

Anarchist Reconstruction: Towards a Political Dialectic

by

Henry Dyck

A thesis submitted in partial fulfillment
of the requirements of the degree of
Master of Architecture (M.Arch)

The Faculty of Graduate Studies
Laurentian University
Sudbury, Ontario, Canada

© Henry Dyck, Year of Convocation (2020)

THESIS DEFENCE COMMITTEE/COMITÉ DE SOUTENANCE DE THÈSE
Laurentian University/Université Laurentienne
Faculty of Graduate Studies/Faculté des études supérieures

Title of Thesis Titre de la thèse	Anarchist Reconstruction: Towards a Political Dialectic		
Name of Candidate Nom du candidat	Dyck, Henry		
Degree Diplôme	Master of		
Department/Program Département/Programme	Architecture	Date of Defence Date de la soutenance	April 06, 2020

APPROVED/APPROUVÉ

Thesis Examiners/Examineurs de thèse:

Dr. David Fortin
(Thesis Advisor / *Directeur/trice de thèse*)

Dr. Thomas Strickland
(Thesis Second Reader / *Directeur (trice) de these deuxième*)

Carol Phillips, OAA
(External Examiner/Examineur externe)

Approved for the Faculty of Graduate Studies
Approuvé pour la Faculté des études supérieures
Dr. David Lesbarrères
Monsieur David Lesbarrères
Dean, Faculty of Graduate Studies
Doyen, Faculté des études supérieures

ACCESSIBILITY CLAUSE AND PERMISSION TO USE

I, **Henry Dyck**, hereby grant to Laurentian University and/or its agents the non-exclusive license to archive and make accessible my thesis, dissertation, or project report in whole or in part in all forms of media, now or for the duration of my copyright ownership. I retain all other ownership rights to the copyright of the thesis, dissertation or project report. I also reserve the right to use in future works (such as articles or books) all or part of this thesis, dissertation, or project report. I further agree that permission for copying of this thesis in any manner, in whole or in part, for scholarly purposes may be granted by the professor or professors who supervised my thesis work or, in their absence, by the Head of the Department in which my thesis work was done. It is understood that any copying or publication or use of this thesis or parts thereof for financial gain shall not be allowed without my written permission. It is also understood that this copy is being made available in this form by the authority of the copyright owner solely for the purpose of private study and research and may not be copied or reproduced except as permitted by the copyright laws without written authority from the copyright owner.

TABLE OF CONTENTS

Abstract	viii	Chapter 4 Architectural Intentions.....	36
Acknowledgments.....	x	4.1 Context: Site and the Politics of Space	36
Research Question	14	4.2 Defining the Group and their Intent	51
Introduction	16	4.3 The Architectural Process	54
Chapter 1 Defining a Political Argument.....	18	4.4 Technological Facilitation for Self-Sufficiency	57
1.1 Alternative Politics in Architecture	18	Chapter 5 Material Processes and Conceptual/ Synthetic Work	60
1.2 Critique of Capitalist Fabric.....	20	5.1 Conceptual Drawings	60
Chapter 2 Physical Manifestations of Anarchism and Marxism...	22	Chapter 6 Modelling a Narrative Reconstruction.....	68
2.1 The Squats of New York	22	6.1 Theoretical and Material Framework.....	68
2.2 The Mining Unions of Sudbury	25	6.2 Narrative Reconstruction	70
2.3 Arcosanti of Arizona.....	27	6.3 A Mature Complex	92
Chapter 3 Utopias and Heterotopias in Architecture	30	Conclusion.....	108
3.1 The Role of Heterotopia as a Critical Mechanism	30	Bibliography	112
3.2 The Utopian Visions of Woods and Nieuwenhuys	32	Appendix	116
3.3 Critique From a Heterotopia	34		

Abstract

Today we lack a substantial discussion about what political-economic system should define our future. This discourse has been largely replaced by the hegemonic position of capitalism.¹ The architecture I propose pushes toward a significant re-entry into this debate, intellectually as well as physically, calling socio-political ideas of possible futures into action to engage in a revived political dialectic. This thesis will explore anarchism's position in producing an alternative political space and the contribution architecture can make to anarchism.

The anarchism proposed by this project challenges existing structures to prove their legitimacy and if they fail, deconstructs them, and then reconstructs them from below.² On the architectural

scale this mechanism can transform a building into a testing ground for new kinds of material processes, building systems, social organizations and lifestyle patterns. This includes the production and consumption of food, electricity, water, and a reconstruction of how space is defined and what new socio-spatial patterns might emerge. The project will not itself be, nor will it promote revolution, rather it will use revolutionary politics expressed through architecture as an argument for a space in which to explore and participate in a discourse on political-economic alternatives through a material exploration. To this end, I propose an architectural process that engages in an imaginative dialogue of alternative futures.

The project will be named "The Complex" since it collapses programs of dwelling and production into a single site. "The Complex" will take comprehensive ideas of revolution and utopianism and translate them into a heterotopia³, responding to revolutionary politics from a position of critique. By heterotopia I mean a space that uses utopian principles but becomes a real space amongst other real spaces, proposing not to completely reshape a society but transform it from within. This heterotopia will invert and subvert the socio-spatial conditions that capitalism creates to explore how architecture can embody an anarchist critique of capitalism.

"The Complex" will be an embodiment of a political-economic critique where criticism is embedded into a material process of spatial production where-from emerges a critical paradigm for living. The process seeks to step out of normative

productions of space and uses material outside the capitalist system, shown in evidence through the thesis' narrative and conceptual drawing.

The project will be sited in downtown Sudbury in an old office building (called the Mackey building, formerly the Frontenac Hotel). The habitation and build process will be an exploration of "The Complex's" architectural unfolding over time, following the actions of a group of occupants as they reconstruct the architecture over 15 years. A 1:40 architectural scale model will be the set for the political ideas to be explored in a haptic material manner to better simulate the bodily action of the occupants on and in the building.

Endnotes

- ¹ Slavoj Žižek. *The Perverts Guide to Ideology*. Digital. Directed by Sophie Fiennes. New York: Zeitgeist Films, 2012.
- ² Chomsky Noam, (2013) "What Is Anarchism?" (MIT Wong Auditorium, November 2013).
- ³ Heterotopia is an idea that comes from Foucault's essay "Of Other Spaces" where he develops the idea of a space within(?) our society, between Dystopia and Utopia. The heterotopia is principally the other space inverting how society typical functions, "inverting or mirroring" its organization. Heterotopias can either act as an "illusion that exposes every real space" or create another real space "as perfect, as meticulous, as well arranged as ours is messy, ill constructed and jumbled." This Thesis will employ the idea of the heterotopia and its role in inverting society acting to critique society.

Acknowledgments

The political nature of this thesis emerged as a product of conversations and work with Dr. David Fortin who has opened my mind to a world of socially minded and politically charged architecture which has defined this thesis, my work in practice and soon my career as an architect.

This thesis, in the eight months it took to write it has been subject to significant challenges including a significant loss of material due to a computer crash and displacement due to a pandemic. I am thankful to all those who have supported me through what has proved to be a very challenging year, particularly my mother Joan Schellenberg and father Bob Dyck for their emotional support, my advisor David Fortin for his guidance and understanding, for my second reader Thomas Strickland for providing me with a space in his home to work in, and to Martine Fortin for her understanding and support through the ups and downs of the thesis writing process.

I would also like to thank Patrick Harrop for exposing me to anarchism, squatting and always keeping me on my toes when I think I understand my work and the context it sits within.

Thank you to Bill Di Paola from the Museum of Reclaimed Urban Space for accommodating me in your busy schedule and teaching me about the lived experience of squatting and what it is to act through consistent positive action towards equity and sustainability.

I would like to thank all my peers at the school of Architecture who were always there to bounce ideas off and to Demetra Evangelou and Landon James for their willingness to assist me with my work .

Lastly, I would like to thank all my siblings who have supported me through my architectural education, helping me celebrate good times and supporting me through the challenging ones.

List of Figures

Figure 1 Political Position of The Complex	19	Figure 25 Creature 3 (gypsum)	62
Figure 3 Bike Room in the Umbrella House	24	Figure 26 Creature 2 (Ducts, Lathe, wire, drop ceiling hooks)	63
Figure 4 Information Board at the Umbrella House	24	Figure 27 Material Drawing with program intersections version 2	64
Figure 2 Police and Squatter Conflict from the MoRUS	24	Figure 28 Material Drawing 1	66
Figure 5 Umbrella house in 1990	24	Figure 29 The interior working of "The Complex"	93
Figure 6 Arcosanti on a hill	27	Figure 30 Second Floor Axonometric	104
Figure 7 Paolo Soleri during apse construction	27	Figure 31 Fourth Floor Axonometric	105
Figure 8 Constant Nieuwenhuys: New Babylon	31	Figure 32 Fifth Floor Axonometric	106
Figure 9 Lebbeus Woods: Underground Berlin	31	Figure 33 Rooftop Axonometric	107
Figure 10 Key Plan	36	Figure 34 Urban Perspective Render	108
Figure 11 Site of Interest for The Complex	37	Figure 35 Material Drawing with Vectors and Manipulations	118
Figure 12 Main Floor of the Mackey Building	38	Figure 36 Material Drawing with program intersections	120
Figure 13 John Hopkins COVID-19 Map	41	Figure 37 Stills from Material Animation	122
Figure 14 Mackey Building, Floors 4 & 5	42	Figure 38 Mapping a Political Position	124
Figure 15 Second Floor of the Mackey Building	44	Figure 39 Material Sketch of the City and the Mackey Building	126
Figure 16 Mackey Building, Floors 2 & 3	46	Figure 40 Diagram of Harvey's Utopia from Spaces of Hope	128
Figure 17 The role of the Mackey building in capitalism	48	Figure 41 Initial Material Drawing Experiments	129
Figure 18 Chilean Neoliberal Protests	50	Figure 42 Second Material Drawing Experiment	130
Figure 19 Canadian Climate Change Protests in Ottawa	50	Figure 43 Secondary Material Drawing Animation Experiment	132
Figure 20 Typical Design Process	52		
Figure 21 The Complex's Design Process	52		
Figure 22 Material Process	56		
Figure 23 Programmatic Massing Strategy	58		
Figure 24 Creature 1 (Duct, Mtl 2x4s, Wood 2x6s)	62		

Research Question

What are the spatial results of a material process constructed through the lens of anarchism?
What is architecture's capacity to act through a speculative process on the transformation of a building into a self-sustainable and autonomous jurisdiction and how can this form a robust critique of today's capitalist society?

Introduction

This Thesis explores revolutionary politics, specifically anarchism, not towards an end of revolution but as a lens through which to form a spatial and material critique of the current socio-political and economic systems. The specific anarchism to be speculated upon in this thesis will function communally through an imagined consensus structure. I make the argument that what is needed today are spaces to participate physically in a discourse of political-economic alternatives embodied in a way of life and expressed through architecture. I propose an architectural process that engages an imaginative dialogue of alternative futures. The process will seek to create a decentralized heterotopia, housing a

radical social structure that will develop space through a participative process.

There are two main issues that I will address through architecture. First, I will address capitalism which is being met by increased public resistance and protest, principally the neoliberal and corporate aspects of it. Second, the climate emergency which has been announced both federally, in Canada, and municipally, in Sudbury. Climate change protests mark the public's disappointment of the current political-economic system's ability to respond to what is now the existential crises of our age, meanwhile capitalism's economic instability has presented itself for example in the 2008 financial crisis, and the widening gap

between the rich and the poor, as capital continues to concentrate into large corporations.¹

The profession of architecture is nearly inseparable from capitalism. In fact Manfredo Tafuri claims that architecture was the first profession to fundamentally and fully commercialize within capitalism even before the political economy was furnished to do so.² In response to architecture's sustained enmeshing with capitalism, I argue that architecture must take an active political stance and participate in designing "other" ways of living. In this thesis I will explore the capacity of architectural practice to critique how we live and build, through the lens of anarchism. I propose what I will call "The Complex", a heterotopia of decentralized self-sustaining technologies that will house a political critique. An alternate vision for the future toward a modification and an eventual transformation of the political reality, explored through architecture.

Capitalism is universally accepted despite its role in overturning the social gains of socialism and communism, eliminating welfare measures, the social safety net, the right to unionization, the erosion of industrial and ecological regulatory laws and privatization.³ Capitalism maintains a hegemonic position in relation to other political possibilities and the historical alternatives to it have been all but abolished, the public widely holding the idea that there are no conceivable alternatives.⁴ We are now conditioned to believe that there is no valid alternative to capitalism. Our relationship to the political discourse needs to change and become one of possibility. To enter this discourse, I will use the medium of utopic thought to design a critique of architecture's relationship to capital and infrastructure towards a dialectical architecture of otherness.

Endnotes

¹ William Quirk, "Too Big to Fail and Too Risky to Exist," *The American Scholar* 81, no. 4 (2012): 32 & 43.

² Manfredo Tafuri, *Architecture and Utopia: Design and Capitalist Development*. (Cambridge, Mass: MIT Press, 1987), 48.

³ Fredric Jameson, *Archaeologies of the Future: The Desire Called Utopia and Other Science Fictions* (New York: Verso, 2005), xxi.

⁴ Jameson, xxi.

Chapter 1 Defining a Political Argument

1.1 Alternative politics in architecture

The idea of the “alternative” in politics and architecture is problematized by Awan, Schneider and Till’s *Spatial Agency: Other Ways of Doing Architecture*.¹ To use the term alternative, I will embrace a radical reactionary approach defined by a synthesis of political ideas laid out here while acknowledging the center that exists beyond the walls of this architectural intervention. This project will remain largely in the thrall of global capitalism which it is in reaction to, modifying it through minor critiques, until a disruption or “cosmic catastrophe”, to use Slavoj Žižek’s term, creates an opportunity for significant reconstruction. This project will further draw from the philosophy of *Spatial Agency* where there is a celebrated loss

of control over the architectural process.² As it is in anarchism, control will be ceded to people to act on their own, outside the legal confines of architectural practice and politics.

Awan et al. ask “alternative to what?” in the introduction to *Spatial Agency*.³ To which my answer is: to global capitalism, specifically those aspects that define private space, inequality and unsustainable practices. To do this I will explore the ideas of anarchism in its communal application, drawing particularly on Marxism and communism to help define a communal approach to the architectural process. Anarchism and Marxism like all political terms, are imprecise especially when used together,

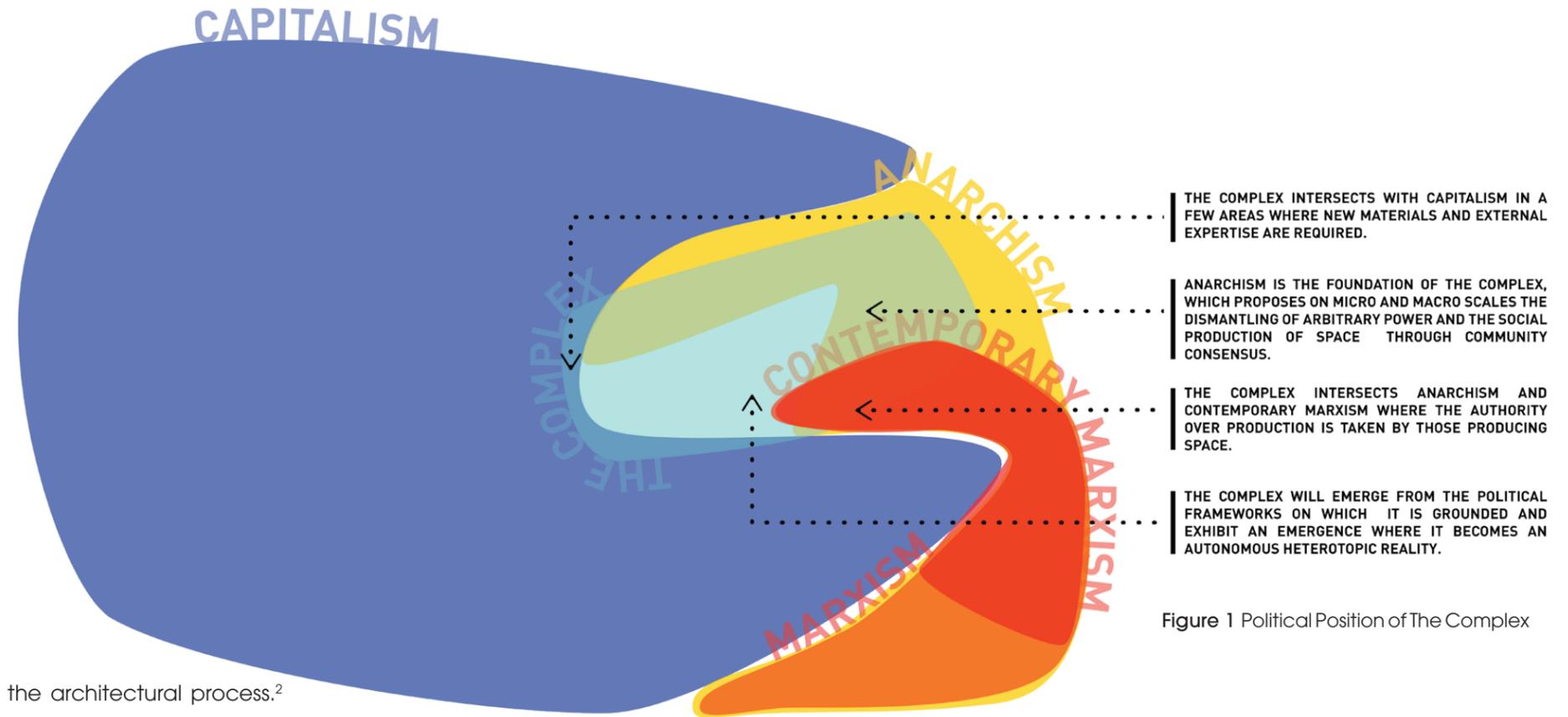


Figure 1 Political Position of The Complex

but will serve to answer a broad range of questions posed by this speculative architectural process.⁴ This thesis is not the manifestation of any single political ideology, since architecture cannot fully embody a political entity, though it might employ some of the mechanisms of them. For example, though a squat is the most potent example of anarchism in architecture, it does not exercise anarchism’s larger goal of abolishing the state, police, courts, etc. What a squat does is create a heterotopia maintained through volunteerism, eliminating private property and flattening hierarchical decision making into communal

consensus-based management.

The primary position of “The Complex” is that it sits largely outside capitalism. The question is then, where does it stand in the political spectrum? Figure 1 shows the political relationship of anarchism, Marxism (conceived by Karl Marx and Friedrich Engels and realized in communist states), contemporary Marxism (as formed by interpretations by David Harvey, Fredric Jameson, and Žižek of how Marxism applies to today) and capitalism, showing the political relationships as they specifically apply to architecture. As shown in the political model above Marxism (orange), contemporary Marxism

1.2 Critique of Capitalist Fabric

(red) and anarchism (yellow) occupy a common form representing how these ideas grow off a common core. "The Complex" is principally built on anarchism while drawing on, but not excluding, the other politics around it.

In the political diagram, anarchism overlaps then rises just above what I have labeled Marxism and contemporary Marxism, representing how anarchism and Marxism differ yet overlap significantly. At the architectural scale, anarchism is employed to challenge existing power structures, dismantling them, and then reconstructing them from below if they fail to justify themselves.⁵ Anarchism at the political scale proposes that the state, its laws and its systems of management should be replaced by communal organizations that take over the managerial responsibilities.⁶ In "The Complex" this means that owner, occupant, designer and builder are collapsed into a lateral field constituting the group who will occupy the space, and fill all these roles themselves.

Anarchism and Marxism are concepts associated with revolution, overturning state structures and instituting new governing structures. Both concepts hold that the governing structures are designed to be abolished.⁷ We see this in the communist leadership of Mao, Lenin and Stalin and so on, but these kinds of communist rule are antiquated and have little relevance to the implementation of these ideas at the architectural scale. Kropotkin, when discussing the dialogue between Marxism and anarchism in the late 19th century spoke to the division between the two movements, on this subject of revolution or critique where Marxism believed that capitalism was too strong leaving "no possibility of abolishing capitalist exploitation within the lifetime of our generation."⁸ Anarchism on the other hand held both that capitalism could be overthrown and that with this process of overthrowing there would be an indeterminate process of utopian contingency forming the original split between anarchism and Marxism.⁹ Today the debate is fully around critique and many devout anarchists who believe in the abolition of the state structures that support them to protect people from "the ravages of concentrated capital".¹⁰

This criticism is the role of anarchism and Marxism today as Fraser argues: "the Marxian critique of capitalism retains its value when shorn of its totalizing aspirations."¹¹ The role of this project is therefore for Marxism and anarchism to destabilize and reconstruct capitalism on a localized scale.

Endnotes

- ¹ Spatial Agency raises three issues with the word alternative, first that everybody's alternative is different and therefore it is a difficult idea to pin down, second that to use the term alternative is to be in the "thrall" of the mainstream, bounding the position in that which it is distinguishing itself from, and third that there is a risk that the "baby will be thrown out with the bath water" and that those aspects of the center that work will be cast aside.
- ² Nishat Awan, Tatjana Schneider, and Jeremy Till, *Spatial Agency: Other Ways of Doing Architecture* (New York, NY: Routledge, 2011), 28.
- ³ Awan, Tatjana Schneider, and Jeremy Till, 28.
- ⁴ Noam Chomsky (2013) "What Is Anarchism?"
- ⁵ Chomsky (2013)
- ⁶ Pëtr Kropotkin, "anarchism." (Encyclopedia Britannica, 1910). <https://theanarchistlibrary.org/library/petr-kropotkin-anarchism-from-the-encyclopaedia-britannica>. 9,17.
- ⁷ Carissa Honeywell, "Utopianism and Anarchism," *Journal of Political Ideologies* 12, no. 3 (October 2007): 243, <https://doi.org/10.1080/13569310701622127>.
- ⁸ Honeywell, 243.
- ⁹ Honeywell, 243.
- ¹⁰ Chomsky.
- ¹¹ Karl Marx and Friedrich Engels, *The Communist Manifesto: Rethinking the Western Tradition* (London: Yale University Press, n.d.), 27.

Chapter 2 Physical Manifestations of Anarchism and Marxism

2.1 The Squats of New York

Nnamdi Elleh, in his book *Reading the Architecture of the Underprivileged Classes* states that the architecture of underprivileged classes produced what we now call sustainable design.¹ Elleh writes about a second architectural history running parallel to modernism; the architecture of the poor not significantly benefiting from the development of modernism. Since the beginning of modernism, the architecture of the poor has shifted from a perspective of lacking and shortfalls to one where the architecture of the poor can be used to inform innovations in a broader architectural discourse.² The squats of The Lower East Side in New York City are a robust example of Elleh's statement. The squats show how anarchism's structures and political critiques manifest

themselves in built form and transform their environments over time. The squats house the underprivileged, activists and anarchists alike, providing a space for political critique and sustainability. Doing this, they not only exhibit sustainable architecture in their building and living practices but they promote sustainability and equitable housing beyond their dwellings to the scale of the neighborhood, city, and even internationally.

For any radical movement like the squats, there requires disruption in the regular patterns of capitalism to create both a need in the population and an opening for housing. For the squats of New York this was the city's bankruptcy in the 1970s which caused large scale abandonment of the Lower East Sides

tenement buildings, and a subsequent seizure of them by the city.³ The tenement buildings were abandoned as they failed to be profitable for landlords to keep and maintain. Without maintenance the tenements began to deteriorate, and some of them were even burned for insurance money, leaving behind masses of rubble.⁴ The Lower East Side slowly became a scene of abandoned tenement buildings and rubble filled sites,⁵ becoming an area of dilapidation, homelessness, and drug use.⁶ The neighborhood lacked regular political and economic structure making it a prime space for anarchists to take over and reinvent what it meant to inhabit New York City and propose another way of living.

The process of squatting and transforming the surrounding neighborhood was not, of course, a simple process as it required negotiation first between squatters themselves and then between squatters and the authorities. Some of the negotiations resulted in violence and arrests.

The tenement buildings that the squatters took over were not hospitable spaces; broken windows and holes in the roof allowed wind and rain to enter. Without heating, winters were brutally cold and the pipes would freeze, cutting off water—all of which resulted in severely

dilapidated spaces.⁷ Despite these challenges, over the years squatters repaired the tenement buildings and the neighborhood, fixing the buildings, starting community gardens and building community spaces in the storefronts.⁸ The squatters also participated in a wide range of activism, hosting regular bike rallies to promote biking in the city, maintaining communal gardens they planted for local food, capturing water for flood mitigation and to water the gardens,⁹ all of which were met with opposition by the city and the police, as they seized bikes, bulldozed the communal gardens,¹⁰ and tried (in many cases, successfully) to force the squatters out of their buildings.¹¹

The confrontation between squatters and police ramped up as the city recovered from the downturn of the 70s and 80s.¹² The confrontation between the squatters reached a climax in "1995 when phalanxes of officers equipped with helmets, shields and an armored vehicle ousted squatters from two tenements on East 13th Street."¹³ Eventually the city was pressured to allow the remaining squatters and gardens to stay, transforming the squats into official tenant owned co-ops and the gardens into city parks¹⁴ (all of which are still maintained and run by the squats).¹⁵



Figure 2 Police and Squatter Conflict from the MoRUS



Figure 3 Bike Room in the Umbrella House

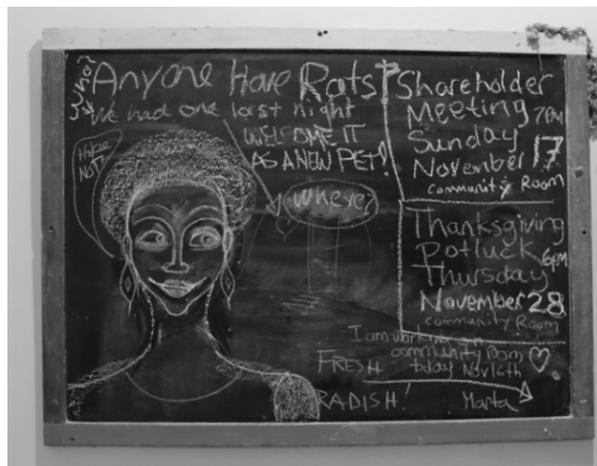


Figure 4 Information Board at the Umbrella House



Figure 5 Umbrella house in 1990

Umbrella Squat is one of the last remaining squats (now a co-op) in The Lower East Side that continues to function on an anarchist model of community volunteerism to maintain the building and the surrounding gardens through a consensus decision-making process. There is a designated community room for art production and community meetings where decisions are made in “all but one” consensus model.¹⁶ The roof gardens provide food for the building and there is a chalkboard at the foot of the stairs to communicate essential information to the tenants such as when vegetables on the rooftop garden are ready to pick¹⁷ or maintenance items that need to be addressed. The co-ops, despite being softened in their radical nature by their requirement to conform to the codes and bylaws still function communally and demonstrate environmental and social activism.

To this day, the squats hold bike rallies, garden cleanups, engage in political protests, and advocate for composting, water collection and solar power in New York. The city has begun taking on the environmental initiatives that have come from the squats (recycling and biking are two such examples that are now becoming more common in the city, and green flood mitigation which is

one currently in the works).¹⁸ This history and relationship between the city and the squats show the potential for a critical political alternative to transform dominant political structures, even ones so large and capitalist as the city of New York.

2.2 The Mining Unions of Sudbury

The communist unions of the 1940s and 1950s are an alternative political movement that had a prominent role in Sudbury and permanently changed the nature of living and working in the region. Communism at this time was a widespread political movement, and in fact, the growth of Sudbury during the 1950s was due to the United States government encouraging competition to break up communism.¹⁹ Despite the fact that communism was widespread globally, Sudbury had what Mayor Joe Fabbro described as “the dubious honour of being the worst hotbed for communism in all the North American continent”.²⁰ The reason for this intense presence of political resistance was the brutal conditions mineworkers were subjected to, creating the conditions for unionization. Oiva Saarinen wrote “...the eighty-four-hour work week and dangerous working conditions were the norm...” and that the “death of miners encouraged Finns (a major population in

Sudbury that came to work in the mines) to socialism and unionism as a match to corporate power,"²¹ which the unions were successful in doing. Not only did the unions improve working conditions but they were also able to achieve a new level of equity and ensure there was no discrimination "on the basis of sex, race, creed, colour nationality, ancestry, place of origin, or political opinion."²² Eventually public sympathy and corporate cooperation with the unions waned, starting with the major failure of the 1958 strike against Inco and continuing with a progression of seemingly less and less effective strikes.²³ The resistance against unions and their communist leanings were resisted corporately, publicly and by the government. The government went so far as to pass an order-in-council (PC2363) banning sixteen unions with communist leanings affecting two unions in Sudbury.²⁴ Despite the decrease in union power since the 1958 Inco strike, the communist unions were successful in modifying the structure of corporate capitalism in Sudbury permanently, winning a number of battles including reasonable working hours and equity for mine workers.

The tension between the communist mining unions and corporate capitalism brought into existence a better living and working environment for mine workers.

As communism modified corporate capitalism it was expended, reforming capitalism into a system that now has engrained within it, aspects of communist unionism. Communism in this way was consumed in the interaction, resulting in a reformed capitalism. This is not unlike the way the squats of New York evolved, critiquing the sustainability and ethical housing practices of New York City through the mechanism of anarchism. These mechanisms changed New York City's relationship to sustainability and housing. Eventually the most radical aspects of the squats dissipated under pressure as they became co-ops and were made to meet the standards of the municipal bylaws, but not without modifying, aspects of New York City's municipal structure.

These two precedents can be analogized through the idea of a "scar"—signifying the modification of the fabric that will have lasting ramifications, a transformation that will be imprinted and maintained as an embedded part of a modified capitalism. In this same way "The Complex" will strive to function through resisting the traditional model of housing towards decentralized production, an inversion of material production, water collection, energy production and waste disposal, and so on. The proposal acts



Figure 6 Arcosanti on a hill



Figure 7 Paolo Soleri during apse construction

2.3 Arcosanti of Arizona

as a revived exploration of political alternatives, suggesting that even if the project is dismantled and falls back into the fabric of capitalism, the political reality of Sudbury after "The Complex" would be transformed. It posits a more sustainable city, empowering the actors of domestic architecture to rely less on the current local infrastructure and move towards self-reliance.

Arcosanti is in the desert about an hour north of Phoenix, Arizona. The community was started by Paolo Soleri, an Italian architect who trained with Frank Lloyd Wright at Taliesin where he learned about the connection between philosophy and building and the ideas of organic architecture.²⁵ Soleri took the idea of organic architecture and developed what he called "Arcology",

the idea that architecture should function like an ecology that becomes more resilient and with increasing complexity and density, to create a community that is economically self-sufficient, promoting communal ownership and existing with the lowest possible environmental impact.²⁶ The original design of Arcosanti intended for it to grow to a population of five-thousand people, densely packed in a mega-structure surrounded by nature.²⁷ However, the result was much more modest, housing only around eighty people.²⁸ To accomplish this Soleri did not turn to developers and investors, rather he hosted construction workshops and eventually invited people to live, work and help build the community.²⁹ The people who came to live in Arcosanti did so, as they believed that it was important that the idea of urban and suburban living be reconstructed and that their socio-spatial philosophies manifest through the act of building.³⁰

Arcosanti has not become economically self-sufficient, and is still tied to global capitalism, relying on workshops for outsiders and the sale of locally forged bells to finance its construction. However, it continues to challenge conventional practices of ownership, labour, city making, and sustainability towards an integrated approach. Arcosanti is in its own way a heterotopia that exists in reaction to mainstream society and acts through a built critique.

Endnotes

- ¹ Nnamdi Elleh, *Reading the Architecture of the Underprivileged Classes: A Perspective on the Protests and Upheavals in Our Cities* (Burlington: Ashgate, 2014), 4.
- ² Elleh, 3.
- ³ Isabelle Garcia, "Our Collective," MoRUS, July 17, 2013, <http://www.morusnyc.org/about-morus/our-collective/>.
- ⁴ Bill Weinberg, *Tour of the Lower East Side Squats*, Neighbourhood Tour, November 16, 2019.
- ⁵ Weinberg.
- ⁶ Weinberg.
- ⁷ Bill Di Paolo, *Informal Interview in Lower East Side Manhattan*, Conversation, November 16, 2019.
- ⁸ Di Paolo.
- ⁹ Di Paolo.
- ¹⁰ Bill Di Paolo, *Visit and Tour of the Museum of Reclaimed Urban Space*, Tour, October 12, 2019.
- ¹¹ Weinberg, *Tour of the Lower East Side Squats*.
- ¹² Colin Moynihan, "Umbrella House: East Village Co-Op Run by Former Squatters," *The New York Times*, July 17, 2015, sec. Real Estate.
- ¹³ Moynihan.
- ¹⁴ Di Paolo, *Visit and Tour of the Museum of Reclaimed Urban Space*.
- ¹⁵ Di Paolo, *Informal Interview in Lower East Side Manhattan*.
- ¹⁶ Moynihan, "Umbrella House."
- ¹⁷ Moynihan.
- ¹⁸ Di Paolo, *Informal Interview in Lower East Side Manhattan*; Weinberg, *Tour of the Lower East Side Squats*.
- ¹⁹ Oiva Saarinen, "Sudbury: A Historical Case Study of Multiple Urban-Economic Transformation," *Ontario History* 82, no. 1 (March 1990): 62.
- ²⁰ Oiva Saarinen, *From Meteorite Impact to Constellation City: A Historical Geography of Greater Sudbury* (Waterloo: Wilfred Laurier University Press, 2013), 250.
- ²¹ Saarinen, 236.
- ²² Saarinen, 239.
- ²³ Saarinen, 246–59.
- ²⁴ Saarinen, 189.
- ²⁵ Kirsten Dirksen, *Arcosanti: Paolo Soleri on His Futuristic Utopian City in AZ Desert*, 2016.
- ²⁶ Awan, Tatjana Schneider, and Jeremy Till, *Spatial Agency: Other Ways of Doing Architecture*, 134.
- ²⁷ Dirksen, *Arcosanti: Paolo Soleri on His Futuristic Utopian City in AZ Desert*.
- ²⁸ *Arcosanti - World Famous Urban Laboratory and Architectural Experiment*, Arcosanti, accessed March 2, 2020.
- ²⁹ *Arcosanti - World Famous Urban Laboratory and Architectural Experiment*.
- ³⁰ Dirksen, *Arcosanti: Paolo Soleri on His Futuristic Utopian City in AZ Desert*.

Chapter 3 Utopias and Heterotopias in Architecture

3.1 The Role of Heterotopia as a Critical Mechanism

Either their (the Heterotopia's) role is to create a space of illusion that exposes every real space, all the sites inside of which human life is partitioned, as still more illusory (perhaps that is the role that was played by those famous brothels of which we are now deprived). Or else, on the contrary, their role is to create a space that is other, another real space, as perfect, as meticulous, as well arranged as ours is messy, ill constructed, and jumbled.¹

Michel Foucault.

"The Complex" will be heterotopic by mirroring capitalist society, containing all the same infrastructural elements turned inward as a means of defining a world in a piece of architecture, positioned against or in relation to the world outside it. The "otherness" necessary to make "The Complex" heterotopic will pivot on revolutionary politics which will define the nature of the architecture and the way it responds and emerges from the group of

occupants in the architecture.

Prominent leftist thinkers, such as Harvey, Žižek and Marx, explore the idea of revolution as a response to capitalism and imagine this transition between today and some future utopian socialist order. Marxism calls for a replacement of the political-economic order while anarchists call for a removal of political economic structure all together (at least for a while) until new structures are instituted.²



Figure 8 Constant Nieuwenhuys: New Babylon

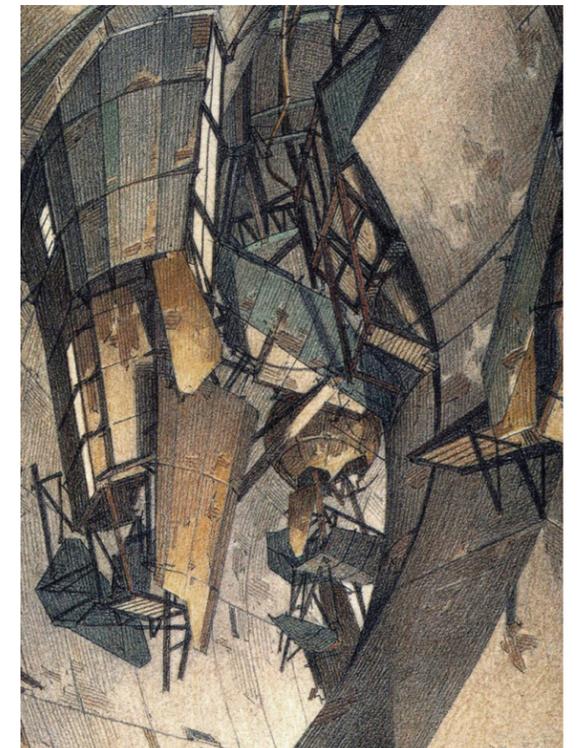


Figure 9 Lebbeus Woods: Underground Berlin

Although the political ideas behind this thesis are in dialogue with Marxist and anarchist utopias, the political-economic ideas as they apply to a spatial practice, are not situated within a revolutionary movement. Rather, they critique the fabric of capitalism, specifically how capitalism produces space to control behaviour, privatize and normalize. By using Foucault's idea of heterotopic space, I propose another organizational structure which sits within capitalism yet performs outside of the typical productions of space. Capitalism requires critique as it is an incomplete system which requires moderation to function in such a way as to avoid what economists call "negative externalities." Negative externalities are the collateral affects which occur in the process of creating capital; for example, pollution released as a byproduct of industrial production.³ To prevent negative collateral effects of unchecked capital, negative externalities must be mitigated through government intervention and citizen action. Government intervention is not the focus of this thesis, with the focus instead on collective citizen action, which in this context refers to people's actions through organizing (including protests, union organization or dwelling alternatively as a lived resistance, as in the squats of New York). Here I will

investigate the utopic ideas of artists and architects who explore radical otherness in architecture and politics through theoretical drawn and modeled works of architecture.

3.2 The Utopian Visions of Woods and Nieuwenhuys

Utopias are the means for us to develop what Lebbeus Woods calls a "common myth", a story to guide society towards a dream of the future along some common trajectory.⁴ The radical utopian architecture of Woods and Constant Nieuwenhuys employ themselves in building this common myth. Their designs explore how societies can decouple themselves from the world around them and reject the political, economic, social and spatial aspects of capitalist society. Their architecture disrupts, inverts and challenges normative architecture in response, proposing radical visions of future worlds.

The political ideologies of both Nieuwenhuys and Woods are related to anarchism, but they transform it into socio-political ideas specific to their respective architectures. Heterarchy is the term Woods uses to organize the actors in his architecture into a lateral social structure, while for Nieuwenhuys

it is the Homo-Luden (people of play) who negate social structure almost all together.⁵ These socio-political ideas define the relationship of the actors to the architecture, allowing them to transcend their individuality and become the embodiments of their authors ideas, manifesting in architectural proposals. In Woods' proposal: Underground Berlin he imagines a group of actors who work tirelessly on experimental architecture, working towards not any specific end but towards architectural and technological advancement.⁶ This relationship to a way of living exists in a space sealed from the surface world of the divided Berlin, negating the political division through a heterarchical social order, creating an architecture of connectivity in an inverted world built inside enlarged subway tunnels.⁷ New Babylon is nearly a direct reflection along the horizon line of Woods' idea. What was below in Berlin is now above in Paris, but equally connected and experimental. These projects carve out a new space in the city, existing just outside the boundary of the urban surface

yet subvert every infrastructural, social and aesthetic pattern. These utopias use cybernetic technologies to manage what was before sustained by people, carrying out the routine maintenance of the city and with the actors free from the banalities of life they are free to act autonomously, laterally or anarchically, liberated from the oppression of hierarchical structure.

The actors in New Babylon and Underground Berlin are illustrated not as a series of individuals but as a unified group. The actors are defined by the traits they share rather than their individual identities, collectively becoming the idea of a political ideology held in common and facilitated by a social and technological structure. In defining the actors in this way, the architecture is privileged in becoming the protagonist. Not beholden to the wishes and desires of individuals but rather a product of a more concentrated political manifestation. The occupants inside are animated only so far as is required to give rise to the architectural process.

3.3 Critique From a Heterotopia

Ultimately, self-organization is used to articulate the kind of revolutionary politics without the need to make the revolution, valorizing and prescribing what will come to be pre-figurative strategies, practices building small-scale alternative projects embedded in everyday life – a kind of maximally organic, rhizomatic movement without vanguard or central direction: the anarchist conclusion is that every kind of human activity should begin from what is local and immediate, should link in a network with no center and no directing agency, hiving off new cells as the original ones grow.⁸

John Duda.

John Duda, in *Cybernetics, Anarchism and Self-Organization*, states that rather than promote revolution, a small-scale project can position itself within an existing system taking a position of critique. It is here where the architecture of this thesis is positioned, within the dominant order, critiquing it in a lateral manner. The architecture will be called "The Complex", for its amalgamation of typically dissonant programs within a single envelope becoming a heterotopia, a world turned in on itself to reflect society outside. This is distinctly different from the positioning of Woods' Underground Berlin that sits beneath the city or Nieuwenhuys' New Babylon sitting above. In both cases, they carve out spaces outside the normal functioning architectural and urban environments and are thereby liberated from the need to address their contexts.

The positions above and below, puts these projects in a space that allows them to ignore large aspects of spatial and political constraints and contexts. The architecture of "The Complex" will not function in this way and instead will position itself within an existing context, juxtaposing the dominant order by engaging in revolutionary politics from a lateral position and performing as a catalyst for a revived political dialectic.

Endnotes

- ¹ Michel Foucault and Jay Miskowiec, "Of Other Spaces," *Diacritics* 16, no. 2 (Spring 1986): 26.
- ² Honeywell, "Utopianism and Anarchism," 243.
- ³ David Robinson, Meeting with David Robinson, November 11, 2019.
- ⁴ Lebbeus Woods: Sentricity: The Unified Urban Field (November 30, 1988) Part 1 of 2, accessed December 14, 2019.
- ⁵ Mark Wigley, Constant's New Babylon: The Hyper-Architecture of Desire (Rotterdam: 010 Publishers, 1998), 162; Vico Morcote, Lebbeus Woods: the Vico Morcote interview, 1998.
- ⁶ Lebbeus Woods.
- ⁷ Lebbeus Woods.
- ⁸ John Duda, "Cybernetics, Anarchism and Self-Organization," *Anarchist Studies* 21, no. 1 (2013): 66.

Chapter 4 Architectural Intentions



Figure 10 Key Plan

4.1 Context: Site and the Politics of Space

The endeavour to modify the structure of our current political-economic system, principally capitalism's role in climate change and inequality as components of globalization, cannot be accomplished through an effort on the global scale. Rather, this fight must become thousands of local movements resisting the negative externalities inherent in our capitalist system.¹ For this reason "The Complex" will be sited locally, in downtown Sudbury, in the Mackey (Maki) building on the corner of Durham St. and Elm St. The building was once the Hotel Frontenac and later became offices for doctors and lawyers until eventually it was largely abandoned save two storefronts; a Pizza Pizza and a Cash Money (businesses typical of a struggling economy). The Mackey building faces the city's financial district, with four

banks and two large open lots where many people who are homeless gather and beg for money.

The Mackey building is one of a few heritage buildings in Sudbury that remains, but today is severely underused. Its interior has been demolished and left in a state of disrepair, rubble covering the floor, windows boarded up, elevator removed and so on. The materials on the site and in the immediate context will inform the first assembly and construction processes of the architecture. As the initial interventions of the reconstruction will be using those materials, which are immediately available, the material analysis and exploration will begin from within the building. The material explorations will be discussed in Chapter 5 and will be used to catalogue those materials that already exist on the site to

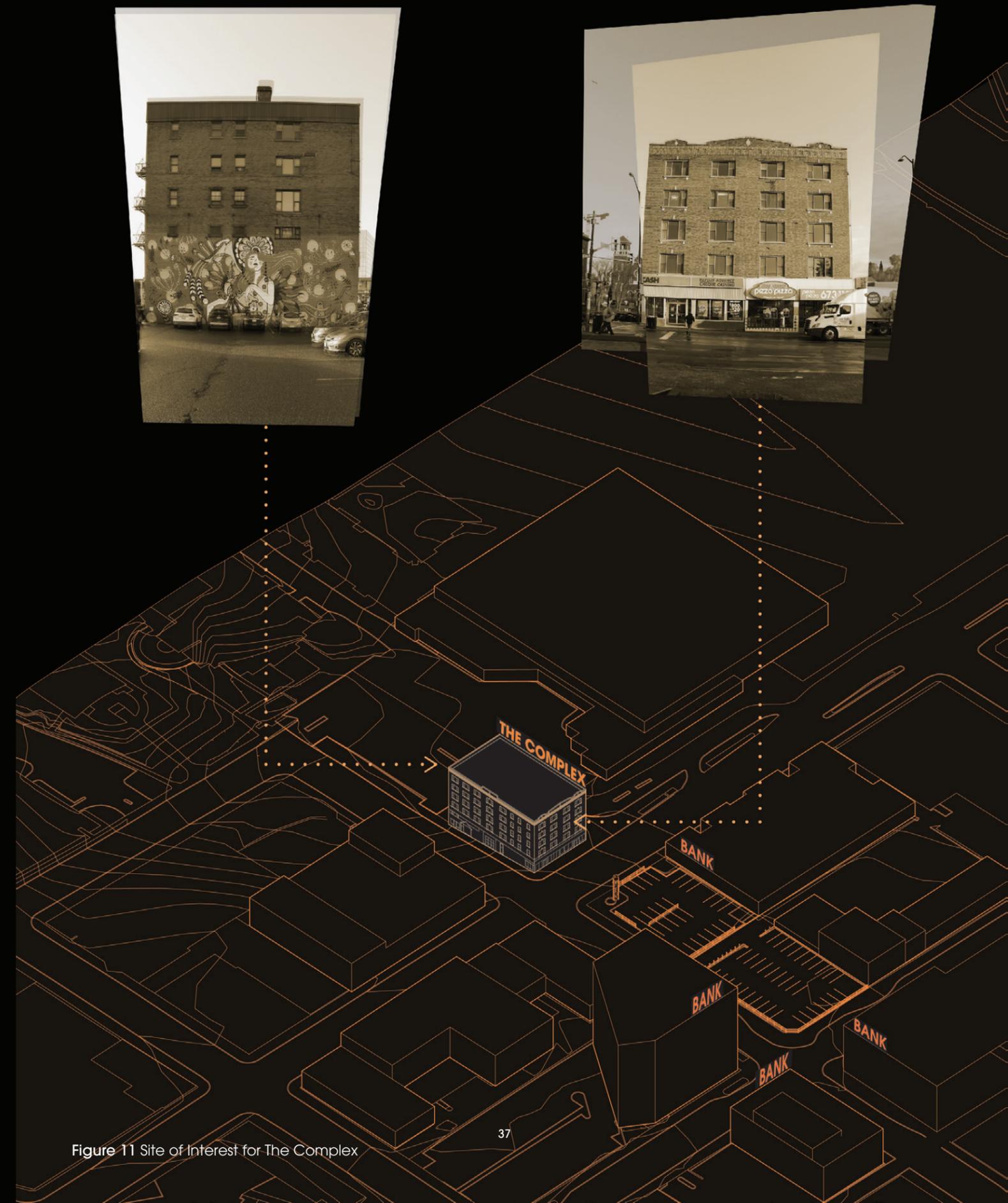


Figure 11 Site of Interest for The Complex



Figure 12 Main Floor of the Mackey Building

inform the first moves of the architectural intervention.

Today the building is owned by a developer living in Toronto, who has left it unoccupied and in a state of demolition, presumably hoping that it will increase in value at a time when the economy of Sudbury improves. For a group to move in and transform it into "The Complex" a disruption needs to occur to allow this to happen. In this thesis, I will not attempt to illustrate this transition between now and a future where "The Complex" becomes a reality in absolute terms but explore the possibility, given the context of our current political-economic reality.

Today the COVID-19 pandemic is affecting many of the world's most powerful countries including China, The United States and The United Kingdom. As a result, the global economy has practically ground to a halt, driving the stock markets down. Global disruption is not only an imaginable possibility but an indisputable reality. It is now plausible to imagine that as the economy once again fails and that a building like the Mackey becomes economically unviable and is abandoned to the city. Then given the extraordinary times of economic collapse in the wake of COVID-19 and the climate change emergency that Sudbury has announced, an exemption is passed, allowing a group to experiment with radical

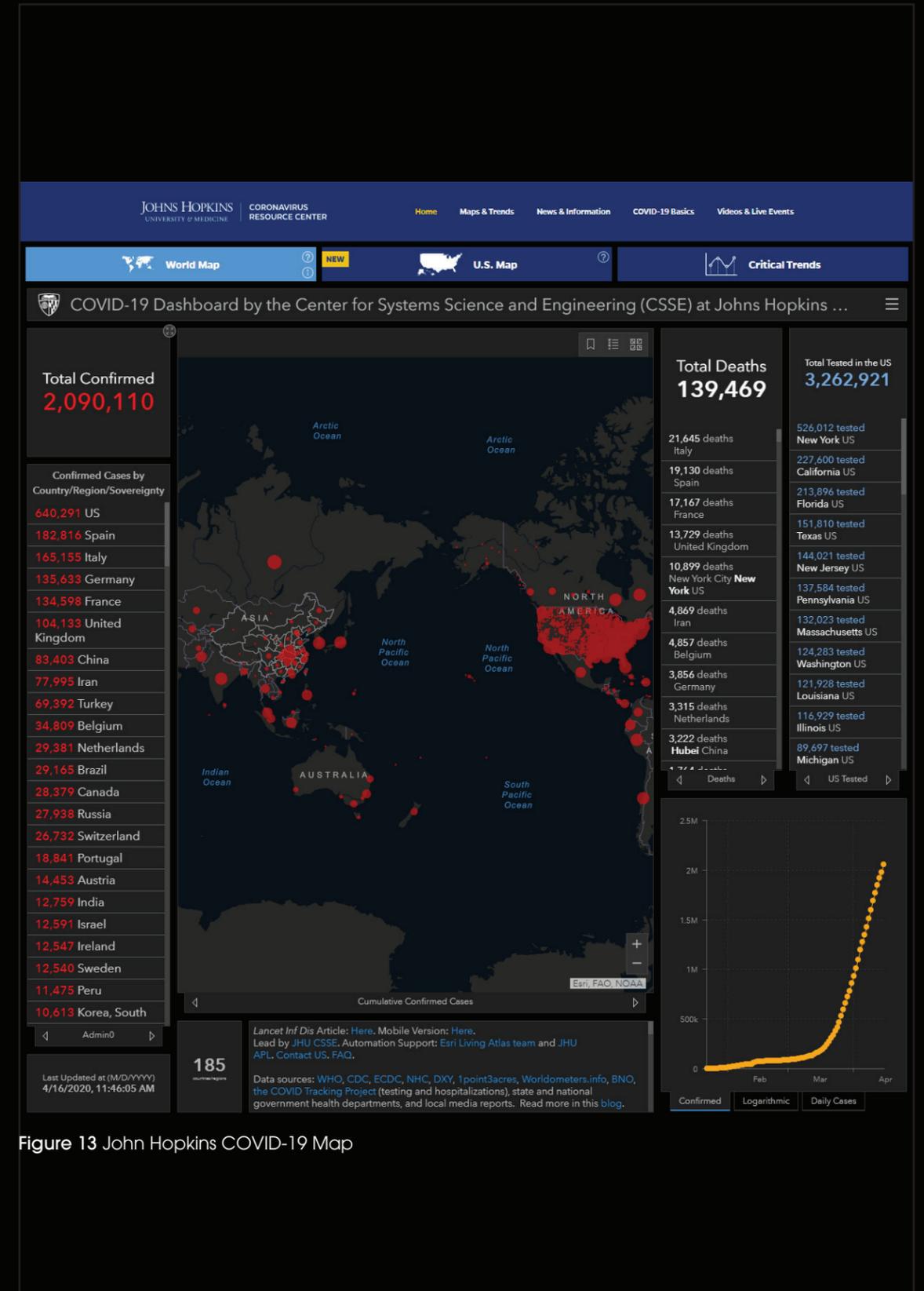
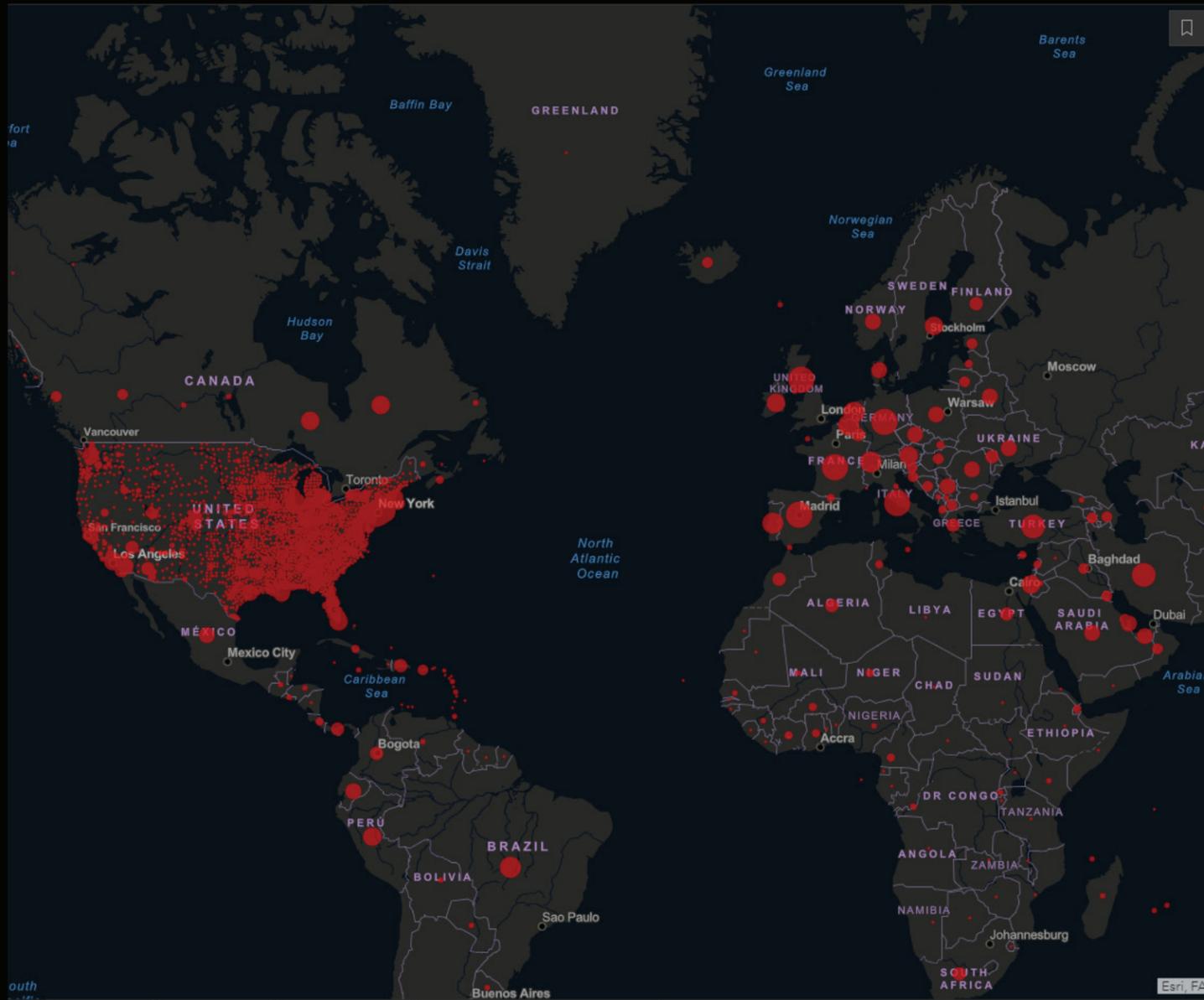


Figure 13 John Hopkins COVID-19 Map

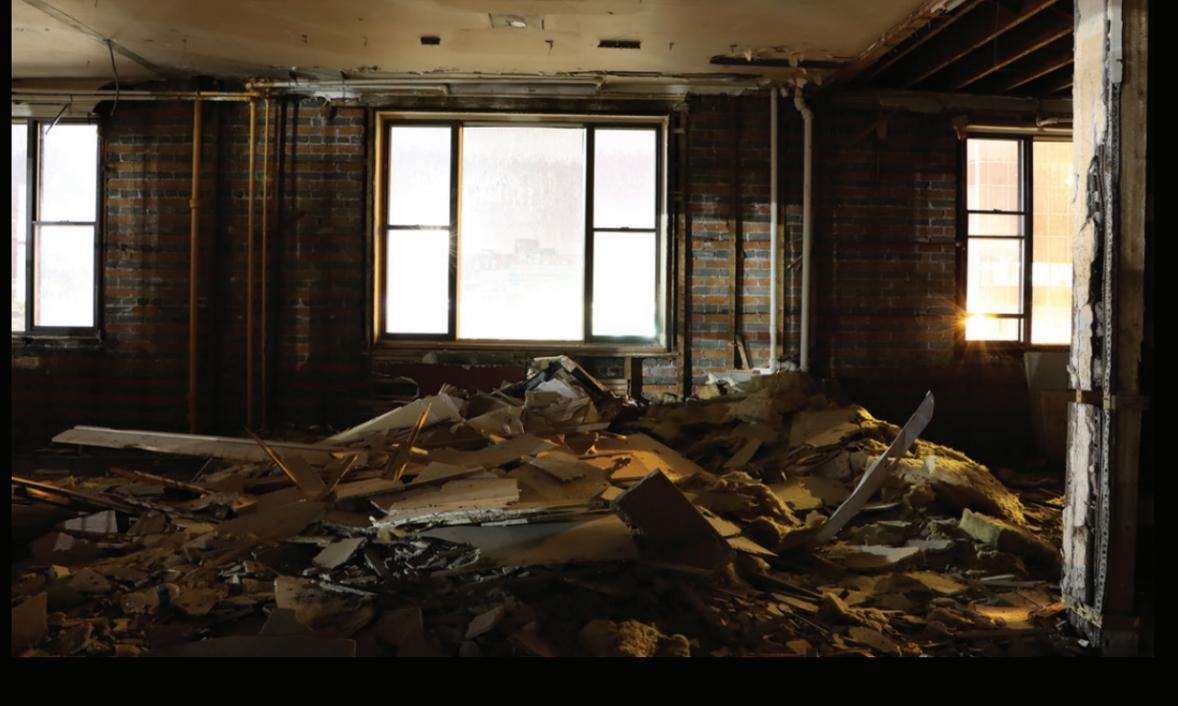


Figure 14 Mackey Building, Floors 4 & 5



Figure 15 Second Floor of the Mackey Building

possibilities for building a new architecture. This idea of an exemption for architectural experimentation is not unprecedented and has been granted to some experimental projects such as Michael Reynold's Earthship communities in New Mexico.² The group who will build "The Complex" could argue that a new typology for housing is desperately needed given the climate change crisis and that what this requires is action and experimentation.³ Disruption, a change of hands, and a legal exemption is a simple formula that has worked for the Earthships and for the squats of New York. This formula will outline a plausible narrative emergence for something truly radical, in this case "The Complex".⁴

4.2 Defining the Group and their Intent

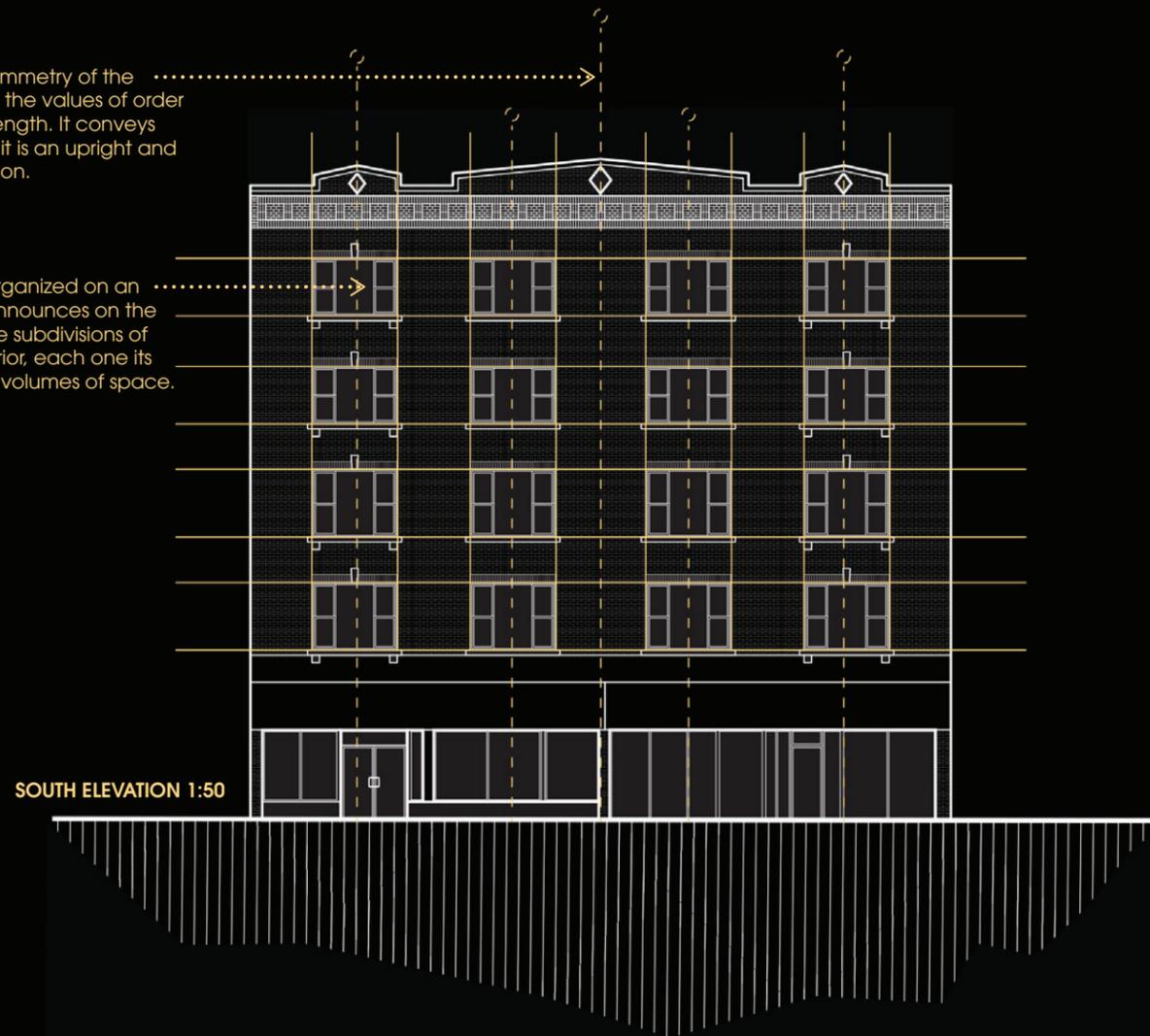
There is an increasing awareness and urgency felt by many surrounding the issues of climate change and growing inequality in relation to the trajectory of our current capitalist system. People are organizing and protesting as we approach what Žižek calls the 'apocalyptic zero-point', where resource depletion, ecological evisceration and financial meltdown coalesce into a catastrophe.⁵



Figure 16 Mackey Building, Floors 2 & 3

The classical symmetry of the building expresses the values of order, uniformity and strength. It conveys the message that it is an upright and trustworthy institution.

The window, organized on an orthogonal grid announces on the exterior the private subdivisions of space on the interior, each one its own purchasable volume of space.



SOUTH ELEVATION 1:50

Figure 17 The role of the Mackey building in capitalism

According to one account the Men's entrance to the building was separate from the Ladies (labeled *ladies and escorts* as seen below). Likely located on the West side of the building. The hotel was probably visited by men on work trips to the mines around the city and escorts would be employed to entertain them, acting as one component of doing business in Sudbury.



A line, offset from the exterior wall defines a space of privilege.

When the Mackey building was an office building this defined who had access to light and who did not. The secretaries are set behind this line where they worked in artificial light.

When the building was a Hotel a similar line would have defined the private space of the room from the hall.

Corners are known to be the space of the highest privilege, as they have access to light from multiple directions and are distinguished spatially by their geometric position in rectangular buildings.

PLAN 1:50

Historical Photo From: Henry, Brian. "Quick Brown Fox: Sudbury 1972: The Frontenac Hotel by Anne Burlakoff." *Quick Brown Fox* (blog), May 7, 2017.



Figure 18 Chilean Neoliberal Protests



Figure 19 Canadian Climate Change Protests in Ottawa

It is this which the group occupying “The Complex” act in reaction to; exercising their agency to live out an alternative to the path that ends at the ‘apocalyptic zero-point,’ exercising alternative material processes largely outside capitalism and a reformed life structure both politically and socially. Like the squatters of New York City, this group of actors seek to subvert the infrastructural organization of

capitalist society and in response act upon built form to dismantle and reconstruct space, severing the umbilical cords to the surrounding infrastructure and creating a free space of action and play. Essentially the actors seek the independence to act experimentally, to develop a small anarchical world wherein a new paradigm for living sustainably can emerge.

The group will reconstruct based on three core principles:

1. The group will participate in deconstructing the spatial assumptions and spatial relationships of capitalism.
2. The group will reject typical ownership and privatization models and transform space towards a model of common ownership.
3. The group will act not to accomplish a resolved design concept but rather, act experimentally directed by the common intent towards a paradigm of anarchical sustainability and self-sufficiency.

The constituents of the group are not limited to those who identify as activists and anarchists but might come from any number of possible backgrounds. They might be artists, musicians, disillusioned bankers or politicians, tradespeople and so on, they can be young or old, single or have a family, poor or rich and so on. There are no boundaries if they are committed to building and living in alignment with the three principles laid out above. This thesis will not seek to define the group in

“The Complex” as a collection of discrete individuals but rather define them by their common intent, their common ideological and political positions, and their ideas on how to realize these formally. I am not suggesting that they are a homogenous crowd, but rather a diverse ensemble of individuals whose political and ideological positions are in alignment. The actors will be unified through the practice of dwelling and building as an act of resistance and political critique. The actors

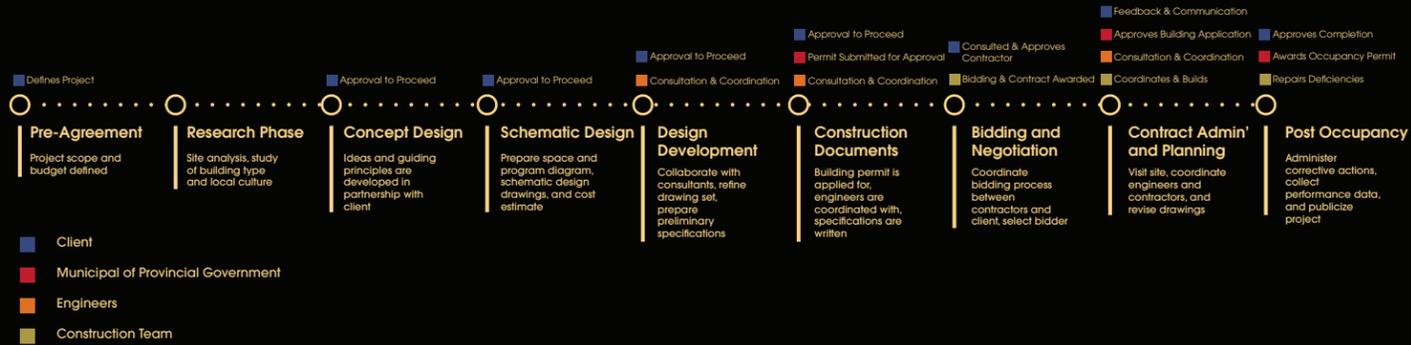


Figure 20 Typical Design Process

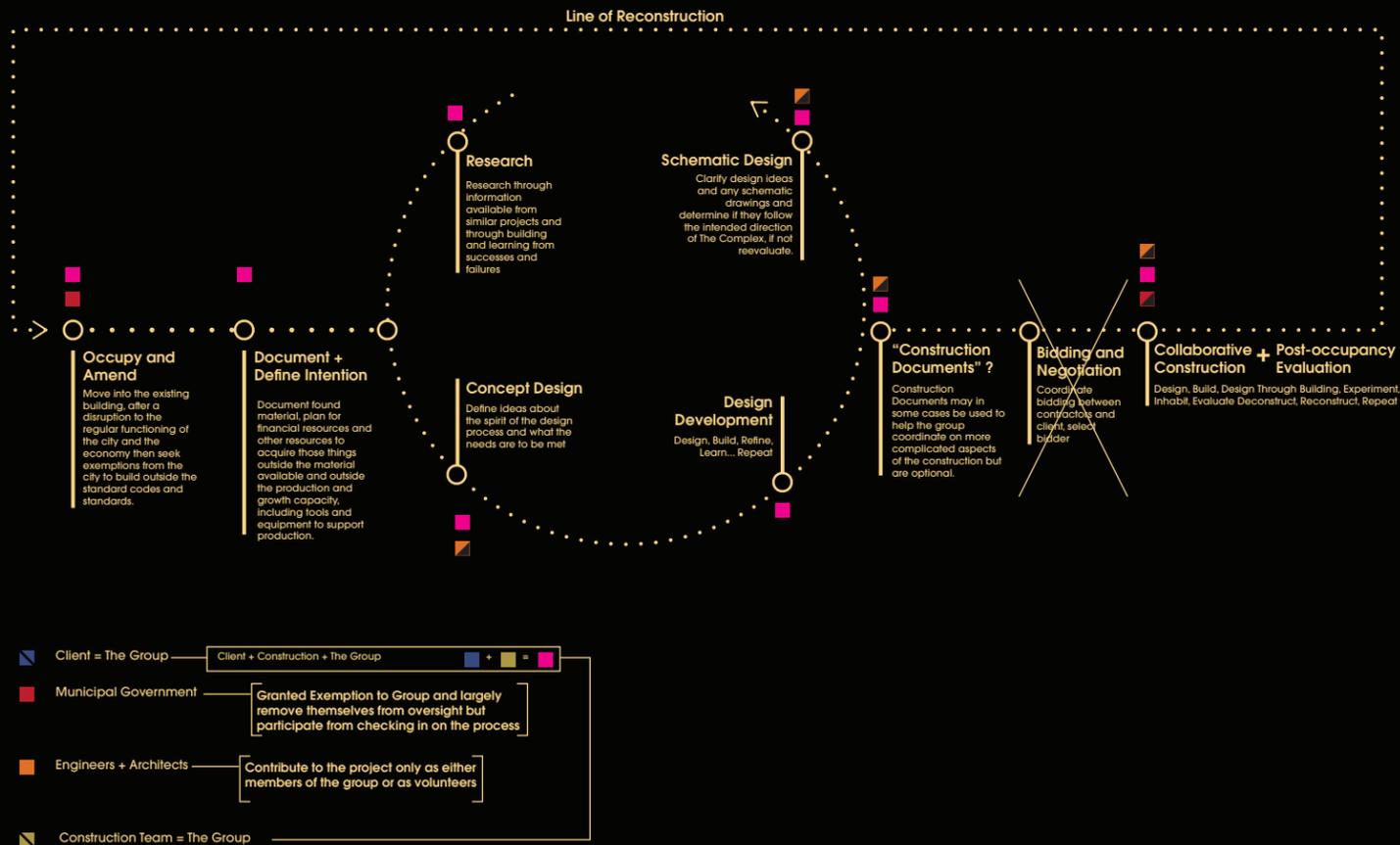


Figure 21 The Complex's Design Process

in the architecture will be defined by a displeasure with capitalism's tendency to push a consumerist relationship, contributing to the issues of climate change and inequality. The enormity of these issues is growing and the displeasure with how these issues are being addressed is being understood now to be inadequate and increasingly exacerbated. In response, the actors in the architecture strive to create a paradigm for living that subverts the normative practices of living. Building and interacting with broader society, the group believes that they should retake agency over spatial production (on the small scale this means simple assembly of material and on the larger scale this reforming means the infrastructural and production networks of cities). Building is the group's medium of political critique, where with increasing intensity political arguments need to be realized in physical forms, both visually and in relation to lifestyle paradigm as proof of concept.

This group will hold in common that decentralization and democratization of technology is vital to the project allowing them to exit the manufacturing and market exchange of a capitalist system. To achieve this, traditional architectural tools will be used, as well as open source technologies, in addition to bio fabrication as it becomes feasible and available as

an open source technology. The group will deconstruct the dominant system within the architecture and through a kind of play recreate a paradigm for living outside capitalism, collapsing work and life into a single relationship, much like the Homo-Ludens of New Babylon.⁶

The initial occupation of the Mackey building will be difficult, as the space is largely dilapidated, without electricity, heat or water on the upper floors which will require the initial occupants to be hardy while these necessities are established. As with other radical movements like the squats of New York or Earthship communities, early adopters face challenges in establishing something new. One man in an Earthship community describes the years he spent living in a tent in a hole as he built his Earthship around him, as did many others, managing their condition with excitement for the movement they were a part of.⁷ Like the Earthships, the Mackey building will become more accommodating over time, as amenities are established, allowing a wider range of people with lower levels of tolerance to join the group and contribute in ways that require different abilities. Each stage of the project will have different needs to meet as more and more of the fundamental needs of people are satisfied, which will be discussed later in the Chapter 6 A narrative exploration.

4.3 The Architectural Process

The architecture will dismantle the structures, patterns and standards of capitalist space and living, reforming the paradigm toward a model of anarchism as laid out in "Figure 22 Material Process" on page 56. In "The Complex", typically discrete and controlled spaces will be destabilized and put into a state of flux, transforming as required by activity and action. Structures and systems will not be permanent and if they fail to adequately meet the needs of the users, will be dismantled or adjusted as necessary. A scene of construction and deconstruction, scaffolding, fencing, and general messiness associated with building will be a part of the aesthetic and the lived reality of the place. The aesthetic results that have emerged from the architecture embody a dissatisfaction with the state of dwelling under capitalism, and the will to reform radically, hopefully bringing to light the ugliness and oppression behind typical ideas of beauty and the beauty behind what might typically be seen as ugly and unconventional.

The architecture and the processes that produce it aim to develop a self-sufficient jurisdiction, or heterotopia, formed through an iterative process. The reconstruction of the Mackey building

will largely develop organically outside a typical architectural process as seen in "Figure 21 The Complex's Design Process" on page 52, unfolding through experimentation driven by a shared idea of common ownership, sustainability and a distribution of resources and labour that rejects capitalist production of space. The architectural process is reconstructed by striving to balance the embodiment of a political ideology with the physical needs of the occupants. The physical needs will be met in a piecemeal addition of technologies developed as required by the group while the political ideology will be embodied in the spatial organization, tectonic assemblies and formal expression.

To fulfill the design intentions the thesis will go back and forth between modelling and drawing. Several drawings will structure the unfolding of the architectural process. First "Figure 23 Programmatic Massing Strategy" on page 58 will set an intention for both how the programs interact effectively with respect to usability by the social group and the individual with respect to the functioning of the building systems. For example, in "Figure 23 Programmatic Massing Strategy" on page 58 the stack of four small blocks show vertically layered building systems, which feed water using gravity from the roof, through a filtration system, into the

bathrooms and finally into a composting/ greywater room, while the electrical room sits above the wet space to prevent water damage. This massing diagram outlines a large grain solution to spatial use and building systems to give some structure to the modelling process. The modelling process of the thesis will employ the ideas exhibited in Figure 23 and form them into a tectonic language developed through a haptic process. The physical modelling process in a way replicates the experience of acting on the space as a member of the group, managing the constraints posed by the material's limits and availability, and addressing them through a speculative building process. To better approximate the group's limitations when acting on the building, I limited the tools and materials I worked with, using only small hand tools

and materials that emerged from the building with few external inputs, all which were thoroughly addressed in the narrative process in Chapter 6. The Drawings at the end of Chapter 6 finally depict the project at its most mature and detailed stage, showing how the intentions in the programmatic and massing diagram were developed into a tectonic language through the modelling process then completed through a drawing process to show, the still incomplete, but ultimate state of "The Complex".

To guide the drawing and modelling process I have used four rules to ensure "The Complex" stays true to its goals. These goals will help translate the group's socio-political principles into an architectural language of tectonics and spatial conditions.

The four guidelines for the architecture are:

1. The architecture must situate itself outside the normal processes of capitalist production and deconstruct what exists of it.
2. The architecture will function as a self-sufficient, decentralized and sustainable heterotopia.
3. The architecture will support and house communal actions to produce itself and the products that come from it.
4. The architecture will be designed to perform as an anarchical critique for a way of living that exists outside capitalism.

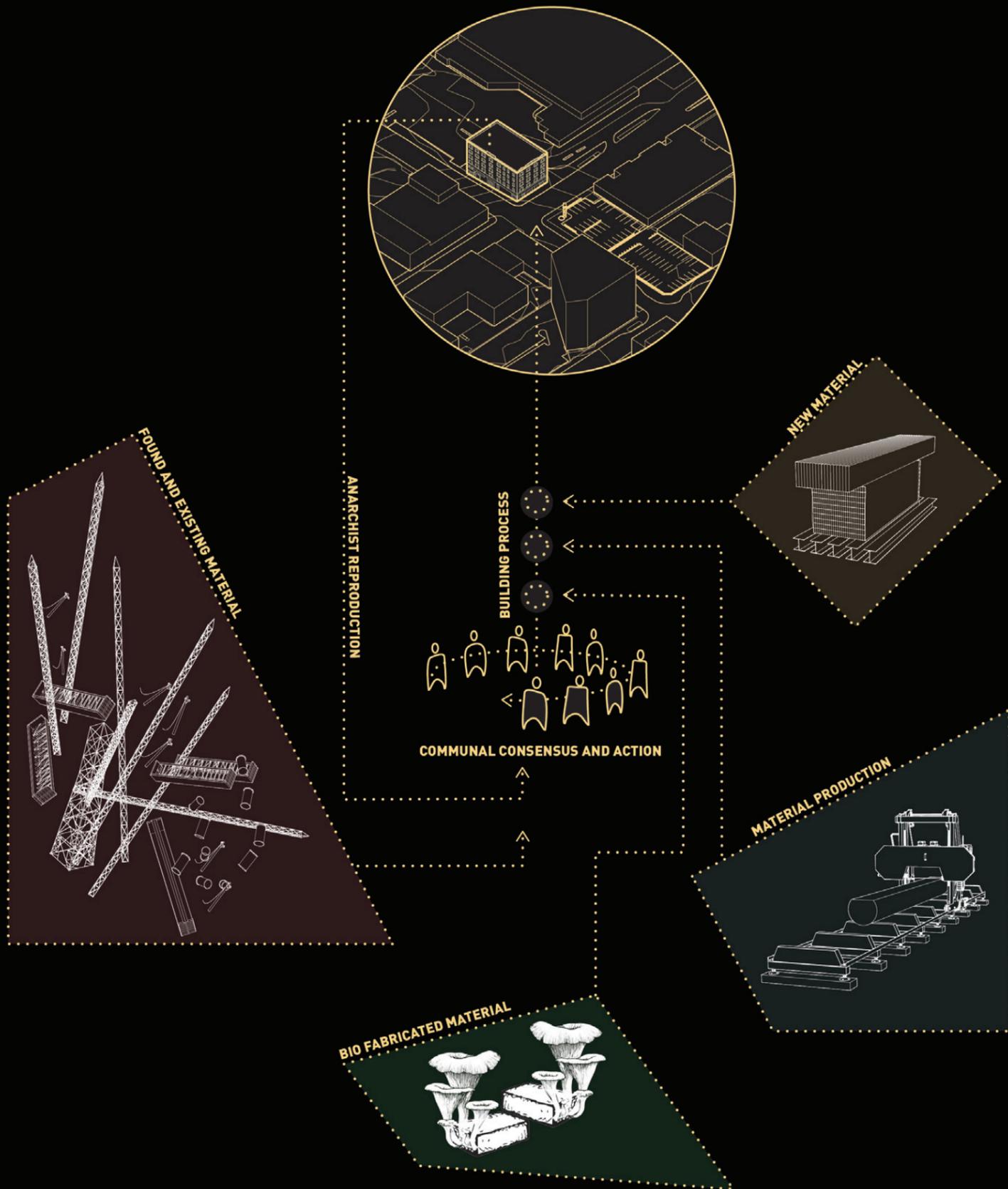


Figure 22 Material Process

4.4 Technological Facilitation for Self-Sufficiency

“The Complex” will acknowledge the advancements of technology and what it has to offer architecture but use it only in-so-far as it is able to improve the capacity for architecture to achieve autopoiesis (the ability to self-produce) and decentralization, through the employment of small-scale production technologies.

Technology’s role will rather allow the architecture to sever itself from the physical infrastructure of the city and governing structures by decentralizing it, freeing the actors to act autonomously free from the need to be beholden to any government or municipality for services. The technologies implemented in the architecture will include water collection systems, solar panels, windmills, composting toilets and wood stoves. When included with gardens and production facilities, the architecture will achieve self-sufficiency.

The architecture will be largely autopoietic. This does not mean a full material self-reproduction of the architecture, meaning the sole use of materials that already exist on site, but will permit the entry into the reconstruction process of materials outside the building such as trees, cell phone towers, hay, plastic tarps, production technologies (sawmills, electronics, and bio-fabrication equipment) and so on. The architecture will function as both dwelling and production facility. Technology will therefore be one means of freeing the actors to use material processes to propose spatial realities and new ways of living. Therefore, technology will be used not for the sake of itself but playfully to promote and ultimately achieve autonomy.

Endnotes

- ¹ Naomi Klein, “Reclaiming the Commons,” *New Left Review*, no. 9 (June 2001): 89.
- ² Michael Reynolds (Garbage Warrior) developed a bill he was successful in passing in New Mexico for the construction of Earthships. Reynolds’ bill allowed him to work in an experimental mode of practice creating self-sufficient and thoroughly sustainable communities of what he calls biotecture as built form of critique of mainstream architectural practice and the domestic norm. (Hodge, Oliver. *Garbage Warrior*. Mp4, 2008)
- ³ Oliver Hodge, *Garbage Warrior*, mp4, 2008.
- ⁴ Di Paolo, *Visit and Tour of the Museum of Reclaimed Urban Space*; Hodge, *Garbage Warrior*.
- ⁵ Michael Truscello and Uri Gordon, “Whose Streets Anarchism, Technology and the Petromodern State,” *Anarchist Studies* 21, no. 1 (2013): 9–10.
- ⁶ Wigley, *Constant’s New Babylon: The Hyper-Architecture of Desire*, 162.
- ⁷ Hodge, *Garbage Warrior*.

Chapter 5 Material Processes and Conceptual/ Synthetic Work

5.1 Conceptual Drawings

The conceptual drawing process forms the intentionality for the constructive material processes in this project constituting 4 layers:

1. Field (lateral organization of non-hierarchical process)
2. Vector (movement of material in a continual reconstruction process)
3. Catalogue (material available on and around site)
4. Program (defined by intersections, action and resulting space)

The conceptual drawing process was used to translate ideas of anarchist organization specifically, the act of using what exists; unused and available material as a first step into the construction (and reconstruction process). In this way what is achieved is both a decoupling from market processes, which in all cases relate to a statement about sustainability and addresses the residue of capitalist production. The result was a material catalogue of what exists on and around the site, starting with the small materials in the

building; broken gypsum, lathe, 2x4s, ducts etc. leading to larger materials in Sudbury's landscape; cell phone towers, center beam train cars, unused telephone poles etc. displayed in approximate quantity.

The scale of material is composed in 3D space, using the viewers perspective to compose the material in a balanced size, larger material farther back in space and smaller material closer to the viewer. This perspectival mechanism functions with the double purpose of balancing the composition and insinuating the phasing

of the project and the material process. Materials closer to the viewer are movable by hand and immediately available within the existing building, which will be worked during the early stages of the project, while the material in the background represent the materials that are larger, more difficult to acquire and will be used in the later stages of the project.

The operations on the material begin to form assemblies, which I refer to as creatures¹ as seen on page 62 and 63. They represent the first moves on the architecture and move toward a design of space and architecture but represent an inverted architectural process of design emerging from a building process, the results of which begin to inform the actions in space, program and definition. The creatures are formed by actions of unrolling, pulling, tearing, reinforcing layering, stacking and so on. They are the first manifestation of a radical political idea of denying normative architectural processes, and they are suggestions of larger more radical actions that will follow.

The program of "The Complex" is indefinite, and in flux. It is a result of

Endnotes

¹ Creatures are a drawn manifestation on material assemblies. They are not architecture in themselves but begin to announce how architecture and radical assemblies would begin to form from the material at hand and be assembled using simple methods. The creatures evolve over time and vary based on context and become more living organisms over consumer building products.

experimental action guided by the common intent of the group discussed in section 4.2 *Defining the Group and their Intent*. It can therefore not be expressed in any unified way but instead exists as a contingency of material and spatial action. Expressed in these drawings, sometimes as colour forms and other times a collection of vectors, insinuating action both in transforming the material and action within it resulting space.

The idea is conceived as a three-dimensional idea, which is collapsed into two-dimensional space and animated into the fourth dimension. The multitude of representational methods test and expresses the ideas of the four layers with varying emphasis and articulation; the animations showing the depth of the field and the texture of objects, the drawings emphasizing program, or material, field or dynamic action. The multifarious representations test the density of overlaid meanings and ideas, sometimes pushing the drawing until its meanings are illegible and others leaving it so evenly balanced that there is no visual hierarchy, then finding a compositional balance between these extremes.

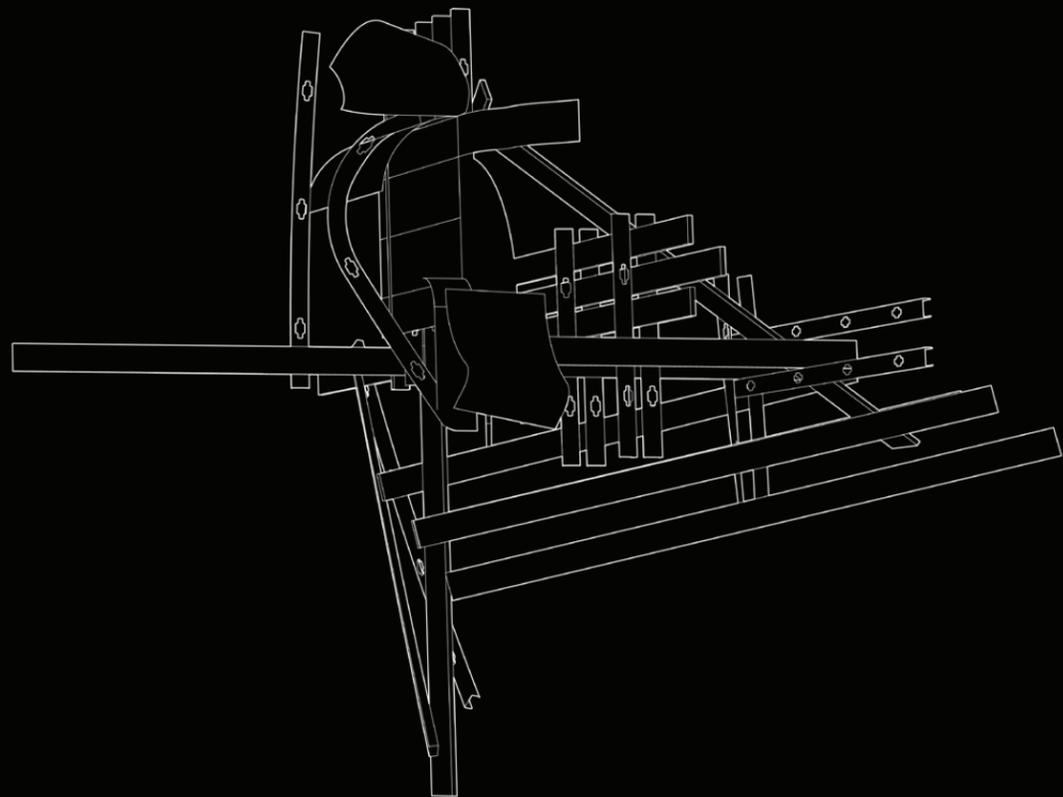


Figure 24 Creature 1 (Duct, Mtl 2x4s, Wood 2x6s)

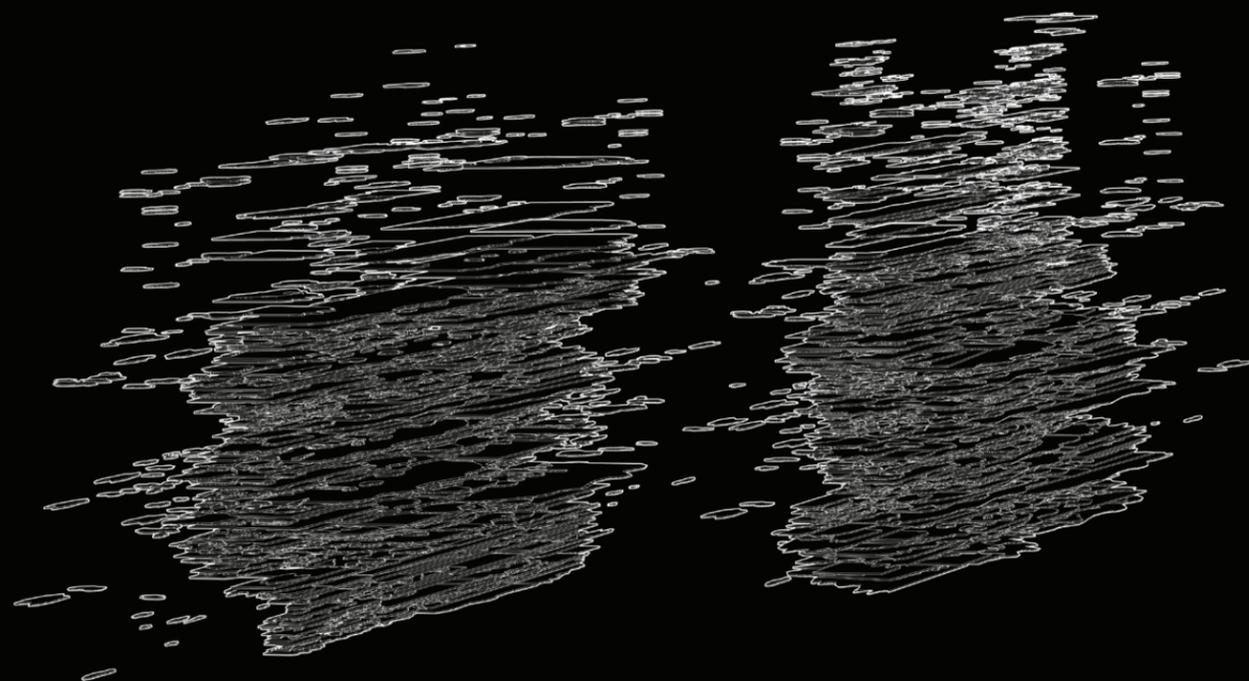


Figure 25 Creature 3 (gypsum)

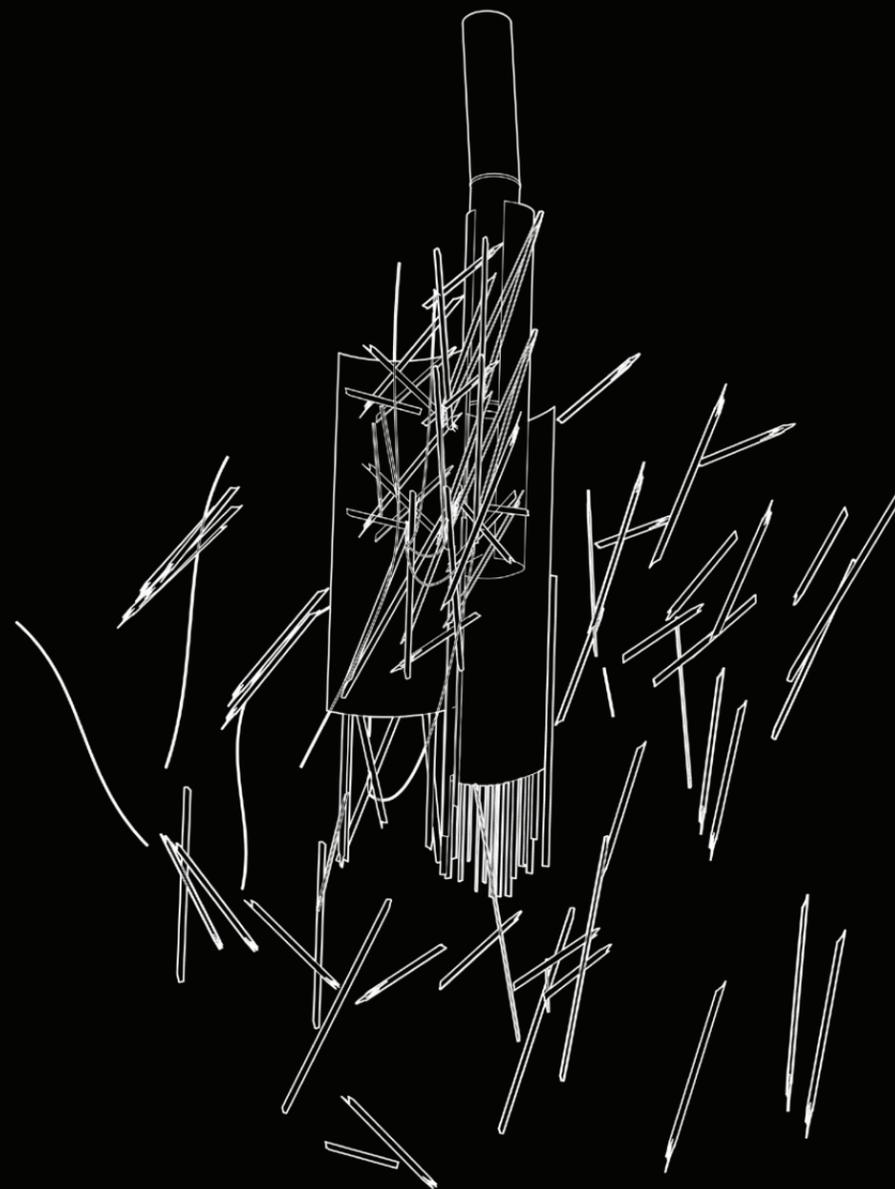


Figure 26 Creature 2 (Ducts, Lathe, wire, drop ceiling hooks)

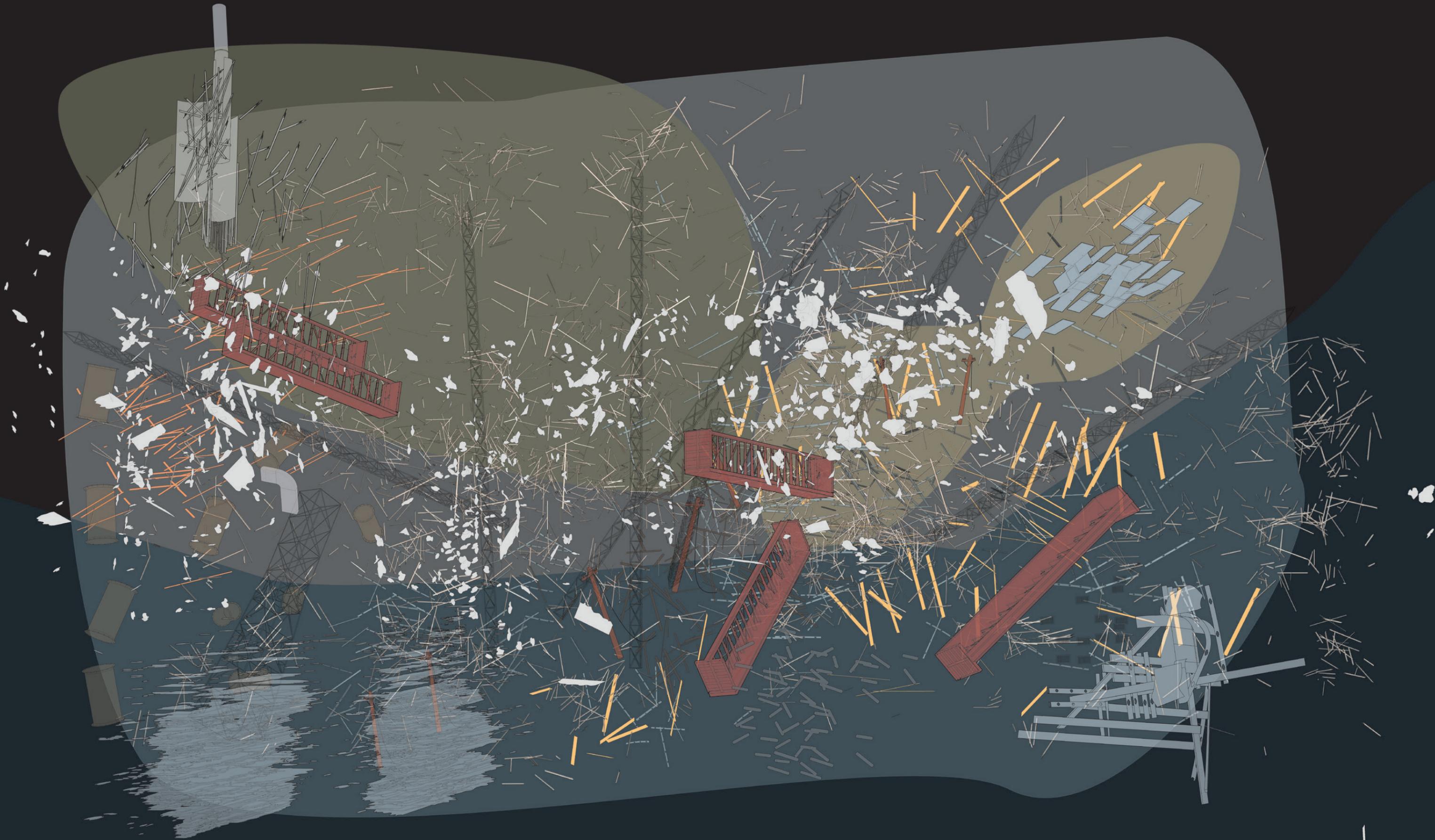
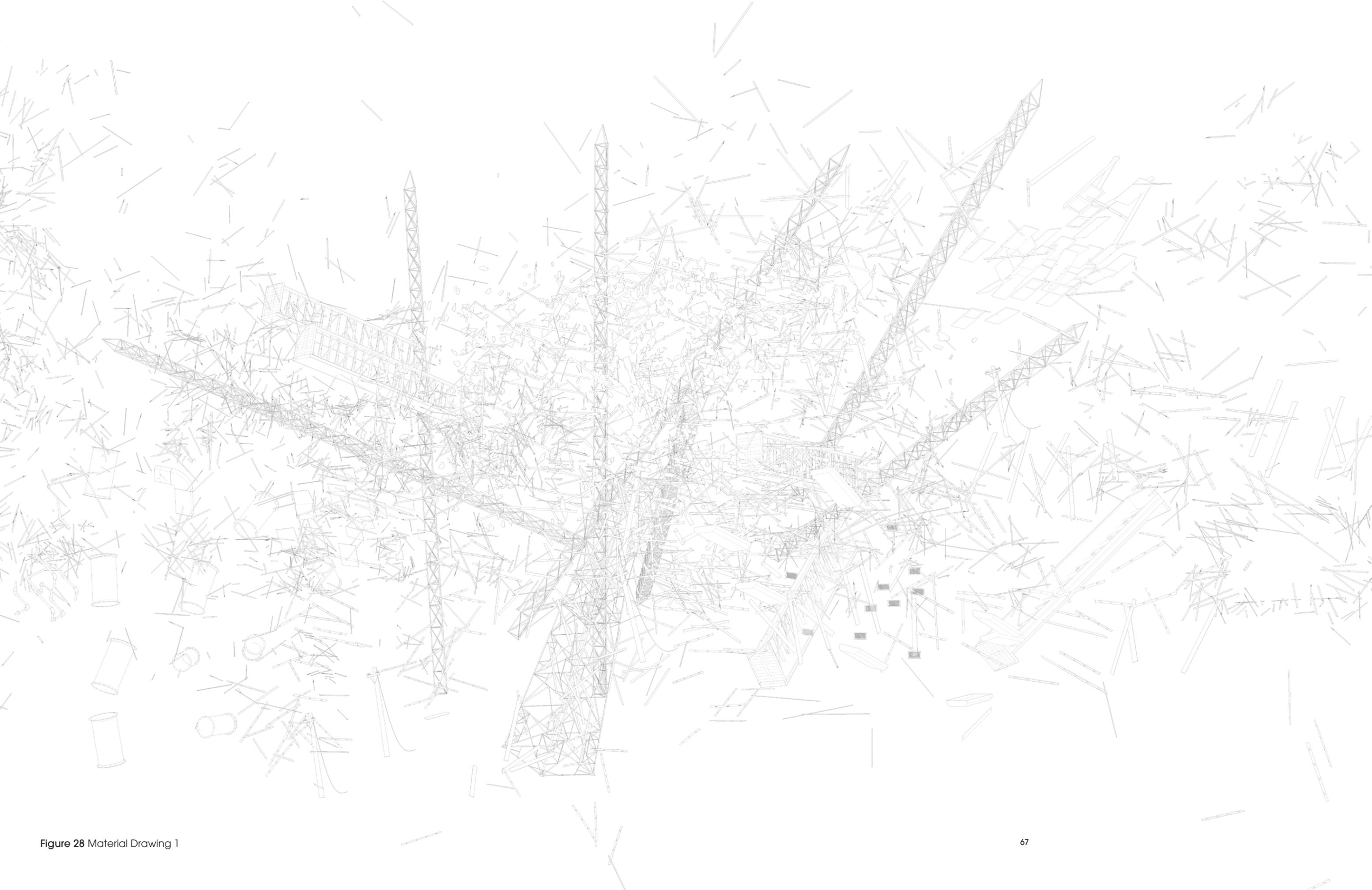


Figure 27 Material Drawing with program intersections version 2



The architecture will use three guidelines:

1. Radically deconstruct capitalist space.
2. Use production that is non-capitalist, subverting normative building practices.
3. Reconstruct material in the local context and allow “found” and internally manufactured or grown material to inform the build process.

The 1:40 scale detailed model of the Mackey building will be reconstructed based on the three guidelines. The ground surface immediately around the building is made from laser cut Baltic Birch, and details such as beams, columns and joists are respectively maple and SPF (spruce, pine fir), made on the table saw. The reconstruction will then use a different material palate of largely found materials, such as wire mesh, plastic bags, cardstock scraps, pieces of thrown away architectural models, and so on. The found material will then be worked largely by hand, with minimal tool usage (never anything larger than a drill) to employ the idea of being inside “The Complex”, as the group working with what is available. The intention is to create a conversation

between the two material and building methods, speaking not only to how material will be worked in the world of the proposal, but how this translates into a model making process in relation to my own architectural education.

The model will then be cut, cracked and deconstructed, then rebuilt anarchically using found materials. The materials will represent those found in the landscape and produced from within the architecture. The questions I will try to answer in the modelling process are: what can architecture do for anarchism, how does architecture become a political critique, and what is the aesthetic potential of this process?

Endnotes

¹ Jameson, *Archaeologies of the Future*, 217.

Chapter 6 Modelling a Narrative Reconstruction

6.1 Theoretical and Material Framework

It is no longer the exhibit of an achieved Utopian construct, but rather the story of its production and of the very process of construction as such.¹

Fredric Jameson.

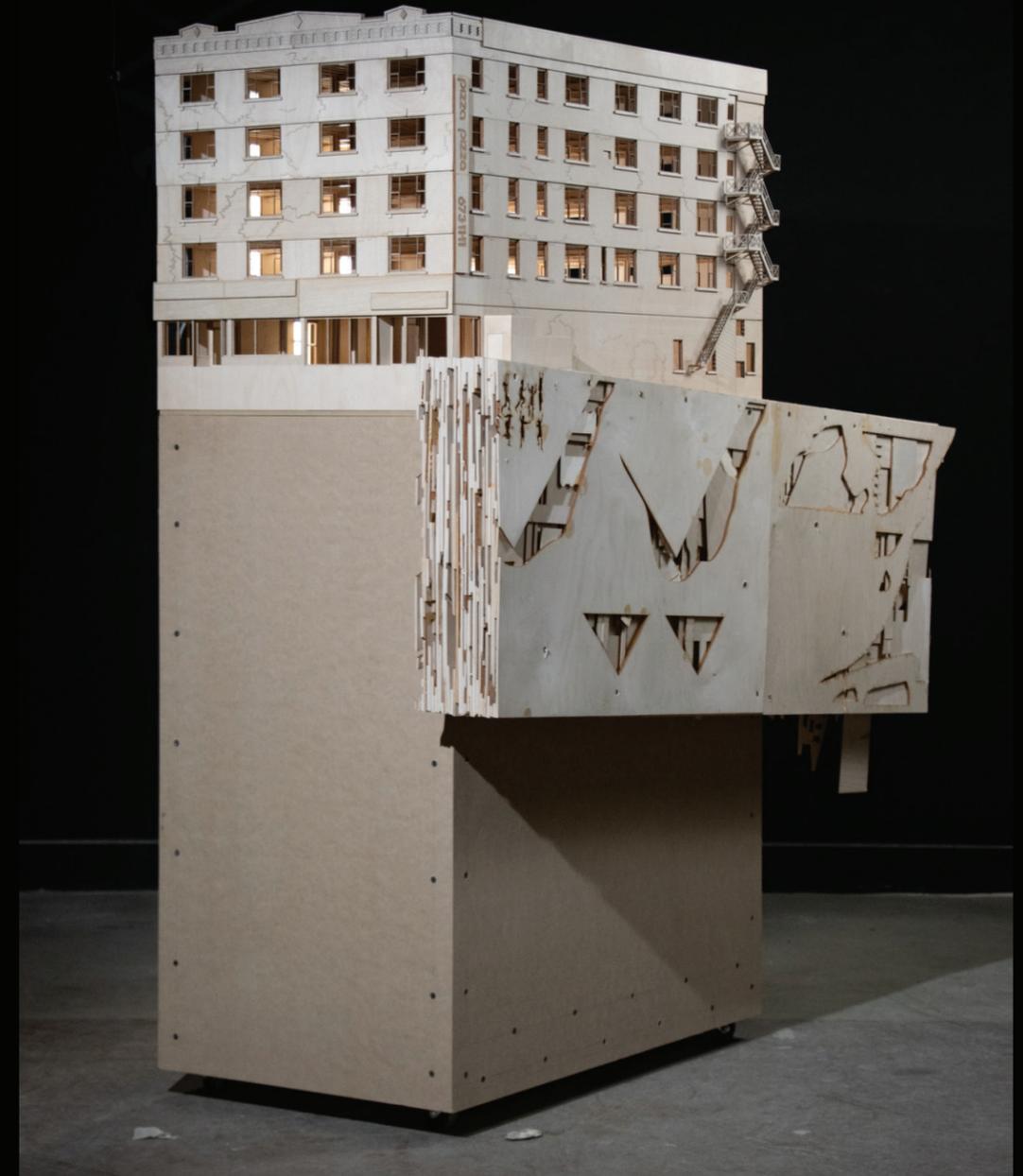
A large architectural model is the driver for a speculative process of translating political ideas into built form. The architectural model will formalize an idea of a heterotopic anarchical architecture given a method of production which emerges out of the intentions of its occupants. The modelling process will be driven by the core ideas as defined by the community of users, as laid out in section 4.2 *Defining the group and their intent*. The process will be speculative, starting with the building in its current state and site conditions then proceeding with a transformation that will

define the architecture of “The Complex” as it is differentiated from the architecture of capitalism. Spaces that express capitalist relationships of exchange will be subverted, transformed into spaces of production and interaction. Spaces that insinuate privatization will be ruptured and interconnected, furnished with elements that promote a flux of action and event. The decentralization narrative will collapse spaces of production and consumption. This collapse suggests the elimination of distinction between work and life.

6.2 Narrative Reconstruction



The Model in its completed state before it has been reconstructed represents a standard system of construction, exhibited by the standard method of production commonly used at schools of architecture, using laser cutters and table-saws. The model was built with a high level of detail including I-beams, joists, fire escapes, etc. to enrich the reconstruction process by creating a process where anything that is removed from the building could be incorporated back into it in a new and different way.



The completed model is built largely out of scrap material. The base is made up of scrap 18" x 30" 3mm Baltic Birch plywood that was disposed of. The plywood attached to the top of the base material represents the paved surface around the building and the MDF extrusion holding the building and the plywood was designed to make the building easy to access and modify after its completion. The base is intended to be rough and unfinished on all sides except for the top which has been refined to a smooth plane to express how waste material can be transformed into something refined while not denying its original state.



The COVID-19 pandemic has caused a downturn in the global economy, disrupting normal functioning daily life. In the wake of this pandemic our priorities are reoriented. People are realizing that it is our essential workers that are the most important contributors to our society. Meanwhile we are realizing both how deeply we rely on a global infrastructure of exchange and the effects this system has on our environment. It is through this global disruption that the group will enter and begin "The Complex", inserting themselves within a new understanding of priorities and a new economical state, seemingly on the brink of what Žižek described as "the apocalyptic zero point."



In order to enter the Mackey building and begin to live and to build, a barrier needs to be broken down to allow the group act on the architecture uninhibited. In the wake of a pandemic which has caused a new awareness of our social direction and economical state, is the ground which provides an opening for "The Complex" to begin. The possible future where the scene is laid for "The Complex" starts a few months prior to the completion of this thesis (April 2020) within a disrupted economy. The Mackey building no longer is profitable due to its capital value and without a market to sell such an asset, it is left to the city. The city then grants a small group of anarchists the space to begin an experimental architecture of sustainability, following the city's declaration of a climate change emergency. The group is granted permission to occupy and transform the building into a radically sustainable and equitable prototype for a future way of living.

2020 - 2021 // Year 1 // A Nest



The group begins with five occupants who are willing to establish the first occupation of the building. To do this they clear a space on the first floor of the building where they build a mass wall out of broken gypsum (readily available in the building) and arrange it around the column grid. They install a cast iron wood stove, discarded from a nearby camp and place it in the center of the new room where they eat and sleep when not working on the building.

2020 - 2021 // Year 1 // A Banner



Next, a banner is then hung on the South Facade of the building to announce the group and their intention. It reads: *THE COMPLEX: FOR RADICAL CRITIQUE*.

The banner is both a statement and a question, hung to garner public support for the movement, which will inevitably be met with resistance.

2021-2025 // Years 2-5 // Opening SW Corner



The group has now reached fifteen occupants and they have begun transforming the building based on the massing strategy they have agreed on as laid out in Figure 23 "Programmatic Massing Strategy". As the sleeping chambers begin construction in the back, the dining space, social space, and vertical greenhouse commence in the front of the building. First with an opening in the south west corner of the facade.

The deconstruction of this corner and the opening between floor plates allows sunlight farther into the structure and symbolizes a breakdown of hierarchy and private subdivision as laid out in Figure 17 on page 48 "The role of the Mackey building in capitalism".

The plan is for this greenhouse space to connect through all the floors, providing sunlight for plants on the second floor, and mezzanine-like openings for more interconnected social spaces for the group.

The floor boards are torn up, joists are removed, and an I-beam is removed. These elements are then stored away for the next phases of the project and used to reinforce the new opening. The I-beam and joists support the corner and a stud wall skinned with plastic recycled from an old greenhouse.

2021-2025 // Years 2-5 // Reinforcing Floor



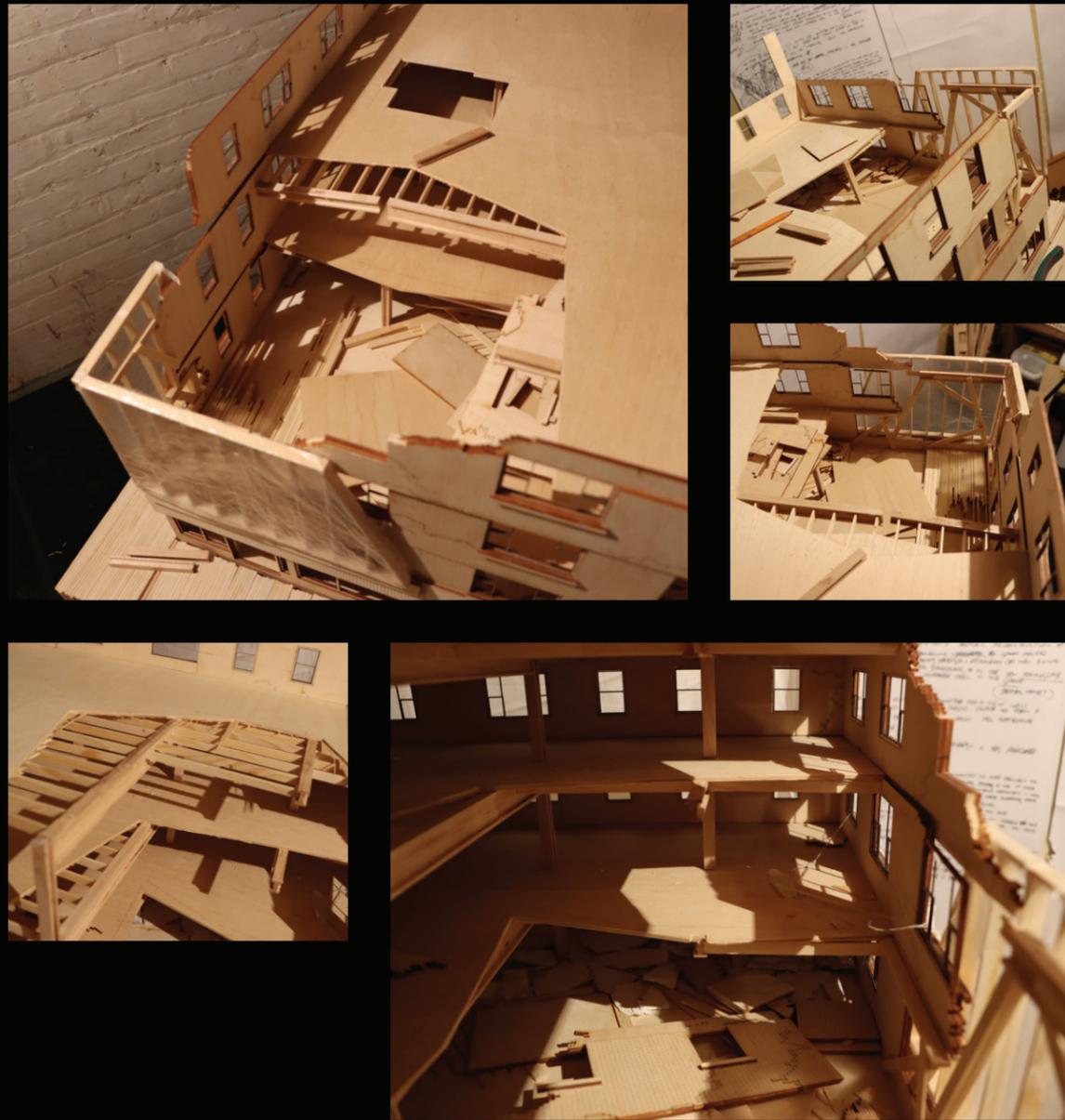
Soil is required for the gardens. In preparation, the floor is reinforced for the new dead load. Using the joists and the boards from the floor removal, a mass of wood is nail laminated together.

The loading on the existing floor is mitigated by inserting one end of the laminated wood mass into the brick wall on the south side of the building and extending the other over the I-beam on the floor below.

After the floor is reinforced, plastic is wrapped around the I-beams (seen in the middle right image) which is then topped by a layer of thicker plastic to protect the wood from the water. Several layers are put down to prevent (as much as possible) water damage to the shops below.

On one occasion the water leaked into the store below causing a conflict between the group and the owners of the store. As a solution, ceiling tiles were found in the Complex to replace the damaged ones and another layer of plastic was laid down to try and prevent another incident.

2026-2030 // Years 6 - 10 // Remove SW corner



The group now approaches twenty occupants and have committed to going forward with their plan to expand the greenhouse. The full realization of the greenhouse requires cutting through all the floors and reinforcing walls which the group begins in 2026, six years after the initial occupation. This expansion is occurring concurrent with the development of the living chambers and living spaces towards the north of the building.

The greenhouse expansion removes bricks, joists, floor boards, windows and I-beams all which can be incorporated in the reconstruction of the project.

2026-2030 // Years 6 - 10 // Remove SW corner



The volume is shaped like an inverse fractal cone, each floor with a larger opening than the last. The roof is the exception which is only a small part of it cut out to maintain a large portion of the still functional roof membrane. The widening of the cone as it moves from the second floor to the roof allows sunlight to penetrate deeper into each floor plate as opposed to a vertical cut through all the floors, which would cause more shading and thus less sunlight for the plants and for passive heating.

The bricks are now cantilevering which is an issue that is addressed in the following modification to the building, which will occur concurrently with the removal of the south west facade.

2026-2030 // Years 6-10 // Remove I-beams + Add Cables



To provide more materials for the project, the I-beams which span the central open volume are removed. The I-beams are now free to support the brick overhangs at the south west corner of the building (seen on the next page).

To replace the I-beams, a set of steel rods are welded onto the columns to resist lateral loading conditions and to keep the columns supported along their length.

The move accomplishes a functional/material purpose but reducing unnecessary structure and making available new building components and an aesthetic/compositional purpose by expressing the interconnectivity between levels--an expression that will be visible from the street.

2026-2030 // Years 6-10 // Brick Supports and Glazing



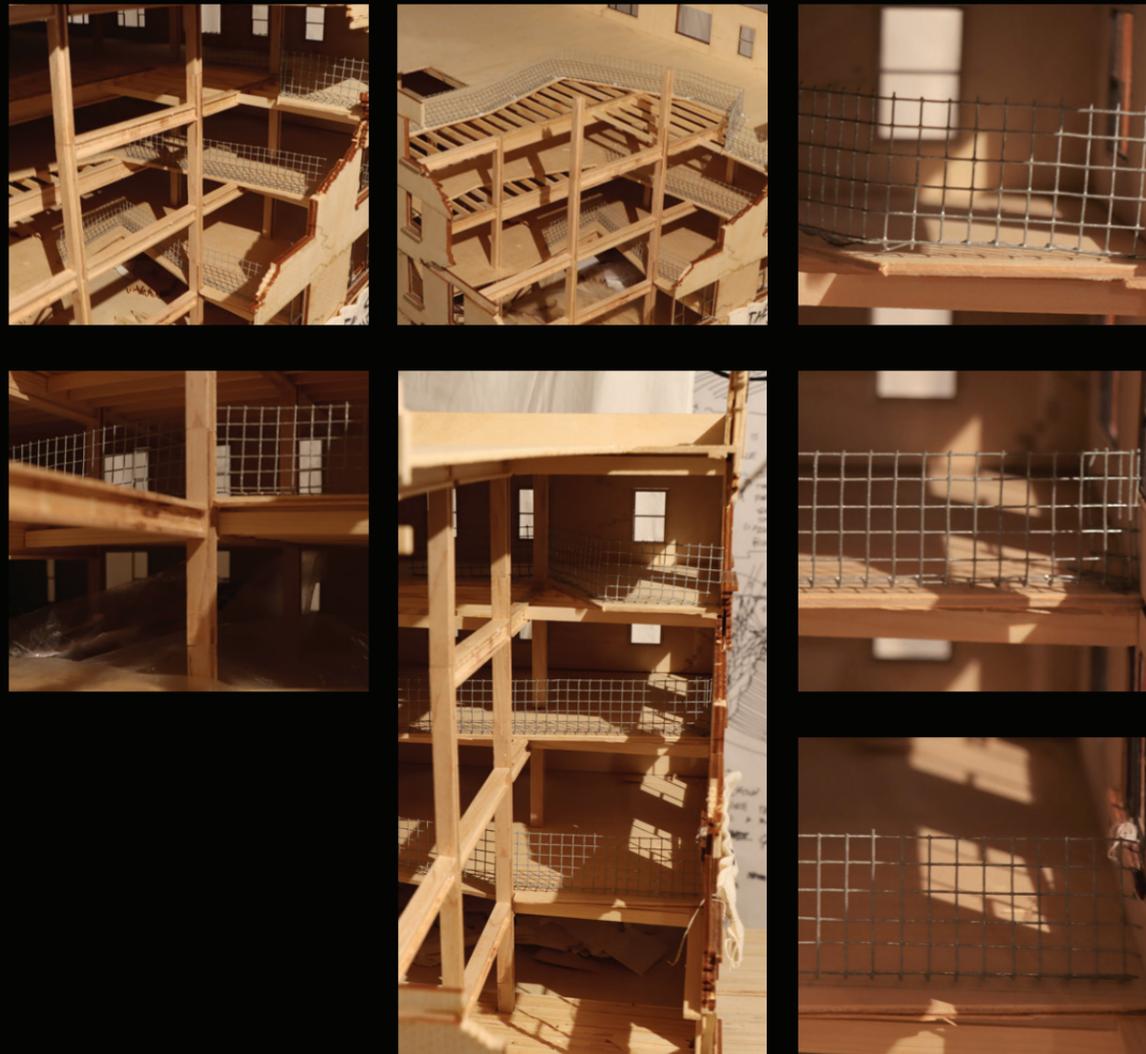
To address the issue of the cantilevering sections of the brick, two methods are employed using found materials. The lintels under the cantilevering brick are reinforced using a cut off section of a cell phone tower and few I-beams that were removed in the process of reconstructing the south most trabeation assembly (seen previously).

The west structure (seen to the right) shows some cut I-beams nested in the brick holding up a triangulated truss and covered with the windows that were removed during the deconstruction and finally capped with sheet metal from ducting found in the building.

On the south face of the building an I-beam is used to support the underside of the opening to support it. Windows from the removal of the south west corner are attached to exterior of the building to begin enclosing the interior space.

The new structural and glazing systems prepare vertical lines on the south and west facades for a new recycled and bio-fabricated skin to attach and enclose the south west corner of the building.

2026-2028 // Years 6-8 // Install Construction Fencing



Despite the fact that the group has been granted exemptions for codes and bylaws there is an expectation that they ensure that safety concerns be appropriately and adequately addressed.

Water, heat, electricity and physical safety are all concerns that "The Complex" is responsible for meeting. The large opening in the floor three stories in height poses a significant fall hazard and in response as a (somewhat) temporary measure, left over construction fencing from a nearby construction site is employed to fence of the opening in the floors.

The fencing will be replaced by a wooden screen on the north side of the opening (towards the stairwell). On the east side of the building the fence will be more permanent. It will perform both the task of a guardrail and hold back soil from the gardens planted on each level on the east side (seen in the section and axonometric renders to follow).

To represent construction fencing, wire mesh was used, leftover from previous architectural projects. This allows them to be bent around openings while mimicking the gridiron texture of construction fencing.

2028-2029 // Years 8-9 // Install Screen

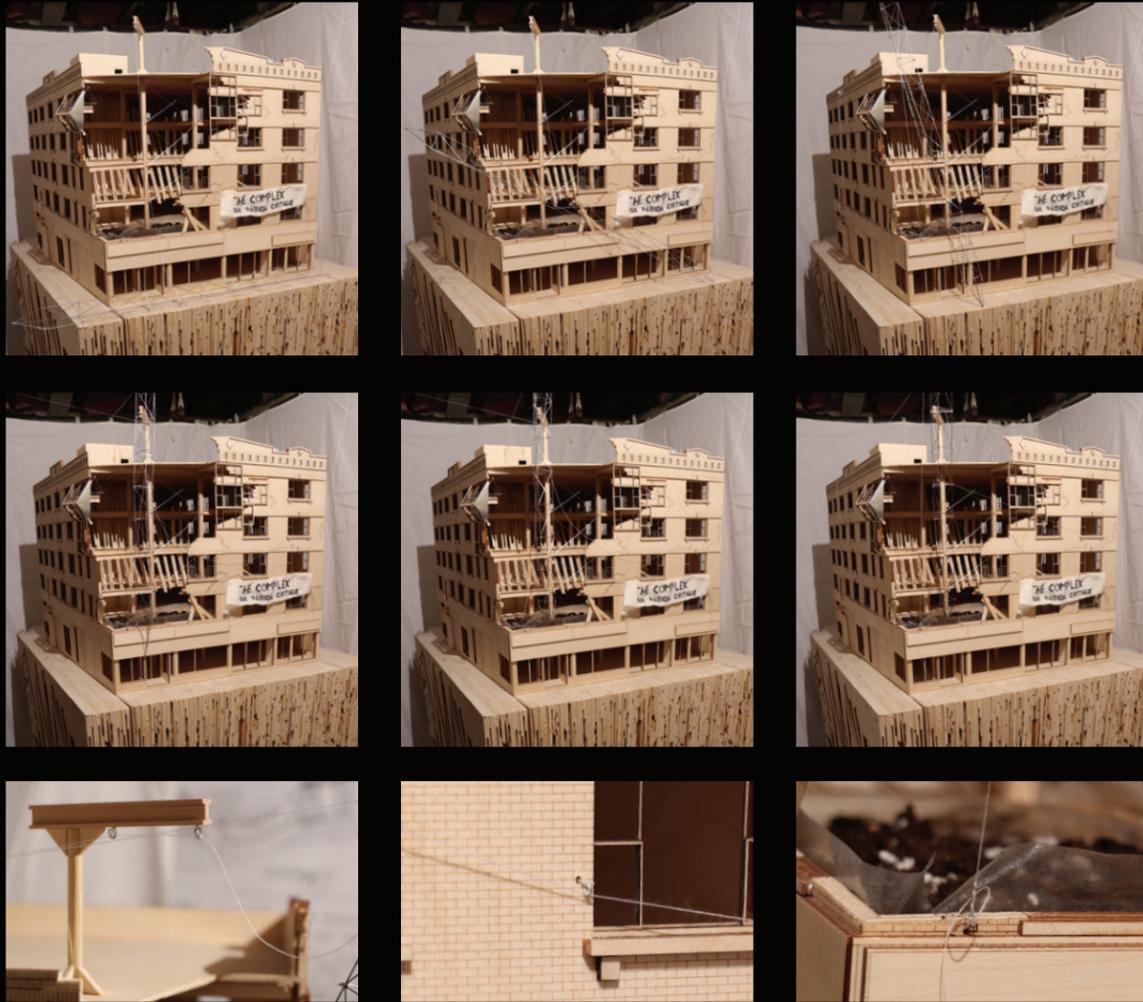


The wooden screen is designed to separate the intense sunlight and temperature of the greenhouse from the more moderate living environments behind. The screen also serves the purpose of acting as a guardrail.

The screen is made out of the floor boards that were removed in the process of cutting out the floors. To fasten the screen to the existing floor they are nailed to the joists which results in the doubled rhythm (as seen in the lower right image). Where the joists have been removed, a horizontal member is nailed into the floor to create a nailing surface (as seen in the upper left image). the mechanical and electrical spaces as seen in Figure 23 "Programmatic Massing Strategy", will be placed between the screen and the stair/elevator column, obscured but not totally hidden by the wooden screen.

The material used for the screen is leftover SPF (spruce/pine/fir) from the removal of the floors. It is not a direct translation of the narrative where it would have been floor boards as these were not built into the model. Rather, the removed joists were used to suggest a similar material form while staying true to the idea of reusing material from the deconstruction for the reconstruction of "The Complex".

2029-2030 // Years 9-10 // Raising First Tower



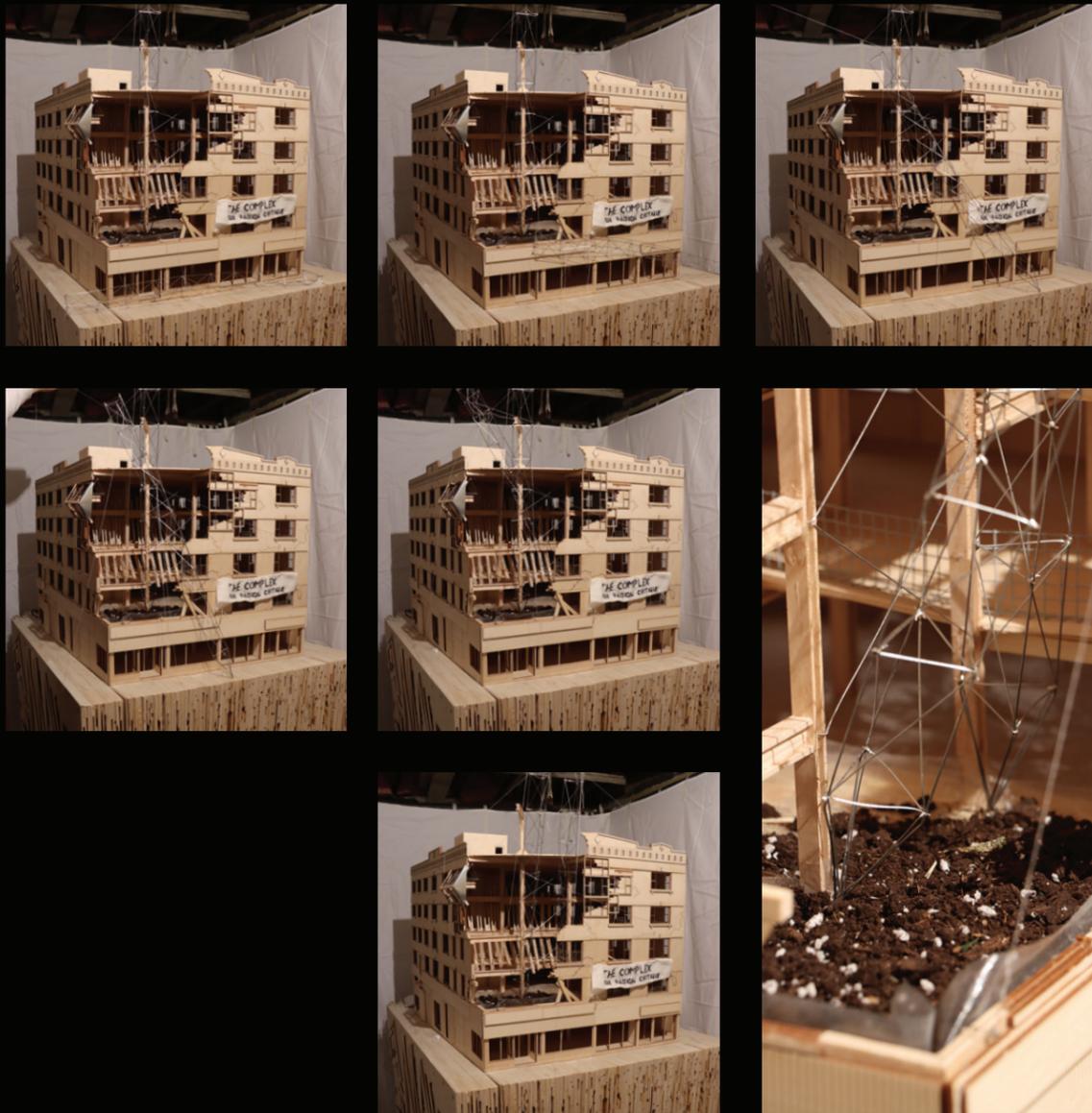
To create a new structure for a transparent envelope, the group sources recycled ETFE (Ethylene tetrafluoroethylene) from a few greenhouses across Ontario who donated their ripped or damaged tarps.

The structure will be made from old cell towers that have been felled due to their obsolescence in the wake of the new 5G network. The towers are brought to site and connected to four cables, one is attached to the crane which has been bolted atop a column and three connected to eye bolts fastened into the brick.

The above images show a progression of the cell tower being lifted into place. From its original place on the sidewalk the tower is pulled by the four cables until its top rests at an I-beam's base and the bottom of the cell tower hangs out from the building.



2029-2030 // Years 9-10 // Raising Second Tower

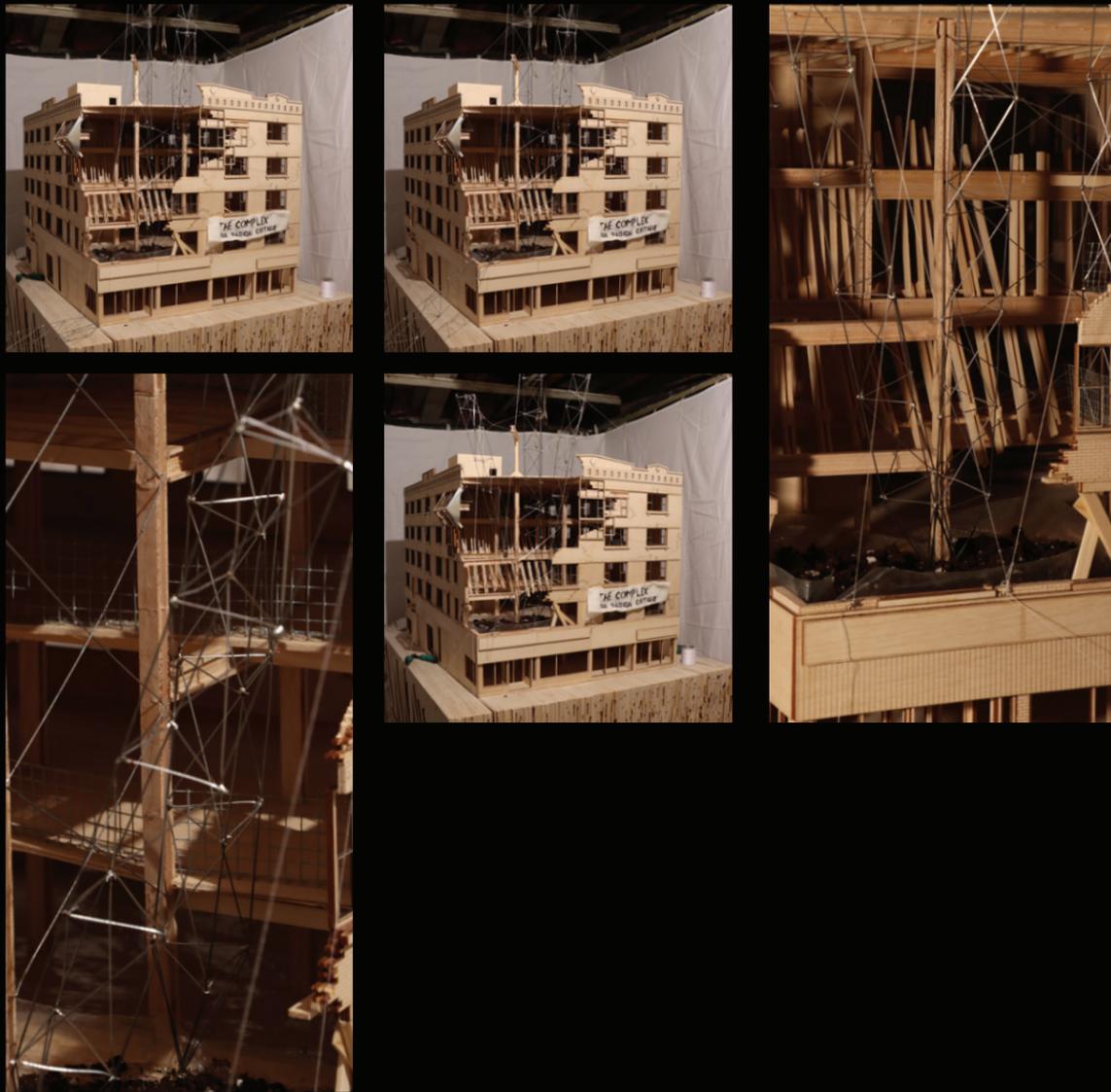


This tower requires two different placements of the cable from the crane to raise it. This requires one cable at the top of the tower to raise it halfway, then when secured in place by resting it on the first tower the crane's cable is can be moved to the lower section of the tower to lift it into the building.

During the erection of this tower, the cables released and the tower fell onto the south wall. The cables had to be reattached and re-tensioned before the tower could be repositioned in its spot.



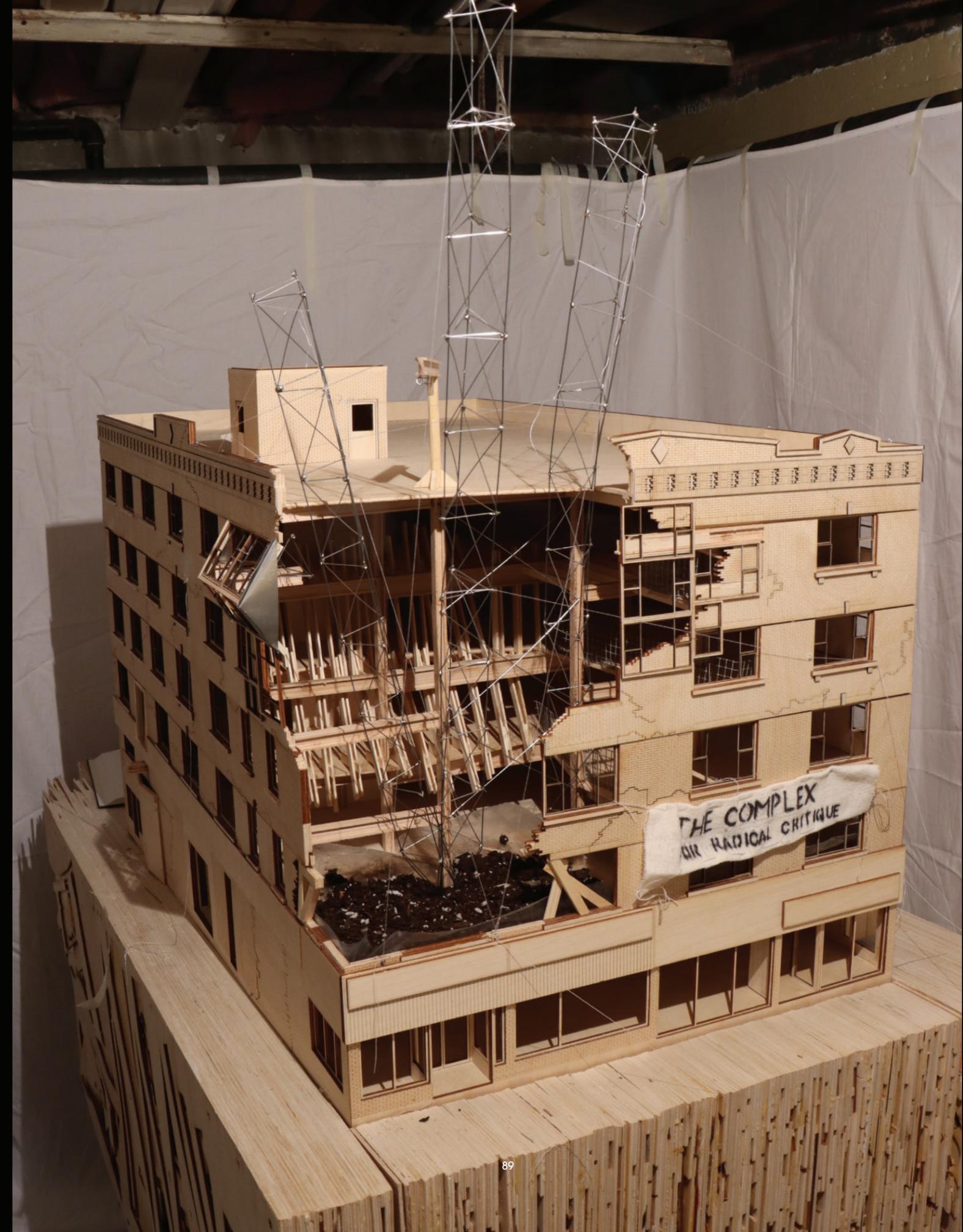
2029-2030 // Years 9-10 // Raising Third Tower



The third tower needed to be brought in at 45 degrees west of the southern facade for it to enter the building. This requires it to sit across the street and, like the second tower, necessitates two different tethering locations. One to lift the end into the building and the second to erect the tower.

Once all the towers are erected, adjustments can be made by tensioning and loosening the cables. This is required to balance the cable tensions, which in a few cases called for the repositioning of the anchor eye-bolts to ensure an even loading condition. With the towers in place, metal angle irons and pipes from the rest of the cell phone towers are used to prepare a fastening surface for the new envelope.

In the mid 2030s the recycled plastic skin is replaced by a bio-fabricated one, created through experiments the group has been undertaking as a part of the larger bio-fabrication movement. The new skin will be purpose designed to moderate both heat transfer and sunlight using what will then be available for the open source community.





A window is removed at the north end of the west facade on the second floor where the kitchen is located. The bricks are then cut down to the floor and a frame is installed for a large door. This door will be used to bring meat from the land into the kitchen, such as moose or deer, to further the self-reliance of "The Complex".

The kitchen door is made from the plywood and wooden peak removed from the workshop opening, the workshop doors made from laminated plywood and two by's (such as joists). The new larger workshop door is installed with a monorail door crane to bring goods in and out with more ease.

Finally at the top of the building, another crane is installed to allow materials to be brought up from the workshop onto the roof, through the windows of any floor or through the kitchen's exterior door.

6.3 A Mature Complex

The drawings for "The Complex" are drawn in order to fill the role of completing the project at its ultimate stage and supplement the modelling process. As explained in Chapter 4, the drawings are the culminating representation combining the tectonic ideas that were developed in the model and the programmatic arrangement from "Figure 23 Programmatic Massing Strategy" into a mature state for "The Complex". The intention is not for the architecture to ever be fully complete, but the drawings show a phase of "The Complex" where it has reached a high degree of self-sufficiency and sustainability, fifteen years into the exploration. The drawings expand upon the speculative process of the model, continuing from when it left off, to bring "The Complex" another five years into the

future, from 2030 to 2035. The drawings take the formal, spatial and tectonic elements developed up to this point and add the technological aspects of the building. The drawings show how passive and active systems develop self-reliance and how "The Complex" separates and connects with the infrastructure around it.

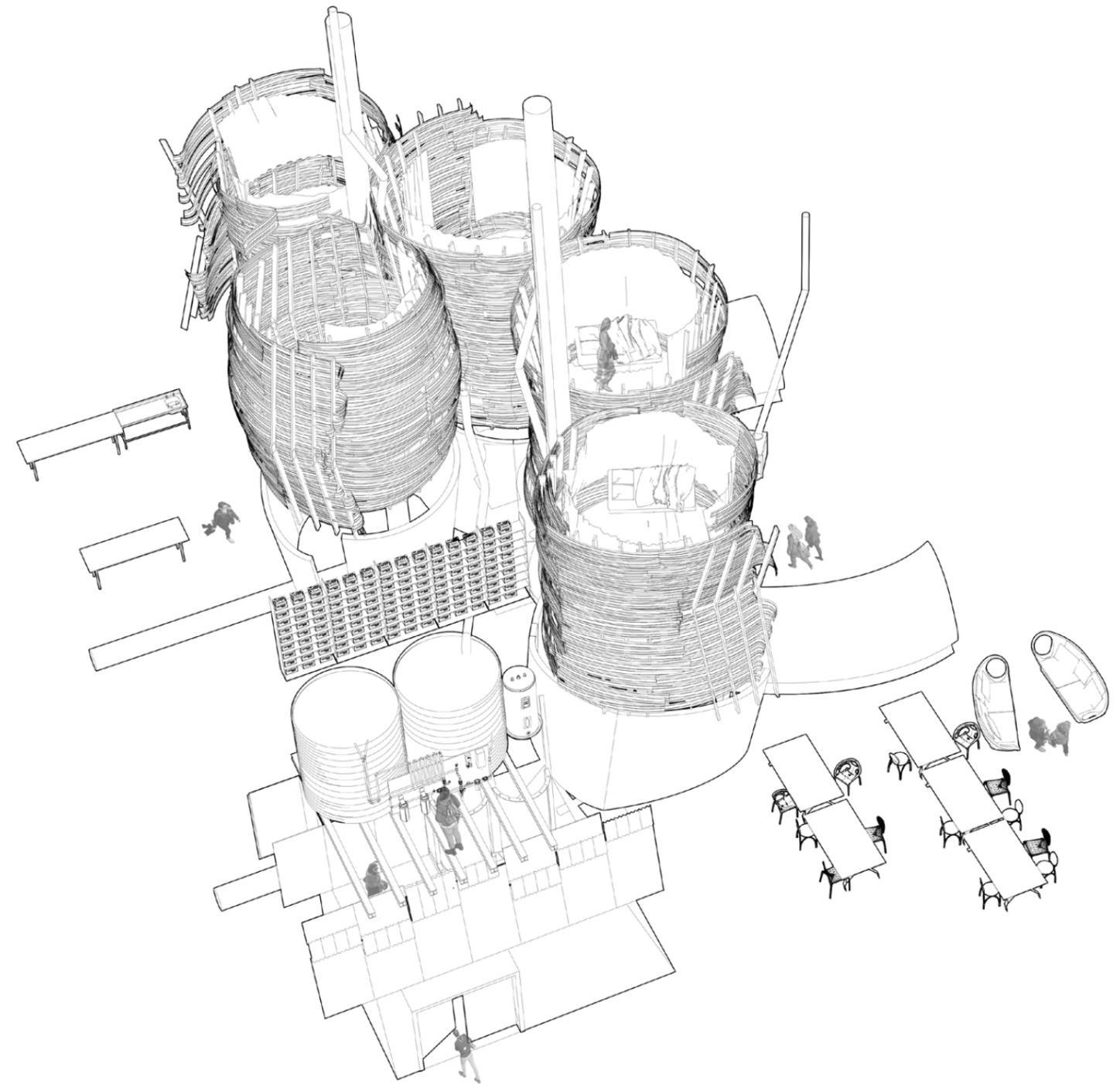


Figure 29 The interior working of "The Complex"

Figure 30 shows the water and electrical systems from "Figure 23 Programmatic Massing Strategy" in detail, showing battery stores, water filtration, bathrooms and a composting room.

Infrastructure Map of "The Complex" - 2020

Infrastructure Legend

- Water ————
 - Electricity ————
 - Internet ————
 - Vehicular Networks ————
 - Public Transportation ————
 - Tool Purchase/Rental ————
 - Material ————
 - Purchased
 - Produced
 - Collected
 - Land Goods ————
 - Waste Removal ————
 - Food + Drink ————
- External Inputs ———→
- Internal Functions ———●



The following set of drawings shows "The Complex" as it shifts from an integrated element of the urban infrastructure to one that moves towards autonomy and self-sufficiency. To accomplish this, twelve infrastructure elements are used to explain how "The Complex" interacts with its context. The date of move in (2020) and the date of a mature Complex (2035) are chosen to illustrate the endeavour, using both a map of the city to speak to the architecture's connection to infrastructure, and an axonometric view to speak to the architecture's movement towards autonomy.



Wifi is provided by a local company located within the downtown to provide the group with access to similar communities globally, to garner support, encourage conversation about the issues of alternative politics and architecture and so on.



Garbage in the construction will as much as possible be rerouted into other elements of the construction process, and be minimized by using material full lengths. However some garbage will inevitably be produced which will be taken to the landfill.



Water comes from and is treated near Ramsey Lake. It is brought to the site via the municipal water system then travels back through this same system to a water treatment plant.



Electricity may either come from several nearby dams or a small natural gas power plant near the site, within the downtown.



A shared vehicle owned by the group will be used on Sudbury's road networks local and long distance travel. (The diagram left shows only the major vehicular routes leading to larger highways)



Public Transportation will be used to supplement the groups shared vehicle and provide convenient transportation to the group. (Displayed left are only the major routes and stops)



Tools may be either purchased or rented. A tool rental program is available at the nearby library or can be purchased from nearby hardware stores.



Purchasable construction materials are used as little as possible but when needed can be purchased from several local building supply stores.



Meat, foraged food, and material resources such as trees from the land is an immediate move that can be made to develop autonomy from the capitalist system. Land goods are relatively nearby on the crown land surrounding Sudbury.



Food is available from nearby grocery stores and restaurants which will sustain the group until an independent food source can be grown.

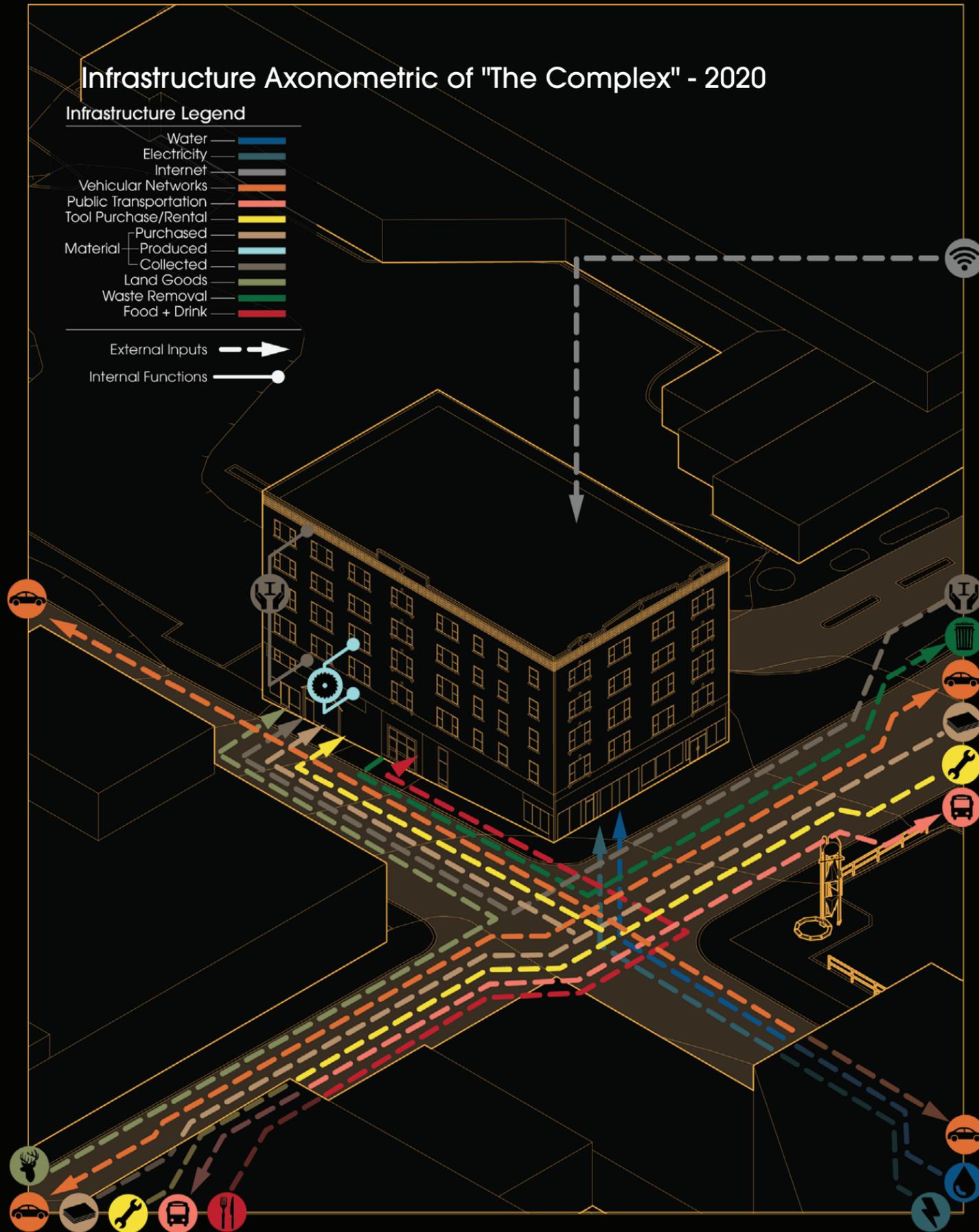
Infrastructure Axonometric of "The Complex" - 2020

Infrastructure Legend

- Water
- Electricity
- Internet
- Vehicular Networks
- Public Transportation
- Tool Purchase/Rental
- Material
 - Purchased
 - Produced
 - Collected
- Land Goods
- Waste Removal
- Food + Drink

External Inputs →

Internal Functions ●



The axonometric view left, shows the inputs coming into the site from around the city. The majority of inputs come into the building using the road networks either via truck delivery or in the municipal services. During the first year the only elements that are largely self contained are production of the architecture as seen in "Figure 21 The Complex's Design Process", and the collection of materials.



Production or Manufacturing happens in within the building, existing mostly on the second floor for the first few years after move in.



Found materials used shortly after the initial move in will be those found in the building e.g. gypsum and 2x6s, with minor external inputs such as a wood stove and wood for heating.

Infrastructure Map of "The Complex" - 2035

Infrastructure Legend

- Water ————
 - Electricity ————
 - Internet ————
 - Vehicular Networks ————
 - Public Transportation ————
 - Tool Purchase/Rental ————
 - Material
 - Purchased ————
 - Produced ————
 - Collected ————
 - Land Goods ————
 - Waste Removal ————
 - Food + Drink ————
- External Inputs ———→
- Internal Functions ———●



"The Complex", now at a mature stage in the year 2035 has cut a number of infrastructural ties to the city. Although "The Complex" moves towards autonomy it is not possible to sever itself completely. The map left shows the connections outside "The Complex" that are still needed, explained below.



Wifi is still provided by a local provider within the downtown.



Connection to Vehicular Network has not changed.
*See previous explanation.



Connection to Public Transportation has not changed.
*See previous explanation.



"The Complex" now has a more robust capacity to produce its own products using land goods and collected material but will still require some items that it cannot produce itself such as fasteners, electrical wire PVC piping etc.



Larger collected materials can now be brought to site, and incorporated into the reconstruction as seen in the narrative process. Cell phone towers, reused greenhouse covers, and wood stoves are examples of collected materials that are now being incorporated into "The Complex". At this stage "The Complex" has to reach farther to collect the building elements it requires to grow.



Harvest of Land Goods is still a practice that sustains the community but now with a larger storage capacity and capacity to refine materials more can be harvested and less purchased from grocery stores.



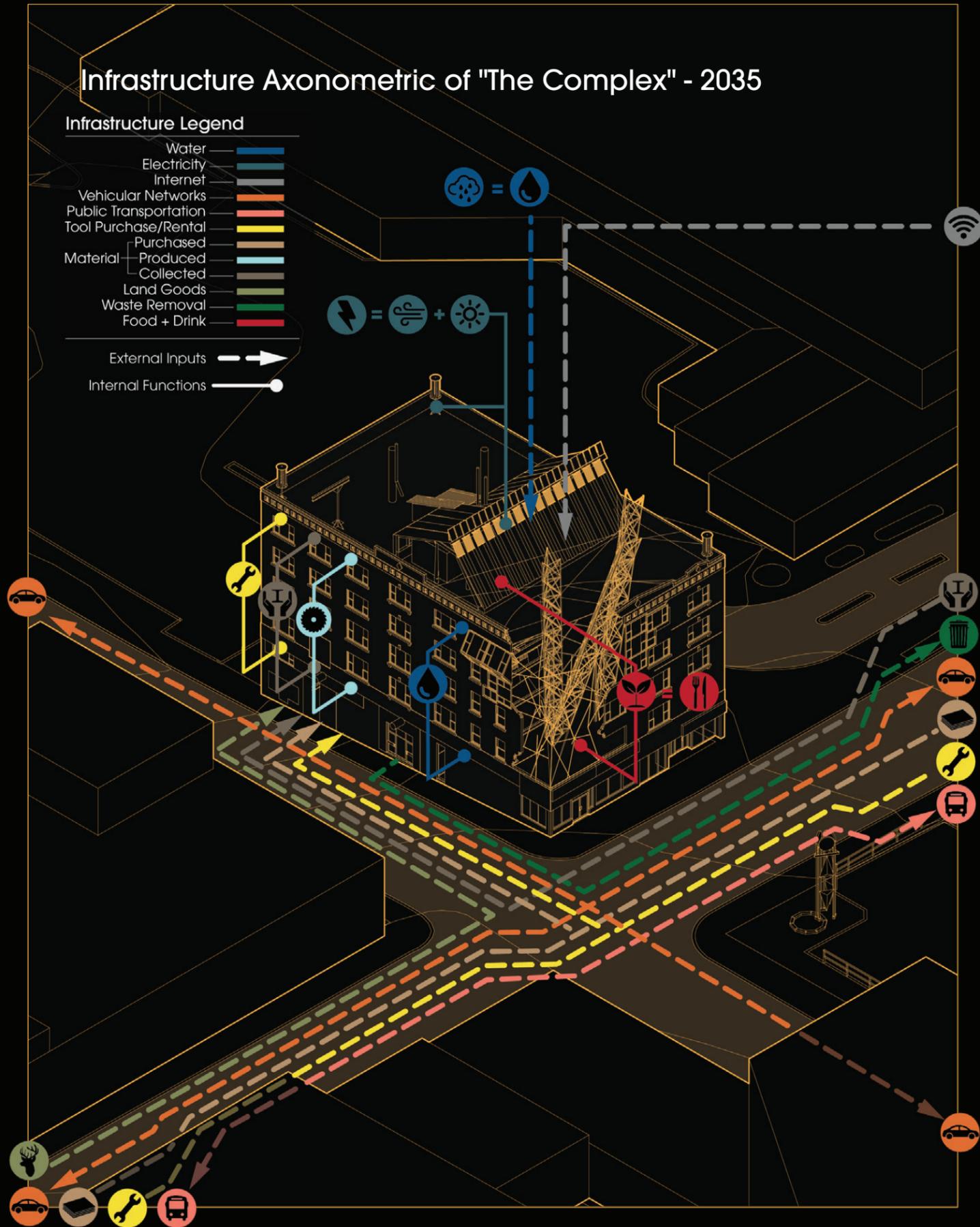
Connection to Waste Removal has not changed.
*See previous explanation.

Infrastructure Axonometric of "The Complex" - 2035

Infrastructure Legend

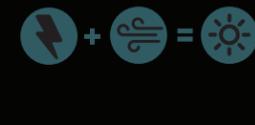
- Water
- Electricity
- Internet
- Vehicular Networks
- Public Transportation
- Tool Purchase/Rental
- Material
 - Purchased
 - Produced
 - Collected
- Land Goods
- Waste Removal
- Food + Drink

- External Inputs
- Internal Functions



Five of the twelve infrastructural elements now function largely autonomously. The internal functions will reduce monetary costs for "The Complex" and provide further freedom for the group to experiment with the architecture and the lifestyle that emerges from an embodied anarchist reconstruction.

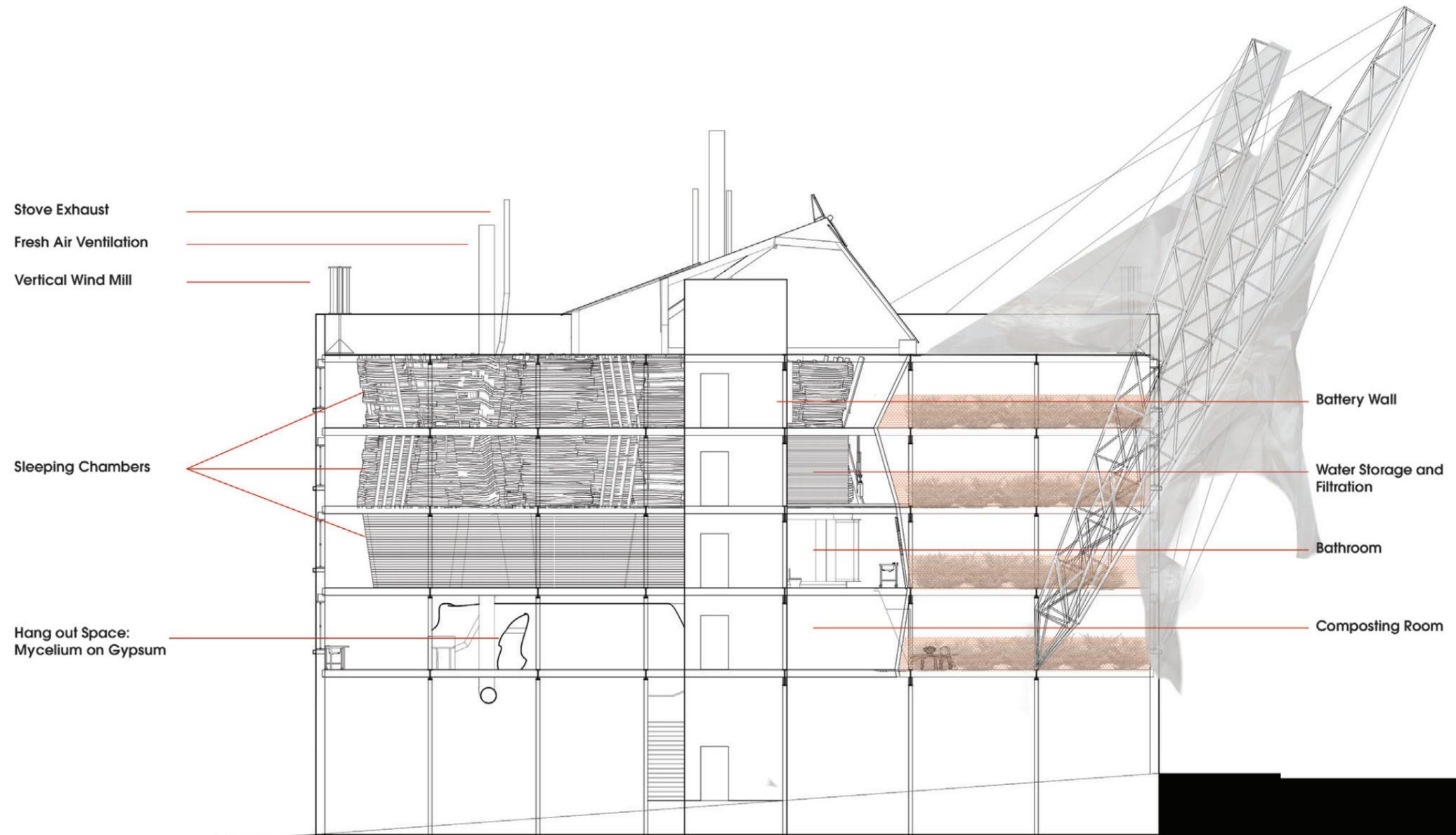
 =  Rain water is now collected to meet the needs of "The Complex". Rain is collected in large tanks as seen in "Figure 29 The interior working of "The Complex"". The water is first used for washing and toileting needs then is recycled as grey water in the gardens.

 =  Electricity will be produced on site by solar panels and solar water heaters mounted on the roof and DIY vertical windmills fastened to three of the buildings corners. A battery storage for power is located above the water storage in the south west corner of the building.

 "The Complex" should now contain a largely self sufficient collection of tools to refine and continue the building's reconstruction. However, additional tools may continue to be needed as the complexity and sophistication of the work increase.

 Production began, and will continue to be, an internal function as it becomes more sophisticated with the availability of better tools such as portable sawmills, table-saws, band-saws and so on.

 =  Food can now be grown, either in the greenhouse on the roof or in the vertical interior greenhouse in emerging from the south west corner.



NS Section 1:200

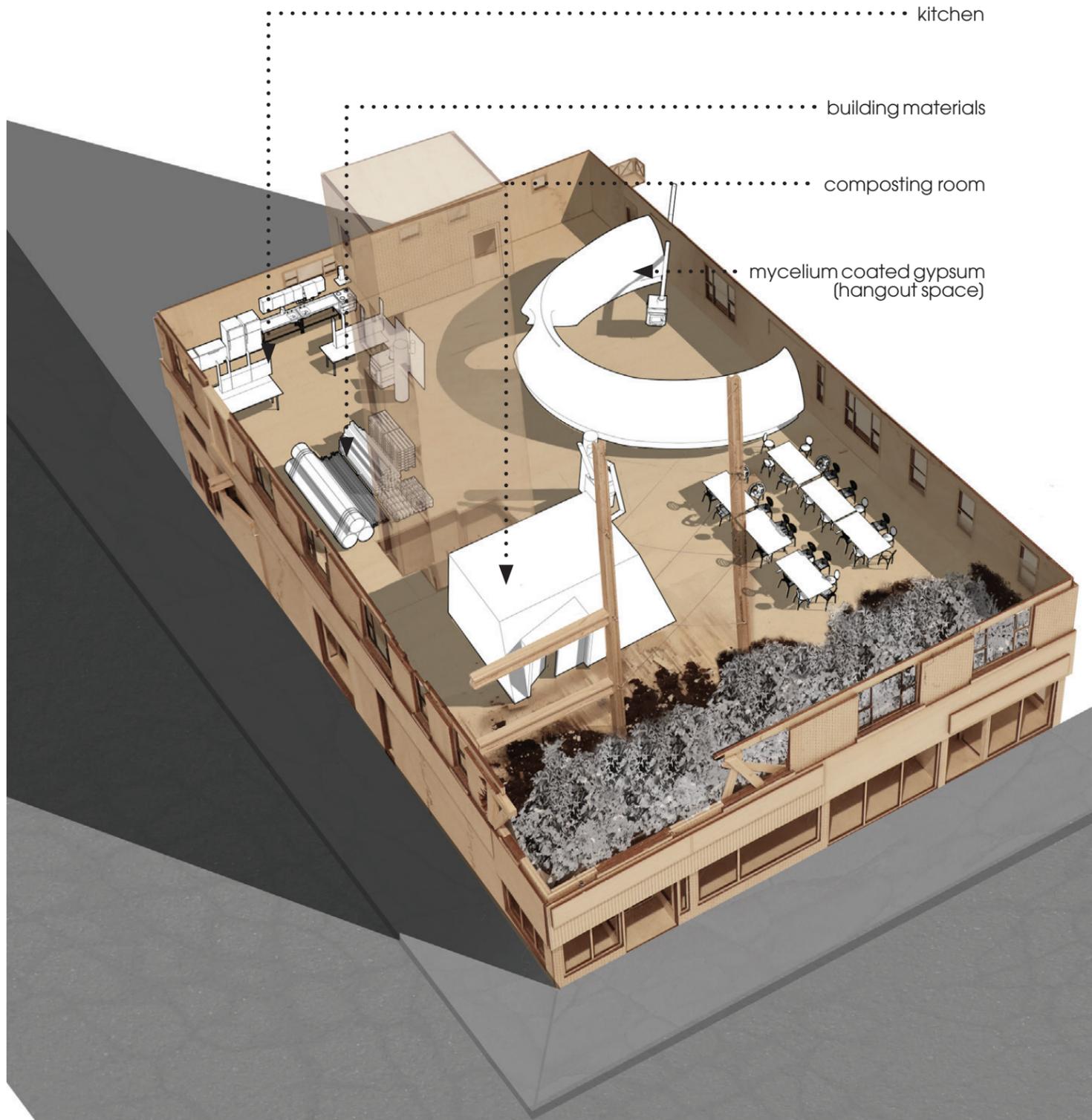


Figure 30 Second Floor Axonometric

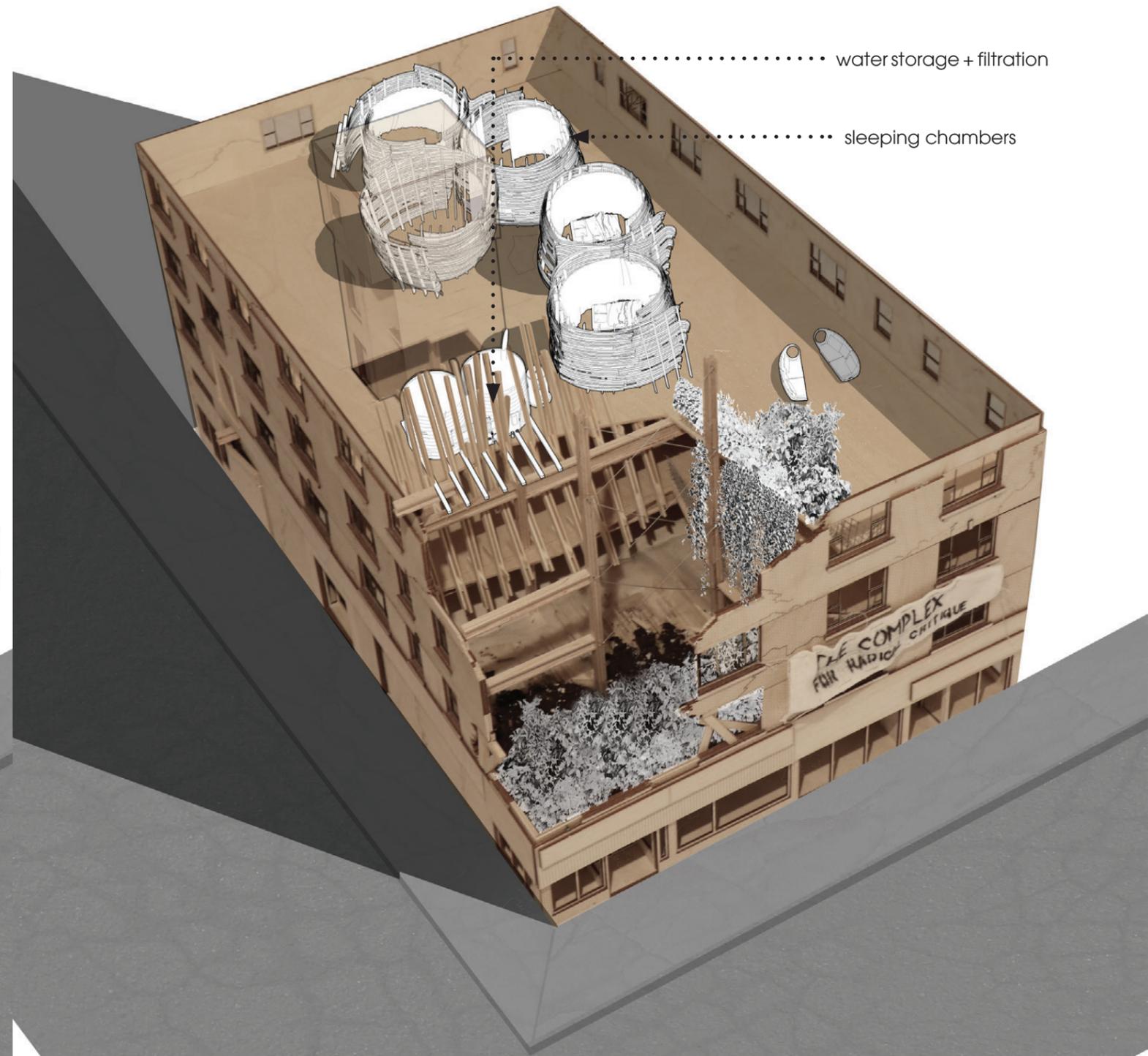


Figure 31 Fourth Floor Axonometric

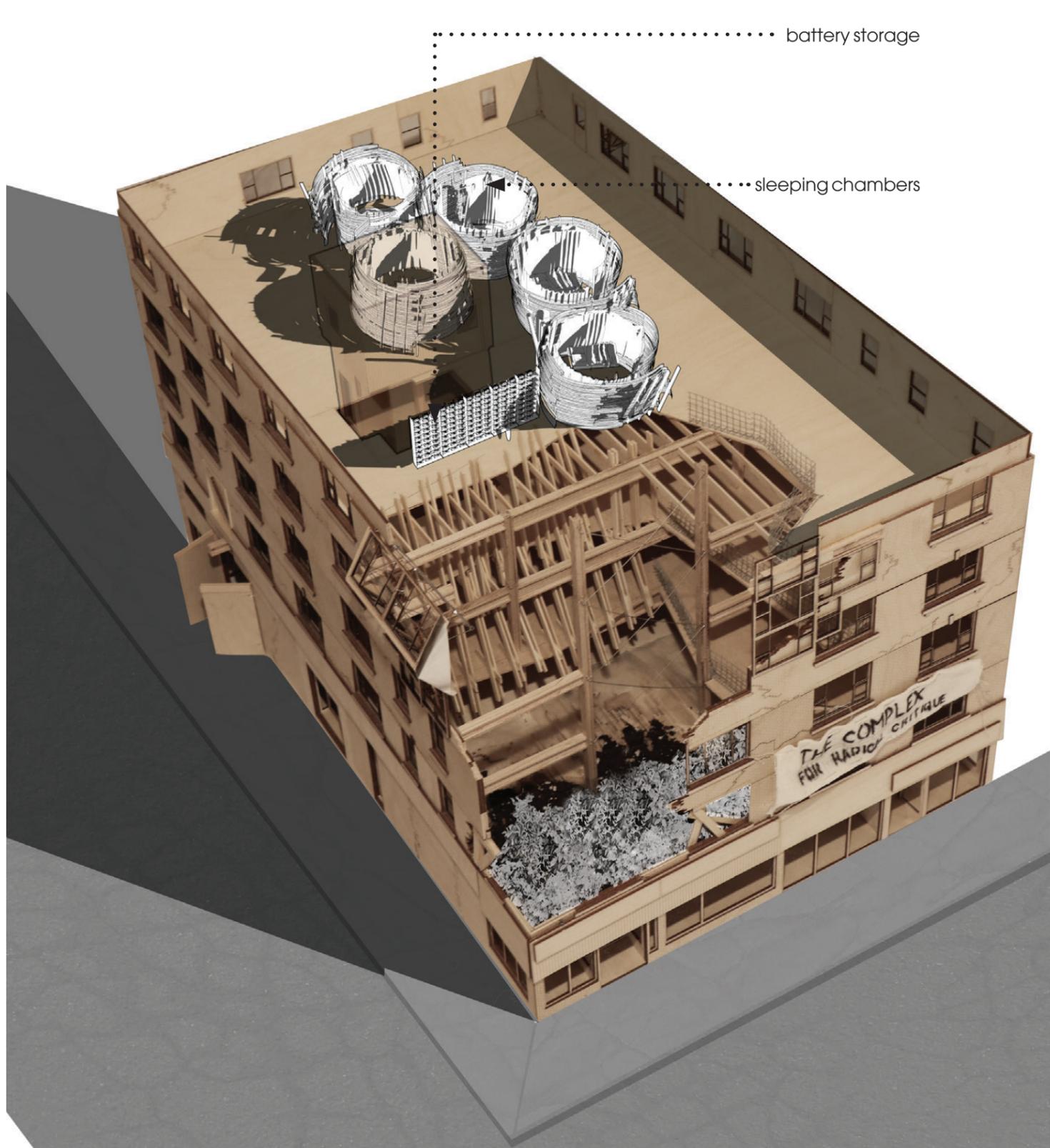


Figure 32 Fifth Floor Axonometric

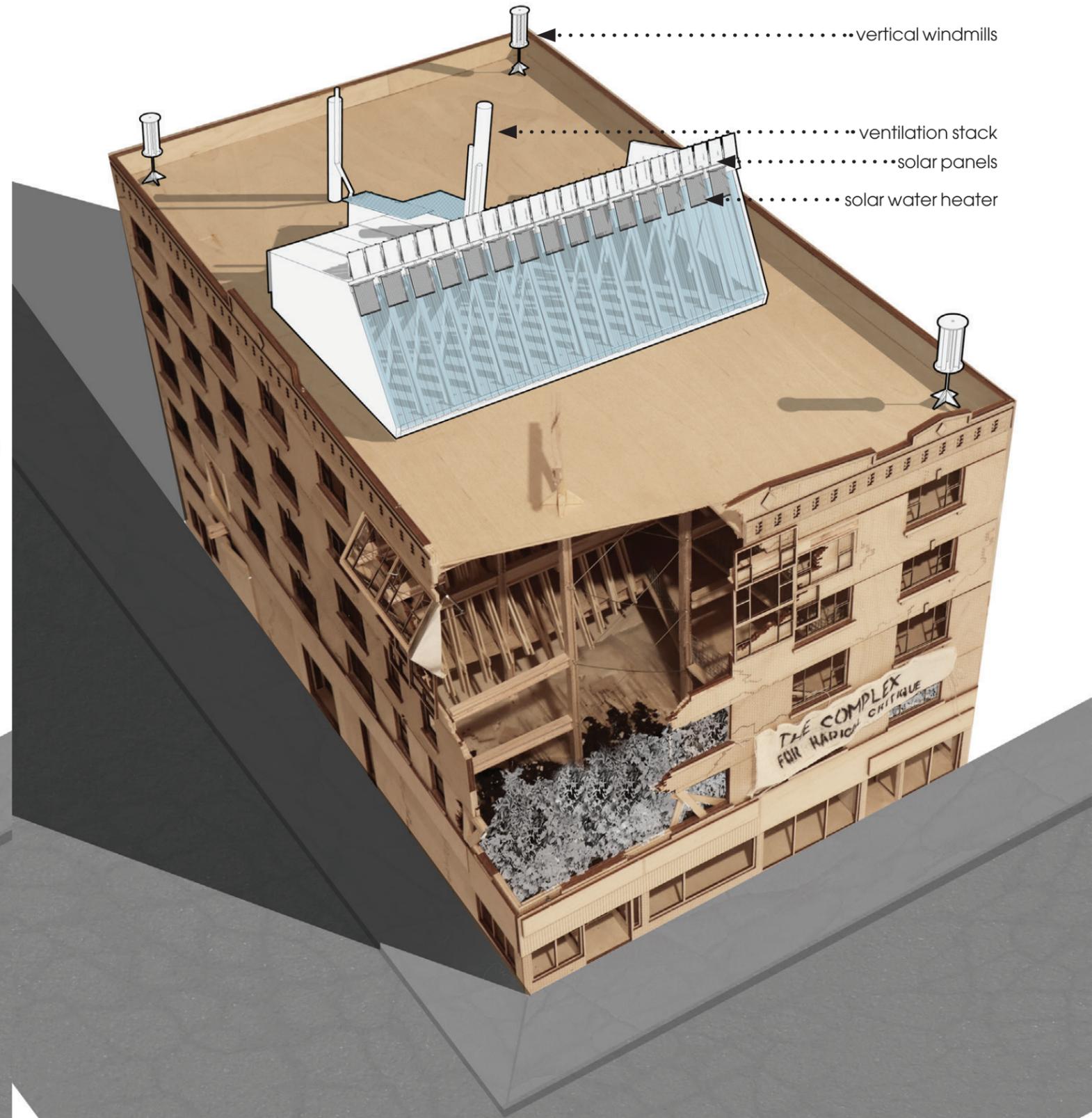


Figure 33 Rooftop Axonometric



Figure 34 Urban Perspective Render

Conclusion

Think about the strangeness of today's situation. Thirty, or forty years ago, we were still debating about what the future will be: communist, fascist, capitalist, whatever. Today, nobody even debates these issues. We all silently accept global capitalism is here to stay. On the other hand, we are obsessed with cosmic catastrophes: the whole life on earth disintegrating, because of some virus, because of an asteroid hitting the earth, and so on. So, the paradox is that it's much easier to imagine the end of all life on earth than a much more modest radical change in capitalism.

Slavoj Žižek.

Žižek's quote from his film *The Pervert's Guide to Ideology* makes the point that we have lost our ability to engage with possible political futures and explore them in discourse. Further, he calls for revival of a discourse that is not dominated by the hegemony of our global capitalism, where we are able to question our future political structure. What is interesting about

Žižek's statement is that the disruption or "cosmic catastrophe" that occupies our consciousness function in a dual manner: firstly, Žižek explains that we are experiencing an odd psychological condition where the annihilation of our current reality rests more comfortably in our minds than the idea of modifying our political-economic system; however in a

doubly paradoxical way, transformations of the global capitalism have the greatest opportunity to enact change in the wake of catastrophic events or significant disruptions. Klein's *The Shock Doctrine* reflects on the so-called "cosmic catastrophes" that Žižek mentions, and further argues that it is the "ideas that are lying around" that provide the elements with which to reconstruct following a catastrophic event. Klein applies these principles to the COVID-19 Pandemic, still in full force as I write this.

The disruption created by today's COVID-19 pandemic highlights existing issues in capitalism: whether they be capitalism's immense productive power and the negative externalities that results, or, more currently, an odd turn of fate where the United States is failing to manage the crises partially due to the private structure of their healthcare system and economic structure—meanwhile, Cuba is sending doctors to help across the world, a generous gesture from a poor, albeit well trained and well equipped, communist state.

Radical movements (either anarchist, communist or socialist) form a collective of ideas to draw from as tools of transformation for our political, social, and built spaces in architecture. In this thesis, I have asked the question of how architecture can embody

and express radical political ideas to form a heterotopic space—it is through these built alternatives we can then transform our society. There are examples of these such as the squats of New York and their sustainability movement in Manhattan, and Arcosanti's suggestion for building new forms of densified development. Notwithstanding their success, these movements are often either suppressed or reintegrated into the mainstream system in their later stages but in doing so modify the system they reintegrate to. Architectural examples of radical politics render the alternative ideas insofar as to crystalize them in the minds of the society within which they are presented. As a result, there comes a transmission of ideology to a wider population who are not required to be experts in political-economic theory but may read and understand how these alternative spaces, architectures, and lifestyles are able to manifest a critique of our global capitalist system.

If it is heterogeneity that furnishes ecosystems and societies with resilience, why then is capitalism understood to be the only legitimate political-economic system? I am arguing that what is needed is for us to challenge capitalism's seemingly unquestionable standing as the only legitimate system. What we need today is disruption, not necessarily in the form

of revolution, but the freedom to employ revolutionary politics, and challenge our ability to imagine and engage in a discourse to revise the boundaries of our societal possibilities. This thesis only explores one of many options but is still robust enough to reinvigorate a dialectic relationship between capitalism and its myriad possibilities.

This thesis has only shown the beginning of "The Complex", and like the larger discourse on alternative politics, this endeavour to critique capitalism does not have an end, but continually changes in reaction to its context. Within this thesis "The Complex" has reached a state of maturity where it has broken some of the key ties that its architecture has with capitalism, in both an infrastructural and a socio-spatial sense. However, the architecture will continue to grow beyond the scope of this thesis, becoming more autonomous as fabrication technologies improve and "The Complex's" ideas spread.

The potential future changes beyond the scope of this thesis will not only affect the interior workings of "The Complex" but could begin to reach beyond to the architecture and urban context around it. The architecture could encourage the city to consider more densified, integrated forms of dwelling, and decentralized technologies in future developments

that may begin to decouple Sudbury's buildings from municipal infrastructure and potentially encourage individuals and other groups to begin implementing their own autonomous passive systems, all towards the self-production of energy, water, food, materials and internal waste management. "The Complex" may "normalize" or at least acclimatise Sudburians to the practice of radical urban construction through the group's efforts. The practice of radical construction may either spread to those in and around "The Complex" as the public draws from bits and pieces of the ideas implemented in the architecture. Or "The Complex" may reintegrate into society, perhaps turning from an anarchist society into a somewhat less radical co-op. Even still, the lessons that emerge from using architecture as the medium through which to offer a critique of capitalism will promote a lateralized social structure and radical sustainable building practices will be a message that will live on and thereby perpetuate a much-needed discourse on alternative politics.

Figure Citations

- Figure 1. Drawing by Author
- Figure 2. Photo by Author of Photo in the MoRUS (museum of reclaimed urban space)
- Figure 3. Photo by Author
- Figure 4. Photo By Author
- Figure 5. Pintado, Gabriel. "Umbrella House: East Village Co-Op Run by Former Squatters." The New York Times, July 17, 2015, sec. Real Estate.
- Figure 6. Arcosanti. "About Arcosanti." Accessed March 30, 2020. <https://arcosanti.org/project/about-arcosanti/>.
- Figure 7. Arcosanti. "About Arcosanti." Accessed March 30, 2020. <https://arcosanti.org/project/about-arcosanti/>.
- Figure 8. Nieuwenhuys, Constant. Constant Vision. 1974 - 1956. Painting.
- Figure 9. Woods, Lebbeus. UNDERGROUND BERLIN. 1988. Pencil Crayon.
- Figure 10. Drawing by Author
- Figure 11. Drawing by Author
- Figure 12. Johns Hopkins Coronavirus Resource Center. "COVID-19 Map." Accessed April 16, 2020.
- Figure 13. Photo by Author
- Figure 14. Photo by Author
- Figure 15. Photo by Author
- Figure 16. Photo by Author
- Figure 17. Drawing by Author
- Figure 18. Pedro Ugarte "Hundreds Shot and Beaten as Chile Takes to the Streets." The Observer, October 25, 2019.
- Figure 19. Graham Hughes "Canadians Rally across Country to Call for Bolder Action on Climate Change" CBC News, September 27, 2019.
- Figure 20. Drawing by Author based on the Canadian Handbook of Practice
- Figure 21. Drawing by Author
- Figure 22. Drawing by Author
- Figure 23. Drawing by Author
- Figure 24. Drawing by Author
- Figure 25. Drawing by Author
- Figure 26. Drawing by Author
- Figure 27. Drawing by Author
- Figure 28. Drawing by Author
- Figure 29. Drawing by Author
- Figure 30. Drawing by Author
- Figure 31. Drawing by Author
- Figure 32. Images by Author
- Figure 33. Drawing by Author
- Figure 34. Drawing by Author
- Figure 35. Drawing by Author
- Figure 36. Drawing by Author
- Figure 37. Drawing by Author
- Figure 38. Drawing by Author
- Figure 39. Drawing by Author
- Figure 40. Drawing by Author based on Spaces of Hope by David Harvey
- Figure 41. Drawing by Author
- Figure 42. Drawing by Author
- Figure 43. Drawing by Author

Appendix

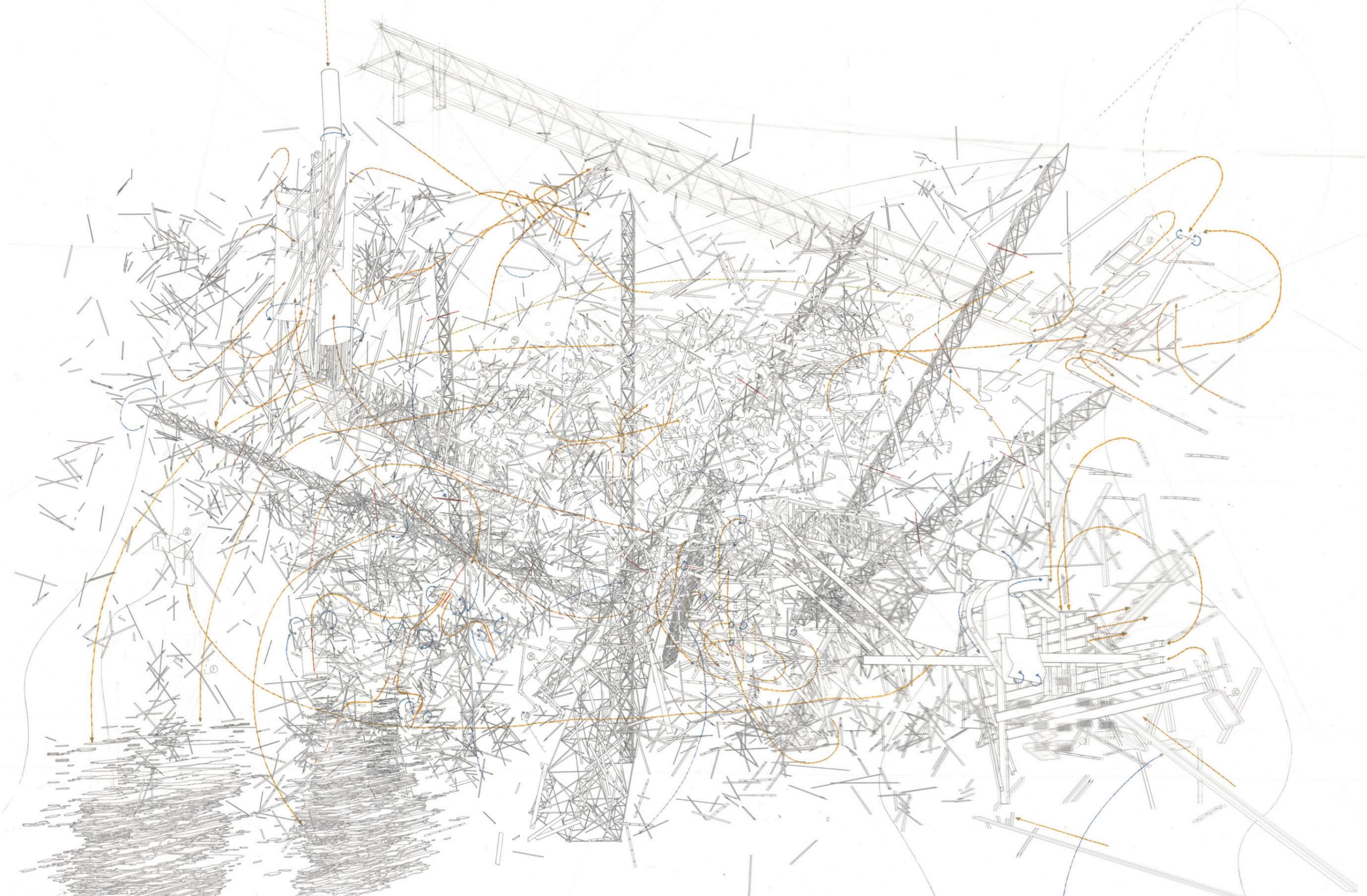


Figure 35 Material Drawing with Vectors and Manipulations

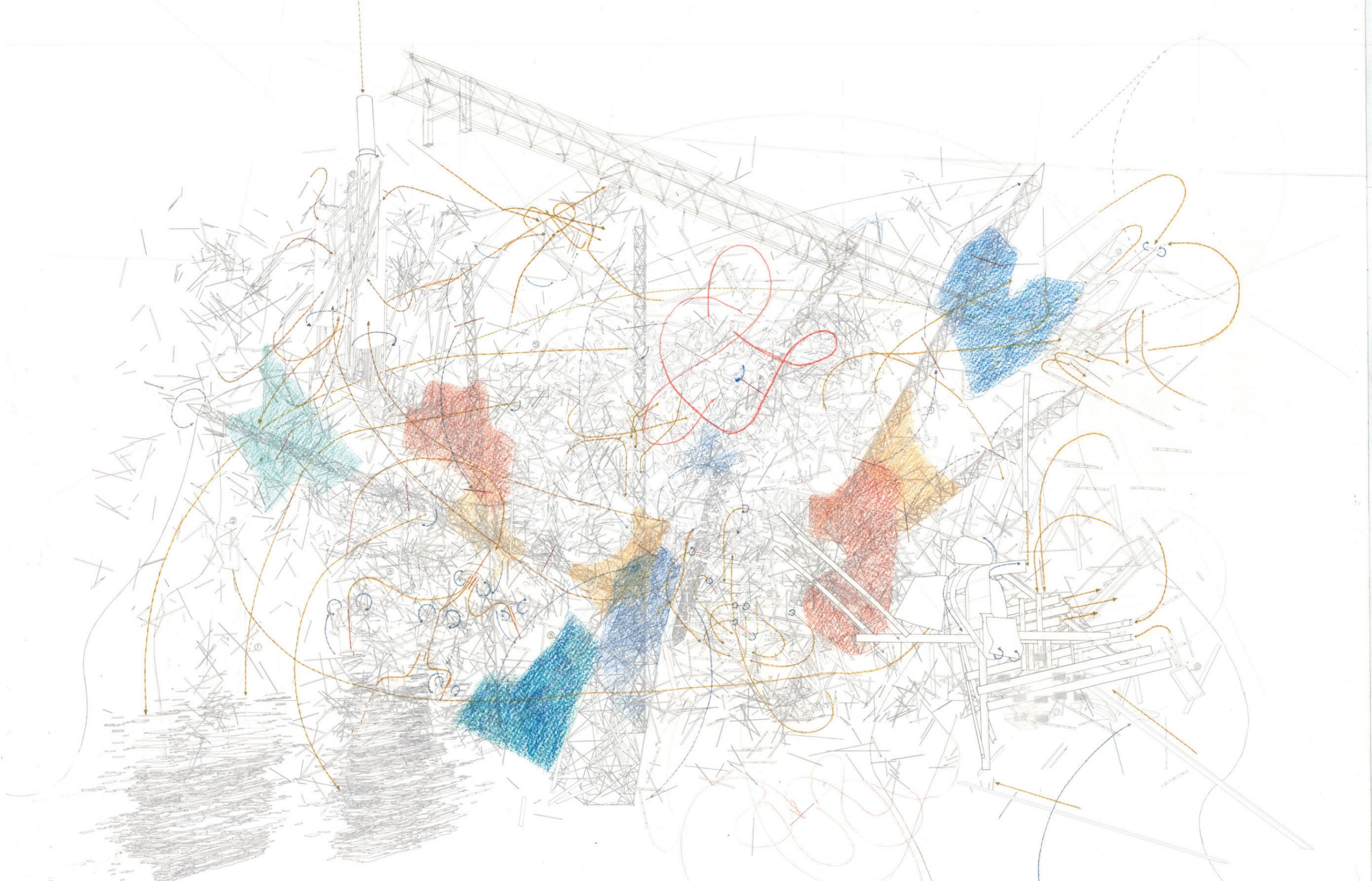


Figure 36 Material Drawing with program intersections

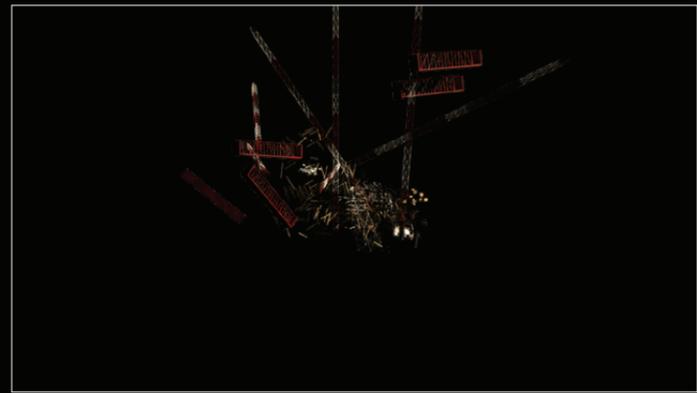
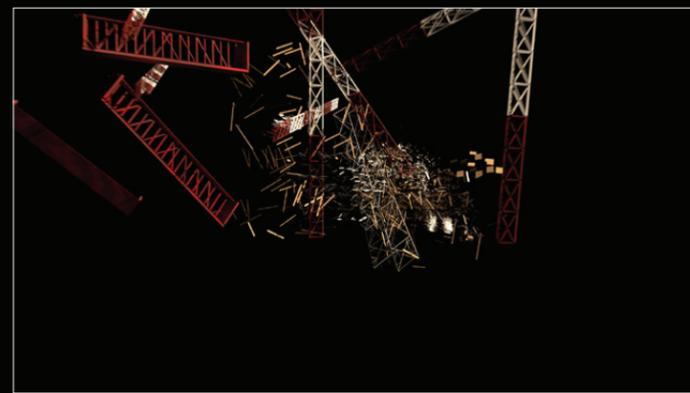
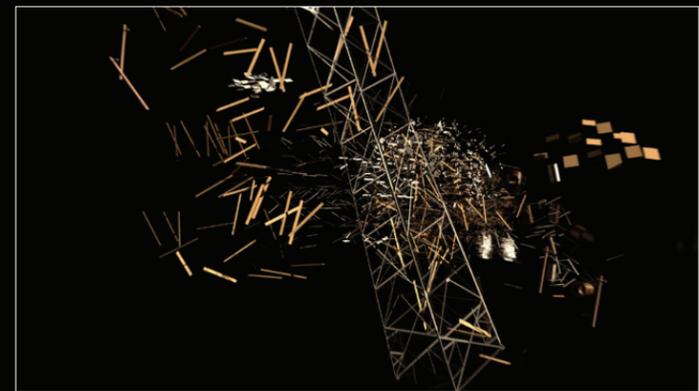
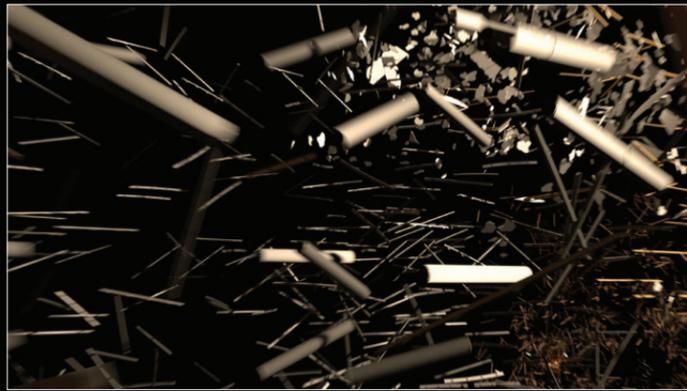
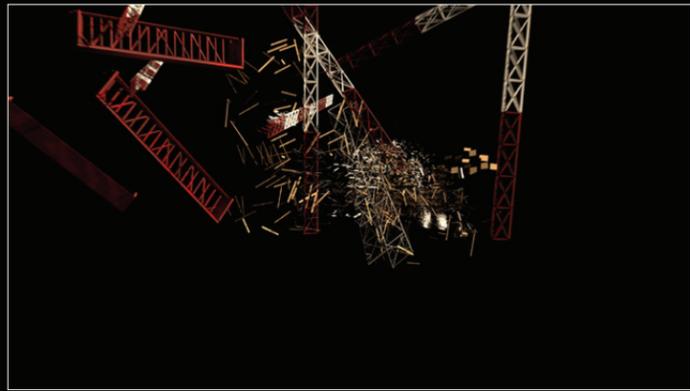
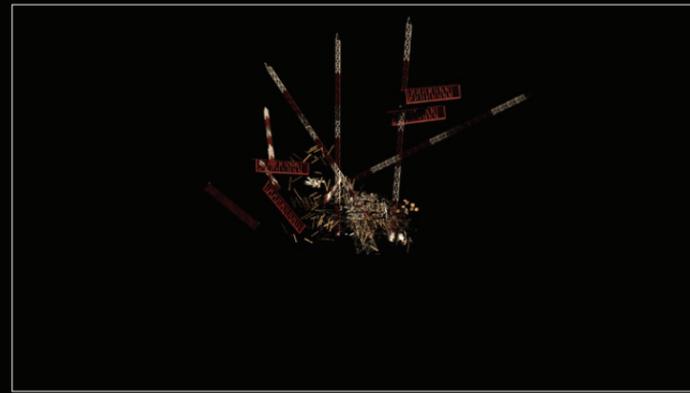
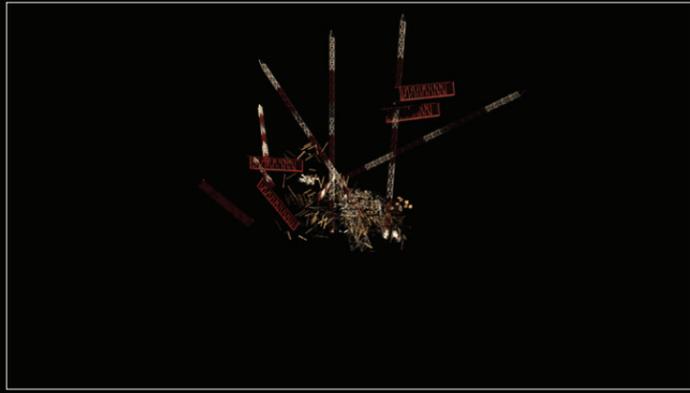
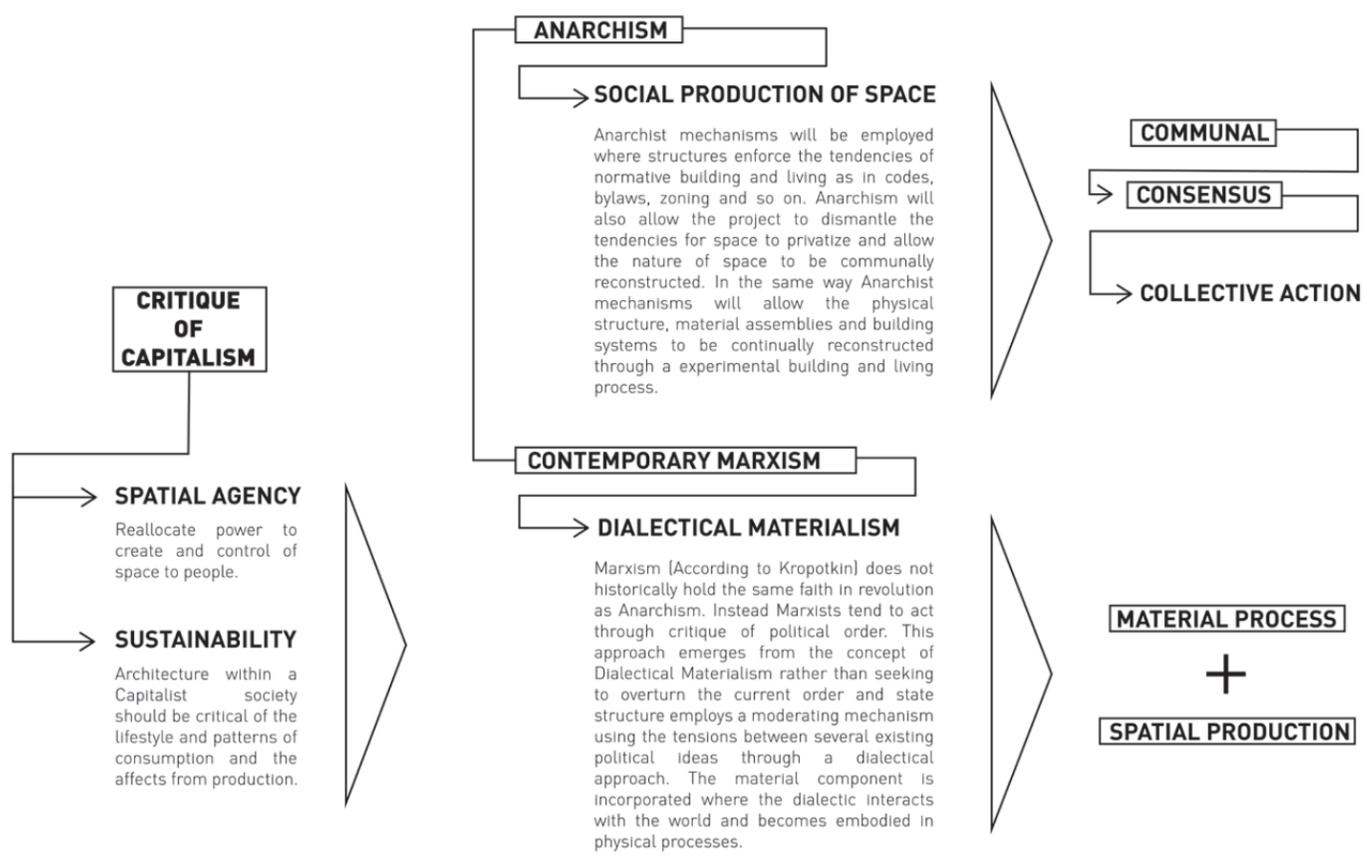


Figure 37 Stills from Material Animation

122

123

**WORDS TO ENGAGE
&
WORDS TO CREATE**



This diagram illustrates a previous position which balanced anarchism and Marxism. The political position of the thesis will now focus on anarchism. The specific position in relation to anarchism will no longer focus on the social production of space but the embodiment of anarchism in architecture exploring the spatial, material and systemic implications of the idea. It will be a speculative exploration of how anarchism becomes architecturally distinct and how it offers a counterpoint to capitalist space.

Figure 38 Mapping a Political Position

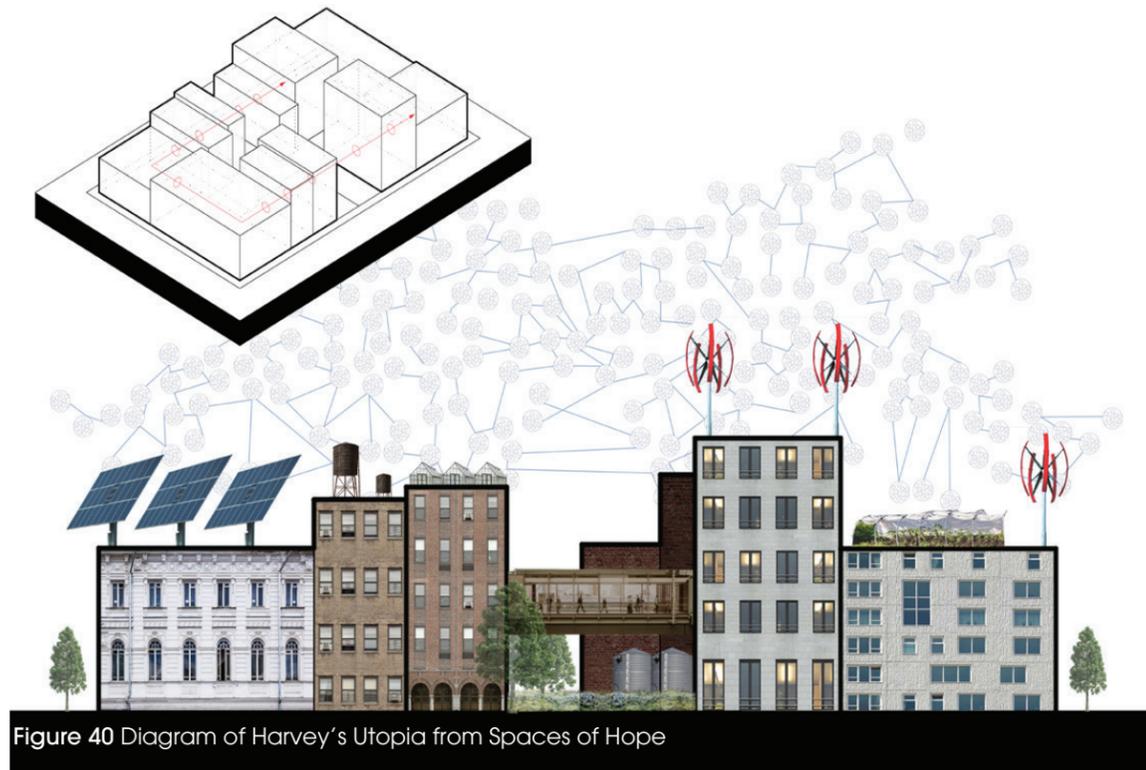


Figure 40 Diagram of Harvey's Utopia from Spaces of Hope

The above drawing is intended to begin to capture some of the architectural and urban qualities and compose them into one drawing.

In the Appendix of Harvey's Spaces of hope is his vision for a utopia. The world he imagines is many years in the future; a world post revolution. People again gather like tribes in groups of 20-30 called hearths and then in groups of 10 or so hearths which are diagrammed in the field behind the buildings.

The upper left diagram shows Harvey's idea of how buildings would be interconnected in the future through passageways allowing whole blocks to be accessible while staying inside, allowing people to move freely from one hearth to the next.

The bottom drawing is of the decentralized architecture, an architecture that is self-sustaining, a necessary component of Harvey's vision for utopia. Energy is produced by solar panels and windmills on the roofs, rain water is captured and stored for gardens on top of and between buildings to provide food for the community.

In Harvey's vision for a future utopia, there are many other systems at play like the abolishment of money, a freely available database of everyone's information, slow electric cars and so on.

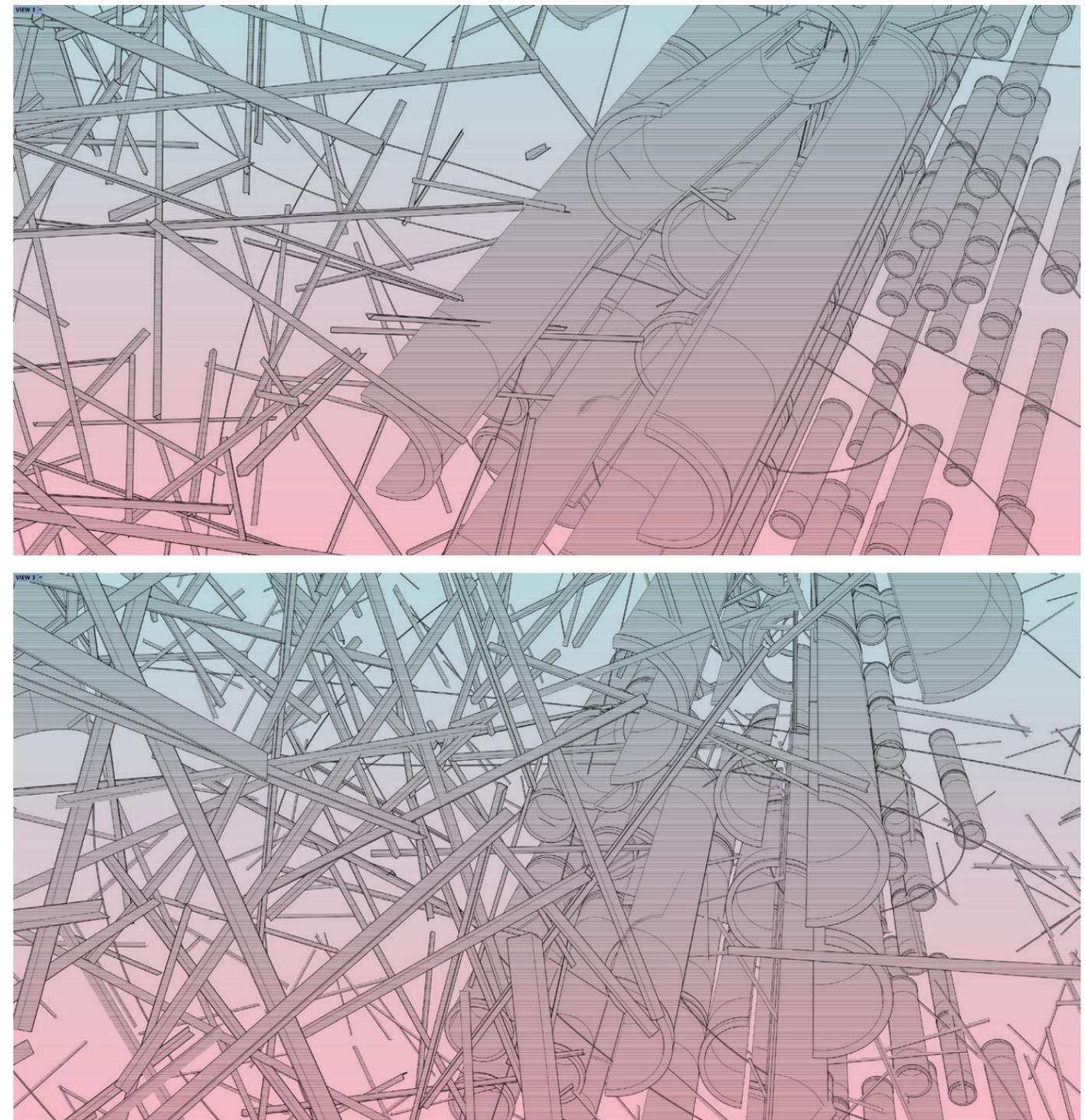


Figure 41 Initial Material Drawing Experiments



Figure 42 Second Material Drawing Experiment

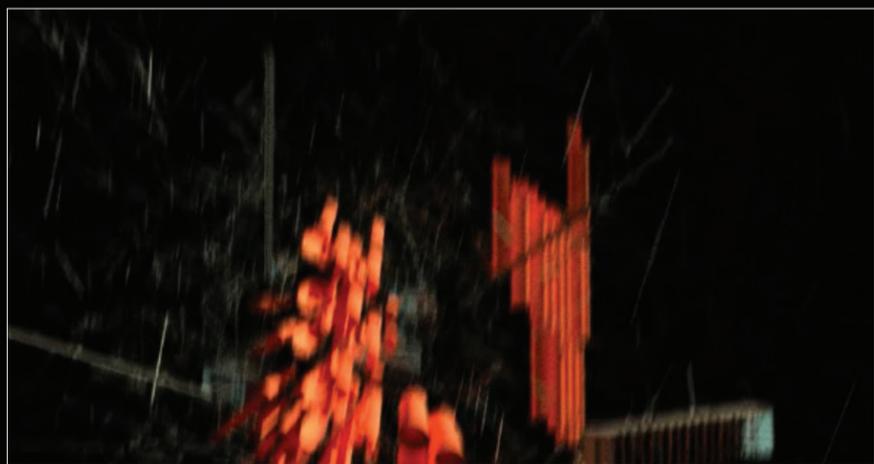
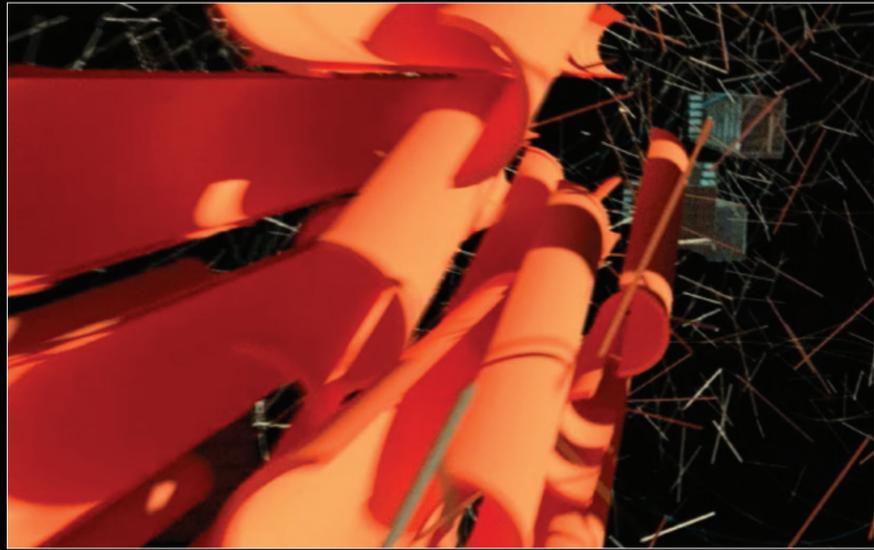
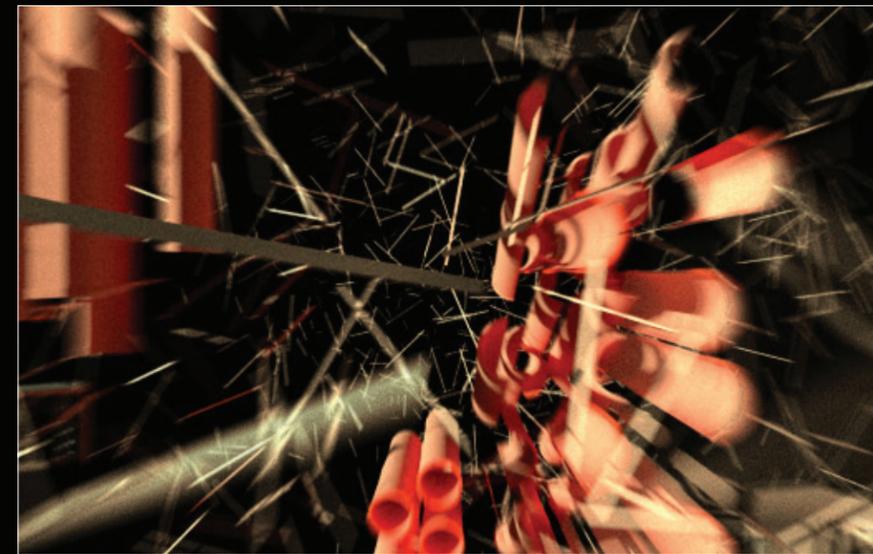
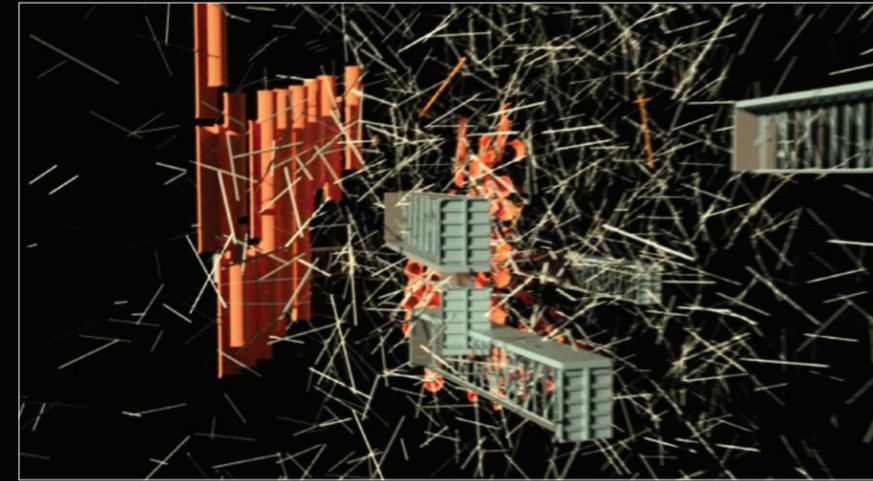


Figure 43 Secondary Material Drawing Animation Experiment



Bibliography

- Arcosanti. "Arcosanti - World Famous Urban Laboratory and Architectural Experiment." Accessed March 2, 2020. <https://arcosanti.org/>.
- Awan, Nishat, Tatjana Schneider, and Jeremy Till. *Spatial Agency: Other Ways of Doing Architecture*. New York, NY: Routledge, 2011.
- Di Paolo, Bill. Informal Interview in Lower East Side Manhattan. Conversation, November 16, 2019.
- . Visit and Tour of the Museum of Reclaimed Urban Space. Tour, October 12, 2019.
- Dirksen, Kirsten. *Arcosanti: Paolo Soleri on His Futuristic Utopian City in AZ Desert*, 2016. https://www.youtube.com/watch?v=VICOY_CVaHs.
- Duda, John. "Cybernetics, Anarchism and Self-Organization." *Anarchist Studies* 21, no. 1 (2013): 52–72.
- Elleh, Nnamdi. *Reading the Architecture of the Underprivileged Classes: A Perspective on the Protests and Upheavals in Our Cities*. Burlington: Ashgate, 2014.
- Fiennes, Sophie. *The Pervert's Guide to Ideology*. Digital, Documentary. Zeitgeist Films, 2012.
- Foucault, Michel, and Jay Miskowiec. "Of Other Spaces." *Diacritics* 16, no. 2 (Spring 1986): 371–79. <https://doi.org/10.4324/9780429399671-24>.
- Garcia, Isabelle. "Our Collective." MoRUS, July 17, 2013. <http://www.morusnyc.org/about-morus/our-collective/>.
- Goodman, Amy. "Democracy Now!" *Democracy Now!* New York. Accessed March 25, 2020. <https://www.democracynow.org/>.
- Hodge, Oliver. *Garbage Warrior*. Mp4, 2008.
- Honeywell, Carissa. "Utopianism and Anarchism." *Journal of Political Ideologies* 12, no. 3 (October 2007): 239–54. <https://doi.org/10.1080/13569310701622127>.
- Jameson, Fredric. *Archaeologies of the Future: The Desire Called Utopia and Other Science Fictions*. New York: Verso, 2005.
- Klein, Naomi. *Coronavirus Capitalism — and How to Beat It*. Mp4, 2020. <https://theintercept.com/2020/03/16/coronavirus-capitalism/>.
- . "Reclaiming the Commons." *New Left Review*, no. 9 (June 2001): 81–89.
- Lebbeus Woods: *Sentricity: The Unified Urban Field (November 30, 1988) Part 1 of 2*. Accessed December 14, 2019. <https://www.youtube.com/watch?v=j1JMNIFYZnc>.

- Marx, Karl, and Friedrich Engels. *The Communist Manifesto: Rethinking the Western Tradition*. London: Yale University Press, n.d.
- Morcote, Vico. Lebbeus Woods: the Vico Morcote interview, 1998. <https://www.youtube.com/watch?v=KO7-sGk6O8g>.
- Moynihan, Colin. "Umbrella House: East Village Co-Op Run by Former Squatters." *The New York Times*, July 17, 2015, sec. Real Estate. <https://www.nytimes.com/2015/07/19/realestate/umbrella-house-east-village-co-op-run-by-former-squatters.html>.
- Noam, Chomsky. "Noam Chomsky (2013) 'What Is Anarchism?'" MIT Wong Auditorium, November 2013. https://www.youtube.com/watch?v=oB9rp_SAp2U.
- Quirk, William. "Too Big to Fail and Too Risky to Exist." *The American Scholar* 81, no. 4 (2012): 31–43.
- Robinson, David. Meeting with David Robinson, November 11, 2019.
- Saarinen, Oiva. *From Meteorite Impact to Constellation City: A Historical Geography of Greater Sudbury*. Waterloo: Wilfred Laurier University Press, 2013.
- . "Sudbury: A Historical Case Study of Multiple Urban-Economic Transformation." *Ontario History* 82, no. 1 (March 1990): 29.
- Tafuri, Manfredo. *Architecture and Utopia: Design and Capitalist Development*. Cambridge, Mass: MIT Press, 1987.
- Truscello, Michael, and Uri Gordon. "Whose Streets Anarchism, Technology and the Petromodern State." *Anarchist Studies* 21, no. 1 (2013): 9–27.
- Weinberg, Bill. Tour of the Lower East Side Squats. Neighbourhood Tour, November 16, 2019.
- Wigley, Mark. *Constant's New Babylon: The Hyper-Architecture of Desire*. Rotterdam: 010 Publishers, 1998.

