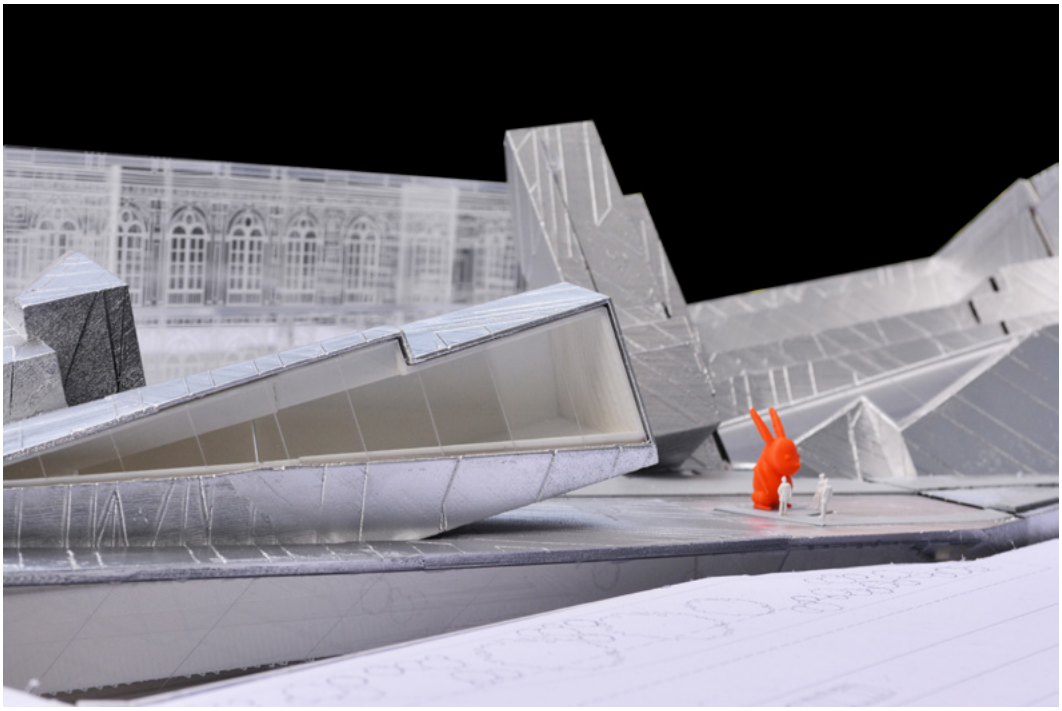
ENTRY / NEW GROUND



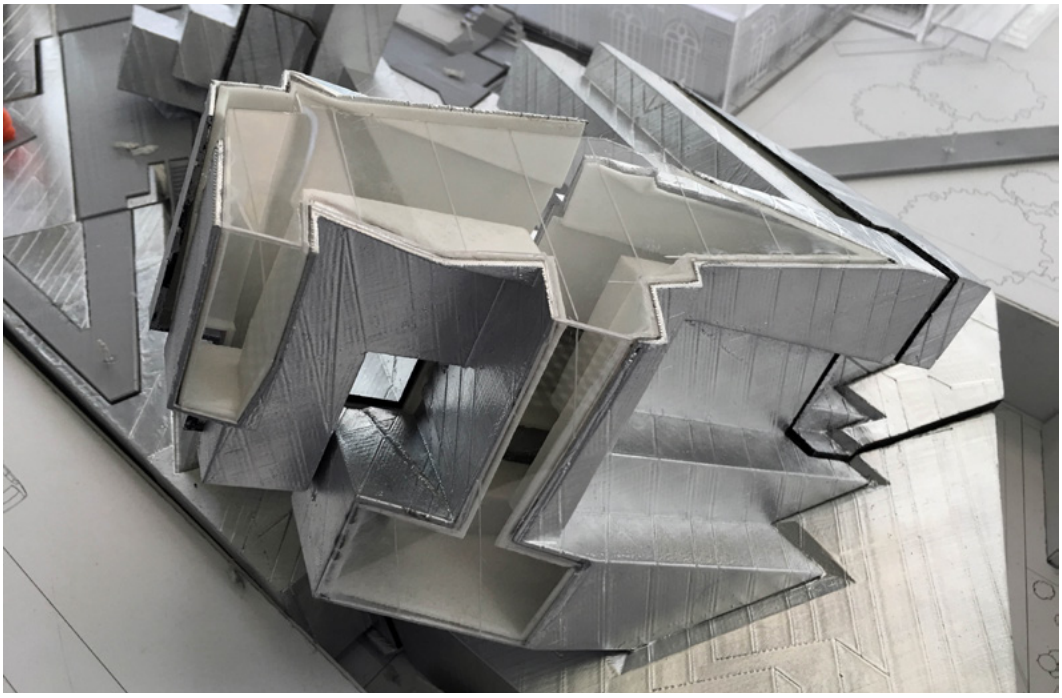
CIRCULATION

FRONT VIEW

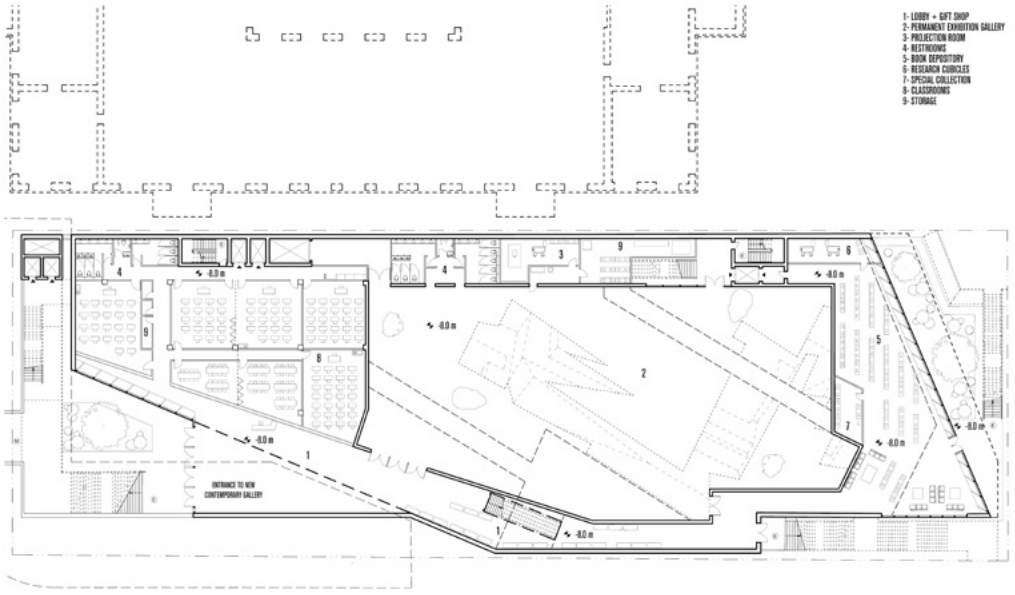
PARK VIEW



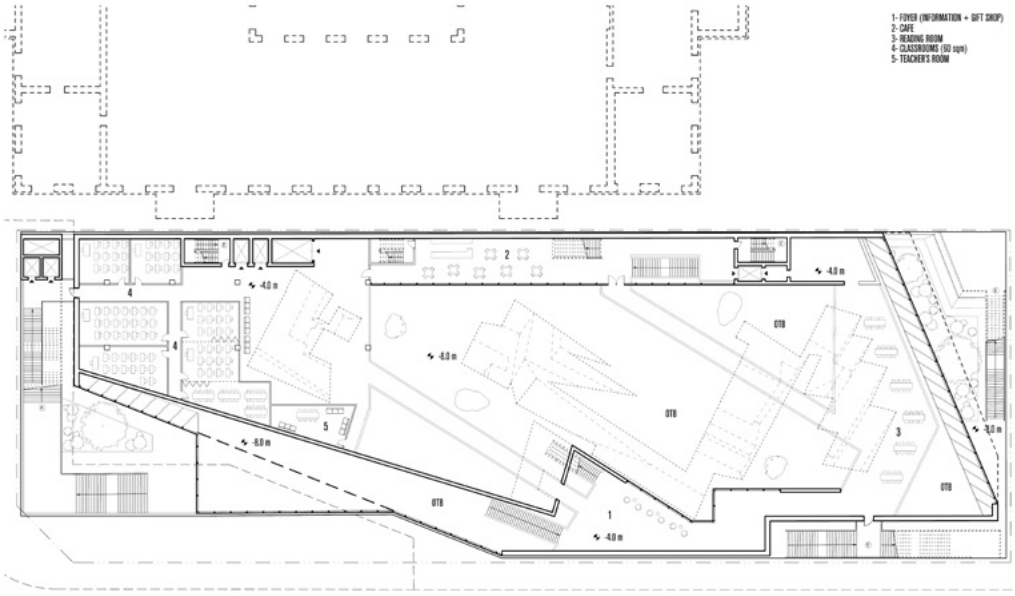
FRONT VIEW



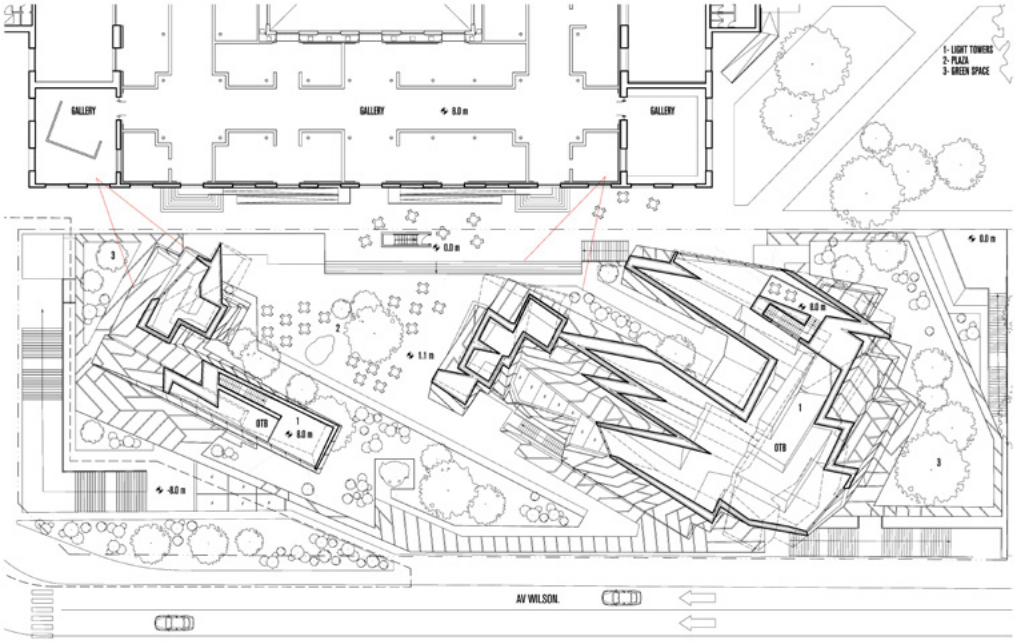
AERIAL VIEW



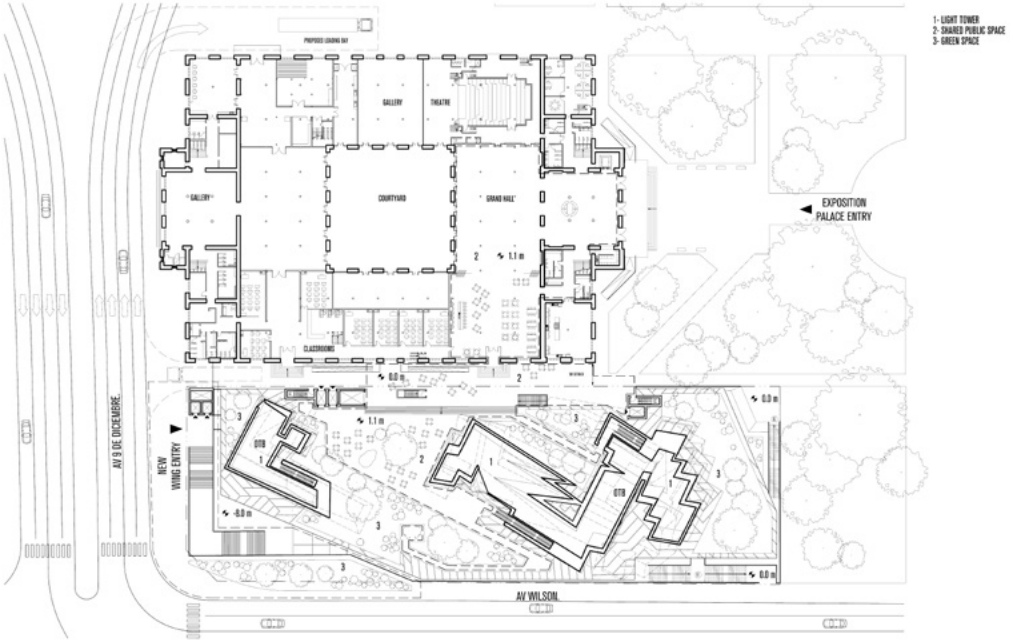
GALLERY PLAN



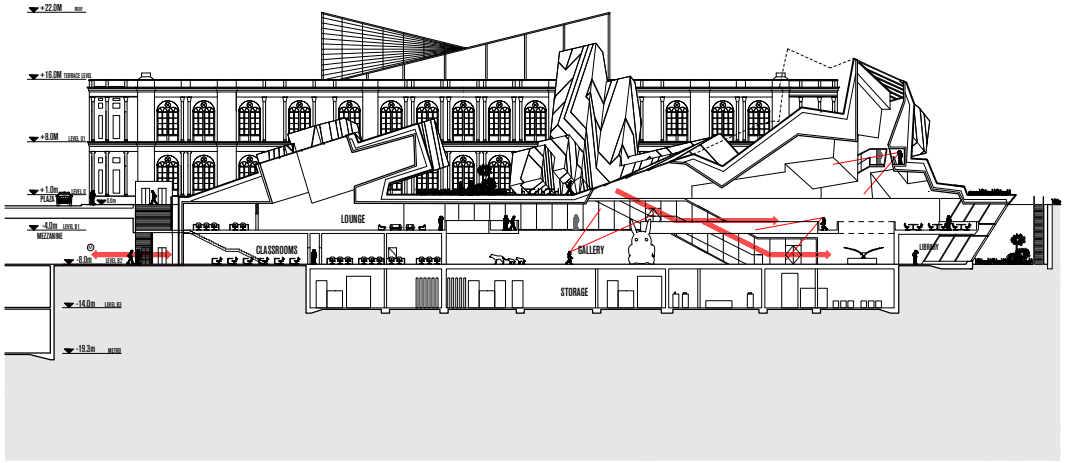
MEZZANINE PLAN



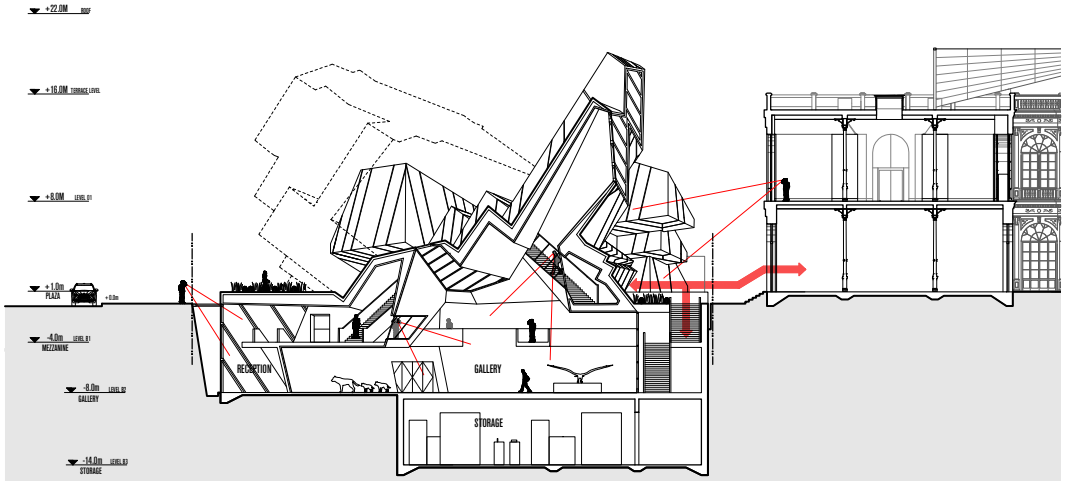
LIGHT TOWER PLAN



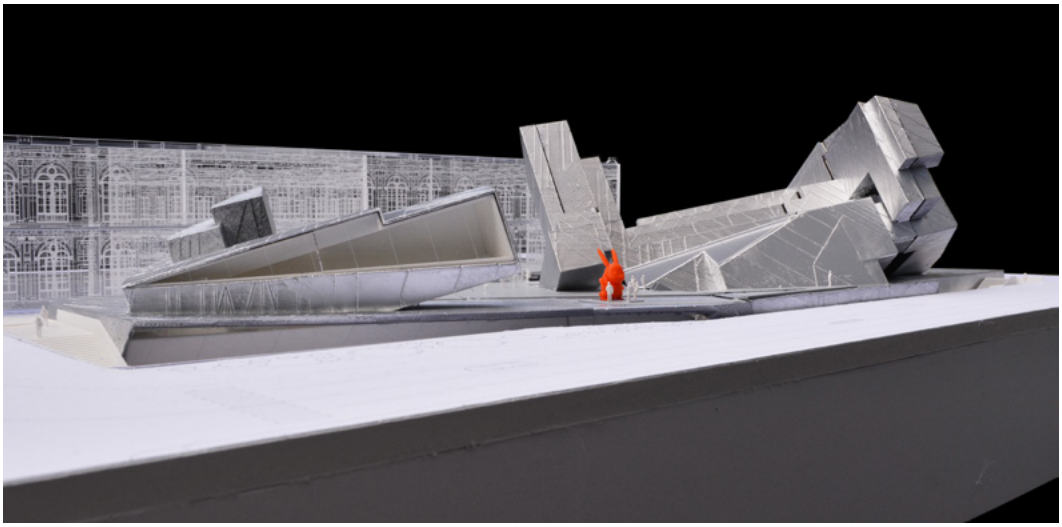
SITE PLAN

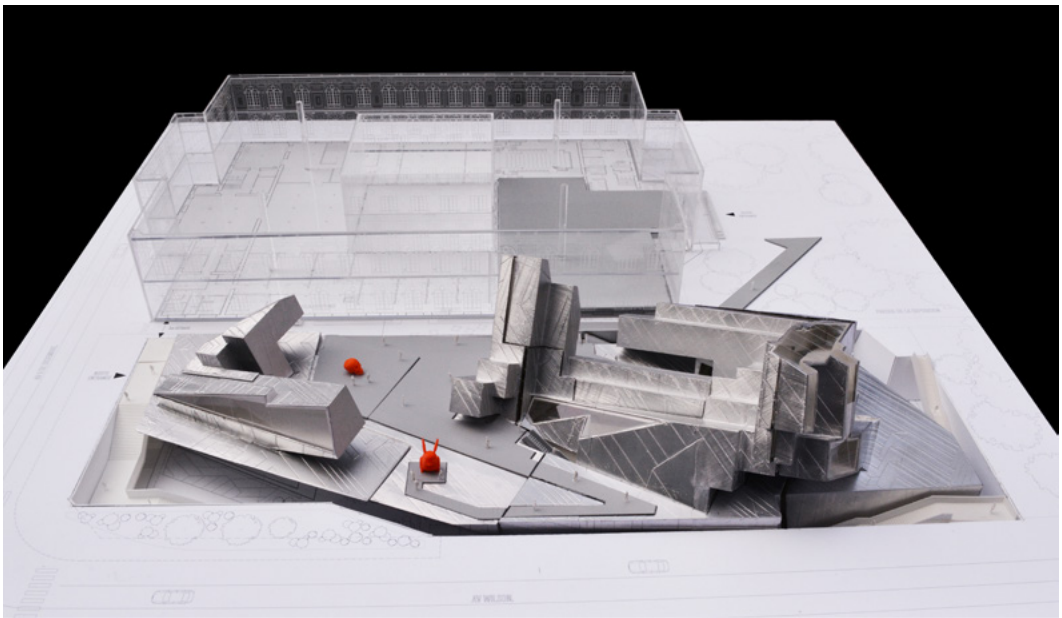


LONG SECTION

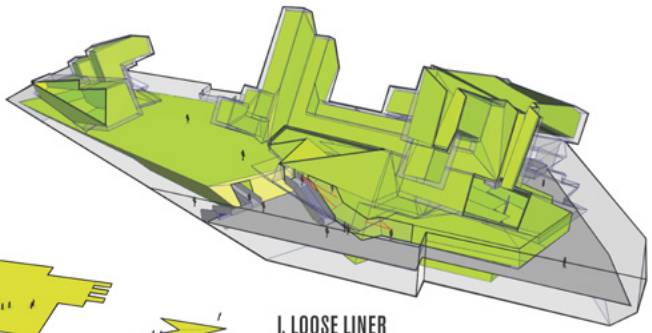


CROSS SECTION

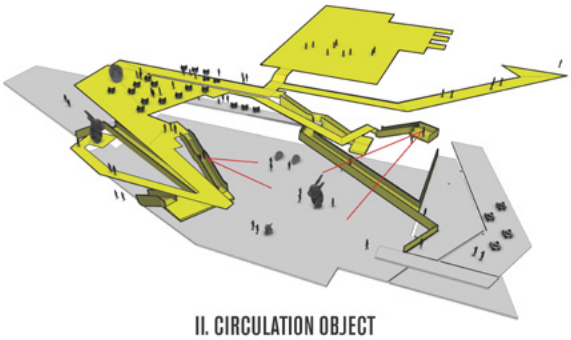




PHYSICAL MODEL



I. LOOSE LINER

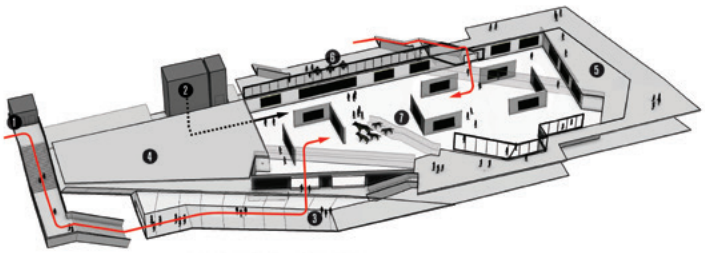


II. CIRCULATION OBJECT

A lively Circulation Pathway is embedded in the poche space of walls, and erupts as bridges and catwalks traveling through vast spaces.

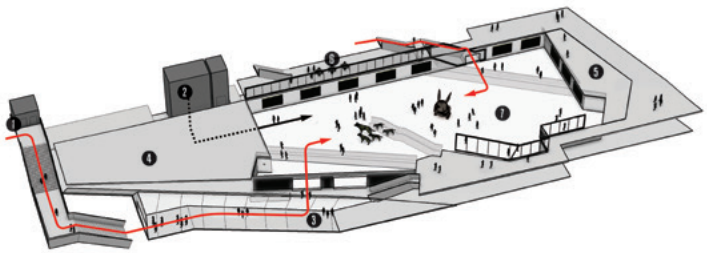
This allows for the public to encounter art from different angles, heights, and distances, beyond the known human point of view.

INHABITABLE POCHE



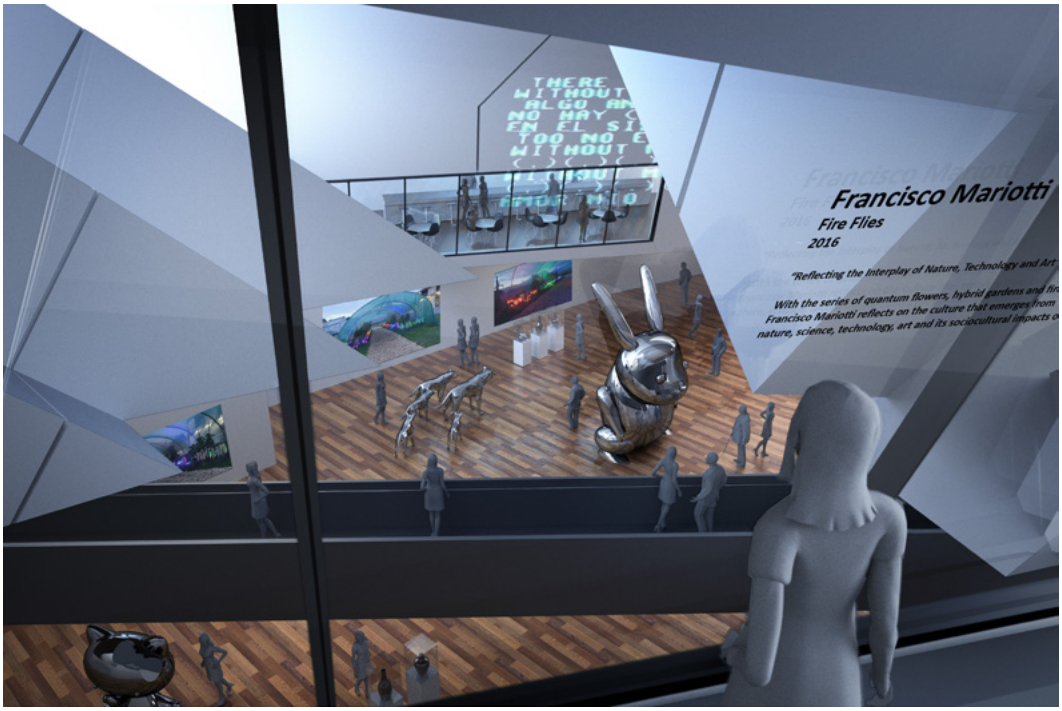
1. NEW WING MAIN ENTRY
2. ART DELIVERY
3. RECEPTION / MUSEUM STORE
4. EDUCATION
5. LIBRARY
6. CAFE WITH SERVICE TO PLAZA ABOVE
7. MAIN GALLERY

I. PARTITIONED GALLERY



II. OPEN GALLERY

GALLERY FLEXIBILITY



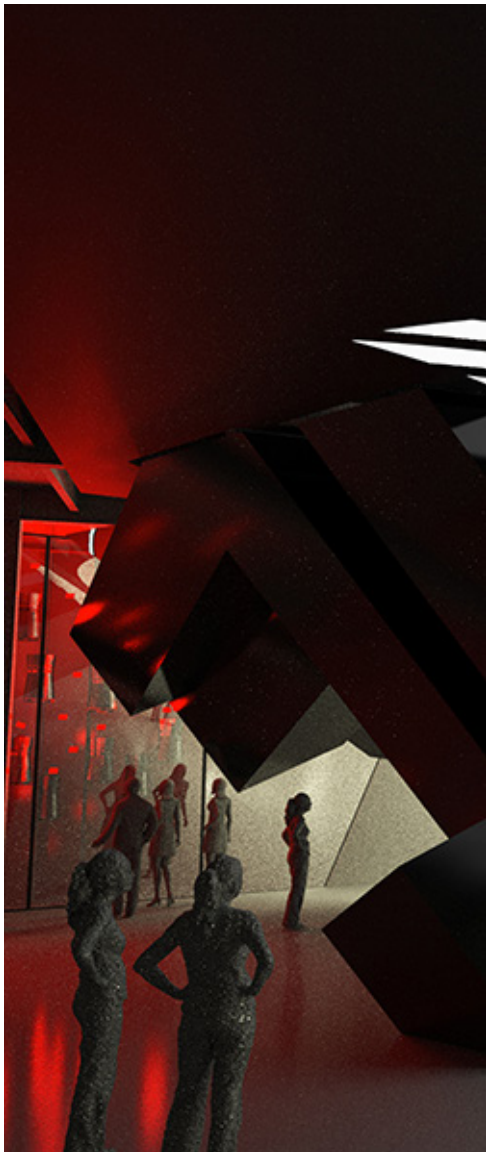
POCHE VIEW

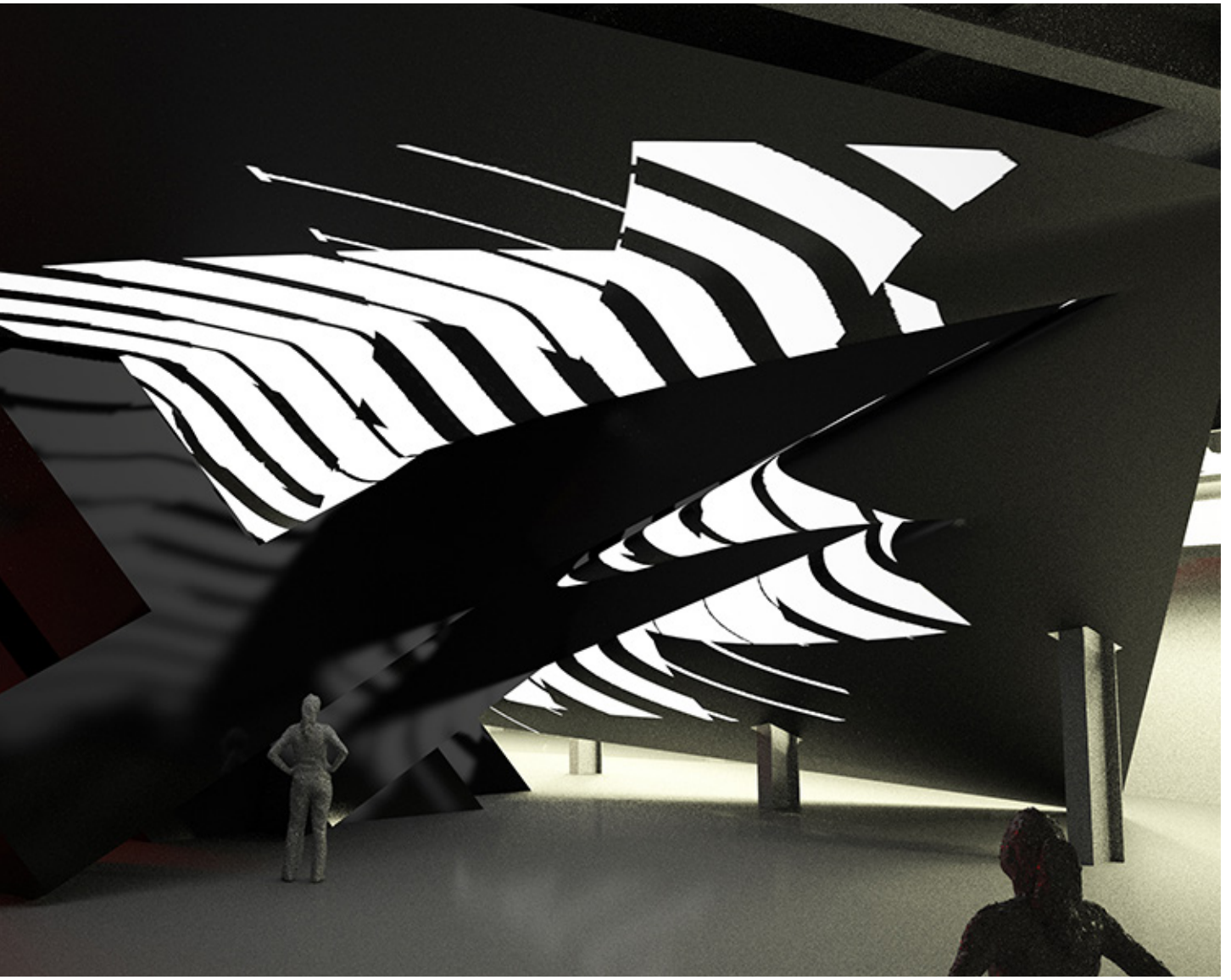
GALLERY VIEW

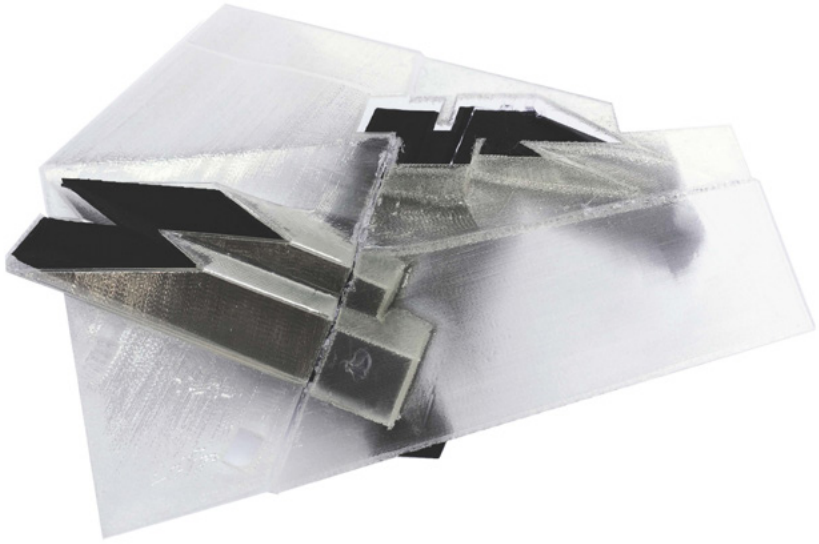
LG Phantom Milan TradeShow

Milan, Italy
Tom Wiscombe Architecture
Collaboration: Morphosis, P-A-T-T-E-R-N-S
Team: Dylan Weiser, Michael Royer, Xavier Ramirez
Role: Conceptual Design, Modeling, Visualization

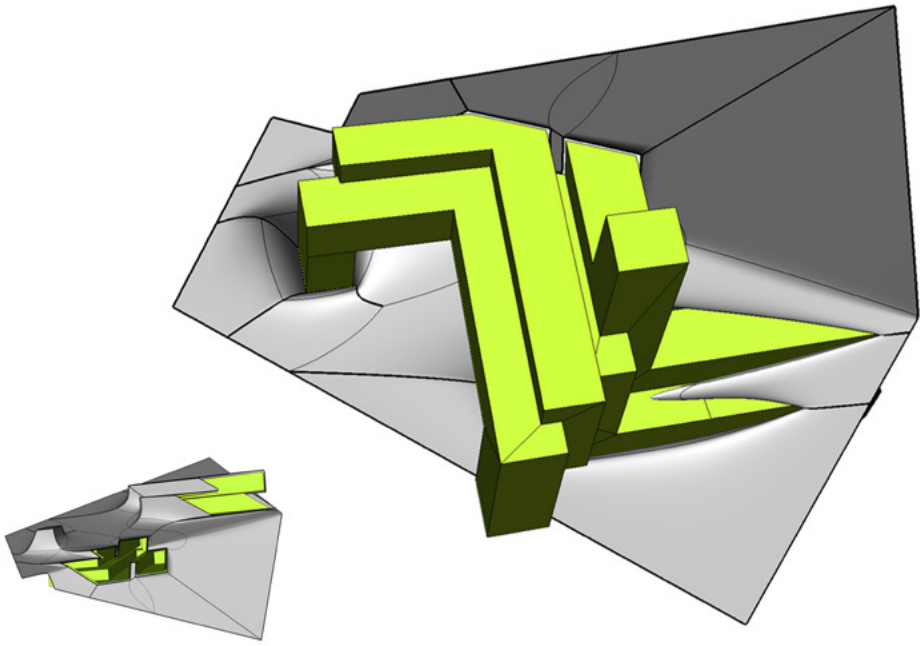
This installation was designed for the 2017 Milan Lighting Fair in the Superstudio space and was intended to display LG's advanced new line of materials. ***The installation has two different parts: the "tesseract" and the "shroud."*** The tesseract is a grouping of tilted stacked bars, referencing a physics not of this world. Its finish is a deep black made of LG's HI-MACS, which are formable solid surface panels. The "tesseract" pushes up into the "shroud" creating involutions at their contact points as well as displaying flexibility of the "shroud." The intention was not only to have contrasting installation elements, but to also show that the same material can be used for both a rigid and a flexible purpose. The underside of the "shroud" is embedded with LG's OLED light panels that are also capable of taking flexible form.



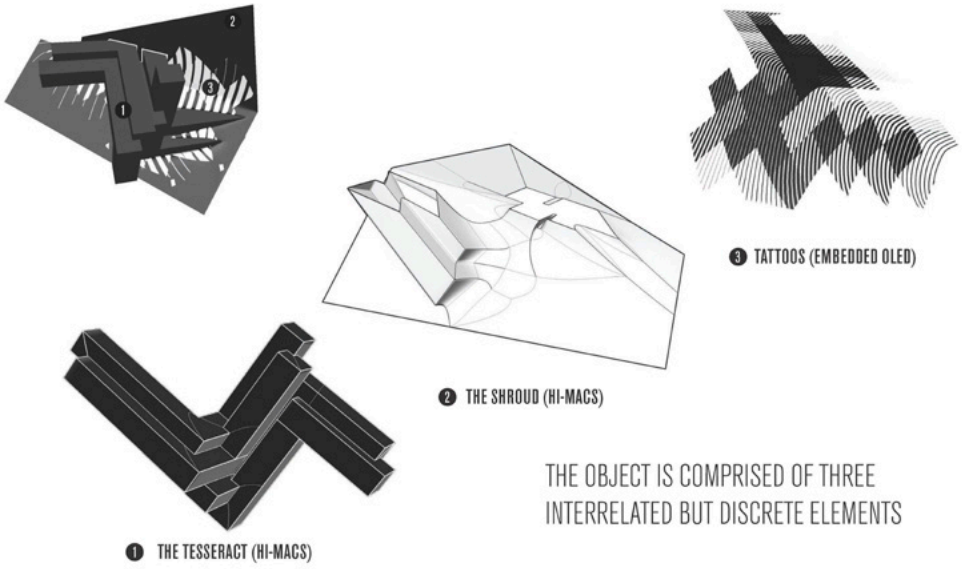




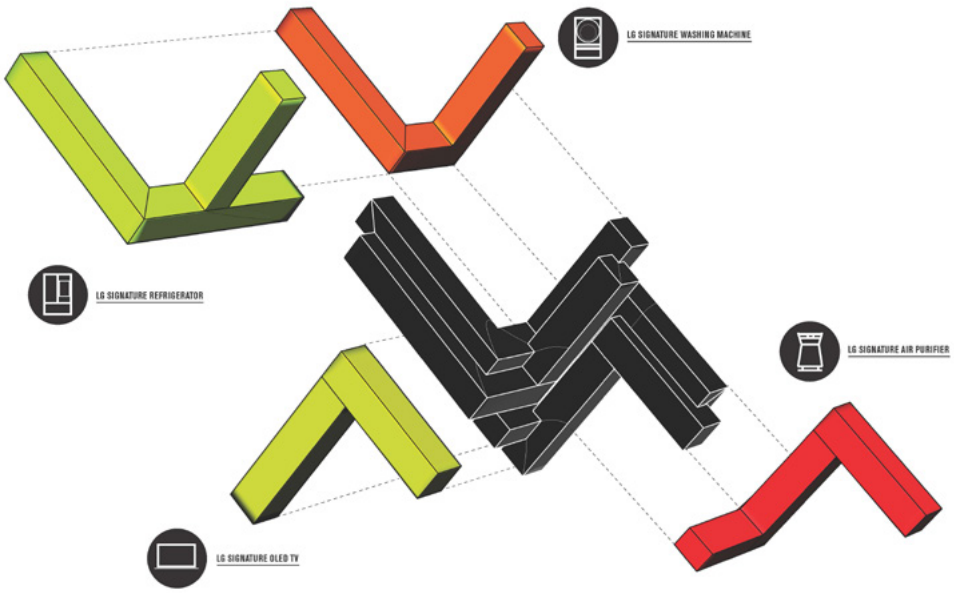
MASSING MODEL



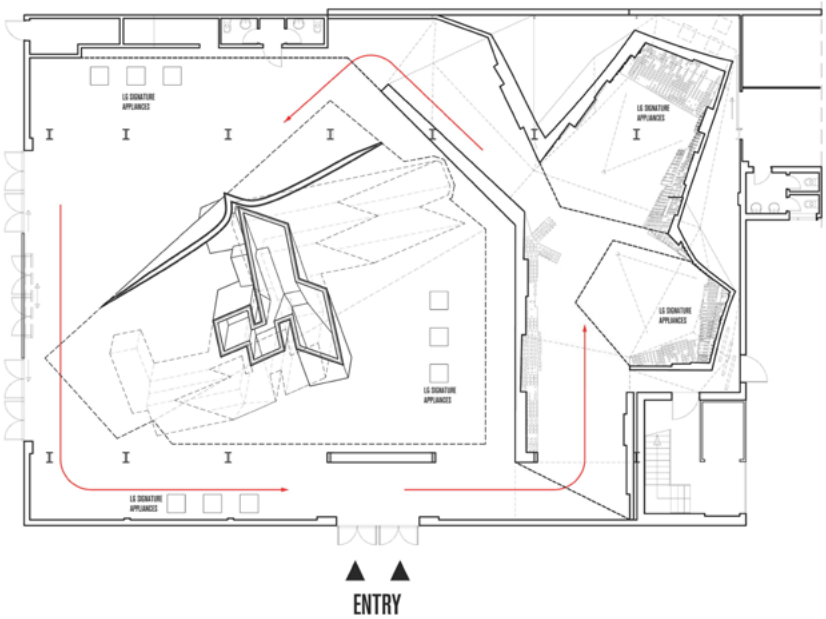
DIGITAL STUDY



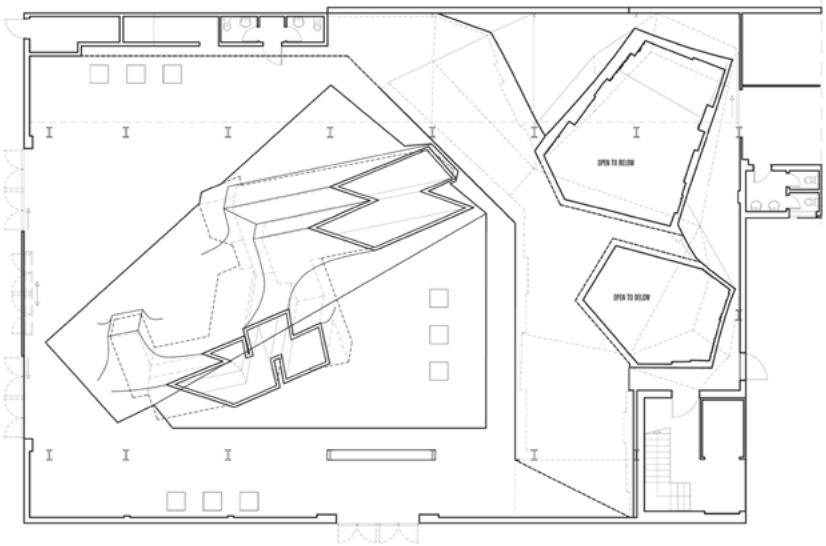
ELEMENT DIAGRAM



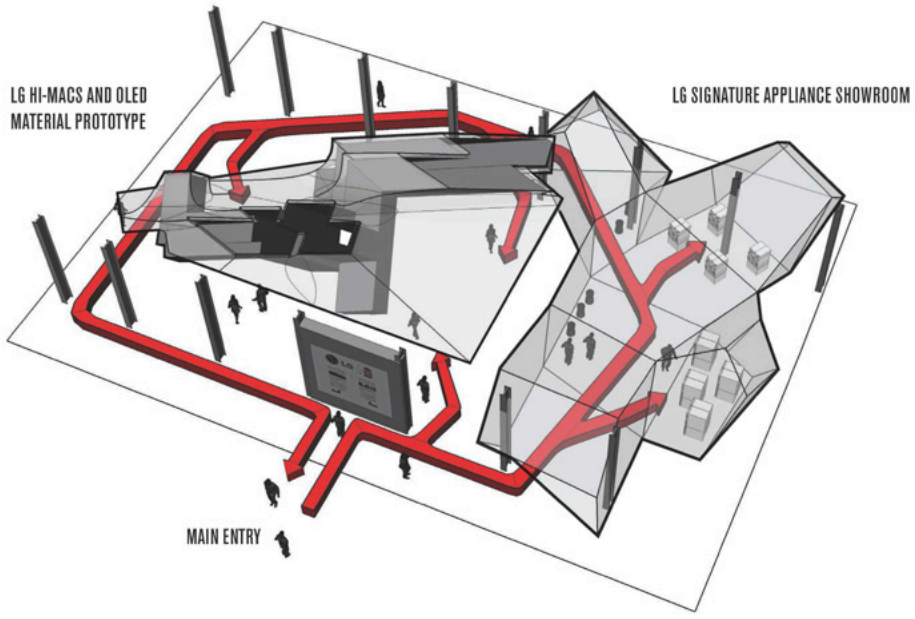
DISPLAY COMPONENTS



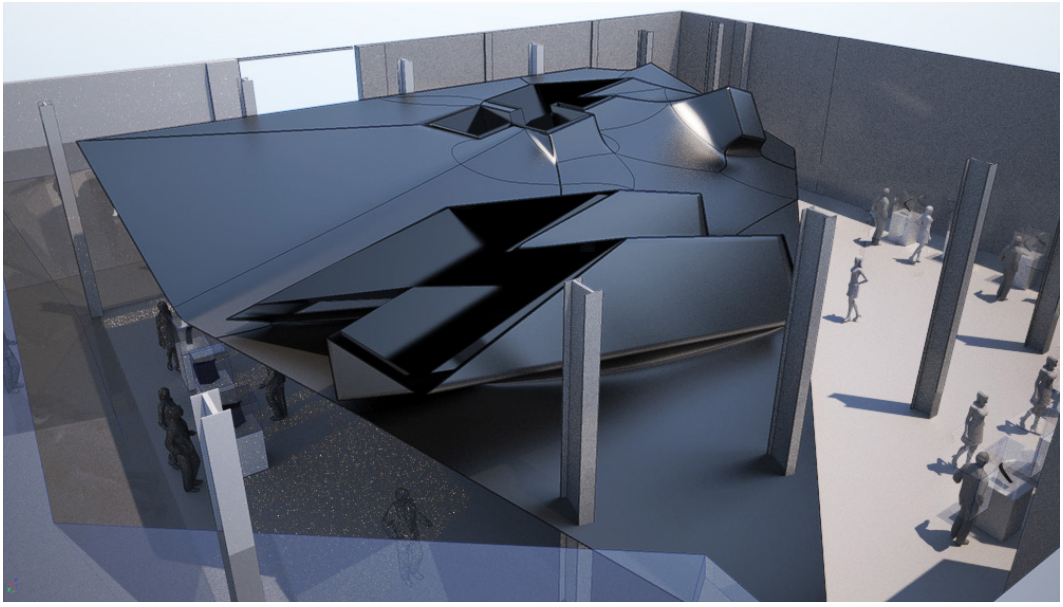
GROUND PLAN



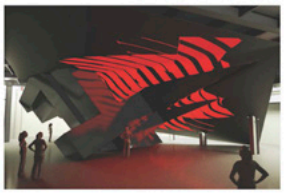
ROOF PLAN



CIRCULATION PLAN



AERIAL VIEW

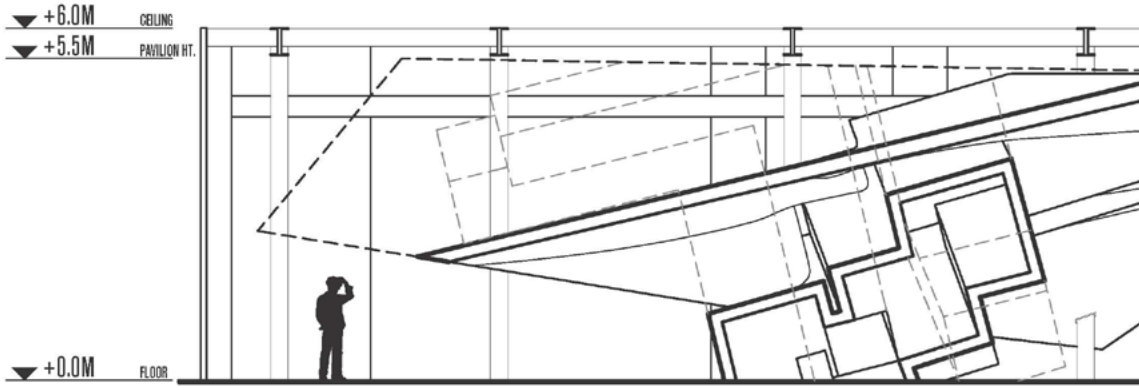


GLOSS BLACK HI-MACS / WARPED OLED LIGHT PANEL

OLED TATTOO PATTERN FLATTENED

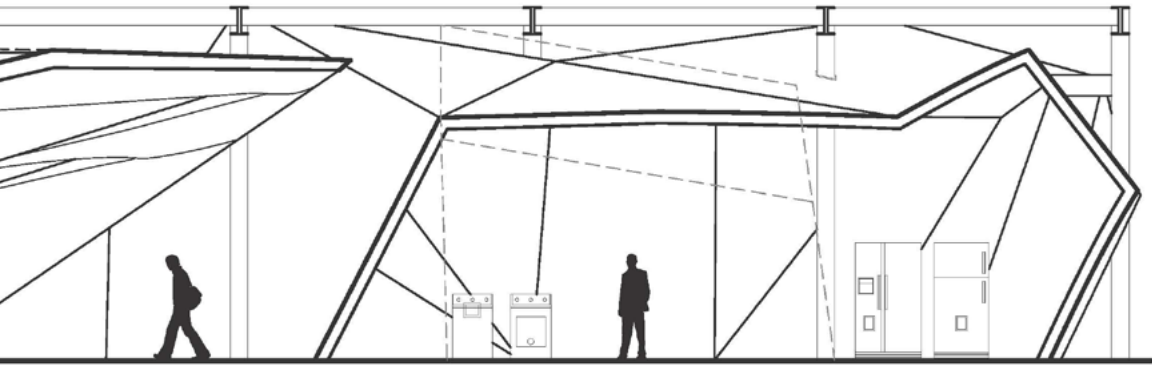
EMBEDDING OLED LIGHT PANELS INTO PLANAR AND WARPED SURFACES

TATTOO STRATEGY



CROSS SECTION

TATTOO DETAIL



Composite Wing

Melbourne, Australia
Studio Roland Snooks
Team: Cam Newnham, Amaury Thomas, Pei She Lee
Role: Advanced Modeling, Detailing, Coding and Fabrication

Composite Wing was an installation for The Future is Here exhibition at RMIT's Design Hub. The nature of the exhibition was one that showcased new fabrication and design techniques for industrial, interior and fashion designers. Because of this the installation architecture needed to be something that also exemplified these future design and fabrication techniques. ***Composite Wing is all inclusive in that it seamlessly integrates surface, structure, and ornament.*** Composite Wing is made from 3 mm thick fiberglass with CNC milled foam and extruded silicon in between the layers.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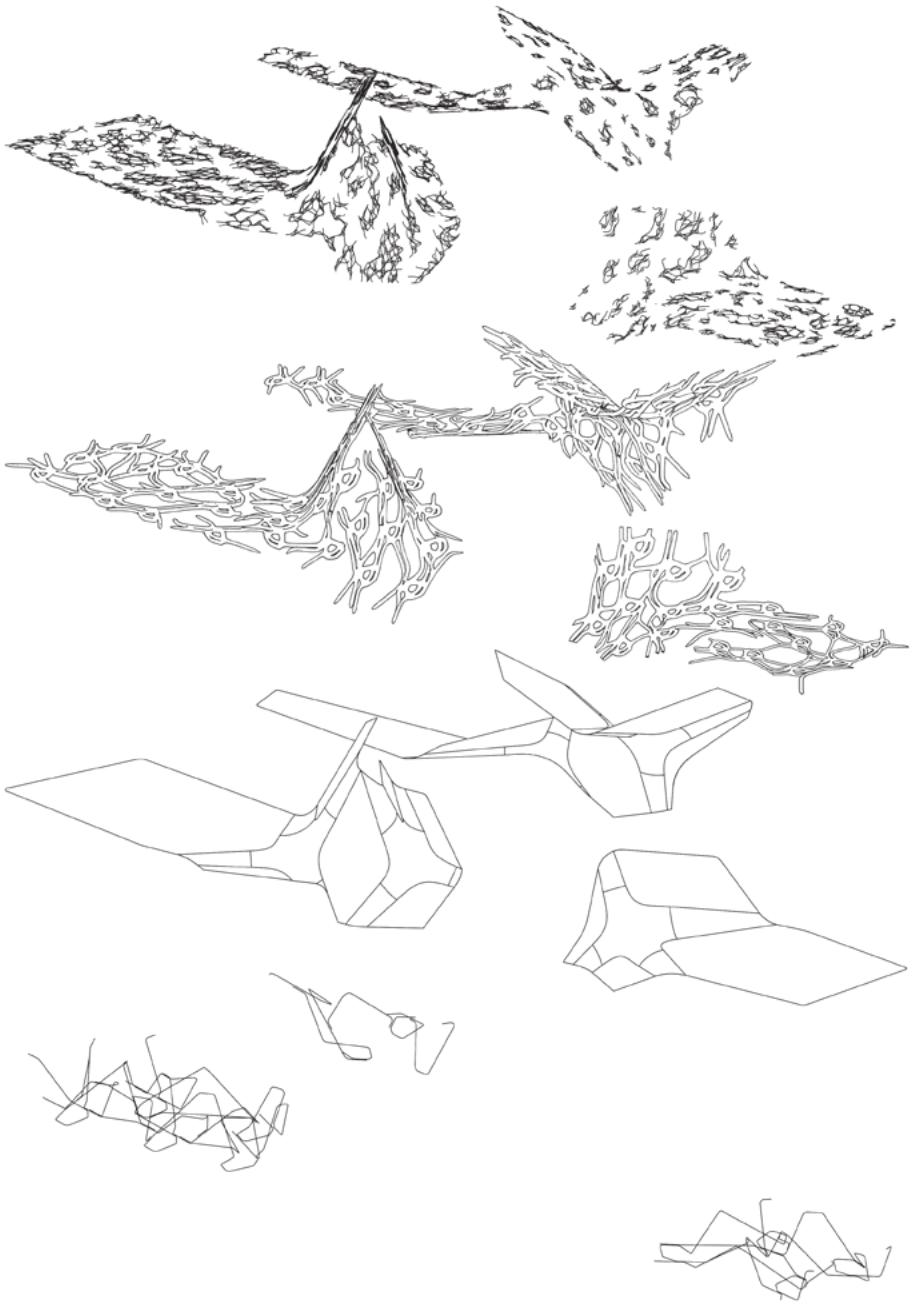
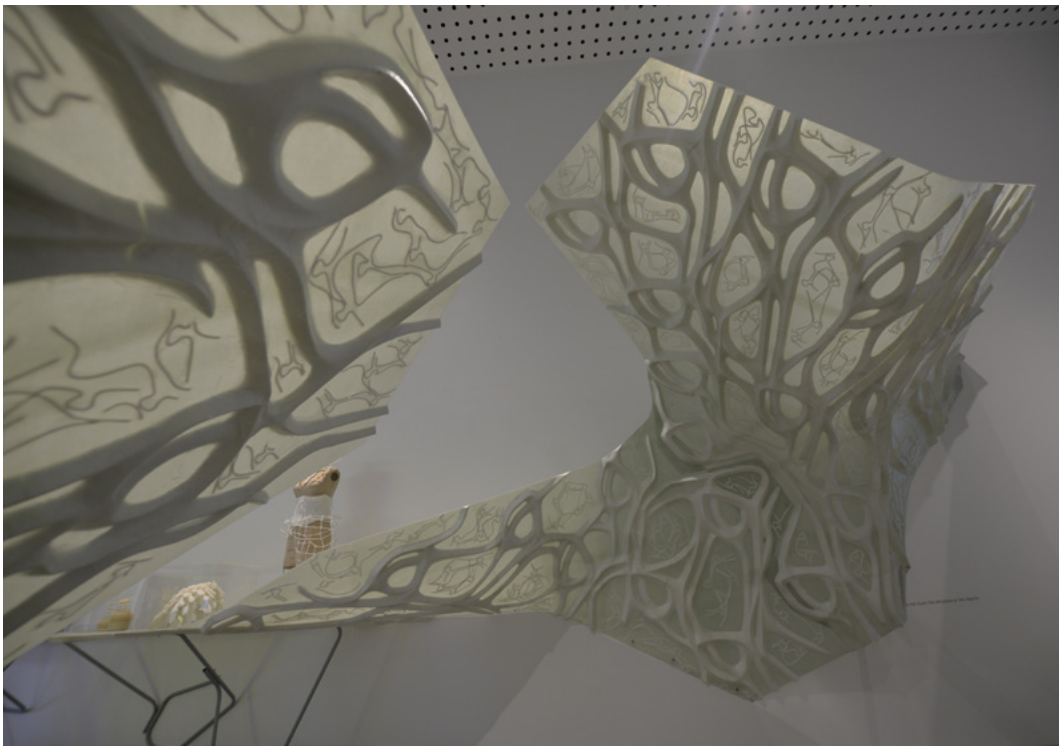
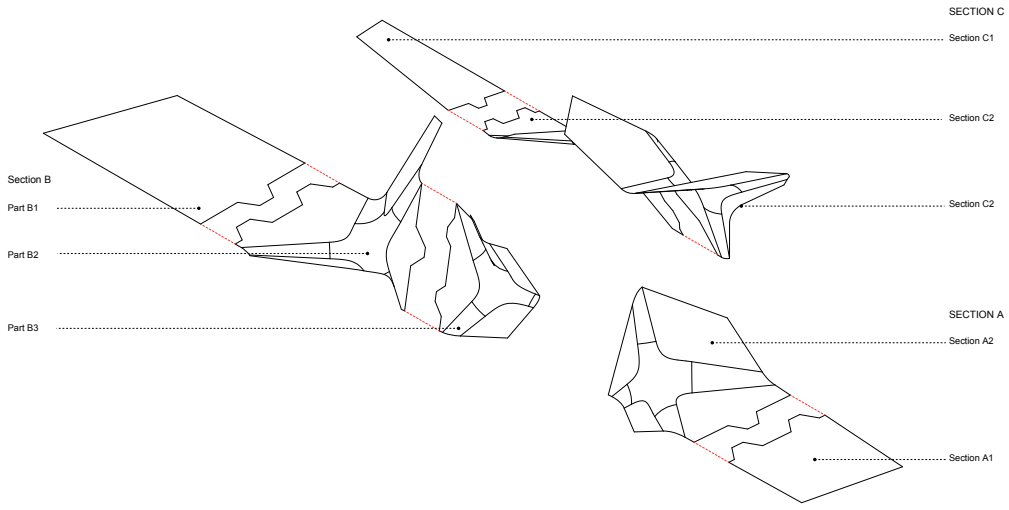
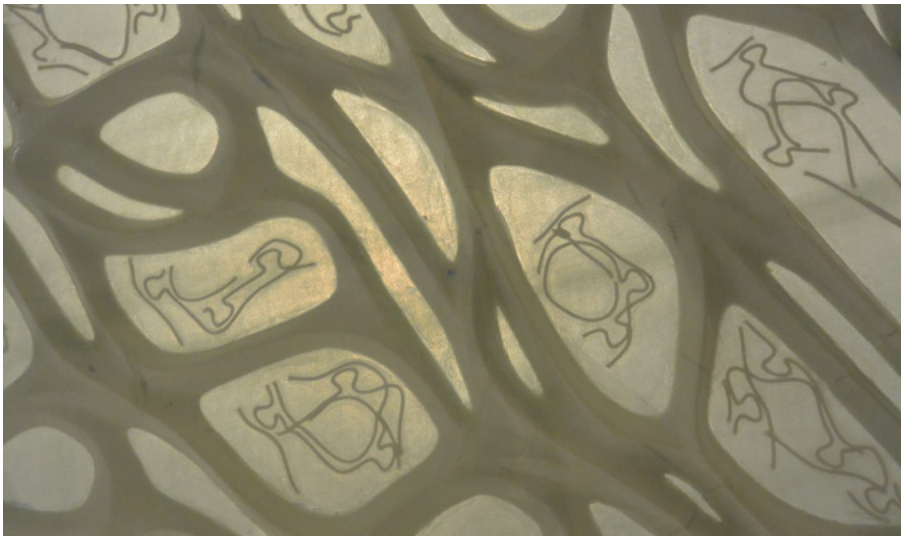


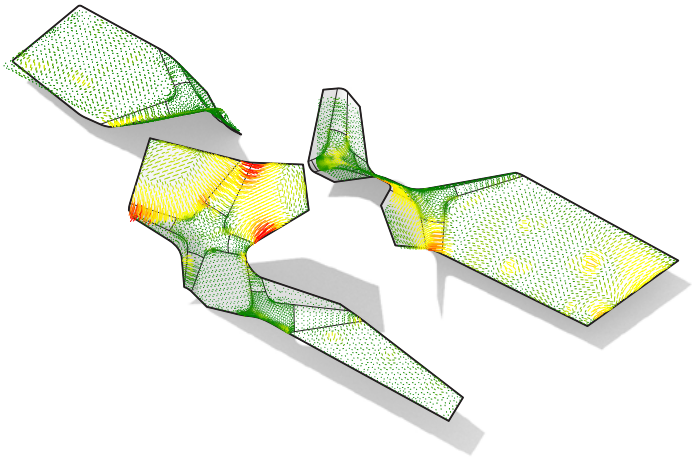
COMPONENTS DIAGRAM



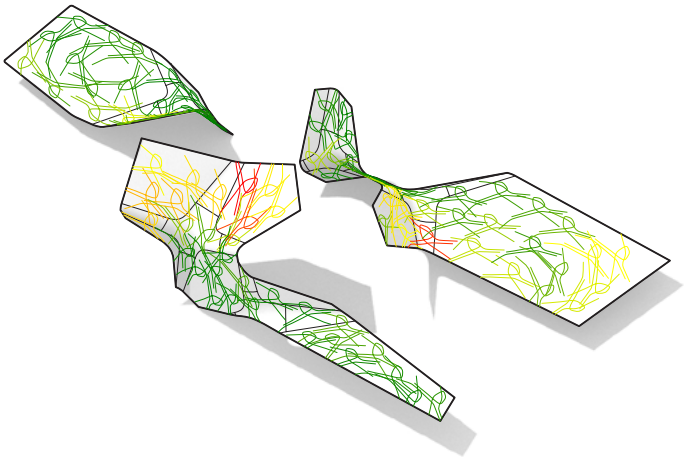


COMPONENTS DIAGRAM



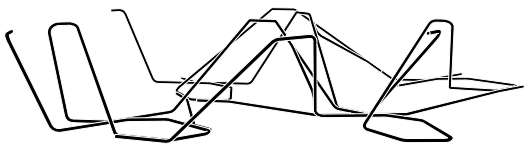


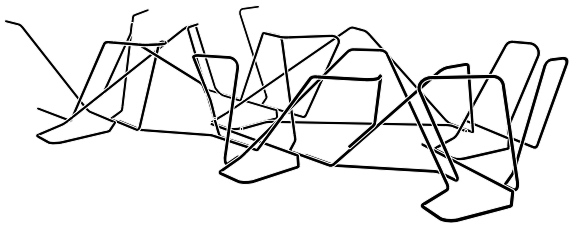
BENDING MOMENT



REACTIVE "BODY" ANALYSIS

The foam and silicon are designed to be both aesthetic and structural. The thickness helps to prevent from deflection and so the overall size of the foam pieces are determined by which parts of the surface have the most deflection. The engineers, Bollinger Grohman, used a parametric structural analysis software, Karamba, to calculate the deflection moments. Based on their feedback we adjusted the sizes of the foam. The silicon bodies are then added in additional spaces to further decrease the deflection.





ISOLATED LEGS

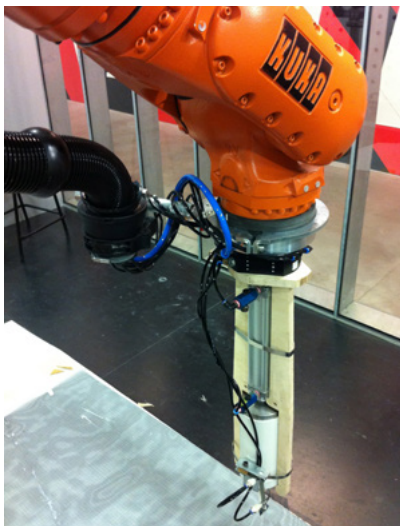
The Legs of Composite Wing were made of bent pipe. It formed a network of connecting elements underneath the tables. Again to follow the nature of the rest of the exhibition it needed to be an irregular system of legs spanning from table to ground. The inherent difficulty of bending the pipe was the off axis bends which created the need for a jig to assist with the proper angle.

Composite Wing Fabrication

Melbourne, Australia
Studio Roland Snooks
Team: Cam Newnham, Amaury Thomas, Pei She Lee

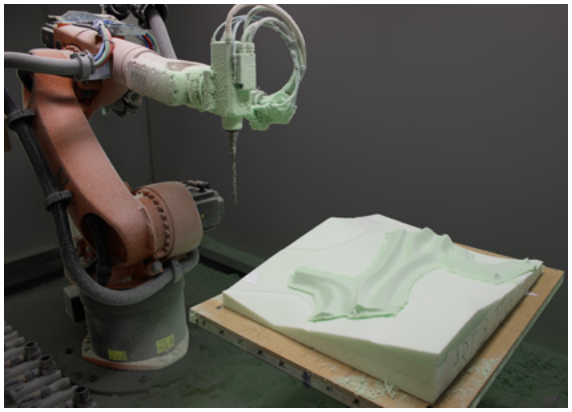
The fabrication of Composite Wing was intensive and included new processes of robotics as well as manual finishing. Composite Wing was made of 3mm fiberglass with foam and silicon in between the layers acting both aesthetically and structurally. The foam “bodies” were first milled in both 3 and 5 axis CNC machines. The silicon was created from a silicon gun attatchment tool for a Kuka robot. It was extruded onto a thin mesh and then allowed to dry.

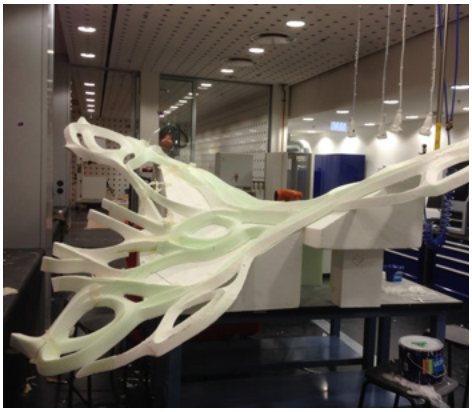

JLG
JLG

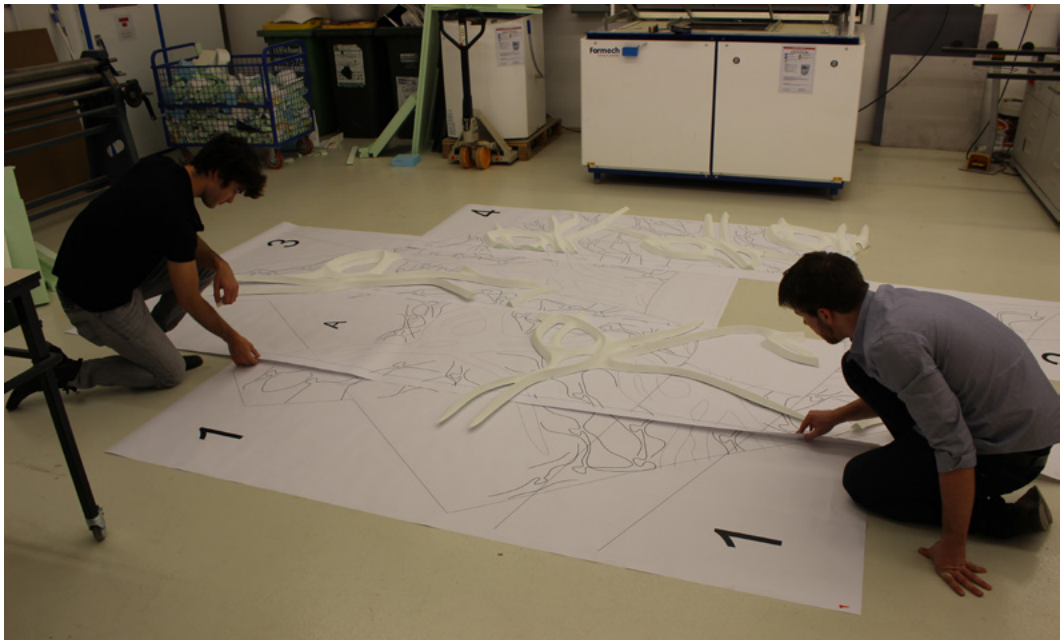


SILICON BODIES

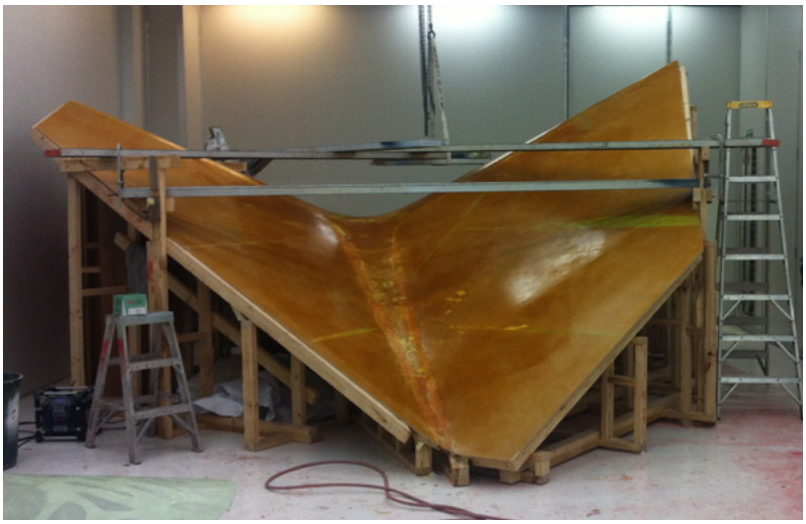
The foam “bodies” after milling were sanded, glued, filled, and painted. A series of jigs were needed to make sure the angles of the foam pieces were correct. Both the foam and silicon were then taken to the boat builders in charge of laying up the fibreglass.







FOAM BODIES



FIBERGLASS MOLD

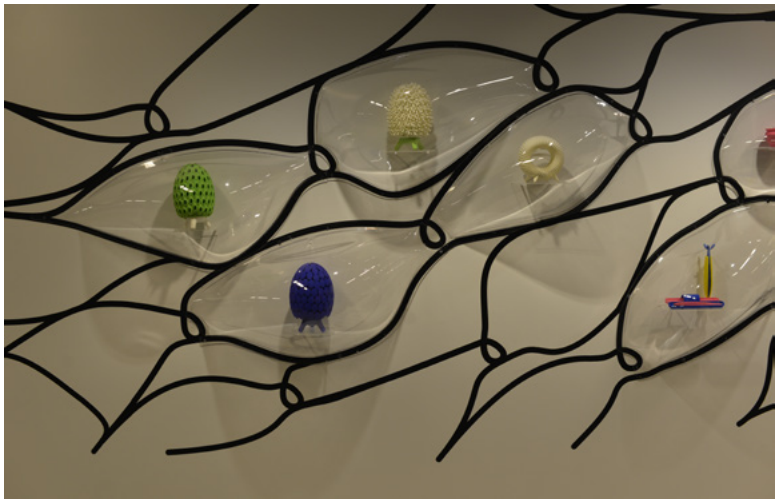
The fibreglassing of this project was done by a boat building company in south Melbourne. Fibreglassing almost always requires a mould in order to get the proper form work. The mould typically costs three times that of the actual fibreglass, and often is disposed of afterwards. That therefore meant that the surface needed to be designed so that it could be re-used for all of the pieces. The mold was divided into 9 separate sections. 4 flat, 4 tapers, and 1 double curvature. This became the building blocks for each part of Composite Wing.

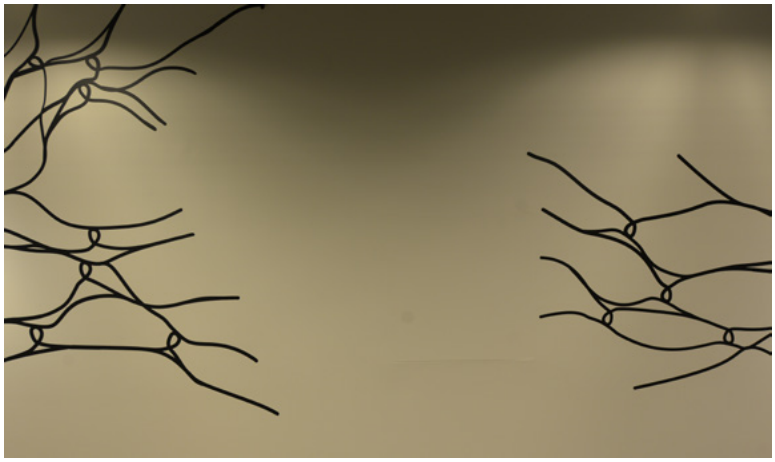
FINISHED WING DELIVERY

PR2

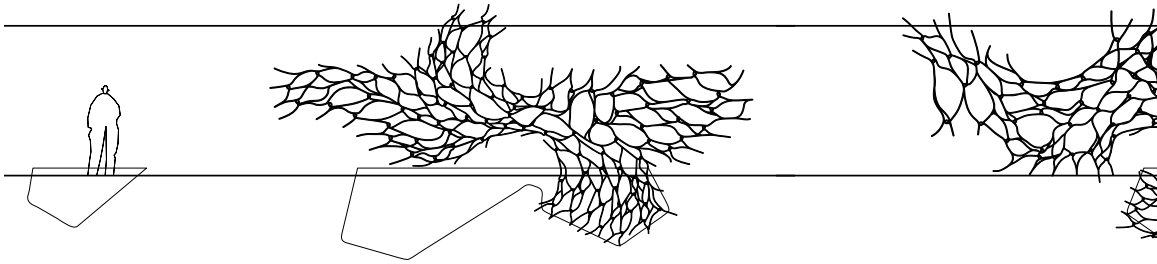
Melbourne, Australia
Studio Roland Snooks
Team: Cam Newnham, Amaury Thomas, Pei She Lee
Role: Construction Documents and Fabrication

PR2 was the second room of the Future is Here Exhibition. ***There were a large number of objects that needed to be displayed in this room and so we needed a highly adaptable technique for doing so.*** The idea was then to create a graphic that would nest slumped sheets of PET-G to create a transperant envelope for the objects. The graphics in this room are based on an agent body algorithm in which a “body” will form and align itself along a certain direction. It was important to maintain a certain spacing in order to allow the slumped bubbles to be large enough to display objects.

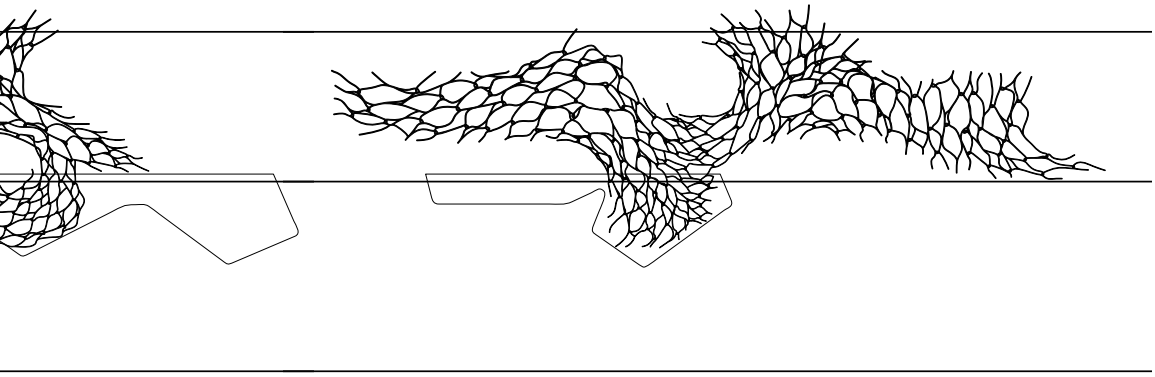




WALL MOMENTS



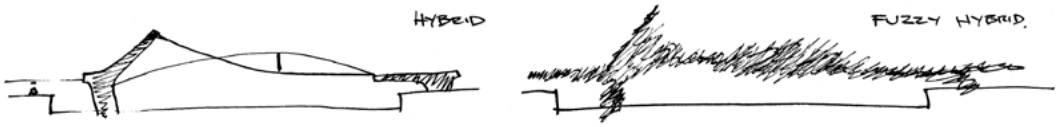
ELEVATION

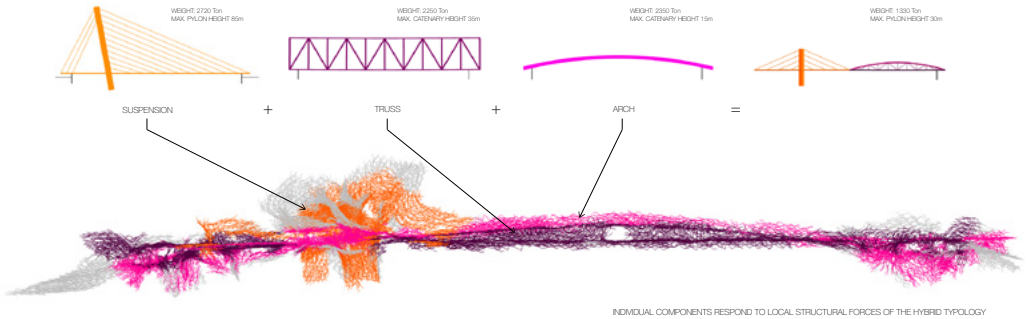


Nine Elms Bridge Competition

London, England
Studio Roland Snooks
Team: Cam Newnham, Marc Gibson, Ben Verzijl
Role: Conceptual Design, Coding, Visualization

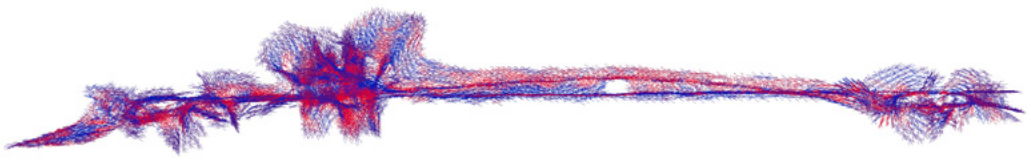
The Nine Elms Bridge Competition is for a pedestrian and cycle bridge over the Thames river in London. ***The bridge attempts to combine canonical structural forms of bridges, those being suspension, truss and arch, to create a more efficient hybrid.*** The hybrid structure does not have specific elements performing discreet roles, but rather it operates cohesively as one unit. The unit is a cloud of bent steel, which attempts to focus more on the individuals experience and atmosphere compared to the structural logic.



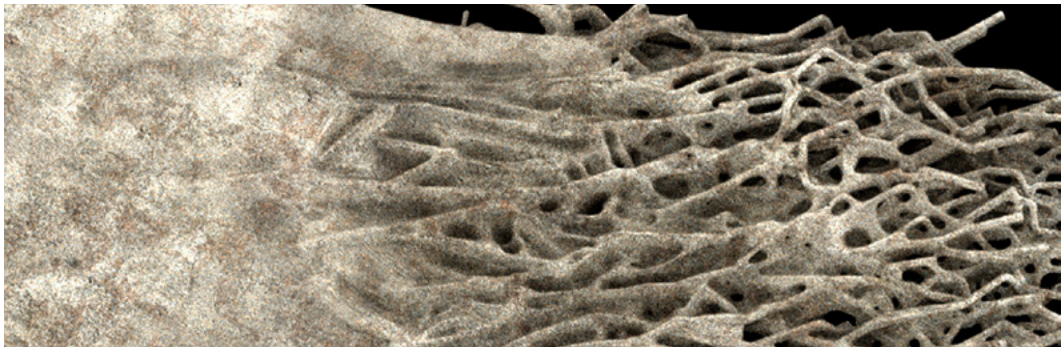


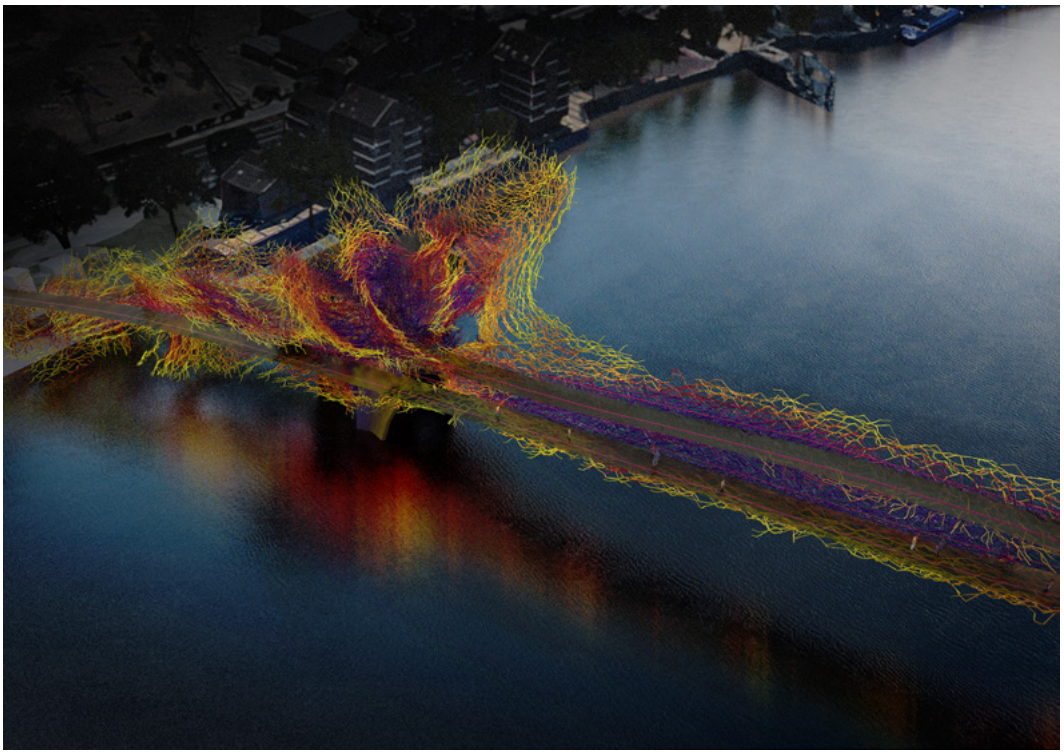
INDIVIDUAL COMPONENTS RESPOND TO LOCAL STRUCTURAL FORCES OF THE HYBRID TYPOLOGY

STRUCTURAL METHOD

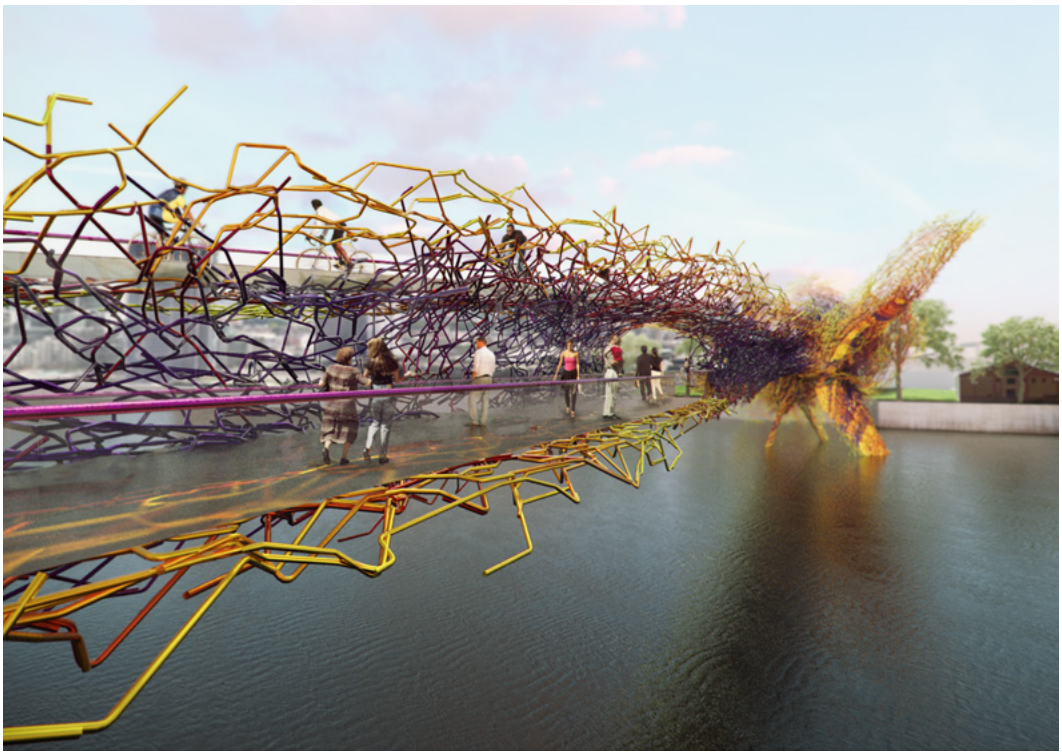


MATERIAL DETAIL

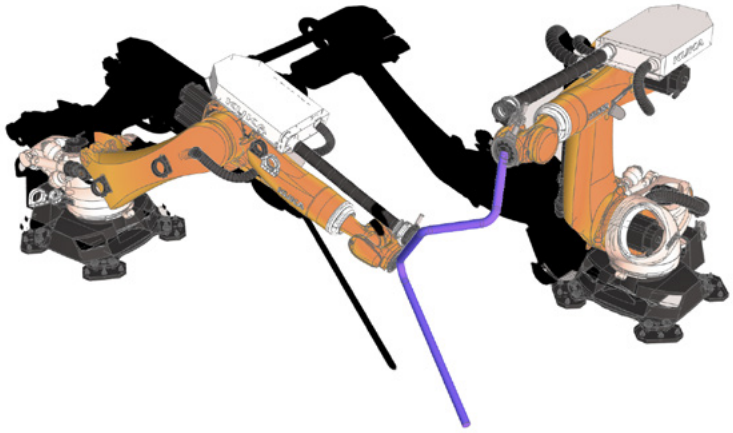


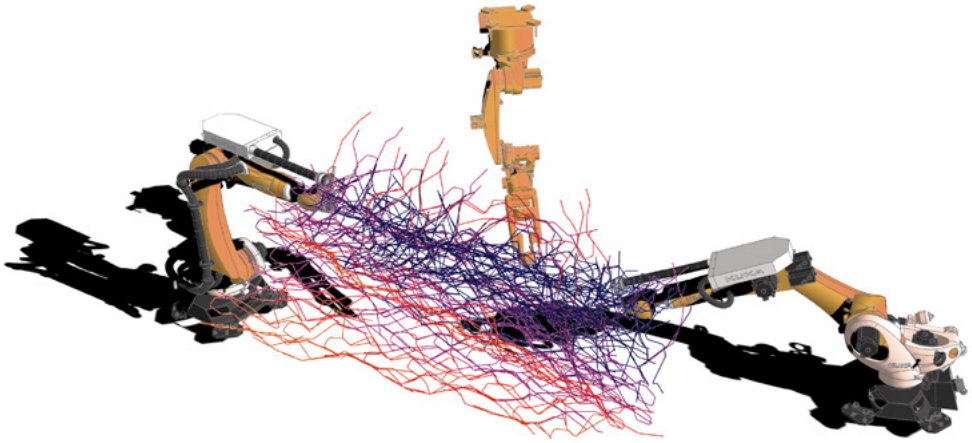


AERIAL VIEW

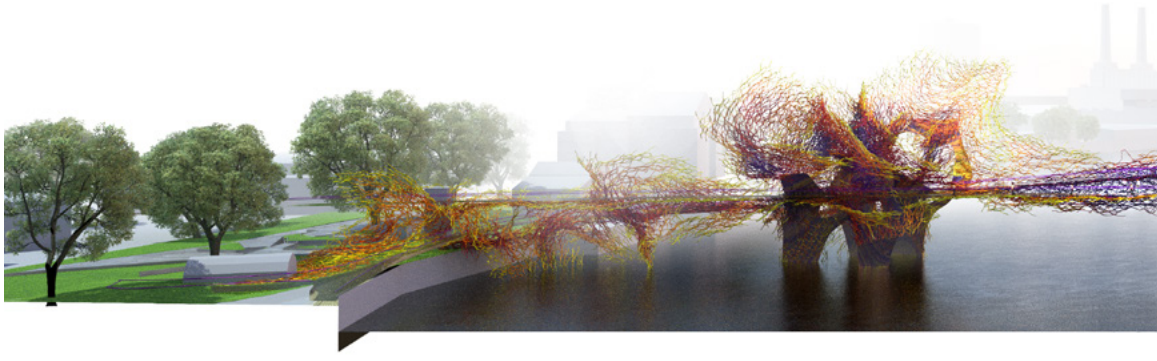


BRIDGE VIEW

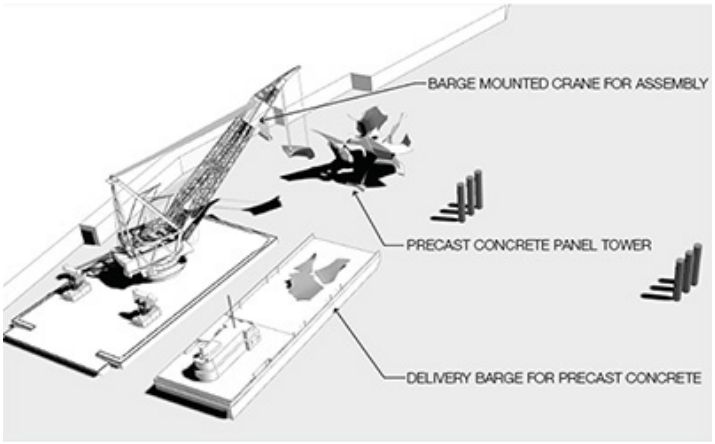


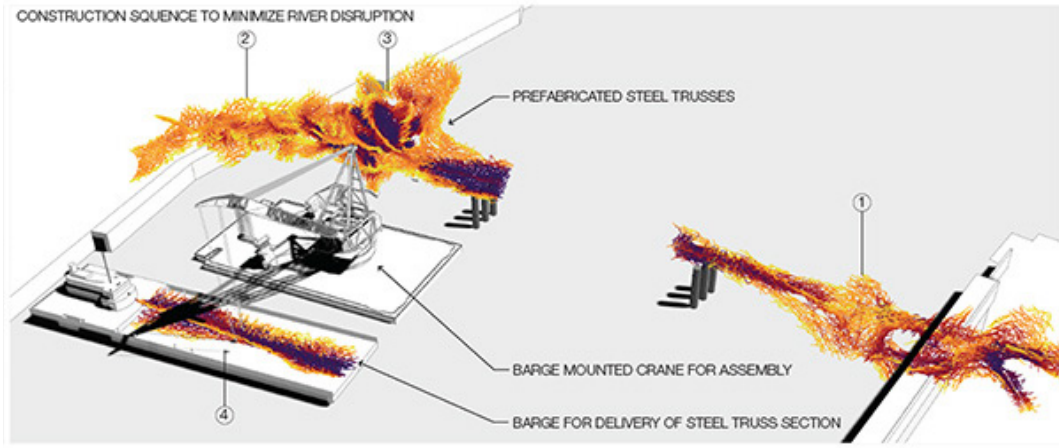


ROBOTIC FABRICATION

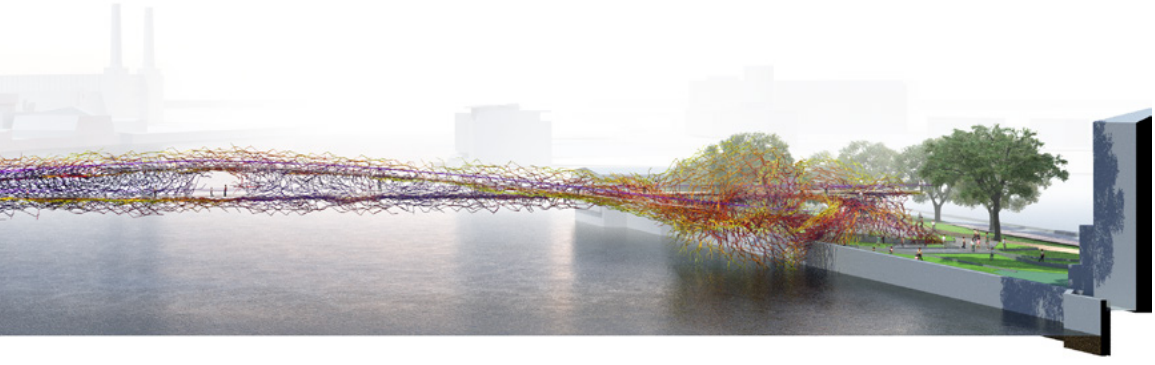


ELEVATION



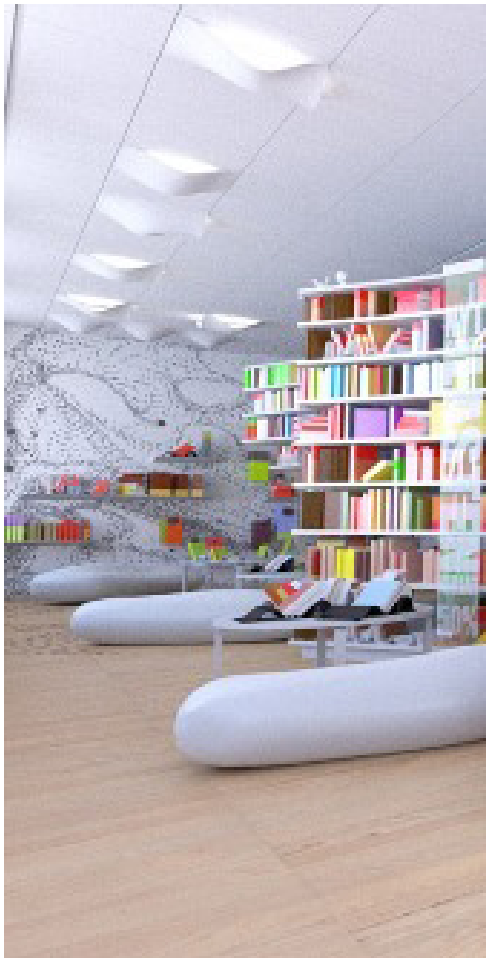


SITE ASSEMBLY



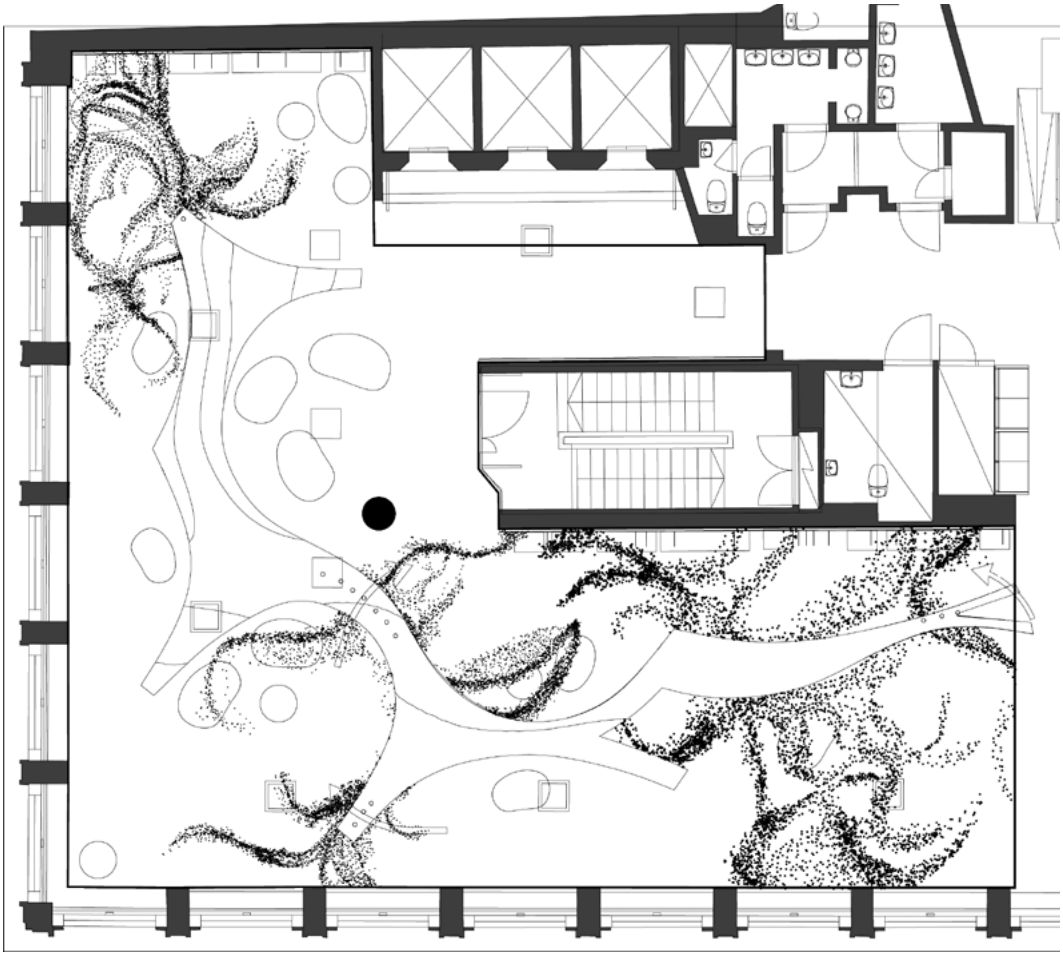
Akiteemien Bookstore Rennovation

Helsinki, Finland
Ateljie Sotamaa
Team: Ashish Mohite, Djordje Stanojevic
Role: Conceptual Design, Coding, Detailing, Visualization



The Akateeminen Bookstore originally designed by Alvar Aalto is located in the central part of Helsinki. The bookstore is in need of rejuvenation as the era of digital property is rendering items such as books useless. ***The idea was to turn the bookstore into an experience beyond simply shopping for books, or as Ateljé Sotamaa states "an experience you cannot download."*** This is to be accomplished through the use of digital media applying to multiple senses. The children's section provides the most extreme application of these digital technologies. The Book Dragon is the name of the giant bookshelf that weaves its way through the space and adds a dynamic edge to the original orthogonal bookshelf. Its openings it allows for more circulation as well as a divide for different spaces, necessary for keeping a bookstore relatively quiet.

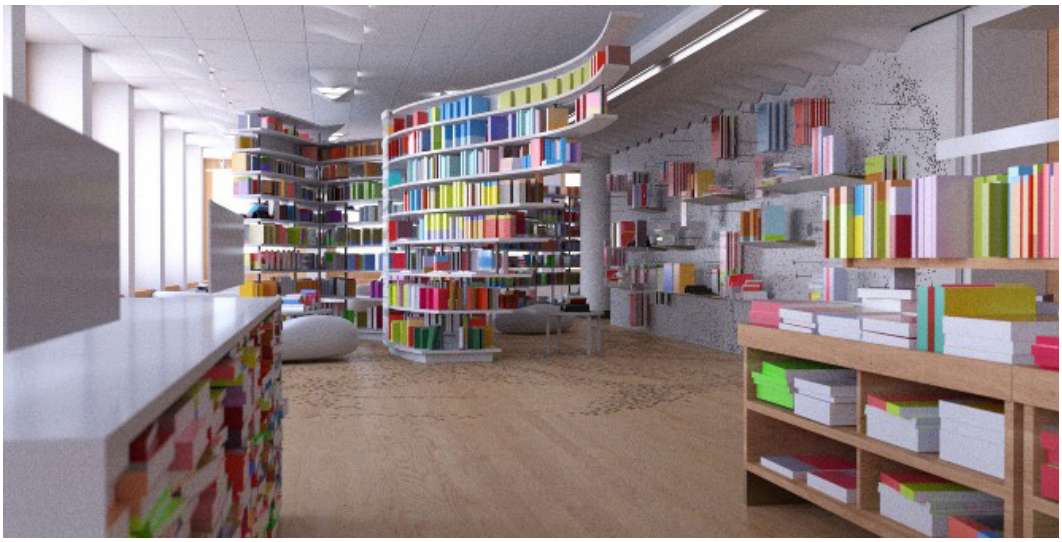

50%



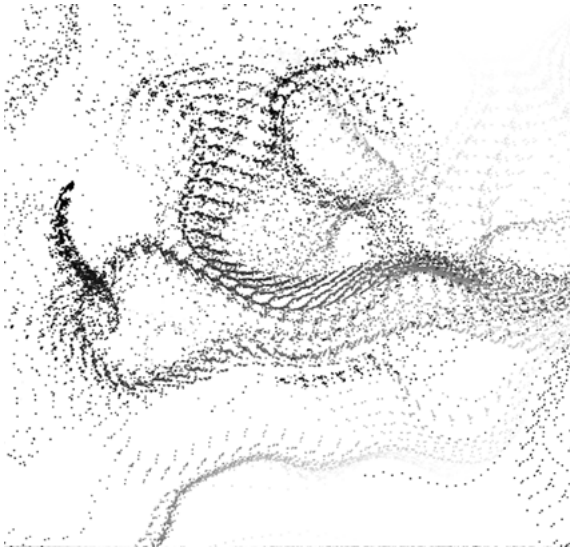
FLOOR PLAN

PARTICLE SPLASH 1

PARTICLE SPLASH 2

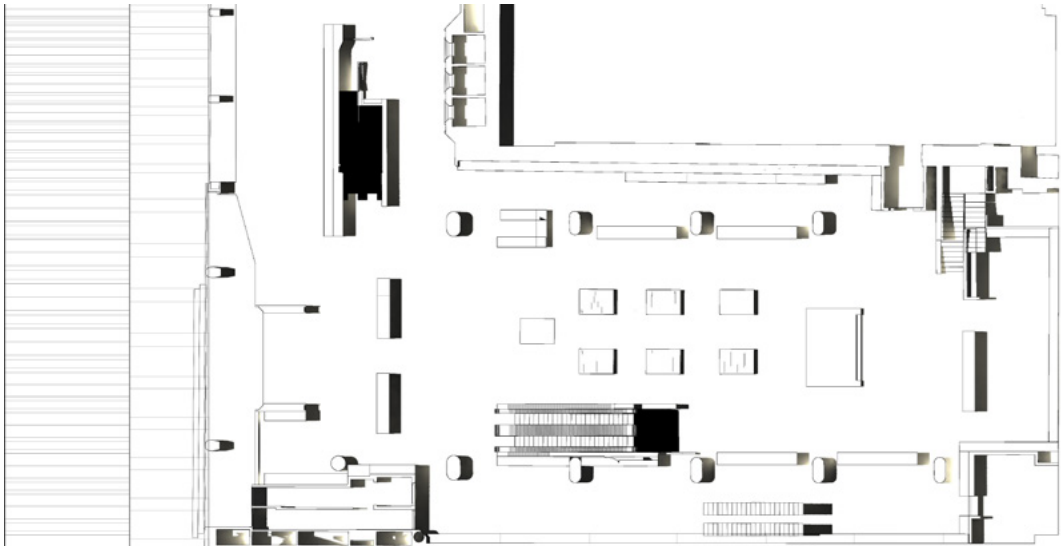


CHILDREN'S SECTION

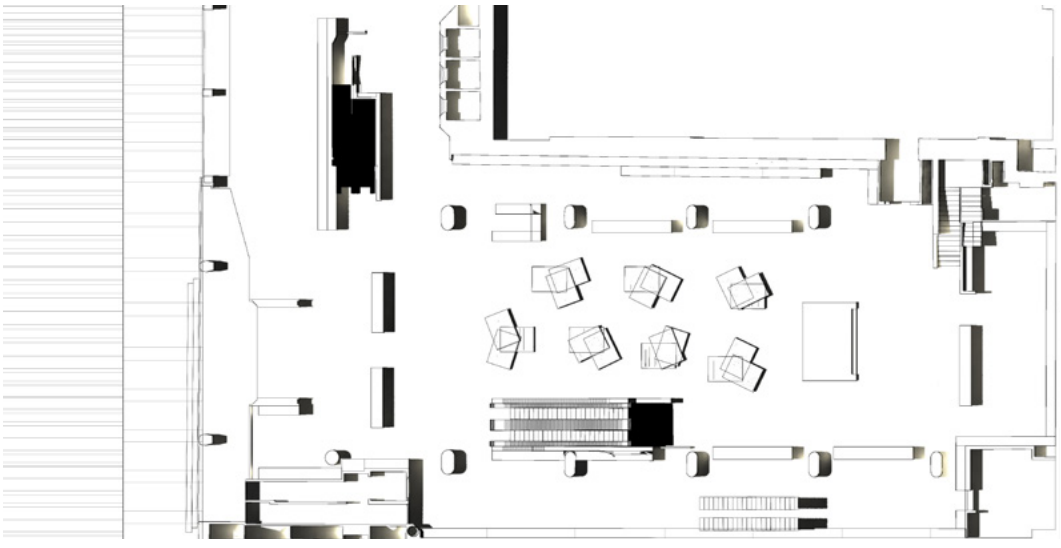


DISPLAY / PATTERN

The pattern on the ground acts as an aesthetic system that spawn from moments where the Book Dragons shelves begin to lift off of the ground. They turn into a much more functional use when they translate to the walls. On the walls the particles perforate the surface in order to create a large-scale pattern, while simultaneously creating a highly customizable shelving and product display unit. Pins plug-in to these perforations in order to allow products to be displayed in nearly any organization that is desired.

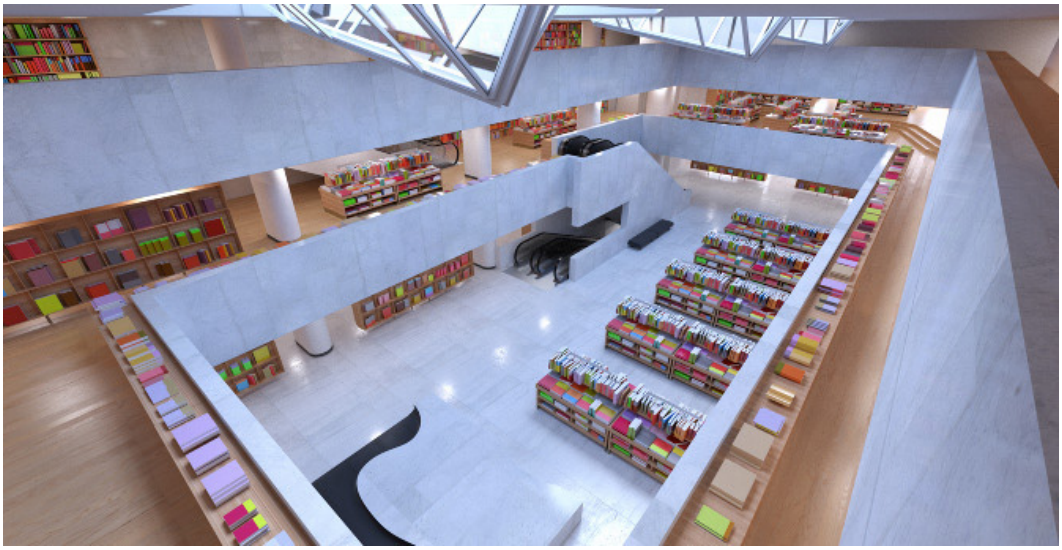


CLOSED PLAN

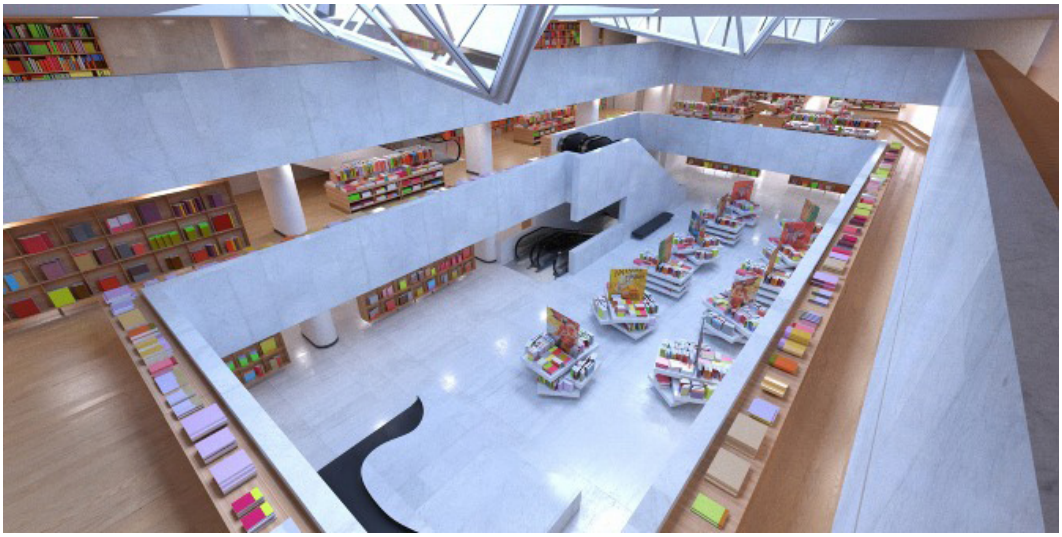


BLOOMED PLAN

On the first floor there is a system of bookshelves in the central space. The original shelves were arranged in orthogonal rows and the preservation architects requested that they remain this way. The proposed bookshelves are ones that can pivot on an axis allowing them to either be orthogonal or feathered. This allows a better area for books and other objects that Akateeminen may want to display.



CLOSED SHELVES

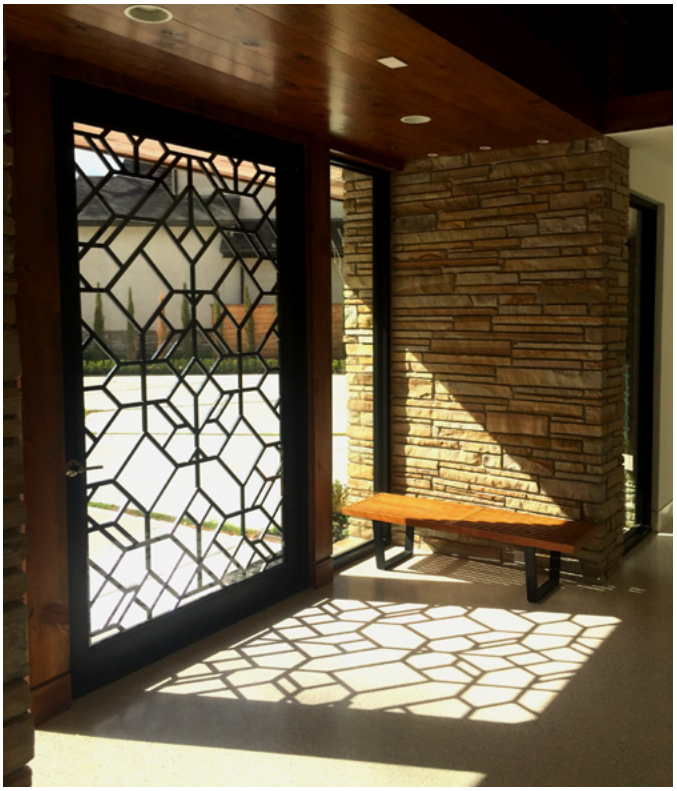


BLOOMED SHELVES

Pivot

Houston, Texas
Design: Drew Busmire
Fabricator: Sergio Perez
Role: Lead Designer, Detailing, Shop Drawings

Pivot is an entry door for a private residence in Houston, Texas. The pattern of the door is inspired by the plan diagram of the house. The plan is proliferated into a larger scheme, reminiscent of the craftsman style in which the home was built. The door is made of laser cut aluminum sandwiched between two layers of glass in order to increase the refraction of light as it casts shadows through the aluminum.

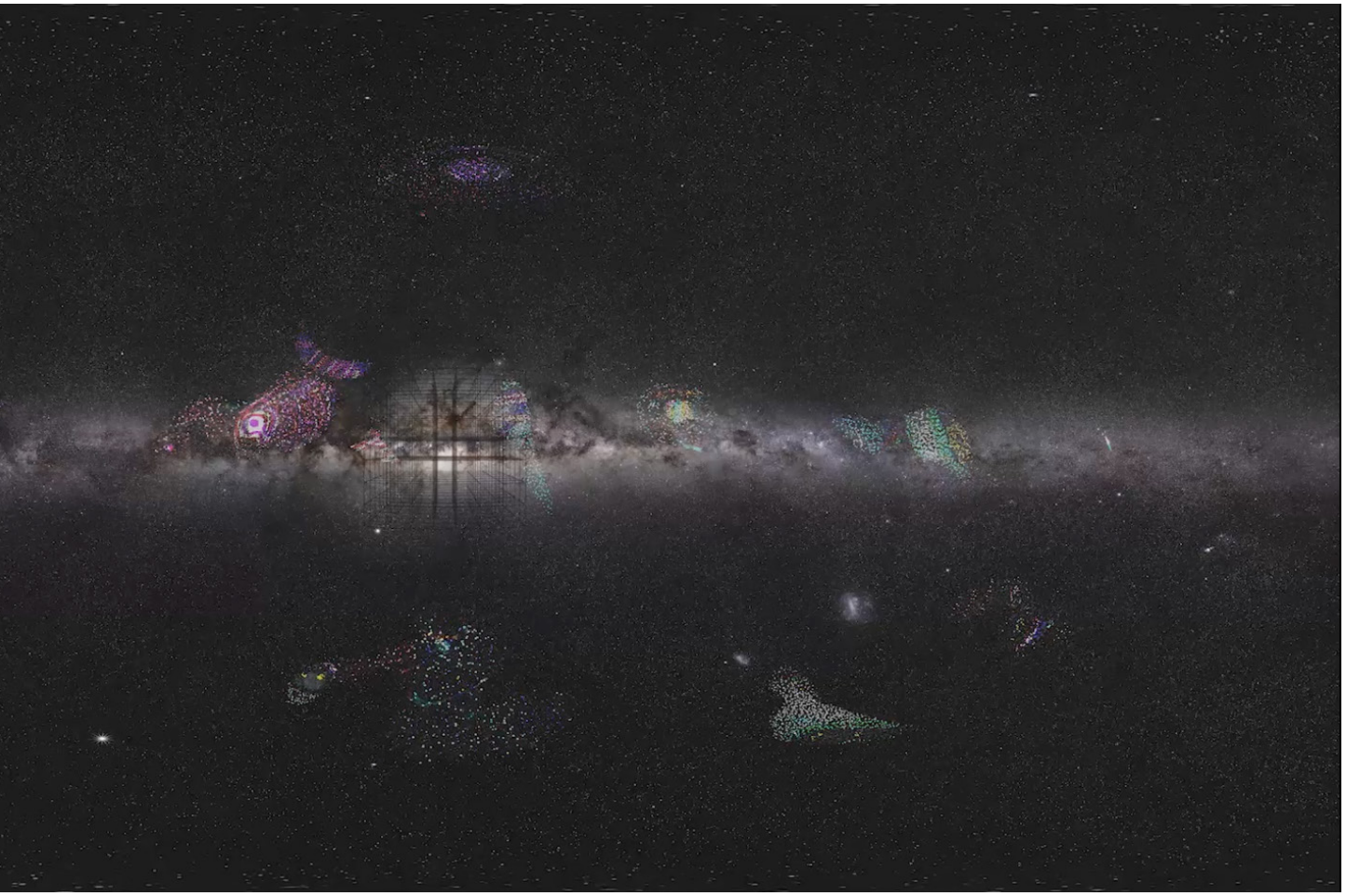


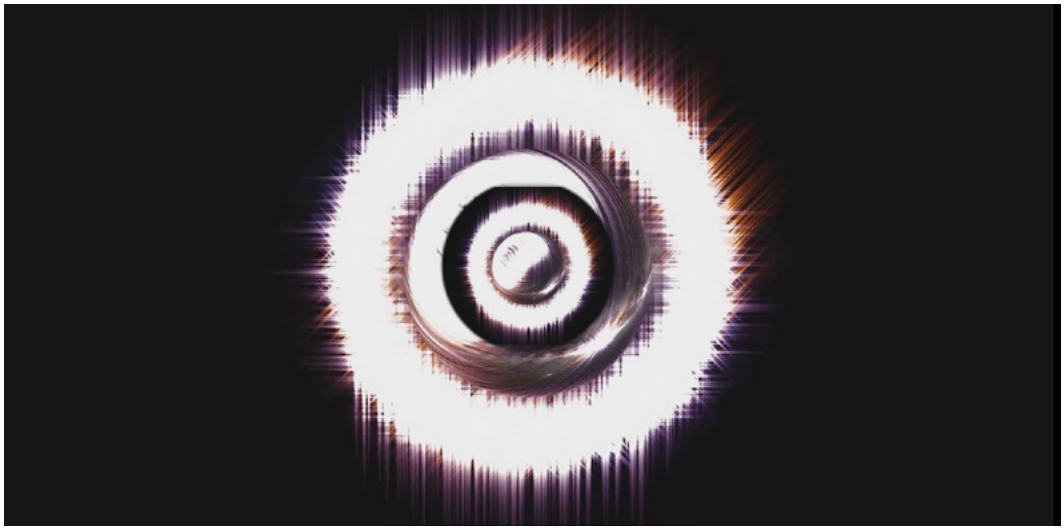
CROSS-DISCIPLINE

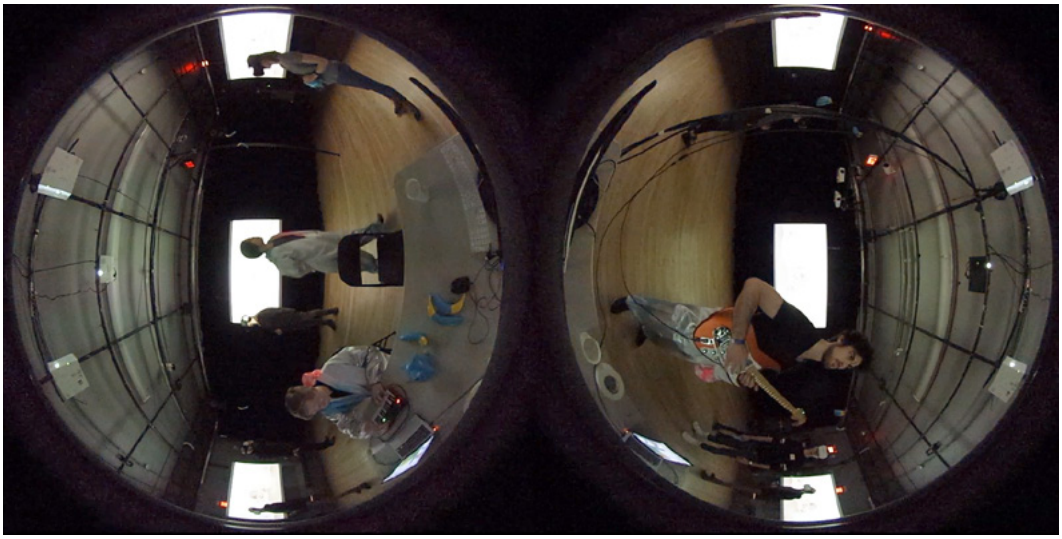
Satellite : Rhea

New Haven, Connecticut
VR: Drew Busmire
Music: Linu

Satellite Rhea is a virtual reality and live music experience for the Yale Satellite Series. ***It explores our present understanding of realism in representation, and how the amalgamation of senses can define our reality.*** The video addresses the consciousness of perception and knowledge as originally questioned by Frank Jackson in his “Epiphenomenal Qualia” and attempts to reshape the boundary we see between the virtual and the real through indiscernibly different imagery. The disconnect between what one sees, touches and hears brings the senses of the viewer to a greater awareness.








EXIT