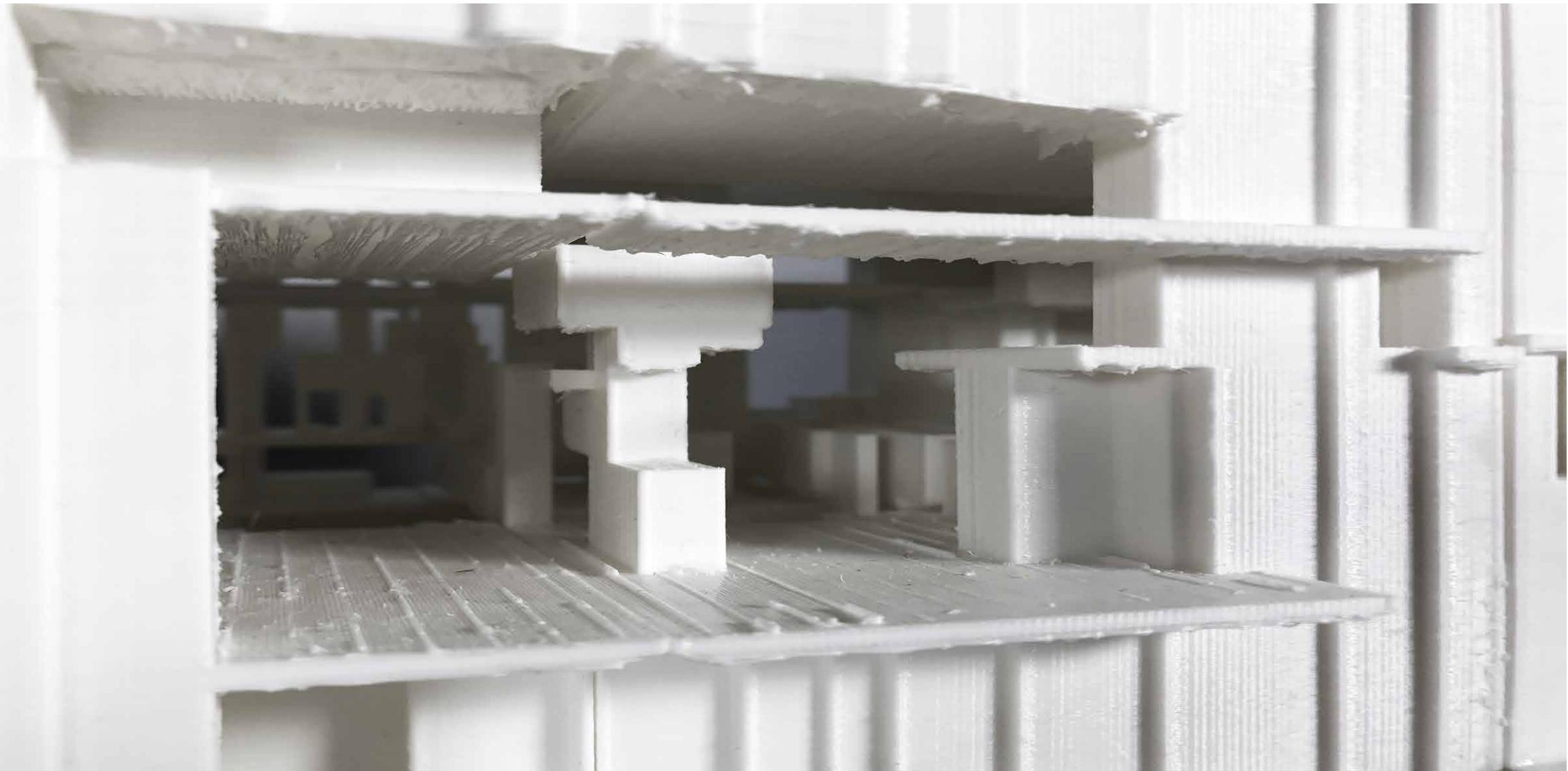




XIAOLU SU
PORTFOLIO OF SELECTED PROJECTS

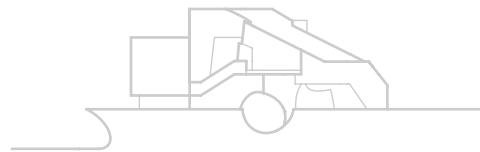


PROJECTS

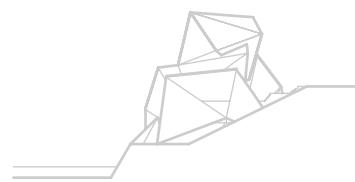
MEDICAL LIBRARY
OF CASE WESTERN RESERVE UNIVERSITY



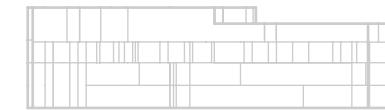
DPAC THEATER
DANCE & PERFORMANCE ART CENTER



RETREAT HOUSE
AT PLATEAU BY STEEP HILLSIDE



ATHLETIC CLUB
CLIMATE STUDIES



ARETHA HIGH SCHOOL
OF VISUAL AND PERFORMING ARTS

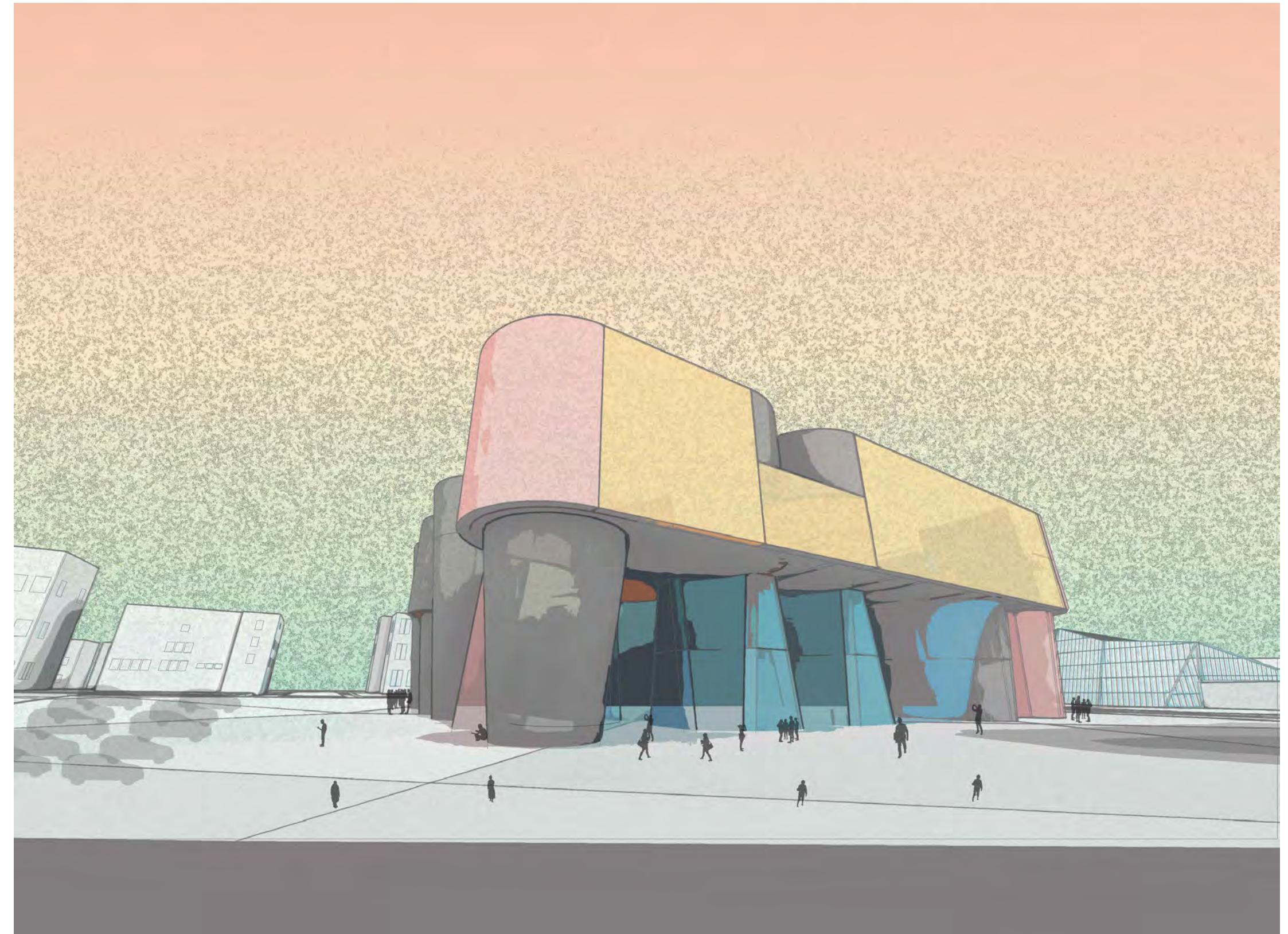


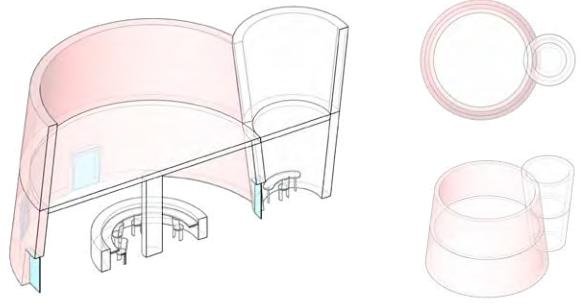
CASE WESTERN RESERVE UNIVERSITY MEDICAL LIBRARY

Autumn 17 | Instructor: Sandhya Kochar

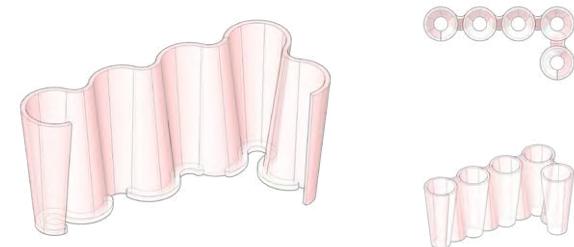
The library is to serve the Medical School as well as researchers in allied departments such as allied health, biomedical engineering, and basic science. The library should be able to accommodate spaces for both storage of books as well as function as a small museum to showcase collections of antique medical inventions and discoveries.

The design for medical library aims to provide an ideal environment for students, faculty, researchers, and visitors and to foster creativity and variety in exhibitions and programs. The library will provide a variety of different kinds of places to study: large tables will be provided for collaborative work, quiet study carrels for individual work, group study rooms with digital equipment, computer labs, a cafe, places for interactive learning and facilities for team projects. Additionally, the library will serve as an extension of classroom space in the university, housing a number of classrooms meeting rooms, and an auditorium.

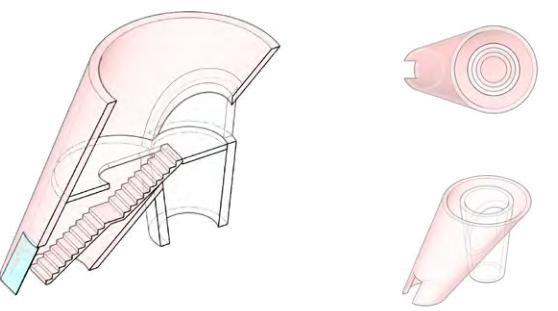




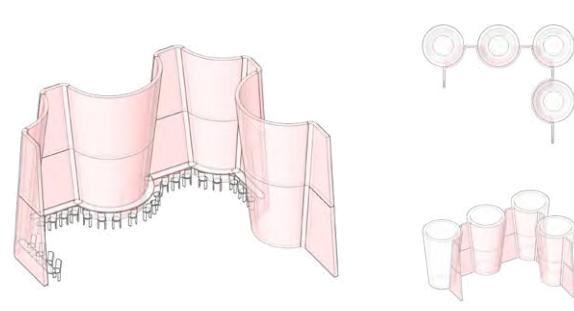
LOBBY (OFFICE ATTACHED)



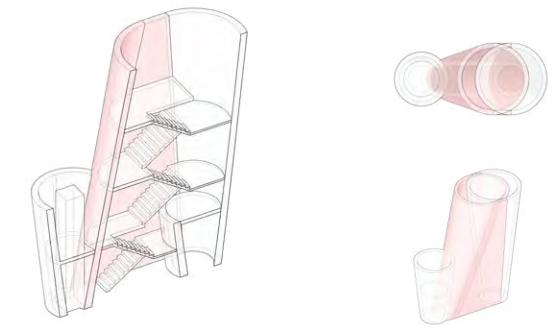
OPEN LOUNGE



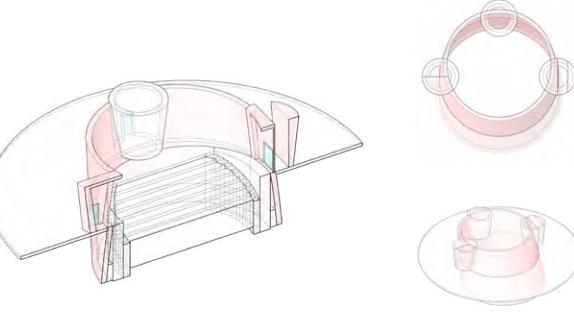
ENTRY STAIRCASE



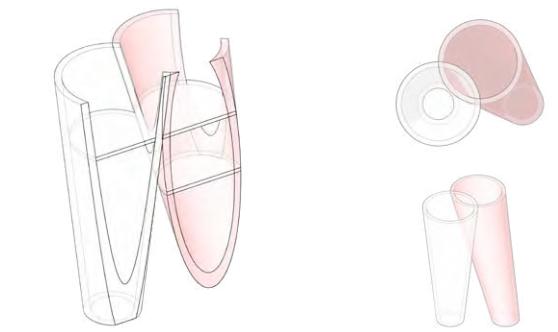
STUDY CARREL



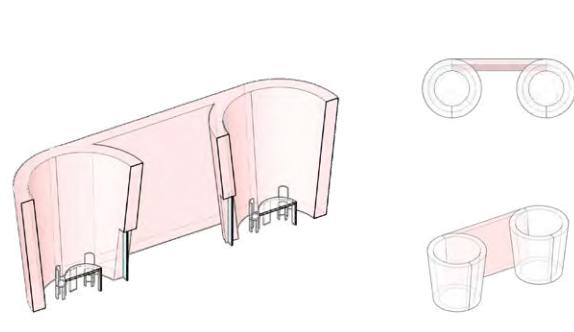
FIRE STAIRCASE



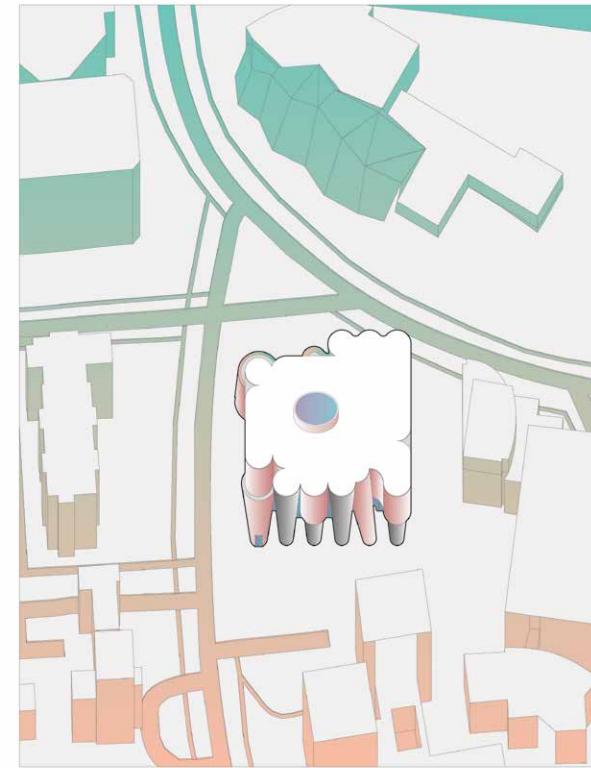
AUDITORIUM



JOINT SPACE

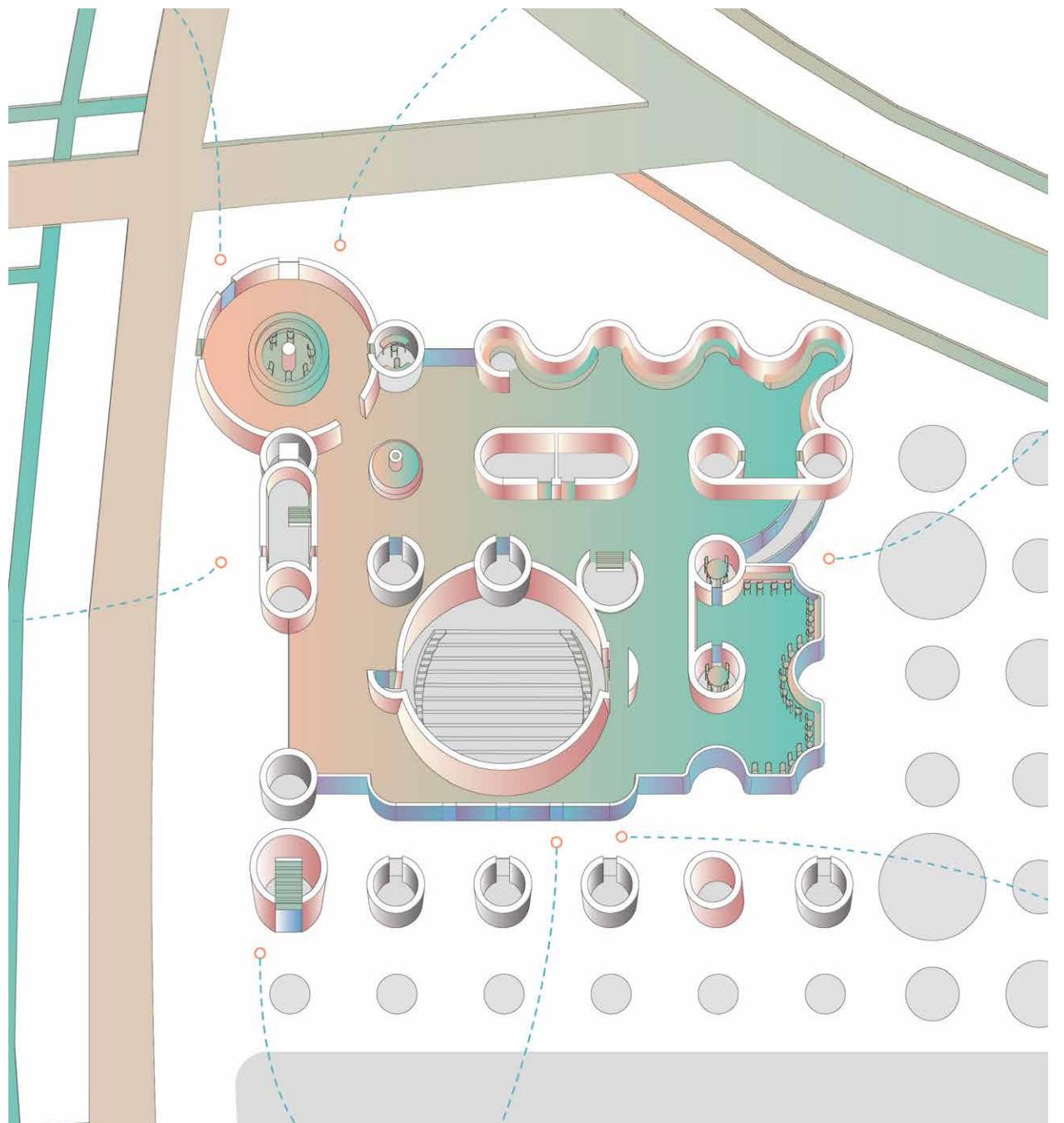


OFFICE / STUDY ROOM UNIT

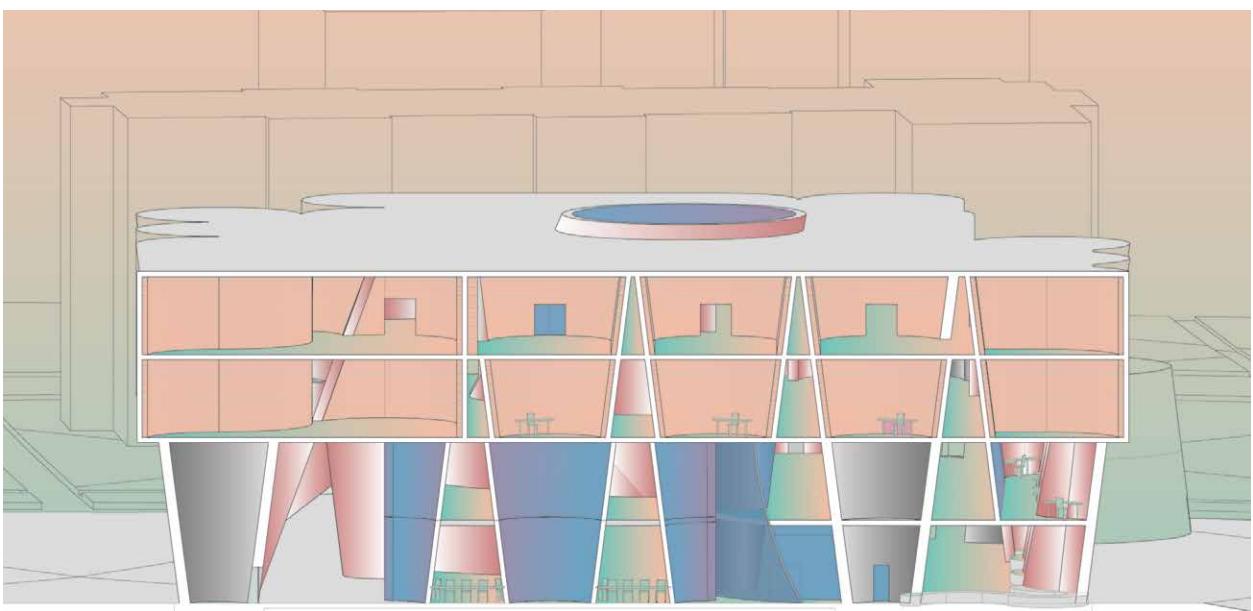


Different forms of cones are determined by programs but also serve as directory of circulations for visitors. Wide walls imply linked cones; they indicate large public space. Similar individual cones are easily recognized as duplicate small units for office or private room.

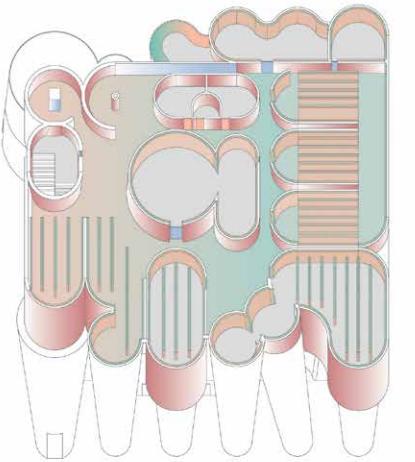
Structurally, the lower part of the reversed cone is true indication of thick wall structure, while the top parts of the cone can be composed with partial structure and partial non-structural elements like book shelves.



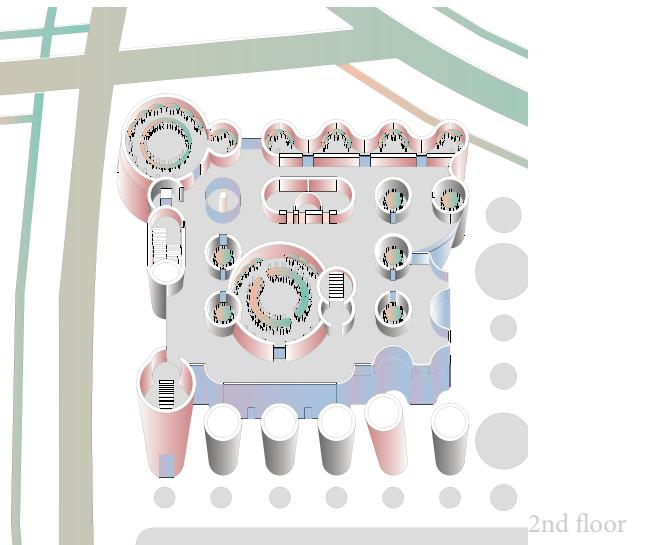
Program wise, the upper levels need to accomodate more larger public spaces for media or book shelving, while the lower levels are mostly sparsing with small, individual offices or study rooms, except the huge auditorium. The small rooms on the ground level allow the heaviest amount of circulation, while the crowded large rooms on top level can provide sufficient square footages for book shelving and control noises by limiting random circulation.



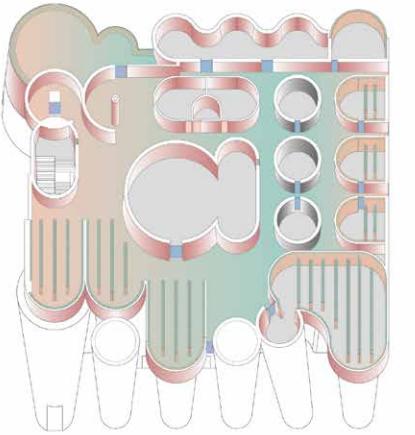
Structural wise, the lower part of the reversed cone is true indication of thick wall structure, while the top parts of the cone can be composed with partial structure and partial non-structural elements like book shelves.



4th floor



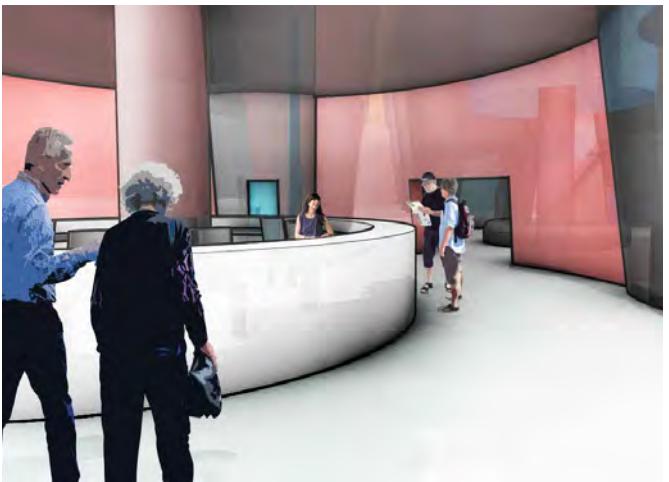
2nd floor



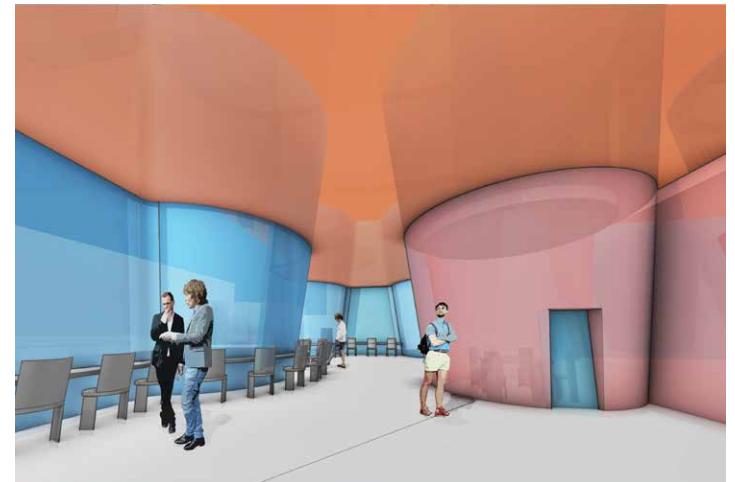
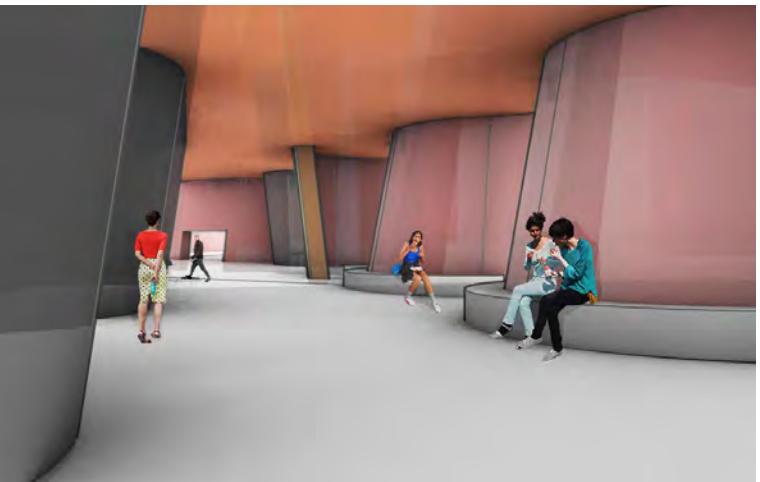
3rd floor

Plans show the grid of 36 reverse cones, and the pattern plays with graphic deception by creating iterations of cone or cone-ish shapes.

Plans and sections show whole walls of book shelves, whose thickness compensates for the reduced thickness of walls to preserve impression of tall, thick walls.



Open lounge



Lobby



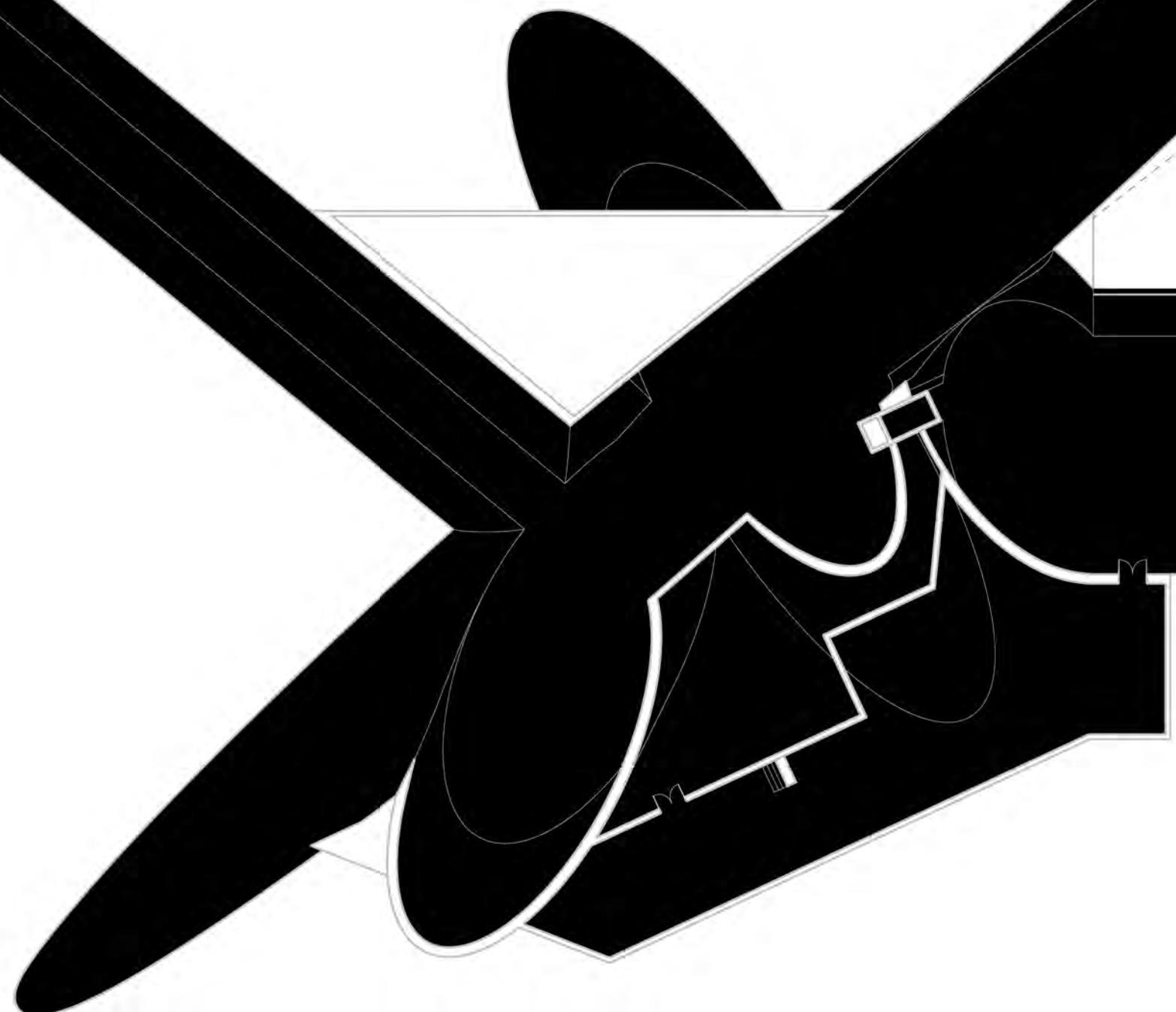
Reading room

DANCE AND PERFORMANCE ART CENTER

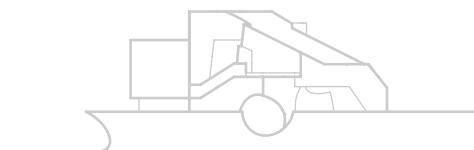
Spring 17 | Instructor: Jonathan Rieke

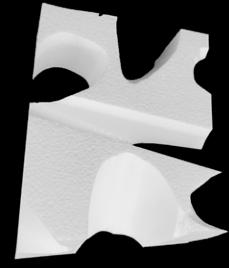
The DPAC challenges the idea of traditional configuration of spaces pertaining to theaters, such as arts display or performance spaces. In this project, there are three major auditorium spaces, from small, middle, to large, or experimental to formal, specifically targeting to adjust the distance between the audience and the performers. While in a formal setting, the performers are far away from the audience, in an experimental setting, the distance between the audience and artists can be within several feet. In another word, the spacial conditions can strengthen different types of performances by activating or deactivate the role of audience.

For the location of the project, the site is situated in a city square, where subway system is developed, providing the urban site with efficient underground circulations, as well as shopping streets prospering in the channels underground. Therefore, the first impression of the theater might not be the outlook; instead, the visitors might receive the reverse experience of understanding the spacial conditions, picking up the hints from the interior, seeing the exterior appearance at the very last moments of their trips. In the lower level, the underground channels all come to a joint, some from the lower level of other buildings, some from means of transportation like subway. The joint is where the theater originates.

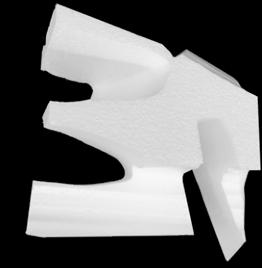


Lower level plan configuration as first impression
due to underground transportation system





dichotomy
boolean overlap in
x-,z-axis



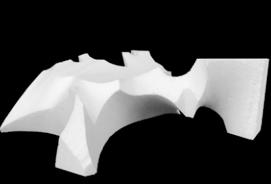
trichotomy
boolean overlap in
x-,y-axis



layer vs. unity
circular vs. rectangular



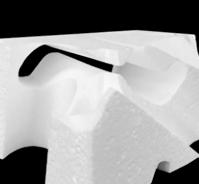
solid vs. void
solid as structure



multiple overlap
boolean in x-,y-,z-axis



partition
circulation and zones



soliv vs. void
solid as both mass and
structure



boolean from edge vs.
boolean from center



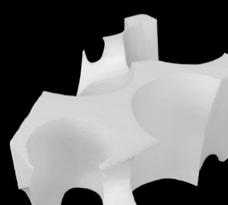
reverse boolean
creates angular solid edge



mirror boolean
linear structure vs. robust



mirror boolean
along y-axis



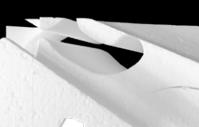
multiple boolean
zones connected in plans
and sections



sloped void
overlap in y-,z-axis



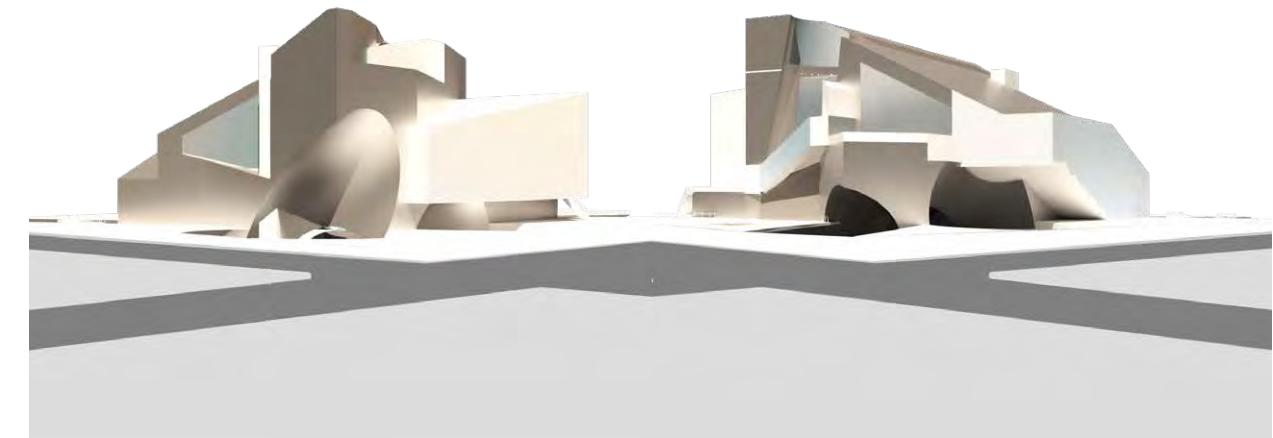
overlapped boolean
and various boolean scales



solid vs. void
sloped vs. level orientation

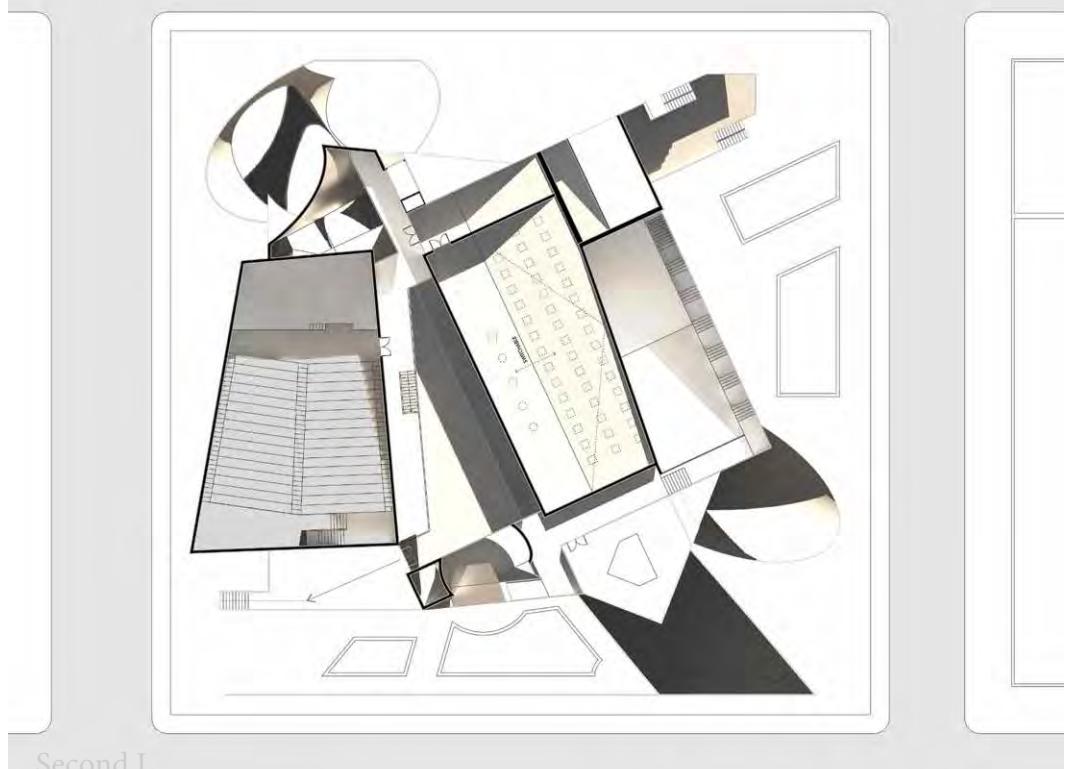
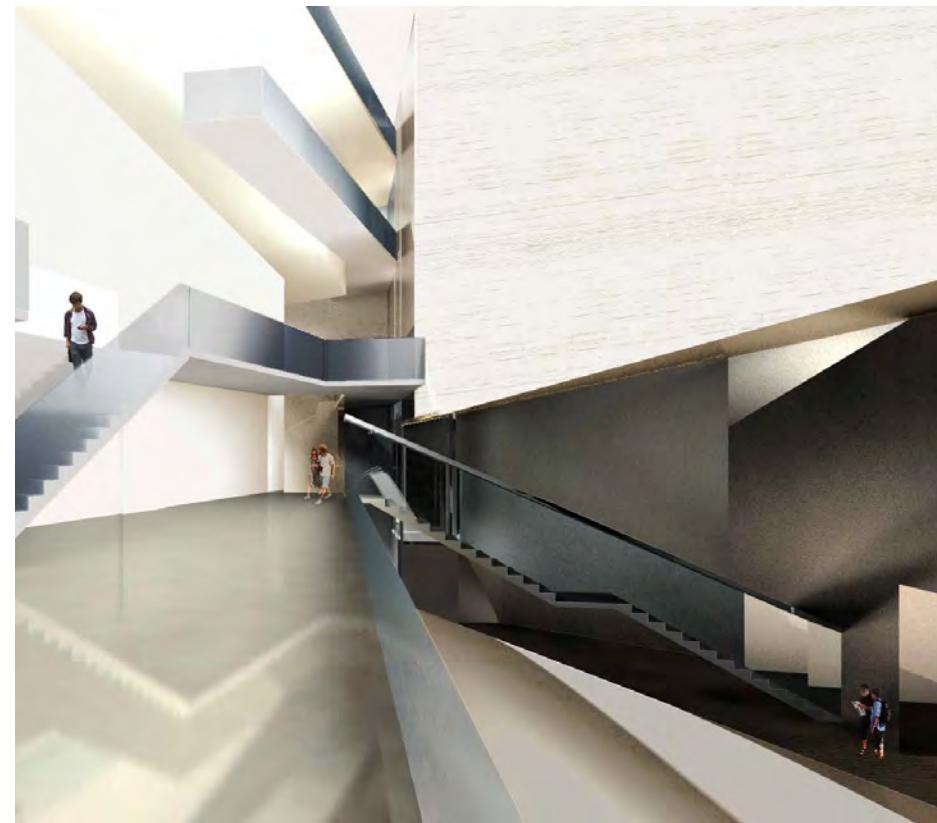


boolean create thin linear
opening

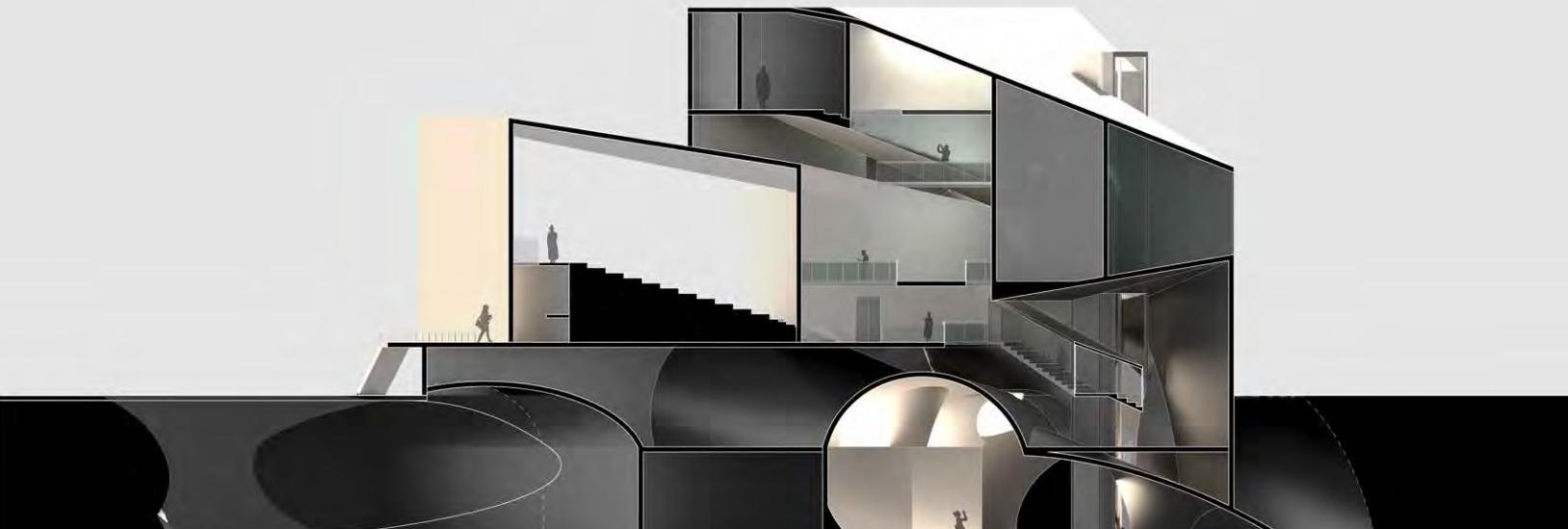


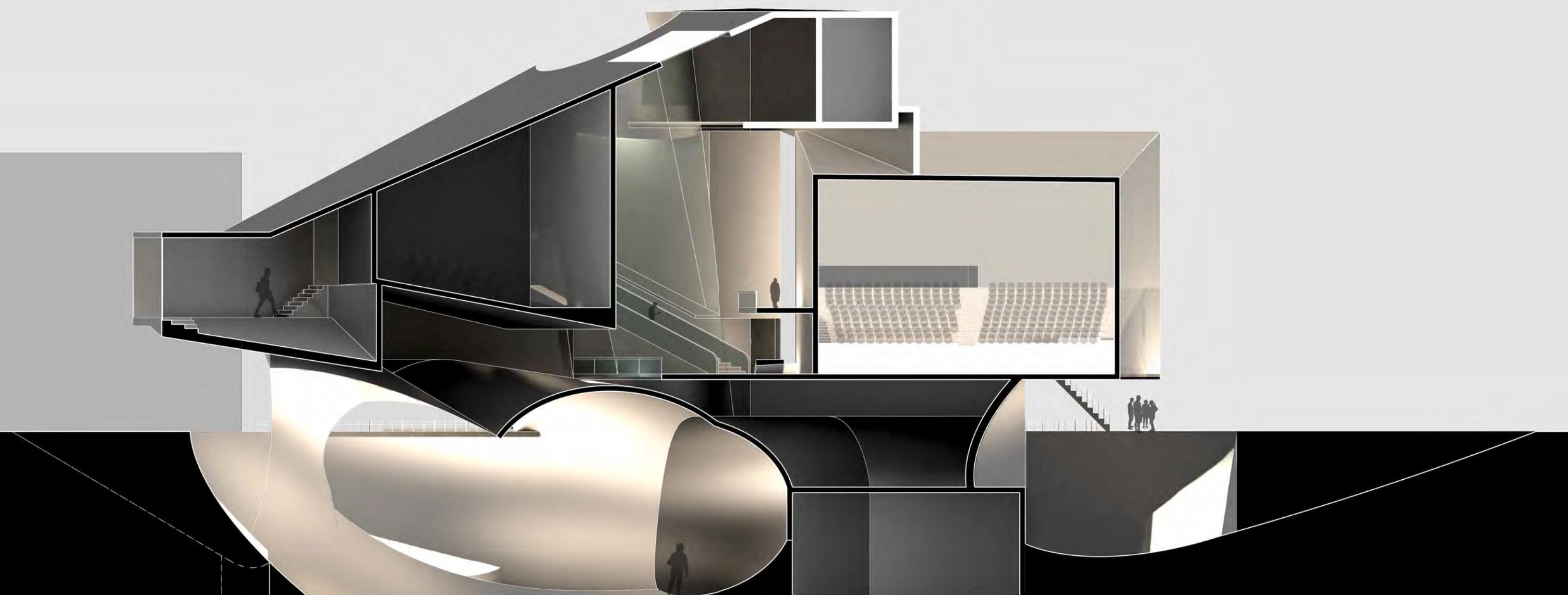


Ground L



Second L





RETREAT HOUSE BY HILLSIDE

Autumn 17 | Instructor: Brian Polgar

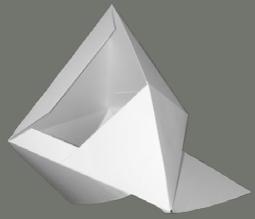
The retreat house is located at a plateau by hillside. The massing is generated by repetition, rotation, and embedment of the same module. The module is a paper folded shape that implies different spatial conditions in sections and plans. And different orientations can provide unique spatial conditions for certain uses.

The re-orientation of shape aims to create multiple facades for the retreat house, which welcomes the owners from different kinds of entry, such as a cave entry from river, a seemingly formal entry from second level of the house, and another hidden entry from beach/plateau which is also the true formal entry into the lifted first level of the house.

The retreat house also use hierarchy of rooms to assign spaces to each level. While the lower level is used for public use, such as dining, living, or playing, the top levels are used for the private bedrooms. Even though there are relatively more glazings on lower levels, the master bedroom, for example, also receive plenty of soft and indirect light.

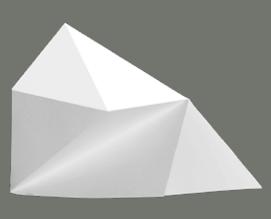


(section)



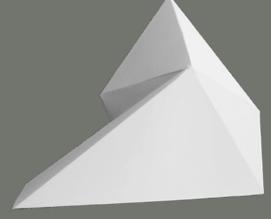
tall pointed ceiling, large window, provides shaded walkway below the floor

(section)



private spaces protected by enclosure, and strong hold on ground

(section)



sloped walls as cantilever that creates shaded outdoor space for activities

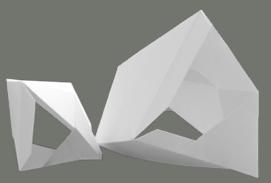
(plan)



entry "scopes" owners in low space that immediately heightens and enlarges

Module

Repeat
Rotate
Embed



different scales for needs of different uses of spaces



(left to right) transitions from extremely public to public to less public



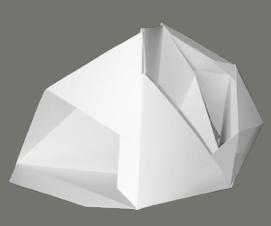
highest room with highest hierarchy, with glazing for light or views of sky



massing uses embedment of identical elements differ in orientations



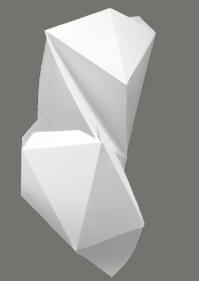
top vs. bottom
private vs. public
enclosed vs. exposed



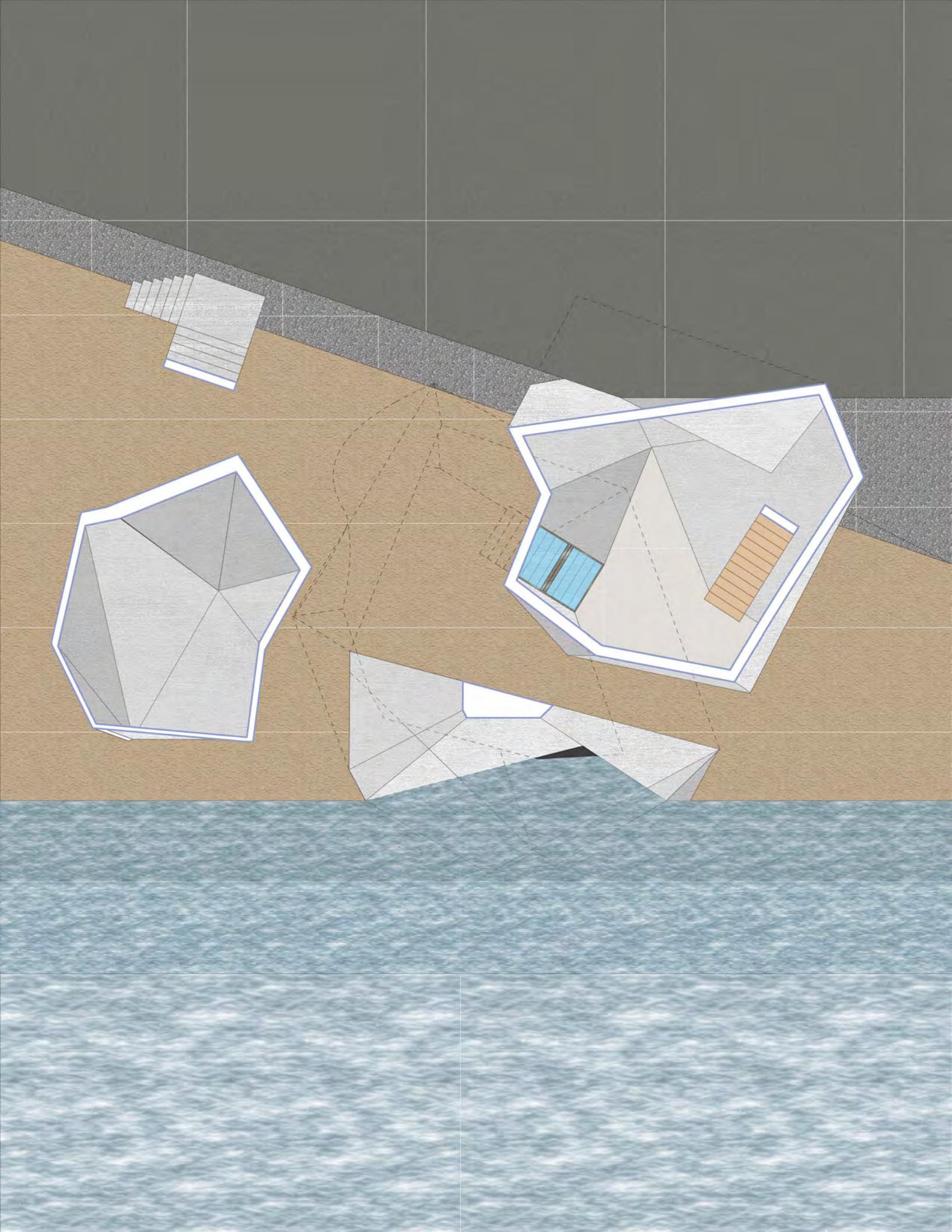
embedding creates partitions between spaces and new configurations

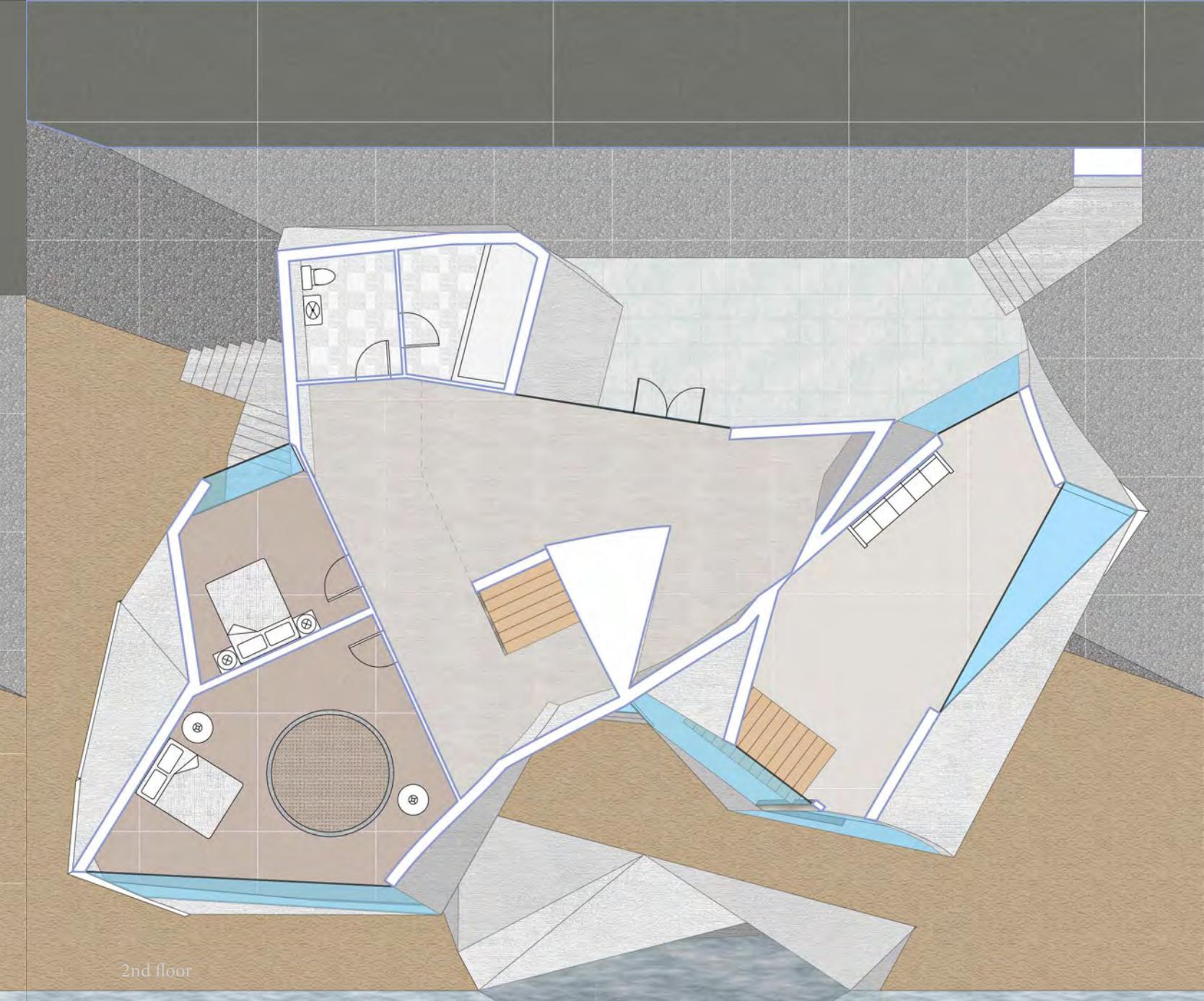
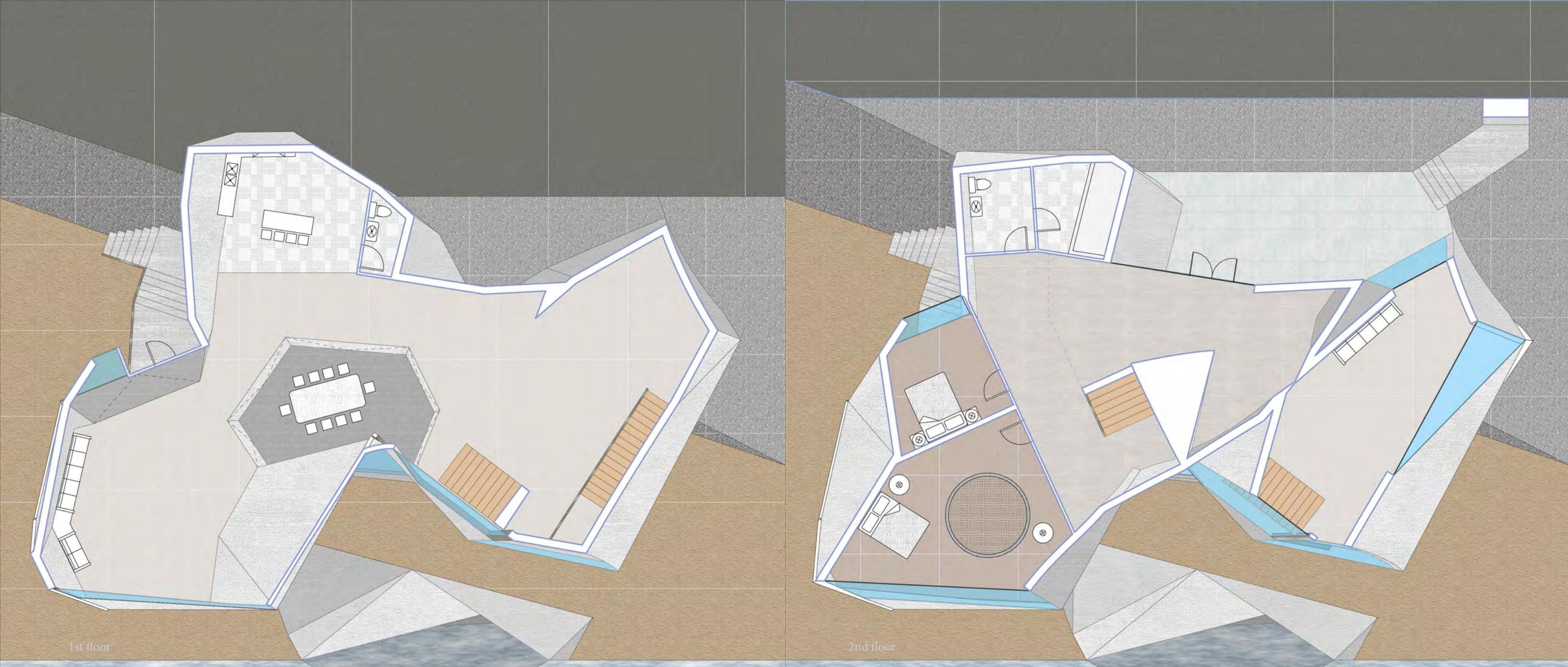


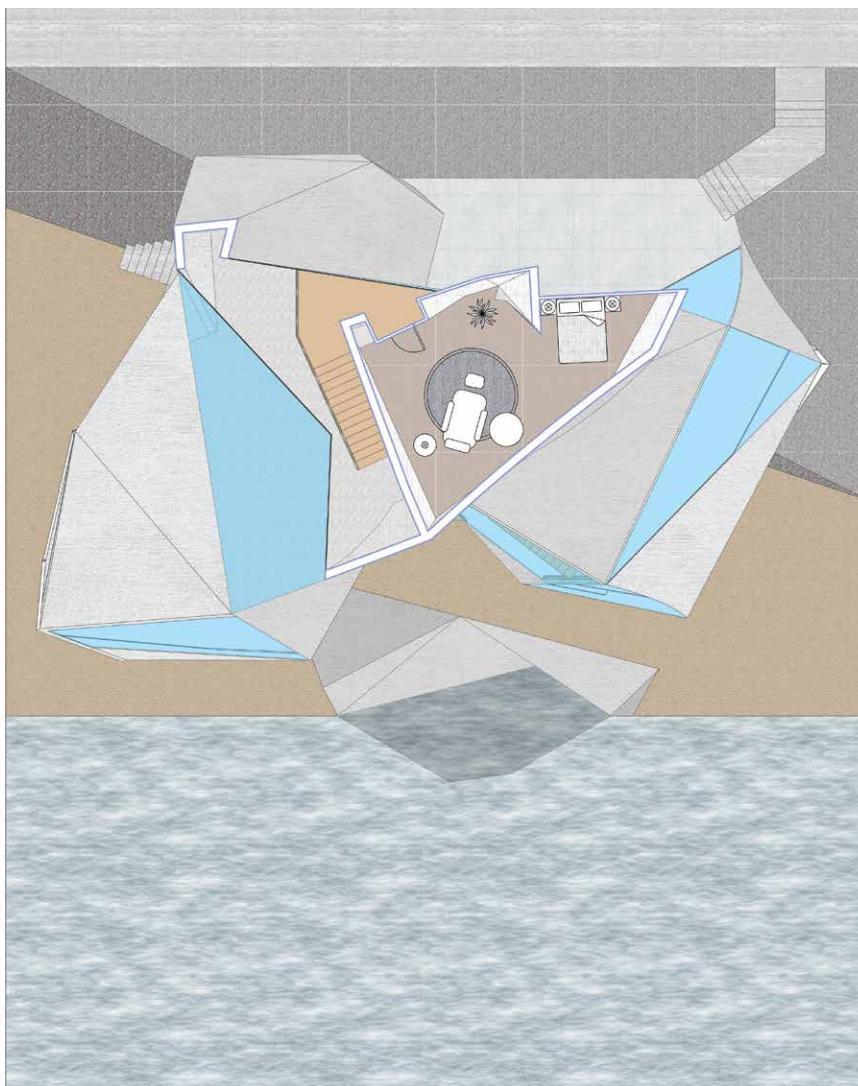
solid vs. void vs. solid relation between spaces implied by massing



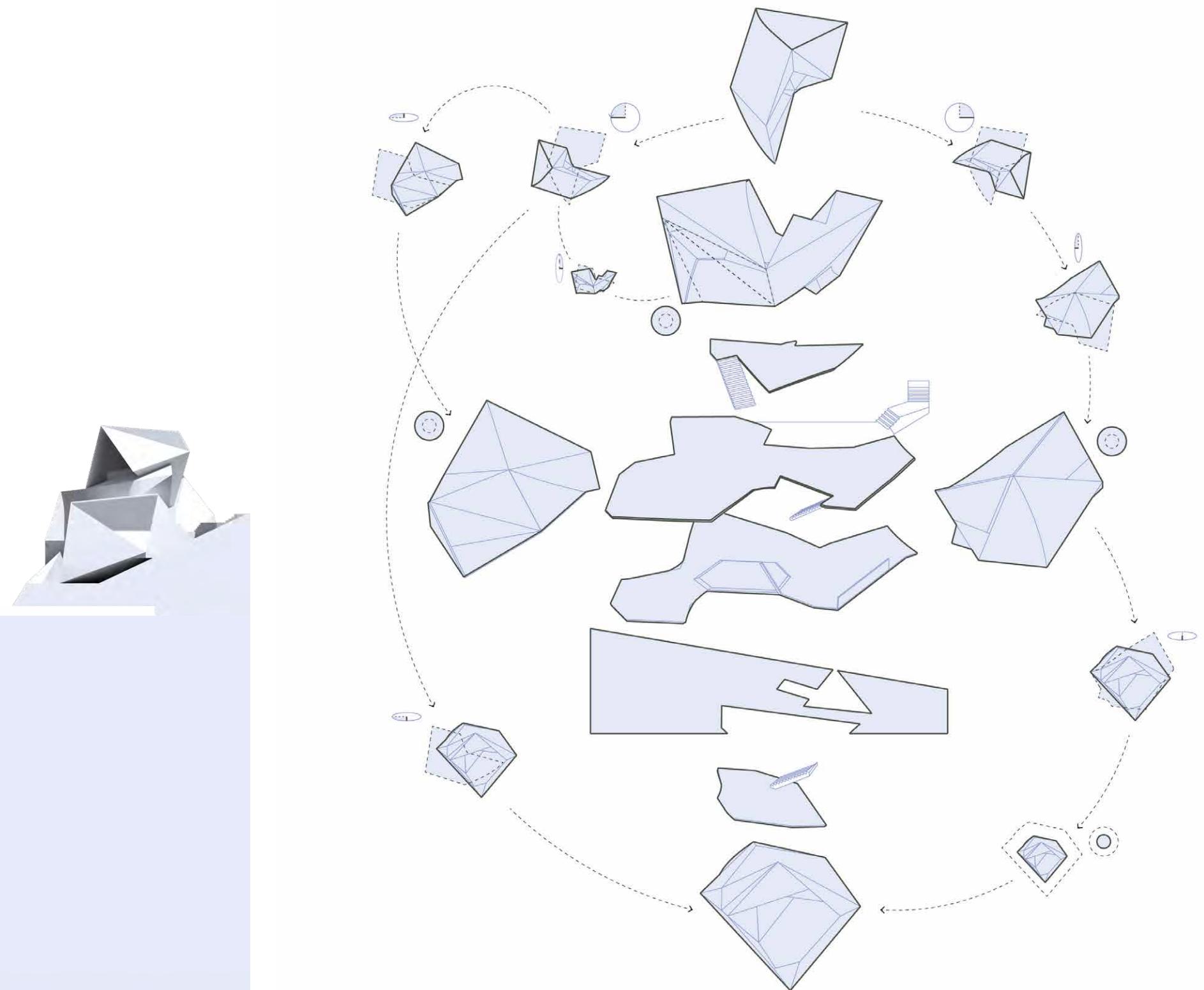
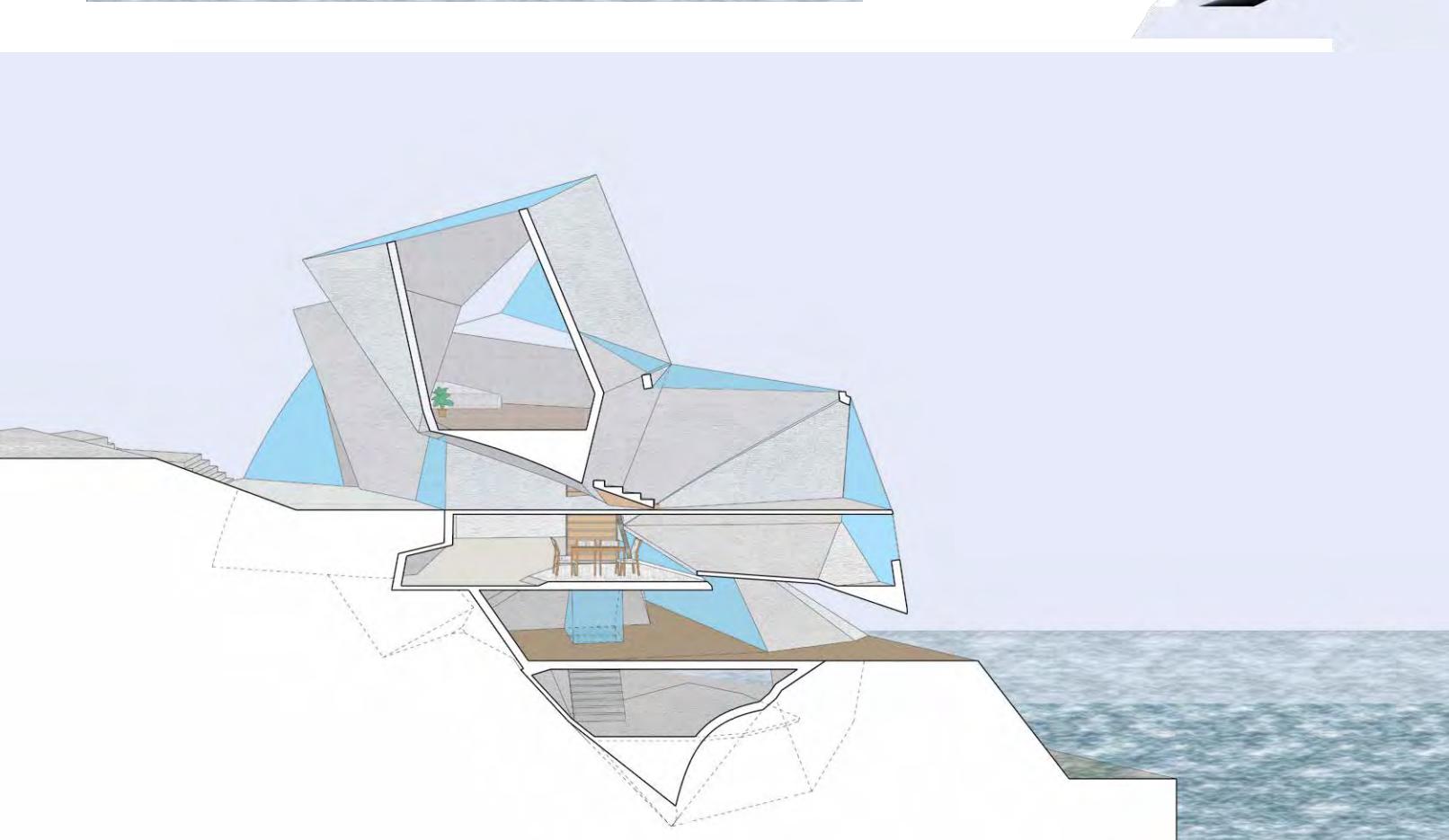
multiple facades for views and informal nature of the retreat house







3rd level



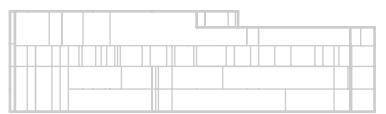
DOWNTON ATHLETIC CLUB

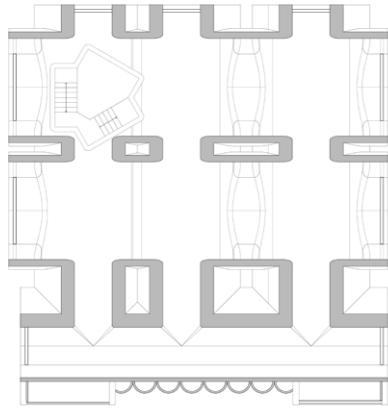
Team project with Joe DeRicco | Spring 18 | Instructor: Andrew Cruse

The Athletic Club is designed in the corner of the crossing of West Lane Avenue and North High Street. The building shape got the concaving curves (except the shared wall with the adjacent building) from the site. It symbolizes the tension created by four corners.

Climates are abstract but crucial for architectural spaces. Climates involve temperature, humidity, lighting, air flow, and so on. For this project, a directory of scales is created as guideline because climates are in close relation to the scale of spaces, and the scale is usually a reflection of privacy of programs. Small space types like bedroom or tea house are relatively private, but they can be more flexible in climates due to personal preferences, while large space types like planetarium, and swimming pool are comparatively public, and they have certain requirements as of how the climates should be controlled. Medium spaces are those that linger between the former ones.

Climates seem to be a difficulty to be resolved in an architecture, but they can also be turned into opportunities for designs. Climates should not only be reflected in programs and privacy, they should also be indicated graphically, and eventually, structurally and aesthetically on the building as shown in further development of this project.

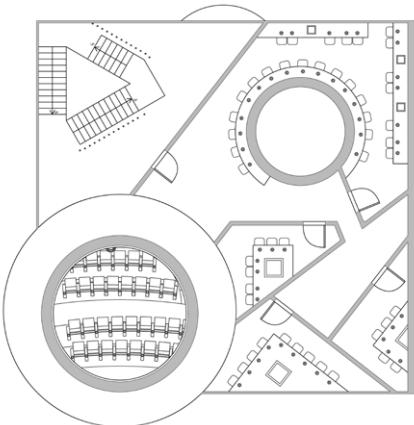




Swimming pool

Temperature: Cool
Humidity: High
Function: Public

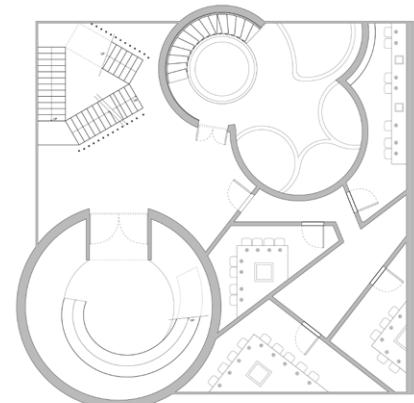
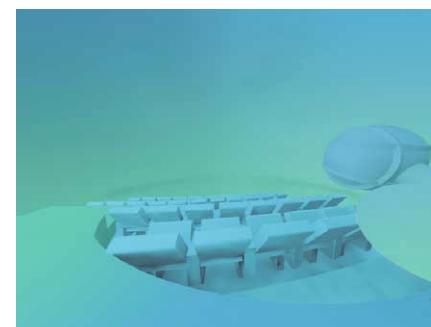
Organized



Planetarium, Tea House

Temperature: Warm
Humidity: Mild
Function: Public - Private

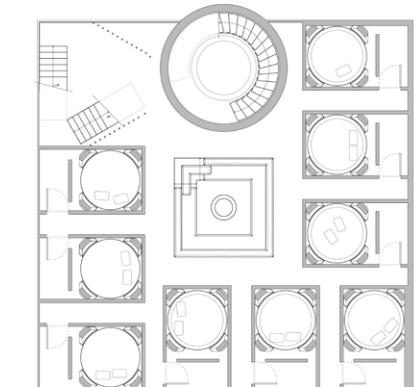
Arbitrary



Hammam, Tea house

Temperature: Warm - hot
Humidity: Mild - high
Function: Public - private

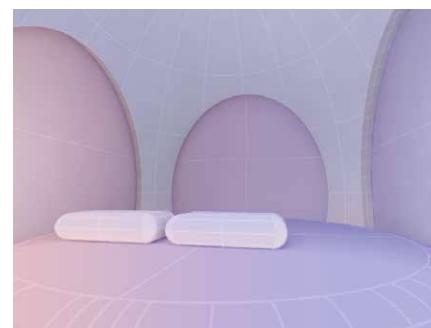
Arbitrary



Lodging, Conversation pit

Temperature: Warm
Humidity: Low
Function: Private (public)

Organized



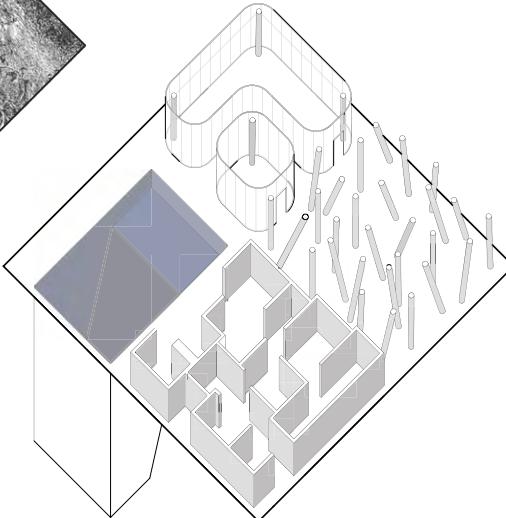
The athletic club combines the inspiration from climates and Giuseppe Terragni's Danteum. To structurally visualize Darkwood, Inferno, Purgatory, and Paradise, the project follows the diagram of different spatial conditions regarding each type of climate. The project also reverse the comfortability of those four climates:

Darkwood - Open lounge

Discomfort? True. Unstable and dark spaces.

Inferno - saunas

Discomfort? Partially false. Individual rooms provide privacy, which is comfortable. Public sauna room with artificial terrace, comfortable as seating.

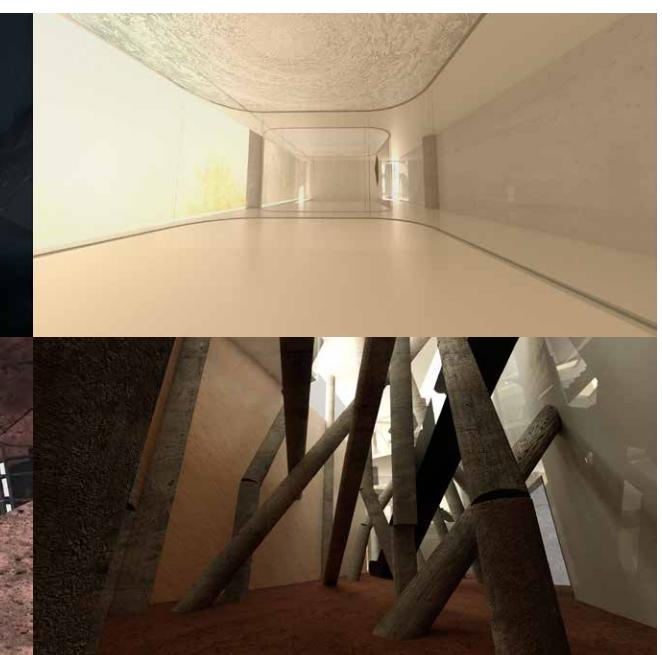
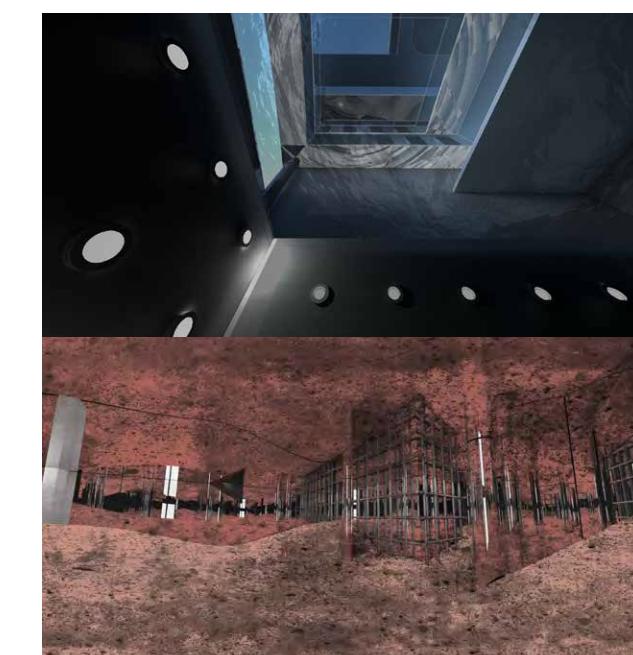


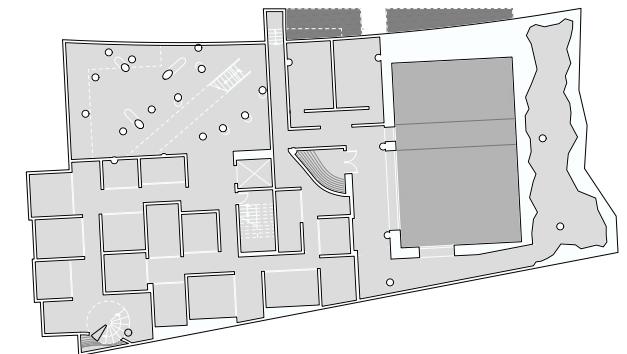
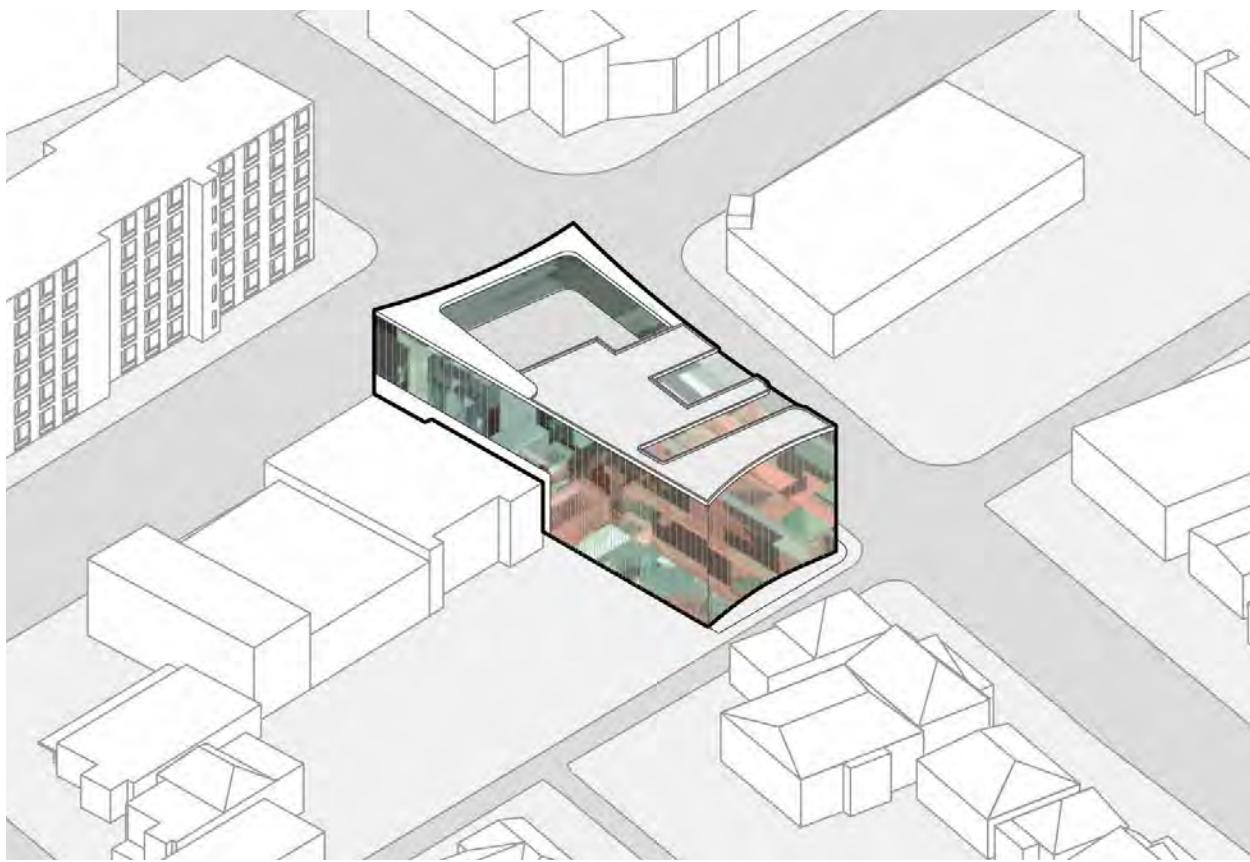
Purgatory - swimming pool and deep diving

Comfort? Partially false. Swimming pool with high ceiling receives lights but also supervisions.

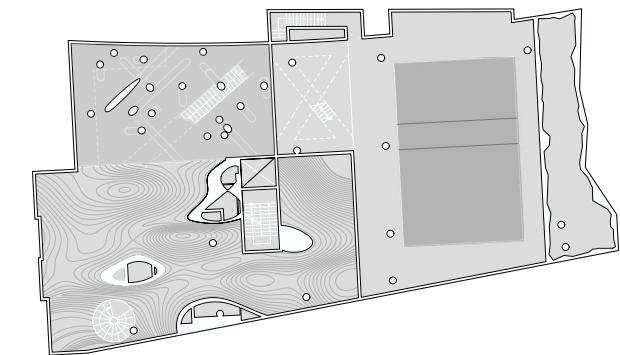
Paradise - cinema, library, yoga

Comfort? True. These spaces provide both physical and mental relaxations, with favored climates for most.

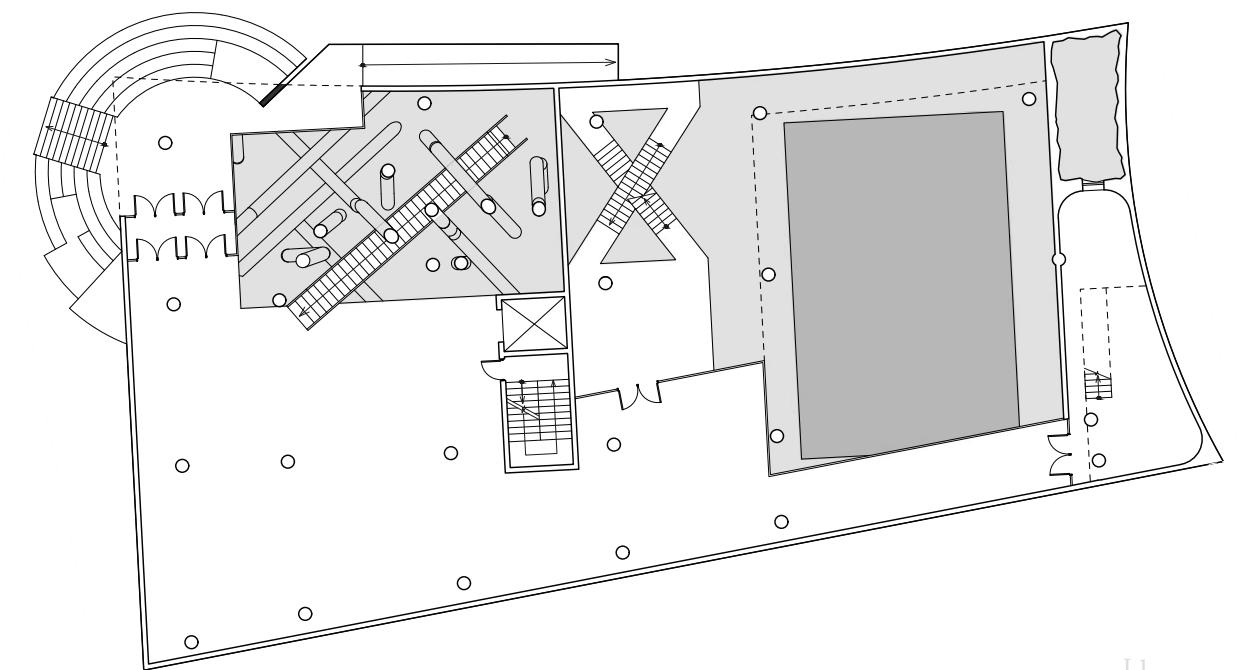
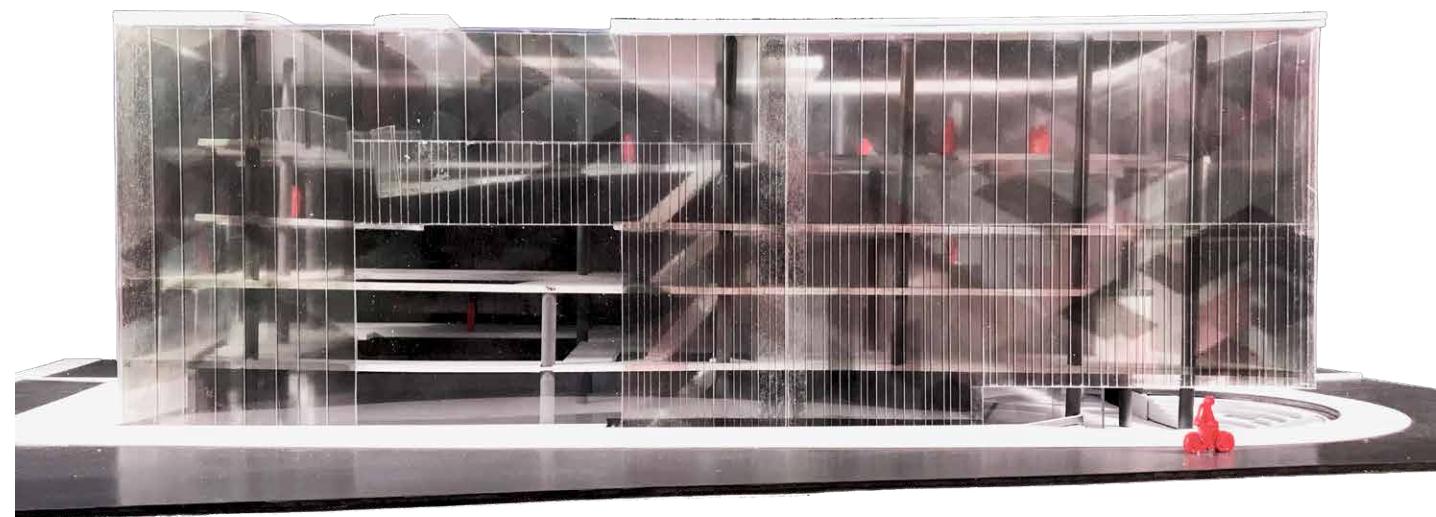




LL2



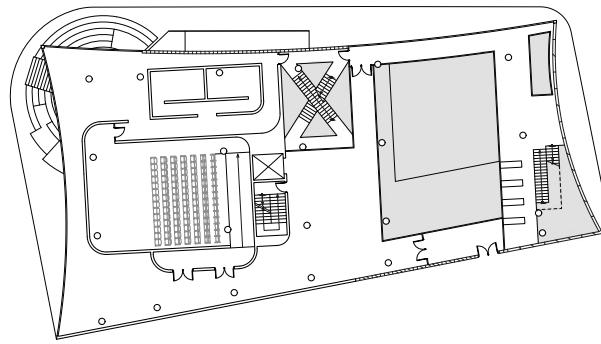
LL



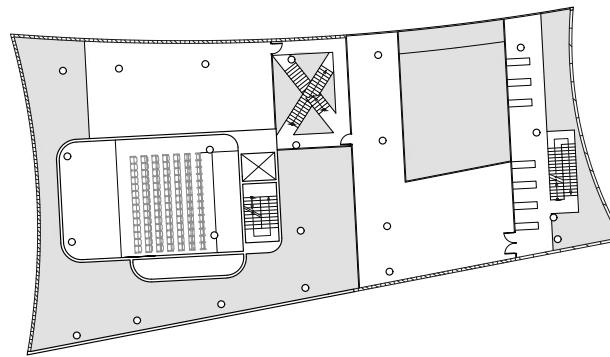
L1



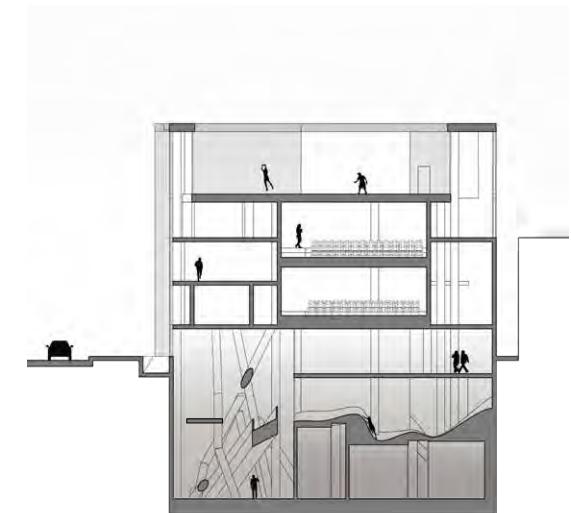
massing model



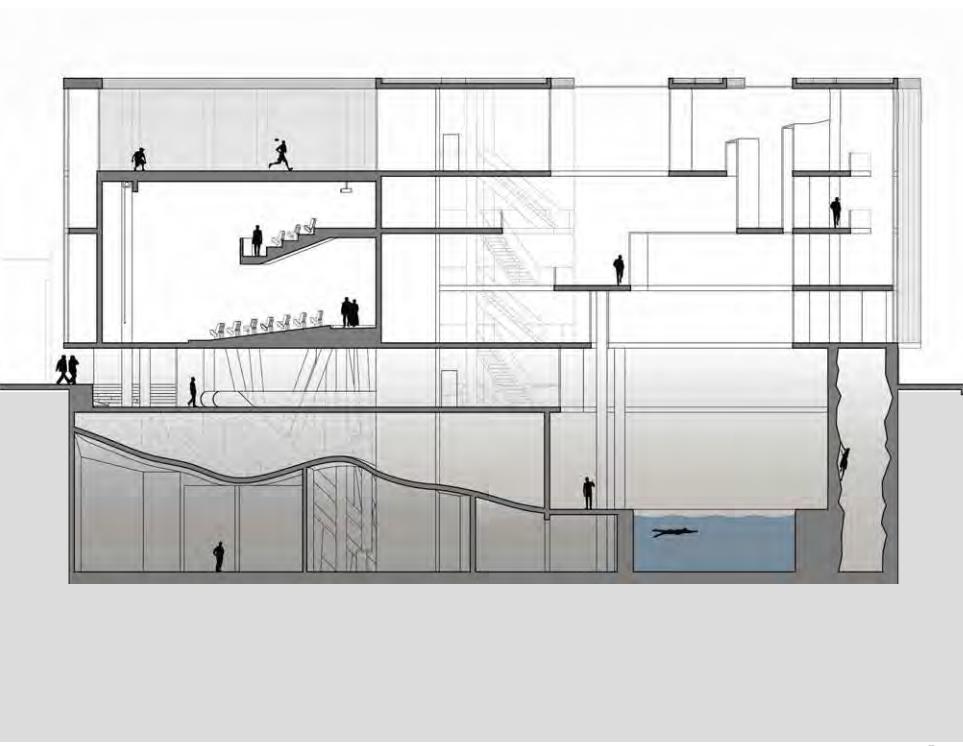
L2



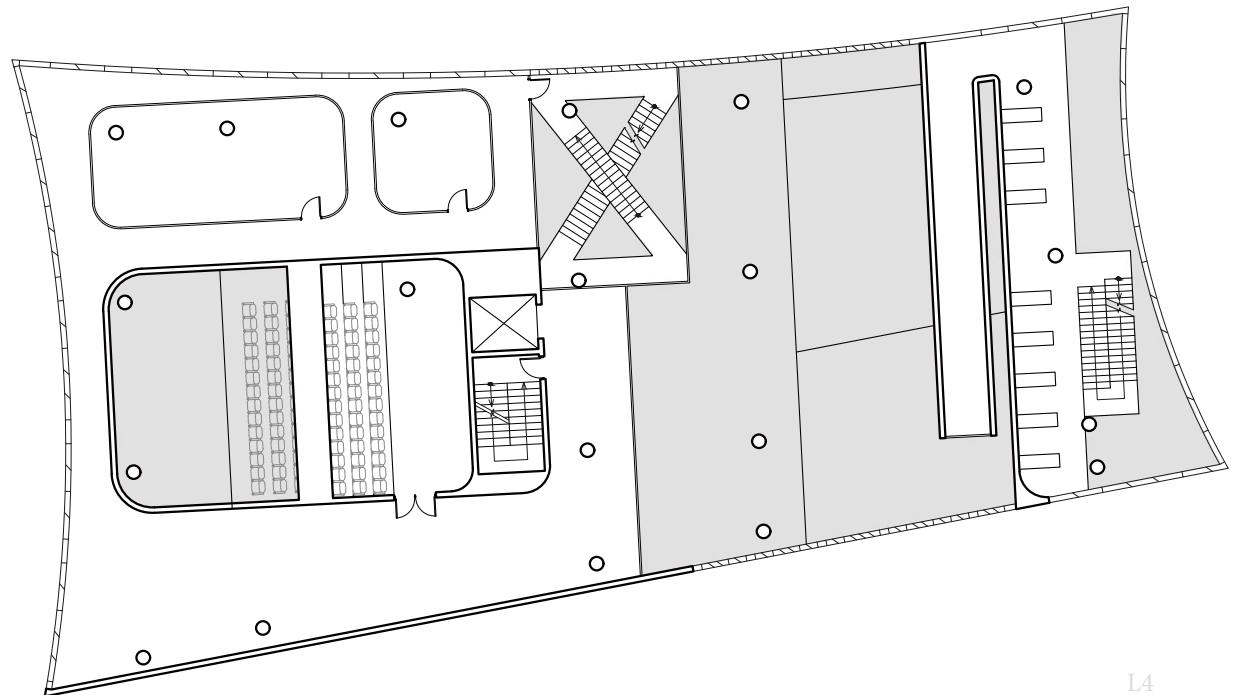
L3



Section b



Section a



L4

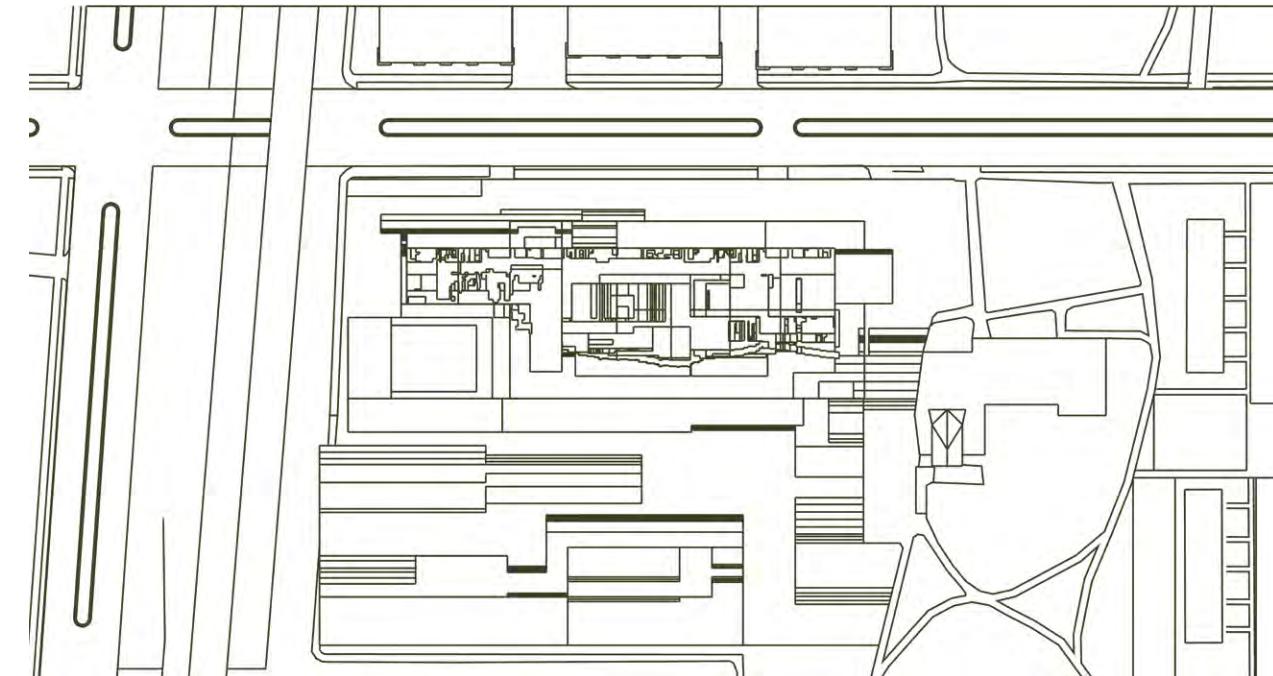
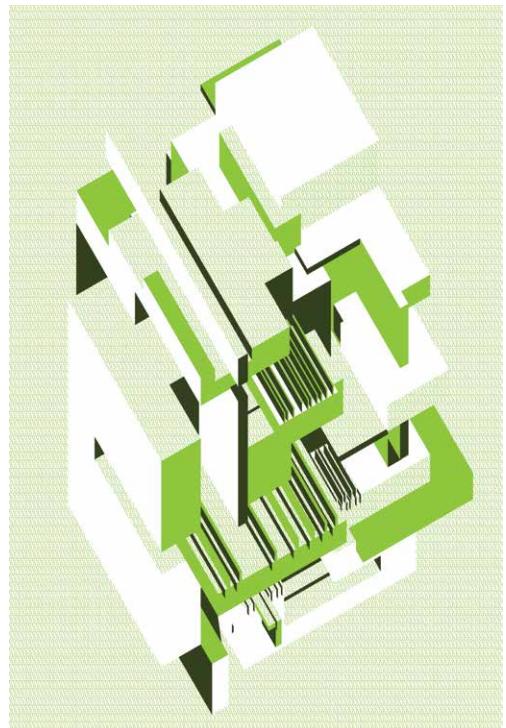
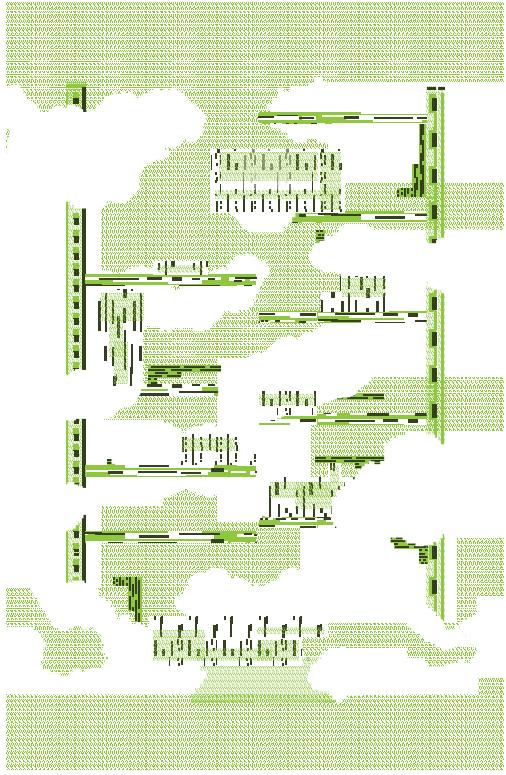
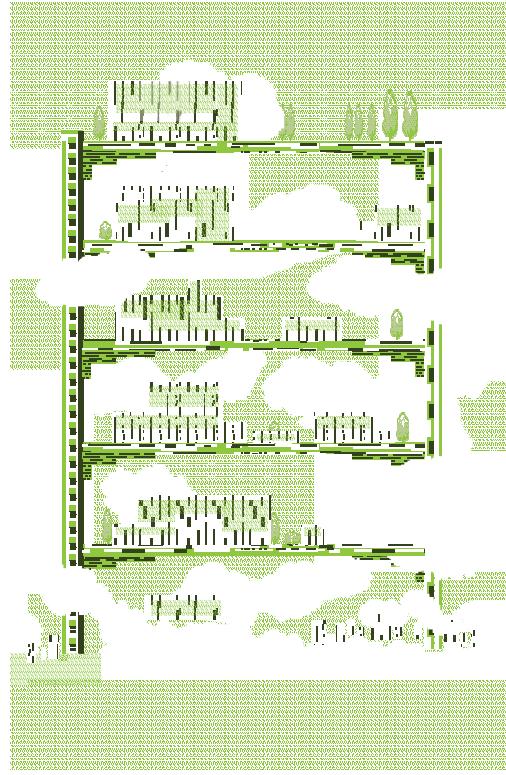
ARETHA FRANKLIN HIGH SCHOOL

Gu Competition | Autumn 18 | Instructor: Stephen Turk

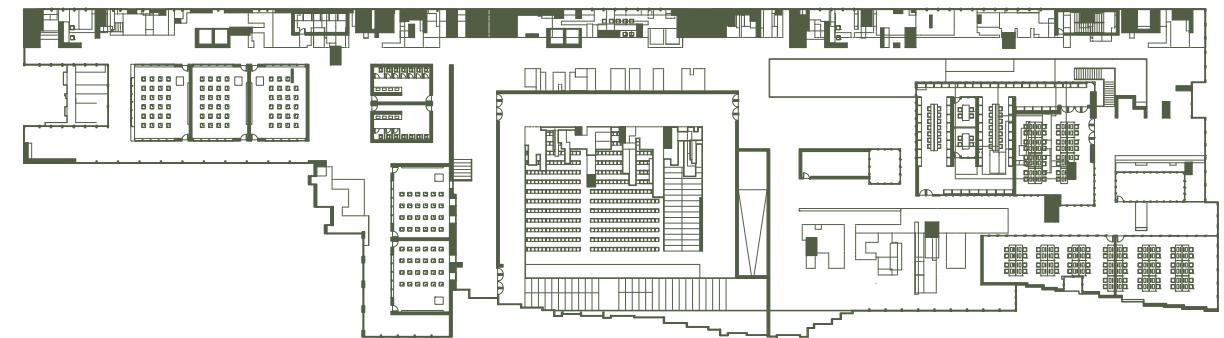
The Aretha Franklin High School is an art school that is located in Detroit. The project is inspired by the *1909 theorem*, which not only complements the invention of elevator that transforms human's concept of architecture, but on the drawing, it also shows intricate solid and void relationships between the clouds and the objects, such as houses, trees, and even the structures. While clouds could sometimes become the objects, the objects in the drawings could be seen as background.

By studying the *1909 theorem*, the project uses pixelated method to find new expressions, and the new expressions develop a kind of syncopated style of representation. Syncopation comes from music productions; it's a common method to turn existing sound clips into a new piece of music after a process of cutting, modifying, and repeating. In this project, the high school challenges the traditional forms of spaces and structures. In particular, through plans and sections, the syncopations of forms turn structures into both objects and background.





The syncopatedly pixelated long facade responds to the urban site, while the opposite side of the facade mimics the patterns of clouds to merge into the



First floor plan

