

The background is a dark olive green with a faint, light-colored grid. Overlaid on the grid are various organic, marbled shapes in shades of purple, magenta, and yellow. There are also numerous small, dark, irregular specks scattered across the surface. In the upper left, there is a yellow, elongated shape with a black rectangular section. In the lower right, there is a yellow, elongated shape with a black rectangular section. The overall effect is a complex, layered, and abstract composition.

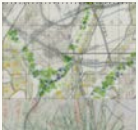

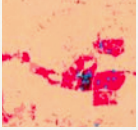
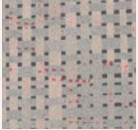

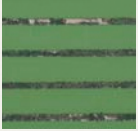
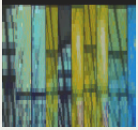



amanda

trilla isabel lopez



to live together  
to grow together

My practice is rooted in a deep fascination with the interplay between nature and the built environment, a dynamic dialogue that has guided my multidisciplinary journey. My work envisions living infrastructure as a poetic intersection of data, ecology, and critical cartography—examining the boundaries between climate experience and data to help create spaces that are not only inhabited but alive, breathing the rhythms of both past and future.

- |     |   |   |      |
|-----|---|---|------|
| 01. |    | new york is a vernal pool<br>Advance V<br>Michael Wang                            | 2024 |
| 02. |    | earthen rituals<br>GSAPP, Natural Materials Lab<br>Lola Ben-Alon                  | 2025 |
| 03. |    | same home<br>GIS For Design Practice<br>Dare Brawley & Mario Giampieri            | 2024 |
| 04. |    | i am here among and within<br>Advance VI<br>Ada Tolla & Giuseppe Lignano          | 2025 |
| 05. |    | weaving water<br>Advance IV<br>Rachley Rotem                                      | 2024 |
| 06. |    | nuclear ecology<br>Conflict Urbanism, Center for Spatial Research<br>Laura Kurgan | 2025 |
| 07. |  | sensory computation<br>ADR II<br>Stella Ioannidou & Lorenzo Villaggi              | 2022 |
| 08. |  | rethinking neighborhood health<br>Advance Spatial Analysis<br>Jonathan Styles     | 2025 |
| 09. |  | gradient living<br>Core III<br>Hillary Sample                                     | 2023 |
| 10. |  | pockets<br>Core I<br>Alessandro Orsini  | 2022 |



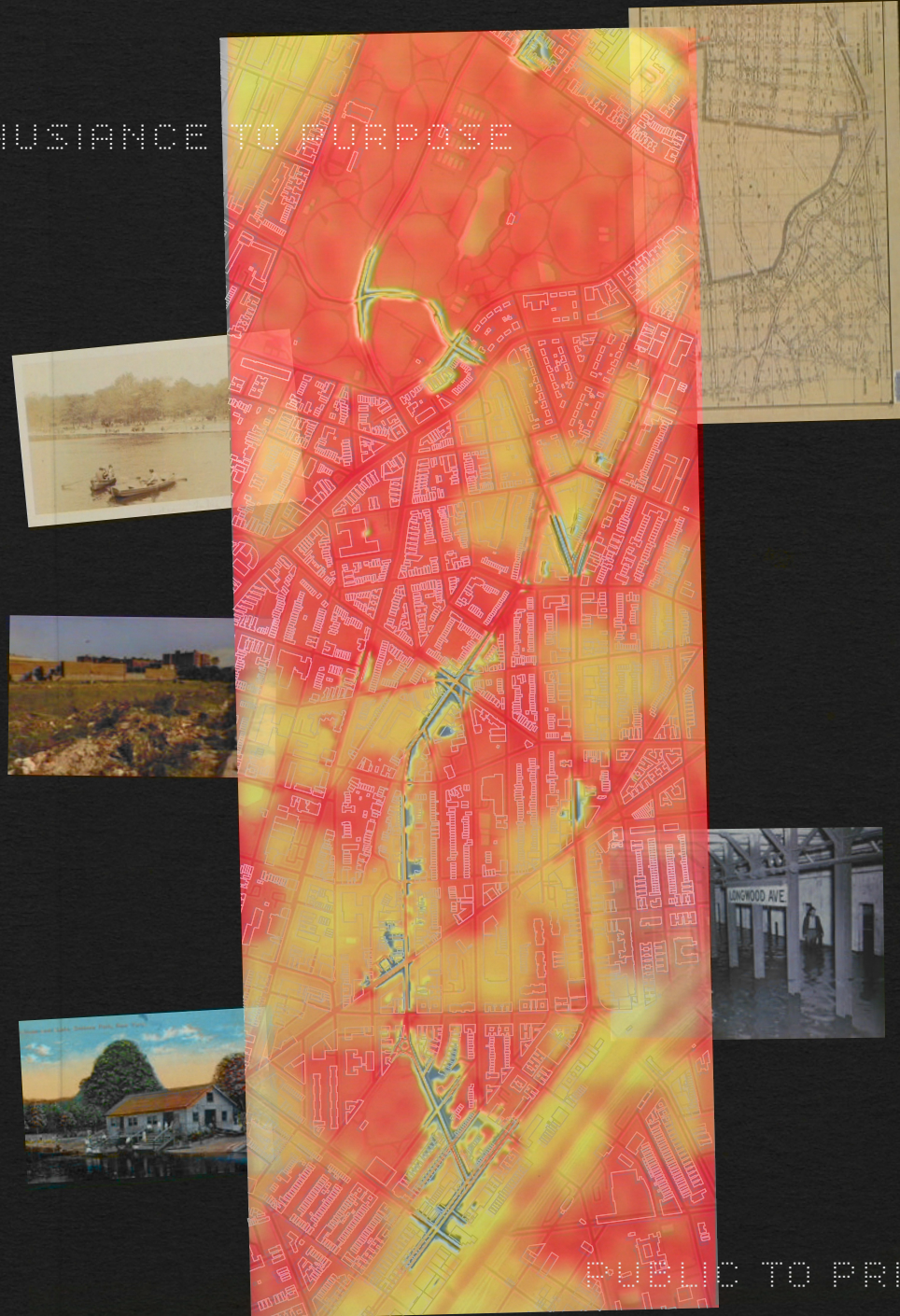
# new york is a vernal pool

## Rethinking Nuisance Flooding

*Co-Designed with Bryce Emerson*

"New York is a Vernal Pool: Re-thinking Nuisance Flooding" explores the potential of nuisance flooding as an opportunity to address both ecosystem health and urban quality of life. Drawing inspiration from vernal pools—seasonal wetlands that provide critical ecological functions through alternating cycles of flooding and dryness—the project reimagines New York City's historical identity as a wetland within the harsh urban landscape of today. By understanding vernal pools' role as overflow systems that support native species and cyclical biodiversity, the research investigates their relevance to urban hydrology and flood management. Centered on a high-nuisance flooding corridor in Longwood, Bronx, the project envisions adaptive infrastructure that integrates ecological principles to create resilient, multifunctional spaces for both natural systems and urban communities.

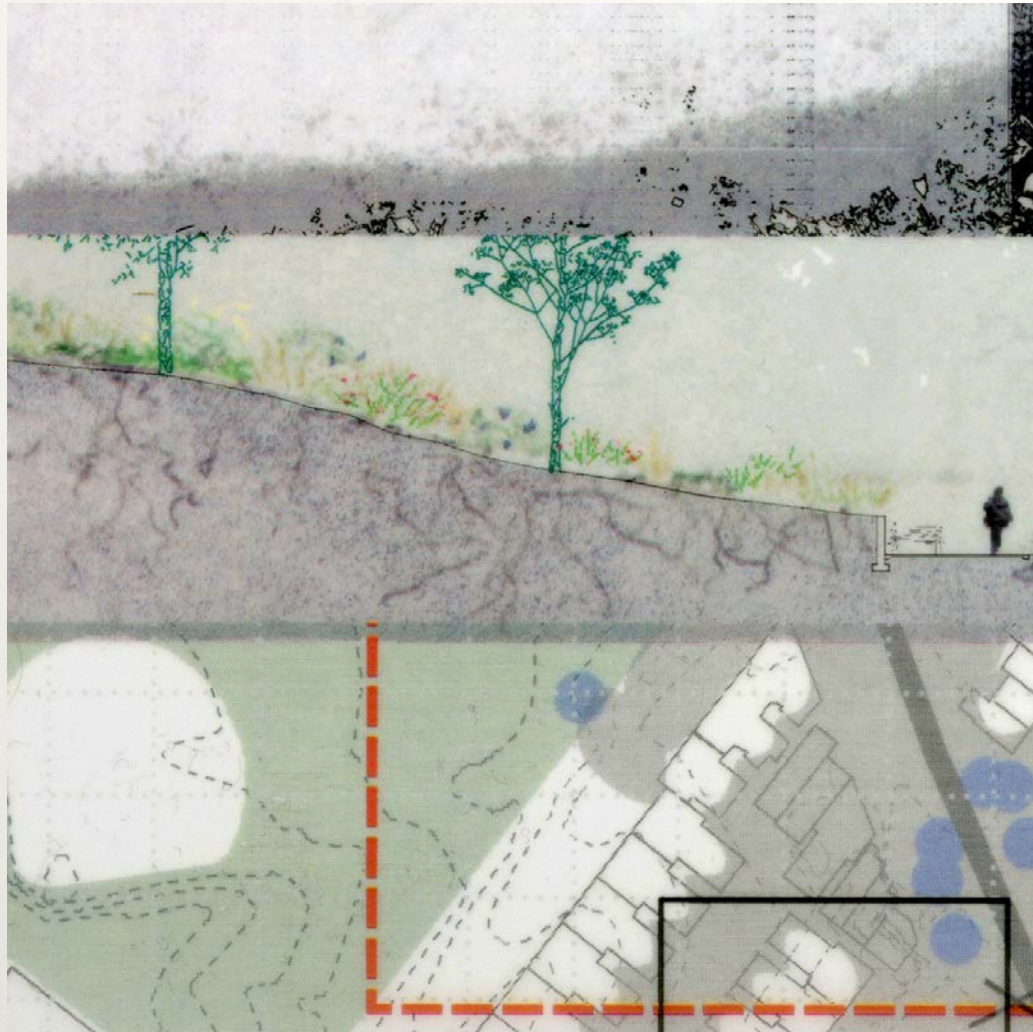
FROM NUISANCE TO PURPOSE



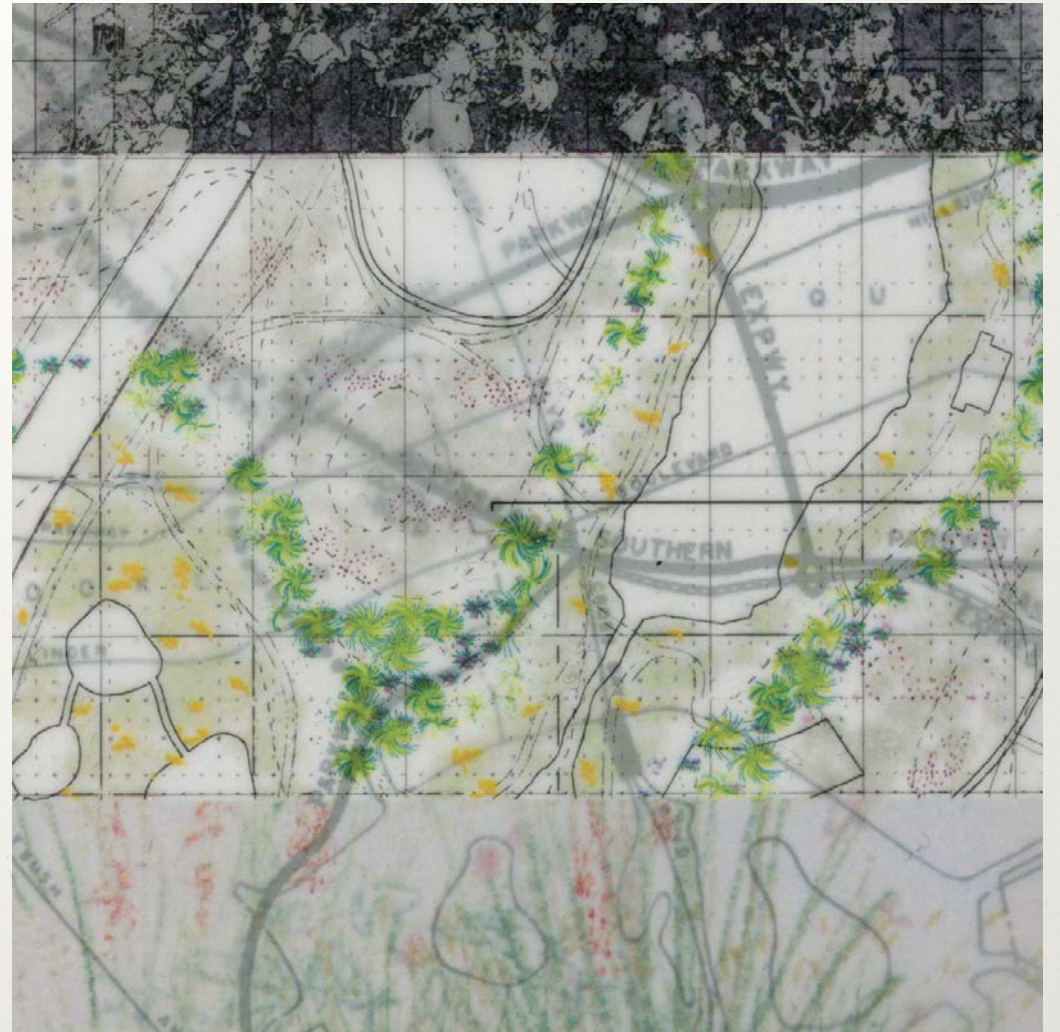
PUBLIC TO PRIVATE





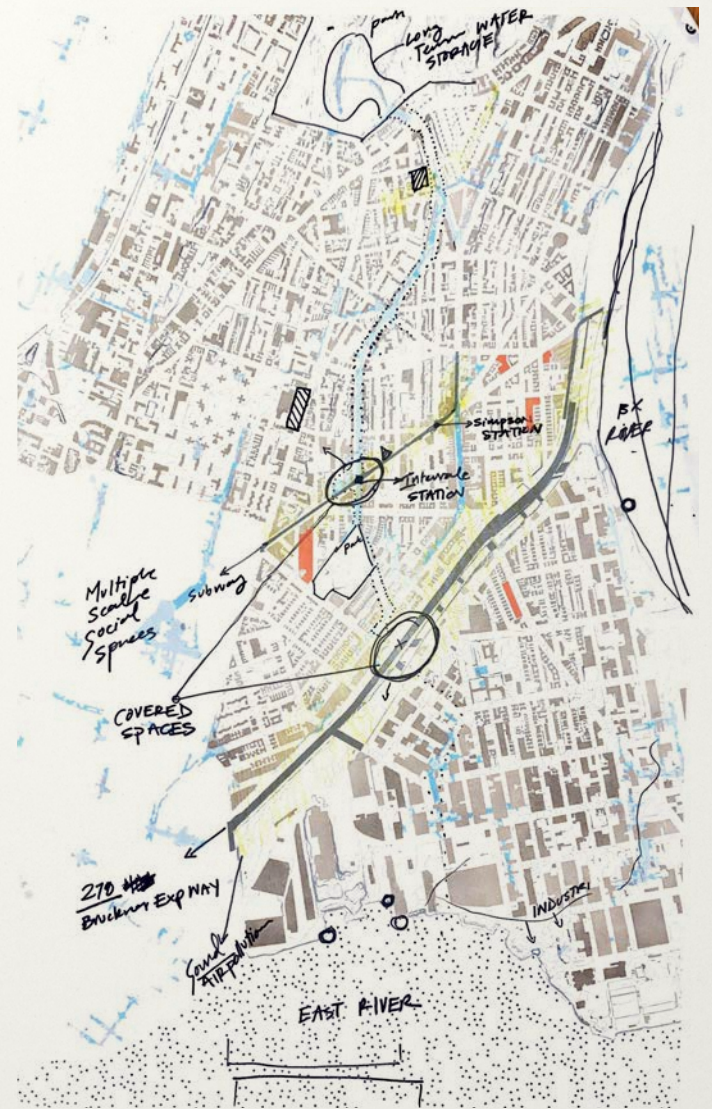
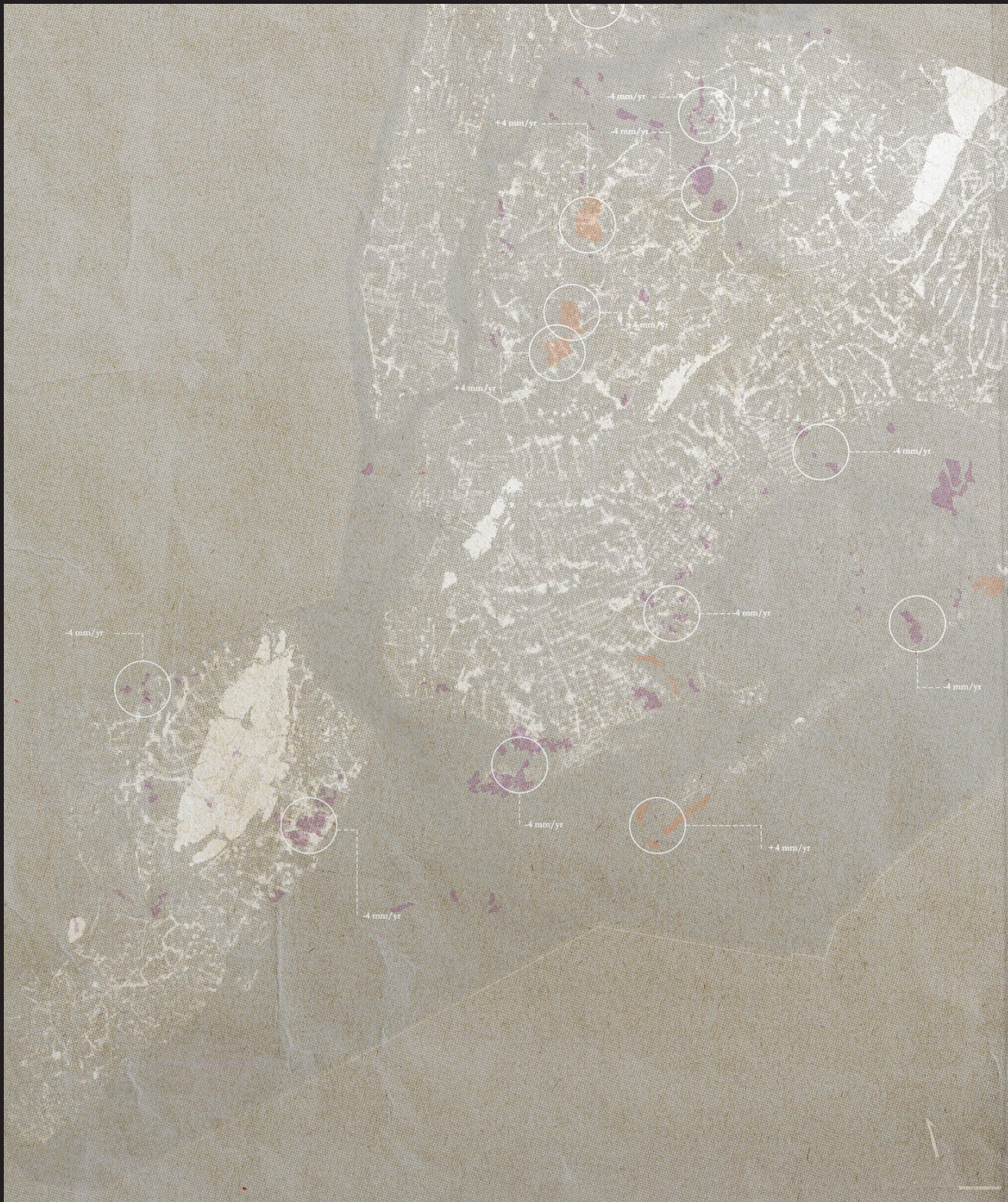


where does water begin?

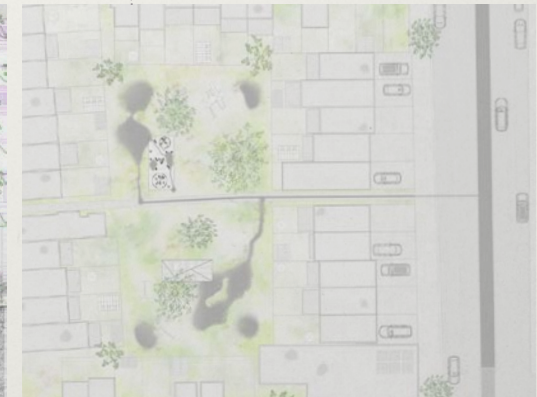
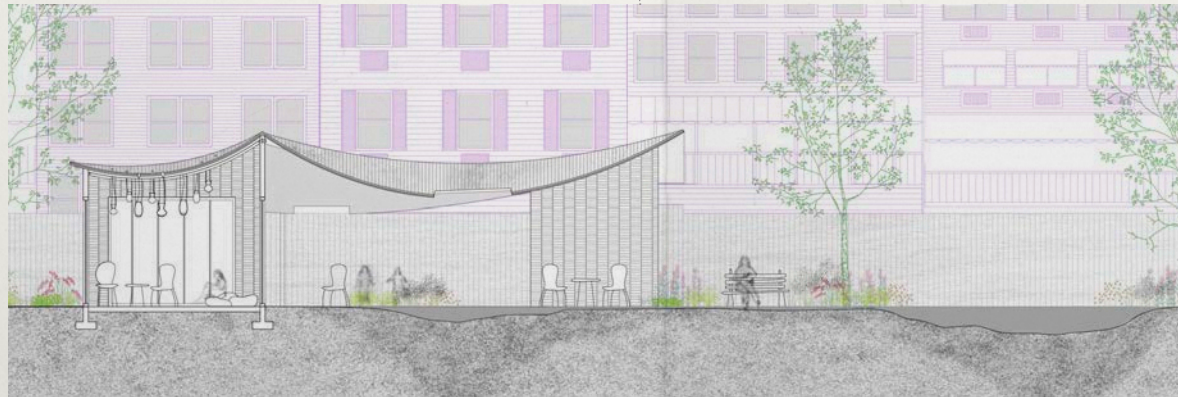
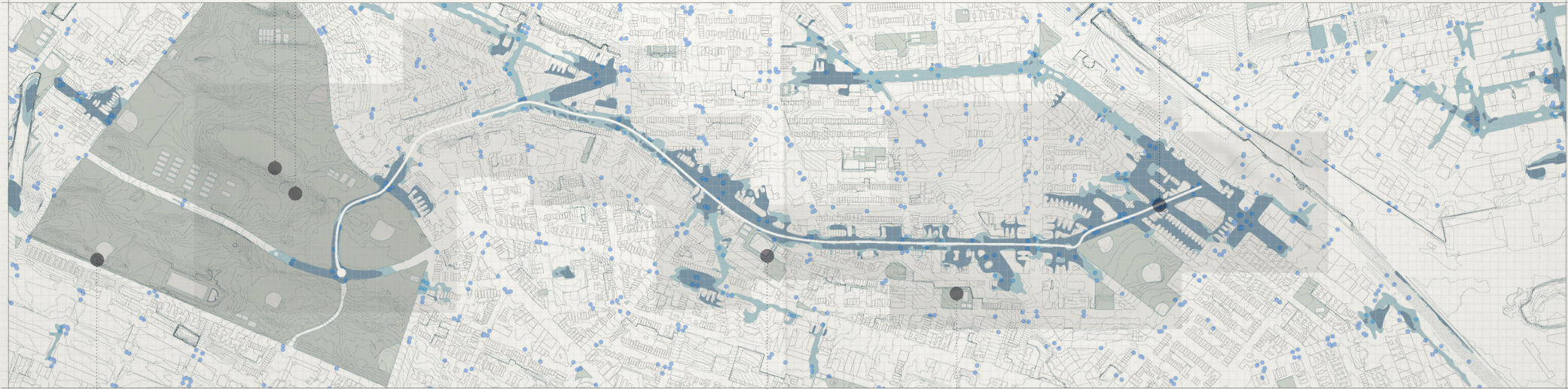
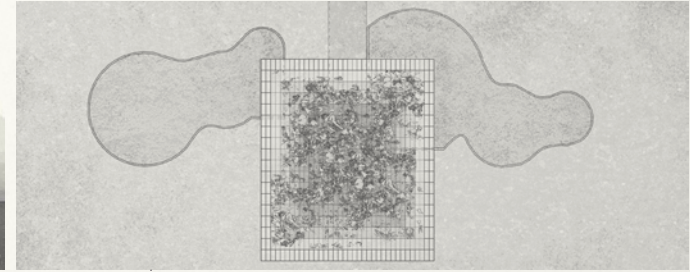
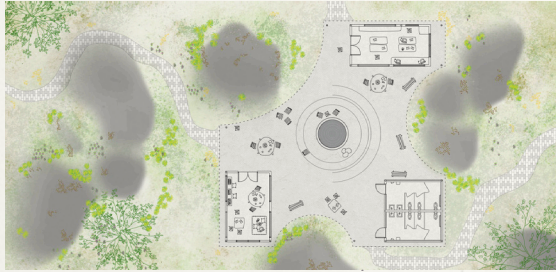


where does land end?











# earthen rituals

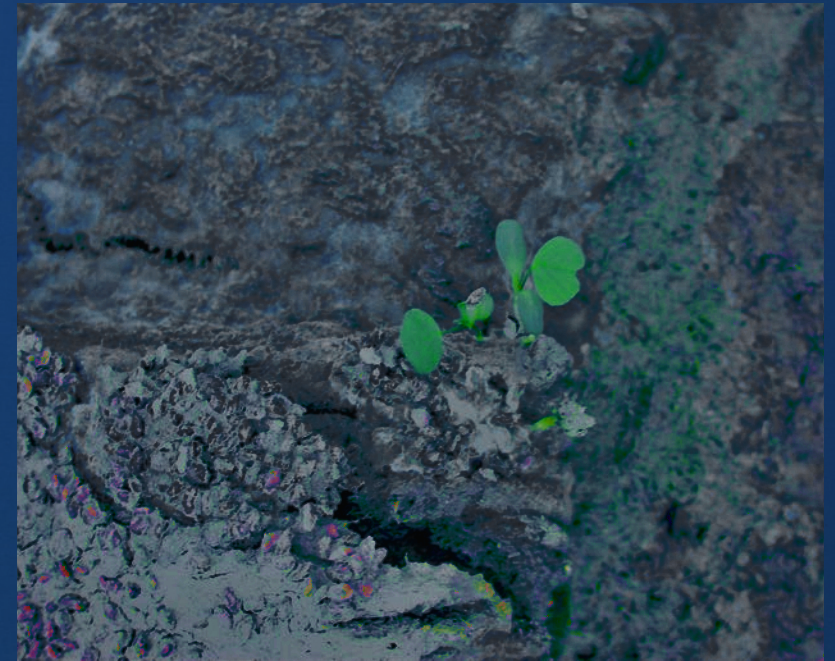
## 19th architecture exhibition

### la biennale di venezia

*Lola Ben-Alon, Project Lead, Director*  
*Olga Beatrice Carcassi, Associate Researcher*  
*Penmai Chongtoua, Adjunct Associate Researcher*  
*Keenan Bellisari, Lab Assistant*  
*Christopher Tillinghast Sherman, Lab Assistant*  
*Neil Potnis, Lab Assistant*  
*Amani Makee Hill, Lab Assistant*  
*Kelechi Iheanacho, Lab Assistant*  
*Francesca Moretti, WASP 3D Printers*  
*Giulio Buscaroli, WASP 3D Printers*

Earthen Rituals explores the intersection of artificial design prompts with traditional materials rooted in embodied human histories. The installation design is facilitated through an artificial intelligence methodology, where traditional earthen construction textures and typologies are translated into code language to generate graphic textures. The textures are then 3D printed using an earth-fiber mix design that fuses construction excavation waste with agricultural by-products. At the center of the installation is a floor projection—a circular methodology of making and remaking—that echoes the ritualistic processes developed at the Natural Materials Lab at Columbia GSAPP.

The facade of the structure introduces a light earthy scent, similar to the sensation experienced when walking in the woods. Earthen Rituals demonstrates a radically circular, hands-on, and devotional approach to design, construction, operations, and afterlife. The installation uses zero glue and zero plastics. Instead, it utilizes raw, naturally-driven materials—earth, fiber, wood, bamboo—all of which sequester carbon through biogenic processes. The project ensures easy dry deconstruction for 100% recycling or reuse, using non-toxic and non-hazardous materials. The ritualistic and ceremonial avenues created by this project highlight the need for spaces that incorporate fused approaches to the human hand, tools, and machines; radical approaches to raw materials that are messy, porous, and extremely variable; and devotional approaches that merge design with fundamental scientific rigor.



ECHOES OF PAST AND FUTURE



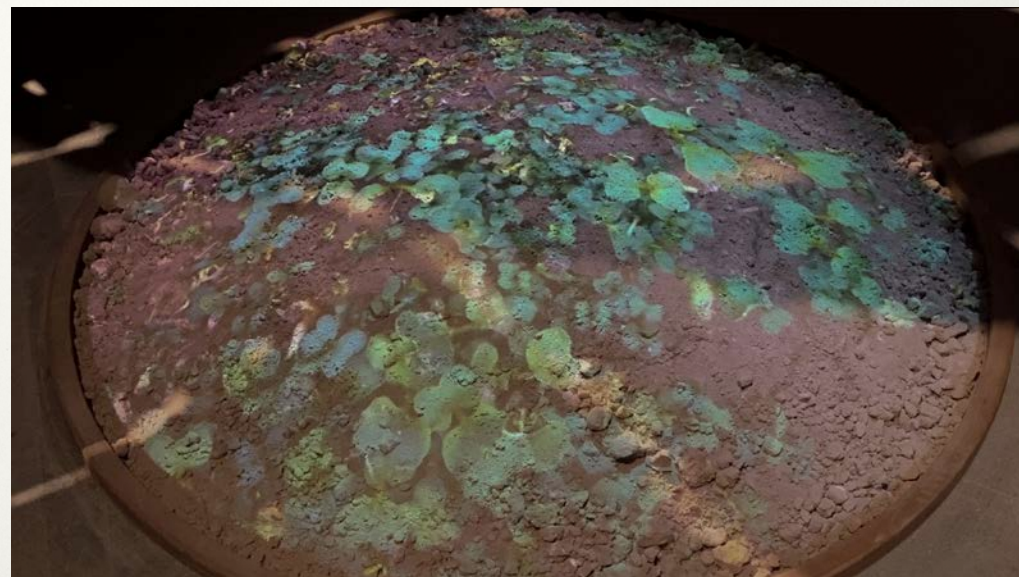


finding the irregular in the programmed





observing changes in material cycles



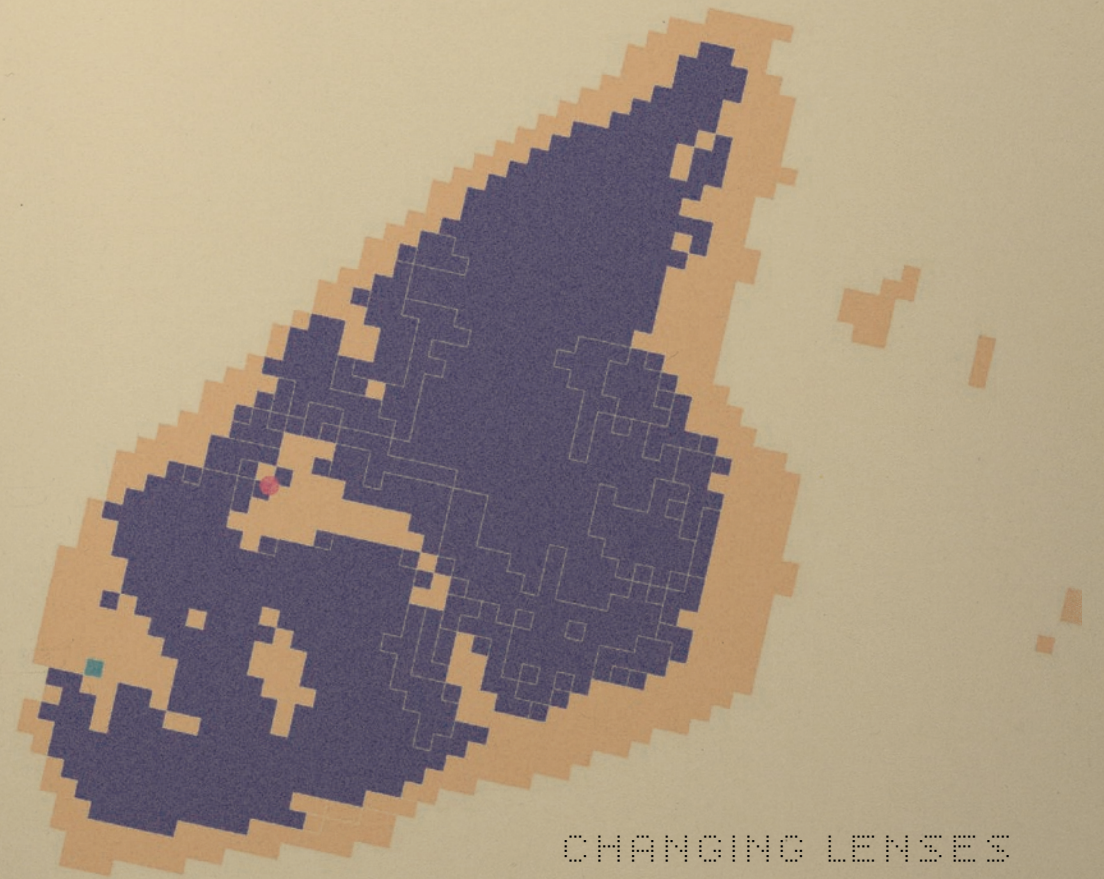


# same home

## Invisible Networks of New York

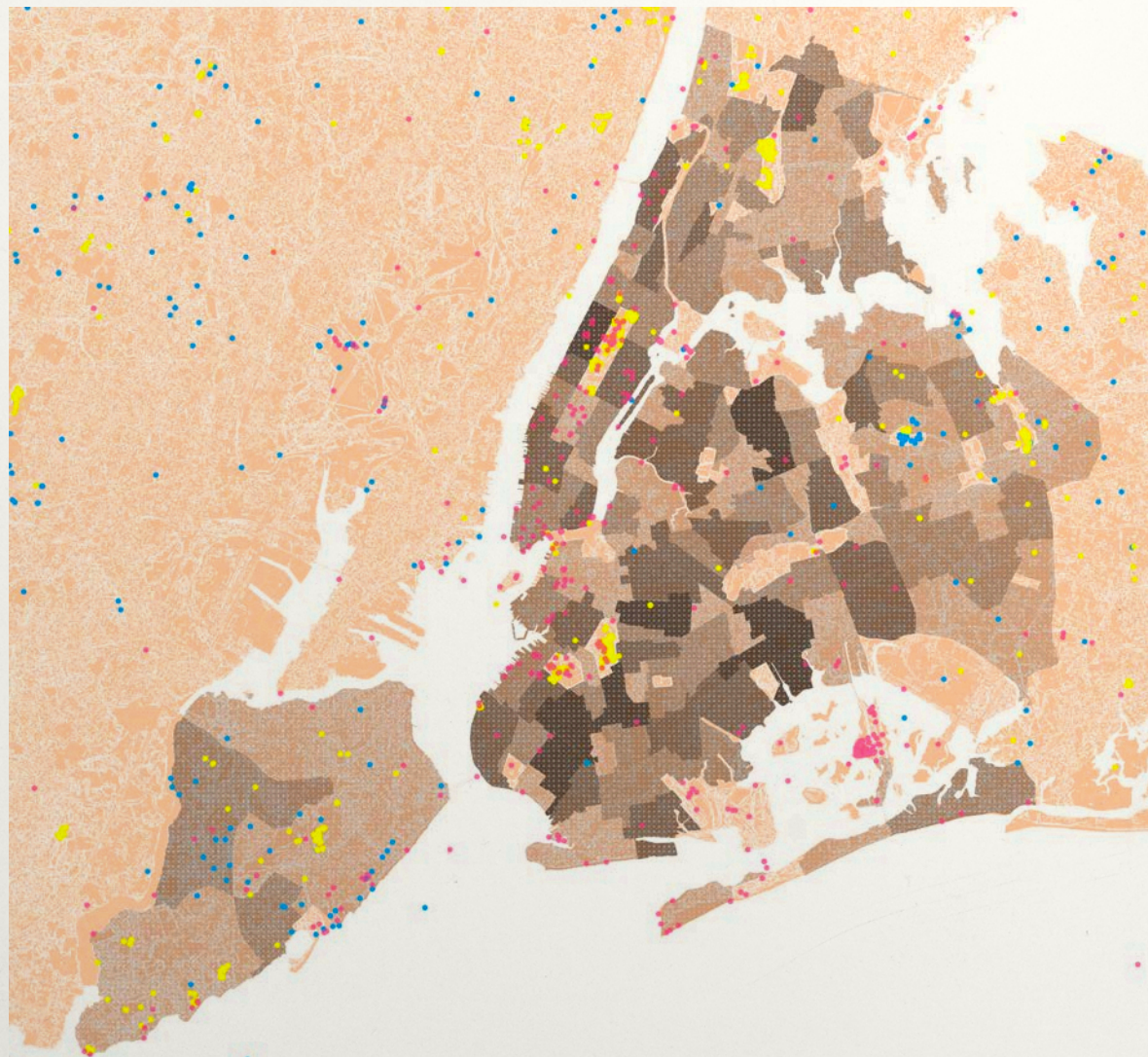
Natural systems are complex, resisting full quantification. Traditional metrics like habitat fragmentation often enforce a binary between human and animal habitation, yet numerous species thrive alongside us in urban environments. Same Home challenges this binary by visualizing coexistence networks in the New York Metropolitan Area and re-evaluating habitat metrics to reflect species-specific dynamics. By incorporating factors like resting areas, mating zones, and home ranges, the project develops a species-specific fragmentation threshold that highlights the nuanced spatial needs of migratory, territorial, and nomadic species. This reimagined approach emphasizes mobility over static land classification, offering a new lens for understanding biodiversity.

Urban design increasingly integrates smaller species like birds and insects, but larger animals remain constrained by limited habitat corridors. By examining species-specific behaviors, such as the territorial tendencies of the American Bullfrog, Same Home demonstrates how resilient planning can bridge human and animal needs. While these models effectively predict habitat networks for smaller, territorial species, they highlight the need for multi-dimensional approaches to include migratory and nomadic behaviors. Animals have adapted to urban life, and planning for coexistence is essential for creating resilient, integrated cities that support biodiversity alongside human habitation.



CHANGING LENSES

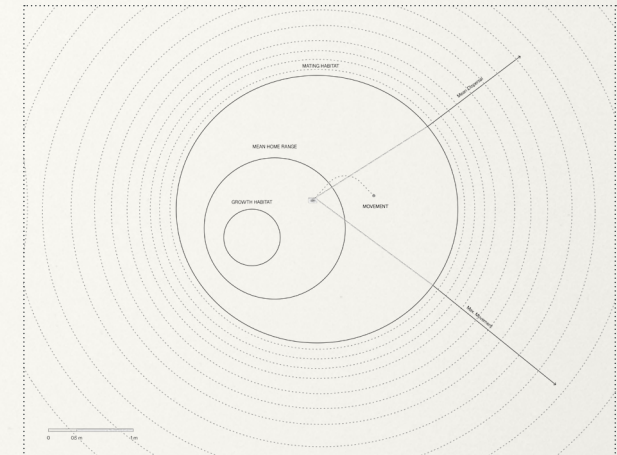




human vs urban species distribution

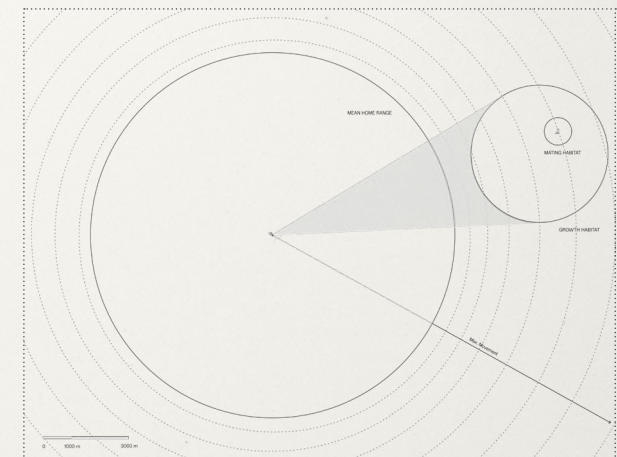
american bullfrog  
*Lithobates Catesbeianus*  
Territorial

- BEST  
Woody Wetland  
Emergent Wetland  
Deciduous Forest  
Mixed Forest
- GOOD  
Open Developed Space  
Dwarf Scrub  
Shrub/Scrub  
Evergreen Forest  
Pasture  
Grassland  
Sedge
- OKAY  
Low Developed Land  
Cultivated Crops



peregrine falcon  
*Falco peregrinus*  
Migratory

- BEST  
Deciduous Forest  
Evergreen Forest  
Mixed Forest  
Dwarf Scrub  
Water  
Shrub/Scrub  
Grassland  
Sedge
- GOOD  
Woody Wetland  
Emergent Wetland  
Open Developed Space  
Pasture  
Cultivated Crops
- OKAY  
Low Developed Land  
Mixed Developed Land



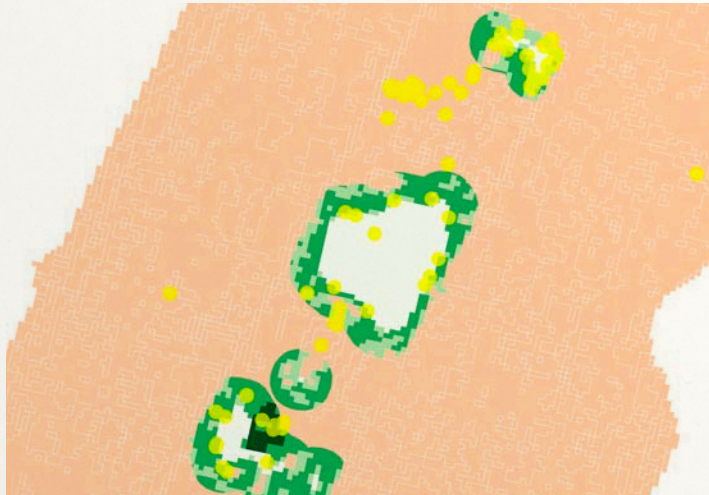
red fox  
*Vulpes vulpes*  
Nomadic

- BEST  
Evergreen Forest  
Deciduous Forest  
Mixed Forest
- GOOD  
Dwarf Scrub  
Shrub/Scrub  
Grassland  
Sedge
- OKAY  
Pasture  
Open Developed Space  
Low Developed Land  
Cultivated Crops



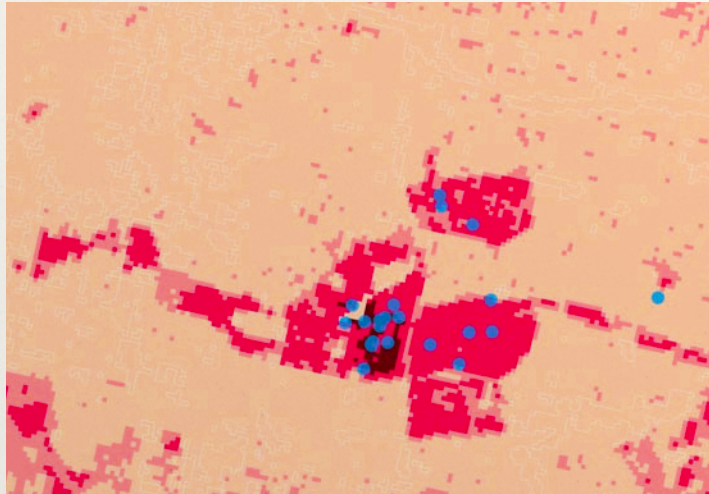


territorial



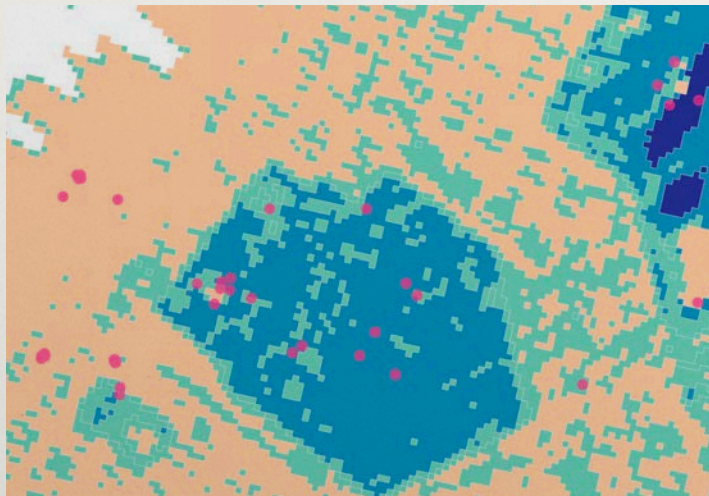
american bullfrog  
*Central Park*

migratory



peregrine falcon  
*Kissena Park*

nomadic



red fox  
*Greenwood Cemetery*

Territorial species are the easiest spatial dynamics to understand through Land Class Land Cover Data. Among the species analyzed, the American Bullfrog proved to be the most accurate for predicting habitat areas. Despite being territorial, their small size and ability to perform all necessary survival behaviors within a confined space allow them to thrive even in densely urban environments. The only data outliers were bodies of water beneath tree cover, which could not be detected in LANDSAT images. Given the high accuracy of these findings, geolocated American Bullfrog sightings can be used to approximate the locations of water bodies that are undetectable by satellite imagery.

Pedigree falcons occupy space in ways that surpass even the most refined fragmentation metrics. Like many other urban-adapted bird species, they have seamlessly integrated into cityscapes, utilizing infrastructure ranging from telephone poles to skyscraper rooftops to expand their home ranges exponentially. Sighting data reveals that falcons are evenly distributed across the city but have slightly higher densities in neighborhoods characterized by taller buildings. While the pedigree falcon still maintains its migratory behavior, many urban bird species no longer need to migrate, as cities now provide an ideal and stable habitat year-round.

Red foxes require large territories for hunting and reproduction, often traveling far from their home base, which explains their occasional presence in densely urban areas. However, their habitat dynamics are highly complex and constantly shifting, making it difficult to predict their movements without additional data, such as the distribution of their prey species. Furthermore, because they occupy larger areas, predicting their habitat at the scale of an entire city yields inaccurate results. Red foxes thrive in edge conditions, where urban and natural environments intersect, adding another layer of complexity to their spatial patterns.



# i am here among and within

*i am here among and within* is a four chapter monograph about my design process in my final year of GSAPP Architecture. The monograph documents a four section structure made of found materials, each associated with a word related to my process of design.

Emerge.  
Accumulate.  
Entangle.  
Dissipate.

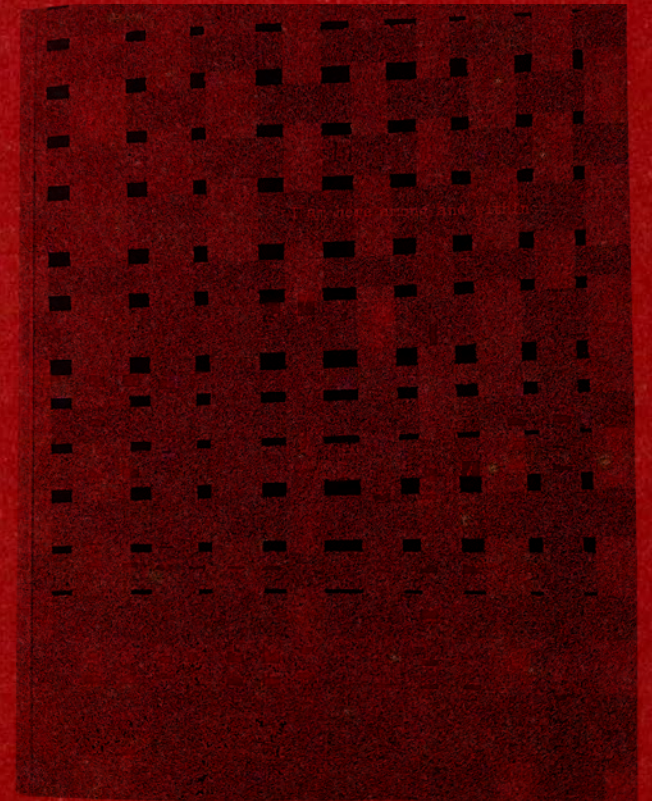
I feel that my body is of this world and the worlds that proceeded it. I absorb the environment around me - air grazing my skin, pollen in my hair. I find comfort in the eternal process of absorption and release that makes up my existence and the life around me.

I have always asked questions. I wake up with questions. I end the day with questions. Sometimes the same questions and sometimes new questions left in the place of old ones that evolved. I am not looking for answers but to learn, and learn by listening.

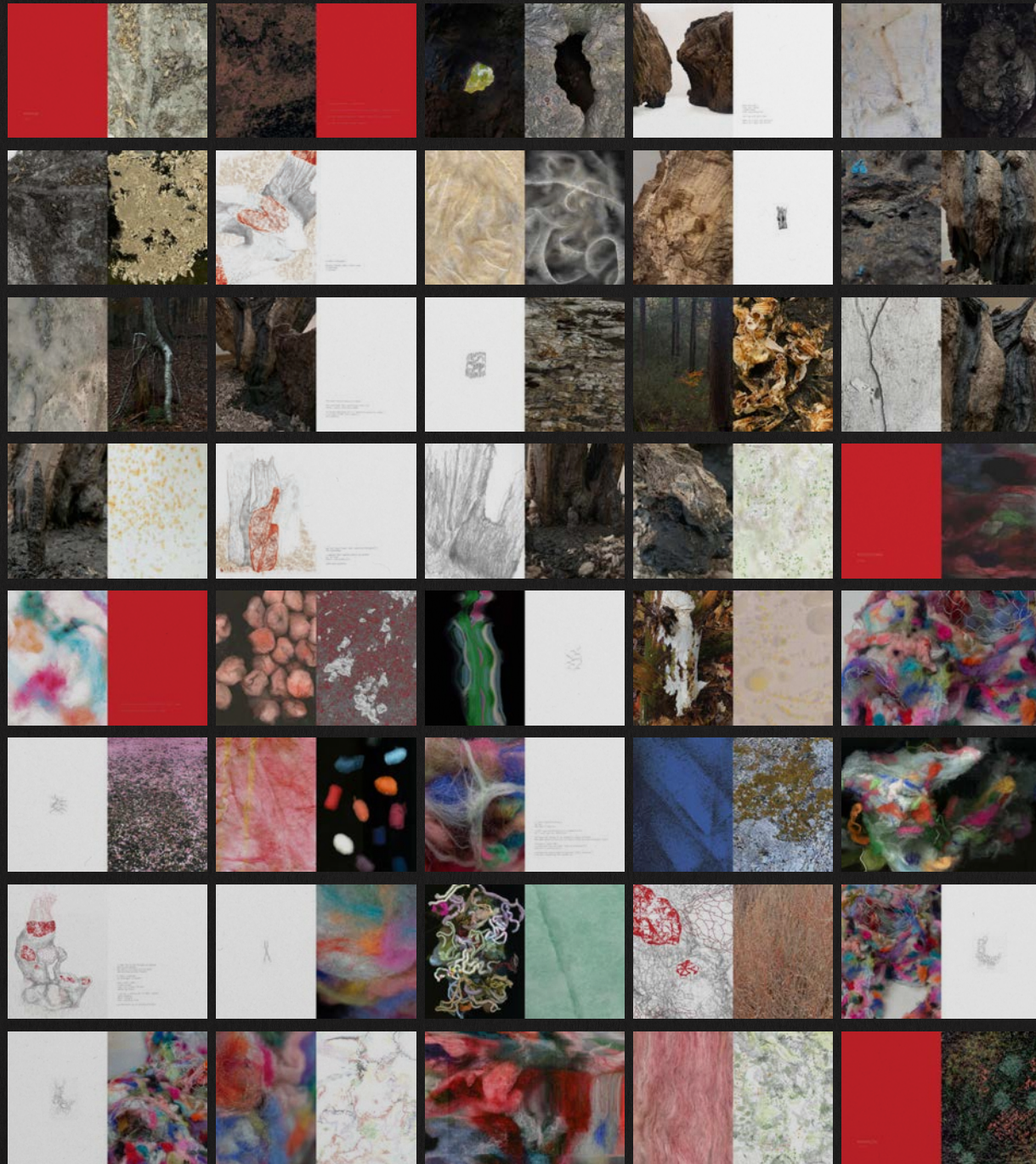
I want to hear it all - the breath entering my nose, the floorboard shifts, the clouds gliding, ants burying into the earth- a loudness of life that wraps around me.

I am learning to understand the language of life, the systems that brought me into this world and will eventually take me out.

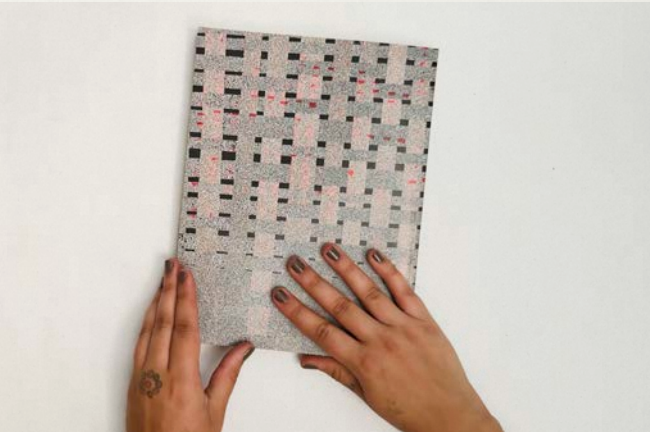
## LEARNING BY LISTENING











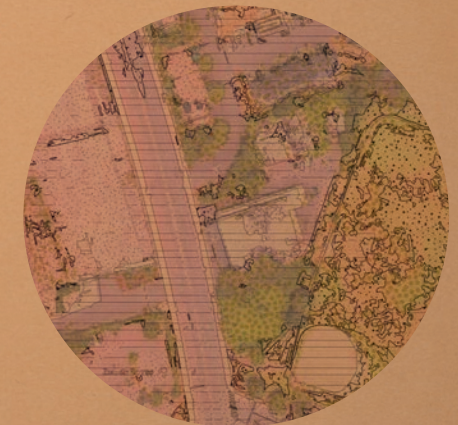
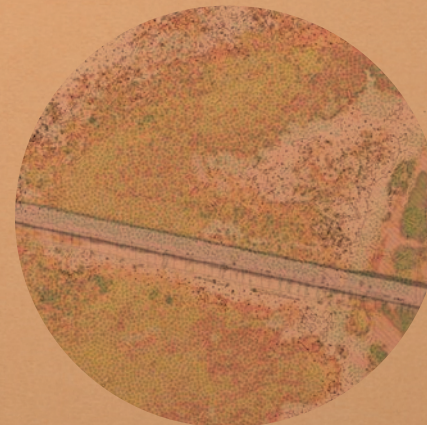
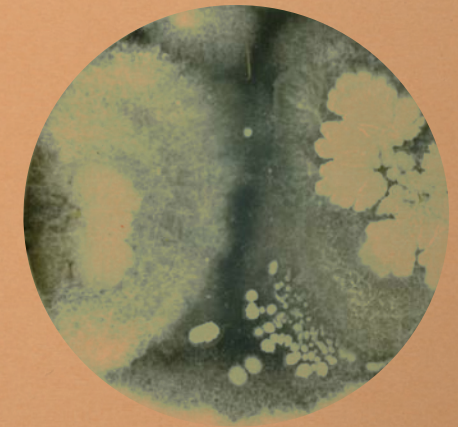
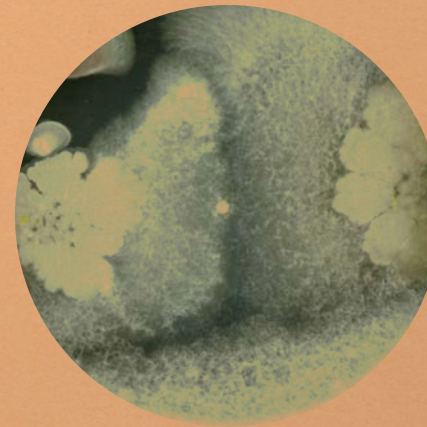
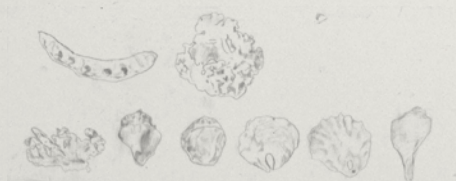


# weaving water

## resilient bridgeport, ct

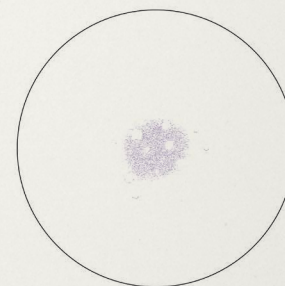
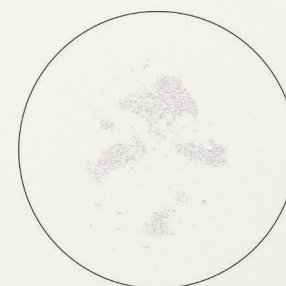
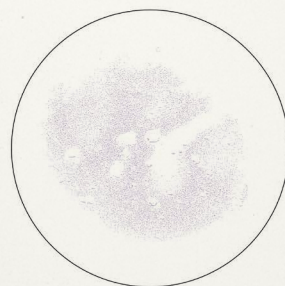
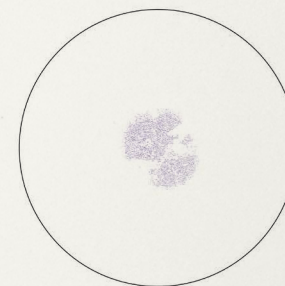
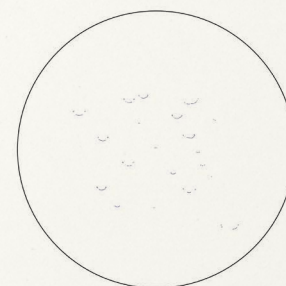
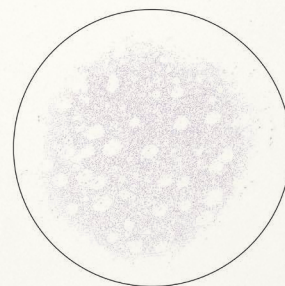
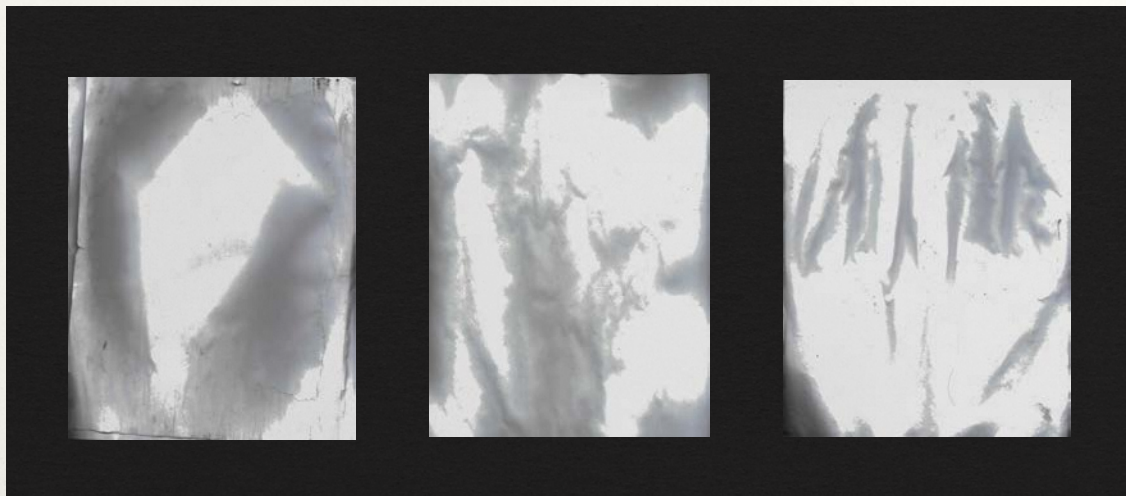
Weaving Water explores uncertainty in growth and sinks as metabolic processes. Growth was evident in how abandonment and the removal of infrastructure in Pleasure Beach and Bridgeport allowed new ecosystems to emerge, resilient without human intervention. Bridgeport's industrial past left pollution but little governmental care, creating the need for localized innovation in tackling contamination. Similarly, after a bridge fire, Pleasure Beach was left abandoned, giving rise to a thriving, undisturbed ecosystem. This inspired my first experiment, where I observed bacteria samples in petri dishes forming unique ecosystems, demonstrating how disconnected life forms grow and adapt in a sterile environment. Water's role as invisible infrastructure, absorbed and expelled by the colonies, highlighted cyclical transformations vital to growth.

Focusing on sinks, I studied the resilience of Pleasure Beach's marshland, which, despite lacking preservation measures like those in neighboring protected areas, endured pollution and urban impacts. Using water absorption in a paper ream as a model, I explored how materials transform under stress. Mapping Pleasure Beach's microclimates, I identified its neo-nature—a mix of native and non-native plants thriving in contaminated soil, reflecting Bridgeport's history. My design proposal embraced this coexistence of fragility and resilience, creating a network of permeable walkways and shaded spaces for humans while preserving habitats for flora and fauna. This intervention, balancing one-third of the island for humans, animals, and plants, fosters a resilient ecosystem through integrated, adaptive infrastructure.

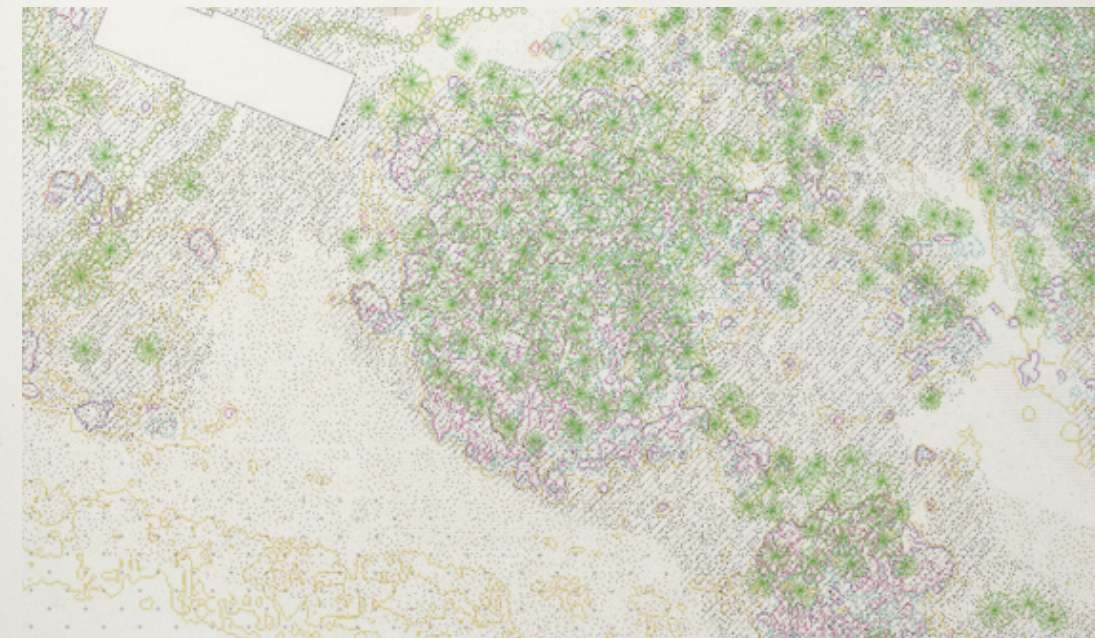
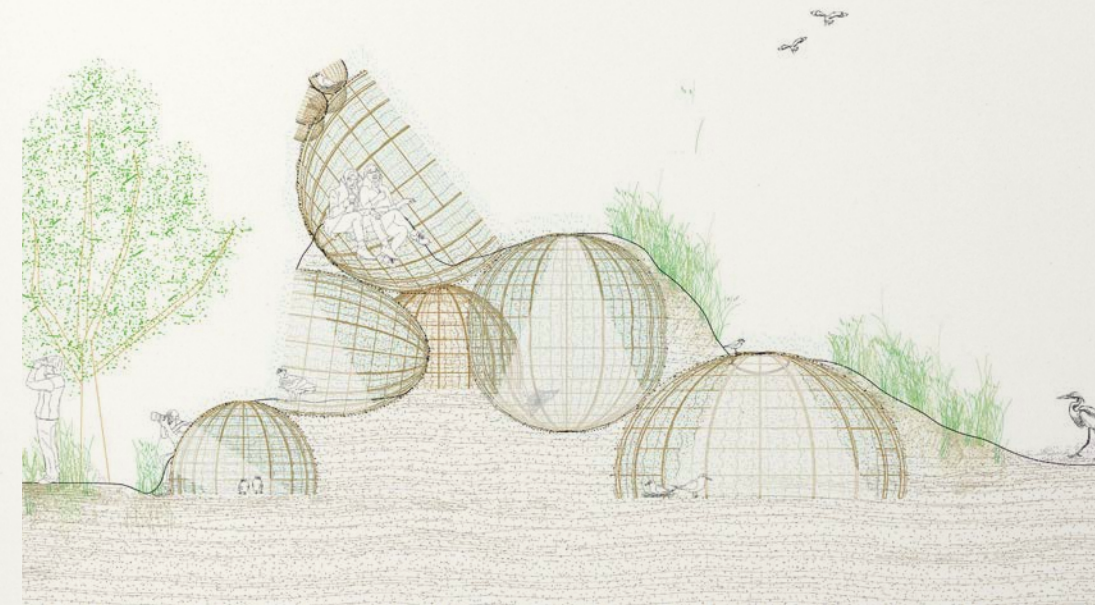
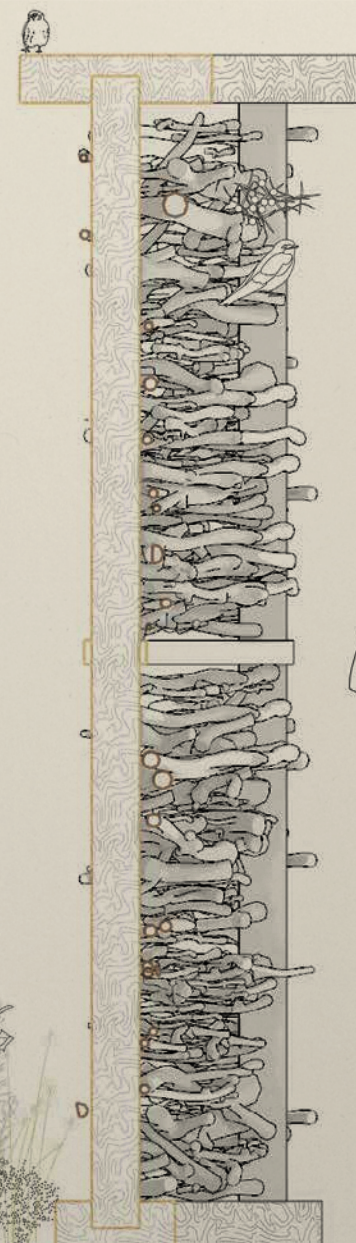


METABOLIC CHANGE











nuclear ecology  
data voids of turkey point

*Co-Authored by Holly Baker and Minhan Lin*

The project explores the impact of Turkey Point Nuclear Generating Station on ecosystems – both natural and political – in Southern Florida. Tracing how nuclear infrastructure creates an artificial landscape, our project reveals a key tension: while Turkey Point's cooling canals have been long under scrutiny by environmental groups due to their proven leaking of salt water into local aquifers, this warm brackish water has surprisingly created an ideal habitat for American crocodiles. Set against a backdrop of concerns for the risk associated with nuclear generation, our research aims to bring to light the various data voids – or missing information – connected to Turkey Point. Amidst a contentious political landscape with scandals connected to Florida Power & Light, the owner of the plant, the project focuses on mapping available information and the array of actors, from Senators to crocodiles, to point to gaps in Turkey Point's narrative. The research aims to expose a series of complex relationships between ecology and political motivations and, ultimately, contribute a nuanced perspective to discourse on impact of nuclear infrastructure.





1975  
The American crocodile was classified as Endangered, with fewer than 300 left in Florida.

1978  
A Turkey Point worker found an American Crocodile egg and monitoring began.

1978  
Consultants from FPL warn that the cooling canal system is leaking saltwater into the Biscayne Aquifer.

1992  
Hurricane Andrew, a Category 5 hurricane, hit South Florida and caused structural (non-nuclear) damage to Turkey Point.

2007  
Reclassification of the American Crocodile Distinct Population Segment in Florida From Endangered to Threatened. Nearly 500 are counted at Turkey Point.

2012  
FPL begins addressing saltwater intrusion and plans to freshen the canals with water from the Floridan aquifer.

2016  
A study by Miami-Dade County reported tritium levels in Biscayne Bay up to 215 times higher than normal ocean water.

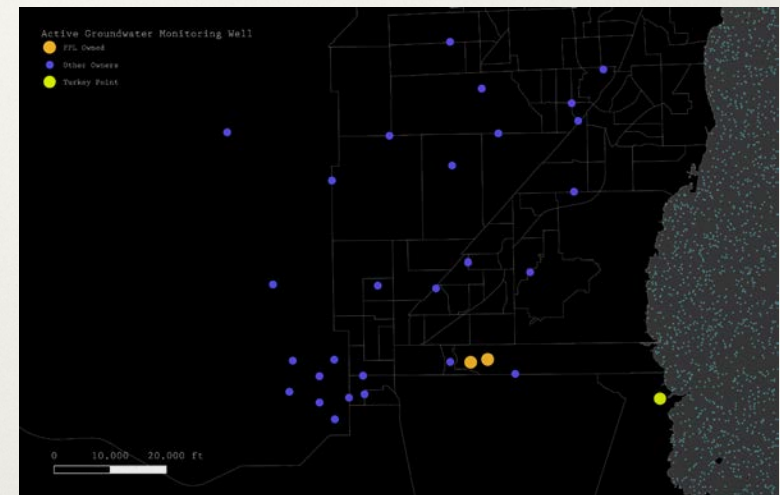
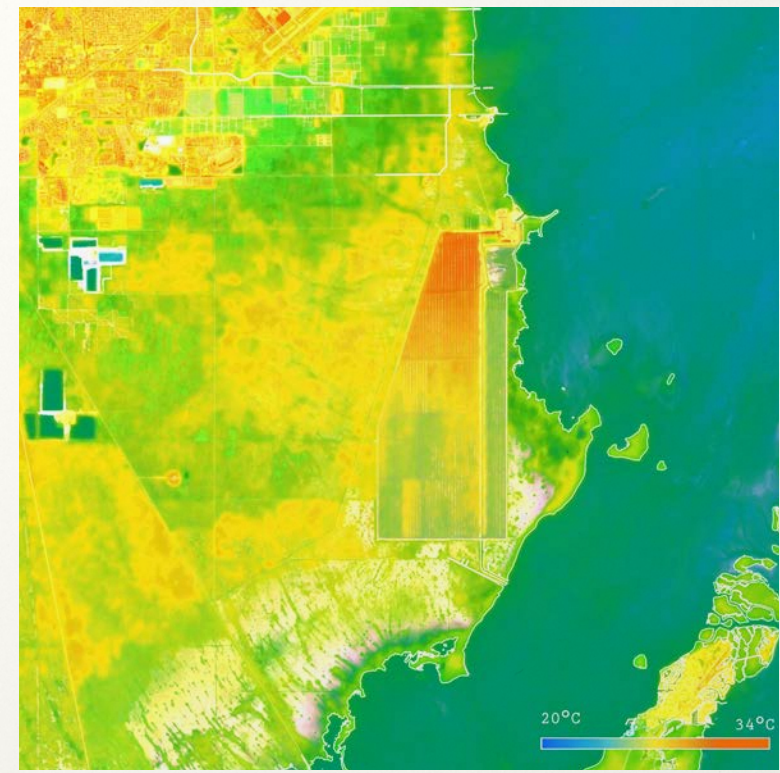
2016  
Environmental groups file a federal lawsuit accusing FPL of unlawfully discharging pollutants into Biscayne Aquifer. A judge rules that FPL is mandated to clean up the plume within 10 years.

2018  
FLP becomes the first nuclear operator to seek to extend its operating license to a total of 80 years.

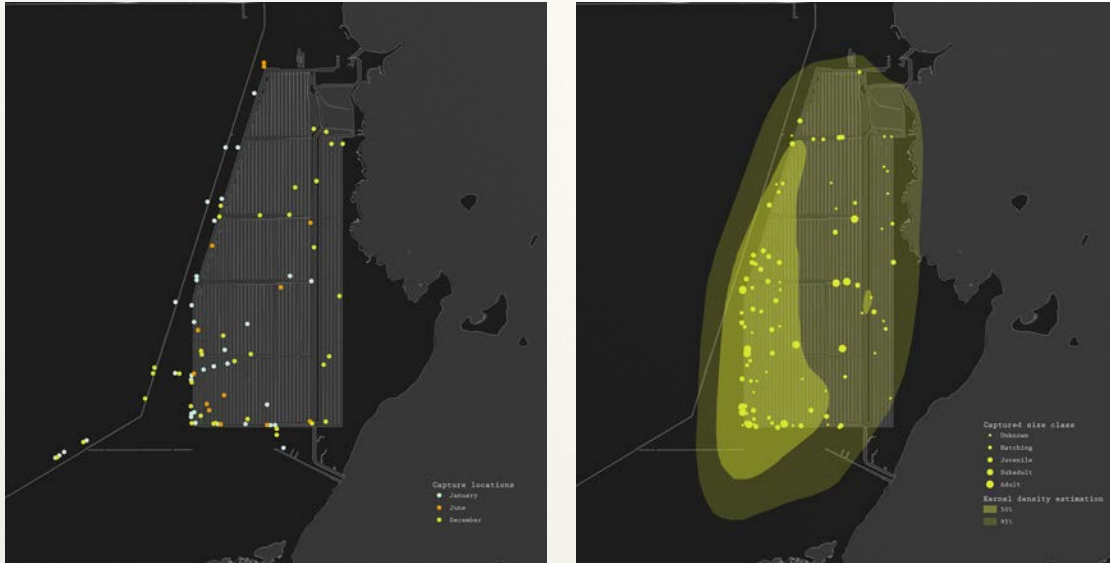
2019  
The Nuclear Regulatory Commission (NRC) grants the license extensions without a comprehensive environmental impact statement.

2023  
FLP CEO Eric Silagy resigns due to allegations of donating \$9 million with Frank Artiles to bribe a ghost candidate running against Sen. Rodriguez in 2020 elections.

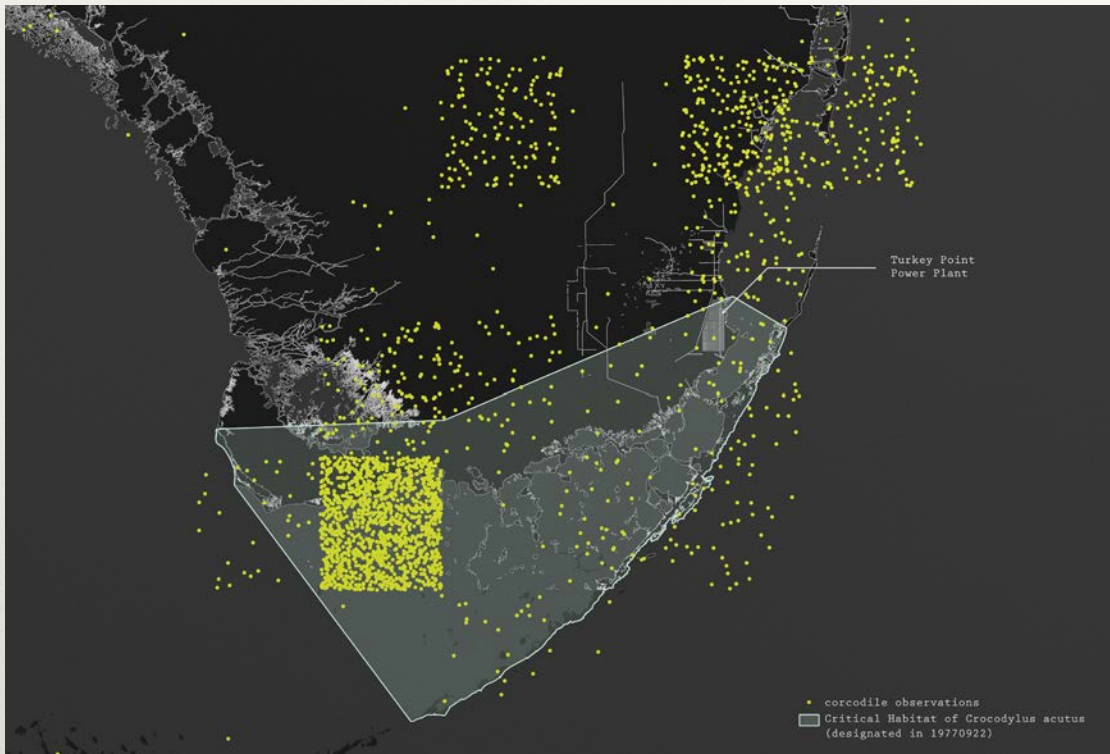
2024  
The NRC publishes the final Supplemental Environmental Impact Statement in response to a federal lawsuit after 2 years and reinstates the license extensions, allowing Turkey Point Units 3 & 4 to operate until 2052 and 2053.



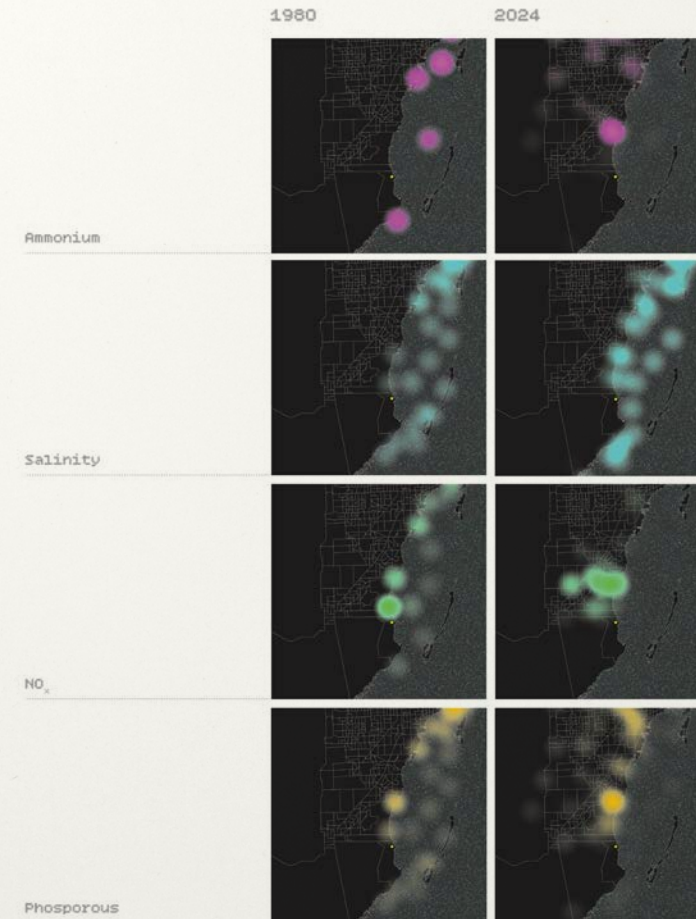




American crocodile capture locations at Turkey Point from the 2012 January, April and November capture events.



American crocodile crowd source data from iNaturalist in Southern Miami-Dade County.





# sensory computation

## visualizing sensory preferences

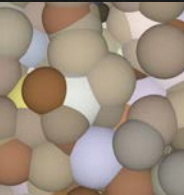
Sensory Computation was a data driven experiment to develop a new way of understanding spaces familiar to me through sensory data, namely color. The study utilized a computational “Drawing Machine” to analyze two different case studies of different scales: my apartment and the buildings visible from my bedroom window.

While there are undisputable benefits of computational design, there is an inherent risk of oversimplification in regards to the environment and the human body. Sensory Computation is an exercise in developing uses for these programs that not only allow for nuance within computational outputs but process data that has nuance embedded within.

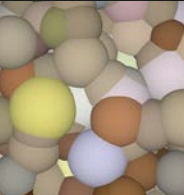
Sensory Computation is a olor analysis tool that outputs drawings codifying the distribution and frequency of color within a room. As color is a unique language that provides insight into identity and emotion, color preference was the source for sensory input data. I used photographs to conduct the analysis, inputting all colors within a room such as sunlight color, object colors, artwork colors, etc. This digital tool was informed by a physical machine I developed to record sensory preferences in the shower.

Although the process of analysis was very reductive in spatial data, it managed to illustrate complex stories of interaction that activated the space. Traces of color preference act as a geolocational system. Where we go, we leave traces of color as we alter our environment upon entry.

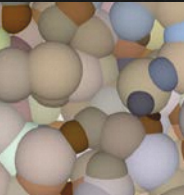
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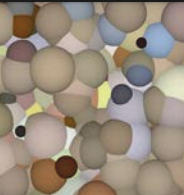
12:00 pm



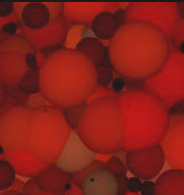
3:00 pm



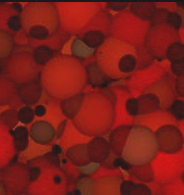
6:00 pm



9:00 am



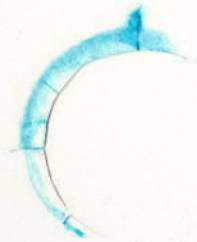
12:00 am



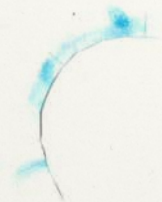




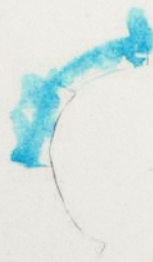
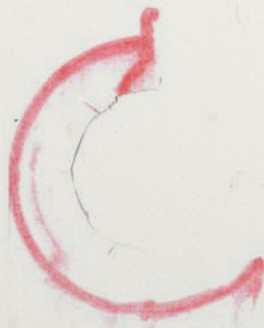
ed



juliet

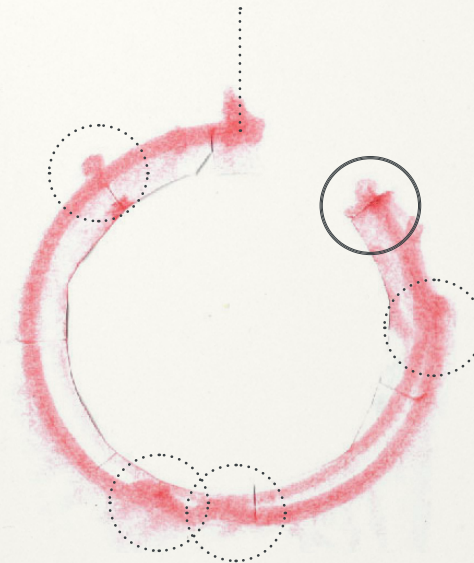


trella



hot

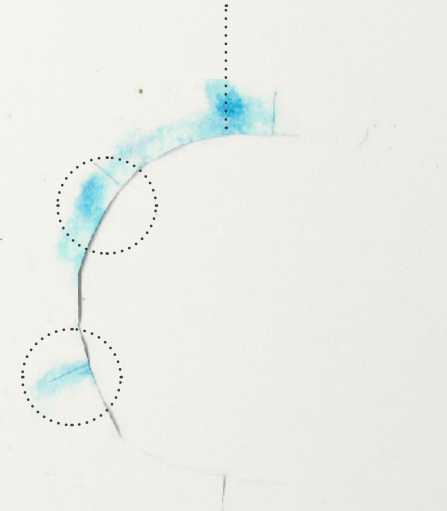
Starting Point



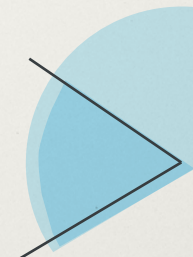
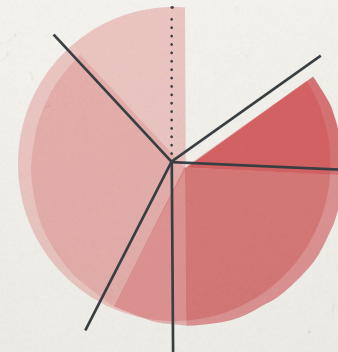
Using Aprox. 87% of Hot Water Available


cold

Starting Point



Using Aprox. 33% of Cold Water Available



 = Adjustment Point

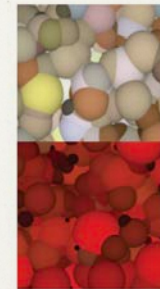
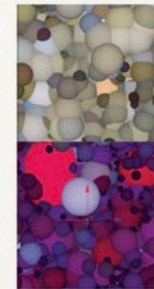
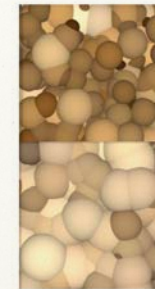




bedrooms

day

night



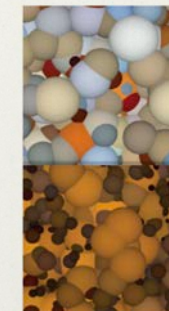
shared space

living room

bathroom

day

night

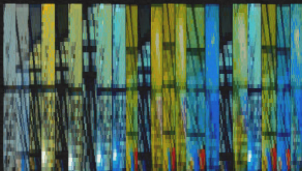




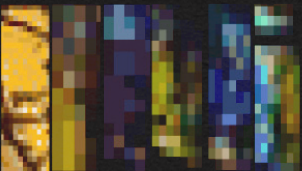
ROOM 1



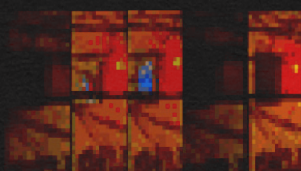
ROOM 2



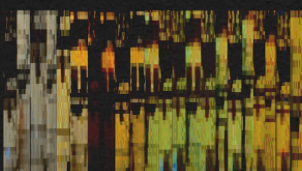
ROOM 3



ROOM 4



ROOM 5



ROOM 6



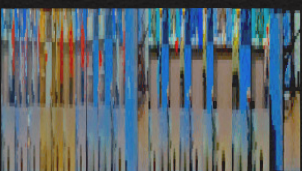
ROOM 7



ROOM 8



ROOM 9



TUESDAY

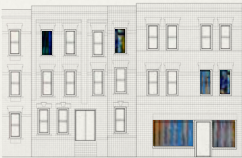
SATURDAY

SUNDAY

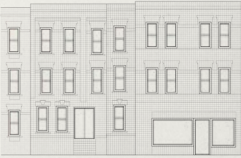
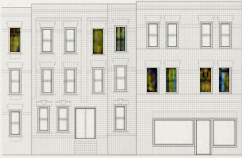
RED



BLUE



GREEN





# rethinking neighborhood health

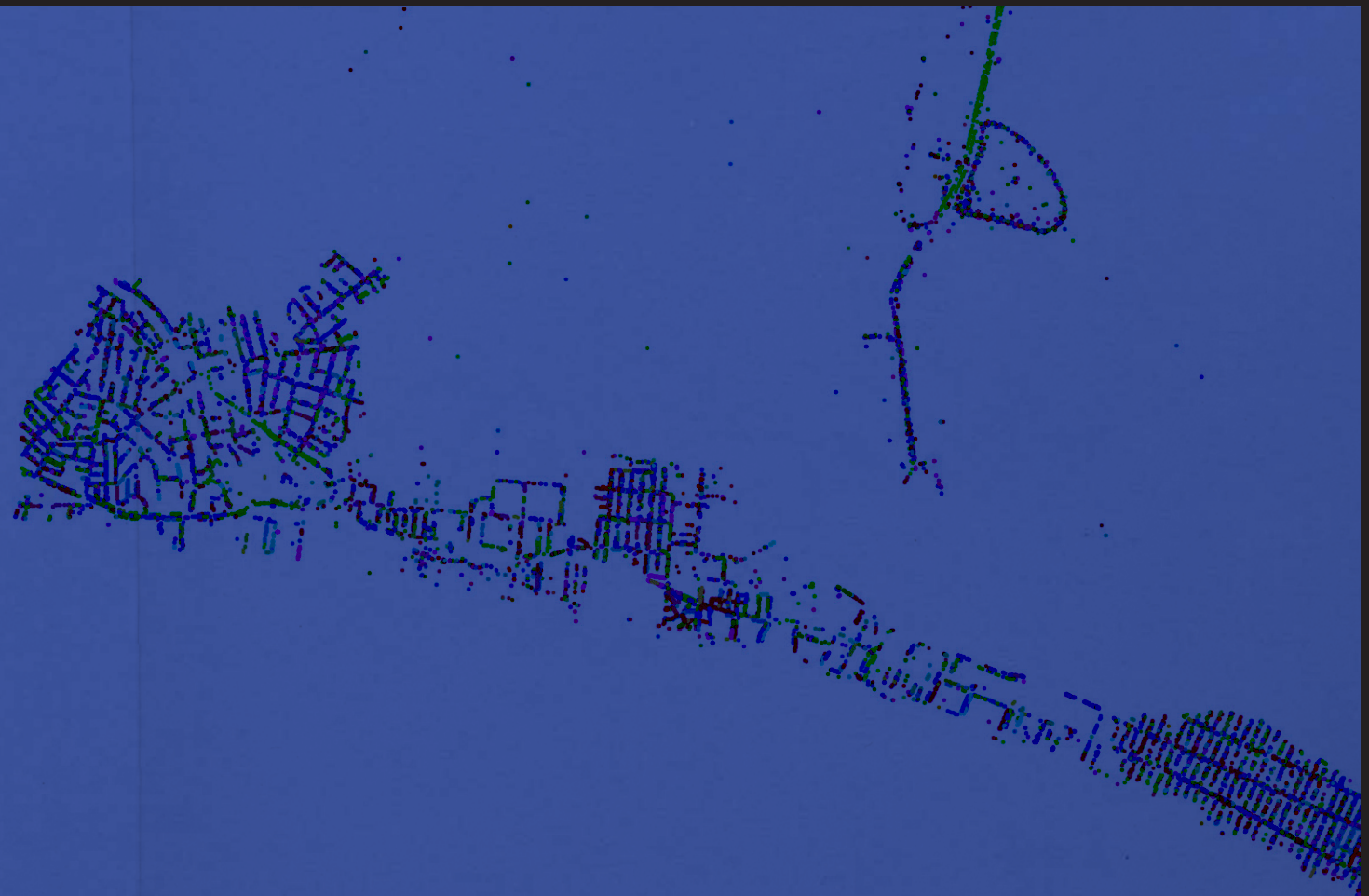
## a qualitative index of nyc communities

*Co-authored with Benedetta Carlotta Annett von Palombini*

A growing body of research addresses urban health yet often in silos: health-focused models are typically restricted to clinical or epidemiological indicators (e.g., rates of disease, healthcare access), while ecological studies prioritize large-scale biodiversity metrics, usually in non-urban or peri-urban environments. This leaves a gap in understanding what health and resilience mean in hyper-urban contexts, such as New York City, where communities are shaped as much by social infrastructure as by ecological conditions.

What kinds of indicators are excluded from current models but are important for understanding the health of a neighborhood? What does ecological health look like in dense cities? How can we quantify neighborhood resilience in a way that captures the interplay of biodiversity, public infrastructure, and social life? What spatial models best reflect urban stability as a function of both environmental and social networks?

This project constructs a methodologically rigorous, yet adaptable, framework for understanding how social and ecological systems shape vulnerability and resilience at the neighborhood level. Using New York City as our case study, this project will develop a template for evaluating urban health that can be applied in other metropolitan contexts.



QUANTIFY THE UNMEASURED



bio-diversity

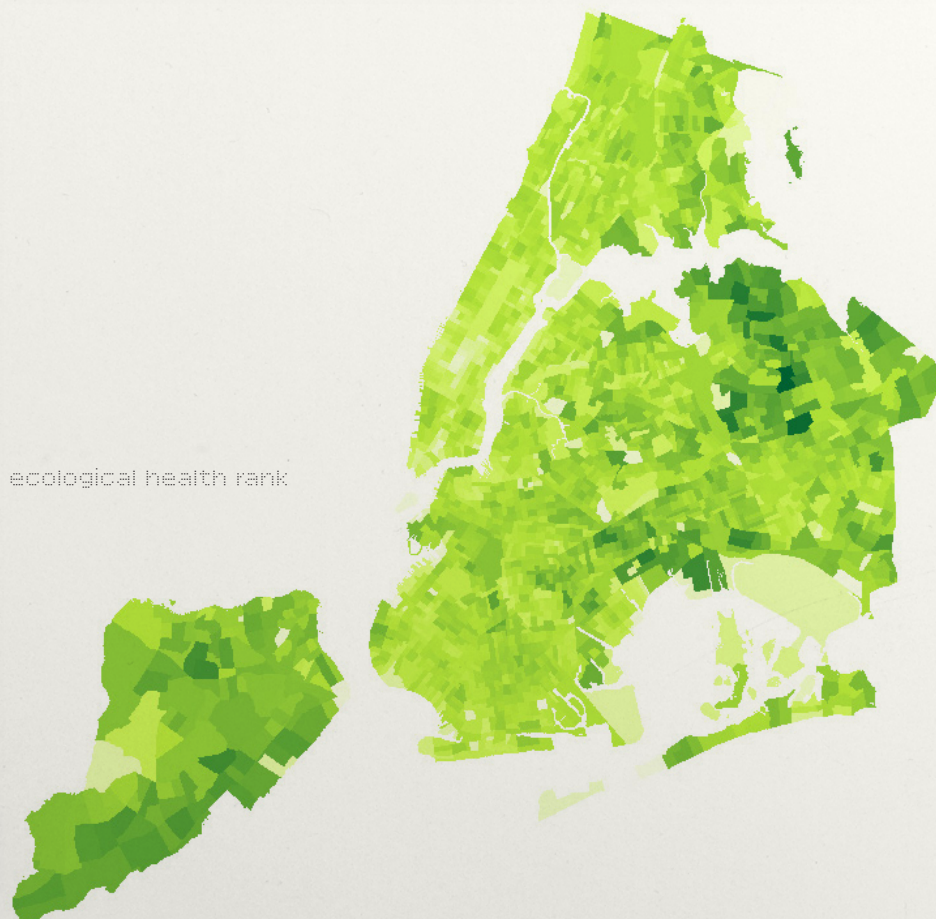
community care

green growth

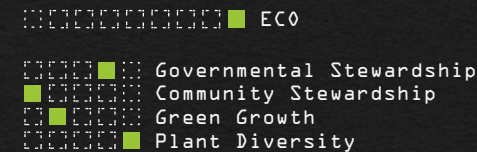
governmental care



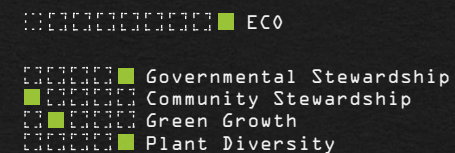
total ecological health rank



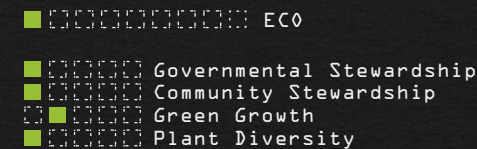
JAMAICA ESTATES-HOLLISWOOD  
QUEENS



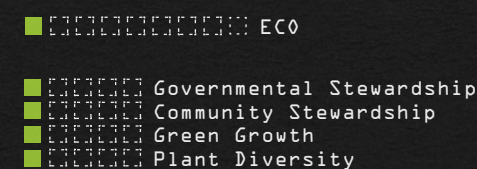
AUBURNDALE, Bayside - Douglaston  
QUEENS



RIKERS ISLAND  
BRONX



HART ISLAND  
Bronx



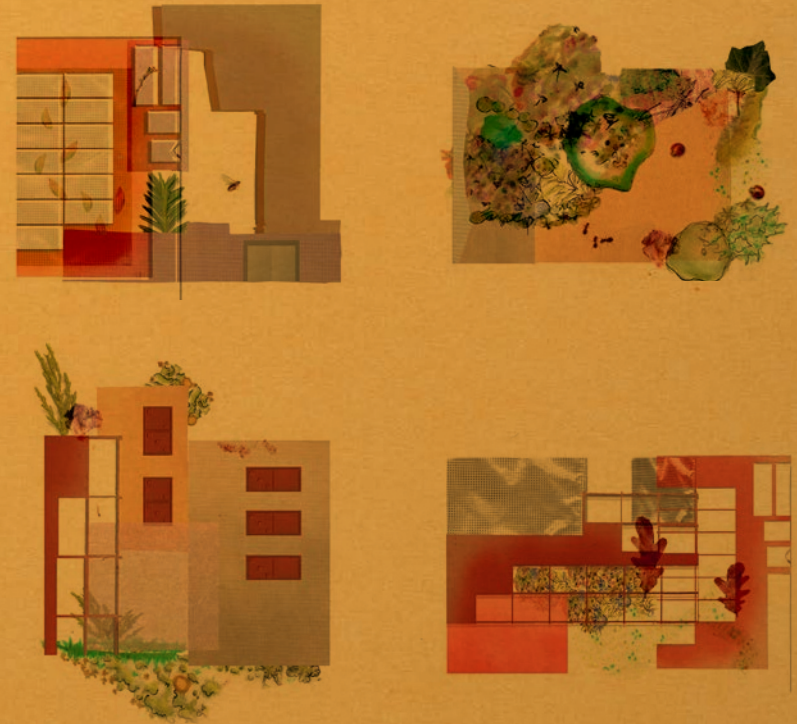


# gradient living

*Co-Designed with Jacqueline Lucy Danielyan*

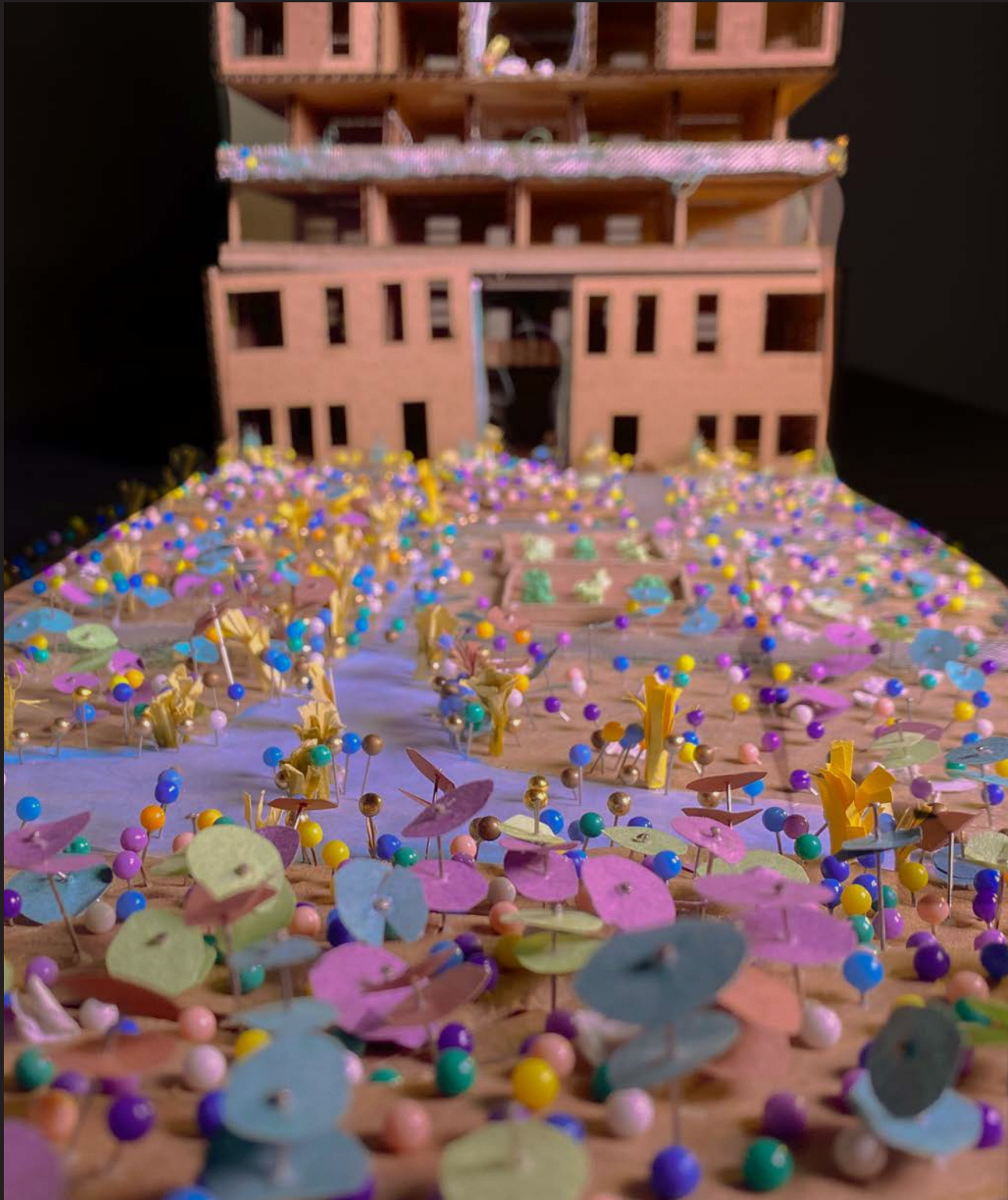
From the outset, our exploration focused on the concept of layering—an interplay of collecting, growing, and evolving that shapes housing and living. The site itself reflected this layering, from its industrial past to its mixed-use present, with traces of history embedded in its materials, repairs, and living matter. Plants, growing through cracks and blurring boundaries, revealed a resilient, self-governing ecology that adapts to shifting climates and human activity.

Our design celebrates layering as a guiding principle, integrating shared spaces, community gardens, and adaptive materials to foster connections between people, plants, and place. By blending private and open spaces, intentional water flow manipulation, and a diverse planting strategy of barriers, meadow, marsh, and vines, we create a gradient of experiences. Each layer—whether architectural or ecological—supports resilience, diversity, and growth, uniting buildings, community, and nature in a symbiotic ecosystem.



HEAL, GROW, SHARE





Trailing Lespedeza  
*Lespedeza repens*



Common Blue Violets  
*Viola sororia*



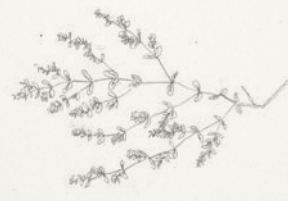
Dandelion  
*Taraxacum officinale*



Blue Fleabane  
*Erigeron acer*



Sleepy Catchfly  
*Silene antirrhina*



Spotted Spurge  
*Euphorbia maculata*



Common Selfheal  
*Prunella vulgaris*



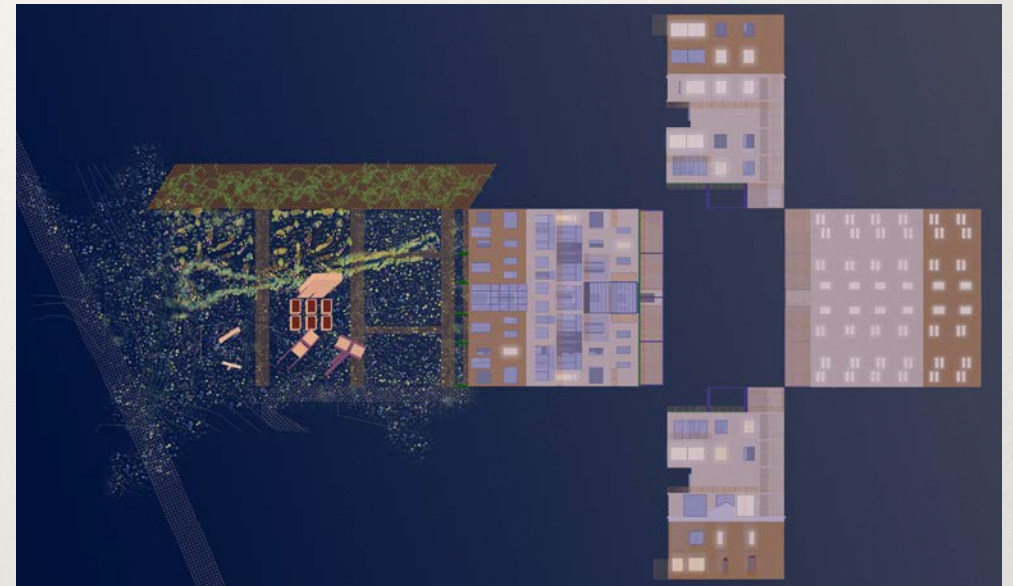
Field Pussy Toes  
*Antennaria neglecta*













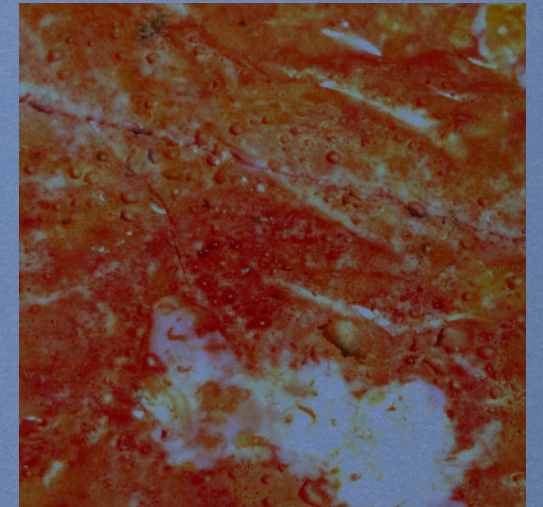
# pockets

## queer domestic landscapes

Pockets is an exploration into what a queer public landscape would look like in an urban setting, specifically in Harlem. Drawing from Ballroom, the design attempts to use the foundational components of a heterosexual domestic space and place them in an antithetical context: public space. The site is tucked away behind two blocks of residential buildings spanning from Riverside to Broadway. A pocket park of sorts, the design creates various episodic pockets mimetic to that of a heterosexual home. There are four main episodes within the design: the entryway, the living room, the kitchen, and the bedroom. This redefinition of an oppressive spatial model encourages the unrestrained occupation by non-conforming bodies and therefore undergoes a queering process on multiple scales.

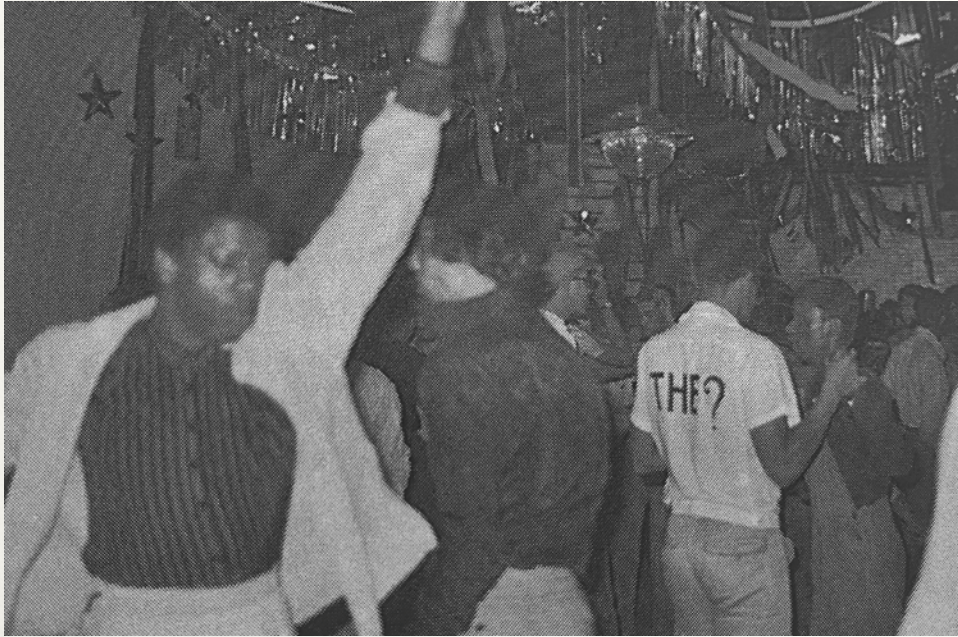
If queer space creates an assemblage of context in its usage and occupation, is there also a more concrete aesthetic language that can queer a space? Queer spaces should not be built following the limitations of traditional construction, any and all materials available can be activated. This not only makes spaces non-conforming but easily adaptable thus undergoing another level of queering.

Pockets is both natural and synthetic, familiar and foreign, visible and invisible, static and mobile.



HOW TO MAKE SPACE PLACE?





Frankie Knuckles blowing up balloons at the Gallery. Courtesy of Nick Siano.



Frankie Knuckles blowing up balloons at the Gallery. Courtesy of Nick Siano.





