

Architecture as _____

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Advanced Architectural Design
Columbia Gsapp

2022_2023

A catalyst across scales

This portfolio is an ongoing dialogue showcasing my reflections throughout my time at GSAPP, as I redefine architecture's role in a changing world.

As I reflect upon the year I spent at the Master in Advanced Architectural Design program at the Graduate School of Architecture, I am transported back to a time of transformative growth, where I discovered new perspectives and ways of thinking that have forever changed me.

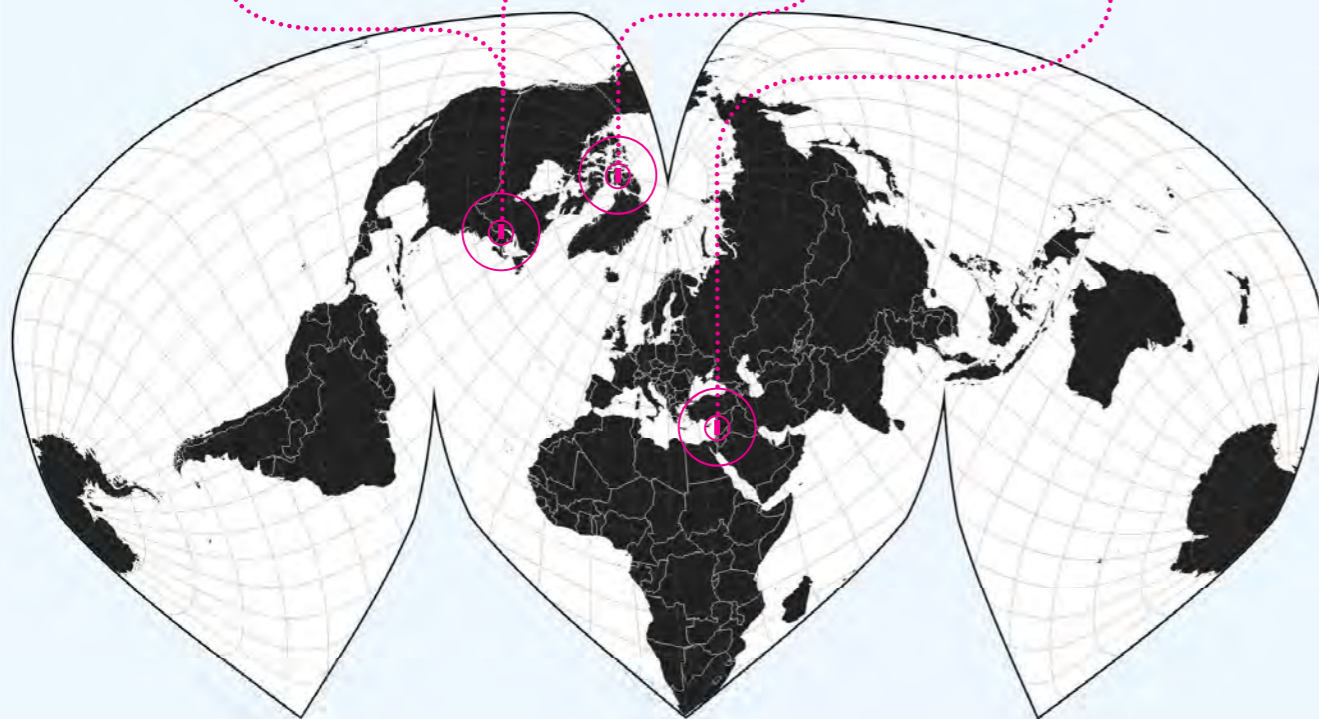
My journey began in Lebanon, a country rich in diversity and conflict. It was there that I witnessed the power of architecture to both divide and unite people. But it was the explosion that rocked Beirut in 2020 that truly catalyzed my desire to make a change in the architecture industry, to create spaces that not only looked beautiful but were functional, sustainable, and socially responsible.

As I embarked on this journey of transformation, I was met with a wealth of new ideas and concepts, which challenged my existing assumptions about architecture. The program introduced me to the multiple scales of architecture and its relations that extend far beyond the blueprint. I learned about the significance of interspecies relations and the importance of recognizing the impact of colonialism and decolonialism on architectural design. I discovered the power of indigenous people in shaping the built environment, and how architecture can be used to address the urgent issue of climate change.

One of the most significant shifts in my design thinking was the emphasis on collaboration and interdisciplinary approaches. I worked alongside students from other fields, and this collaborative approach led to some of the most innovative and exciting projects I have ever been a part of. We questioned our assumptions, examined the underlying power structures that influence design decisions, and explored alternative perspectives.

The program also emphasized the importance of critical thinking and reflection. We were encouraged to look beyond the surface of things, to consider the larger context, and to be aware of the social and political implications of our designs. This critical reflection has helped me to develop a more nuanced understanding of architecture and its role in society.

As I look back on this transformative year, I am filled with a sense of gratitude and inspiration. I am grateful for the opportunity to have learned from such brilliant minds, and to have been challenged to think differently. And I am inspired to continue on this path of creating spaces that are not only beautiful but are also functional, sustainable, and socially responsible. For I believe that architecture has the power to bring people together, to heal the wounds of the past, and to build a better future.



CURATED WORK

THE ARAB CITY IN FILM

-Identity Within the Complexities of Colonialism-
Review of "In the Last Days of the City"

-Systemic Poverty-
Review of "Capernaum"

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ADVANCED STUDIO IV

-The Oyster Convention-
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-SIKU: Sea Ice Knowledge Updated-

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-Intimate Space in the Post-Human era-

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-Architecture Beyond the Tap-

RAADIO 2023

-"Unethical"-

THE OUTSIDE IN PROJECT

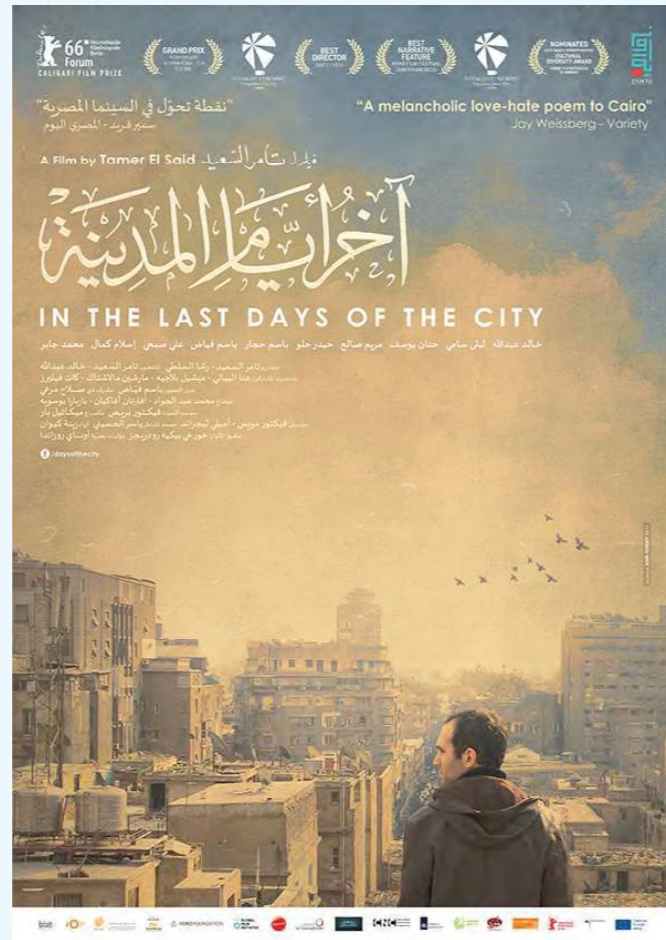
-G00 Pavilion-

IDENTITY WITHIN THE COMPLEXITIES OF COLONIALISM

Review of In The Last Days of the City

The Arab city in film/ Yasser Elsheshtawy

by Andy El Set



The visualization of an Arab region with a “yellow environment” can encompass more than just a stereotype or a superficial portrayal.

Watching “In the last days of the city” is expecting an insider view on the streets in Cairo that eventually led to the Arab spring in Egypt. However the film goes much beyond that. The film revolves around Khalid Abdalla, a filmmaker on his way to create a movie about Cairo. However he is not sure, nor does he know himself, the end or objective of his movie. Khalid struggles deeply in capturing the soul of the city as he faces losses in his own life too. But what is clear in the scenes is his disappointment in Cairo. Despite that, the city is portrayed through many perspectives, some of them overlapping and contradictory, which soul is Tamer Said capturing? How can we look at Cairo?. Do we have to choose how to perceive the city or understand it in all its chaos and complexities?

On the other hand, the film incorporates multi-layered stories and lives in the city by the shadows of war and illustrates how Egypt was ready for a reform. In this way the movie is a crucial event in the history of the Egyptian revolution against oppressive regimes. In the shadow of the social change in Cairo, Khalid seems detached from the city. Many scenes are held in elevators as he goes up to his fortress or as he searches for new houses. To my mind, the elevator scenes play a big role in translating different realities that people in Cairo are living. As Khalid searches for a new house, we can observe how different parts of the society occupy the space. The elevator works as a transition,

while also in some parts works as a depiction of certain realities such as extremism in religion that was taking over Cairo.

Additionally, Khalid is running behind an elusive essence, an essence he is reminiscent about. He says: “There is something I can’t capture in all this”. By “this” he means the crowds, streets, noise and chaos. It is not clear whether the chaos is in his mind and according to his perception of the streets. Khalid struggles in his nostalgia, while scenes where he is depicted lonely, he observes changes in the urban fabric, in other scenes surrounded by his friends, the city seems more joyful and he is able to film the urban landscape in its glory.

However, generally the movie is a nostalgic depiction of the urban landscape and the memory of the place. This can be perceived in many scenes, for instance, while overlooking Tahrir square and walking in the busy and changing streets of Cairo. Khalid is stuck with the idea of glorious Cairo as it used to be in his memory, and can not make peace with the urban reality he is living within. But what is Khalid’s own memory of the place? Which era is he referring to? As the movie comes to an end, Khalid faces the city in its reality. After he makes contact with his friends, their footage inspires him and shows him new perspectives, and we are left with questions on whether to leave or to stay, and what can we do about the city.

SYSTEMIC POVERTY

Review of Capernaum

The Arab city in film/ Yasser Elsheshtawy

by Andy El Set



Beirut from the Paris of the MEA to a modern Dystopia



Systemic poverty is a complex and persistent issue that plagues many countries around the world. One of the most devastating consequences of poverty is the displacement of individuals and families, resulting in an influx of refugees in host countries. In Lebanon, the question of the refugee has been a significant issue due to its proximity to conflict zones and political instability in the region.

Nadine Labaki's critically acclaimed film "Capernaum" sheds light on the lives of impoverished children and refugees in Lebanon. The film follows the story of Zain, a young boy who runs away from home to escape his abusive parents and befriends a young Ethiopian refugee named Rahil. Together, they navigate the harsh realities of life on the streets of Beirut, where they encounter other impoverished and disenfranchised individuals who struggle to make ends meet.

On Systemic Poverty and the Question of the Refugee



The film highlights the systemic poverty and social inequality that plague Lebanon, which have been further exacerbated by the influx of refugees from neighboring countries. The government's inadequate response to the refugee crisis has left many refugees living in squalid conditions, with limited access to education, healthcare, and employment opportunities. The film also sheds light on the impact of poverty on children's mental health, as they are forced to navigate the challenges of survival at a young age.

Labaki's film serves as a poignant reminder of the human toll of systemic poverty and the importance of addressing the root causes of displacement and inequality. It also raises critical questions about the responsibility of host countries in providing aid and support to refugees, as well as the need for systemic reforms to address poverty and inequality.

In conclusion, "Capernaum" provides a powerful commentary on the issue of systemic poverty and the question of the refugee in Lebanon. The film serves as a call to action for individuals, governments, and international organizations to take concrete steps towards addressing the root causes of poverty and displacement, and to provide support and aid to those in need.



Panoramas of War, and Collective Trauma in Urban-Space

The Arab city in film/ Yasser Elsheshtawy

by Andy El Set , Amity Singh, and Ukti Kulkarni



Incendies

Panoramas of War, and Collective Trauma
in Urban-scapes



Does 1:1=1?

Abstract

A 2010 Canadian film, *Incendies* talks about the concept of evoking memories for war and memories from displacement due to war. Two Canadian siblings travel to the Middle East to unravel their late mother's past hidden amidst the civil war of an unknown city. The film was majorly shot in Amman, Jordan but is based or influenced by war events that happened in Lebanon. The director induces the emotions of displacement, separation, and generational trauma through architectural cinematography of Middle-Eastern warfare. Through anonymity in the city selection, the director constructs a collective memory of a generalised notion of war.

Dennis Villeneuve is the director of *Incendies*. The film's opening scene establishes Villeneuve's position, who deliberately wanted that scene to feel awkward (has an unfamiliar soundtrack in the background), to underline the fact that it's a movie about the Middle East made by a foreigner, having a generic understanding of war and its affect. The music is very important to stress the Western point of view, to allow himself to remain neutral and apolitical, and to talk about the taboo of war without raising anger using fictional cities. Consistently through the movie, there is sense of belonging that the main protagonist hold for her past and memories, that effectively induce feelings of displacement and separation. The lens of the first generation is used as a frontier for warfare narratives in the Middle East. The second generation, on the other hand, reconstructs this narrative and looks at the trauma that is produced post-war.

The report reconstructs the cinematic themes of "*Incendies*" to understand how memories play a role in remembering and constructing the idea of a war-torn city. Additionally, it analyses the effects of war on the urban landscape of cities in forming dual cities within the same city and discusses the universality of war by comparing the urban landscapes of Amman, Jordan, and Beirut, Lebanon. The analysis concludes with research on the architecture of war and healing in postwar cityscapes.

Historical Context

1960s

from the late 1960s, Amman saw a flow of Palestinians fleeing the Israeli occupation in their country to Jordan

1970s

by 1970, the Palestine liberation organisation had established a "state within a state" in the kingdom



In June 1967 Jordan took part in the Arab-Israeli war that ended in Jordan's loss of the West Bank

By the late 1960s the Palestine Liberation Organisation (PLO) headed by Yasser Arafat, had established a 'state-within-a-state' in the kingdom

Fedayeen during Black September in the streets of Amman in 1970

On 15 September Palestinian guerrillas took over Irbid and installed a 'people's government'. King Hussein declared military rule, and on 17 September the Arab Legion attacked the Palestinians in Amman. Fierce fighting in the capital quickly spread to other towns. Three days later a Syrian armoured column entered Jordan in support of the guerrillas but was beaten back. By mid-July 1971, after bloody battles, the Palestinians had been crushed.

1960s

1969

1970

1971

1975



Lebanon 1960s central district post colonial era

- French colonialism and Lebanese independence enshrined Maronite (Christian) dominance and sectarianism in an inherently multi-religious country.
- Maronite - Sunni Shi'a tension, "jig-saw puzzle" country (Milton Edwards & Hadyeff, 2002)
- Fragmentation was not a recipe for harmony.
- Muslim frustration with the Maronite authority in disproportionate to their declining numerical superiority.

palestinian refugees in south Lebanon 1970-1971

The PLO in Lebanon
- PLO expelled from Jordan, Lebanon
- Palestinian-Lebanese Christian Conflict
- Lebanon becomes a battlefield for Israel-Palestine conflict
- Palestinian-Maronite to-fro attacks escalate into all out civil war

Ain el-Rammaneh incident!
The Bus Massacre, also known as the "Ain el-Rammaneh incident" (or massacre) and the "Black Sunday", was the collective name given to a short series of armed clashes involving Lebanese Christian and Palestinian elements in the streets of central Beirut, which is commonly presented as the spark that set off the Lebanese Civil War in the mid-1970s.

1960s

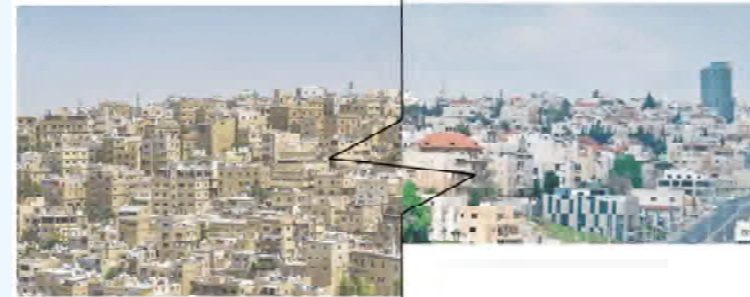
On the other side, Lebanon was experiencing sectarian tensions in the 1960s. Despite its postcolonial thriving era, french colonialism and Lebanese independence enshrined Christian dominance in an inherently multi-religious country. And the Palestinian refugees forming another state within a state created more clashes between Maronites and the PLO in the early 1970s.

1970s

The tension escalated to reach its peak with the Ain el Remmaneh bus incident which the movie refers to. And that was the spark that set off the Lebanese civil war that lasted 40 years.

1989-2022

The conflict that started between the Maronites and Palestinians escalated and became way more complex until Beirut was divided between east and west and a clear demarcation line was created.



1978

1979

1989

1992



known as the "Black Sunday", even to a series involving Lebanese Christian and Palestinian elements in the streets of central Beirut, which is commonly presented as the spark that set off the Lebanese Civil War

1978 The city becomes divided between east and west

1979 the center of the city is destroyed and a demarcation line is created

1989 end of Lebanese Civil War 1990 Al Taif Agreement 1991 All militias dissolved

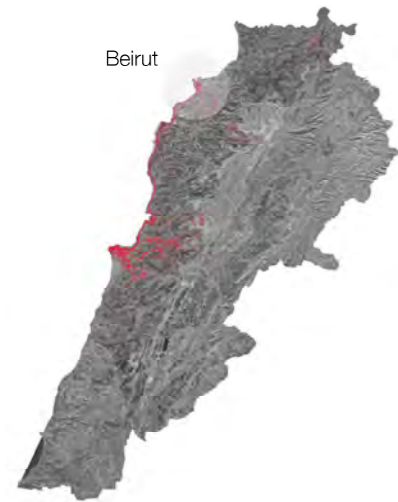
1992 Beirut Ret Solidere w

1975-1989

The conflict that started between the Maronites and Palestinians escalated and became way more complex until Beirut was divided between east and west and a clear demarcation line was created.

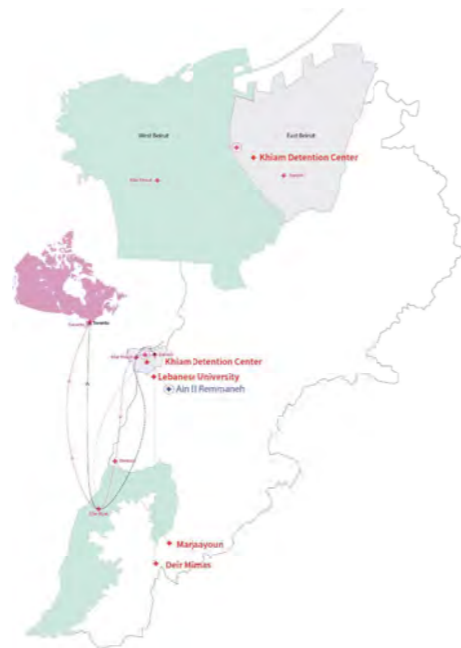
1980s - 2022s

This eventually led to a clash between the two, leading to what is known as the "Black September" in the streets of Amman and the PLO was expelled to Lebanon leaving a country that developed a social, ethnic and economic divide.



City within a city : Beirut

The movie is based on actual events during the civil war in Lebanon, and the diagram tries to understand how the movie travelled in its plot, ie. the locations based on the real political conditions against what is the actual geography of the locations. The plot is constructed on the separation of the areas in Lebanon based on ethic, religious, cultural and political backgrounds and the separation of the west and east Beirut. Divided by war, the separated areas occupy the same geographical space but via volition of their citizens, they are perceived as two different cities within the city. The separation is defined by its religion, culture, tradition, ideologies, and the way citizens of each city generally carry themselves.

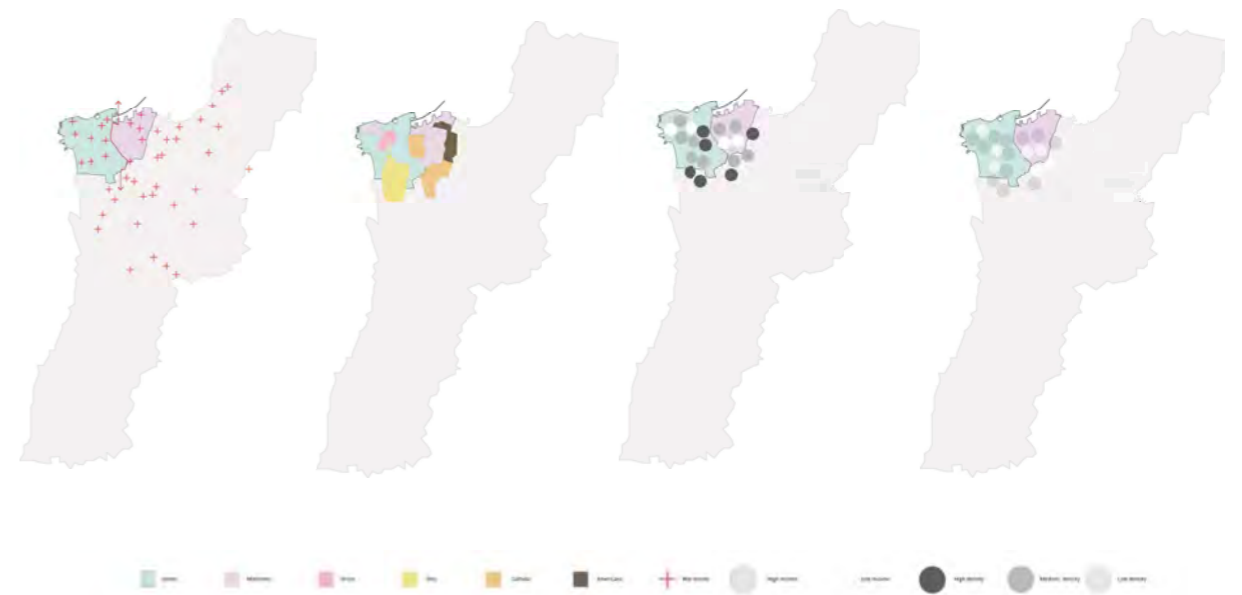


Elaborating on the idea of a city within the city, Lebanon comprises of cities on the coastal area spanning from the north to the

Before the civil war , although Lebanon was perceived as the Switzerland of the east that holds many religions living in harmony, Christians had privilege and were wealthier than muslims as a result of french colonialism which created a filtered separation within Beirut and Mount Lebanon. The dynamics within cities like

south, most prominently Beirut, while the east of the land is mountains.

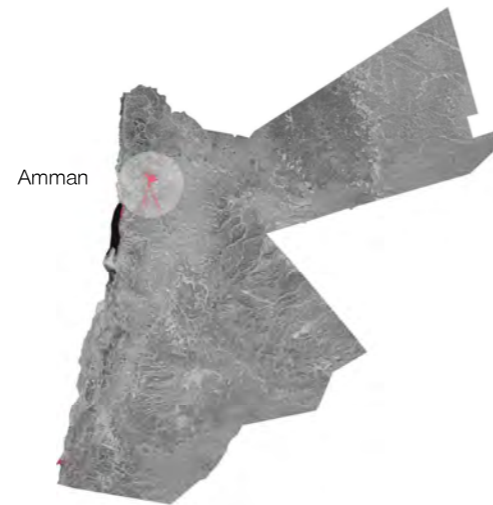
Beirut changed after the civil war. There was a segregation based on religion within the city, the west dominated by Sunni and Shia muslims and the east by Maronites and other Christians. There was an evident separation, when we look at the population densities that were reset and also change in income levels of people.



City within a city : Amman

A similar story and geographical condition was observed in Amman, in Jordan and potentially that the reason why the movie was filmed in this context and yet it could tell the story in Beirut.

Amman is one of the only densely populated cities in Jordan along with many smaller settlements and rest is majorly a desert. Amman is too separated as west and the east by the red line.



West is predominantly sparsely populated and houses high income groups and the wealthy against the east of the line is densely populated with smaller settlements of the lower income groups. We see from the diagrams that both the cities have many islands or cities within them.

They have comparable conditions, geographies and densities that the film maker could tap upon and show in the film. There is familiarity in the mountain areas shot in Amman for the movie and the rural areas of mount Lebanon few km away from Beirut . While the urban areas shot in the east part of Amman, they were staged in the movie to resemble war scenes perceived in Beirut during the civil war.

Architecture of War

“Trauma” and “architecture” are terms characterized by an intrinsic ambiguity in relation to their historical and cultural contexts. Both, in different ways, indicate cultural constructs that mature and transform through time, and continue to adjust to the needs, events, body of knowledge, and disciplinary positions.

Traumas of war and the subsequent violence leave indelible marks on the conscience of its residents, and their future generations. A ripple effect is observed, with the events that ensued in the past, having profound effects on the realities of the present.

The movie, Incendies, tells us a moving tale of a pair of twins, in the search of an understanding of their mother’s troubled and entangled past. The director, Denis Villeneuve chooses a fictional city to depict this story in, which has strong roots in references to the horrors that the country of Lebanon has faced over the past few decades. From the Ein al-Rammaneh bus massacre of Palestinian refugees, to the notorious Al-Khiam prison, these real life

events are riddled within the narrative structure of the movie to a sense of universal relation to anyone in the audience.

Multiple scenes from the movie stick out, where the contrast between the devastation and the normalcy which exists alongside the violence of a civil war is portrayed in a highly dramatic fashion. In one such scene, we see a group of kids running through the damaged cityscape are taken out one-by-one by the sniper. The city in its ravaged state appears permanent, and the innocence of the kids alleviates the contrasting nature.

Denis Villeneuve’s vision could be unanimously applied to any area across the globe which has faced such troubles, which is why the setting is that of a fictional city. In such times, besides the devastating psychological effects on the citizens, the impressions of war can be seen on the architecture of the city. No building is spared in such circumstances, whether it is a cultural landmark or a simple residential apartment. Which springs the question to mind -

Architecture of Healing

Different responses emerge that attempt to appropriate the work of trauma within architecture: political strategies for its urban diffusion and social redistribution is one of them. Solidere focused much on demolition, reconstruction of modern buildings, and preservation of facades of older buildings in Beirut's Central District. Solidere's master plan overview aims to address points including the "recovery of the public domain, creating public spaces, re-establishing the fabric and neighbourhood structures, offering a flexible market oriented development framework, and providing an urban design framework for new construction and for the restoration of preserved and historic buildings".

One such redevelopment project, Beit Beirut, sticks out. Remodeled as a sniper's nest during the war by the militia, the building has a special history owing to its Neo-Ottoman design and rich history (a sign of the times during which it was built). Led by the efforts of the Lebanese architect,

Mona El-Hallak, an intense campaign was launched to expropriate the structure and retain its years of history and significance to the cityscape. As stated by Youssef Haidar, the lead architect of the Beit Beirut project, 'the architecture is its permanent collection' ¹

Beit Beirut stands as a significant memorial of war, in a land which is torn on how to remember the past atrocities it has faced. Due to the sensitive nature of the project, it has been riddled with disagreements, and is only open to the public for short instances.

Due to its multi-faceted nature, Beit Beirut shows encouraging signs of being remodeled as a positive symbol in the modern scenario. Its use-case has evolved from an apartment, to a militia stronghold, and now, with the efforts undertaken by El Hallak and Haidar, it holds immense potential to be a significant cultural driver for today's Lebanon.



“how do we navigate the entrenched images of violence that are riddled across the city?”



Conclusion

As designers and planners of today's world, the movie intrigued us to question what is a city in a city? And how do we integrate the divide and separation among cities while we design for them? How do we dissolve separation, trauma and remnants of war from cities and reimagine homogeneity?

The movie highlights war, displacement and trauma. War is a result of conflicted geographies and land result in displacement of thousands of people. What is left behind is trauma and memories of uncertainty, hope and conflicted ownership of land. Cities are built organically on these ideas, by events that take place over time. Cities are formed by layers of time, people, war, cultures and religions and hence are ephemeral in nature.

It is challenge to design for the ephemeral and set standards for a city so dynamic in its socio political context.

There are different approaches taken towards inclusivity and homogeneity within cities that led to better resolve the divide. The public spaces in cities are great opportunities to identify and disintegrate differences. Parks, gardens, museums, schools, community centres are public institutions that can help break the segregation due to war and disintegrate the divide and bring people and communities together, they are nodes to spring conversations and understanding of warfare situations, sharing of experiences and healing via community care.

The research around the movie helped us to envision healing methods of design for a war torn city and hence reimagine the provisions made into planning of regions with dynamic histories that still affect the everyday of people living in them.

Review of The Seed Cathedral

Transculturalities / Javairia Shahid

by Andy El Set

The Seed Cathedral was designed by Tomas Heatherwick as the United Kingdom's pavilion at the Shanghai world expo of 2010. The aim was to present Britain as a contemporary leading green country. However, behind the botanical advancement, lies a long history of colonialism that shaped the exotic collection of seeds at the root of the pavilion's morphology. Despite that, the pavilion presents itself as a green structure with contemporary messages on the relations between humans and nature. In this sense, the Seed cathedral becomes an environmental manifesto with the social awareness that it addresses.

The Seed Cathedral was conceived as the UK's pavilion for the Shanghai world expo 2010. The design team led by Thomas Heatherwick won the Foreign & Commonwealth Office commission by the British government. The brief asked for a building that would advertise the country as a good place to live, work, invest, etc., and be voted on the top five participants. Driven by the government's goal, the team had to opt for an innovative approach to design.

While the conventional architectural strategy for national pavilions is to showcase a country's culture, advancement, and wealth, Seed Cathedral defies this assumption. The pavilion's design aimed to break the stereotypes of red telephone boxes, the royal family, and double-decker buses. Instead, it placed special attention to the expo's central theme, "Better City, Better Life", and deliberately suggested a more contemporary notion of national identity based on the UK's long history in botanical advancements. However, while the pavilion advertises the pioneer country in green cities, it certainly misses the UK's colonial history that fed its botanical sciences driven by the political aim of "that acknowledged



Plate 3. Mango (*Mangifera indica*) from the *Hortus Malabaricus* (1683). Each plate of this remarkable book shows how extra-European knowledge came to be included into European science. Note that the plant is named in five languages at the same time, including Arabic and Malayalam, as well as in Latin (see p. 16). Wellcome Institute Library.

Figure 1 Nature's Government page 8



Plate 6. Helleborine americana, a plate from John Martyn's *Historia Plantarum Rariorum* (1728), one of the most sumptuously illustrated scientific books of the eighteenth century. It bears a dedication to Peter Collinson, a merchant whose North American connections made him a particularly important source of colonial plants (see p. 37). Cambridge University Library.

Figure 2 Nature's Government page 9

Heatherwick took inspiration from the Royal botanical gardens at Kew which aims to collect 25% of the world's plant species by 2020. Yet the rich and exotic seed collection initially started as payments from the colonies in America and later was collected from other parts of the world. The collection of rare species became part of the currency of ancien regime diplomatic relations and set the UK as the richest country in Europe. Thus, the formation of the pavilion originated from the repetition of these single seeds collected from every corner of the habitable world. A set of microscopic beings that have been dramatically trapped in translucent blocks, frozen as though they were intended to be protected from extinction so that their physical features (such as form, color, and details) are exhibited. The accumulation of these seeds is then elevated to a monumental scale and forms the ontology of the project.



Figure 3 interior photo by Heatherwick studio

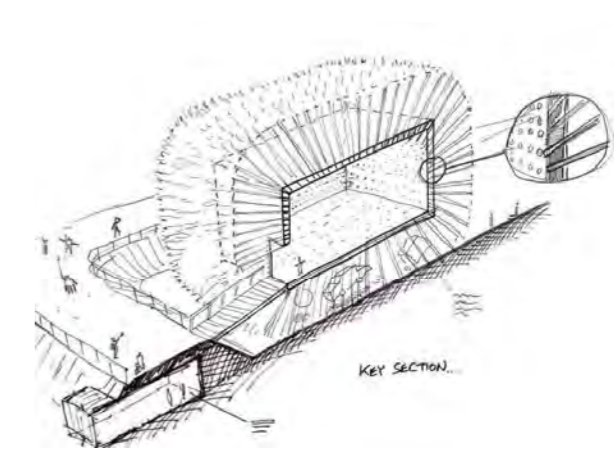


Figure 4 sectional axonometry by Heatherwick studio

On the other side, the Seed Cathedral aimed to explore the relationship between big cities and the environment. The texture of the building acts as an interface between interior and exterior and the arrangement of transparent rods, reacts actively to the natural phenomenon such as sunlight, and breeze, and gives the pavilion an atmospheric quality. Besides, the pavilion possesses one simple digital feature, a light embedded in each rod to illuminate collectively the whole interior space.



The light is then transferred to the exterior through the filaments in later parts of the day to illuminate

In spite of the fact that it does not have exceptional natural features or sustainable performance, the Seed cathedral's commitment to environmental awareness goes past the restricted physical boundaries of a pavilion. Despite the long colonial

British history which formed the wide collection of seeds, the base of the pavilion's morphology, with its suggested message, the structure turns into an environmental manifesto.

New York Oyster Reefs as a Proxi Landscape

Advanced Studio IV / Critics: Marco Ferrari, Elise Hunchuck

by Andy El Set, Kriti Shivagunde

Abstract

Analyzing the material and immaterial factors that form the artificial oyster reefs landscape in Hudson river park, one can observe that marketing and funding are a central factor for the success of the initiatives. And that consistent funding and raw material donations from restaurants are required in order to maintain continuity. Much of the funds are targeting public funds, in a series of exhibitory structures that showcase the positive accomplishments of the various experimental practices with oysters.

Through these observations, we question the connection and feasibility of this proxy landscape in other contexts where it is needed due to climate change and habitat loss. How can we define these landscapes, and what are the parameters in these landscapes?. The landscape formed at Hudson River park is a proxy of a larger ecosystem of oyster reefs experiencing an 85% loss of habitat globally as compared to other wetland types. The extent of oyster reef habitat loss justifies more explicit recognition in protected areas policies. Oyster reefs should be specifically identified for protection under the Ramsar Convention and regarded with other similar

wetlands as an "underrepresented wetland type".

By creating the New York convention, we use Hudson River Park as a proxy designated site of the convention. The site becomes a preserved landscape with regulated initiatives and public guidelines that ensure the thriving of the habitat. By creating an index to identify, categorize and map the global oyster reefs landscapes, we study the global condition of these landscapes and connect them to the public and analyze potential sites of future intervention.

A proposed set of small interventions laid on a trail, engage different users in different restoration activities along the site. The intervention speaks to the public, and spreads awareness by connecting the ecology in Hudson River Park to a wider ecology and network through the index.

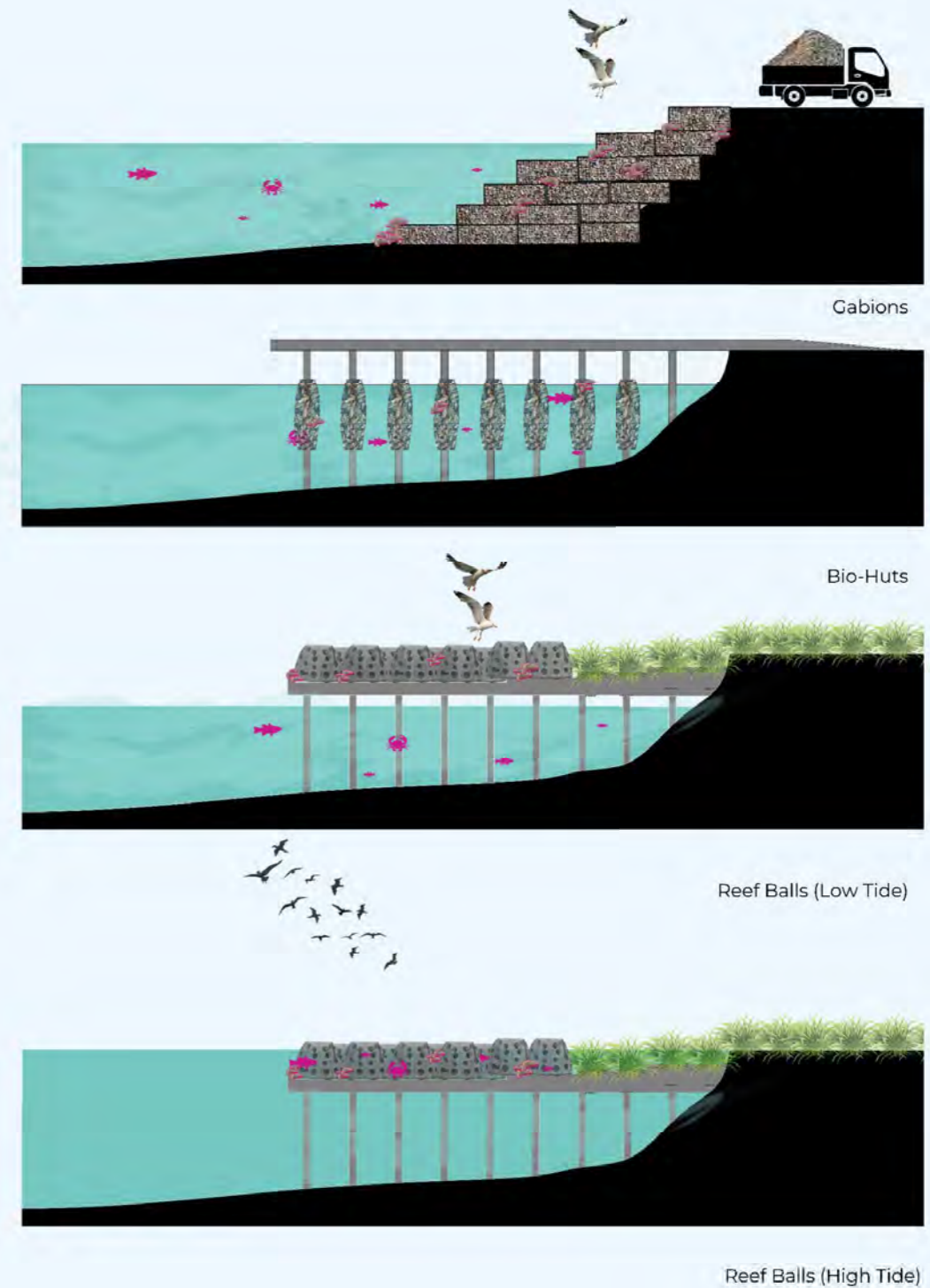




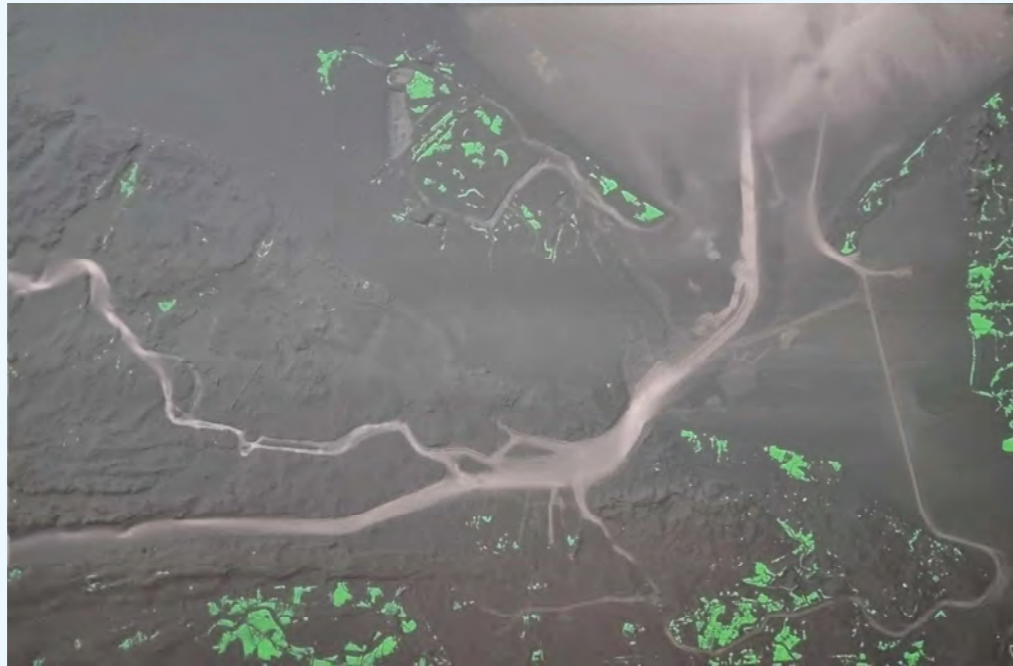
New York artificial Oyster reefs initiatives

After the recent Hurricane sandy impact on New York City's coastline, the city mapped out zones vulnerable to flooding in case of a hurricane or even sea level rise . As a result of that, New York City, saw a series of initiatives and proposals to protect the coast, of which, initiatives such as the Billion Oyster project aimed to deploy millions of oysters in the estuarine waters of Hudson river to restore the lost Eastern Oyster reefs and potentially protect the land from future risk.

The Oyster Reef restorations conducted by these initiatives depend on a variety of technologies introduced in estuarine waters to help the re-introduced reefs grow. These technologies consist of oyster gabions, reef wraps and reef balls that help provide hard strata for the oysters to grow on, in the soft soil base of the Hudson river. They are placed in near ideal water and climate conditions - 2-26ft brackish water, 68-90F, and 20% oxygen saturation. The reefs formed helped create a habitat for a variety of aquatic biodiversity.



Bio-Engineered Oyster Reefs



When Henry Hudson arrived on the lands of the Lenape people, what is now New York City, in 1609, there were approximately 350 square miles of oyster reefs in the harbor and its surrounding waters. These waters contained nearly half of the world's oyster population. By 1910, oyster bed populations were declining rapidly due to overfishing, overconsumption and water pollution (600 million gallons of untreated sewage were being dumped into New York City water every day).

Presently, 75 million oysters have been restored in New York City estuarine waters. But how did these oysters get there?

Behind the material aspects that shape these landscapes lies a larger immaterial infrastructure that feeds the continuity and ensures the sustainability of this landscape. A design proposal by Scape Studio called Oyster-ecture for a competition galvanized the Billion Oyster Project in collaboration with the New York Harbor School. Oyster shells are collected from restaurants, which are cleaned and placed in gabions and monitored by students from participating schools and volunteers. The Hudson River Park Trust collaborated with the Billion Oyster Project through oyster stewardship creating the Tribeca Habitat Enhancement Project, and through similar processes and multiple technologies began restorations in the Hudson River Park

site. Through riverfront developments done in the Hudson River Park by the Trust, the project gained funding with the help of their designated fundraising partner, The Hudson River Park Friends. Crowd-sourced donations as well as funding by beneficiaries helped form the landscape. However large portions of this funding are redirected towards public structures and developments that exhibit the accomplishments of the restorations which help garner more funding. For instance, Pier 26 designed as an ecological pier landscaped by Olin Landscaping and Urban Design Studio used 37 million dollars for the same which fell short for the construction of the Estuarium and the Science playground; The project is currently collecting additional funding of 3.5 Million dollars.

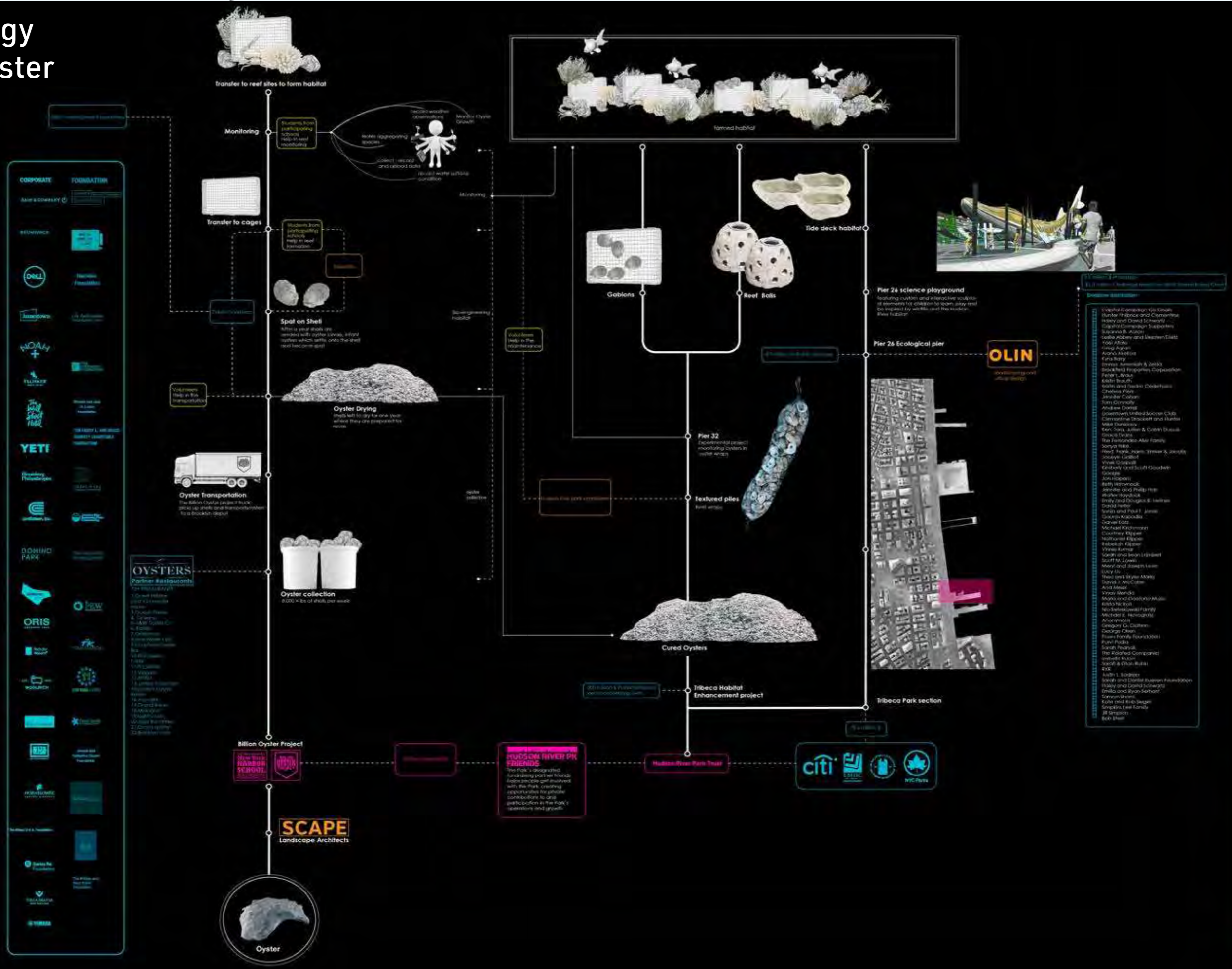
By analyzing the complex network of alliances and stewardships, funding bodies that economically flush the many initiatives, volunteers and student programs that carry out the execution, specialists that monitor the progress at the research stations, as well as the many supply chains and donations that support the overall process that form the artificial landscape in Hudson River Park, we observed that marketing and funding are a central factor for the success of the initiatives. Much of the funds are targeting the Public, in a series of exhibitory structures that showcase the positive accomplishments of the various experimental practices with oysters.



Political Ecology of Artificial Oyster Reefs

A study on how different actors participate in the formation as well as in the maintenance of bio-engineered oyster reefs

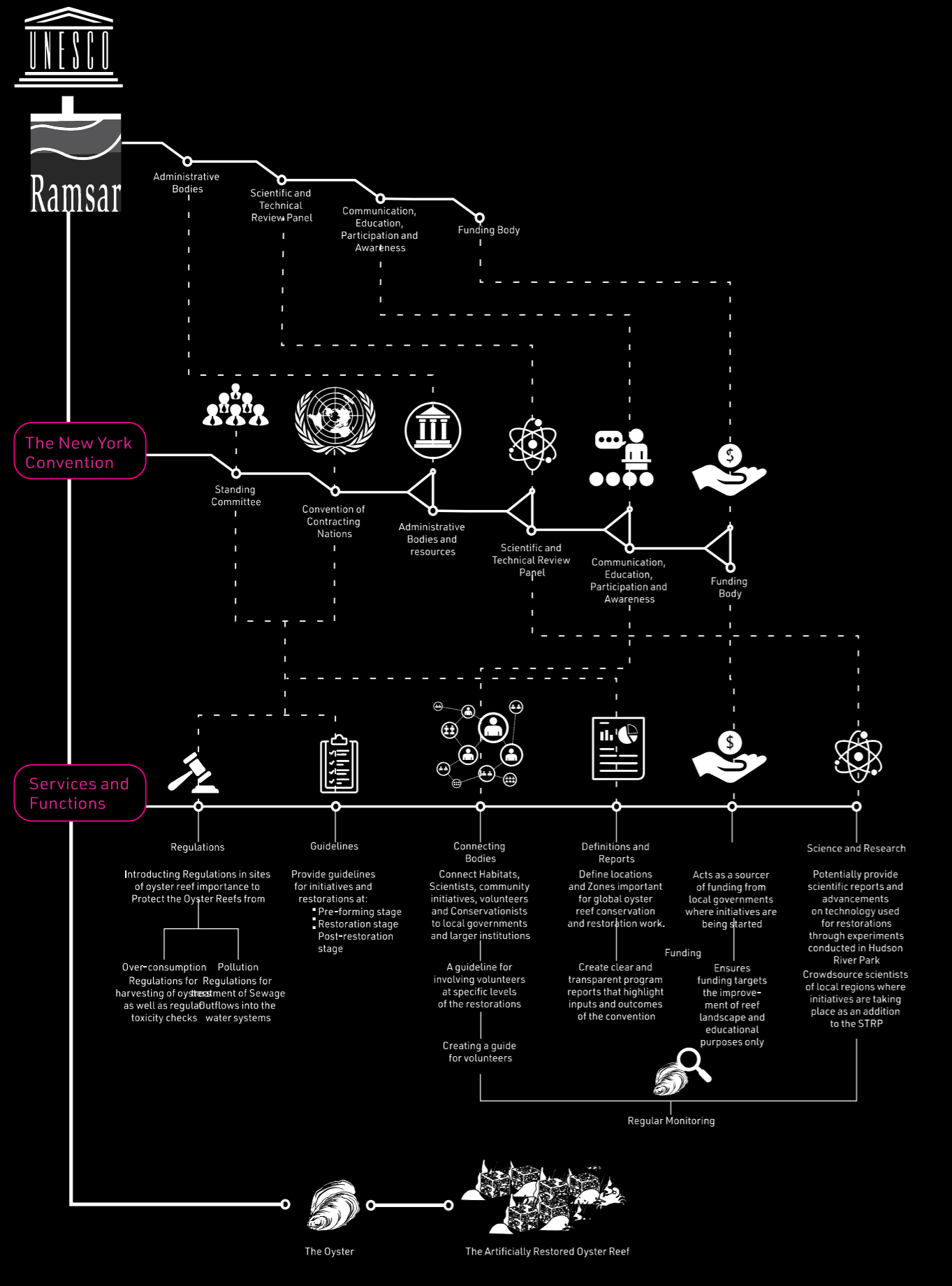
- Public
- Marketing
- Specialists
- Donations
- Actors Connection
- Path



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The New York Convention



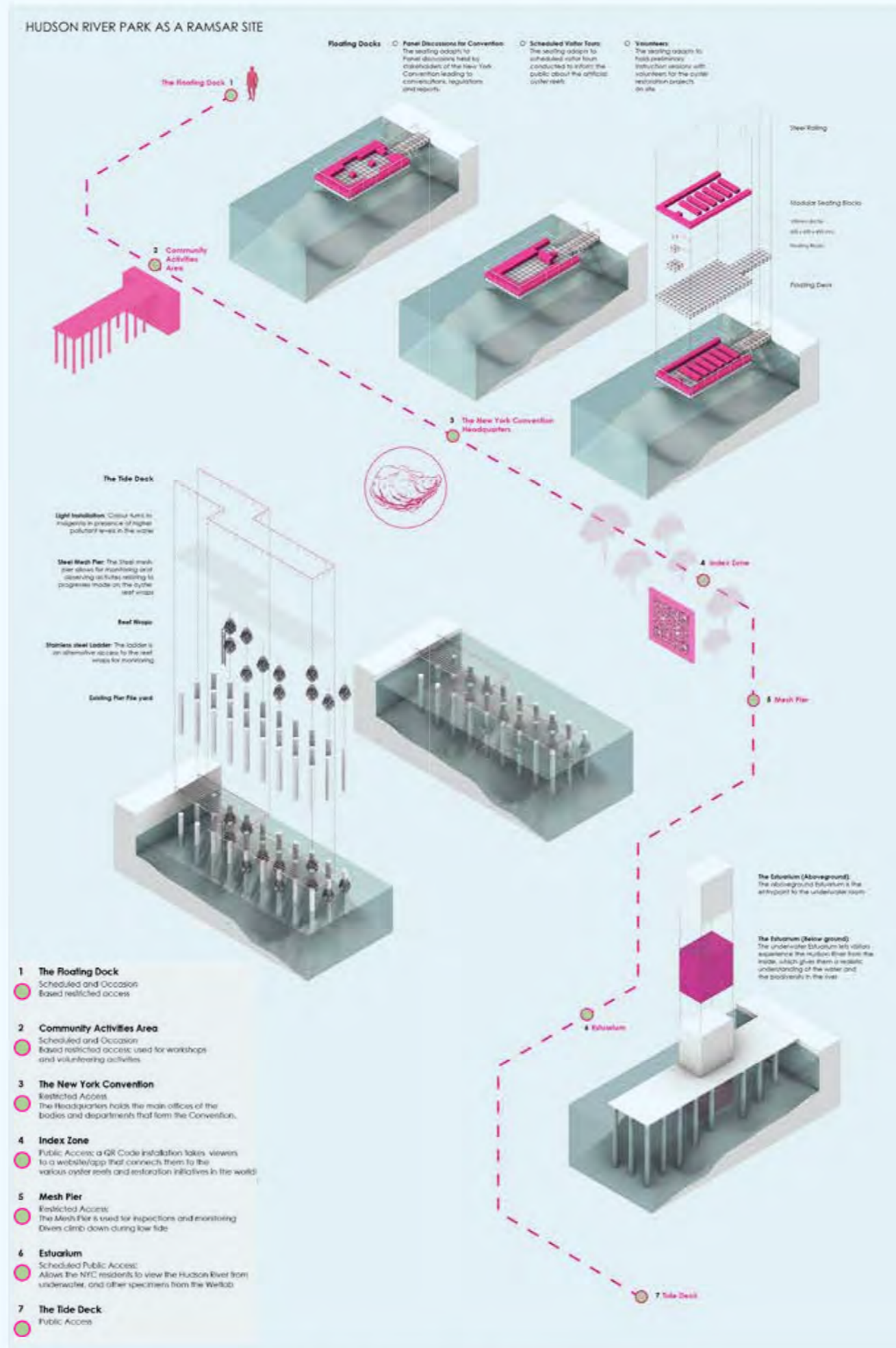
The success of Oyster Restoration initiatives depends on the ideal physical landscape as well as the political ecology that sustains it. Through these observations, we question the connection and feasibility of this proxy landscape in other contexts where it is needed due to climate change and habitat loss, and specially the ones that do not share the natural and political ecologies of New York City, however face the same environmental challenges.

The Ramsar Convention on Wetlands is an international treaty for the conservation and sustainable use of recognized Ramsar sites. It acts as a global connecting body of wetlands in different conditions and ensures their preservation. Given the severity of oyster reef loss (85%) as compared to the 20-50% loss of other types of wetlands clarifies the urgency for action. The extent of oyster reef habitat loss justifies more explicit recognition in protected areas policies. Oyster reefs should be regarded with other similar wetlands as an "under-represented wetland type."

As a product of this, we propose the New York Convention on Oysters as a subset of the Ramsar Convention. Through a sharing of resources and administrative bodies with the Ramsar, the New York Convention forms the Standing Committee, the Convention of Contracting Nations, the Administrative body, The Scientific and Technical Review Panel, the Communication,

Education, Participation and Awareness Body and the Funding body. The Convention will regulate and stipulate guidelines for the creation and execution of the reefs from start to end. It also creates an index of oyster reef sites around the world, identifying the reefs that need immediate attention. Through connecting scientists, community initiatives, volunteers and local governments in the restoration process, the New York Convention acts as a central governing body that creates reports, sources funding, and helps monitor and study the reefs.

The Hudson River Park is a proxy for oyster reefs around the world. By creating the New York convention on Oysters, we use Hudson River Park as a proxy designated site of the convention. The site becomes a preserved landscape with regulated initiatives and public guidelines that control operations and access to the site and ensure the thriving of the habitat. The convention introduces absolute, conditional, and user-based restrictions such as restricting motorized boating, public access and CSO systems on oyster reserve locations. It also proposes a set of small interventions laid on a trail that engage different users in different restoration activities along the site, making the Hudson River Park an oyster reef reserve.

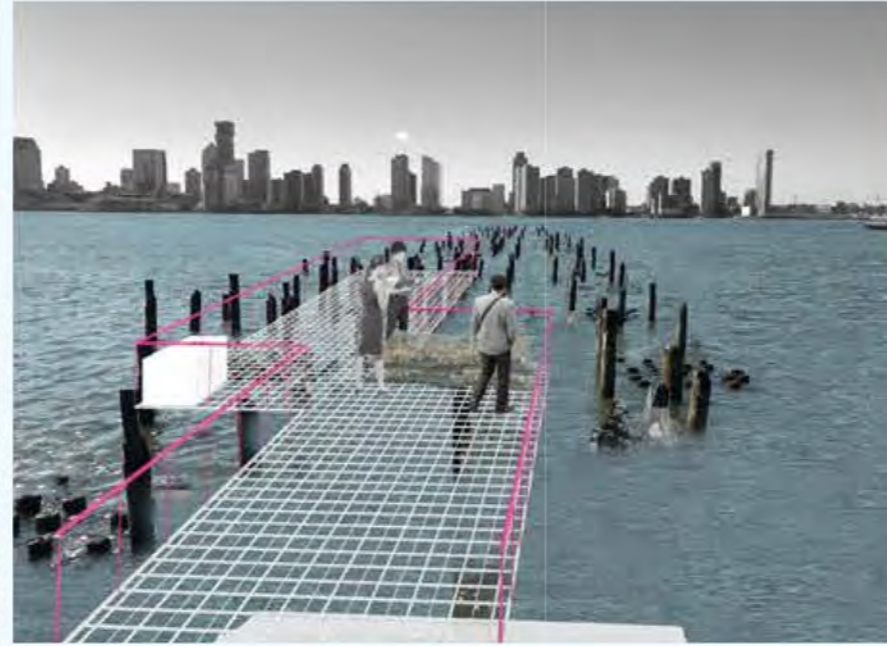


The trail begins with the Floating Court, which acts as a platform to hold panel discussions between the stakeholders, a space for instructing volunteers, and holds scheduled visitor tours. Made of floating dock blocks, the Court floats on the water, allowing the people to feel the waves of the river and connect with the surrounding landscape. From here, the user is directed to the Oyster Workshop which is an occasion-based restricted area which hosts workshops on monitoring for volunteers. The New York Convention Headquarters is located on Pier 40, which houses all the founding bodies and departments of the convention. The trail then leads to the Observatory, which has restricted access. It is where the reef is monitored regularly. The mesh of the pier allows transparency for viewing the reef wraps at low tide, and the railings are light installations that indicate the quality of the water of Hudson River. Further on the trail is the index zone which is a QR Code installation that can be scanned to connect the people to the index that connects them to the oyster reefs around the globe. This is then followed by the Estuarium which is relocated from its current projected site to Pier 26 where the underwater section allows the visitors to experience Hudson river as it is, from the perspective of the biodiversity that resides within it.

The New York Convention



Mesh Pier

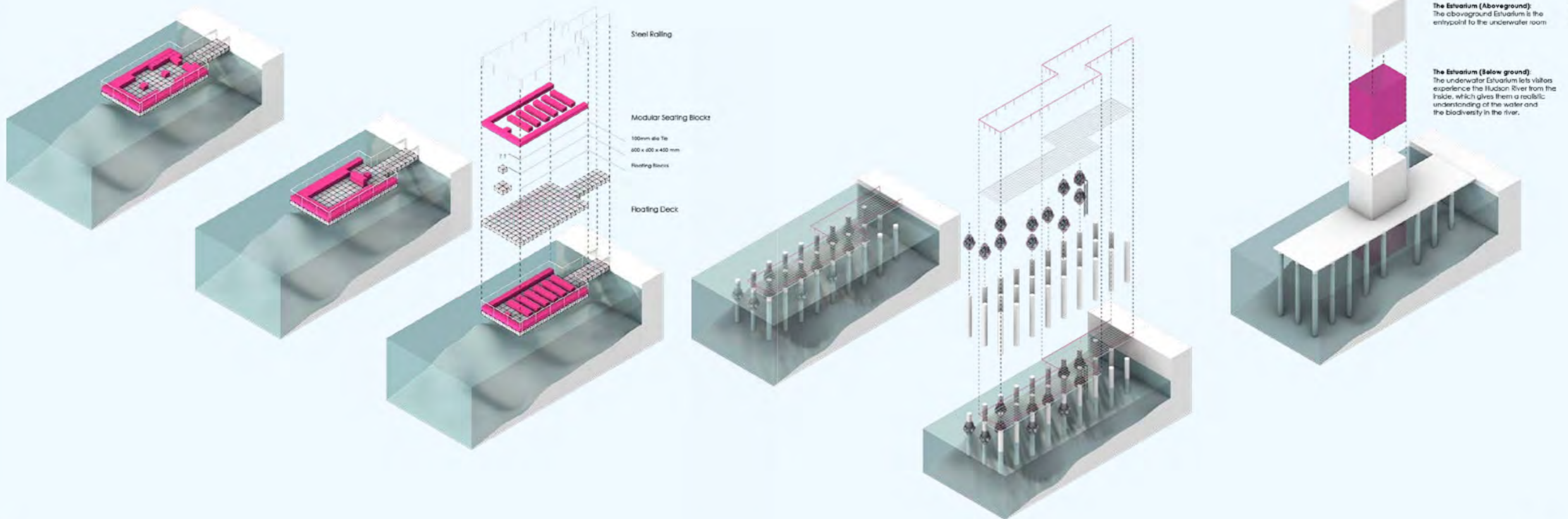


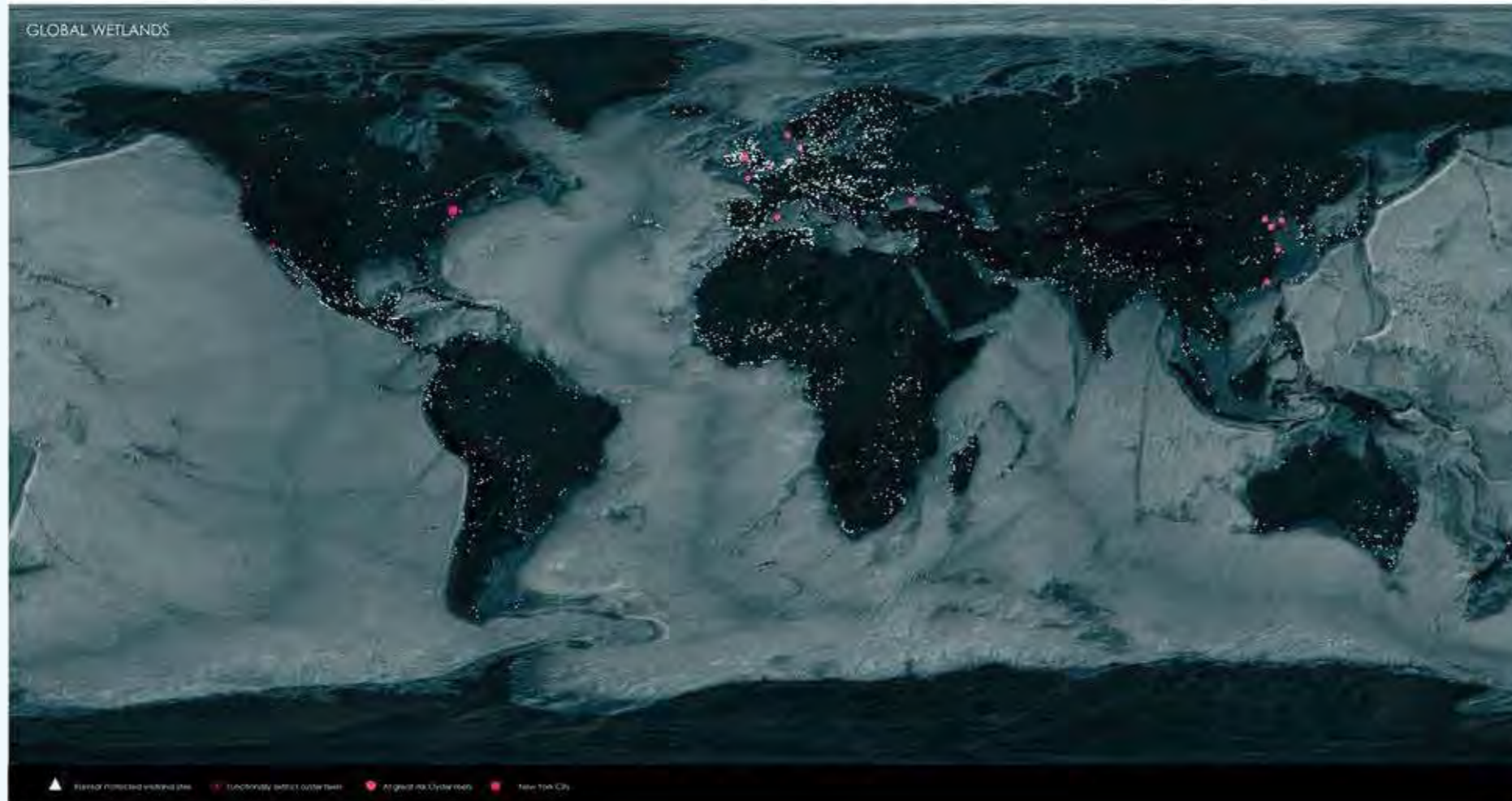
The Estuarium



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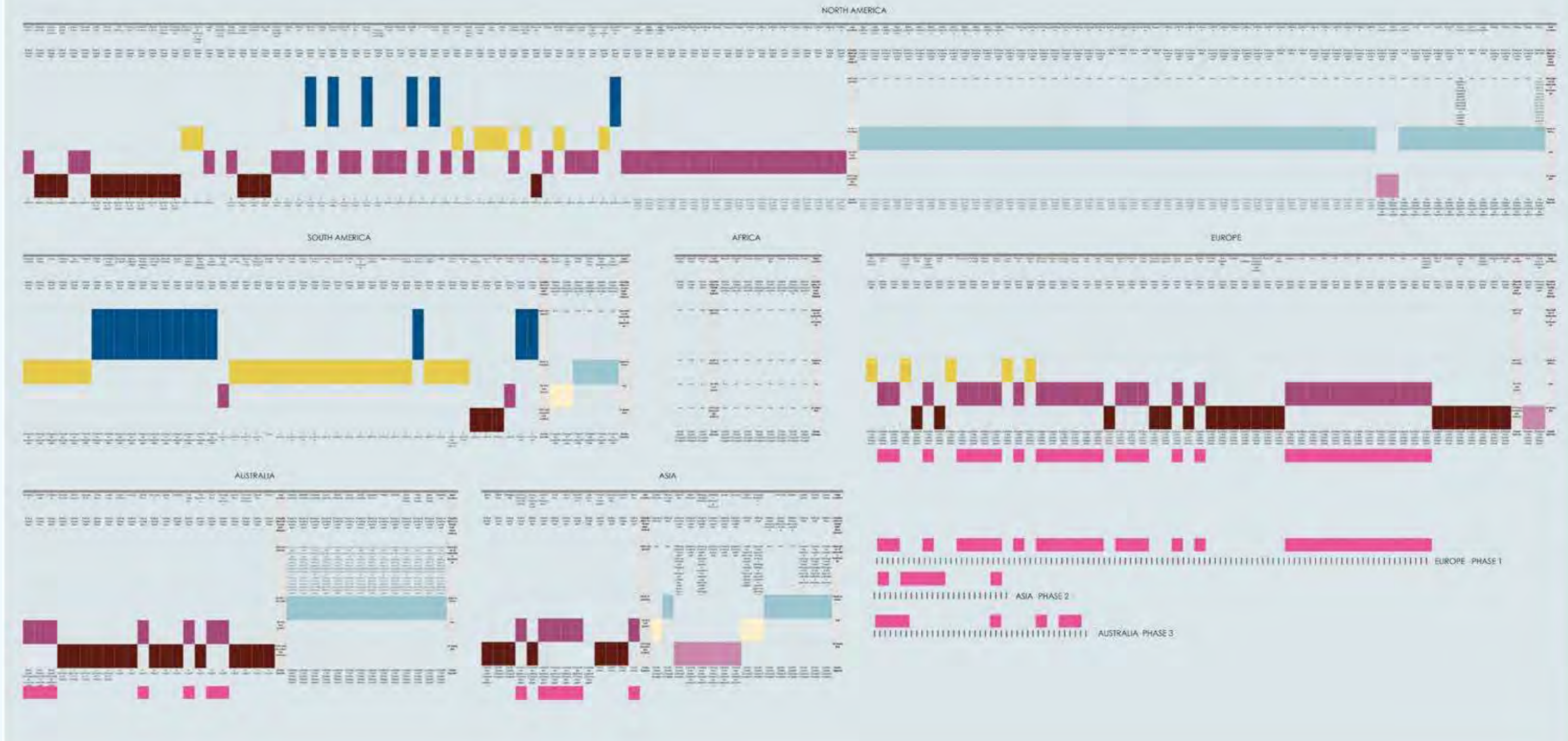
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The convention sets criteria for recognizing oyster reefs around the world - which are reefs that form habitat, offer protection and home for marine species, contain natural or near-natural reef types, and support vulnerable and threatened oyster species as well as the species that are important for maintaining the biodiversity of a region. The convention compiles the global reef data into an index, where it recognises endangered oyster species in the world. The reefs are classified as native natural reefs.... and near-native natural reefs Which are managed / preserved oyster reefs, artificial reefs, experimental reefs abundant in the US and Australia, and Marine Oyster Farms dominant in Africa, South America and Asia. It also studies the conditions of these oyster reefs and classifies them as Likely to thrive, Fair, Great Risk, Functionally Extinct and Disappeared sites. In North America and Australia, the reefs are likely to thrive due to many restoration initiatives. While in other parts of the world, reefs are at great risk of disappearing, especially in Europe. The Convention recognizes potential restoration sites based on their conditions, and compares it with the community initiatives ongoing within the regions. The sites with reefs at risk and without community initiatives are more likely to decline further and need to be urgently acted upon.

POTENTIAL OYSTER RESTORATION SITES STUDY



| country | Reef Location | Classification on Oyster reef | | | Description of restoration technology | Oyster Species | Citation |
|---------|---------------|-------------------------------|------------------|------|--|-----------------------------------|---|
| | | Near Natural | Likely to thrive | Fair | | | |
| Japan | Kyushu Island | Artificial Reef | | | involves the creation of managed shell "reefs" throughout the bays for cultivation | Pacific Oyster ,Crassostrea gigas | Beck, Michael & Brumbaugh, Robert & Airoldi, Laura & Carranza, Beck, Michael & Brumbaugh, |
| Japan | Kyushu Island | Artificial Reef | | | involves the creation of managed shell "reefs" throughout the bays for cultivation | Pacific Oyster ,Crassostrea gigas | Beck, Michael & Brumbaugh, Robert & Airoldi, Laura & Carranza, |
| Japan | Kyushu Island | Artificial Reef | | | involves the creation of managed shell "reefs" throughout the bays for cultivation | Pacific Oyster ,Crassostrea gigas | Beck, Michael & Brumbaugh, Robert & Airoldi, Laura & Carranza, |



PRINCIPLES AND CRITERIA TO CATEGORIZE AND IDENTIFY OYSTER REEFS AND OTHER POTENTIAL SITES

1. Oyster reefs consist of clusters of oysters that form habitat.
2. Offer protection and provide homes to the other species of marine life and organisms.
3. Include a natural or near natural (introduced) reef type found or disappearing from the appropriate biogeographic region.
4. If support vulnerable, endangered, or critically endangered oyster species or threatened ecological communities of oysters.
5. It supports populations of oyster species important for maintaining the biological diversity of a particular biogeographic region.

CLASSIFICATIONS OF OYSTER REEFS

- 1. Native Natural oyster reefs (Most Intervention)
- 2. Managed / preserved oyster reefs
- 3. Artificial reefs
- 4. Experimental reefs
- 5. Marine oyster farm/aquaculture



Legend

- 1. Bahamian Flat Oyster, *Ostrea angasi*
- 2. Chinese river oyster, *Crassostrea sinuata*
- 3. Crassostrea aquatilis
- 4. European Flat oyster, *Ostrea edulis*
- 5. Olympia oyster, *Ostrea lurida*
- 6. Pacific Oyster, *Crassostrea gigas*
- 7. Rock Oyster, *Saccostrea corniculata*
- 8. The Eastern Oyster, *Crassostrea virginica*

REEF CONDITIONS

- 1. Likely to thrive
- 2. Fair: struggling to form or sustain itself
- 3. Great risk: Poor and/or great risk of disappearing
- 4. Functionally extinct
- 5. Disappeared: Disappearing landscapes
- 6. Unknown (if no study is being done there)

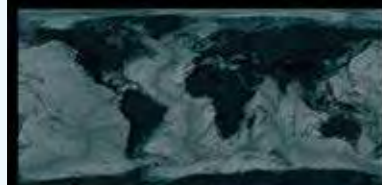


CLASSIFICATIONS OF OYSTER REEFS

- 1. Native Natural oyster reefs, that are composed of living and dead oyster shells and provides important habitats for various species

REEF CONDITIONS

- 1. Likely to thrive
- 2. Fair: struggling to form or sustain itself
- 3. Great risk: Poor and/or great risk of disappearing
- 4. Functionally extinct
- 5. Disappeared: Disappearing landscapes
- 6. Unknown (if no study is being done there)



The Hidden Life of Ice

Environment Animal Technology/ Gal Nissim

by Andy El Set

The Project is a Virtual Reality Experience that aims to perceive unseen relationships between humans and their environments, most particularly in environments that very few of the 8 billion people live in.

A delicate frozen ecosystem under the sea ice. Microscopic algae and other single-celled organisms as well as larger sea-ice fauna that live in the saltwater-filled pores of the sea ice. When sea ice forms, water droplets with high salt content are created. These combine to form brine channels, which permeate the ice.

In the installation, Virtual reality is used and combined with sounds, and colors to bring the arctic ecosystem into space.

The lost landscape is reduced to its geology and the interactive installation, while the human connects the two, and in contrast to a natural history museum, the human becomes the specimen on view.

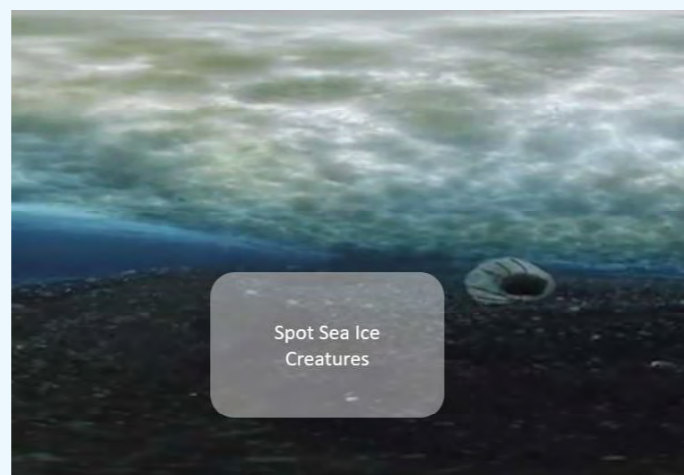
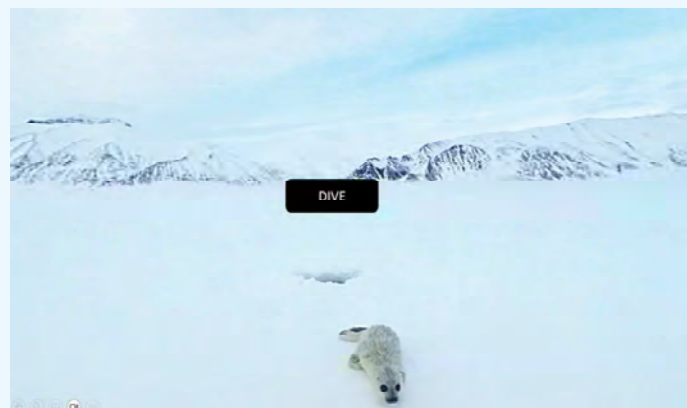
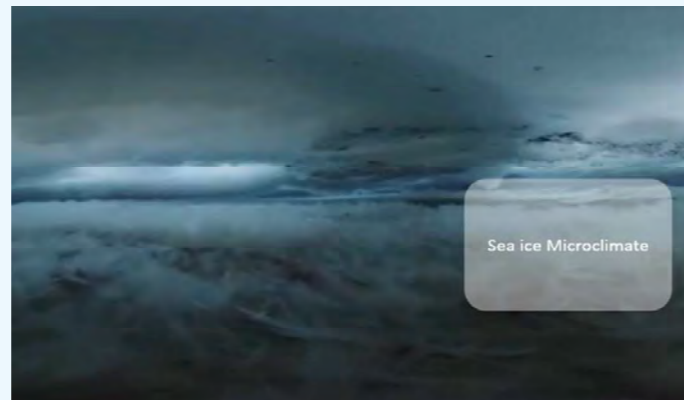
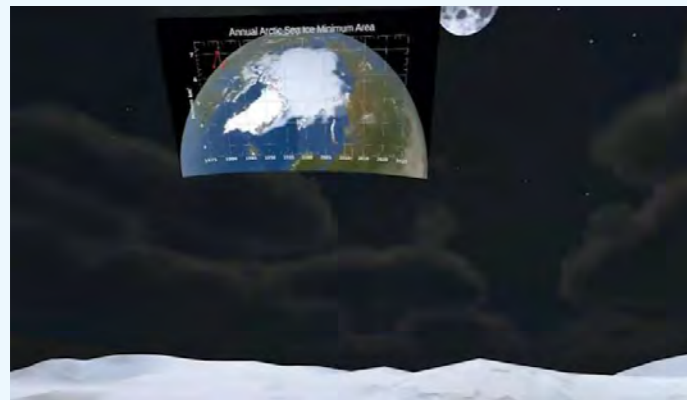
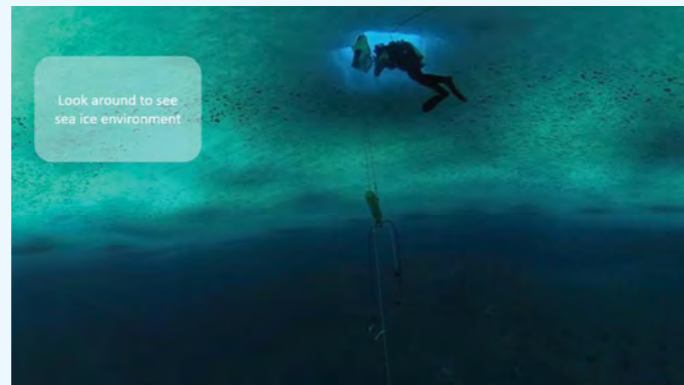
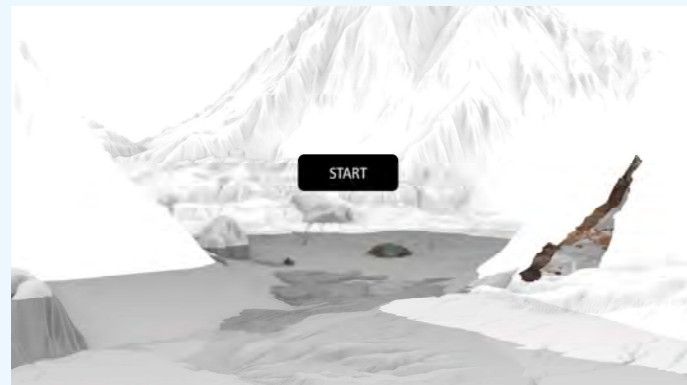
The immersive experience compels the human participant to adopt the behaviors and traits of underwater species, fostering a deep connection with the marine environment.

As the virtual reality unfolds, the participant is transported into the realm of underwater creatures, experiencing their movements, interactions, and unique adaptations firsthand. Through this embodiment, a profound sense of empathy and understanding emerges, allowing for a meaningful connection to develop between the human and the underwater world.

By simulating the behaviors and characteristics of marine species, the experience prompts the participant to reflect on the interconnectedness of all life forms and the significance of preserving and respecting our fragile ecosystems. It serves as a reminder that humans are not separate from nature but intricately linked to it, encouraging a shift in perspective and a renewed sense of responsibility towards the environment.

Through this transformative journey, the immersive experience creates a powerful bond between the human and underwater species, fostering a deeper appreciation for the interconnected web of life and inspiring a commitment to its preservation.





Sea Ice Knowledge Updated

Advanced Studio V / Critics: Leslie Gill, Khoi Nguyen
by Andy El Set



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Sea Ice Knowledge Updated

PEEL Journal at Gsapp
Architecture on the Move

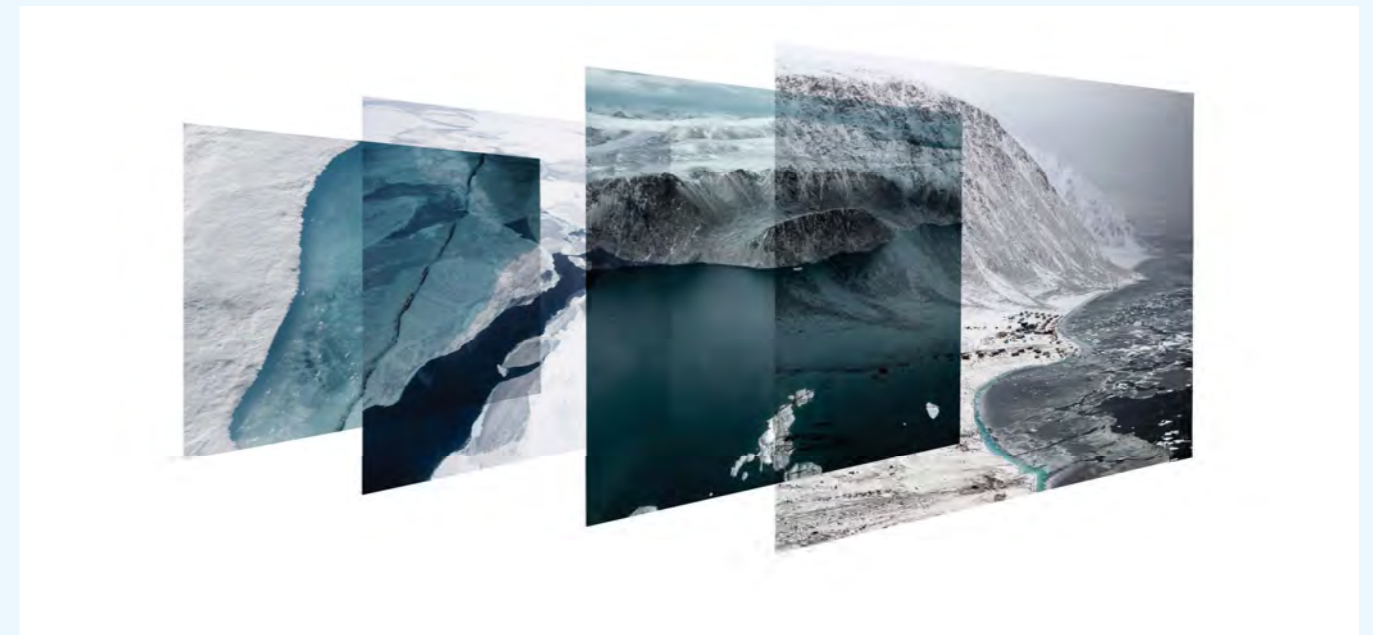
Abstract

As the effects of melting sea ice are felt by local communities in the arctic region, the SIKU project takes part in the international effort to produce more accurate on-site sea ice condition analysis and climate predictions. The SIKU project would serve and direct remote indigenous people during their seasonal hunts and have a better analysis of projected sea ice extent and the global climate change. In this remote context, architecture is in constant motion and morphs according to the needs of its users and in relation to its surrounding atmosphere.

In late fall, the Inuit-led research at the SIKU, uses temporary structures that can be transported by local methods, deployed on the frozen platforms next to the central station, sled when needed to ice camps for research, and placed back on the platform when sea ice breaks out to float.

The central archive aims to blend with its surroundings between water, ice and land, in the extreme environment of the Grise Fiord. The mobile stations attach to the central

archive to generate an architecture that operates on a seasonal and yearly basis, and as the study develops and the surrounding changes from ice to water, the building changes and disappears too. In its last stage, the building's fabric envelope is dismantled leaving a floating platform for the public and the Inuit communities to pass on their knowledge and memories of the lost sea ice.



SIKU project is Drawn by my research on the increasingly melting sea ice in the polar region that attracted shipping in these extreme locations and created problems for local communities in the arctic to practice their traditional livelihoods. Which made me focus on the Northern region of Nunavut/Canada, the last inhabited area to have summer sea ice in near future, and that makes it an important area for sea ice locally and globally.

As the effects of melting sea ice are felt on both scales, the project aims to produce more

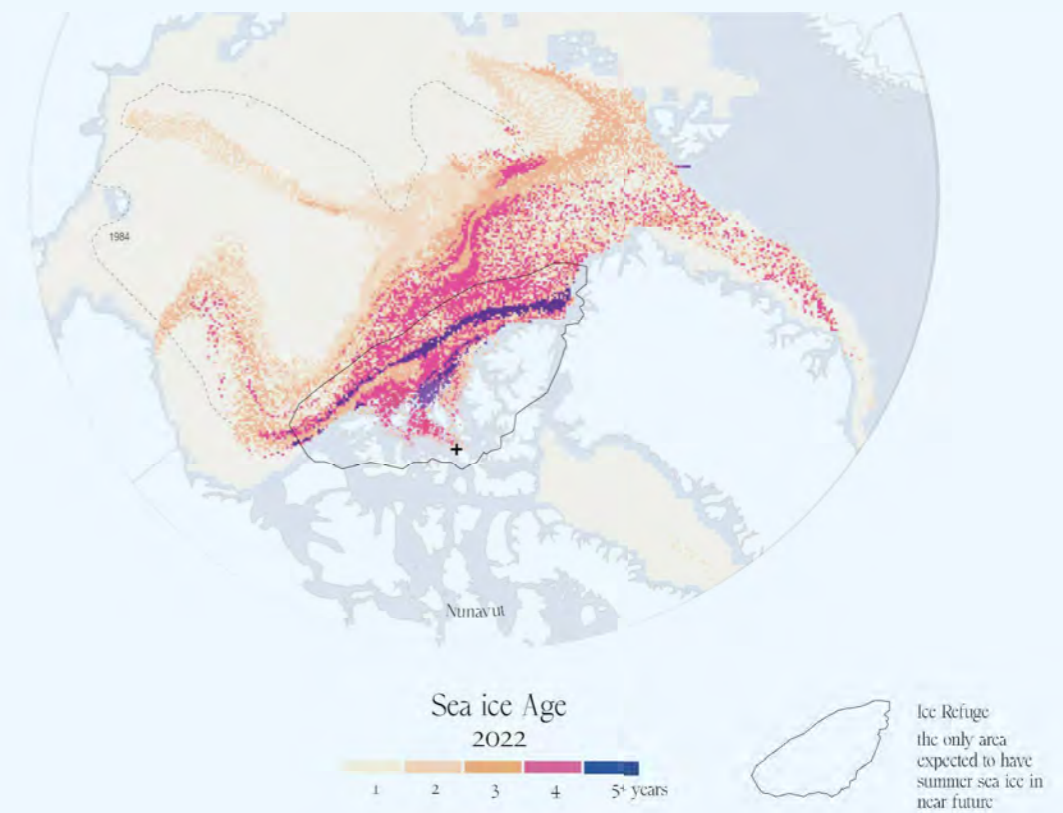
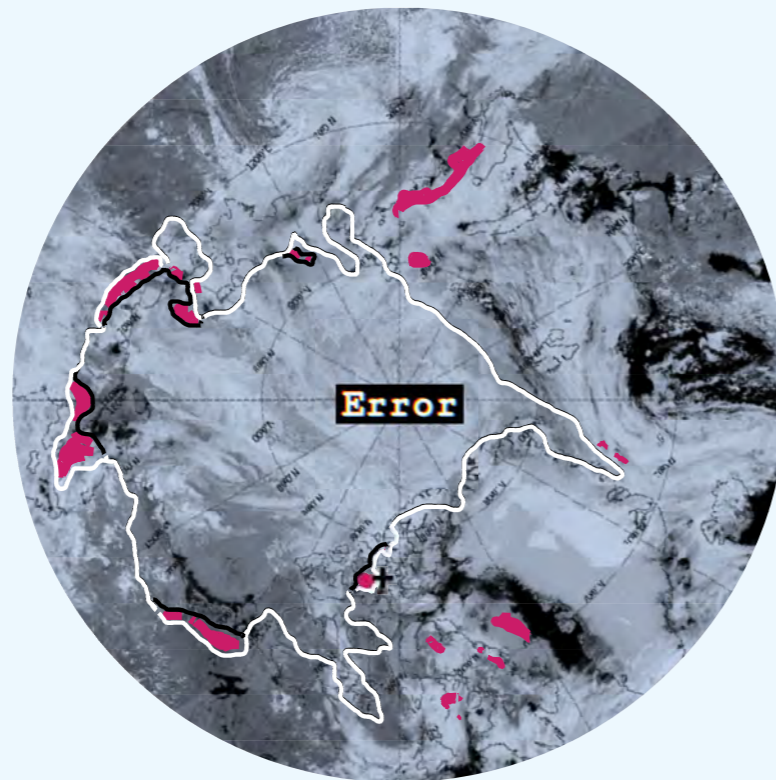
accurate on site predictions that would serve and direct the local remote communities on a seasonal basis and have better analysis of projected sea ice and climate change. On site analysis and the tactical knowledge of the underrepresented inuit communities help to have a better understanding on predictions. As the traditional sea ice estimation and prediction for climate models are proved inaccurate and exposed to errors.

only recently has Western Science turned to Inuit researchers and their expertise to determine what exactly is at risk.

During the research , The success of predictions rely on a more connected sea ice monitoring system that combines the three types of knowledge available. Remote sensing for safety of the studies and locating visually forming cracks, on-site research on ice core samples for detailed monitoring, and the expertise of historical indigenous knowledge of the region that use similar but more tactical techniques to understand the ice.

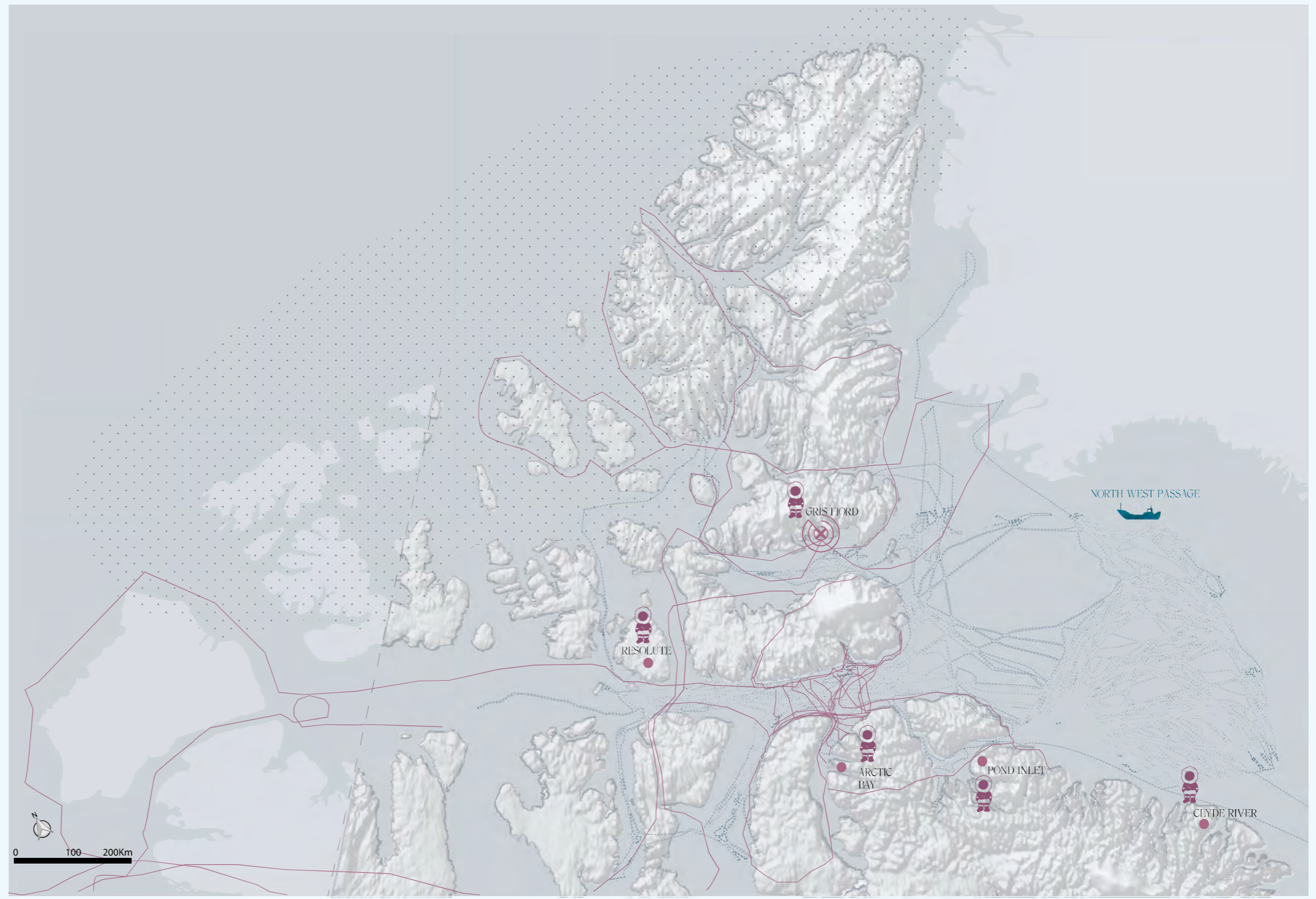
research to analyze climate change seasonally and historically. Briefly speaking , Particles size and dust in ice cores reflects on the ice age. While through analysis of different ice colors, inuit as well as scientists can understand the ice composition. The blue disappearing colors in the arctic ice vary in tones and hold different meanings.

Ice cores samples of ice are used for the inuit led

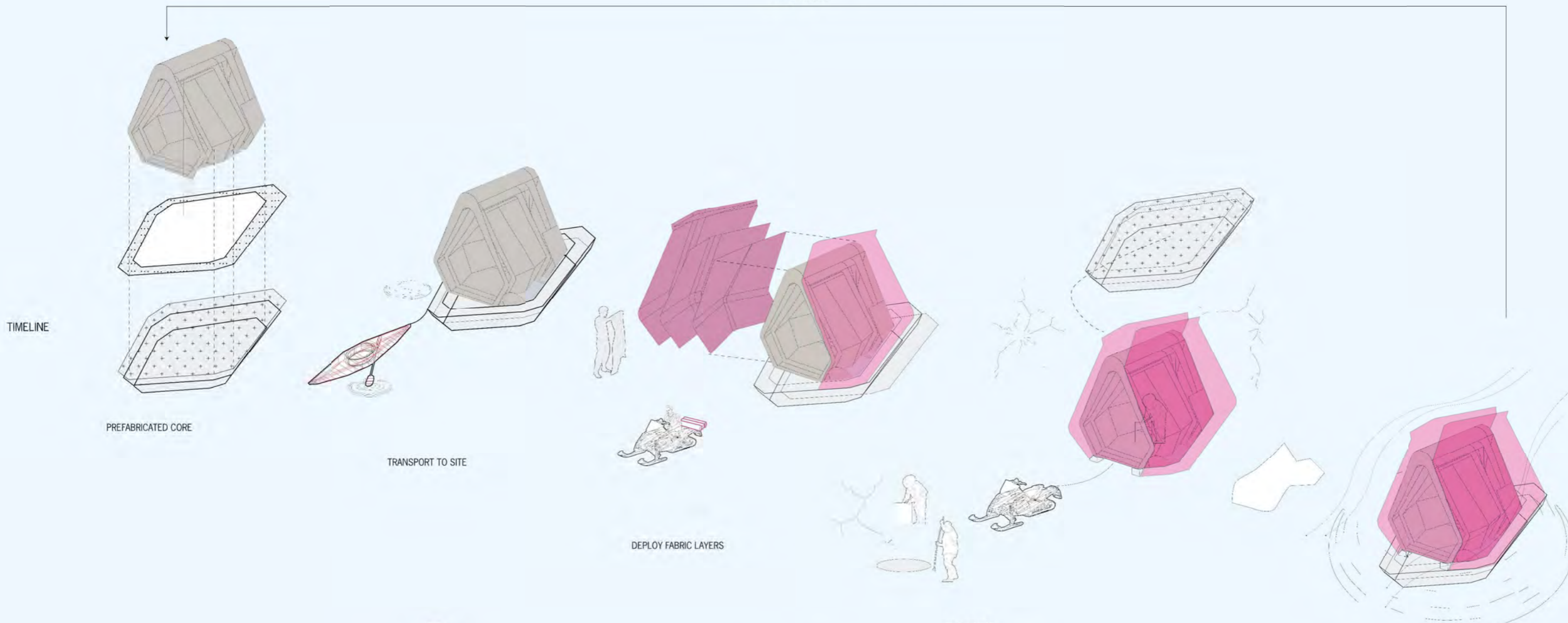


Sea ice color meanings

In the research station, the Scientists and experienced indigenous people work together to monitor old ice changes and new ice formations. The study operates on a seasonal basis (between late fall and early spring) to serve local communities needs for hunting and activities on ice. And on a yearly basis to understand sea ice behavior and projected climate change. The center of the study is located in the gris fiord , the most northern community and one of the coldest inhabited places in the world, with an average yearly temperature of $-16.5\text{ }^{\circ}\text{C}$ ($2.3\text{ }^{\circ}\text{F}$) The area experience heavy snowfall days in winter and relatively later fast ice crack in spring. (there are 100.4 snowfall days, and 583mm (22.95") of snow is accumulated.)



REPEAT CYCLE



TIMELINE

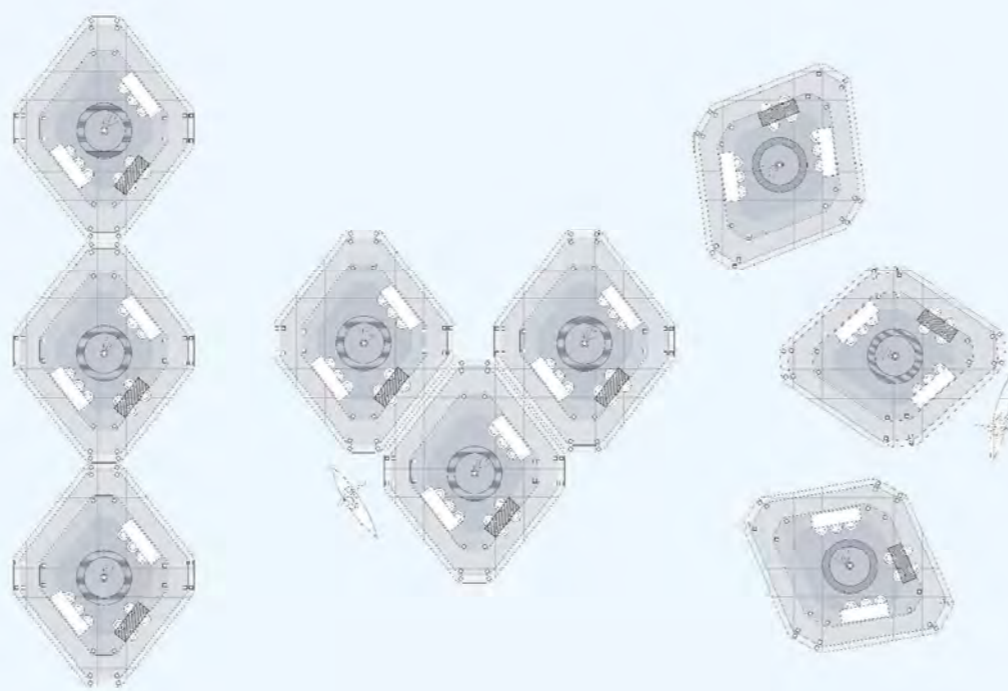
PREFABRICATED CORE

TRANSPORT TO SITE

DEPLOY FABRIC LAYERS

SLED ON ICE FROM FROZEN PLATFORM

RETURN TO PLATFORM



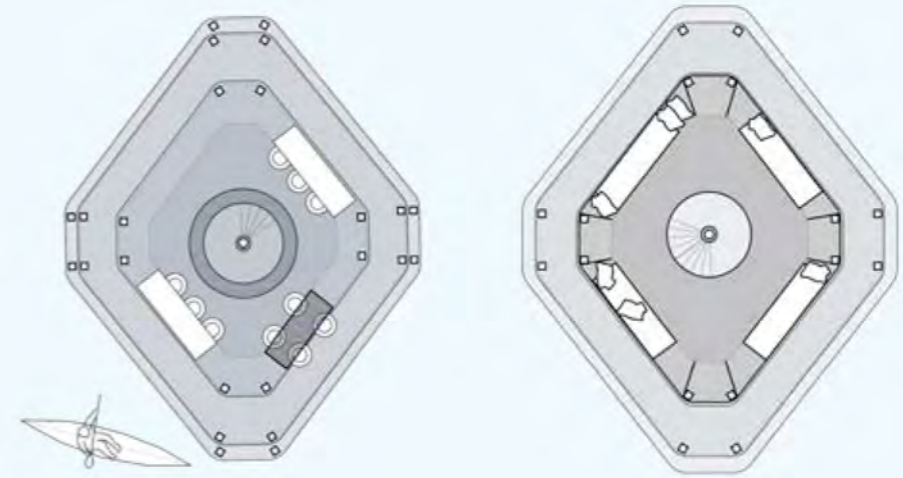
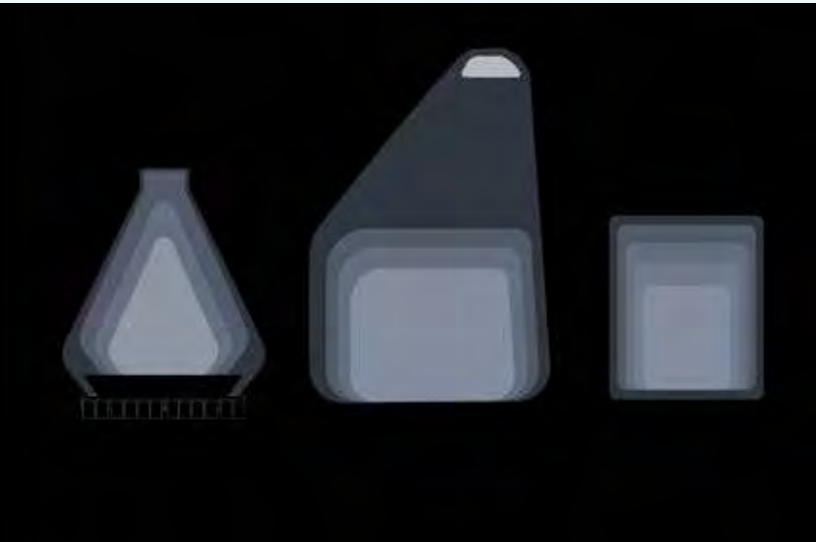
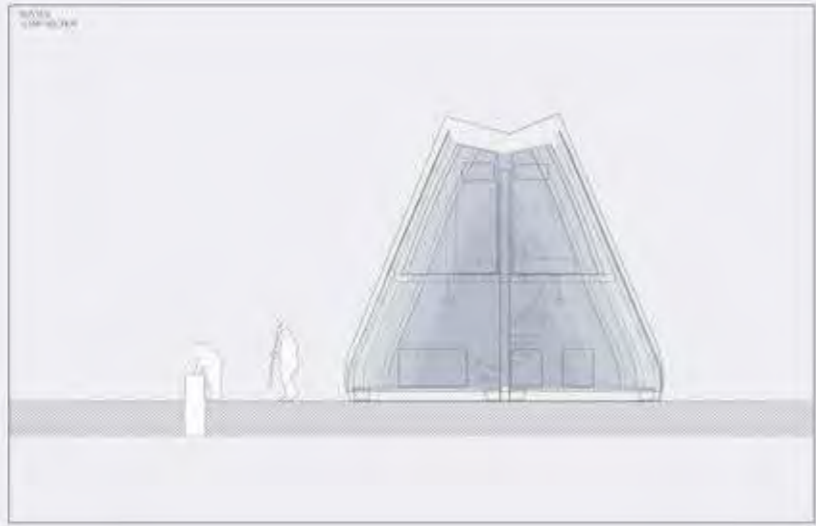
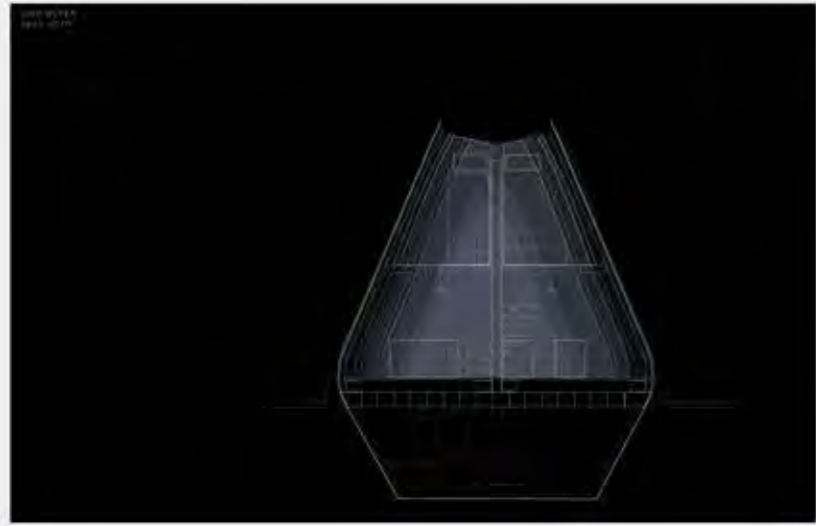
Stations compositions diagram

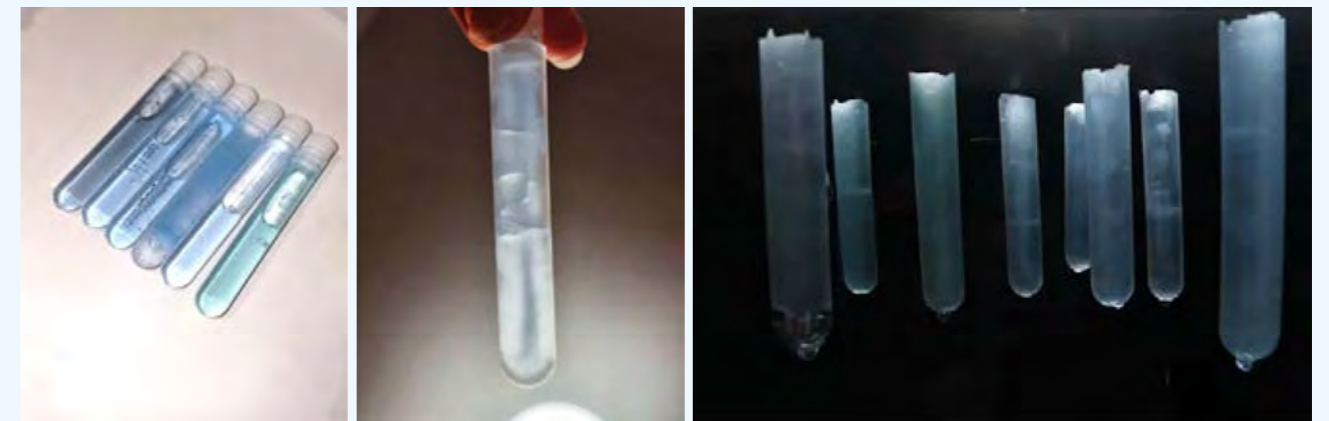
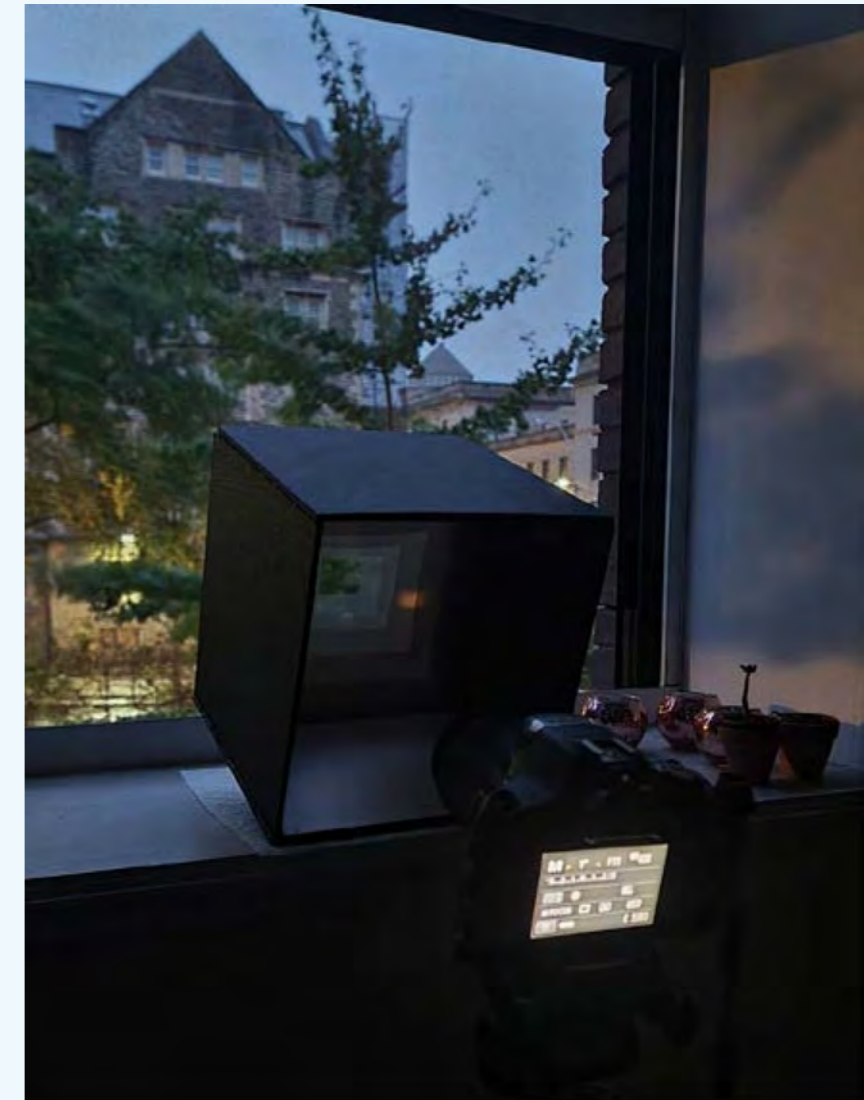
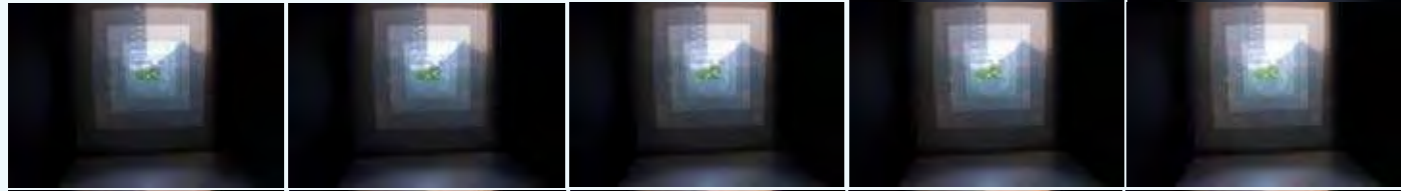
In late fall, the inuit led research uses temporary structures that can be transported by inuit local transportation available, placed/ deployed on the frozen platforms next to the station ,
 The structures are sled when needed to ice camps and placed back on the platform when sea ice breakout to float while mapping dangerous areas for the inuit hunters.

The ice camps radiate from the central station, to gather information and ice cores. Each ice camp formed by 4 units is self sufficient.

Modules contain research areas, sleeping and living areas and can be placed in multiple compositions based on the research need.

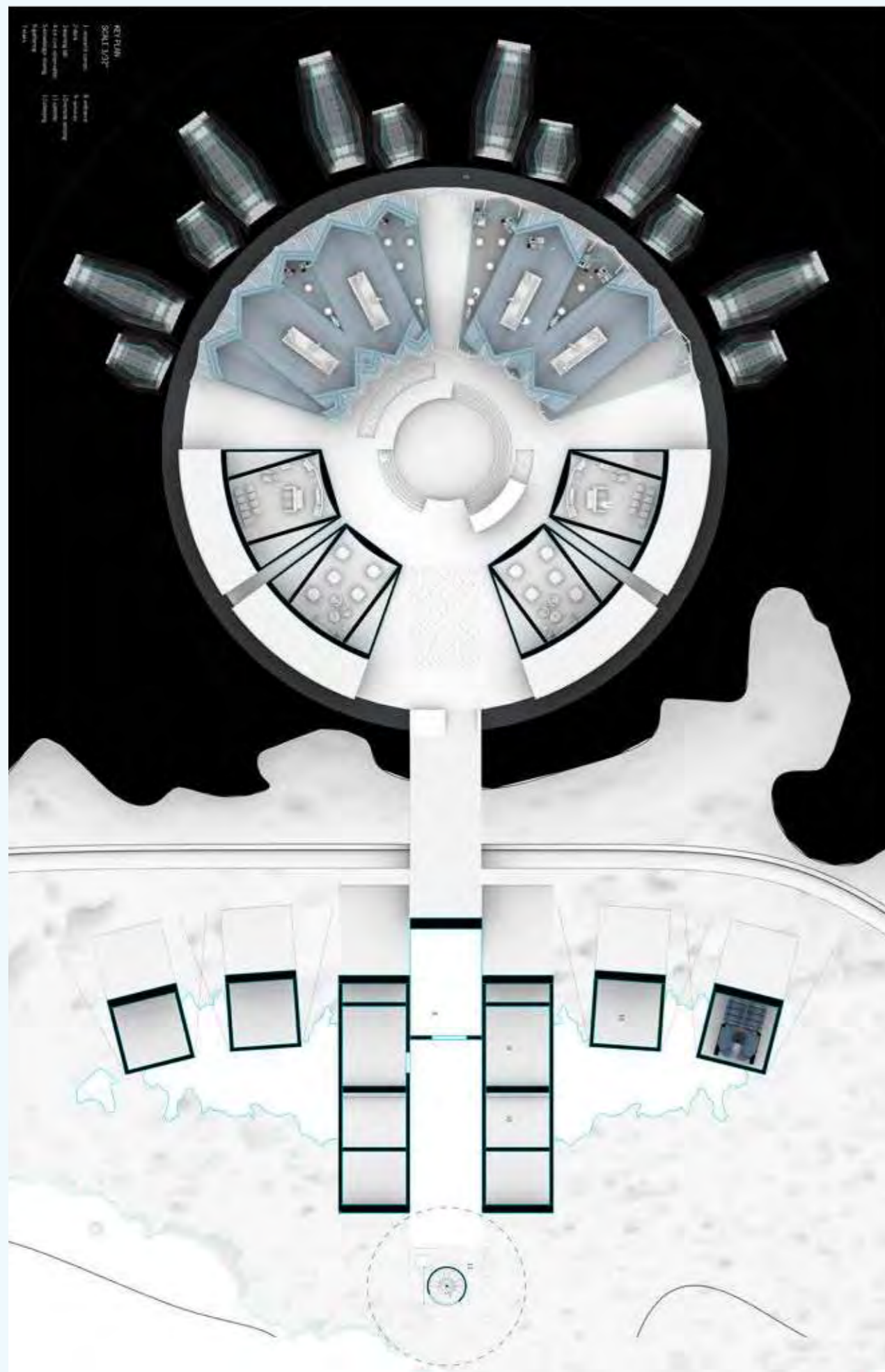
Diagram of deployable stations





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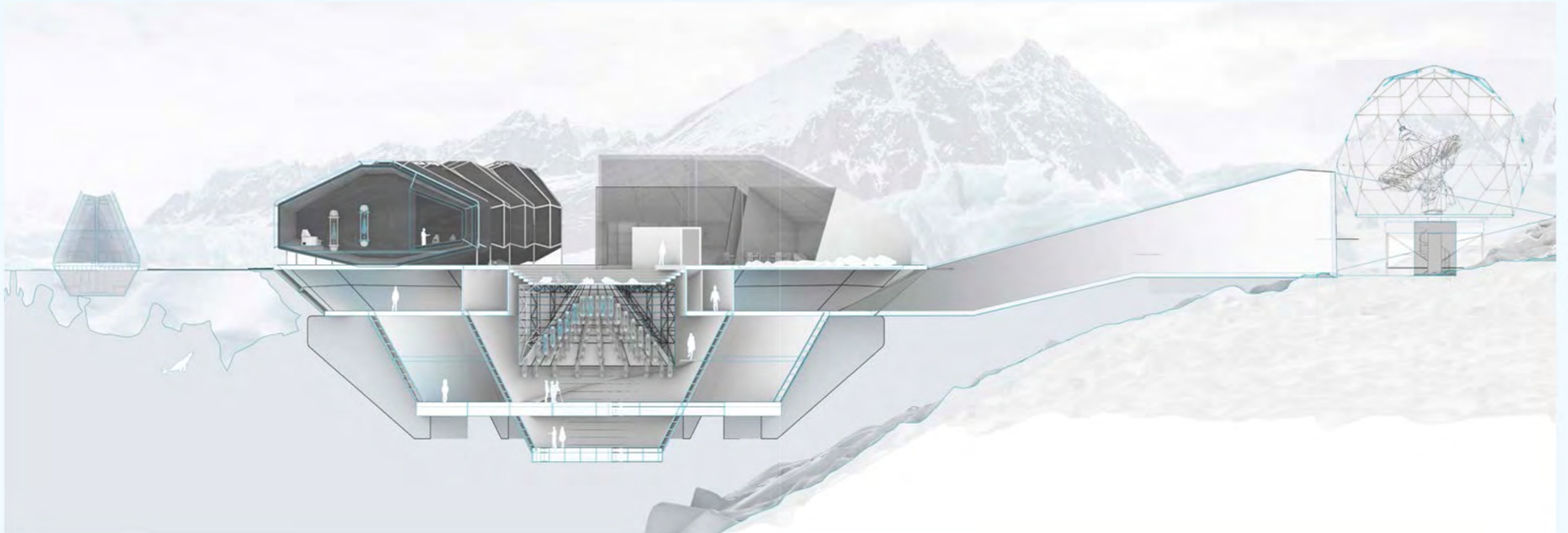


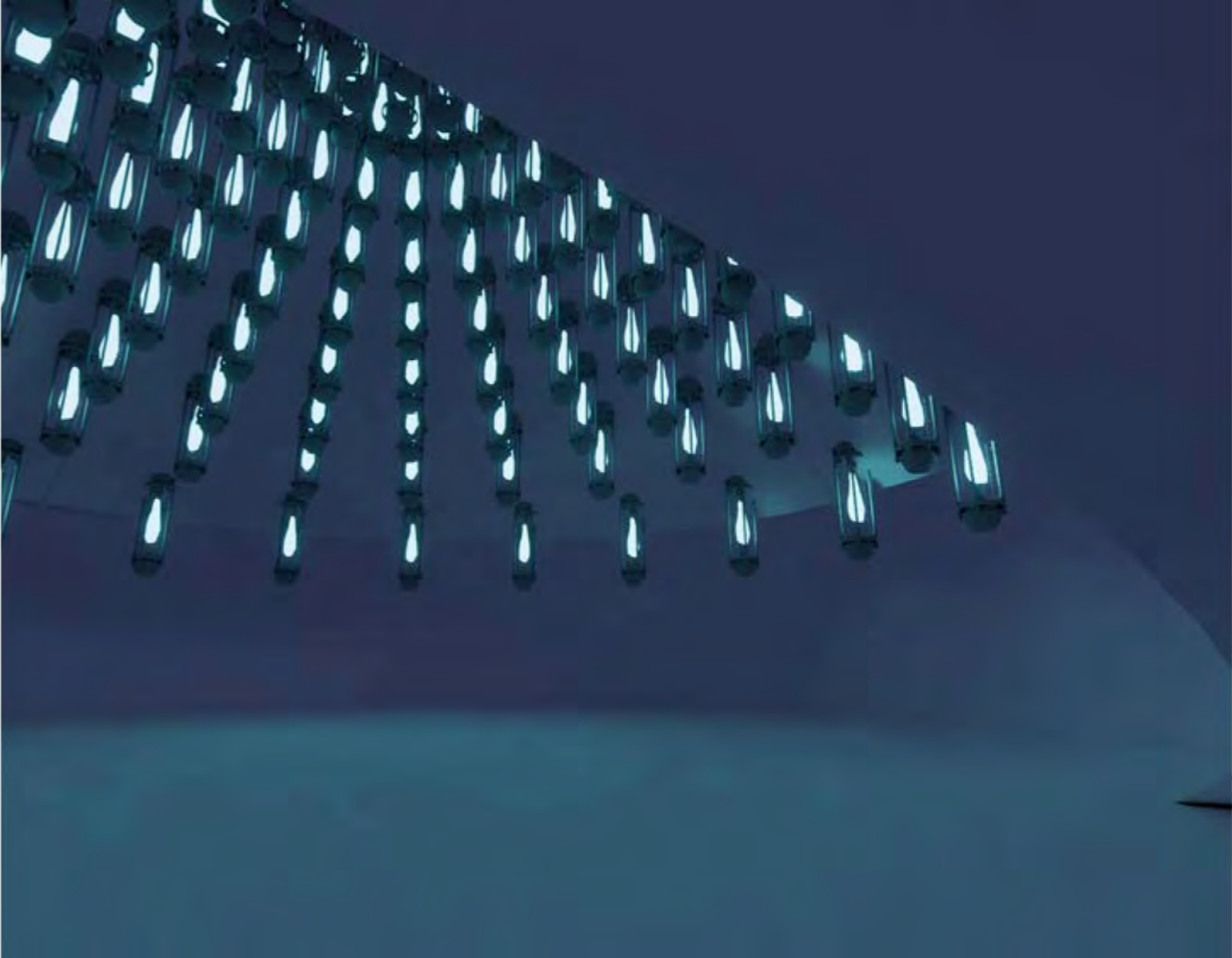
Central Station plan

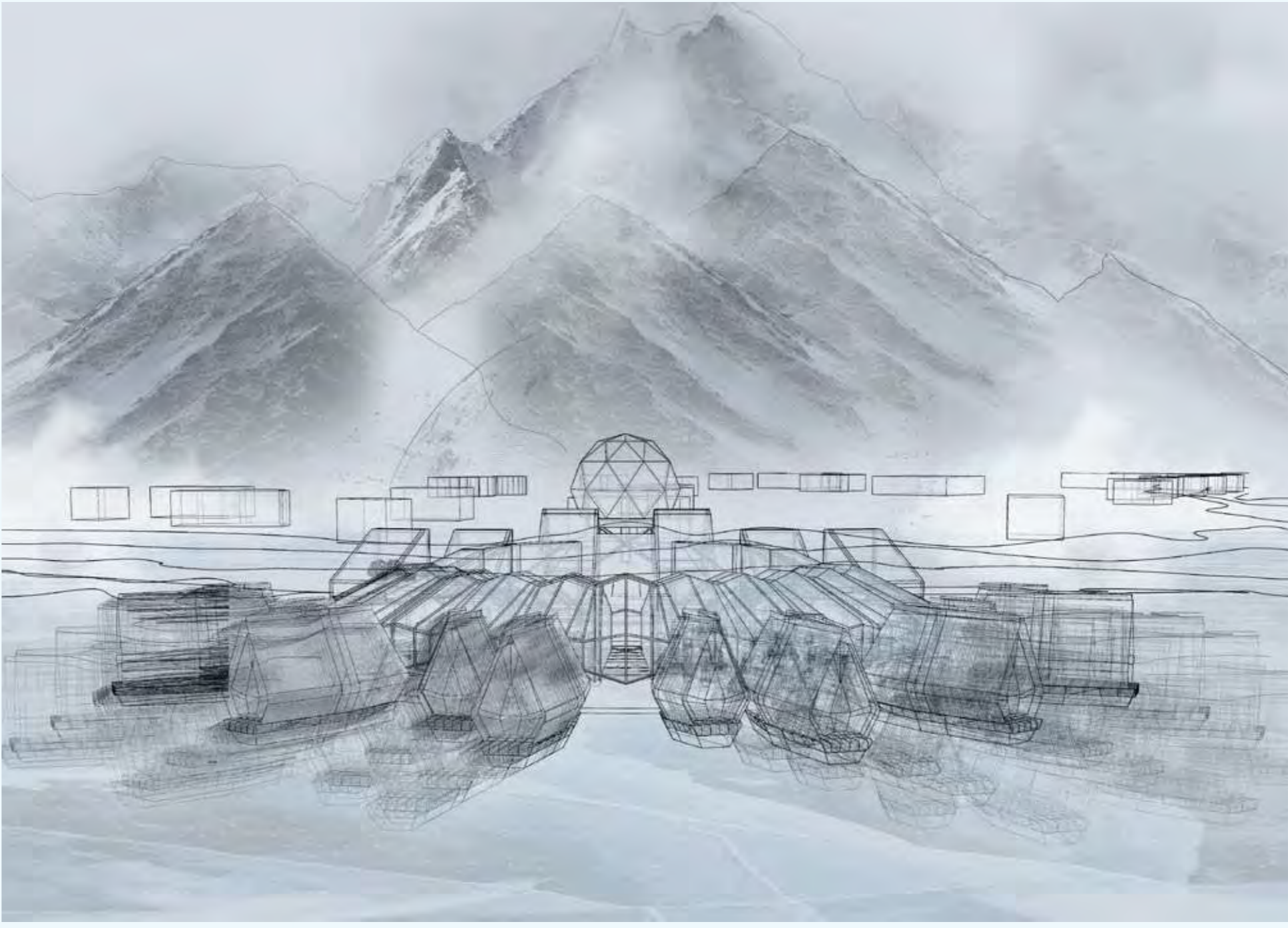
The gathered data is transported to the permanent central station located in the gris fiord. The building can be seen as a system, in which the most temporary ice camps connect to the learning workshops, which are placed in a suspended structure on the center's platform. The structure can be moved back to the camps if an on site analysis is needed. And has interior deployable spaces within the multi layers of tension fabric to accommodate ice core analysis areas that require more darkness. The knowledge acquired is shared among the locals and The Collected ice cores are relocated to a permanent insulated archive underwater and exhibited to the public. The archive is accessible to the public from the land along with open exhibition spaces.

The structure aims to blend with its surrounding in the extreme environment of the gris fiord. Notions of temporality are played with to generate an architecture that operates on a seasonal and yearly basis. And as the study develops and the climate change from ice to water, the building changes and disappears too. In its last stage the building temporary envelope disappear leaving a floating platform for the public and the inuit community for passing their knowledge.

Following my light studies, Multilayers of envelopes create multiple thermal zones and lighting zones to accommodate different functions and filter the light and colors inside while protecting the users from the midnight sun during summer. Colors in the landscape become more visible and help understand the sea ice, while creating an archive of ice and preserving the disappearing blue



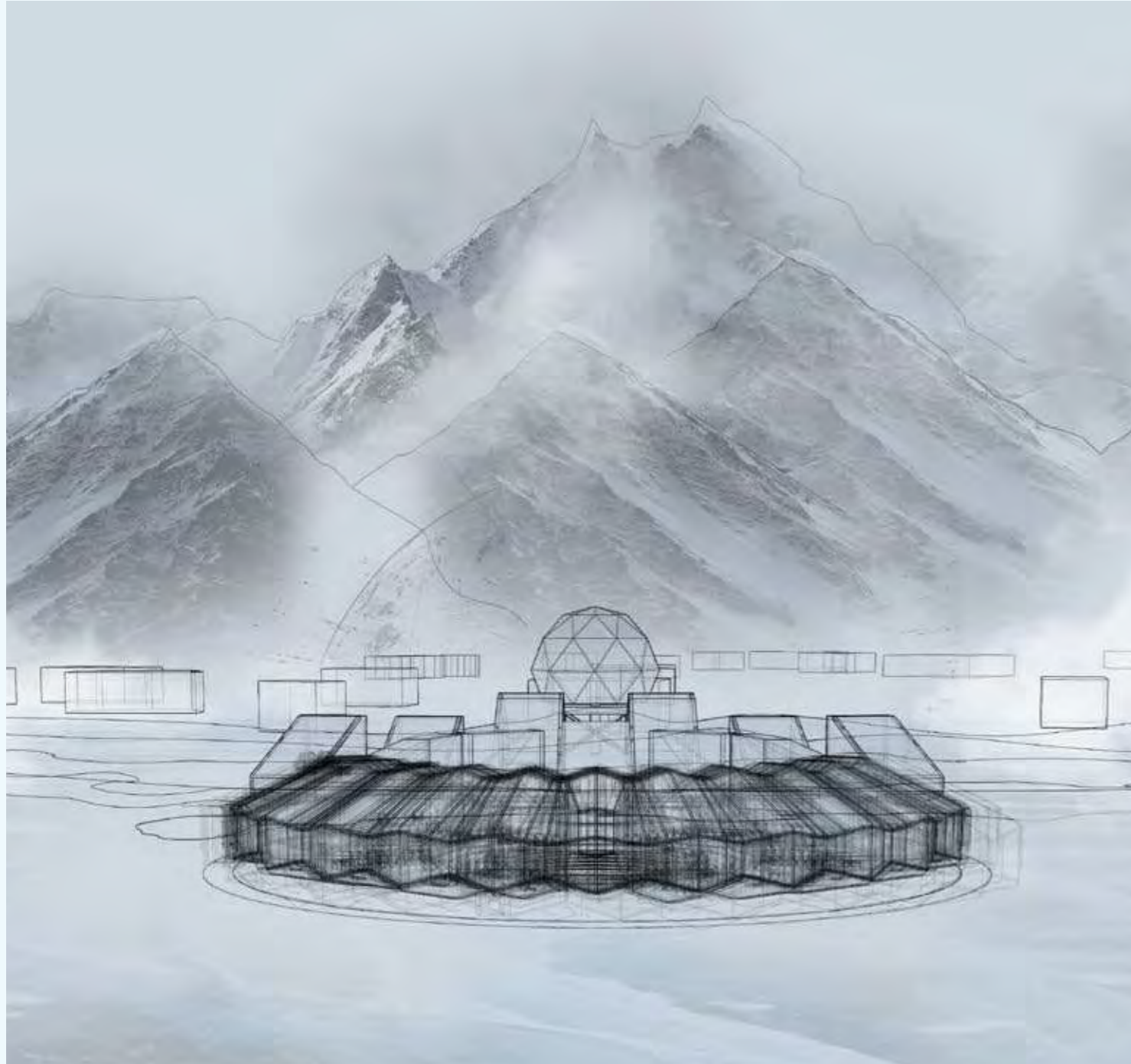




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2030



2040



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Intimate Space in the Post-Human Era

Ultrareal / Phillip Crupi

by Andy El Set, Karolina Dohnalkova, Jiyoung Hwang, Deniz Mahir

In the vast expanse of a desolate, icy mountain range, a solitary figure stood as the last remnant of humanity. The chilling winds howled relentlessly, echoing through the empty valleys as if mourning the absence of life. This lone survivor, the last man on Earth, found himself trapped in this unforgiving realm, surrounded by towering peaks that seemed to pierce the very heavens.

Amidst the frozen landscape, he stumbled upon a long-abandoned vault, its contents laid bare by time and neglect. With resourcefulness as his ally, the last man gathered the remnants of civilizations scattered within the vault's depths. A discarded metal sheet became his shield against the biting cold, while salvaged machinery offered a glimmer of hope for survival.

Within the vault's confines, the last man embarked on a mission to transform his meager shelter into a sanctuary reminiscent of his long-lost home. He repurposed debris, ingeniously fashioning crude furniture and makeshift structures. With each painstaking endeavor, he infused the space with the essence of his own humanity, striving to create a haven that resonated with his soul.

In this frozen solitude, the last man's most treasured possession was the gift of light. He scavenged through the remnants, collecting every fragment of illumination he could find. With a flickering flame and the soft glow of rescued bulbs, he crafted an orchestra of light, illuminating the darkness that surrounded him.



Night Render of Vault



Interior Adapted Space Render



Detailed Face Render

Visualization, when employed as a creative catalyst in the initial stages of architectural design, possesses the potential to shape the very essence of structures, breathing life into abstract ideas. Through its transformative power, it allows architects to transcend boundaries, explore uncharted territories, and conceive architectural marvels that were once confined to the realm of imagination.



ARCHITECTURE BEYOND THE TAP

Rethinking Architecture with water for equal access

Advanced Studio VI / David Benjamin

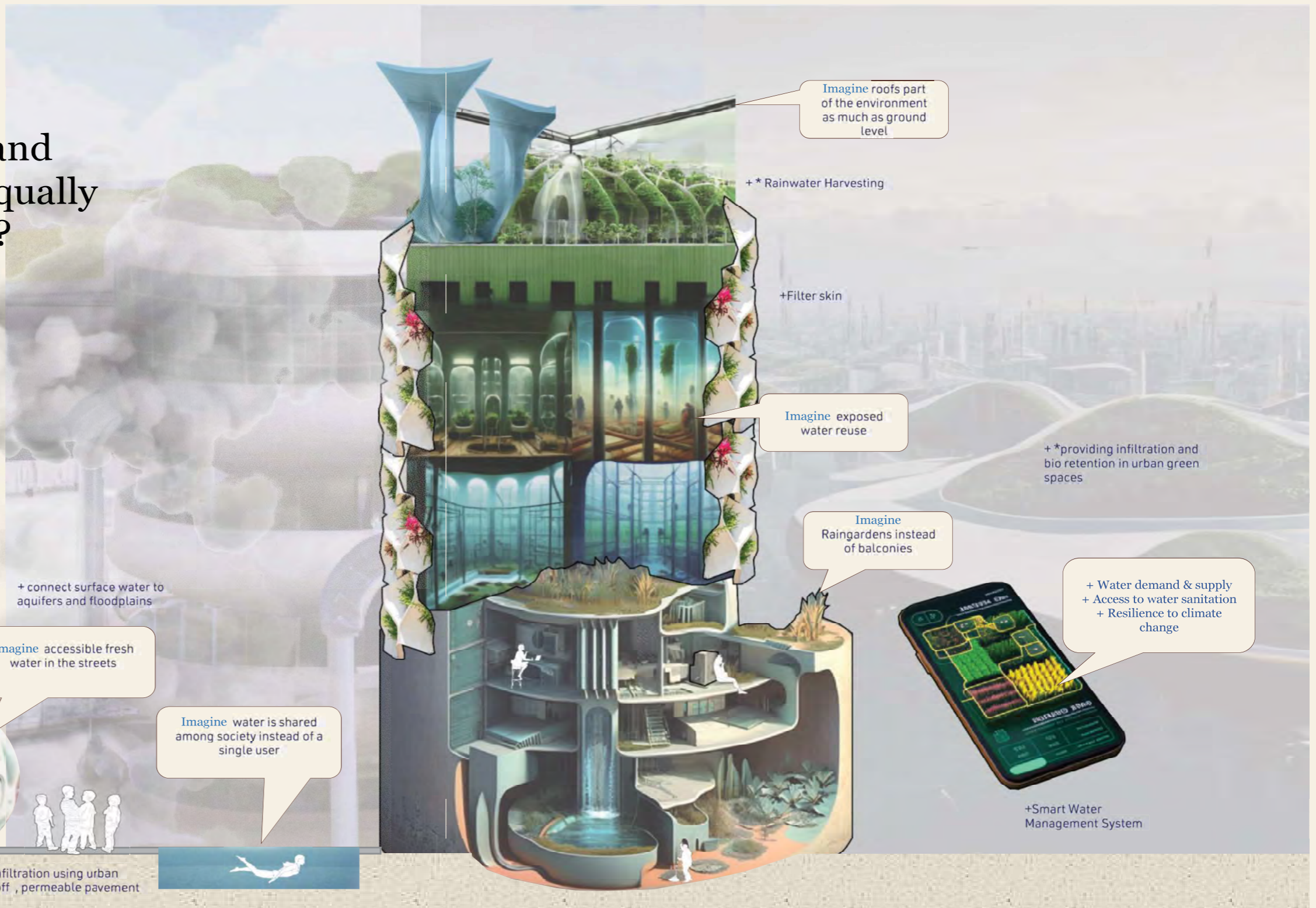
by Andy El Set



Are Firing a Missile and Building for access equally radical political acts ?

The circular economy will value water to the extent that each liter is reused again and again, making water itself almost become part of the infrastructure rather than a consumable resource

* Hybrid solutions that contain built elements that interact with natural features and seek to enhance their water related ecosystem services.



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Climate change and technological development have made it crucial to examine our consumption habits..

Achieving a sustainable future by 2040 requires us to rethink our construction methods, and consumption patterns, moving away from comfort.

Freshwater is the most essential resource consumed, yet nearly half of humanity will face water scarcity by 2030 due to climate change and population growth. This looming crisis of a global drought can spark conflicts between territories over bodies of water.

Water management and competition for access to water are complex issues that extend beyond water itself to affect food, urbanization, education, and more. This is perceived in arid and semi-arid regions where climate change is leading to conflicts where water is used as a weapon.

This highlights the urgent need for building for access, Are Firing a Missile and Building for access equally radical political acts?

The challenge is to both use less water and retain what is available to alleviate the resulting migration and territorial monopolies a closed-built environment that can hold onto water and shape people's lives around it. This progressive lifestyle model can

be incorporated on different scales and translated into a more specific project based on locality. In this context, I use generative AI as an experimental workflow and a critical take on the development of architecture towards raster and prompt based design in the coming years. By using midjourney and chatgpt to understand the collective data under controlled supervision, we can avoid human biases and generate creative combinations that lead to new and intentional outcomes.

The workflow involves generating images under a specific prompt, finding biases, and creating variations with new prompts and ideas, using AI to trigger new design concepts.

The prototype model will take place in Lebanon, one of the most water-abundant countries in the Middle East with tensions over water resources with surrounding countries.

Taking the historical city of Byblos as the site, The proposal is to create a community decentralized water system that involves people on two levels, the individual and community levels. Designing water conscious living spaces and Establishing a circular lifestyle with three system components: Surface Water collectors, Communal Water treatment farms, and Hybrid Water towers.



Water War in 2040

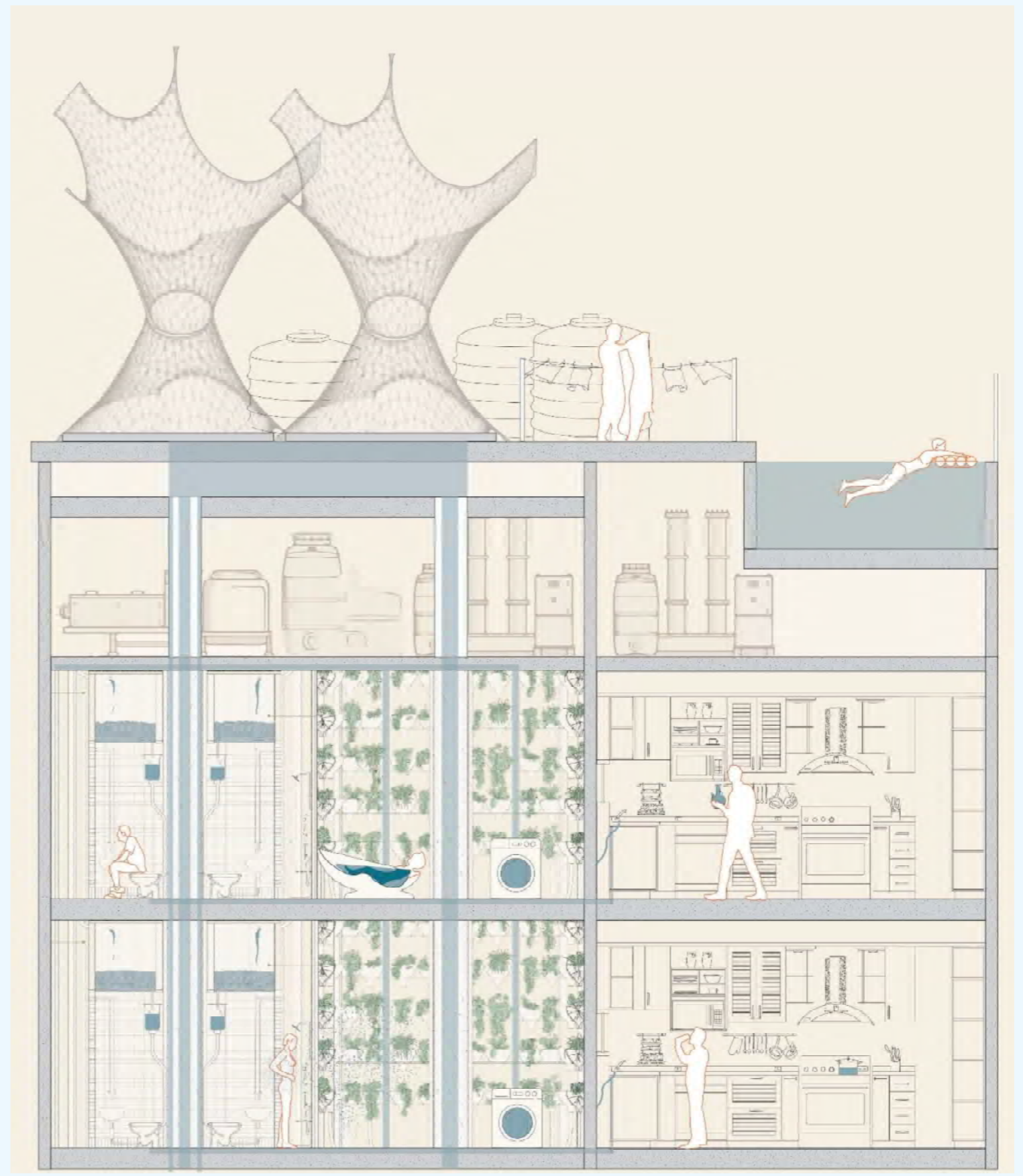
This diagram rearticulates water security according to Indigenous water relations based on holistic understandings of the complex connections between material and non-material dimensions of water. While we separate the material from non-material dimensions of water security we do so for conceptual ease and do not intend to reinforce a false dichotomy between nature and culture and the tangible and intangible dimensions of water.



Integrated living system



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WATER X CULTURE X ARCHITECTURE

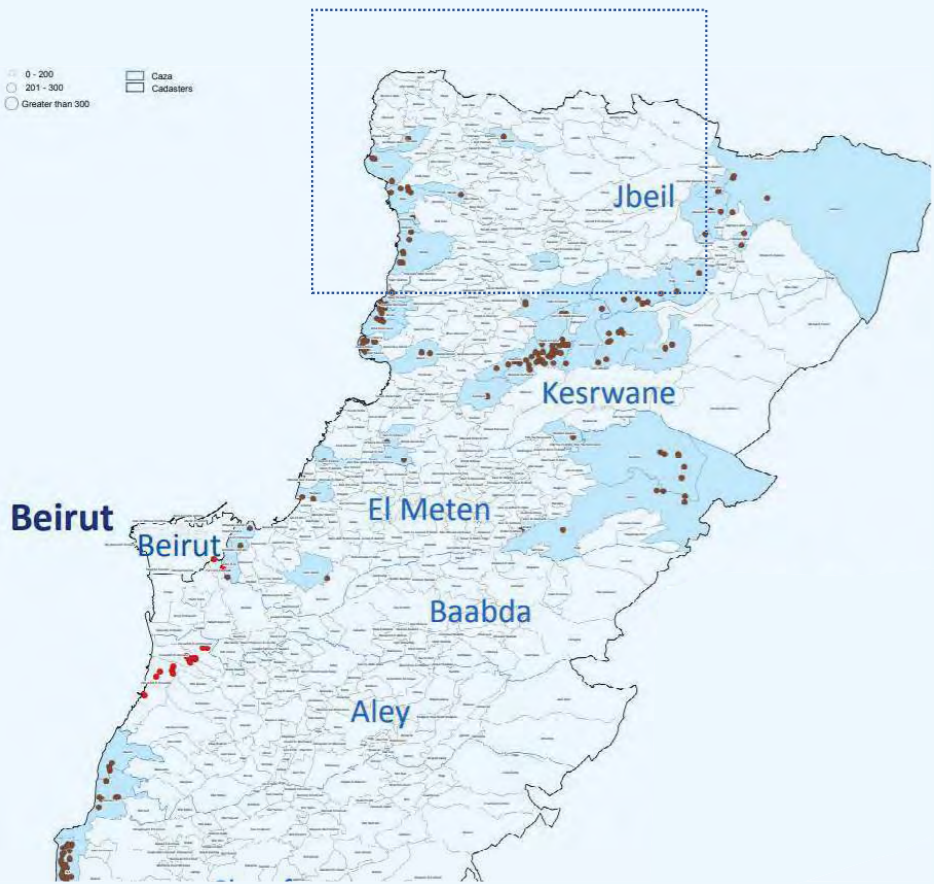


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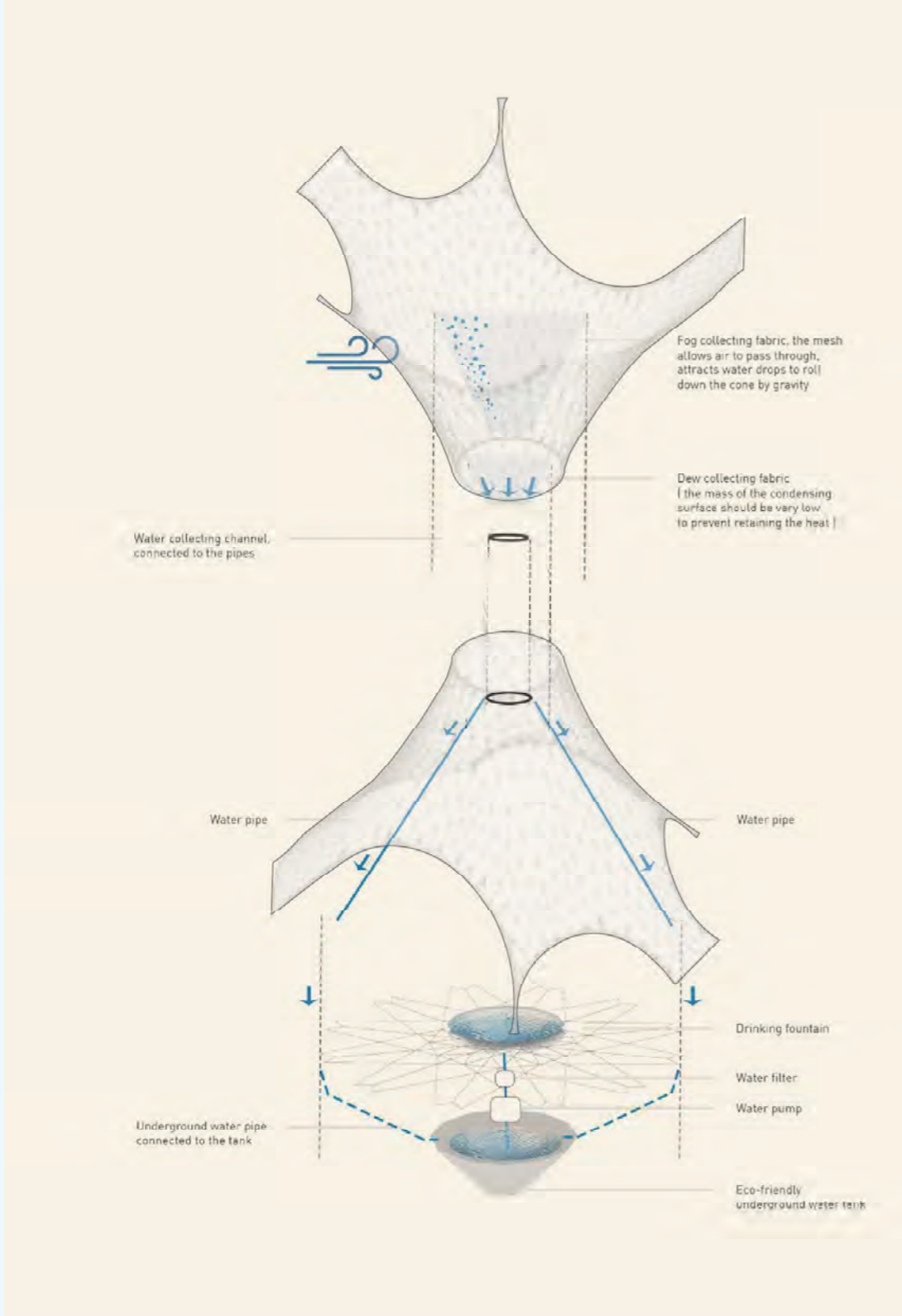
Three system components: Surface Water collectors, Communal Water treatment farms, and Hybrid Water towers.

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Water collectors



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```

INPUT Rhino Geometry as ig
output path

# Define input parameters
# Define the surface to analyze
# min_area: the minimum area of a pond
# max_slope: the maximum slope of a pond
surface = surface
min_area = float(min_area)
max_slope = math.radians(float(max_slope))

# Get the surface's domain in both directions
v_domain = surface.Domain(0)
w_domain = surface.Domain(1)

# Define the step size for the analysis grid
step_size = 1.0

# Initialize an empty list to store the pond points
pond_points = []

# Loop through the surface's domain in both directions
for v in ig.TraverseDomain(v_domain, min, v_domain.Max, step_size):
    for w in ig.TraverseDomain(w_domain, min, w_domain.Max, step_size):

        # Get the surface normal at this point
        normal = surface.NormalAt(v, w)

        # Check if the slope at this point is below the maximum
        if normal.AngleTo(ig.Vector3d(0, 0, -1)) < max_slope:

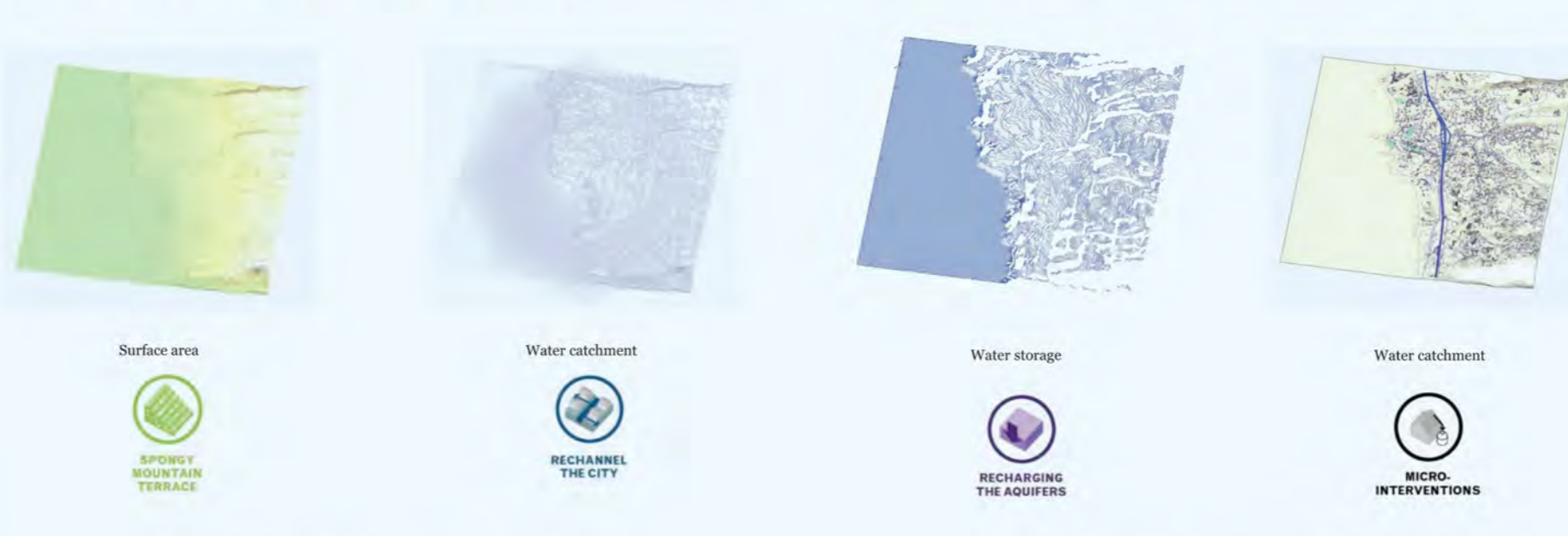
            # Calculate the area of the surface patch at this point
            patch = ig.Surface.CreatePatch(surface, v, w, step_size, step_size)
            area = patch.GetArea()

            # Check if the area of the patch is above the minimum
            if area > min_area:

                # Calculate the centroid of the surface patch and use it to
                centroid = patch.PointAt(0.5, 0.5)
                pond_points.append(centroid)

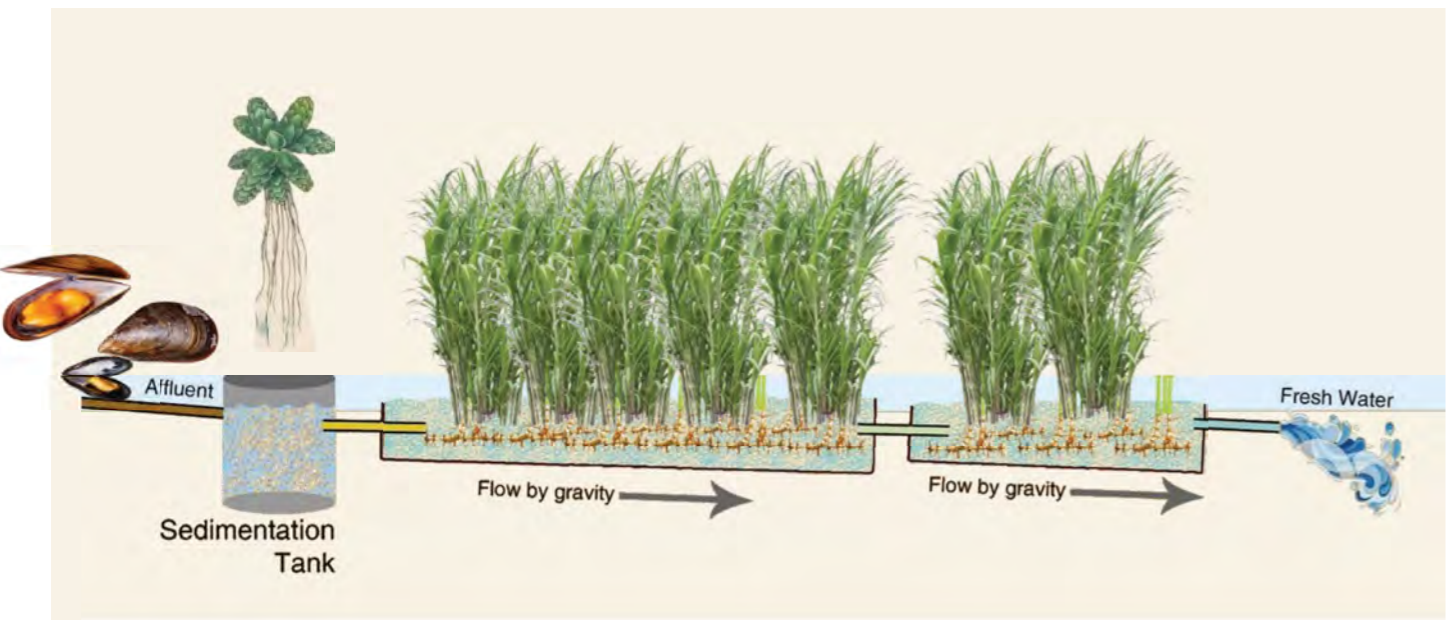
# Output the list of pond points
p = pond_points
  
```

CHATGPT: Write a python script to be used in grasshopper that defines a function called find_ponds that takes a surface, a minimum pond area, and a maximum allowable slope as inputs. The function iterates over all points on the surface and checks whether each point falls within the specified area and slope ranges. If a point meets these criteria, it is added to a list of potential pond locations.



Living water treatment farm

The design rethinks the spatial, cultural, and social constructs of dirt and cleanliness through intervention at the wastewater treatment plant examining how such concepts are bound to issues of class and race, the project proposes to insert a public space and bath within the facility, which is located centrally to physically and socially disconnected neighborhoods of different income levels and ethnic groups. Studying how our cultural understanding of dirt and cleanliness is bound to issues of class and race, and how it is manifested within the urban and spatial design, a theoretical approach that questions our current conventions and practice of categorizing spaces, unearthing and bringing us in touch with the rejected 'other' within the city and within ourselves



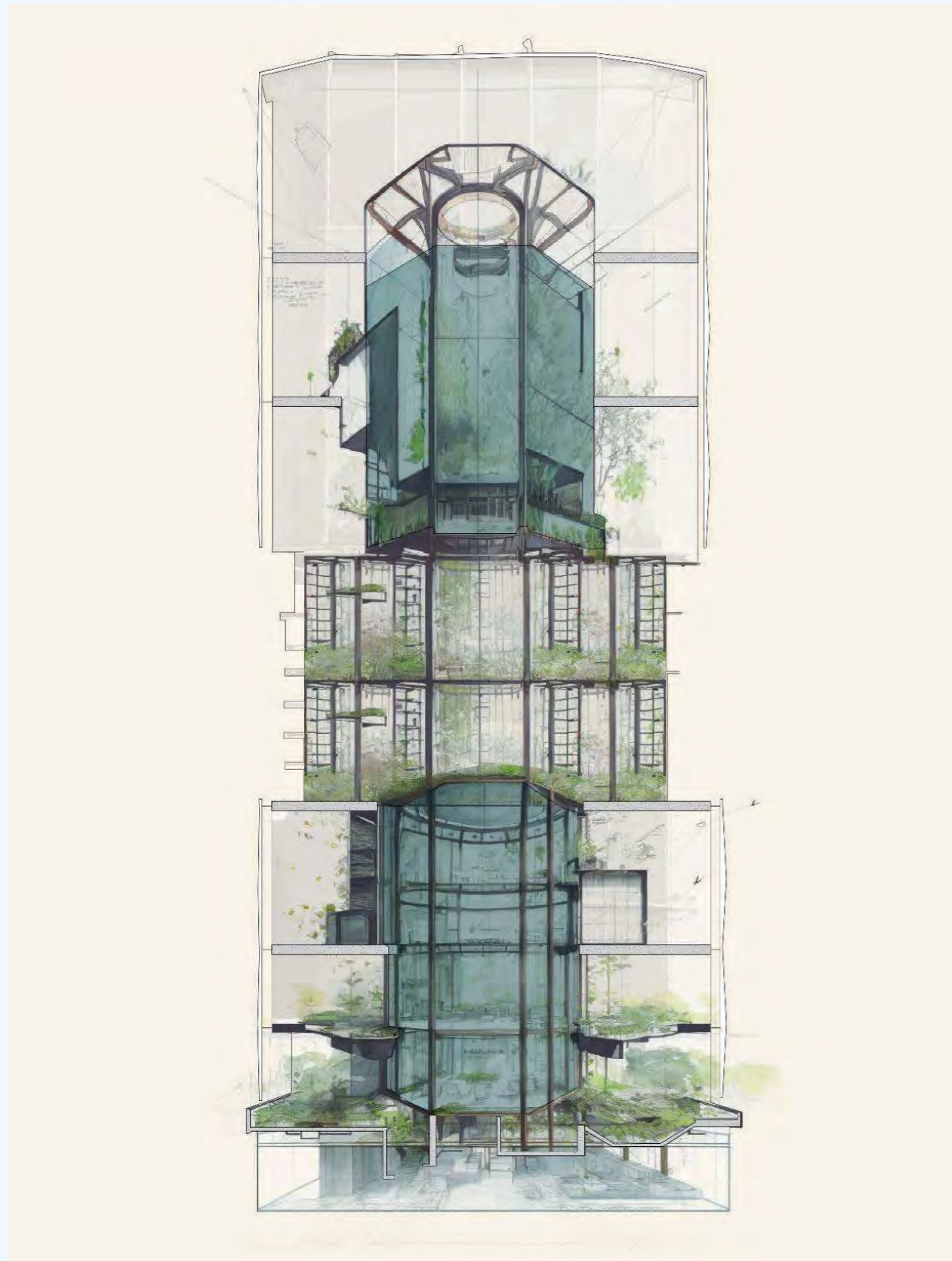
Local water filtration diagram



Axonometry of living water treatment farm



Hybrid Water towers.



Unethical

RAADIO 2023

by Andy El Set, Simran Raswant, Maria Candelaria Ryberg, Francisca Alliende, Armita Peirovani, Zhou-fei Tang, Alejandro Marin.

rAADio / Season 3

rAADio, an investigation by Advanced Architectural design students in the Graduate School of Architecture, Planning, and Preservation at Columbia University. As a cohort from a plurality of diverse backgrounds, we aim to observe the many polycentric entanglements of architecture. We explore the questions of how we expand the traditional role and associations of architecture between assemblages, interrelationships, bodies, and technologies; beyond simple scalar translations.

The "Unethical" season dives deep into what it means to be ethical in our profession, practice, and academia. Our goal is to unpack and uncover the intricacies of ethics in areas such as Disciplines, Technology, and Labor, in a world that is full of political, cultural, and social complexities. We won't be defining ethics, but instead, we aim to explore its viscosity as architecture evolves.

Episode 1: "Opener"

Ethics, are not static but ever-changing. This very notion lies at the heart of the current season of rAADio. The aim of this season is not to provide a definitive definition of ethics but to uncover its fluidity as architecture progresses. As architects, it is our responsibility to openly discuss the behind-the-scenes aspects of events like biennales and to question the ethical dimensions of the design process. This also involves exploring how our professional and academic practices are intertwined with ethics.

With the launch of the third season of rAADio, the podcast delves into the intricate facets of ethics as they relate to labor, technology, and disciplines. Throughout the upcoming episodes, topics such as the struggles of unions, the spectacle of biennales, the invisibility of labor in various domains, the ethical implications of artificial intelligence, and the gap between academia and practice will be discussed. These focal points serve as entry points into broader issues that extend beyond the boundaries of architecture but remain pertinent to contemporary practice. Join us in this thought-provoking journey as we explore the ethical contours of our profession, practice, and academia, daringly labeling it "unethical" to challenge conventional notions and provoke insightful discussions.

Episode 4: "Let's ask ChatGPT"

In the realm of architecture, there is a growing discussion surrounding the role of the architect in light of technological advancements. With the emergence of database generative design tools like Chat GPT and Midjourney, questions of ethical responses to new technology arise. How can architects navigate this terrain in an ethical manner? How can technology aid the architecture practice in mediating ethics?

Artificial intelligence (AI) has found its way into architecture, revolutionizing various aspects of the field. It offers the potential to simulate environmental performance, enhance sustainability, and generate designs based on parameters and machine learning algorithms. However, the proliferation of generative AI tools like Chat GPT and Midjourney raises ethical concerns. While AI may improve efficiency and performance, the boundaries between ethics and architecture become blurred.

The risks associated with AI are multifaceted and uncertain. On one hand, there are predictable harms such as biases, opacity, and potential errors. On the other hand, AI introduces a new vector of risks, amplifying existing societal uncertainties like climate change or pandemics. The ethical dilemma lies in the choices made by society in accepting and utilizing AI technology. Differentiating between specific machine learning systems and generative AI systems becomes crucial. The latter, drawing from vast data sets and developing unexpected capacities, adds complexity to the ethical landscape.

Controlling and regulating AI becomes imperative. The Blueprint - AI Bill of Rights, published by the White House, sets forth principles and practices to guide the design, use, and protection of rights in the age of AI. Anchoring ourselves to these foundational principles, even in the face of rapidly evolving technology, becomes essential for regulators, developers, and the general public.

The legibility of AI systems emerges as a point of concern. Opacity hinders effective consultation and meaningful democratization. While AI tools become increasingly accessible, there is a risk of a false sense of confidence. Ensuring that automated systems are safe, effective, and secure becomes a challenge. Empowering people and increasing their voices in the AI discourse is crucial, even if they may not fully comprehend the technical intricacies. Increasing awareness and accountability for the ethical implications of AI systems is a pressing ethical and political dilemma.

Authorship and ownership present further complexities in the realm of AI and architecture. Who owns the work when generative AI is involved? While architects provide parameters and prompts, the AI's ability to replicate existing architectural styles and biases questions the notion of authorship. Moreover, the biases inherent in AI systems can perpetuate societal discriminations.

The ethical soundness of AI systems must be ensured to avoid perpetuating biases. Evaluating the data used to train AI systems, establishing regulatory bodies, and integrating ethics into development and deployment processes are key considerations. However, AI should not overshadow the human aspect of architecture. Creativity, critical thinking, empathy, and the human experience remain integral to meaningful architectural design.

The debate on AI's ethical boundaries remains open-ended. While AI holds potential in various aspects, defining and navigating those boundaries is a complex task. Democratic and accessible conversations surrounding AI and technology are vital to mitigate opacity and uncertainty. Ultimately, the listener is encouraged to contemplate and contribute to the ethical use of AI and other controversial technologies in the architectural realm.

Goo Pavilion

The Outside in Project / Galia Solomonoff , Laurie Hawkinson

by Andy El Set, Cohaul Chen, Chayanidh Chantraprapawat,
Harlan Law, Kriti Shivagunde, Haseeb Amjad

Designed and constructed by students in the Spring 2022 seminar “The Outside Project” led by faculty Laurie Hawkinson and Galia Solomonoff, Goo is a temporary project consisting of an inflatable pavilion a charging station installed in front of Columbia University’s Avery building.

Goo seamlessly integrates renewable energy technology with an intriguing architectural form. Drawing inspiration from the organisms and goo as its name implies, Goo Pavilion pushes the boundaries of traditional design, captivating visitors with its whimsical appearance and commitment to sustainable energy.

Goo explores key features, design principles, and immersive experiences using connected speakers and LED lights inside the inflatable , that can be manipulated by the users. In this way , highlighting its potential to reshape the perception of charging stations and inspire a greener future.

Goo sustains its voluptuous form with the help of a blower, located in its feet, constantly blowing air throughout the structure.

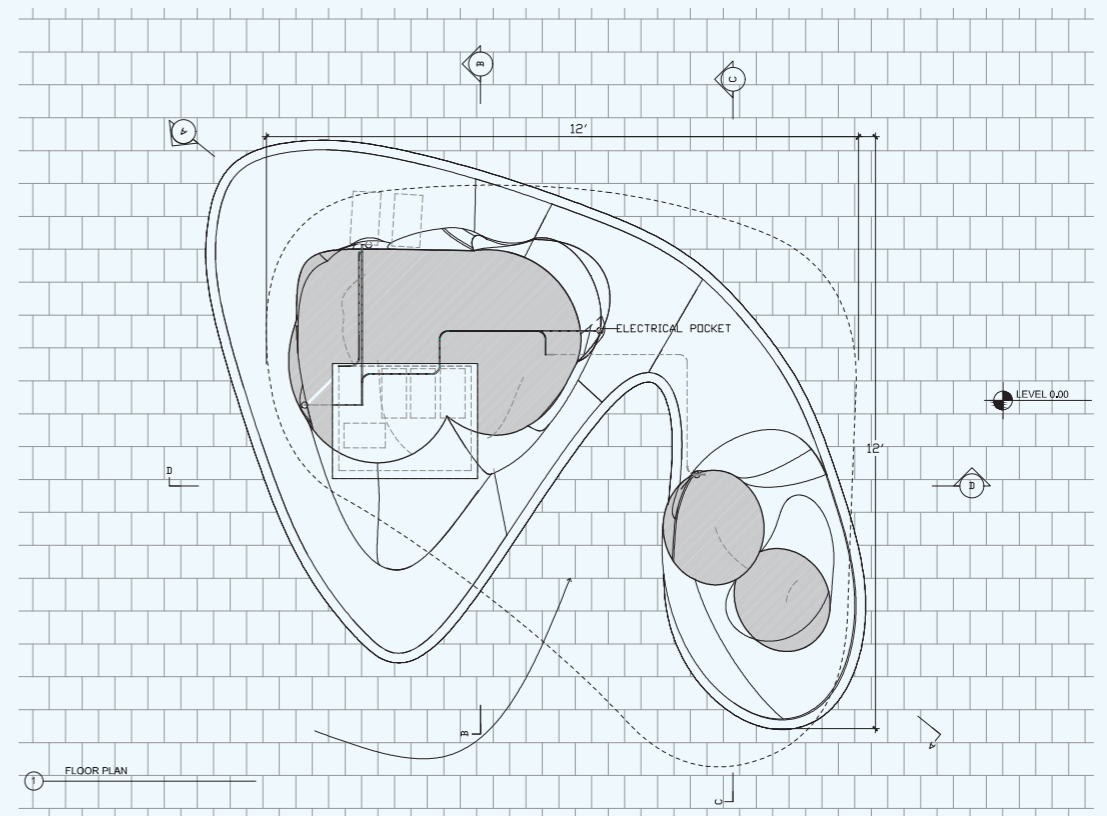
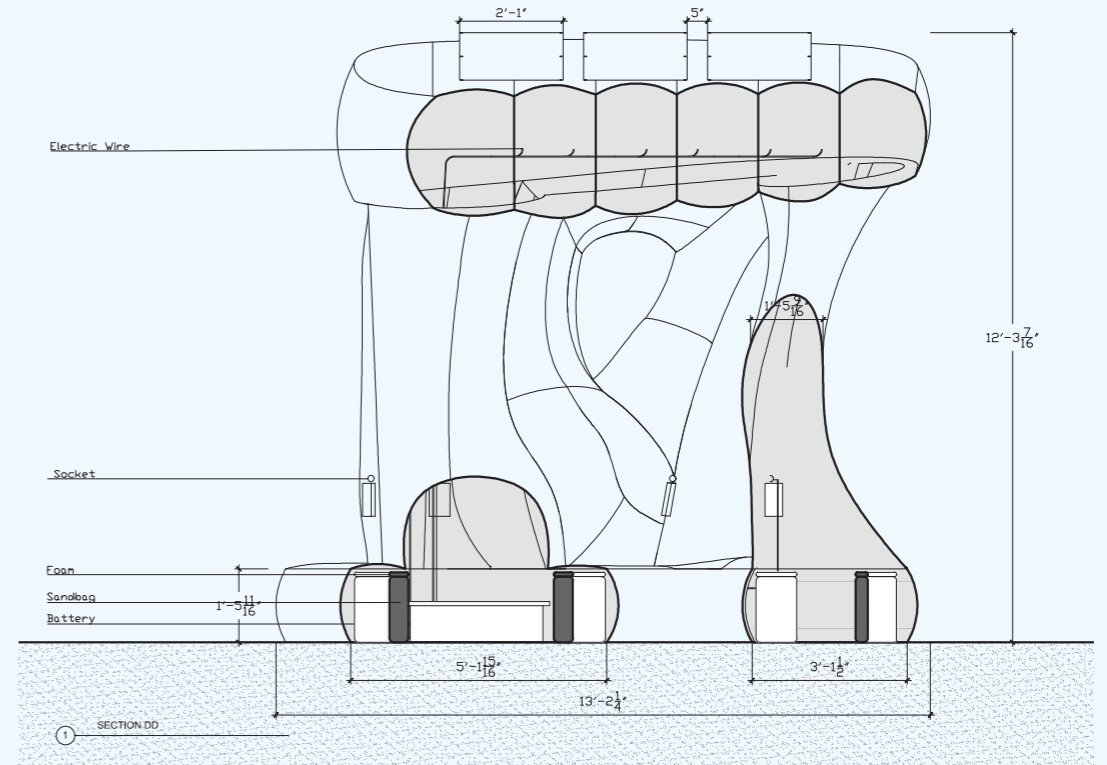
During the day, as sunlight filters through the translucent skylights, a soft blue glow permeates the interior of Goo Pavilion, transforming the atmosphere within. This interplay between daylight and the inflatable structure creates an ephemeral record of Goo’s presence, leaving a subtle imprint on the

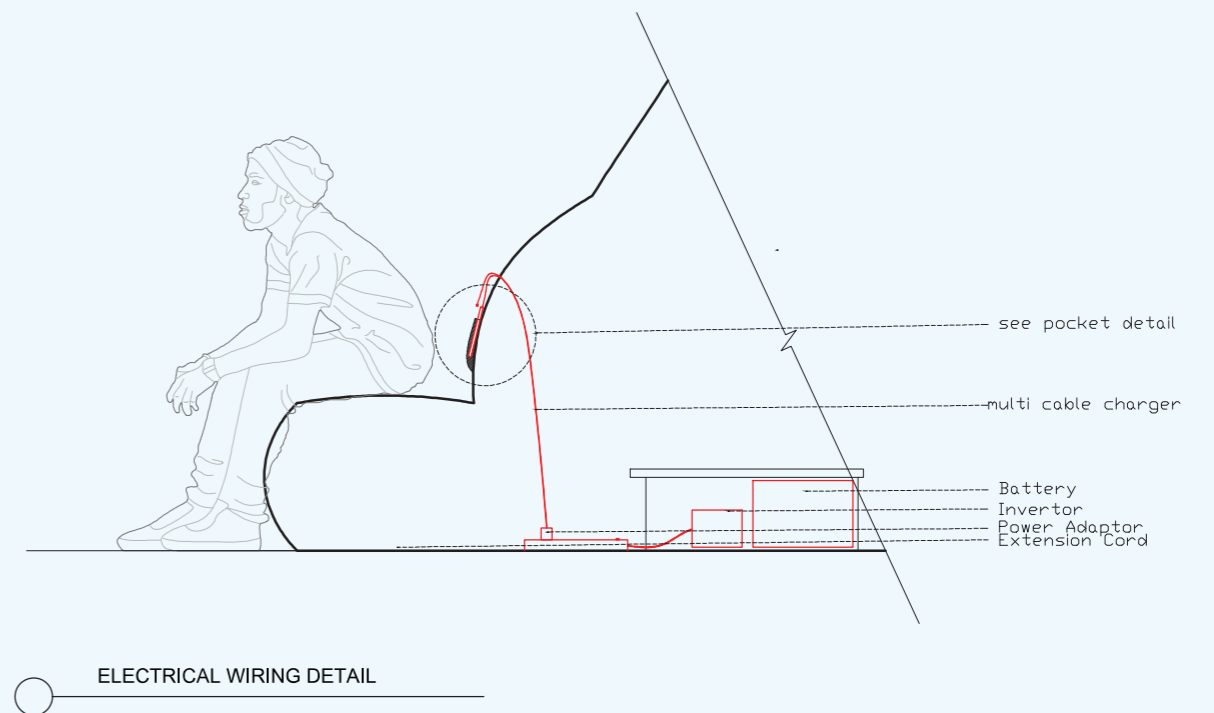
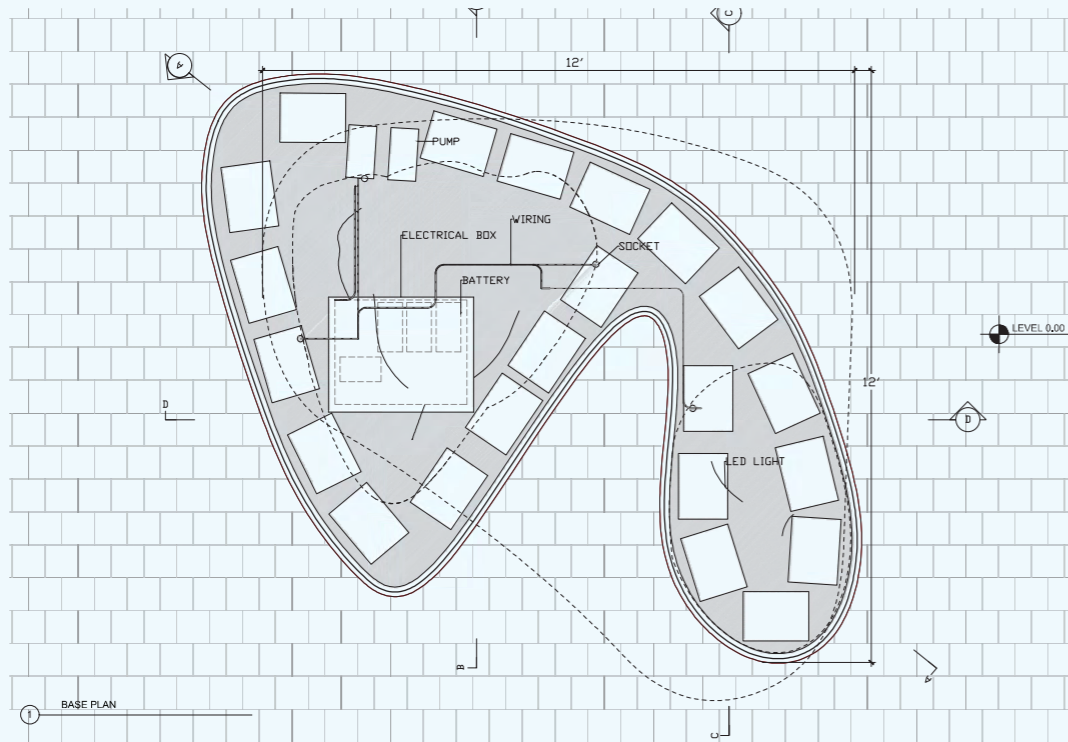
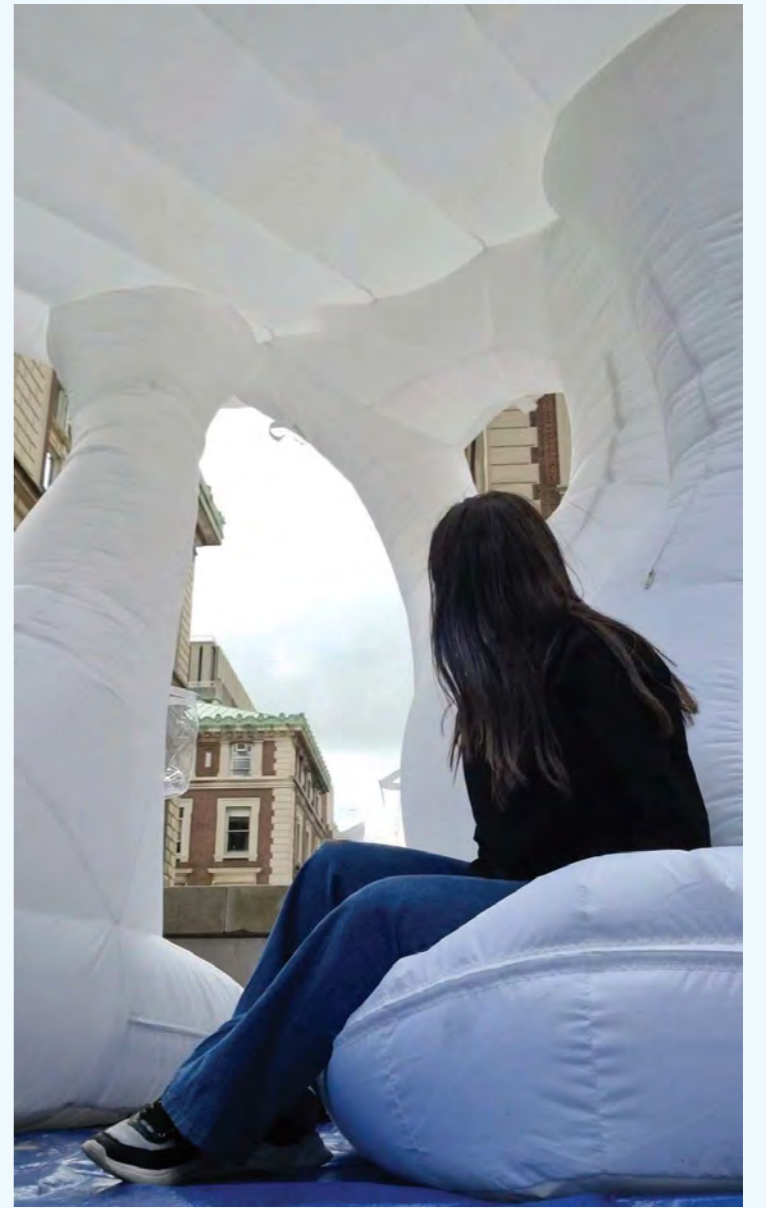
space. However, as night falls, Goo Pavilion undergoes a remarkable transformation. LED lights embedded throughout the structure project light from within, illuminating the fabric and turning the pavilion into a radiant expression of exteriority. The intensity of the light varies, depending on the hue of blue it passes through, captivating attention and drawing focus to the surface of Goo Pavilion. This reversal of roles from day to night inverts the introverted atmospheric qualities of the daytime, commanding attention and transforming Goo into a captivating beacon in the darkness.

Goo is an immersive installation that invites its participants to be introspective about architectural possibilities. Highly calibrated to squeeze experience out of its confined location it promises a unique and subjective sequence of possibility from each and every vantage point it offer



Photograph: Goo Pavilion View from Avery







Special Thank you to my
supportive professors,
faculty members, and
inspiring colleagues at
GSAPP.

Andy El Set

Advanced Architectural Design
Columbia Gsapp