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Mutualistic Infra\structures

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Mutualistic

Infra\structures



Interview

Pg. 4-9



Popular Culture

Capital

Preface to Project

Pg. 10-15



Situating a Perspective

Defining Terms

Context

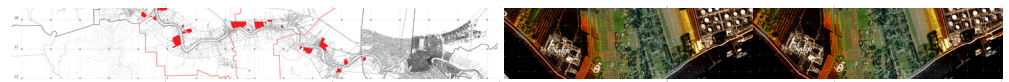
Pg. 16-35



Thesis Outline

Proposal

Pg. 36-47



The Lower Mississippi

'Site'

Conclusion

Pg. 48-51

Architecture is, in its current state, a reactionary entity of the market. By consistently following categorization of people. Design is scarcely executed in territories, regions or locales that could use a critical density and high investment returns. Resultantly, the edge is given to territories, regions or locales with. If there is to be an engagement with inequality in the architectural field, and in the world of design, the

I J K L M N O



Territory

Interstices

Urbanization



Artifact Analysis

Situated Perspective

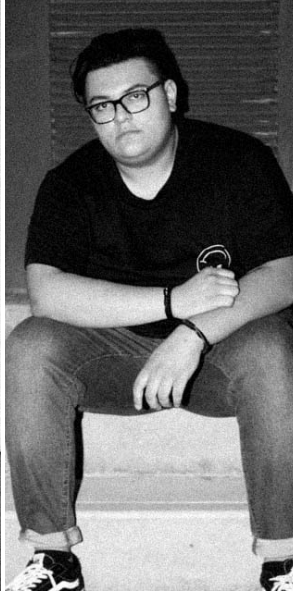


Proposal

Takeaways

...wing investment and designing on available 'site' architecture develops and reinforces divisions in territory and eases the tactical approach to the built environment. Design is almost always executed in territories, regions or locales of high population density and high returns on investment, while those with low returns are exploited for the benefit of high return areas. In architecture must confidently claim its power to lead investment, not follow it, by asserting design for Infra\Space.

Kevin Tsai & Christian Cabatu



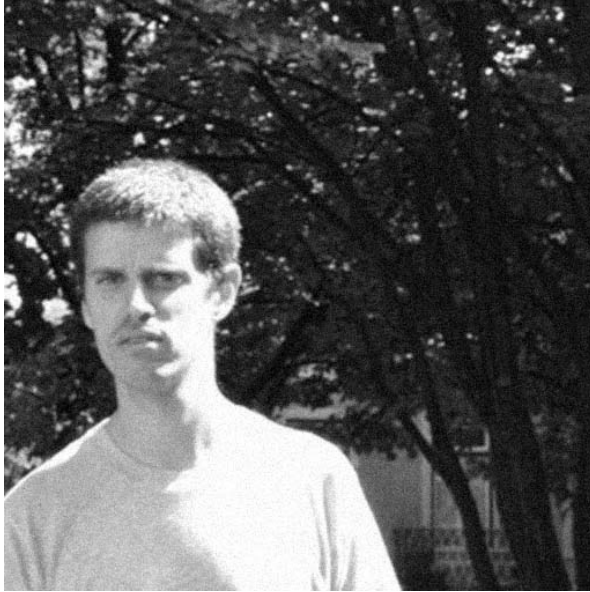
Kevin Tsai is a recent graduate from the school of Visual and Performing Arts at Syracuse University. A Los Angeles native, and alumni of Syracuse Prague, Kevin is a culture bending creative focused on impacting the representation of minority groups through his films. *Playing With Fire*, his senior thesis, is currently touring festivals, and has been nominated nationwide for its success.

Christian Cabatu is a recent graduate of the Newhouse School of Communications in Film at Syracuse University. He studied abroad in Los Angeles and London in 2020. He is a talented musician currently aiming to enter the film industry through independent music.

By asking for a definition of urban and rural and subsequently asking for an elaboration on the City and the Country related to capitalism, they were able to articulate the common conceptions associated with these words related to a popular culture perspective. The urban to both did not signify a location as much as it formed an oppressive label. **“I don’t like that Urban word, its just a politically correct way to say the n-word.” (Tyler the Creator, 2020. Grammy’s Acceptance Speech) This quote was brought up specifically.** The word urban has been stripped of its geographical implications and now represents a label for minority communities applied by oppressive powers. Rural, in contrast, was not portrayed by either as a label, but closer to its geographical roots: “Rural is not a term for classification like urban is.” (Kevin Tsai. 3:20) rationalized because the label urban is applied from a force above, top-down, while rural doesn’t identify anything other than particular industry. When addressing capitalism’s impact on the city and country; “It’s kind of interesting to me how more capitalistic infrastructure is being pushed further in rural areas...like when you are driving and you can’t find a grocery store for a while but, when you do, it’ll probably be a Walmart.”(Christian Cabatu. 3:26). This extension of the capitalist city into the country being legible in common conception fabricates a sense of urgency for this thesis, and adjacent research.

Popular Culture

João Ruivo



João Prates Ruivo is currently an MPhil / PhD candidate at the Center for Research Architecture, Goldsmiths. His research focuses on the relation between the financialization of natural resources in Angola and urbanization processes as a tool for counterinsurgency warfare. He graduated with a degree in Architecture in 2004 from Instituto Superior Técnico in Lisbon. After studying one year in the Technical University of Eindhoven, he worked in Rotterdam between 2005-2008, where he collaborated with Theo Deutinger (TD*) and at OMA. He then moved to Athens to start his own practice, FORA, in 2009. The work of FORA explores role of architecture in defining the relation between public and private realm, and has been awarded in several international competitions, including first prizes for Plovdiv Central Square and “Upto35” in Athens, which was exhibited at the 2012 Venice Biennale, Common Ground.

The development of the city lends itself to the development of the country, and it of course is encompassed by the emergence of capitalism which declared the differences between the territories. We spoke of the need for specificity in both abstract and concrete mediums. The thesis requires an application of the concepts that have emerged through research, in ways that are sculpted by my own angle. I must find a “situated perspective”, a personal take that allows a synthesis of the information related to my approach.

The “Platform Economy”, of which Joao is researching now, can be understood as the feudal exploitation of the laborer through emerging platforms like Uber or Air BnB, and resultantly neoliberal practice. Uber provides no safety-net for their employees, This is a trade-off on the premise that the laborer has immense freedom, however, very plainly, if the laborer cannot labor there is no money. Air BnB was another company discussed, with much clearer Architectural implications. **More money can be made on the Manhattan apartment by renting to a leisure-based economy, those looking to vacation and relax, than to a need-based economy, those who need to live close to a job that they work.** Therefore, this platform, Air BnB, results in an even more severe housing crisis. Permanent tenants are being ushered out based on pricing for a weekend stay. This Platform Economy turns into Platform Urbanism, which is not something contained to the political borders of the city. The manifestation of capital in the cities of the world is salient, and legitimizes the thesis in new ways.

Capital

Mitesh Dixit



Mitesh Dixit's work has focused on the intersection of design with government policy, society, and culture. His research has explored the processes of region- and border-making in the Balkans and along the US-Mexico border, tracing the effects of ideology in the transformations of the built environment. Previously, Mitesh Dixit was on the faculty of TU Delft in the Netherlands as a visiting professor of architecture and urbanism.

After completing undergraduate and graduate work in politics and philosophy, Dixit completed the master of architecture from the Washington University in St. Louis and then began his career at the San Francisco office of Skidmore, Owings, and Merrill. Prior to DOMAIN, Dixit worked with Rem Koolhaas' Office for Metropolitan Architecture as a project leader.

What will be the end result of the project? What is the purpose of this investigation into the realm of territory and economic malpractice? The personal aspects of the work need to be expressed in order for the answers to be clear, and personal perspective is necessary not superfluous. Mitesh brought forth the need to interrogate terminology like "Capitalist City" or "City Territory" as the perspective I possess will likely color these terms in new ways. **Every word has an important meaning, rooted in years of varying contexts so if a perspective is not developed on key terminology it runs the risk of being naive.** The conversation also heavily revolved around the violence of territory as it exists in current understanding. DOMAIN's recently completed project, *Landscapes of Extraction*, subverts geopolitical borders to acknowledge real relationships not enforced ones. Infrastructure was denoted instead of lines, and towns were identified as their built reality rather than their mapped border. Mitesh, and DOMAIN, engage in territorial exploration with Assemblage Theory from Gilles and Deleuze paired with Anssi Paasi's 4 processes of territorialization. Assemblage Theory promotes an understanding of fluidity in territory through the ordering, stratifying, and reordering of bodies in a space, suggesting that territory is dynamic. Paasi states that territorialization can be defined by shape, symbolism, institutionalism, and identity. With these two fundamental theories about territory I can begin to understand the future of it as a dynamic element.

Territory

Jay Valgora



Jay Valgora is the Principle and Founder of Manhattan based architecture firm STUDIO V, an award-winning architecture and urban design firm that seeks to reimagine the 21st century urban condition. They specialize in transit-oriented developments and waterfront urban design at all scales, and adaptive reuse projects that repurpose historic structures for public use

They believe cities are the greatest artifacts of man, containers of collective myths and desires. STUDIO V explores and renews cities by creating contemporary architecture that incorporates and enriches history while expressing the ideals of our time

Aristotle, while engaged with philosophical ideals, was grounded in a sense of reality. **Through Aristotle, the city is viewed as a destination for development, as it agglomerates the masses, and therefore culture, in a single place. New York City, as analyzed from Aristotle's perspective, is entirely divorced from the idea of the Greek city due to the Explosive Growth.** This growth is a innovation of the machine age, "the wedding of the machine and the city". Where the country was once entirely separate, it now exists integrated in all aspects of society.

Necessary to approach in a conversation about the relationship between the country and city in the us is **Jefferson's division of the Midwest landscape, and the 1956 Defense Act** which surgically carved the nation and cities and towns simultaneously with highways that would create a "more defensible state". Both are architectural moves that have been immortalized in this country's terrain.

Nature, as it is defined in a dictionary, may no longer be in existence. The boundary between, that of course is dissolved already and has been for quite some time, is unidentifiable. So then infrastructure occupies an important location, one that was the catalyst for the dissolution of boundary. However, the reinvention, or rephrasing, of what infrastructure is needs to be taken into account, as no longer can it simply be defined by its built form, but also through the socio-political and economic implications. What is Architecture of Infrastructure then?

Interstices

Francisco Sanin



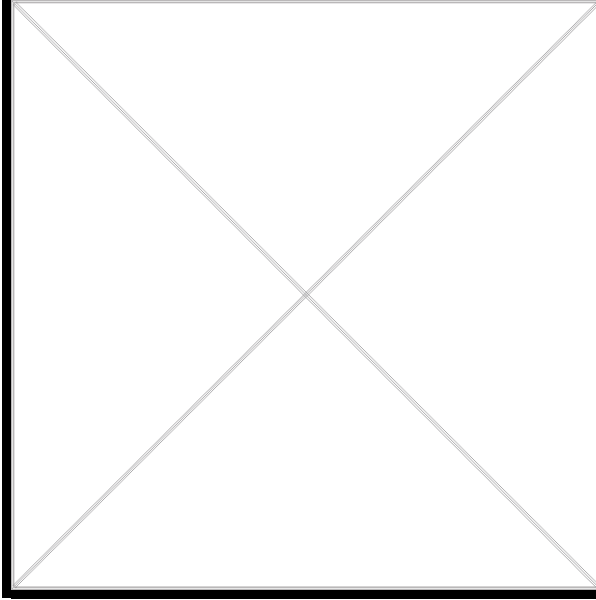
Francisco Sanin was born and educated in Medellin, Colombia, and is internationally known as an urban designer, noted for his extensive research in the history and theory of urban form. He has taught at Princeton, the Architectural Association School of Architecture in London, Kingston and Greenwich Universities in the UK, and the University of Oregon School of Architecture and Allied Arts.

Sanin is a practicing architect with work in several countries. He has received numerous awards in architectural competitions and has lectured, curated exhibitions, and published internationally.

There must be a constant pressure applied to simplifying complex and often confusing commentary on the topics of interest. Continuing to live in complex theoretical conversations will assure that no reality is engaged with. With such an ambitious prompt, as interrogating neoliberal economics in architecture through private and public territory, one should keep in mind the scope that is attainable. **As a result there is a long winded history needed to understand fully what has happened and what can happen that is different than before.** This is not in the pursuit of newness but rather effectiveness. There was, at a time a distinction between city and country, and now the distinction is much more blurry than ever before. So what was the development like to get here?

Urbanization practice has created a never ending consumption machine, the city, that will continue to take from the other condition unless it is stifled. **“Feeding the city monster...” is what the countryside has always been utilized to do, but more so when there was a distinction.** In this era, with little to no real distinction between the two entities, how can infrastructure cap the urbanization process? Can an interfacing of the myth of urban and rural do that?

Urbanization



The interviews conducted form the basis for each facet of the project. The public, understood in this series as 'Popular Culture' has always been architecture's audience. Yet, under neoliberal economics and investment practice they are the least served. 'Capital' and its abuse by unrestricted firms is the direct cause of over development in city centers, and of under development in peripheries and beyond. 'Territory' is the analysis of the privatization of terrain which creates barriers for the creation of socially progressive architecture, as well as for the individual. 'Territory' and its formation an act of violence derived from a desire to capitalize on terrain as a commodity. 'Interstices' are the interstitial spaces which are constantly overlooked by investment practice, and therefore architecture. This can relate to city peripheries or to the territories beyond. 'Urbanization' has been acknowledged as a problem since the early 1900's when Ludwig Hilberseimer, preceding Super Studio and Archizoom, critiqued the unchecked global urbanization. This global urbanization is, similar to territory, a direct result of a neoliberal investment practice.

As a result of these conversations, I engaged with countless more readings and learned new perspectives on a topic that I otherwise would have taken at face value for its representation in literature. For that I am very thankful for the time.

Situating a Perspective

Exploited

~~Ignored~~ Realm RK

Good, now is the time to change practice though not to continue it

See title correction.....

“Shape its politics” is the beginning of the exploitative practice. Almost colonial.

While today, the countryside is largely off (our) radar, an ~~ignored~~ realm, considering its condition and future was a priority as recently as the last century—the Soviet Union, the New Deal, Nazi Germany, Mao, and the EU were experimenting with vast efforts to improve its accessibility and efficiency, and to shape its politics. The dialectic between city and countryside fundamentally defined the meaning of each. Today, we have neither a dialectic—a real, mutual relationship—nor a definition. In the

1960s and 70s, the status and condition of the countryside were crucial too for post-colonial and revolutionary thinkers, from Fanon to Malcolm X; the first presidents of recently independent African countries, Arab leaders like Nasser, Gaddafi, Saddam Hussein, and Hafez al-Assad—all published agricultural tracts that were important components of their proposed and actual revolutions.

Countryside was a canvas on which every movement, ideology, political bloc, and individual revolutionary projected their own intentions. The past two decades—

or maybe the entire period since 1991—has been characterized by a complacent expectation that one kind of civilization—metropolitan, capital-oriented, agnostic, western—would remain the template for global development, possibly forever. Meanwhile the “model” ignored drastic developments in the Middle East, Africa, Asia, China, and has been oblivious to climate change and the environment. At most, “we” have appended politically correct sensitivities about colonialism, race, and gender to its basic premise, which we have now allowed to morph into Silicon Valley’s ever more grim recipe for the Smart City as the ultimate outcome of History.

The combined systems of airline hubs, highways, fast trains, (self-driving?) cars, internet, and mobile phones hold us in a self-imposed prison of the urban where the “experience” economy tries to hide the fact that there is nothing fundamentally new to experience in urban life... Today, even a “new” city is familiar: a predictable accumulation of roads, towers, icons... but as soon as we leave the urban condition behind us we confront newness and the profoundly unfamiliar. Inadvertently,

this outcome was set in motion by the UN’s 2007 announcement that 50 percent of mankind already lived in cities, and that

Neoliberal capitalism... specifically has developed cities around the world, and as such has divided wealth extremely disproportionately. The countryside and the inner city are both victim.

Hard and Soft Infrastructure links terrains across the globe in a way that homogenizes experience effectively muting culture for the benefit of the market.

RK
2

Countryside | Rem Koolhaas

- this percentage would increase to 70 percent by 2050. That statistic alone became an alibi for our almost exclusive focus on the city.** Are we really heading to an absurd outcome where the vast majority of mankind lives in only 2 percent of the earth's "overpopulated" surface—and the remaining 98 percent would be inhabited by only one-fifth of humanity, staying there to service them? **Total Urbanization requires that a large part of the countryside would be claimed as a back of house for urban civilization, a residual, enabling domain, where all the needs, demands, impositions of the urban can be orchestrated and implemented at will. Is it any coincidence that since our fixation on Total Urbanization, crucial ecosystems have, possibly, slipped past the point of no return?** In 2020, two blatant tasks stand out. The inevitability of Total Urbanization must be questioned, and the countryside must be rediscovered as a place to resettle, to stay alive; **enthusiastic human presence must reanimate it with new imagination.** *Countryside* is not a polemic against the city. For that we should imagine Zola on Brands, Dickens on gated communities, Whitman on Facebook, Tolstoy on Zuckerberg, Proust on the Smart City... *Countryside* collects global samples from all ideologies and all continents to construct a composite picture of the current condition of "countryside"—a glaringly inadequate term for all the territory that is not urban, 50 times bigger than all our cities combined. Given countryside's enormity, this portrait can only be pointillist. This catalogue collects evidence of "progress" in the countryside—even within the gloom of Warming—but also detects alarms that have never even reached the city. **Currently, countryside discourse is polarized between attempts to keep "as is" and to change "everything."** What we wanted to collect is evidence of new thinking, new ways of paying, new ways of cultivating, new ways of building, new ways of remembering, new ways of exploring, new ways of acting, old ways of contemplating and being, new ways of using new media, new ways of owning, renting, new ways of protecting, new ways of planting, new ways of farming, new ways of fusing, new ways of harvesting, that are taking place beyond a metropolitan consciousness and that ultimately could make it possible that we all don't end up unhappily huddled together in cities, **and would enable us to experience a realm that we have ignored at our, and its, peril.**
- 3 **A base from which to make the world a better place.**
- Reanimating is the right approach. However, in this thesis, the territory of the countryside serves as a component in a larger resistance against oppressive practice. What does reanimate mean anyways?
- Operating Architecturally based upon statistics is sensible, but blind practice is exploitative.
- This thesis questions Total Urbanization, or Planetary Urbanization as Henri Lefebvre states in *The Urban Revolution*, and desires to alter the narrative similarly to Rem.
- My intention is Rem's intention. How can Architecture of Infrastructure fight against territorialization?
- The exploitation of the non-city must be concluded. This is urgent.

Defining Terms

Hard Infrastructure

Physical networks necessary for the functioning of an industrial nation

<i>Interstate</i>	<i>Bike Lane</i>	<i>Solar Panel</i>	<i>Pier</i>	<i>Telephone pole</i>
<i>Freeway</i>	<i>Tunnel</i>	<i>Fish Hatchery</i>	<i>Harbor</i>	<i>Electrical Cabling</i>
<i>Highway</i>	<i>Railway</i>	<i>Sewage</i>	<i>Lock</i>	<i>5G Antennas</i>
<i>Avenue</i>	<i>Port</i>	<i>Drains</i>	<i>Dyke</i>	
<i>Boulevard</i>	<i>Pier</i>	<i>Telephone pole</i>	<i>Wall</i>	
<i>County</i>	<i>Harbor</i>	<i>Electrical Cabling</i>	<i>Ground</i>	
<i>Highway</i>	<i>Lock</i>	<i>5G</i>	<i>Windmill</i>	
<i>County Road</i>	<i>Dyke</i>	<i>Antennas Tunnel</i>	<i>Solar Panel</i>	
<i>Seasonal Road</i>	<i>Wall</i>	<i>Railway</i>	<i>Fish Hatchery</i>	
<i>Bridge</i>	<i>Ground</i>	<i>Port</i>	<i>Sewage</i>	
<i>Sidewalk</i>	<i>Windmill</i>		<i>Drains</i>	

Soft Infrastructure

Institutions which are required to maintain economic, cultural, and social standards

<i>Electricity</i>	<i>Sanitation Department</i>
<i>Broadband</i>	<i>DMV</i>
<i>Cellular Service</i>	<i>EPA</i>
<i>Education</i>	<i>NSA</i>
<i>Banking</i>	<i>RNC</i>
<i>Anti-Trust</i>	<i>DNC</i>
<i>Workers Union</i>	<i>United Nations</i>
<i>Scalar Government</i>	<i>Nature Conservatory</i>
<i>Stock Exchange</i>	
<i>Emergency Service</i>	
<i>Health Insurance</i>	

Architecture of Infrastructure

Structures that transmit goods or services

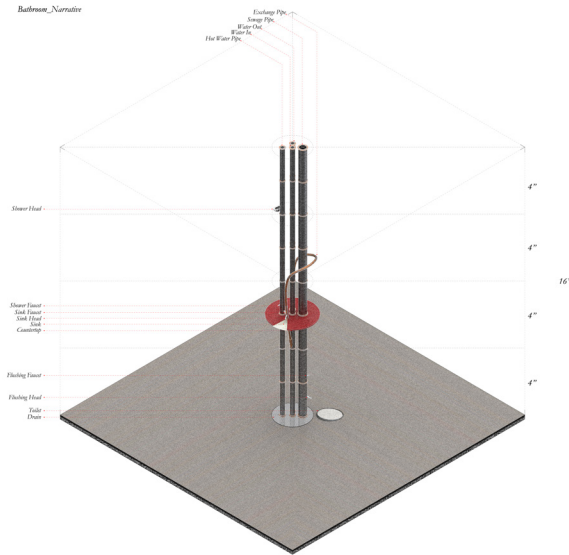
<i>Grain Silo</i>	<i>Offshore Oil Drilling</i>	<i>Town/City Hall</i>
<i>Power Plant</i>	<i>Rig</i>	
<i>Production Assembly Plant</i>	<i>Aqueduct</i>	
<i>Canal</i>	<i>Water Pipe</i>	
<i>Fortified River</i>	<i>Storefront</i>	
<i>Warehouse</i>	<i>Waste Processing Plant</i>	
<i>Superstore</i>	<i>Landfill</i>	
<i>'Skyscraper'</i>	<i>Dam</i>	
<i>Petrochemical Plant</i>	<i>A House</i>	
<i>Oil Refinery</i>	<i>Convention Center</i>	

Infra\Structures

That constitutes structures occupying infra\space to counteract institutional exploitation.

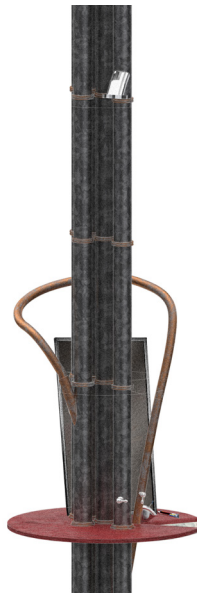
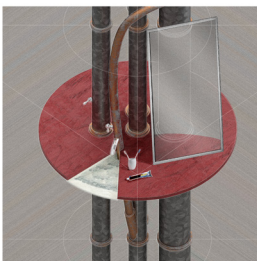
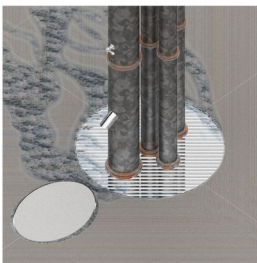
That intentionally subvert binary conditions of site with the intention to divert investment to interstices, disrupting Neoliberal investment practice.

Artifact Analysis: Bathroom



Infrastructure can be understood in the home as the essential elements that deliver services. In another way, the functional spaces of the home serve to be the infrastructural moments of the home. The bathroom and the kitchen are the functional spaces, therefore the infrastructure and also its most powerful political spaces. Deconstructing the bathroom to its essentials, the piping that delivers the water and takes the refuse away, is a method of exposing infrastructure in the home. Doing so restructures the relationship that the individual has with their essential spaces, and causes for the inhabitant to live in greater harmony with the infrastructure that is usually tucked away

Bathroom_Detail



Functionalism in the home necessitates consumerism, as spaces are designed to be filled with certain objects fit for certain people. Making functional spaces anti-functionalist divorces them from consumerism, as the object or space is now all inclusive. In this case, there is no extra object necessary to fulfill the role of the bathroom for the pipes deliver all essential services, even providing certain sculptural aesthetics. What is revealed by this exercise is that infrastructure is everywhere, and its manipulation leads to strong political gestures that change the spaces around them greatly. This is the implication of this thesis endeavor at the smallest scale.

Situated Perspective

Exploited

Ignored Realm



Is it the town, the village, the countryside? Maybe, but only to a limited degree. The footprints of the city are all over these places, in the form of city commuters, tourists, teleworking, the media, and the urbanization of lifestyles.

Explosion: "Sprawling scattered urbanization; extension of the urban fabric; interconnections between places and scales."



Marshall Grossi, *Regional Planning Urbanization*

"Total Urbanization requires that a large part of the countryside would be claimed as a back of house for urban civilization, a residual..."

Neil Brenner, *Thesis on Urbanization*



classe operaia

Quadrini rossi



Spatial Destruction and Creation: "Capitalism does not resolve its contradictions and crises, but merely moves them around geographically."

Marshall Grossi, *Regional Planning Urbanization*

enfranchised

"The inevitability of Total Urbanization must be questioned, and the countryside must be rediscovered"

"If the urbanized world now is a chain of metropolitan areas connected by corridors of communication then what is not the urban?"



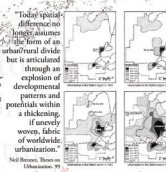
"Politics is based on the fact of human plurality... Man is apolitical. Politics arise between men, and so quite outside of man, there is no real political substance. Politics arises in what lies between men and it is established as a relationship."



Harald Ambros, *Architecture in Politics*

"...The city would no longer appear as an urban island in a rural ocean..."

Henri Lefebvre, *Urban Science*

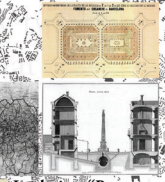


"The traditional divide between the city and the countryside has been perforated."

Neil Brenner, *Thesis on Urbanization*

"The obsolete concept of the self-sufficient satellite city still reaching to a static relationship between city and countryside is replaced by the city-territory, understood as a structure that organizes the totality of the Urban Territory in order to make it more productive."

Georg and Dorothea, *Quadrini Ross*



Implosion: "Process of concentration and agglomeration"

Marshall Grossi, *Regional Planning Urbanization*



Map of contention attempting to situate the project within a field of arguments already existing

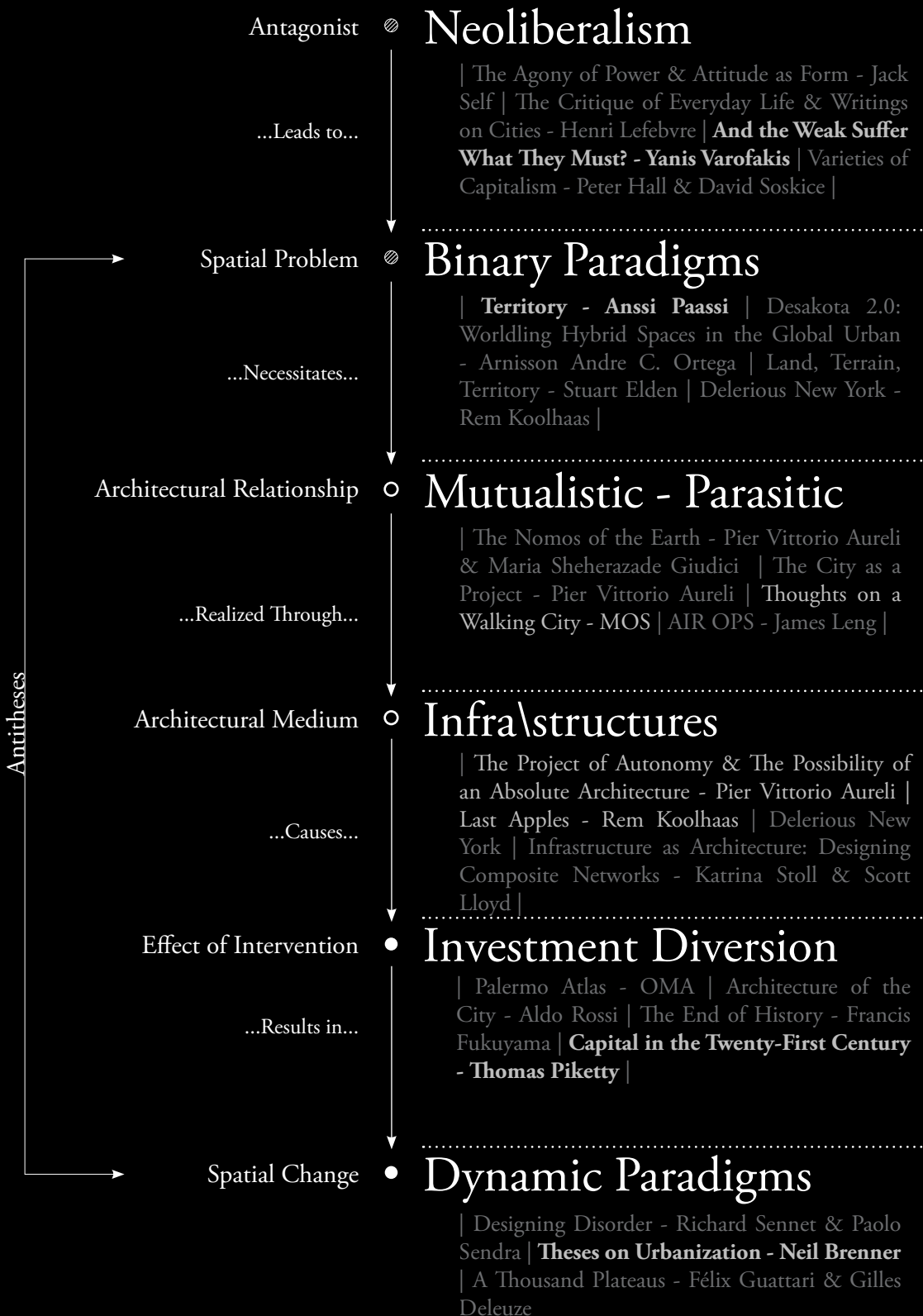
Notable References:

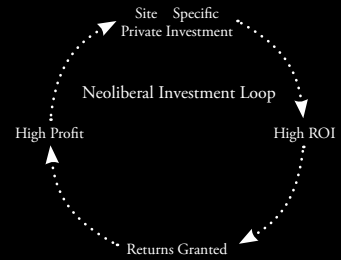
1. Hugh Ferriss *Envelope Studies for New York Skyline as Projected Capital*
2. OMA *Elements of Architecture: Toilet Domestic Infrastructure as Powerful Political Entity in The Home*
3. C.N. Ledoux *City of Chaux 1804 Ledoux as The First to Impose an Urban Vision on The Countryside*
4. Urban Lab *Map of Switzerland Fluid Territory is Already Being Heavily Researched and Utilized*
5. Mario Tronti *Clase Operaia Within but Against as A Strategy for Confronting Oppressive Systems*
6. F.D.R. *New Deal Fighting The Neoliberal Capitalist and Disseminating Wealth in The U.S.A*
7. Sun Yat-sen *Three Gorges Dam Major Energy Infrastructure Colonizing The Countryside*
8. Richard Misrach *Abandoned Home Result of Unchecked and Unbounded Global Urbanization*

Contention

This thesis asserts design for Infra\ Space, to override static private or public conditions of territory and manipulate Neoliberal investment patterns. The architectural output will be *Mutualistic Infra\ Structures*. Buildings developed on a methodology focusing on how to lead investment to interstitial spaces.

Thesis Outline

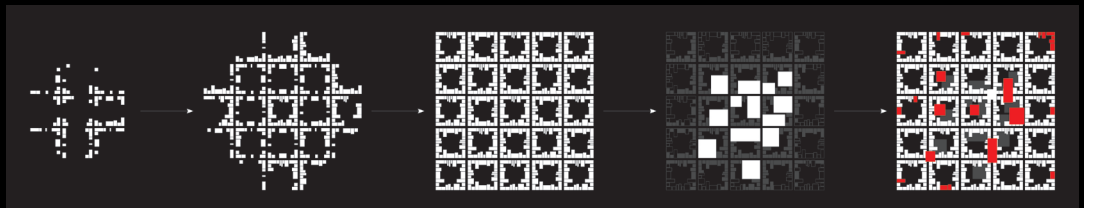
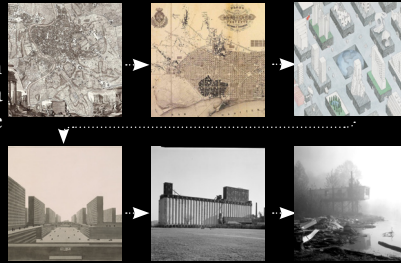




A. n.

1.
a. Understandings of territory, function and goals as static factors within a specific project that directly influence the output.

Public Private
Country City
Industrial Residential
Developed Undeveloped



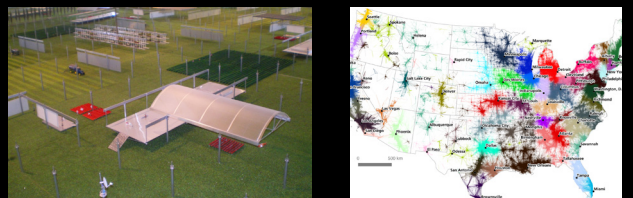
A. adj.

1.
a. That constitutes structures occupying infra)space to counteract institutional exploitation. That intentionally subvert binary conditions of space with the intention to divert investment to interstices, disrupting Neoliberal investment practice.

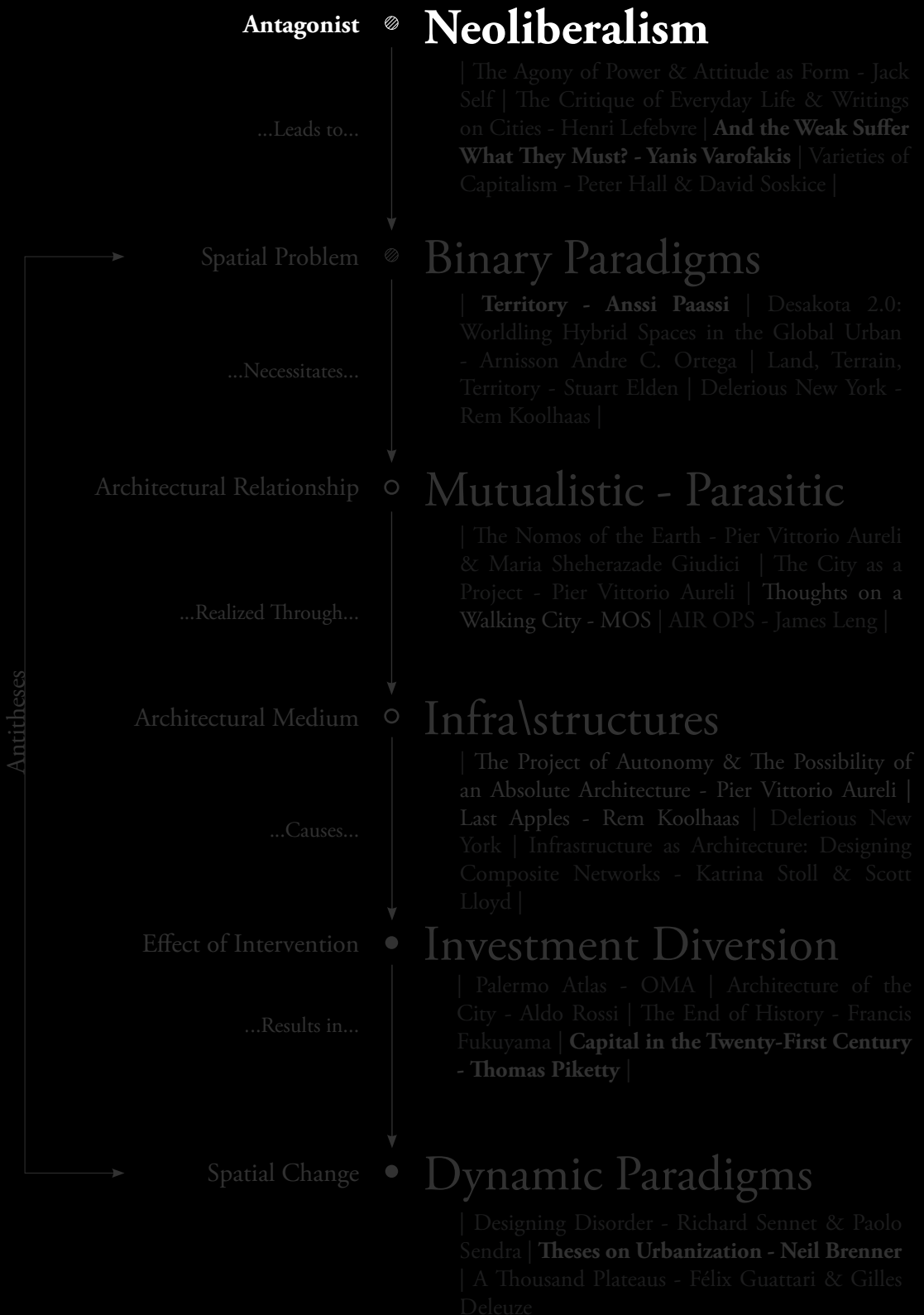


A. n.

1.
a. Understandings of territory, function and goals as fluid or dynamic factors within a specific project that directly influence the output.



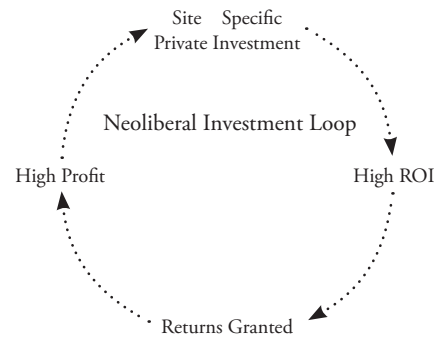
Thesis Outline





Centered around the principals of an unrestrained free market, Neoliberal capitalism is focused on profit through returns on investment, or ROI. This unrestrained free market is branded to be accessible and fair to all people, however the reality is that it is not. The unrestrained market favors the rich as they are able to overpower the lower class. The free market is the primary goal of the Neoliberal capitalist, which also leads to preventing the government from meddling in economic business. The restricted roles of the government in the market is essential for the rich to retain control. The firms of the economy are then entrusted to provide public safety nets as the government no longer has the money to do so as it is no longer a player in the market. Firms in the economy provide little to no safety nets, slowly attempting to remove them entirely because they restrict profit margins. At the end of the line, after the government is removed from the unrestrained free market that favors the rich, inequality is exacerbated as a result of the disappearance of the middle class. The new system becomes the rich versus the poor.

Architecture is reactionary to the neoliberal capitalist. Through repeated investment, Returns on investment increase. This makes the area of investment more appealing to investment. Following the availability of 'site' and concentration of capital, architecture often is catered on locations that can afford new buildings, and therefore have high concentrations of capital. Architecture must be proposed and asserted for areas where capital is not flowing to, but from. These spaces can be known as InfraSpaces.



- Unrestrained Free Market



- Restrict and Shrink Government

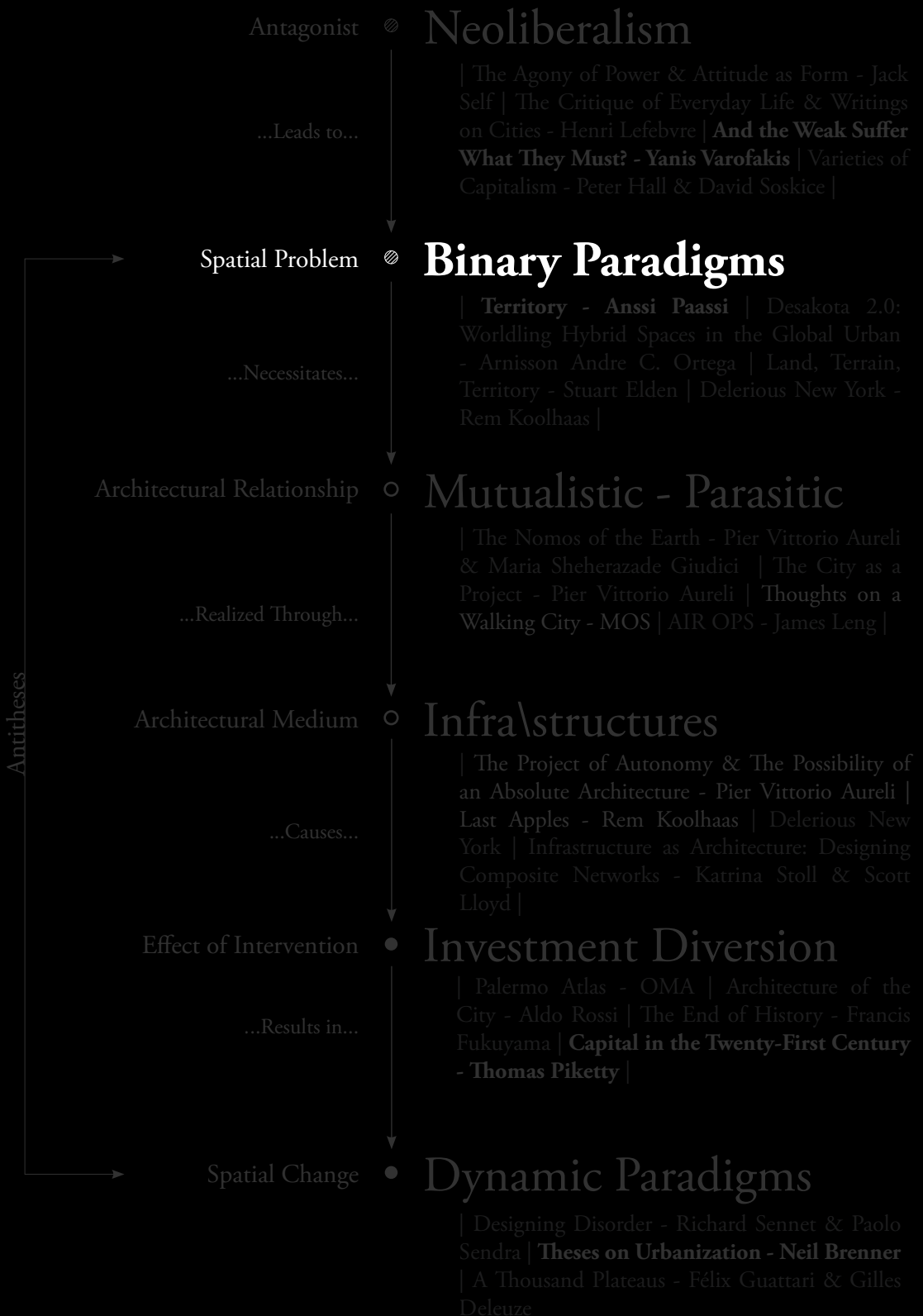


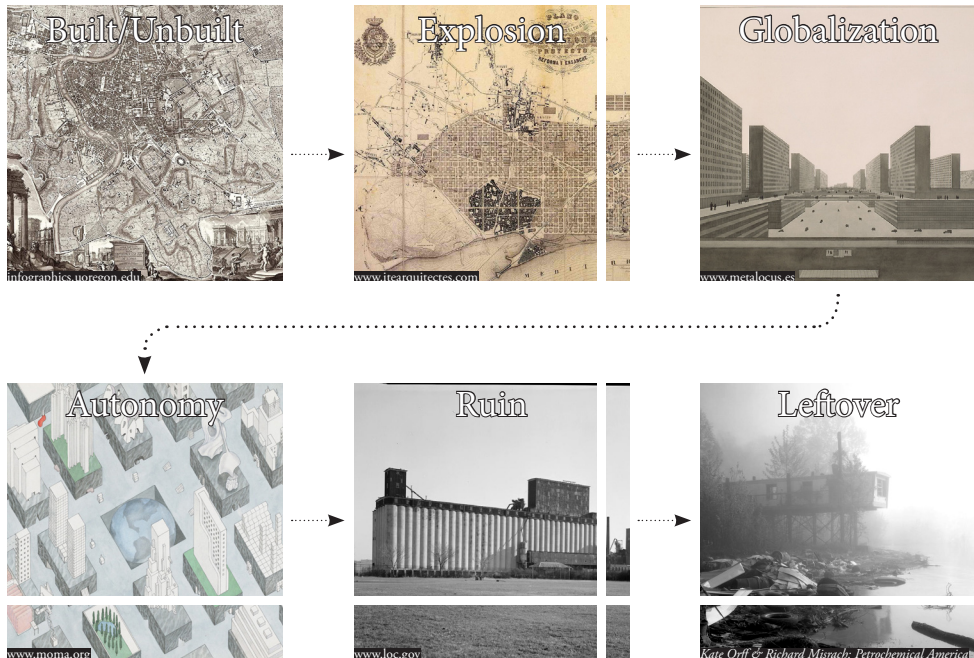
- Remove "Safety-Nets"



- Exacerbation of Inequalities

Thesis Outline

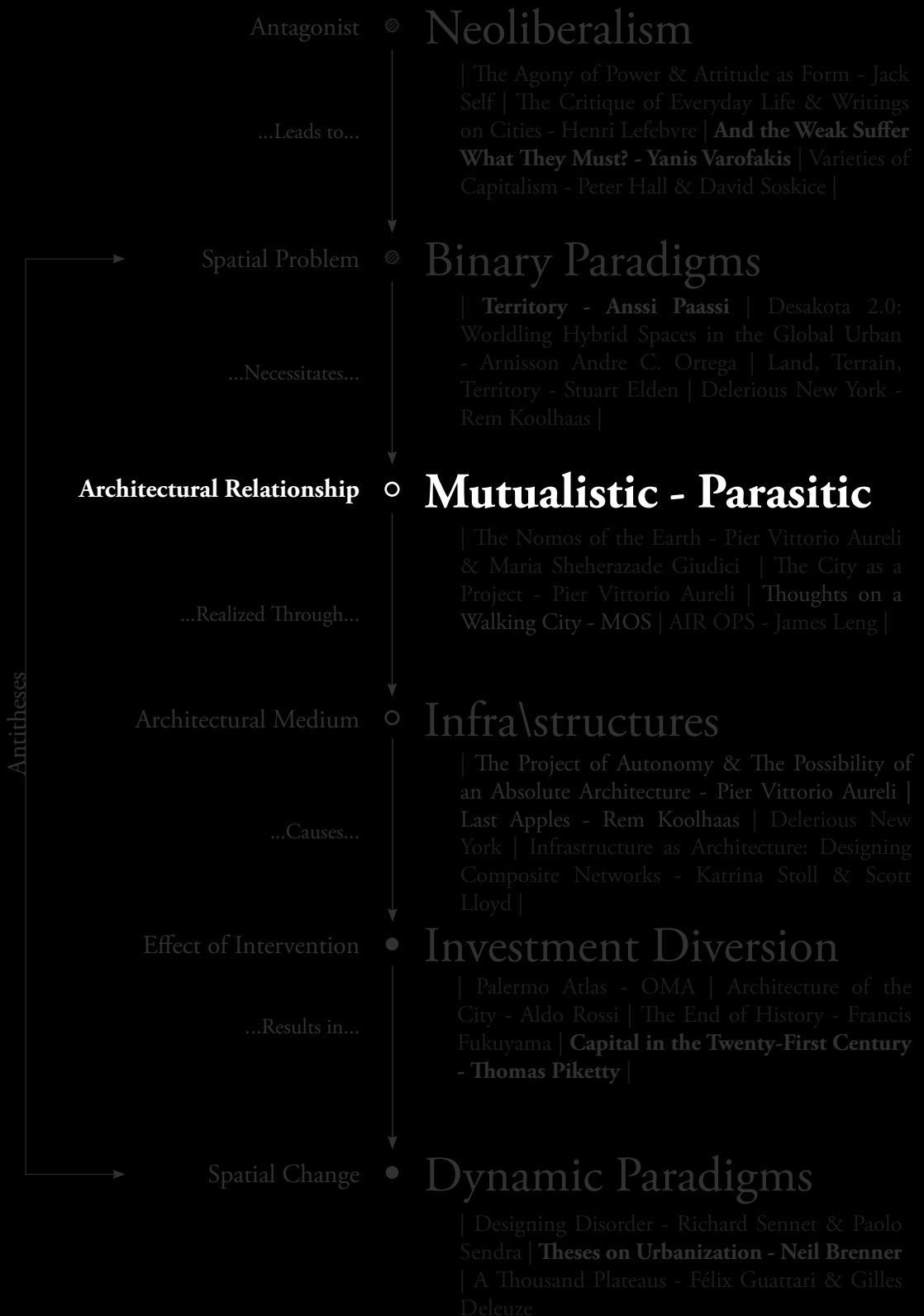


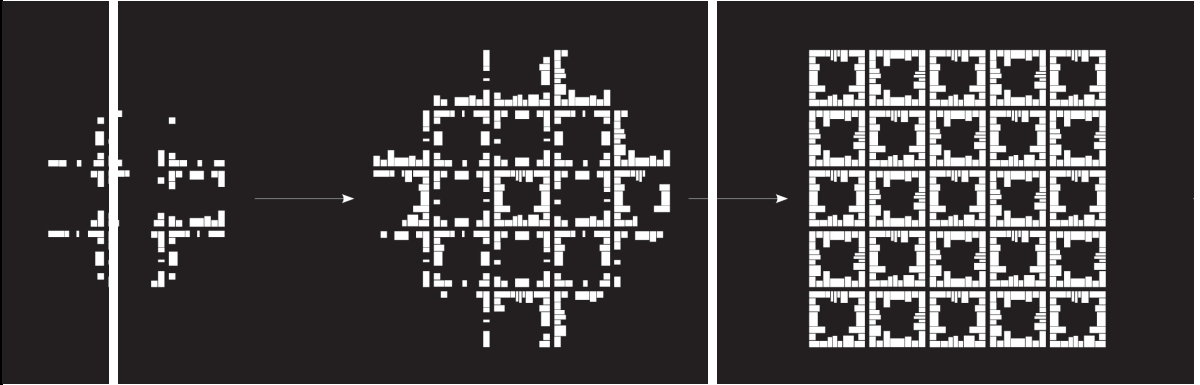


Binary Paradigms, understandings of territory, function or goals as static factors that influence an architectural project, have a long history of development. Noli's map of Rome, 1748, established the figure ground, the most fundamental binary drawing of built and unbuilt, as well as private and public. Followed by Cerda's new plan for Barcelona, 1859, same mapping execution, but established tendrils of development from city to country, birthing a distinction. Ludwig Hilberseimer, preceding Archizoom and super studio, critiqued the unchecked global urbanization proliferating during the mid-20th century. A warning dismissed, as following these critiques emerges the autonomy movement of which OMA abides by and displays in the city of the captive globe. Autonomy drove investment into cities and away from peripheries, currently resulting in memorials to American production, the grain silo, and environmental devastation, the lower Mississippi.

This long history is important to acknowledge and understand as it properly situates the spatial problem related to economics in history. This is not a problem for the twenty first century, rather an issue that has been developing for hundreds of years.

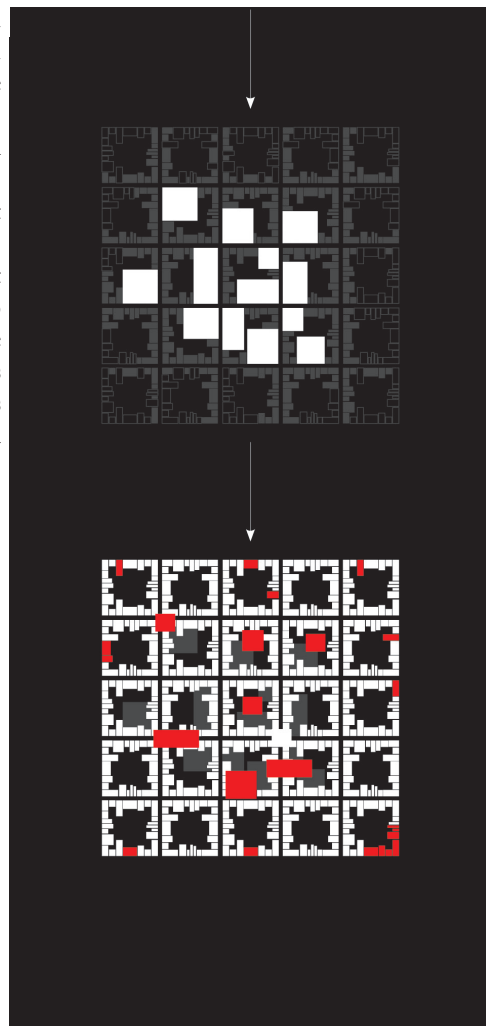
Thesis Outline



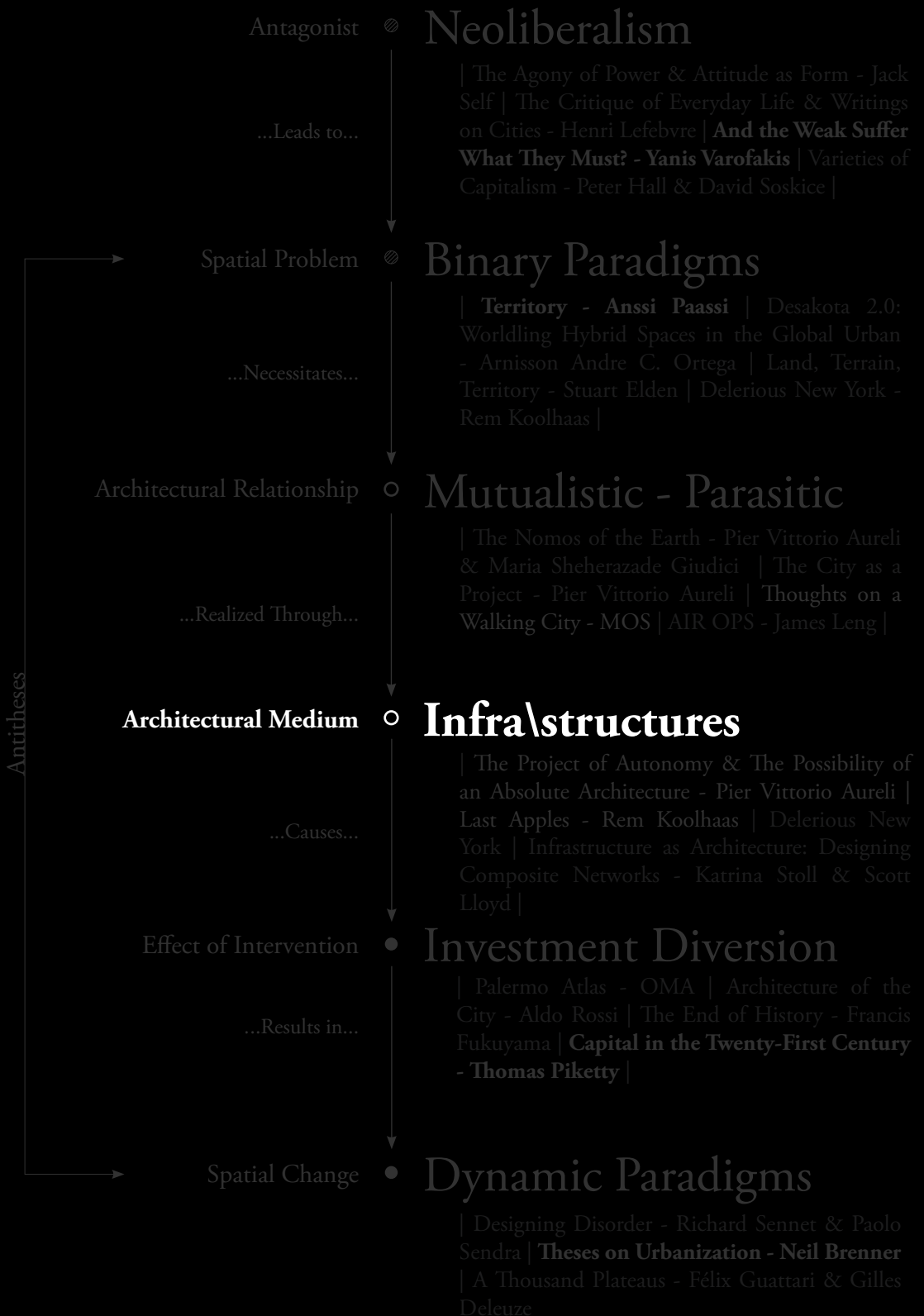


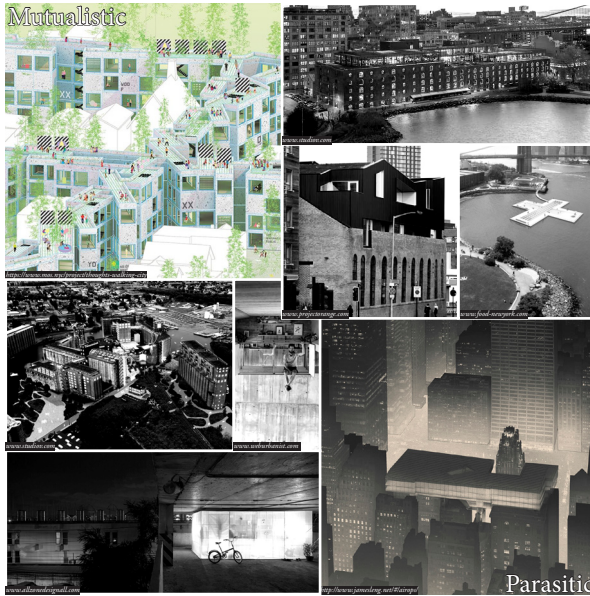
Shown here is the effect of architectural mutualism. As the city becomes “completed”, high ROI leads to excessive development, and peripheries are forgotten in favor of offices and mixed-use buildings. Architectural mutualism is parasitic to these buildings and developments in favor of the original fabric.

For the scheme to work, the buildings must divorce themselves from market pleasing goals. Specifically, these structures are not social condensers, they are not autonomous, they are not constructed to be profitable. To lead investment to locales of under-development, or take it from locations of over-development, **these structures will need to serve new and unconventional purposes divorced from architectural practice interlaced with marketable architecture.**



Thesis Outline

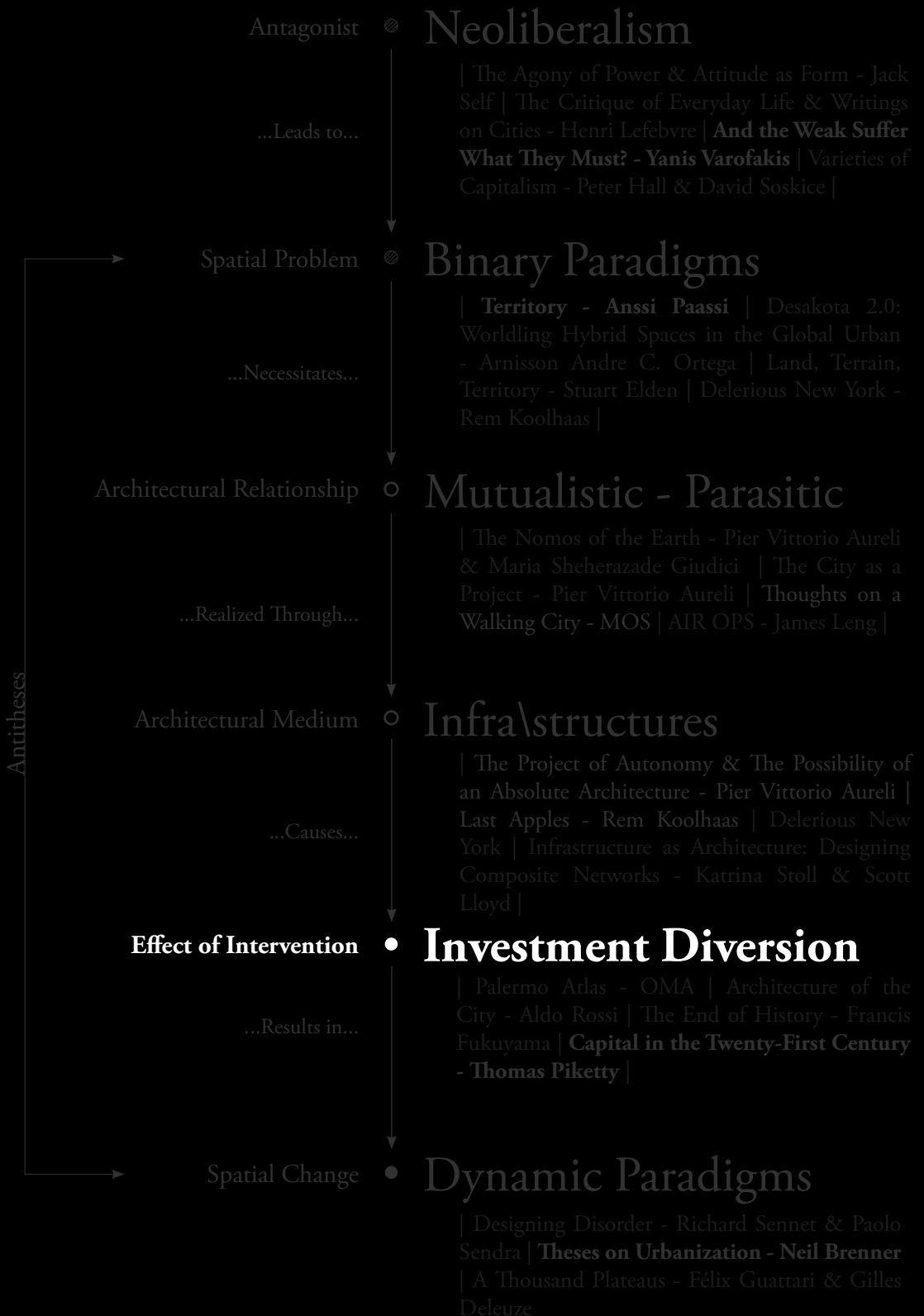


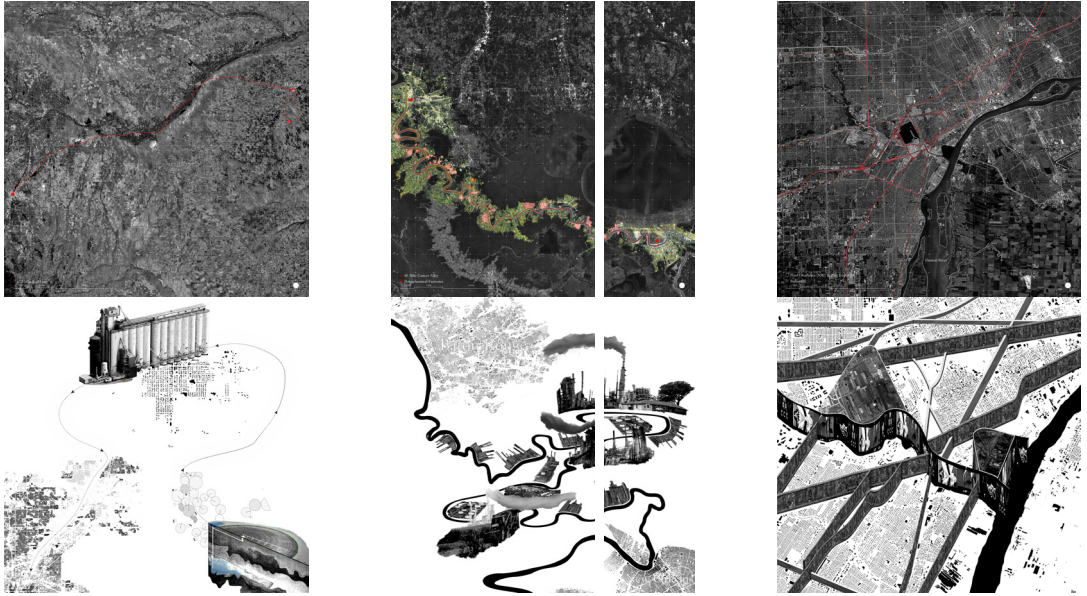


Infra\Structures, buildings occupying Infra\Space to counteract institutional exploitation, is the architectural medium that the output will be. These structures intentionally subvert binary paradigms of 'site' as made available by the market. Then mutualistic or parasitic goals for Infra\Structures direct the structure towards intentionally diverting investment to interstices, disrupting Neoliberal investment practice.

Some precedents for this scheme shown here are **all understood for their potential to direct investment**, none fully embody the principles of a Mutualistic Infra\Structure. MOS' *Walking City* for MOMA Foreclosure; Occupying and developing the street in a neighborhood abandoned due to high foreclosure rates this will divert investment to a locale seen as undesirable. James Leng's *Air Ops*; Existing atop the skyline, the project for energy infrastructure augments 'site' in a way that would effect the surrounding structures in a parasitic way. All (zone) *Lighthouse 1.0*; Stealing space in a parking garage for this canvas studio apartment occupies poorly utilized Infra\Space to confront the housing crisis brought on by Neoliberal economics. Studio V's *Empire Stores*; Renovating an abandoned warehouse negotiates Infra\Space in a way that, while in favor of the market, diverts and alters investment paths. Family's *Plus Pool*; The pool would be a permanent fixture on the East River in New York City, therefore severely altering scope of investment. Studio V's *Silo City*; A memorial to American industrialism, Buffalo's Silo City sits silently undeveloped on the periphery of the city. Breathing life into Silo City will vastly alter investment practice in the region.

Thesis Outline





For a Mutualistic Infra\Structure to divert investment, it must locate itself in an area that is either over-developed or under-developed. The three Infra\Spaces, identified as Infra\Scenarios, all find themselves to be under-developed in unique ways. Holyoke-Denver Colorado, left, shows an exploited and unsustainable agricultural relationship between city and country, a binary paradigm. Baton Rouge-New Orleans Louisiana, middle, is known as Cancer Alley where countless petrochemical refineries have laid claim to land surrounding small towns, raising cancer rates and lowering property value. Zug Island-Ford Dearborn Michigan, Right, is an industrial corridor outside of Detroit's tax border which severs a needed connection to the economic core of downtown for the suburban neighborhoods on the periphery.

Structured as narratives, each scenario displays spatial problems where there is potential for development of Mutualistic Infra\Structure. The scenarios necessitate architectural intervention, postured in the near and distant future.

Island



Inherently spatial, Pivot Irrigation fields populate the terrain outside of Holyoke, a few hours removed from Denver by car, as a marriage between technical planning and agrarian needs. For the system to work there must be enough acreage to fit the pivot arm, a piece set at certain intervals, and there must be natural ground water below in order to facilitate the irrigation. Tapping this ground water will exhaust it, as James Corner addresses this is labeled “underground desertification”. Therefore, the practice is unsustainable, and it will end. In its wake, the leftover circles dot the landscape they exist in as precise memorial to an agrarian renaissance of mechanization. Slowly forgotten is the reason for the leftover fields, which is rooted in the cities monstrous need for things which it cannot produce. What then will happen, after the well’s dry, after the cities exhausting needs for crops from those wells fades. What will persist through this all is the necessity of capital for those families who have farmed for generations, these fields have potential.

“Long water-sprinkler arms rotate around a central pivot, irrigating circular fields of verdant crops in desert or semiarid environments. Often, a well, located at the center of the circle, pumps water up from vast aquifers in the rock formations below. In Colorado, during 1985, 2.34 billion gallons of groundwater were used daily, primarily for irrigation (a form of excess known as “underground desertification”) that cannot be sustained much longer.”

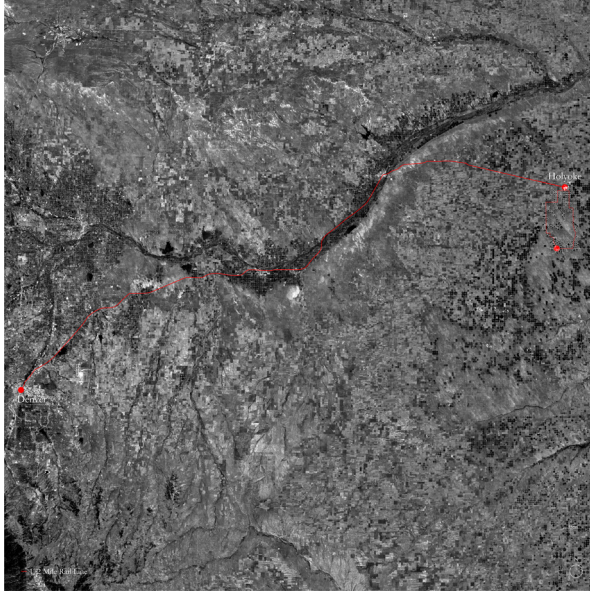
Taking Measures Across The American Landscape, page 88
-James Corner & Alex S. Maclean-

“Sometimes a mile in diameter, these vast circles are constructed using highly specialized survey instruments to make their surfaces level. As water cools the circular area relative to its surroundings, space satellites sometimes use the resulting infrared temperature patterns as reliable registration marks for orientation.”

Taking Measures Across The American Landscape, page 90
-James Corner & Alex S. Maclean-

“The beds of these great circular fields are carefully prepared with under-drainage and irrigation lines. The farmer then divides the area in order to rotate crops and ameliorate soil conditions.”

Taking Measures Across The American Landscape, page 91
-James Corner & Alex S. Maclean-



Map of scalar connection between Holyoke and Denver



Map of conceptual relation between Holyoke and Denver

Valley



In-between Baton Rouge and New Orleans, the Mississippi is shrouded in petrochemical plants that have effectively decimated the environment. The air in the region is dense with carcinogens, which have only been mitigated with repeated wrist-slaps from government entities. Victim are the residents of the communities, that of which are historically minorities, that exist in the last of the land to be snatched by U.S. industry between the plants. U.S. industry was able to easily buy the plantations of the slave era that used to exist along the Mississippi River, where the black towns were much more challenging for their informality and density. The result is minority communities directly confronted with massive petrochemical plants that pollute the air, the ground, and the river, as part of common practice, all because of slavery's deep roots in the south. This corridor, coined a "Cancer-Alley", is in need of reformation and with that it has potential.

"Compared with similar industrial areas in other parts of the country, Louisiana's industrial corridor is more densely populated, so pollutants generated have a greater impact. In the past, industries operated behind the veil of landscaped gates and were subjected to very little public oversight in terms of pollution."

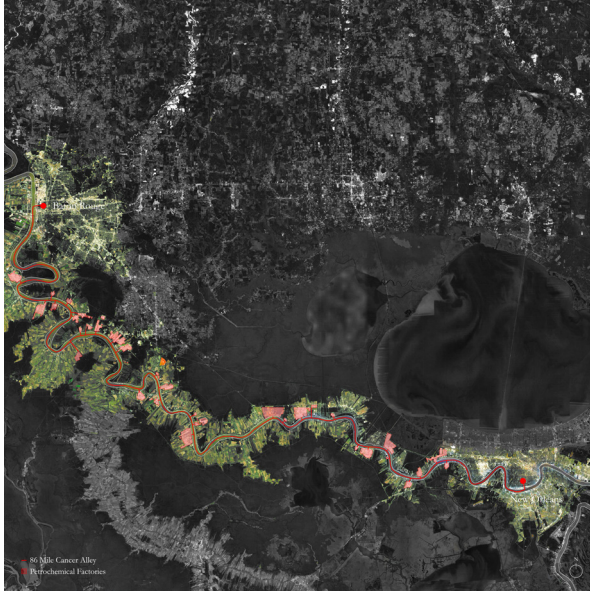
Petrochemical America, page 151
-Kate Orff & Richard Misrach-

"The ecology of environmental chemicals and immune responses is further complicated since citizens of this region, and the world, not only find themselves exposed to pollutants from obvious sources like belching smokestacks, but also to invisible chemical compounds embedded in many consumer products like mattresses, perfumes, and toys such as rubber duckies. Some of these chemicals are known carcinogens, or suspected of causing health impacts that range from reproductive disorders to children's behavioral and neural problems."

Petrochemical America, page 156
-Kate Orff & Richard Misrach-

"When petrochemical industries entered or expanded in the region, these white-owned plantations were easily purchased, while the denser black towns with multiple owners and occupants were not. The growth of new chemical factories along River Road exploded in the 1950's and 1960's."

Petrochemical America, page 157
-Kate Orff & Richard Misrach-



Map of scalar connection between Baton Rouge and New Orleans



Map of conceptual relation between Baton Rouge and New Orleans

Canyon



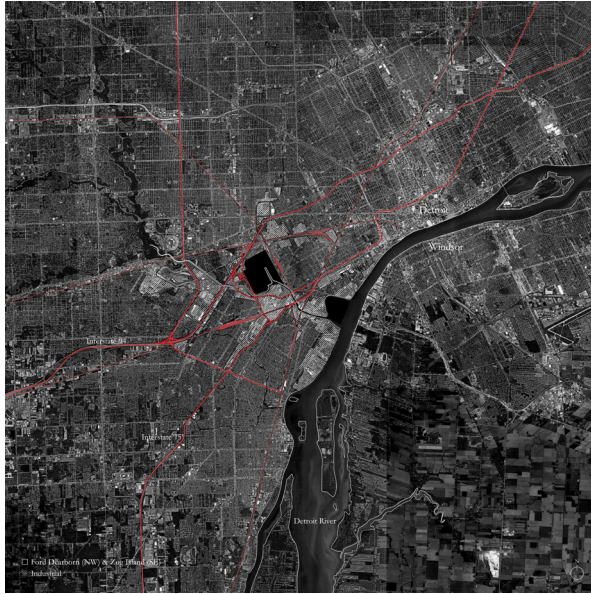
Immediately outside of Detroit's political border lies two hulking reminders of the what the industrial sector provided for the city. The Ford assembly plant, located in Dearborn, and Zug Island, a constructed mass for U.S. Steel, sit adjacent a wasteland of industrial landscapes as well as suburban communities. Both sites are currently operational, but an end is in sight for each site as technology advances. U.S. Steel has laid off 1,500 workers, and has greatly diminished their output, and the Ford Assembly plant continues to push forward despite the declaration of bankruptcy from the city in 2013. However, as the city develops anew, there are new eyes prying into the unbalanced ecosystem with intentions of surgically opening up opportunities for residents previously preyed upon. The island, and the plant, develop an interstice that is unattractive to investors and residents alike, both for visuals and for environmental health risks, and for that reason it has potential.

“The labor of mill-workers is receding into the past. In December [2019], U.S. Steel announced it would indefinitely idle a significant portion of its Detroit operation, laying off an estimated 1,545 workers at the Zug Island mill. Although operations will still continue in a diminished capacity on the island it's the end of an era. It's also a fitting time to look back on the history of Zug Island, now that its pivotal role in Detroit's industrial economy is changing and being reevaluated.”

The Dirtiest Square Mile in Michigan
-Brian Allnut-

“When I arrived in Detroit in 1985, excited to start college in pursuit of my career as a car designer I distinctly recall the impact of crossing the I-75 Rouge River Overpass in my Corvair. The windows-down late Summer scent of petro-coal-who-knows-what in combination with the other-worldly visuals of fire tipped and steaming smoke stacks puffing clouds of white and orange vapors were an intoxicating rush telling me I wasn't in squeaky-clean Atlanta Georgia anymore.”

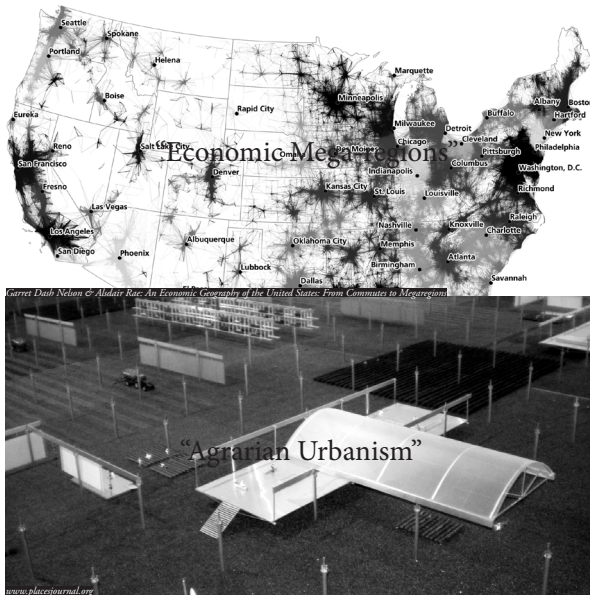
The Dirtiest Square Mile in Michigan
-Wade Bryant, Comments-



Map of scalar connection between Zug Island and Ford Dearborn



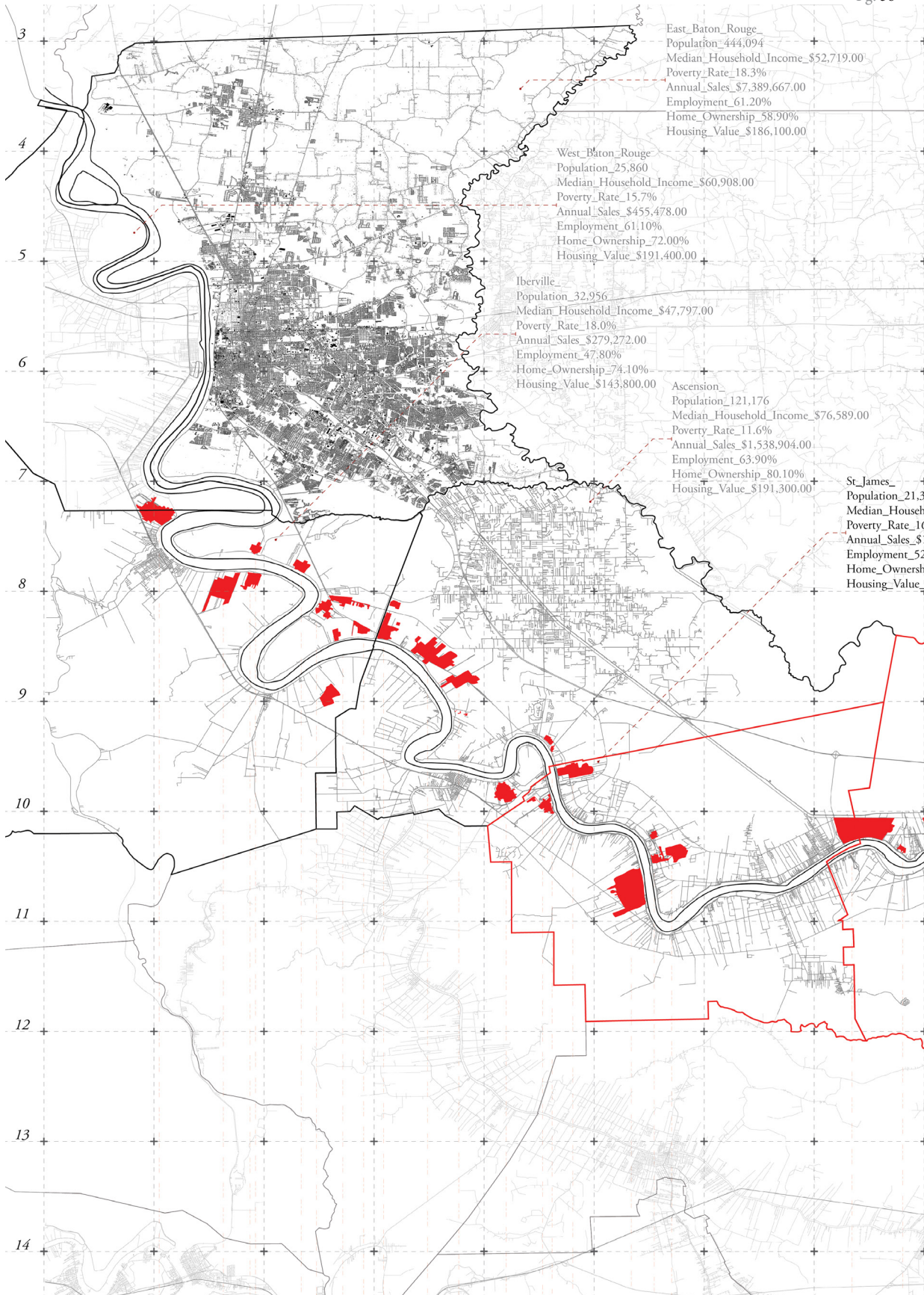
Map of conceptual relation between Zug Island and Ford Dearborn



Dynamic Paradigms, understandings of territory, function or goals as fluid factors that influence an architectural project, will be the effect of a Mutualistic Infra/Structure. By altering investment patterns, binary understandings of territory are diluted, and space becomes understood as a fluid entity rather than one that can be categorized.

The project by Nelson and Rae compiled census data based on commutes across the United States. The result is a map that is able to classify new regions, namely 'Economic Mega-regions', that demarcate zones in the United States particular to the commutes which its inhabitants make. These demarcations are meant to be changed and altered as commutes change, therefore this project acknowledges dynamic paradigms of geopolitical territory.

Andrea Branzi's Agrarian Urbanism speculates on the mechanized countryside of which is a reality today. Whereas the city is seen as built and the countryside is seen as unbuilt, the reality is that both are heavily developed to perform. Farming techniques have been engaged with machinery for many years and it is argued by many social geographers that 'nature' as a distinctively untouched landscape is no longer in existence. This project by Branzi serves to acknowledge this dynamic paradigms of city and country.



Proposal for Cancer Alley A Case Study

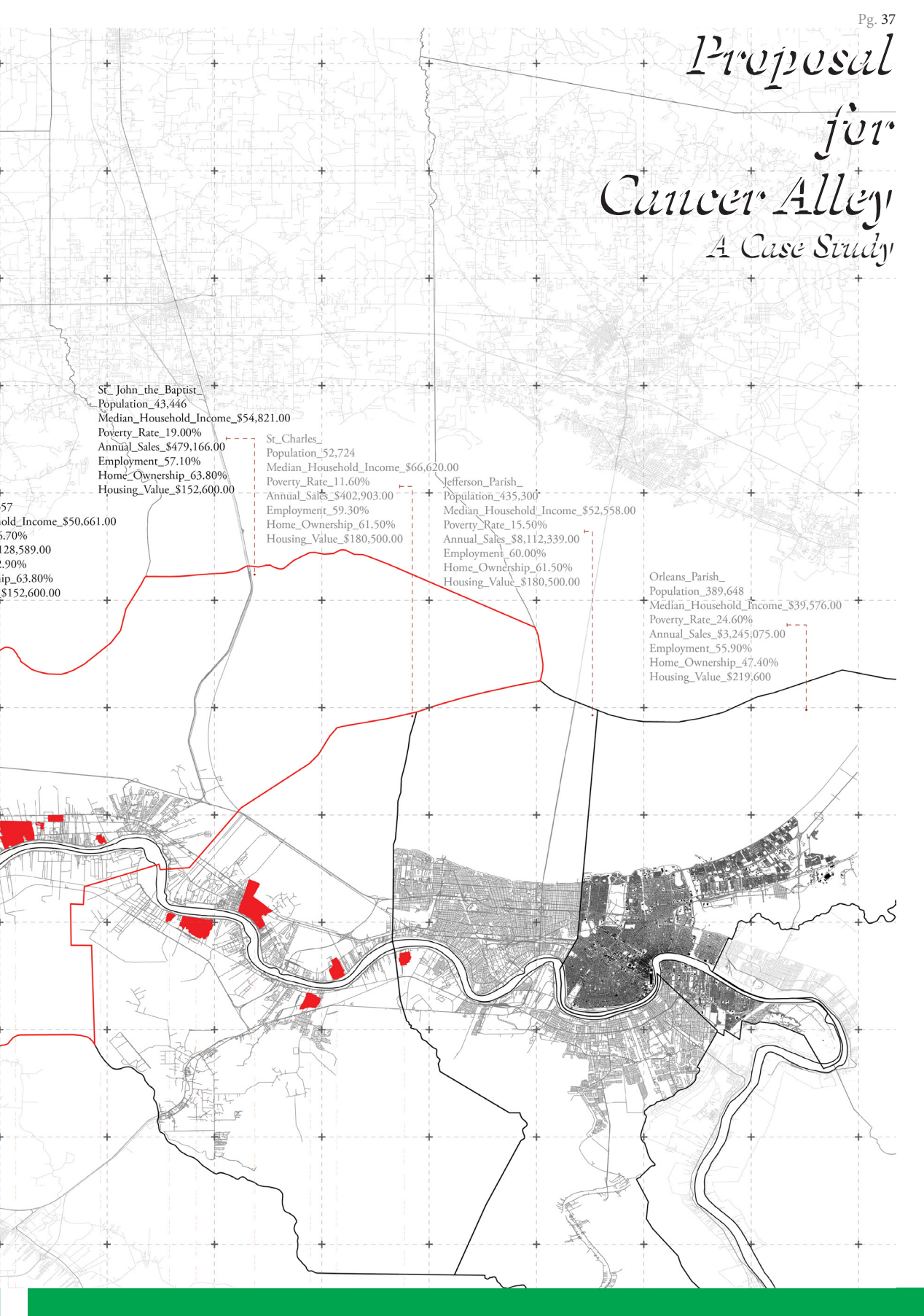
57
old_Income_\$50,661.00
5.70%
28,589.00
9.90%
ip_63.80%
\$152,600.00

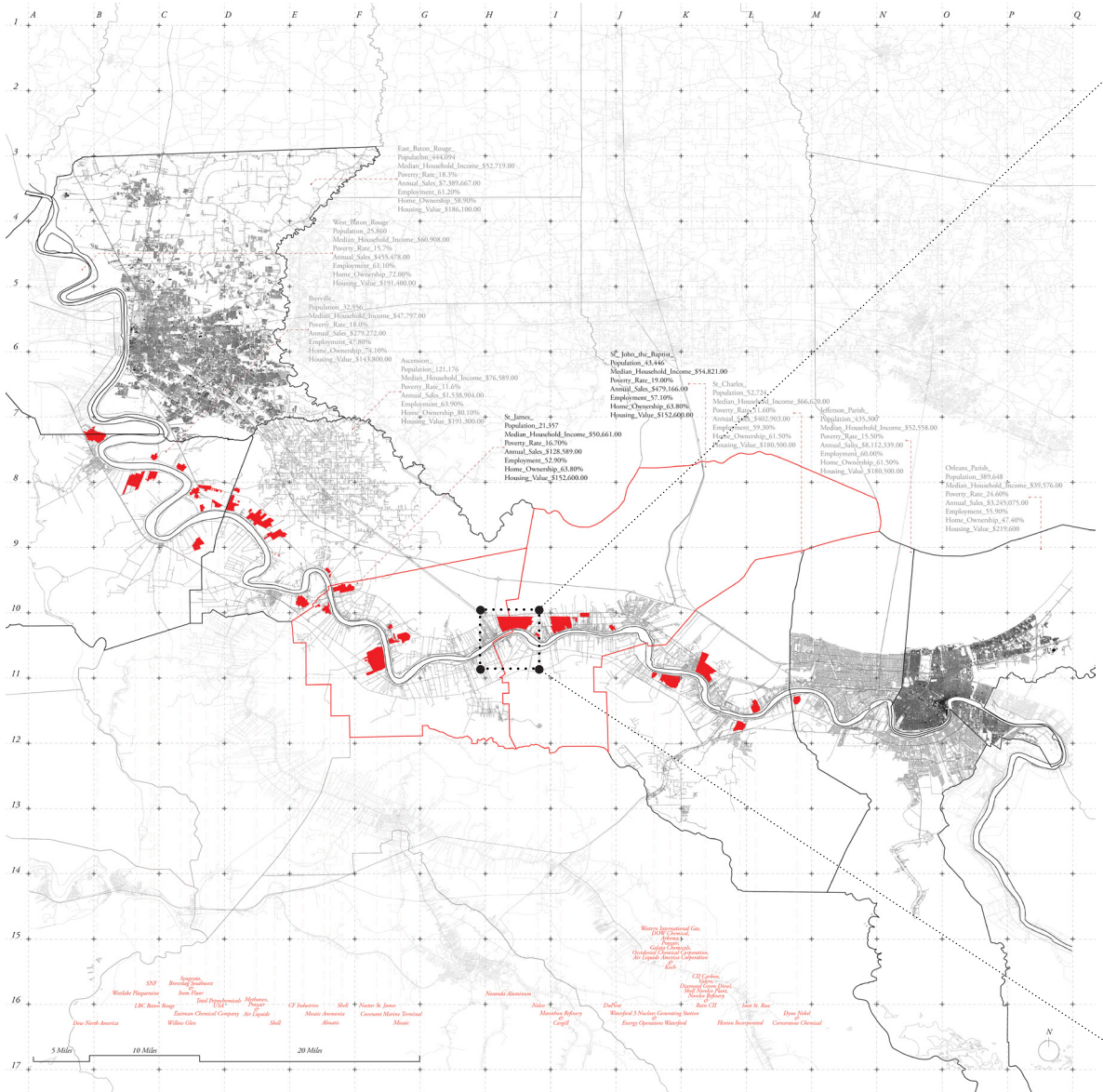
St_John_the_Baptist
Population_43,446
Median_Household_Income_\$54,821.00
Poverty_Rate_19.00%
Annual_Sales_\$479,166.00
Employment_57.10%
Home_Ownership_63.80%
Housing_Value_\$152,600.00

St_Charles
Population_52,724
Median_Household_Income_\$66,620.00
Poverty_Rate_11.60%
Annual_Sales_\$402,903.00
Employment_59.30%
Home_Ownership_61.50%
Housing_Value_\$180,500.00

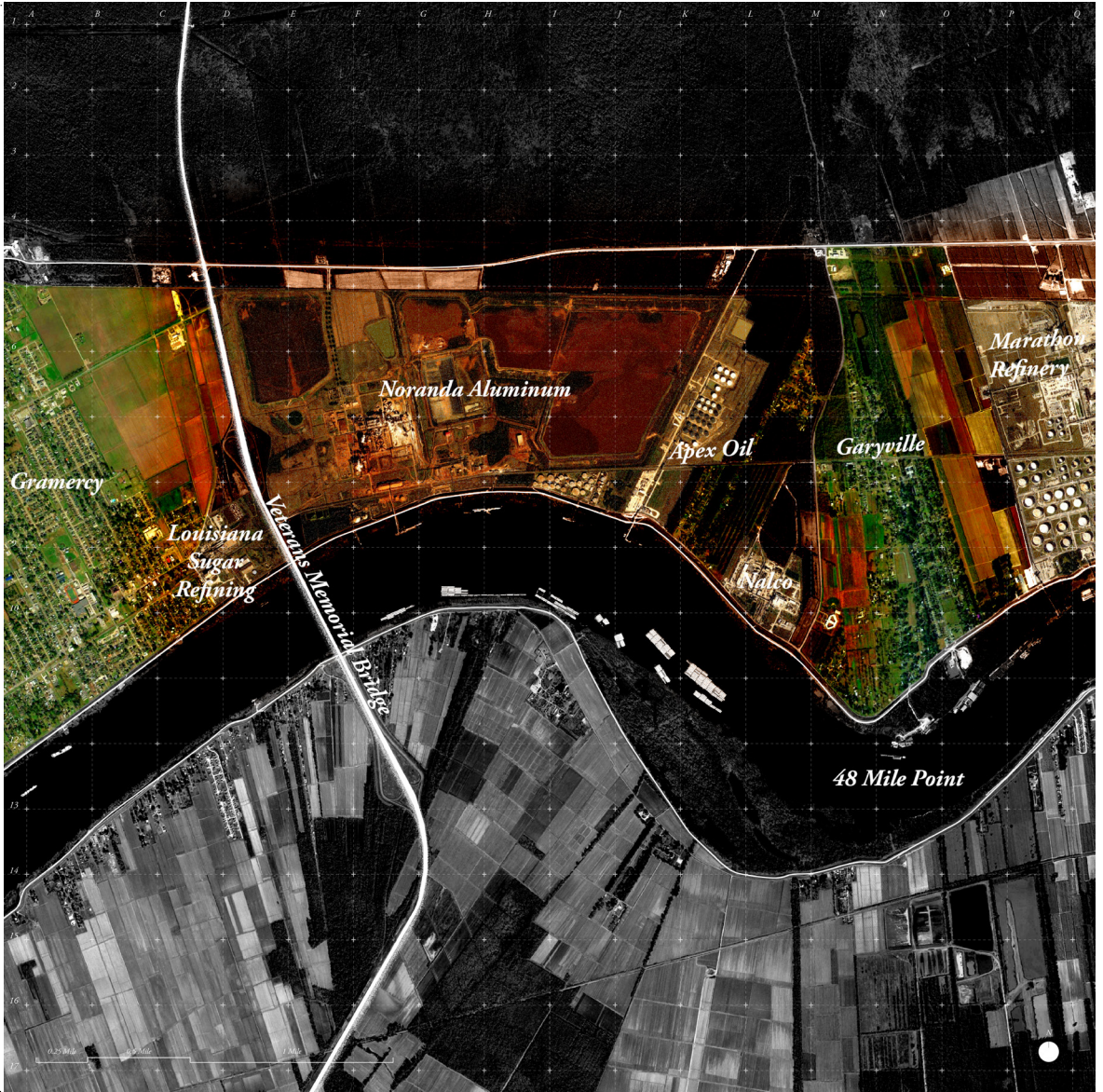
Jefferson_Parish_
Population_435,300
Median_Household_Income_\$52,558.00
Poverty_Rate_15.50%
Annual_Sales_\$8,112,339.00
Employment_60.00%
Home_Ownership_61.50%
Housing_Value_\$180,500.00

Orleans_Parish_
Population_389,648
Median_Household_Income_\$39,576.00
Poverty_Rate_24.60%
Annual_Sales_\$3,245,075.00
Employment_55.90%
Home_Ownership_47.40%
Housing_Value_\$219,600

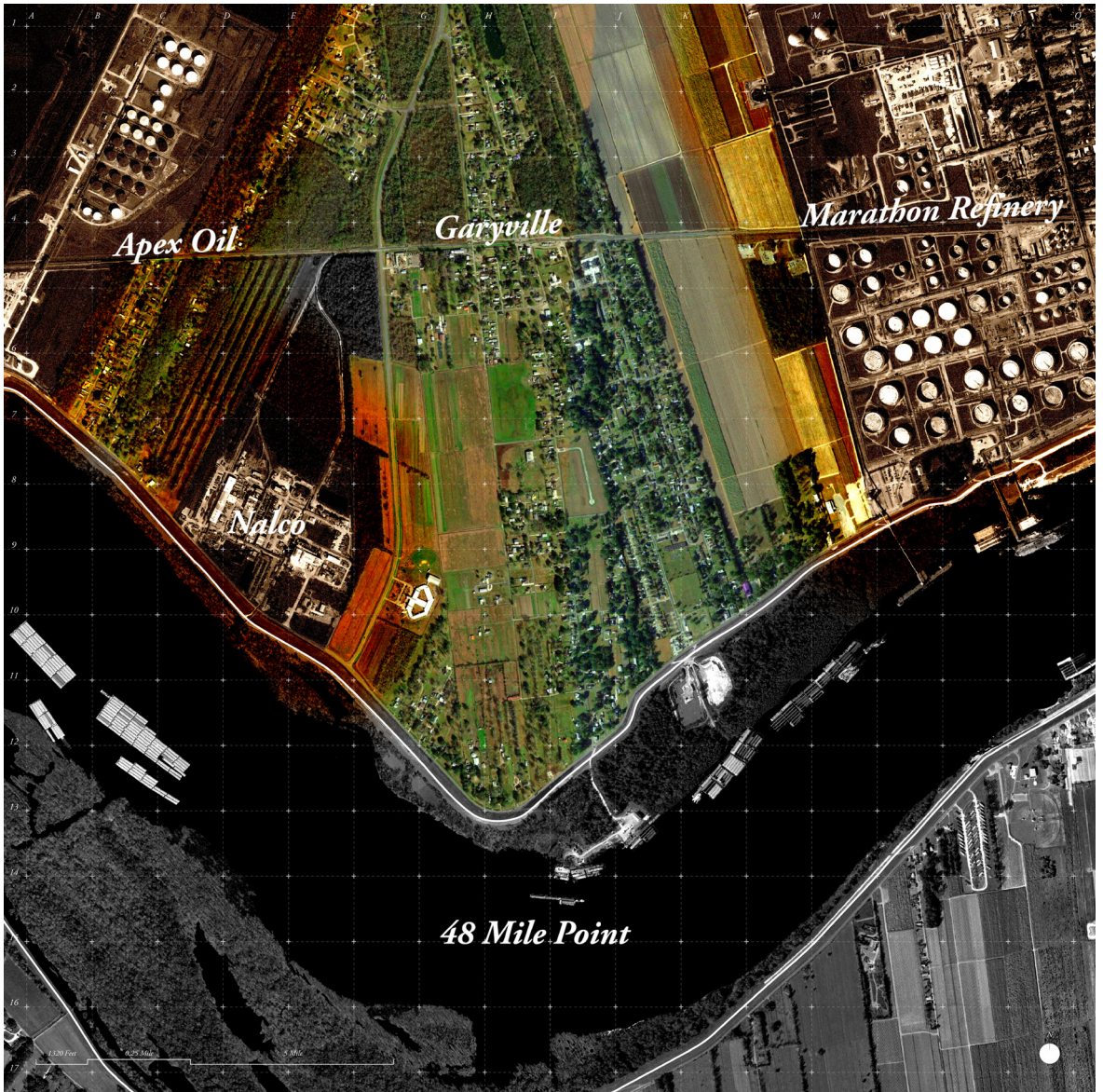




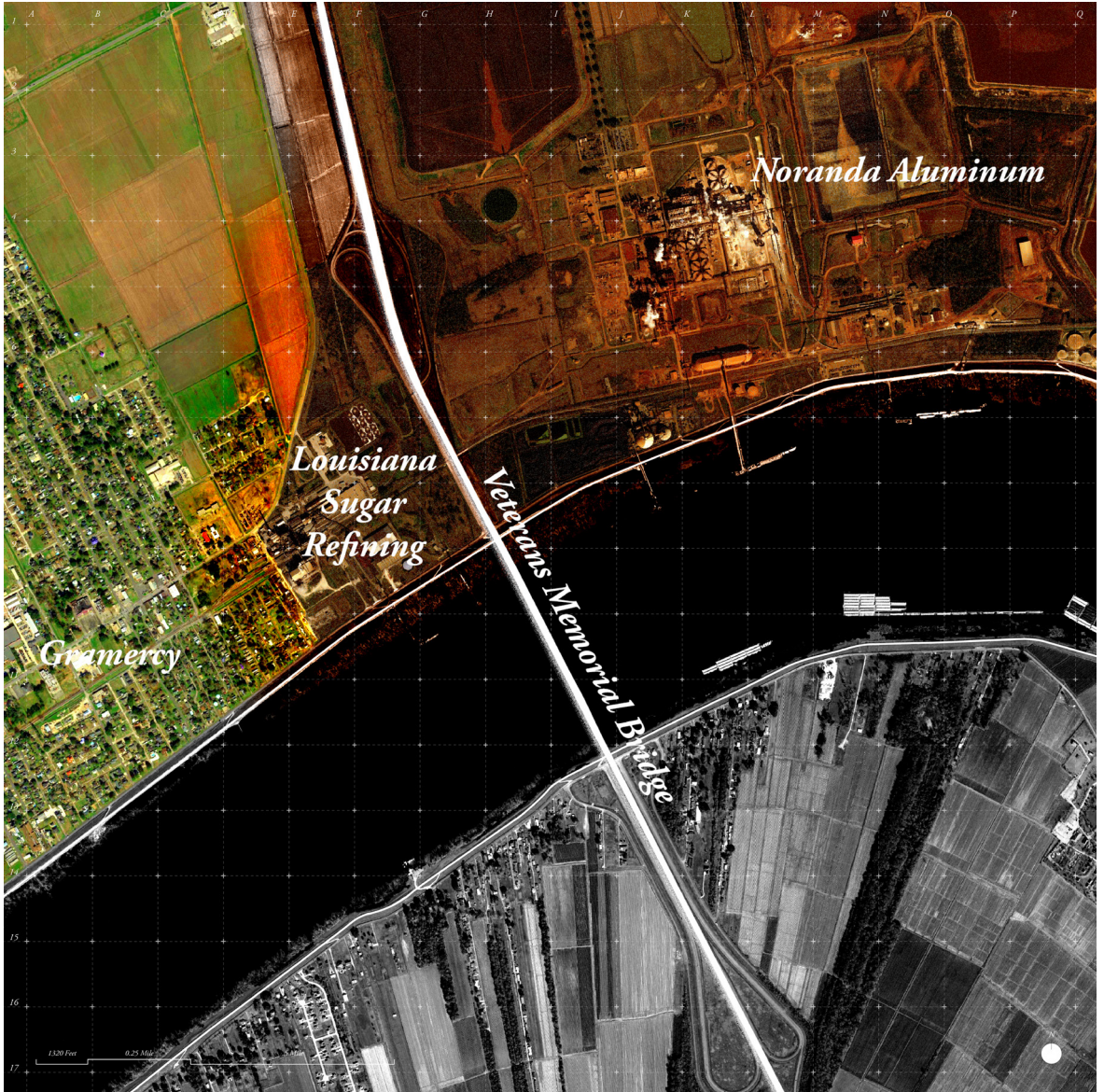
St. James and St. John The Baptist Parish's, the middle two counties between the cities of New Orleans and Baton Rouge, experience some of the greatest economic hardship out of all counties along the Mississippi River between the two cities. Income is low, Housing Value is low, and poverty is high. Where housing ownership being slightly above average would seem like a good statistic, it is likely because the homeowners are unable to sell due to low property value. See page 36 & 37.



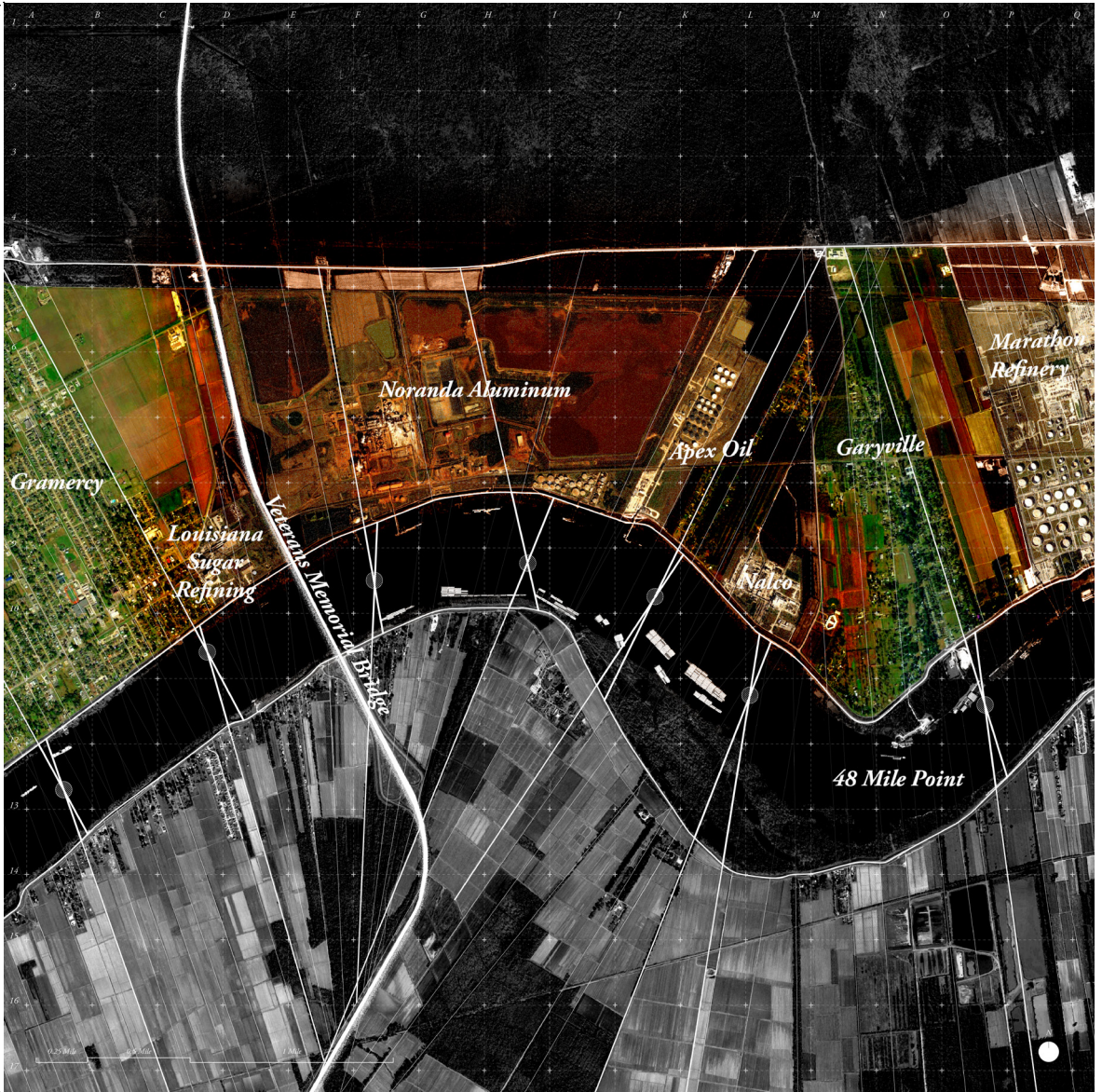
At the 48 mile point between the two cities exists the system of Garyville and Grammercy adjacent to a series of major industrial plants. The Veterans Memorial Bridge is a major river crossing, of which there are few between the two cities. At this scale the long lot datums, the democratizing property system of the Mississippi River which originally gave waterfront access to all parties, organizes the region.



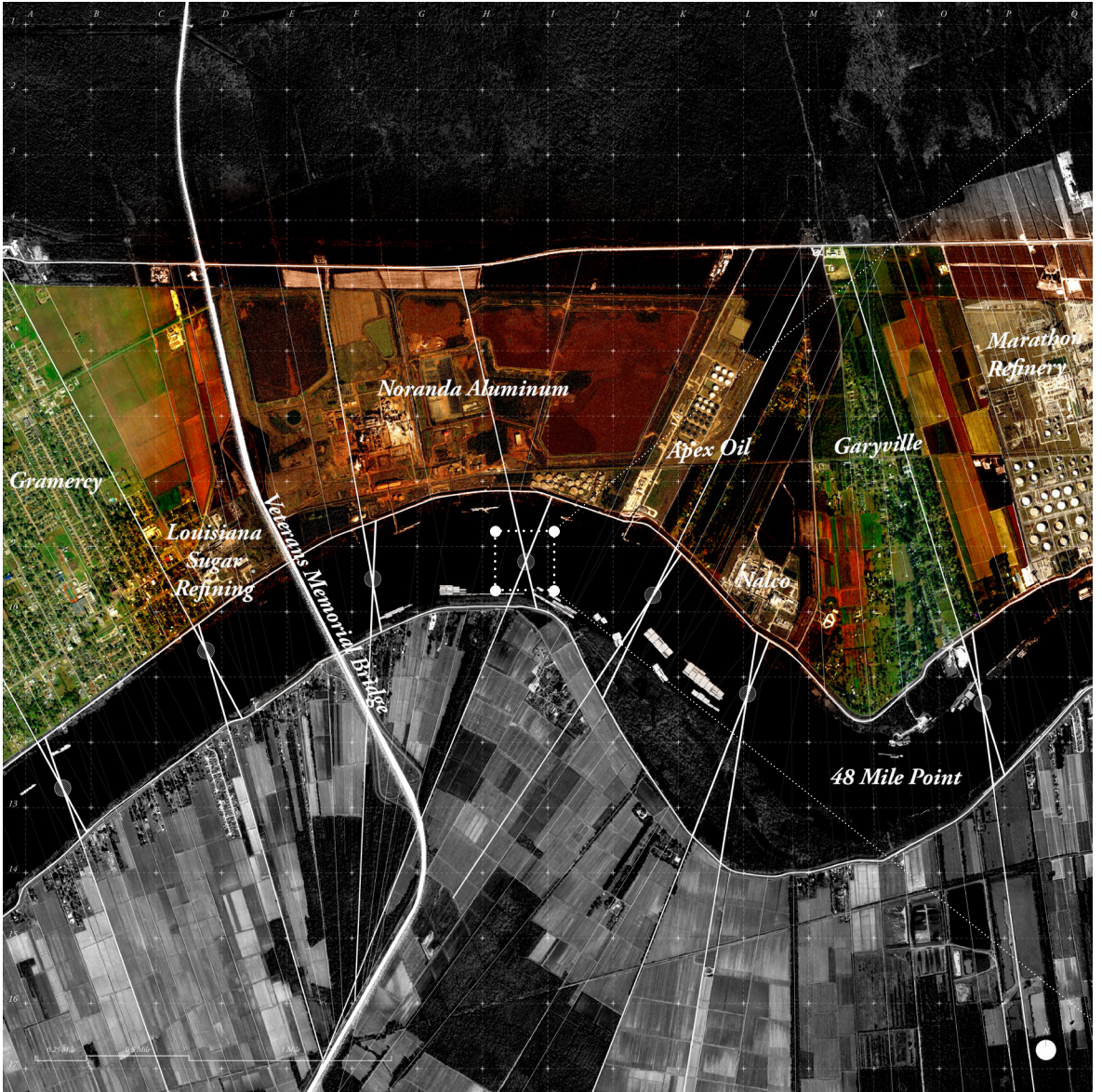
Looking closer at Garyville, the industrial entities suffocate the town. The hard infrastructure outline the boundaries of the town, generally showing where the towns political boundary is.



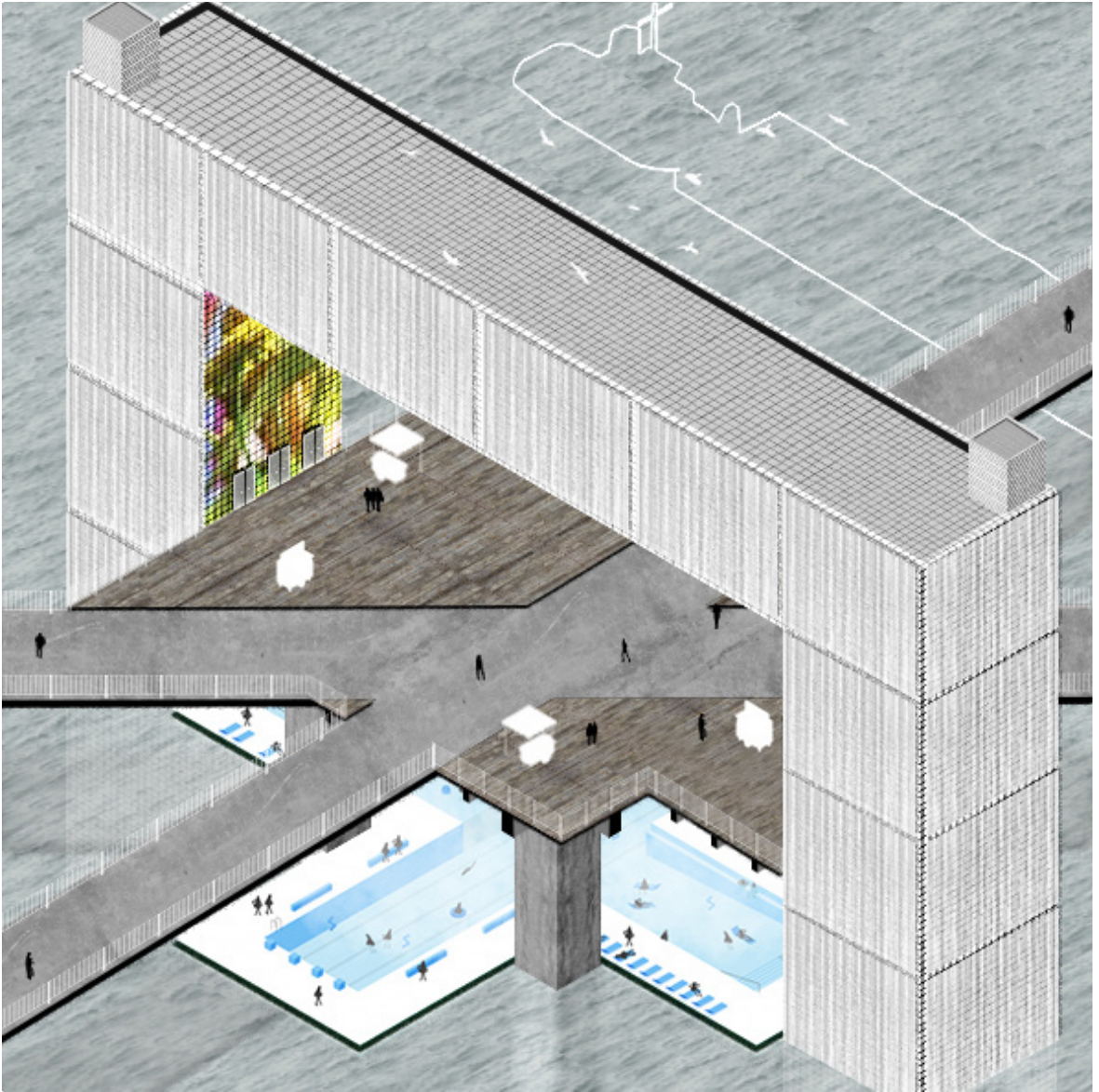
Looking closer at Grammercy, the industrial entities are not as suffocating but rather are creeping. A more built-up municipality, Grammercy has a greater ability to keep the industry away from the masses. The bridge is a strong datum for the town to defend against the industrial entities.



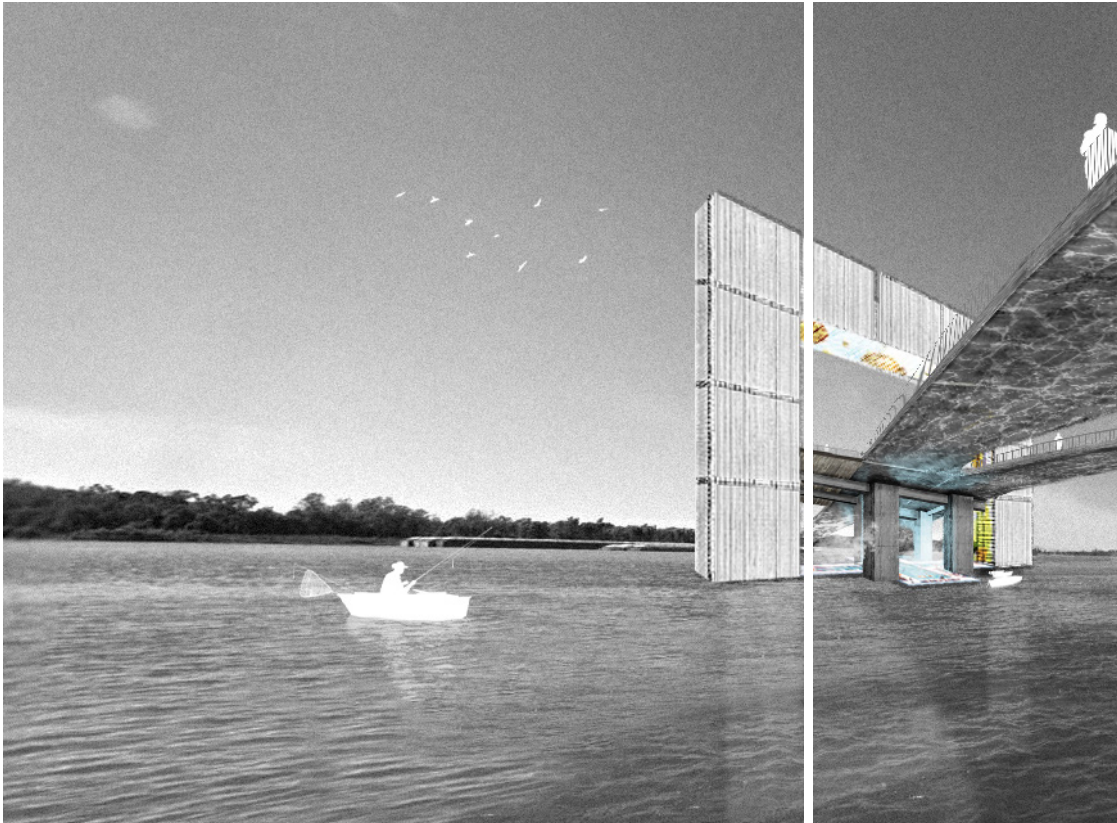
Using the Long lot datums, characteristic of the Mississippi River property organization, river crossings are proposed that would, upon their convergence, result in a nodal structure. This structure would be a Mutualistic Infra\Structure.



One in particular is of interest for its interaction with the largest industrial entity in the selected region, Noranda Aluminum.

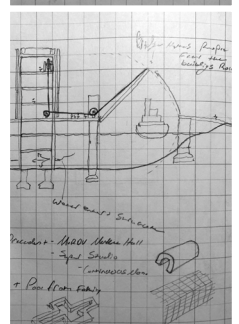
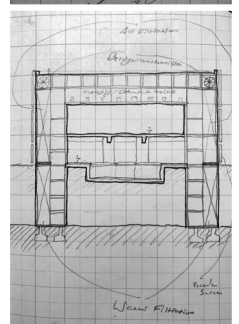
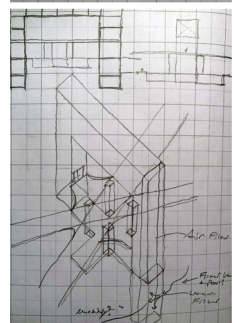
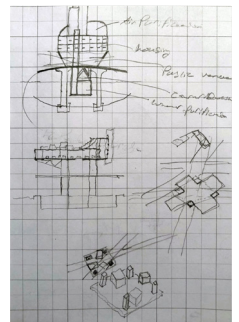
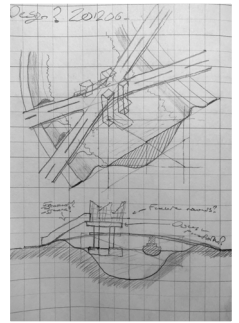


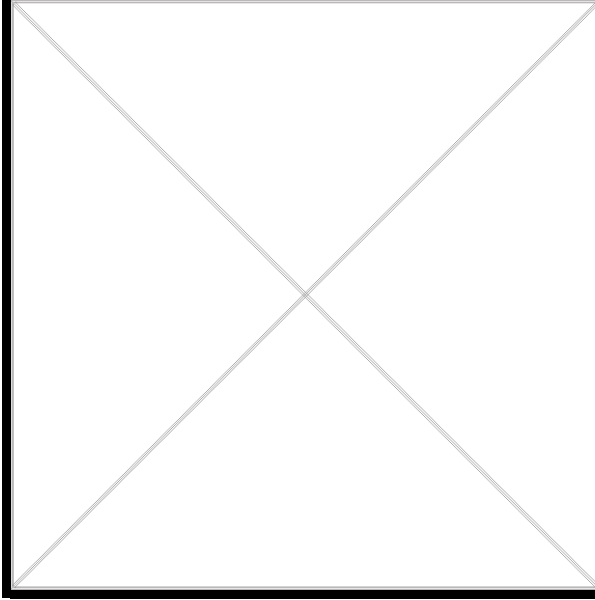
The Mutualistic Infra\Structure, a largely rhetorical proposal, uses precedents like Plus Pool, Oil Rig platforms, The Continuous Monument, and MVRDV's Market Hall in Rotterdam. The structure would be anchored in its position, where in the towers on either side it would be purifying the water below, and the air above. The span across the top would serve as social program.



The perspective situates the individual on the river to see the possibility of constructing such a structure in the middle of the river. Many problems arise from this such as the iconicity of the building and the logistics for its construction. While the Mutualistic Infra\Structure would provide services, namely environmental recuperation, and does occupy Infra\Space it is seemingly an icon for Neoliberal investment, not against it.

The legitimization of the rhetorical project shows its pitfalls. Derived from this exercise are new questions related to 'site', how real or metaphorical is this project aiming to be, and what needs to be engaged with in relation to cultural context?





In Conclusion

Architecture is, in its current state, a reactionary entity of the market. By consistently following investment and designing on available 'site' architecture develops and reinforces divisions in territory and eases the categorization of people. Design is scarcely executed in territories, regions or locales that could use a critical approach to the built environment. Design is almost always executed in territories, regions or locales of high population density and high investment returns. Resultantly, the edge is given to territories, regions or locales with high density and high returns on investment, while those with low returns are exploited for the benefit of high return areas. If there is to be an engagement with inequality in the architectural field, and in the world of design, then architecture must confidently claim its power to lead investment, not follow it, by asserting design for InfraSpace.

Bibliography

- Aureli, Pier Vittorio. *The Project of Autonomy: Politics and Architecture within and against Capitalism*. New York, NY: The Temple Hoyne Buell Center for the Study of American Architecture, 2013.
- Aureli, Pier Vittorio. *The Possibility of an Absolute Architecture*. Cambridge, MA: MIT Press, 2011.
- Aureli, Pier Vittorio. *The Nomos of the Earth Rethinking the Architecture of the Territory*. London, UK: Architectural Association School of Architecture, 2015.
- Aureli, Pier Vittorio. “*The City as a Project: City-Architecture*.” The City as a Project RSS, 2010.
- Aureli, Pier Vittorio. Preface. In *The City as a Project*, 10–38. Berlin: Ruby Press, 2016.
- Brenner, Neil. “Theses on Urbanization.” *Public Culture* 25, no. 1 (2013): 85–114. <https://doi.org/10.1215/08992363-1890477>.
- Deleuze, Gilles, and Guattari Félix. *A Thousand Plateaus*. University of Minnesota Press, 1983.
- Elden, Stuart. “Land, Terrain, Territory.” *Progress in Human Geography* 34, no. 6 (2010): 799–817. <https://doi.org/10.1177/0309132510362603>.
- Fitzsimmons, Margaret. “The Matter Of Nature.” *Antipode* 21, no. 2 (1989): 106–20. <https://doi.org/10.1111/j.1467-8330.1989.tb00183.x>.
- Fukuyama, Francis. *The End of History and the Last Man*. Free Press, 1992.
- Ghosen, Raina, and El Hadi Jazairy. *Geostories: Another Architecture for the Environment*. New York, NY: Actar, 2018.
- Godlewski, Joseph. “The Absurd Alibi.” *The Plan Journal*, 2016, 7–14. <https://doi.org/10.15274/tpj-2016-10002>.
- Hall, Peter A., and David Soskice. *Varieties of Capitalism*. Oxford, UK: Oxford University Press, 2001.
- Koolhaas, Rem, and AMO. *Countryside: a Report*. Taschen, 2020.
- Koolhaas, Rem. *Delirious New York*. Oxford University Press, 1980.
- Koolhaas, Rem. *Delirious New York*. New York, NY: Monacelli Press, 1980.
- Koolhaas, Rem, Bruce Mau, Jennifer Sigler, and Hans Werlemann. “*Last Apples*.” Essay. In *Small, Medium, Large, Extra-Large: Office for Metropolitan Architecture, Rem Koolhaas, and Bruce Mau*. New York, NY: Monacelli Press, 1998.
- Lloyd, Scott, and Katrina Stoll. *Infrastructure as Architecture*. Berlin: Jovis Verlag GmbH, 2011.
- Lefebvre, Henri, and John Moore. *Critique of Everyday Life*. London, UK: Verso, 2014.
- Lefebvre, Henri, Neil Smith, and Roberto Bonomo. “*From the City to Urban Society*.” Essay. In *The Urban Revolution*, 1–22. Minneapolis, MN: University of Minnesota Press, 2003.

- Lefebvre, Henri, Eleonore Kofman, and Elizabeth Lebas. "Right to the City." Essay. In *Writings on Cities*, 63–185. Oxford, MA: Blackwell, 1996.
- Matthieu Giroud, translated by Oliver Waine. Beyond "planetary urbanization": recasting contemporary urban research. *Metropolitics*. 27 November, 2015.
- Misrach, Richard, and Kate Orff. *Petrochemical America*. Aperture, 2014.
- Ortega, Arnisson Andre C. "Desakota 2.0: Worlding Hybrid Spaces in the Global Urban." *Urban Geography* 41, no. 5 (2020): 668–81. <https://doi.org/10.1080/02723638.2020.1745517>.
- Paasi, Anssi. "Territory." *A Companion to Political Geography*, 1997, 109–22. <https://doi.org/10.1002/9780470998946.ch8>.
- Self, Jack. "Attitude As Form." Rice Design Alliance. Lecture presented at Rice Design Alliance Forum, 2020.
- Self, Jack. "The Agony of Power." e-Flux. Lecture presented at the e-flux lecture series. October 2020.
- Sendra, Paolo, et al. *Designing Disorder: Experiments and Disruptions in the City*. Verso, 2020.
- Tuck, Eve and Yang, k. Wayne. *Decolonization is Not A Metaphor*. Creative Commons, 2012.
- Varofakis, Yanis. "And the Weak Suffer What They Must?" Talks at Google. Lecture presented at the Talks at Google, September 2020.

