



**CORE STUDIO 2**

**YEO SOON YII**

**1005503**

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# 1. Research and Worldbuilding.

In the first week, we conducted collaborative research into four key areas:

1: Climate change and its relation to the Anthropocene - speculative fictions and narratives

2: Technology, virtual realities and cultural evolution - speculative fictions and narratives

3: Current and imagined museum architecture and design - present and speculative futures on installations, exhibitions, virtual reality applications in art and design

4: Architecture in and on water - real and speculative architectural narratives

## Background of Disaster

### What happened to the world?



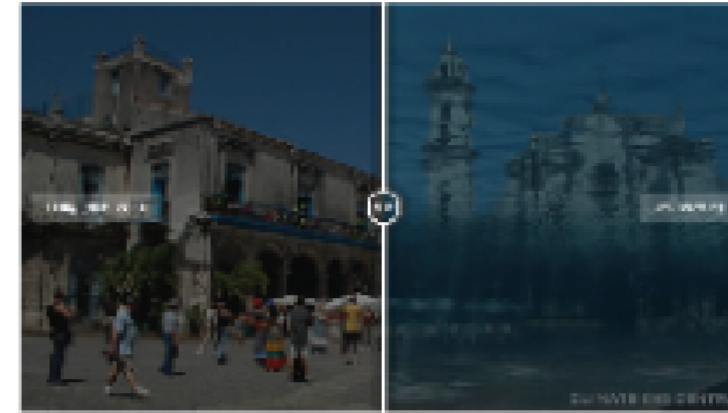
#### Time Period:

1. Year 2200
2. Immense Technological Advancement
3. Wipeout of Technology

#### Causation:

1. Human Activity
  - a. Melting of Polar Ice Caps
  - b. Man Made Disasters caused by directly influencing weather/geographical conditions
2. Natural
  - a. Meteor Strike
  - b. Volcanic Eruption

## Melting of Polar Ice Caps



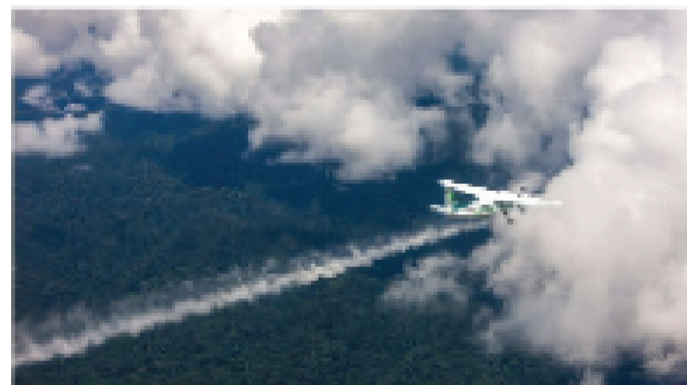
Through the effects of global warming, ocean temperatures rapidly increase. This causes the polar caps to have melted completely leading to an extreme rise in sea levels. These manifested in the form of super-hurricanes and tsunamis.

#### The Day After Tomorrow (2004)

It depicts catastrophic climatic effects following the disruption of the North Atlantic Ocean circulation. A series of extreme weather events usher in global cooling and lead to a new ice age. This is depicted through superstorms such as hurricanes, hail storms and more, leading to a significant drop in temperature.



## Man made disasters gone wrong



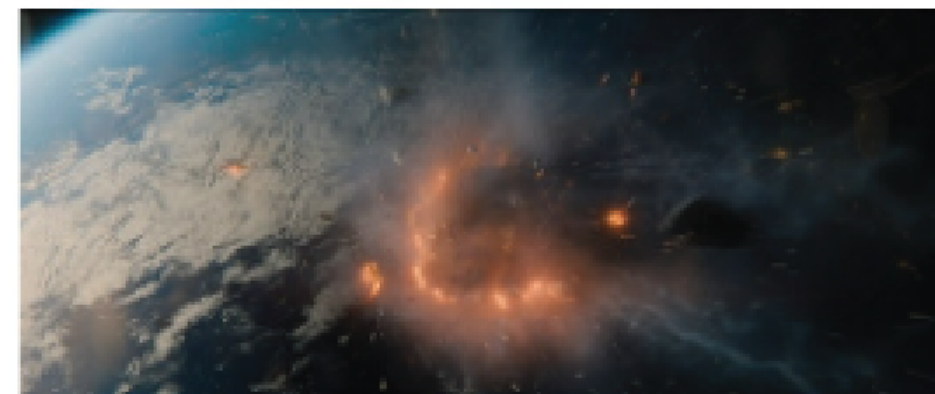
Technology has been used to create climate controlling instruments that can modify and change the weather to suit the needs of mankind. This was used to combat existing global warming issues and was initially successful. However due to malfunctions, the satellites have begun to create geo storms instead that cause massive tornadoes and tsunamis. Coupled with the greed of multi-millionaires seeking to capitalise on this technology to create advantageous climates for themselves to profit, this has led to mass flooding throughout the globe.

#### Geostorm (2017)

A malfunctioning climate-controlling satellite has been weaponised to profit the wealthy. These satellites then cause catastrophic events across the world.



## Meteor strike leading to catastrophic disasters



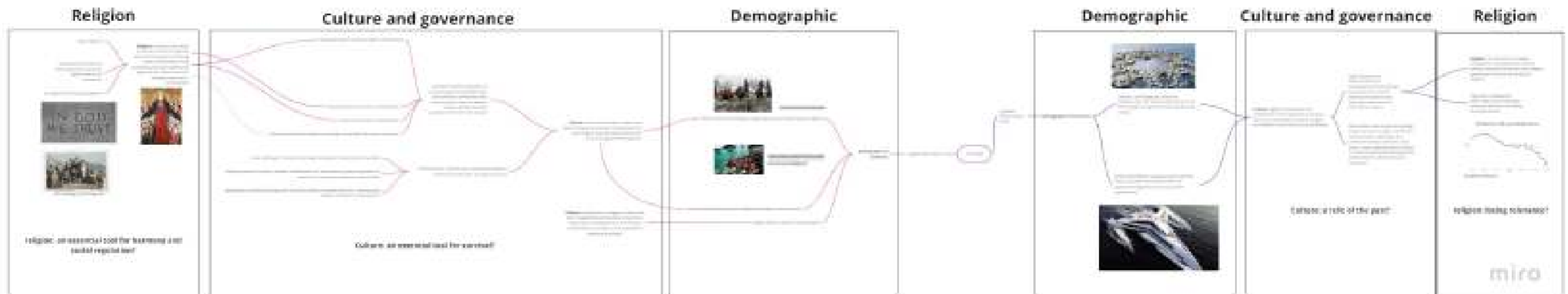
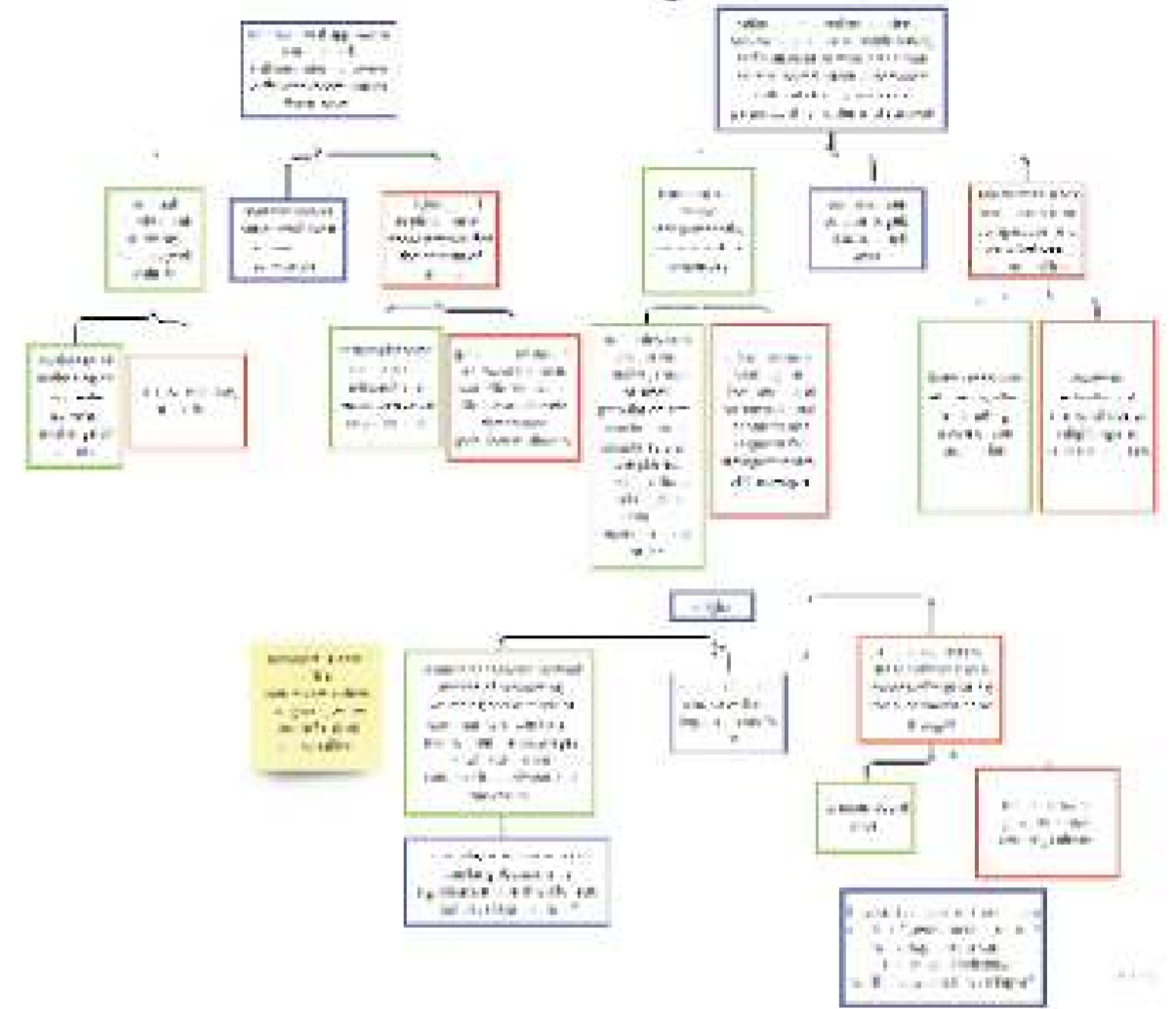
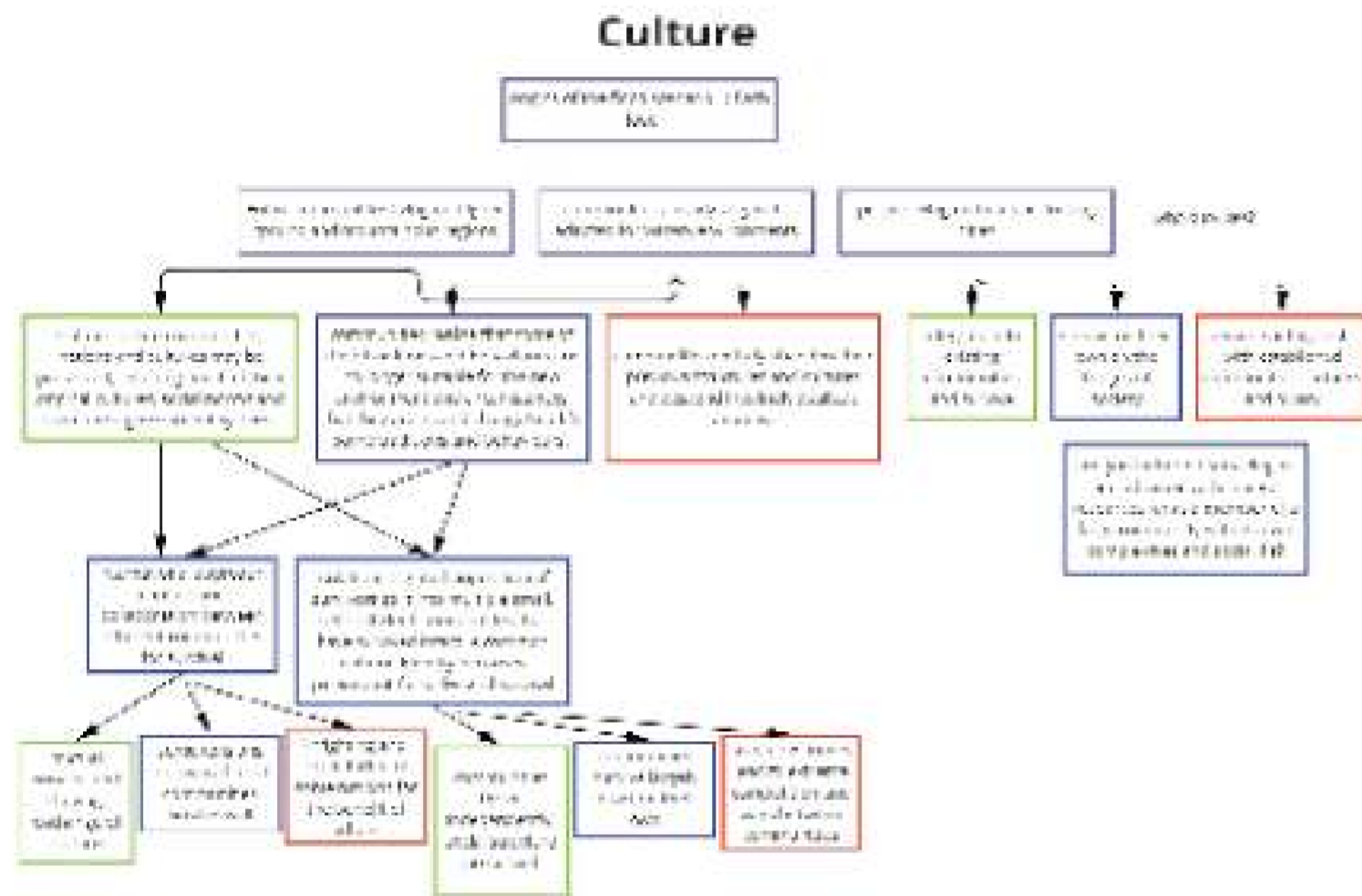
A meteor that strikes the earth causes a catastrophic disaster and triggers an extinction level event. Humankind has dwindled in population and only few remain, living on the scarce amount of inhabitable land still above sea level.

#### Don't Look Up (2021)

It tells the story of two astronomers attempting to warn humanity about an approaching comet that will destroy human civilization. The impact event is an allegory for climate change, and the film is a satire of government, political, celebrity, and media indifference to the climate crisis.



## Culture, Religion



Current Typologies of Museum

Physical Exhibition



**Physical Exhibition**  
 Traditional museum exhibition of artworks, objects, artefacts, artefacts and historical objects in a gallery.



**Physical Exhibition**  
 A large, ornate chandelier hangs from the ceiling of a museum gallery. The room is filled with various objects and artifacts on display.

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Current Typologies of Museum

Digital Exhibition



**Digital Exhibition**  
 A large, circular screen displays a blue, abstract, glowing image. The room is dark, and the screen is the main focus.

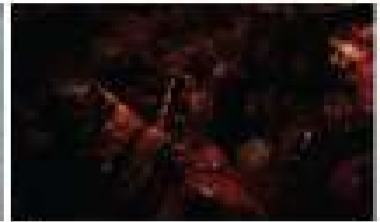
Interactive Exhibition



**Interactive Exhibition**  
 A large, circular screen displays a colorful, abstract image. A person is standing in front of the screen, interacting with it.



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Current Typologies of Museum

Performance Art



**Performance Art**  
 A person is performing on a stage in a museum gallery. A large screen displays the performance.



**Performance Art**  
 A person is performing on a stage in a museum gallery. A large screen displays the performance.

Current Typologies of Museum

Curator

**Curator**  
 A large, ornate chandelier hangs from the ceiling of a museum gallery. The room is filled with various objects and artifacts on display.



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Simulation Exhibition



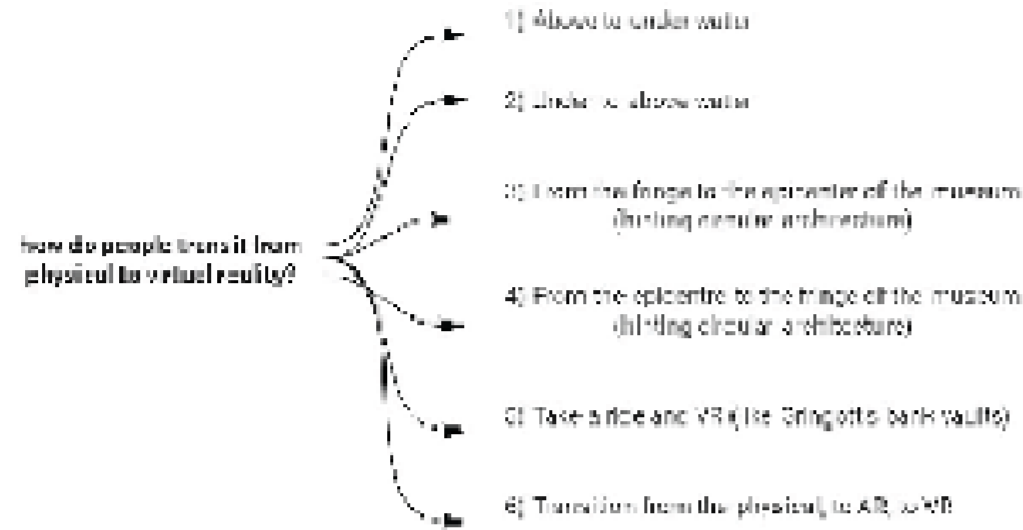
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### Possible Typologies of Museum

#### Circulation of Post Anthropocene museum



#### How will virtual reality be experienced?

- 1) Interact with objects that allow users to enter a museum VR (AR experiences)
- 2) Empty rooms that are created by AR
- 3) Can explore the underwater world via VR
- 4) physical activation with a VR overlay (interactive experience)

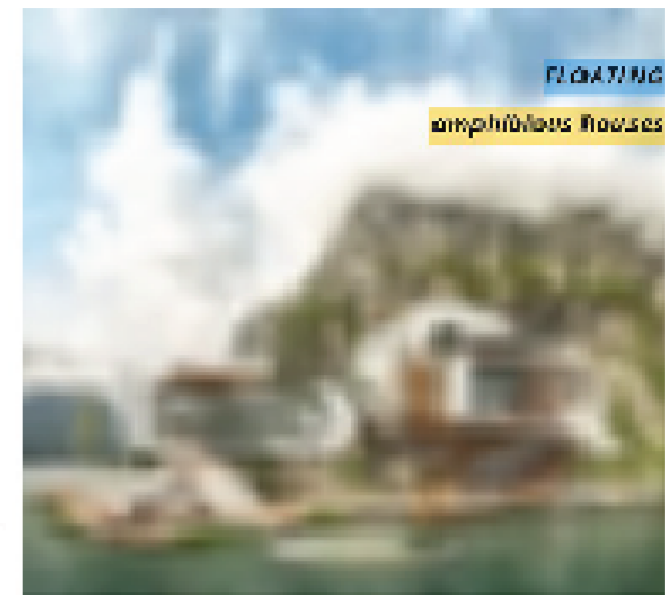
#### How will visitors interact with each other?



### 'WITTGENSTEIN'S CABIN'



Wittgenstein's Cabin is a small, rounded structure built on a rocky island in Lake Bled, Slovenia. It is a prime example of floating architecture.



**FLUATING**  
amphibious houses

### HOUSEBOATS

A floating house can be defined as a structure that is built on water, floating on a platform and is not fixed to the water's surface. Unlike traditional houses, which are built on land, floating houses are built on water. They are structurally similar to houses on land, but instead of a foundation, they float on a platform that allows them to move with the waves. They are often made of wood, steel, or aluminum, and they can be used as a permanent residence or a seasonal home. Floating houses are a unique architectural solution to the problem of land scarcity in coastal areas.



#### Types of Exhibits

Past	Present	Future
- nature - human life - art	- Novelty - human life - art - culture	- Speculative - new worlds - humanity

#### Can museums ever be like a game?

what if they are not just passive viewers but active participants that can affect the outcome of their experience?

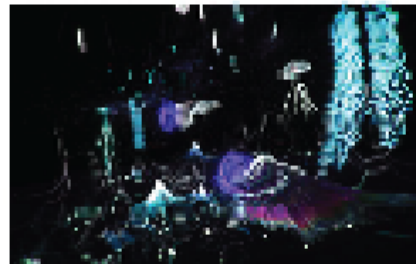
### Virtual Reality in Museums

The use of virtual reality in museums is growing rapidly, and it is changing the way we experience history and art.

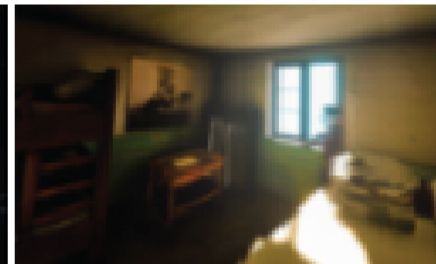
- |   |  |
|---|--|
| <p><b>Advantages</b></p> <ul style="list-style-type: none"> <li>- Access to otherwise unreachable locations</li> <li>- Interactive learning experiences</li> <li>- Immersive storytelling</li> <li>- Personalized tours</li> <li>- Cost-effective</li> <li>- Accessibility for people with disabilities</li> <li>- Ability to recreate historical events</li> <li>- Interactive exhibits</li> <li>- Virtual tours of museums</li> </ul> | <p><b>Disadvantages</b></p> <ul style="list-style-type: none"> <li>- Limited interactivity</li> <li>- Lack of social interaction</li> <li>- Limited accessibility for people with disabilities</li> <li>- Limited historical accuracy</li> <li>- Limited educational value</li> <li>- Limited engagement for children</li> <li>- Limited engagement for people with cognitive disabilities</li> <li>- Limited engagement for people with visual impairments</li> <li>- Limited engagement for people with hearing impairments</li> <li>- Limited engagement for people with physical disabilities</li> </ul> |
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### Art-Based Bang Bang



The Virtual Reality experience 'Bang Bang' is an interactive art installation that allows users to explore a virtual world.

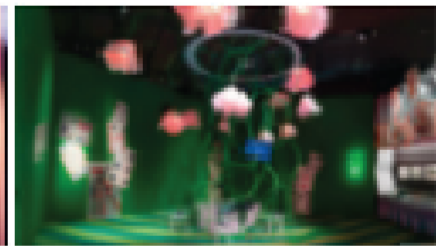
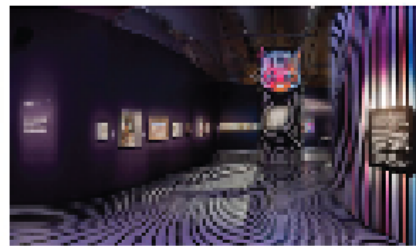
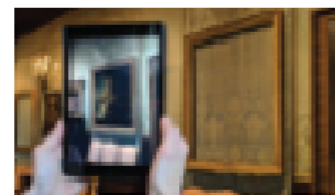


This VR experience allows users to explore a virtual world and interact with various objects.

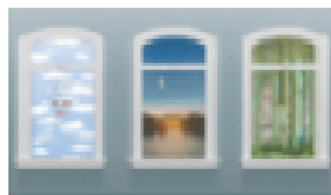
### Virtual and Mixed Reality

Virtual Reality (VR) and Mixed Reality (MR) are two types of immersive technologies that are being used in museums.

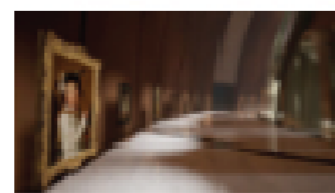
VR allows users to explore a virtual world, while MR allows users to interact with a virtual world in a real-world environment.

AR allows users to view a virtual object in a real-world environment.



VR allows users to explore a virtual world.



VR allows users to explore a virtual world.



VR allows users to explore a virtual world.

**Environment**

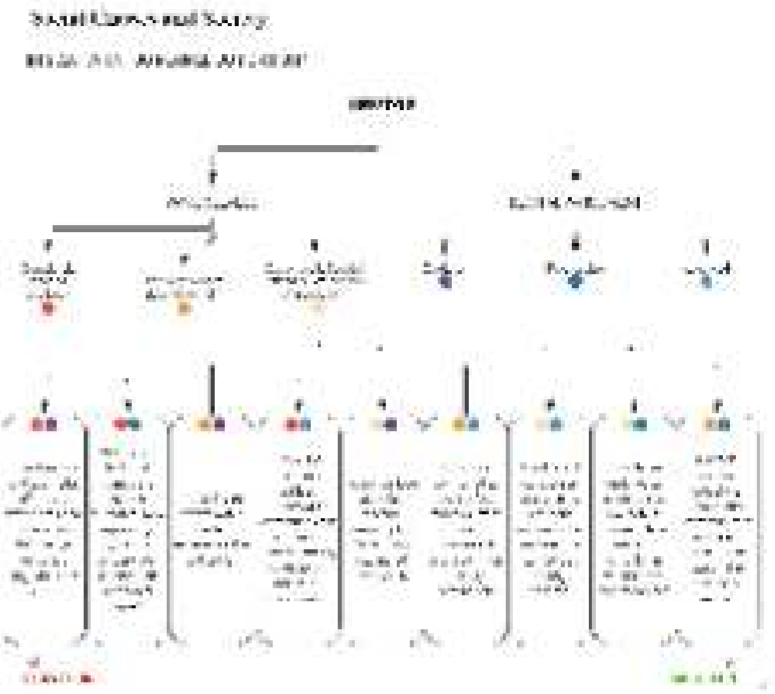
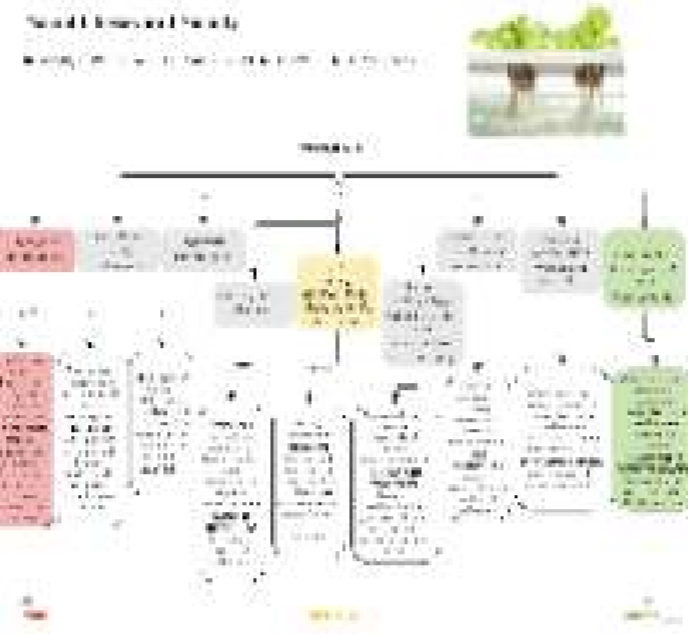
- 1. Air quality
- 2. Water quality
- 3. Noise and vibration
- 4. Land use and planning
- 5. Biodiversity and green infrastructure

**Waste**

- 1. Solid waste
- 2. Hazardous waste
- 3. Air quality
- 4. Land use and planning
- 5. Biodiversity and green infrastructure

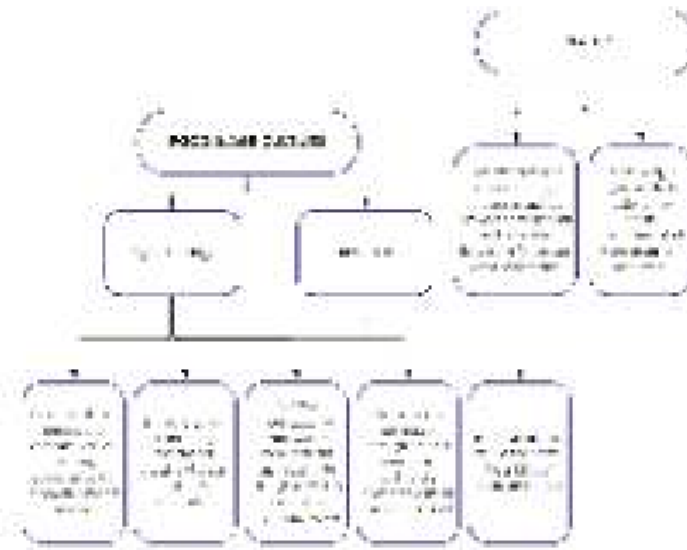
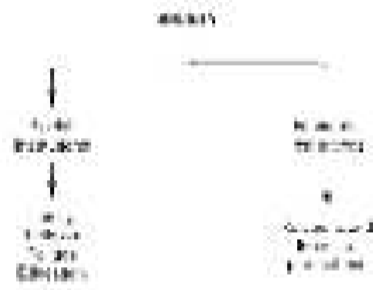
**Cultural Heritage**

- 1. Archaeology
- 2. Built heritage
- 3. Intangible heritage
- 4. Landscape
- 5. Maritime heritage



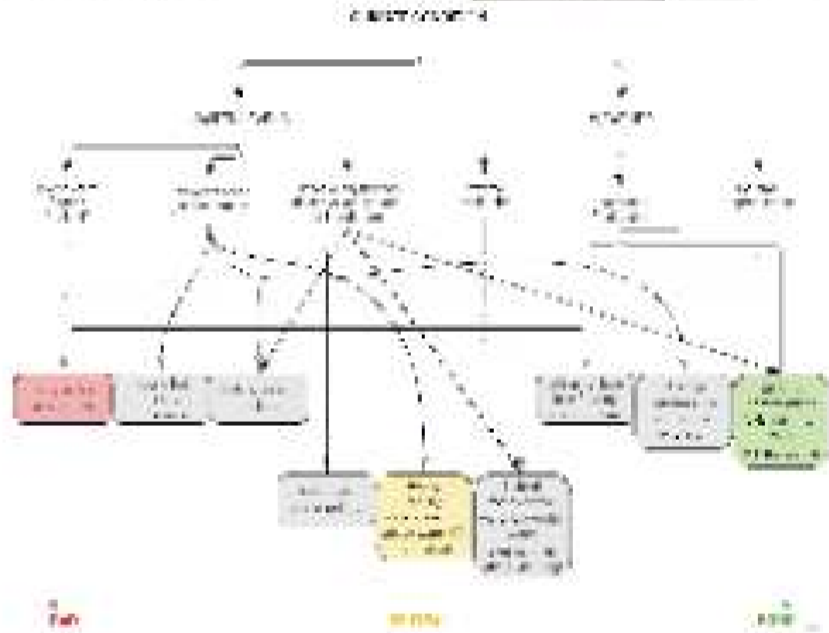
**Social Classes and Society**

Diagram illustrating the structure of society, showing a hierarchy from individual to society, with various social classes and their interactions.

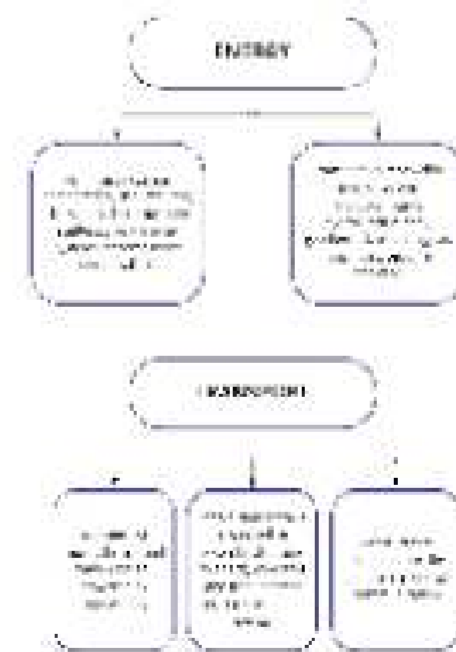
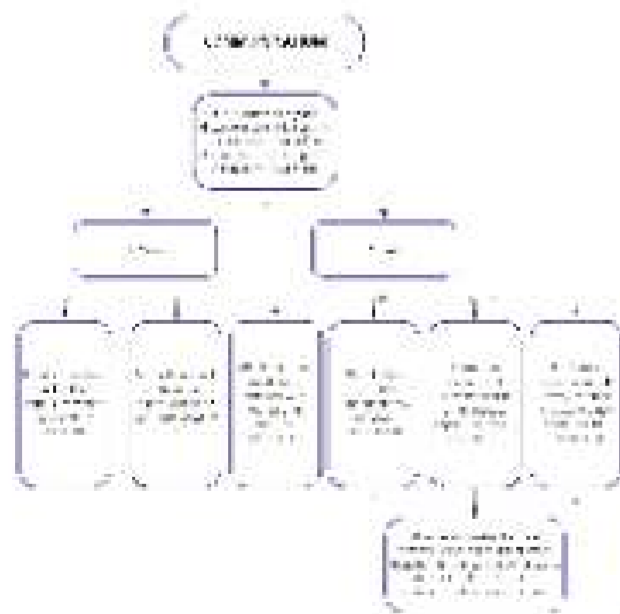


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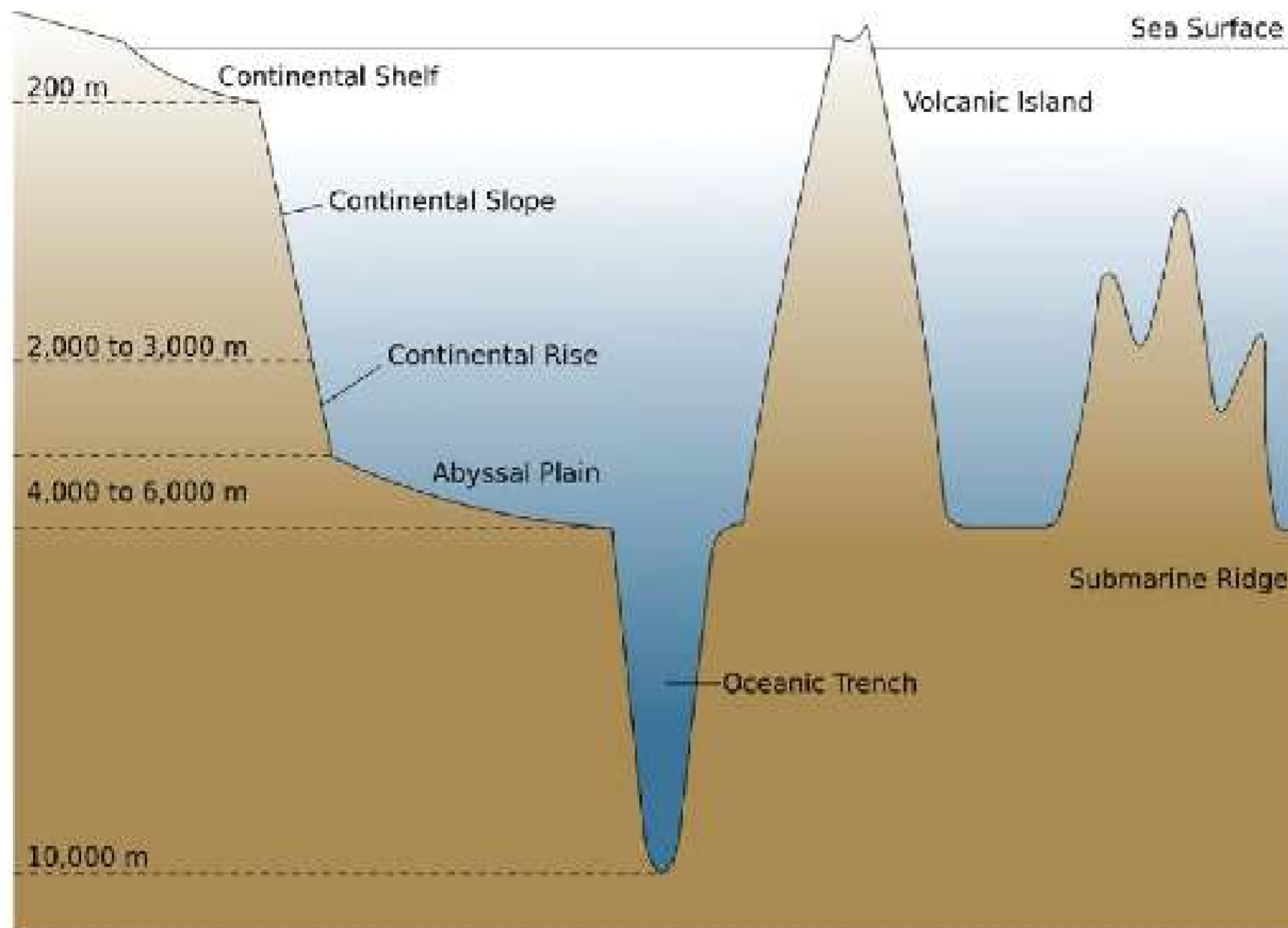


**TECHNOLOGY**





Site Presentation including Digital Site Model Presentation, image references, indexes, analysis of site - slope etc.

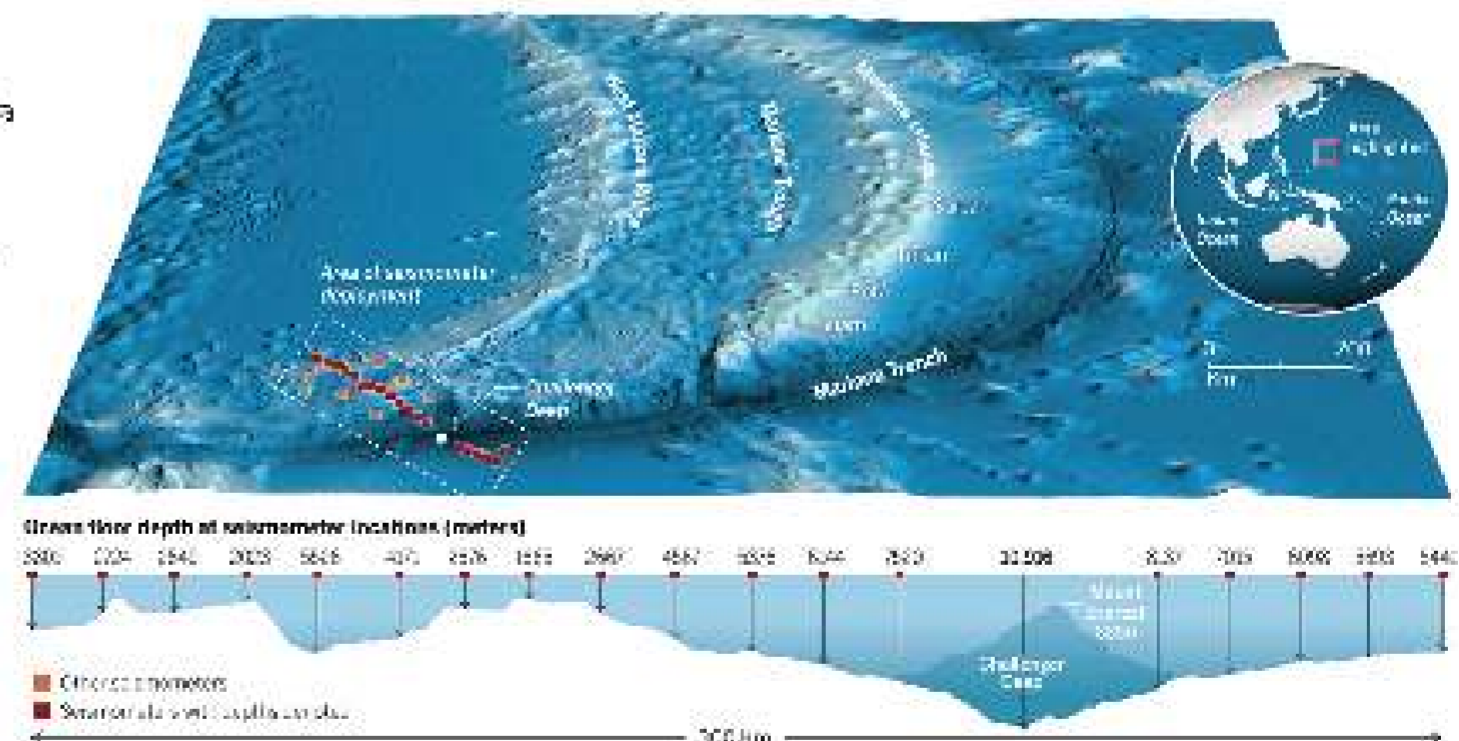
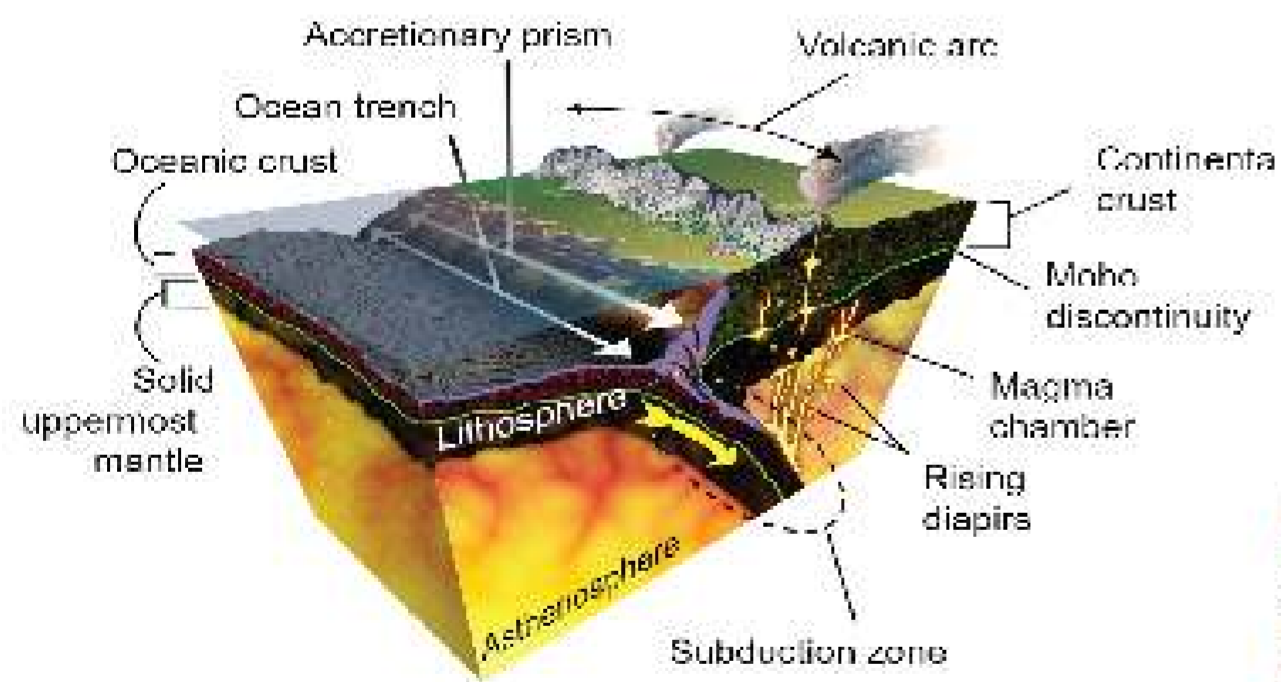


geographical formation and features of deep sea trenches:

formed at subduction zones when two plates collide (the heavier, denser oceanic plate will subduct. Different plate collision types produce different trenches/subduction zones:

- oceanic - oceanic plate collision: both plates are forced downwards into a deep valley
- oceanic - continental: denser oceanic plate subducts beneath the lighter continental plate to form the trench, the continental plate will fold and buckle upwards to form a mountain range or a volcanic arc

profile: steep, jagged edges, sudden sharp drop downwards.





Heavy, large and angular rocks



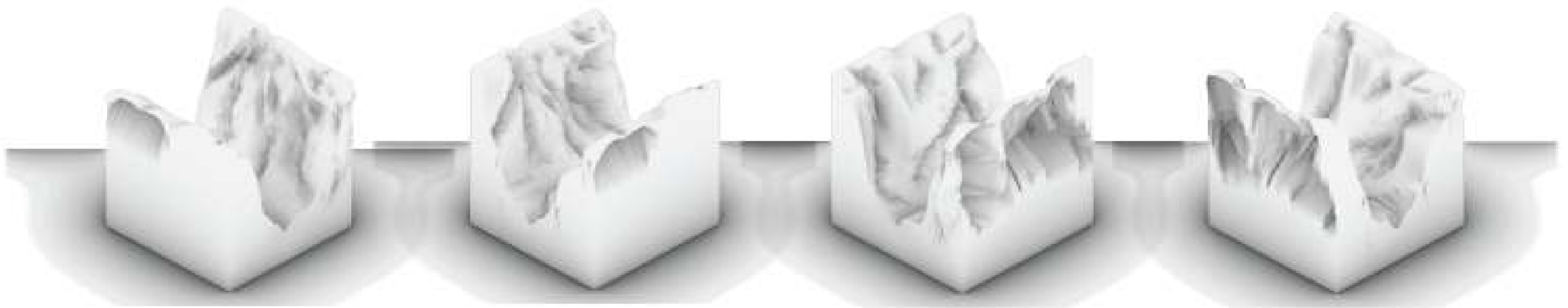
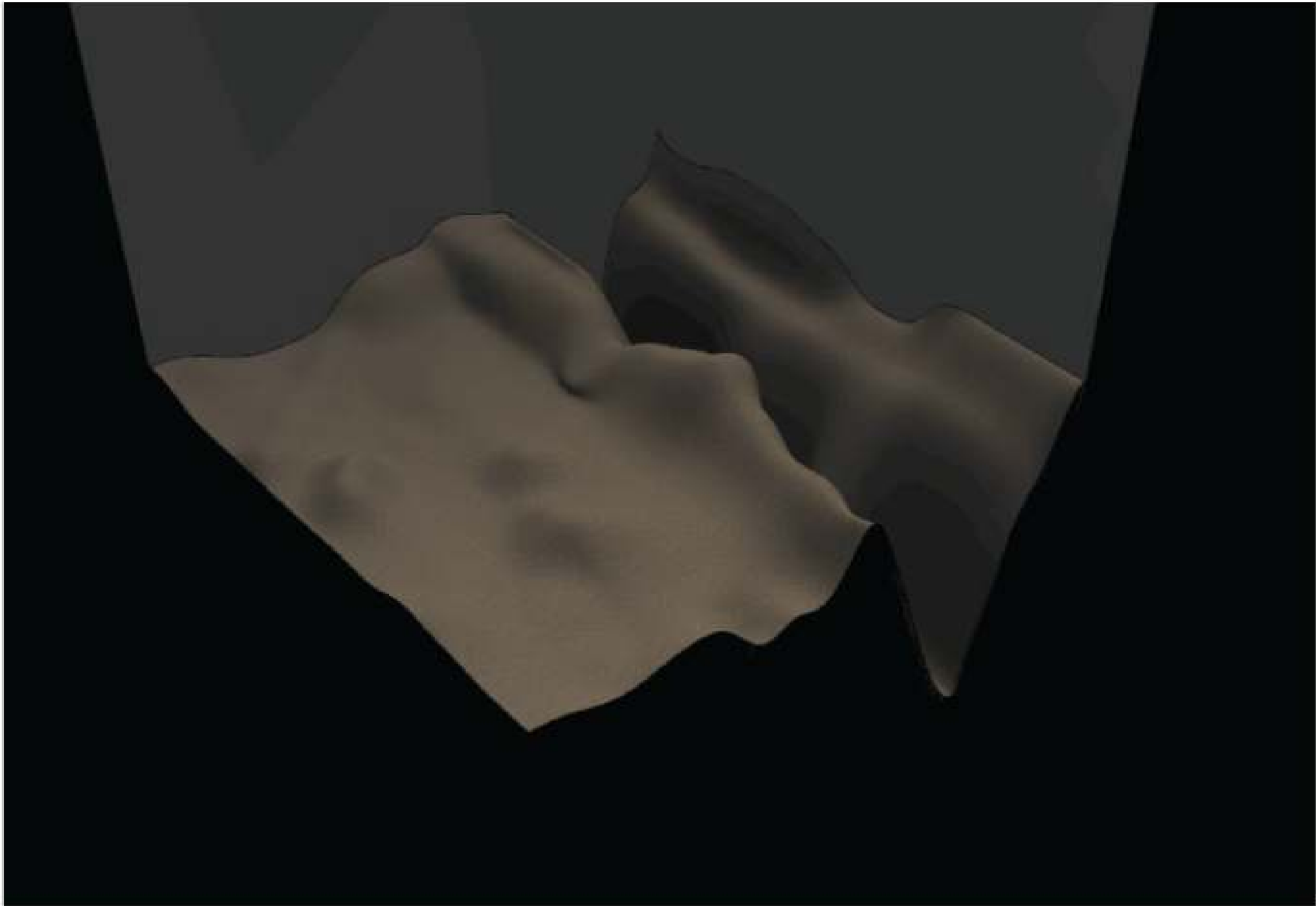
smoothened boulder masses with deep fissures carved into the surface



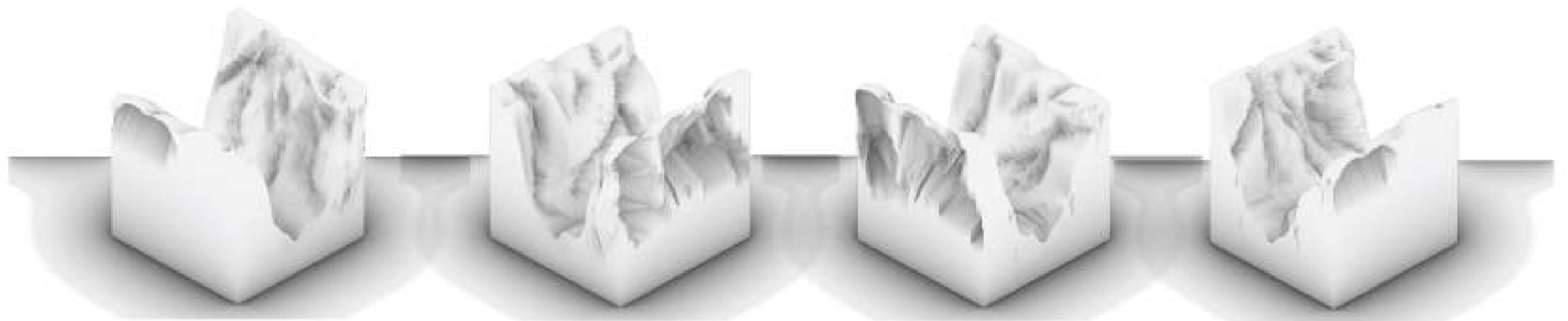
small jagged rocks on the sandy seabed (largely smooth, with small ridges)

## 2. Topologies.

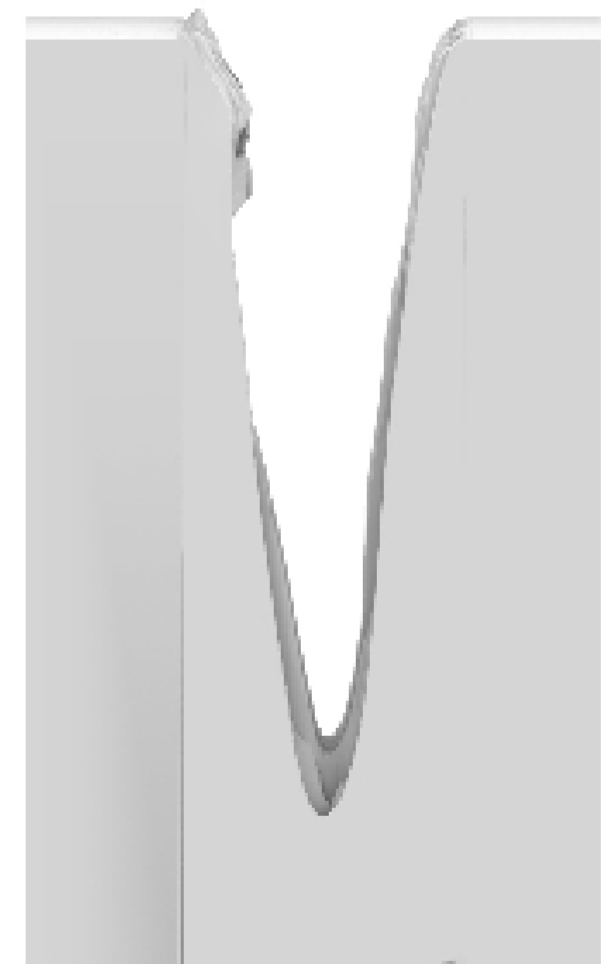
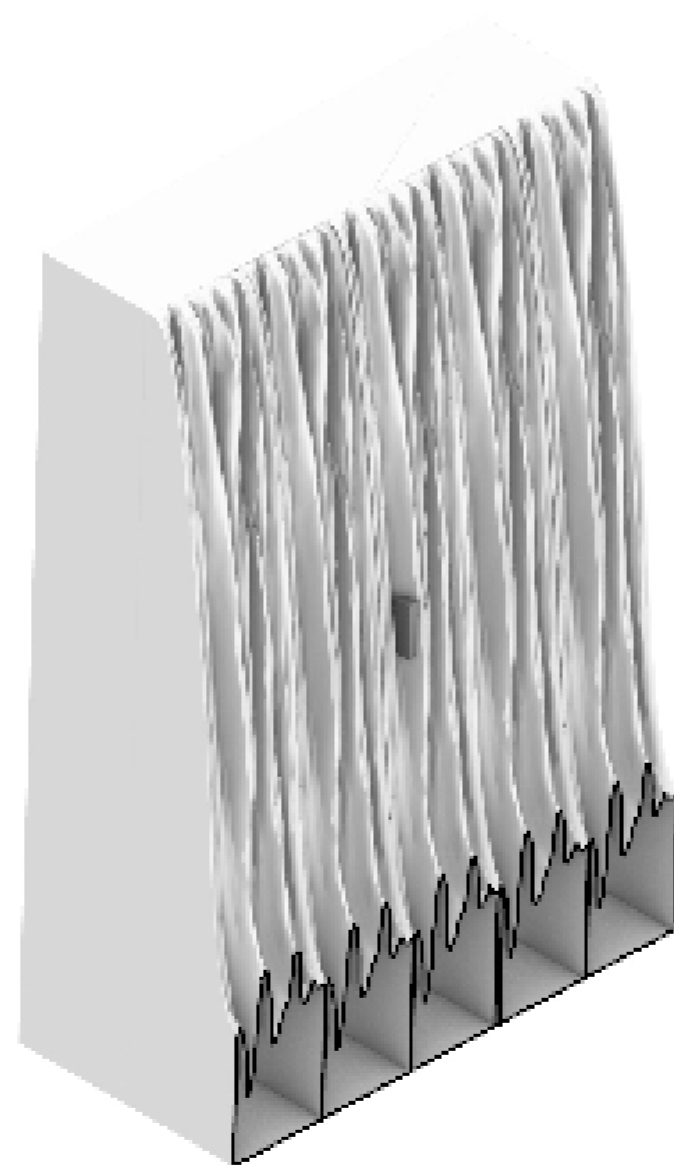
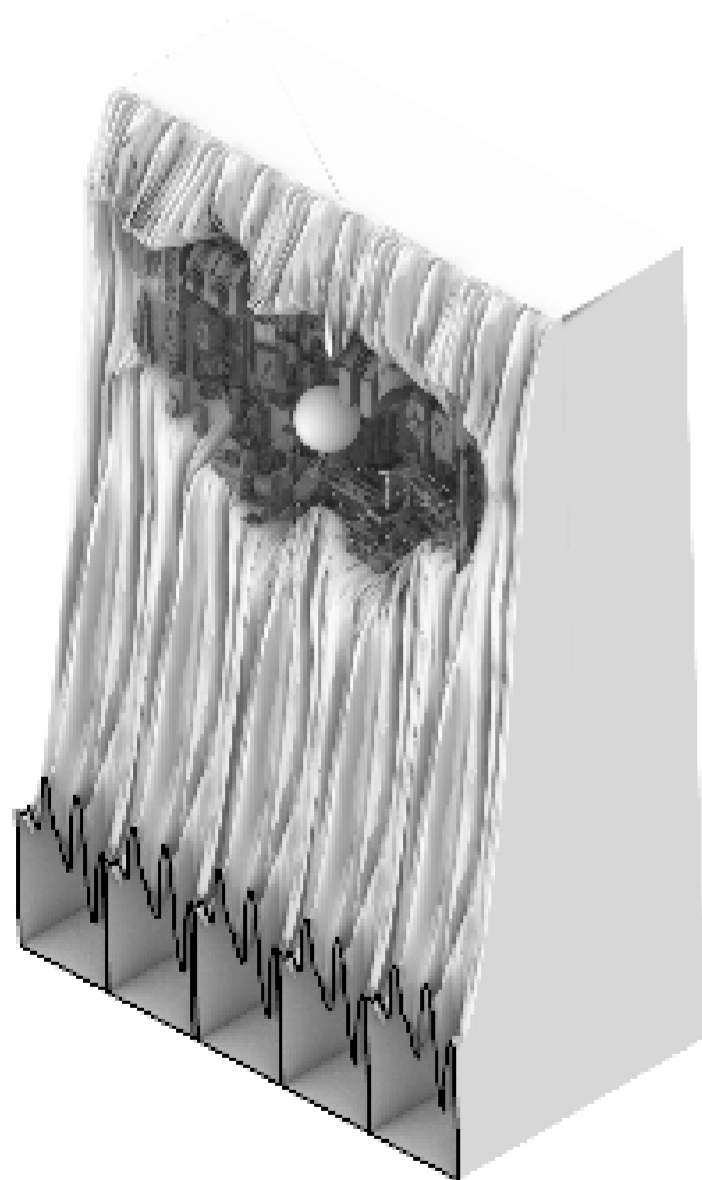
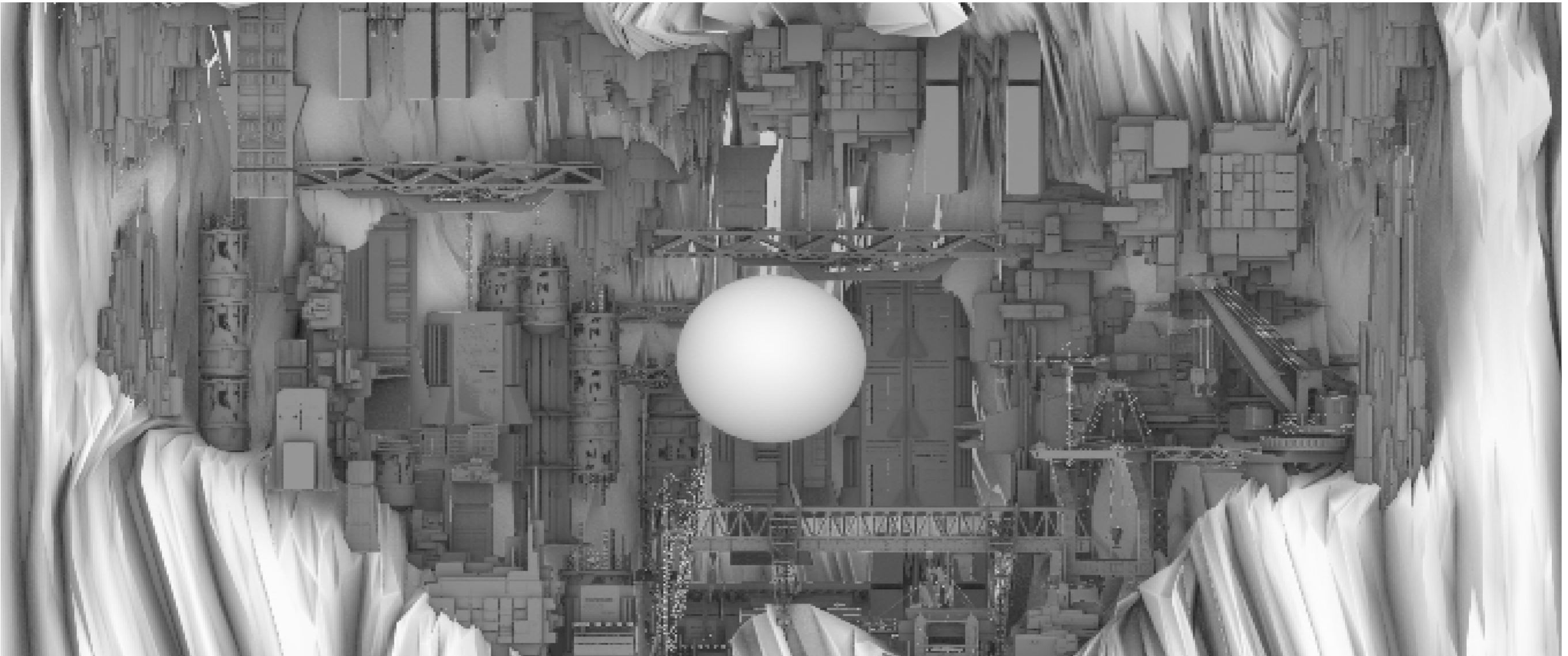
Having selected a deep marine trench as my site, I began carving and sculpting early versions of my site's topology, referencing the Mariana trench as a starting point and then exaggerating its already extreme form. I also began researching into the type of marine life present at the bottom of the sea, the temperature, light and pressure conditions, geological composition and even sounds at the bottom of the ocean.



Version 1: with a wide western berm for the cityz to sit on, and a deep trench in which the museum



Version 2: the trench widened, cutting into the berm and forcing the city backwards.



Version 3 (final): the trench stretched upwards dramatically, the ridges running down its side deepened, and

### 3. Collages and Narratives.

With my site and its unique environmental conditions in mind, I began imagining what sort of people would inhabit it.

What sort of circumstances would make a community live somewhere so extreme?

what sort of push or pull factors?

what kind of technologies would enable survival, and what would they cost to operate?

would they live comfortably, or would they be constantly fighting for survival?

what would the culture of this society be like, and how might it be changed or shaped by their harsh physical environment?

how would the lack of light, air and natural life at the bottom of the trench affect a person physically, psychologically and emotionally in the long run?

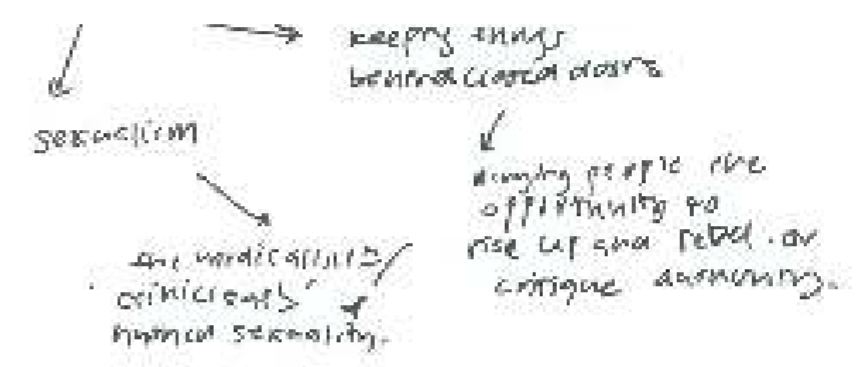
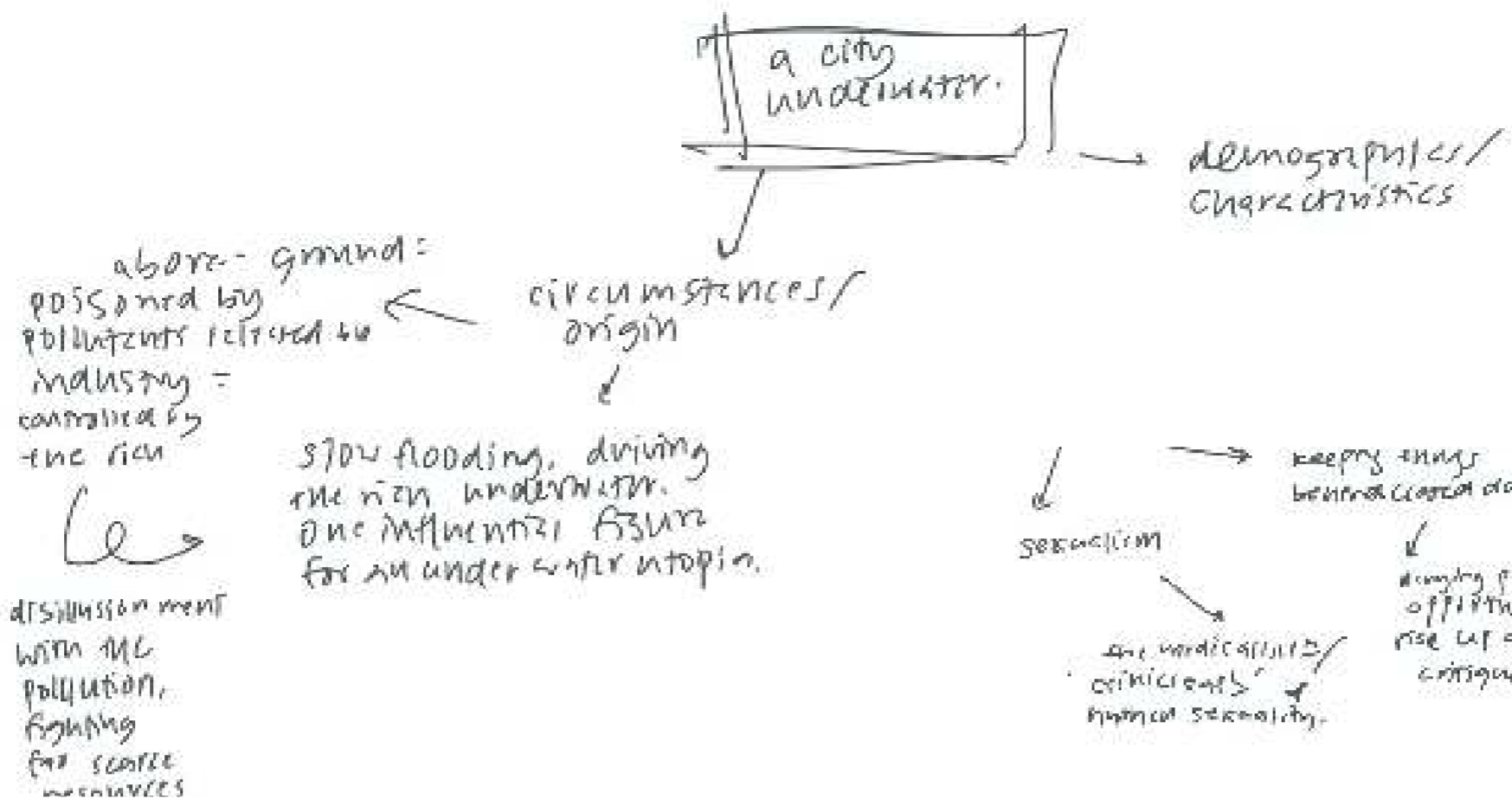
could one ever get used to those conditions?

would the deprivation of terrestrial culture and conditions change one's own humanity?

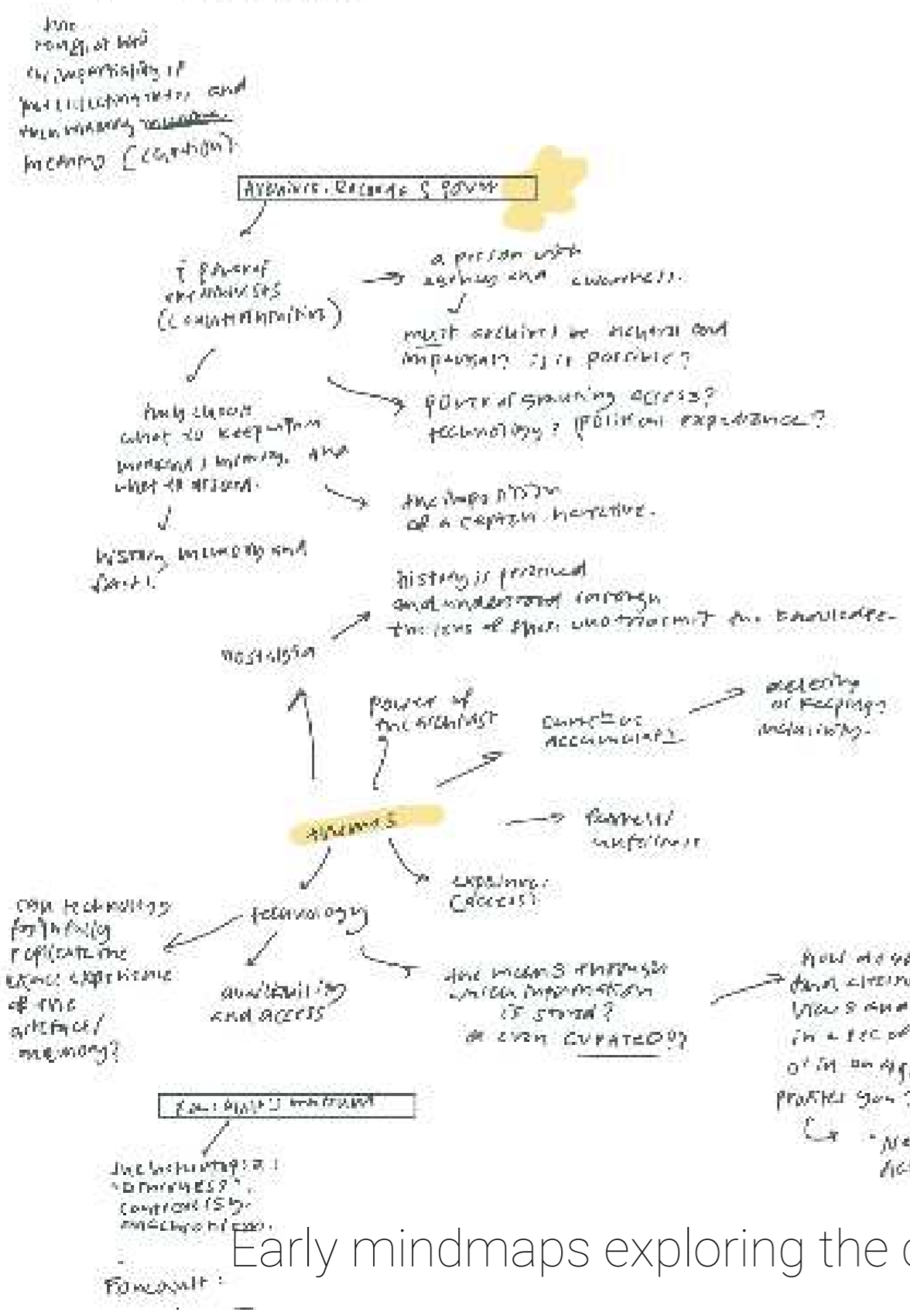
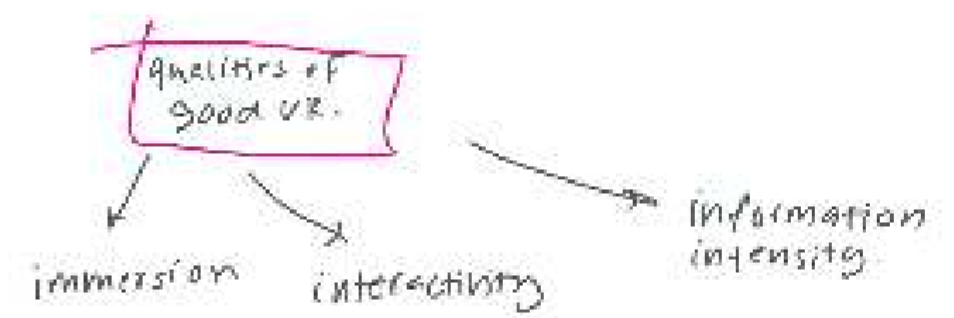
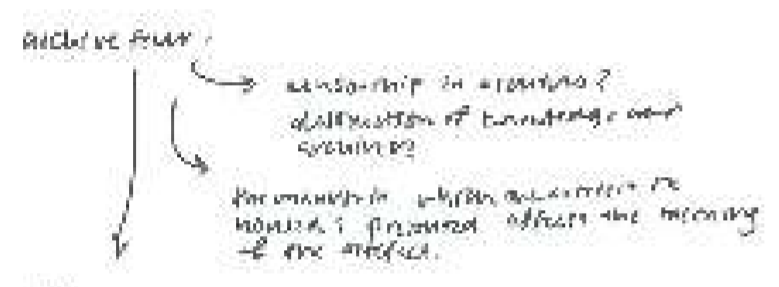
how would such a people, conditioned to living deep underwater all their lives, react to terrestrial environments, whether virtual or real?

would these people be able to discern what is virtual and what is real? are these two really separate?

all of these questions, and more, drove the mood of my initial collages and narratives.



Imagine the future by thinking about the not-here, not-now. The future is a totally different concept (independent of the present and the past).



narrative

↳ refine down, cut out the irrelevant stuff (major industrialists could only experiment under water/ needed the space of minimal down there)

↳ museum: established by

collage

↳ show the view of the city/country - steel and fire under water? what is the view of the city?

↳ contextualize in the trench.

↳ how is the city lit in the trench?

Early mindmaps exploring the conditions and nature of my imaginary society.





## Narrative V.1

Industry is king, knowledge is God.

36,000 feet beneath the churning black waves of the Pacific Ocean, within its frigid, alien expanse, a brilliant city emerges. Luminant, elaborate skyscrapers stand in lockstep along the seabed, their slender forms armoured fiercely against the crushing pressures. Sprawling complexes buzz with light and activity. Spotlights along the perimeter of the city pierce through the inky darkness, perpetually scanning the waters and finding nothing. This is the city of Vulcan.

Nearly a century ago, the brightest of mankind unleashed his deadliest technologies yet on the Earth, tearing energy directly from the planet's core to feed his ballooning gluttony. The victory short-lived, these technologies irreparably poisoned the land and seas, tearing open the ozone layer and irradiating the atmosphere. Warming seas swelled and engulfed much of the land, marooning mankind on increasingly infertile soil as sea creatures sickened and mutated. Food and resources depleted rapidly, with the rich and powerful industrial leaders hoarding as much food, clean water and natural resources, and the rest fighting for what little remained. In a desperate bid to quell infighting and delay the earth's destruction, rapidly weakening governments seized the assets of rich, shut down technological research efforts and outlawed all technologies produced in the last century, sending mankind tumbling backwards into darkness.

However, this would not be the end for the industrialists, who worshipped the work of their hands. Enraged by the sanctions against technology and the seizing of their assets, powerful industrialists rallied around a shadowy council to escape what they saw as parasitism, oppression and hopelessness. Together, they led humanity's best and brightest deep beneath the waves to Vulcan, the glittering utopia of their creation. Sheltered beneath the roiling toxic waves, the first Vulcans were free from authoritarian control, free to resume their research, creations and leisure, served by a captive population of the poor and disenfranchised relegated to the outskirts of the city. The Vulcans monumentalised their achievements in basalt and sima, building museums to boast of their technological marvels and the grand origins of their city. Here, the wealthy gorged on the mutated sea creatures, unaware that their lavish meals were poisoning them slowly as they withered under the darkness of the ocean. The poor conversely ate disgusting meals of kelp, algae and marine worms, unaware that in fact, their diets were untainted by the pollution in the water and protected their health. Unbeknownst to them as they sat in the discarded shipment crates and transport pods at the outskirts of the city, the poor were on the cusp of revolution.

In this city, no children play, for the elite clone themselves with implanted memories to preserve their knowledge and eliminate resource inefficiencies associated with child-rearing. Only the poor reproduce naturally to sustain the worker population. Here, there are no parks, no schools, no playgrounds, no family homes – nothing to remind Vulcan's orphan children of their humanity or their terrestrial origins for even their parents have forgotten. However, these children have not forgotten their curiosity and determination to know their origins. Together, a few children have begun painstakingly collecting and piecing together stories of 'topside' handed down through the generations, the precious myths and memories of their grandparents now stored in virtual reality. In the deserted halls of an abandoned museum, these children have assembled their own motley collection of incomplete yet wonderful stories – of the sun's warmth on the skin, grass underfoot, stars twinkling overhead, the glow of the moon over a forest. In the hollow hull of industry's former champion, a new movement finds its unsteady footing, borne of the human memories, relationships and radical curiosity the industrialists relinquished to greed long ago.

Industry is king, knowledge is God. Perhaps now, no longer.

Collage V.2



## Narrative V.2

Repetamus nostra – we reclaim what is ours.

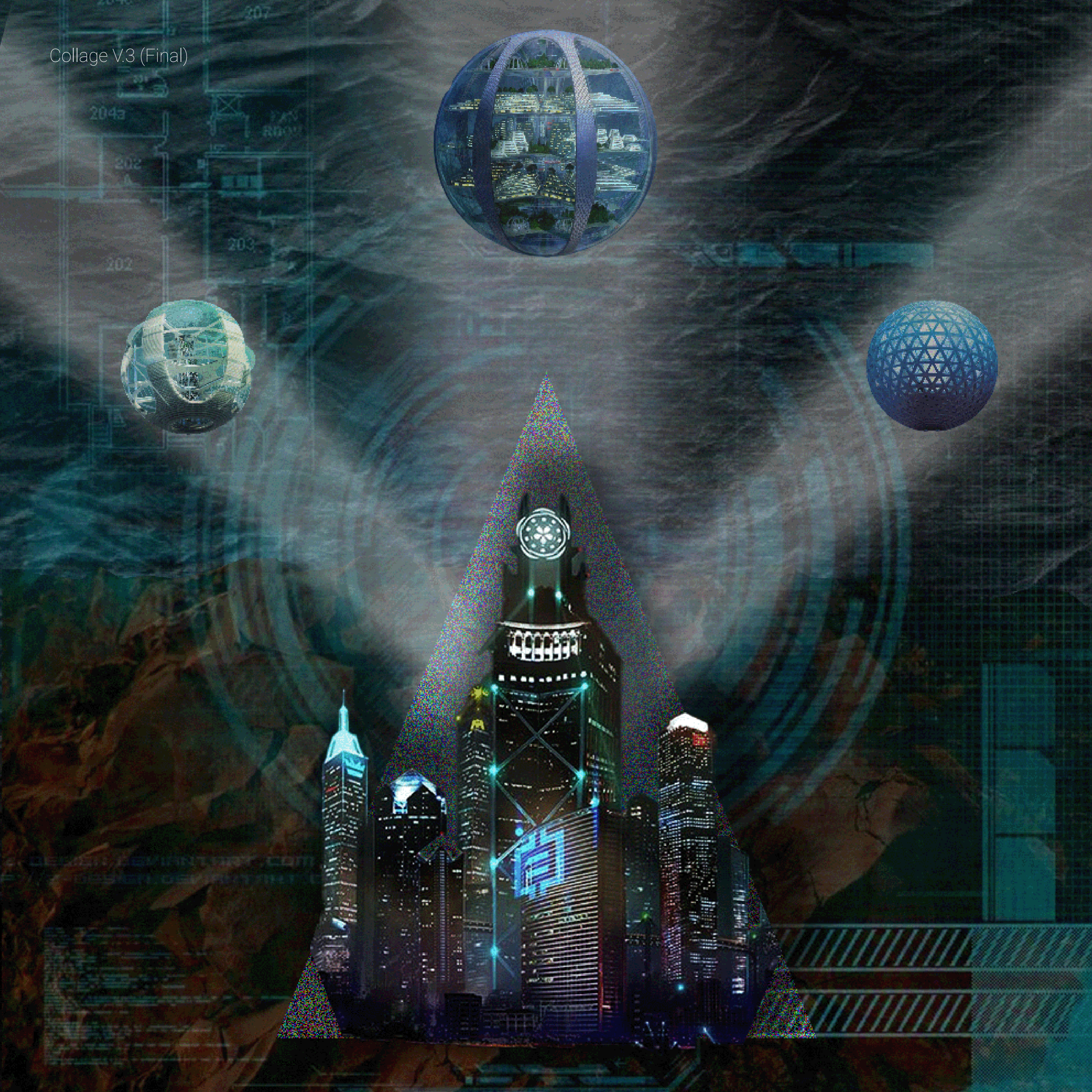
36,000 feet beneath the churning black waves of the Pacific Ocean, within its frigid, alien expanse, a brilliant city emerges. Luminant, elaborate skyscrapers stand in lockstep along the seabed, their slender forms armoured fiercely against the crushing pressures. Sprawling complexes buzz with light and activity. Spotlights along the perimeter of the city pierce through the inky darkness, perpetually scanning the depths and finding nothing. This is the city of Nazareth.

Nearly a century ago, the brightest of mankind unleashed his deadliest technologies yet on the Earth, tearing energy directly from the planet's core to feed his ballooning gluttony. The victory short-lived, these technologies irreparably poisoned the earth. Transient flooding marooned mankind on increasingly infertile soil as terrestrial flora and fauna sickened and mutated. Food, energy and natural resources depleted rapidly as humanity clawed desperately at survival amidst a suffocating fog of toxins. Only the deepest parts of the seas and the seabed they covered were safe for life. Within a decade after the onset of these environmental catastrophes, it became clear that the poisoned earth could no longer sustain the entire human population and its demands on dwindling resources, with starvation, poverty, violent crime and infighting rampant. At its darkest hour, mankind seemed poised for extinction if forced to remain on land. And so, the subaquatic Messiah programme was born.

Out of the crippled human population, five thousand youths were chosen for preservation in the haven of Nazareth as the populations above the waters perished. The best and brightest of their generation, the first Nazarenes were chosen specifically for their physical fitness, intelligence, resourcefulness, courage and discipline. Now within the rigid confines of Nazareth, their sole mission is to keep the best traits of humanity alive long enough to allow for the eventual repopulation of the earth once the waters recede. This is done through controlled procreation, environmental and technological research and meticulous knowledge preservation. Life in Nazareth is strictly regimented, controlled militaristically by overseers of the programme. The family unit no longer exists in Nazareth, with parents selected for optimal traits to be expressed in their offspring and all children raised and educated in central training academies. From a young age, children are indoctrinated with this common purpose, and trained in various life and knowledge-sustaining vocations such as aquaculture, research and engineering. All adults work in their assigned vocations within colossal research, archival and production facilities, maintaining and developing the city's population in preparation for their eventual ascent. At the end of the day, Nazarenes return to their assigned barracks for personal study, leisure and rest, before beginning each day again.

In the face of such a desperate mission, strict regimentation and a bleak subaquatic existence, it would be easy for the Nazarenes to soon lose hope in the purpose of their existence and forget the importance of their mission – perhaps even forget their own humanity. Hence, amidst the gleaming research towers at the heart of the city lies an archival facility of a markedly different kind. Established by the overseers of the programme for every Nazarene's free access, the Museum of Humanity is a sprawling complex containing the past generations' harvested memories of life on land, before the floods. Virtual reality allows visitors to interact with these haptic memories of the Sun on one's skin, grass underfoot, traditional festivals and human customs from before the flood. Though only a shadow of the rich experiences they embody, the memories stored in the Museum of Humanity will play a critical role in the successful rebirth of humanity – preparing the men, women and children who will one day emerge blinking from the seas for the empty world they will have to retake.

Collage V.3 (Final)



## Narrative V.3 (Final)

Repetamus nostra – we reclaim what is ours.

36,000 feet beneath the churning black waves of the Pacific Ocean, within its frigid, alien expanse, a brilliant city emerges. Luminant, elaborate skyscrapers stand in lockstep along the seabed, their slender forms armoured fiercely against the crushing pressures. Sprawling complexes buzz with light and activity. Spotlights along the perimeter of the city pierce through the inky darkness, perpetually scanning the depths and finding nothing. This is the city of Nazareth.

Nearly a century ago, the brightest of mankind unleashed his deadliest technologies yet on the Earth, tearing energy directly from the planet's core to feed his ballooning gluttony. The victory short-lived, these technologies irreparably poisoned the earth. Transient flooding marooned mankind on increasingly infertile soil as terrestrial flora and fauna sickened and mutated. Food, energy and natural resources depleted rapidly as humanity clawed desperately at survival amidst a suffocating fog of toxins. Only the deepest parts of the seas and the seabed they covered were safe for life, though the marine flora and fauna had been mutated into dangerous threats. Within a decade after the onset of these environmental catastrophes, it became clear that the poisoned earth could no longer sustain the entire human population and its demands on dwindling resources, with starvation, poverty, violent crime and infighting rampant. At its darkest hour, mankind seemed poised for extinction if forced to remain on land. And so, the subaquatic Messiah programme was born.

Out of the crippled human population, five thousand youths were chosen for preservation in the haven of Nazareth as the populations above the waters perished. The best and brightest of their generation, the first Nazarenes were chosen specifically for their physical fitness, intelligence, resourcefulness, courage and discipline. Now within the rigid confines of Nazareth, their sole mission is to keep the best traits of humanity alive long enough to allow for the eventual repopulation of the earth once the waters recede. However, life at the bottom of a mutant sea is perilous, and the Nazarenes are in a constant battle for survival. Crushing sea pressures constantly threaten the city's infrastructure and render moving within the city extremely laborious and dangerous. The pitch darkness at the seabed limits visual range to less than a foot beyond the ballistic glass windows of the transport pods and complexes, and conceals vicious sea creatures within its depths. In Nazareth, the sea's deathly silence is broken only by the keening of sea creatures and the creaking of the buildings straining to hold the waters back. In such a hostile environment, the Nazarenes battle for survival through controlled procreation, environmental and technological research and meticulous knowledge preservation. Life in Nazareth is strictly regimented, controlled militaristically by overseers of the programme. The family unit no longer exists in Nazareth, with parents selected for optimal traits to be expressed in their offspring and all children raised and educated in central training academies. From a young age, children are indoctrinated with this common purpose of survival, and trained in various life and knowledge-sustaining vocations such as aquaculture, defence, research and engineering. All adults work in their assigned vocations within colossal research, archival and production facilities, relentlessly maintaining and developing the city's population in preparation for their eventual ascent.

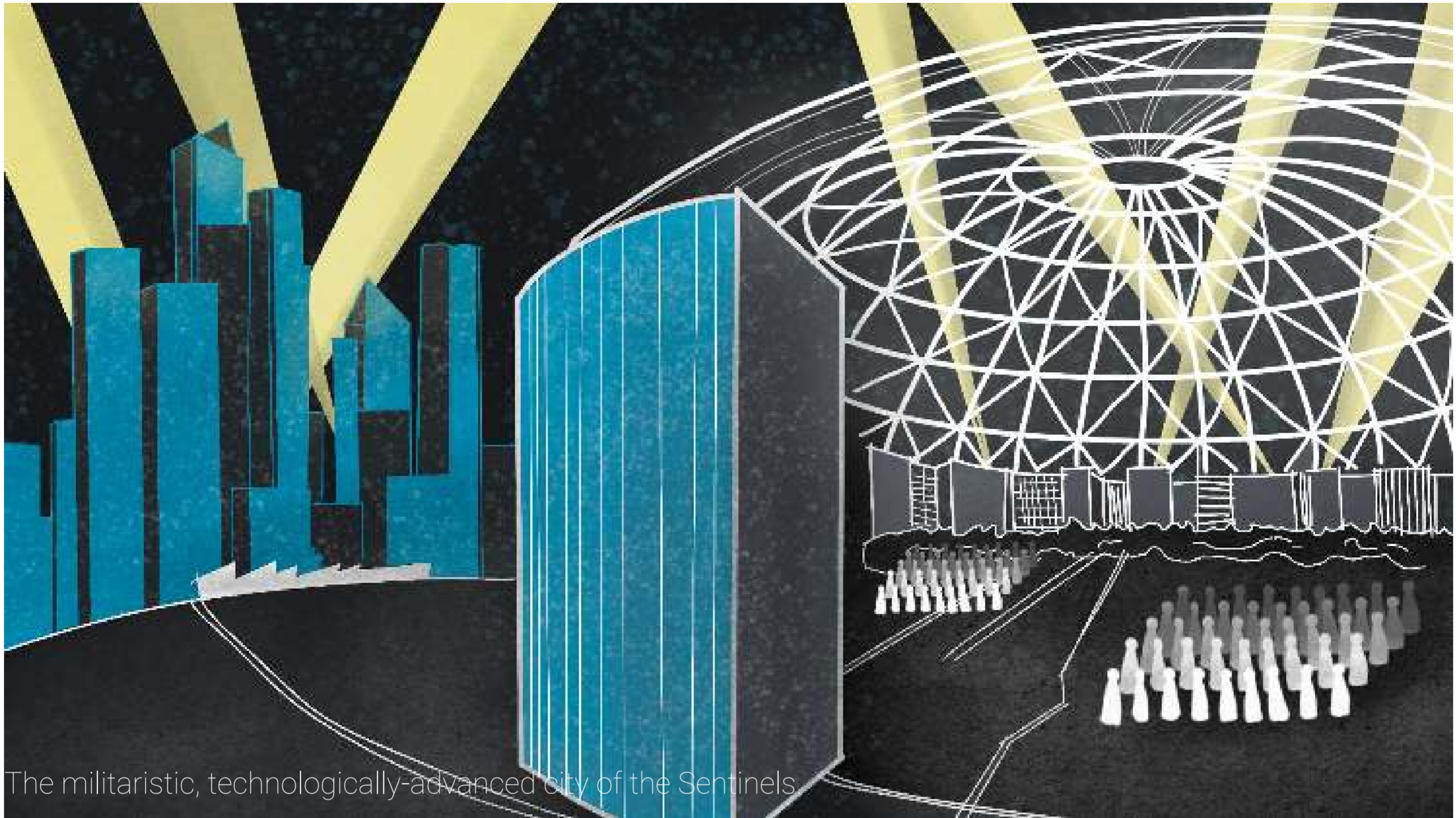
In the face of such a desperate mission, brutal regimentation and a bleak subaquatic existence fraught with danger, it would be easy for the Nazarenes to soon lose hope in the purpose of their existence and forget the importance of their mission – perhaps even forget their own humanity. Hence, amidst the gleaming research towers at the heart of the city lies an archival facility of a markedly different kind. Established by the overseers of the programme for every Nazarene's free access, the Museum of Humanity is a sprawling complex containing the past generations' harvested memories of life on land, before the floods. Virtual reality allows visitors to interact with these haptic memories of the Sun on one's skin, grass underfoot, the sound of the sea breeze and so on, facilitated by the customisable features of the physical exhibition spaces. These memories are entirely foreign to the present Nazarenes- their owners died generations ago. Yet, even as the Nazarenes cautiously step into these unnervingly alien experiences, there is something strangely familiar and deeply comforting in these simulated memories so vastly different from their current reality - a brief moment of blissful respite amidst endless darkness. Though only a shadow of the rich experiences they embody, the memories stored in the Museum of Humanity will play a critical role in the successful rebirth of humanity – preparing the men, women and children who will one day emerge blinking from the seas for the empty world they will have to retake.



The Destruction of the world above.



The descent of the Sentinels into the trench.



The militaristic, technologically-advanced city of the Sentinels

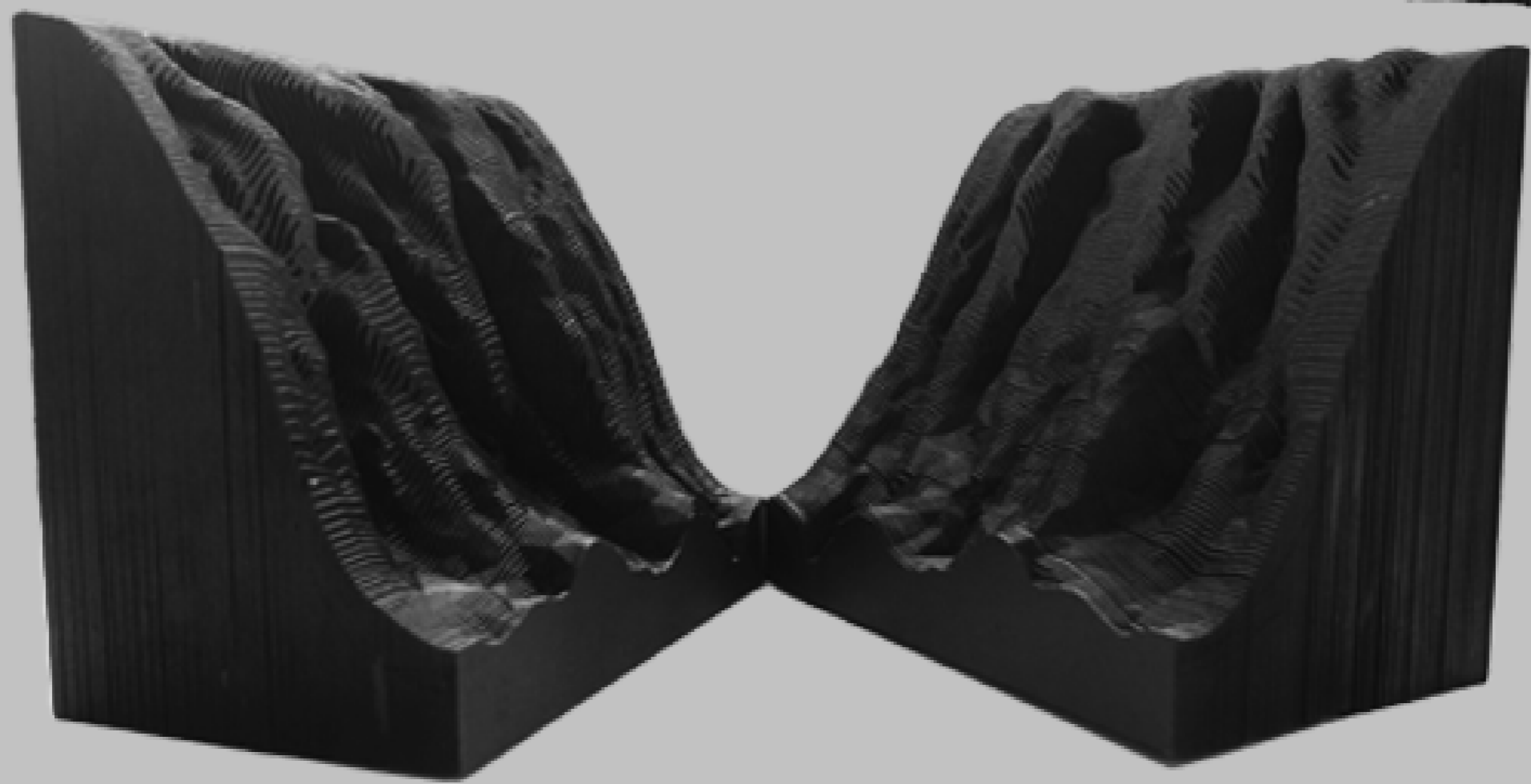


The eventual return of the Sentinels to the surface.



## 4. Early Physical Models.

I briefly shifted focus to begin building an early topological model, allowing me to better visualise how my imaginary society would make use of such a space. Having the physical model at hand let me feel the tightness, the dizzying verticality of the narrow trench, the desolation of this dark, impenetrable space stretching seemingly endlessly in two axes, and closing in claustrophobically in the last axis. Deep ravines slash through the hard rock, creating narrow crevices and dramatically deep holes in the ravine surface. Where the two sides of the ravines finally meet, however, seem oddly comforting, nearly cradle-like as one gazes upwards at the distant, imperceptible surface, and the two sides of the V-shaped ravine seem to pull away in a rare breath. After some contemplation on this first topology model, however, I decided to make the geometry of the ravine even more extreme and pronounced, drawing it sharply upwards whilst driving its two sides even closer together. Ear



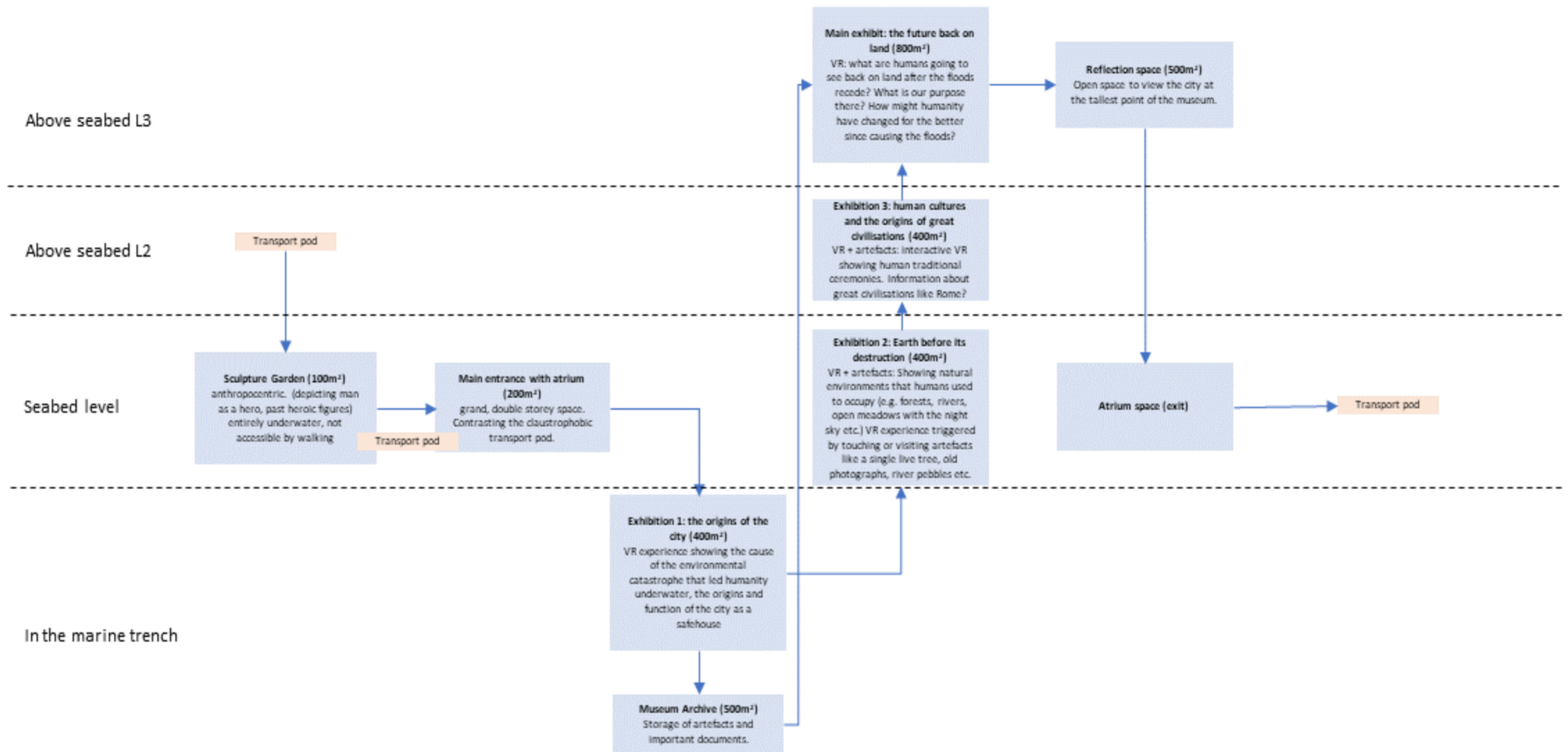




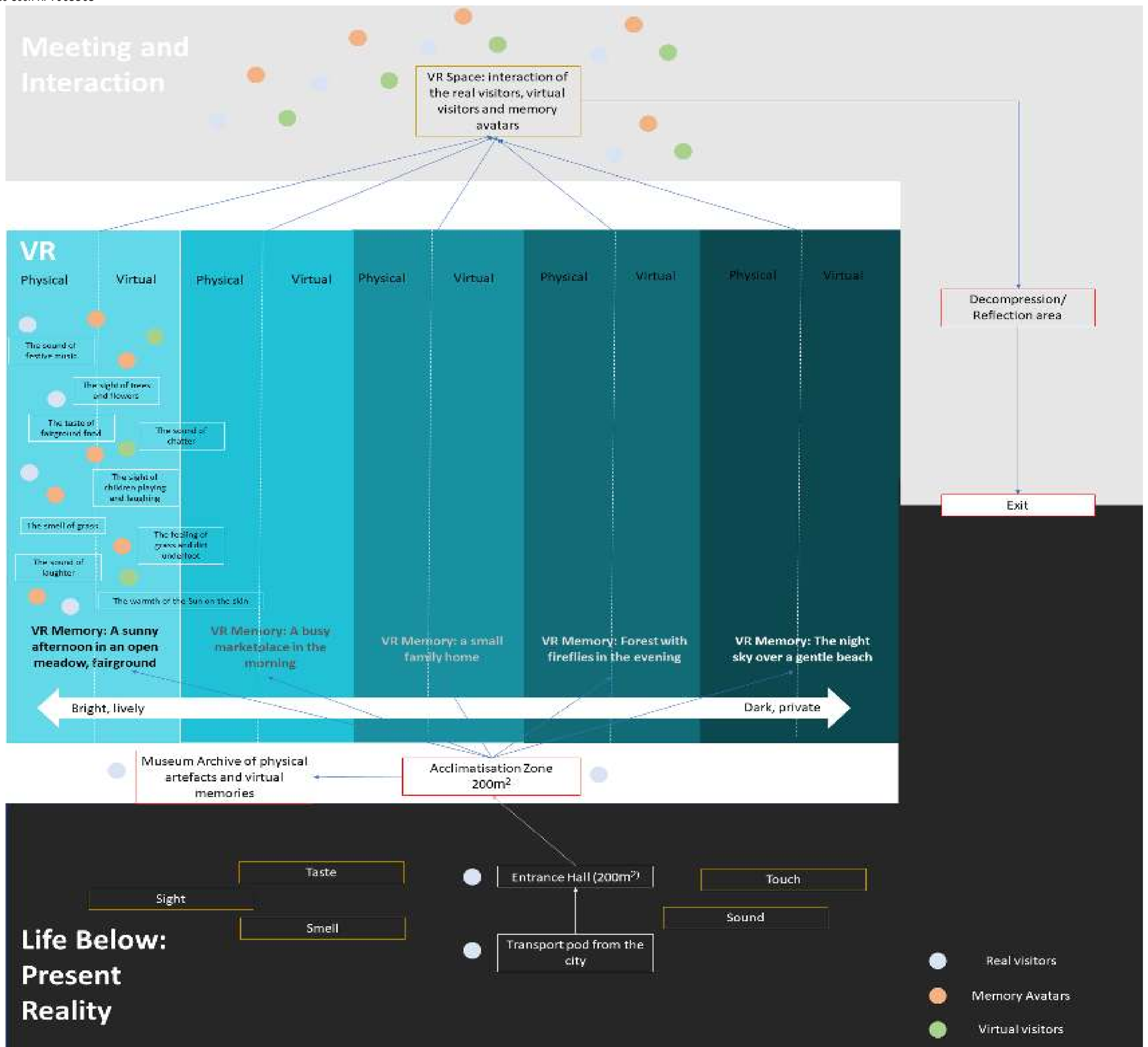
## 5. Process Sketches, Diagrams

With the conditions of my imaginary society set, the necessity and purpose of my museum became clearer. I began to explore how the city would be set in or on the ravine, and how the museum massing would then relate to the surrounding ravine and the city. Perhaps the city would overlook and loom over the museum in a hierarchical power play, or the museum could rise over the city as a constant reminder of where the people's focus should lie. Or, I could further represent the city's relationship with its surroundings more richly - would the city completely obliterate the natural features of the terrain as a symbol of man's complete domination of his marine environment? could the harsh terrain of the ravine respond similarly antagonistically, threatening to swallow the city, or presenting natural geological forces that constantly threatened to overwhelm and crush the city? alternatively, the Sentinels could have an oddly comforting relationship with their alien environment, acknowledging their smallness against the impossible vastness of a foreign landscape they are in no position to claim dominance over. Perhaps they could nestle safely into a small corner of the trench, seeking shelter from forces that they are much too small and weak to face.

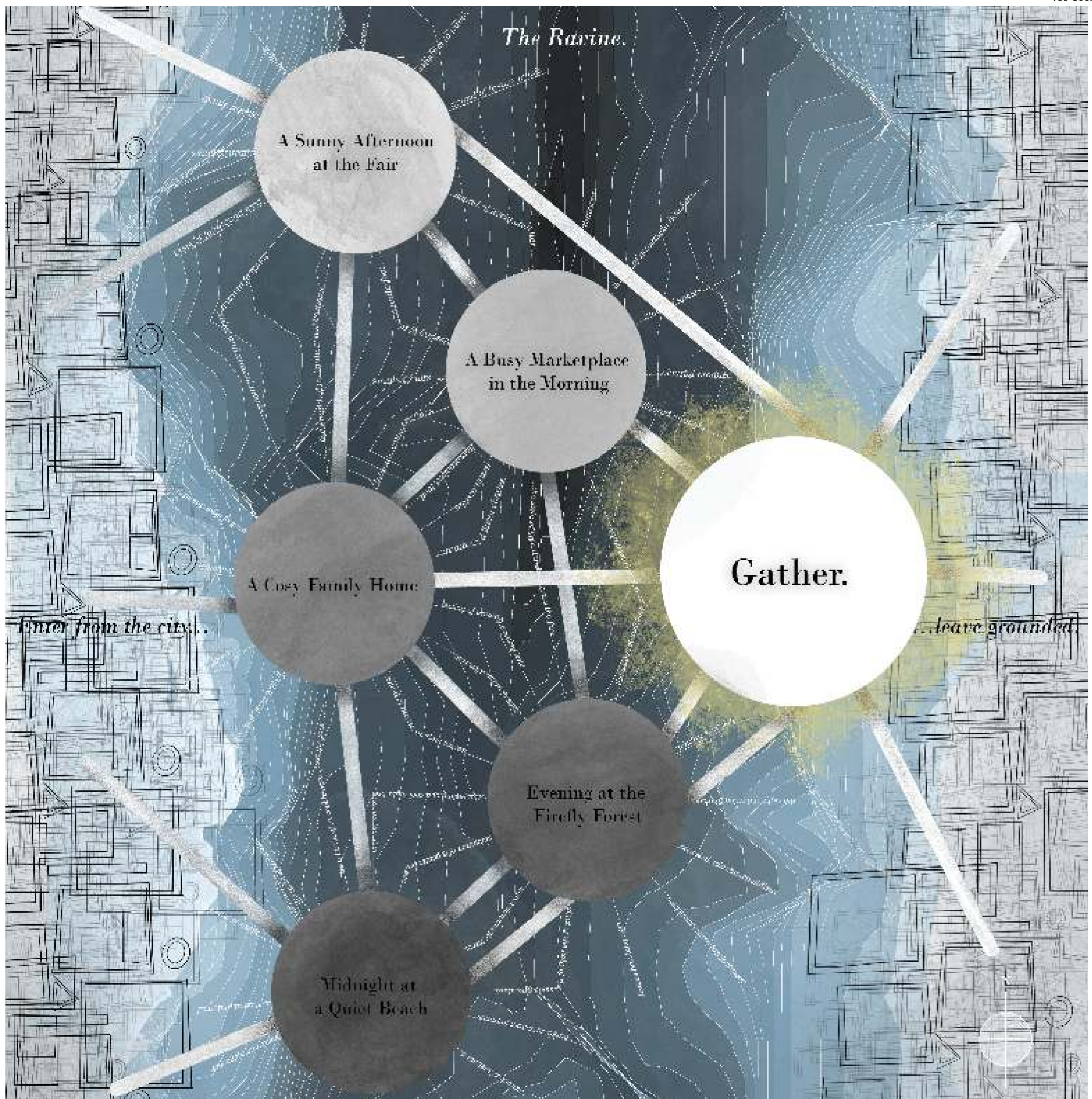
I also began imagining what the inner workings of this museum could be - what the function of the VR exhibits would be, how they would appear to the Sentinels, how visitors would move from space to space and so on. As I worked these details out, the relevance of the museum to the Sentinels became more and more apparent, and I was able to more richly flesh out the exhibits that should appear in the museum.



Circulation diagram V.1: showing the arrangement of different programmes across a multi-storey museum, with strong emphasis on the position of each room relative to the trench site.



Circulation diagram V.2: showing the progress of a visitor through a range of different VR exhibits, where each exhibit was arranged in order of brightness. Visitors were imagined to interact with VR avatars, who would explain the context of each VR scene to them and answer questions.



Circulation diagram V.3: showing a series of different VR exhibits arranged spatially by their brightness. The museum is now imagined as a network spanning the ravine, with the city occupying the berms on either side. The museum is a bridging space for individual reflection and connection with others.





- change size of the exhibits according to the exhibits inside.

↳ maybe a massive space of solitude

- use elements of the ceiling for contrast or support structure. consider light in contrast to the env. darkness.

- physical spaces to ease people in.

forest of columns for the forest exhibit.

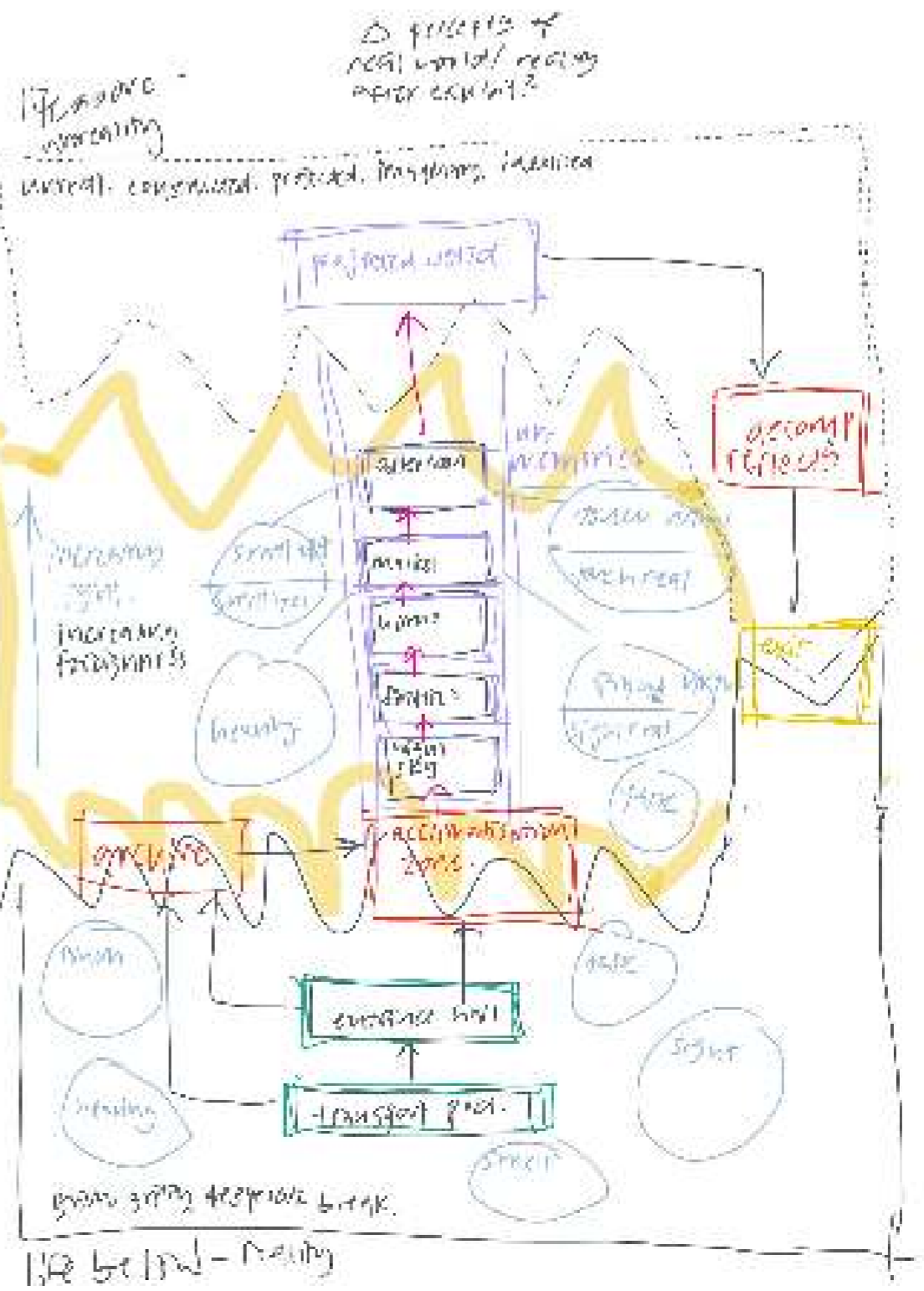
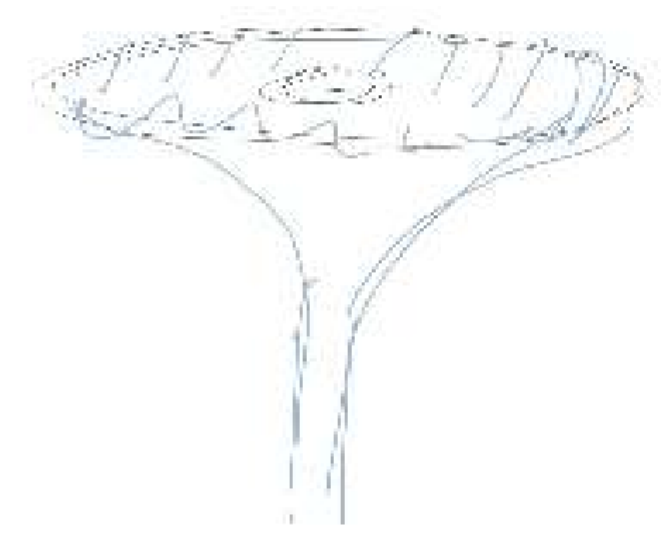
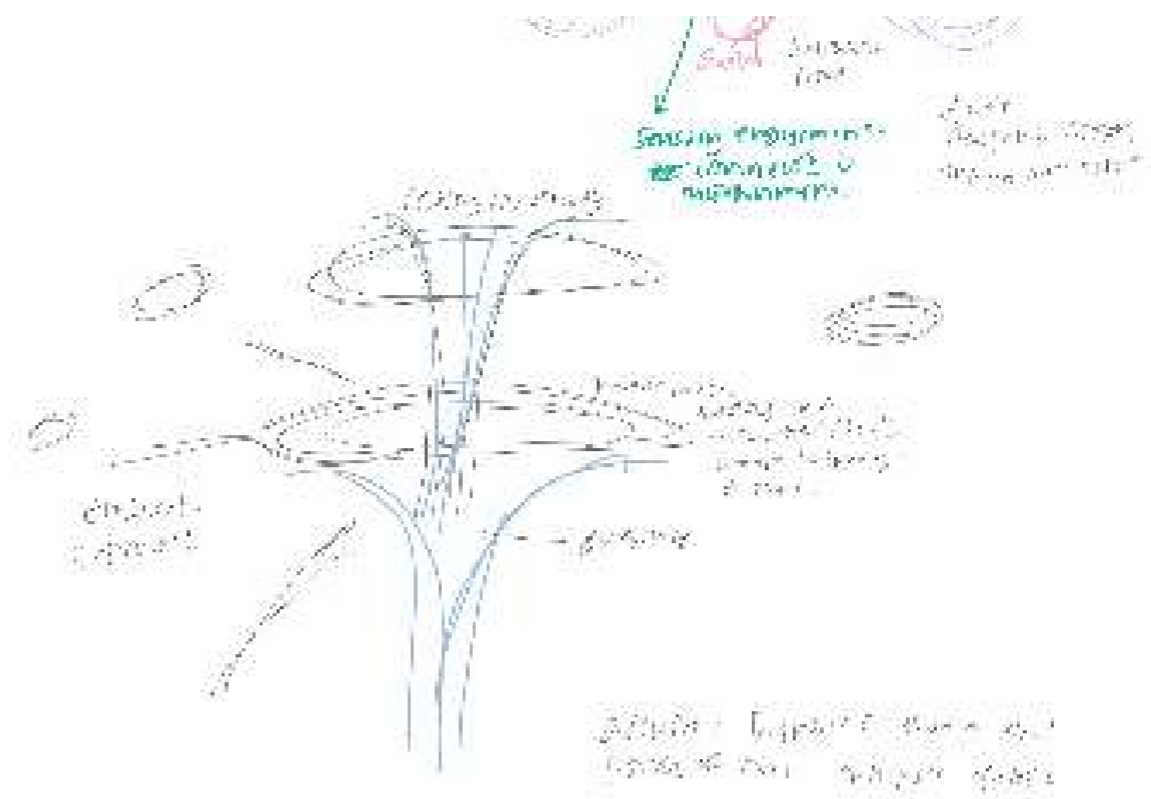
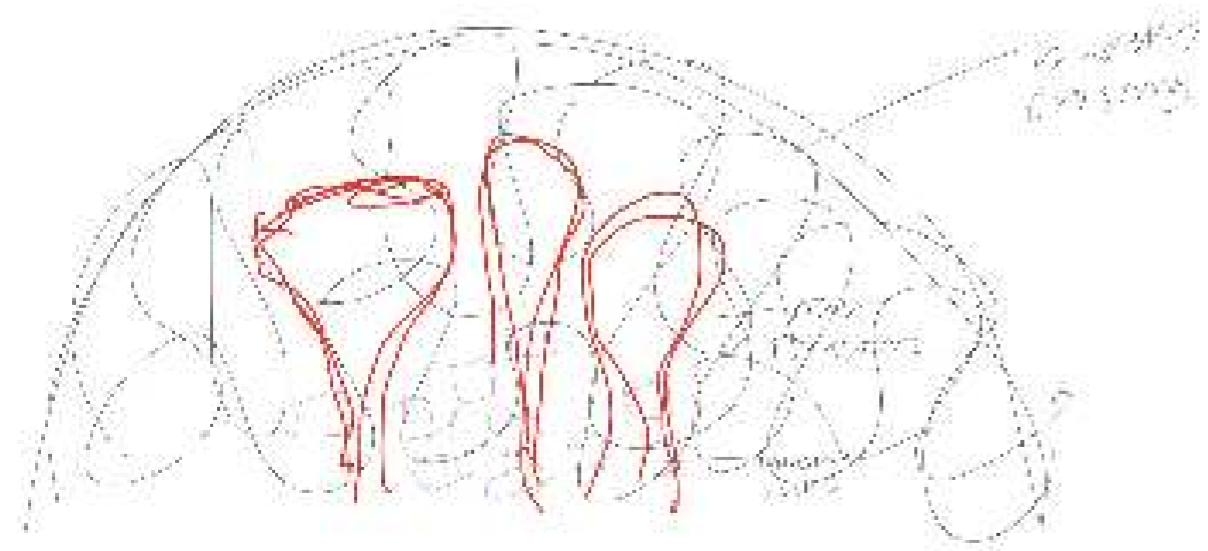
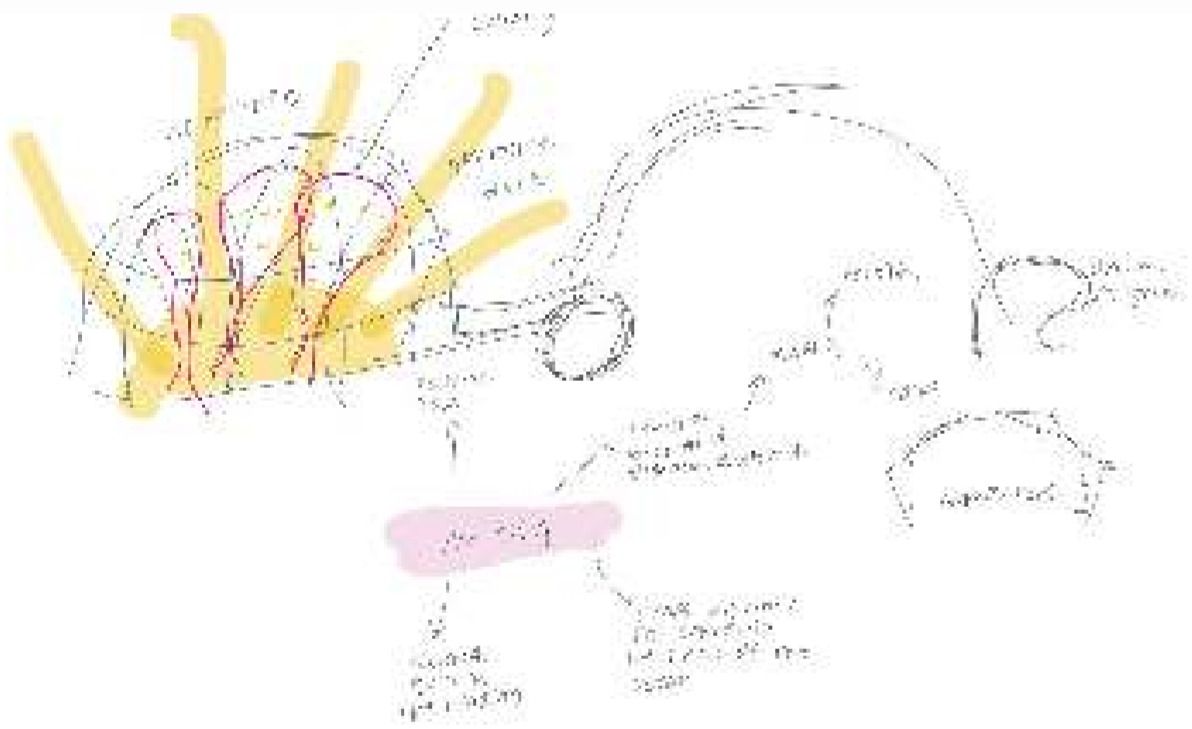
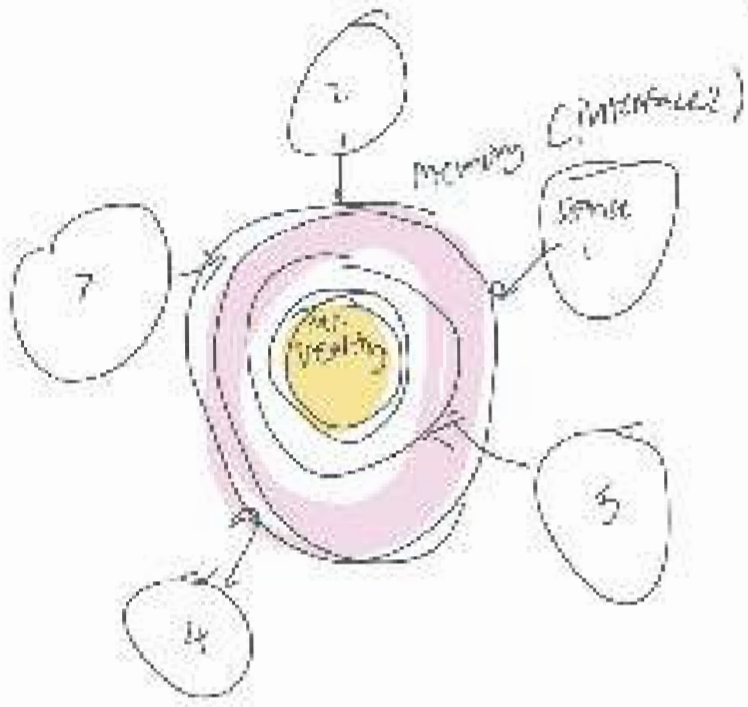
- blending of the architectural/physical  $\Rightarrow$  exhibit

SWARM  
FOCUS  
TALK  
ESCAPE  
VIBRANT

perception of reality

How do we perceiving reality and from where?

- 1) provide sensory input + information
- 2) interact with sensory → missing, enhance information
- 3) to create compelling artificial sense of an external world.

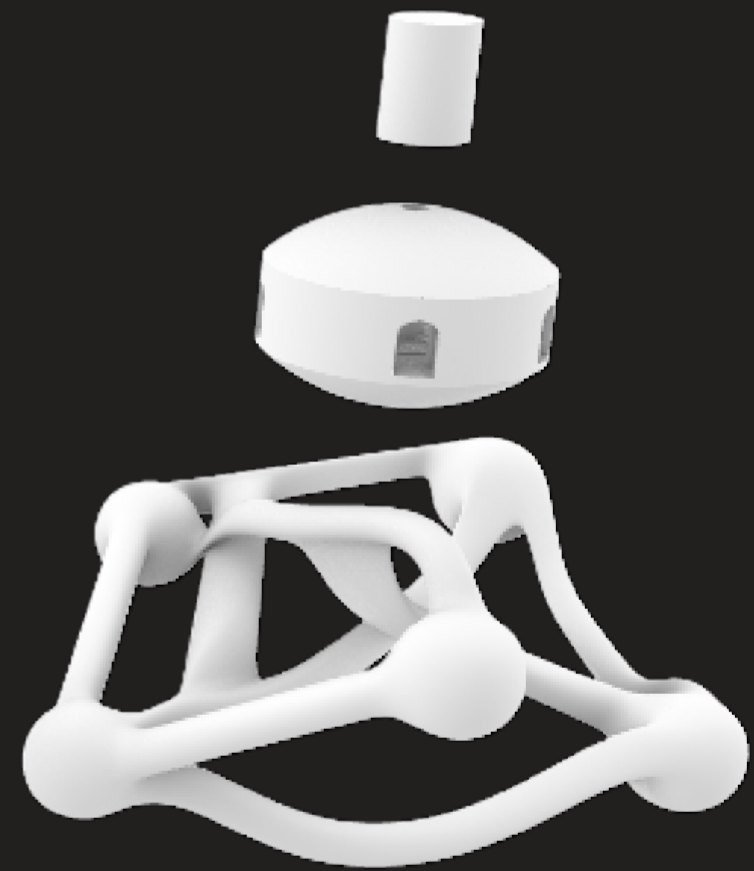
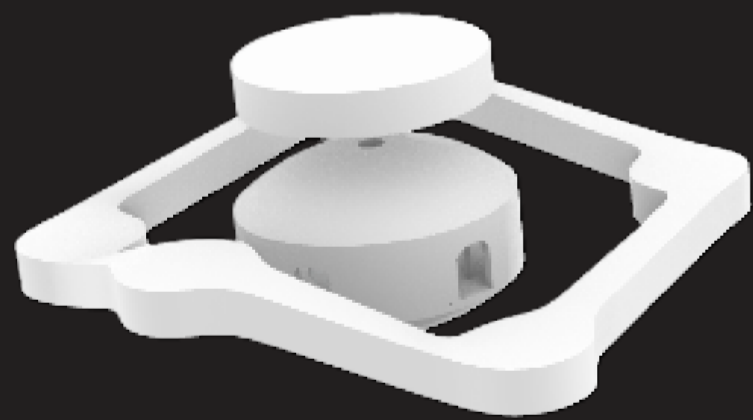
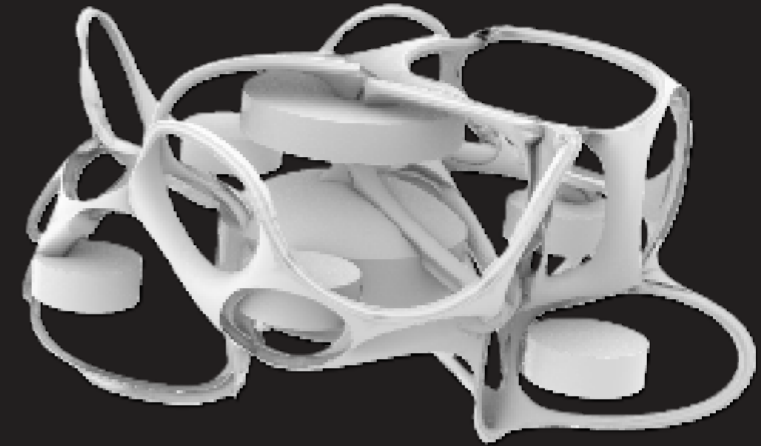
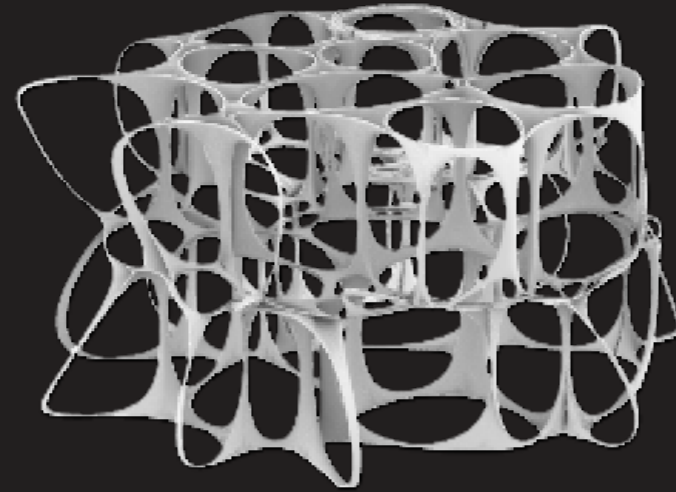
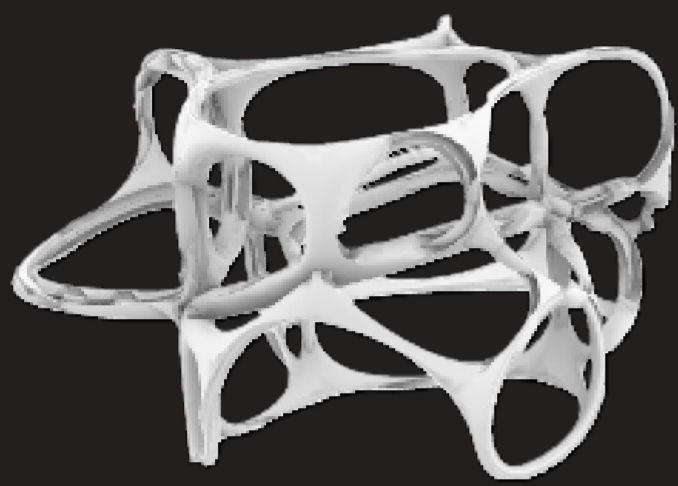


## 6. Museum Massing Explorations

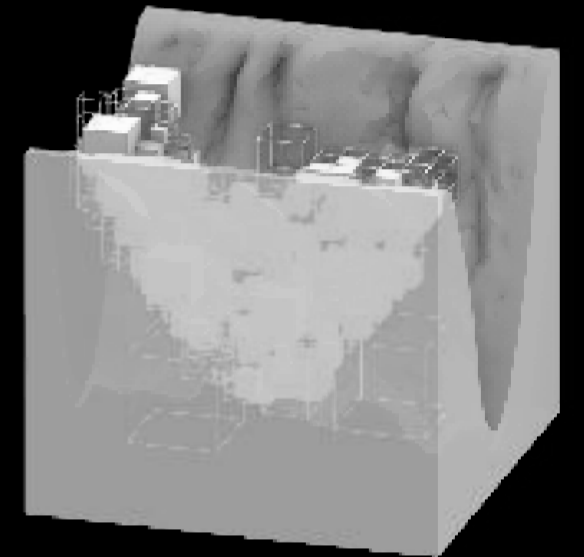
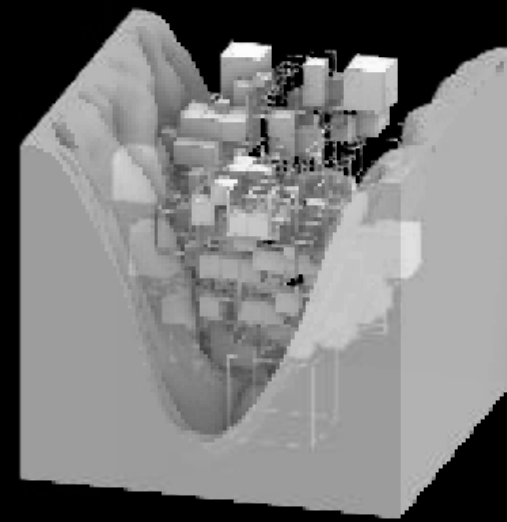
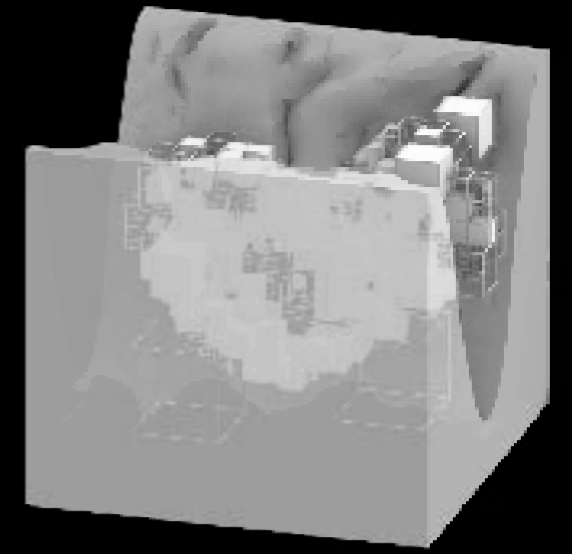
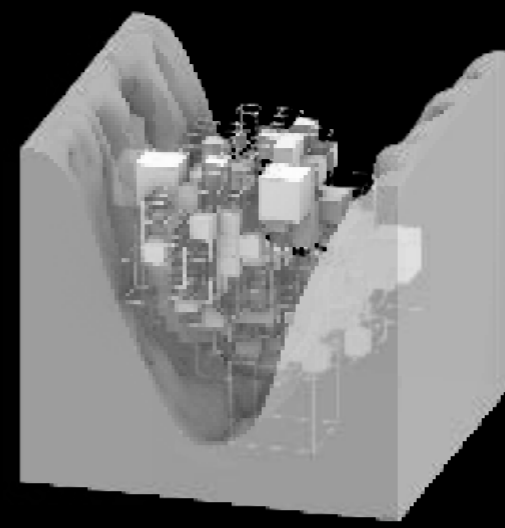
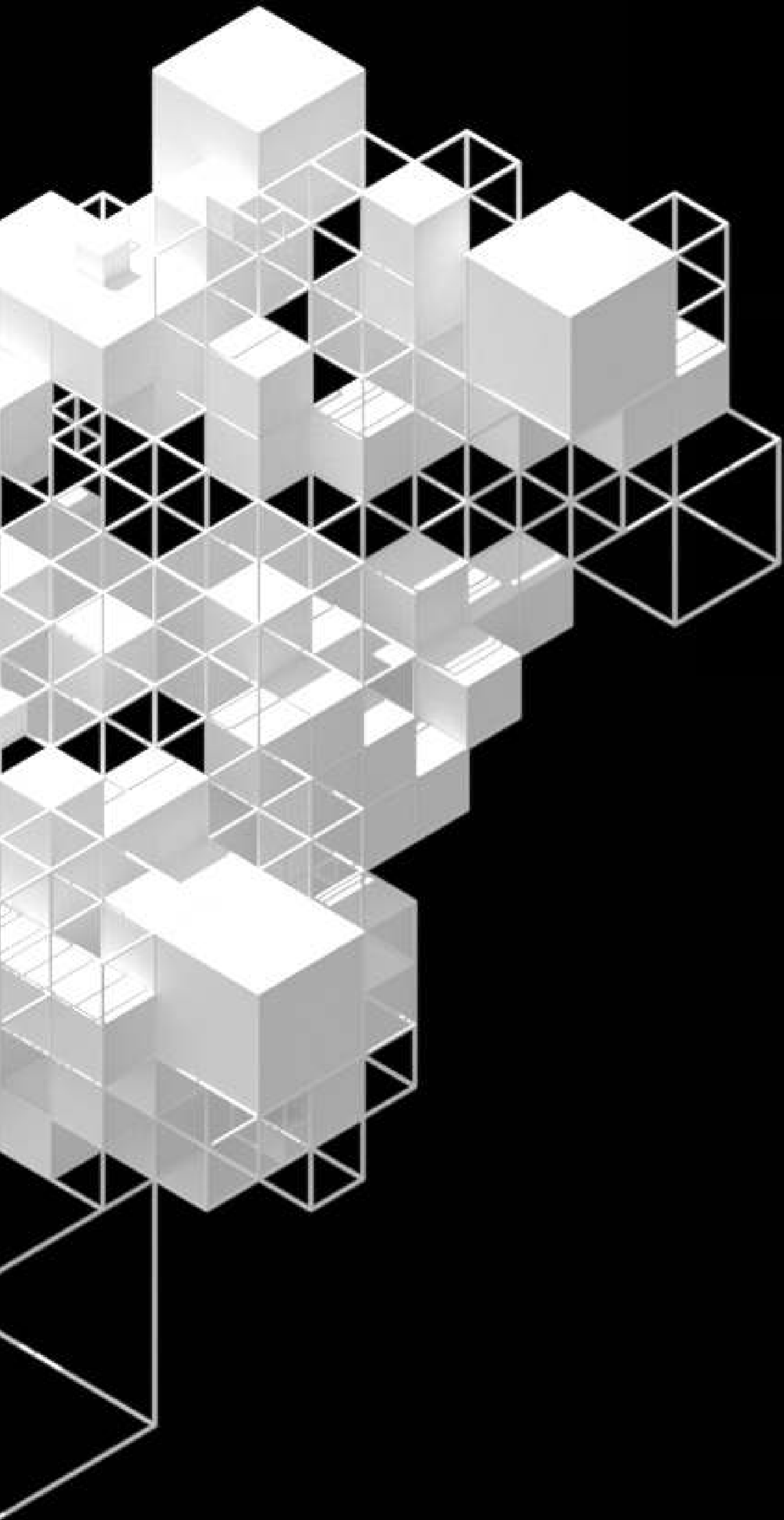
With a growing idea of the programme of my museum and some concept of how visitors would move from one space to another, I began developing the physical space of the museum. I envisioned a calm, soothing yet alien place of healing, and took many references from both ancient and modern sacred spaces such as cathedrals, baptisteries, monasteries and chapels. I particularly enjoyed how these spaces could be at once awe-inspiring, majestic and nearly untouchable in their grandeur, and yet deeply intimate, personal and healing. I noted the importance of symmetry, spatial expression of programmatic hierarchy, and strong contrasts in lighting to emphasise some parts of the space.

This idea of light became particularly fascinating to me - where would an underwater society get light from? how would they react to light? if all light in the city were used solely for survival and functionality, how could the lighting in the museum signal something different, and thus bring the visitors into a sense of ease and calm? perhaps, the light could be used to sustain a form of life unique to the museum, that would not survive anywhere else.

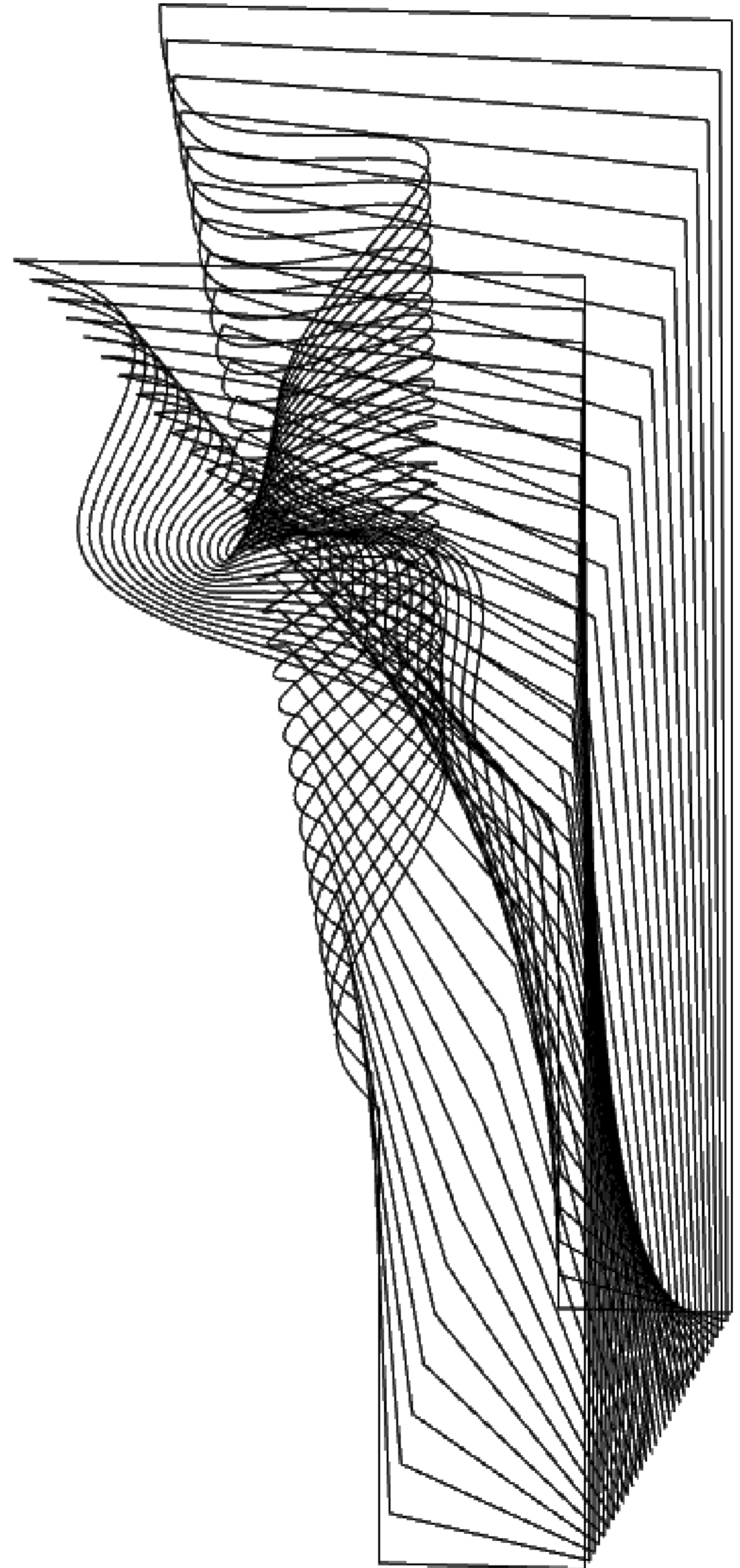
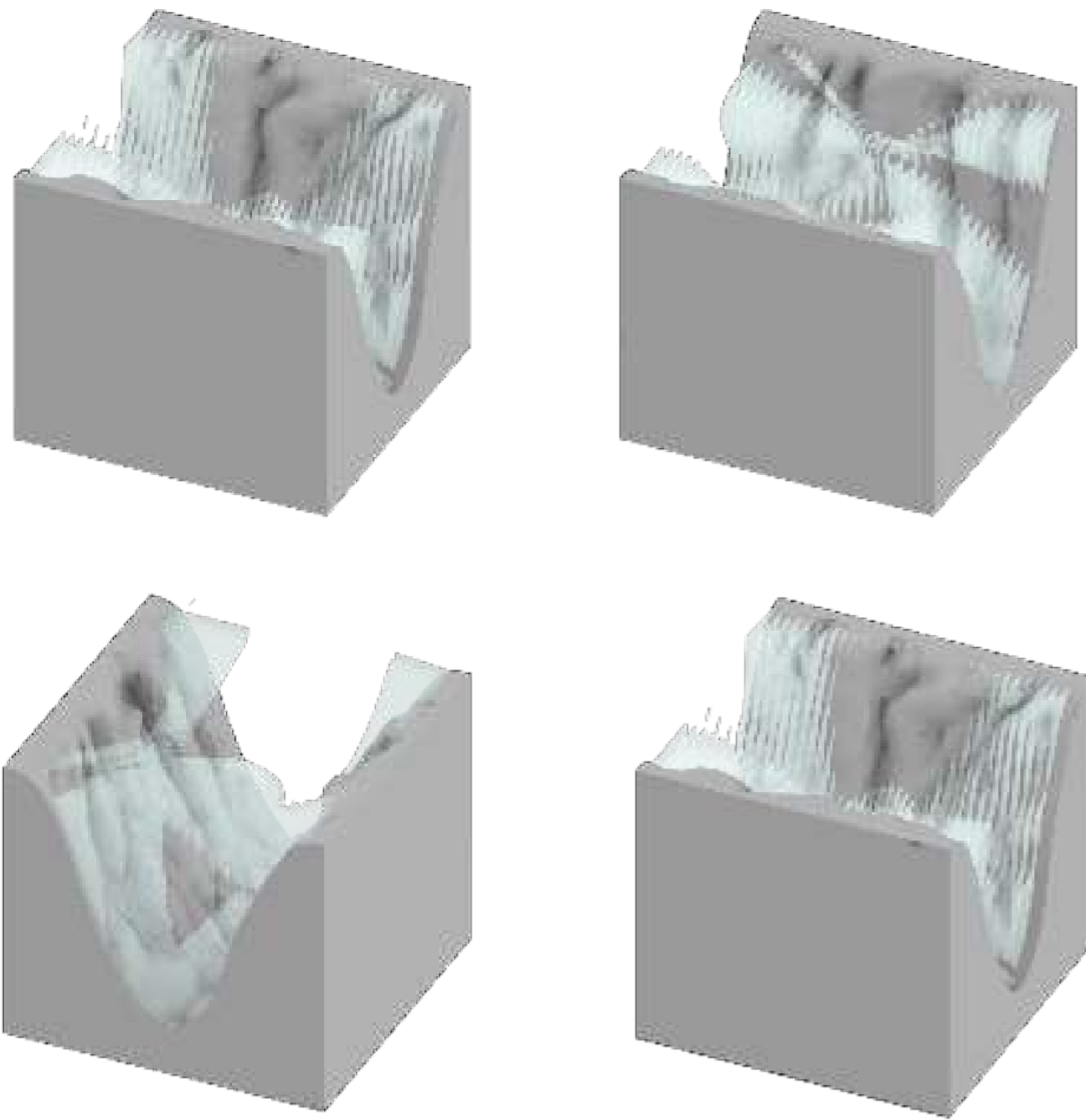
Furthermore, I wanted to explore the museum's ability to redefine the Sentinels' relationship with water. As a society fighting for survival underwater, their relationship with water would be a strictly antagonistic one, with the surrounding wild waves being a constant, crushing threat. However, water could also be very calming in different forms, perhaps as a gentle stream or a still pond. Perhaps the circulation of the museum could be informed by the flow of water through the different spaces, or a central hall containing a baptistery-like still body of water that would be calming instead of terrifying. Overall, the museum should be a space of calm, healing and reconnection to the memories of the past and one's own senses, defined by the common elements of light and water, but at the same time redefining the visitors' difficult relationships with them in a more soothing, gentle manner.



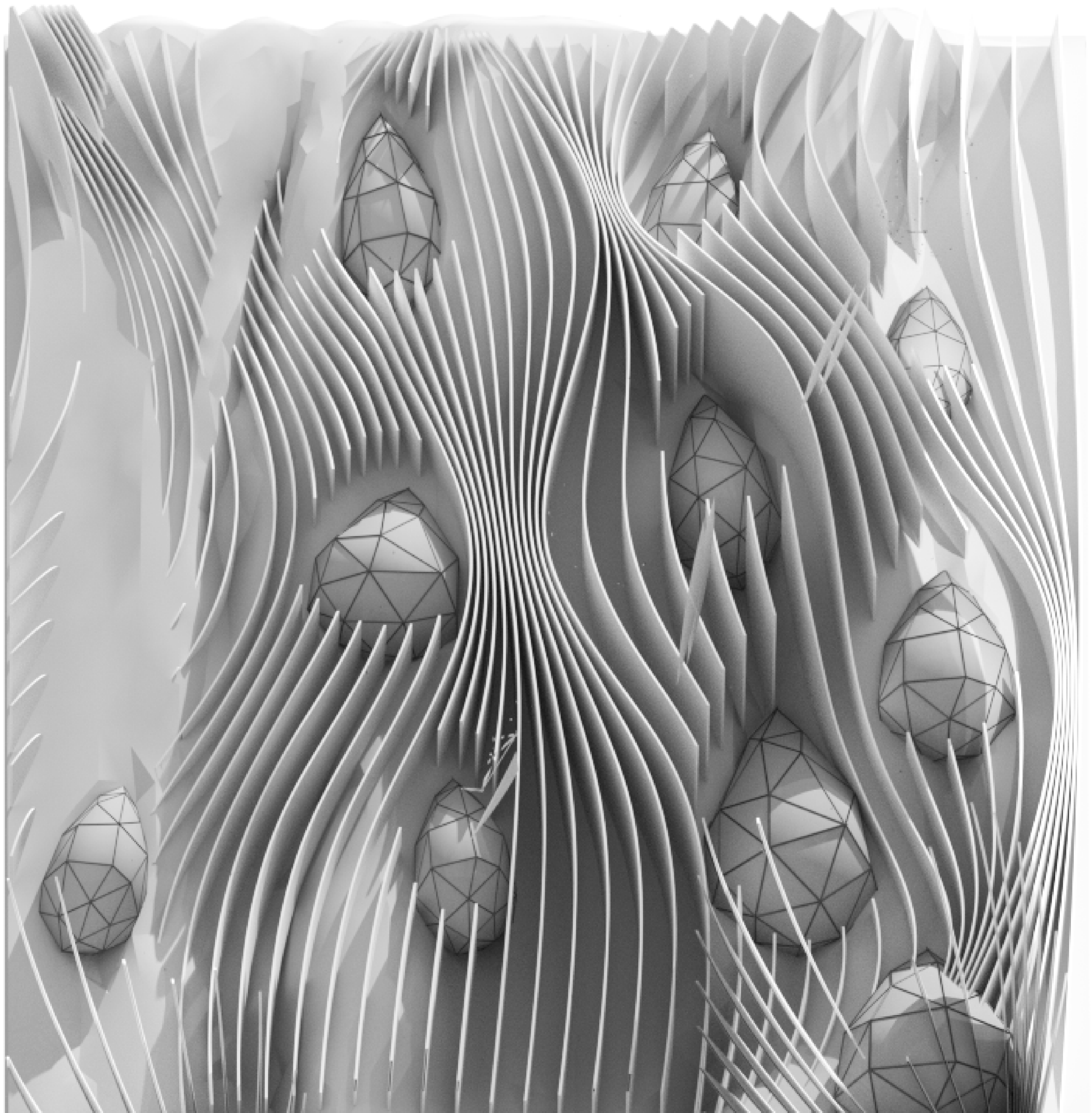
Version 1: exploring different forms for a network of connections encasing the central atrium of the museum. These connections were imagined to be physical pathways connecting different exhibition spaces, and the journey one takes from exhibition to exhibition would either soothe the visitor, or immerse them in a virtual reality experience bridging the content of the two exhibits.



Version 2: a different direction from the rather uncontrolled network of the previous version. A rigid framework of voxels each representing an exhibition space. Intended to look permanently incomplete, with new exhibitions and programmes constantly being added to the modular structure.



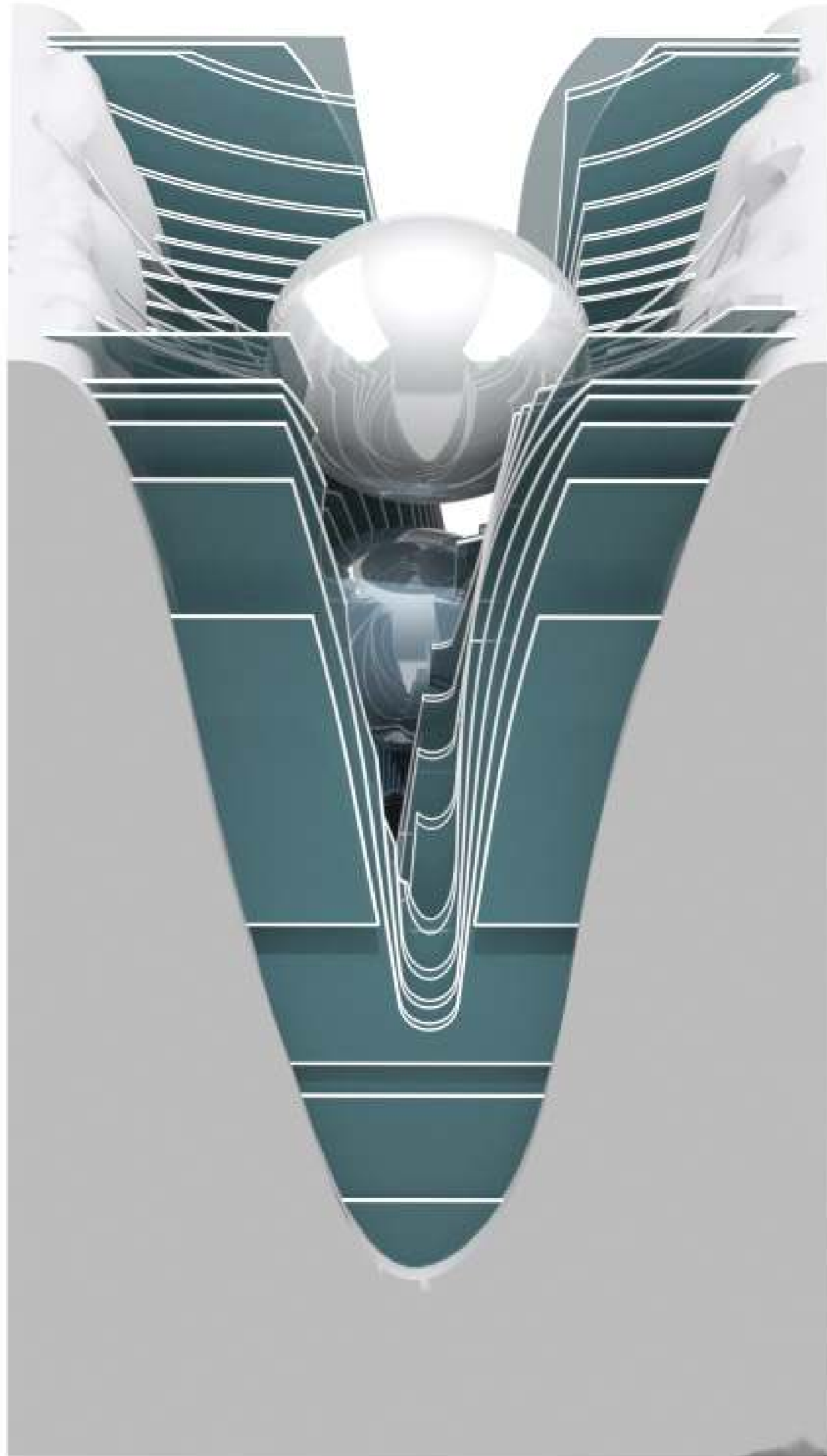
Version 3: I kept the verticality of the previous version, but changed its rather stifling bulkiness for curving, organic-looking translucent fins aligned along the sides of the trench. Niches and bare spots were left to house parts of the museum, such as the central atrium, the exhibition spaces and a new component, the garden. These fins were now imagined to refract light into the museum and particularly into the garden, much like prisms at the bottom of the trench.





Version 4: as an extension of the previous version, the various programmatic spaces of the museum were now articulated as decentralised glass pods that would hang precariously like jewels along the sides of the trench, deliberately nestled into the gulleys and channels cutting into the rock face.





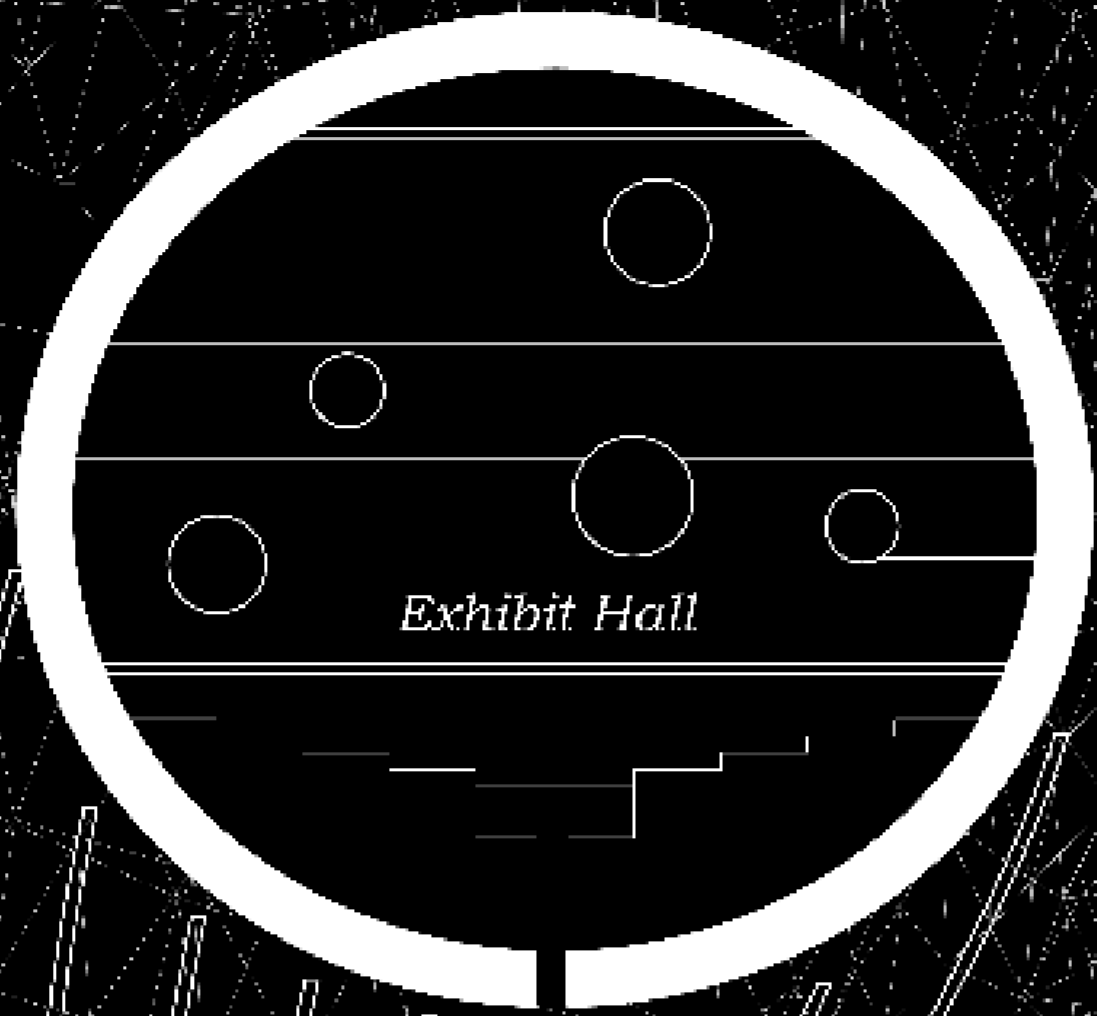


Version 5: the final version chosen. Here, the decentralised approach was abandoned, and a centralised, two-sphere massing was chosen instead. The larger, upper sphere would house the exhibition spaces and the entrance hall, concealing the smaller garden sphere cradled beneath it. Here, the thin, fragile looking fins seem to support the masses of the two spheres in an almost impossible arrangement, giving the entire composition a sense of simultaneous imbalance and gentle support. I quite liked this approach.

## 7. Museum Sections, Floorplans

Most of the programmes in my museum occupy virtual spaces, with deliberately ambiguous transitions from space to space. Even the nature of certain spaces, whether physical or virtual, was left ambiguous at some points. To give some grounding to the structure of the museum, the following sections and floorplans were developed. I intended to show the simple geometries of my museum and how the two central masses were cradled by the surrounding fins, and the portal in the main entrance sphere through which visitors would pass to access the garden sphere below.





*Exhibit Hall*



*Hortus Conclusus*



## 8. Unreal Engine Effects, Storyboarding

With the setting of my museum and city complete, I began mapping out the Unreal Engine effects I wanted to achieve in my short video, as well as the corresponding narrative. In the extensive sheet shown here, I matched Unreal Engine scenes to chunks of narration, and illustrated the transition effects and camera effects I wished to add in as well. This gave me a good structure to begin building my scenes, and bring together elements of the narrative and site in Unreal Engine.







		unreal	Rhino
SEA DESCENT	#1: stormy dark sky over choppy sea waves with debris and building fragments in the sea.	DONE	DONE
	#2: plunging beneath waves, bubbles rising		NA
CITY	#3: trench with city LIGHTS ONLY, twinkling city lights in the distance, recessed into the trench wall. Deep trench in front of the wall containing the city, extending into darkness.	DONE	DONE
	#4: the city recessed into the trench side, cave-like with a hollow cavern with a glowing globe at the bottom	DONE	NA
MUSEUM EXTERIOR ENTRANCE TUNNEL	#5: rift with museum at the bottom, glowing lights of the same colour as above dotting the sides of the trench above the museum (brief shot)	DONE	NA
ENTRANCE HALL	#6: museum entrance tunnel with bluish white light at the end + bridge across topo, some fins		
	#7: museum entrance hall interior. Steps with glowing portal pod things, and the staircase rising upwards.	DONE	DONE
NG ANXIETY NG CALM	#8 niagara: orange and yellow, swirling fast and chaotically		NA
	#9 niagara green and blue, slow.		NA
	#10 FOREST ROOM	DONE	DONE
	<del>#11 MUSEUM EXHIBITION CORRIDOR</del>		
	#12 ICELAND BEACH ROOM	DONE	DONE
	#13 AUSTRALIA DESERT ROOM	DONE	DONE
	#14 HORTUS CONCLUSUS	DONE	DONE

## 9. Unreal Engine Models

I began experimenting with different lighting conditions and how different sources of light would interact with the terrain and the surfaces of the museum. Light began taking shape as a means to bring out the basic geometries of the massing and eliminate distracting details. With early attempts, I found that my museum took on an interesting, futuristic and rather mysterious glow. By the end, I was quite satisfied with the contrast between the futuristic-looking, nearly ectoplasmic quality of the museum spaces, and the rather enchanting appearance of the Hortus Conclusus garden.



Early version of the lit museum, as seen from the trench.



Early version of one of the exhibits, the Forest Room.





Final version of the trench's rocky face rendered in UE.



Final version of the lit museum, seen from above.

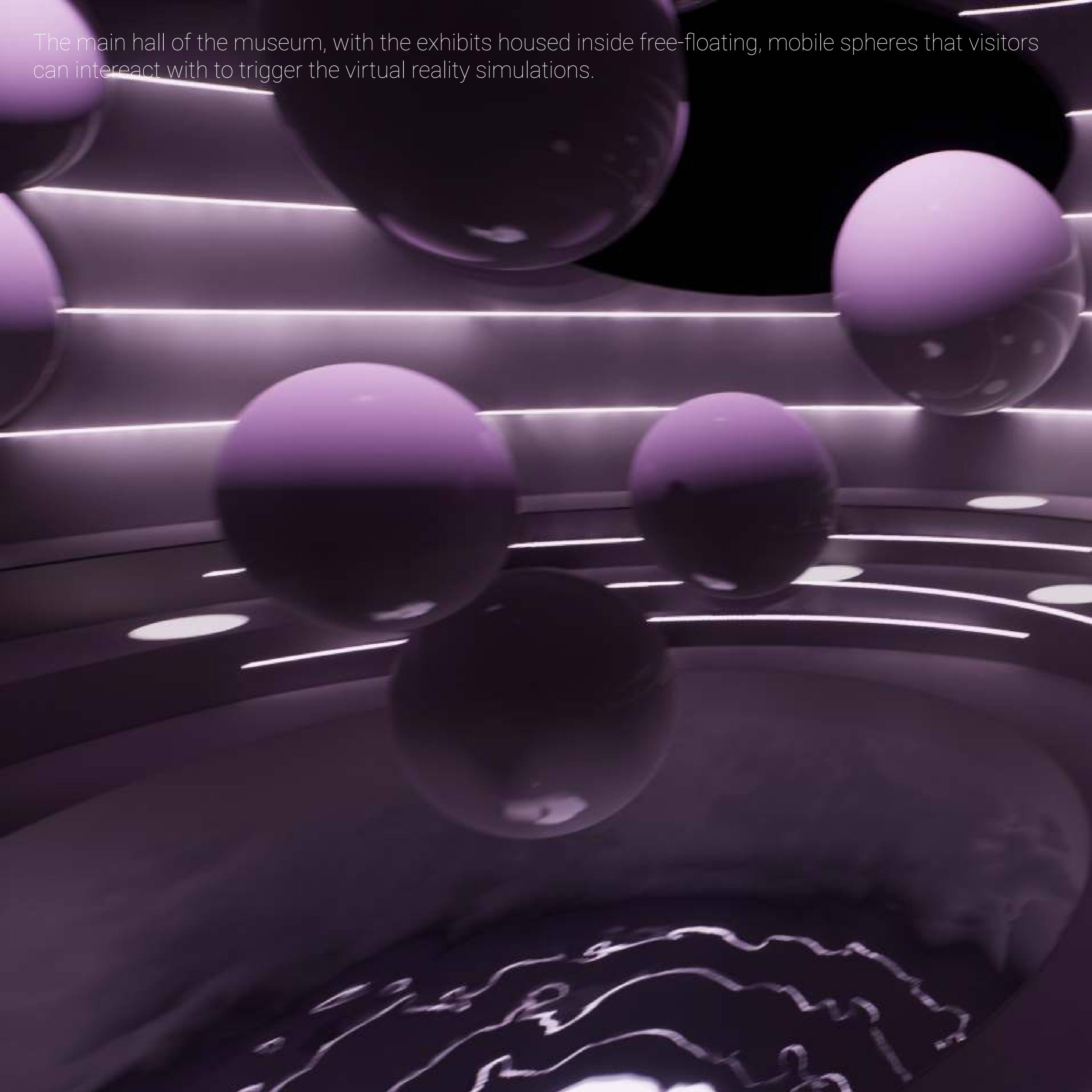




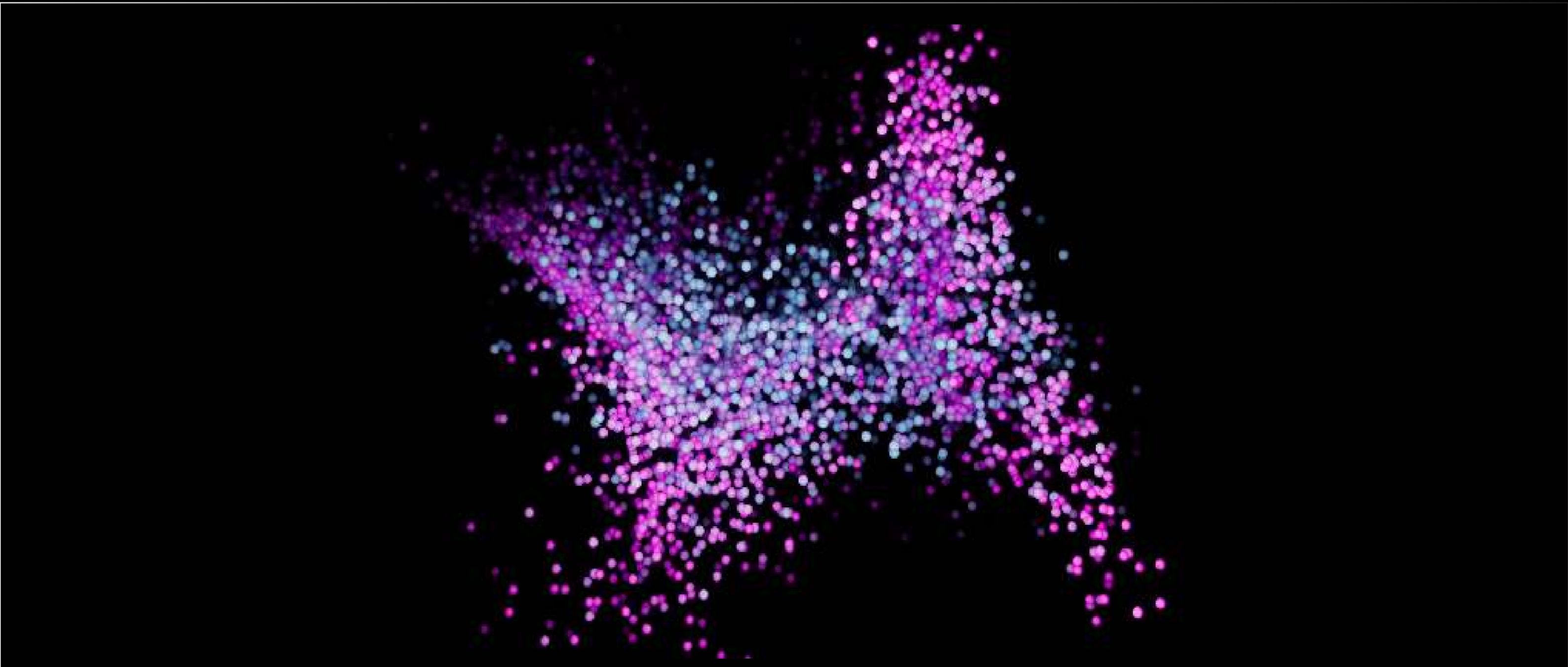
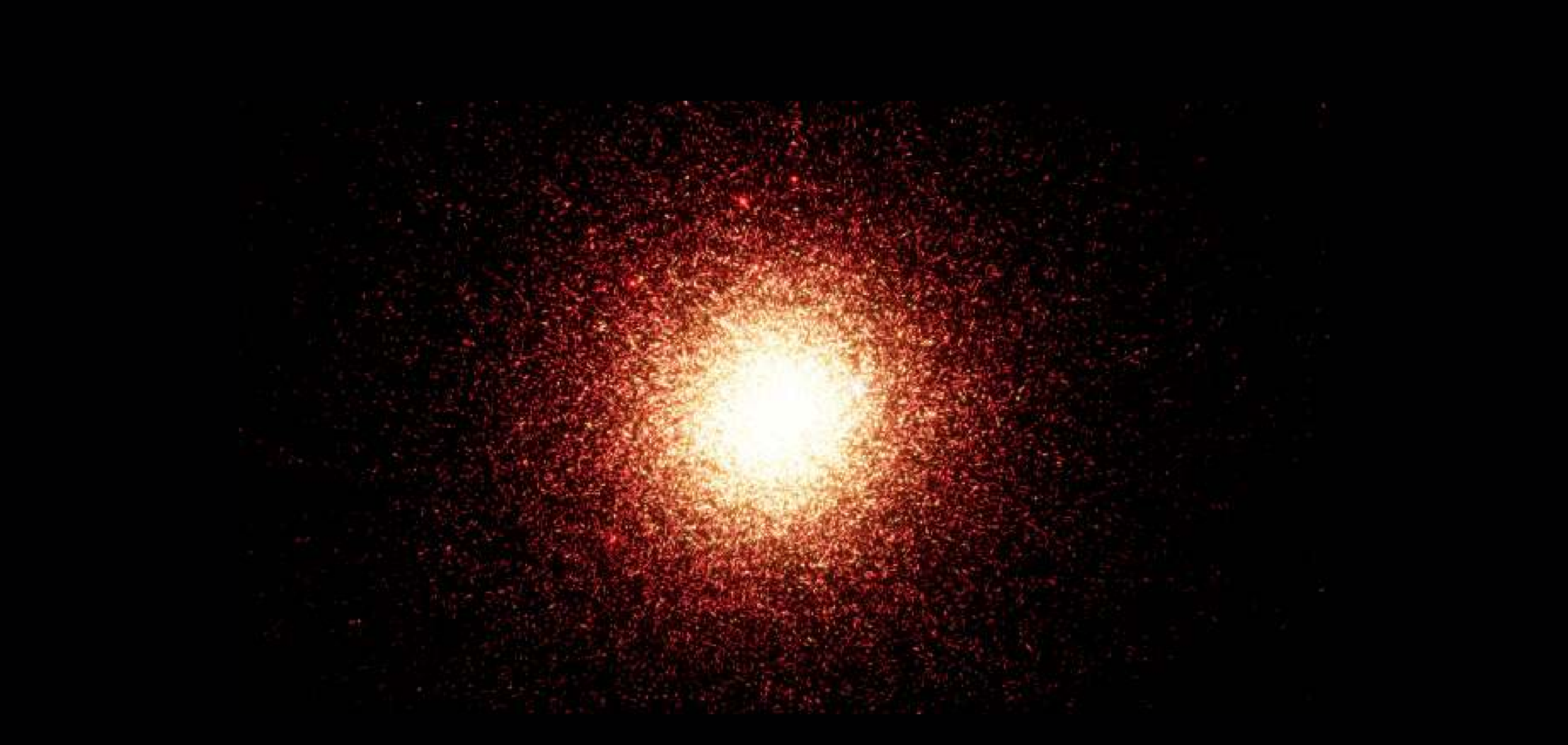
The City of the Sentinels.



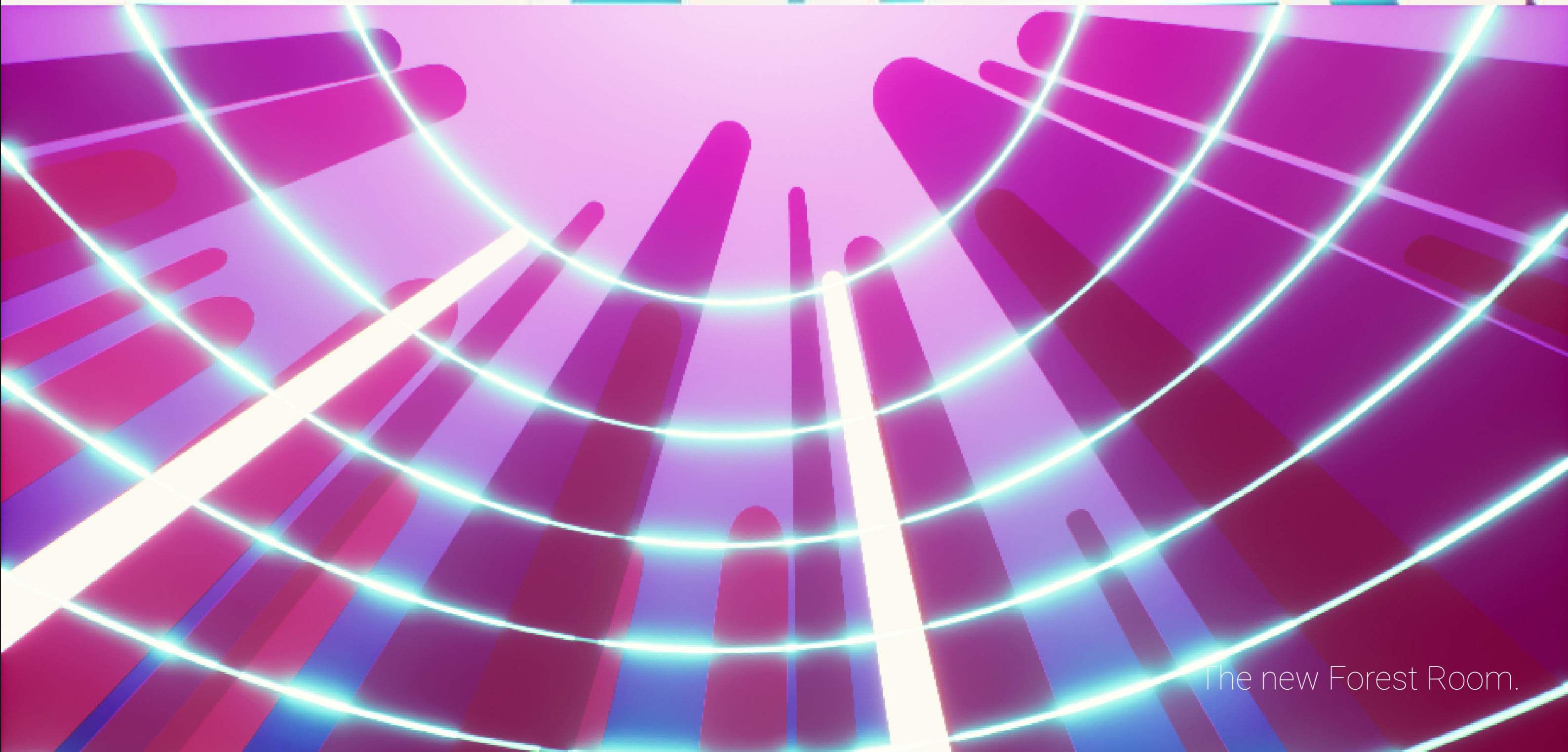
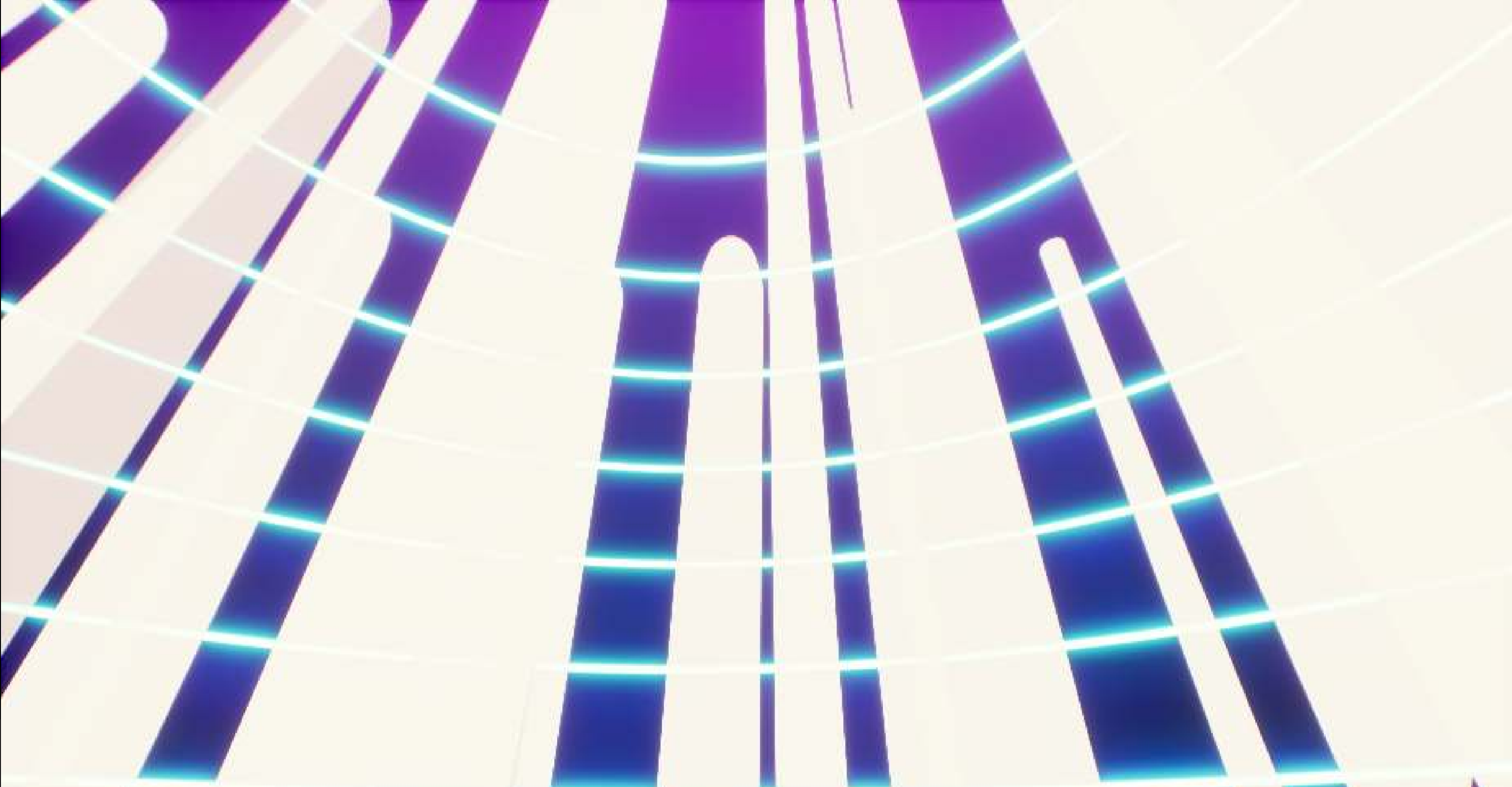
The main hall of the museum, with the exhibits housed inside free-floating, mobile spheres that visitors can interact with to trigger the virtual reality simulations.



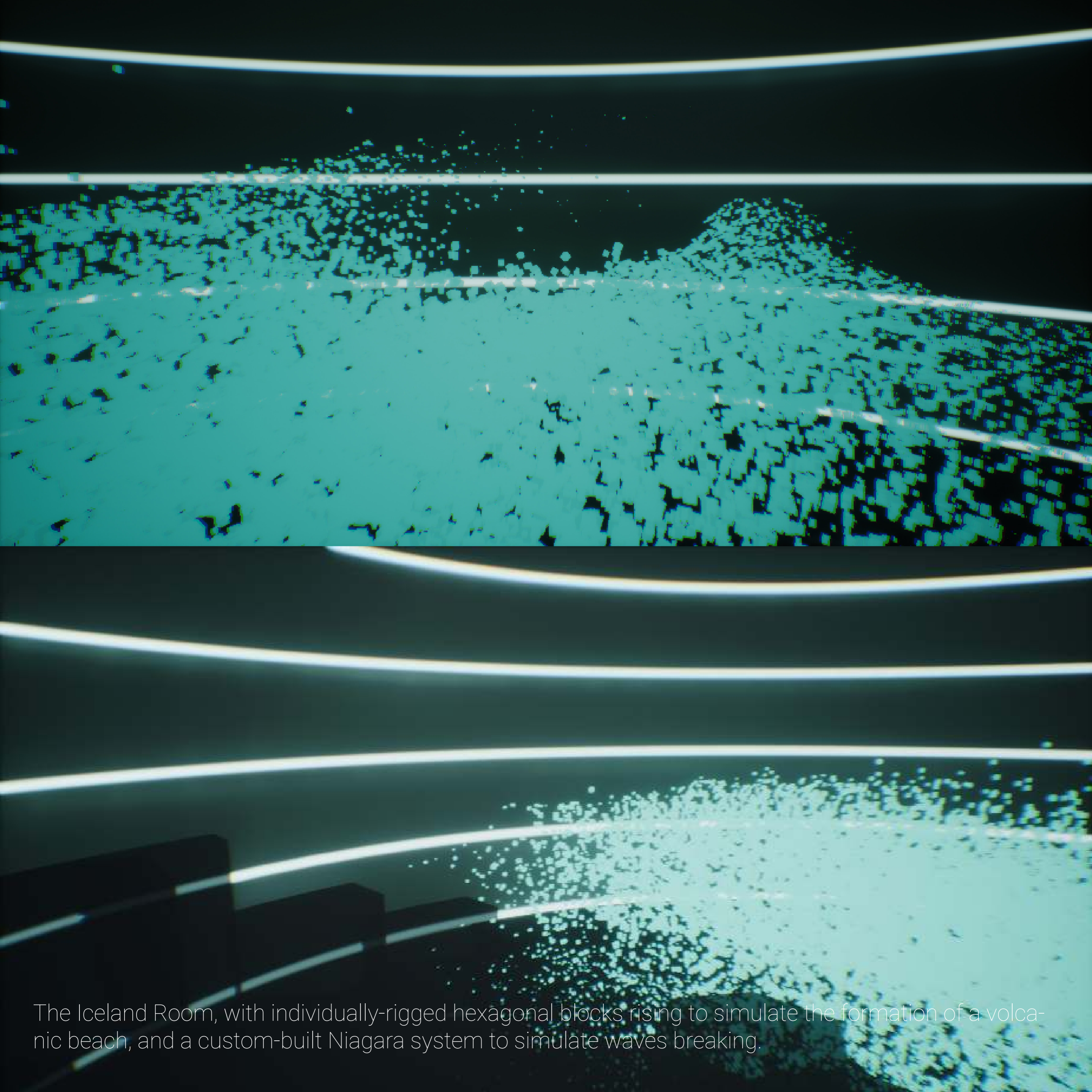




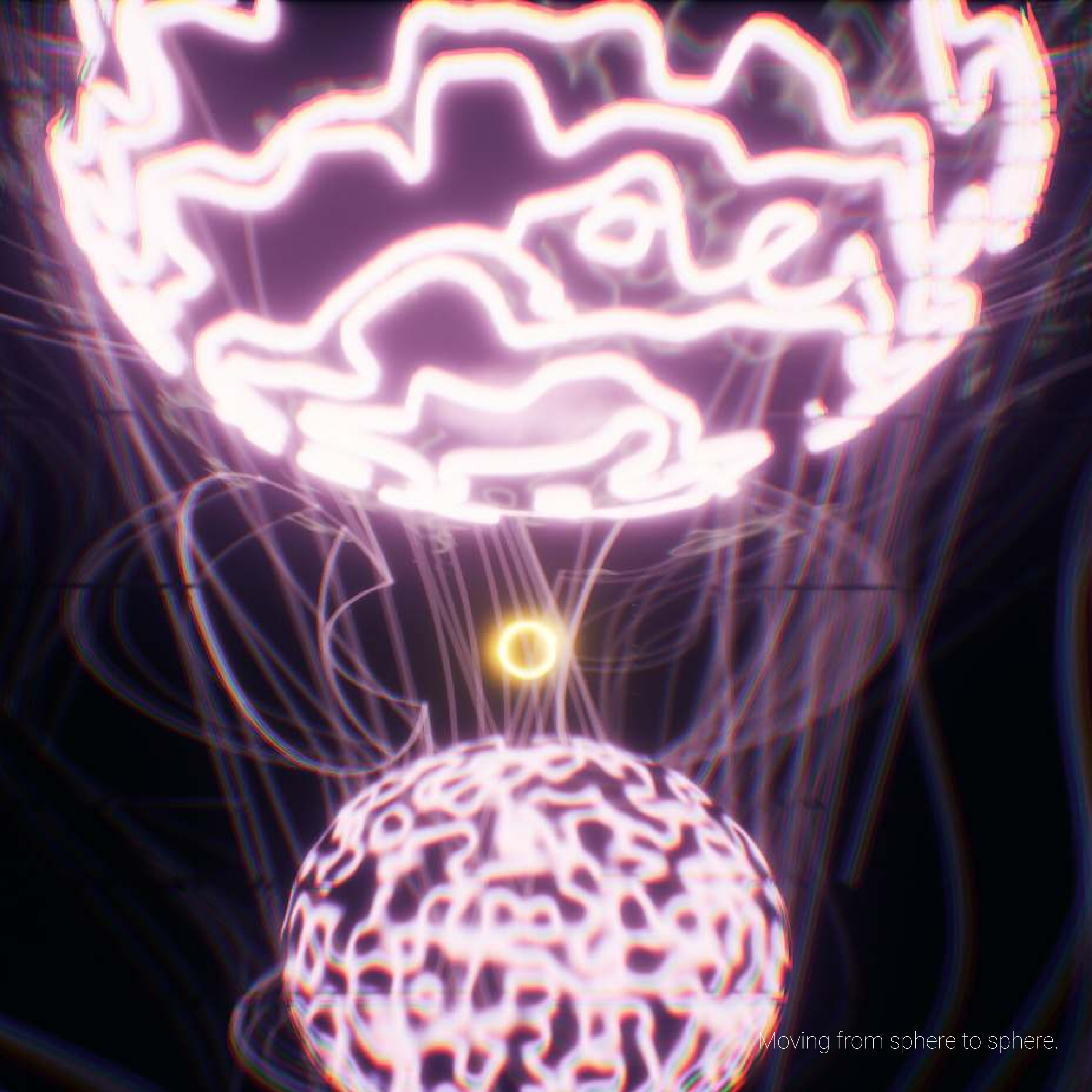
Early experimentation with Niagara particle systems as an abstract representation of the visitor's emotional state.



The new Forest Room.

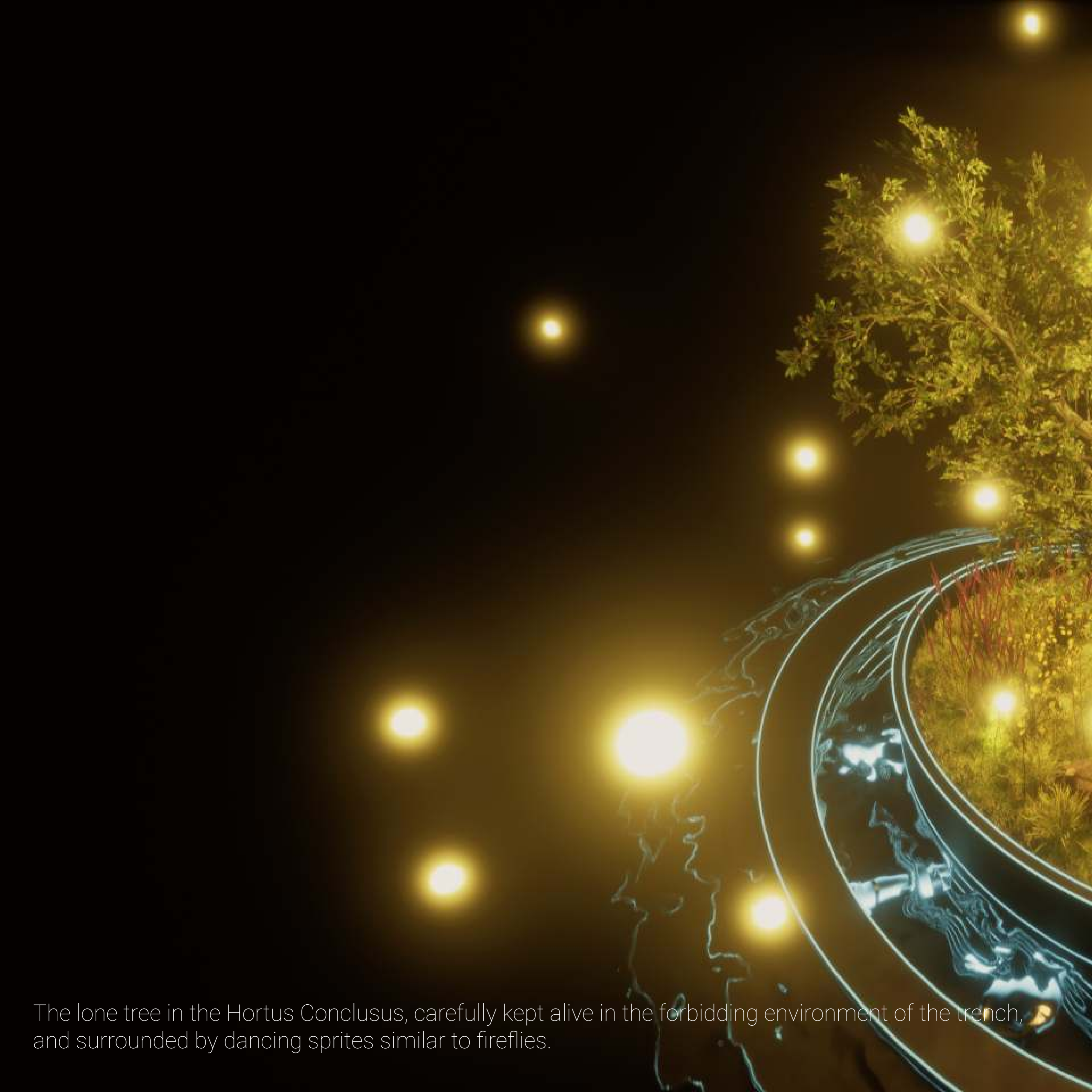


The Iceland Room, with individually-rigged hexagonal blocks rising to simulate the formation of a volcanic beach, and a custom-built Niagara system to simulate waves breaking.

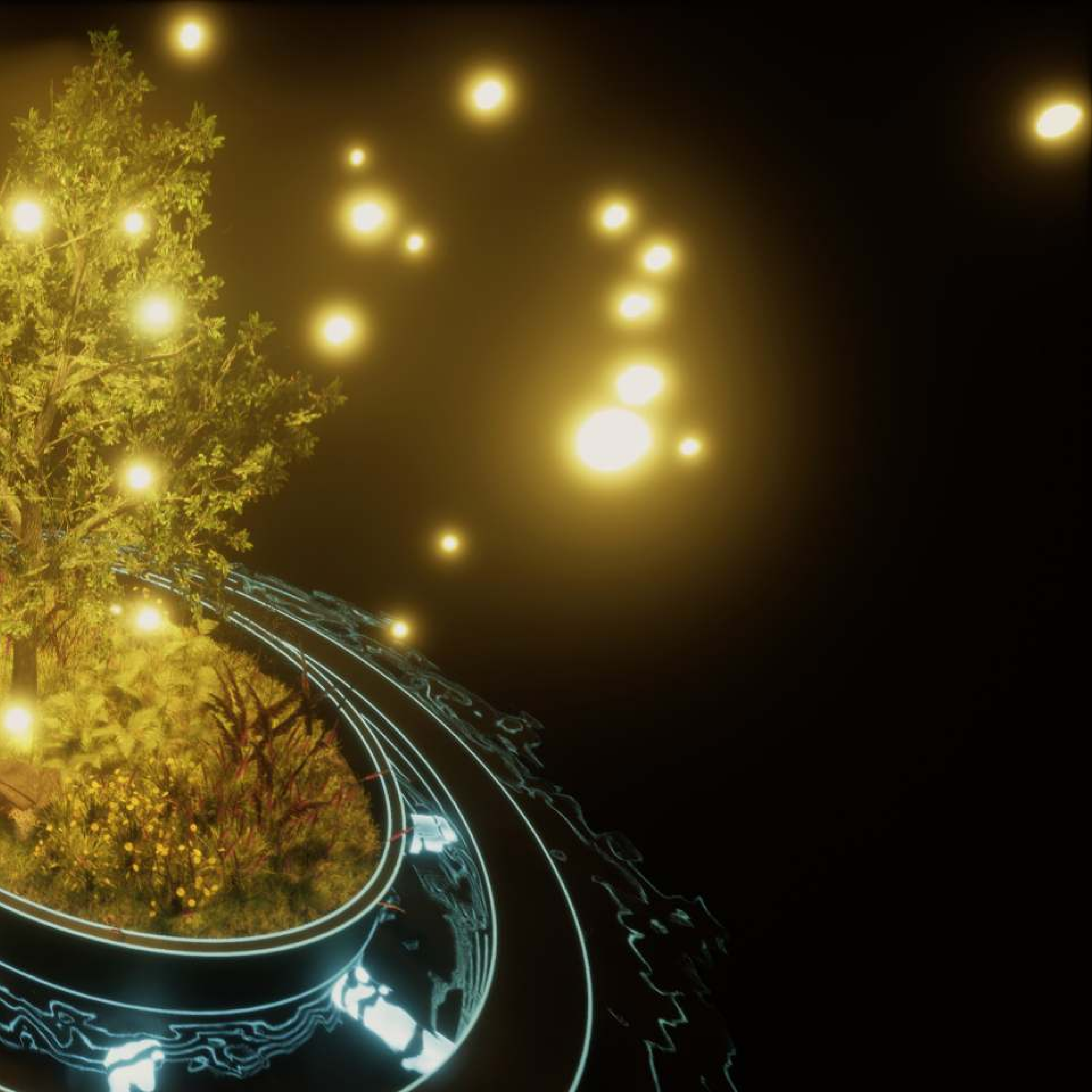


Moving from sphere to sphere.





The lone tree in the Hortus Conclusus, carefully kept alive in the forbidding environment of the trench, and surrounded by dancing sprites similar to fireflies.





The Hortus Conclusus (or 'enclosed garden'), housing the first live tree the Sentinels have collected from the re-emerging land above, as a symbol of hope soon to be finally realised.

