

D a w o o d A s i m P a r a c h a

P O R T F O L I O





I'm Dawood Asim Paracha, a fresh UET Lahore architecture graduate whose obsession with design kicked off when I binged How I Met Your Mother. Watching Ted Mosby sketch New York's skyline made me realize that spaces can tell stories, too and I'm on a mission to learn from every blueprint, experiment with every idea, and, one day, proudly call myself an expert.



dp

Dawood Paracha

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education

2020-2025 Bachelor's degree in architecture at department of architecture University of Engineering and Technology, Lahore

experience

Bitarchitects Washington April 2023 - August 2023
Architectural Intern
Managed design projects from concept to completion, ensuring compliance, conducting research.

Beau Property Management -NYC May 2023 - June 2023
Architectural Intern
I blended diverse architectural styles to design functional narrow motels, advanced visualization

achievements

Presented and Published research at VI. ASC 2023 hosted by Bingöl University, Turkey
research topic
architectural solutions for human well being in zero gravity

certification

Specialization In Modern and Contemporary Art and Design The Museum of Modern Art

Unreal Engine For Archviz With AR VR Optimization Udemey

Data Science for Construction Architecture and Engineering National University Singapore

competitions

AKS UET Design Competition 2022 and 2023 First position consecutive years

Vectors Work Best Designs 2024 and 2023 Participant

WASA Competiton 2023 & 2022 Participant, top 300 work around world out of 7000 entries

Pave Gala Homeless Shelter Design 2022 Participation

personal growth

FIVVER level 2 Seller May 2023 - present with 60+ Client 100% completion, 5 Stars rating throughout

languages

urdu
english

skills

OS windows

3+ Years
AutoCad
Adobe Photoshop
Adobe Illustrator
Revit

2+ Years
Sketchup Lumion
DS
Vray
Blender
InDesign
DoVinci Resolve

1 Year
Rhino
Grasshopper
3ds Max Corona
Unreal Engine 5
ArchMap GIS

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Used modular system to represnt complexity of architecture immersive theater on the theory of Emancipated Spectator

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Place Where we burn the books
Metaverse Project tries to show how the world would be without literature by taking Fahrenheit 451 as its dystopian base



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New Horizons
like Mandelbulb I made a collection of 35 organic formulas, by the enviromental factor I my grasshopper scripts suggest form for extreme architecture.

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Matrix of Spatial Bias Standardized Propaganda

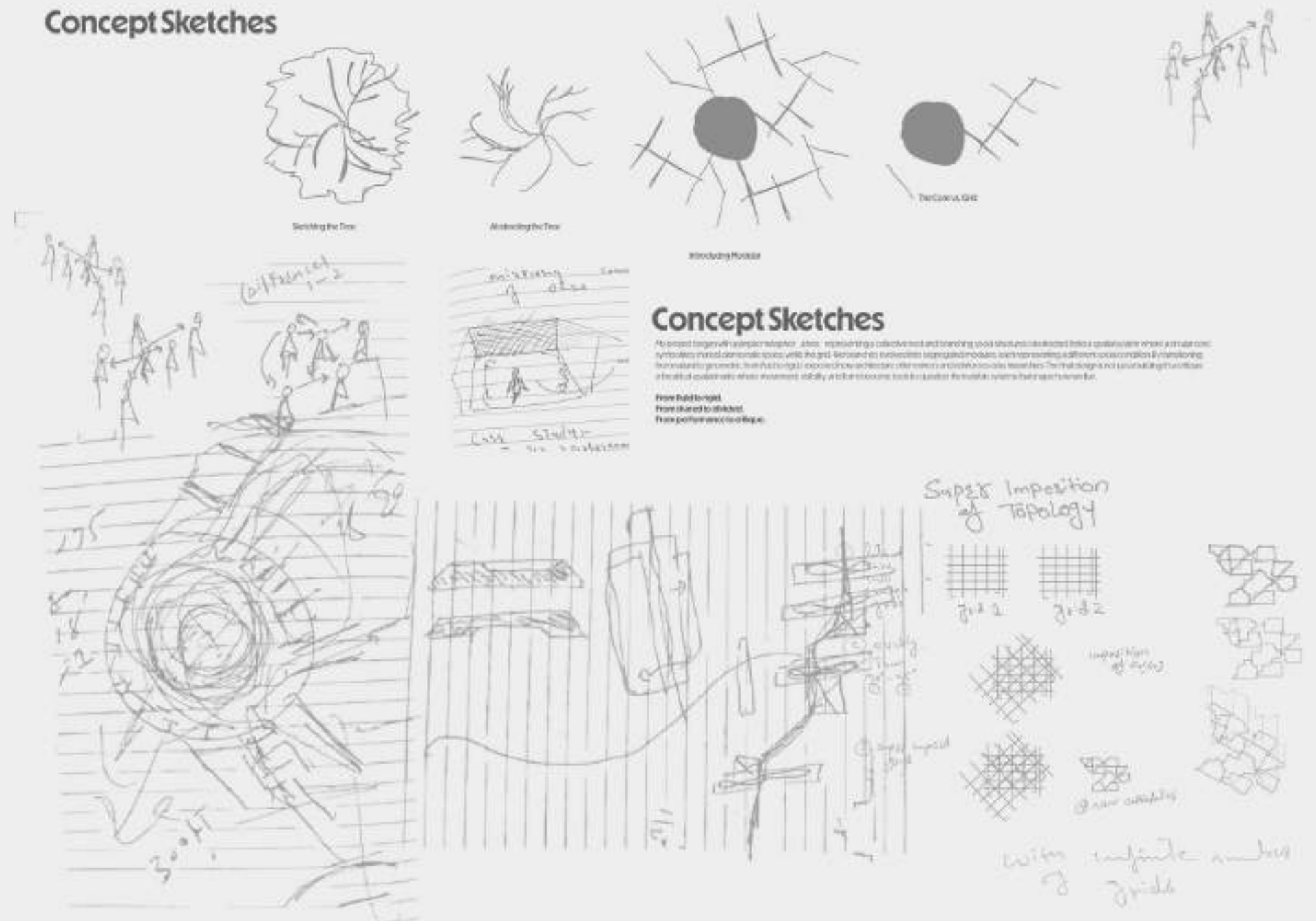
Standardized Propaganda

The matrix of spatial bias is a tool for understanding the relationship between the built environment and the social environment. It is a tool for understanding the relationship between the built environment and the social environment. It is a tool for understanding the relationship between the built environment and the social environment.

Propaganda

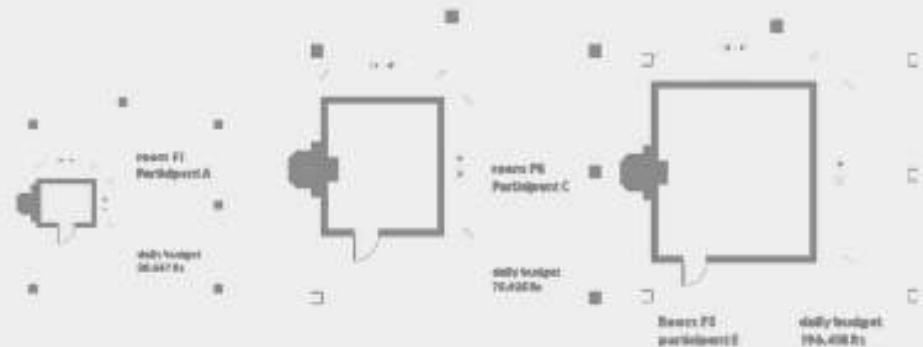
The matrix of spatial bias is a tool for understanding the relationship between the built environment and the social environment. It is a tool for understanding the relationship between the built environment and the social environment. It is a tool for understanding the relationship between the built environment and the social environment.

Concept Sketches





Can we Perceive or imagine the world with an architect eye. If we do, how it will look like, will it be analogous city by aldo rossi or frank wright loyd broadacre city or le Corb'ville Radieuse or rem koolhaas delirious new york.



Finally i get the answer when i watched the 8 show. so i decided to held my on 8 show but with architect's when i study about the theory on which this phenomenon is i come to understand it is system theory

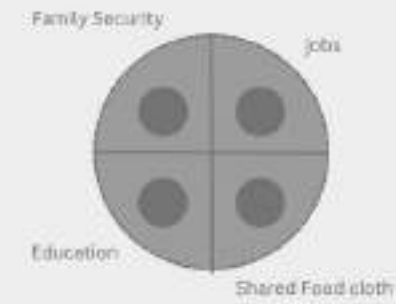
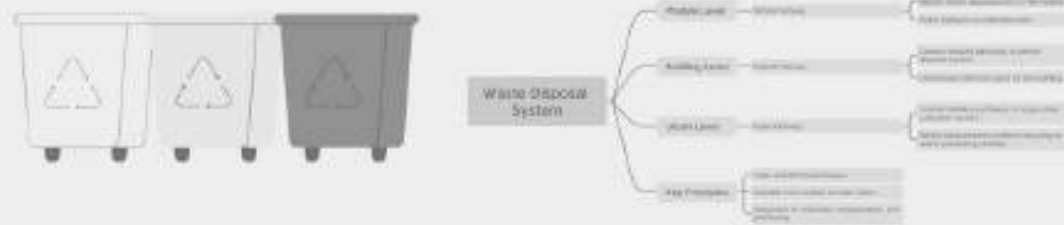


Pattern Language

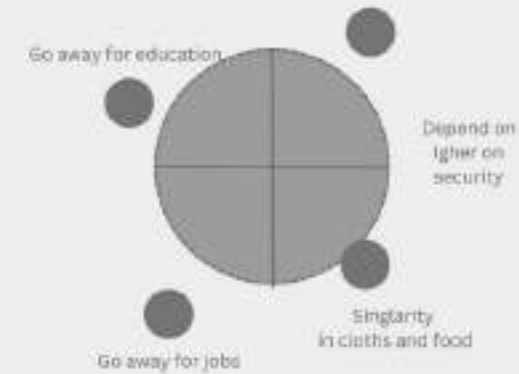


System theory

Architecture and urban spaces consist of recurring "patterns" that solve human-centered problems. Modules are small-scale applications of these patterns, and buildings and urban spaces are formed by connecting and scaling them. For Example



Preindustrialization



During Industrialization



Post Industrialization



Imagine urban space with different volumes

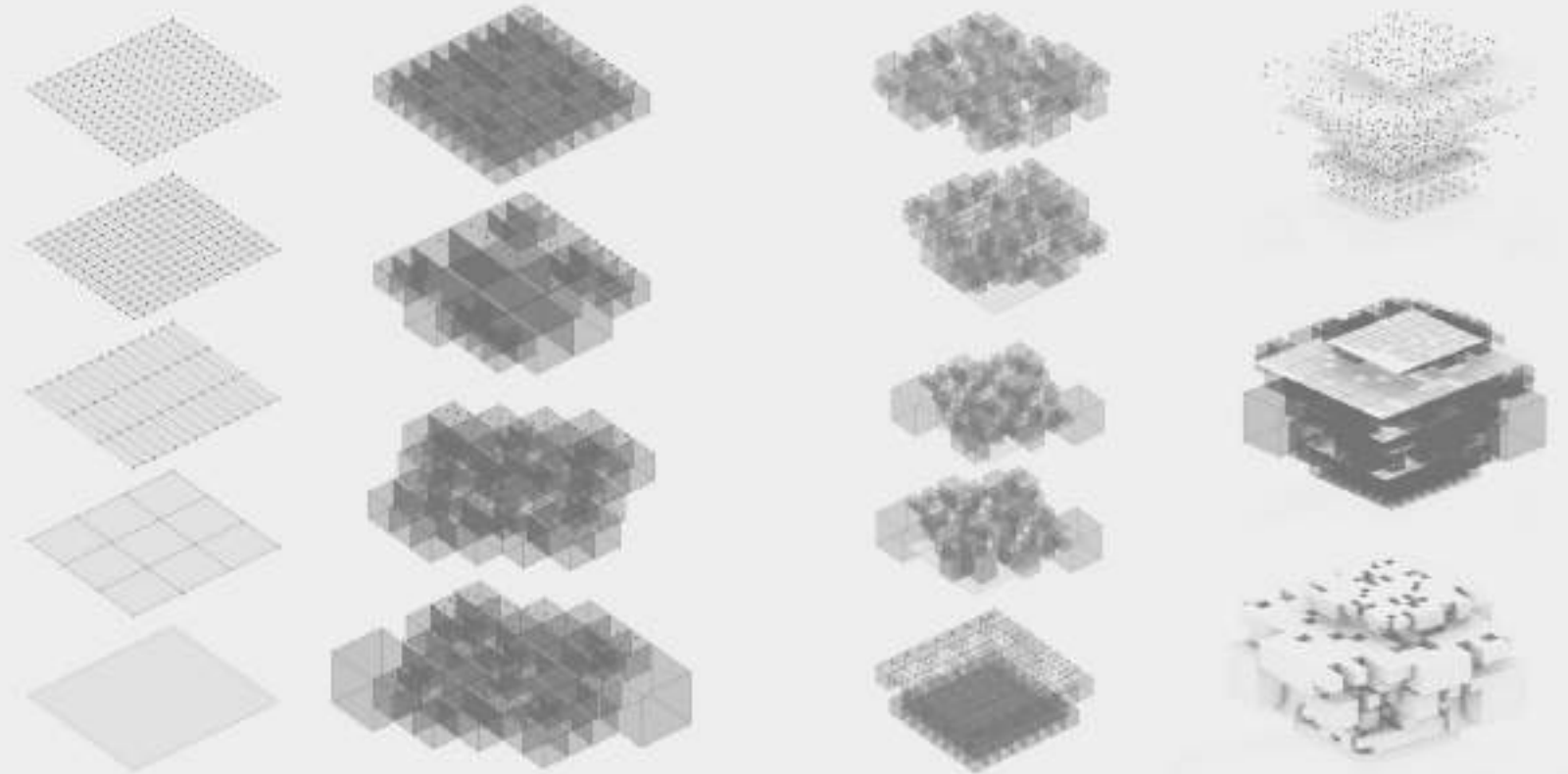


Multiple class systems are more dependent on the city



Process of making Superimposition

I used grasshopper to create such a grid system it also have volume maximizer and minimizer to give sufficient volume for human to sustain

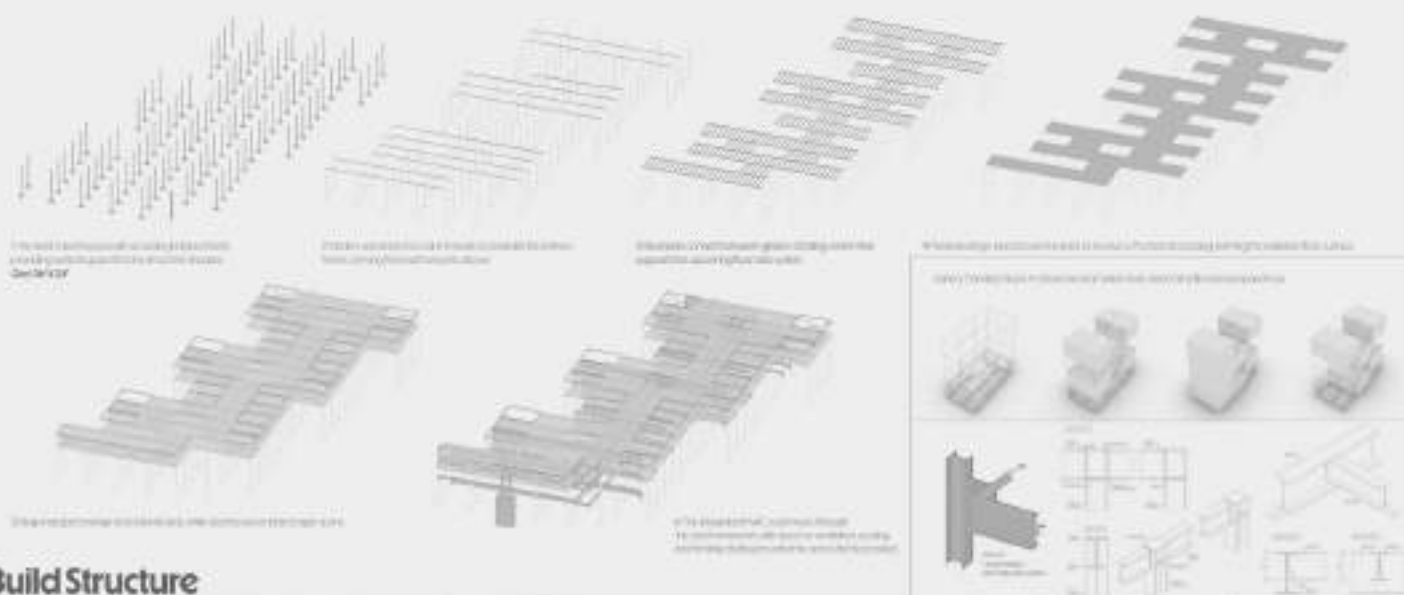


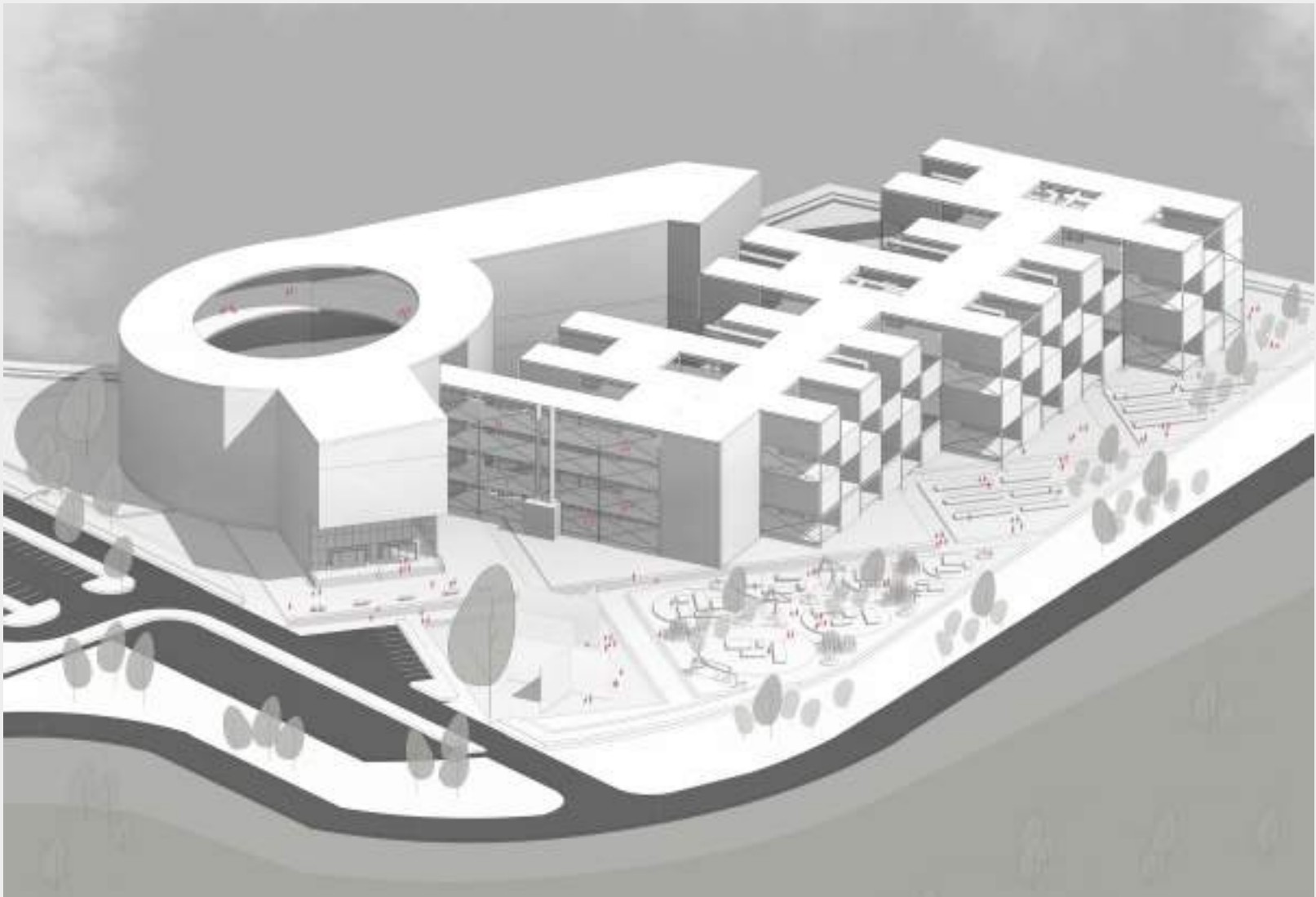


Story Board Moodboard

not just imagine space but also the event which occur

A Position of movement of observer



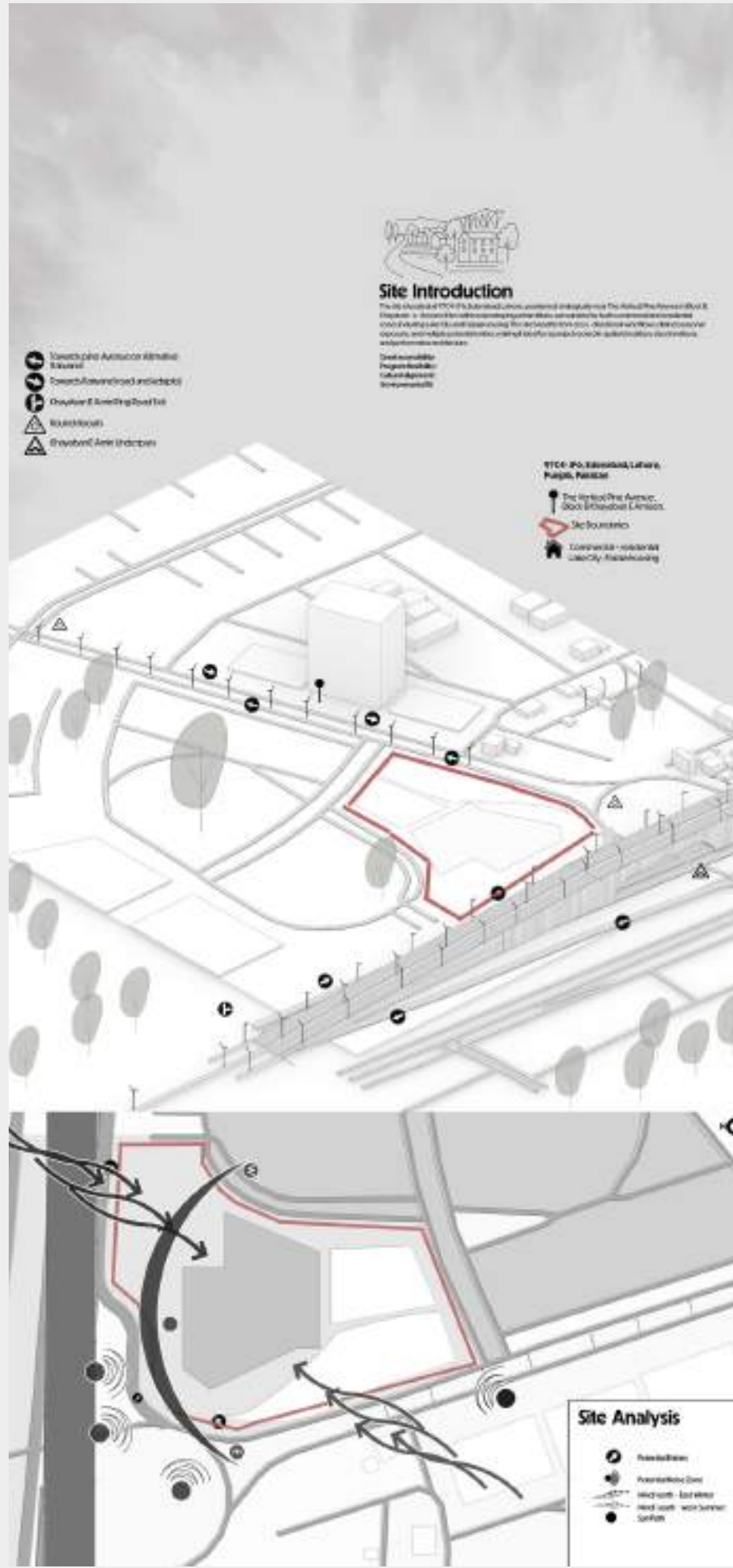


The architectural rendering shows the building complex on a hillside, overlooking a river. The rendering is a 3D perspective view, showing the building's form and the surrounding landscape. The building complex consists of a large circular auditorium and a multi-story office building. The auditorium has a white roof and a central stage area. The office building has a grid-like facade of windows. The buildings are surrounded by landscaped grounds with trees and walkways. In the foreground, a river flows through a valley, with a bridge crossing it. The sky is overcast.

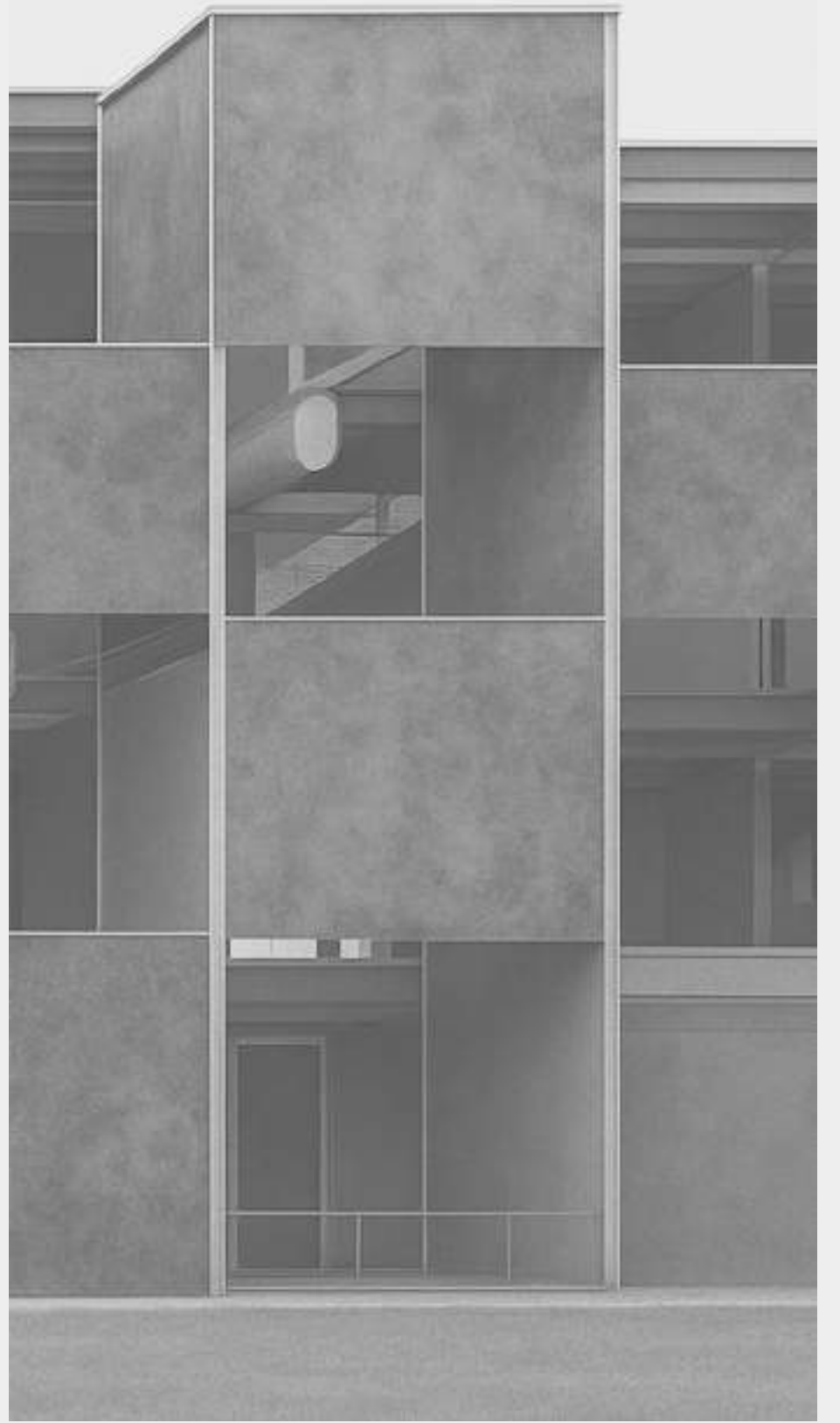
Section BB'



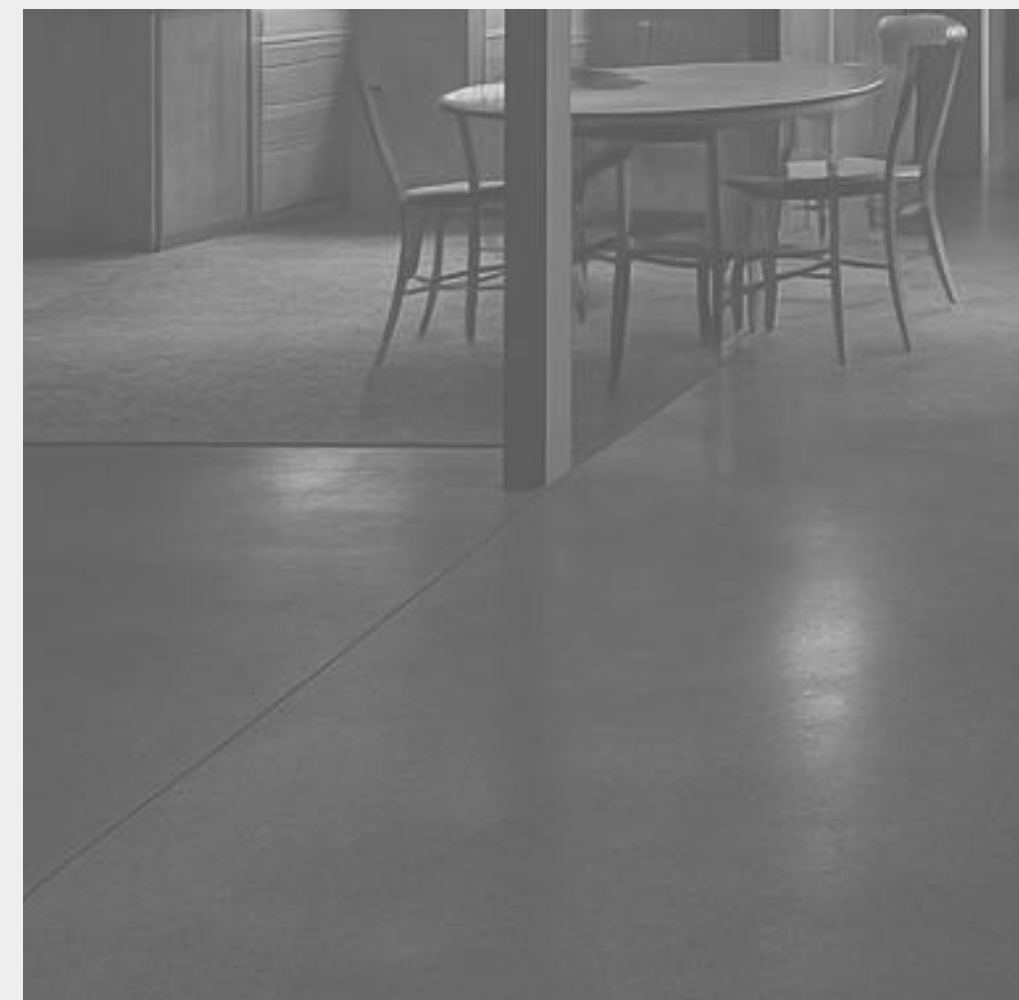
Section AA'



B



Render Panel



new horizons

biomimetic Geometries for Mars Colonization

my project focuses on combining nature-inspired design with precise mathematical models to create innovative solutions for living on Mars. By studying how nature solves problems and using advanced math to refine these ideas, I aim to design habitats that are both practical and adaptable. This approach will help ensure that human settlements on Mars can thrive in the challenging environment of the Red Planet.



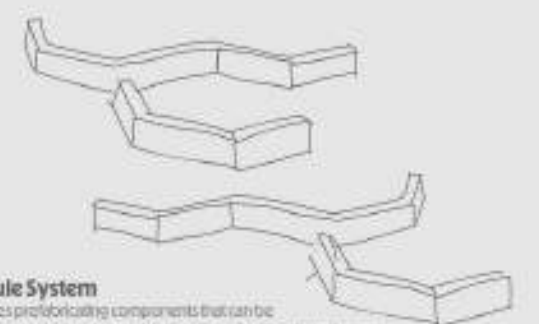


system which can work

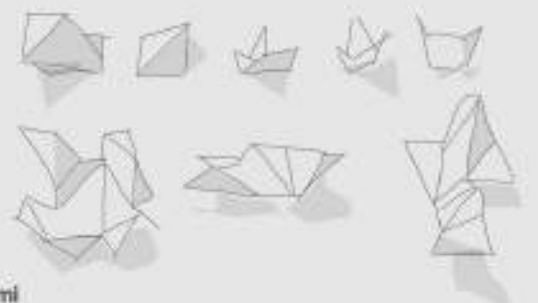
3d printing
3D printing is an excellent option for Mars construction due to its numerous advantages. It allows the use of local Martian soil, which reduces the need for transporting materials from Earth and minimizes waste.



module System
It involves prefabricating components that can be easily transported and assembled on Mars, significantly reducing on-site construction time and labor.



origami
This approach allows structures to be efficiently packed for transport, saving valuable space and reducing launch costs. Once on Mars, these foldable structures can be easily deployed and expanded to full size, facilitating rapid and straightforward assembly.



beonce Navy system
Core Overlaid stability in extreme environments can be good consideration for mars.



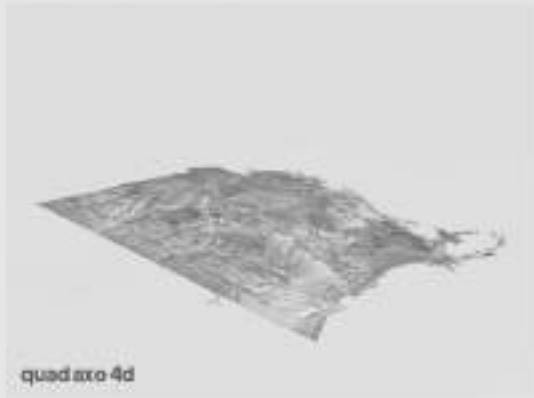
Conclusion
My idea is to combine 3D printing, a modular system, and beonce-inspired designs to create highly efficient buildings for Mars. By integrating these, I can leverage the strengths of each to overcome the challenges.

method 3 Quadritorian Solver 3d

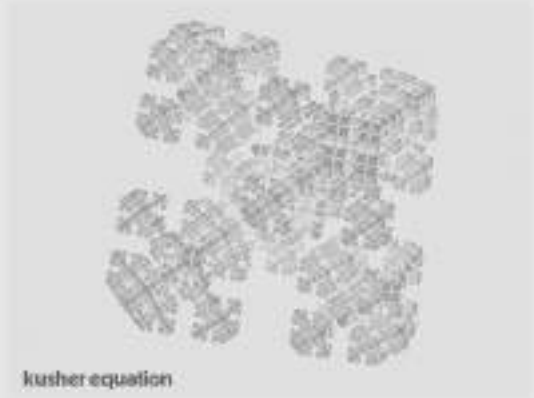
by using this software not only we can get different altration of same formula but we can get many formula precoded images and vizualize them



qutrinion 4d



quad axo 4d



kusher equation



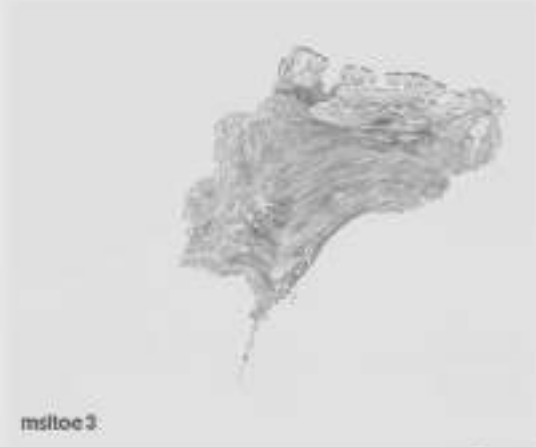
Gents 4d



bt - pine 2



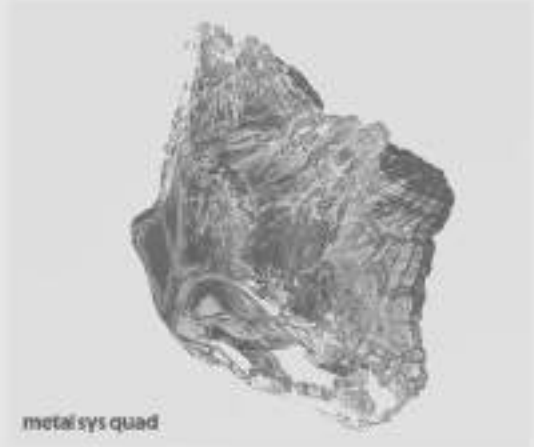
Axonion 4d



msitoe 3



quidkudley AM

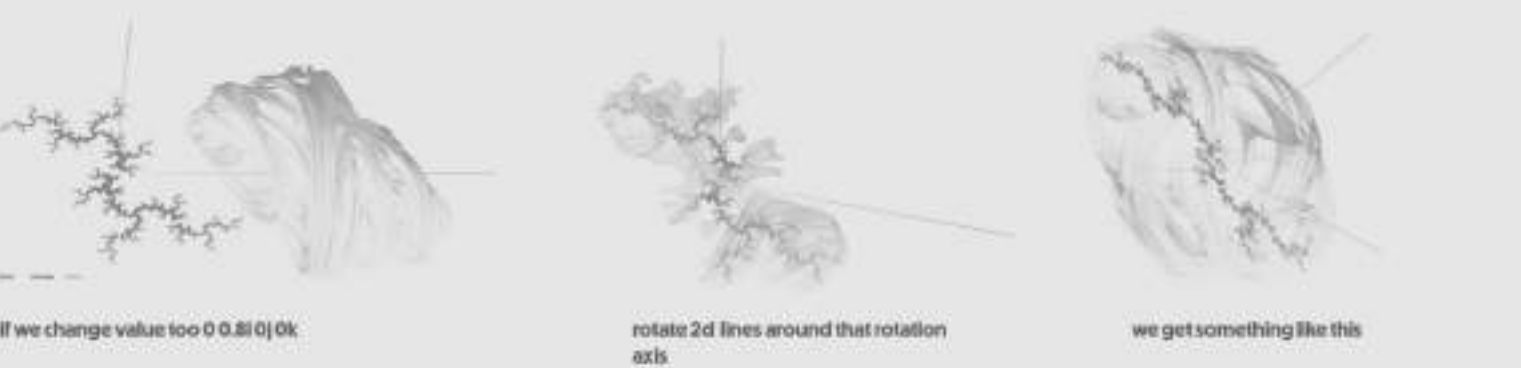
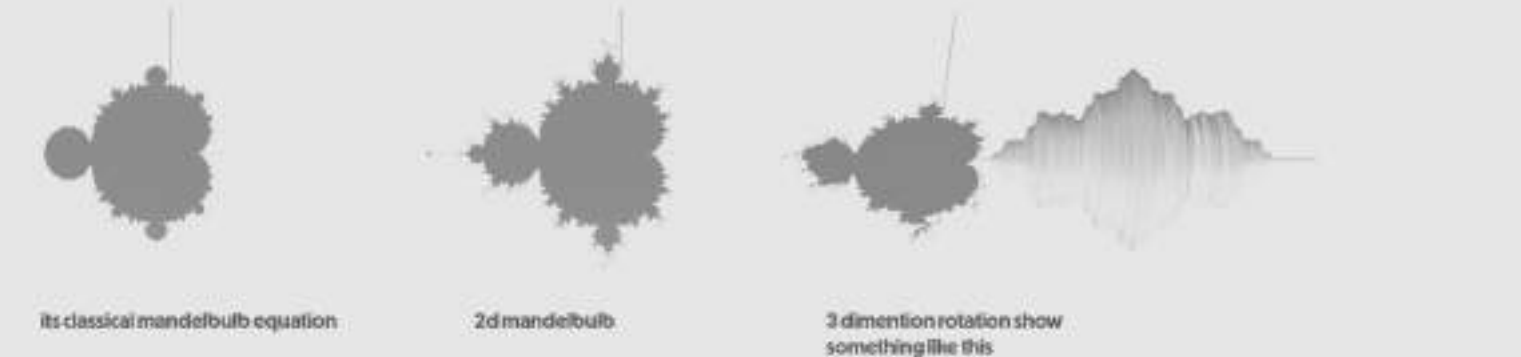


metal sys quad

all formula conversion and models done by dawood asim paracha

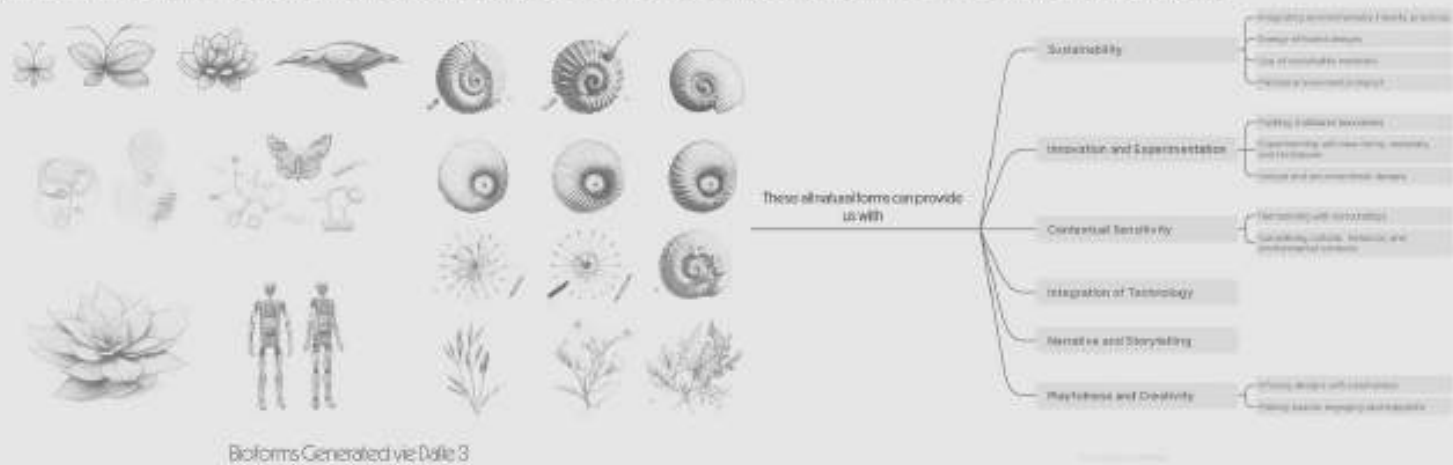
method 4 Direct ray Tracing Quaternion Julia Sets on the GPU
Keenan Crane 2005

$z_{n+1} = z_n^2 + c$

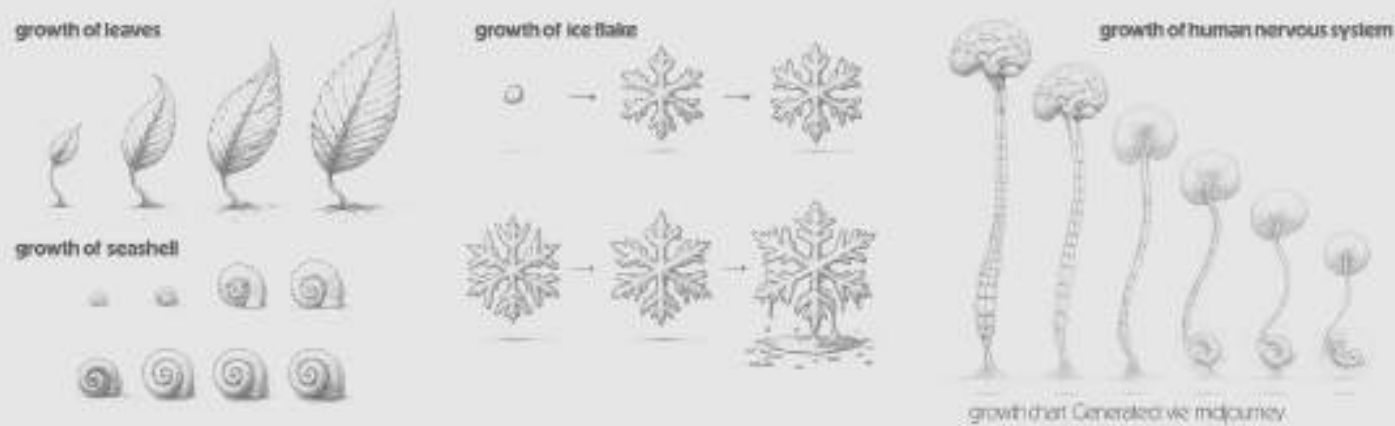


Concept of Fromgiving and Biomemtics

biomimetics in architecture, , involves drawing inspiration from the natural world to solve complex human design problems. This approach seeks to emulate nature's time-tested patterns and strategies to create more efficient, and innovative architectural solutions



growth in itself biomemtics

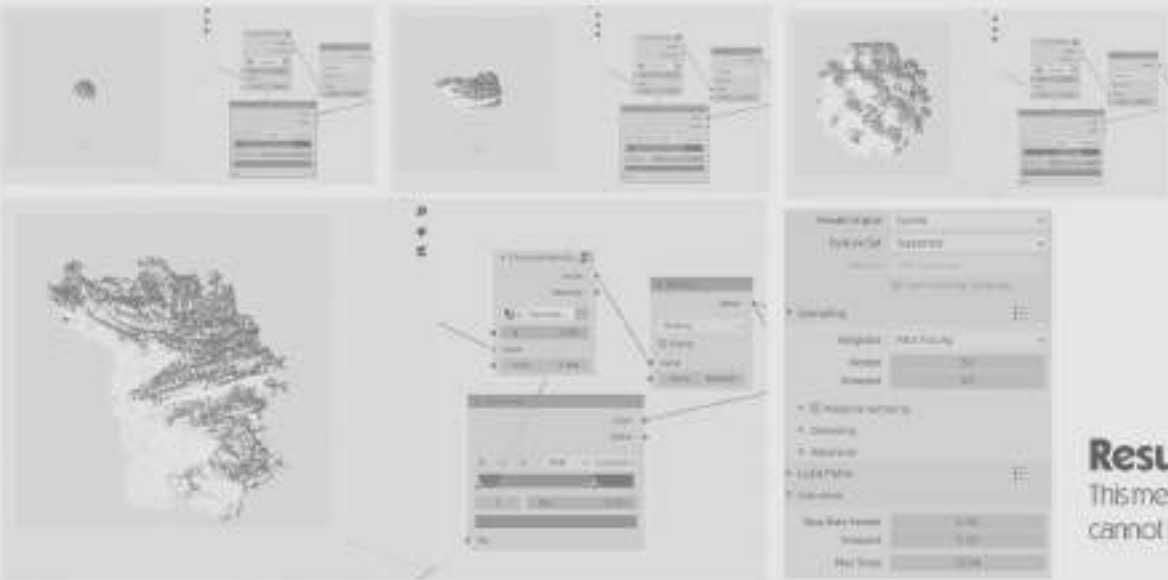


Every growth depends on three factors: a formula that allows growth, protein in living organisms, and environmental constraints. If we have the formula and constraints, we can, in theory, generate a form according to these constraints. Luckily, we have many formulas found in the growth of other organisms, such as the Kushner formula, Mandelbulb, Axion, Quadrion, Julia 4D, etc

step 1 replicate the formula

method 1 Blender + math solver
use blender math solver visualizer to solve mandelbulb power nine formula

$$x \rightarrow \frac{1}{2} \left(x + i \sqrt{y^2 + z^2} \right)^9 + \frac{1}{2} \left(x - i \sqrt{y^2 + z^2} \right)^9 + x_0$$

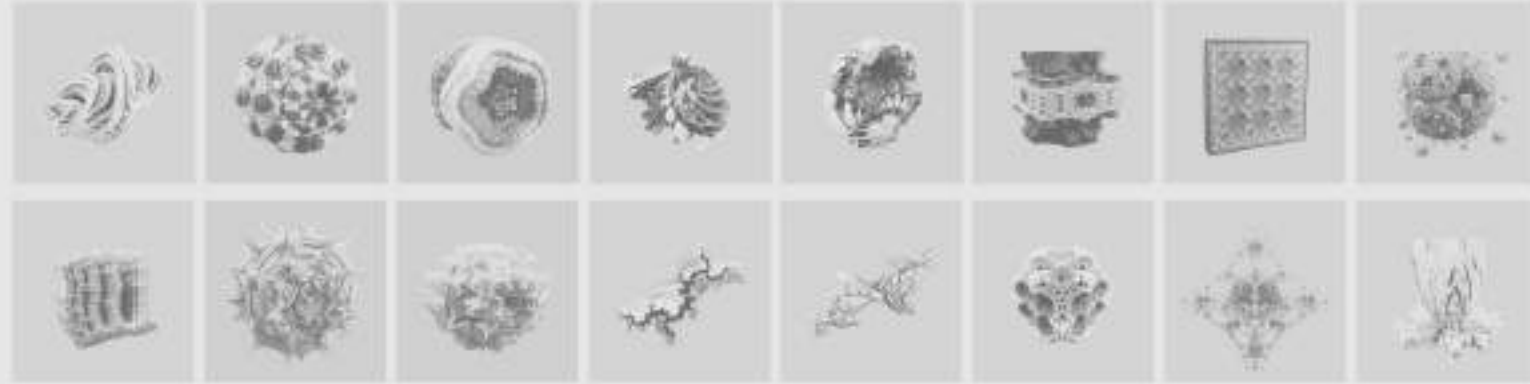


method 2 python script and visualizer
used Ray Tracing Quaternion Julia Sets on the GPU by K Crane · 2005 Method use GhGL shader inside grasshopper
 $Z = Z^2 + C$

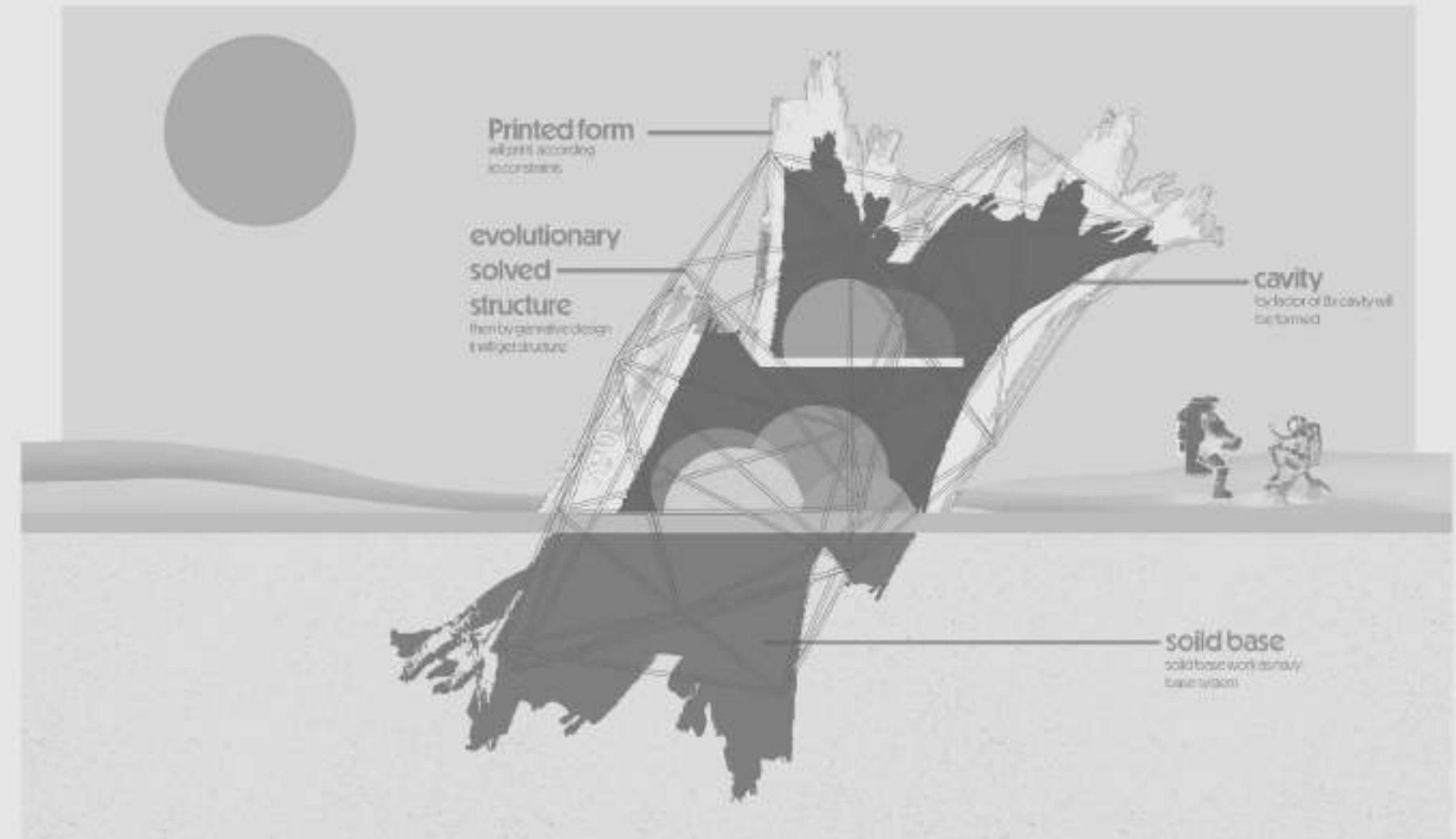
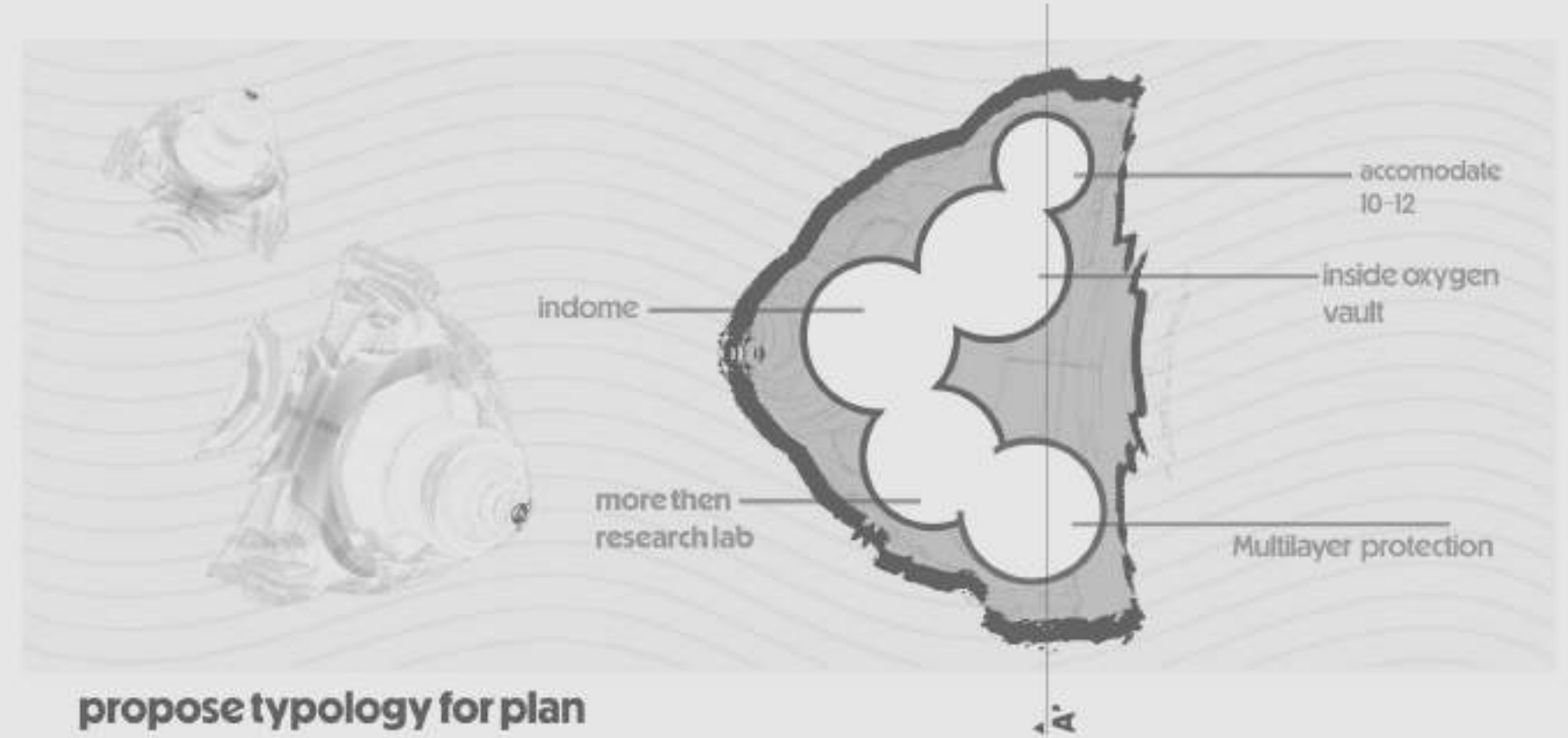
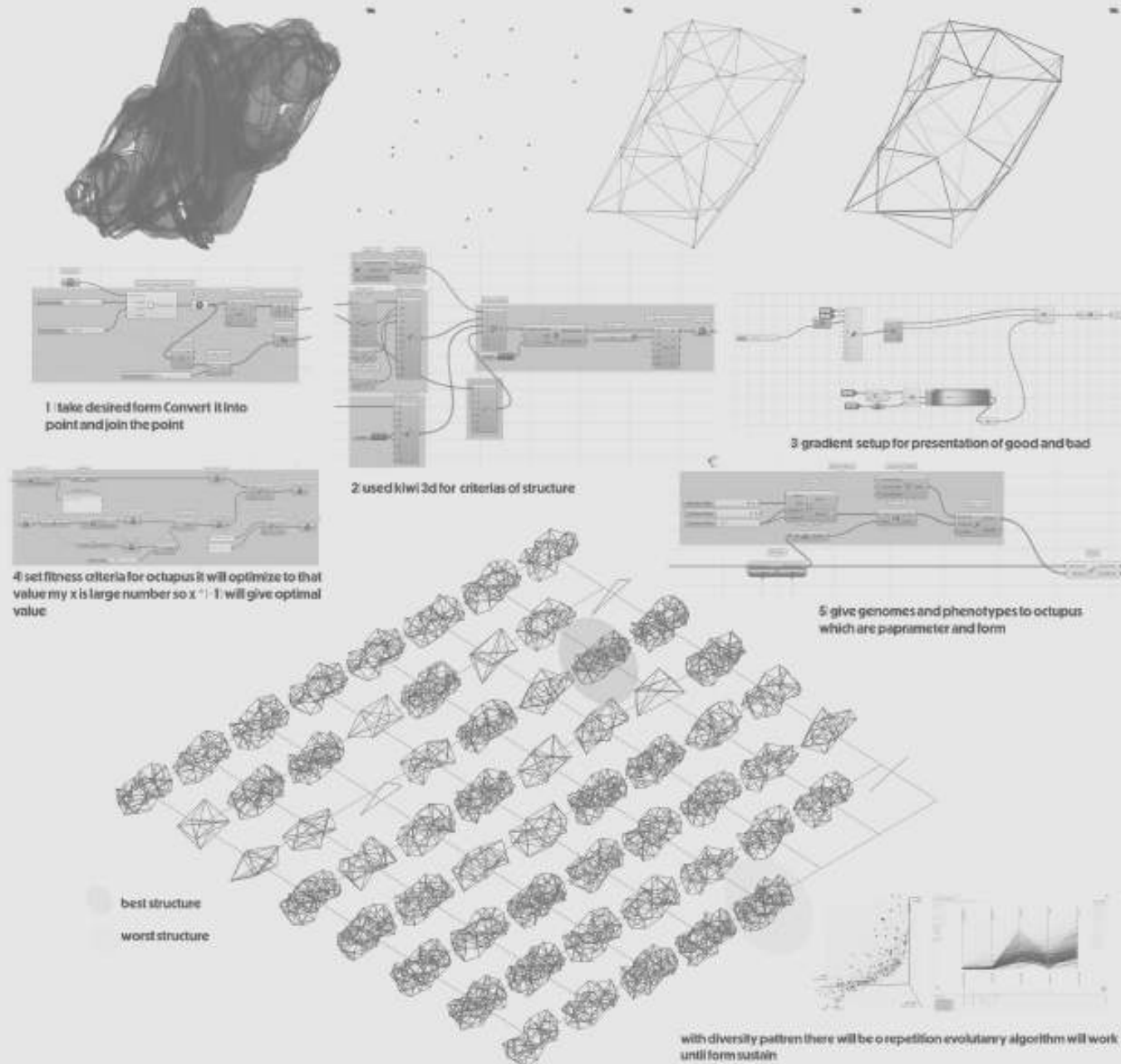


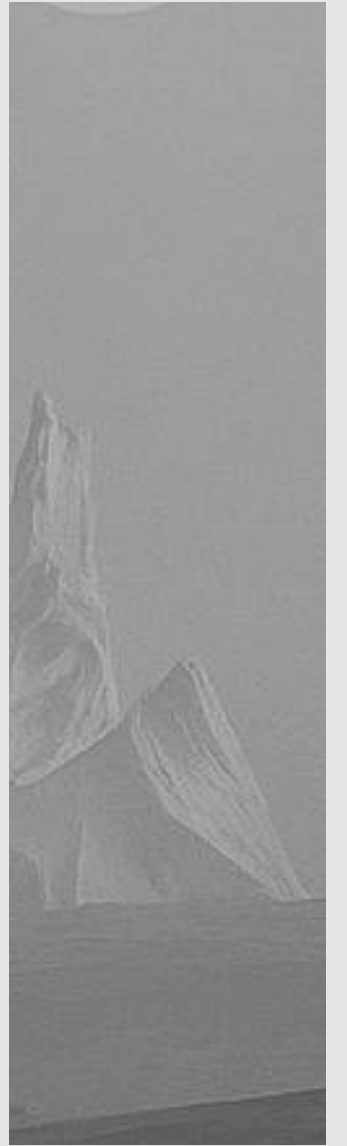
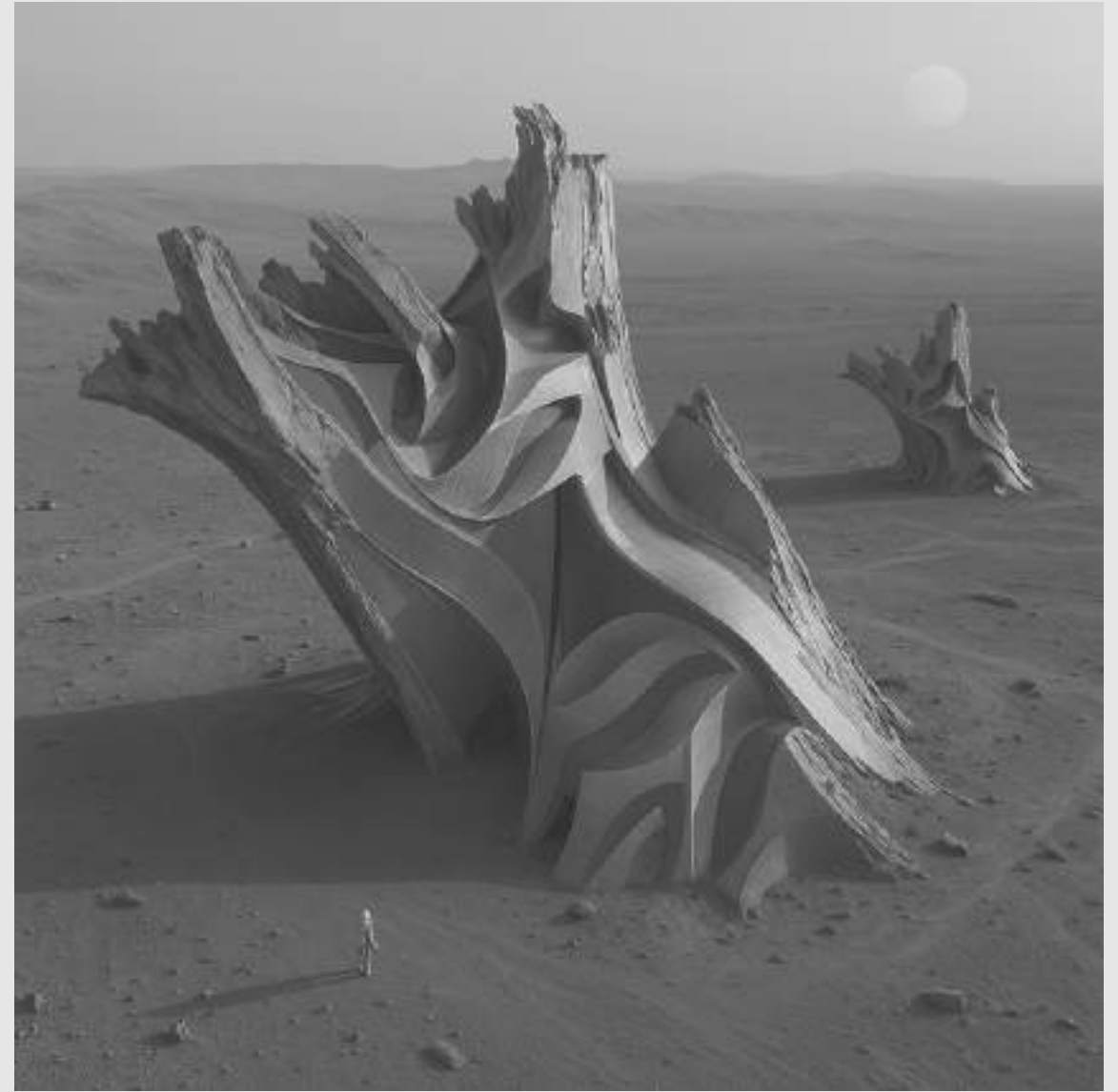
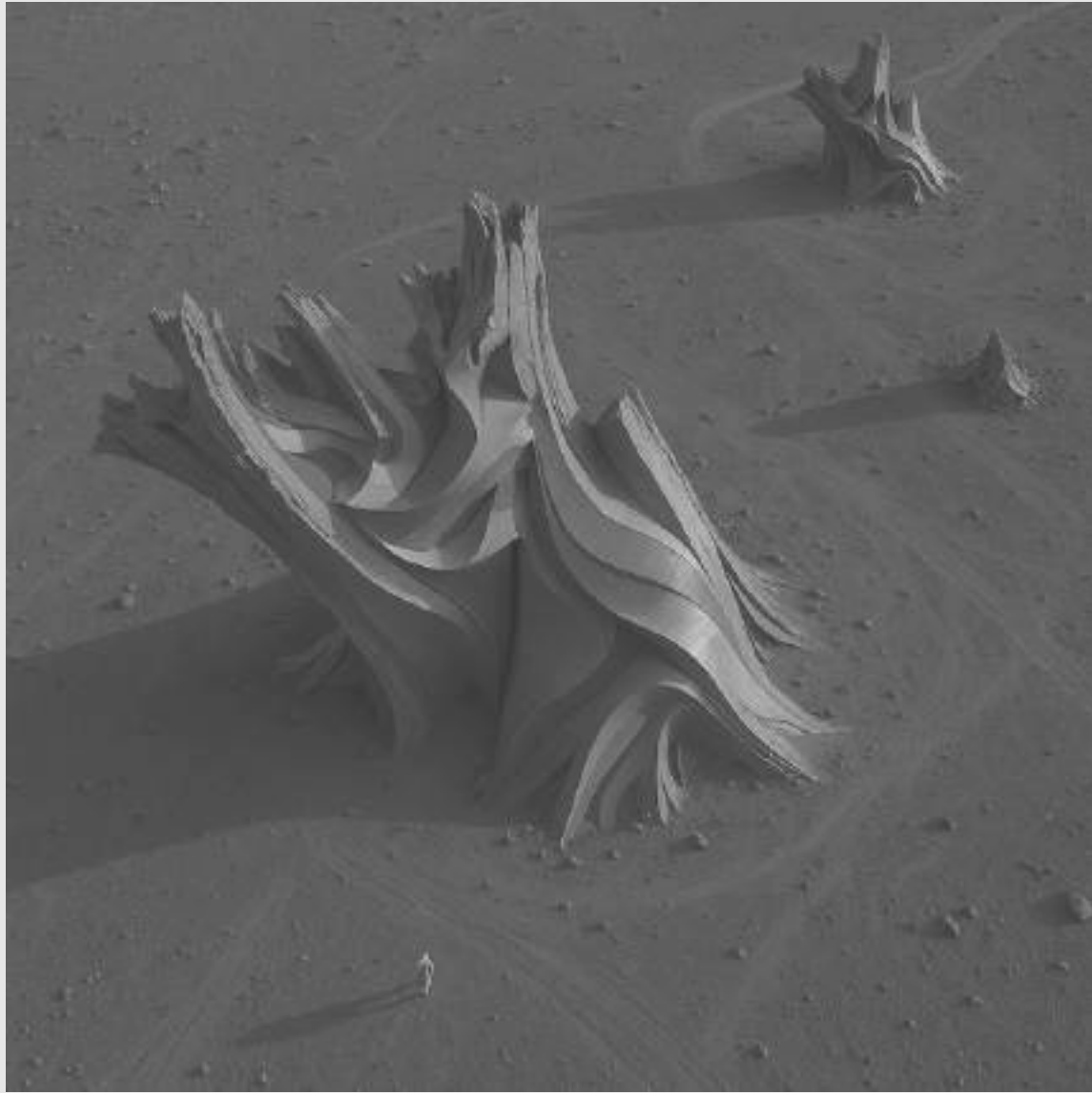
forms enviromental and genrative structure analysis

Since achieving a lot of forms is practically impossible with the current GPU, I selected a fractal maker who provided me with all the desired forms of formulas. Now we can move on to the next step, which is to create criteria for fitness.



reference obachoma





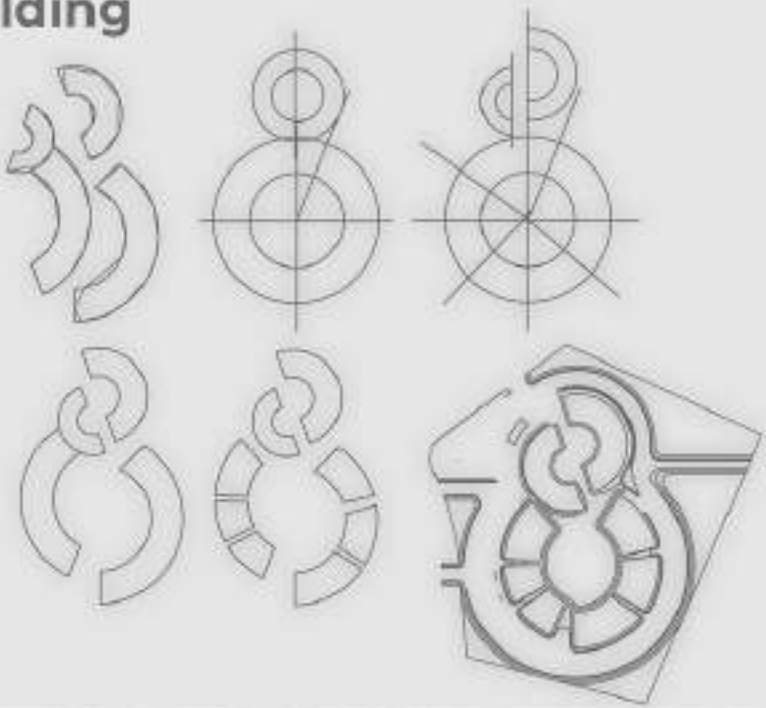
thoughts & prayers



Philoshphy

We are builders, not just developers Architecture involves more than simply creating buildings, it is like literature, where writing is just one aspect Building something is an act of architecture, and in this project, I have chosen an art piece not only for my own aesthetic development but also because it is necessary in today's world to have a bigger philosophy behind any project. This approach not only gives you a sense of direction but also provides motivation

Concept Building



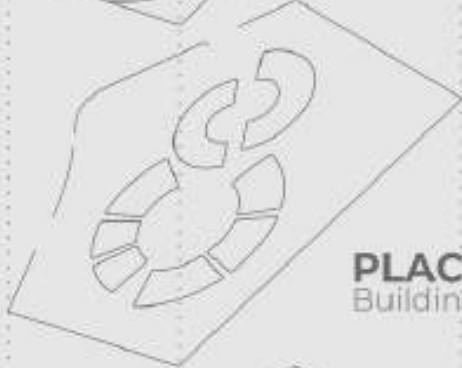
VEGETATION
Heat Absorbation



PARKING
Circular roads



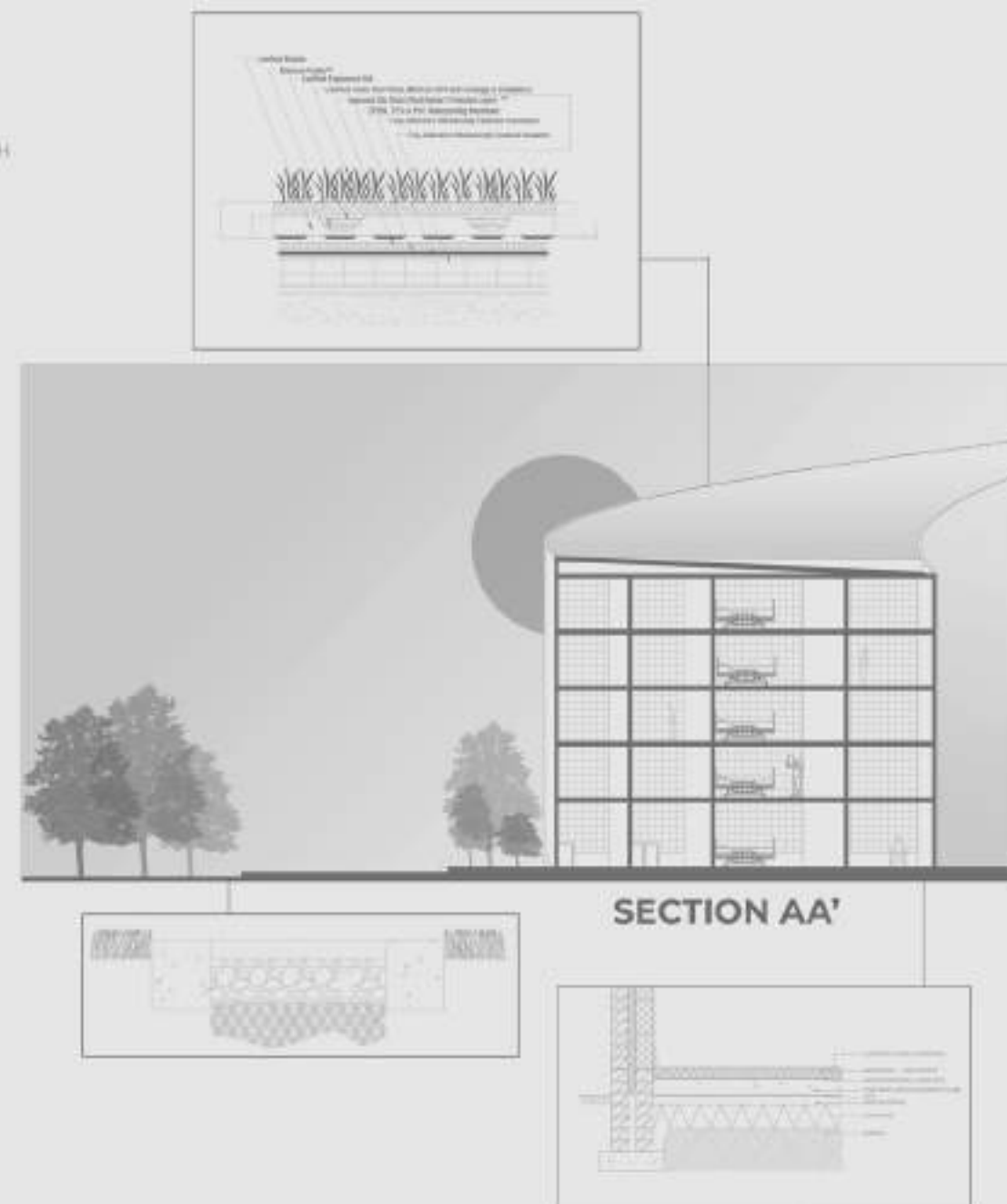
Self ORIENT
Pathways, Roads

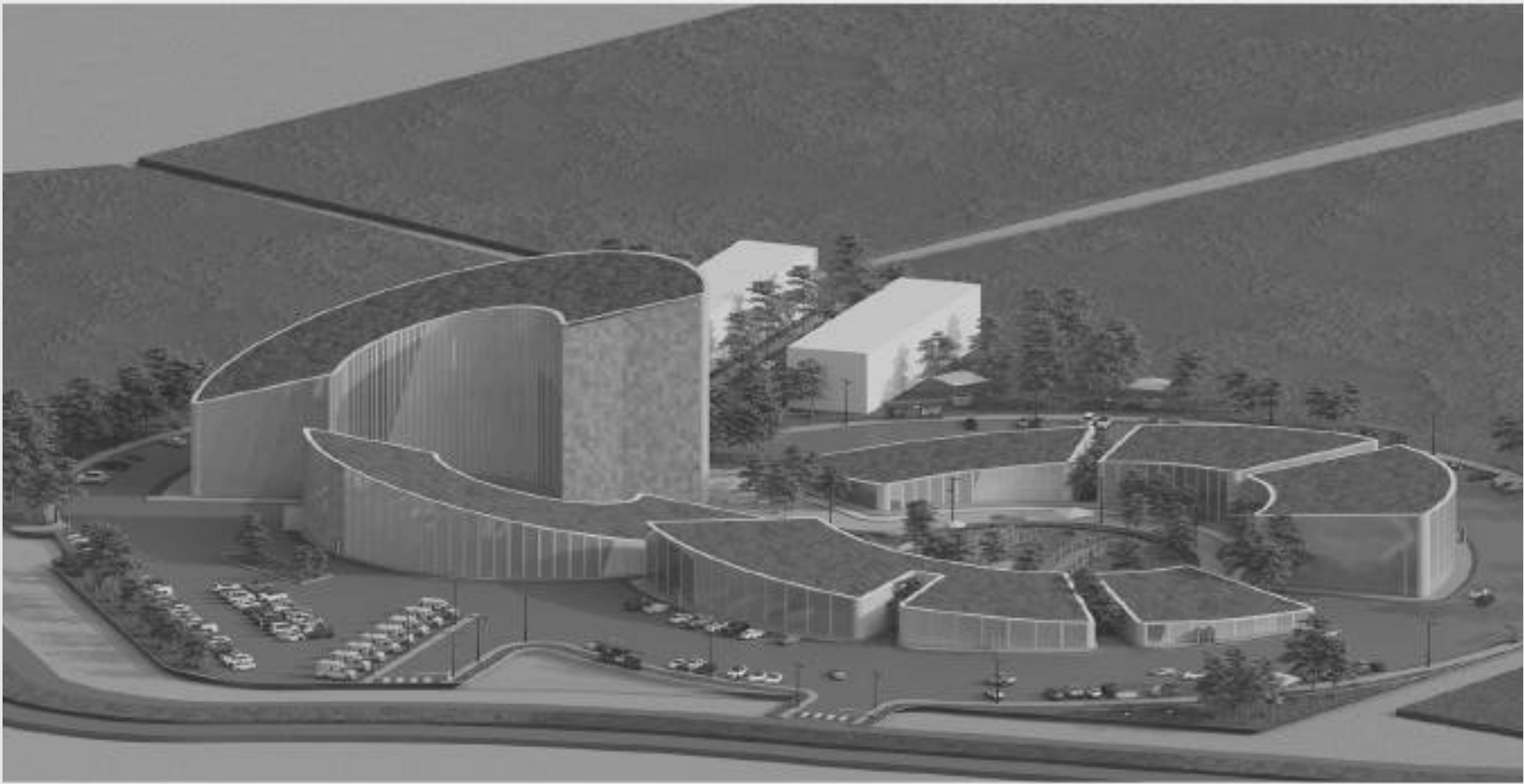
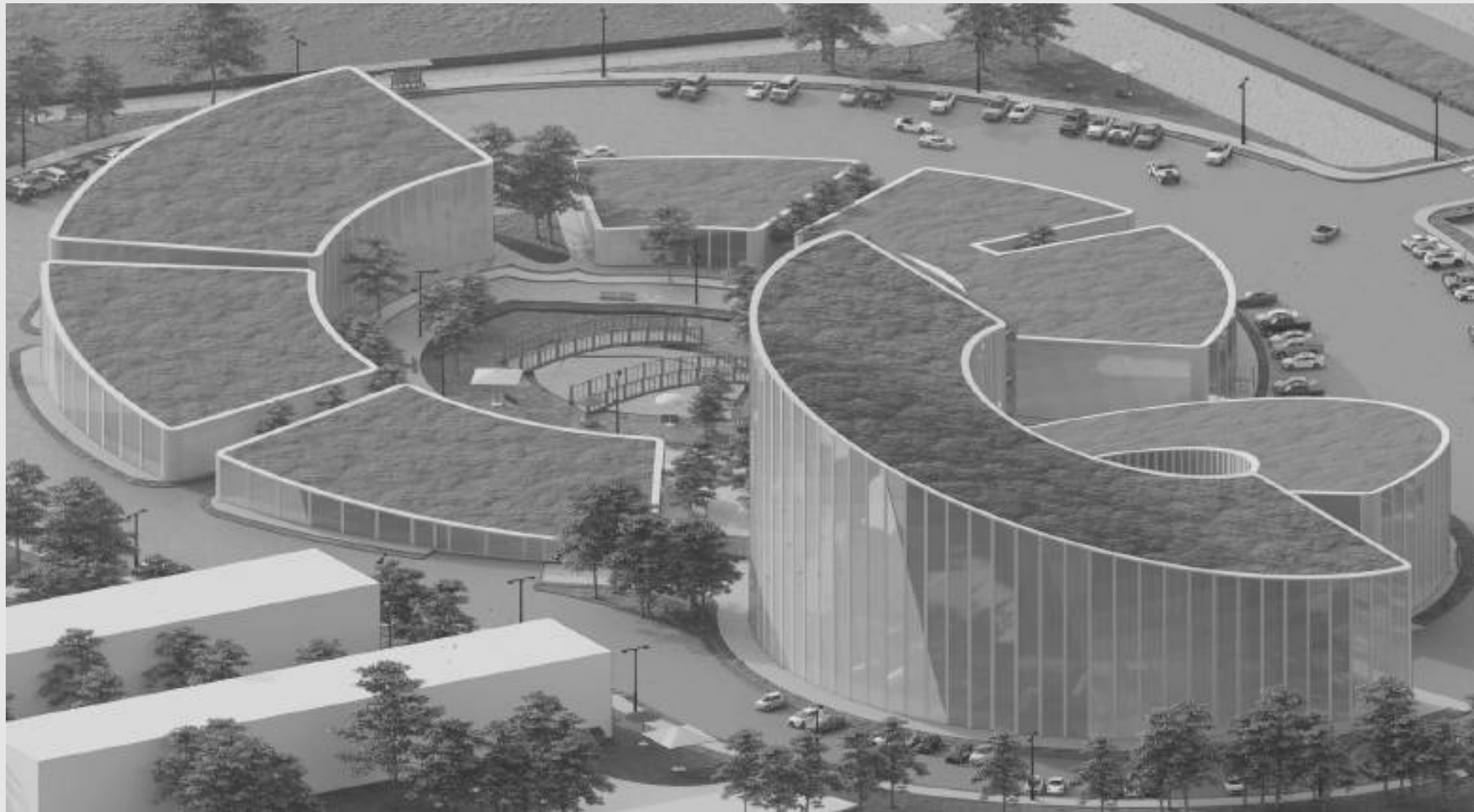


PLACEMENT
Building mass



SITE
Entrance Mark





Place Where We Burn The Books:

Dystopian Reflection on Modern World By Gamification



This article is about how buildings can make people happy or control them. It looks at the idea that the way we build things can create a certain kind of order in society. This order might stop people from being sensitive or asking questions and instead make them just follow along without thinking. The article talks about what it does to people's minds when they live in places that are not welcoming to everyone.



FORM FINDING

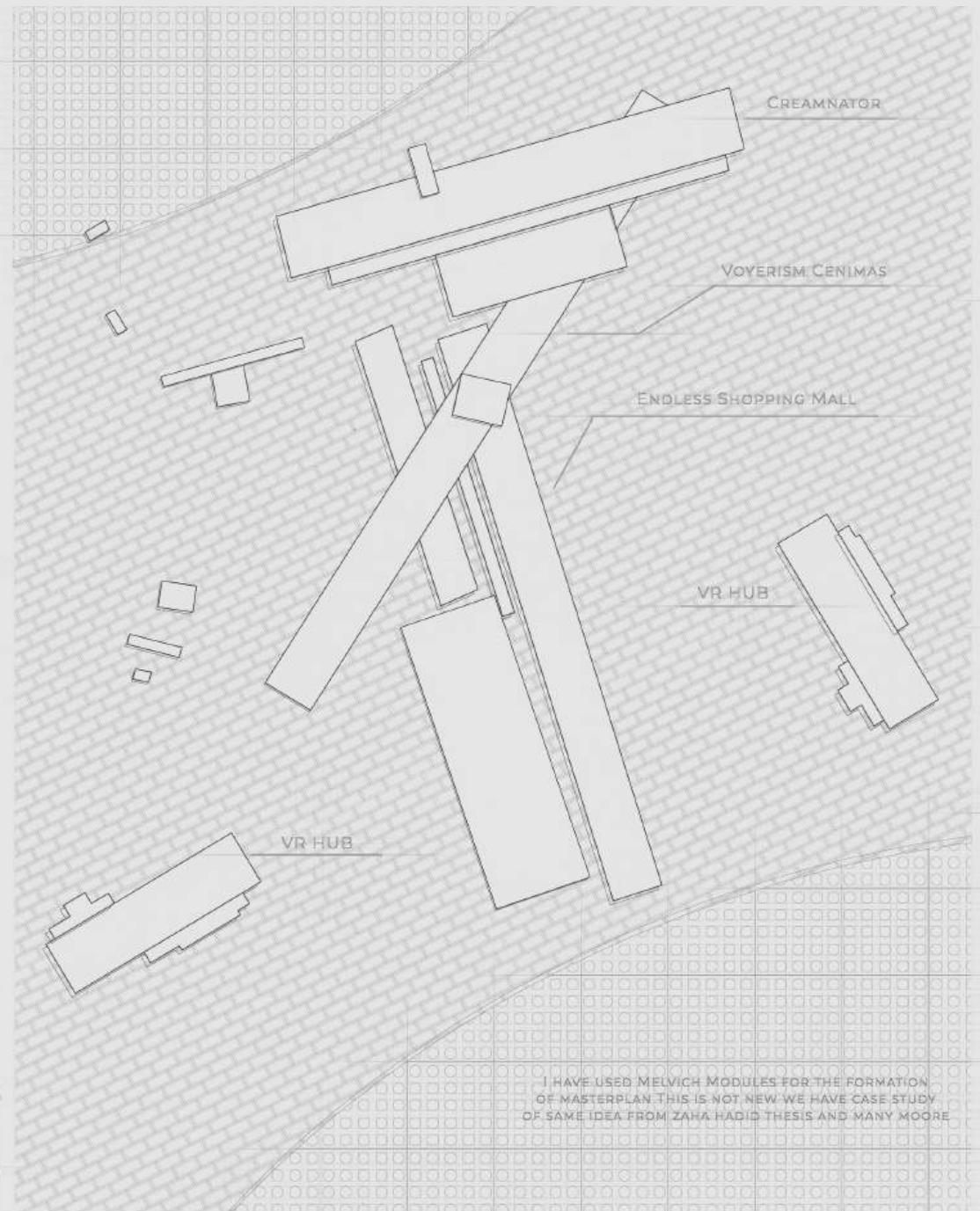
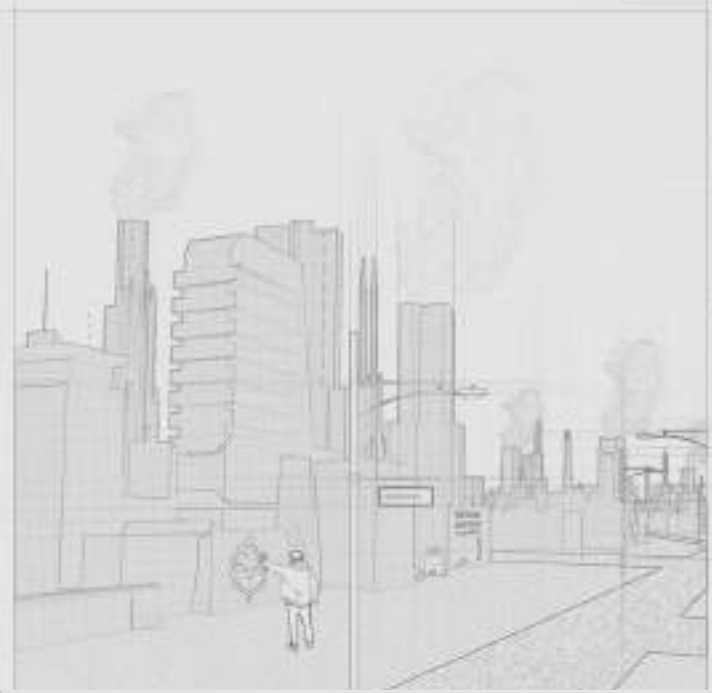
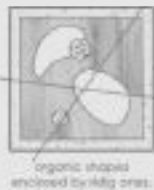


FIG (1) ILLUSTRATION OF DYSTOPIAN MASTER PLAN USING MELVICH WORK
DONE BY RAHWOD ASIM BARAGUA



sponge & working with constraints



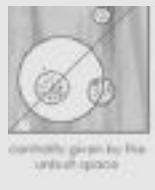
organic shapes enclosed by city walls, ending with peaks and towers to allow the view



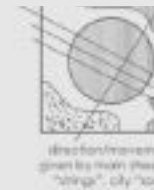
"floating city" - insular, self-sufficient



city walls are surrounded by greenery, predominant structure/movement



centrality given by the urban space



directional movement given by main street as "strings", city "soul" dictates centrality



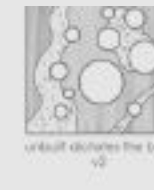
greenery and water defining centrality and enclosing the city



water centrality, shape rigidity to maintain control



urbanity dictates the built up



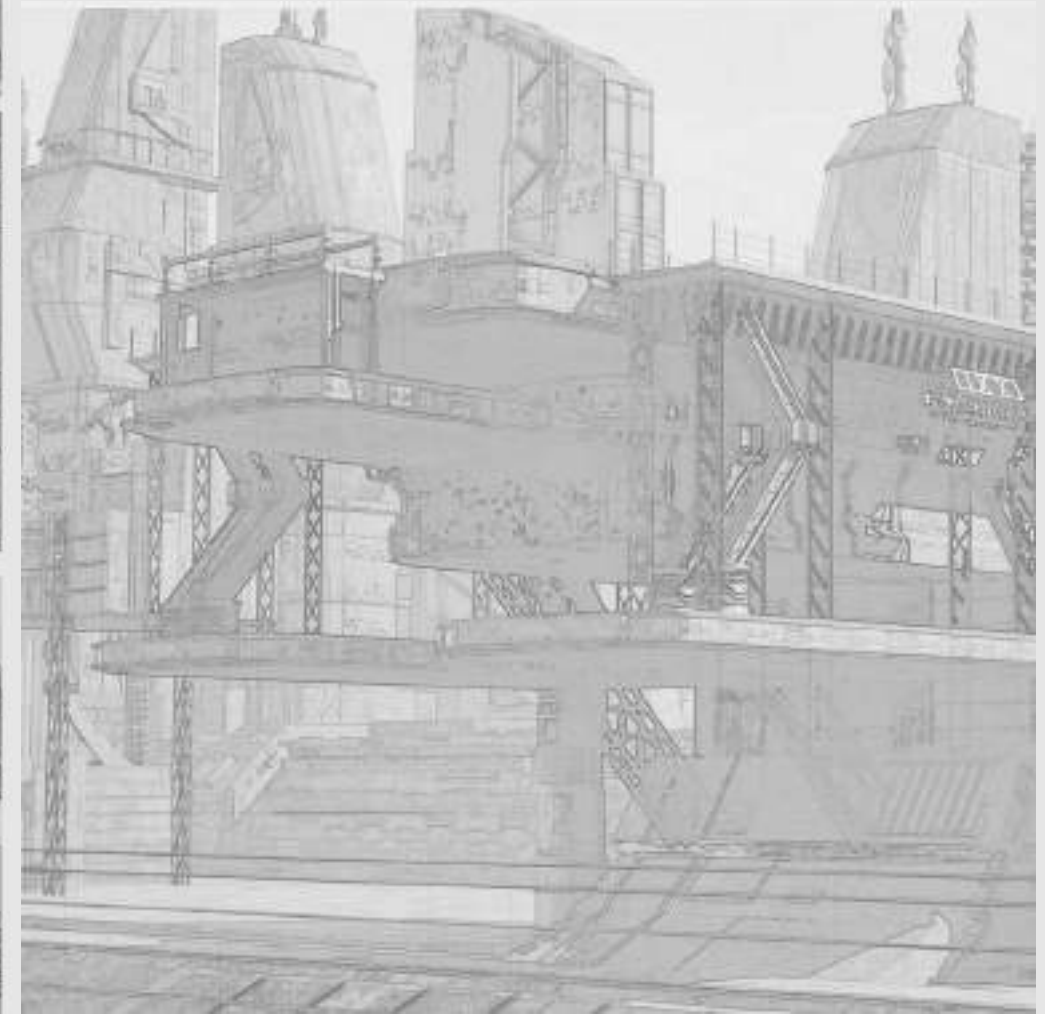
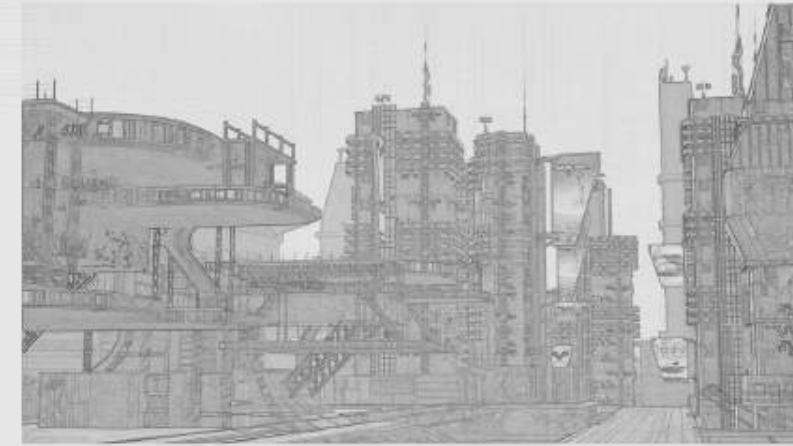
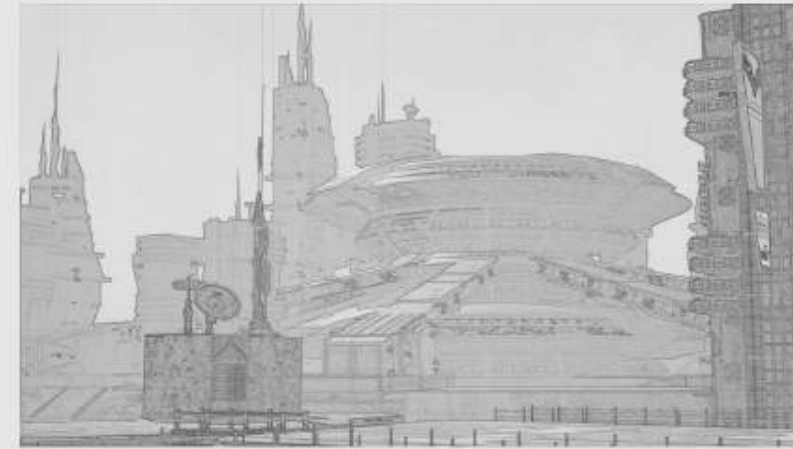
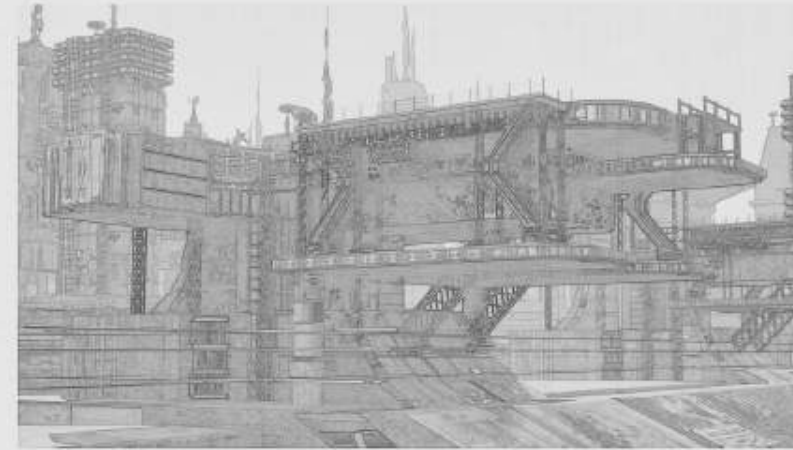
urbanity dictates the built up

MASTERPLAN SOLARCITY

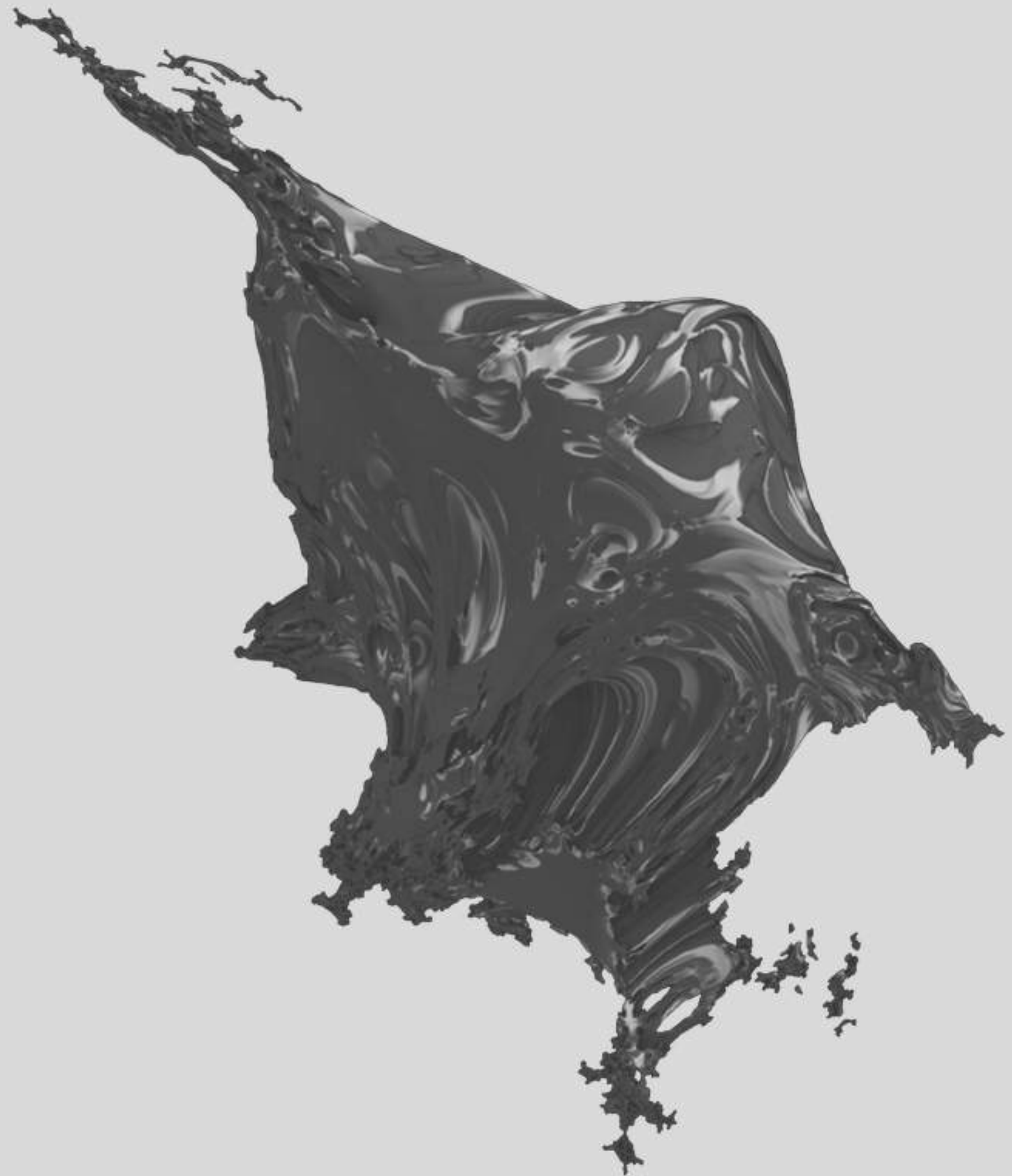
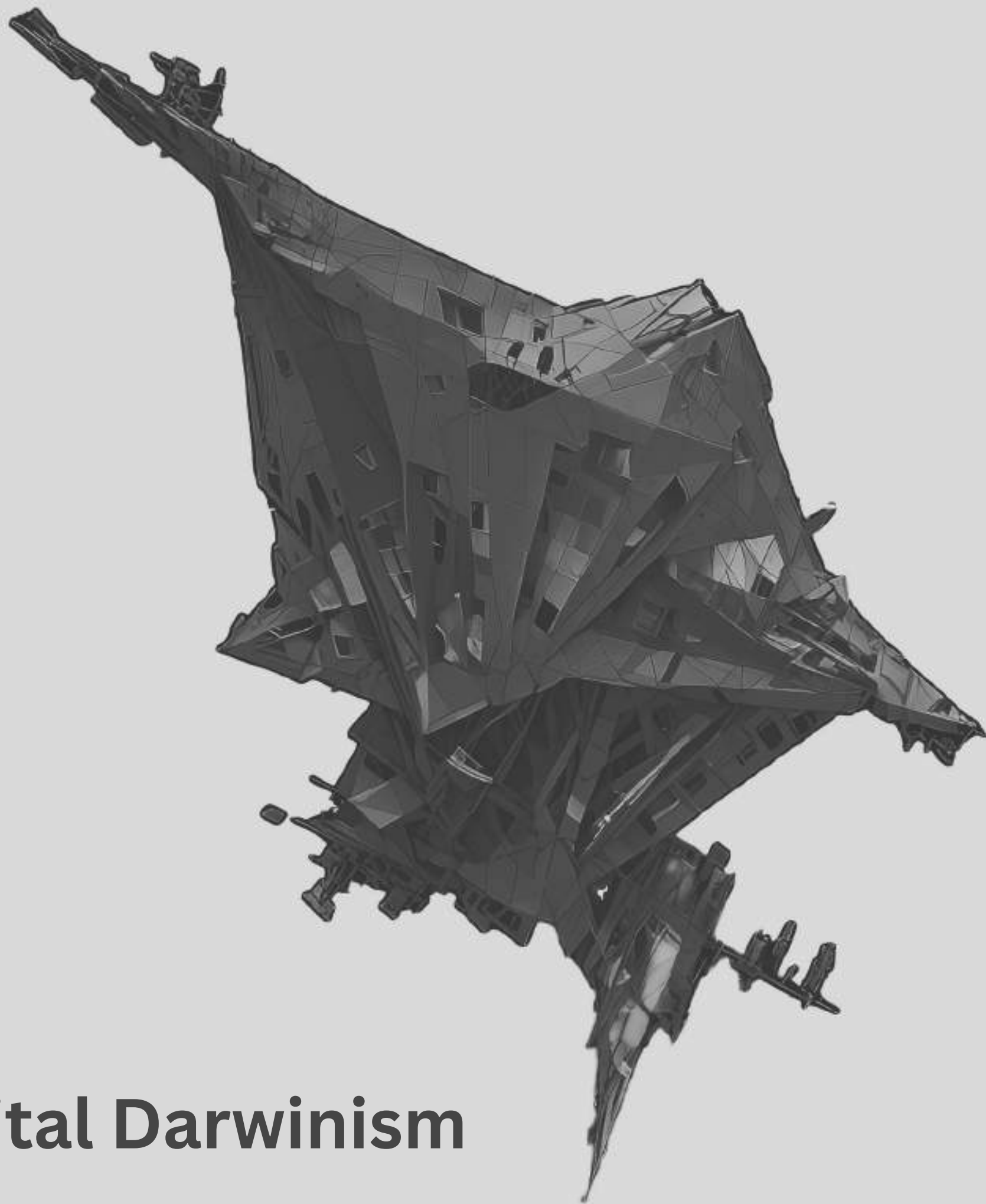


MODULES UTOPIAN CITY

THE CONNECTION BETWEEN THESE LEVELS IS OUTLINED IN FIGURE , BUT IMPLEMENTING THIS IN VR WAS SOMEWHAT CHALLENGING DUE TO THE NOVELTY OF THE TECHNOLOGY AND ITS CONSTRAINTS. THIS APPROACH INEVITABLY LED TO A SIGNIFICANT LOSS IN FRAME RATES.



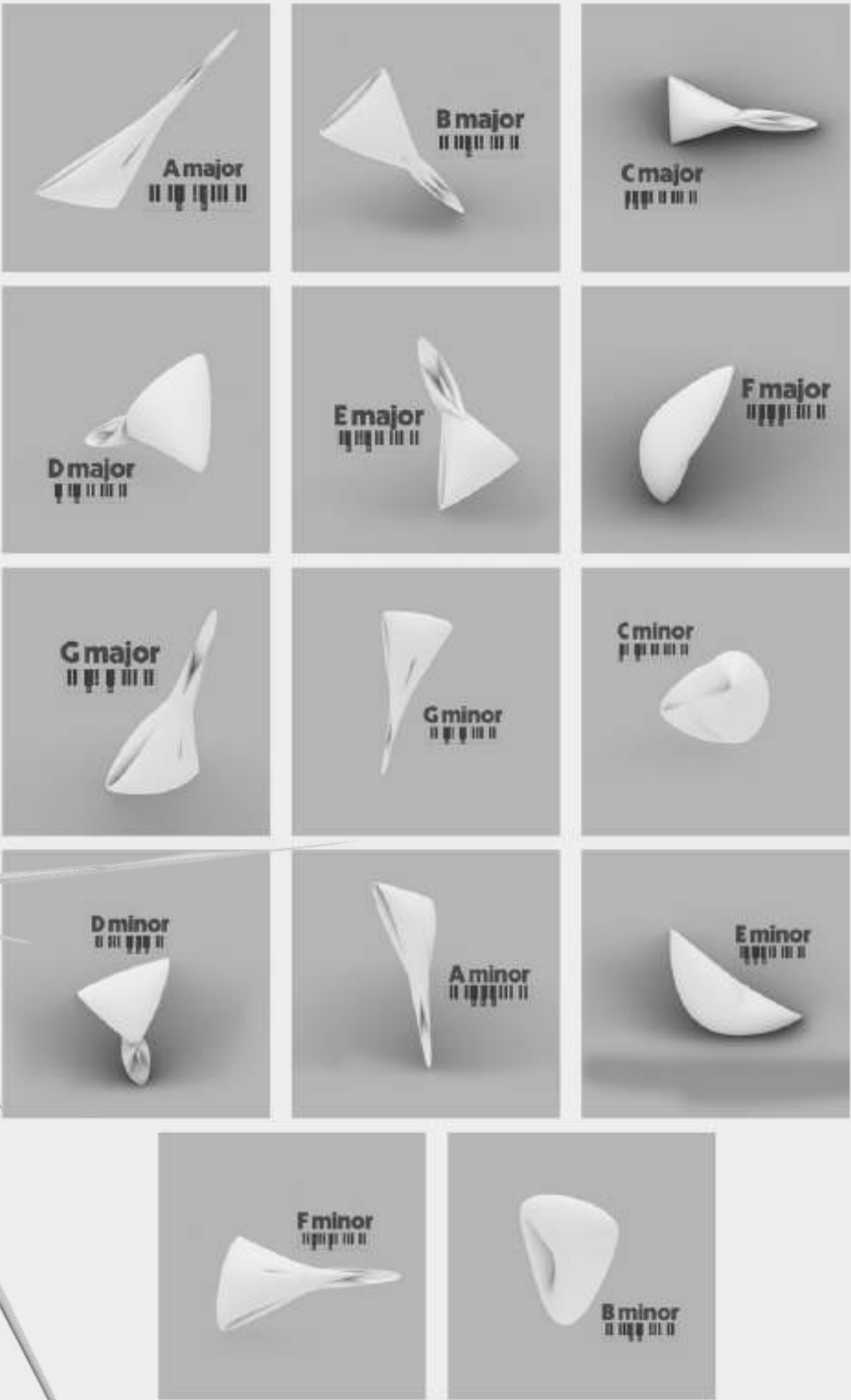
Digital Darwinism

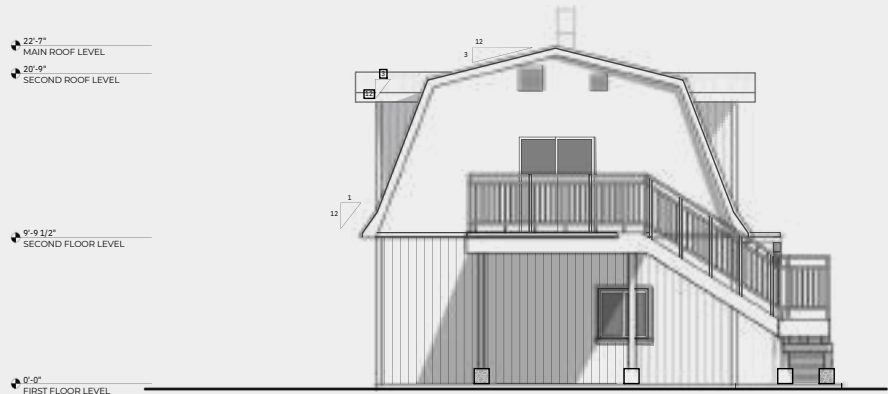




Form Finding From Music

I developed a real-time, parametric workflow in Rhino + Grasshopper that translates MIDI music into three-dimensional architectural forms. A custom Python script reads each note's pitch, velocity and timing, then maps pitches onto a spiraling 3D curve (aligning all C's vertically) while using velocity to drive point size and extrusion depth. The result is a dynamic, sound-driven geometry that visually encodes melody and harmony—demonstrating how auditory patterns can directly generate sculptural spatial compositions.





PROPOSED NORTH EASTERN ELEVATION: SC:ALE 1/4"=1'-0"



PROPOSED MAIN ELEVATION:SCALE 1/4"=1'-0"



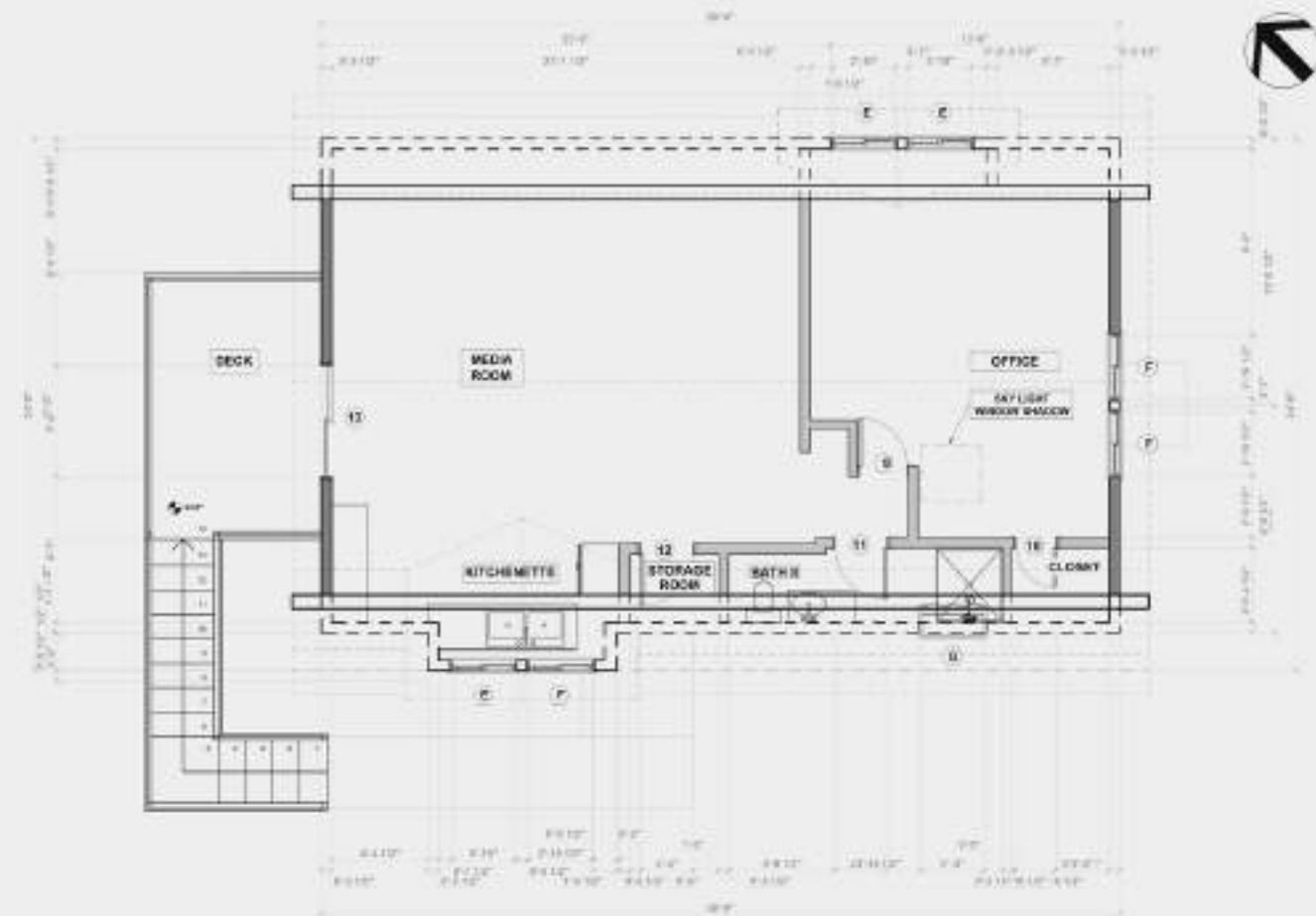
PROPOSED SOUTH WESTERN ELEVATION:SCALE 1/4"=1'-0"



PROPOSED NORTH WESTERN ELEVATION:SCALE 1/4"=1'-0"



PROPOSED FIRST FLOOR PLAN: SCALE 1/4"=1'-0"



PROPOSED SECOND FLOOR PLAN: SCALE 1/4"=1'-0"





PROPOSED NORTH-WEST ELEVATION PROPOSAL 1: SCALE 1/4"=1'-0"



PROPOSED NORTH EAST ELEVATION PROPOSAL 1: SCALE 1/4"=1'-0"



PROPOSED NORTH-WEST ELEVATION PROPOSAL 2: SCALE 1/4"=1'-0"



PROPOSED NORTH EAST ELEVATION PROPOSAL 2: SCALE 1/4"=1'-0"







chaos
V-Ray









