

Littoral Tales: Lagos

by

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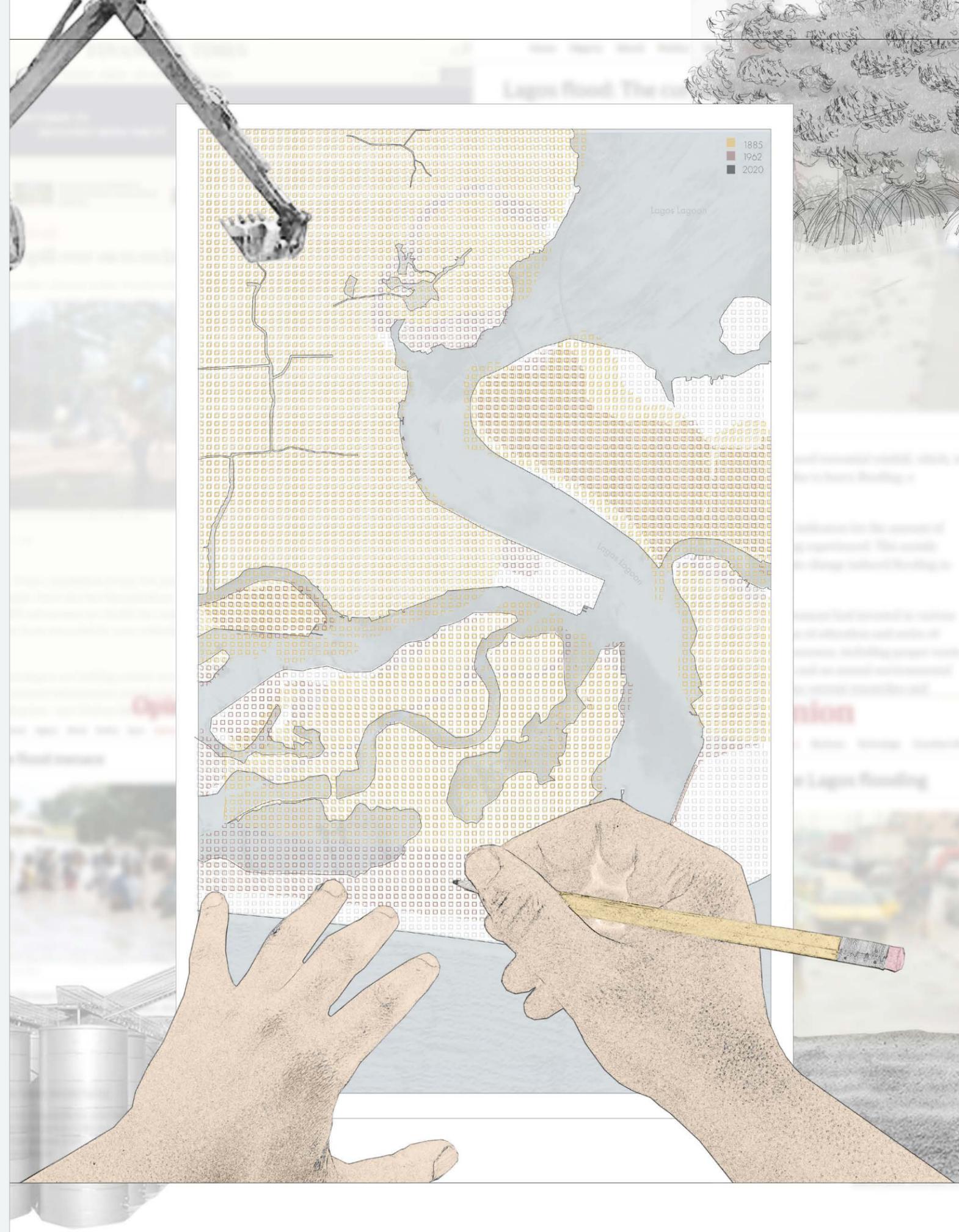
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“There is no reason for clinging to the doleful prognostications so often uttered with regard to the hopelessness of ever rendering Lagos a fairly healthy city. When its swamps are filled up, when the island is surrounded by a sea wall, when its rainfall is utilised, and its sewage regulated, then Lagos will be sufficiently healthy to become the proud Queen of West Africa, the greatest emporium of trade in this part of the continent.”

-Sir William McGregor, 1901



► Figure 1 The Colonial Hand: Land, Water, Waste

“...With its coastal location and abundant natural resources, Lagos is ideally positioned to take a leading role in the African economy and become a major global force, especially with a population of 18 million, which is expected to soar to 25 million by 2015. The gateway to the continent needs a new headquarters. Eko Atlantic is the answer. Rising on land reclaimed from the Atlantic Ocean off Victoria Island in Lagos...It will create prosperity and will be where business gets done.”

-Eko Atlantic, Developer's Statement, 2012

ABSTRACT

This thesis explores speculative interventions along Lagos' Littoral zones woven within complex layers of land, water, and waste. Subverting the colonial extractive operations of dredging, drilling and draining, it imagines the *social construction of space* through interventions that aggregate, accumulate and promote adaptation, to changing environmental conditions such as rising water.

Drawings, maps, sections and collages at the urban scale are used as tools to explore the geo-historical development of Lagos, beginning with the colonial period. Narrowing into a locality with an industrial and military history, this thesis presents some interesting challenges: How do we re-interpret and subvert the colonial ways of understanding land and sea? How might viewing non-human entities as co-creators of architectural space affect the way we design? How can an architectural understanding of the networks of land, water, and waste at the urban scale support speculation around sustainable and community-driven interventions at the human scale of a neighbourhood?

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My brilliant and incredibly insightful advisor Catherine Bonier, without which this would not have been possible. Thank you for inspiring both creativity and rigor throughout my studies and during my thesis.

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My friends and family, mom, dad, Joe, thank you for always supporting me and engaging with my ideas.

My colleagues, the faculty at Carleton and beyond—Dr. Taibat Lawanson (who provided specific insights on the city which I could not have googled), Bruno, and all the other people with whom I shared great conversations, thank you.

Espresso...

I now realize I will be completing my masters with many more questions than answers and I am entirely enthusiastic about this.

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Operations

Dredging: A complex process of extracting sediment and relocating it. Despite the many creative possibilities of managing sediment, its potential is often simply relegated to fulfilling commercial objectives such as deepening a channel for a ship or to engineer an architectural development with a waterfront view.¹

Drilling: The process of extracting the natural resource wealth of one territory and generally transferring it to another

Draining: Refers to the removal of water from wetlands and naturally vegetative areas for sanitary, bacteriological, industrial, or agricultural purposes.

Mapping: A system of representation that allows a unique author to territorialize space, for the purpose of conquest, establishing a “new” settlement on already settled land, or simply to indicate valuable locations for resource shopping.

Habitation

Urban Planning: A device for rebuilding the city by means of subtracting whatever does not belong in a minority utopic vision.

Wetland: An unproductive parcel of land that collects water and breeds disease. Safe and healthy societies are better suited to *drylands*. Whenever possible, wetlands should be eliminated.²

Environmental

Breakwater: A device to subjugate the flow of water in coastal areas where inhabitants are not accustomed to surfing.

Flood: Water with an increased flow that ventures into human occupied spaces, sometimes causing disaster-especially in urbanized areas.

Land Reclamation: The process of creating new land from the sea. Often used as a method to address the issues of land scarcity that come with urbanization, or to *re-claim* land the ocean has taken away. Completed using the operations of “dredging and draining.”

Adaptation: A selectively scaled approach to address environmental concerns by diverting environmental problems from one area to another.³

Operations

Social Construction of Space: The social construction of space is the means by which human and non-human entities use their social and material agency to co-construct space through processes of aggregation, accumulation, and adaptation. Simultaneous with these constructive processes is the actualization of new economic and social systems. This paradigm upholds the belief that the term “social” is inclusive of a multispecies with which humans live and exist interdependently.⁴

Self-Organized Community: Autonomous communities that use improvisational methods to construct their spaces, often working and operating within an economy that is not regulated by the government.

Sea Appropriation: The act of altering or extending the boundary between land and water by creating new land from the sea.

Social Media Flood Timeline: A research tool that is used to analyze responses to flood to establish place-based patterns that exist beyond traditional mapping methods/ available information.

Twitter for Geovise: A technologically advanced version of Twitter that imagines how non-human entities might communicate if they were sentient. Please see *Methodology* for more info.

Re-swampified: Previously drained wetland areas that return to their natural state of being— swamp.

Habitation and Environmental

New World Architecture: Unexplored territories, spaces, or areas of dwelling that present opportunities for creating new theories by superimposing pre-existing notions or typologies in unfamiliar situations or habitations.⁵

Aggregate: The practice of combining distinct elements into a whole.

Accumulate: A process of gathering parts over time, which eventually results in a whole.

Rising Water: A name to describe water *rising* above the threshold most are usually accustomed to.

Tools

Grades of Wetness: An alternative way to represent 2D space, by means of re-considering the relationship of land and water. Water is usually described as subservient to land using terminology such as flood and land reclamation. Grades of Wetness considers land from the standpoint of water, as possessing different qualities of “wetness” that hold different amounts of water, depending on their geological or vegetative characteristics.⁶

NOTES TO THE GLOSSARY

1 Dredging Today. “USA: DredgeFest Approaches,” September 6, 2012. <https://www.dredgingtoday.com/2012/09/06/usa-dredgefest-approaches/>.

DredgeFest, an annual symposium, field expedition and speculative design workshop in the USA, defines dredging within the framework of the Anthropocene as a mechanized operation in which underwater sediments are removed/transported from the bottom of lakes, rivers, harbours etc. It is part of a network of activities in which “humans act as intentional and unintentional geologic agents, accelerating and decelerating the movement of silts, sands and clay.”

2 Dahl, Thomas E., and Gregory J. Allord. *History of Wetlands in the Conterminous United States*. U.S. Geological Survey, 1997. This relates to the idea that during the 1700s wetlands were regarded as obstacles to development, disease ridden, and should be reclaimed for other purposes.

3 Ajibade, Idowu. “Can a Future City Enhance Urban Resilience and Sustainability? A Political Ecology Analysis of Eko Atlantic City, Nigeria.” *International Journal of Disaster Risk Reduction, Africa’s Urban Risk and Resilience*, 26 (December 1, 2017): 85–92. <https://doi.org/10.1016/j.ijdr.2017.09.029>. On Eko Atlantic, Ajibade argues ““For the most part, the project commodifies not just nature but the idea of adaptation by converting a publicly owned common-pool resource (ocean space and seabed) into a prime estate for capital accumulation. To do this, the

State allocated the ocean space and seabed to developers in the name of addressing an environmental crisis and then enclosed and privatised this space and the reclaimed land on account of boosting Nigeria's economic growth. This uneven socio-ecological metabolism did not only alter the social relations of property with respect to the ocean, but it erased the people, culture and configuration of economic and non-economic usage that existed in the area."

4 Zárata, Lorena. "They Are Not 'Informal Settlements'—They Are Habitats Made by People." *The Nature of Cities* (blog), April 26, 2016. <https://www.thenatureofcities.com/2016/04/26/they-are-not-informal-settlements-they-are-habitats-made-by-people/>. This idea was inspired by Lorena Zárata's concept- The Social Production of Habitat which details the production of habitat by people using people-centered processes to create and manage housing, services and community infrastructure. Lorena Zárata, President of Habitat International Coalition critiques the use of the term slum and its variations because it often highlights the negative aspects of such living conditions while ignoring their complexity and the rights of people to produce and manage their own habitats as a fundamental right to the city.

5 The term "New World" was historically used by European navigators to refer to issues concerning the exploration and colonization of the Americas. It was called the New World because previously, most exploration and known land had existed in Africa, Asia, and Europe. The term "New World" here, not to be confused with its historical use is placed in the context of architecture to describe new ground for architectural theorization and exploration that has not previously been

rigorously studied or examined.

6 Mathur, Anuradha, and Dilip Da Cunha. *Soak: Mumbai in an Estuary*. New Delhi: Rupa Publications, 2009. In *Soak*, Dilip and Anuradha imagine Mumbai as an estuary rather than an island they note that an estuary demands gradients not walls, fluid occupancies not defined land uses, negotiated moments not hard edges.

7 Jackson, Steven J. "Rethinking Repair." *In Media Technologies: Essays on Communication, Materiality, and Society*, 222. MIT Press, 2013. <http://ieeexplore.ieee.org/document/6733973>.

#lagosflood

OTUNBA AGBOOLA @saunkeys · Jun 18
Replying to @ayemojubar
Don't understand why @LasgoOfficial can't fix the drainage system . All the drainages are blocked . I stay in Lekki and constantly ask why can't we fix the drainage ourself .. I was told we could be arrested for fixing the drainage

Sir Bigfem #OLE @bigfemluvsUTD · Jun 18
Drainage can be fixed actually. But let's start with not throwing nylons in all forms in the gutters and on the streets

Utomi Blessing @iam_bibii · Jun 18
Replying to @ayemojubar
I'll always say this...These people are "maami water" tenants. Just pay your rent to her instead. I'm sure she will reconsider when she sees the alert 😞

Olawale Olawale @waleclef · Jun 18
Replying to @ayemojubar
This is the norm on the island. Crazy part it most places/towns along the aja-epe axis don't have drainage systems at all.

emmy @Bobofemmo · Jun 18
Replying to @ayemojubar
Only if they had worked adequately on the drainage system before we entered the raining season trust me they won't be facing this issue.

king dabas @EddisonMatt · Jun 18
Replying to @ayemojubar
Be humble, and be friendly
Water no get enemy

Check out Royal Garden Estate. Ajah, you can never see their houses and pavilions flooded like this.

Life you prepare for the rainy days.

PEREZ #BBnaija @Tegarpeters · Jun 18
Replying to @ayemojubar
Lagosians on their way to work:



Bosscode Luxury @bosscode_luxury · Jun 18
Replying to @ayemojubar
Most Houses around Agungi/ Chevron axis were built below the average sea level, so buildings along this axis should have been raised or built above the sea level in case of future Road upgrade/Maintenance. The Government knows what to do if they really want to help.



Basic Opinion Nigeria @opinion_ng

Another season of think this happens #Lagos #LagosFlood

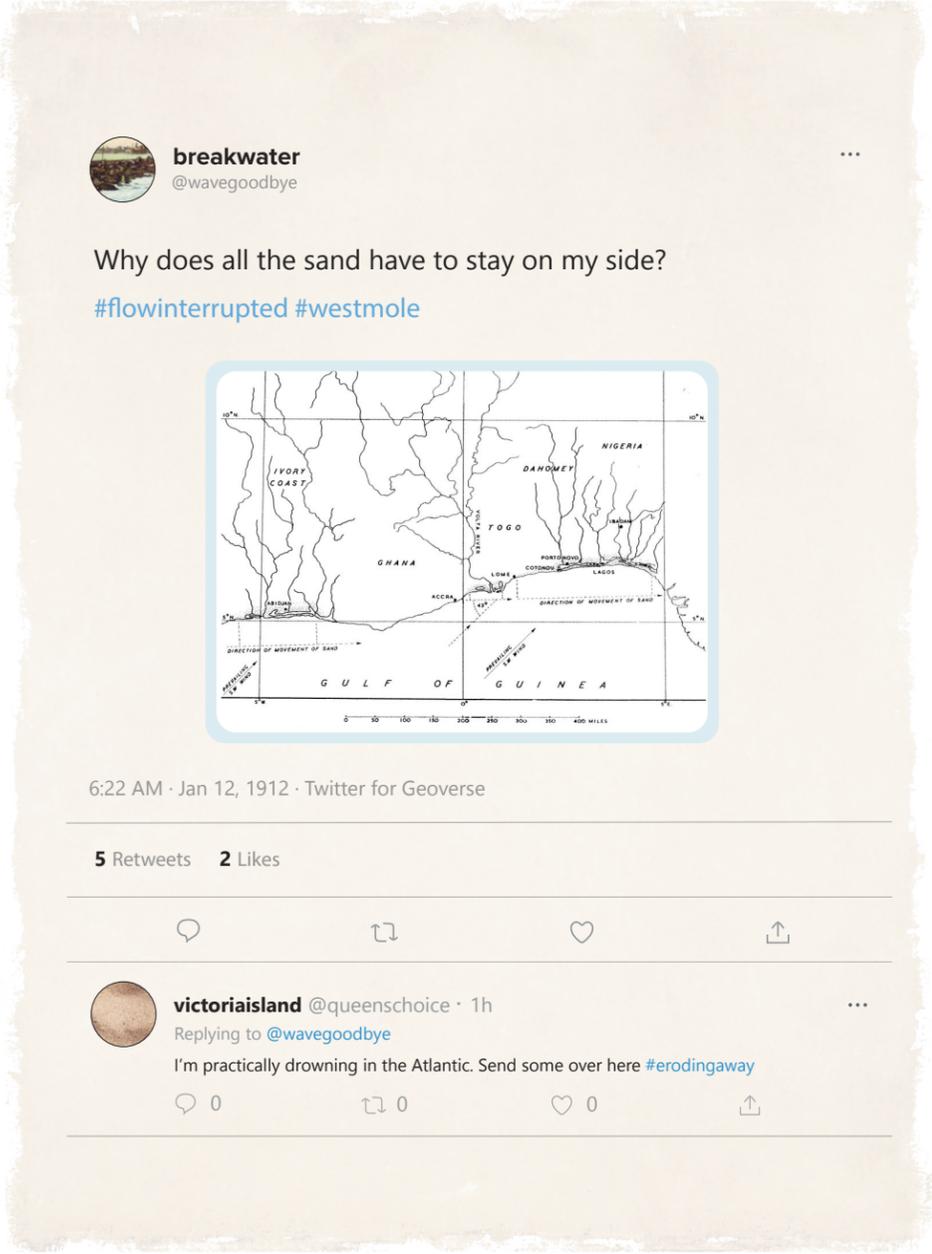
- God wants us to swim
- Lack of planning
- Climate change
- People blocking drainage

5 votes · Final results
11:42 AM · Jun 18, 2020 · Twitter

Retweet and comment

AyeMojubar @ayemojubar · Jun 18
HOME COMING PARRY
Agungi, Lekki, Lagos Edition.
Water will always find its level. Keep pushing them away, they knew where they came from.





► Figure 2 Breakwater Tweet

LAGOS - APPROPRIATING THE SEA

The urgency of climate change in Lagos and its future as a coastal city, has been rendered *a matter of concern*⁷ with the launch of *Eko Atlantic*. Eko Atlantic is a planned development in Lagos built for 250,000 inhabitants, composed of five million square meters claimed from the Atlantic Ocean. The development was initially built to stop coastal erosion along the shores of Victoria Island, an important business district in the city. The project is composed of two parts: [1] The construction of The Great Wall of Lagos and [2] The construction of a new micro-city just beyond Victoria Island.

For the Lagos elite, the construction of Eko Atlantic city is a triumph. The design of the wall is an *engineering feat*, and the city will have many high-tech features and amenities, positioning it to become a model for the rest of West Africa. Aside, there has been much debate about the environmental impacts of this project and how it will affect neighboring communities. Some experts note that while this new city will be protected, parts of the city beyond the wall will become susceptible to flooding. There is evidence of this already happening, although the developers pride the project on their commitment to sustainability.

“The developers of Eko Atlantic City are committed to creating an environmentally friendly city for the 21st Century. Through planting trees, using energy efficient materials where possible, and well-planned infrastructure and roads, Eko Atlantic City is ushering in a new city with a green future in mind.”

Amidst this debate, the practice of claiming land in Lagos in the past decade has been rendered increasingly visible. Following the construction of Banana Island in the 80s, an exclusive island for high profile individuals, at the turn of the century many new islands and parcels of *sea-appropriated* land began appearing on the coastline. This included *Orange Island* and *Gracefield Island*, enclaves for habitation that were also created through dredging from the bed of the Lagos Lagoon. There have been many appeals against the dangers of land reclamation because of the adverse effects on the environment, such as reducing coastal resilience in the event of coastal storms, tidal surges and the destruction of nearby ecosystems. Further it is noteworthy that much of the Lagos Metropolitan area is only on average 1-3 metres above sea level (depending on location). As a result, many neighborhoods both along the coast and beyond are susceptible to extreme flooding. Despite this, both the government and public-private partnerships desire to claim more land (See Fig. 3). Those in favor of dredging celebrate the greater availability of land it provides for the quickly growing population.⁸ The city, however, is constantly having to battle against coastal erosion. Further, Nigeria's wetlands, the country's natural stronghold against flooding, have been progressively lost through the process of urbanization.⁹

How did we get here? The practice of appropriating land from the sea is not new. Historically, Lagos was mostly water. It was a series of islands, sandbars and mudflats. The first documented alteration of land can be traced to the 19th century. In *Earth and its Inhabitants*, French geographer, Elisée Reclus notes that, "The island of Lagos, the Auni or

Awani of the natives, lies three miles from the sea, between the arms of the lagoons, the mouth of the Ogun river, and the channel opening seawards. The city occupies a large space on the west side of this marshy land, where the European quarter has been built on ground partly reclaimed from the lagoon."¹⁰ Further for many coastal cities, fighting *the war against the sea* has been a historical battle, which often carried with it many political implications depending on where the littoral line (boundary) was drawn, a device Dilip Da Cunha and Anuradha Mathur term in *Soak* as the "...most powerful instrument in the European enterprise of mapping that would make the land-sea separation not just a commonly accepted reality, but a stark divide."¹¹

In some ways, *Littoral Tales* is part of a continuum of the universal story of the many concerted efforts by different engineering and militaristic operations to wage what might be termed *the war against the sea*, also mirrored in the multi-faceted efforts by the U.S Army Corps of Engineers to tame the Mississippi, as explored in James McPhee's *Atchafalaya*.¹² This *war* is further complicated by its position within the capitalistic and colonial enterprise of industrialization, which often involved extracting the wealth of one territory for the external realization of profit (outside of the territory).

In other ways *Littoral Tales* is a specific and needed story to tell for Lagos *because* it is a West African city, and *because* it is situated within a spatial perspective that is absent in many of its historical accounts (further explained in Part 2).

► Figure 3 Precarious Possibilities

Starkly different ways of inhabiting the city are superimposed, to give visibility to their simultaneous existence. Two glowing sand-filled hands loom in the background, enclosed by newly developed island towers—a reference to the practice of land reclamation and sand mining, which seem to be the guarantor of Lagos' continued existence in the face of land scarcity and coastal erosion. A child positioned on a makeshift bridge crafted of scrap wood, looks towards the future.

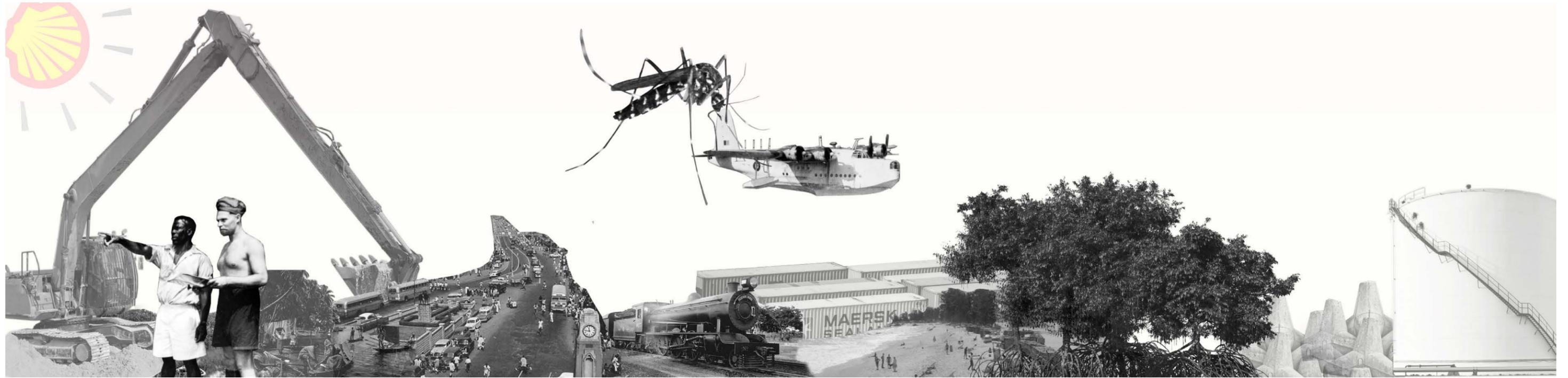


“The fundamental conundrum of Lagos, considered as both paradigm and pathological extreme of the West African city, is its continued existence and productivity in spite of a near-complete absence of those infrastructures, systems, organizations, and amenities that define the word “city” in terms of Western planning methodology. Lagos, as an icon of West African urbanity, inverts every essential characteristic of the so-called modern city. Yet, it is still-for lack of a better word-a city; and one that works.”

-Koolhaas, Lagos, Harvard Project on the City (2000)

“If Koolhaas and his colleagues, soaring over the city, can claim that the sight of the traders crammed beneath the Oshodi flyover is ‘proof and evidence’ that Lagos urbanism is ‘one that works’, the conclusion is inescapable: in their perspective, it is the city’s ability to sustain a market that is the sole signifier of its health...In the 19th century, colonial campaigns aimed to impose new forms of power relations; is the goal of the 21st century exploration nothing more than to celebrate the outcome of existing ones?”

-Gandy, Learning from Lagos (2005)



▲ Figure 4 Dredge, Drill, Drain

This collage details a brief history of land, water, and waste in Lagos. The Shell Logo is positioned as the sun to represent the dominance of industry in the development of land. The mosquito represents that pesky creature that motivated the clearing of wetlands in not just Lagos, but also other parts of the world. See Methodology and Figure 5 Swamp Drainage Map of Lagos for more info. The rail alludes to an important transportation technology that differentiated Apapa as the only wharf with rail access. The Lagos Railway, which stopped in Apapa, extended to Northern Nigeria, which gave Lagos access to a variety of other trade products.¹³

METHODOLOGY

What does it mean for a city to work? Investigating the Past to Understand Space in the Present and Speculate on the Future

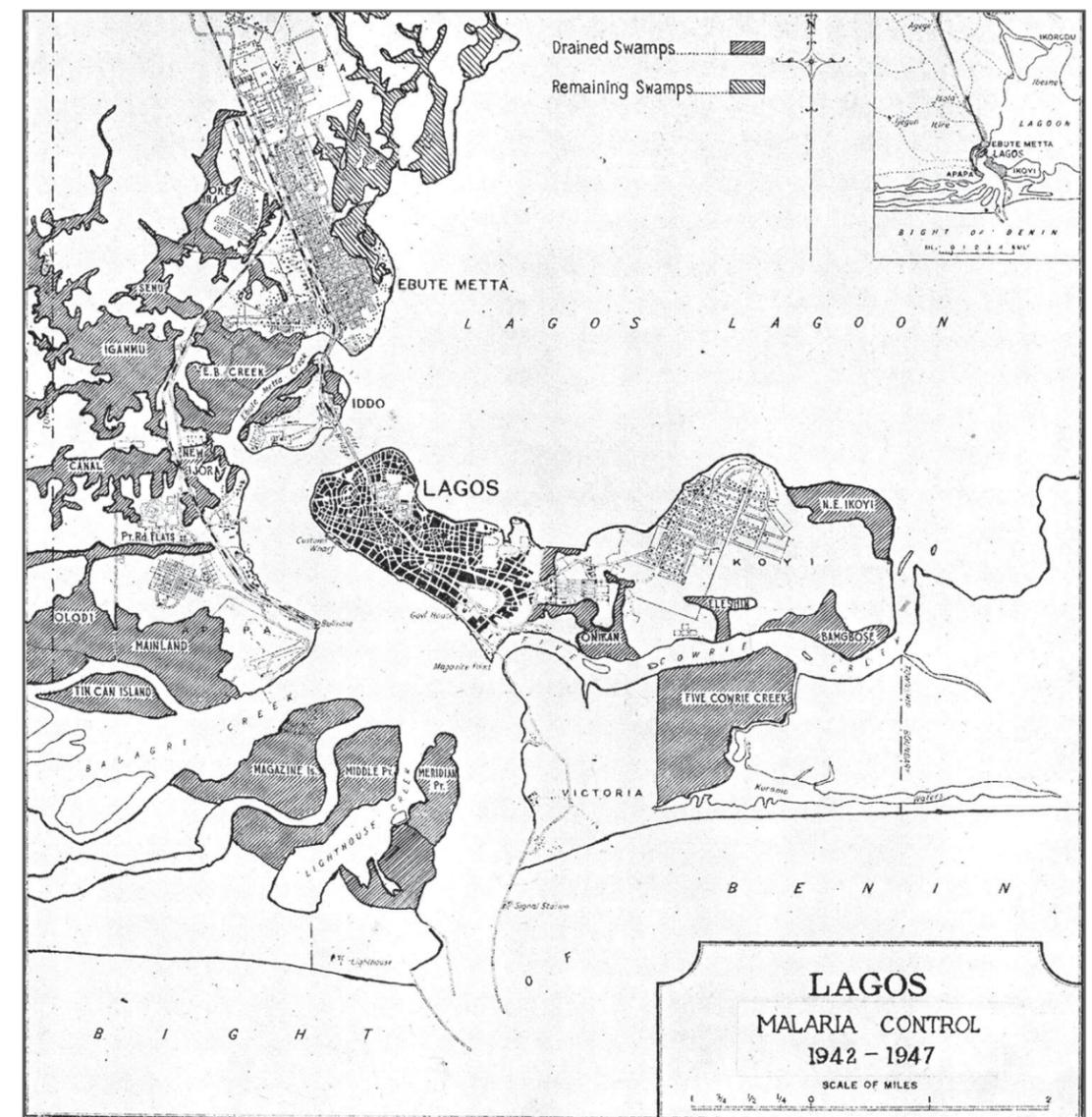
This thesis began by investigating the geo-historical development of Lagos, using maps to understand how the city arrived at its present-day conditions: a city with a negotiable population of about fifteen million, widespread environmental issues related to coastal erosion and flooding, and a city of vast socio-economic division. In *Postmodern Geographies* urbanist and geographer Edward Soja discusses the absence of spatial analysis in critical theory and why it is an important avenue to investigate the subject of power. Soja quotes Michel Foucault's 'Eye of Power', noting that a history written of spaces, would simultaneously be a history of powers.¹⁴ Further, Dr. Ademide Adelus-Adeluyi, whose research focusses on the history of African cities, localizes this argument by noting that the spatial narrative is important because

“...there is a blankness to the space in which historical narratives unfold in West African cities. There is also an anonymity that plagues Lagosians (or ara Eko, as they are known locally) who are not male, titled, or rich... [and narratives usually focus on] ...the political, economic, and social aspects of change through time... [while]... the city, islands, and coastline fade into the background, unengaged and passive in their role as landscape.”¹⁵

The history of land in Lagos is one that involves repeatedly claiming land from the sea, draining swamps, building canals, clearing wetlands,

and subjugating the flow of water. Though seemingly novel because of its position as a West African city, further research of places with colonial histories drew similarities. The pattern involved the development of railway, the clearing of wetlands to make space for industry, or swamp drainage motivated by sanitation/bacteriological ideas.

In *History of Wetlands in the Conterminous United States*, it is noted that there was a perception in the 1700s that wetlands were a problem and an obstacle to development. As a result, large scale drainage campaigns ensued to transform wetlands into farmlands and other “productive” land uses.¹⁶ These practices of altering the landscape which were enabled by advances in technology, enabled the production of specific landscapes, which although they seem fixed, could have had alternate outcomes. Anuradha Mathur and Dilip Da Cunha for example, in their project *Soak*, imagine Mumbai as an estuary, celebrating the idea of *fluid occupancies* and accommodating the sea rather than fighting against it with developments such as sea walls.¹⁷ The theory of *Soak* is a manifesto that calls for an approach to *making peace with the sea*, “...gradients not walls, fluid occupancies not defined land uses, negotiated moments not hard edges.”¹⁸ Further, in *In Levees that Might Have Been*, Richard L. Hindle notes that “The intensively engineered rivers we know today were not inevitable.”¹⁹ Through exploring a series of levee patents and technologies he provides insights and imaginations of infrastructures that might have resulted in a very different U.S Landscape.²⁰ The common thread among these two discussions is the landscapes we see today were by design, including in many cases, the associated environmental problems that accompany them. An archive of forgotten patents from



▲ Figure 5 Swamp Drainage Map, Lagos

This map shows the efforts to transform the “disease topography” of the Lagos coastline. After a mosquito infestation at the Royal Air Force base at Apapa, Lagos, a Malaria Control Board was launched in 1942. Matthew Gandy notes how the swamp drainage campaign intersected with society and nature to accomplish this task. The colonial project was driven by a desire to both map and discipline the region, and the culprits were identified as the ecological zones;

the territory of the mangrove and the swamp grass. From Gandy, *Mosquitos, Modernity and Postcolonial Lagos*. “Lagos, Malaria Control 1942-1947.” Land and Survey Department, Lagos. Courtesy of the Wellcome Library, London.

the 20th century can only rouse the curiosity; What alternative and ecological imaginations might have prevailed if the U.S Army Corps of Engineers did not assume so much control over the American Hydraulic Landscape?²¹

Using Maps to Understand the History of the Lagos Landscape

The strategy of using maps to understand how the landscape of Lagos changed over time presented many complex problems. The map is a political tool, a reflection of a cartographer's ideologies materialized into territories and boundaries. Access to indigenous knowledge of the landscape would likely only have been available in the oral tradition. Further, in *Fifty Years of Post-Colonial Mapping in Nigeria*, Nnabugwu Uluocha notes that much of Nigeria is presently under mapped due to economic and political instability, lack of funding, and unreliable current information. Uluocha notes that in addition to other private entities "... corporate organizations have had an impact on the post-colonial effort to map Nigeria, particularly the oil-industry giant Shell Petroleum, which has made impressive contributions to the geological mapping of several parts of southern Nigeria. Other oil companies such as Chevron, Exxon-Mobil, and Agip have also contributed to the 50 years of post-colonial mapping of Nigeria".²² Keeping this in mind, the maps would provide an important starting point to begin to understand retrospectively what foreign interests projected for the future of Lagos by understanding their omissions, inclusions, and visions.

The maps that were created of Lagos provide an account of how the ecology of Lagos was transformed (specifically wetlands and

vegetation) through the operations of dredging, draining and railway construction to enable industry (mostly petroleum). In *Lagos: A Cultural History*, Kaye Whiteman gives an account of Lagos that is focussed on industry and using engineering to win the war against the lagoon, "... the greedy, muddy-coloured sea absorbing like some insatiable monster the masses of grey rock hurled, at all times of the day and every day in the week..."²³ Contrastingly, in *The Fabric of Space*, Matthew Gandy gives an account of Lagos in which concerns of health and sanitation led to interventions on the land. Figures 14 and 15 show maps of Lagos in 1962, where Apapa which was previously a predominantly marshy land, has been filled and transformed into the Port of Lagos.

In Gandy's *Mosquitos, Modernity and Postcolonial Lagos*, he describes several attempts to transform what was considered "...the "disease topography" of the Lagos coastline,²⁴ to satisfy British attempts to transform Lagos into the 'Liverpool of West Africa'.²⁵ Lagos, which was characterized by swamps, marshy land and mangroves, had a landscape that was believed to play a role in the transmission of Malaria. There were early attempts to address these concerns but after the infestation of the Royal Air Force base at Apapa in the 1940s, a more serious campaign began from 1942-1947 which involved the embarkment of an extensive swamp drainage program. Figure 5 shows the effect on the landscape from the swamp drainage campaign, yet later maps of Lagos either indicate that some areas were *re-swampified* or that the campaign was not carried out to its full extent.

Describing the topography of Lagos, in *Lagos: A Cultural History*, Whiteman gives several accounts of different authors who described the

perils and dangers of the entrance to the Lagos Port; as a place that was dangerous, unpredictable, and unapproachable, the lagoon often carrying with it the force of the Atlantic. He notes that "...access to the deep-water anchorage that lies between what is now Lagos Island and Apapa was rendered perilous by the "bar," a sandbank across the entry to the lagoon from the Atlantic Ocean that made all navigation perilous, especially for larger ships."²⁶ The transformation of Lagos into a port city came with the construction of two breakwaters known as the *East and West Mole* beginning in 1905 and completed in 1912. This allowed ships to freely enter the Port of Lagos and discharge cargo directly and "...once the problem was cracked in the early twentieth century, it unlocked the port city's huge economic potential".²⁷ The location of what was once the perilous bar is now the site of Bar Beach and the home of the new city on the Atlantic which has been advertised as sustainable and holding a commitment to green building initiatives: Eko Atlantic. Apapa is chosen as a site of scaled study because of its industrial and military history, and its historical importance as the *Lagos Port Complex*.

Sections, Model-Making and Illustration

The questions that arose after the mapping exercise were how do we begin to move away from mapping which provides a limited understanding of space? How can this information help to imagine the city differently? *Sections, Model Making and Illustrations* would provide another reading of space that would bring about a variety of conclusions in which to speculate on the future. For example, in *Soak*, Anuradha Mathur and Dilip Da Cunha imagine Mumbai as an estuary. What if Lagos remained a city of mangroves? A city that was drawn with an

interest of ecological concern rather than the realization of profit on an international stage (British Interest)? With these considerations in mind, how can architecture work with ecology to imagine the city differently? Models are created, predicated on the idea that different technologies (high or lo-tech)²⁸ can bring about different environmental processes. These models form the basis to imagine speculative infrastructural devices that might work with ecology to create architectural opportunities for habitation.

The Glossary

The glossary highlights the importance of language in constructing narratives and methodology in constructing space. Two glossaries highlight two ways of conceptualizing and thinking about the environment. The Old Glossary (xiv-xv) highlights ways of conceiving the environment that commodify, extract, and see it as an entity subservient to human endeavours and ways of living. Contrastingly, the New Glossary (xvi-xvii) highlights ways of working *with* the environment and suggests practices and ways of living rooted in the social production of space, guided by both human and non-human actors.

Twitter for Geoverse

"This is the lesson: Great cities are like any other living things, being born and maturing and wearying and dying in their turn." - N.K. Jemisin,

The City We Became

In the article *Should Trees Have Standing? - Towards Legal Rights for Natural Objects*, Christopher D. Stone makes the case for granting elements

in nature certain rights under the law. He argues that “Throughout legal history, each successive extension of rights to some new entity has been, theretofore, a bit unthinkable.”²⁹ Further, if we can afford rights to trusts, corporations, municipalities and even ships then it means that non-human things can also come to be recognized as possessors of rights. Granting rights to the natural environment will not be “...as silly as that no one should be allowed to cut down a tree,”³⁰ but will guarantee entities guardianship and legal protection by protecting them against exploitation, ecological damage, and risk of endangerment. Stone argues that if neither corporations nor municipalities can speak but are still spoken on behalf of, this is possible, and the natural entity will be treated as a legal incompetent.

The idea of Twitter for Geoverse emerged from the sensibilities of environmental personhood and the idea of the sentient city in *The City We Became*, a city that lives, dies and breathes, personified by human avatars who represent different boroughs of the city. Twitter is a platform which has great value in contemporary culture because it affords people the ability to express their opinions in 280 characters (previously 140) or less. In some cases, censorship of twitter posts, such as in the case of elections is strongly contested and considered an attack against free speech. Using this medium, a fictionalized version of the app located in a “Geoverse” or a geographical universe affords elements in the environment a voice in which concerns might be represented in a language that is understood and culturally relevant. The idea of Twitter for Geoverse is not to anthropomorphize the environment and its associated qualities but to give a presence and a voice to an entity that

sometimes seems elusive or beyond us. It is a medium for storytelling and a tool that is used throughout the project to narrate in a way that is direct and concise. Retrospectively, the device is used to tell the story of land involving breakwaters, islands, and the movement of the lagoon. In the present, twitter is used to tell the story from the human perspective which centers around environmental problems—flooding, coastal erosion, extreme rainfall, and to establish hypotheses for their causes. In the future, it is used as a tool to narrate and predict along the trajectory of the past and present.

Collage

Collage is used as a device to combine different ideas of a place into a single visual narrative. It is used to illustrate certain feelings and ideas of place. For example, Figure 4, *Dredge Drill Drain*, compresses the narrative of several maps into a single drawing, telling the story of industrialization, urbanization and the emergence of a city. In the future, it is used as tool to move the narrative forward.

Worldbuilding and Speculative Fiction

Narrative writing and fiction are used as important catalysts for the investigation of the past, the understanding of present issues and the speculation of a future site existing between now and the year 2100. The methodology provides a framework to understand the correlation between how specific ways of operating on the land can result in different landscapes and possibilities of habitation that may or may not be inclusive or problematic (environmentally). For example, the idea of *land reclamation* often goes with the terms developer, urbanization, and in many cases

the commodification of the ocean for private profit. Contrastingly, ideas of stewardship and remediation typically connect with ideas of ecology and sustainability. Within this historical framework of understanding, a subversion then becomes possible through re-mapping, re-imagining and rebuilding the site in the process of speculating what might be a sustainable and community-driven mode of habitation at the scale of the neighbourhood, that is *self-organized* and embraces the ecological qualities of what it means to occupy Lagos within its littoral zones. The environment and its associated processes are foregrounded to reflect the necessity of seeing them as a partner in approaching design in a way that heals, *repairs* and is rooted in an ethics of *care*.

LITTLE LAGOS Has Big Importance

Lagos, in British West Africa, may be more important to the world than London.

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uilding

the other side of the Lagos lagoon are in the growing town of Apapa, which boasts a rail terminal.

Situated two miles from the Atlantic and having an artificial break-water running into the sea, Lagos is more vulnerable to possible enemy action than is Vichy-controlled Dakar. Lagos lies below sea level, and if it were flooded by the Atlantic only one tiny spot in the whole city would remain above water. This spot is the very place where the British blue-jackets landed in 1851. On the other hand, Dakar is sheltered by the seemingly unbroken mountain ranges which rise and fall intermittently, stretching from the British colony of Sierra Leone to French Senegambia.

Lagos lies below sea level, and if it were flooded by the Atlantic only one tiny spot in the whole city would remain above water. This spot is the very place where the British blue-jackets landed in 1851. On the other hand, Dakar is sheltered by the seemingly unbroken mountain ranges which rise and fall intermittently, stretching from the British colony of Sierra Leone to French Senegambia.

NIGERIAN GATEWAY.

With a population of about 150,000 Africans, and a little more than 1000 whites, Lagos is the gateway to the rice of the vast agricultural products of Nigeria, and its valuable mineral resources. Palm oil products,

Besides the fact that it is the major metropolis of West Africa, Lagos serves as the headquarters of the Government of Nigeria, the second largest British dependency after India. It is also the headquarters of the Government-owned railway in Nigeria, with more than 2000 miles of railroad. This railway runs as far north as Kaura Namoda on the bri

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Seizure of Lagos either by air strategy or superior land tactics would not only mean the conquest of West Africa, but might spell the immediate doom of other parts of Africa. West French Dahomey, French Niger and Italian Libya all in Axis hands, would not be difficult for its forces to sweep over West Africa. No settlement on the east coast from Dakar to Boma has such a rich hinterland and so large a population (more than 22,000,000) as Lagos. The Udi coastal fields, about 40 miles east of Lagos, would be a valuable asset to an enemy. Dakar has no huge railway establishments other than that reported to be under construction under Nazi supervision. Most of the food at

► Figure 6 News Article, Excerpt from "Little Lagos has Big Importance". From *Daily Mercury*, Wednesday 8, April 1942.



▲ Figure 7 News Article, A Most Modern Port
From *Kojonup Courier*, 13 June 1956

▼ Figure 8 Photograph of Apapa with Rail. The date is not listed but the image was likely taken in the between the 50s and 70s. From *National Archives UK*

METHODOLOGY I: MAPPING

The goal of the mapping exercises was to pair an understanding of land and sea with particular ways of drawing, mapping and representing the city. Four maps are selected at different years, half of which are produced by foreign entities, and the other half by *Federal Surveys Nigeria* and other mapping corporations. These maps which range from the 1800s to shortly after Nigeria gained independence (1960). The last is a generic map produced by Open Street Map in 2020. A parallel reading of maps allows for an analysis of two styles of representation. Maps on the left are mostly notational, while maps on the right represent a new way of re-interpreting, re-drawing and representing the city in terms of water (an element integral to its history).

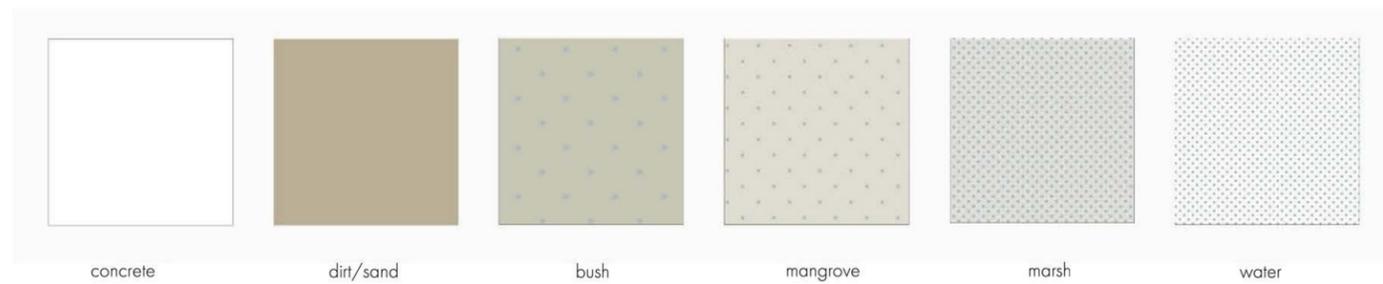
The Gradient

In trying to break down the previous logic of mapping the coastal city, a gradient is created, which instead of using the map as merely a tool for demarcation and identification, tries to understand the nature of different qualities of ground. Each portion of the gradient is labelled as a thing with a certain capacity to hold water ranging from concrete which has none when fully cured, to different kinds of wetlands, finally ending at water. This gradient recognizes the fact that Lagos is a city of islands and sandbars, and that its character and soul lies in its relationship to water. It is water- in a certain capacity.

grades of colonial ground



holding tanks for water



▲ **Figure 9** Grades of Colonial Ground Gradient
This gradient catalogues the different notational strategies used in *old* maps of Lagos

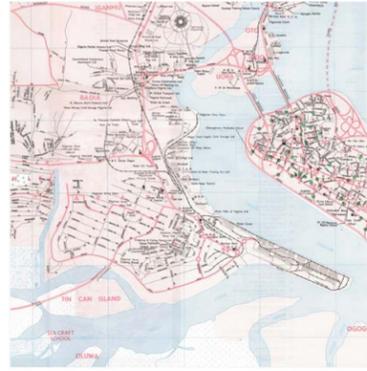
▼ **Figure 10** Holding Tanks for Water Gradient
This gradient catalogues a new way for mapping in terms of "holding capacity for water"



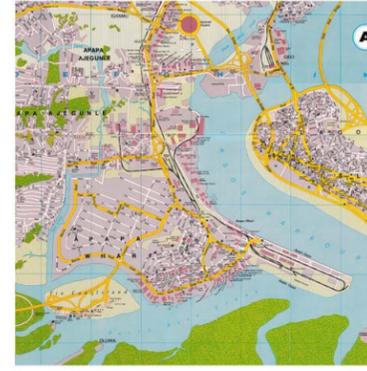
LAGOS 1885



LAGOS 1962



LAGOS 1977



LAGOS 1981



LAGOS 2020



LAGOS 1885



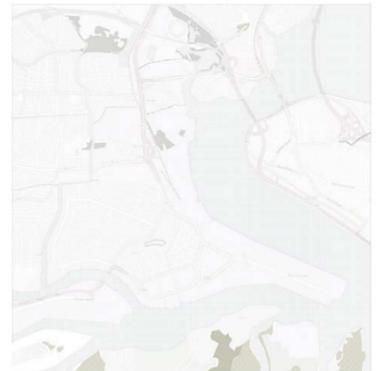
LAGOS 1962



LAGOS 1977

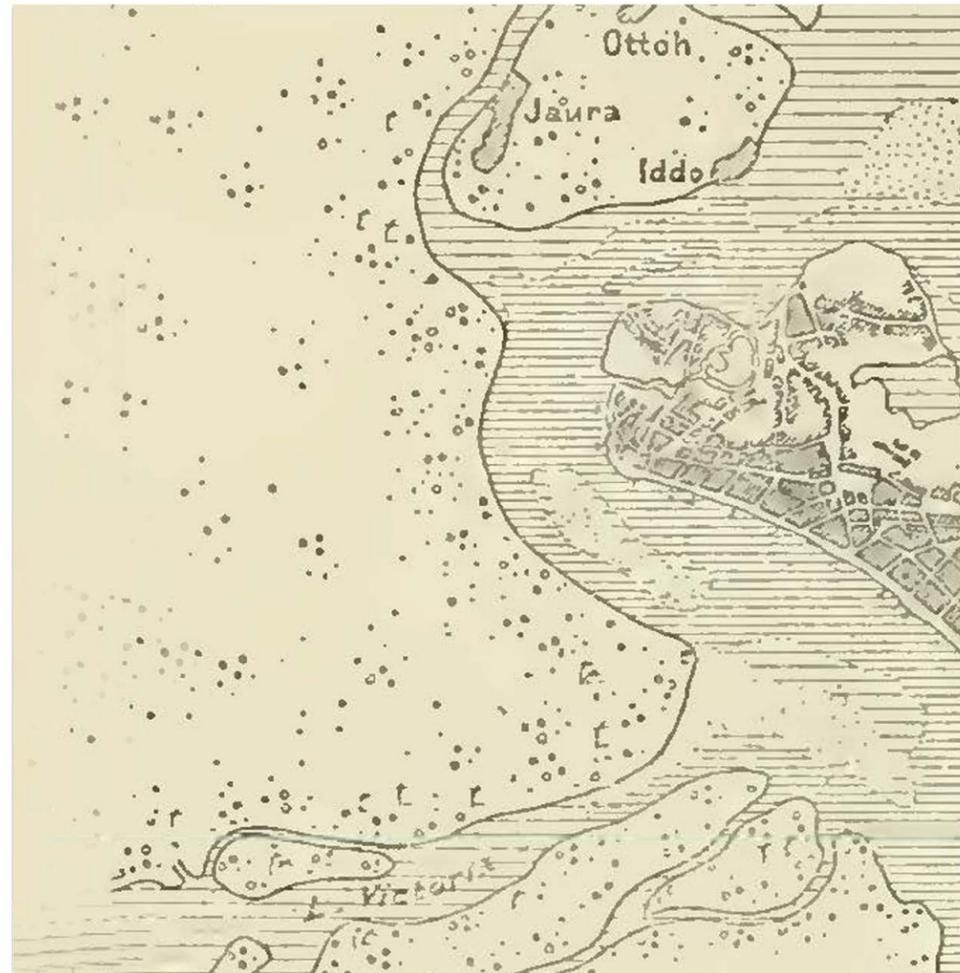


LAGOS 1981



LAGOS 2020

▲ Figure 11 Featured Maps in Document



▲ Figure12 Lagos 1885

This is a 1: 90 000 scaled map, taken from *The Earth and Its Inhabitants*, a 19 volume geographical series published by French geographer Elisée Réclus. It describes Lagos in terms of sea-level and which parts of the city are exposed at low water. This map is an

exception to the series of other maps that follow because it focusses on the relationship of land-to-water without including any of the ecological qualities of the city. The space is rendered as empty (unlikely), which conveys the idea and mythology of an enticing territory, ideal for conquest (Reclus, 270).



LAGOS 1885

▲ Figure13 Lagos 1885



▲ Figure 14 Lagos 1962, US. Army Corps Map
 Prepared by the Army Map Service (AM), Corps of
 Engineers, U.S Army, Washington D.C./ Compiled
 in 1962 from Lagos and Environs, 1:12,500, Federal
 Survey Department, Nigeria, Sheets 1, 2 and 3.
 ► Figure 15 Lagos 1962





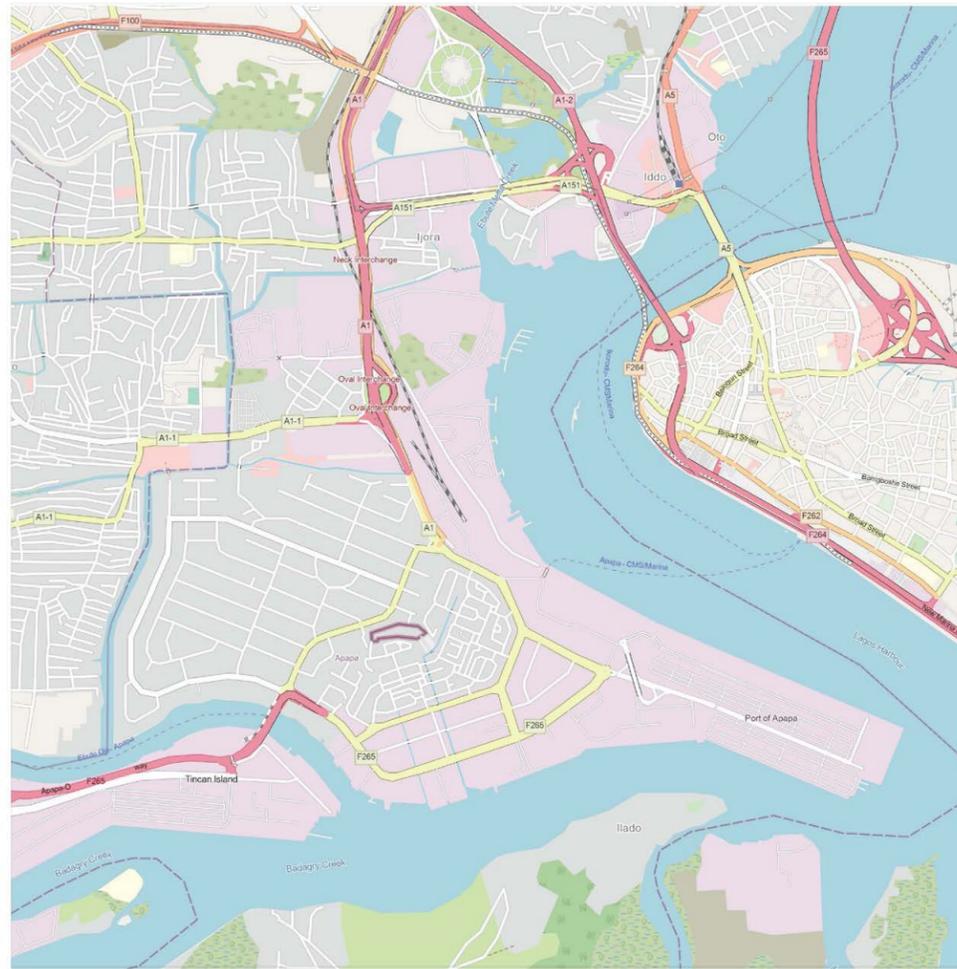
LAGOS 1981



LAGOS 1981

▲ Figure 17 Lagos 1981
 "Enemsi's New Map of Greater Lagos." Yaba,
 Nigeria: Nigerian Mapping Co. Ltd. 1981, Print.

▲ Figure 18 Lagos 1981



LAGOS 2020



LAGOS 2020

▲ Figure 19 Lagos 2020

▲ Figure 20 Lagos 1981

Hard and Soft Edges

“Rethinking the question of nature here is a matter of finding the right questions rather than looking for immediate answers. It is about thinking and rethinking inherited ideologies and assumed truths through the creative use of representation as a tool for thought in the production of architectural knowledge” (Agest, 9)

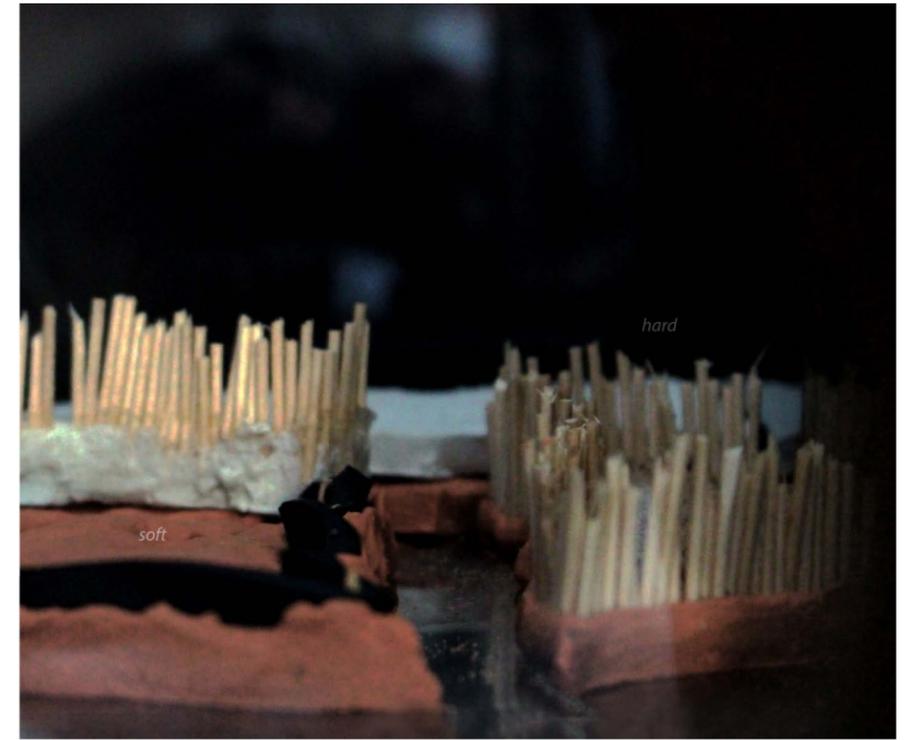
The idea that modes of representation have an epistemic value has been an important theme in my thesis explorations. Representation is intrinsically tied to modes of seeing and objectivity and the way the environment is represented is related to how we view, treat and inhabit it. The conceptual models that follow ask the question: How can a model be a tool for exploration and generate new ideas and information, rather than simply being a direct copy of what it aims to represent? No variation of dots and hatches can convey the complexity of what it means to set foot on a swamp or provide access to the intricacies of mangrove root systems which require insight into tactile and material qualities. The models were created in Dr. Lisa Moffit’s Class *Miniaturizing the Gigantic* which used tank models to explore what it means to miniaturize (through architectural representation) the gigantic environmental domain affected by climate change.



LAGOS 1962



LAGOS 1962



CONCEPTUAL MAP, 2020

▲ **Figure 21** Comparison of Different Mapping Styles. From left to right: colonial map(1962), interpreted map (holding tanks for water), conceptual map



Figure 22 Conceptual Map Model

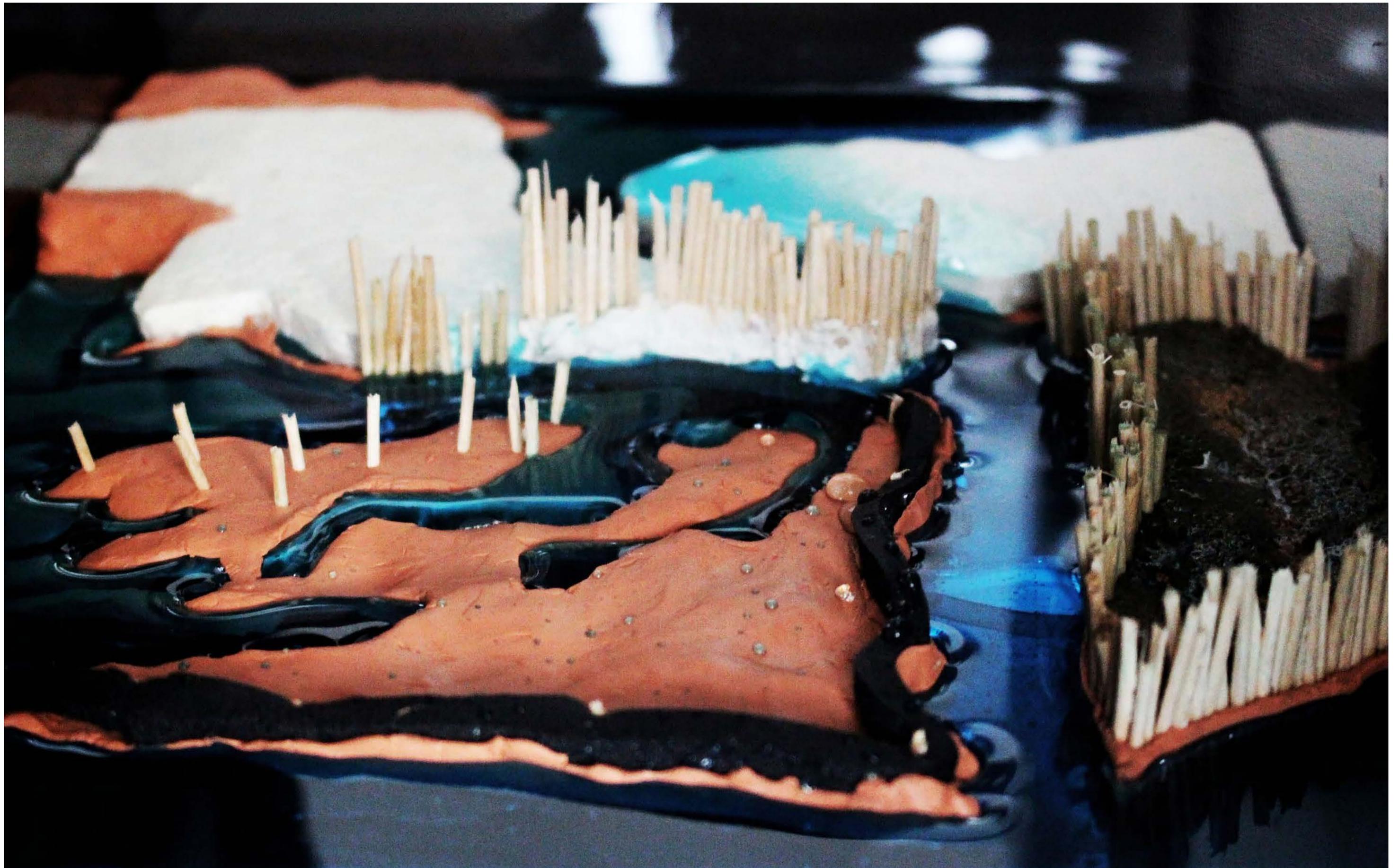


Figure 23 Conceptual Map Model: Water

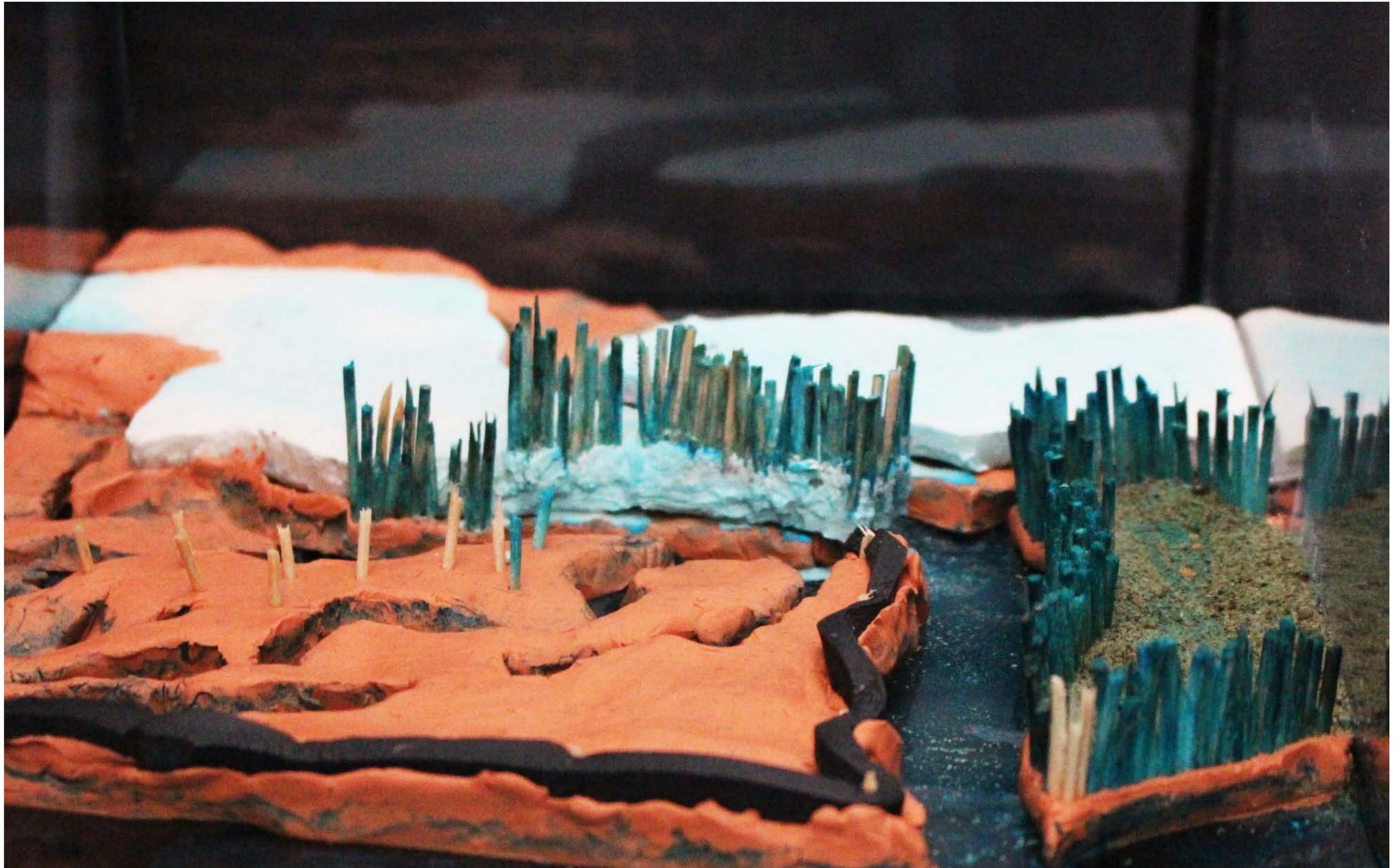


Figure 24 Conceptual Map Model: Evaporation



Figure 25 Conceptual Map Model: Aftermath

- ▲ (1) Material absorbcency
- ▶ (2) Sediment and ink accumulated at base of tank.



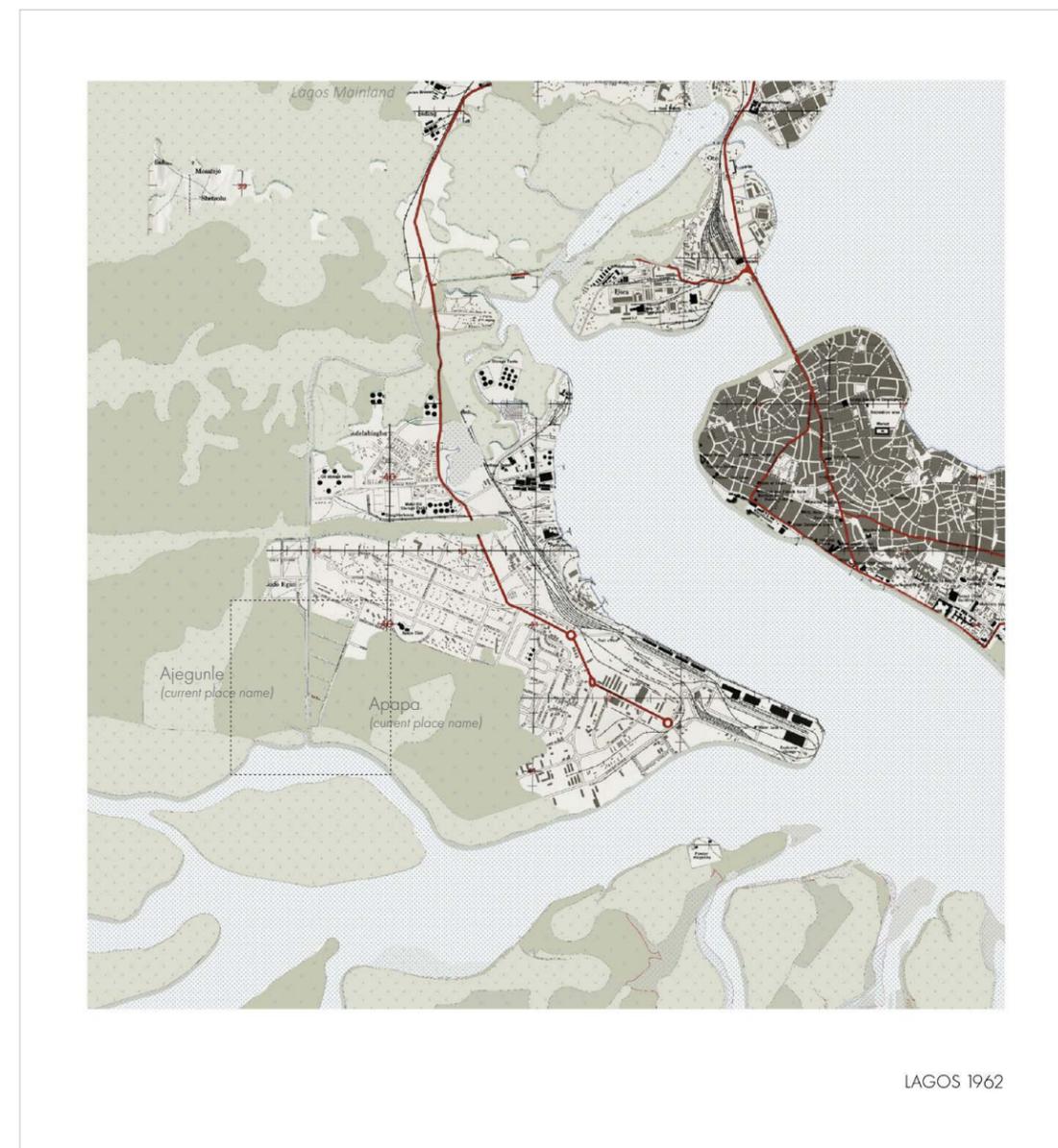
METHODOLOGY II: TIME-PHASED SECTIONS

“The discipline of geography has failed to grasp the simple fact that the nature of accuracy and measure in Lagos is negotiable. Geography and the settlement of property in Lagos cannot be assessed and measured according to the fixed definitions of the census and the aerial photograph. Property lines are continually being reassessed and renegotiated in accordance with intersecting land laws, taxes, claims and interests.”

-Koolhaas, Mutations (2001)

The idea of *Time-Phased Sections* was to offer a corollary to the mapping studies and interpret space in a way that would offer more than one reading. While maps are very one-dimensional—a single projection, ideology and vision, sections offer a more varied reading of what a map might present.

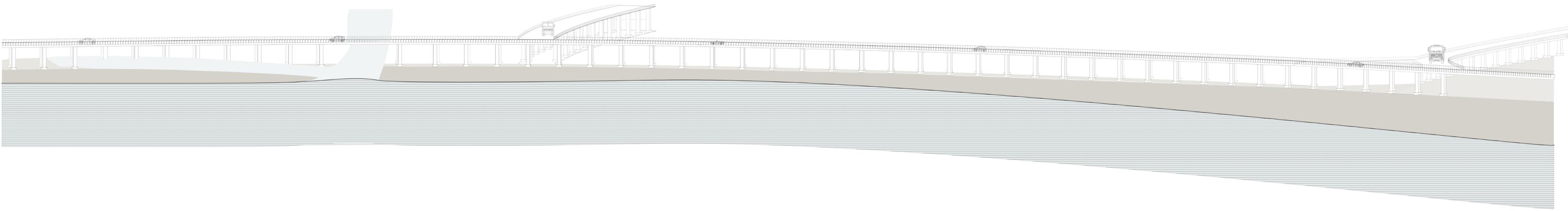
In some ways the sections that follow are speculative, insofar as they combine information from Google street and aerial views, while taking a few leaps of imagination to construct the type of space that might be “extruded” from a few lines and demarcations of boundaries. In other ways they retain some level of specificity; they belong to specific locations and places that may or may not sit on a map due to the fluid conditions of movement (that come with the urban condition), or other changing environmental conditions. Hence, these sections are not a 1:1 translation and should not be read as such but should be regarded simply as *another reading* of space. The images that follow construct a specific location on the map, with attention to the changing qualities of ground across the years.



▲ Figure 26 Selected Area for Section



▲ Figure 27 Section 1- Canal, Apapa-Ajegunle



Marine Road

1962

- water
- wetland
- dirt/sand
- concrete

0 10 20m

▲ Figure 28 Section 2- Canal, Apapa-Ajgunle

METHODOLOGY III: EXERCISES IN FORM-FINDING

The idea that ‘the history of technology is in many ways a history of environmental modification’,³¹ was the guiding principle for exercises in form finding. Embracing the idea that the landscape is by design, it imagined through different conceptual exercises, how the landscape might change, in scales ranging from the urban to the human through different programmed devices. The exercises took inspiration from the improvisational construction of habitation characteristic of self-organized communities, combined with the more formalistic method of patented inventions examined in Richard Hindle’s *Levees that Might Have Been*.

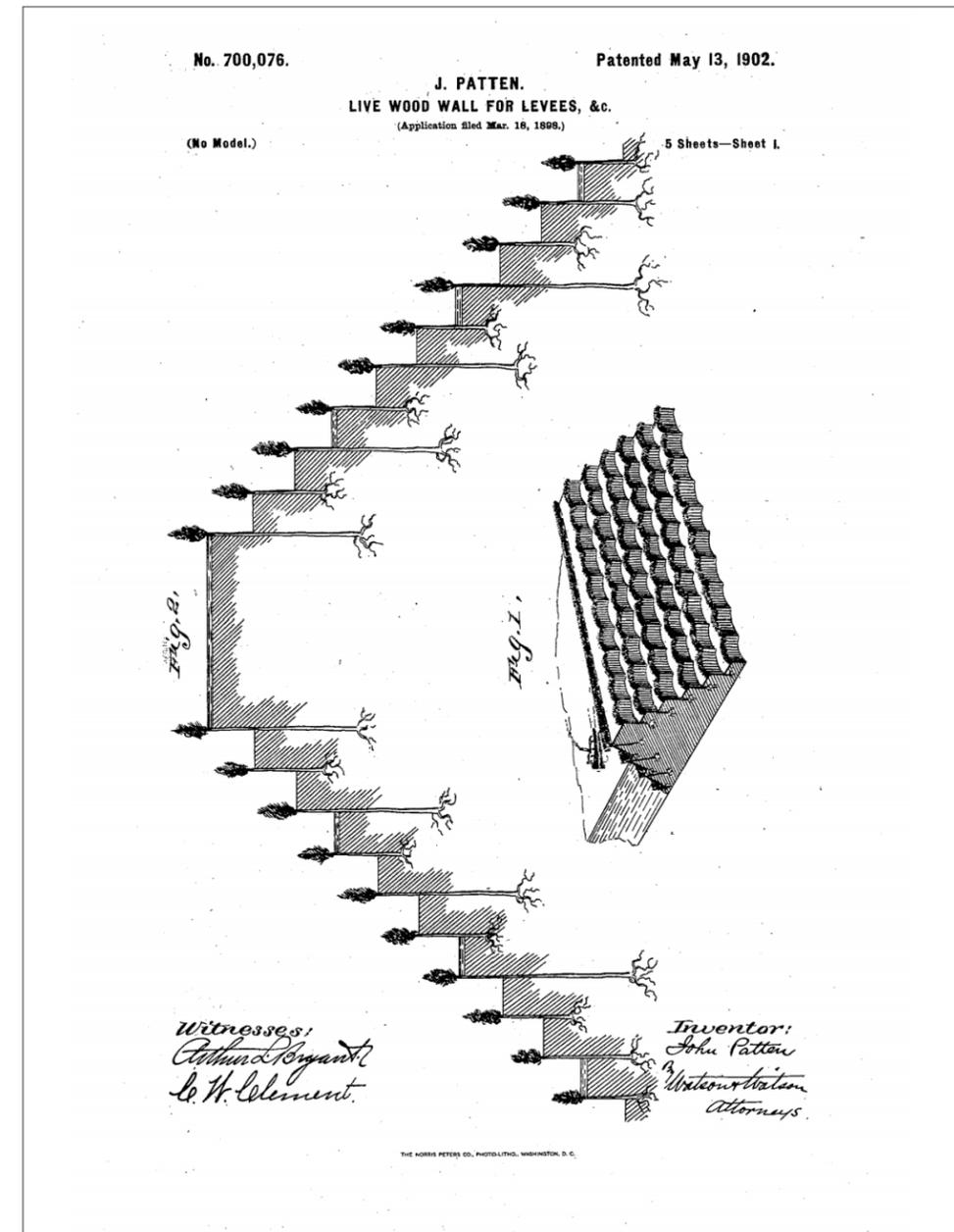
In John Patten’s Patent No. 700, 076 for a “Live Wood Wall for Levees” (1902), an invention in which mechanically fastened trees “...grow together to form living enclosures for sediment and levee formation...”³² he states the following:

“My invention relates to a method of forming live-wood walls in various forms; and it consists of fastening together and planting a large number of live trees in such a way that they will grow together, forming a live wood wall or walls of such form as was designed and controlled by the shape of the assembled trees when planted.”

Figure 30 which details my imagination of a vegetative pod which can disperse seeds for re-vegetating littoral zones or act as a device for collecting and dispersing sediment can perhaps be aggregated to form an ecological embankment, which begins to foster new ecosystems and

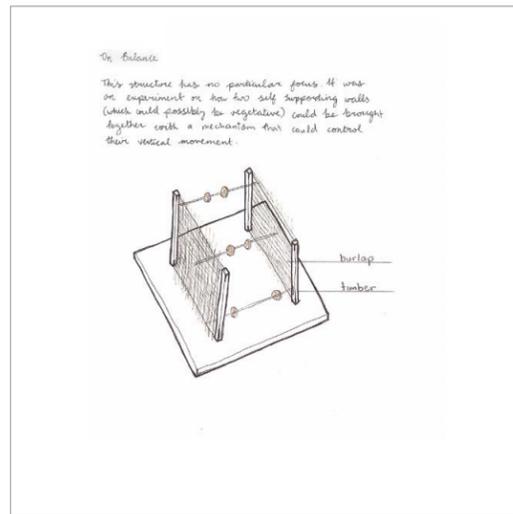
present new opportunities for architectural innovation.

Further, the idea of *Cultivated Levees*, positioned by Frank V. Wright imagines "...a new art of growing crops and raising levees simultaneously,"³³ which requires the artful coordination of sediment, 'mud carrying water' and agriculture over a period and cycles. My invention of the Utility-Cul alludes to this by acting as a vehicle for the movement of silts, 'mud carrying water' and vegetation which aggregate over time to form avenues for new habitation or ecological occupation. The images that follow, operate within the aforementioned theoretical framework.

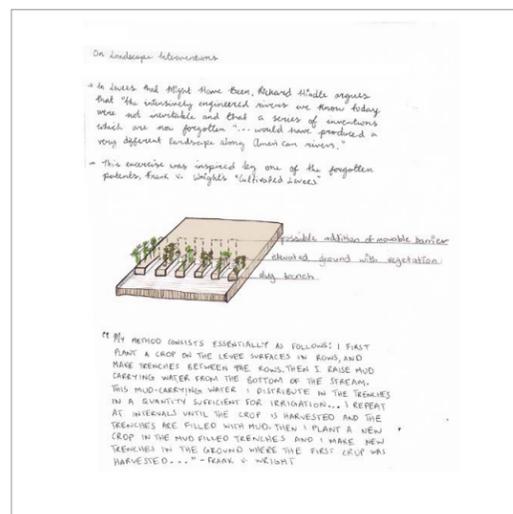


▲ Figure 30 Patent for Live Wood Wall. From *Levees that Might Have Been*, by Richard Hindle. John Patten, Patent No. 700,076, "Live Wood Wall for Levees" (1902)

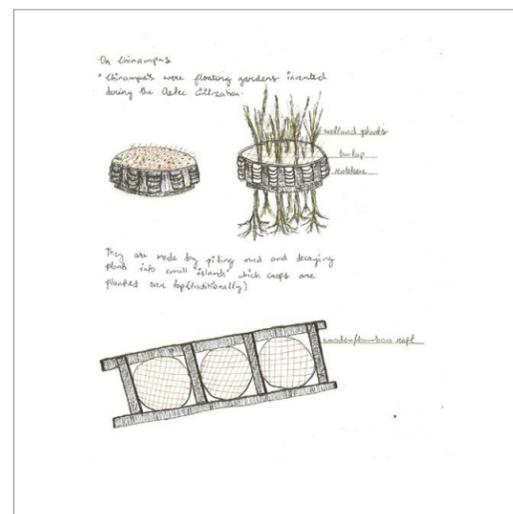
CONTENTS



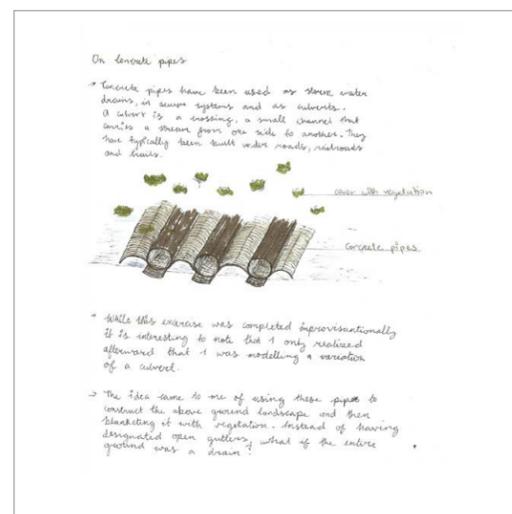
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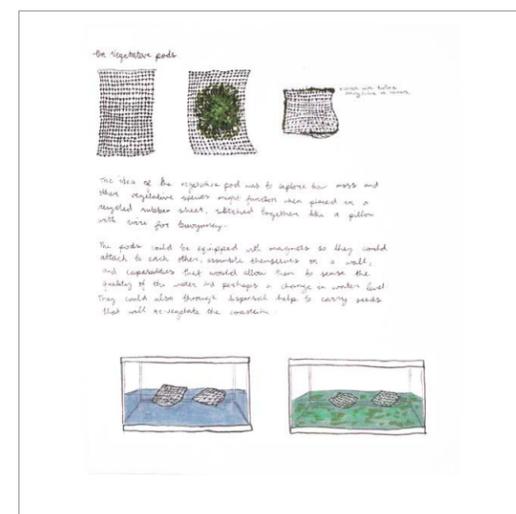
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3



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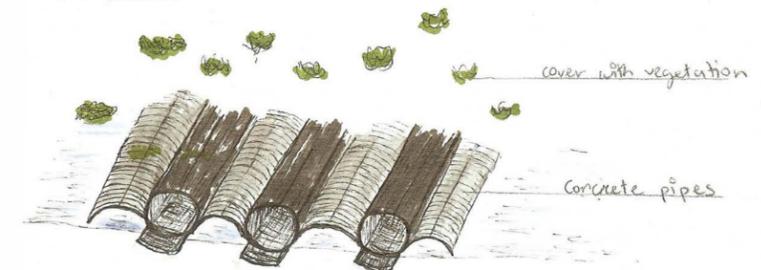


5

▲ Figure 31 Exercises in Form Finding, Summary

On concrete pipes

→ Concrete pipes have been used as storm water drains, in sewage systems and as culverts. A culvert is a crossing, a small channel that carries a stream from one side to another. They have typically been built under roads, railroads and trails.

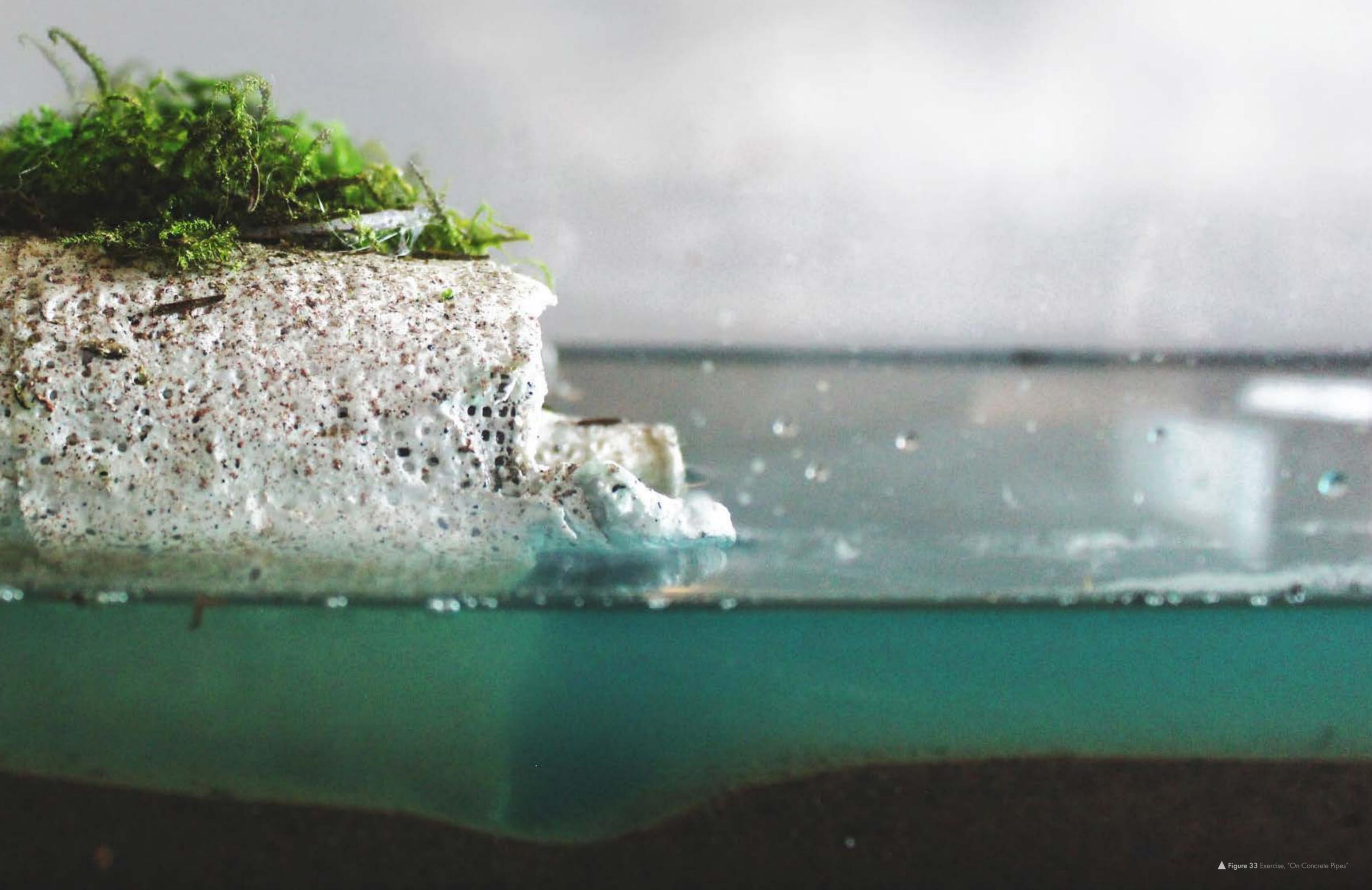


→ While this exercise was completed improvisationally it is interesting to note that I only realized afterward that I was modelling a variation of a culvert.

→ The idea came to me of using these pipes to construct the above ground landscape and then blanketing it with vegetation. Instead of having designated open gutters, what if the entire ground was a drain?



▲ Figure 32 Exercise, "On Concrete Pipes"

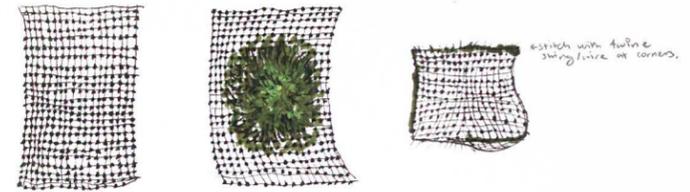


▲ Figure 33 Exercise, "On Concrete Pipes"



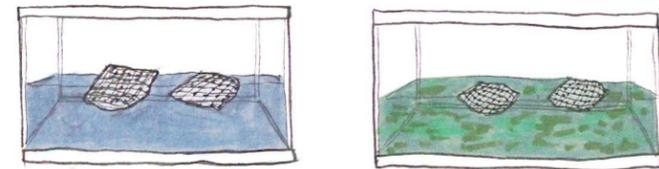
▲ Figure 34 Exercise, "On Concrete Pipes"

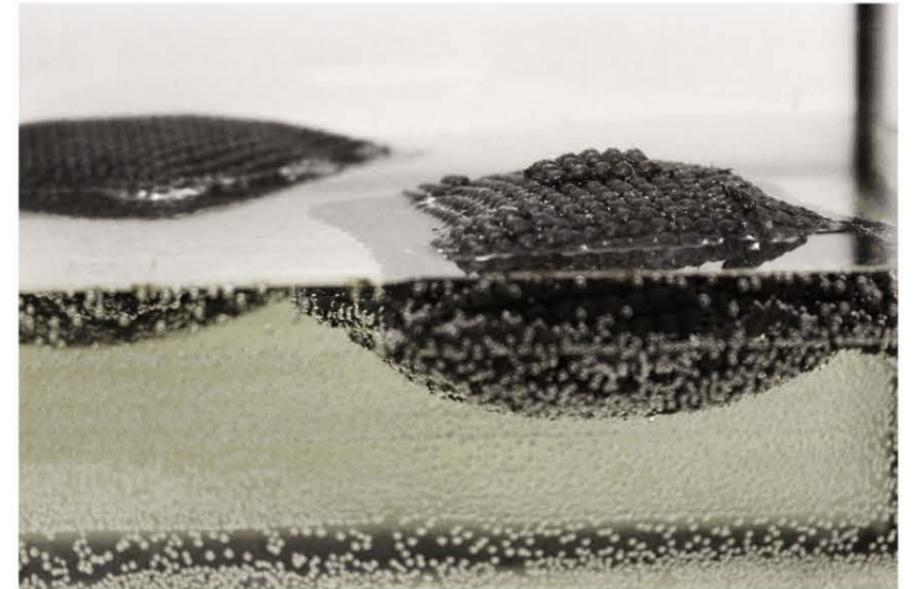
On Vegetative pods



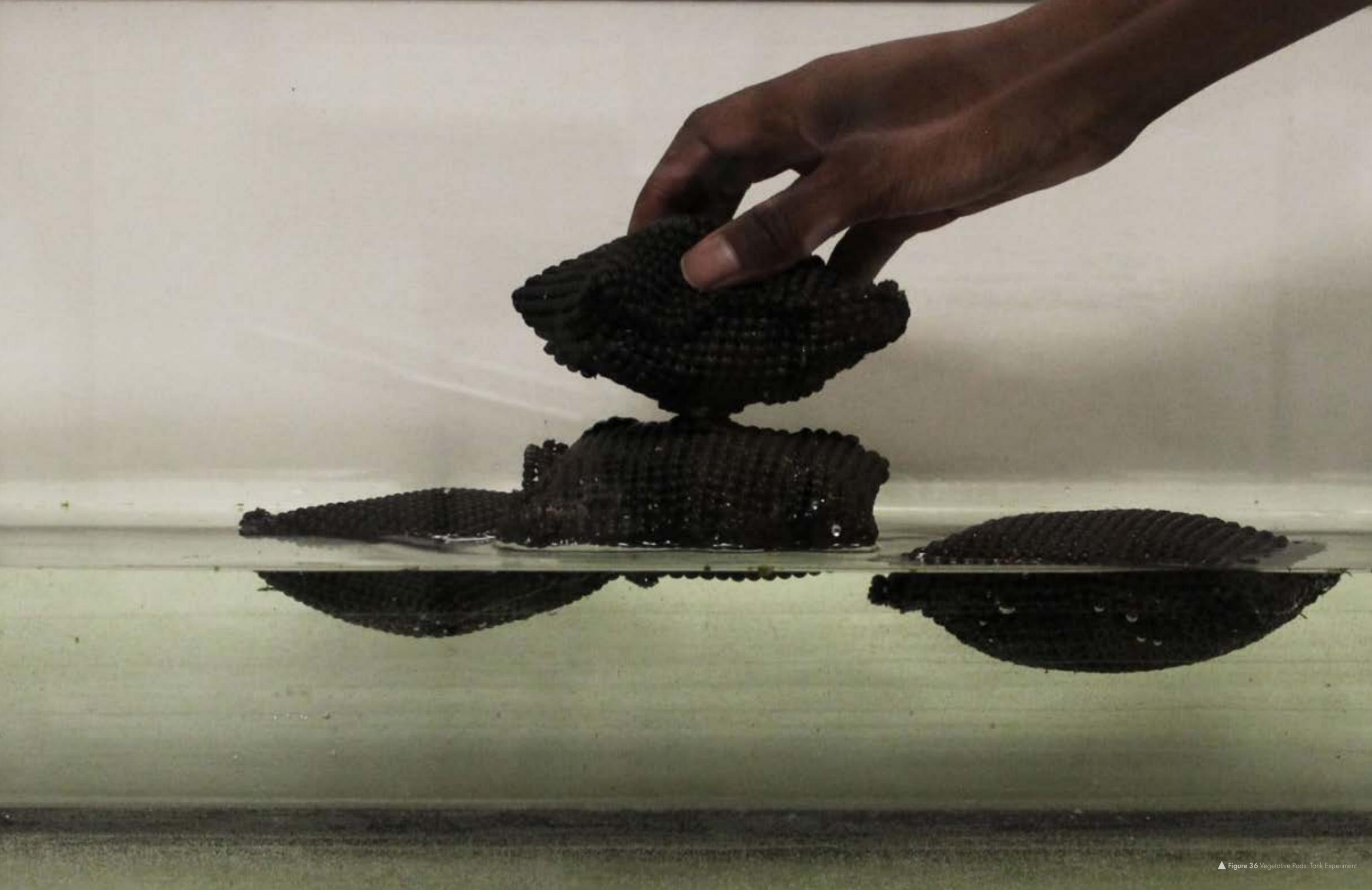
The idea of the vegetative pod was to explore how moss and other vegetative species might function when placed in a recycled rubber sheet, stitched together like a pillow with wire for burgundy.

The pods could be equipped with magnets so they could attach to each other, assemble themselves on a wall, and capabilities that would allow them to sense the quality of the water and perhaps a change in water level. They could also through dispersal help to carry seeds that will re-vegetate the coastline.





▲ Figure 35 Vegetative Pods. Assembly Process. Pods made of rubber and moss are inserted into tank to see how they might aggregate, disperse sediment and also collect it.



▲ Figure 36 Vegetative Pods: Tank Experiment

 **lasgidi_lagoon** @thelifegiver ⋮

Stop dumping garbage into the drains and stealing my sand 🤔🤔 #littorallycriminal #whodoyouthinkyouare

12:50 AM · Oct 1 2022 · Twitter for Geoverse

750 Retweets 47 Likes



 **atlanticthegreat** @thelittorallord · 2h ⋮
Replying to @thelifegiver

They can't be disrespecting us like this. I will terminate their occupancy. #respectyouelders

2 1K 50

► Figure 37 Geoverse Tweet, lasgidi Lagoon
Note: lasGidi is a slang term for Lagos.

 **greatwalloflagos** @brutus ...

I am a feat of concrete engineering. I can take on a 1000 year flood 😊 #callmebrutus #breakwaterbeta @breakwater

10:50 AM · Feb 21 2013 · Twitter for Geoverse

89 Retweet 57 Likes



 **atlanticthegreat** @thelittorallord · 2h ...
Replying to @brutus

I'm older than you, I will go wherever I want #respectyouelders

657 5K 204

 **utilitycul** @culmemaybe · 12yrs ...
Replying to @brutus

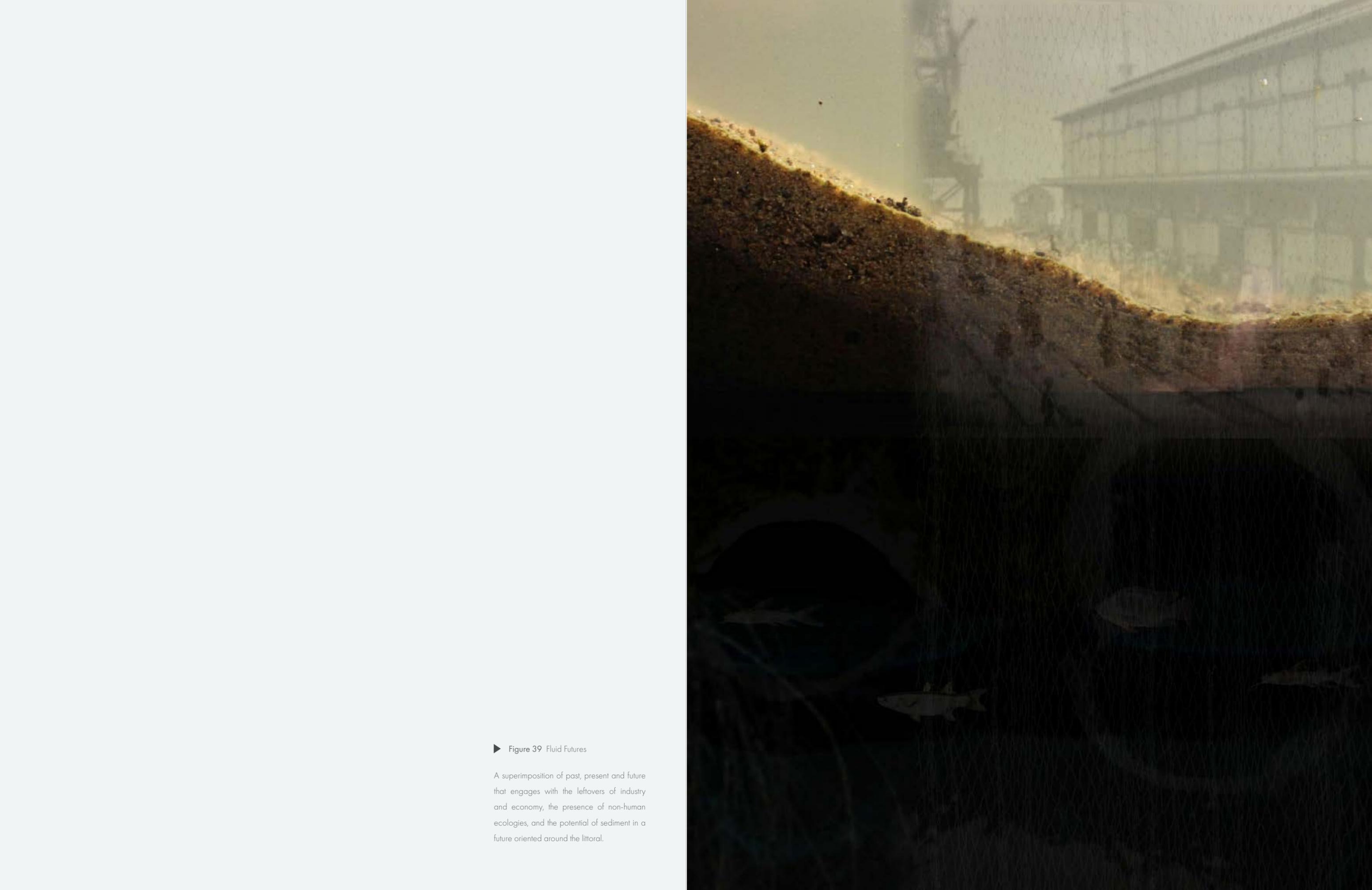
weak...I channel the force of the Atlantic and still stand my ground... don't @ me.

80K 7K 20K

► Figure 38 Geoverse Tweet, Great Wall of Lagos, The Atlantic, Utility-Cul

THE FUTURE- IMPROVISING ECOLOGIES

Using the tools and methodologies developed in the first two sections, this section offers a proposal for a future imagination of Apapa rooted in ideas and tools of improvisation, fluidity, and ecology, and what it means to occupy a *littoral* landscape. What is an architectural response to an outcome that cannot be predicted, in the case of flood, environmental crisis and land scarcity? What becomes of a past shipping and industrial site and the materials it leaves behind? What new economic systems might take their place? The narrative is told through the lens of both human and non-human actors facilitated by the conception of a “Twitter for Geoverse.”



► Figure 39 Fluid Futures

A superimposition of past, present and future that engages with the leftovers of industry and economy, the presence of non-human ecologies, and the potential of sediment in a future oriented around the littoral.

BEGINNINGS: LIVING ON THE EDGE

26 January, 2045

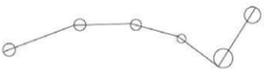
Activity at the Apapa Port terminal has been rapidly declining, and its economic future is further threatened by the onset of many new economic zones and port developments across Lagos, including the Lekki Deep Sea Port. There is also the reality that Apapa no longer has the capacity to accommodate the thousands of shipments that arrive at its berth daily. The combined effects of infrastructure that is in need of serious repair, roads mired with potholes, trucks which stall the passage of other cars on important thoroughfares, and very slow-moving traffic, make it no longer profitable to rely on the area for major shipments and business.

Previously designed as an industrial zone with housing for nearby workers who often worked at the port, this leaves many people without jobs in an area of declining economic activity, yet the area is still growing. Workers have land rights and are reluctant to leave property that has been in the family for generations. The site has history. A new community is growing, yet without land available to accommodate both new economic innovations(required for survival) and habitation. Most of the land in the area is privately owned or owned by either the military or government.

There is only one area left which has so far resisted complete commodification and it presents the best opportunity for both economic and social sprawl; the edge.



▲ Figure 40 Aggregate, Accrete, Adapt Collage

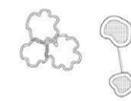


Recreation and Education



► Figure 41 Ship Edge, Plan

Interventions which offer opportunity for play and learning are docked alongside the edge of the quayside. The idea of docking becomes important in the installation of temporary-permanent interventions- docking extends its purpose beyond the receiving and sending off of goods for a capitalistic market but a device for providing new opportunities for play and habitation.



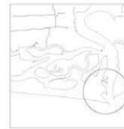
Habitation and Commerce



► **Figure 42** Canal Edge, *Plan*
 Canoes flock like fishes on Saturdays to new bustling markets selling produce from a nearby edge community.



Regrowing the Coastline

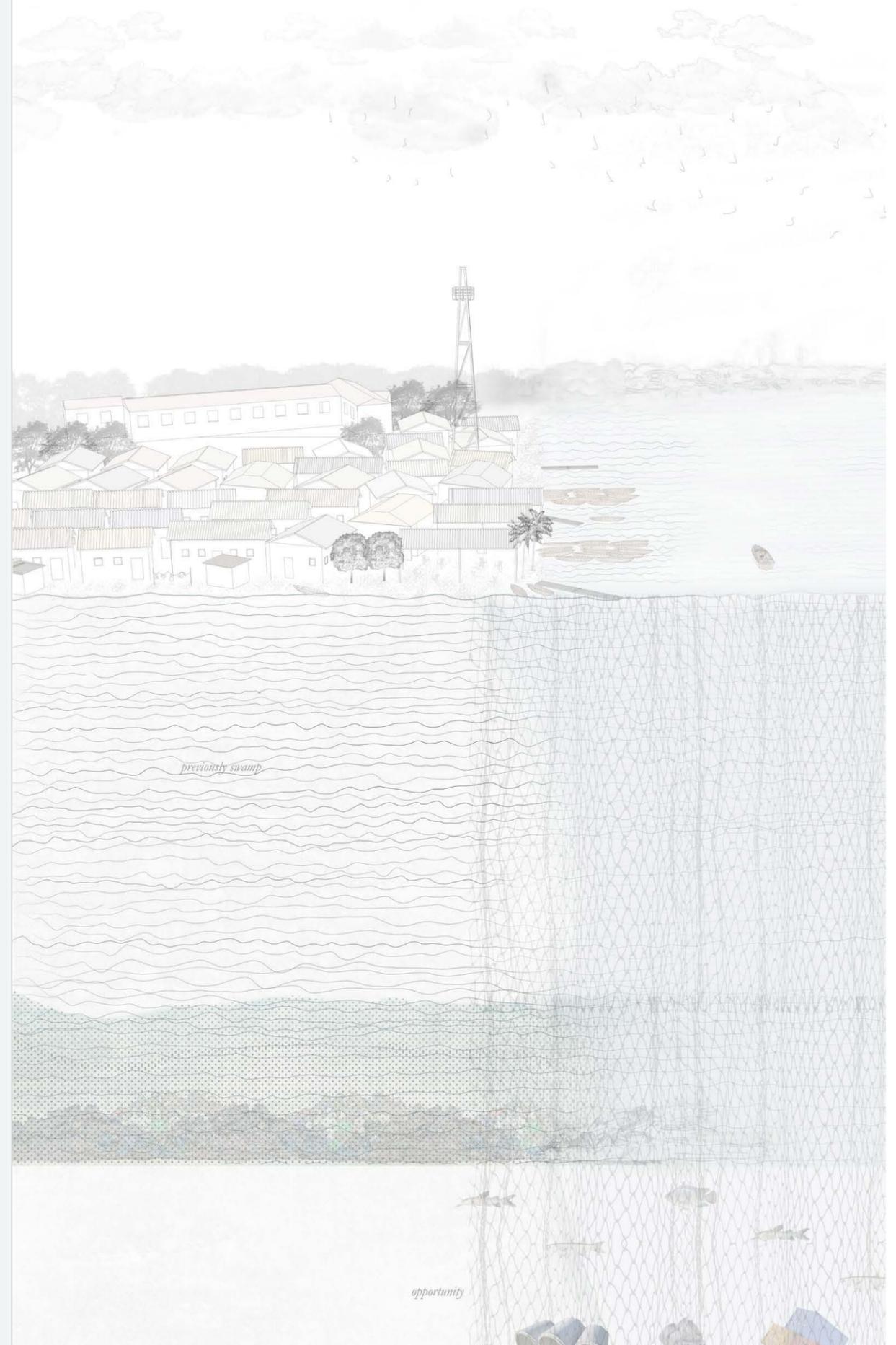


► **Figure 43** Regrowing the Coastline, *Plan*
 A softer possibility for the coastal edge is imagined beyond
 a Great Wall that can withstand a 1000 year flood.



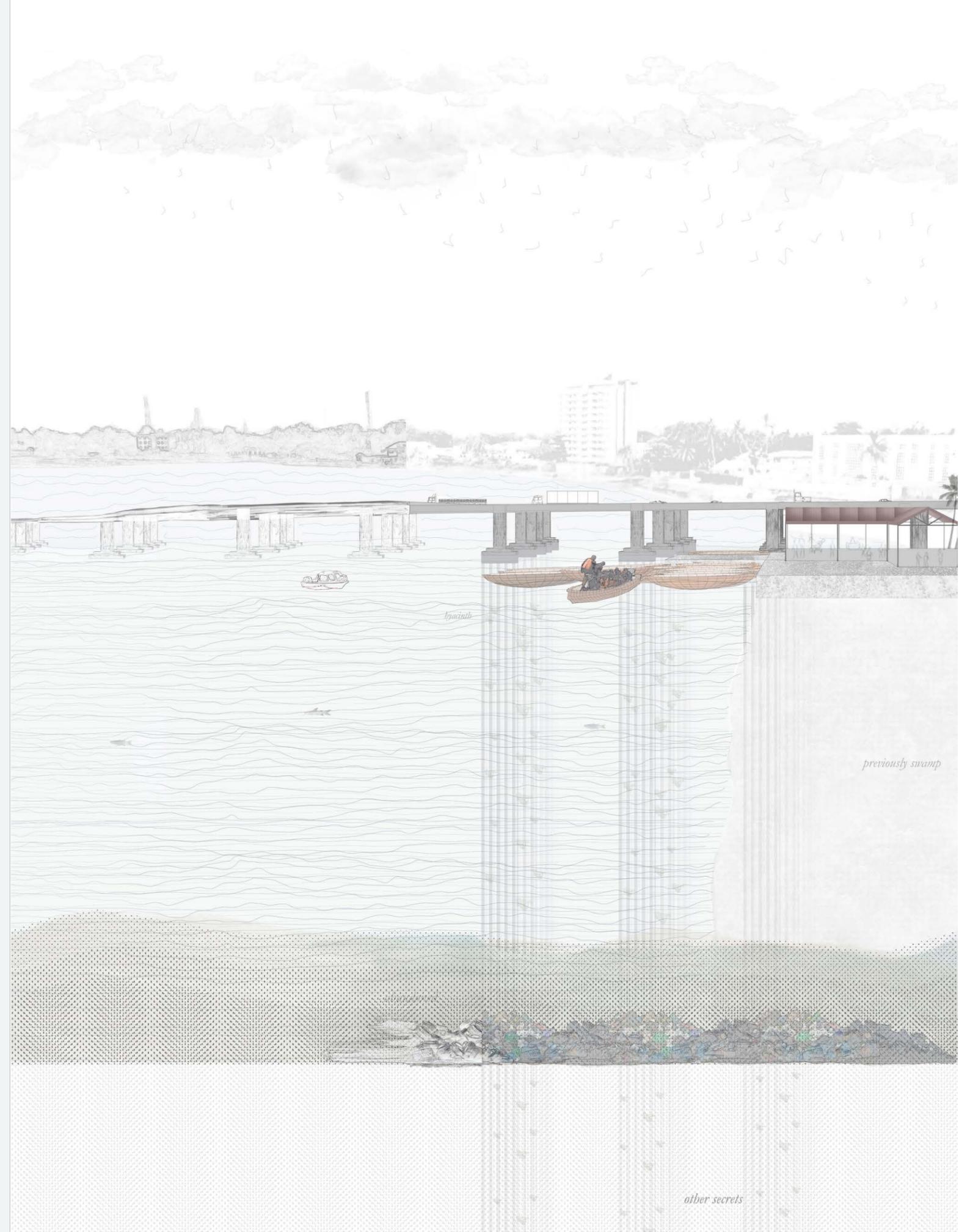
► Figure 44 Ship Edge (Berthed)

The quayside is the border where the local negotiates with the international while the ship mediates.



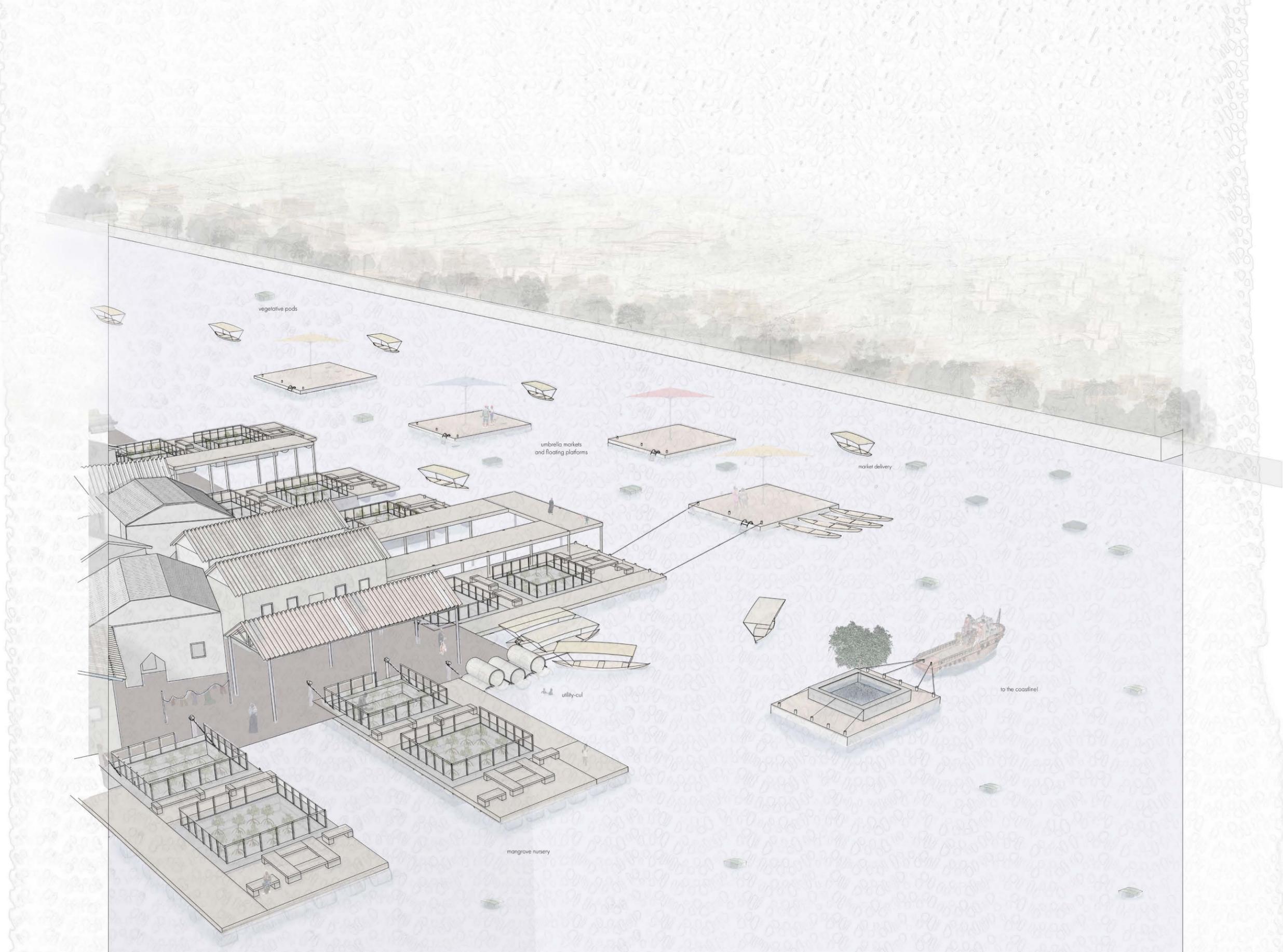
► **Figure 45 Canal/Creek Edge**
A dynamic space defined by housing settlements,
canoes and unique forms of commerce distinct to
neighbourhoods.

opportunity



► **Figure 46** Bridge-Underside Edge
The bridge is an important throughfare for automobiles and boats. The bridge itself is also a vehicle, facilitating commerce at its underside.

other secrets



► Figure 47 Communal Edge
A bustling community thrives through collaborative adaptive practices including a mangrove nursery, floating markets and platforms which offer spaces to pause whether for busy canoes or idle swimmers.

 **mangrove_espant**
@mangrove_espant

it's my birthday friends!! just turned 14! moving to another home on saturday...super excited :))) #coastlife #allgrownup #teammangrove 🥳

3:40 PM · July 4 2052 · Twitter for Geoverse

80 Retweets 15 Likes

 **teammangrove@friends_at_the_nursery** · 30s
Replying to @mangrove_espant

oh no way! we can't wait to join you in eight years

 1  15  70 

 **farmerboy_seun@itsseun** · 5m
Replying to @mangrove_espant

you'll do great! we're so proud of you!...more sediment to your roots!

 5  0  0 

► Figure 48 Mangrove Tweet, Geoverse Thread



*The Lagoon has been here longer than all of us.
Imagine all the things it has seen and heard.*

► Littoral Tales, Short Stories

A collection of short narratives for new social occupations of space.

A collaborative effort between humans, environmental entities and their associated processes.

The Mangrove Nursery

Mangrove nurseries cross hatch along an edge community which have the option of being taken to the coast of the city when they reach their full maturity between 10 and 15 years. In between that time aquatic creatures gather their perimeters swimming through their roots like children running around a park. Fishermen gather every few weeks benefitting from these new ecologies and taking only what they need.

The Feasting of the Lagoon

In the late summer to early fall months, the lagoon opened its mouth to feast on the nourishment of the land. And it seemed that the ground was so pleased that it would rise to dine with it.

During the months of July and October, the festival of the *Feasting of the Lagoon* is celebrated on the first Sunday of every month. During these months, the community disperses excess sediment gathered by utility culs and spreads it across the land. Every year the ground is raised by 4-6” through a community effort, and certain habitations must be readjusted to accommodate and adapt to the change. Progressively the elevation of the land changes, and every time the lagoon returns to “feast,” the ground always welcomes it- never to be overwhelmed by such a presence.

The Floating Platform

As essential as the canoe, the floating platform simply allows for the temporary occupation of different locations on water. Constructed with simple materials—barrels and planks of wood, or alternatively compressed stacks of plastic—in bale form, the floating platform is the

essential device for “setting up shop” anywhere.

The Hyacinth Catcher

Like the bounty hunters of the old days, water hyacinth is a highly sought-after commodity. Once an invasive species—almost as pervasive as the mosquito it has become an all-purpose material. It is used for biogas, cleaning sewage and for making woven items like baskets, which are used at the farmers market on Sundays. Sundays—everything community oriented happens on Sundays. Sunday has always been sacred. In the Tolu Complex which contains highly specialized schools, focussed on everything from boat building to developing new forms of biogas, important work is consistently happening concerning the latest technologies in sustainability and high-tech agriculture.

The Dirty Drain

There were always complaints about people dumping things into the drains, so much so that the gutters had to be converted into recycling chutes. It is hard to imagine why those large holes in the ground always invited the deposition of cans of *cola soft drinks, pure water* plastic bags, and all other sorts of curiosities. Consequently, this meant that the neighbourhood would need new ways of draining water. Recycling has become an especially important industry here only second to high tech agriculture. A declining port has offered much material for innovating minor infrastructures. There are recycling stations everywhere. This also forms part of the landscape—the trash landscape.

The Fisherperson

Contrary to popular belief the fisherperson never went out of business despite the hyacinth, the threat of warming waters and biodiversity depletion resulting from industrial economic activities. New ecosystems are being generated and new species are being discovered, and the utility-cul is one device that helps with this. In fact, the fisherperson is one of the most important businesspeople. They provide food for the community and help to steward aquatic ecosystems.

UTILITY-CUL



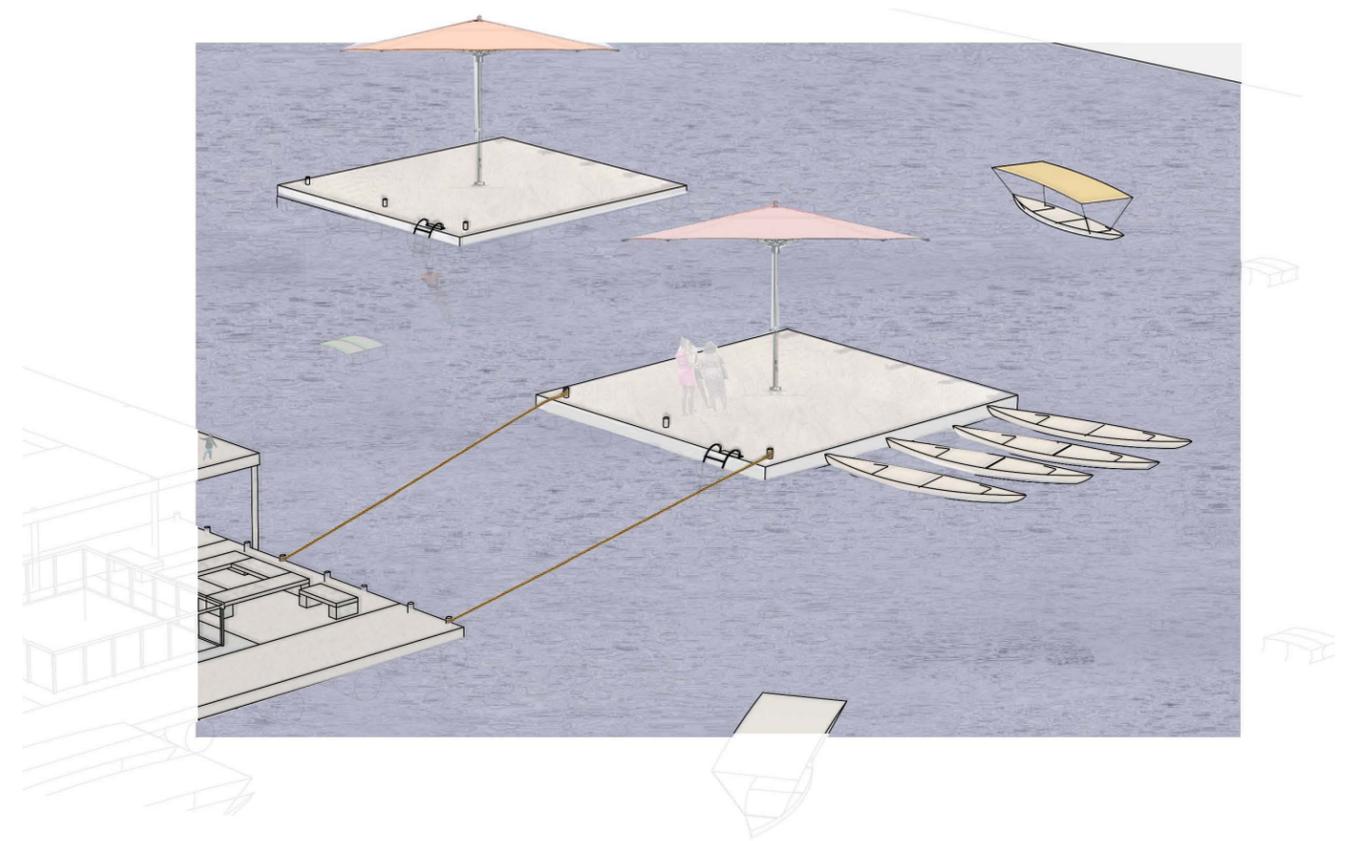
The Utility-Cul is a tool, thing, and device that helps to facilitate the architectural environment. It can be programmed or generate programs by creating space. It accretes sediment carried by the flow of the lagoon. Over time the device can help to facilitate the creation of new topographies that evolve through natural processes—giving rise to new kinds of habitation and possibilities for such.

VEGETATIVE POD



Pods made of recycled material make their way down the lagoon, collecting sediment to redistribute along edges. In alternative roles, they act as agents of seed dispersal, working diligently to introduce new and beneficial ecologies to different areas of the city.

THE UMBRELLA MARKET



Everyone knows of the umbrella market and its undisputed value on the street corner or in dedicated areas of the city, especially when in search for unique meals and snacks that can only be found in certain areas. The Umbrella Market is no longer limited to the street but has diversified itself using floating platforms. Umbrella markets attach themselves to different piers along the coast. The lagoon becomes an avenue for commerce, and it is very much as alive as the activity that occurs on it. Rather than being monster of the sea, as it snakes its way from the Atlantic through the urban core, the lagoon is a refuge—it only asks that you make its acquaintance. A flexible module allows two people to enjoy a sunset while an assemblage of modules creates a flotilla for vendors on market day or for festivals.

 **atlanticthegreat**
@thelittorallord

instead of an ocean warming, this year i'll be hosting a pool party and everyone is invited #wavy @toocoolforschool @friends_at_the_nursery @thelifegiver @culmemaybe @itsseun

6:00 PM · September 10 2080 · Twitter for Geoverse

500 Retweets 200 Likes



 **2nah** @toocoolforschool · 2m
Replying to @thelittorallord

super excited to cool off !! #breathoffreshair



 **farmerboy_seun**@itsseun · 5m
Replying to @2nah

what a catch ;)



 **teammangrove**@friends_at_the_nursery · 30s
Replying to @thelittorallord

love me some waves ;)



 **utilitycul** @culmemaybe · 1m
Replying to @thelittorallord

i'll be there!.....what channel?



► Figure 49 Atlantic Tweet, Geoverse Thread

DESIGN AS PROCESS

This thesis revealed the generative potential of visual storytelling to explore and offer new ways of seeing and understanding within a critical framework. The treachery of traditional forms of representation is that things only have meaning in the context of certain systems and inverting those systems also necessitates a change in the way things are presented.

The first portion of this thesis attempted to subvert old ways of representing the coastal city, by creating a system in which to understand a series of maps in a way that reflected on the conditions of what it meant to occupy a city in political, environmental and economic flux. The mapping exercises explored a system that showed material qualities as defined by water rather than as an act of zoning or territorialization.

Through the *alternative presentation* of maps in a traditional plan view, the difficulty of conveying complex environments in fluidity and flux like a mangrove forest or a housing community on stilts was established. This led to the creation of a conceptual map model in which tactile materials analogous to the notational gradient created in the exploration of the previous map, allowing for another re-reading of two-dimensional space. This way of working allowed for an engagement with spatial social and ecological questions from a vantage point that was more personal than a helicopter view. Understanding that the rigour and accuracy of mapping requires an oscillation between a “wide” and “close” view of space, especially regarding the scale of a city, models and materials studies added definition and complexity to the abstractness of

the aerial view.

The thesis also revealed the potentialities and limitations of different visualization techniques. Several re-mappings of Lagos led to the realization that the medium matters and the medium also carries within itself a message—a particular ontological and epistemological orientation in which the work must be viewed.

A network of maps, narratives, collages, models, drawings, and tweets from the *Geoverse* allowed a reading of space within a multiplicity of vantage points, acknowledging the fact that each medium of storytelling presents a different perspective. Working together simultaneously, space—the domain of habitation, also reveals itself as a domain which is co-constructed by many actors—the human, non-human and the entire network of social, political, historical and environmental systems that influence the milieu in which architecture operates.

A proposal for how to aggregate, accumulate and adapt within the *social construction of space* also resulted in the imagining of a possible economic system which existed outside a wholly capitalistic/extractive framework. How could people and the ecological systems in which they were oriented work together towards a more sustainable and collaborative future? How would the results of this thesis change if the economic systems shifted?

The results of this thesis are one part of a collection of edge morphologies of how socially constructed spaces along littoral edges, within specific socio-political and environmental conditions might emerge. As the conditions and the narratives change, the architecture

necessarily changes. The constellation of stories (in plan, section, drawings, tweets, etc.) that capture this flux might accumulate or aggregate themselves into something like an *atlas of socially constructed spaces* or an *anthology of spatial occupations* which operate within cycles of seasons or rising water. Finally, the idea of scale has prominence in these stories for a littoral future. An intervention at the scale of someone's front yard (i.e a mangrove nursery) could accumulate into an aquaculture farm at the scale of an entire community, which then works as part of a greater strategy to rehabilitate a coastline.

Avoiding the pitfalls of *solutionism*, the final offering then is not a proposal, but several starting points, from which to approach community-driven design as process, rather than resolution.

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5 The term “New World” was historically used by European navigators to refer to issues concerning the exploration and colonization of the

Americas. It was called the New World because previously, most exploration and known land had existed in Africa, Asia, and Europe. The term “New World” here, not to be confused with its historical use is placed in the context of architecture to describe new ground for architectural theorization and exploration that has not previously been rigorously studied or examined.

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