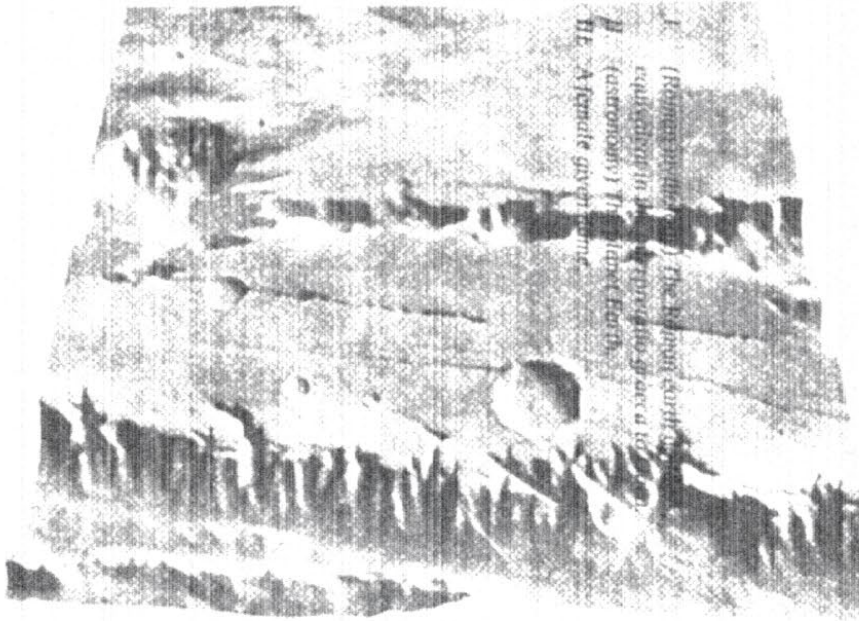
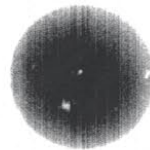


STRANGE TERRAIN



Ch. 1
*Blemish
 Star,
 Blemish
 Planet(s)*



2.

Ch. 2

*More or
 Less than
 Human*



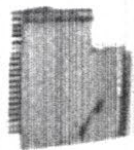
10.



16.

Ch. 3

*Four
 Walls and
 thousands
 of Roof*



25.

Apartheid



35.

47.

Ch. 4

*How do
 we call
 the Com-
 mons*



55.

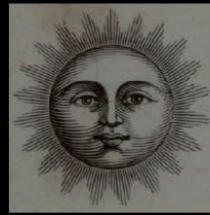
Steven Haoge Gan



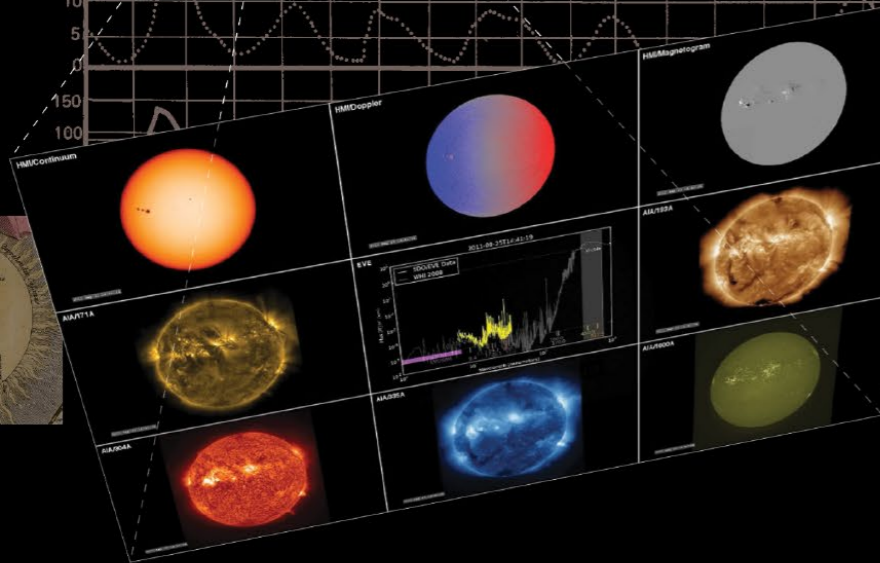
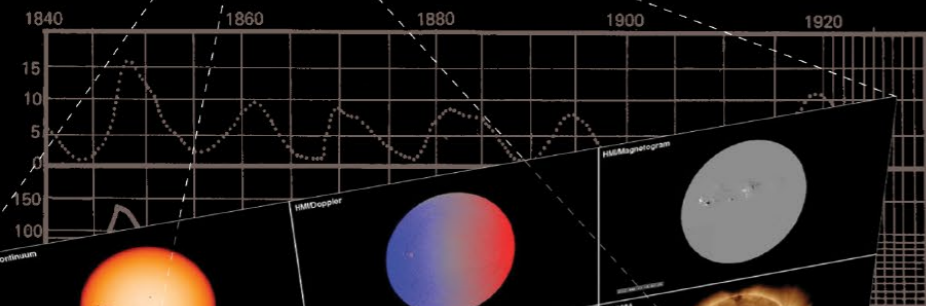
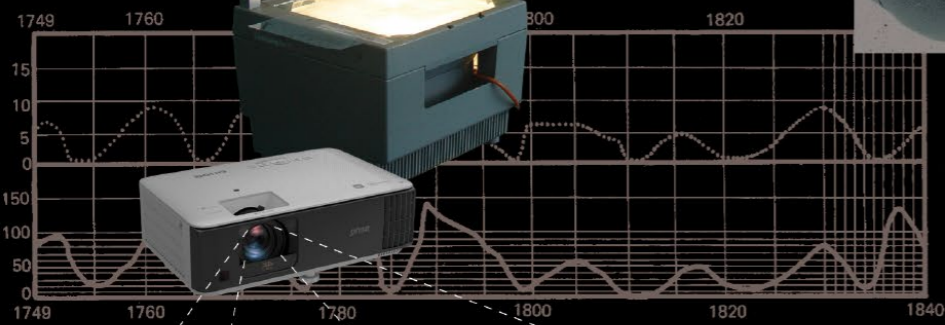
Resurrection from the Solar Time

Spring 2024
Advance VI Studio
Individual Project
Critic: Paulo Tavares

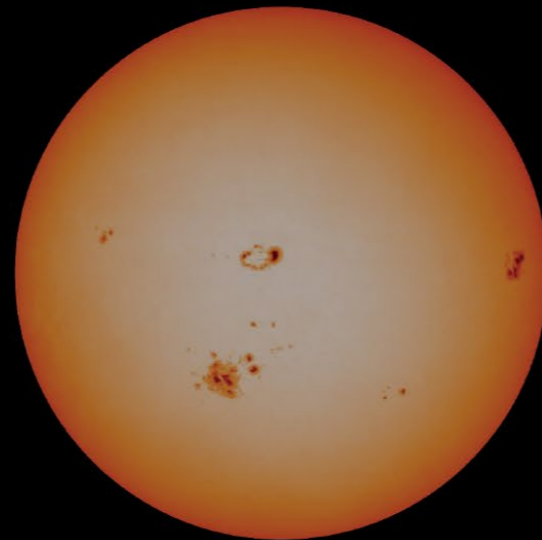
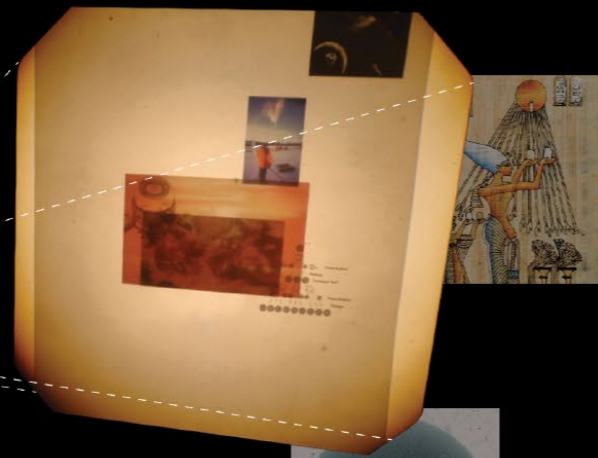
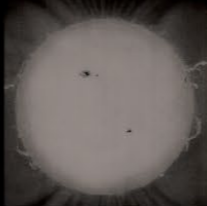
In the intricate tapestry of human history, the observation, mapping and narration of the sun has not merely been an act of scientific inquiry, but a cornerstone upon which entire civilizations have built their understanding of time, environment, governance, and existence. Sundials, calendars, telescopes, photography, radio dishes, satellites—these are not mere tools, but the very scaffolding upon which our perception of the world is constructed. "Resurrection from the Solar Time" is a project that delves deep into the nexus of solar observation, knowledge infrastructure, and colonial ideologies. It scrutinizes how the seemingly innocuous act of observing the sun has been intricately intertwined with systems of regulation, governance, and colonization.



Alexander Chizhevsky research into the impact of solar emissions on human sociology, psychology, politics and economics in the form of wars, revolutions, epidemics and other upheavals. According to George Bataille this excessive energy from the solar activities is called "the accursed share."



The first image of sun in capture by Louis Fizeau and Leon Faulcault in 1826 marked the age of digital visualization of the Sun. Connecting the image of the Sun with mechanical production.



01:00:11,000 --> 01:00:12,208
Aristotle,
01:00:12,208 --> 01:00:15,666
Copernicus, Kepler, Galileo, Descartes,
01:00:15,833 --> 01:00:17,625
Newton, Einstein.
01:00:17,625 --> 01:00:19,291
Clergy, Scientists,
01:00:19,291 --> 01:00:21,125
Unlikely Characters.
01:00:21,125 --> 01:00:22,291
Camera Obscura,
01:00:22,291 --> 01:00:24,125
Telescope, Satellite.
01:00:24,125 --> 01:00:26,666
The mechanical eye of Providence.
01:00:26,666 --> 01:00:30,500
Sunspot, Corona, Prominences, Blemished Star.
01:00:31,093 --> 01:00:33,291
The Homicide of the Sun.

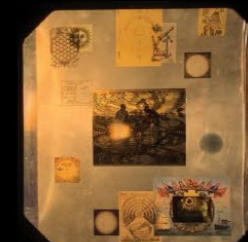


The dual projection used in this preformance, one is film with modern projector another one is through traditional overhead projector, challenges the ordinary ways of lookings and thinking. Interplay with light and projection as the main medium of archive and present, the project delves into the geo-political structure shaped by techno-geographical milieu on constructing, modifying and in the end replacing the Sun. Suggesting a new worldview of liberation that ontology returns.

Resurrection from the Solar Time.



The projection serves not only as a visual display but as a form of archive itself, with each layer stacking upon the other, creating a complex web of overlapping imagery. In the initial stages of the performance, as the video unfolds, the archive undergoes a process of deconstruction. This process exemplifies the profound and interconnected relationship between humanity and nature, framed within the context of political and technical dynamics.





The human gaze upon the sun has been supplanted by mechanical eyes, with cameras and sensors on observatories and satellites tirelessly generating thousands of images daily. The sun is under surveillance or, we can say, it is being produced.

AIA 4500 Å
6000 Kelvin
Photosphere

AIA 1600 Å
10,000 Kelvin
Upper photosphere/
Transition region

AIA 304 Å
50,000 Kelvin
Transition region/
Chromosphere

AIA 171 Å
600,000 Kelvin
Upper transition
Region/quiet corona

01:00:33,291 --> 01:00:36,375

Throughout history, scientists have developed various

01:00:36,375 --> 01:00:40,166

devices and principles to understand, monitor,

01:00:40,250 --> 01:00:43,166

and even regulate the sun.

01:00:43,166 --> 01:00:46,166

Sundials employed for over two millennia,

01:00:46,416 --> 01:00:50,041

serve as a prime example of how humanity has harnessed

01:00:50,041 --> 01:00:53,500

the sun's movements to regulate time and calendars,

01:00:53,958 --> 01:00:57,333

thereby embedding the sun within social constructs.

01:00:58,291 --> 01:01:01,083

The tolling bells of the church,

01:01:01,083 --> 01:01:02,375

the relentless ticking of clocks,

01:01:02,375 --> 01:01:04,333

and the timely delivery of weather forecast,

01:01:07,333 --> 01:01:10,250

serve as constant reminders of the Sun's status as a

01:01:10,250 --> 01:01:14,791

technical entity embedded within a techno geographical milieu

01:01:15,250 --> 01:01:18,958

molded by the intricate interplay of science and politics.

01:01:20,041 --> 01:01:22,583

When concepts solidify into regulations

01:01:22,583 --> 01:01:25,958

and representation, translate into perceived facts.

01:01:26,333 --> 01:01:30,208

The Sun and its offspring spawned as a novel virus

01:01:30,625 --> 01:01:33,500

propelled by invisible magnetic waves

01:01:33,500 --> 01:01:35,791

fueled by structural inequality

01:01:35,791 --> 01:01:40,416

and the pervasive grip of global capitalist colonialism.



The colonization of the sun symbolizes a broader trend of surveillance that expands with globalization. Institutions, from churches to observatories, have institutionalized the production of knowledge about the environment, replacing our innate ability to interpret it with our senses. In this process, we become alienated from the world around us, relying on external sources to understand our environment.



Just as Elizabeth positions herself beyond the confines of the solar system, enveloped by stars and planets, she seeks to understand and forecast their movements. Through understanding comes the power to manipulate, as the universe's logic succumbs to mechanization, with every piece fitting precisely into place. Here, there is no room for error, as the universe operates with meticulous precision.



01:01:42,958 --> 01:01:45,958
As mechanical eyes supplants human vision,

01:01:45,958 --> 01:01:48,250
the escalating resolution amplifies

01:01:48,250 --> 01:01:50,208
the dread of physical error.

01:01:51,208 --> 01:01:54,666
This instrumentalized vision not only underpins

01:01:54,666 --> 01:01:57,375
the modern alliance of science and politics,

01:01:57,375 --> 01:02:00,416
but also the contemporary obsession on precision.

01:02:01,125 --> 01:02:04,583
It is the fear of imprecision, the terror of error

01:02:04,583 --> 01:02:06,083
that compels towards

01:02:06,083 --> 01:02:09,833
technological pragmatism and reliance on instruments.

01:02:10,750 --> 01:02:12,875
This fear is not unfounded,

01:02:12,875 --> 01:02:16,416
as historical instances of intense solar activity

01:02:16,416 --> 01:02:20,583
have demonstrated the potential for significant disruptions.

01:02:21,541 --> 01:02:25,708
In 1972, a series of solar flares and storms,

01:02:25,708 --> 01:02:27,208
including one of the fastest

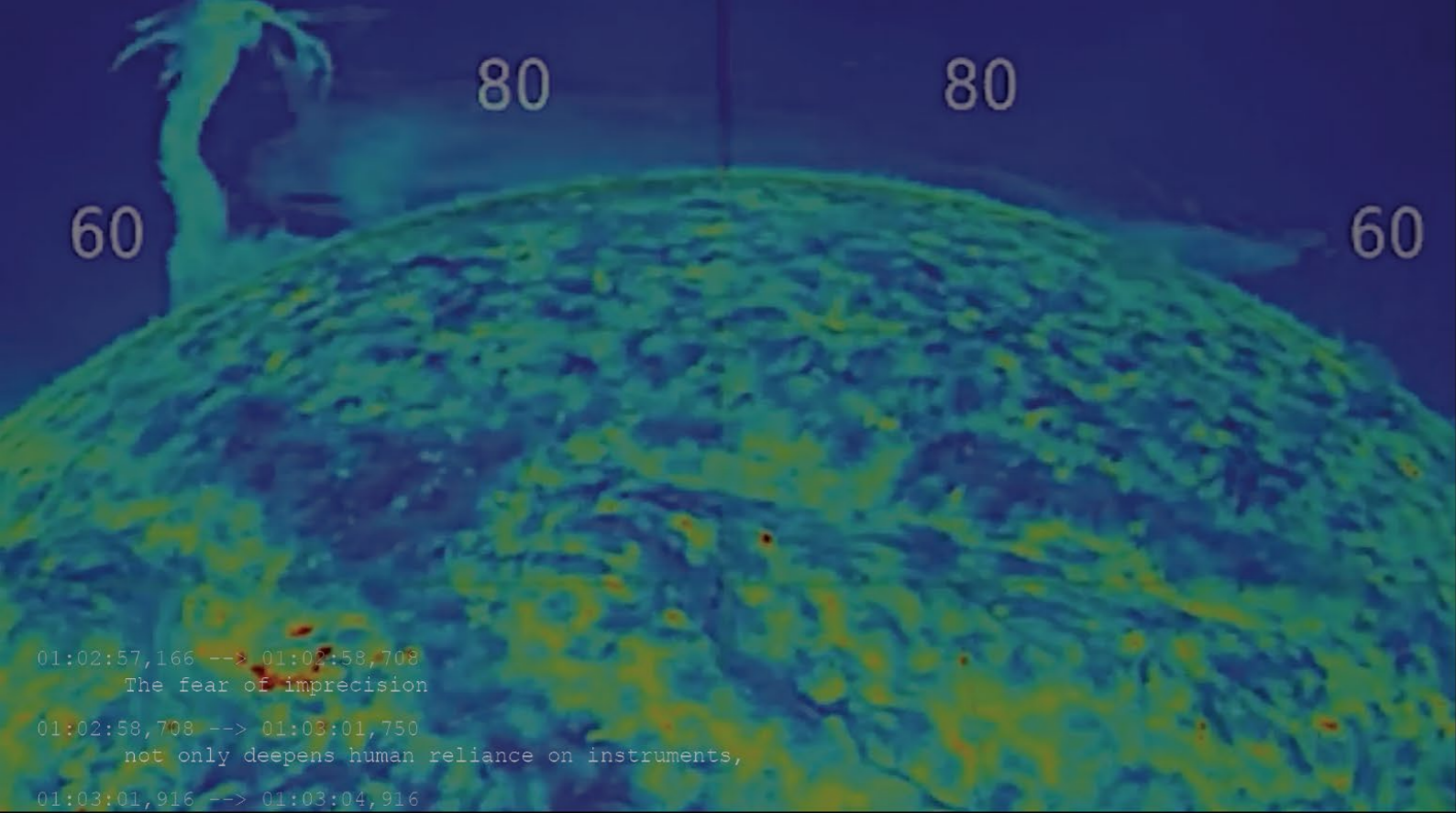
01:02:27,208 --> 01:02:29,375
coronal mass ejections on record,

01:02:30,250 --> 01:02:33,791
wreaked havoc on terrestrial electrical and communication

01:02:33,791 --> 01:02:36,958
networks, causing widespread disruptions.



2021-08-18 07:37 UT
Speed: 141.75 km/s
Distance: 27.23 Rs
HAE-LN: 375.39°
HAE-LT: 2.30°



01:02:57,166 --> 01:03:58,708
 The fear of imprecision
 01:02:58,708 --> 01:03:01,750
 not only deepens human reliance on instruments,
 01:03:01,916 --> 01:03:04,916
 but also drives the ambition to control

01:03:04,916 --> 01:03:07,875
 or even replace the sun.
 01:03:07,875 --> 01:03:11,666
 From the Russian Znamya project in the 1990s,
 01:03:11,916 --> 01:03:15,000
 which aimed to beam solar power to earth

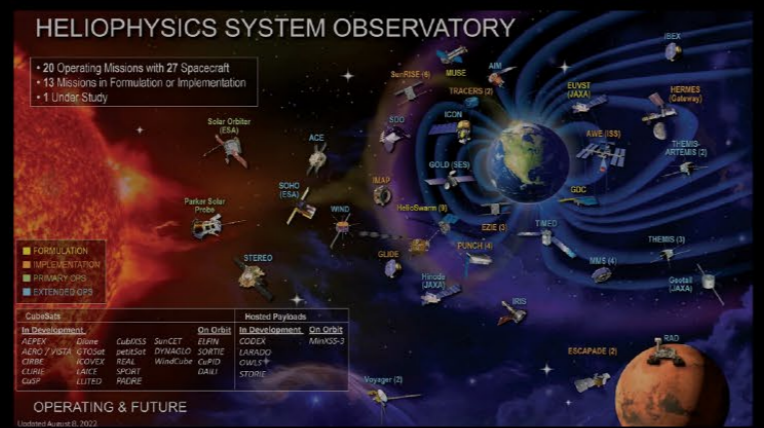


The array of satellites encircling Earth, directed towards the sun, symbolizes the adversarial relationship between our planet and its star. Solar geoengineering initiatives, from SSUR to the US government, seek to either amplify or diminish solar radiation, revealing humanity's ambition to transcend the limitations imposed by the sun. In echoing the sentiments of Russian Cosmism, these endeavors aspire to achieve "Victory Over The Sun."

01:03:15,000 --> 01:03:18,458
 by reflecting sunlight, turning the night into day.
 01:03:22,708 --> 01:03:26,291
 led by the U.S. government intending to reflect and dim
 01:03:26,291 --> 01:03:28,833
 the sun to slow down global warming,
 01:03:29,458 --> 01:03:33,000
 the quest for solar manipulation persists as a response
 01:03:33,000 --> 01:03:36,708
 to humanity's unease with the unpredictability of nature.

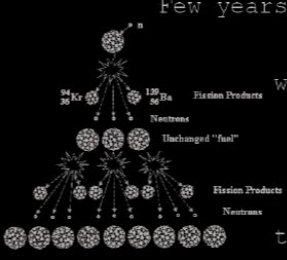
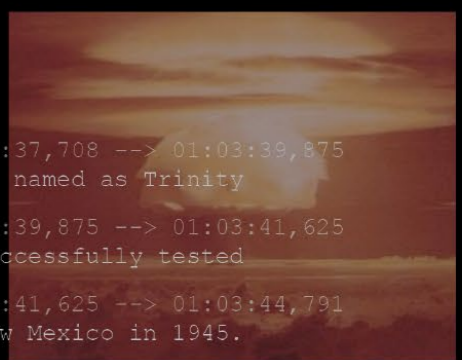


NOVA



Recent scientific breakthrough in nuclear fusion experiments heralds the era of the artificial sun. According to Genesis, God is portrayed as the ultimate creator of the world, including the Sun. Thus, as humans transcend themselves as supermen, the sun alongside them completes its thorough transformation from divinity to humanity.

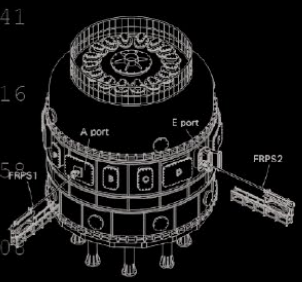
01:03:37,708 --> 01:03:39,875
 The first atomic bomb, named as Trinity
 01:03:39,875 --> 01:03:41,625
 was successfully tested
 01:03:41,625 --> 01:03:44,791
 in the desert of New Mexico in 1945.



Few years later, scientists certified that the sun was in fact the same as the hydrogen bomb, or, biblically, the sun was made in the image of the bomb. The sun becomes a subject of ideology and a weapon of rational political science.

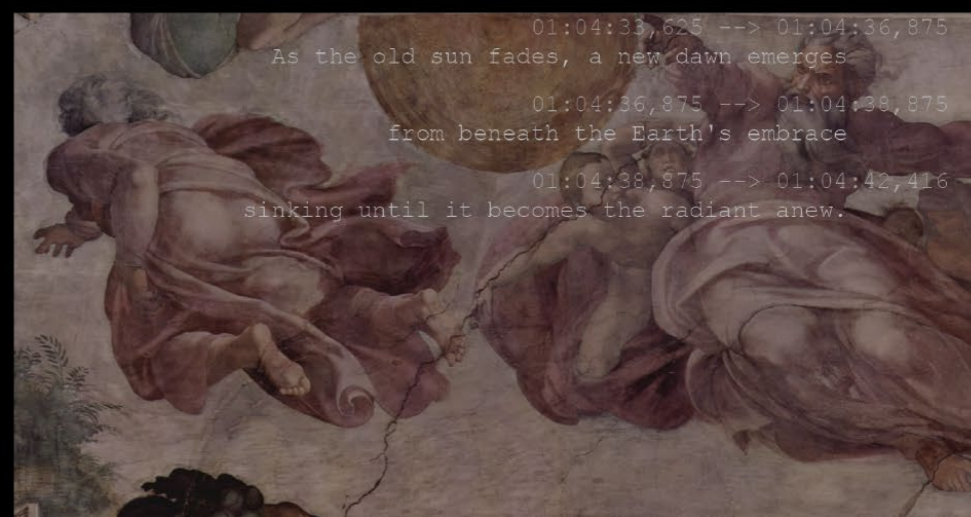
Replacing, but then later merging back with religion as the repressed returns. Recent scientific breakthrough in nuclear fusion experiments heralds the era of the artificial sun.

01:04:16,291 --> 01:04:18,916
 According to Genesis, God is portrayed
 01:04:18,916 --> 01:04:22,458
 as the ultimate creator of the world, including the Sun.



Thus, as humans transcend themselves as supermen, the sun alongside them completes its thorough transformation from divinity to humanity. As the old sun fades, a new dawn emerges from beneath the Earth's embrace sinking until it becomes the radiant anew.

In Genesis, God, depicted as a human-like figure, creates the sun, symbolizing the power of world-making. Now, as humans ascend to god-like status, they possess the ability to create their own sun—fully controllable and manageable, reflecting their newfound mastery over cosmic forces.



Eclipse

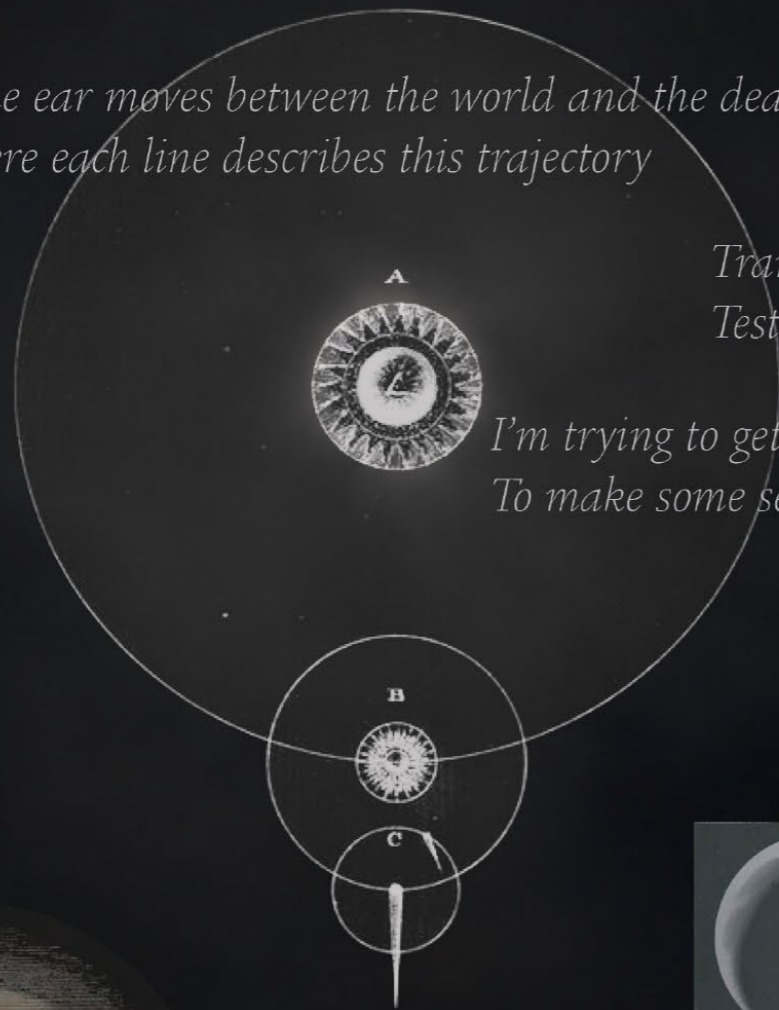
Gregg Bordowitz

*We exist inside something enfolded
Knowing ourselves only through habit*

*Through prepositions we move things, get fed
Survive by actions conjoined with projects*

*We move in circles until we are dead
Leaving memories and a few effects*

*The ear moves between the world and the dead
Here each line describes this trajectory*



*Transcribing views from within an ellipse
Testifying to the hazy border*

*I'm trying to get beyond this crisis
To make some sense of my fractured order*



*With words find meaningful ways to exist
Be all elements, earth fire air water*

*Trying to render language matter
Daily I touch the creative process*



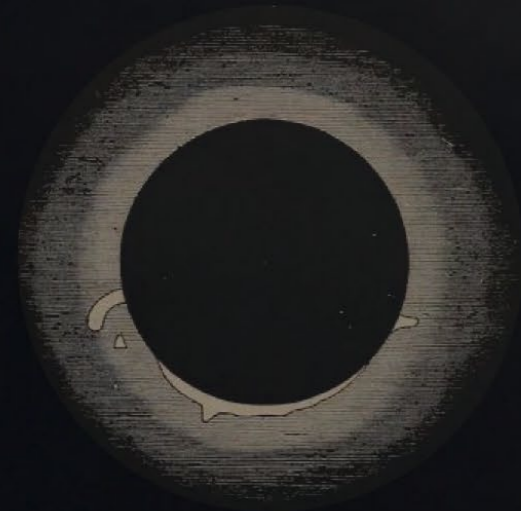
*There is no purpose or reason to persist
The aim is to get beyond bitterness*

*Because the house of reason collapsed
And we were all present bearing witness*

*We are reliving matters of the past
Confusing present and future tenses*



The solar eclipse marks a moment of renewal for Indigenous peoples of the Americas, spanning from the Navajo Nation to the rainforests of Brazil. Yet, it also symbolizes the death of the sun, obscured by the shadow of the moon and swallowed by darkness. As the sun fades, lights illuminate—civilization.



01:06:25,291 --> 01:06:28,291
On April 8th, 2024,

01:06:28,625 --> 01:06:32,416
the Great North American Eclipse from Mexico to Canada

01:06:32,416 --> 01:06:35,166
and crossed into contiguous United States

01:06:35,166 --> 01:06:37,250
remarked the earth to their 30th member

01:06:37,583 --> 01:06:40,583
of Solar Saros, 139.

01:06:40,833 --> 01:06:43,375
Chaldean astronomers first discerned

01:06:43,375 --> 01:06:47,250
the periodicity of the Sun and Earth's relative positions,

01:06:48,000 --> 01:06:50,458
ushering in an era with the marriage between

01:06:50,458 --> 01:06:53,291
the sublunary terrestrial slum and the Sun

01:06:53,291 --> 01:06:57,583
has become a strictly monogamous model marked by numbers.

01:06:58,708 --> 01:07:02,791
When the sun falls as a local blockage, a restriction,

01:07:03,375 --> 01:07:06,125
a blind spot that obscures the opening

01:07:06,125 --> 01:07:09,291
of the earth onto a more general cosmic economy

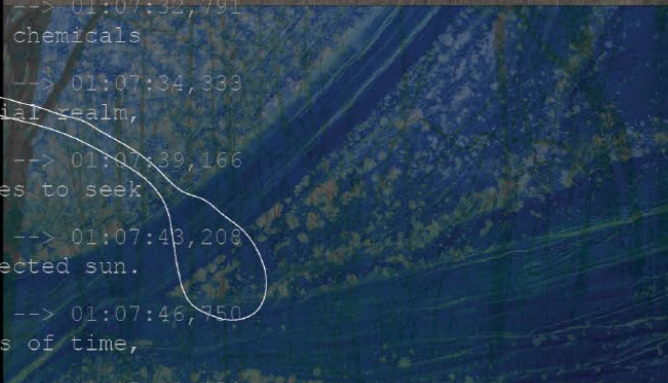
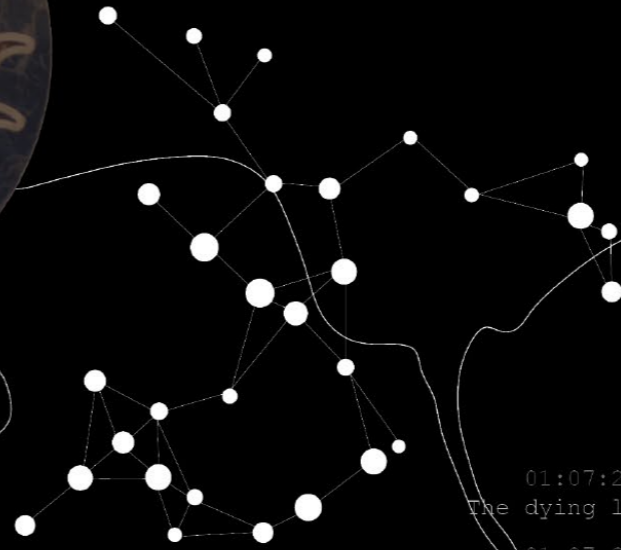
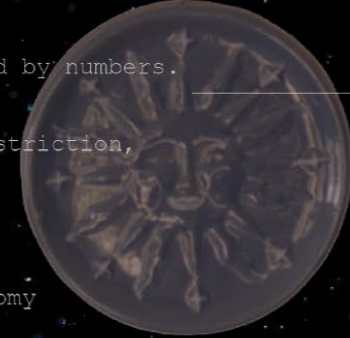
01:07:09,833 --> 01:07:13,333
which reduced it and which will consume it

01:07:13,333 --> 01:07:14,791
along with the sun.

01:07:15,833 --> 01:07:18,625
The death is inevitable.

01:07:18,625 --> 01:07:22,000
Only at the cost of the strict monism in death

01:07:22,250 --> 01:07:26,125
entails the possibility of pluralism in life.



How do we start a revolution of the Sun? Or a peaceful divorce between the planet and the star? How do we position ourselves in the cosmos, with or without the Sun? The second part of the performance serves as a meditation on self-reparation, focusing on healing both the body and the Sun. Viewing the Sun as a force of liberation from geopolitical and technological manipulation—impacting not only the planet but also the mind and body—becomes a form of empowerment and resistance. Through this introspective journey, we reclaim agency over our own selves and seek harmony within and beyond the confines of Earth.

01:07:28,250 --> 01:07:30,333
The dying light of the sun

01:07:30,333 --> 01:07:32,791
transpassing the atmosphere of chemicals

01:07:32,791 --> 01:07:34,333
reaches the terrestrial realm,

01:07:35,625 --> 01:07:39,166
its blinding brilliance, compelling human eyes to seek

01:07:39,166 --> 01:07:43,208
refugee in shadow where lies the resurrected sun.

01:07:44,583 --> 01:07:46,750
In Fedorov's geographies of time,

01:07:46,750 --> 01:07:49,858
Time is an arrow so much as it is a landscape

01:07:51,000 --> 01:07:52,250
through the time landscape

01:07:52,708 --> 01:07:54,708
Fedorov imagines a world of kinship

01:07:55,166 --> 01:07:57,666
existing beyond subject and object relations,

01:07:57,666 --> 01:08:00,166
mind and body dualities,

01:08:00,583 --> 01:08:03,125
oppositions between nature and culture

01:08:04,125 --> 01:08:07,125
divisions of labor in human societies,

01:08:07,416 --> 01:08:11,041
and even to distinct between life and death,

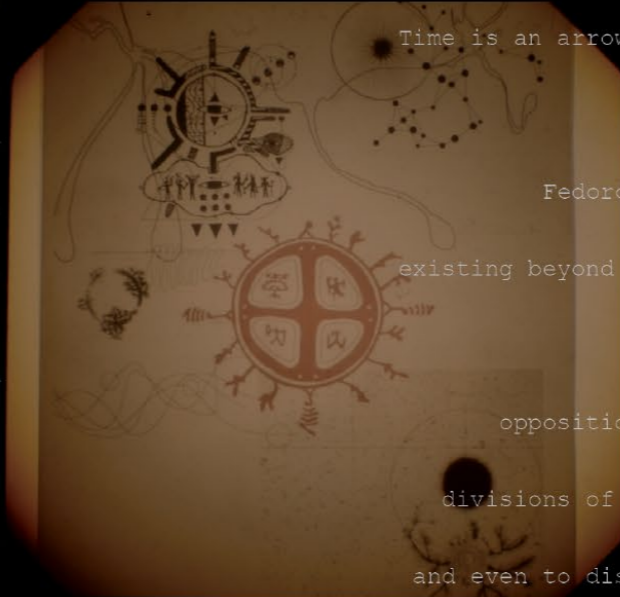
01:08:12,375 --> 01:08:15,041
When uncertainty eradicates oppositions,

01:08:15,041 --> 01:08:18,041
when death transforms into resurrection,

01:08:18,750 --> 01:08:21,750
when the sun resumes to being the sun,

01:08:22,125 --> 01:08:25,500
the intricate spine of time spreads as conjunct

01:08:25,666 --> 01:08:27,750
recalling the ethic returns.

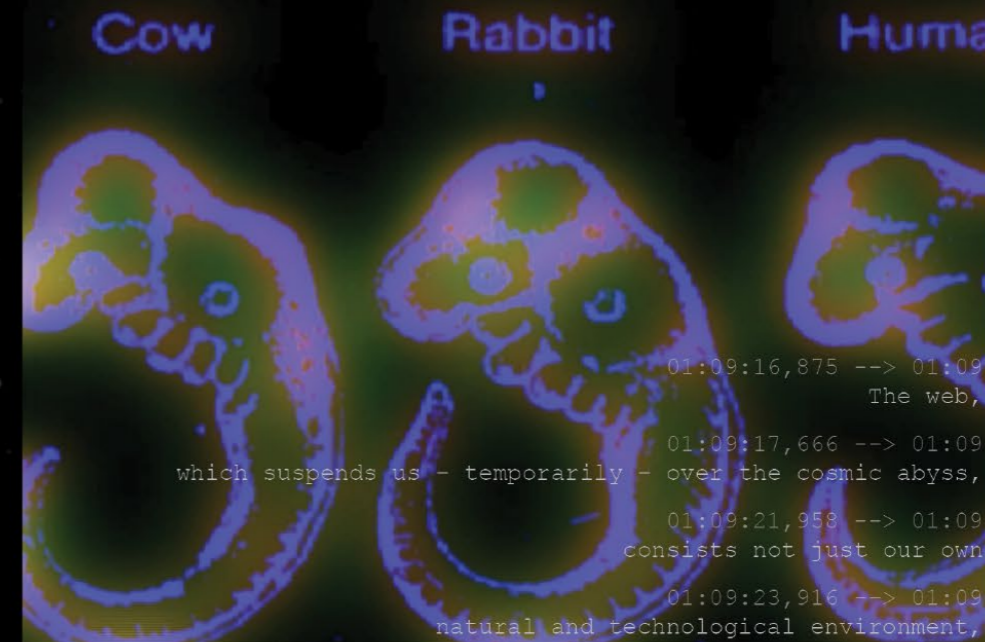


In 3.5 billion years, the core of the aging sun grows hotter, causing a severe greenhouse effect that sterilises the entire biosphere; its outer surface cools, expanding to engulf the inner planets.

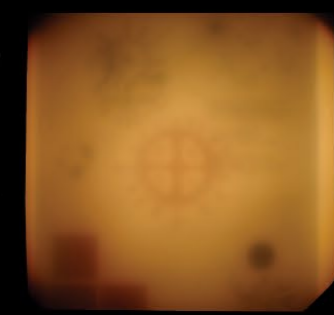
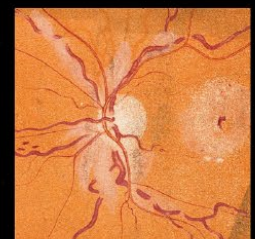
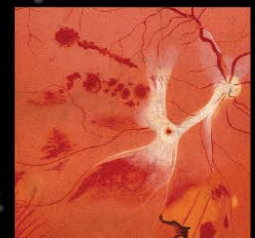
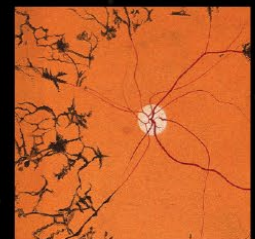
In 7 billion years, the earth slips out of orbit but, outside the small chance that it could be flung out into the 'icy desolation of deep space', is dragged into the core of the Sun to be evaporated, its only legacy a small amount of fuel for the red giant's farewell glow. The sun becomes a 'small block of hydrogen ice';

100 trillion years into the future, all the stars go out, followed by an era populated only by the 'degenerate remnants' that survive the end of stellar evolution.

10[40] years, the cosmic catastrophe of proton decay ushers in the era of black holes, where the only stellar objects left are black holes 'convert their mass into radiation and evaporate at a glacial pace', and then the scarcely-conceivable 'dark era' populated by atomic waste products entering into desultory, increasingly rare and fruitless chance encounters.



01:09:16,875 --> 01:09:17,666
The web,
01:09:17,666 --> 01:09:21,625
which suspends us - temporarily - over the cosmic abyss,
01:09:21,958 --> 01:09:23,916
consists not just our own
01:09:23,916 --> 01:09:26,250
natural and technological environment,
01:09:27,000 --> 01:09:28,708
but of the knitting together of
01:09:28,708 --> 01:09:31,250
a history of cosmic contingencies;
01:09:31,500 --> 01:09:33,750
The earth and the sun, too.
01:09:33,750 --> 01:09:36,750
As part of this temporal web of circumstances.
01:09:37,208 --> 01:09:40,583
However, it is precisely this contingencies
01:09:40,583 --> 01:09:41,916
that shape the earth,
01:09:42,333 --> 01:09:45,333
its inhabitants, and us as human,
01:09:45,875 --> 01:09:48,000
as in inseparable facet of the sun.
01:09:48,500 --> 01:09:50,125
We are both embedded within
01:09:50,625 --> 01:09:55,041
and merged with the sun, becoming a part of its essence.
01:09:56,291 --> 01:09:57,583
Time drifts
01:09:57,583 --> 01:10:02,041
as the Earth voyages away, delving deeply into the cosmos,
01:10:02,791 --> 01:10:05,666
bearing the sun within and without.
01:10:05,666 --> 01:10:10,666
Resurrection, from the solar time.



The Leap

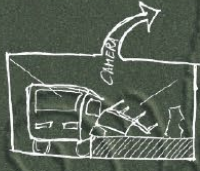
Spring 2022

Visual Elective

Collaborate with Xueyin Lu and Haoran Xu

Professor: Joshua C Jordan

Reimagining the world after the Sun dims involves humans descending into the depths, seeking a new source of light and energy from the core of the planet. Lava emerges as the ultimate form of immortality, where to dwell in the depths is to embrace eternal life. This narrative draws inspiration from Chinese folklore of the afterworld, where death is viewed as a process of revising one's entire life.



01. The scene starts from a close look to the metro level, to show the mass and the sense of a dystopia. And then camera swish higher, over the section.



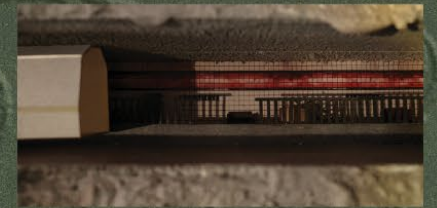
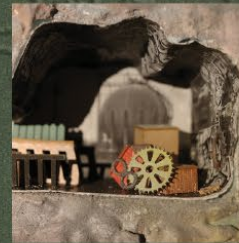
02. The scene shows a rolling forward image of the platform. By using some stop motions, where frames people fight for supplements.



03. Then the scene montages to the big model, and first to show the abandoned world on the ground, then the camera rolls down to show the beneath.



04. After the on-ground image, the camera goes down to show the first two levels, which are Metro platform and Market. By using stop motion to show the moving items and people.





Spring 2023

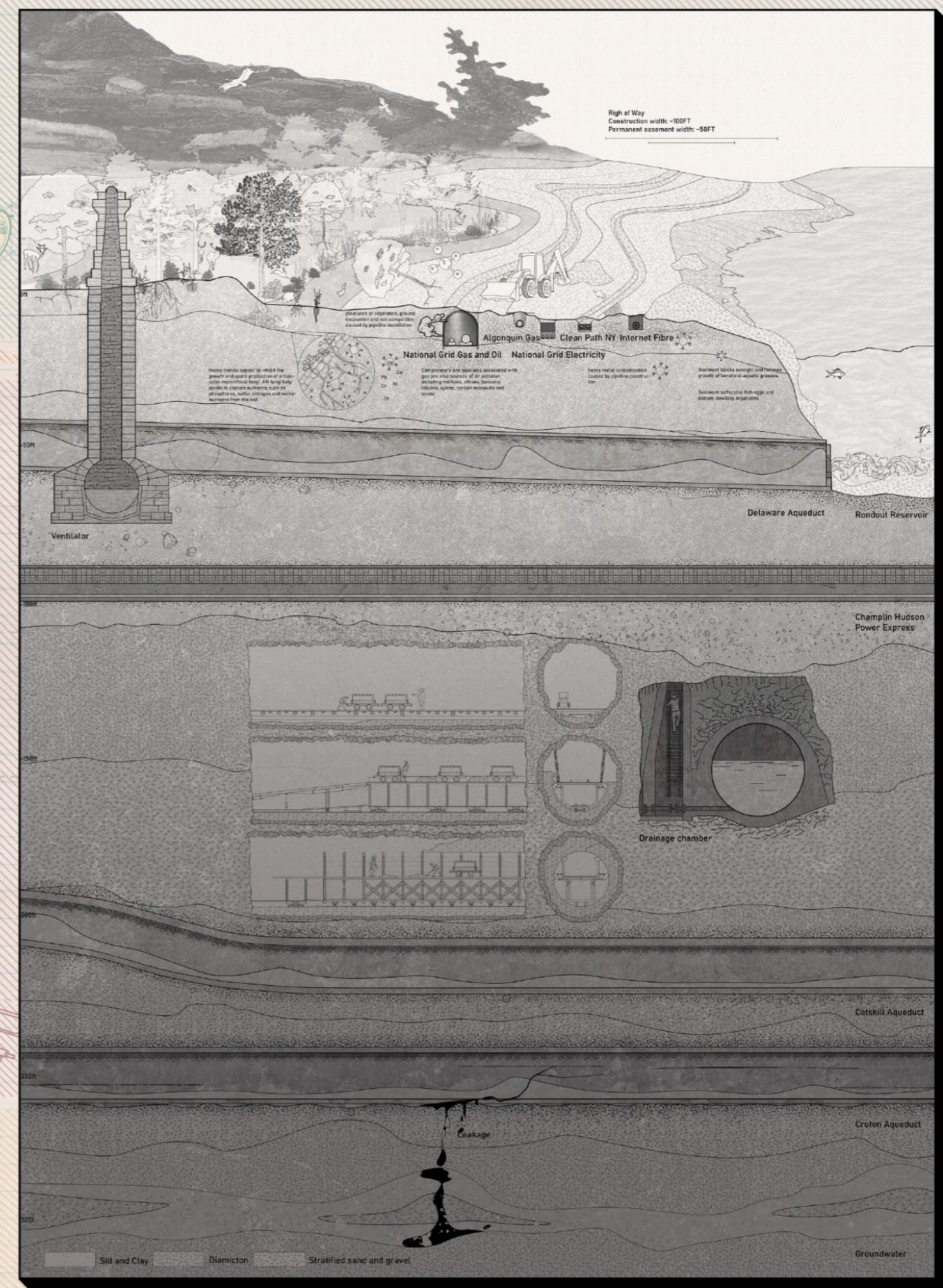
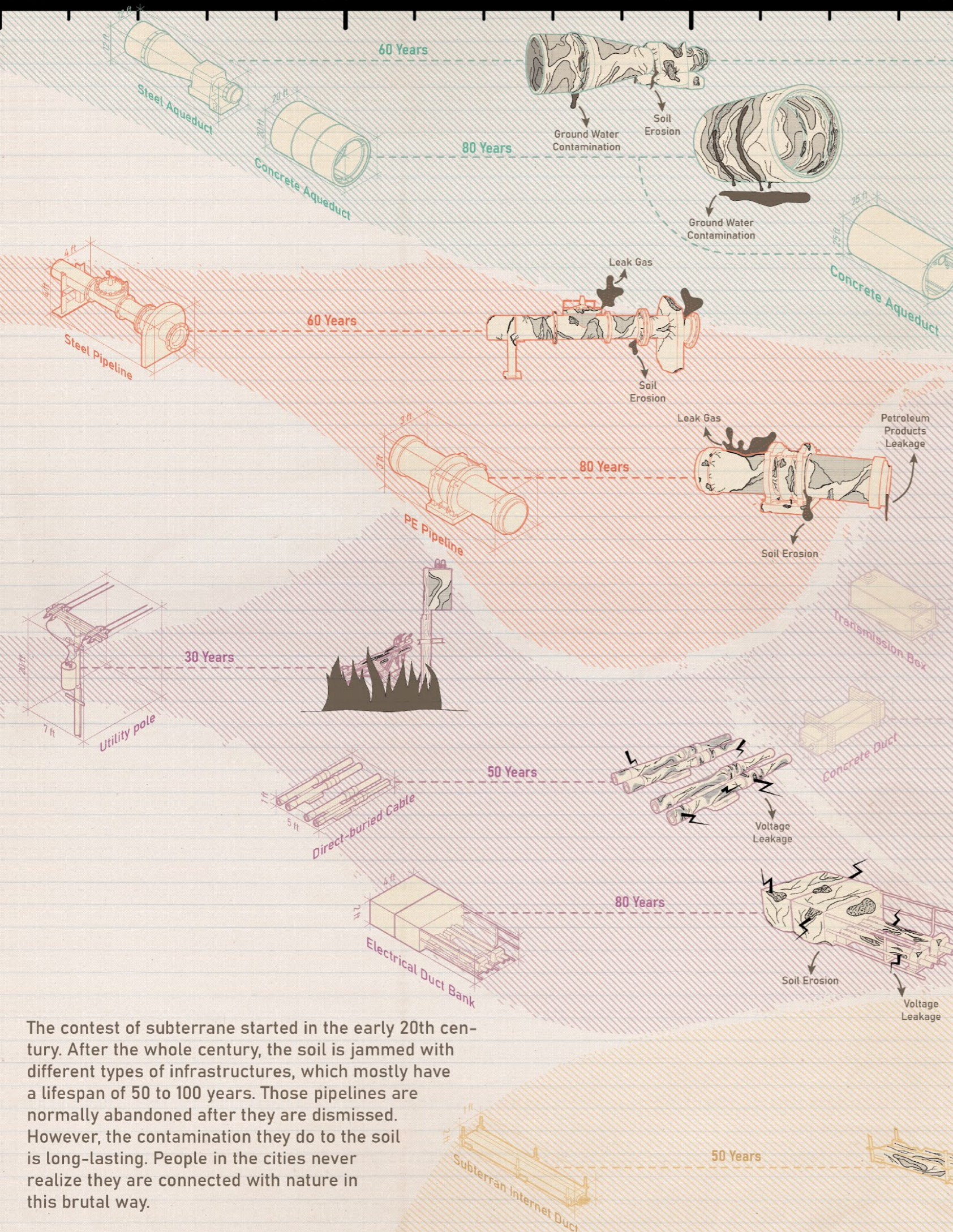
Advance IV Studio

Collaborated with Han Qin

Critic: Nahyun Hwang

Taking Measures across the Hudson Valley Subterrain

As the spiritual utopian of the American spirit, the wilderness has always been the keyword of the American landscape. Hudson Valley was the frontier and symbol of wilderness since the colonialists from Europe first arrived at the virgin land, influencing the New Yorkers and the whole country. However, behind the picturesque image from the impression of the countryside is also the progress of urbanization. Hudson Valley has not only been the dreamland of the citizens but also provided natural resources, including water, electricity, natural gas and oil. Underneath the soil of the natural landscape is the highway of energy and resource network consisting of aqueducts, pipelines and cables. This ongoing project of this semester tackles the real landscape behind the seen natural once and how those 'ugly' but necessary infrastructures define contemporary living and contemporary 'nature'.



The contest of subterranean started in the early 20th century. After the whole century, the soil is jammed with different types of infrastructures, which mostly have a lifespan of 50 to 100 years. Those pipelines are normally abandoned after they are dismissed. However, the contamination they do to the soil is long-lasting. People in the cities never realize they are connected with nature in this brutal way.

Section across the soil of Hudson Valley



Energy Facilities in Hudson Valley over time

2022:

1. CPV Valley energy center, 770MW
2. Bowline Point power station, 621MW
3. Lovett power station, 201MW
4. Danskammer generating station, 147MW
5. Danskammer generating station, 239MW
6. Roseton generating facility, 621MW
7. Cricket Valley Energy power station, 438MW
8. Athens generating plant, 407MW
9. Selkirk cogeneration power station, 434MW
10. Bethlehem energy center, 893MW
11. Rensselaer cogeneration power station, 83MW
12. Empire power station, 654MW

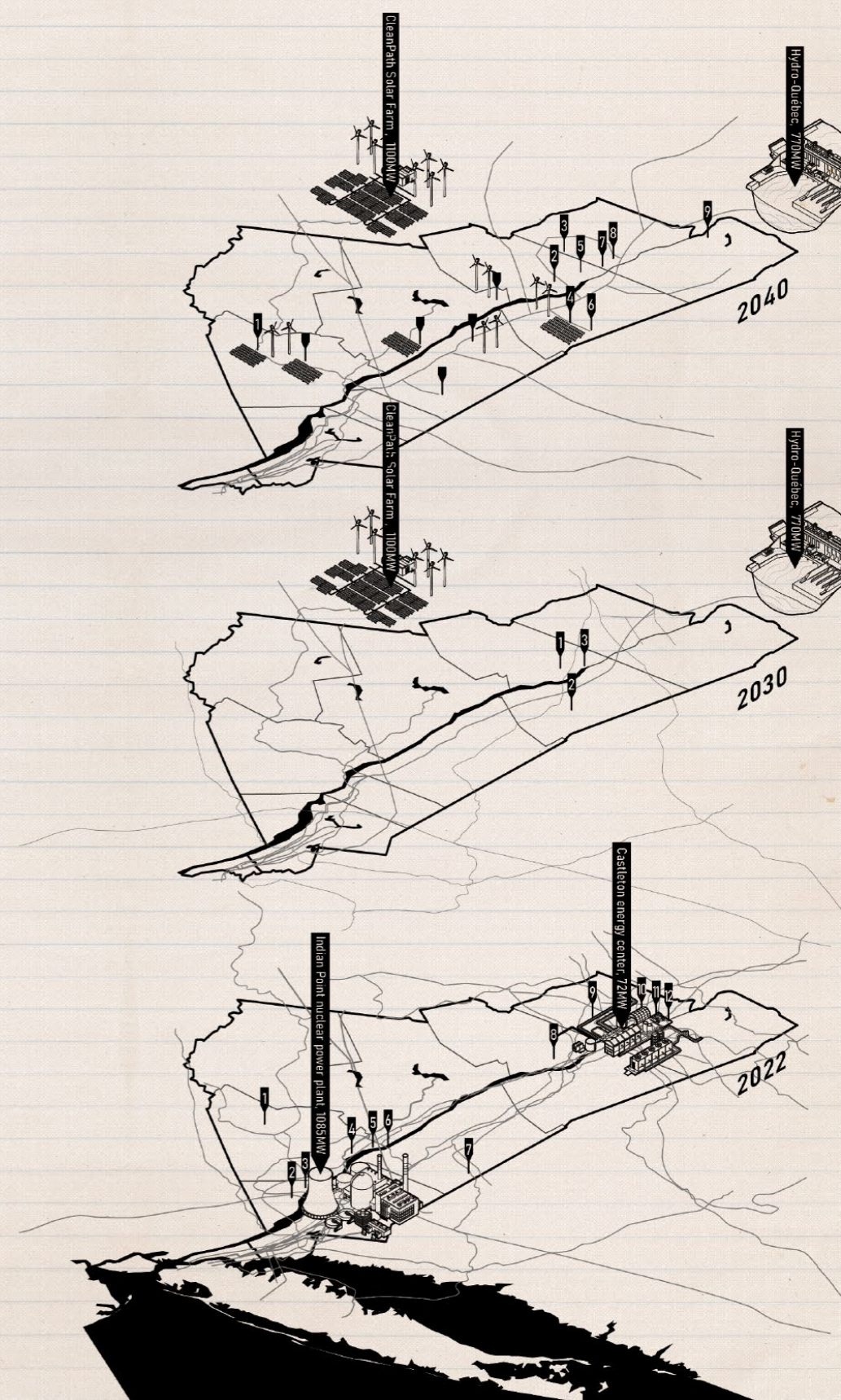
2030:

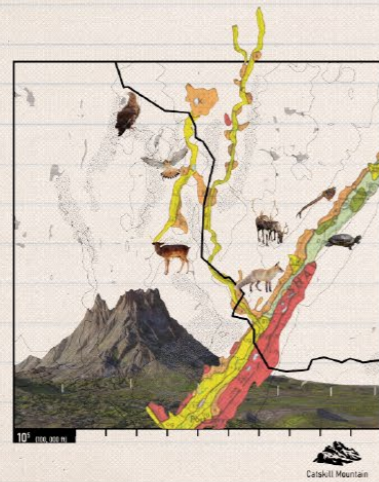
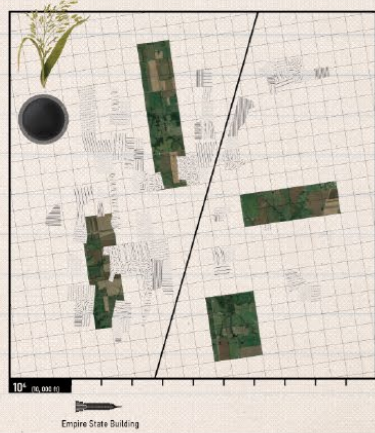
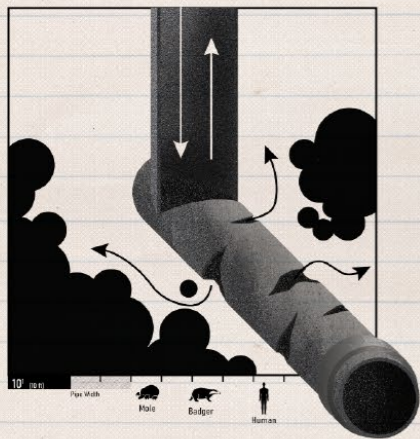
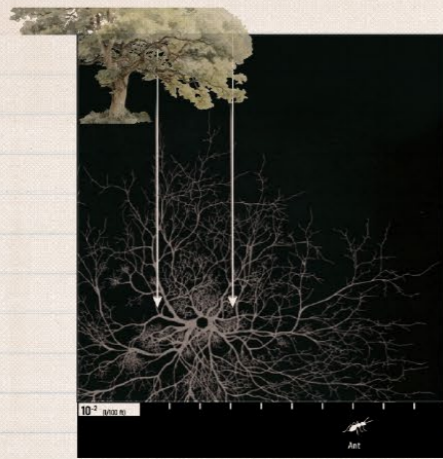
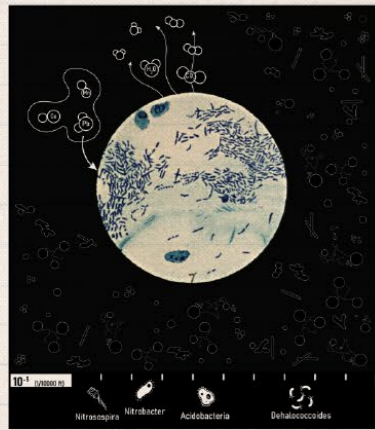
1. Flint Mine solar farm, 100MW
2. Shepherd's Run Solar, 60MW
3. Greene County Solar Facility, 50MW

2040:

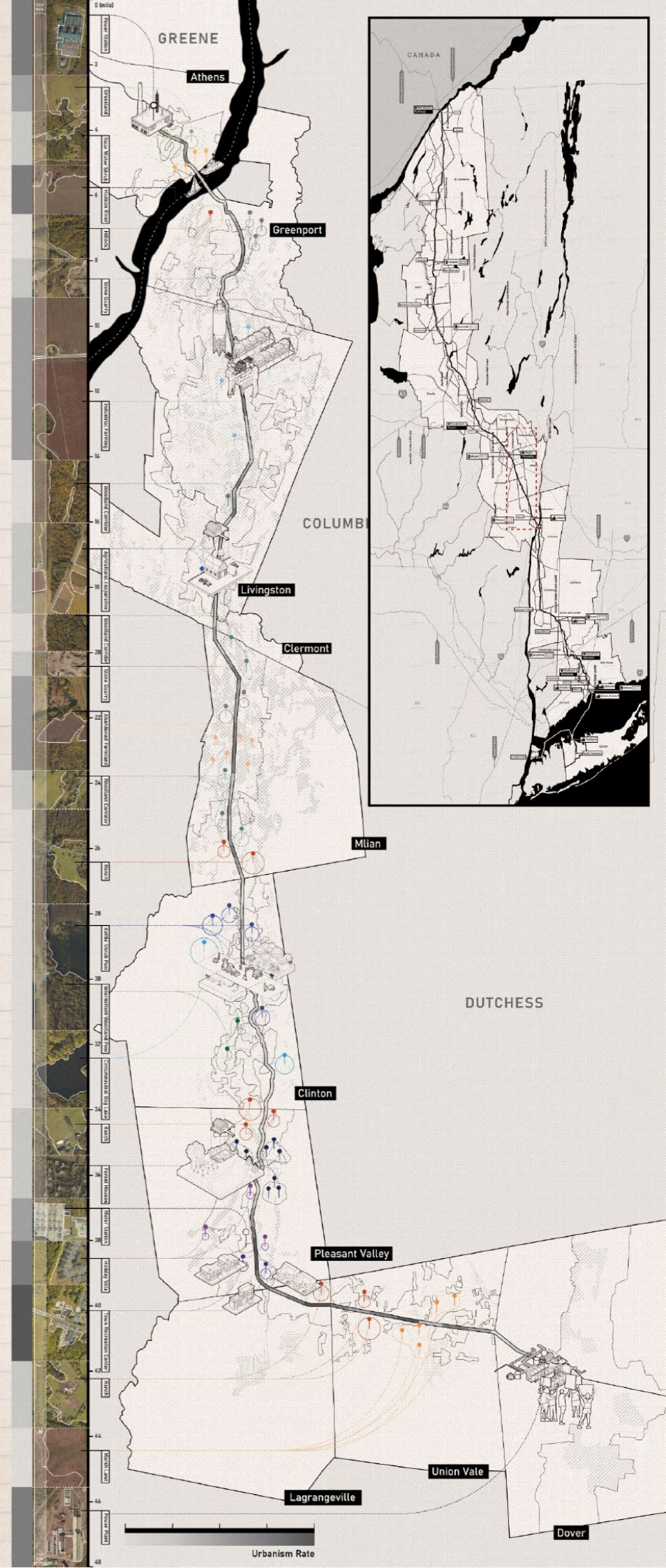
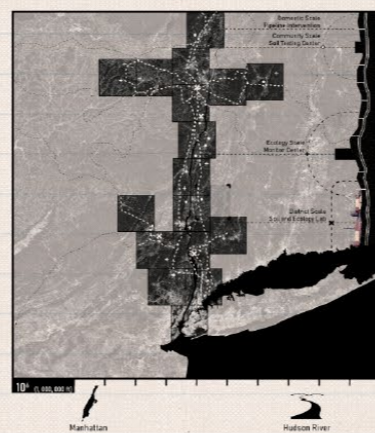
1. Shepherd's Run Solar, 60MW
2. Flint Mine solar farm, 100MW
3. Hecate Energy Gedney Hill, 20MW
4. Shepherd's Run Solar, 60MW
5. Greene County Solar Facility, 50MW
6. Hecate Energy Columbia County solar farm, 60MW
7. Albany County solar farm, 20MW
8. Albany County solar farm, 20MW
9. Hilltop Solar Project, 20MW

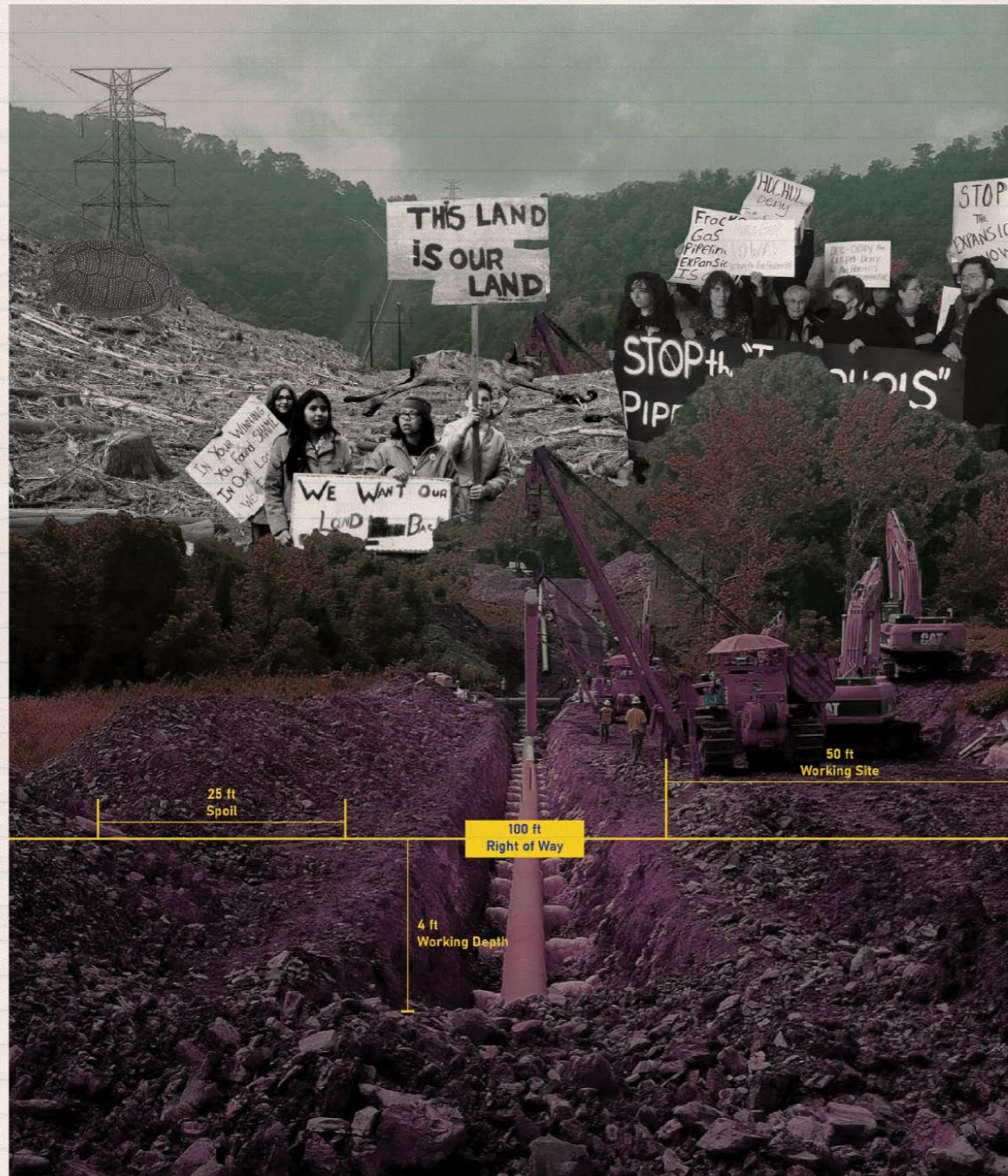
The subteran landscape is never a static scene. It is always under change, regardless of the retirement of pipes, increase in flux or updates on energy plans. For Hudson Valley and New York City, 2030 is a critical time of shifting in the underground due to the 70% of zero-emission. Most of the energy plants will retire by then, and new ones will rise to supply millions of people in the city. The same will happen to the pipelines and cables. Will they become a new opportunity to nature and humans instead of a hazard to our fragile environment?





Reimagining the pipeline and its right-of-way entails reenvisioning scale through a transpecies lens. The pipeline's impact extends from the microscale of individual organisms to the macroscale of thousands of miles it traverses. Incorporating transcalar thinking into the project is crucial for understanding and mitigating its ecological effects across diverse levels of scale. Taking a meticulous approach, we conducted a comprehensive survey of the Iroquois Gas Pipeline, meticulously examining every inch of soil along its route from Athens County to Dover County.





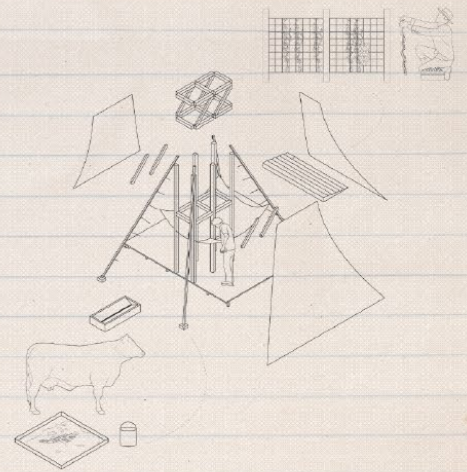
The extraction process for the pipeline began long before its construction commenced. Trees were felled, and weeds were meticulously managed, creating a right-of-way that birthed a distinct ecosystem stretching uninterrupted for thousands of miles, effectively cleaving the landscape into fragmented pieces.

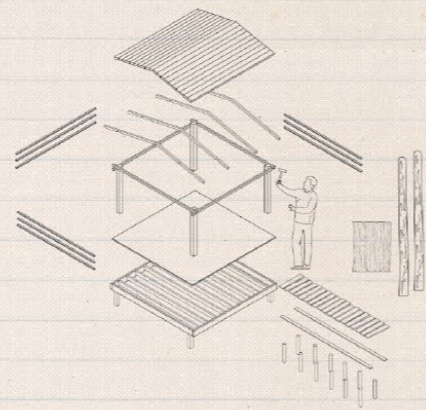


FARMLAND



The vacant farmland in Livingston County has emerged as a new battleground for middle-class New Yorkers seeking investment opportunities for their retirement. We envision the right-of-way as a potential avenue for revitalizing the farming economy by implementing various programs on this unused land.

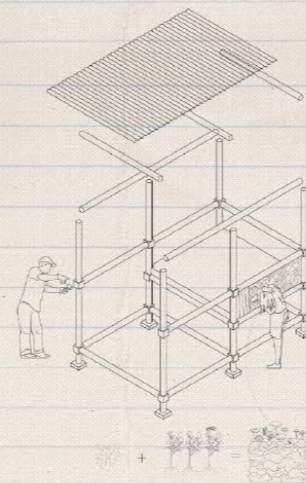




As the right-of-way cleaves through the continuous landscape and habitat, reclaiming this land presents an opportunity for animals to migrate and establish new habitats. The unique ecology along the way offers a rare chance to merge the two edges, facilitating the regeneration of nature.

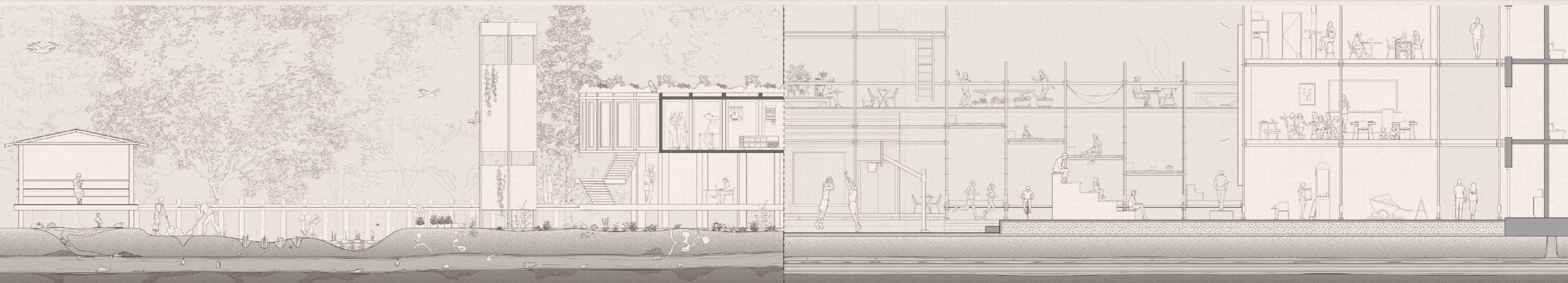


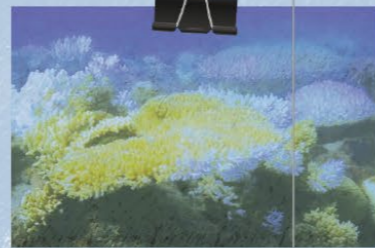
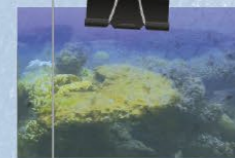
The pipeline often traverses urban areas, creating a rust belt that divides neighborhoods into fragmented pieces. Holiday homes and local residences find themselves separated by expanses of grassland covering the pipeline. Repurposing this plot as a continuous belt of civic usage presents an opportunity for people from diverse communities to reconnect with one another.



WETLAND

URBAN





Can you hear coral crying?

Fall 2023
Advance V Studio
Collaborated with Jason Li
Critic: Marina Otero Verzier and Farah Alkhoury

Faced with imminent submergence, Tuvalu must consider the question of what and how to preserve. As we understand Tuvalu's social structure as a Coral Urbanism, where humans are just one of the 'actors' or inhabitants who also rely immensely on the reef ecology, the project highlights the need to recognize, recover, and care for the coral colonies in Tuvalu, as its living entities not only constitute archives of Tuvaluan traditions, eco-social practices, and knowledge, but are also fundamental to the preservation of its physical landmass and national sovereignty.

Invertebrate snaps
(High Frequency)



Pre-degradation



Post-degradation



Fish vocalizations
(Low Frequency)

2004

2006

2008

2010

2012

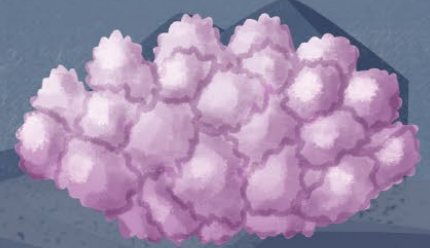
2014

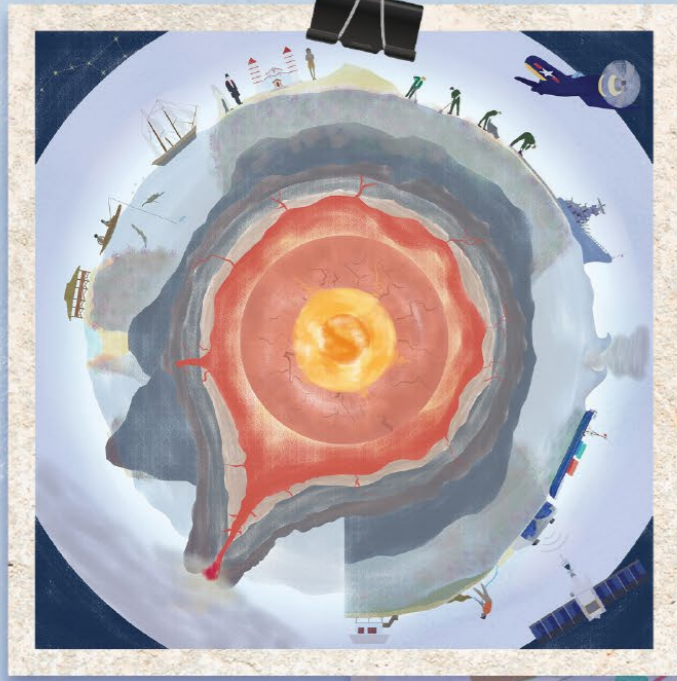
2016

2018

2020

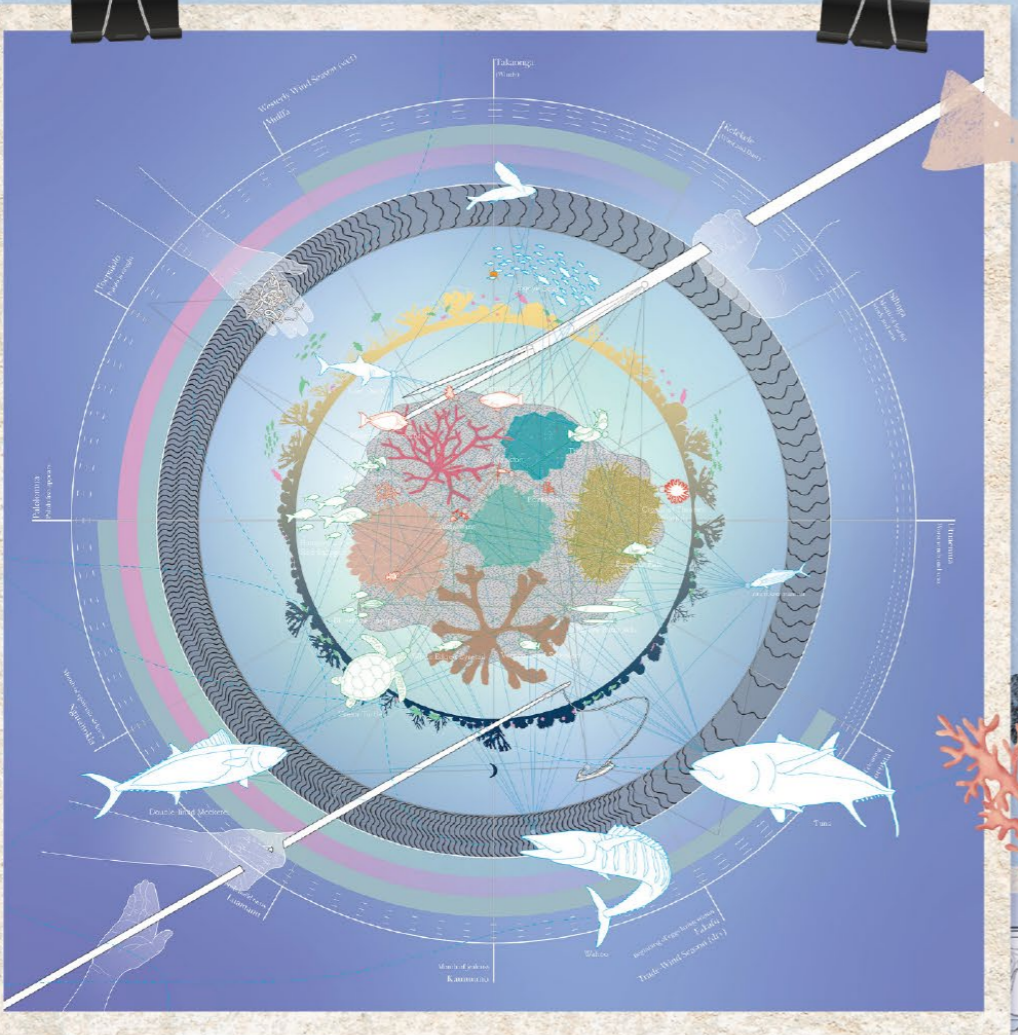
2022





The nation of Tuvalu is founded on the atoll island where the interrelationship between the coral reefs that constructed the land and its inhabitants. As the 'indigenous' inhabitants of the land, the corals have existed for millions of years prior to human arrival. Corals, as archives, record the history of Tuvalu through environmental changes over time

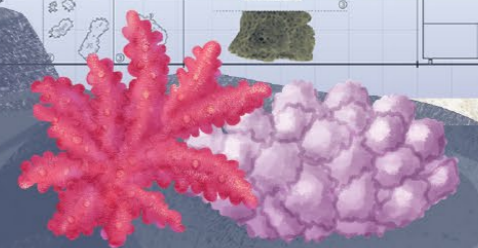


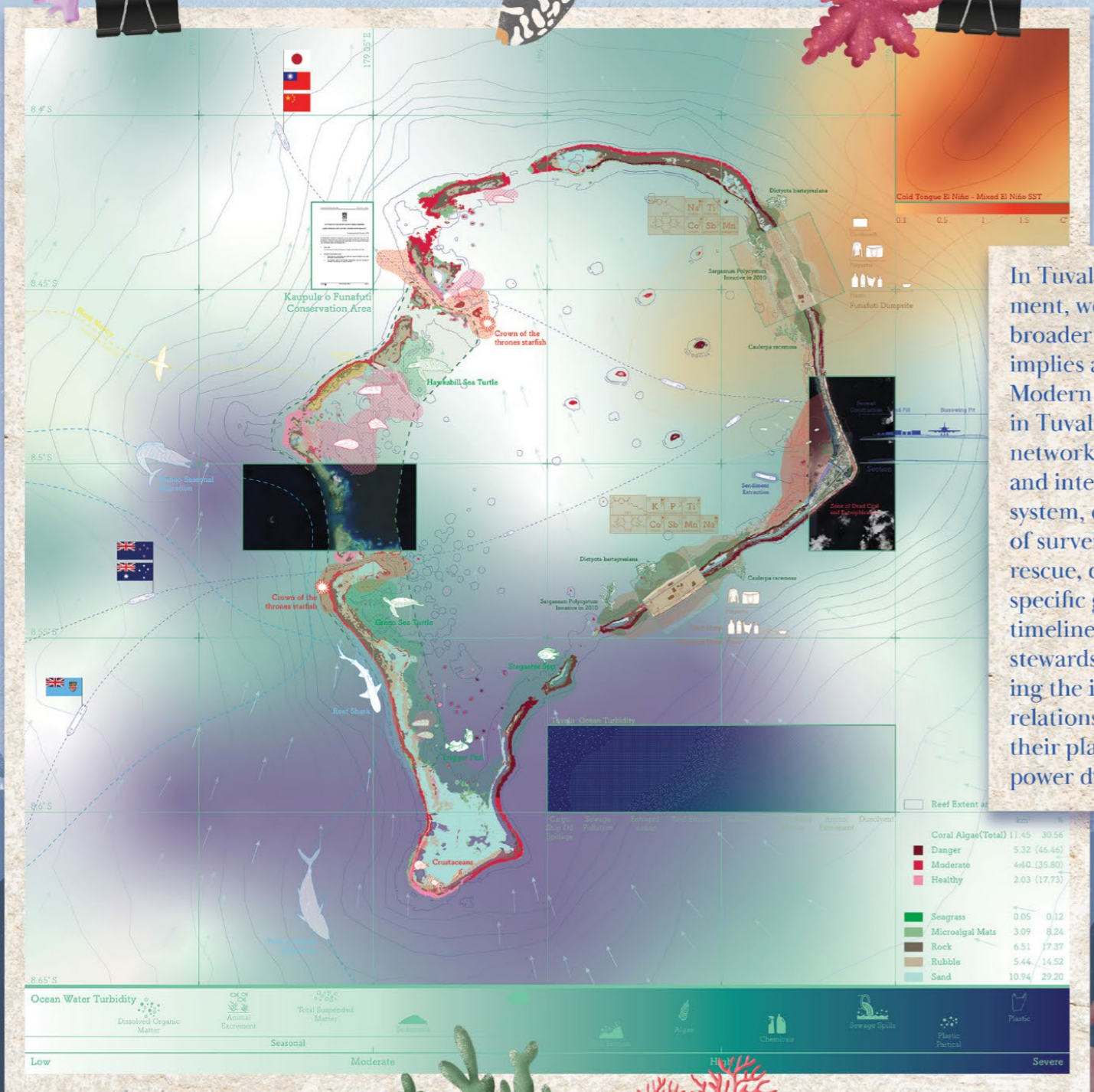


We understand Tuvalu's structure as a Coral Urbanism, where humans are just one of the 'actors' or inhabitants who rely on the reef ecology for food sourcing and to replenish and sustain the country's shoreline. As the coral citizen, the Tuvalu-an people have a deep-rooted relationship with coral, expressed through tools like canoes and fishing rods. This bond is captured in both physical artifacts and cultural traditions.

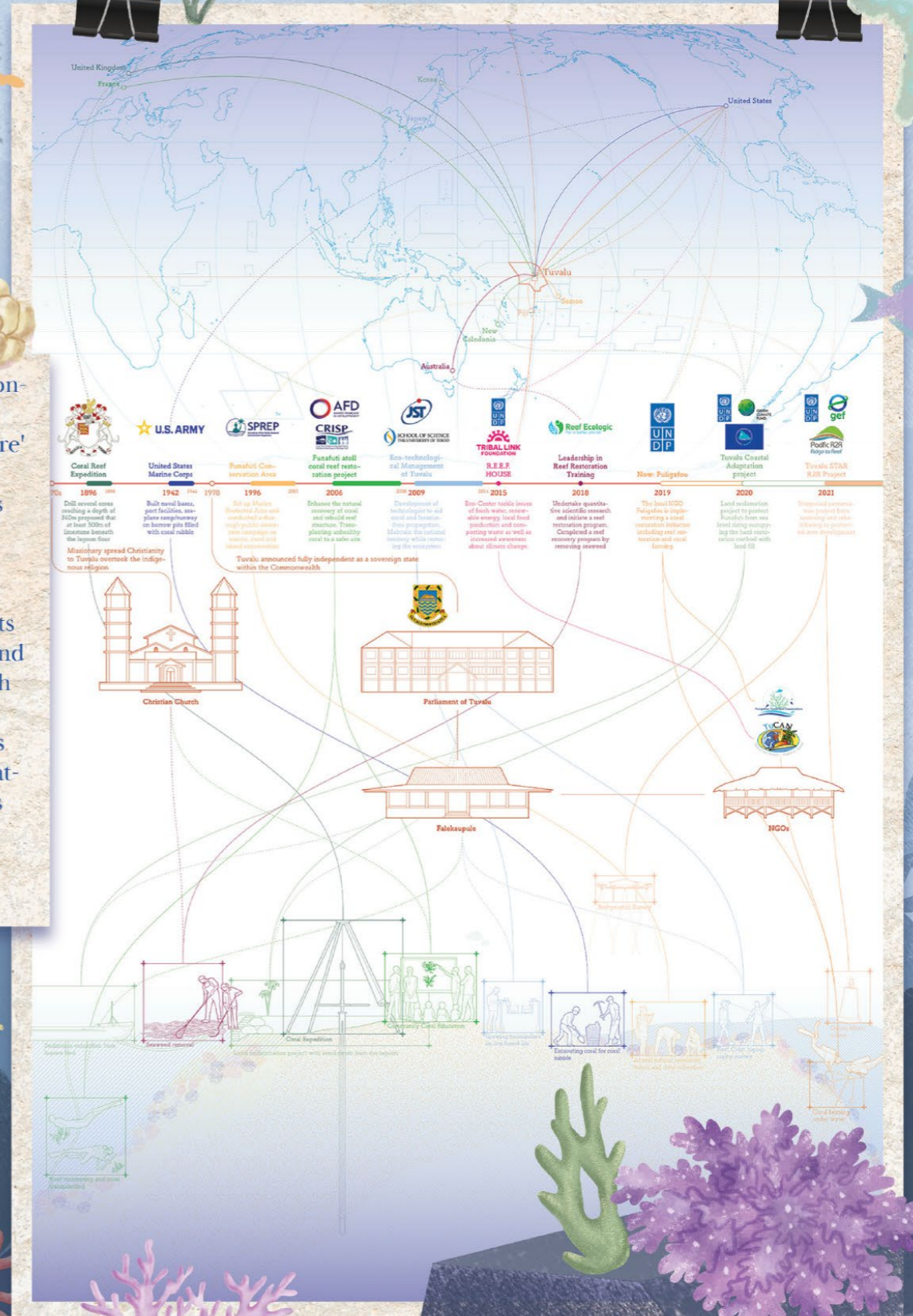


A large grid of technical drawings and diagrams. The top row includes a person in traditional attire, a canoe, a fishing rod, a diver, a boat, and a satellite. The middle row shows a 3D reef model, a vertical core sample, and a person in a lab coat. The bottom row features a cross-section of the reef with depth markers (0, 4, 8, 12, 16, 20, 24 meters), a person in a lab coat, and a person in traditional attire. The grid also contains various scientific instruments like a microscope, a scale, and a person in a lab coat. The drawings are detailed and show the integration of traditional knowledge with modern scientific research.





In Tuvalu's coral urban environment, we're nurtured by a broader ecosystem, where 'care' implies a power hierarchy. Modern stewardship of corals in Tuvalu forms a complex network of power, both local and international. Under this system, corals become subjects of surveillance, adaptation, and rescue, driven by projects with specific goals, funding, and timelines. Understanding this stewardship is key to appreciating the intricate trans-species relationships in Tuvalu and their place in a global web of power dynamics.



To develop a new coral stewardship in Tuvalu, we follow four action steps: survey, analysis, intervention, and negotiation, treating coral as a living entity that coexists with humans and contributes to policy making. The 'coral parliament' is an integral part of Tuvalu's nationhood, legally recognizing corals as entities with rights to exist, thrive, and evolve and vital to Tuvalu's existence.



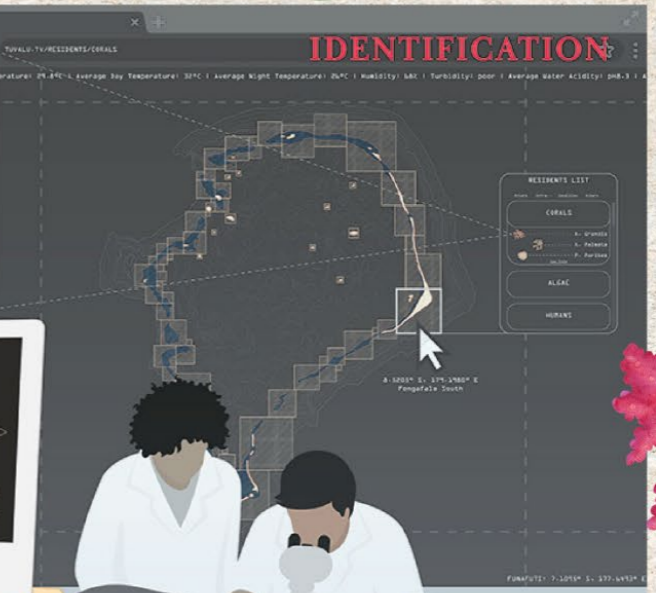
Coral Survey 2023-11-05

Amphipora craticulata	Healthy
Health Status	Healthy
Water Temperature (°C)	27.8
pH Level	8
Salinity (ppt)	33
Depth (m)	8
Observer Notes	Vibrant coloration, no signs of

Coral Survey 2023-12-05

Porites porites	Moderate Bleaching
Health Status	Moderate Bleaching
Water Temperature (°C)	27.8
pH Level	8
Salinity (ppt)	33
Depth (m)	8
Observer Notes	Some bleached areas observed, moderate algae growth

Moupinia capitata	Extremely Bleached
Health Status	Extremely Bleached
Water Temperature (°C)	28
pH Level	7.9
Observer Notes	Extensive bleaching



CORAL RIGHTS

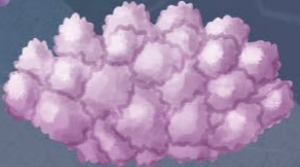
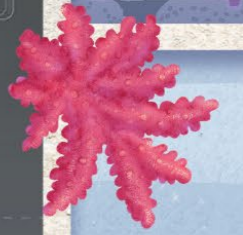
(1) The State of Tuvalu within its historical, cultural, and legal framework recognizes that Corals have inherent rights to exist, thrive and evolve.

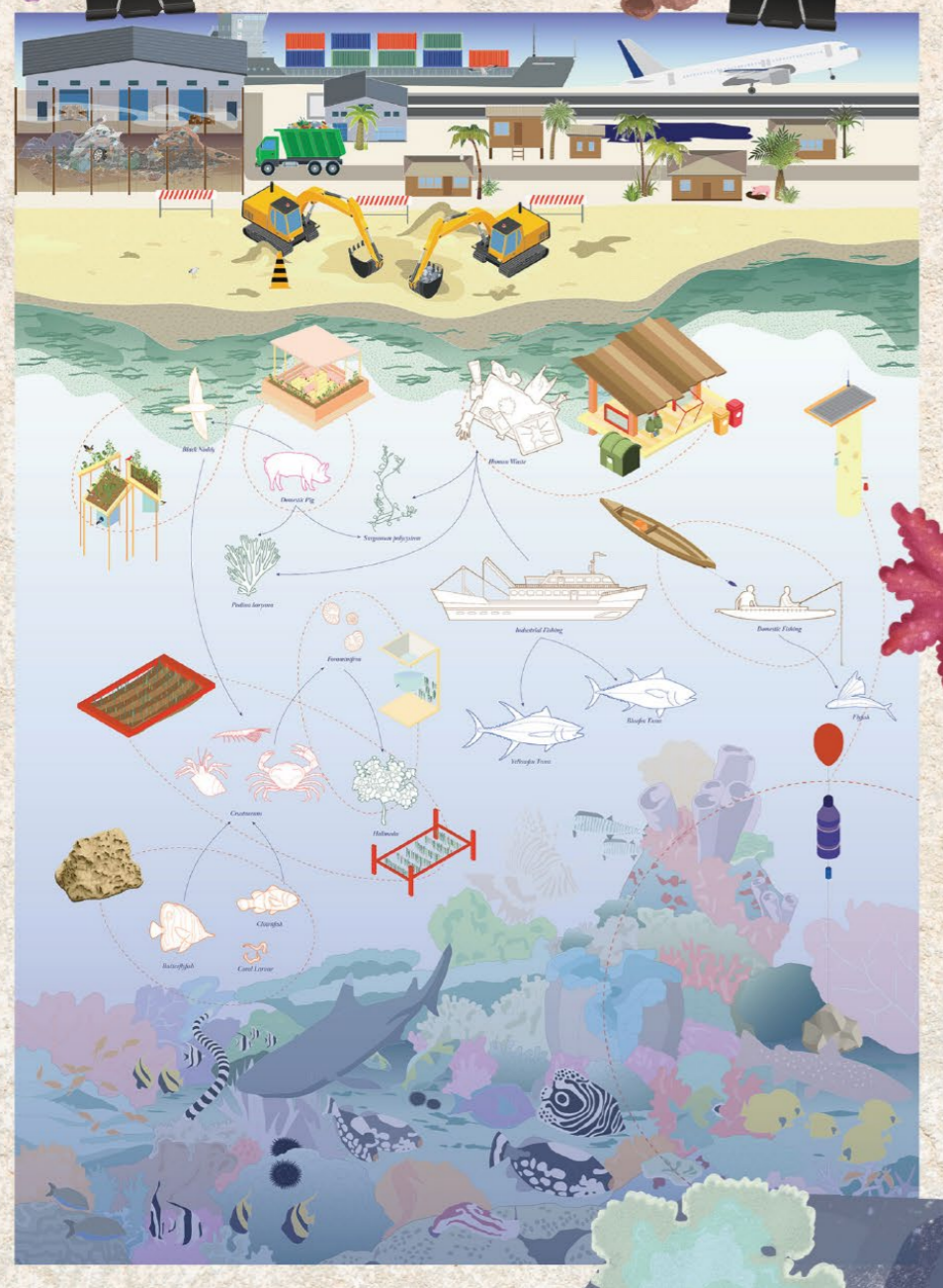


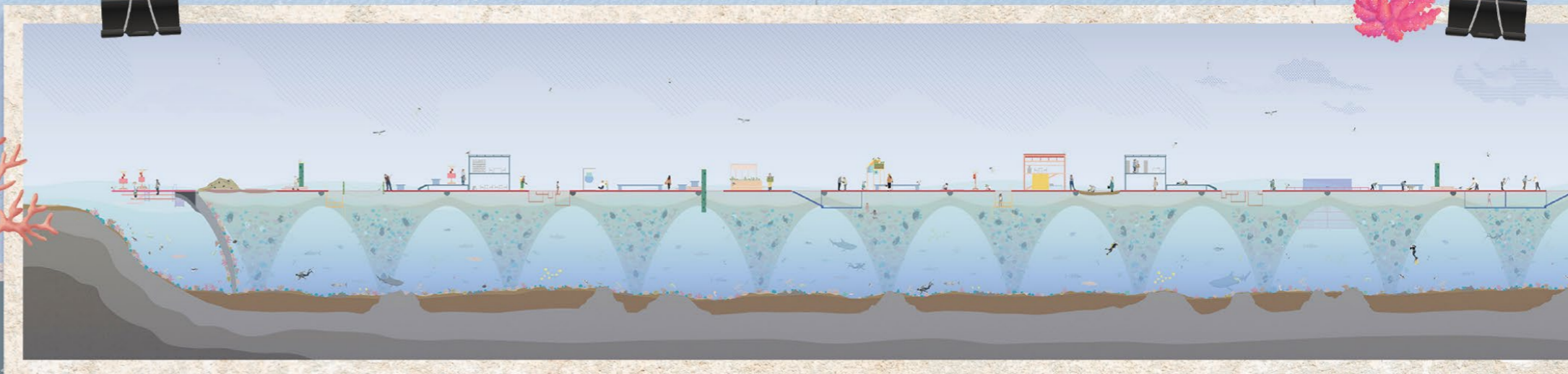
NEGOTIATION



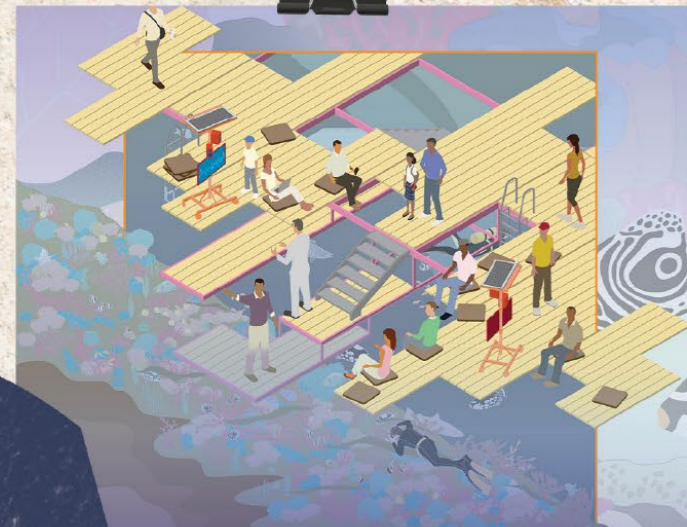
INTERVENTION

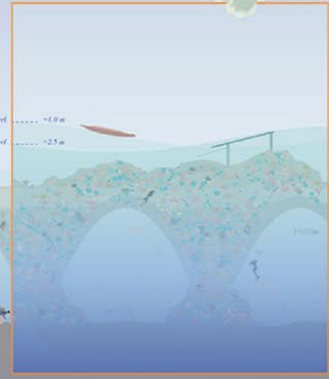
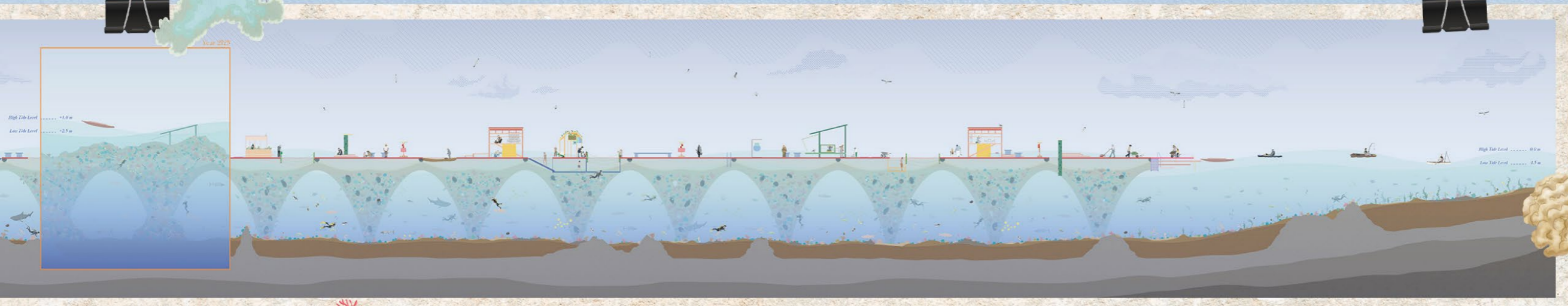




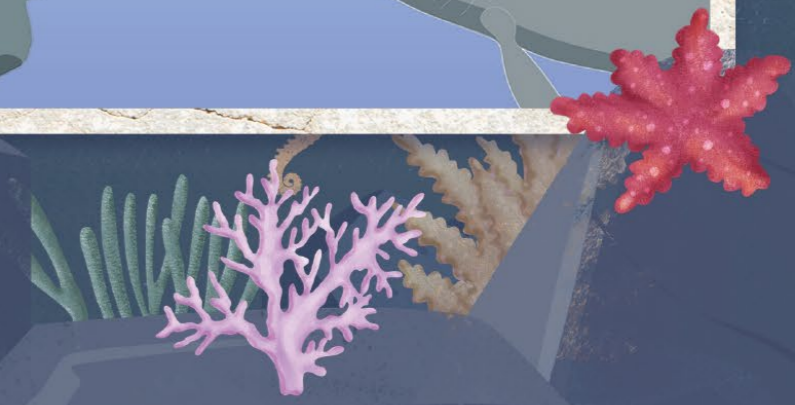
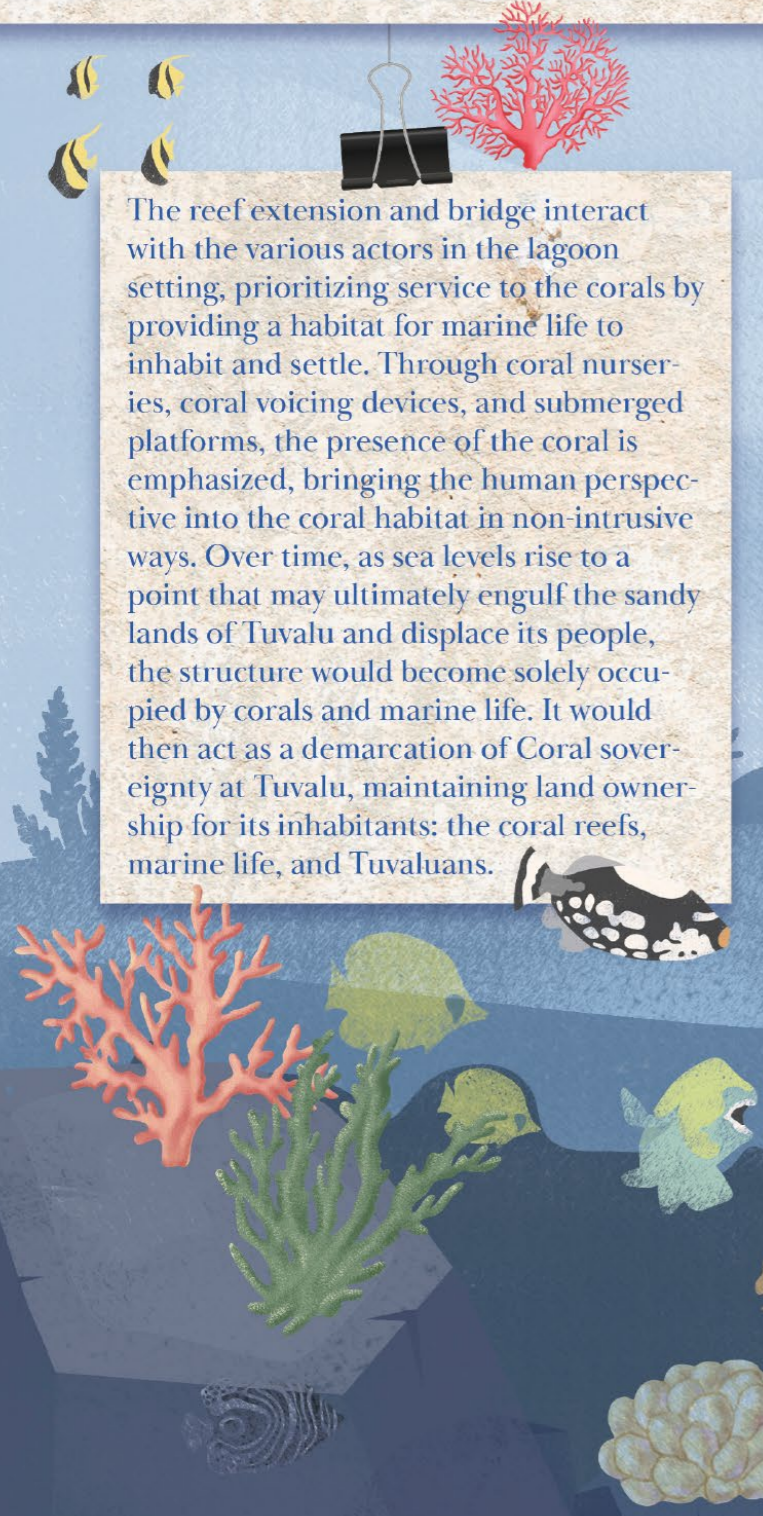
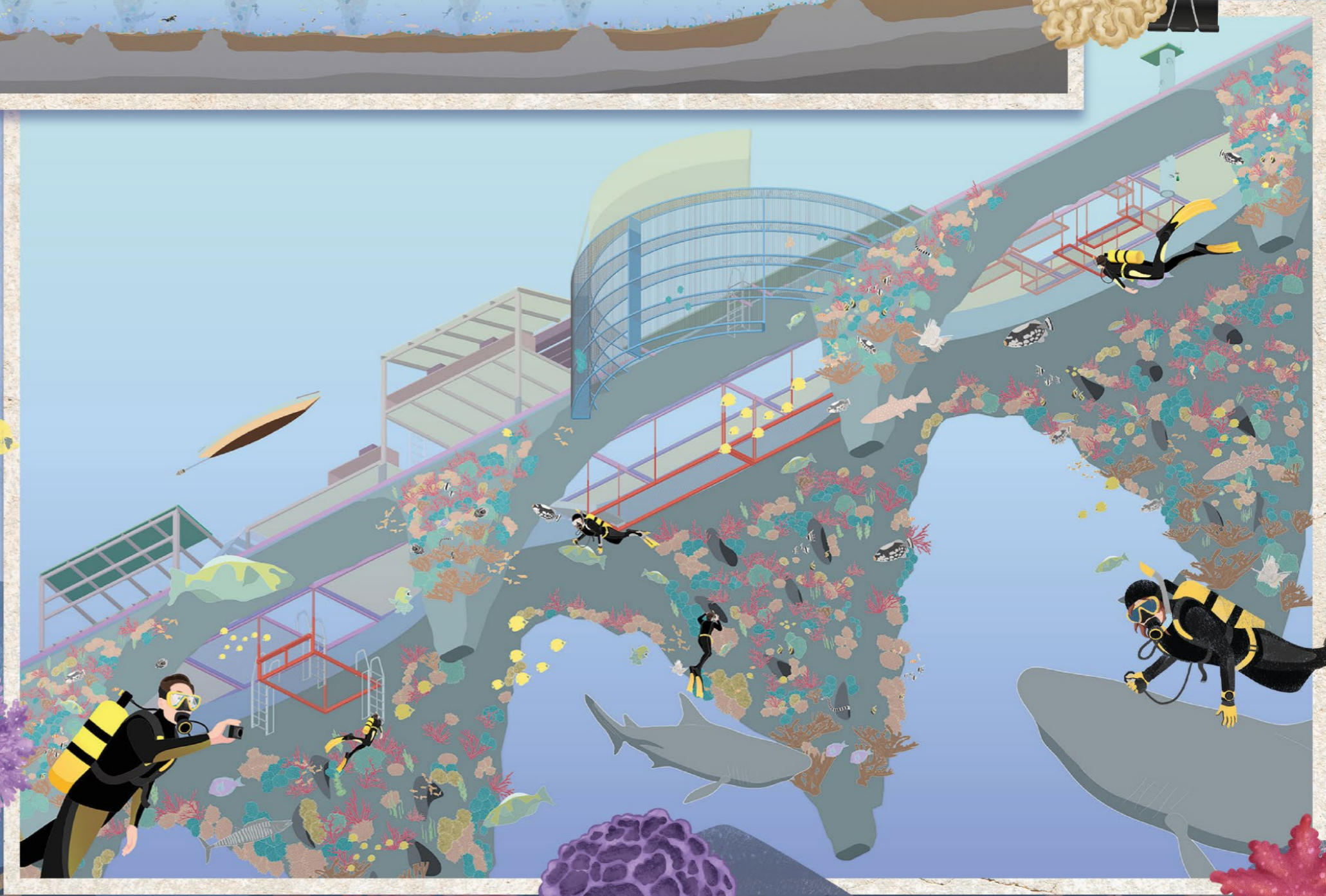


A limestone reef constitutes both a threshold and a gateway into the parliament. The parliament structure embraces an offset periphery of the patch reef and ensures sun exposure for the corals. The organization of the decks promotes non-hierarchical centers and, on the lagoon side, is programmed as canoe piers for Tuvaluans. The drawings below depict the Coral Parliament and the design interventions for the coral urbanism highlighting the new relationships between corals and humans. "The Parliament" consists of parliamentary halls, reef extensions, coral voicing interventions, and actors' "negotiation" interventions.





The reef extension and bridge interact with the various actors in the lagoon setting, prioritizing service to the corals by providing a habitat for marine life to inhabit and settle. Through coral nurseries, coral voicing devices, and submerged platforms, the presence of the coral is emphasized, bringing the human perspective into the coral habitat in non-intrusive ways. Over time, as sea levels rise to a point that may ultimately engulf the sandy lands of Tuvalu and displace its people, the structure would become solely occupied by corals and marine life. It would then act as a demarcation of Coral sovereignty at Tuvalu, maintaining land ownership for its inhabitants: the coral reefs, marine life, and Tuvaluans.



()_lective

Fall 2022

Visual Elective

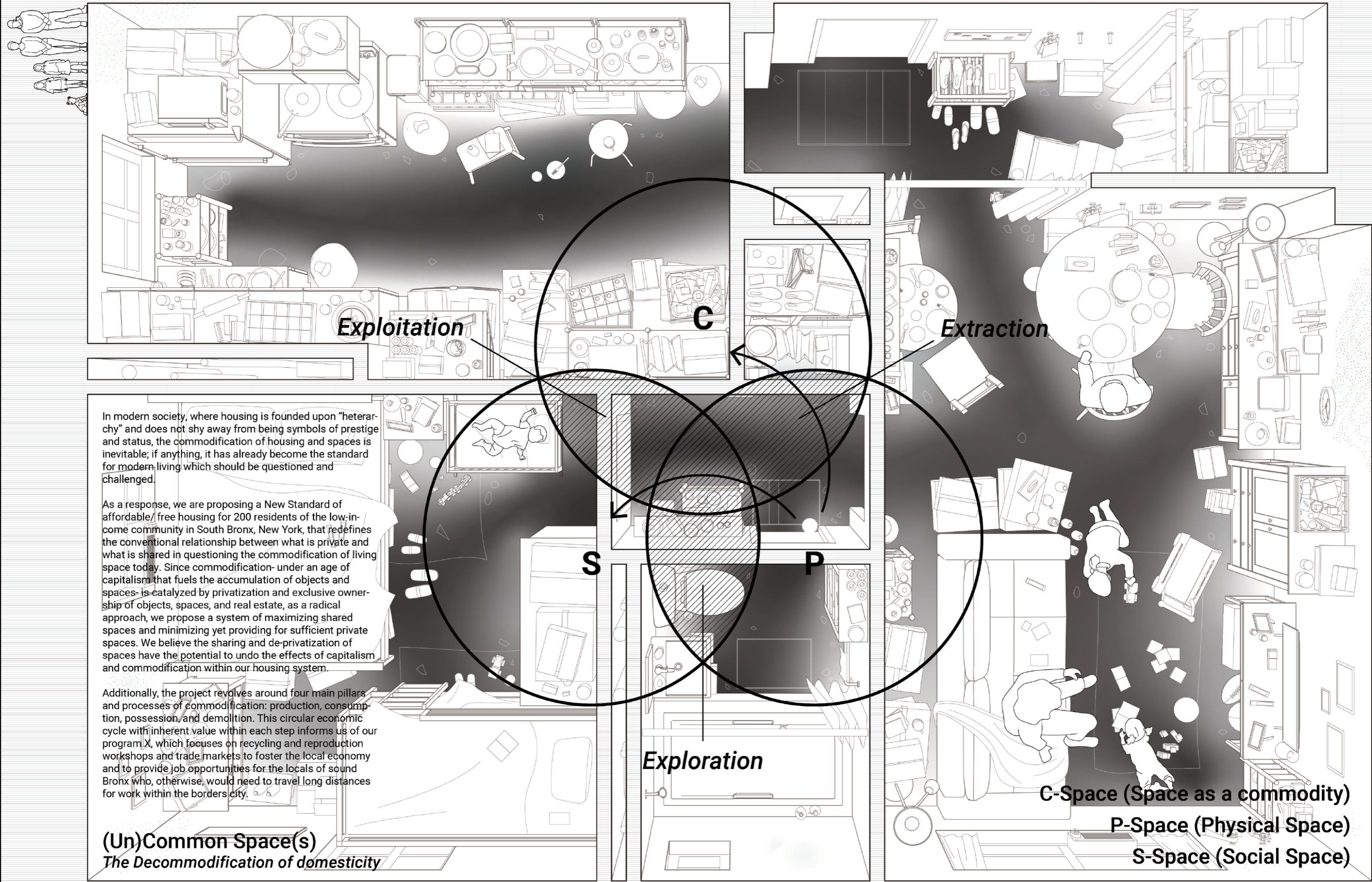
Collaborate with Erisa Nakamura

Professor: Juan Herreros

Beyond a typical office, Erisa and I found an office in this class under collective governance. No contracts, no salary agreements. One simply choose to be a part of the ()_lective ecosystem. Everyone is encouraged to live/work/share with each other for the common good. Rooted to a local rural town and seeking to revitalize spaces, communities, and creative infrastructure.

THE NEW "COMMONS"





Exploitation

Extraction

Exploration

C-Space (Space as a commodity)

P-Space (Physical Space)

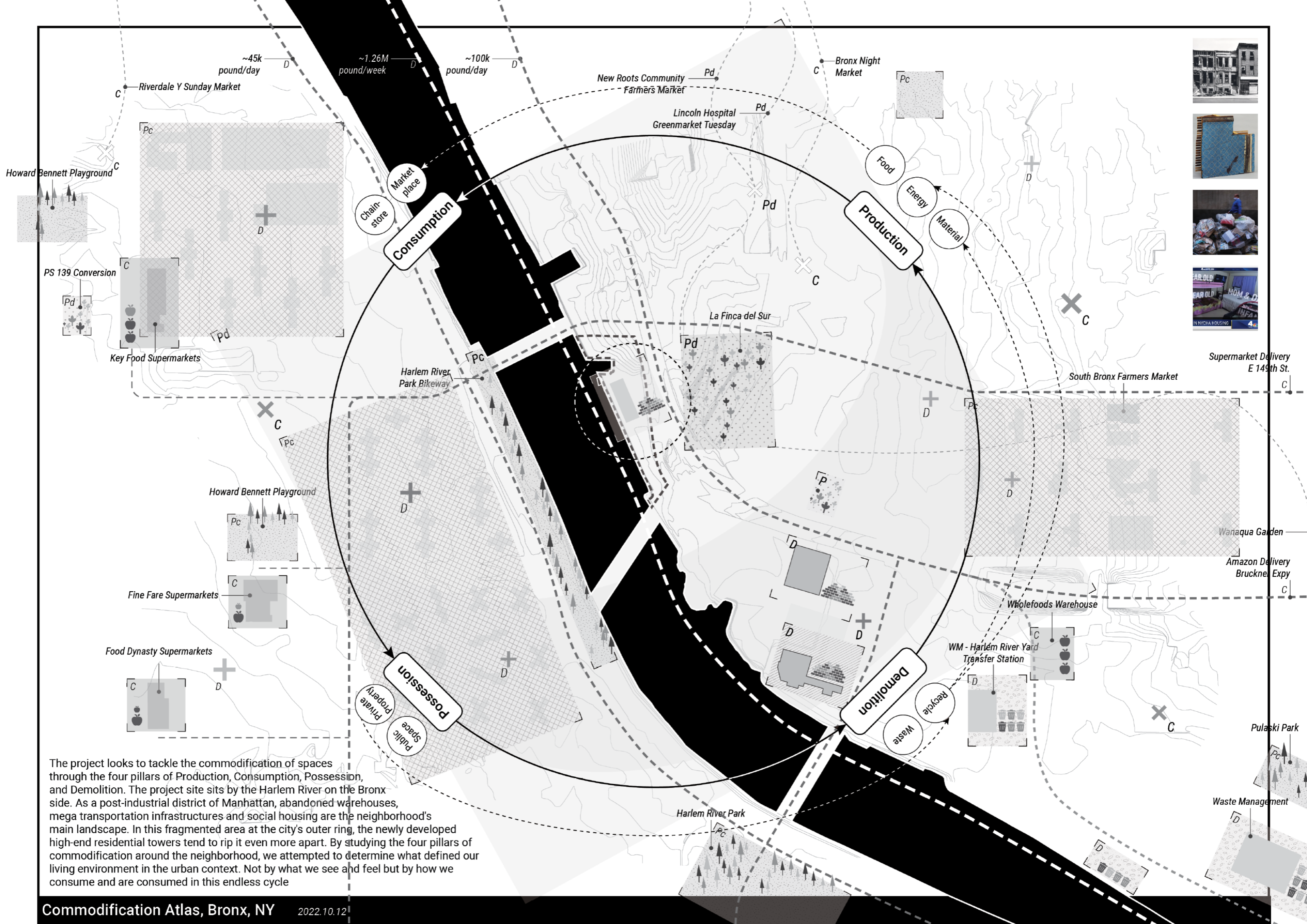
S-Space (Social Space)

In modern society, where housing is founded upon "heterarchy" and does not shy away from being symbols of prestige and status, the commodification of housing and spaces is inevitable; if anything, it has already become the standard for modern living which should be questioned and challenged.

As a response, we are proposing a New Standard of affordable/free housing for 200 residents of the low-income community in South Bronx, New York, that redefines the conventional relationship between what is private and what is shared in questioning the commodification of living space today. Since commodification- under an age of capitalism that fuels the accumulation of objects and spaces- is catalyzed by privatization and exclusive ownership of objects, spaces, and real estate, as a radical approach, we propose a system of maximizing shared spaces and minimizing yet providing for sufficient private spaces. We believe the sharing and de-privatization of spaces have the potential to undo the effects of capitalism and commodification within our housing system.

Additionally, the project revolves around four main pillars and processes of commodification: production, consumption, possession, and demolition. This circular economic cycle with inherent value within each step informs us of our program X, which focuses on recycling and reproduction workshops and trade markets to foster the local economy and to provide job opportunities for the locals of sound Bronx who, otherwise, would need to travel long distances for work within the borders city.

(Un)Common Space(s)
The Decommodification of domesticity



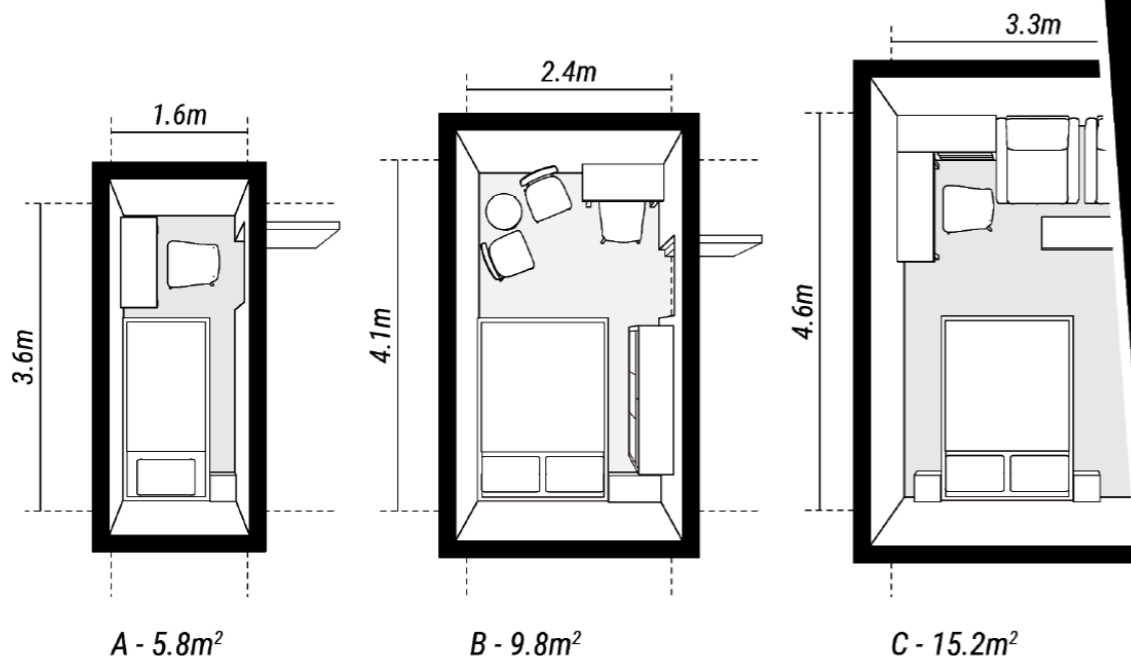
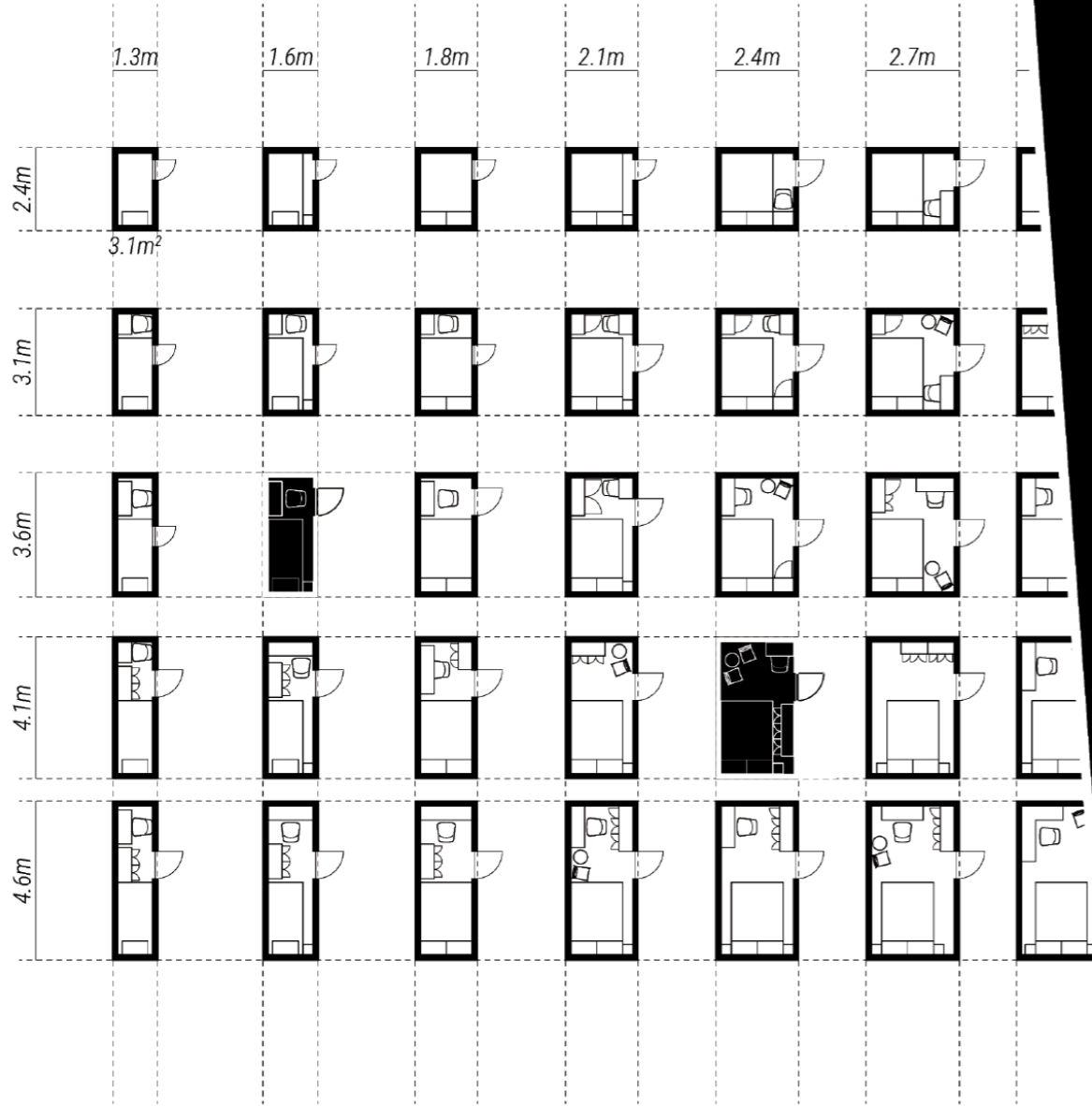
The project looks to tackle the commodification of spaces through the four pillars of Production, Consumption, Possession, and Demolition. The project site sits by the Harlem River on the Bronx side. As a post-industrial district of Manhattan, abandoned warehouses, mega transportation infrastructures and social housing are the neighborhood's main landscape. In this fragmented area at the city's outer ring, the newly developed high-end residential towers tend to rip it even more apart. By studying the four pillars of commodification around the neighborhood, we attempted to determine what defined our living environment in the urban context. Not by what we see and feel but by how we consume and are consumed in this endless cycle

$$\text{Market Value of the Asset} = \frac{\text{Annual Net Operating Income (NOI)}}{\text{Cap Rate}}$$

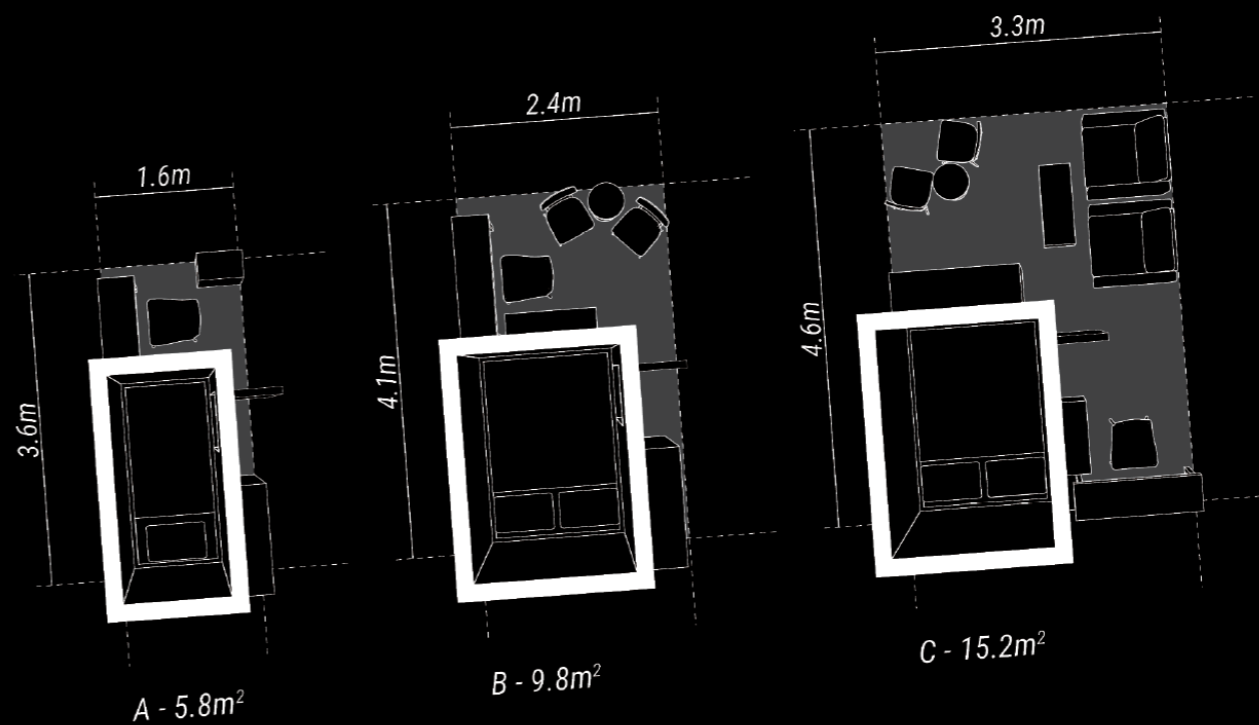
estimated value of the real estate asset (\$) / rate of return for a similar property in the market (%)

Cap Rate

DOMESTICITY ENCLOSED BY WALLS

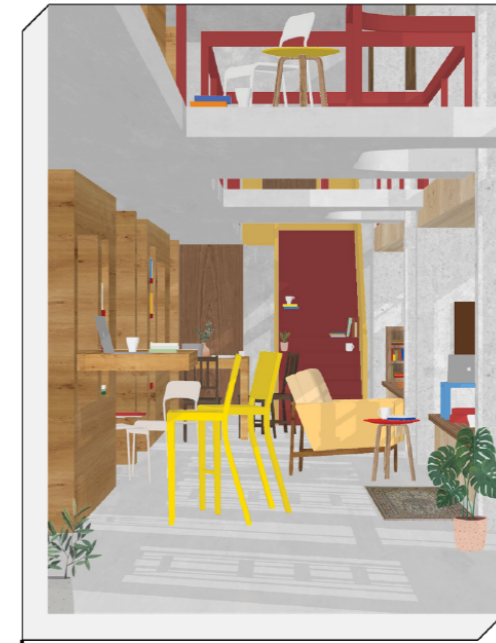
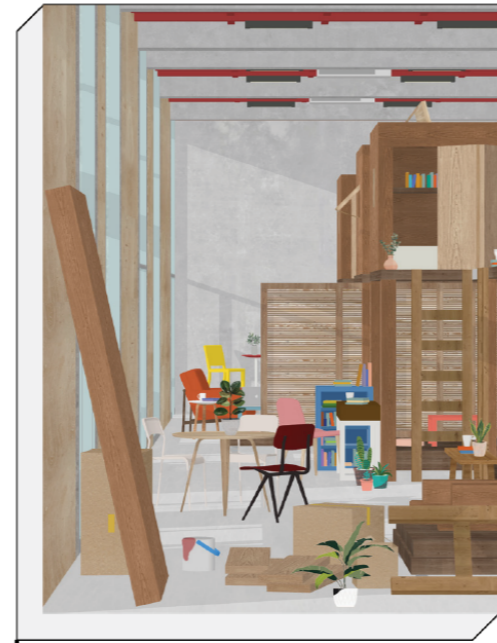


UNWALLED DOMESTICITY



What defines today's domesticity is the term properties. Either invisible lines indicated on the planning or the solid walls which set the boundary of contemporary apartment units. In a social sense, the bigger your space, the higher your status in society. Here in this project, we start with an experiment of challenging the common idea of property by inverting the private and public at the domestic scale.

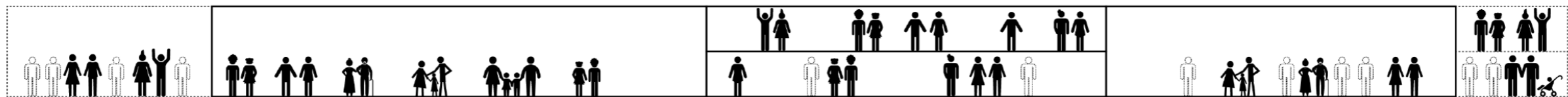
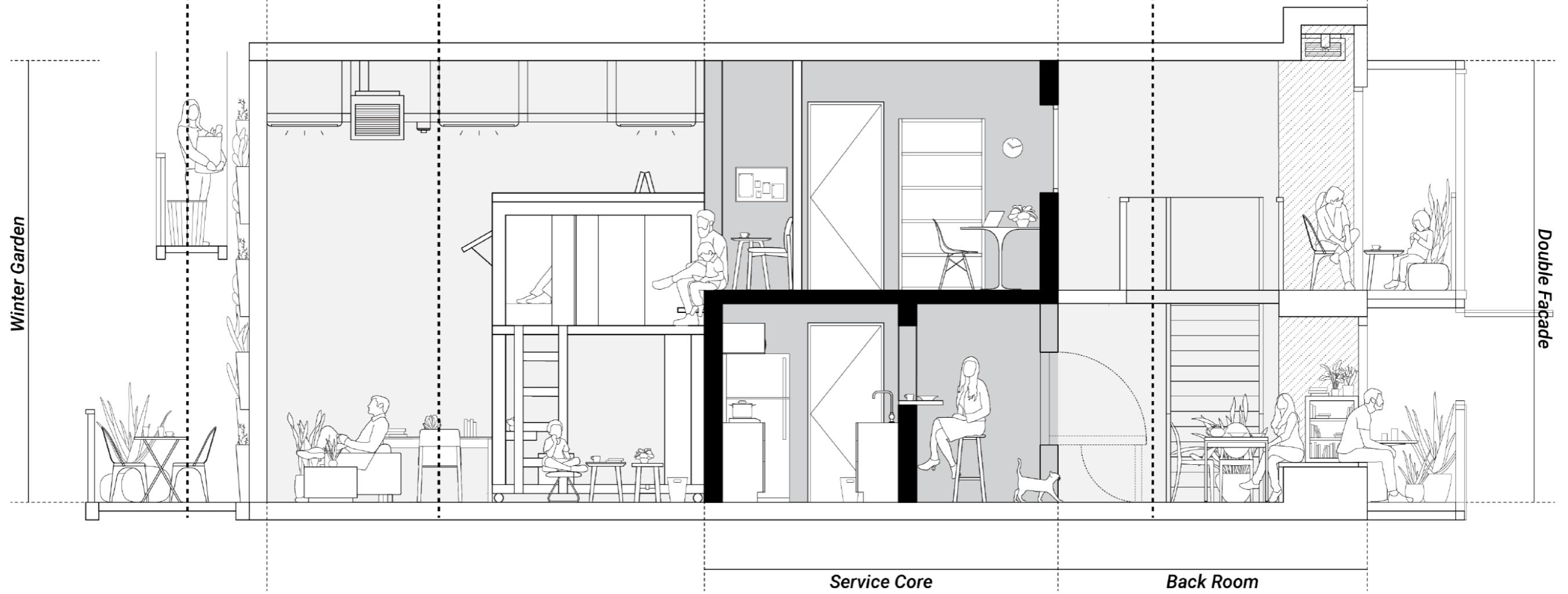
Redefining Domestic Space





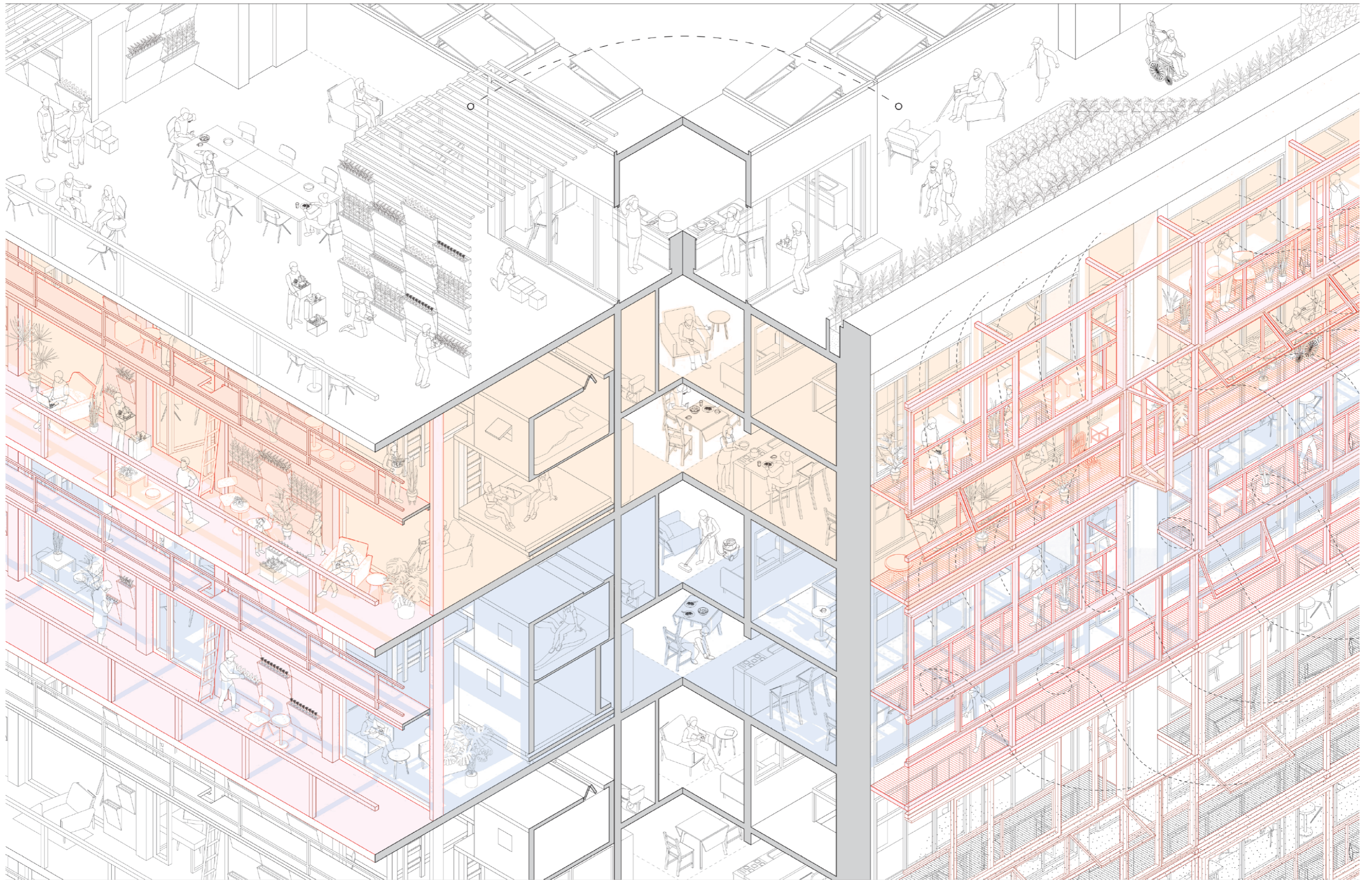
Units

Self-defined Space

Semi-private Balcony



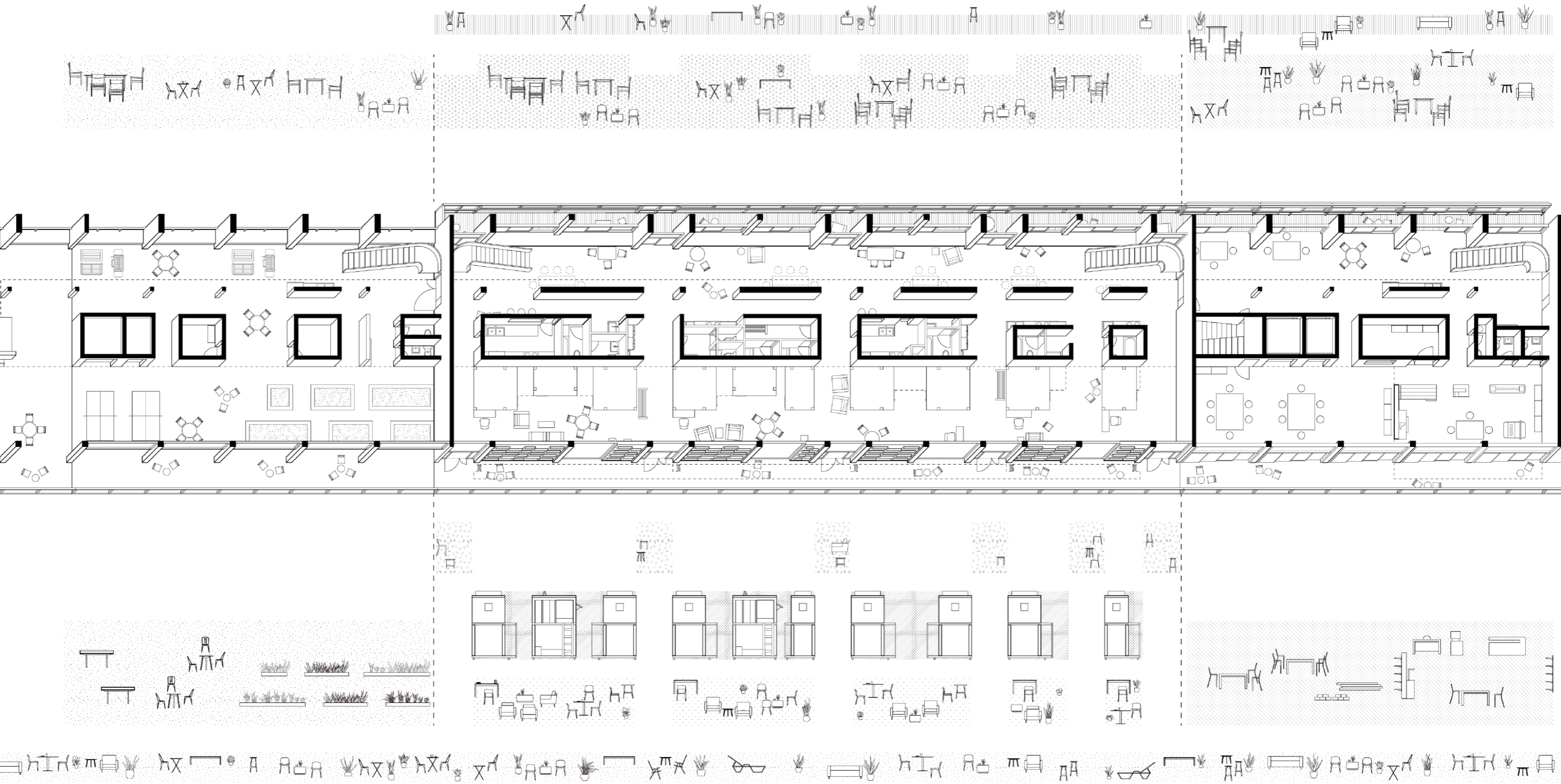
 (Permanent) Tenants
 Temporary Users

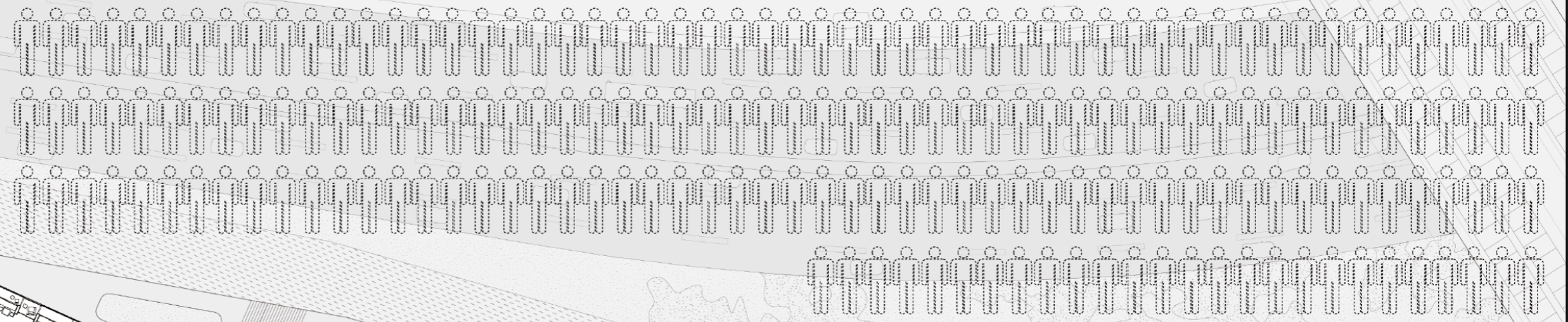


The proposal considers the two different interfaces that the site faces: one towards the Harlem river and the other towards the urbanscape of the broader Bronx. The facades are designed specifically to interact with the two conditions. An intermediate winter garden occupies the west elevation facing the river to provide views, natural lighting, and natural ventilation, which also supports plantation walls that allows the residents to grow food or other vegetation. In contrast, the east elevation that faces the city and traffic highways is designed with a more closed-off system. The relatively cheap double-skin facade, consisting of a steel frame structure and polycarbonate panels, performs thermally as a stack ventilation mechanism that helps to retain heat in the cold winters of New York; during summer, the system can be opened up to allow maximum cross-ventilation through the winter gardens. In addition, the double skin facade also performs as a barrier to noise and air pollution generated by the city and traffic.

The Landscape of New Commons

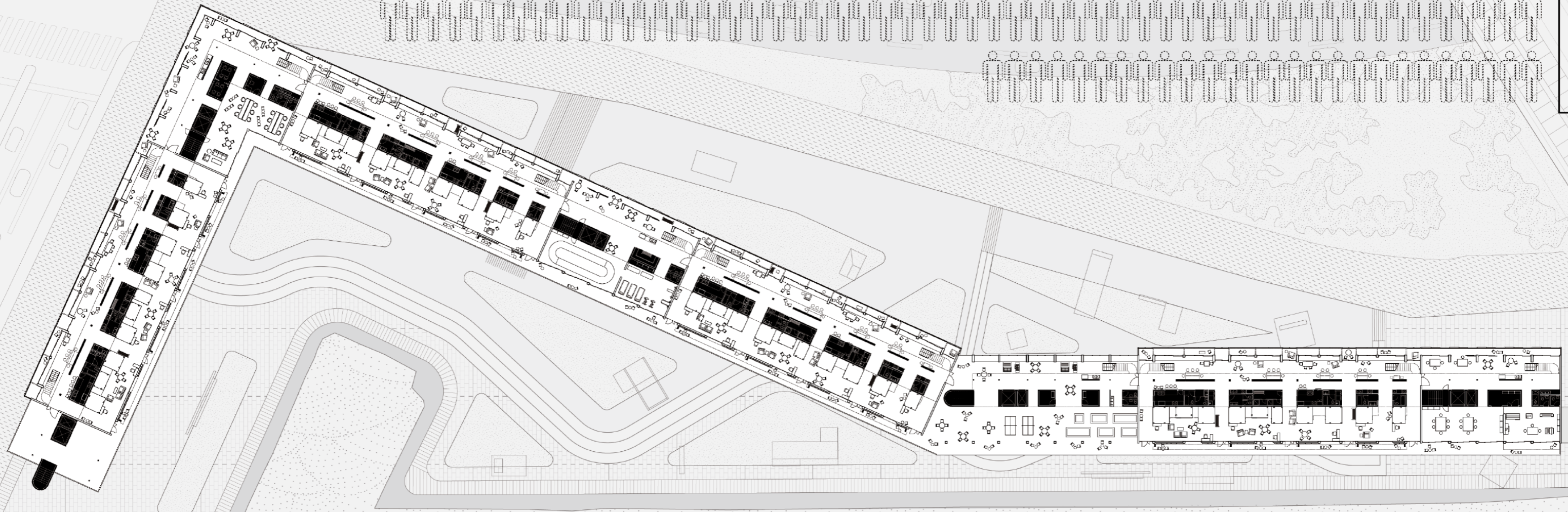
The typical plan below depicts the relationship between the living collective and the amenity spaces sitting alongside each other. The continuous cores and wet walls across different spaces are the structural and functional support for the programs next to them. The rest of the interior is freed because of these fixed modules. The distance between the cores and the facade determines the type of programs, which naturally hints to the user how to use the space, creating a new landscape of furniture, either shared, private or semi-private.





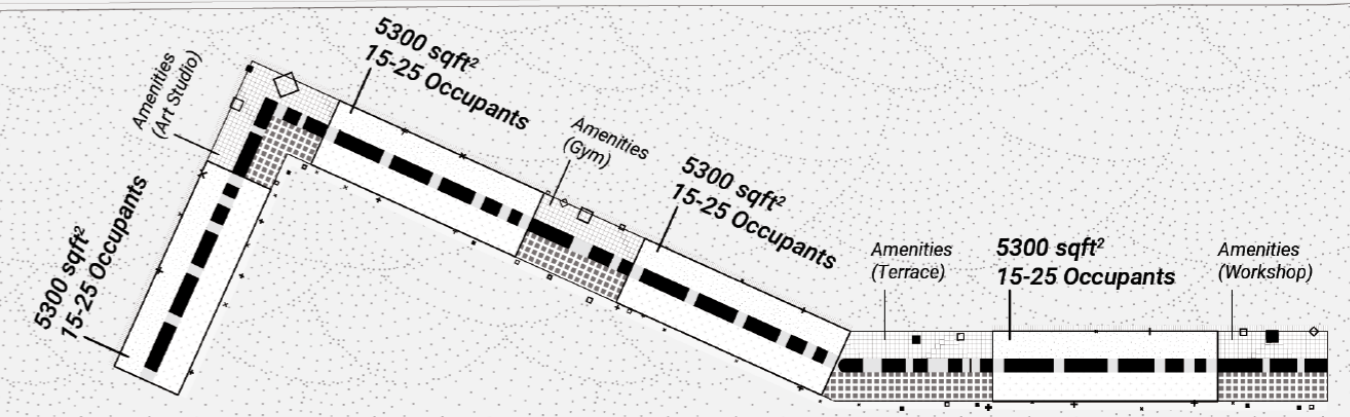
Permanent Tenants

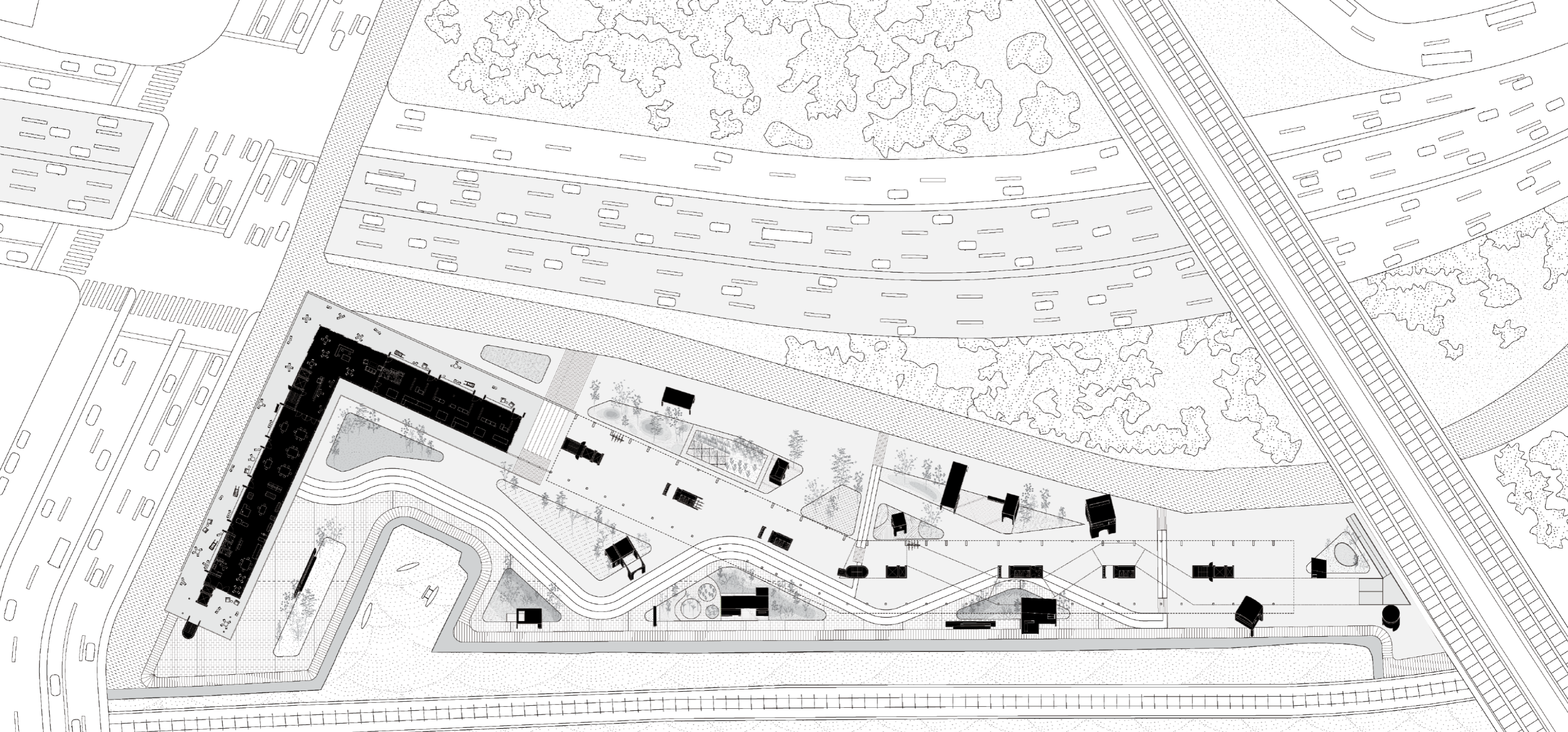
Temporary Users



Typical Floor Plan

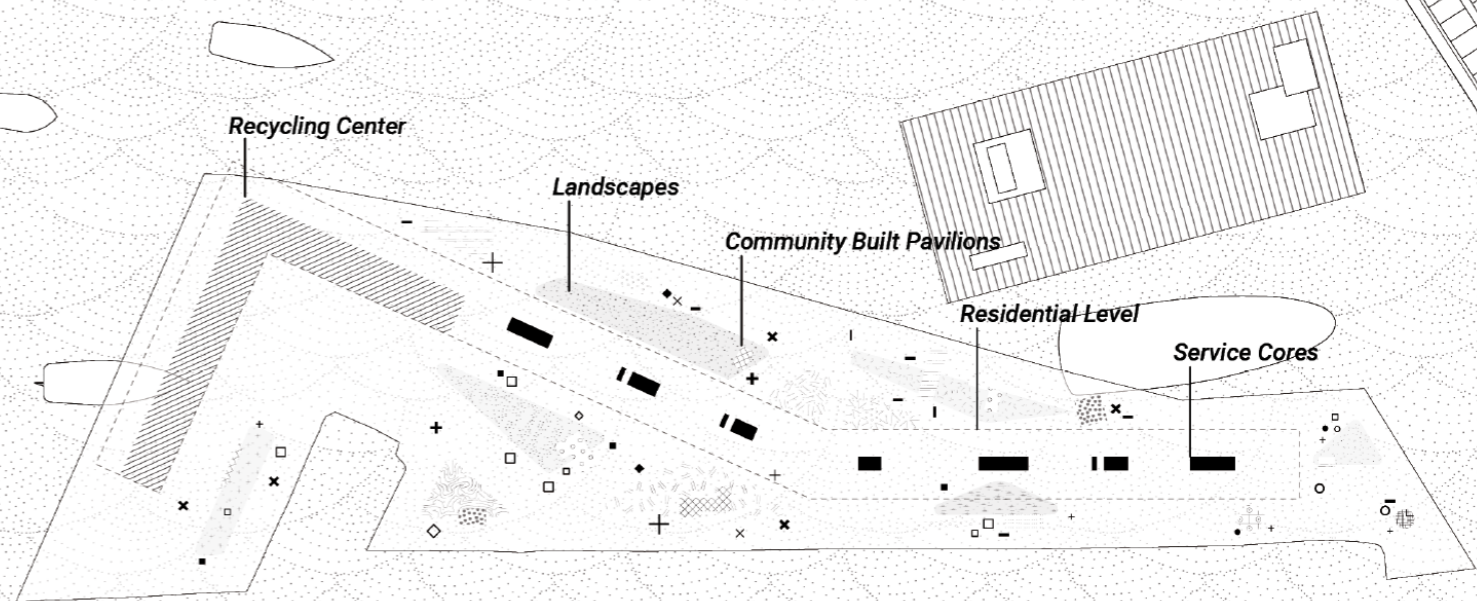
Our unconventional approach to the typical housing typology in creating a new standard of living proposes a common core throughout the center of the plan. Performing as service cores and wet walls, they house essential programs such as bathrooms and kitchens and create opportunities for programmatic adjacencies that extend into the living spaces. We envision the spaces outside the cores to be shared to a large extent to minimize privatization and spatial commodification. In addition, our proposed strip-like building is divided into parts of amenities blocks and residential blocks to foster exchange and collaboration in these gathering nodes.

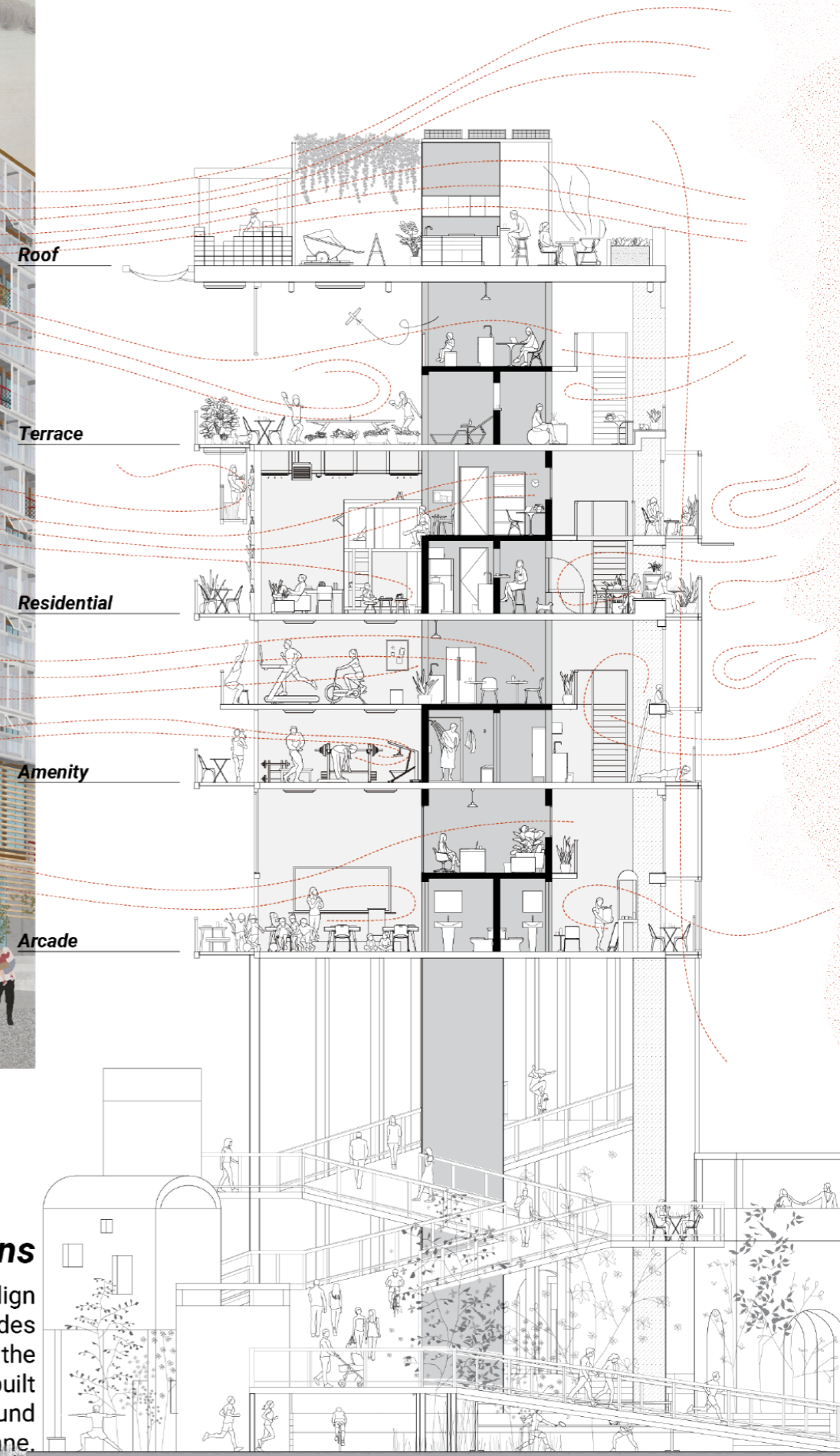




GF Plan - "Program X"

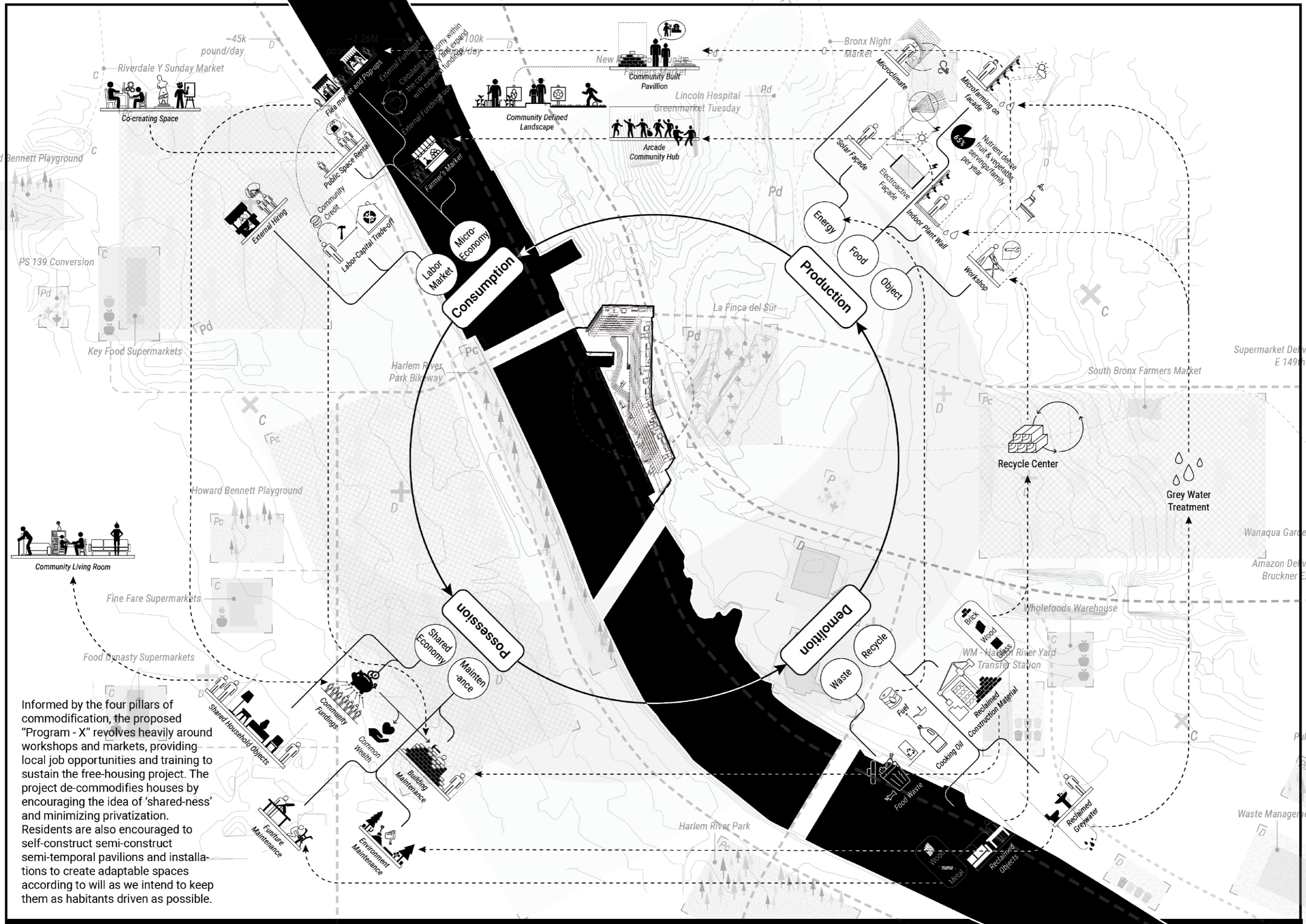
The main attraction area is proposed at the central entrance/ atrium of the building towards the left. The main space serves as critical waste management sorting facility, workshops, and farmer's market. The landscaped ground floor is the most public area of the whole proposal. Revolving around the idea of sharing, building, and customizing, and facilitated by a sky bridge arcade that can be, manifested as a new ground floor during the flooding season, residents are encouraged to design and construct relatively simple structures to support specific programs, such as galleries, retail shops, coffee shops, wood workshop, viewing pavilions, etc.





Collage of Srtions of Conditions

A series of sections showing the various proposed conditions within the project that do not necessarily align with one another vertically but more horizontally. The two different types of facades respond to the two sides of the building: the winter garden facing the river and the polycarbonate double-skinned facade facing the city. The ramp into an elevated arcade creates edge conditions and adjacencies that foster resident-built pavilions and perform as a new ground level during flood season or in 100 years when the existing ground may be submeraded due to it being in the 100-year flood plane.



Informed by the four pillars of commodification, the proposed "Program - X" revolves heavily around workshops and markets, providing local job opportunities and training to sustain the free-housing project. The project de-commodifies houses by encouraging the idea of 'shared-ness' and minimizing privatization. Residents are also encouraged to self-construct semi-temporal pavilions and installations to create adaptable spaces according to will as we intend to keep them as habitants driven as possible.

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In Sports, E1

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Today Fair
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Tomorrow Increasing clouds
Increasing weather on Page B-8

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8 Sections
80 Pages



Green light: These South Africans climbed a traffic light pole to cheer the result of yesterday's whites-only referendum, which clears the way for sharing power with the black majority and ending apartheid.

Clinton, Bush look beyond primaries



Point man: Democratic front-runner Bill Clinton makes a point with supporters last night in Chicago.

Winners in Midwest, they're in race for the White House

CHICAGO — Bill Clinton and George Bush shifted their sights to the fall campaign today after the Arkansas governor took command of the Democratic race and the President all but snuffed out Patrick Buchanan's challenge.

With big primary victories in Illinois and Michigan yesterday, Clinton put distance between himself and Democratic rivals Paul Tsongas and Jerry Brown, but they vowed to press on.

Tsongas and Brown hope to blunt Clinton's momentum next Tuesday in Connecticut and turn the race around when New York votes April 7.

Buchanan said "only celestial intervention" can block Mr. Bush's renomination. The challenger told a news conference upon his return to the Washington area today that he will stay in the race, but with a less combative tone.

"I don't think there will be any more ads that deal with Mr. Bush's record of the last three years," he said.

Buchanan added that despite his stormy relations with the Bush campaign and the GOP establishment, he expects to have a

What Clinton still faces. — A-11

ILLINOIS PRIMARY 99 percent of vote		
DEMOCRATS		
Delegate	Percentage	Count
Bill Clinton	51%	107
Paul Tsongas	26%	46
Jerry Brown	15%	11
REPUBLICANS		
George Bush	76%	75
Pat Buchanan	22%	0
MICHIGAN PRIMARY 100 percent of vote		
DEMOCRATS		
Bill Clinton	51%	74
Jerry Brown	26%	37
Paul Tsongas	17%	20
REPUBLICANS		
George Bush	67%	72
Pat Buchanan	25%	0
David Duke	3%	0

SA police killed 128

Johannesburg, Monday — South African police today announced here that 128 people were killed during the Black Consciousness Movement (BCM) protests in Soweto last week.

The police chief General Gert Louw said that the death toll includes 100 who were shot, 20 who were trampled to death by police horses and 8 who were crushed by a police water cannon.

Louw said that the police were provoked into using force because of the violence of the protesters. He said that the police were trying to disperse a crowd of about 10,000 people who were gathered in front of the police station.

The police also said that they had arrested 1,112 people during the protests. Louw said that the police were trying to restore order and that they were not responsible for the deaths.



Students clench their fists in the "Block Power" salute as they march through Soweto streets.

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Superflights to London.
From Nairobi, choice of thirteen 747 and VC10 flights every week.
Or from Dar es Salaam, direct every Tuesday.
Details from your travel agent.

British airways

11 HURT IN RIOT

Whites ordered out

Police clash with protest marchers

AT LEAST four people are reported dead and 14 injured in Soweto today when police clashed with some 10,000 schoolkids who marched through the streets of the townships, protesting against being taught certain subjects in schools through the medium of Afrikaans.

One of the dead is a student and another an old man, who died from a stray bullet.

A policeman was also reported to have been killed and another injured. The police also reported that they had arrested 1,112 people during the protests.

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Smashed
Many of the 50 police cars which raced to the scene of the riot had their windshields smashed by the rampaging students.

South Africa Is Not A Bad Place

Actor Canada Lee Says In Letter

CONRAD NORTON, assistant director of the Union of South Africa Government Information Office, New York City, writes the Chicago Defender in reference to a story published Oct. 1959. Written by Al White and dated: "South Africa Is Not A Bad Place," in the Chicago Defender, Nov. 8. He says a cutting of the Johannesburg newspaper in which Lee's letter appears which is published below:

To the Editor, "Rand Daily Mail":

Sir,—It is with great pleasure I write this letter, because, contrary to popular belief abroad, I have had a wonderful time in South Africa, and Natal. It was all due to the cordial hospitality I received from the Afrikaners. English, I have met since my arrival in South Africa.

I don't mean that everything is perfect here—or for that matter anywhere, but it is quite a pleasant surprise to find beautiful weather, where none is to be expected. For instance, my first night in the home in Johannesburg was a perfect one.

fact that everyone in this new South Africa is so friendly and hospitable.

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State defined, Self-defined

Transformation of spaces in post-apartheid South Africa

Postmodernity and World System

Professor: Reinhold Martin

Apartheid in South Africa was rooted in a grand narrative of the white population, particularly the Afrikaners, as the 'chosen people' who had a 'divine right' to assert their will across the land. To perpetuate this ideal, the central social purpose of apartheid legislation and the resulting segregation was to make the majority non-white population as invisible to the white population as possible. The potency of the government's effectiveness in this effort was remarkable, particularly in shaping the country's social and spatial landscape. Yet, the fervent apartheid ideology ultimately was no match for the non-white populations' need to thrive and be free. Indeed, as this essay demonstrates, the very instruments of apartheid rule, their rigid construction and their spatial legacy set the stage for apartheid era transgressions and postapartheid transformations that subvert the notion of an officially segregated society.



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After 27 years, Mandela's free at last!

Black activist emerges from prison a leader

Mandela says struggle must go on in S. Africa

PARIS (AP) — The United States is to avoid "a racial war" in southern Africa by promoting negotiations between the governments and the white-minority state.

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U.S. seeks peace in South Africa

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While segregation laws had been in place for many decades, it was not until the Nationalist – and Afrikaaner – government took power, in 1948, that the insidious racist legal neatness of apartheid, which means ‘separate’ in Afrikaans, was secured by a series of laws rapidly put into place. The thrust of this legislation was to secure the political, economic and spatial dominance of the tiny white minority while rendering politically and spatially powerless the vast nonwhite majority of the country. Racial segregation at all levels of life and at all scales – from the body to the nation – was essential to this effort. These laws systematically constrained the residency, movement, employment and education of the non-white people of the country, effectively removing them from the public life of the cities and from ‘white only’ facilities including parks, libraries, museums, hospitals, universities, theaters, and shopping centers.

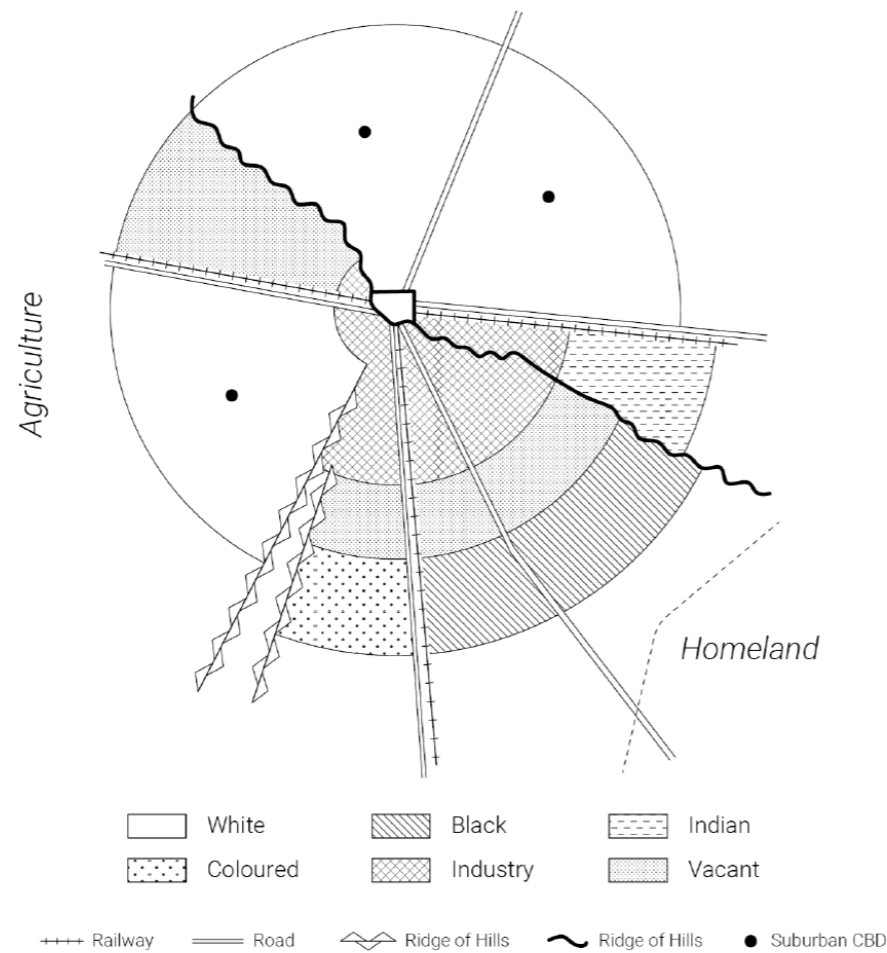


Fig. 1: Crude urban zoning

Figure 1 illustrates the simple type of spatial planning framework that was devised for many cities, with buffer strips of industry or transport infrastructure at least 100 metres wide separating neighbourhoods to minimise contact between races. Since pre-existing settlements rarely conformed to these stark patterns, forced removals of at least a million blacks took place, causing great social upheaval and callous break-up of long-established communities.

Segregation was accompanied by policies to restrict black urbanisation. Africans were denied the right to own property in the cities and required to live in peripheral 'townships' owned by the state and furnished services. The allocation of housing was linked to (pass laws), issued selectively to people wanting to live and work in the cities.

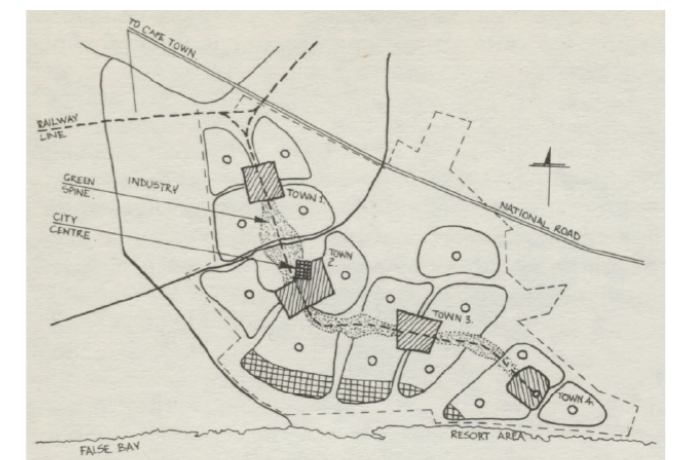
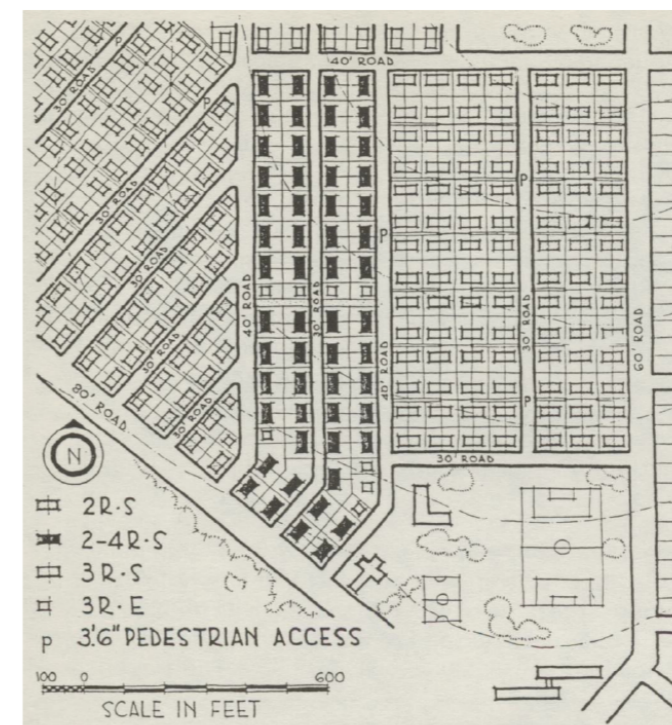
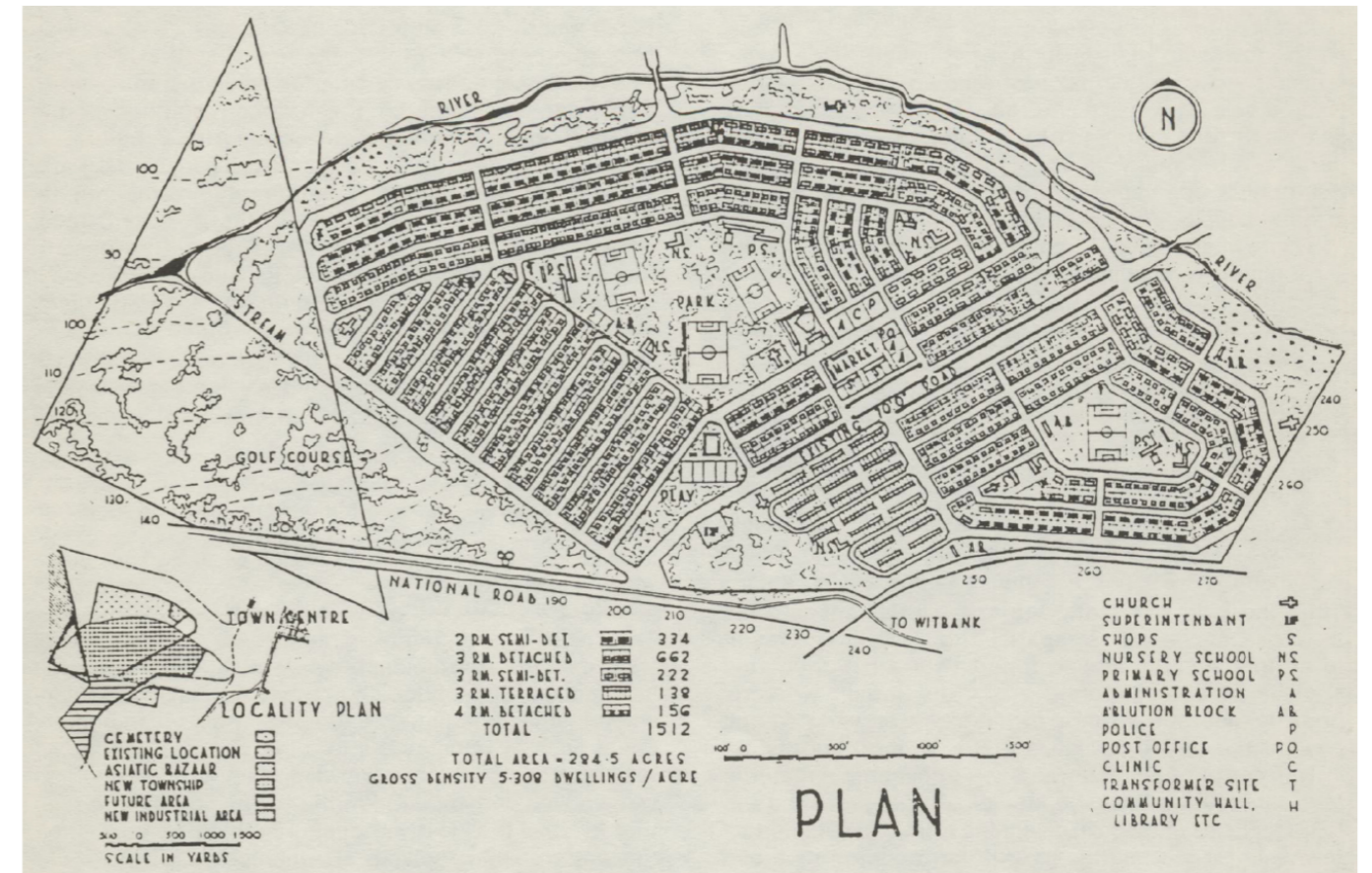


Fig. 2(Top): Layout of Witbank experimental "Native" township. (Source: Calderwood, 1953)

Fig. 3(Bottom-left): Detail of the experimental Kwa-Thema Township, Springs. (Source: Calderwood, 1953)

Fig. 4(Bottom-right): Khayelitsha Township - Outline plan. (Source: Calderwood, 1953)

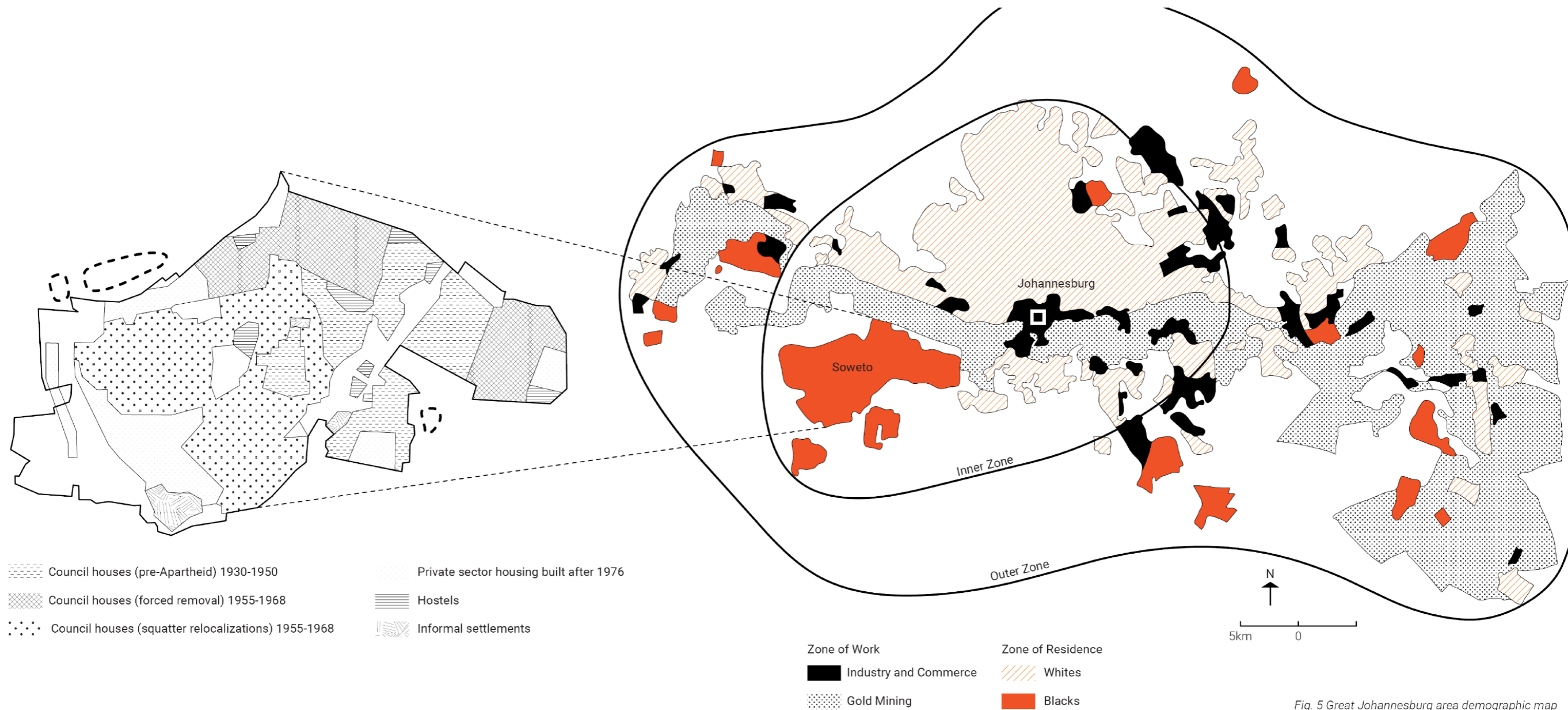
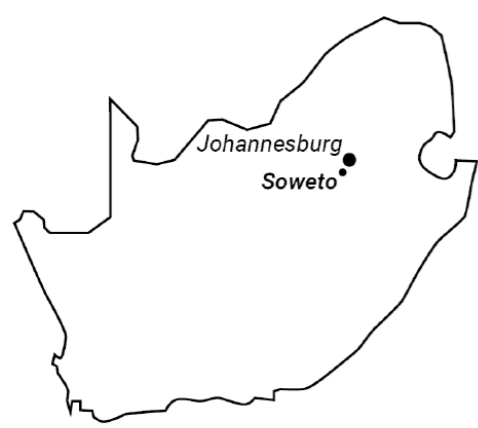
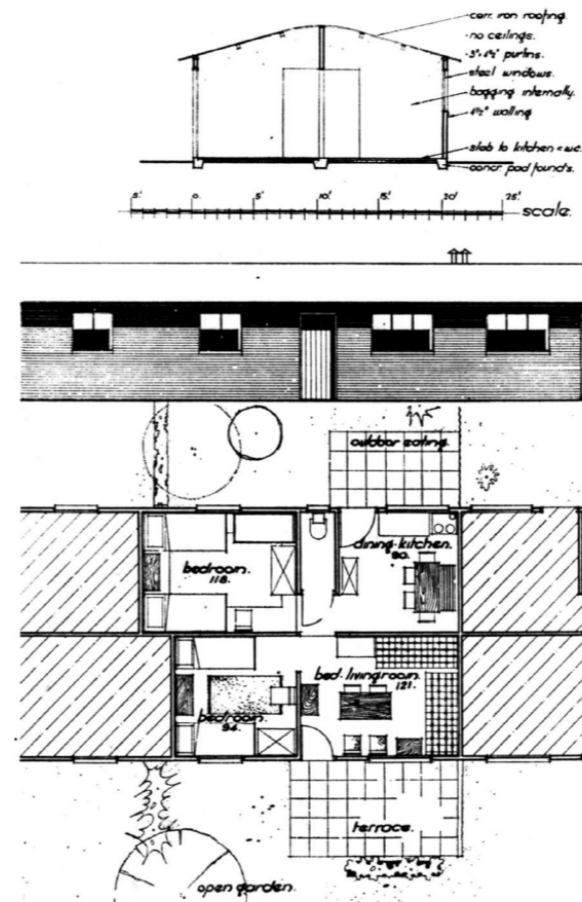
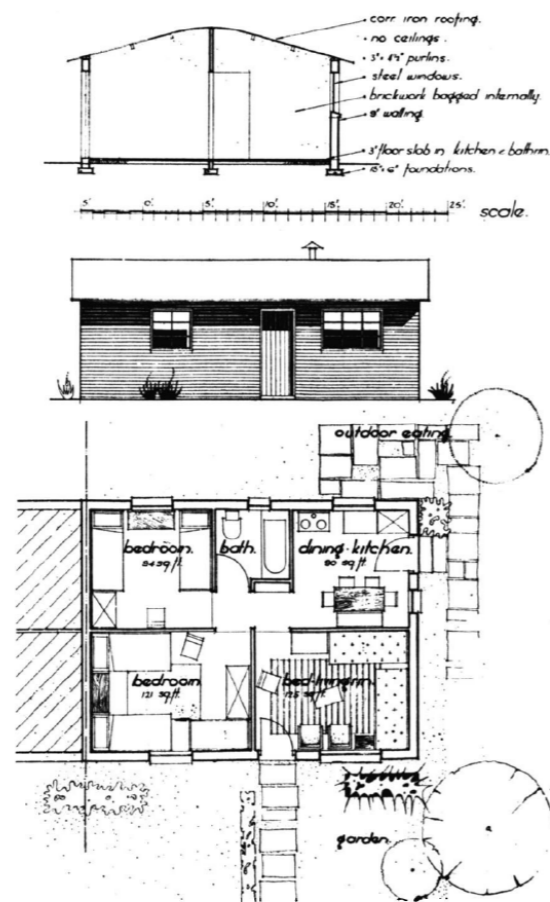
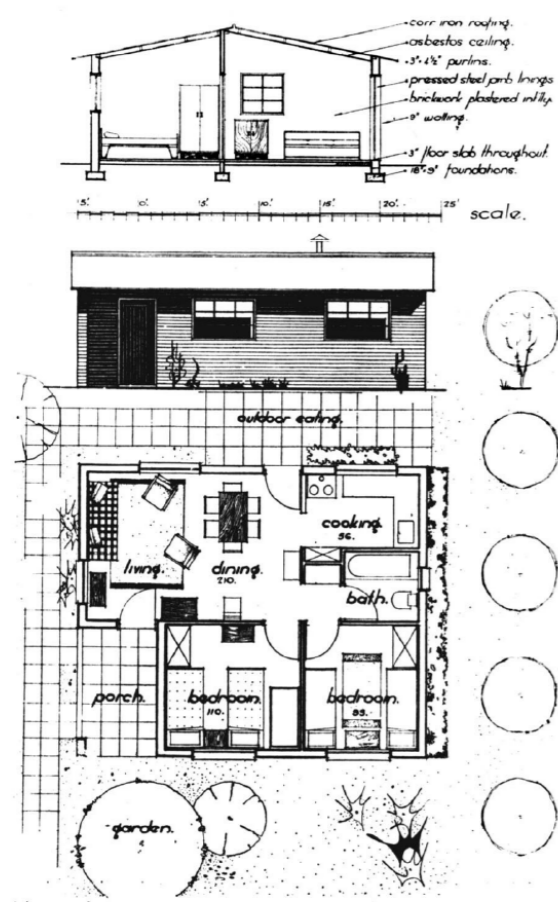


Fig. 5 Great Johannesburg area demographic map

For economic, political and social reasons, South Africa wanted very badly to be accepted into the post-war community of nations as a 'modern' state, as a nation of laws. The tidal wave of legislation that followed independence, which included the apartheid laws, was justified as necessary to the transition of South Africa from colony to nation.



Soweto is an abbreviation for South Western Townships and is located southwest of Johannesburg. Its formation, development and changes are a microcosm of modern South African history. When gold was discovered in Johannesburg more than 100 years ago, a large number of black laborers from all over South Africa and neighboring countries came here. Because most of the gold mines were in the south of the city, and the open countryside was full of dust, white people chose to live in the north of the city, while black miners lived near the gold mines, forming the miners' residential area at that time. With the various racial segregation policies implemented by the government, this miner's residential area gradually evolved into the current black township.

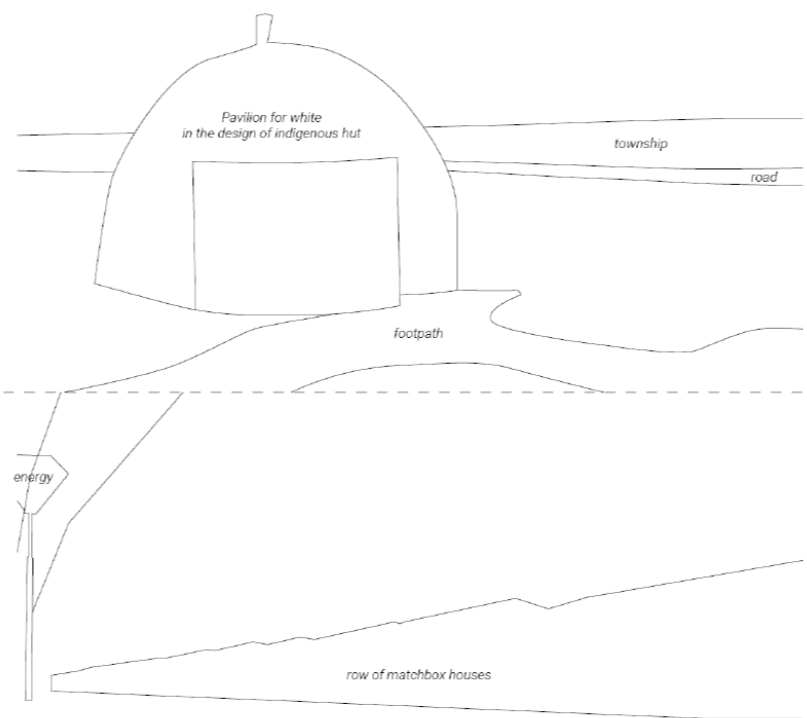
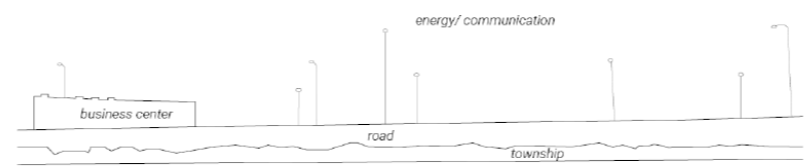


In the 1950s, a group of architects at the prestigious University of Witwatersrand in Johannesburg proposed to solve the 'native housing problem' by designing a series of matchbox houses with minimal toilet cores whose repetitive sterile forms became ubiquitous across the sprawling township landscapes. This vision was quickly adopted and implemented by an enthusiastic government. In five short years the government systematically assumed control over the mundane, ubiquitous, multi-scalar spaces of daily life.

Yet, in retrospect, it is easy to see how by setting apartheid in motion, the Nationalist regime sowed the seeds of its own downfall. By racializing bodies, by rigidly spatializing segregation, by dehumanizing the vast majority of the country, the apartheid government also gave the majority non-white population a vital protest tool.

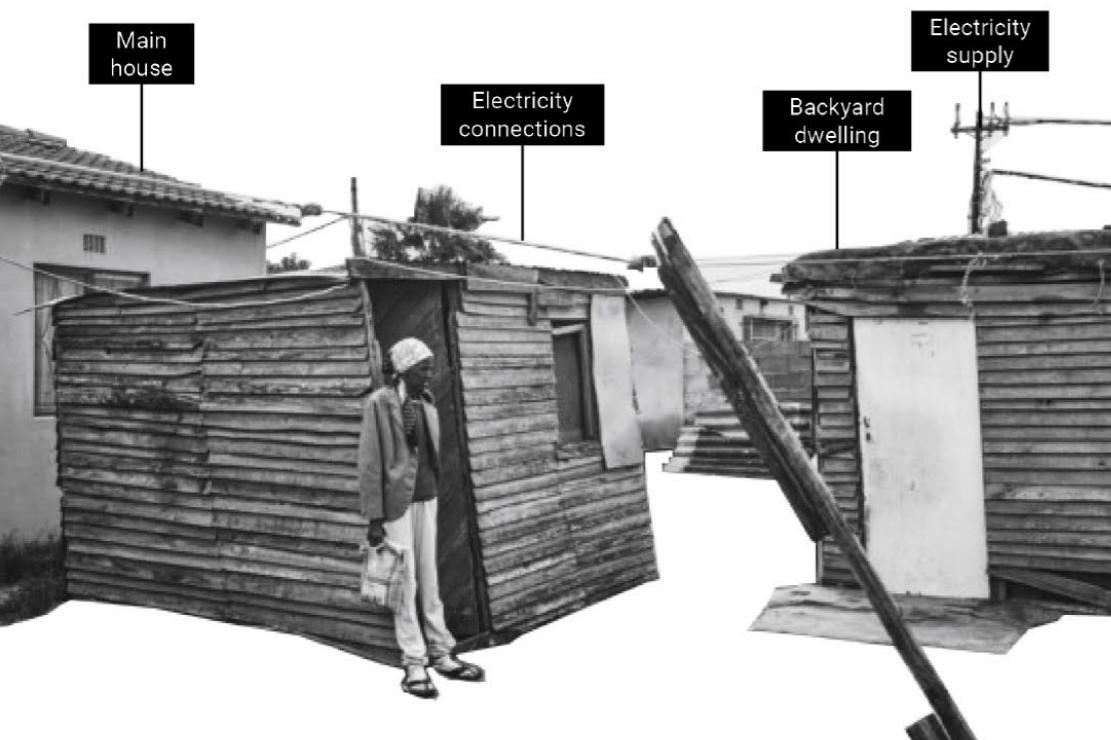
Fig. 6 (above left) Plan, elevation and section of a two-bedroom, economic house
 Fig. 7 (above mid) Plan, elevation and section of a two-bedroom, sub-economic house
 Fig. 8 (above right) Plan, elevation and section of a two-bedroom, sub-sub-economic house
 Fig. 9 (bottom first) Native building workers engaged upon one of the tasks; building up gable ends
 Fig. 10 (bottom second) Street scene showing sub-economic houses in Kwa-Thema
 Fig. 11 (bottom third) A neighbourhood shopping center
 Fig. 12 (bottom last) Panoramic view of neighbourhood I showing extent of building in the first eighteen months of operations





While these are the key pieces of apartheid legislation, there were many more with serious spatial consequences, including the Separate Amenities Act of 1953 which dictated separate drinking fountains, separate bathrooms (when blacks and 'coloreds' were provided with these facilities at all), separate entrances to buildings, and separate platforms at train stations. In addition, there were more mundane and routine extra-legal segregation strategies to reinforce these laws. Interaction between white and non-white South Africans was heavily constrained by a wide range of social, moral and religious attitudes ingrained in the majority of white thinking. Even within the legal framework of the country, laws governing public behavior, assault and rape were unevenly applied across the races, and special legal techniques that further constrained spatial movement were enacted. Key among the latter was 'banning' (1982), a legally enforced designation where the banned person was confined to a given area and not allowed to be in a room with more than one person at a time to prevent anti-apartheid gatherings.

When viewed at the scale of the townships, this housing produced scenes of monotonous and sprawling landscapes. Yet, at a human scale, small but meaningful reactions against the apartheid government's totalitarian vision of racialized and controlled bodies arose. Residents often adapted their shacks, personalizing them through various tweaks, from incremental additions and upgrades to creative uses of scavenged materials. Subversive adaptations not only transformed the houses, but also the land. The economic potential of the cities – and lack thereof in the Bantustans – drew many illegal migrants to urban areas. With government housing accessible only to legal residents, the demand for alternative housing for these migrants was high. The sterile township landscape began to be dotted by 'backyard shacks.' These informal structures were constructed in the private yards behind the matchbox houses and rented out, providing much needed housing and supplementing the income of the legal residents. In Soweto alone, 40 percent of the houses had backyard shacks by the end of apartheid. The subversive nature of backyard shacks was not only in their existence but also in their invisibility; these shacks never found their way to the front yards – and the police who patrolled the townships in heavily armed and frightened groups rarely attempted to look around the back.



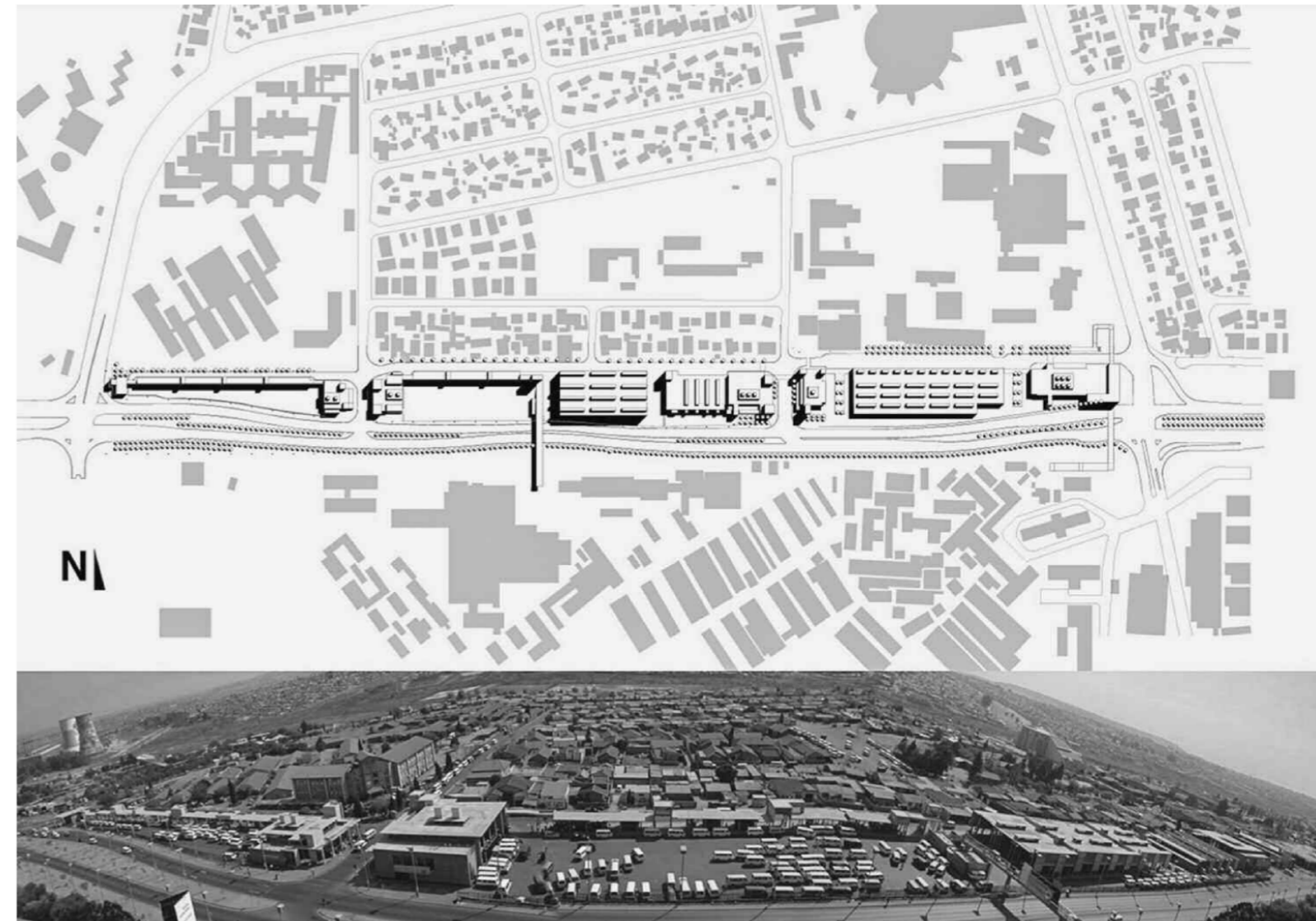
... spatial production must be understood as part of an evolving sequence, with no fixed start or finish, and that multiple actors contribute at various stages.

(Aswan, Schneider and Till 2011: 29)

While a growing number of the black middle class are finding housing and economic opportunities outside the townships, many in the black working class are trying to generate opportunities with their continued limited resources. The persistent high rate of unemployment amongst the black population, nearly 30 percent, leads many to continue to cross the formal/informal boundary and seek out employment in the informal sector. For instance, the black taxis have continued to flourish post-apartheid. Carrying 15 million passengers daily, they have an estimated annual turnover of over 15 billion Rands and nearly half a million families are dependent on the sector for their livelihood.

Nodes of informal activity are flourishing, from entrepreneurial residents engaging in a wide variety of businesses run out of their homes or hastily constructed shacks and shipping containers to trading nodes that develop in the inner city around areas of high pedestrian volume such as transit hubs.

While transport provides linkage between neighborhoods, there still remains throughout South Africa the need for spaces that provide for and support interaction within neighborhoods and even larger precincts. The apartheid government carefully controlled the collective occupation of public space to minimize the visibility of non-whites in the white city and to dilute the potential opportunities for resistance in the townships. This control not only led, in part, to the destruction of rich, diverse communities such as District Six (in Cape Town) and Sophiatown (in Johannesburg), but it also meant that a robust and dynamic public culture never evolved in either the townships or the cities. As a result, interactions that might otherwise have occurred outside often became internalized, occurring in buildings where they could be either highly controlled by or escape the watchful eye of the state.



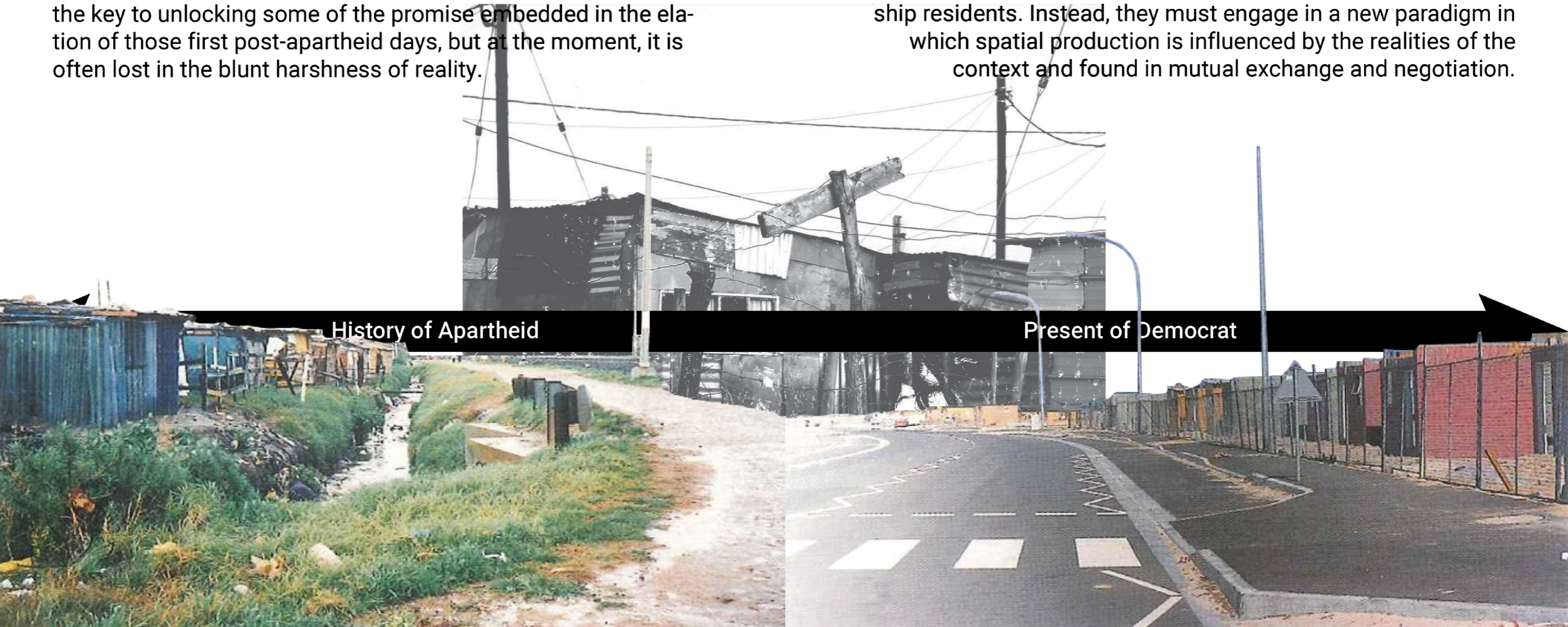
In the new era of the 'Rainbow Nation,' various individual projects have attempted to redefine public space.

Baragwanath (Bara) Taxi Rank, Soweto, a multimodal transit center designed by Ludwig Hansen.

It is an example embodying the mix of different parties' attemptation in defining the public spaces

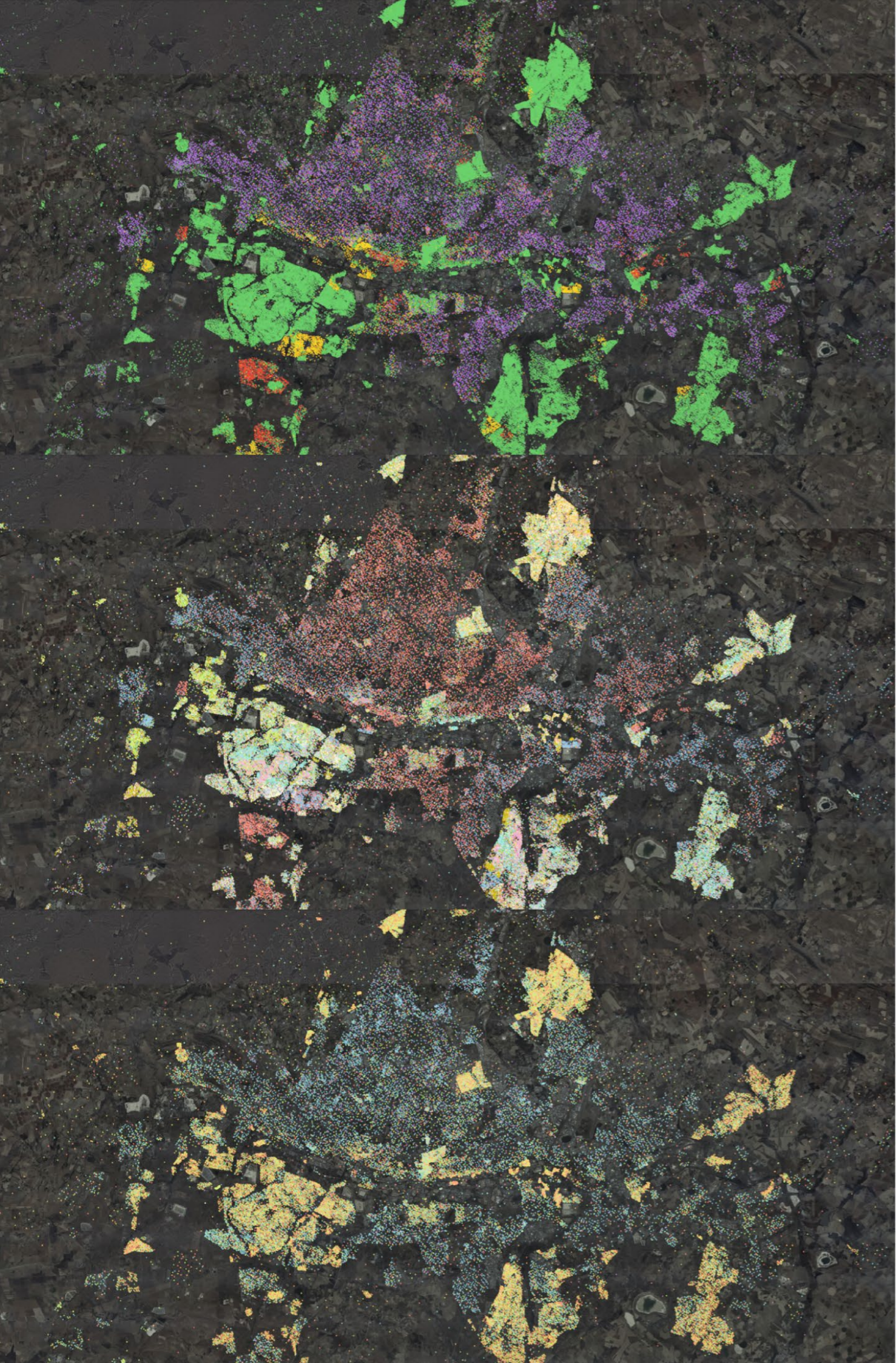
The context of apartheid has added complexity to South Africa's multi-layered history. As the country struggles to move beyond its apartheid past, the notion of appropriation of space is significant. For many who live there, it is a surreal and conflicted world. Previous boundaries are being rewritten. Formerly invisible populations and spaces are transitioning from underground symbols of need and resistance to visible and substantial imprints on the urban landscape that must be understood and addressed. For the millions of poor blacks, this might hold the key to unlocking some of the promise embedded in the elation of those first post-apartheid days, but at the moment, it is often lost in the blunt harshness of reality.

With such a deep and pervasive spatial construct, moving past apartheid will be a long-term and often challenging effort. South Africa's cities and townships continue to be sites of great struggle and resilience, as they have been throughout their history. But to truly evolve, the country will need to move beyond entrenched dichotomies that have long-defined its racially charged spatial history: formal/informal, becoming/belonging, visibility/invisibility, normative/dysfunctional. Its diverse populations must also move beyond the static view of their own roles in creating this spatial transformation, be it top-down hierarchies of the government or bottom-up scrappiness of township residents. Instead, they must engage in a new paradigm in which spatial production is influenced by the realities of the context and found in mutual exchange and negotiation.



History of Apartheid

Present of Democrat



Population group

1 dot = 100 people

- Black African
- Coloured
- Indian or Asian
- White
- Other

First language

1 dot = 100 people

- | | |
|------------|-----------|
| Afrikaans | English |
| isiNdebele | isiXhosa |
| isiZulu | Sepedi |
| Sesotho | Setswana |
| siSwati | Tshivenda |
| Xitsonga | Other |

Household Income

1 dot = 50 households

- R0 - R4,800
- R4,801 - R19,600
- R19,601 - R76,400
- R76,401 - R307,600
- R307,601 - R1,228,800
- R1,228,801 +

The scale of the housing need is so large that the other major provider of housing for the poor is the poor themselves. By 2009, nearly one in four households in South Africa lived in informal dwellings or traditional housing. The rate of informal settlements across the country has continued to grow steadily, rising from 300 at the end of apartheid to approximately 2,700 today. Although often made of impermanent materials such as corrugated metal, these shacks and the settlements that they form have effectively become permanent fixtures on the landscape. They are, ironically, an unintended but critical part of the post-apartheid housing reality. In the failure of the ANC government to either build or incentivize housing construction, these informal cities constitute a de facto, if illegal, official housing policy.

*From self-identification in National Census 2011, South Africa.
Note that some 800,000 people living in institutional settings were not asked about their languages and household income are not included here.*

Since the turbulent years of Late Apartheid and heady years immediately after the fall of apartheid, South Africa has continued to evolve to a future beyond 'post-apartheid.' The time span of the past two decades has been relatively short compared to the more than 45 years of apartheid and the preceding 50 years of racist British rule that laid its foundations. And yet, the interplay between social and spatial realities has been no less dynamic. South Africa has ascended to powerful positions on the global political and economic stage. Socially, the legacy of apartheid continues to viscerally shape daily life from the severely unequal education system to the burgeoning HIV/AIDS epidemic. Both disproportionately affect the non-white population, particularly blacks, and prove expensive and challenging impediments to creating a more equal society. Spatially, the deep impact of the control of bodily movement and interaction continues to dictate the geography and density of South African cities. All of these things help to reinforce a powerful new dividing force in South African society today: class. Of course, given the decades of racial disparity, the class division tends to run along racial lines. The country is by no means 'post-racial' and class has not replaced race. In fact, racism still remains a deeply ingrained and insidious presence.

Table 1 Monthly household incomes in Central Witwatersrand, 1990

	Whites	Indian	Coloured	African	Total
R0-999	17%	24%	60%	90%	58%
R1000-1999	27%	50%	26%	9%	17%
R2000+	56%	26%	14%	1%	25%

Source: Infraplan, 'Residential Viability Study: Phase 2', Report produced for Metropolitan Planning Department, Johannesburg City Council, 1991. Official exchange rate was about R4.5 to the UK pound by the time.

Table 2 Population densities in Central Witwatersrand, 1992

Local authority	Population per hectare of developed land
<i>Predominantly black areas</i>	
Great Soweto	158
Alexandra	688
Dobsonville	229
Diepmeadow	151
<i>Predominantly black areas</i>	
Randburg	22
Sandton	12
Roodepoort	14
Johannesburg	44

Source: Deloitte & Touche. Problem Statement, Report produced for the CWMC, Water and Sanitation Task Team. Johannesburg, 1993.

Table 3 Status of land in Central Witwatersrand, 1992

Local authority	Developed (ha)	Undeveloped (ha)
<i>Predominantly black areas</i>		
Great Soweto	7000	0
Alexandra	462	234
Dobsonville	700	7
Diepmeadow	1900	1885
Total	10,062	2126
<i>Predominantly black areas</i>		
Randburg	5800	3300
Sandton	14,315	0
Roodepoort	12,320	5280
Johannesburg	25,639	19,342
Total		

Source: Deloitte & Touche. Problem Statement, Report produced for the CWMC, Water and Sanitation Task Team. Johannesburg, 1993.

Table 4 Spending by local authorities in Central Witwatersrand, 1992/93

Local authority (population)	Capital spend per capita(R)	Operating spend per capita(R)	Total spend per capita(R)
<i>Predominantly black areas</i>			
Great Soweto (1,800,000)	85	283	368
Alexandra (215,000)	59	339	398
<i>Predominantly black areas</i>			
Randburg (140,000)	348	1387	1735
Sandton (142,000)	665	1482	2147
Roodepoort (142,000)	387	1999	2386
Johannesburg (995,000)	530	2276	2806

Source: Deloitte & Touche. Problem Statement, Report produced for the CWMC, Water and Sanitation Task Team. Johannesburg, 1993.

Table 5 Voting power in Central Witwatersrand RSC

Local authority	Population	Votes	People per vote
<i>Predominantly black areas</i>			
Great Soweto	2,100,000	17.27	121,600
Alexandra	200,000	0.83	241,000
Dobsonville	160,000	0.99	161,600
Diepmeadow	192,700	6.43	30,000
<i>Predominantly black areas</i>			
Randburg	74,300	8.50	8700
Sandton	86,000	5.22	16500
Roodepoort	141,700	15.34	9200
Johannesburg	632,300	40.28	15700

Source: Iuta's RSC Report. Johannesburg. Divaris Stein Publishers, 1990

Table 6 Water consumption and services in Central Witwatersrand, 1991/92

Local authority	Water consumed per person p.a. (kL)	No. of people without water piped to house	Time emergency service available each week
<i>Predominantly black areas</i>			
Great Soweto	53	481,000	6.5h x 5d
Alexandra	22	203,500	14h x 5d
TPA informal settlements	n.a.	110,000	8h x 5d
<i>Predominantly black areas</i>			
Randburg	115	7000	24h x 7d
Sandton	158	4000	24h x 7d
Roodepoort	85	0	24h x 7d
Johannesburg	151	6000	24h x 7d

Source: Deloitte & Touche. Problem Statement, Report produced for the CWMC, Water and Sanitation Task Team. Johannesburg, 1993.

From the window of a plane it is easy to see that the spatial impacts of apartheid still shape South Africa at every scale of community. Even the smallest country towns are really two towns: here, comfortable houses with gardens inhabit a grid of tree-lined streets; and over there, a couple of kilometers away and connected by a dirt road, a dusty geometric pattern of small shacks crouch on tiny lots with packed earth yards. The white town, the black township. This dual apartheid landscape has not yet been undone and persists regardless of political changes.



Aerial view of two towns. This typical country town exhibits perfectly the spatial strategies of apartheid that persist today: the quaint white town, and the completely separate black township – obviously drawn by an architect or planner

Forces outside-in

World Conference on Sanctions against Racist South Africa, organised by the UN in cooperation with the OAU and the Movement of Non-aligned Countries.



The AAM converted its 'Boycott Bandwagon' into a 'Freedom Bus' after the release of Nelson Mandela and the opening of negotiations for a democratic constitution in South Africa.



Then-South African President F.W. de Klerk, left, shakes hands with African National Congress President Nelson Mandela in 1991.



Racially motivated land tenure policies were officially repealed in 1994, following the democratic election that brought the African National Congress party to power.



Private minibuses known as black taxis, which provided transport in the townships under apartheid and continue to thrive today.



Persisted informal commercial enterprise. Spazas often provided credit, were open at all hours, and were located in great numbers on regularly traveled paths.



Poster about job reservation and restrictions on the right of African workers to organize under apartheid. Others in the series focused on Land, Education, Health and Housing and Law and Order.

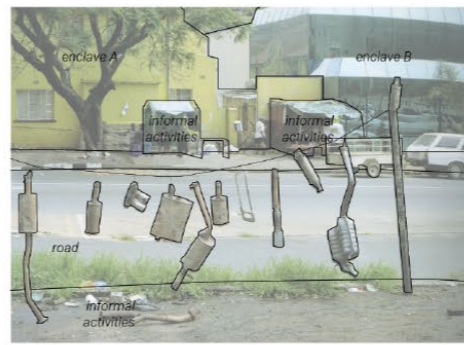
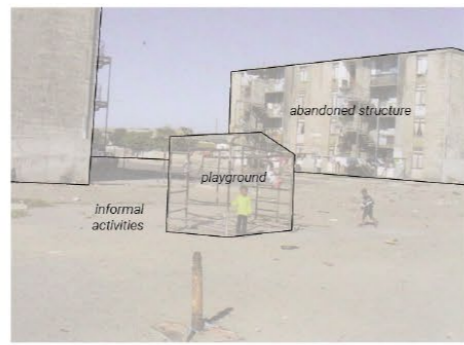


The illegal bars, or shebeens, run out of matchbox houses in townships across the country. Provided illegal public gatherings during Apartheid.

Forces bottom-up



informal activities

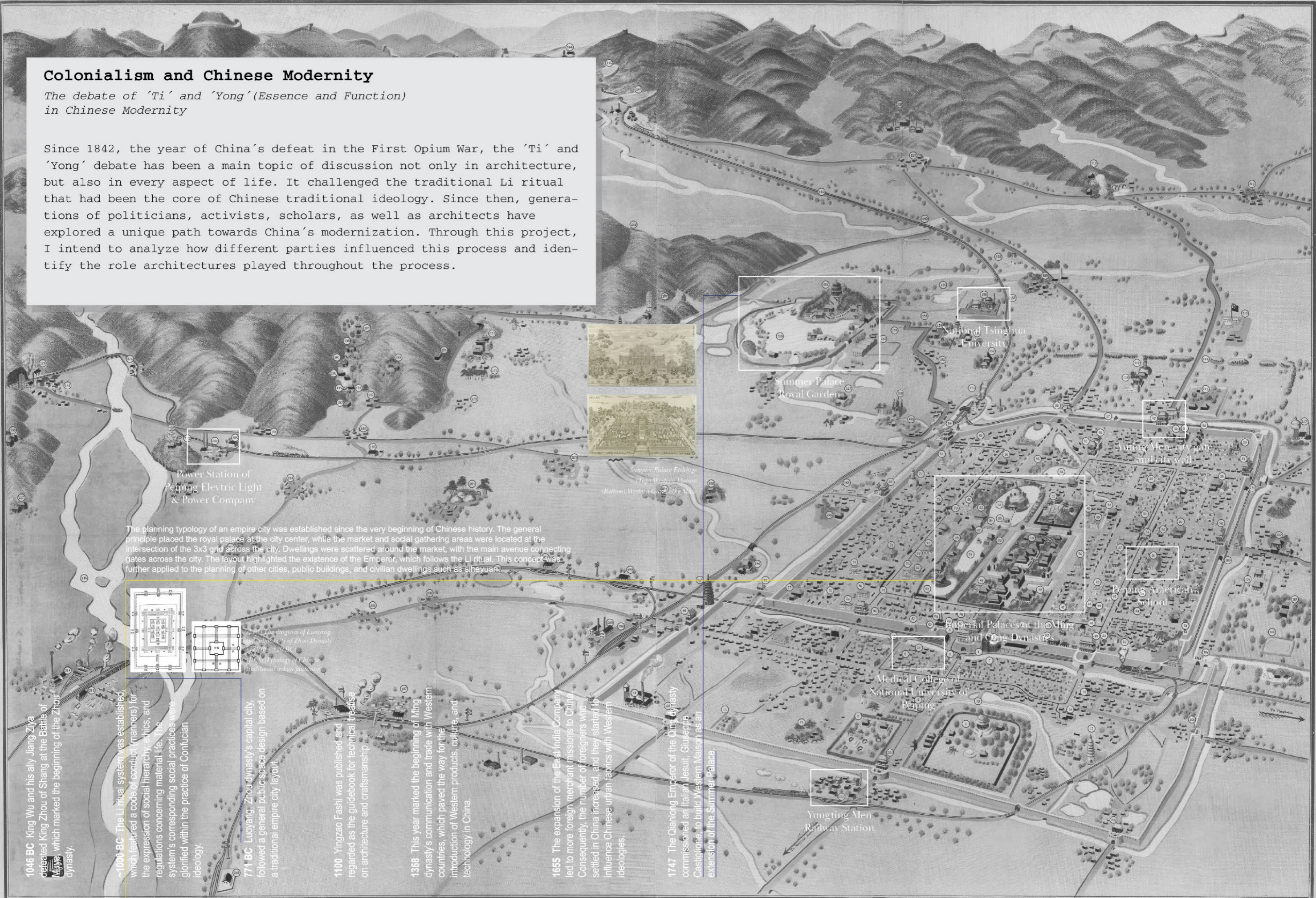


A BIRD'S-EYE VIEW of PEIPING and ENVIRONS

Colonialism and Chinese Modernity

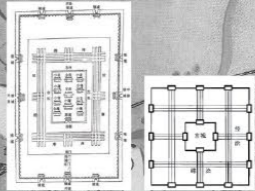
The debate of 'Ti' and 'Yong' (Essence and Function) in Chinese Modernity

Since 1842, the year of China's defeat in the First Opium War, the 'Ti' and 'Yong' debate has been a main topic of discussion not only in architecture, but also in every aspect of life. It challenged the traditional Li ritual that had been the core of Chinese traditional ideology. Since then, generations of politicians, activists, scholars, as well as architects have explored a unique path towards China's modernization. Through this project, I intend to analyze how different parties influenced this process and identify the role architectures played throughout the process.

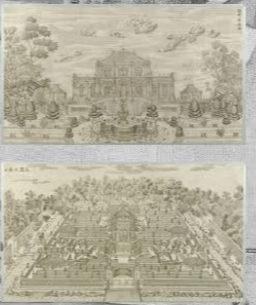


Power Station of Peiping Electric Light & Power Company

The planning typology of an empire city was established since the very beginning of Chinese history. The general principle placed the royal palace at the city center, while the market and social gathering areas were located at the intersection of the 3x3 grid across the city. Dwellings were scattered around the market, with the main avenue connecting gates across the city. The layout highlighted the existence of the Emperor, which follows the Li ritual. This concept was further applied to the planning of other cities, public buildings, and civilian dwellings such as siheyuan.



The diagram of Luoyang, the capital city of Zhou Dynasty, 500 BC
Plan Typology of China's traditional urban planning



Summer Palace Etchings (Top) Western Mission
Summer Palace Etchings (Bottom) Western Mission

1046 BC King Wu and his ally Jiang Ziya defeated King Zhou of Shang at the Battle of Muye, which marked the beginning of the Zhou dynasty.

~1000 BC The Li ritual system was established, which featured a code of conduct (manners) for the expression of social hierarchy, ethics, and regulations concerning material life. The system's corresponding social practices were glorified within the practice of Confucian ideology.

771 BC Luoyang, Zhou dynasty's capital city, followed a general public space design based on a traditional empire city layout.

1100 Yingzao Fashi was published and regarded as the guidebook for technical treatise on architecture and craftsmanship.

1368 This year marked the beginning of Ming dynasty's communication and trade with Western countries, which paved the way for the introduction of Western products, culture, and technology in China.

1665 The expansion of the East India Company led to more foreign merchant missions to China. Consequently, the number of foreigners who settled in China increased, and they started to influence Chinese urban fabrics with Western ideologies.

1747 The Qianlong Emperor of the Qing Dynasty commissioned an Italian Jesuit, Giuseppe Castiglione, to build Western Mission as an extension of the Summer Palace.

Yungting Men Railway Station

Medical College of National University of Peiping

General Palaces of the Qing and Song Dynasties

Peiping American School

Yungting Men city gate and city wall

Summer Palace Royal Garden

National Tsinghua University

Fig1. (Background) A Bird's eye view of Peiping and environs, 1936, the Peiping Chronicle.

Nanjing- Capital Proposal

In the year 1929, Kuomintang government (the leading party of modern China before PRC, 1949) unleashed their proposal of the planning of the new national capital in Nanjing. It was the most ambitious architectural and planning project undertaken by the Kuomintang during the Nanjing government. The overall design was a result of cooperation of Western architects and Chinese architects with experience of studying abroad (mainly in America and Japan). Led by American architect Henry Killam Murphy, urban planner Ernest P. Goodrich and Chinese architect Lü Yanzhi (吕彦直, 1894-1929), they intended to practice 'Chinese Renaissance' architecture to demonstrate the determination of Nanjing Government to revive Chinese heritage with traditional architectural elements in combination with modern Western elements in Architecture and Urban Planning. From a historical perspective, the mission was to restore the glorious and splendid architecture and urban design traditions of the Chinese imperial era. At the same time, the project was also intended to provide people with an efficient, well-equipped and well-serviced living environment.

The planning and building of ancient Chinese towns was a product of ritualistic aspect (禮教). According to Confucian virtues, the planning of a city emerged as an idealization of city form, embodying the traditional value of class and manner. In the new proposal, the salient feature was the combination of modern Beaux-Arts axial planning with the traditional Chinese



urban space design concept. According to William C. Kirby, Nanjing was the first Chinese city to adopt comprehensive zoning and planning regulations designed according to international standards. Today, Nanjing can lay claim to being 'one of the most beautiful, clean, and well-planned cities in China. The city's urban infrastructure, like electricity, waste and transportation systems, was a huge milestone of modernization of Chinese urbanization but, at the same time, it maintained the identity of traditional cities.

The general architectural layout features both Chinese elements and Western theory, showing a strong combination of different styles. In the entire building complex, the main government building has a huge volume, the surrounding pillars support the upturned roof, and the building's plan layout, facade, windows and materials are modern. The Ministry of Transportation epitomized this approach and what sometimes was awkwardly referred to as 'Chinese Renaissance' architecture. The building was designed by Robert Fan (範文照, 1893-1979), a graduate of the University of Pennsylvania. It sits on a pronounced raised base (須彌座), with a symmetrical layout. The roof is upturned and has perfect proportions, supported by traditional paint and a Western-style flat concrete exterior wall and large glass windows. The building's architectural design of a roundabout embodies the core idea of the proposal: manipulation of traditional form based on the Western scientific theories. This planning proposal is a summary of the 70 years of modernization in China since the Opium War in 1840.

The overall layout is an axial plan centering the courtyard and central hall. The height of the roof pitch addresses the hierarchy from elevation while the number of gates from the front door to the back addressing the social status of the household.

1800~ Before the 19th century, the Qing dynasty was regarded as the most powerful kingdom worldwide. However, after the political reformation and technological development during the Age of Enlightenment, Western countries rapidly grew as the Qing dynasty remained blinded by the fantasy of a Celestial Empire.

1820 The British Empire exported large amounts of opium to China to achieve balance in the trading turnovers. The large consumption of opium by Chinese citizens largely influenced the country.

1842 The Qing Government and the United Kingdom signed the Treaty of Nanking due to the former's defeat in the First Opium War. China was forced to open five of its cities as "trading ports" for foreign trade and settlement areas.

1858 The Treaty of Tientsin was signed due to China's defeat in the Second Opium War. Another seven trading ports were opened to foreigners.

1880~ At the tail end of the Qing dynasty, a series of self-strengthening reforms were carried out in both industrial and commercial fields as well as in politics, but none of them were successful. Due to the dynasty's overpowering royal family, most expense allocations for the reforms were shifted to the family's daily spending. The pedantic structure led to the collapse of the 300-year-old kingdom, along with the traditional Chinese ritual system.

1901 In an effort to put down the Boxer Rebellion, China's Qing Empire and the Eight-Nation Alliance signed the Boxer Protocol, which provided military forces after China's defeat in the intervention. This treaty has been regarded as one of the Unequal Treaties.

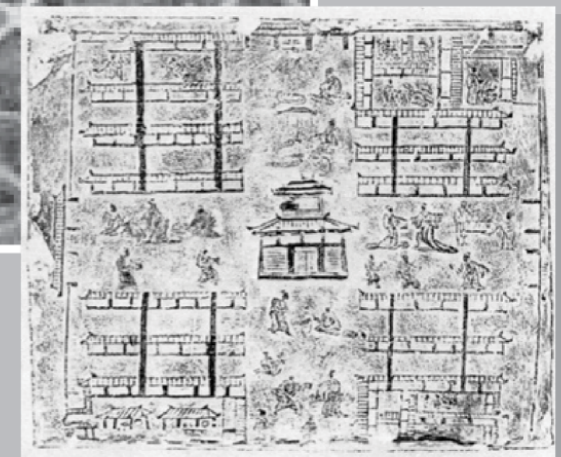
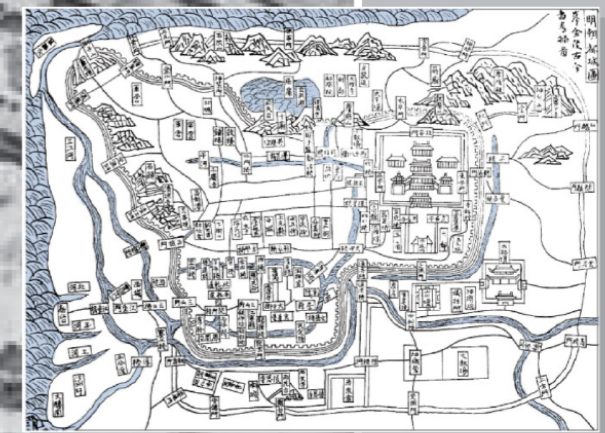
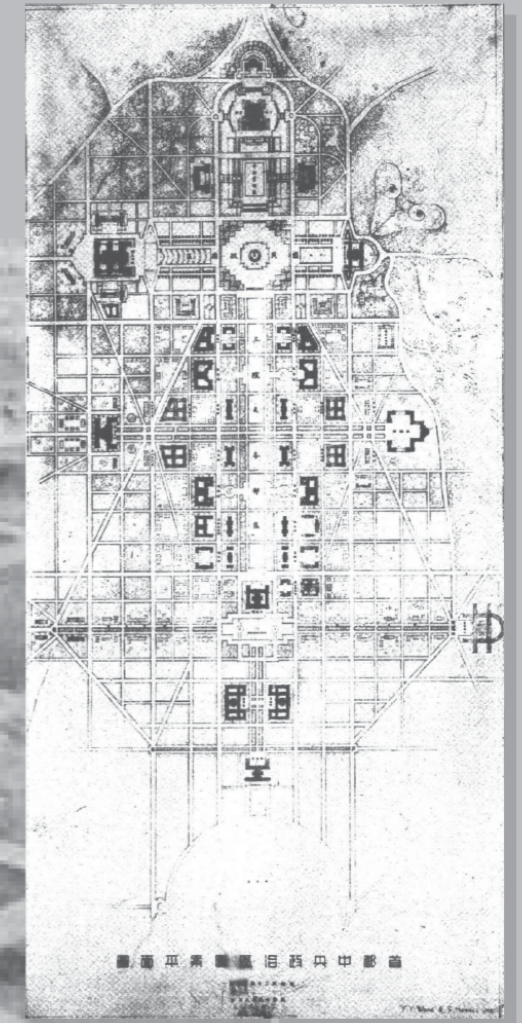


Fig2.(Top) The central political district planned in the Capital Plan.

Fig3.(Mid) The diagram of Nanjing, the capital city of Ming Dynasty (1368 - 1403)

Fig4.(Bottom) The principle of planning is under highly control of the ritualistic manner

1911 The establishment of the Republic of China took over Qing dynasty's dominion. The PRC assigned Nanjing as its temporary capital.

1915 The New Culture Movement criticized classical Chinese ideas and promoted a new Chinese culture based on Western ideals such as democracy and science. This marked the beginning of Western ideological expansion in China.

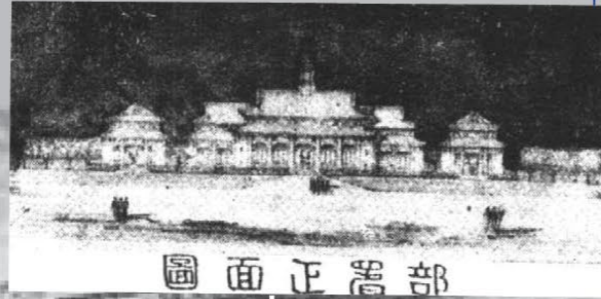
1918 The first generation of Chinese architects who studied in America returned to China, and brought back Western Classicism and Modernism architecture knowledge.

1923 Suzhou Industrial University established its Architecture Department, comprising UPann Graduates, namely, Liu Dunzhen and his fellows. It was China's very first architecture department. The academic program adopted the Beaux-Arts style and design.

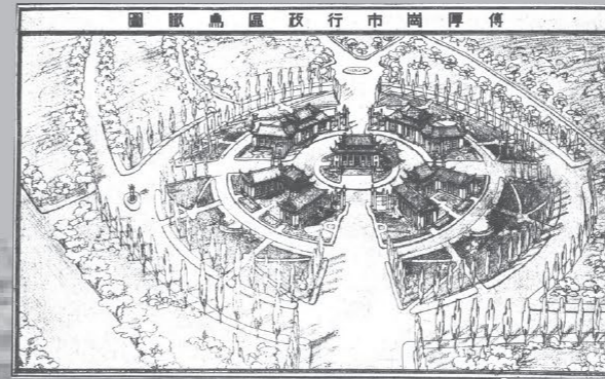
1925 Henry Killam Murph, an American architect who started his practice in China since 1914, raised the idea of Chinese Renaissance in terms of architectural style, which merged traditional Chinese elements and Western technology.

1927 The Nationalist Government or the Second Republic of China led by Kuomintang was established in this year. Unified rival governments and warlord fiefdoms divided China during the power vacuum after the death of Yuan.

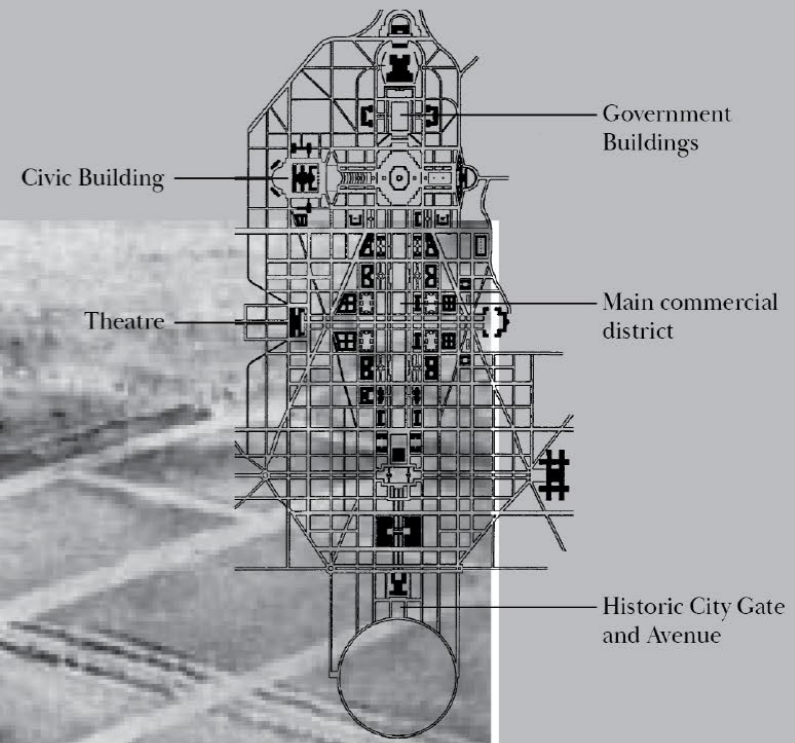
1928 The Nanjing Government assigned Murph as architectural consultant for the design proposal of the Nanjing capital.



部 正 面 圖
Government Building



Administrative district



(Left) Bird's view of Gimling College, designed by Henry K. Murph, Nanjing



(Right) North elevation of Xiangya Medical University, designed by Henry K. Murph, Changsha

Chinese Renaissance architecture was an aesthetic that applied classical Chinese architectural elements to modern construction technology. This movement aimed to renew national pride and consciousness in the newly established Republican China after over half a century of humiliation by Western imperialism.



Historic City Wall and Avenue



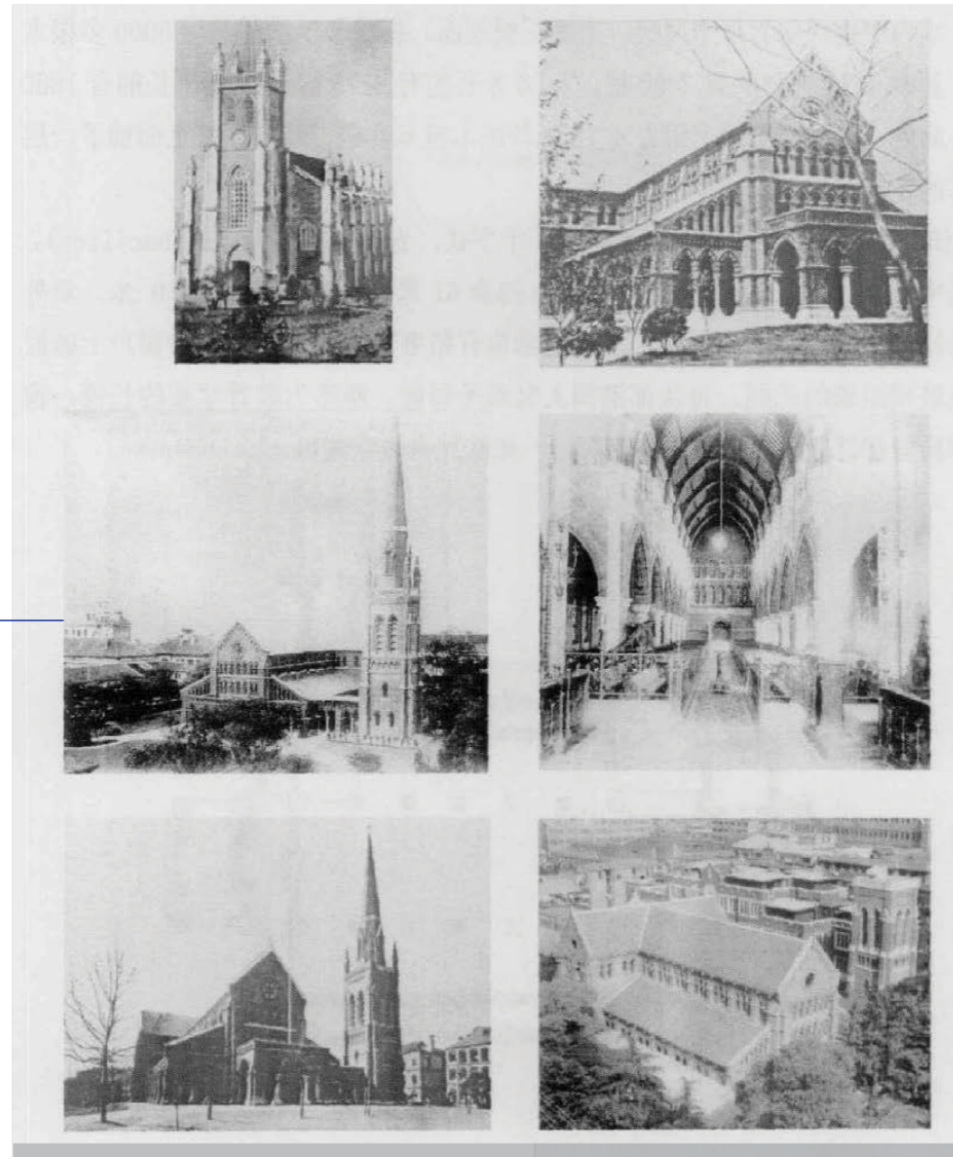
圖 歐 嘉 點 中 集 路 遺 口 街 新
Main Commercial District

Fig5. (Background) The central political district planned in the Capital Plan.

Fig6. (Top-right) The central political district planned in the Capital Plan figure ground diagram

Western theory, Western practice

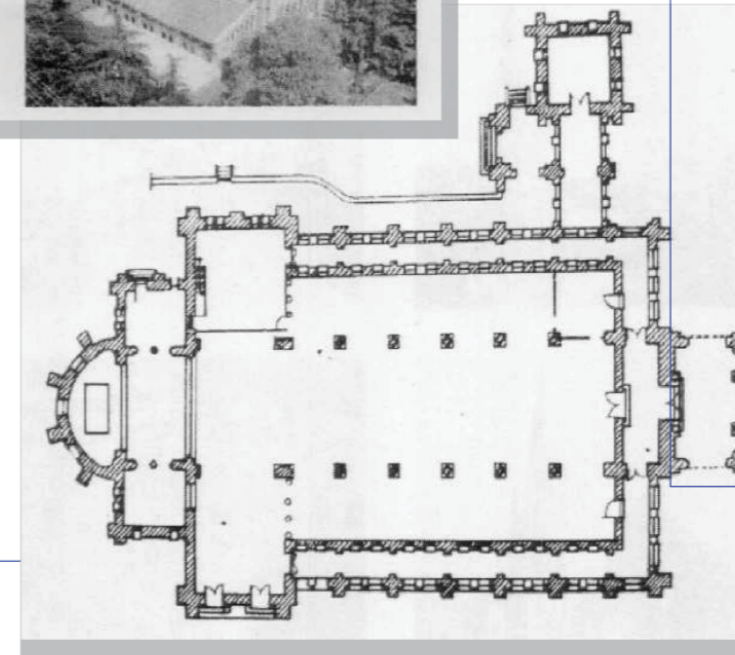
Since 1842, the five trading ports so called 'concessions' or 'settlements' were ceded to Britain under the Treaty of Nanjing, so the origin of Chinese modern urbanization is the UK. When the concessions were opened, they were originally a wasteland, with no decent houses, no real roads, and no municipal administration. In the concessions, foreign architects mainly adopted an eclecticism approach to express their colonial ambitions. The empty lot they were assigned gave them the perfect opportunity to practice their ideology of a modern Western city, express the 'civilizing mission' concept, and legitimize the flaunting colonial expansion. Holy Trinity Church in Shanghai, was the first piece of architecture designed by a professional architect, George Gilbert Scott (1811-1878), who was a famous British Gothic Revival architect at that time. The church is a masonry building with a red brick facade, and is commonly known as the 'Red Chapel'. The building plan is Latin Cross basilica style with an attached arcade. It adopts a Gothic Revival architecture style, but some parts show some aspects of eclecticism. Its elevation adopts the Italian Roman style composition with high middle and low sides, and three rows of continuous colonnades that divide the facade into three sections, but its cornice decoration style and arches type are completely Gothic except the one in the middle, which adopts roman arch architecture style. Instead of adopting Gothic clustered columns, single Roman columns were used alongside Gothic arches. The building of the Holy Trinity Church in Shanghai marked a new era, which saw professional architects from Western countries starting to participate in the modernization of China. Colonial empires generally destroy the traditional culture and replace it with the culture of the suzerainty. The so-called 'civilizing mission'-taking European 'advanced' technologies, ethics and other social norms to places outside of Europe-became an important argument for flaunting colonial expansion ('legitimacy').



As a first attempt in transplanting Western Classicism in China, Holy Trinity Church was totally out of context in terms of form, function, and building technology. However, it established the fact that locals accepted Western culture and the use of Western technology. It expanded the application of Western architecture principles not only in China's religious buildings, but also in its commercial and civic dwellings. The successful practice of the church cultivated a feeling of homecoming, which accelerated the merging of Western and local culture.

Fig7.(Top) Photos of Holy Trinity Church, Shanghai, top left image is the initial design of the church

Fig8.(Bottom) Plan of Holy Trinity Church



Late shikumen house: section, front (stone gate) facade, plans, and volume diagram.



(Top) The Bund, Shanghai, 1850
(Bottom) The early Shanghai comprador veranda style bangalower house distinct from local dwellings

1842 Captain George Balfour, UK's first Ambassador to China, arrived in Shanghai, which marked Shanghai as one of China's official trading ports.

1845 The colonial veranda-style buildings rapidly spread along the Bund, which addressed the legitimacy of occupants by foreigners.

1850 Francisco Xavier Church, the first Christian Church was built in Shanghai; it was constructed using a design created by a catholic missionary, Joannes Ferrer. The overall design was based on Chiesa di Sant' Ignazio di Loyola in Rome, albeit on a smaller scale.

1855 The modern real estate market was born in this year, with property trading of residential buildings between foreigners and local Chinese pushing the development of modern architecture. A new type of dwelling called Shikumen was developed for the local market, which combined the features of both traditional Chinese and Western architecture.

1860 Western architects entered the Chinese architecture market, which fulfilled the requirements of Western clients and established the material supply chain.

1866 Holy Trinity Church, designed by George Gilbert Scott, was the first architectural work in Shanghai by a known architect recognized by RIBA. In this year, Western architects officially entered the practice in the Far East region.

1870 The veranda style was replaced by Western Classicism Architecture that expressed feelings of nostalgia among foreign settlers.

1880 Well-developed urban facilities such as lighting, water conservancy, and roads were built within the colony as a foundation of the modern urban system and the lifestyle of residents within the colony.

1890- By the end of the 20th century, there were at least six RIBA members who settled in Shanghai. A mature modern system of Western architecture practice was developed during this period.

China established architecture as the physical embodiment of status involving the traditional ritual system, which legitimized the emperor's rule. In this sense, form ruled over function. In their colonies, Western countries used architecture as a tool that showed off the supremacy of Western culture, which legitimized their immoral invasion of other countries.

江南製造總局平面圖

以英尺為單位縮小十分之一

Western theory, Chinese practice

Unlike India, modern China never completely became a colony of any great power, and Western colonial forces did not manage to penetrate into vast areas with a low degree of urbanization. At the same time, the Qing government began the modernization and reconstruction of the army, forming a Self-Strengthening Movement (自強運動). This movement began in the 1860s and continued until the 1890s. The Westernization Movement was initiated with 'self-improvement' as its mission. During this period, military factories and other military facilities were constructed in a designated area. Although these buildings retain a lot of traditional architectural styles to some extent, modern architectural features are far from what the buildings of any previous era had. For example, the Jiangnan Manufacturing Bureau, which was presided over by Li Hongzhang and built in 1865, adopted the layout of Western manufacturing factories although it retained some traditional Chinese architectural elements such as tiled roofs and wooden decorative lattice work as well as other traditional building elements. Although factories show features of modernity such as an open plan and linear layout, some buildings like the main hall still have the identity of Chinese courtyard houses (or siheyuan, 四合院). This exposes that the core idea of retaining Chinese architectural style. The design of the Bureau exposes the fact that the Qing government had to face the adaptiveness of traditional typology toward a changing world, and further exemplifies how Chinese rulers perceived the essence of architecture and the interwinding relationship between architecture and politics.

China made substantial progress towards modernizing its heavy industry and military, but majority of the ruling elite still subscribed to a conservative Confucian worldview, in which "self-strengtheners" were, by and large, uninterested in social reform beyond the scope of economic and military modernization.

The 'Ti', 'Yong' debate

The confliction between Western ideologies and Chinese traditions brought up the debate of function and form, which went on throughout the whole process of Chinese modernization. The theory of 'self-improvement' later developed into the idea of 'Chinese learning for essential principles, Western learning for practical functions' (中學為體, 西學為用). Fundamentally speaking, this is a binary concept of body and use, in which 'Ti' (體) refers to essence. 'Yong' (用) refers to form. How to learn from Western modern theories but still retain Chinese nationalism was an all-time topic among architects facing the Chinese condition no matter the Local ones or the Western ones. William H. Chaund, a Guangzhou architect with an English name, first put Chinese architecture in a broader cultural background. He believed that for a long time, China had not realized that architecture is a progressive discipline. In the Far Eastern Review published in 1919, he published an article titled 'Architectural Effort and Chinese Nationalism'. The article mentioned that there is inherent connection between the spirit (or tradition) between a nation and its architecture. He believed that 'a building must express the life, tradition, national spirit and dominating ideal of the period in which it is built.' Chaund particularly emphasized the essence of architecture. 'The outstanding idea is this,' he declared: 'the sum total of our architectural development must be distinctly national in character and joyously Chinese in spirit.'

1860 The Qing Government initiated the Self-Strengthening Movement, which was also known as the Westernization Movement.

1861 Through the establishment of a diplomatic office and a college, technical and diplomatic personnel were trained in Western firearms, machines, and scientific knowledge.

1870 Commerce, industry, and agriculture received increasing attention, alongside the creation of wealth to boost and strengthen the country.

1885 Stronger efforts were exerted to coordinate overall military modernization, starting with the creation of the Navy Board. Efforts were made to reduce government interference in industrial projects with the goal of increasing profitability. The government also promoted the light industry.

1898 The Wuxu Reform of the late Qing dynasty was a failed 103-day national, cultural, political, and educational reform movement that suggested a change of government from an absolute monarchy to a constitutional monarchy.

1911 The Xinhai Revolution ended China's last imperial dynasty, the Manchu-led Qing dynasty, which led to the establishment of the Republic of China.

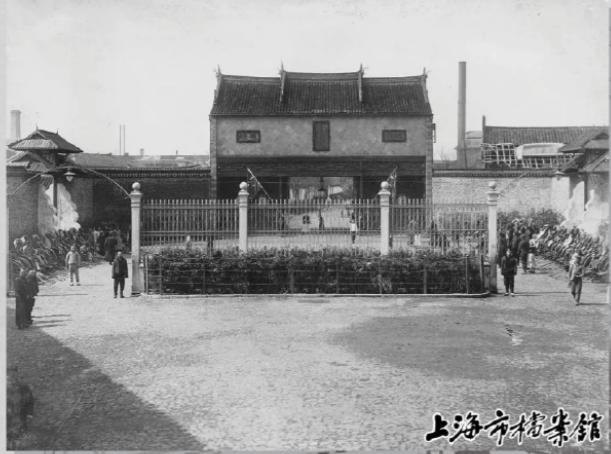
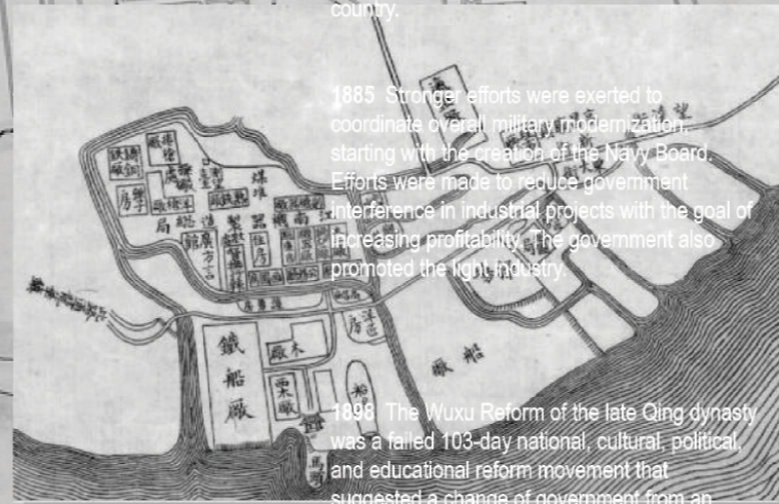


Fig9.(Background) The site plan of Jiangnan Arsenal

Fig10.(Left) The front gate of Jiangnan Arsenal which tried to diminish the presence of western elements

Fig11.(Mid) Within the factory where general layout is totally western with different structural strategy but the openings on the facade are still traditional

Fig12.(Right) The overall zoning diagram of Jiangnan Arsenal



Made in China, Made at Penn

The pioneers of professional Chinese architecture are those who received systematic Beaux-art architectural education at University of Pennsylvania, including: Liang Sicheng (梁思成), Yang Tingbao (楊廷寶) and Tong Jun (童雋). They were the first generation of architects to institutionalize Chinese architecture and practices, breaking the monopoly of foreign architects. Yang Tingbao's first work in China was Shenyang Railway Station. The main waiting hall of the building adopts an elegant semicircular dome structure. This design is directly influenced by Western railroad stations and it is difficult to find a feature of traditional Chinese architecture. The light structural colonnaded front porch and the glazing at the top of the waiting hall vault fully embody the advantages of Western modern building technologies and materials. Having been educated in a foreign country, the architects might be more familiar to the Western context than the domestic one. Under this circumstance, there was a necessity to thoroughly revise traditional Chinese practices in order to develop a certain kind of architecture that could adapt to the situation of China at that time but not obliterate nationalism, which had lasted for more than 2000 years. In the year 1931, Liang Sicheng joined the Society for Research in Chinese Architecture (營造學社) and started to conduct research on Traditional Chinese Architecture with Western architectural drawing techniques he had learned from University of Pennsylvania. The first question they faced was whether there was a distinct

architectural style in ancient China. Furthermore, they focused on Western architectural education system with Beaux-art as the core and the traditional Chinese architectural system represented by 'Yingzao Fashi (營造法式)', which could have provided a unified set of architectural standards for builders in ancient China. Compared with the idea of 'Chinese learning for essential principles, Western learning for practical functions' in the Self-Strengthening Movement of the previous period, architecture can be transformed into an operating strategy of 'Chinese Form, Western Style' due to its practical and visual considerations. Traditional Chinese architecture is concerned with decorative elements, while modern architecture embodies technical strategies or new structures. Therefore, on many occasions, whether it is about 'tradition' and 'modernization', or about 'China' and 'Western', majority of responses tend to focus on style rather than construction principles.

1894 Atkinson & Dallas from Britain was established in Shanghai, along with other professional foreign architecture firms. Together, they initiated the modernization of Chinese architectural practices.

1915 The comprador style (veranda style), which merged Oriental and Western Classicism architecture, became popular in the trading ports. This reflected an intertwining relationship between local Chinese and foreigners.

1925 In this year, Itō Chūta's Chinese Architecture History was published, which was a summary of his study on Chinese Architecture History in the past 20 years. This publication laid the foundation for architecture history studies by scholars from the field in China.

1926 The Architectural History Society of China was founded by Chinese architects who completed their education overseas.

1928 Fengtian Northeastern University established its Architecture Department, adapting a Beaux-arts style education. This marked the formation of a framework for professional architecture practice.

1931 Three graduates from UPenn founded Allied Architects in Shanghai. Chinese architects officially entered the market of architecture practice in China.

1931 Liang Sicheng joined Society for Research in Chinese Architecture and commenced his research on Traditional Chinese Architecture.

1932 Manchukuo, a puppet state of the Empire of Japan in Northeast China and Inner Mongolia was established in this year. Its capital in Changchun adapted principles of Western modernism in urban planning, but it maintained its Oriental culture orientation.

1935 Liang Sicheng led the design of the Nanjing National Central Museum, in which he adapted the traditional style of "large roof". This marked the start of the Chinese Renaissance after the New Culture Movement in 1910, reflecting a change in attitude towards traditional culture among Chinese architects.



Ts. Ching Government Bank building designed by Atkinson & Dallas in 1908. Shows the features of late Renaissance architecture with well proportioned elevation.



(Left) Western Classicism Composition by Chinese student, 1954

(Right) A group photo of the first generation of Chinese architect in University of Pennsylvania

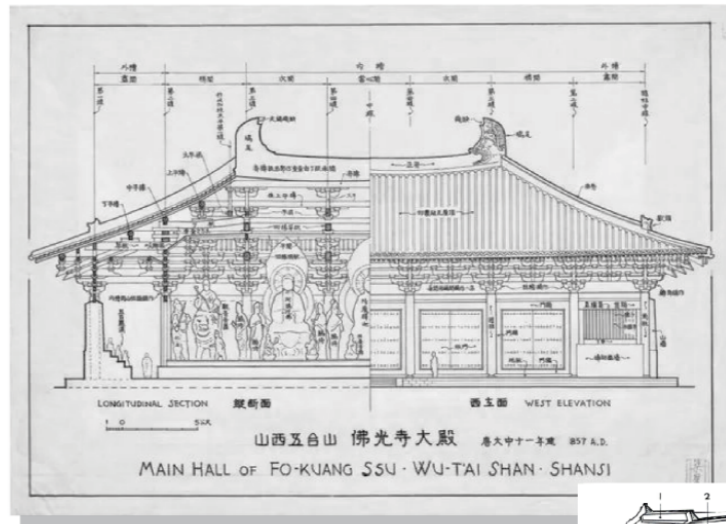
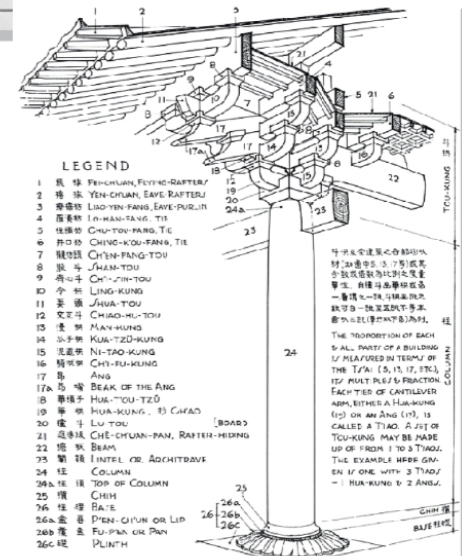


Fig13.(Top) Yang Tingbao, Shenyang Railway Station, 1927

Fig14.(Mid) Liang Sicheng, Section and Elevation of Main Hall of Ko Kuang Ssu, Wutai Mountain, Shanxi

Fig15.(Bottom) Liang Sicheng, The Chinese "Order"



中國建築之ORDER 斗拱, 檼, 椽, 柱, 礎 THE CHINESE "ORDER"

Towards a new modernism

Placing the work undertaken by the first generation of Chinese architects in the macro context of the development of modern architecture, what is evident is not only the creation and development of various systems, but also the inheritance and transformation between systems. Chinese architecture has been influenced by both Western and local aspects. This process can be regarded as a holistic transformation paradigm. 'Chinese Renaissance' architecture by Henry Killam Murphy was first applied to churches, schools and some public buildings, and was further adopted by the Capital Proposal of Nanjing Government. The style attempted to combine different aspects but it still could not avoid the binary conflict in the essence and form as Chinese and Western elements are distinct owing to the different ideologies regarding the essence of architecture. In 1940, Mao Zedong finished the treatise on cultural theory, on New Democracy. He introduced two terms, jinghua (精華, quintessence) and zaopo (糟粕, sediment), avoiding the conflict of cultural background but considering them together as an objective practice. Placing Chinese and Western architecture on the same board, he attempted to develop the concept of Chinese materialism'socialist culture in a dialectical way, and to promote new ideas. It can be said that in Mao's thinking mode, the original difference between 'Ti' and 'Yong' is eliminated, the line of sight between the two is blurred, and the social ontological behavior and cultural characteristics are unified. At this stage, we can see a temporary reconciliation between Eastern and Western ideologies, and in 1949, when People's Republic of China was established, the country went on a path similar to that followed by its 'Big Brother', the Soviet Union.

1949 Beijing was selected as the capital of PRC. PRC's overall planning followed the Qing dynasty's old capital design and layout, but applied modern facilities.

1950 The PRC and the Soviet Union concluded the Sino-Soviet Treaty of Friendship, Alliance, and Mutual Assistance. The Soviet Union promised funding and technical support to China, which not only influenced the latter's economic growth and nation construction, but also its national ideology.

1950 Architecture under the influence of the Soviet Union followed a country-led direction in terms of form, which embodied and formalized national ideology.

1953 The Chinese government initiated its first five-year plan, which aimed to boost economic growth and establish the foundation of industrialization and modernization that followed the example of the Soviet Union.

1955 Exploration of ways to express nationalism and socialism in the field of architecture was pervasive during this time. The traditional "large roofing" became a predominant form of architectural design.

In the immediate years after the proclamation of PRC, the Soviet Union became China's closest ally. Support from the Soviet Union laid the foundation for PRC's modernization and industrialization. Consequently, China adapted the same mode of production and national approaches as the Soviet Union, without regard for its unique situation. In the end, this move led to disastrous results in its social reforms.

Eliminating differences between "Ti" and "Yong" does not refer to eliminating the binary concept of form and function in architecture. Nevertheless, it set aside the cultural background of certain architectural elements and placed them on the same page, in which the architect makes a selection based on the situation. To some extent, this is a pragmatic methodology.



Beijing Railway Station designed by Yang Tingbao with the guidance of Soviet experts in 1959. Occupied "Large roof" style above a modern typology.



(Bottom) Changqing zoning diagram
(Top-left) Generic residential building design
(Top-right) Residential area planning

Mao held the idea that every colonial or semi-colonial country has its own unique path towards democracy, given that particular country's unique social and material conditions. Thus, each situation should be considered independently, including the ideologies held by its predecessor, companion, and even enemies.

1936 Japan raised the concept of "Five Races Under One Union" in Manchukuo, which was intended to legitimize its invasion of Northeast China. Architecturally, they used traditional elements from both China and Japan; it was a new typology of colonial architecture.

1937 The Kuomintang Government was forced to temporarily move the capital to Chongqing due to military threats from Japan. In Chongqing, the government enforced a series of policies, which was later regarded as the first practice of modern governance and planning on a greater urban scale.

1940 Mao raised the idea of the New Democracy, which aimed to overthrow feudalism and achieve independence from colonialism. The concept stood out against the colonialism and capitalism practices held by the Kuomintang, eventually gaining the support of proletariat masses.

1945 Japan formally surrendered and retreated from the Chinese Mainland. China regained all the territories it previously lost to Japan.

1949 In this year, CCP Chairman Mao Zedong formally established and proclaimed the People's Republic of China.

Bibliography:

- [1] Lai Delin, Wu Jiang, Xu Subing. Modern Architecture History of China. Vol 1 (中国近代建筑史, 第一卷). June 2016, Chinese Architectural Industrial Press
- [2] Wang, Y., 2018. Beaux-Arts Composition and Its Evolution in Chinas Architectural Education A Case Study of Architectural Education at Nanjing Institute of Technology. Journal of Asian Architecture and Building Engineering, 17(2), pp.199-204.
- [3] Tong, Ming. Modern Chinese Architecture as a Paradigm Shift, Architecture Journal (建筑学报), Aug 2018.
- [4] Mao, Zedong. On new democracy. Honolulu, Hawaii: University Press of the Pacific, 2003.
- [5] Liang, Ssu-Cheng. A Pictorial History of Chinese Architecture. Vancouver, Canada: CA New Press Ltd, 2016.
- [6] Guo, Qinghua. Yingzao Fashi: Twelfth-Century Chinese Building Manual. Architectural History 41 (1998): 1-13. <https://doi.org/10.2307/1568644>.
- [7] Rowe Peter & Kuan Shen, Architectural Encounters with Essence and Form in Modern China. The MIT Press, 2004
- [8] C. Kirby William, Engineering China: Birth of the Developmental State, 1928-1937, Becoming Chinese: Passages to Modernity and Beyond, 2000, University of California press
- [9] William H. Chaund, Architectural Effort and Chinese Nationalism: Being a Radical Interpreter of Modern Architecture as a Potent Factor in Civilization, Far Eastern Review, August 15, 1919:533-539
- [10] Cdooy, Jeffery W., Nancy S. Steinhardt, and Tony Atkin, eds. Chinese Architecture and the Beaux-Arts. University of Hawaii Press, 2011. <http://www.jstor.org/stable/j.ctt6wqgc4>.
- [11] Nation Design Bureau, The Capital Proposal, Nnajing Printing Press, 2006.

Run in Circles

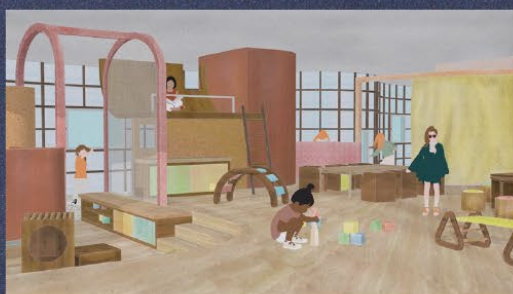
Spring 2022

Core Studio II

Individual Project

Professor: Benjamin Cadena

An important part of education is to set up one's boundaries and respect another's boundaries. Under a highly urbanized condition like New York City, the recognition of boundaries of a kid is established by walls and fences which set out clear rules of behaviors. This project challenges the current ideology of spatial boundaries and brings up a new relationship between different spaces as the mechanism of pedagogy.





Vertical Street

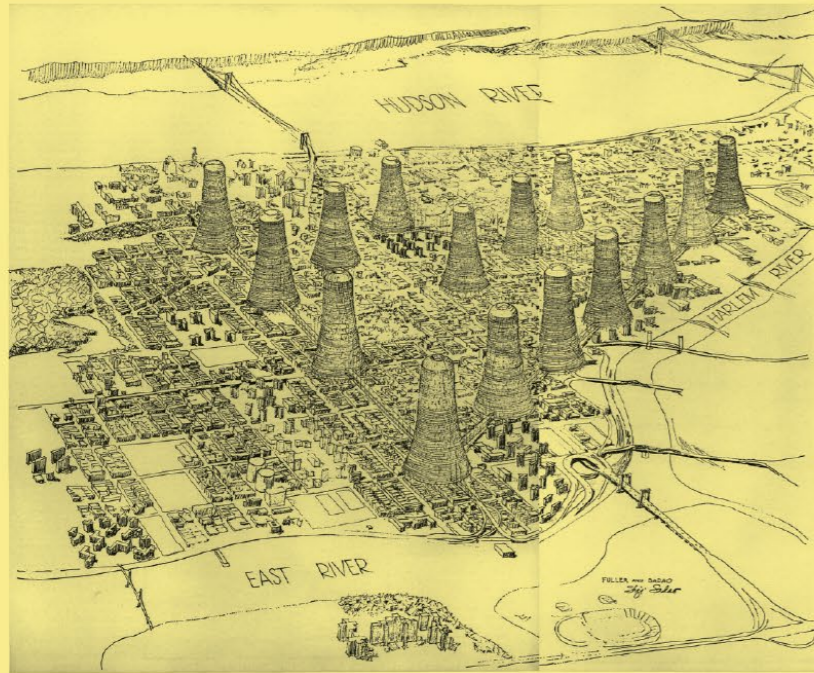
Fall 2021

Core I Studio

Individual Project

Critic: Alessandro Orsini

The project targets the tension between the local community and large institutions (Columbia University). The massive construction of the University is one of the main causes of gentrification in West Harlem. The Forum is regarded as a gift giving back to the community but the reality is the building is blocking locals off and merely used by the staffs and students on the other hand. It makes the Forum a void with a beautiful envelop sitting at the junction of the busiest street in the local area.



Instant Slum Clearance

by June Jordan
 R. Buckminster Fuller designs a total solution to an American dilemma: here, for instance, is how it would work for Harlem.

Harlem is life crying inside a slum, an enormous teeming mass of people, a self-organizing distribution of wealth, all right, however, in a state of chaos, a political embarrassment for which no political solution is adequate. A housing project planned in the middle of a slum is not an answer. Harlem has been much bombed, but these statistics may be less familiar than others:

1. A typical Harlem child will move home on an L.I.C. line in the sixth grade, then be moved three years earlier in the third grade.
2. Ninety-nine of its housing units are more than thirty years old.
3. Half the population live with one parent or with none.
4. Harlem has a population of a quarter of a million, but it doesn't contain a high school.
5. Traffic deaths for Harlem parks annually exceed the auto deaths for the whole island of Manhattan.

Skyscraper Harlem is a proposal to remove a quarter million lives by occupying, transforming their environment. One Harlem unit encloses a half million people by removing old limits in exchange for several boundaries. Harlem will widen from street to street across the island. It will open a new space in its unoccupied quarters with the assistance of everyone willing to participate in the integrated transformation of a slum.

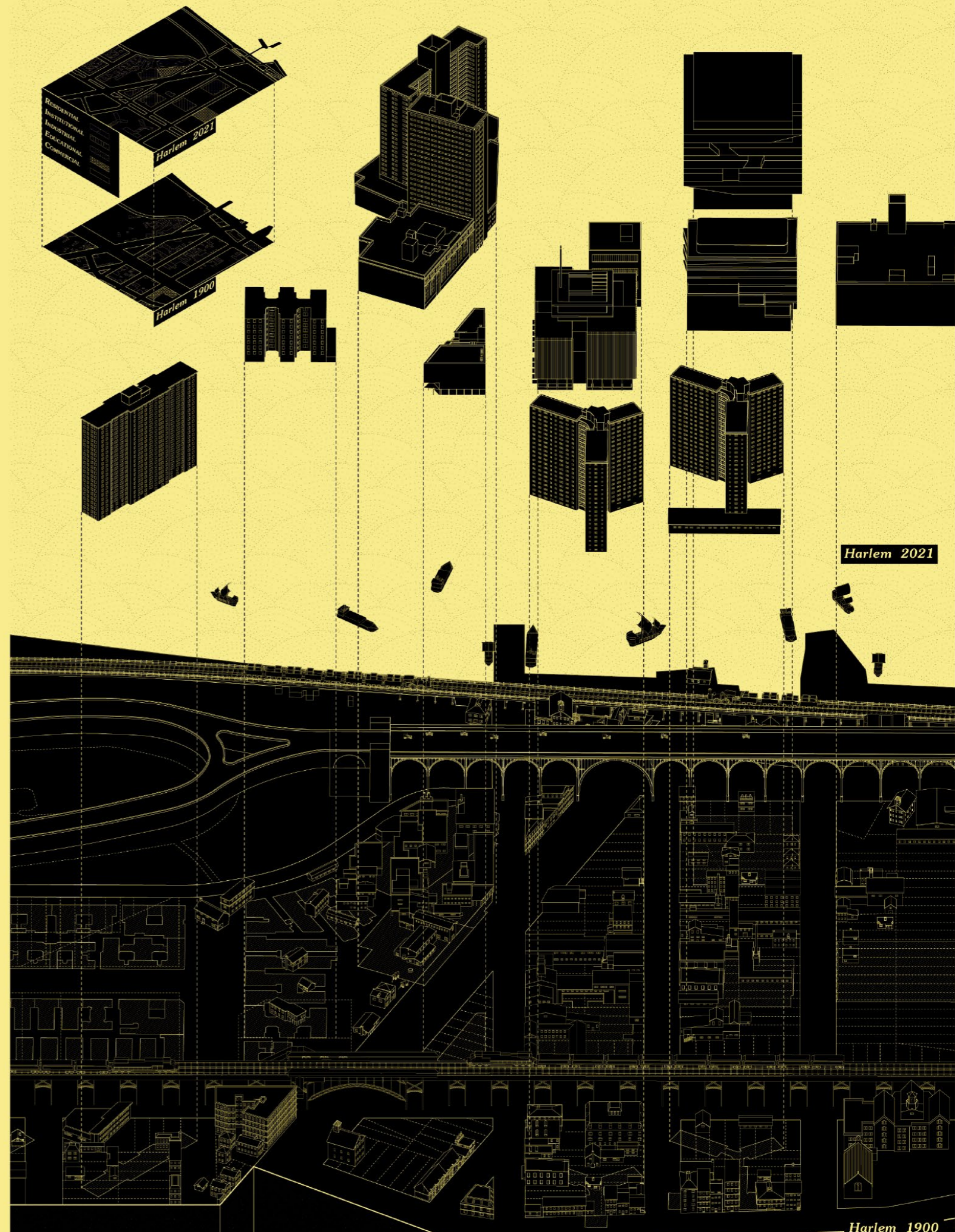
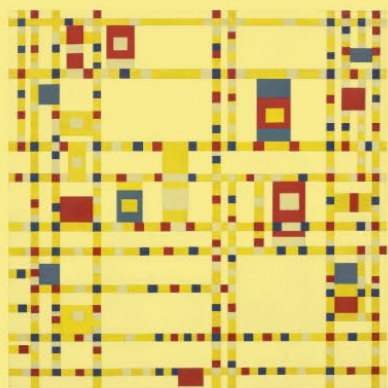
Skyscraper Harlem can be completed in thirty-six months. The first year will be spent in what R. Buckminster Fuller describes as "building up", separating the same production of structural parts well as city units, including all basic functions.

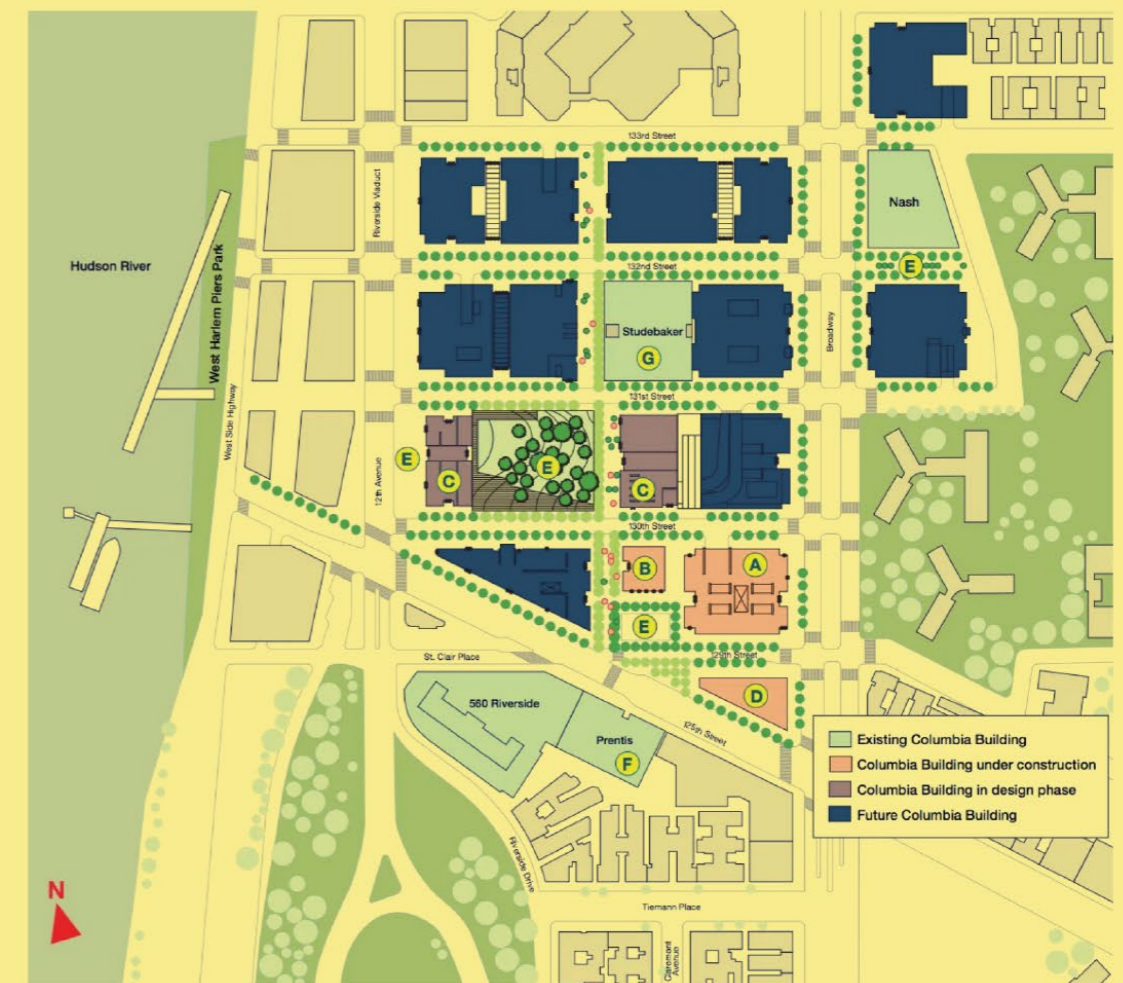
Transportation generally means the removal of slum residents.

Below and above is the photograph (lower right) taken by Buckminster Fuller showing at left, the same area as it would be re-created. Central Park will be removed with the George Washington Bridge at the same right. Traffic will flow over a new bridge to be built at 125th Street into the center of central Manhattan through the center of these towers. These highways will handle through traffic in all directions and permit exit into the buildings themselves.

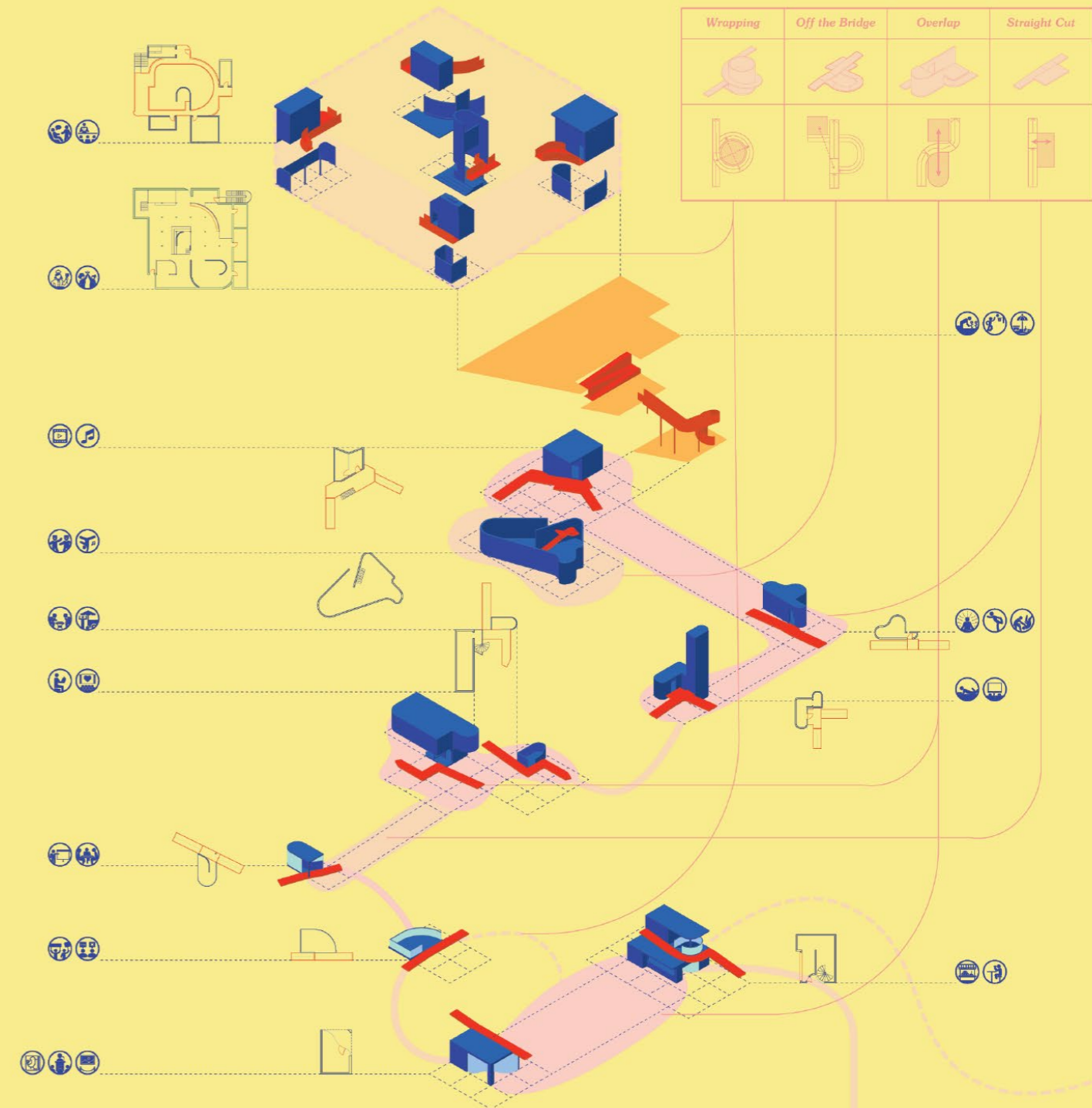
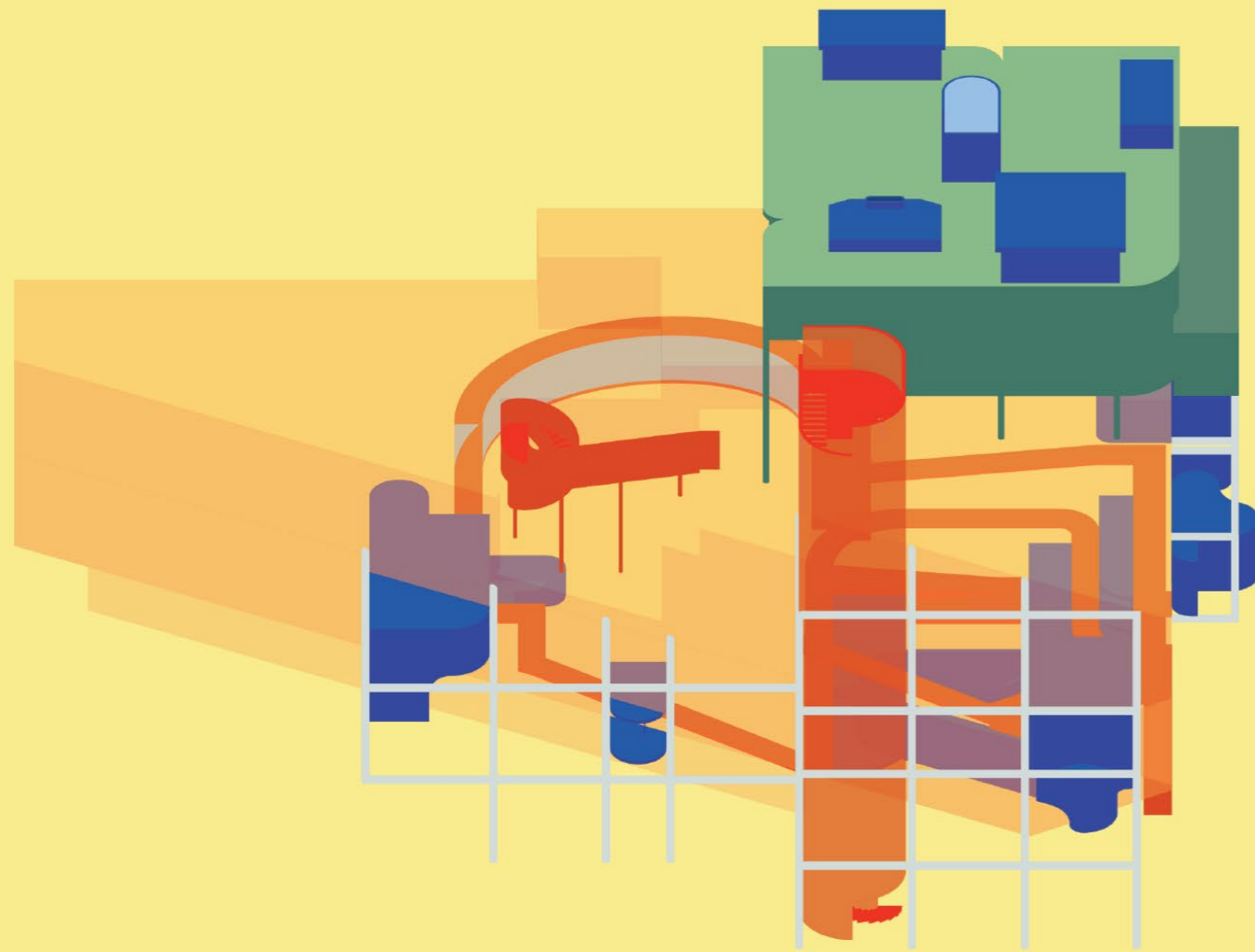


In 1964, June Jordan with architect Buckminster Fuller together envision the future of West Harlem through the construction of super-scale infrastructure. As a district with thick history intertwined with urbanism, race, culture and erasure, the people of West Harlem has experienced severe damage both physically on their own street and mentally on their cultural recognition.

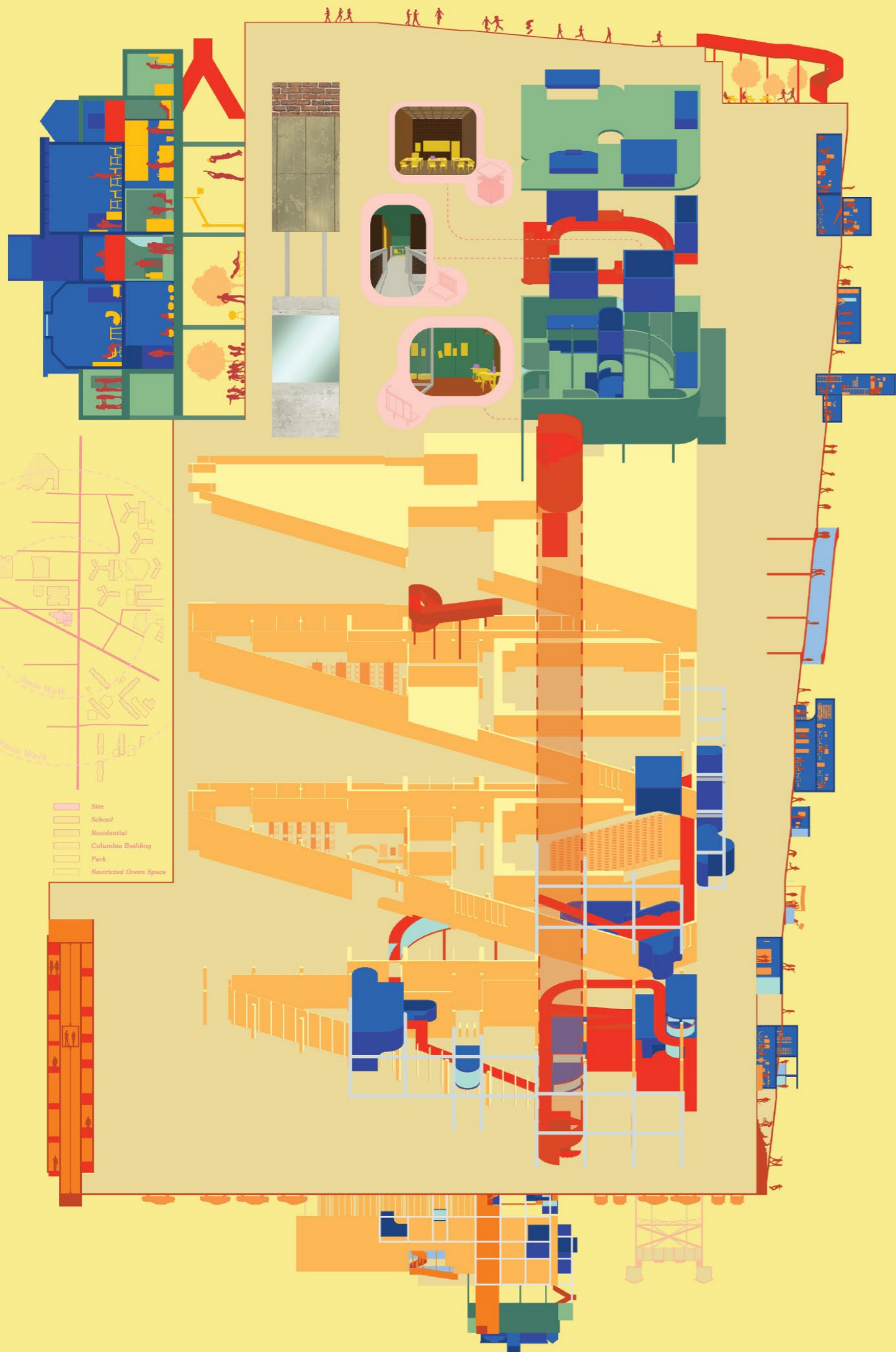




As the biggest landlord of NYC, Columbia massive construction project takes the main responsibility in local gentrification. Gentrification forced people to move away from their homes because of the unaffordable living expense, and local public services facilities could not afford anymore have had to close up. The compression from outside of the community leads to tension within the community, especially among teenagers. West Harlem became the hotspot for teenagers crimes.



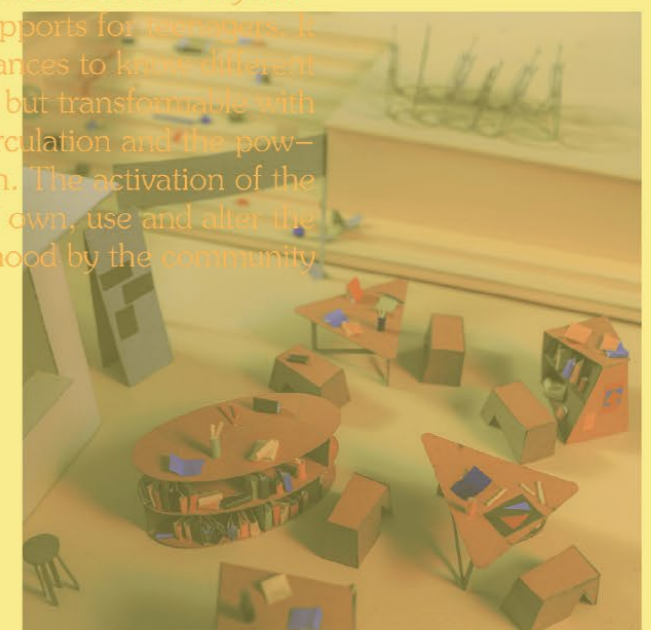
The key concept is to reintroducing the concept of street culture within the building. Walking along the ramp, which leads the visitors all the way up to the roof, platforms of different forms stick out as functional spaces. The overlapping of the street and spaces restores the missing open street local culture.



Empowering



The project cooperates with two **non-profit organizations**: Street Lab and Tayshana Chicken Murphy Foundation aiming to provide various supports for teenagers. It gives the teenagers somewhere safe to go afterschool and chances to know different people from the same place. The project is not a solid form but transformable with the daily use and people in use. It explores the meaning of circulation and the power of the spaces as activations under the users manipulation. The activation of the space is a move of **empowerment** as returning the power of own, use and alter the neighborhood by the community

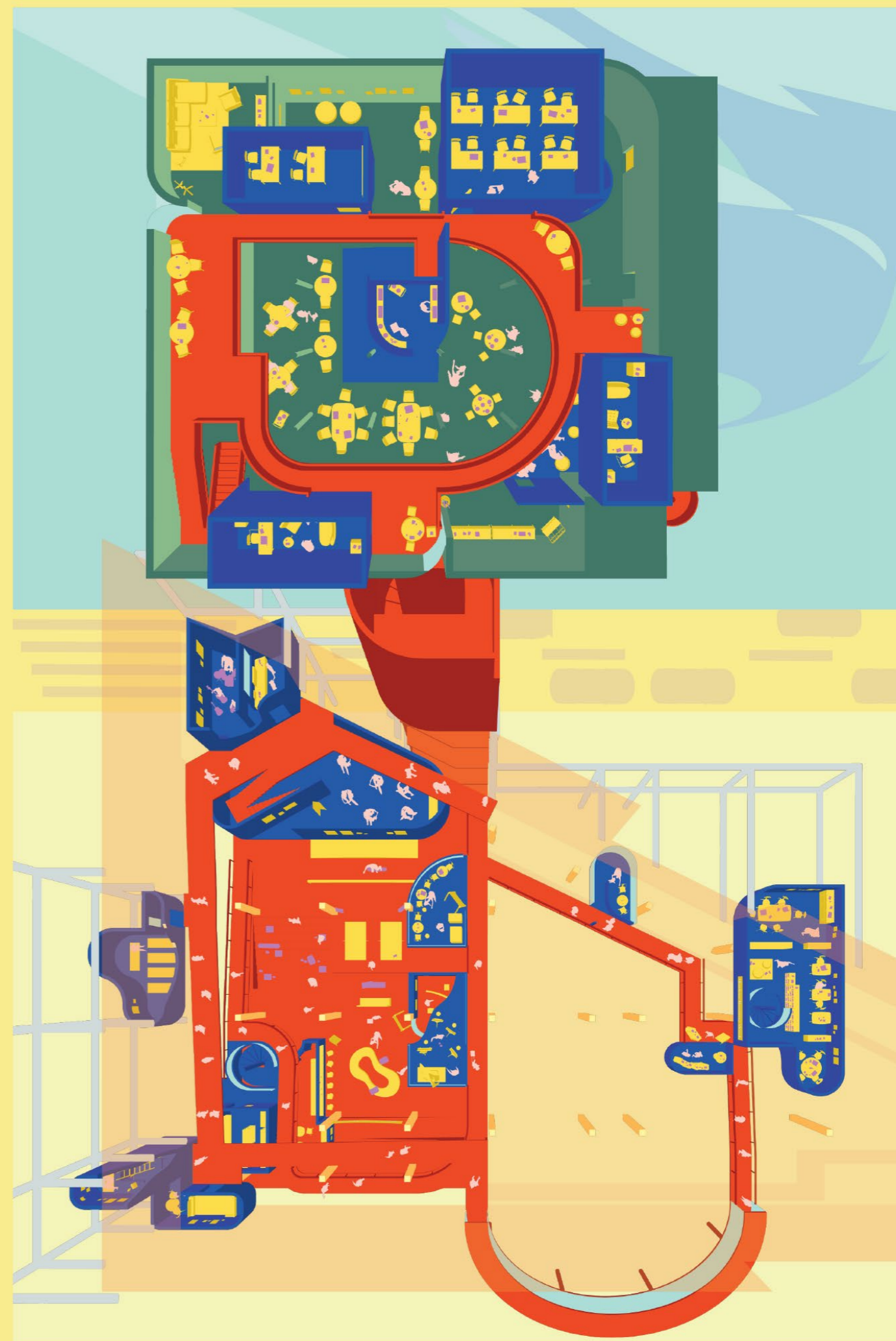
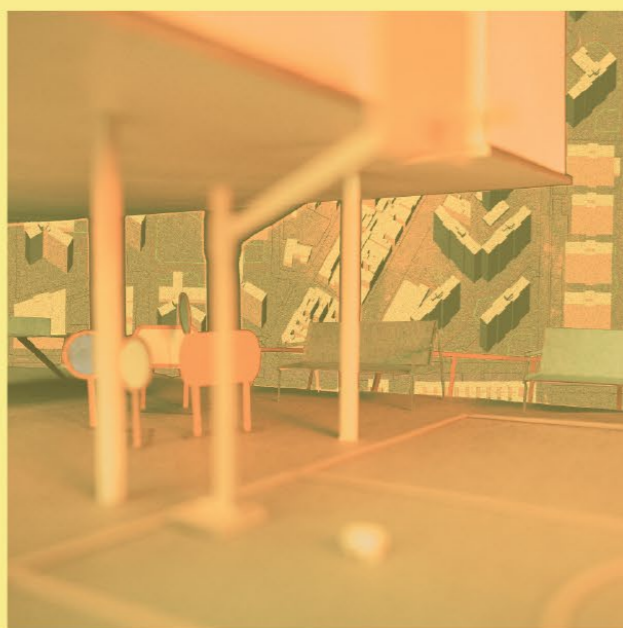




On the top level of the Forum is an extension to the existing building as a collective space for both the local community and student from Columbia University. It is a gathering space welcome everyone. More than open space for flexible use, a community kitchen and classrooms for afterschool club are depolied in this extension giving the oppoturnity to rethink the extent of space and usage.



The New Commons



GSAPP Portfolio
2021-2024

by
Steven Haoge Gan

STRANGE TERRAIN