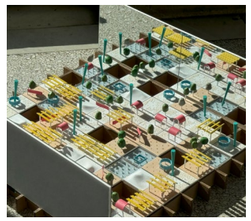
YEONJIN KIM

Yeonjin Kim



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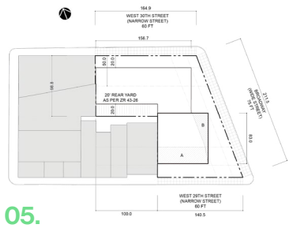

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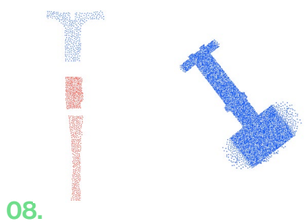

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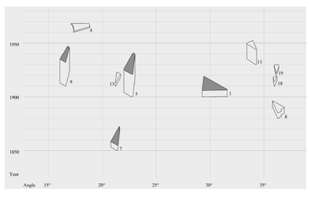
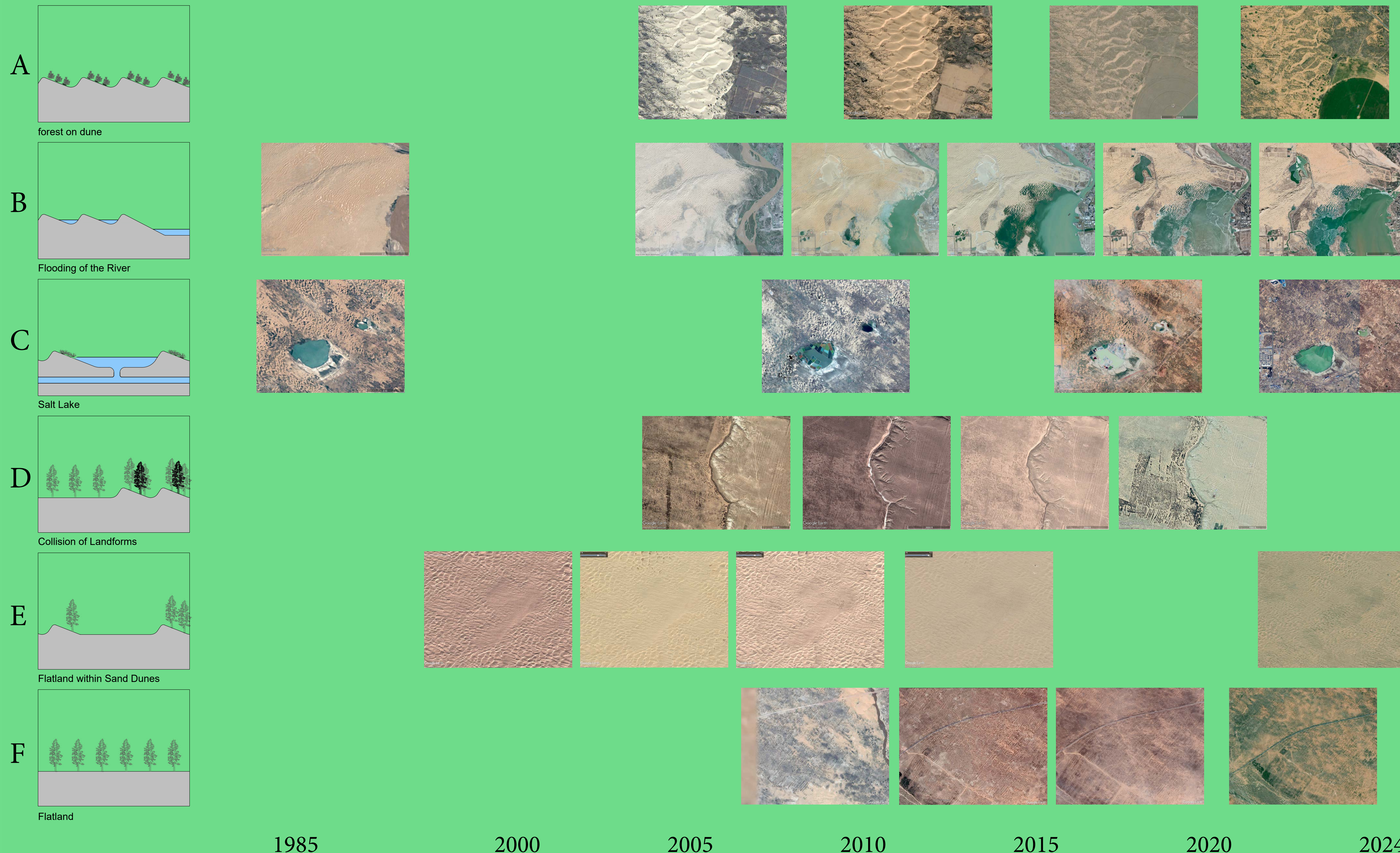


07.

People have planted trees in the desert

A Desert in Retreat
Columbia GSAPP Advanced Studio IV
2024 Summer

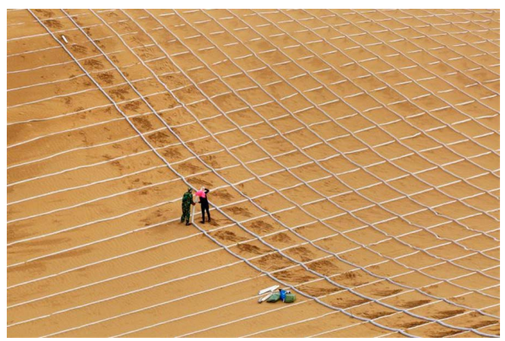
Instructor | Marco Ferrari, Elise Hunchuck
Location | Inner Mongolia, Orodos City, China
Program | Research Lab



A Desert in Retreat: From Grids to Green

Each spring, usually in April, large swaths of northern and western China are blanketed by yellow dust storms. But so too are the skies and grounds filled with the white cellulose cotton-like fluff affixed to the ends of poplar tree seeds carried along on the winds, hoping to propagate somewhere along the way. The effect is not unlike the accumulation of large, oversized snowflakes that cannot melt, gathering and choking surfaces, plants, and people until rain pulls them out of the sky. The superficial phenomenon can be tied to the extraordinarily massive plantations of poplar trees, first developed in the desert regions of western and northern China.

The Kubuqi Desert is the seventh largest desert in China, a country in which twenty-seven percent of its land suffers from degradation. Hundreds of years of farming turned vegetated plains into golden sand dunes. Human intervention in the reforestation of the desert began in 1988 when the Elion Resources Group and the Beijing government partnered to reforest the desert to make it hospitable to their companies and operations. For the first twenty-five years, they planted mostly poplar trees from the USSR. It took twenty-five years to realize the poplars would not hold over time; the cost of maintaining them and watering them was too much. In our first image, we see when a shift was made: willow trees were planted using high-pressure water jets: in mere seconds per seedling, the trees were brought together with a grid to hold onto the shifting sands, to stop the dunes from moving over farms and villages. Now named the Kubuqi Ecological Restoration Project, the desert grows drought-resistant flowering shrubs like Hedysarum laeve maxim (whose roots bind sand) and Kubuqi licorice (grown to flavor Traditional Chinese Medicine while allowing the soil to regain its integrity).[1] For this area, desert for hundreds of years, we can see, using otherwise operational images, how the transformation is proceeding, from the scale of the tree and the grid to the sky and the earth—and the continent, between.



Photographer unknown. "The use of degradable material by sand barrier technology is helping transform hundreds of acres of Inner Mongolia's Kubuqi Desert into green landscape in an environment-friendly way." Kubuqi Desert. August 6, 2018. Photograph courtesy of China Daily. Image can be found at: Li Yang's "Kubuqi a successful example of desert greening," China Daily, August 6, 2018, https://www.chinadaily.com.cn/a/201808/06/WS5b678ab7a3100d951b8c8b07.html Last accessed June 22, 2024.

1) Gemma Shepherd and UNEP. Review of the Kubuqi Ecological Restoration Project: A Desert Green Economy Pilot Initiative. United Nations Environment Programme (Beijing: Elion Foundation, 2015).

We begin with the image of the grid: it is the foundation of the dream of deforestation, and it is the unit from which we can begin to understand the ambitions for the forest, the rivers, the dunes, and the continent. The use of degradable material for sand barrier technology has helped transform hundreds of acres of Inner Mongolia's Kubuqi Desert into a series of green landscapes. We collected images of grids of different types throughout the desert, especially those that showcased the failure of the first generation. As we continued to search online, we found that in some places, people successfully adapted their grid strategy by creating new hybrid grids, each modified to respond to the hyper-specific climate conditions and geographical parameters.[2] These hybrid forms of the grid helped us to model—sometimes in reverse—the systems and processes at work in reforestation and afforestation efforts.

Our model for thinking and imaging these landscapes of the past, present, and future is based on the foundational one-by-one meter grid. For Retreat the Desert, it functions as a prototype to imagine how—and where—future landscape partnerships might be possible. We considered precipitation distributions and groundwater properties through which the grid system evolved, classifying the whole grid system into four classes, ranging from soils degraded to the point of no recovery to soils with great potential to recover from desertification. Human intervention was then differentiated following the rules of natural systems. Solar panels are paired with natural salt lakes, utilization of infertile water from the Yellow River, and aquacultures that involve fishes, crabs, and shrimps to join the ongoing landscape alteration. What allows these interventions is the accumulation of grids that underlie the extension of the single grid unit. From the one meter x one meter, the unit is suited to adapt to the scales of solar panel units, salt lakes, and even the future forests that are all—initially—arranged square-by-square along the surface. They also never hide their ambition behind nature, as they try to underscore themselves on the same level as the scale of the landscapes.

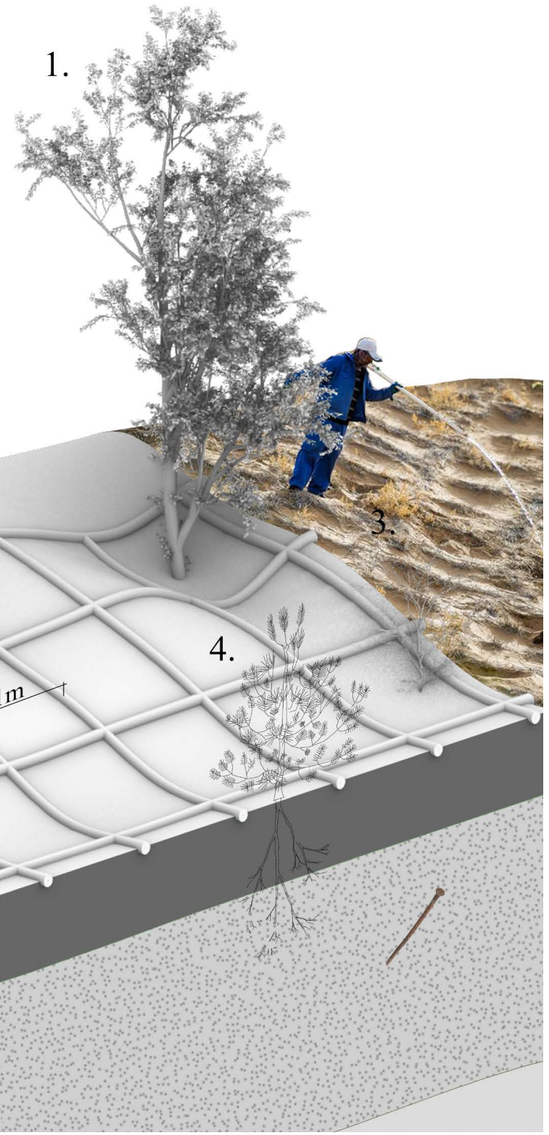
What began with us searching out existing interventions that altered the landscapes, including soft infrastructures

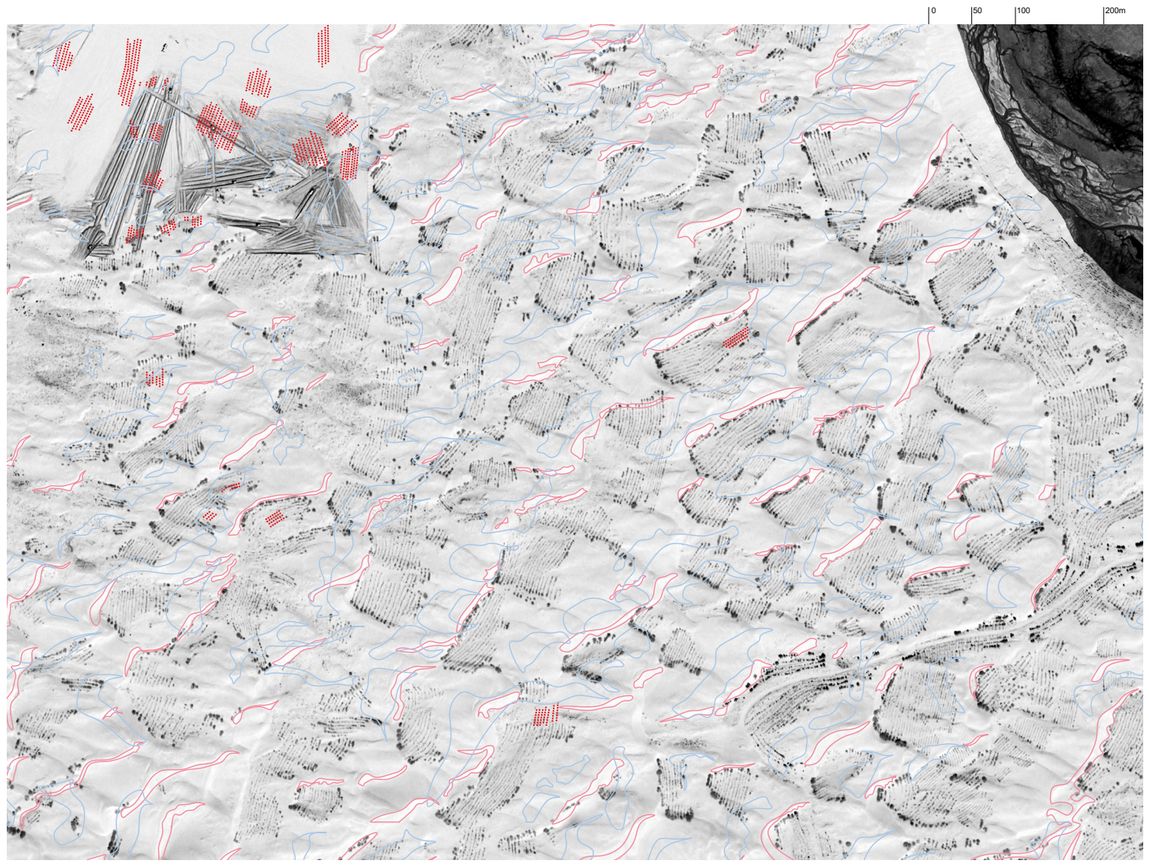
2) Yi Yu, Gao Yong, and Wang Ji, eds. Sandbag and Sand Barrier Techniques for Sand Control and Sand Fixation (Beijing: Science Press, 2014).

of plants and hard infrastructures like dams and bladeless turbines. What we found is that, in many other ways, people had already, on their own, tried and tested propositions for possible future landscapes. What we propose is to amplify their initiative, one comprised of newly created units that can further explore the potential interconnectedness among existing and future grids and old and new technologies, seeking out possible new topographies. A Desert in Retreat learns from the past and the present, and it envisions future possibilities, allowing for conversations between people and nature.

More than what we can learn from different materials that compose grids at many places, grids are also abstracted as a basic form unit for people to conduct other interventions with the purpose of making profits off the landscape rather than merely recovering deserts back to pure forests.[3]

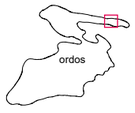
3) Zee, Jerry C. "States of the wind: Dust storms and a political meteorology of contemporary China." PhD diss., UC Berkeley, 2015.

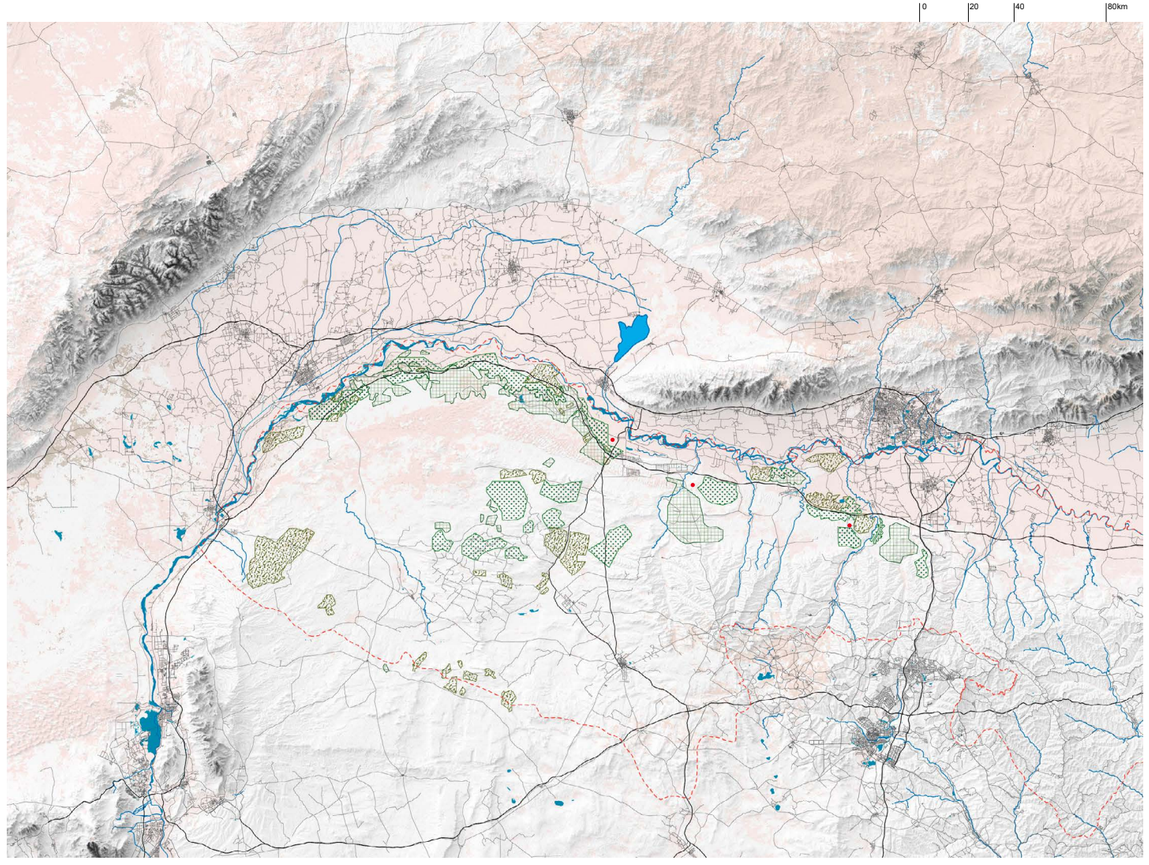




Dune
- 2002
- 2018

Disappeared Tree
- 2015

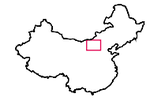


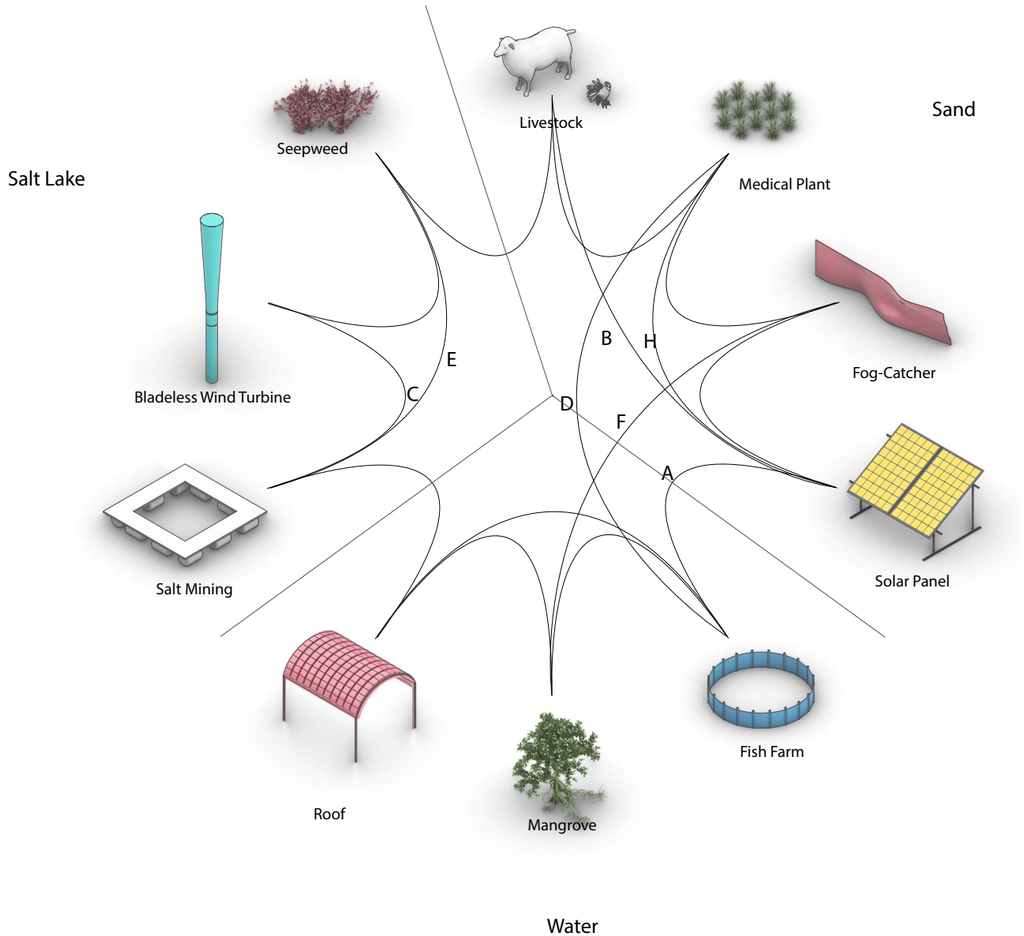


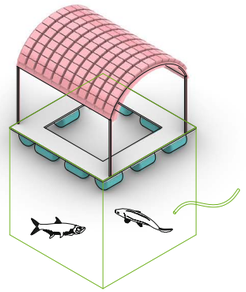
- Border Line
- River
- Highway
- Road
- Main Solar Farm

Soil Type
- Fluvisols
- Calcislos
- Kastanozems

Afforestation
- Tree Planting
- Liquorice
- Bush



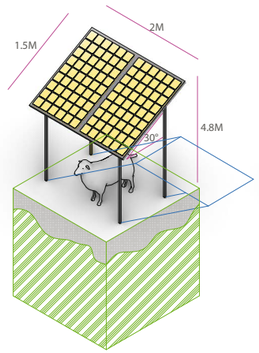




A

Fish Farm + Solar Panel

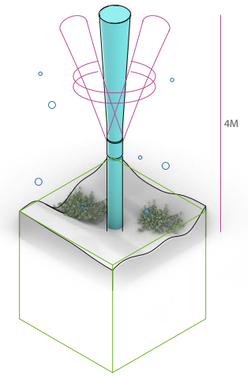
The solar panels provide the necessary shade for the fish farm. The water purified by the fish can be used for agriculture.



B

Solar Panel + Livestock

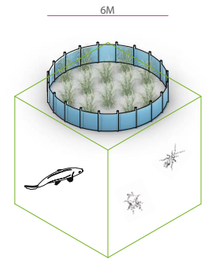
The solar panels provide shade, and the livestock graze underneath them, supplying natural fertilizer to the ground.



C

Wind Turbine + Salt Lake

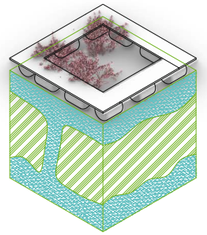
Install bladeless wind turbines in rivers or lakes to enhance water evaporation through the power of vibrations, thereby increasing moisture in the air.



D

Rice Farm + Fish Farm

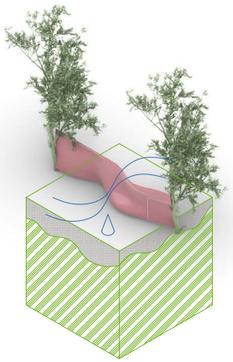
Fish farming is done in the same location as rice cultivation. The fish eat pests, serving as a natural pesticide.



E

Salt mining + Seepweed

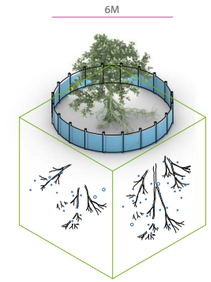
As salt mining continues, the area of naturally formed lakes decreases. By planting seepweed in the newly exposed soil, we can stabilize the soil.



F

Tree + Fog Catcher

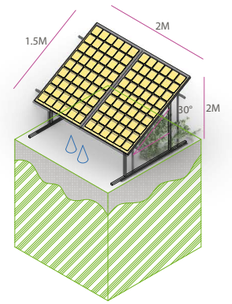
Installing fogcatchers between rows of trees is a natural method for providing moisture to the tree roots.



G

Mangrove + River Sediment

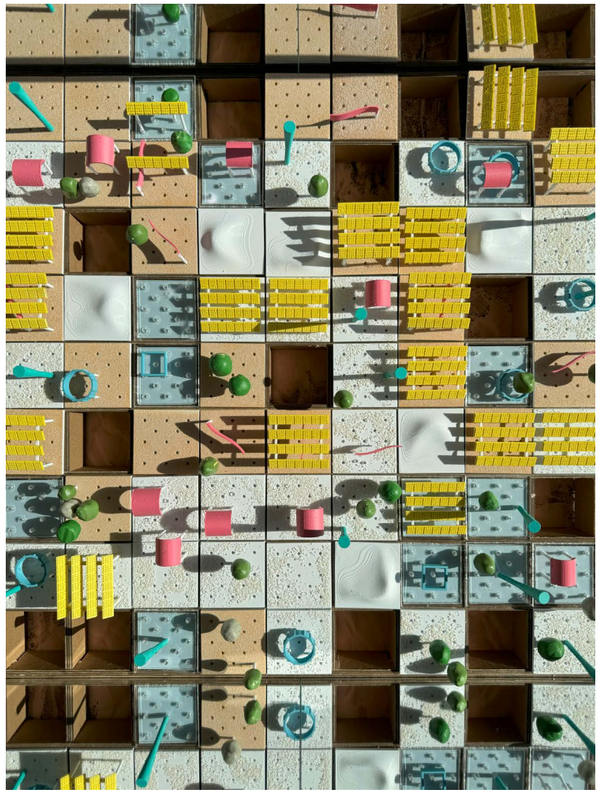
Mangrove trees are planted where river sediment accumulates to prevent desertification.



H

Solar Panel + Medical Plant

The water used to clean the solar panels flows down and is supplied to the plants.



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CRITICS:

MIDTERM
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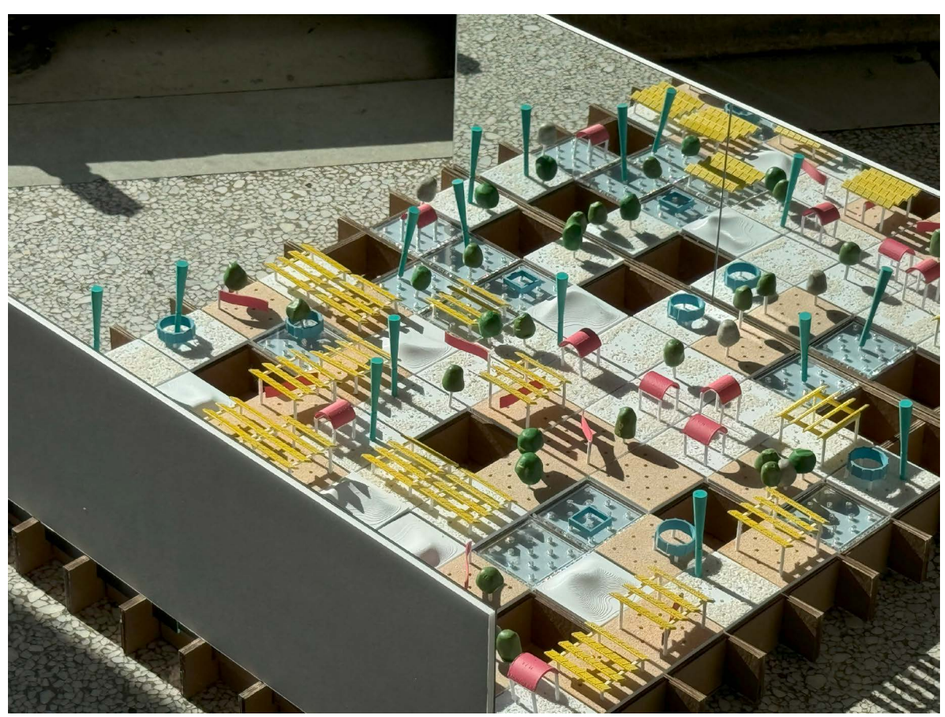
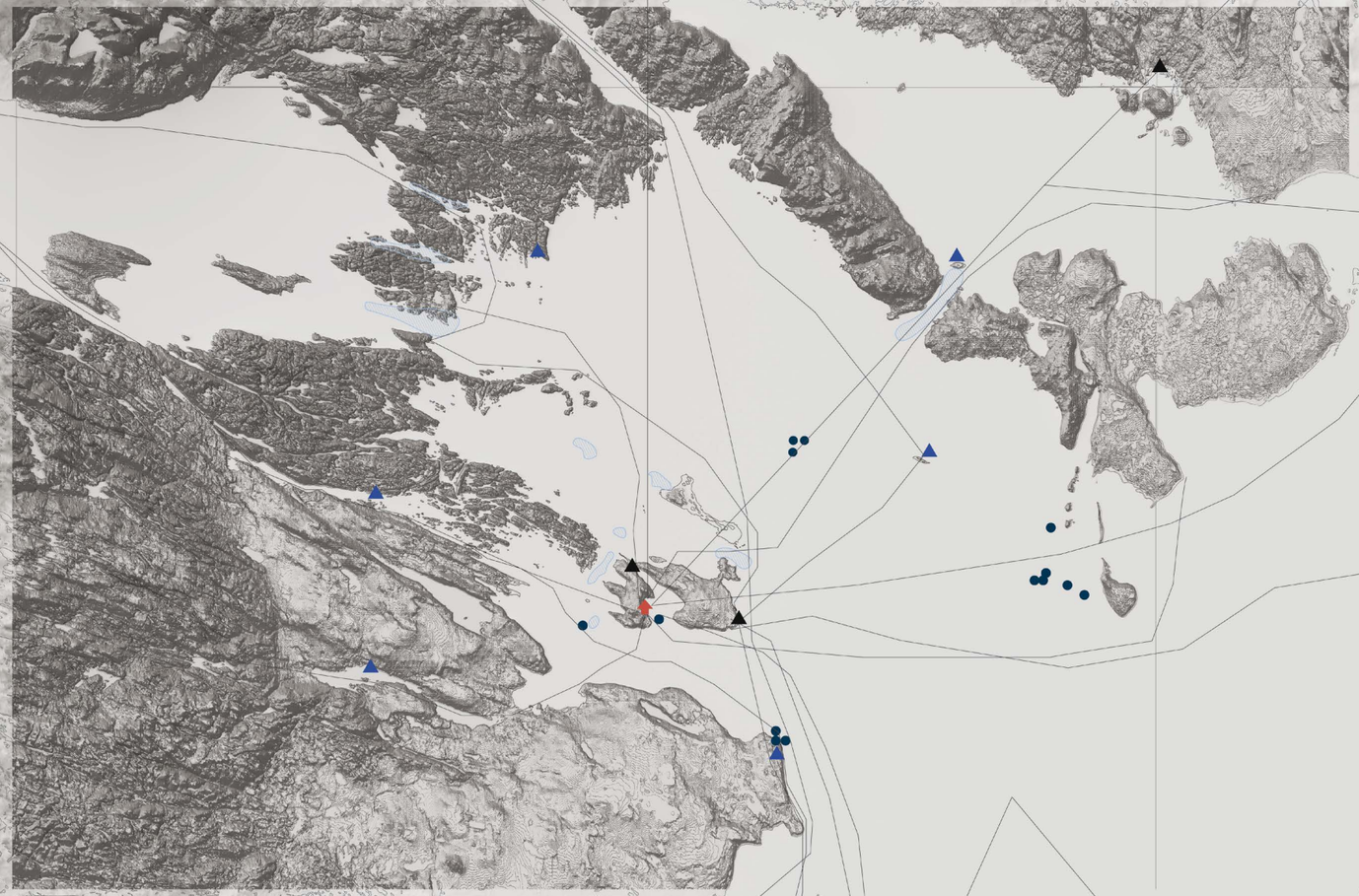
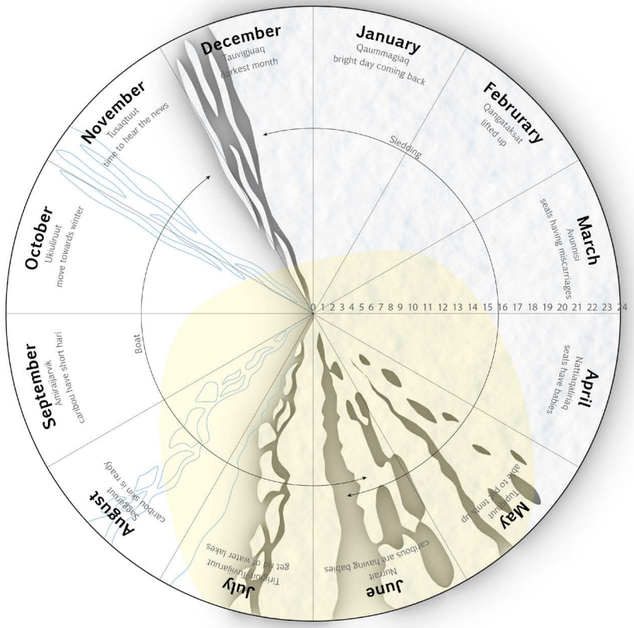


Inuits travel on the ice.
That trail disappear and appear repeatedly.

Words are Slippering through the Cracks
Columbia GSAPP Advanced Studio V
2024 Fall
Instructor | Leslie Gill, Khoi Nguyen
Location | Igloolik, Nunavut, Canada
Program | Outpost, Research Lab
Individual Work



LANDUSE
Travel Route
Community
Outpost Camp
NATURE
Reef
Polynya
FIELD STATION



Throughout history and into the present day, the waters and seas of Inuit Nunangat have been as vital, if not more so, for travel as the land itself. For much of the year – typically six to nine months – the ocean freezes solid, transforming into a vast expanse of sea ice. This frozen highway, once traversed by dog sled and now more commonly by snowmobile, forms a critical link across the Inuit homeland. It is not merely a physical pathway but a deeply symbolic one, representing freedom of movement and a bridge connecting people, places, and traditions across time and space.

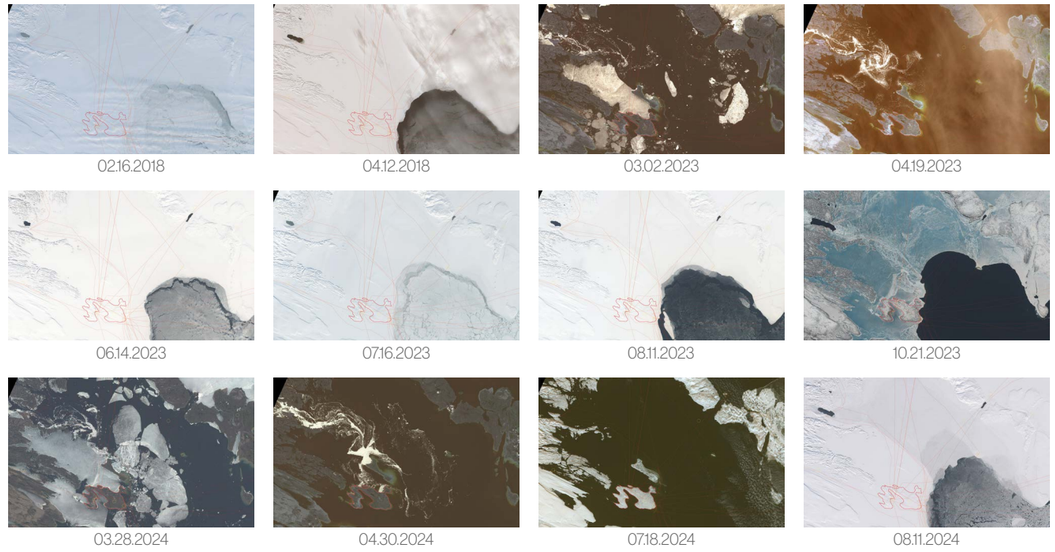
This perspective contrasts sharply with the views of 19th-century European explorers and modern-day shipping operators, for whom sea ice has long been seen as an obstacle – a barrier to be overcome rather than a critical asset for survival and connection.

Before the establishment of permanent settlements, the Inuit lived a highly mobile lifestyle, moving seasonally across the Arctic in response to shifting weather patterns, the availability of game, and the traditional preferences of each community for particular hunting and fishing grounds. The vast, interconnected routes over sea ice served not just as practical pathways but as intricate social and survival networks, linking camps, settlements, and key hunting grounds.

Many of these routes remain active today, used year after year and passed down through generations. If mapped, the dense web of Inuit travel routes would cover much of the Arctic, reflecting the enduring importance of these paths to contemporary northern life.

During the long Arctic winters, sea ice continues to provide critical access to hunting, harvesting, and fishing grounds, as well as opportunities for social connection between distant camps and settlements. In regions where overland travel is hindered by rugged terrain, wetlands, or sparse snowfall, sea ice often presents the most direct and efficient route to vital destinations. This is particularly true for communities or camps situated on islands, for whom the ice forms an essential lifeline.

Inuit knowledge of sea ice – its formation, movements, and seasonal changes – is deeply embedded in their culture and identity. This understanding supports not only subsistence and commercial hunting but also offers physical and spiritual nourishment, reflecting a profound relationship with the frozen landscape.



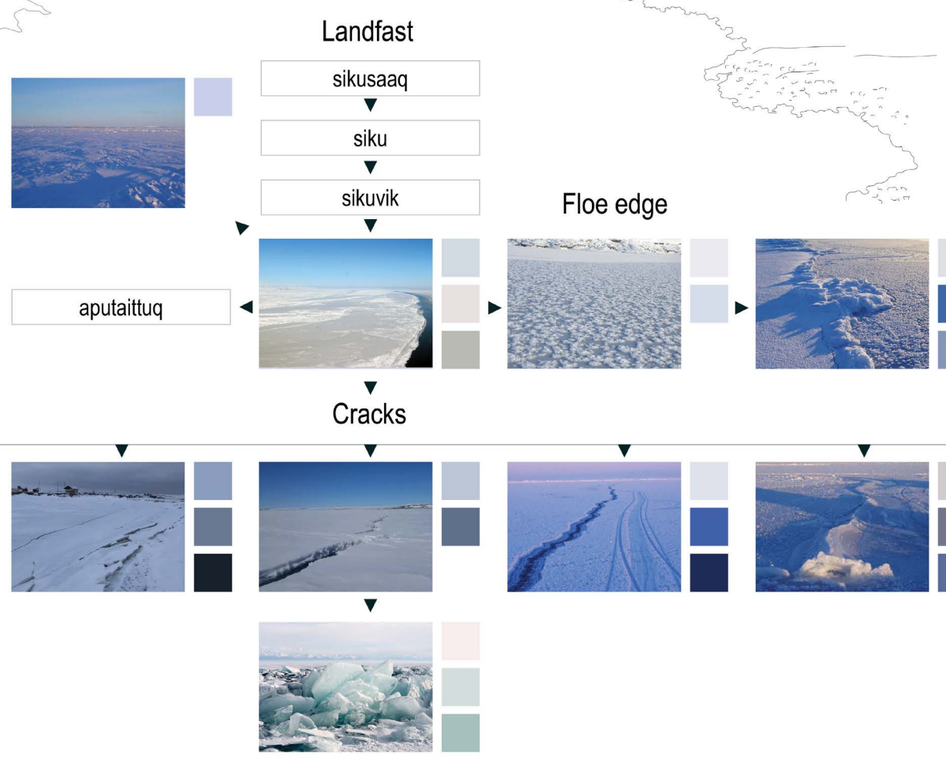
However, changing sea ice conditions pose significant challenges. As ice patterns shift, the routes and destinations that have sustained Inuit communities for centuries can become more dangerous or even inaccessible, threatening the safety of hunters and the knowledge systems that have developed over generations.

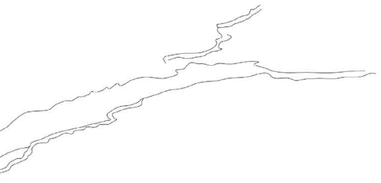
Josie Papialook (Fixing an Igloo During a Windstorm, 1980
Serigraph, stencil; 50 x 65 cm; Photo: Richard Garner;

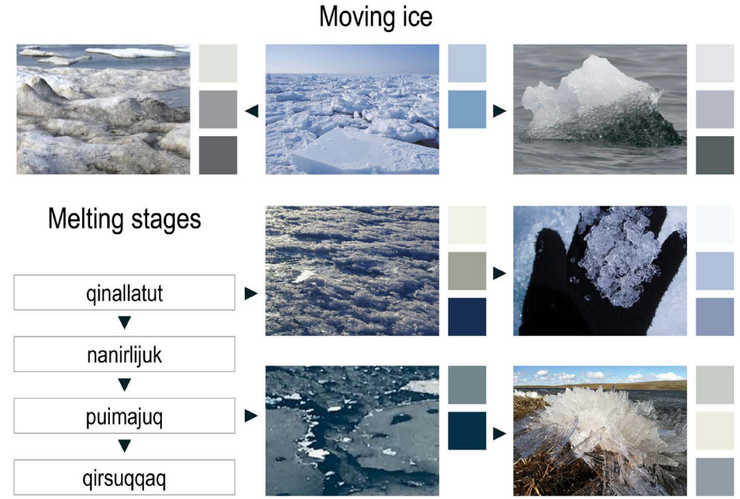
Inuit children grow up immersed in a world shaped by movement, absorbing stories that map the landscape around them. They learn through tales of wind directions, place names, snowdrift shapes, star formations, and the dynamic processes of ice – a form of experiential learning that extends far beyond the walls of a home.

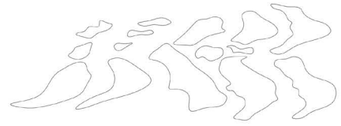
Yet, with the rise of modern technology like GPS, this deep, place-based knowledge faces new challenges. Elders have expressed concerns about the reliability and limitations of such devices, which can never fully capture the complexities of the Arctic environment. They highlight the inherent connections between traditional knowledge, modern technology, and the changing socio-economic realities of life in permanent settlements, reminding us that even as the Arctic transforms, the ties between people, land, and ice remain as vital as ever.

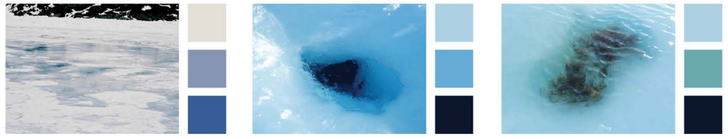
To find their way across the blank, flat, white landscape, they have developed unique perspectives.

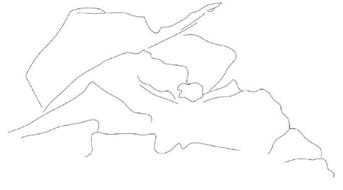


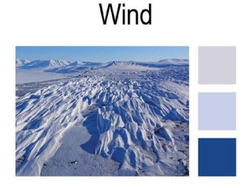


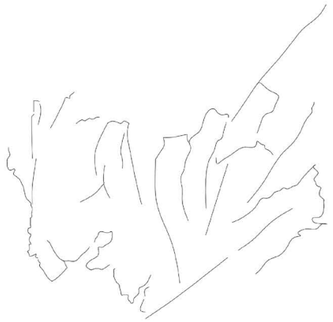












Sea Ice Thickening

Near-shore freezing

qinu ᖁᑭᓂᐊᖅ

frazil
early ice formation with a slush-like consistency, but difficult to paddle through.

quvviqquaq ᖁᑯᕐᕿᖅᑯᐊᖅ

Ice at that stage of freezing when the crystals have coagulated to form a soupy layer on the surface.

sikuvalliajuq

freeze-up

qaingu ᖁᑲᐃᖏᑌ

ice formation along the shore, in the tidal zone

quvviquat

nigajutaviniq

a former nigajutaq, the area has now frozen over

nigajutaq

a pocket of open water that takes longer than the surrounding sea ice to freeze over

sikuaq ᓱᑯᐊᖅ nilas

First thin layer of ice, still very thin, can see seals popping up and sea water rising.

pulmajuq ᓴᐃᒪᓕᕐᖅ

slushy, wet ice surface caused by snowfall on new ice, water seeps through and soaks the snow

qaliarittinnik ᖁᑲᓪᓕᐊᓕᖅᑎᓐᓂᒃ

Thinner ice sliding over each other, becoming layers of ice along the floe edge

sikuriaq

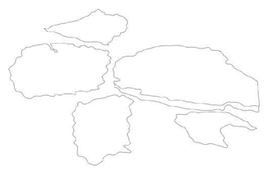
niuma ᓂᐅᒪ

snow-like ice crystals on new ice

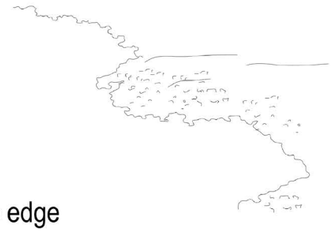
niumakjuaq

large niuma

sikuqaq



Landfast



sikusaaq

siku

sikuvik

apulliq

an accumulation of snow on sea ice

Floe edge

tuvaq ᑐᕐᖅ

fast ice
solid, thick ice that is attached to the land

aputaittuq

qanguti

ice crystallization or compact snow layer on newly formed ice, usually near open water

sinaaq ᓱᓇᖅ

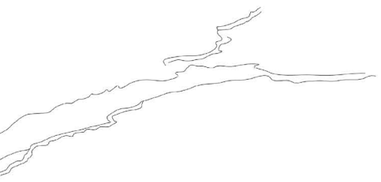
Edge of ice. The demarcation at any given time between fast ice and open water.

uiguaq

new ice that forms at the sinaaq

uqaqtuq

the action of ice breaking off, usually where a nagguti has formed.



Cracks

nuttaq

a small crack in the ice that does not widen

qunniq ᖁᑎᓂᖅ

Cracks in the ice along the shoreline, due to tidal movements, it could also be connecting land and floe edge, seals move along

pilagiatinniq ᐱᓕᒥᐊᖁᓂᖅ

ice bridge
a nagguti that stops and starts/ continues in a different direction

APUQTINNIQ ᐊᐳᖅᑎᓐᓂᖅ

Sea ice that gets pushed up to shore in the spring.

nagguti ᓇᖏᔪᑎ

tide crack
a crack in tuvaq that opens and re-freezes, and runs from land to land

qugluk niq ᖁᑯᓕᑐᓂᒃ

a crack that opens and closes in a peaked formation

aajurq ᐋᔨᕐᖅᕆ

lead
a crack that opens in the spring and does not re-freeze

Moving ice

sikutuqaq

old ice that does not completely melt in the summer

aulajuq ᐊᐅᓪᓚᓂᖅ

drift ice / pack ice
the whole process/collection of moving ice

puktaaq ᐳᑲᑦᖅ

Thick pieces of multi-year ice that are either floating or stranded on the beach.
Can be 8-15 feet thick. Aged ice (good for tea).

Melting stages

qinallatut

nanirlijuk

puimajuq

qirsuqqaq

nilaruqtuq

thin film of crystallized snow/ice on top of melting snow

ijaruvaujat

crystallized ice formed into a little ball shape

qinuq ᖁᑭᓗᑐᖅ

rotten ice
Ice with many holes caused by spring melt. Also called rotten ice.

illaujaq ᐃᒡᓗᐅᔪᖅ

candle ice

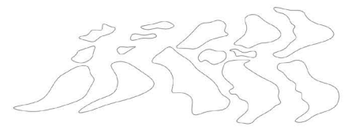
Water Accumulation

immaktinniit

the process of water accumulating on the ice due to snowmelt

puktailaq ᐳᑲᑕᐃᓚ

white/dry patches of snow seen above immaktinniit



ikiartirtuq

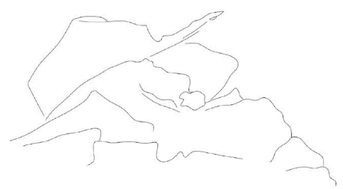
where a thin film of ice had formed overnight

itisiuraq

deep sections created in the ice due to icemelt

killaq ᑭᒡᓗᒃ

thaw hole
A single drainage channel or hole that drains straight through.



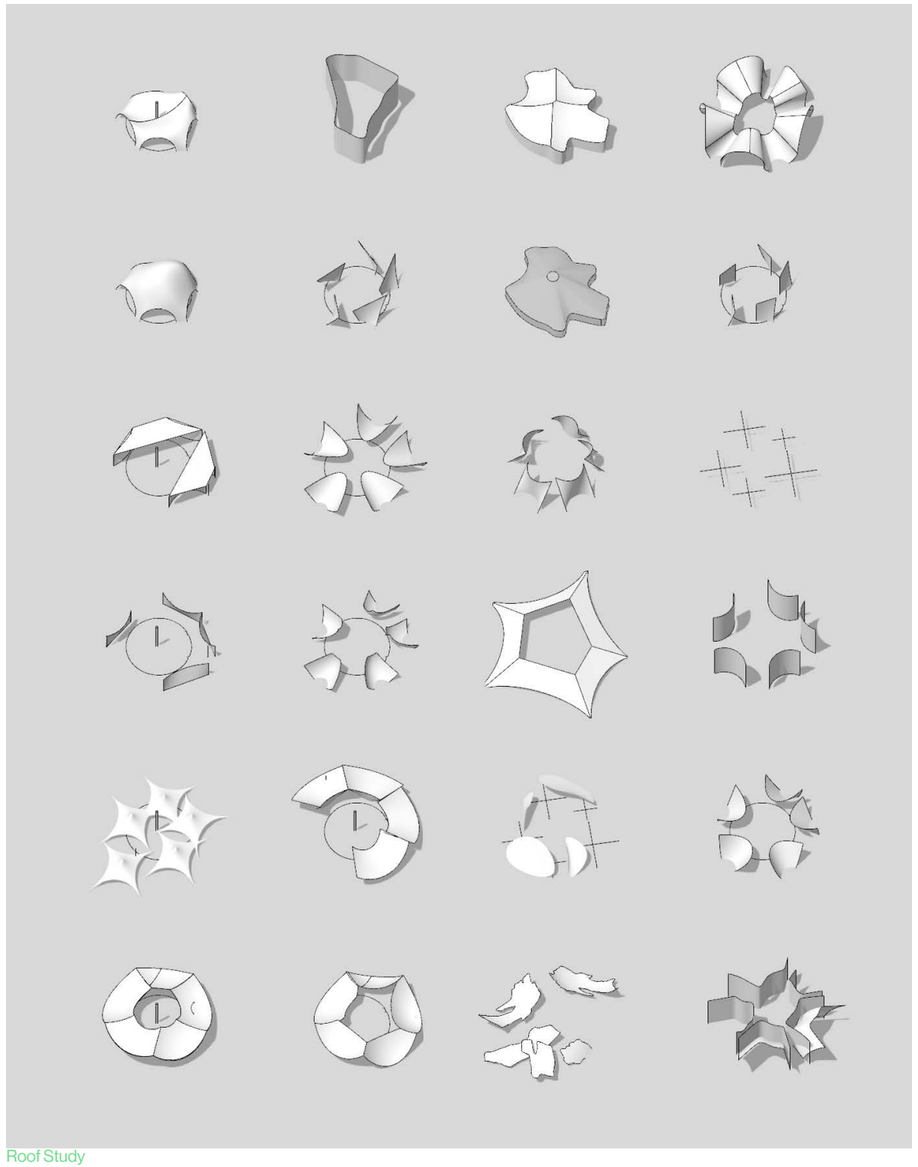
Wind

kalutoqaniq

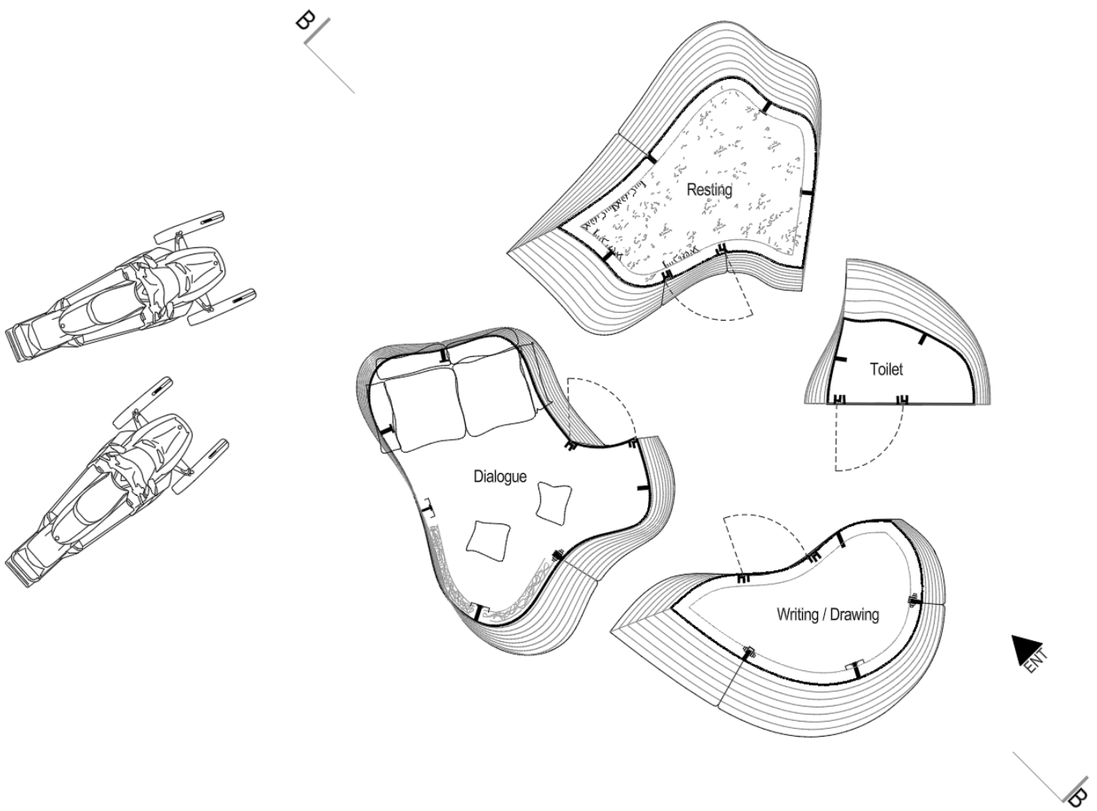
Sharp, irregular ridges formed on a snow surface by wind erosion and deposition. On mobile floating ice, the ridges are parallel to the

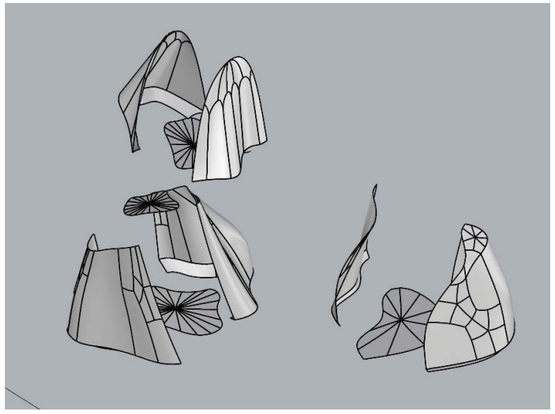
This is an outpost located along their trail. When the ocean begins to freeze, they bring the outpost and set it up along their path.

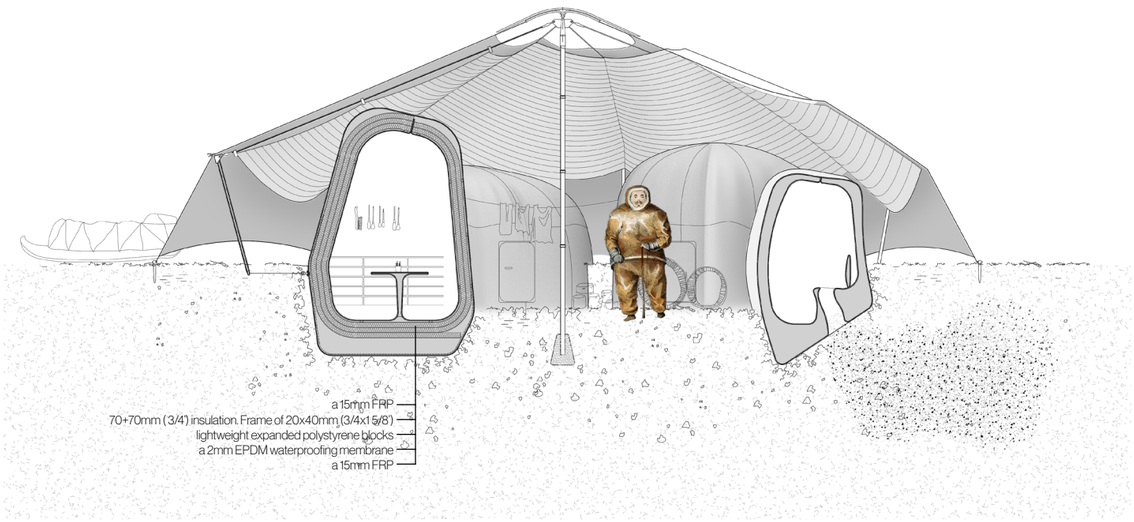
Ammassalik wooden maps are carved, tactile maps of the Greenlandic coastlines.



Roof Study



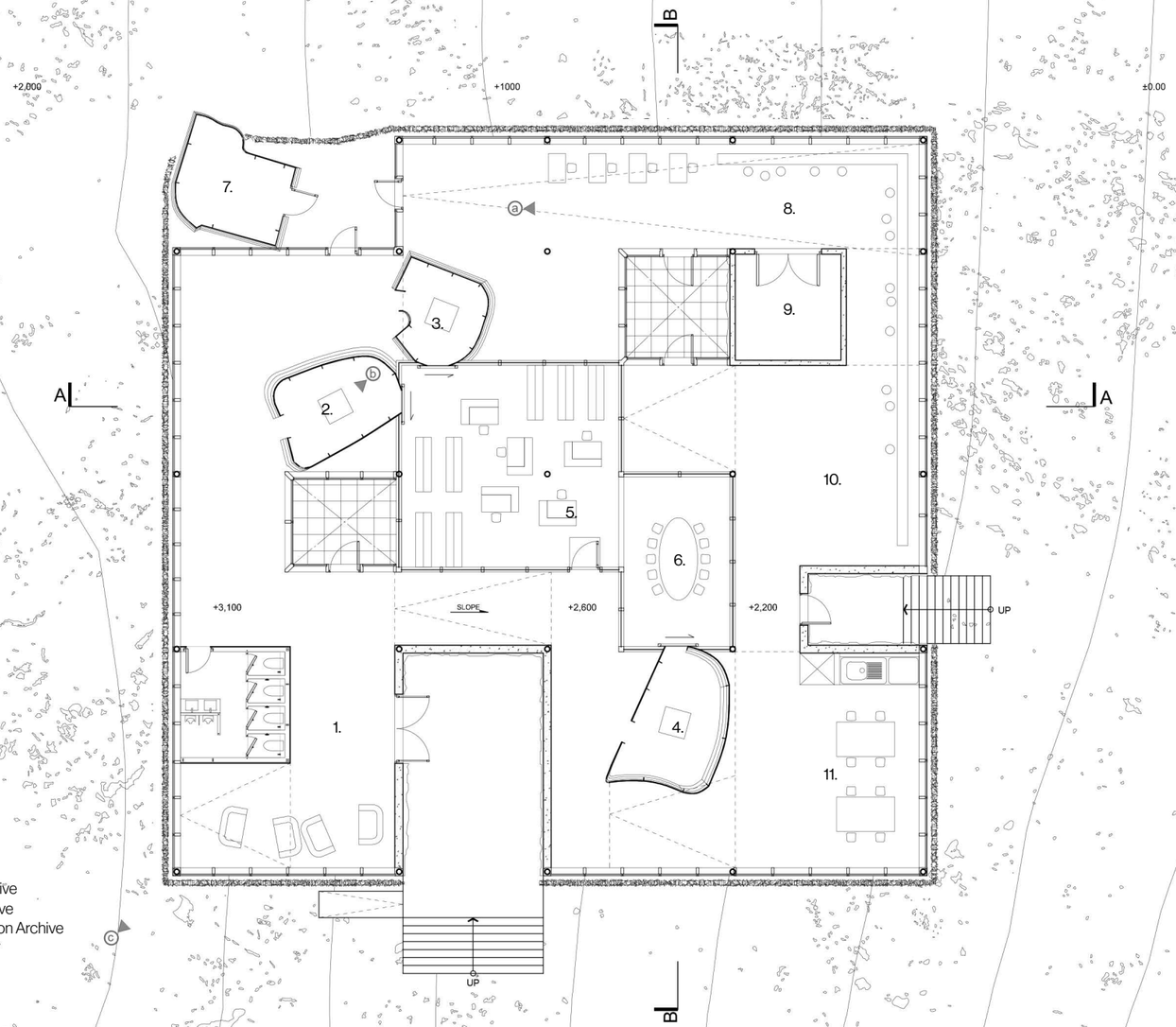




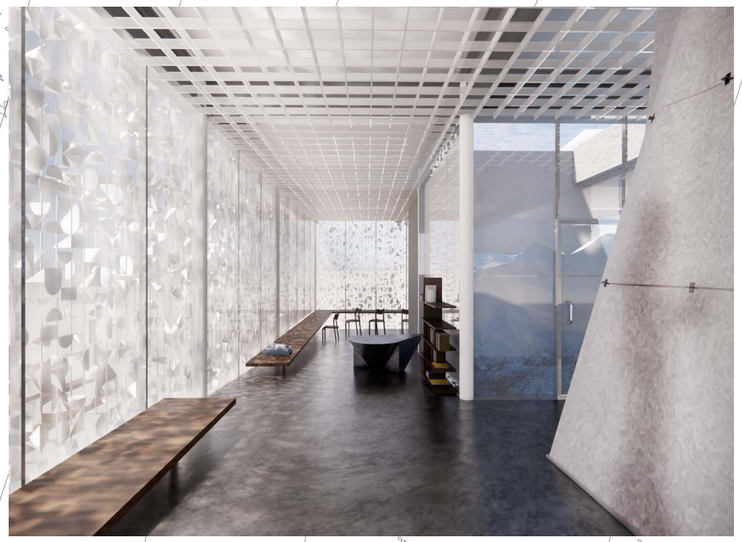
For its mobility and water resistant, outpost is made by FRP.

It is permeable to sunlight.

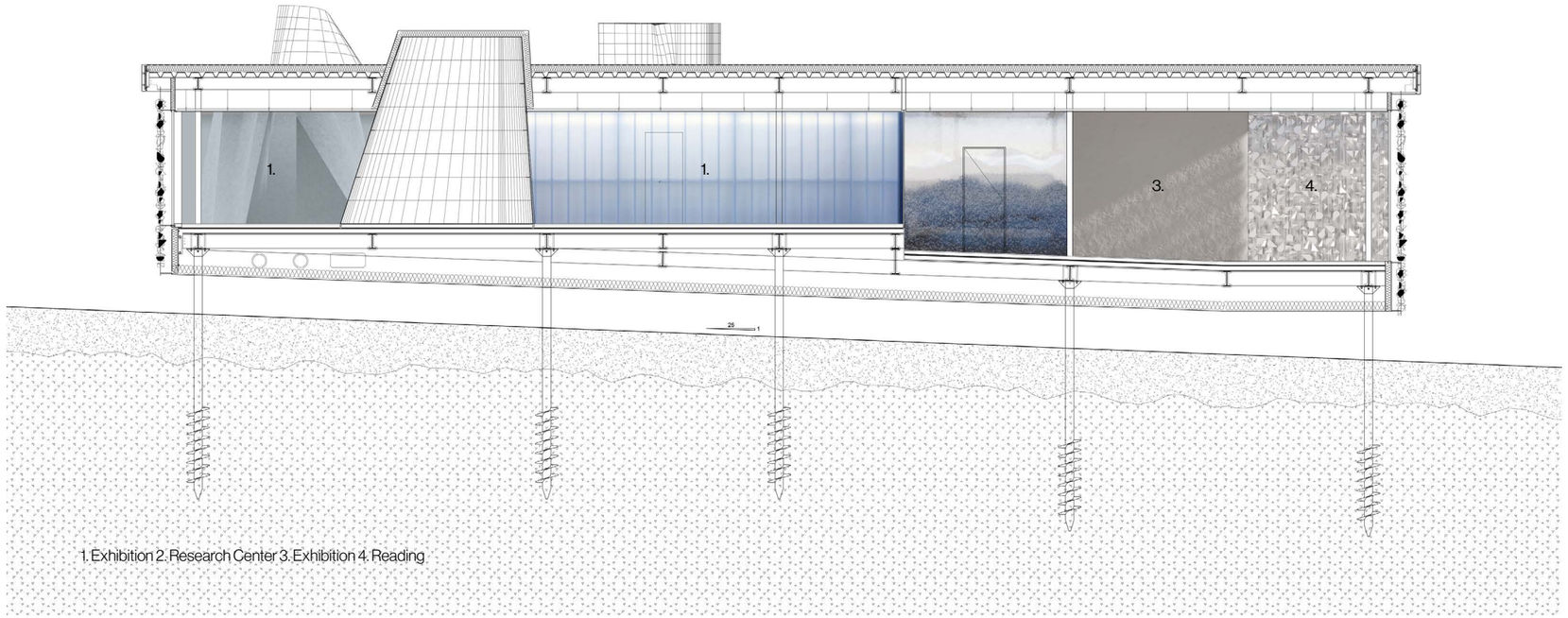
In one of their villages, there is a research and archive center dedicated to preserving their perspectives and indigenous knowledge. The archive rooms are shared by researchers and visitors, while the remaining spaces are designed to reflect their trail.



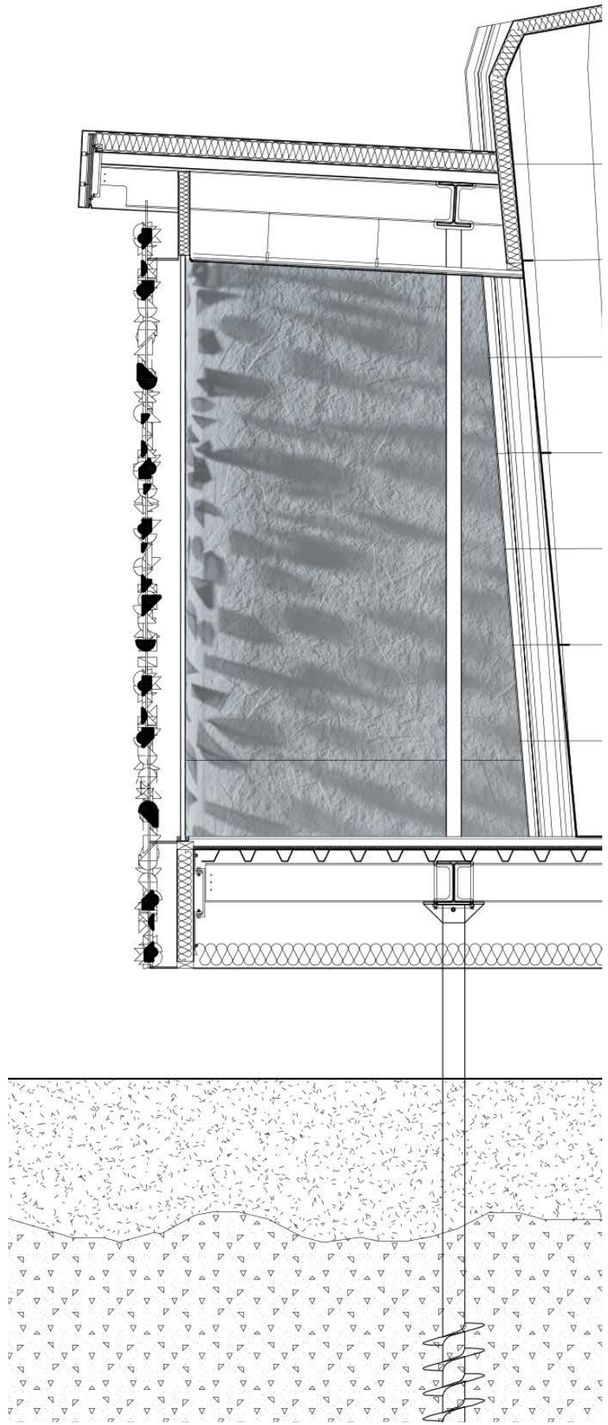
1. Hall
2. Word of Snow Archive
3. Word of Wind Archive
4. Word of Constellation Archive
5. Research Center
6. Meeting room
7. Special Archive
8. Reading
9. Mechanical
10. Workshop
11. Workshop



Materials like glass, transparent FRP, and steel are chosen to reflect the colors of ice. By moving through the space, the Inuit can connect with the unique colors of their landscape.



1. Exhibition 2. Research Center 3. Exhibition 4. Reading



CRITICS:

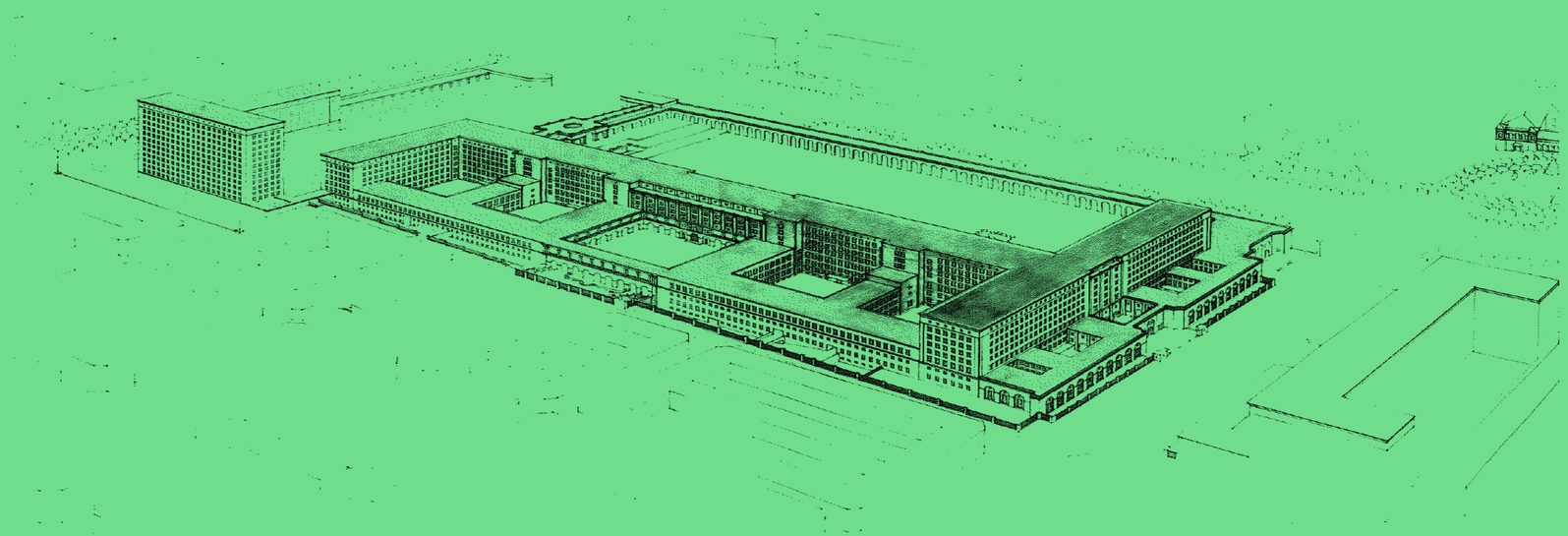
MIDTERM
Sunil Bald
Jesse McCormick
Abraham Murrell
Galen Pardee
Michael Schissel
Kriti Shivagunde

¾REVIEW
Adam Frampton, Only-If / Harvard GSD
Phu Hoang, MODU / GSAPP
Paul Lewis, LTL Architects / Princeton
Mabel Wilson, Studio And / GSAPP

FINAL
Eric Bunge - nArchitects / GSAPP
Chris Gardner - TUNA / NJIT
Amelyn Ng - amelynng.com / GSAPP
Alessando Orsini - Architensions / GSAPP
Marc Tsurumaki - LTL Architects / GSAPP

Neuvos Ministerios is a very big government building.

Pollinized Ministerios
Columbia GSAPP Advanced Studio VI
2025 Spring
Instructor | Juan Herreros, Oscar M. Caballero
Location | Madrid, Spain
Program | Residential Complex
Team | Wooseok Jang, Junhyuk Kim



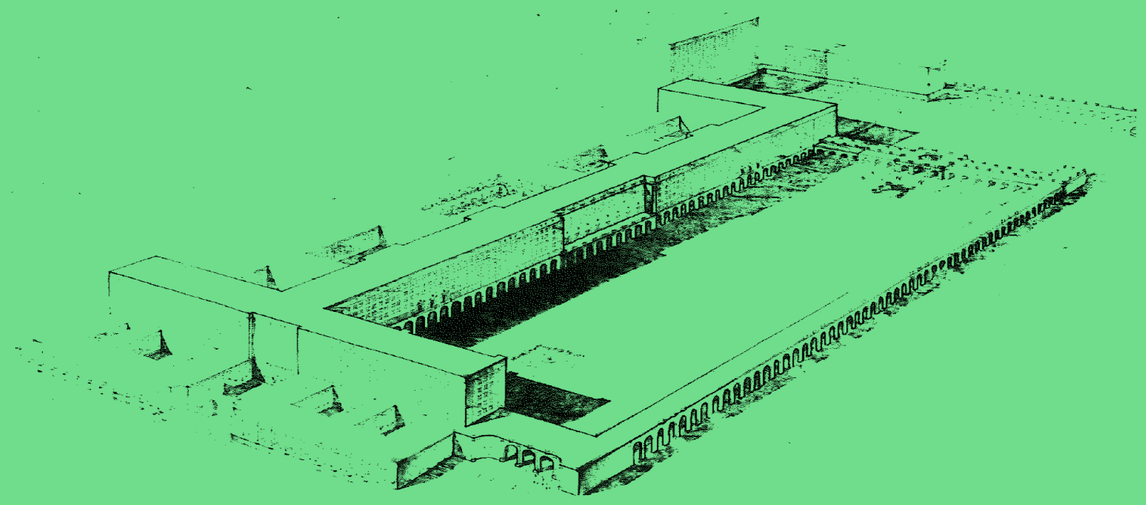
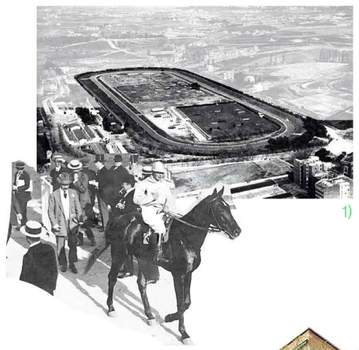
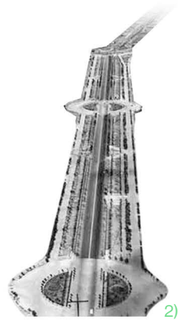


Figura 29.—Los Nuevos Ministerios. Madrid. S. Z. U. Perspectivas de la propuesta base.

Lilia Maure, R. (1987). SECUNDINO ZUAZO -Arquitecto.



1)



2)

3)

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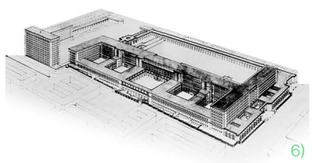


6)

7)

8)

9)

9)

1) The demolition of Hipódromo
2) Paseo de la Castellana
3) la casa de las flores madrid
4) Secundino Zuazo
5) Spain War
6) Sketch (1933)
7) Francisco Franco
8) Construction Halted (1936)
9) Casa De La Arquitectura

It was originally designed as a brick structure but was transformed into a granite exterior under Franco.

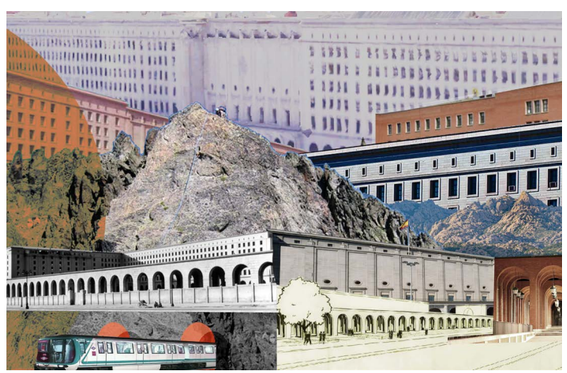
Nuevos Ministerios is a massive government building located in the center of Madrid. More precisely, it sits slightly north of the central area, as it was built in the 1930s in line with the government's ambition to expand the capital toward the north. The building spans over 120,000 square meters and consists of seven floors, making it a structure of truly monumental scale.

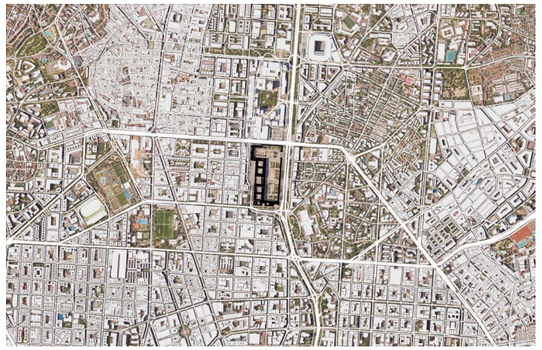
The building is primarily constructed with brick and granite, which gives it a distinct and imposing atmosphere. Considering its size, which could fit roughly eight city blocks, the building causes various inconveniences within the urban fabric. It takes on a closed stance toward the surrounding urban structure, standing like a massive fortress wall in the middle of the city.

Originally, our site was home to a racetrack. However, with the population growth in Madrid, the need for urban expansion toward the north arose, leading to the decision to demolish the racetrack and build a new government building.In 1933, Suazo began the design and construction work, but it was halted due to the Spanish Civil War. Franco then replaced the architect and changed the exterior material from brick to granite.

So we began our exploration of the building by creating this collage.
While the empty central courtyard seemed to hold great potential, it felt completely sealed off—tightly enclosed like a fortress wall.

At times, it even felt like a barren mountain. The central courtyard, surrounded by buildings and arcades, appears dry and lifeless. While the arcades might suggest easy access, in reality, the space is off-limits—land that no one can truly enter.





1) Site Map

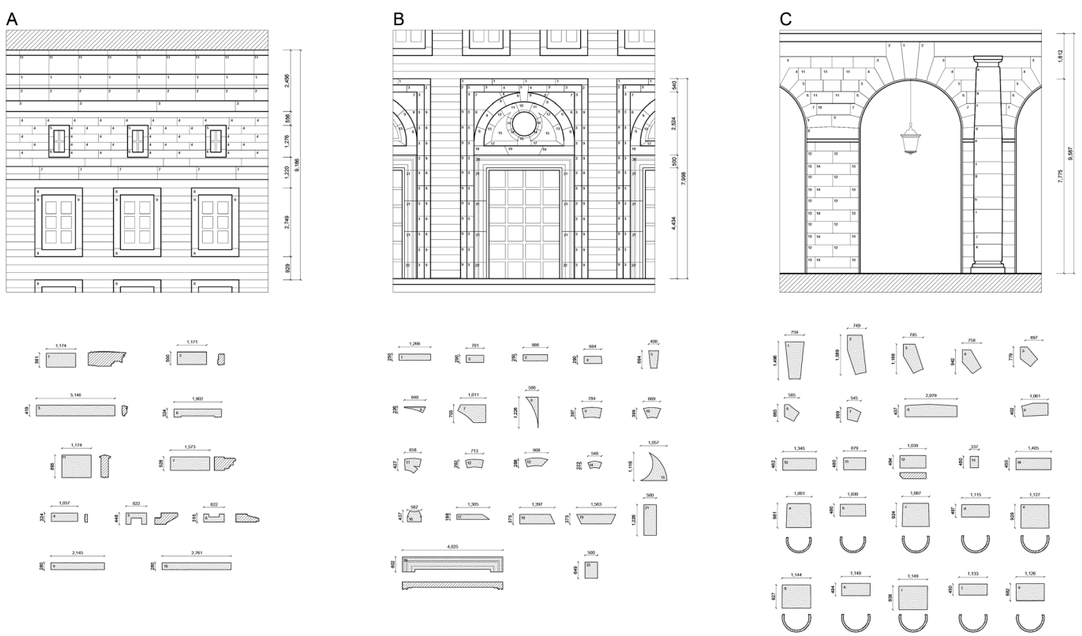
The green spaces around Nuevos Ministerios also appear to be abundant at first glance.[1] However, when limited to publicly accessible green spaces, the reality falls far short of what the satellite view suggests. Compared to the greenery seen from above, the amount of usable public green space is significantly lacking.[2] But this is not just a problem for people. For pollinators, lawns and dense trees are not significant. They need flowers. And in Madrid, flowers were surprisingly scarce. They were scattered across the city in a fragmented and inconsistent pattern.[3] Spain is home to many native flowering species, each with its own blooming season.[4] If these flowers were carefully managed and utilized, it would be possible to have blooms throughout most of the year. So we began to imagine: what if our building could become a green space for both pollinators and people? In the distant future, it could give rise to a new linear green axis reshaping the urban ecology of Madrid.

2) Site Map of Valid Park for Human

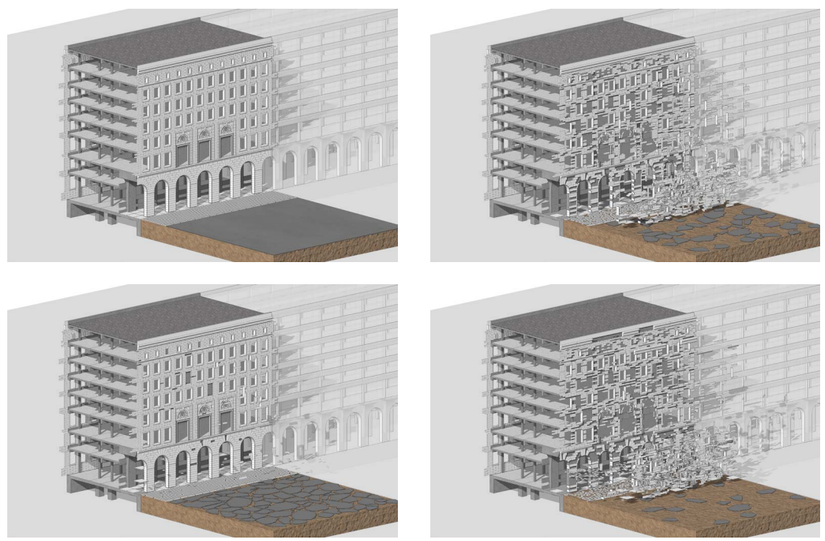
3) Site Map by Pollinator's Perspective

4) Annual Cycle of Flowers in Madrid

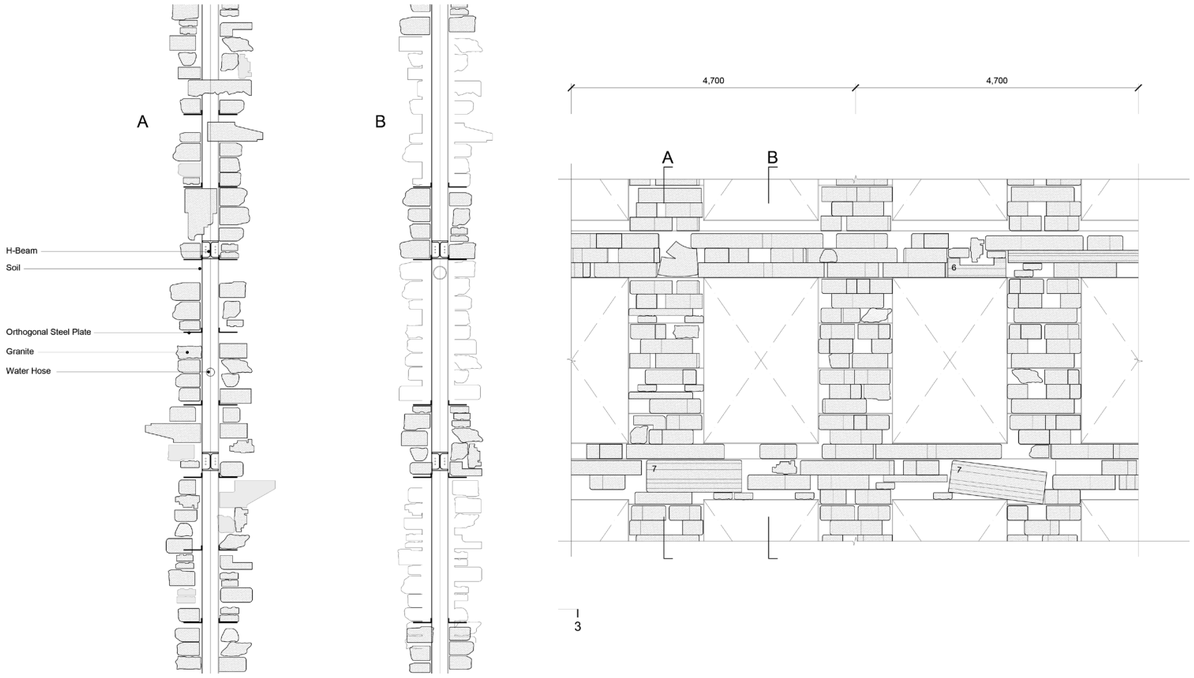
Facade Analysis

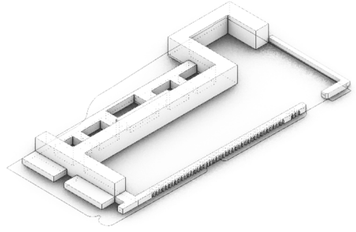


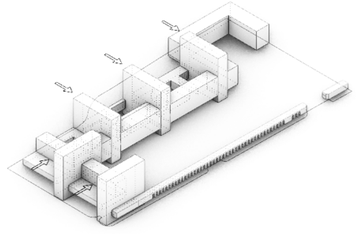
The granite façade that encased the building was removed and reconfigured. The goal was to create a more porous architecture, starting with the material itself. This process involved dismantling the main façade and reconstructing it as a freestanding wall.

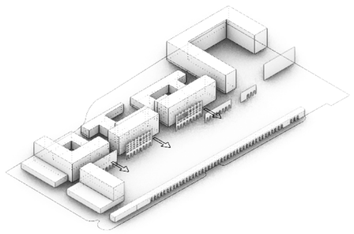


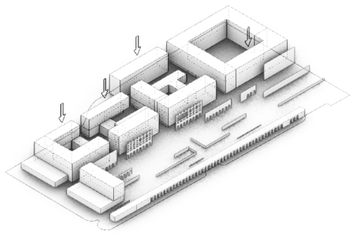
Section and Elevation of New Wall





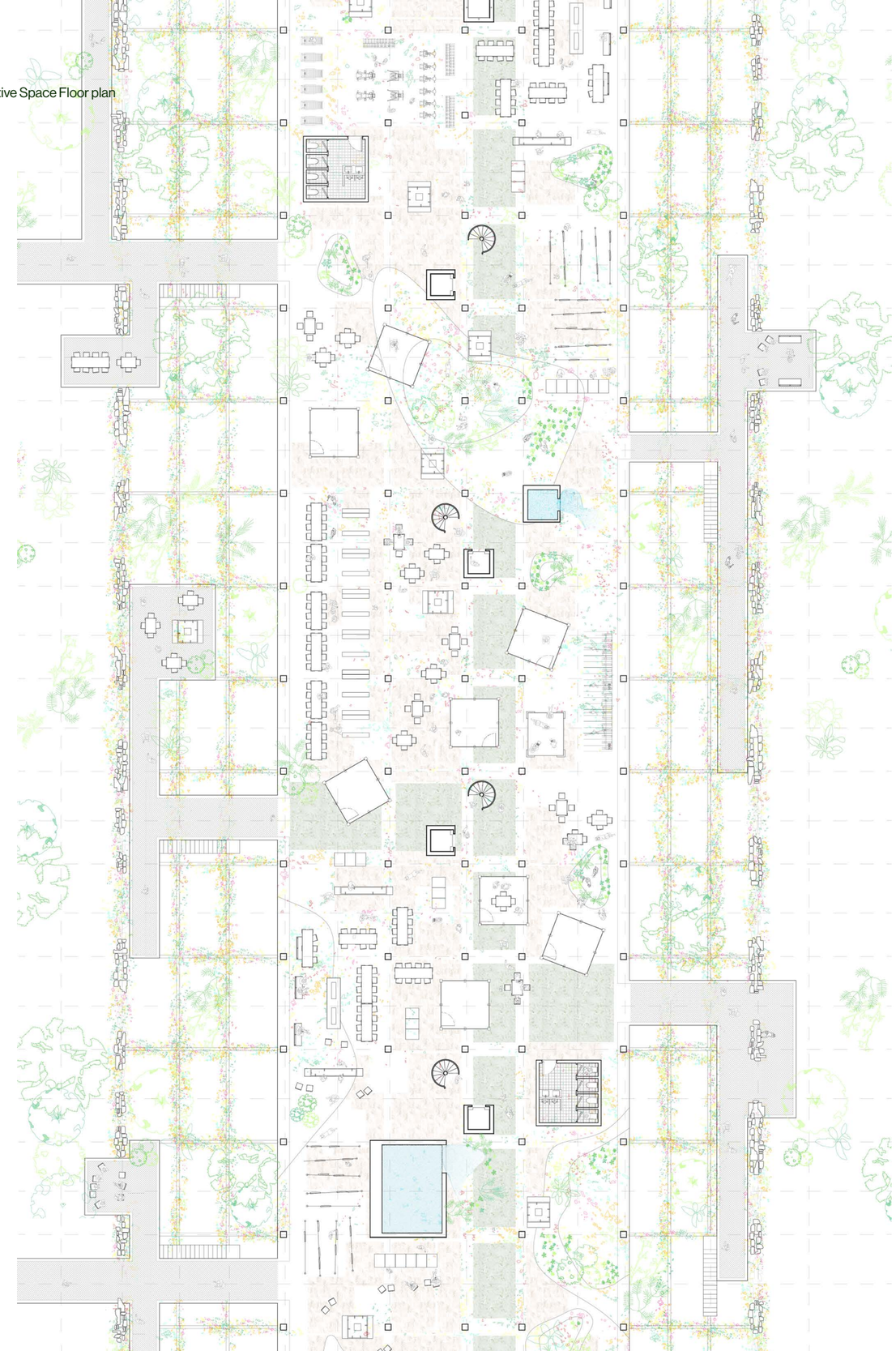




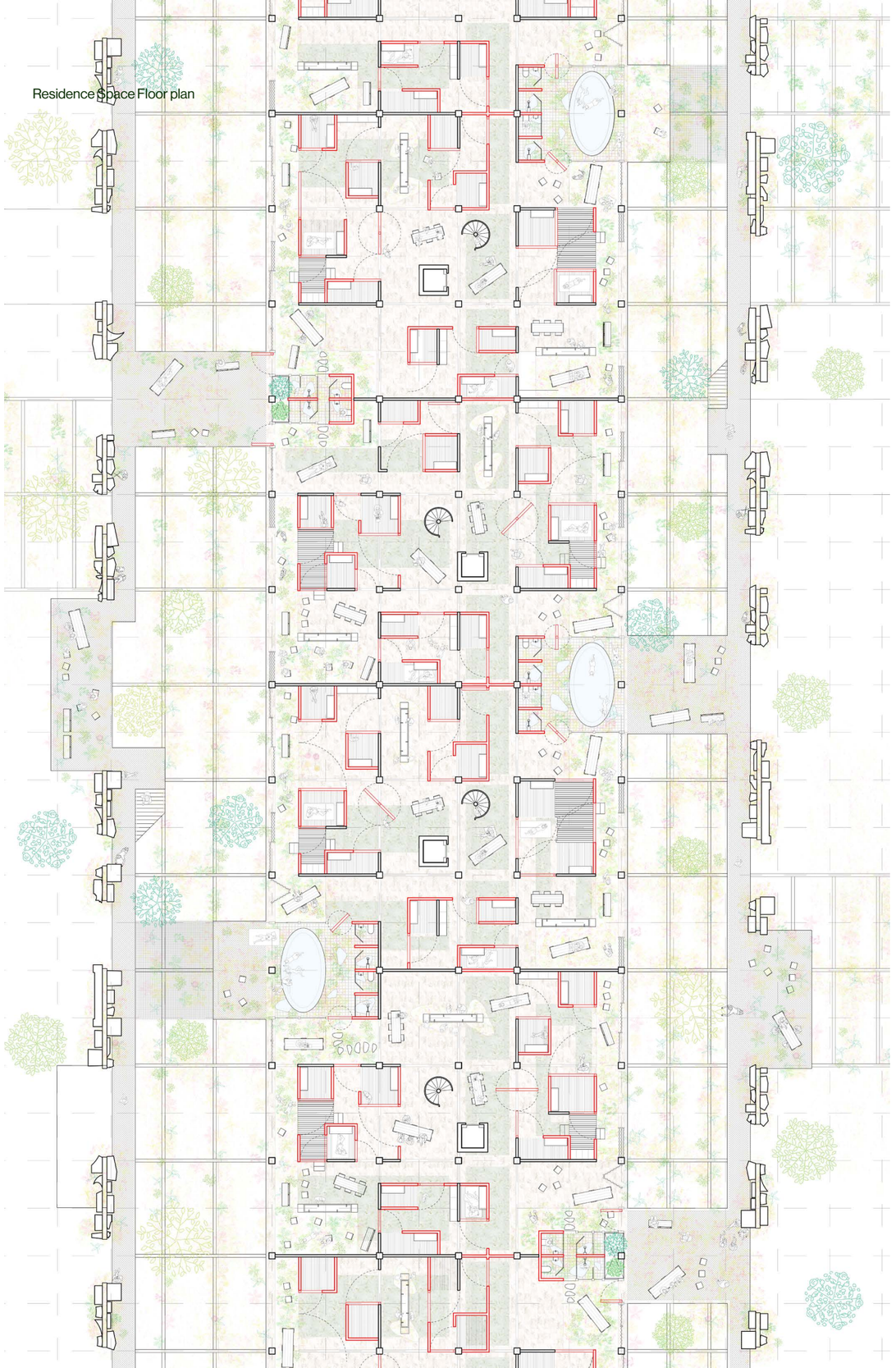


A square once filled only with cars is transformed into a place for life through the addition of new walls.

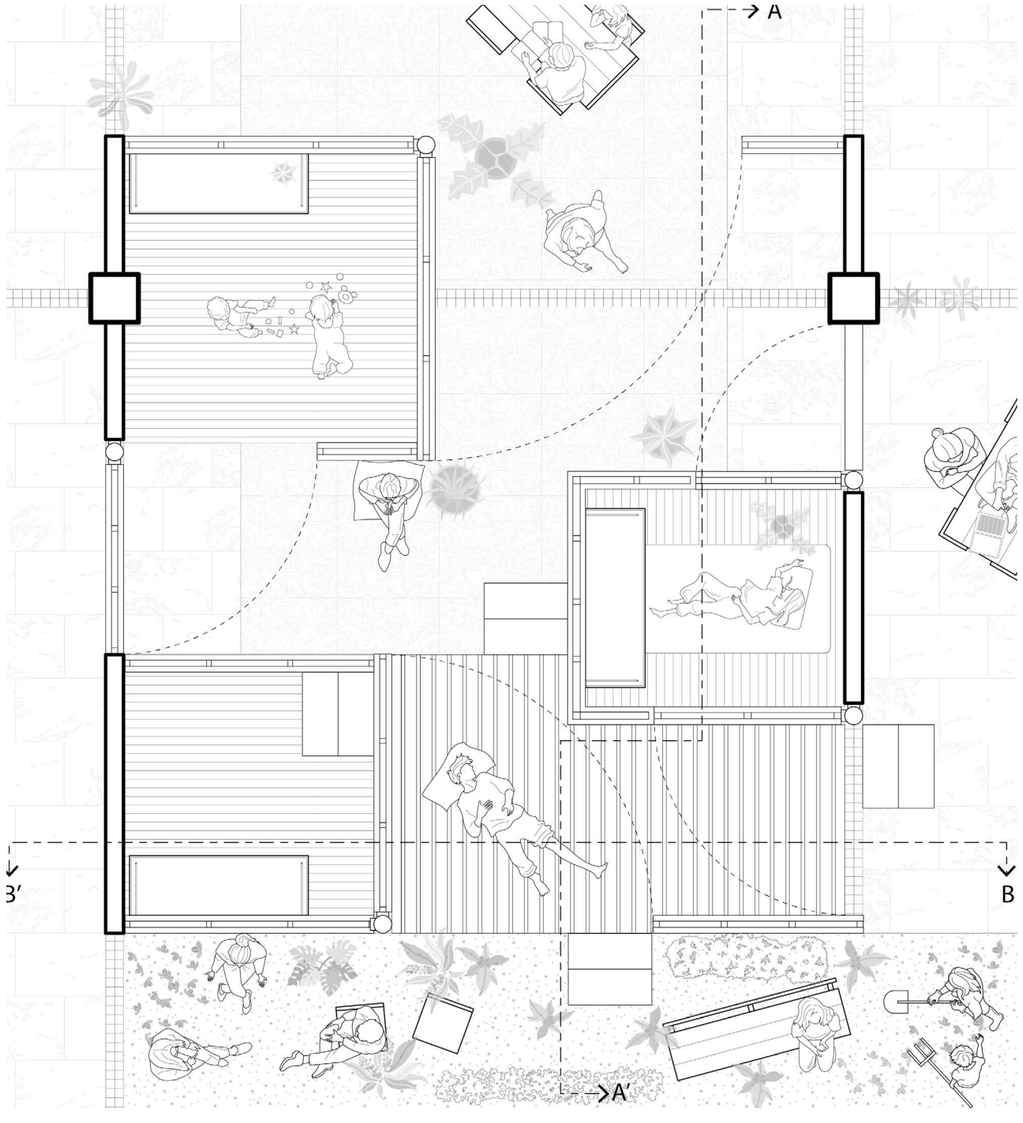
Collective Space Floor plan



Residence Space Floor plan



Unit Floor plan



Jacuzzi

Fountain

CRITICS:

MIDTERM
Mireia Luzárraga
Hilary Sample
Laura Fierro

FINAL
Galia Solomonoff
Gabriela Carrillo
Marina Otero
Andrea Molina Cuadra

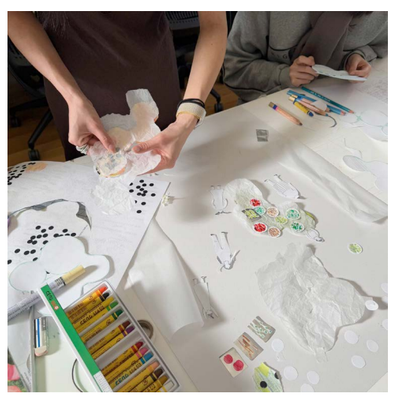
What does it truly mean to eat locally?

LocaliTea
MSAAD Competition_Edible Summit
2025 Spring
Instructor | Lydia Kallipoliti
Location | Avery 110, Columbia Univeristy
Program | Exhibition
Team | Amy Suzuki, Minhan Lin, Rudain Almulla, Sewon Min

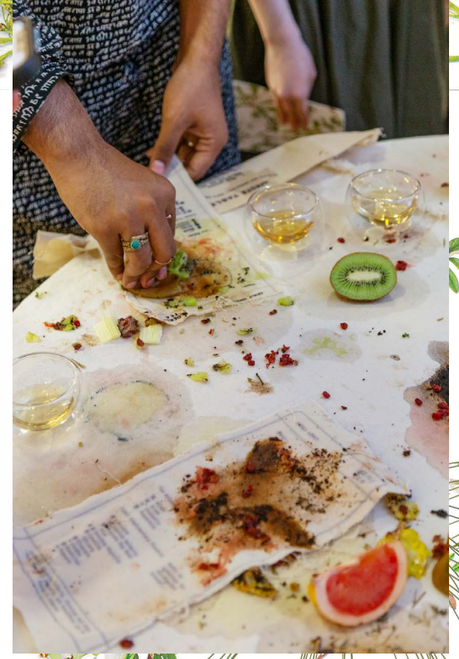
What does it truly mean to eat locally? LocaliTea reimagines locality not just as a matter of geography but as an intimate entanglement of bodies, environments, and food cycles. It challenges the conventional experience around tea drinking by integrating food production directly into consumption and transforming the table from a passive surface into an active participant in the local food cycle.

The design features four repurposed tables from our local space, each representing a phase of the food process: gardening, sorting, brewing, and decomposing. Tablecloths serve as architectural devices to transform ordinary tables into elements that explore food locality. There is no dedicated dining table; instead, dining spaces are embedded within these stations, blurring the boundary between consumption, production, and decomposition.

The gardening table introduces a new way to defi ne local food—focusing not on native species but on plants that have adapted to New York City's urban landscape. It invites diners to forage, fostering an awareness of shared micro-biomes between humans and their environment. The sorting table exposes the labor behind food preparation while recognizing interspecies alliances—what we discard still holds value for others. The brewing table highlights the often-overlooked transformation of food through time. Brewing is not just preparation but an act of mediation—water extracts flavors, nutrients, and histories from plants. Here, diners witness the invisible process of metabolism, the way water dissolves, infuses, and transforms ingredients. The result is a brew whose fl avor not only refl ects its material origins but impacts our bodies physiologically. Finally, the decomposing table makes food waste visible, allowing discarded matter to imprint itself on tablecloths, leaving ever-changing patterns that reframe waste as an aesthetic and conceptual force.



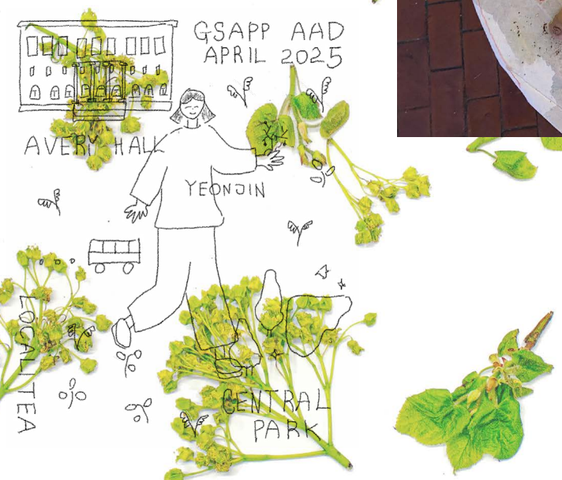
By moving between these tables, the act of eating becomes communal, participatory, and forward-looking. Locality is no longer just about proximity—it is a shared, evolving practice sustained by the relationships we cultivate.

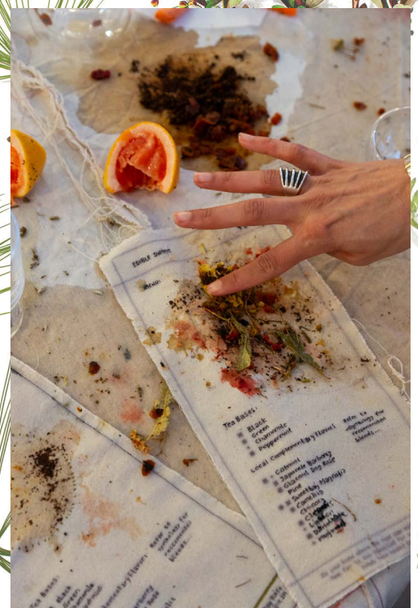



LOCAL
TEA


AMY
LIN
SEWON
YEONJIN


FAYERWEATHER HALL
ST. PAUL'S CHAPEL
AVERY HALL


GSAPP AAD
APRIL 2025
AVERY HALL
YEONJIN
LOCAL TEA
CENTRAL PARK



Performance

Intro
Foraging, Sorting, Brewing, and Decomposing. Four stages and spaces, coming together from repurposed local - from local ecology to local furniture alike. The Camellias you past by walking into Avery foraged just as the tables that inhabit this hall where we eat are. Fabric rolls, Catmint, bags of green tea, Pine leaves, the mundane chairs of this hall - all recognized in their own right - foraged, sorted and transformed, taking on a life of their own in this little landscape - allowing them to become an active part of our edible cycle.

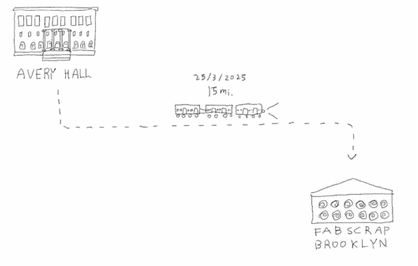
Each girl stands behind her own table.

LIN/ Foraging girl
Picks up a leaf from the nearest foraging table and hands it to the sorting girl.

(Foraging — The Gesture of Gathering)
The journey of tea begins close to the ground.
We bend our backs, steady our breath,
and reach into the space between plants that have adapted to the city.
This is not mere harvest—
it is a quiet exchange,
where urban microbes meet the skin of our hands.

YEONJIN/ Sorting girl
Sorts and organizes the leaves and nuts on the table, then passes them to the brewing girl.

(Sorting — The Reflection of Sorting)
To pick tea leaves is not simply to gather plants.
In the repetitive act of separating leaves with our fingertips,
we rediscover the meaning of embodied labor.
What might seem like waste at first glance
still holds value—for another life.
Leftover seedsnuts become food for birds,
and the table becomes a small ecosystem once again.



SEWON/ Brewing girl
Places the received tea leaves into a cup, pours hot water, and hands the cup to the drinking girl.

(Brewing — The Time of Infusion)
We heat the water and place the leaves in.
As time passes, hot water slowly draws out
the memory of the plant—its scent, color, nutrients, warmth.
We feel nature seeping into our bodies.
The tea enters us, triggering physiological responses;
its flavor, now memory, is etched into the body.

Amy/ Drinking girl
Transfers the tea back and forth between several cups, drinks it, and gives the cup to the wasting girl.

(Drinking — The Ritual of Sipping)
To drink tea is to relive the whole process through a single gesture.
To sip is to gather in one cup
the time spent picking, sorting, and steeping.
Drinking together blurs the line
between making and consuming,
and brings us back into communion with others.

RUDAIN/Wasting girl
Pours the remaining contents of the cup onto the table.

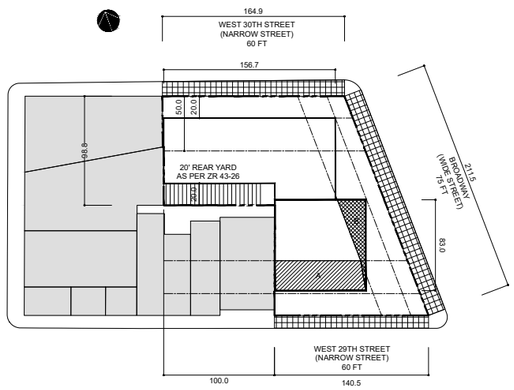
(Wasting — The Table of Traces)
The leaves left behind are not discarded.
We scatter them across a cloth,
where time, like water, embraces every trace.
Tea stains mark the fabric,
transforming the tablecloth into a shifting landscape.
This is not the end of consumption,
but the threshold of the next cycle.

Outro
Rituals of waste, the heart and soul of this little ecosystem. How can we embrace these rituals beyond? And allow for systems of design to go beyond acknowledging the cycles they are embedded in, but also propose alternatives for the ecosystems they exist in - aware of their past, acknowledging their present and anticipating their future.

1227 Tower

Re-Thinking BIM
2024 Fall
Instructor | Joseph Brennan
Location | 1227 Broadway, 10001, New York
Program | Commercial, Office, Residential Tower
Team | Wooseok Jang, Naejung Kim, Youngshin Jeon

SITE PLAN DIAGARM



LOT AREA: 30,155 SF

LOT COVERAGE: 23%
AS PER ZR 43-45

NO SIDE YARD
AS PER ZR 43-25

20' REAR YARD
AS PER ZR 43-26, ZR 43-312

SPECIAL REAR YARD
AS PER ZR 43-261

STREET TREE PLANTING
AS PER ZR 43-02
1 EXISTING TREE TO BE REMOVED FROM SITE
20 NEW TREES TO BE PROVIDED OFF-SITE

TOWER REGULATIONS
AS PER 43-35

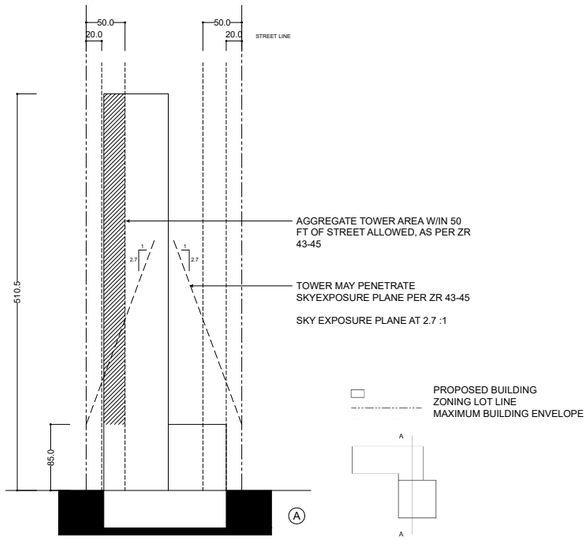
[A] AGGREGATE TOWER AREA W/IN 50 FT OF ENCROACHMENT ALLOWED ON A NARROW STREET < 2,250 SF
PROPOSED: **2,205.29 SF**

[B] AGGREGATE TOWER AREA W/IN 40 FT OF ENCROACHMENT ALLOWED ON A WIDE STREET < 2,000 SF
PROPOSED: **915.85 SF**

SECTION DIAGARMS

REQUIRED SETBACK
FRONT: 15.0' WIDE STREET
20.0' NARROW STREET
AS PER ZR 43-45

85.0' STREET WALL
AS PER ZR 43-43

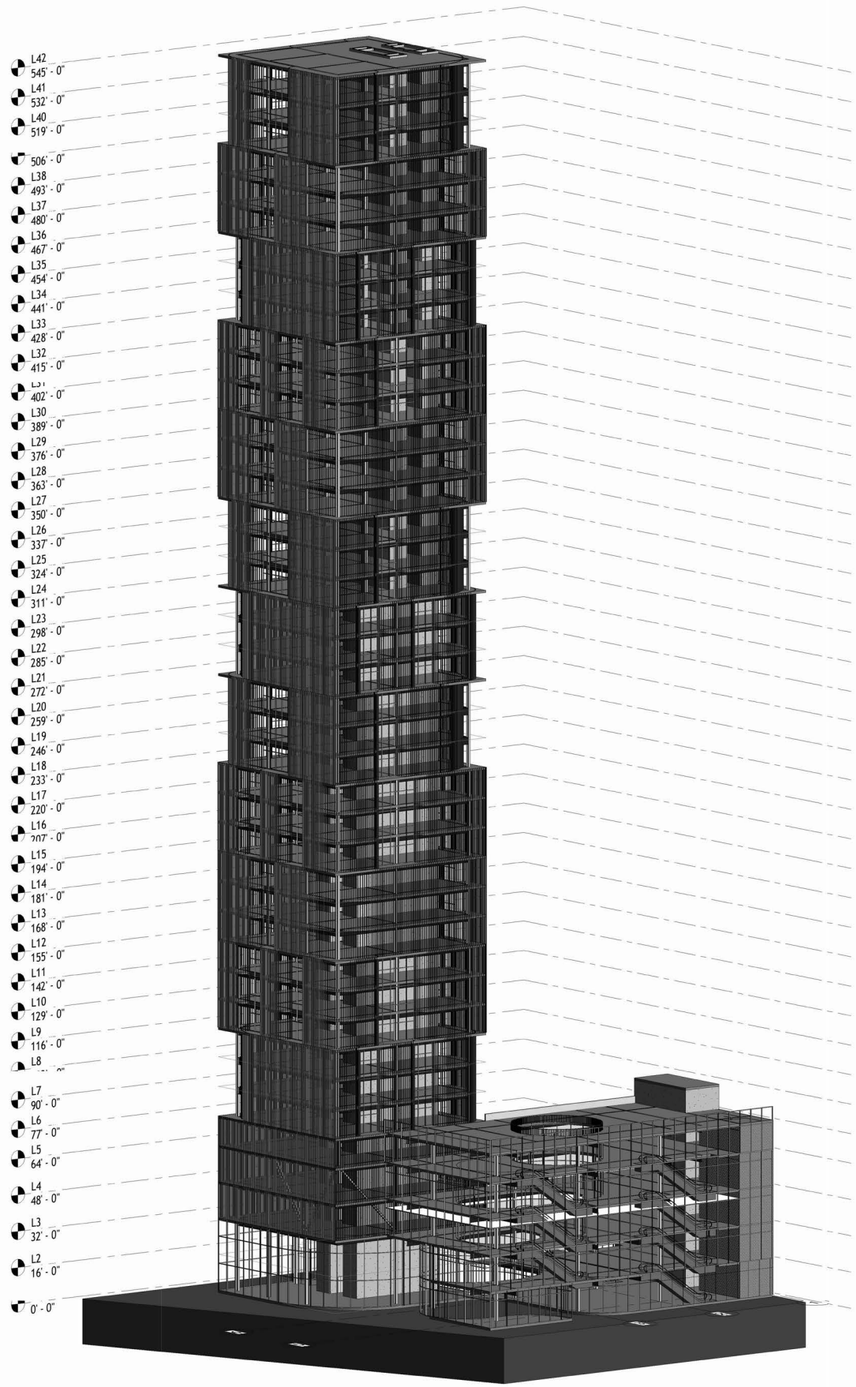


AGGREGATE TOWER AREA W/IN 50 FT OF STREET ALLOWED, AS PER ZR 43-45

TOWER MAY PENETRATE SKYEXPOSURE PLANE PER ZR 43-45

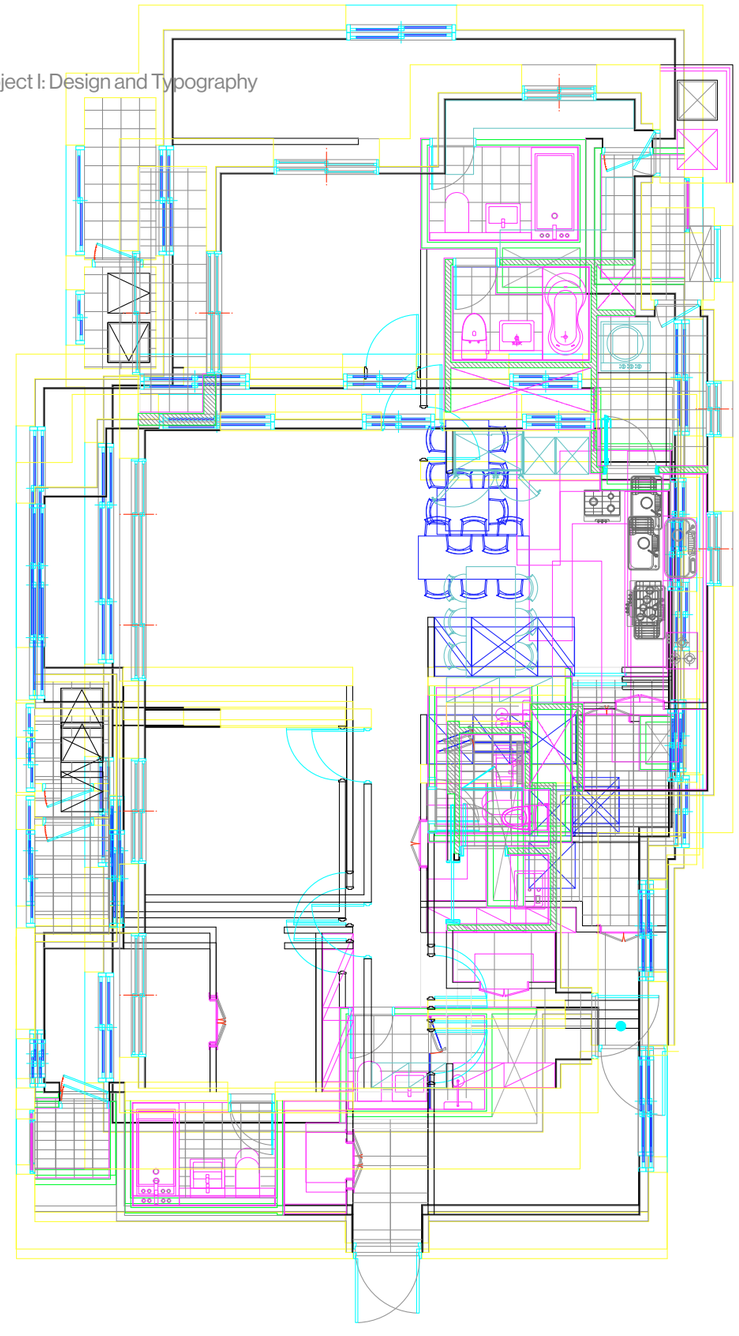
SKY EXPOSURE PLANE AT 2.7 :1

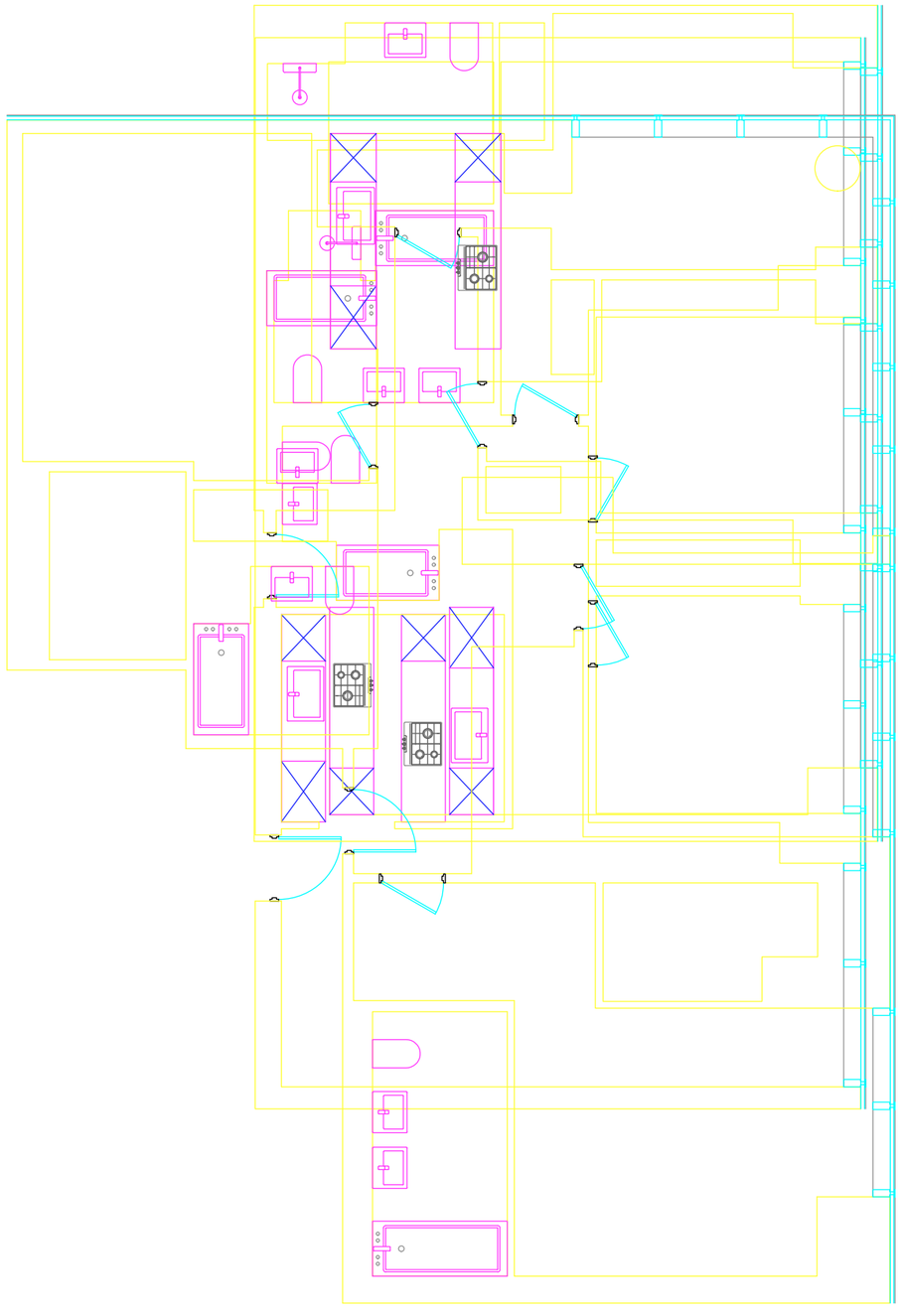
PROPOSED BUILDING
ZONING LOT LINE
MAXIMUM BUILDING ENVELOPE



Apartment units are very different and same.

Two Apartments
Graphic Architecture Project I: Design and Typography
2025 Spring
Instructor | Yoonjai Choi
Individual Work





Two Towers, Two Ideologies: A Comparative Study of Housing Logic in Seoul and New York

This study compares two high-end residential developments completed after 2020: Raemian One Bailey in Seoul and One Manhattan Square in New York. Both projects are products of large-scale urban renewal through reconstruction and are located along major rivers—the Han River and the East River, respectively. Their similar market positions and construction timelines make them ideal subjects for examining how housing is conceived, designed, and marketed in two global cities.

At the heart of this comparison is an exploration of how apartment units are spatialized and visualized—not only in terms of layout but in terms of how residential architecture is commodified. One of the most striking contrasts lies in the representation of floor plans. In Seoul, unit diagrams are rendered with bright, saturated colors to differentiate rooms, often including realistic material textures and large, legible dimensions. This approach emphasizes practicality and transparency, tailored to a market where housing is treated as a highly rationalized consumer product.

In contrast, floor plans in New York—especially in luxury developments—are typically minimal and monochromatic, using clean lines without decorative patterns or explicit material references. They reflect a more abstract, architectural language, foregrounding proportion and spatial flow over functional labeling. These differences suggest distinct cultural values around legibility, aesthetics, and the kind of information considered most relevant to prospective buyers.

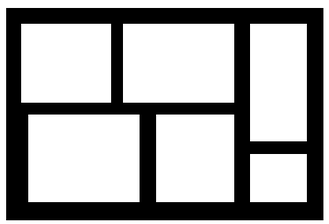
Through this analysis, the most revealing insight is how each city conceptualizes the apartment as a product. In Korea, where real estate is often equated with capital itself, apartments are optimized for stability and resale value. As a result, the layouts of master bedrooms, bathrooms, and kitchens tend to be standardized, even across different unit sizes. This uniformity is perceived not as a limitation, but as a selling point—part of a shared expectation that the home should be familiar, efficient, and dependable.

1. Seoul functionality takes precedence over building form. Additional spatial elements are attached to a core layout as needed, resulting in an irregular and protruding silhouette.

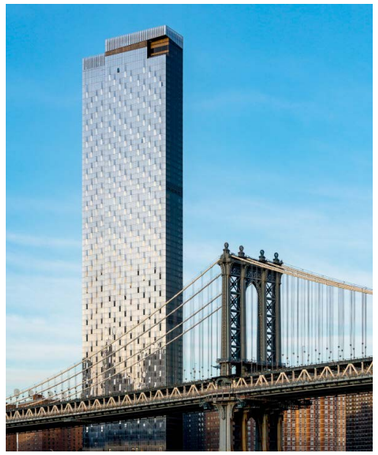
2. New York, overall form of the building is treated as a fixed boundary, and rooms are carved out within that framework. This approach resembles poche architecture, where the massing and façade of the building are prioritized, and interior space is organized accordingly.

1.

2.



Name Raemian One Bailey
Location 333, Banpo-daero, Seocho-gu, Seoul
Complete 08. 2023
Floors B4 - 35F
Heights 109.35
Units 2,990
Price $1,436,000 - $4,668,000



Name One Manhattan Square
Location 225 Cherry St, New York
Complete 08. 2019
Floors B4 - 80F
Heights 258m
Units 815
Price 1,600,000 - 5,695,000

In contrast, New York emphasizes spatial experience and individuality. Units within the same building often vary greatly in room size, shape, and bathroom configuration, with layouts tailored to diverse lifestyles. When overlapping multiple floor plans, one finds that in Seoul, rooms consistently align across units, while in New York, the outer boundaries may match, but the interior arrangements diverge dramatically. This is not only a cultural difference, but also a structural one.

Korea's apartments are typically built using wall-bearing structures, which support weight through fixed internal walls, limiting the possibility of variation. This method allows developers to maximize floor count within strict height regulations, making it ideal for high-density housing. In contrast, American apartments generally use column-and-beam (moment frame) structures, allowing for greater flexibility in interior layout. Without load-bearing walls, architects are free to design varied, open, and expressive living spaces.

Ultimately, these two buildings serve not just as architectural objects, but as manifestations of different social, economic, and cultural narratives about housing. They reveal how cities materialize their values—in structure, in layout, and in the very way homes are drawn.

AREA	64.7 m²
BED	1
BATH	1

AREA	97.1 m²
BED	2
BATH	2

AREA	140.3 m²
BED	3
BATH	2

AREA	138.1 m²
BED	3
BATH	3

AREA	130.1m²
BED	3
BATH	2

AREA	154.8m²
BED	3
BATH	3

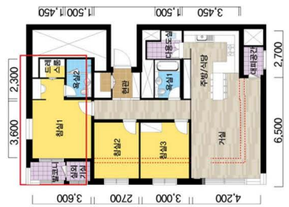
AREA	218.0 m²
BED	3
BATH	3

AREA	62.7 m²
BED	1
BATH	1

AREA	80.6 m²
BED	3
BATH	2

AREA	100.3 m²
BED	4
BATH	2

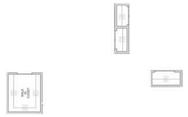
AREA	111.7m²
BED	3
BATH	2

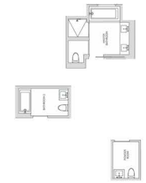


AREA	111.7m²
BED	3
BATH	2

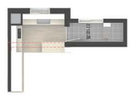
AREA	133.8m²
BED	4
BATH	2

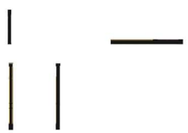
AREA	174.2 m²
BED	4
BATH	2





AREA	**64.7 m²**	**97.1 m²**	**140.3 m²**	**138.1 m²**	**130.1m²**	**154.8m²**	**218.0 m²**
BED	**1**	**2**	**3**	**3**	**3**	**3**	**3**
BATH	**1**	**2**	**2**	**3**	**2**	**3**	**3**





AREA	**62.7 m²**	**80.6 m²**	**100.3 m²**	**111.7m²**	**111.7m²**	**133.8m²**	**174.2 m²**
BED	**1**	**3**	**4**	**3**	**3**	**4**	**4**
BATH	**1**	**2**	**2**	**2**	**2**	**2**	**2**

Foyer

Korean apartment entrances reflect a cultural norm of removing shoes, with a slightly lowered entryway floor to separate the outside from the living space, helping maintain cleanliness. Built-in shoe cabinets are common, often storing not just footwear but umbrellas and cleaning tools. Security is prioritized, with digital door locks using passcodes or fingerprint scanners. In contrast, American apartments typically lack this clear threshold, often opening directly into living spaces without dedicated shoe storage. Physical keys are still common, though some newer buildings offer smart locks. Package management also differs, with lockers more prevalent in Korean complexes.

Balcony

In South Korea, a “veranda” refers to a narrow, enclosed space attached to apartments, often used for storage, laundry, or as an extension of indoor space. Originally designed for ventilation and sunlight, these areas became multi-purpose spaces during rapid urbanization in the 1970s and 1980s. As residents informally expanded verandas into living areas, the government revised housing laws in 2006, allowing legal integration under specific structural and safety conditions. As a result, many new apartments now come with pre-expanded verandas that function as part of the main interior, reflecting a blend of indoor and outdoor use.

Kitchen

In contemporary Korean apartments, the kitchen and dining areas are often integrated, using counter bars or islands that seat four, maximizing space and reinforcing the cultural focus on shared family meals. This design choice allows for easy transitions between cooking and dining, enhancing both functionality and social interaction. In contrast, American apartment kitchens tend to have consistent layouts, regardless of unit size, reflecting a culture that values efficiency over size, with less emphasis on family meals. This approach prioritizes practicality and streamlined cooking, aligning with a lifestyle that often views the kitchen as a secondary space.

Structure

In South Korea, strict building height and floor number limits, especially in dense areas like Seoul, have led to widespread use of wall-bearing structures in apartment construction. These systems eliminate visible beams, reducing floor-to-floor height to around 2.3–2.4 meters, allowing more units within fixed height restrictions. This approach supports economic efficiency, rapid construction, and standardized floor plans, aligning with the mass housing demands of the 1970s and 1980s. In contrast, American apartments often use column-and-beam systems, allowing higher ceilings (2.6–3.0 meters or more) and flexible layouts, prioritizing spaciousness and comfort over density.

Dressroom

In Korean apartments, master bedrooms often feature dedicated dressing rooms, typically connected to en-suite bathrooms and powder rooms. This layout supports a private, seamless routine: waking up, using the bathroom, applying skincare or makeup in the powder room, and dressing in the adjacent dressing room. These spaces often include built-in closets or modular systems, with newer designs offering dry-floor finishes and ventilation for hygiene. In contrast, American homes rely on built-in closets within bedrooms, emphasizing compact, independent storage for each person, reflecting a more casual approach to clothing management and personal space.

Room

In Korean apartments, maximizing the number of rooms within a given floor area is common, reflecting a preference for more “bays” or separate spaces. This approach prioritizes room count over individual room size, as more rooms increase perceived value. For example, newer units often include a small “alpha room,” even if it only fits a desk or single bed, to boost the total room count. In contrast, American apartments prioritize spaciousness and open layouts, with larger, often irregularly shaped rooms that emphasize comfort, natural light, and personalization over sheer room quantity.

Bathroom

In Korean apartments, bathrooms are typically standardized in size and layout, regardless of unit size, reflecting an emphasis on cost efficiency and streamlined construction. Most apartments have two bathrooms arranged in compact, linear layouts to simplify plumbing and reduce costs. This approach supports faster construction and lower expenses, treating bathrooms as utility-driven spaces. In contrast, American apartments often feature larger, varied bathroom designs, including double sinks, separate tubs, and walk-in closet access in master suites, emphasizing comfort and privacy with a clear separation of wet and dry zones.

The Flatiron Anomaly

New York Rising: How Real Estate Shapes A City
2024 Fall
Instructor | Kate Ascher
Individual Work

The Flatiron Anomaly: Urban Planning and Commercial Forces Behind the Development of Manhattan's Iconic Acute-Angle Building

Abstract

I am going to show that the development of a building on a type of site that elsewhere in Manhattan was considered suitable only for a park was the result of historical precedents, urban planning decisions, and commercial pressures unique to Manhattan's Flatiron District. Manhattan's characteristic street grid, formalized in the Commissioners' Plan of 1811, left few opportunities for unusually shaped lots within the rigid orthogonal system. However, diagonal streets like Broadway created intersections that produced acute-angle lots, often viewed as unsuitable for substantial buildings. In most cases, these spaces were designated as parks or squares, providing relief and greenery within the dense urban fabric. The Flatiron Building, however, represents a unique departure from this trend. Built at the confluence of Broadway and Fifth Avenue, this iconic structure broke the norms of urban planning in Manhattan by occupying a triangular lot that could have easily become a park, much like other acute-angle sites across the city. This paper examines the various factors—historical, urban planning, and commercial—that led to the decision to construct a building on this site rather than develop it as public green space.

Historical Context of Manhattan's Street Grid System

The Commissioners' Plan of 1811 laid the groundwork for Manhattan's highly ordered street grid, a vision that sought efficiency and uniformity in one of the world's fastest-growing cities. This grid, composed mainly of numbered streets and avenues, created a rational and repeatable layout that allowed for efficient land division, making it easier for developers to build and sell parcels in an organized manner. However, Broadway, an older road predating the grid, cut diagonally across Manhattan, creating irregular intersections and oddly shaped lots. These acute-angle spaces often became small parks or public squares, serving as green islands within the urban landscape.

The typical urban planning solution for acute-angle spaces created by Broadway's intersection with the grid was to use these lots for public parks or squares. Several acute-angle intersections in Manhattan became well-known public spaces, including Herald Square and Greely Square Park. These examples reflect the city's tendency to transform unusually shaped lots into parks or squares rather than attempting challenging architectural feats on them. These irregular bits were made into parks, and have come to be known as Times Square, Herald Square, Union Square and Madison Square.

In contrast, the Flatiron Building's lot—formed by Broadway intersecting Fifth Avenue—became a significant commercial development rather than a park, breaking the typical pattern observed with similar intersections. This decision was influenced by several factors, including the highly visible and central location of the site, making it exceptionally valuable from a commercial standpoint. Thus, while other acute-angle intersections like Herald Square and Greely Square became public parks, the Flatiron site was seen as an opportunity to create an architectural landmark that could draw significant economic benefit. This distinction highlights the commercial pressures and urban planning decisions that set the Flatiron apart from the usual practice of converting such spaces into green areas.

Context of Madison Square

Figure 3. The Windy Corner; Flatiron Building, Madison Square, New York

To understand why the Flatiron Building was constructed with its tall and impressive façade, it is necessary to study the context of Madison Square. In the early 19th century, what is now known as the Flatiron district was mostly open farmland, owned by farmers Isaac Varian, Casper Samler, and John Horn. The area might have stayed pasture and field for a few more years, had it not been for the Commissioner's Plan of 1811, which divided the city into its now famous rectangular grid of streets from 14th Street on up.

The plan included Broadway, which ran in a conspicuous diagonal across the grid, causing odd triangular lots where the thoroughfare cut across the street grid. Originally set aside as the 'Grand Parade," which was to be used for markets and parks, the area at Fifth and Broadway was reduced in size over time, and named for the then President of the United States, James Madison. In 1836, the Common Council voted to establish the area as a public space, and within a decade numerous houses

were built along the north and east sides of Madison Square Park and in the surrounding blocks. The majority of the new residences, sold from parcels of land from the Varian and Samler estates, were built in brick or brownstone, in the Italianate style that prevailed at the time. Ornamentation was relatively sparse, and most were four or five stories tall.

By 1860, Madison Square had garnered the reputation as the city's social center, with wealthy families such as the Haights, Stokes, Schieffelins, Wolfes, and Barlows taking up residence in the neighborhood. The prestigious Fifth Avenue Hotel, constructed between 1856 and 1858 at Broadway and 23rd Street signaled the move uptown of many city hotels, and turned the pre-Flatiron area into a new hotel district. Soon the neighborhood was home to many hotels, including the Albermarle House, the Hoffman House, Worth House, St. James Hotel and Victoria Hotel, all built between 1860 and 1870.

In the 1870's, the Flatiron district gained a reputation for its collection of clubs that catered to men's organizations. The area saw an influx of mercantile and business interests, and the high-speed elevator made taller and taller buildings possible. By 1900, as business poured into the district, banks began opening up in the area, and the now-famous buildings ringing Madison Square Park were competing for the prize of tallest building in the world. At the time of its completion, the Met Life Clock Tower on the park's eastern border held the prize. The Flatiron Building

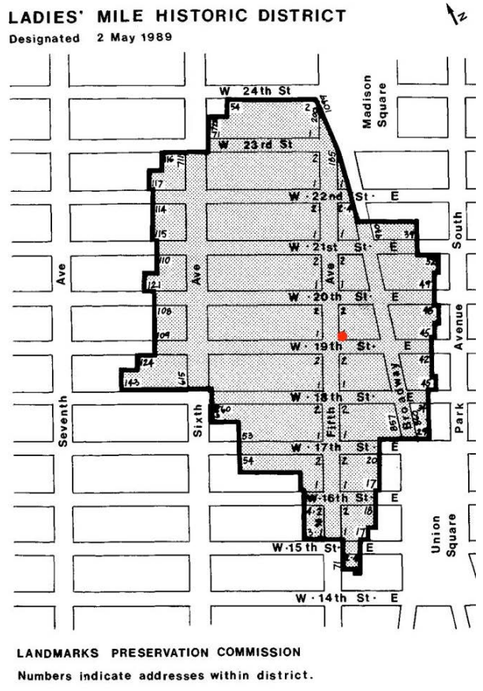


Figure 4. Ladies' mile historic district, NYC

emerged amidst the competition for constructing the tallest structures, and the Ladies' Mile shopping district also developed in this context.

As commerce flourished, the area from Fifth Avenue south of 23rd Street to 14th Street, and along Broadway and Sixth Avenue extending to 21st and 23rd Streets, came to be known as Ladies' Mile. This area was filled not only with women and shopping, but also with concert halls, theaters, publishing houses, and architects' offices, making it a world-leading hub in New York for fashion, publishing, and design. The Flatiron Building emerged amidst the competition to build the tallest structures in this context. The Ladies' Mile shopping district also developed within this background. Consequently, the vibrancy and foot traffic of Ladies' Mile played an important role in the construction of the Flatiron Building at its current location and in establishing it as an iconic landmark of New York City.

Commercial Value

Figure 5. The view from inside Flatiron Building

During the late 19th and early 20th centuries, New York City was rapidly expanding, and zoning regulations were still in their formative stages. The Flatiron Building was completed in 1902, which predated the introduction of formal zoning laws in New York City (the first zoning resolution was passed in 1916). At the time, developers faced few restrictions on building height, which encouraged the construction of taller structures to maximize the economic value of land, especially in a bustling commercial district. The Flatiron Building, standing at 22 stories, exemplified this trend of upward construction to achieve greater rental revenue.

The triangular plot where the Flatiron Building is located, at the intersection of Broadway, 5th Avenue, and 23rd Street, was seen as an ideal location for a commercial building rather than a park for several reasons. The site was at the heart of a growing commercial area near Madison Square Park, Ladies' Mile, and various other business activities. The city at that time was in the midst of a commercial boom, and there was a high demand for

office space. Building on this plot allowed developers to take advantage of the foot traffic generated by the proximity to Madison Square Park and the active commercial district.

Furthermore, the intersection of Broadway and 5th Avenue made the plot a notable point within the city's street grid, increasing its potential visibility and importance. Developers recognized that a building at this site could act as a landmark due to the convergence of major thoroughfares, providing excellent exposure for tenants.

The site of the Flatiron Building is located at the intersection of Broadway, Fifth Avenue, and 23rd Street, a key transit hub with excellent accessibility to public transportation. As New York City's transit system rapidly expanded in the early 20th century, major subway lines ran along 23rd Street. This accessibility to public transit was a crucial factor in the commercial success of the Flatiron Building.

With the opening of New York City's subway system in 1904, several transit lines began to pass near the Flatiron Building. Particularly, the subway and trolley lines along 23rd Street significantly improved access to the commercial district. This convenience greatly benefited not only companies looking to rent office space but also the employees working there and the visitors. Additionally, Broadway and Fifth Avenue are among the busiest thoroughfares in New York, making it easy for many people to access the area by bus and road networks. Located at the junction of these major roads, the Flatiron Building benefited from heavy traffic and easy accessibility, making it highly advantageous commercially.

Madison Square Park is directly opposite the Flatiron Building, providing visitors with a green space in the middle of the city. This proximity to the park offered a pleasant environment for people working in the building's offices or shops, which further increased the value of the building as a commercial space.

The Flatiron's site held potential for a landmark building due to its visibility and high-traffic location. Despite being a challenging site geometrically, its position at the intersection of two major thoroughfares attracted the attention of commercial developers.

Urban planning decisions further supported the construction of a building over a park on this site. Zoning regulations at the time did not mandate the inclusion of green spaces at such intersections, and the Flatiron lot's high real estate value made a commercial development an attractive option. Broadway's diagonal path also made the site highly visible, adding a commercial appeal to a location that could otherwise have been reserved for green space. The site's geometry, while challenging, was ultimately deemed suitable for the construction of a narrow, triangular building that would maximize the land's commercial value without conflicting with existing planning codes.

The Development of the Flatiron Site

Before the Flatiron Building was constructed, the building that stood there was also commercially successful. It was one of the many hotels around Madison Square. Amos Eno bought the entire block in 1857, where the hotel was located, and demolished it to build the seven-story apartment building called the Cumberland. He also built a three-story commercial building on the rest of the site, which left the four northern floors of the Cumberland exposed. These floors were rented out to advertisers. Eno installed a canvas screen on the wall, projecting images from lanterns to display advertisements and artwork, which even The New York Times and The New York Tribune began using. On election nights, tens of thousands of people would gather in Madison Square to await the latest results.

After Eno's death in 1899, the property changed hands several times before being sold to the Newhouse family, who initially planned to build a twelve-story structure. However, due to architectural and engineering constraints, the project was delayed, and in 1901, the site was eventually sold to the Fuller Company. The Fuller Company was particularly experienced in designing towers on small plots, such as the Trinity and United States Realty Buildings in Lower Manhattan. New York City was striving to establish itself as the economic hub of the United States, and structures like the Flatiron Building became symbols of modernity, economic power, and architectural ambition. The Fuller Company wanted a unique building that would symbolize their success. The building's distinctive form and prominent location made it an instant landmark, conveying an image of progress and boldness that was important to the business culture of the time.

Considering that the seven-story building constructed before the Flatiron by the Fuller Company also thrived as a commercial hub, it's evident that this plot of land was originally a bustling commercial area with heavy foot traffic. The bowtie shape created by the diagonal streets captured people's attention and reinforced the site's central role.

In summary, urban planning decisions regarding the Flatiron Building were influenced by the value of the land, its strategic location at a major intersection, the lack of restrictive zoning laws at the time, and the broader urban development goals to increase commercial density. The triangular lot was ultimately seen as more suitable for a building that could maximize the plot's economic return rather than for a park, especially given the proximity of Madison Square Park, which already served the community's need for open green space. This unique building turned out to be a striking architectural icon that utilized the challenging geometry of the site while aligning with the city's focus on growth and modernity.

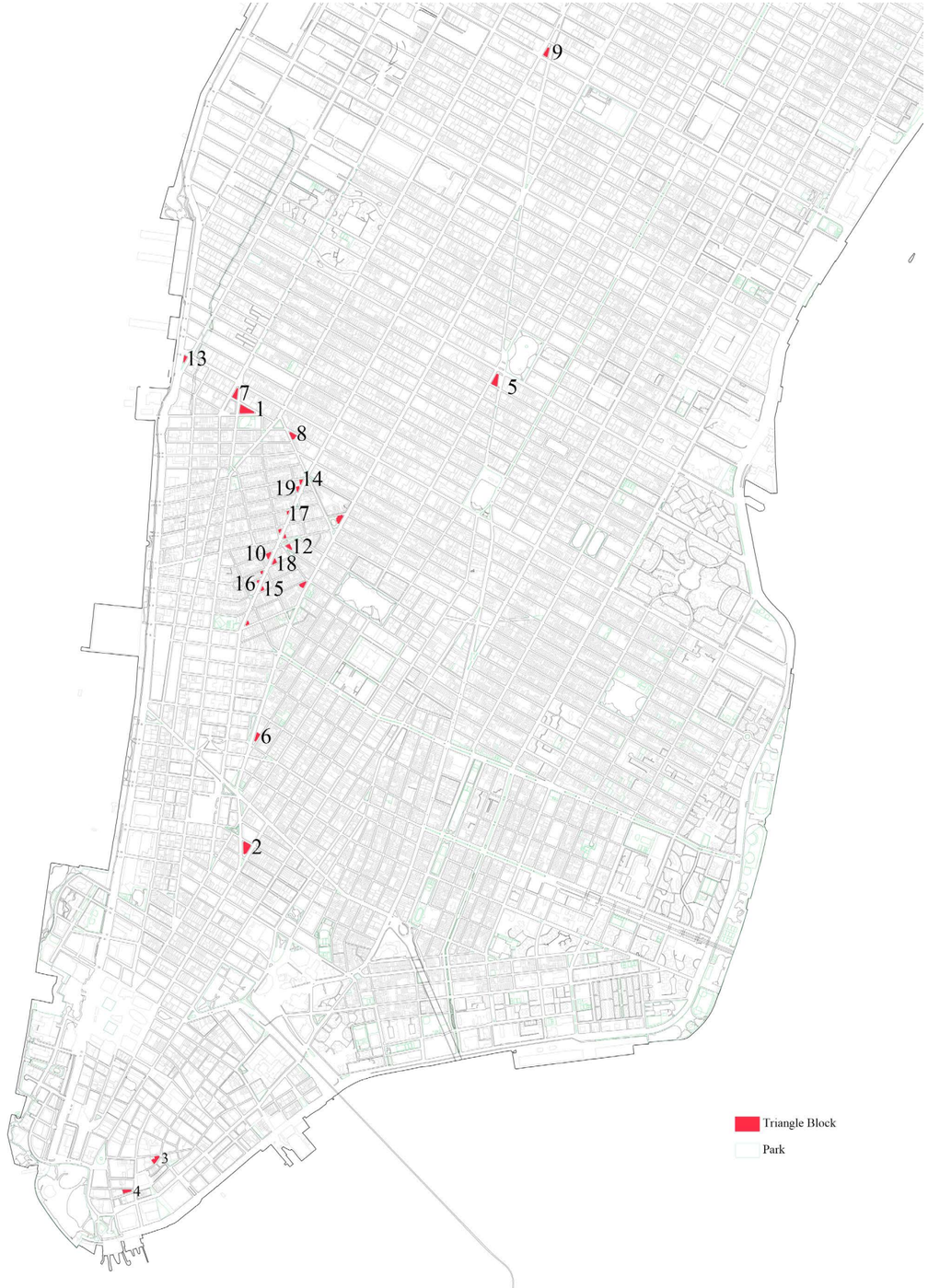


Figure 7. Map of Triangular sites in Lower Manhattan

Comparative Analysis of Triangular Sites

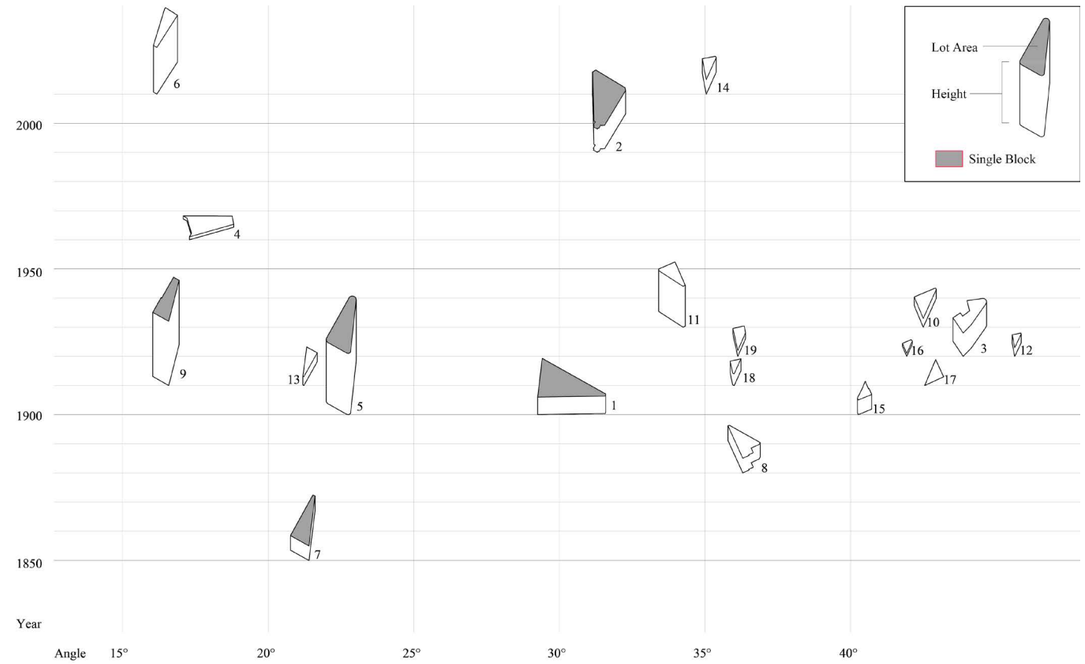


Chart 1. Triangle sites organized by construction year and angle

But of course, the corner of 23rd street and 5th Avenue isn't the only place in Manhattan where streets intersect at quirky angles. In fact, the Village's (and to a lesser extent the East Village's) off-the-grid streets are full of them.

To understand what makes the Flatiron Building special, I investigated the basic characteristics of triangular sites in Manhattan, including size, construction year, area, and angle. While it might have been more appropriate to focus only on blocks that are entirely triangular in shape, I decided to examine all triangular buildings to understand the characteristics of different plots. Most of the triangular sites numbered 14 to 19 are located in the West Village. These triangular sites are formed within the blocks where the grid meets the older existing village structure.

In terms of area, it is the fifth largest triangular site in Manhattan, with the fourth sharpest angle, and the tallest building in terms of height (Table 1).

The graph above, organized by construction year and angle, helps illustrate why the Flatiron Building gained recognition as a landmark. The horizontal axis represents the angle: the further to the right, the more blunt the corner, and the further to the left, the sharper the site. The vertical axis represents the year of construction, with higher points indicating more recent construction.

The size of each triangle represents the building's area, while its height represents the number of floors. Colored triangles indicate buildings that are composed of a single block.

In terms of construction year, buildings numbered 1, 7, and 9 can be compared to the Flatiron Building. Building 7 was constructed 50 years earlier than the Flatiron Building, but it is 15 floors shorter, making it difficult to be recognized as a landmark. Building 1, built around the same time as the Flatiron, is larger in area but has fewer floors and a blunter angle, which makes it less striking compared to the Flatiron Building.

Building 9, which is the Times Building, has a similar level of recognition. However, since it was built a few years later, it could not claim the title of being the first of its kind. Additionally, the building's façade is more angular, which means it lacks the dramatic visual effect of appearing as thin as a single sheet of paper, as the Flatiron does.1

Conclusion

The comparative analysis of triangular sites highlights the unique features of the Flatiron Building, clearly demonstrating why it became an iconic landmark. The various triangular sites in Manhattan were formed by the intersection of diagonal roads with the orthogonal

	1	2	3	4
Address	652 HUDSON STREET, 10014	2 AVENUE OF THE AMER, 10013	48 BEAVER STREET, 10004	100 BROAD STREET, 10004
Lot Area	16,077 sq ft	13,491 sq ft	9,150 sq ft	8,671 sq ft
Floor	6	8	8	2
Built Year	1900	1999	1920	1963
	5	6	7	8
Address	171 5 AVENUE, 10010	10 SULLIVAN STREET, 10013	675 HUDSON STREET, 10014	234 WEST 13 STREET, 10011
Lot Area	8,650 sq ft	8,188 sq ft	5,860 sq ft	5,612 sq ft
Floor	21	16	5	5
Built Year	1903	2014	1849	1882
	9	10	11	12
Address	1475 BROADWAY, 10036	52 GROVE STREET, 10014	80 GROVE STREET, 10014	223 WEST 4 STREET, 10014
Lot Area	5,400 sq ft	3,540 sq ft	3,427 sq ft	2,900 sq ft
Floor	22	3	14	4
Built Year	1908	1933	1929	1910
	13	14	15	16
Address	500 WEST 14 STREET, 10014	1927 AVENUE SOUTH, 10014	13 MORTON STREET, 10014	74 7 AVENUE SOUTH, 10014
Lot Area	2,245 sq ft	1,875 sq ft	1,580 sq ft	795 sq ft
Floor	3	5	5	2
Built Year	1910	2018	1896	1921
	17	18	19	
Address	44 CHARLES STREET, 10014	22 BARROW STREET, 10014	174 7 AVENUE SOUTH, 10014	
Lot Area	759 sq ft	252 sq ft	82.08 sq ft	
Floor	3	1	2	
Built Year	1921	1900	1922	

Table 1. Triangular sites in Lower Manhattan (Numbered according to the order of area.)

grid system, and most of these sites were developed into parks or public spaces. For instance, sites like Times Square, Herald Square, and Madison Square evolved to provide green and recreational areas for the public.

In contrast, the Flatiron Building site took a different direction with a decision to develop it commercially. This choice stemmed from the economic potential, excellent visibility, and urban planning strategy, which ultimately established the building as an iconic landmark.

The comparative analysis considered factors like the size of triangular sites, the construction year, area, and angles. It was particularly noted that the site of the Flatiron Building is the fifth largest triangular site in Manhattan, has the fourth sharpest angle, and features the tallest building among its peers.

The reason why the Flatiron Building became a notable landmark lies in its acute triangular shape, its impressive height for the time, and the unique architectural style of the building. Compared to other triangular buildings of a similar period, such as the Times Building, the Flatiron stands out not just for its economic value but also for its distinctive visual impact.

This analysis reveals that the Flatiron Building made the most of the commercial potential of its site while also embodying architectural ambition as a symbol of Manhattan's growth and modernity. The construction of the Flatiron Building, which maximized the use of limited space within the city, reflects the ambition of New York City to establish itself as a commercial hub. Its unique form and role as a landmark continue to make it an important architectural symbol.

Thus, through a comparative analysis of triangular sites, we could clearly identify the uniqueness of the Flatiron Building and the factors that made it a landmark. It remains an architectural structure that reflects the growth of the city and will continue to hold significant meaning in the future.

Conflict Urbanism
2025 Spring
Instructor: Laura Kurgan
Team: Wooseok Jang

https://centerforspatialresearch.github.io/conflict_urbanism_sp2025/2025/05/03/Kim_Jang.html

After the Night of December 3rd in Seoul

Incomplete Democracy: Mapping Protest as an Indicators of Political Sentiment

In modern democratic societies, the political opinions of citizens are primarily expressed through public opinion polls and media. However, in recent times in Korea, the trust in these traditional indicators has sharply declined. During President Yoon Suk-yeol's impeachment crisis, the Myeongtaegyun Gate revealed that politically manipulated public opinion polls were being disseminated through the media, and the fact that extreme and false information created on social media platforms—including YouTube—is influencing politics has greatly shocked Korean citizens. Against this backdrop, citizens took to the streets to express their political views directly and physically. This project aims to analyze the protest data from these citizens and visualize it on urban spaces, thereby proposing a new map of democracy that can complement the existing distorted public opinion polls and media.

On December 3, 2024, President Yoon declared martial law, plunging the country into a sudden state of political tension. Although the National Assembly quickly responded by passing a resolution to lift the martial law just six hours later, the impact on civil society was profound. Many citizens viewed the brief imposition of martial law as a serious threat to democracy and began taking to the streets. Rather than suppressing dissent, the declaration ignited widespread anger and unity, triggering a wave of spontaneous protests across the nation. This marked the beginning of a sustained public movement demanding impeachment, which culminated on April 4, 2025, when the Constitutional Court officially removed the president from office. In the end, what was meant to be a moment of control became the spark for a powerful civic uprising and the restoration of democratic values.

This project aims to collect data on the scale and frequency of protests and to visualize it within the urban landscape as a new indicator for expressing political opinions. Since protests are physical and direct acts of participation—making data manipulation difficult—they can serve as a more reliable political indicator compared to the distorted opinion polls and media saturated with false information. Ultimately, this project seeks to build a map of democracy that is directly created by the citizens on the streets.

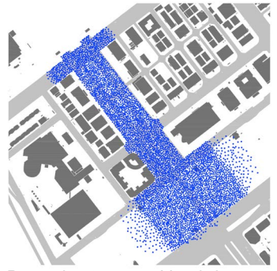
We first gathered the schedules and locations of protests through the official websites of major organizing groups and protest applications submitted to the police. This mapping helped identify key protest locations.

The blue dots represent groups advocating for the impeachment of President Yoon Suk-yeol, while the red dots indicate pro-Yoon supporters who oppose the impeachment. As the dots accumulate, they reveal the primary locations where protests most frequently occurred.

1. Gwanghwamun 2. Hannam-dong 3. Yeoui-do

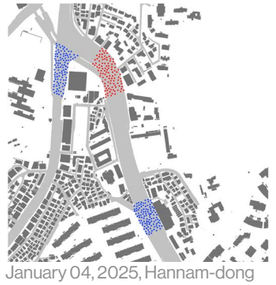
The main protest sites were Gwanghwamun Square—the largest public square in Seoul—the presidential residence in Hannam-dong, and the National Assembly building in Yeoui-do, where the impeachment vote took place. Over the course of four months, we mapped the scale of 16 major protests held at these three locations. Depending on the impeachment timeline, it is particularly interesting to observe how pro- and anti-Yoon groups either shared the same space or occupied separate streets. We estimated the spatial extent of each protest using images from news coverage and other visual references that suggested the size of the gatherings. To quantify protest size, we used Seoul's Living Population dataset—a telecommunications-based dataset jointly developed by the Seoul Metropolitan Government and KT (Korea Telecom). This dataset estimates the total number of people present in a given area at a specific time, including those using other carriers or even those without mobile phones, through statistical extrapolation based on KT user data. It can be extracted in fine-grained units of at least 100 meters, allowing us to retrieve time-specific population data for protest zones. We documented 16 Saturdays over the four-month period following the imposition of martial law through to the passage of the impeachment resolution. To estimate protest attendance, we subtracted the average population on non-protest Saturdays (January 13, January 20, February 3, February 24, March 9, and March 23, 2024) from the living population recorded on protest days.

Through this mapping, we identified that the December 14 protest in Yeouido calling for the impeachment of President Yoon was the largest in scale, with an estimated turnout of 450,000 people. This massive mobilization reflects the public outrage following the automatic dismissal of the impeachment bill on December 7, due to the collective abstention of Right Party lawmakers. Ultimately, the bill was passed by the National Assembly later that day at 5:00 PM.



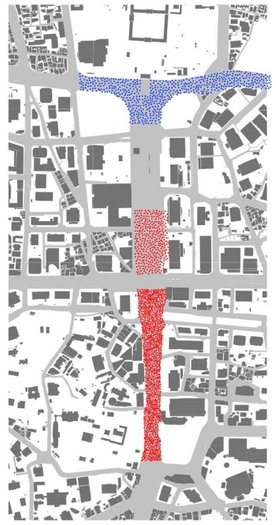
December 14, 2024, Yeoui-do

The closest encounter between anti-Yoon and pro-Yoon protest groups occurred during the rally in Hannam-dong on January 4, which called for the arrest of the President. The two opposing groups were separated by a distance of only 100 meters. They held an overnight rally for "two days and one night" around the presidential residence starting the previous night. At noon on this day, they attempted to march toward the residence, calling for the arrest of President Yoon.



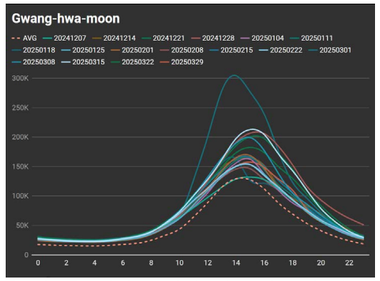
January 04, 2025, Hannam-dong

On March 1st, a national holiday in South Korea, the scale of the protest visibly grew. Conservative groups often use this day as an opportunity to emphasize national identity and traditional values, leading to large-scale rallies. Since February 1st, internal power struggles within the pro-Yoon faction had split the protests between Gwanghwamun and Yeouido. However, on this particular day, the conservative camp appeared notably unified and concentrated in one location.

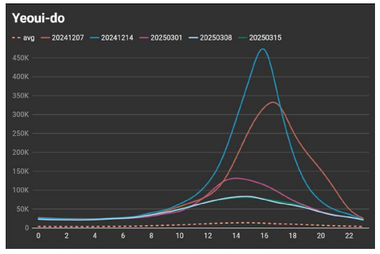


March 01, 2025, Gwanghwamun

This project represents an effort to map true democratic sentiments not through the distorted or untrustworthy public opinion polls and media coverage, but through direct political actions, namely protests by citizens. It critically visualizes the complexity and incompleteness of modern Korean democracy by embracing, rather than avoiding, the inconsistencies and limitations of imperfect data and materials. Ultimately, the project aims to create an undistorted "map of democracy on the streets" through data generated by the citizens. Protests demonstrate how people make the most active use of the city. As David Harvey explains, it is becoming increasingly difficult to maintain urban identity, citizenship, and a sense of belonging in a capitalist city. In this context, occupying the streets is the most equal and clear method for citizens to express their opinions. Urban spaces are a crucial part of the political environment, serving as places where people gather to debate, deliberate, and interact with one another. Interestingly, the two sides differ in the ways they use the city and organize rallies. The impeachment supporters mainly consist of various citizens expressing themselves freely, whereas the impeachment opponents are notably characterized by occupational groups such as soldiers, religious figures, and YouTubers. Furthermore, because the politicians endorsed by each group differ, the streets they occupy also vary. This map is the conflict curve of Seoul itself. It can be used to trace the conflict curve and even anticipate physical violence. As the trial progressed, there was an increase in confrontational protests where both sides appeared simultaneously at the same location, and occasional clashes occurred. If this trend of the two sides drawing closer together is documented, it could serve as an indicator for predicting future physical confrontations. The visualized protest map will directly allow citizens to feel that their participation contributes to the overall scale and plays a role. Consequently, we expect that citizens' engagement in democracy will increase even further.



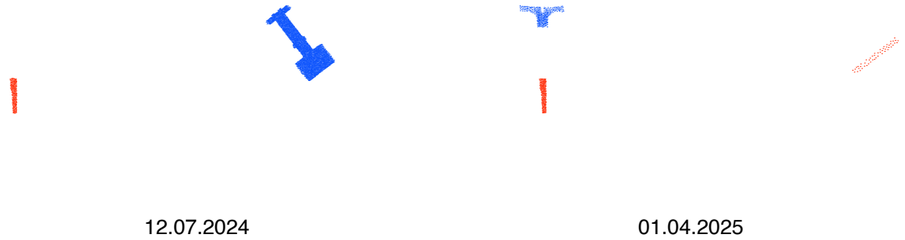
Graph 1. Population variation throughout the day



Graph 2. Population variation throughout the day

Data Sources

1) Hourly Living Population by District in Seoul
https://data.seoul.go.kr/dataList/OA-14979/F/1/datasetView.do
2) Protest Notification Records from the Seoul Metropolitan Police Agency
https://smpa.go.kr/user/nd54882.do
3) Seoul Public CCTV Information
https://topis.seoul.go.kr/map/openCctvMap.do
4) Seoul Map (VWORLD)
5) Protest Schedules (People's Solidarity for Participatory Democracy)
https://www.instagram.com/peoplepower21/
6) Protest Schedules (Korean Confederation of Trade Unions)
https://nodong.org/notice
7) Protest Schedules (Korean Women's Association United)
https://www.instagram.com/kwau_women_21/ https://women21.or.kr/?ckattempt=1
8) Protest Schedules (National Defense Counsel for the President)
https://kukmin.libertysocial.co.kr/board?name=notice
9) Protest Schedules (Gwanghwamun People's Rally)
https://pastorjun.com/



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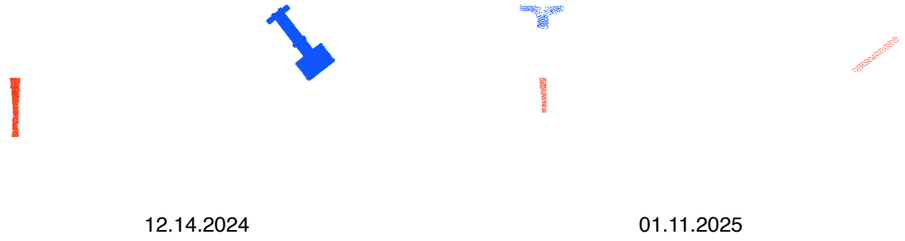
01.04.2025



12.14.2024

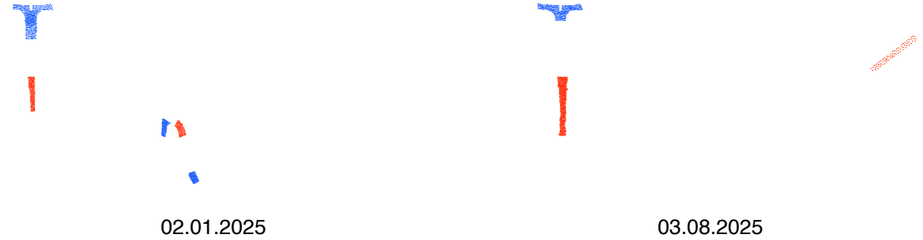
01.11.2025

12.21.2024

01.18.2025

12.28.2024

01.25.2025



02.01.2025

03.08.2025

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03.15.2025

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03.01.2025

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