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For the Love of Concrete

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Abstract

For the Love of Concrete celebrates the beauty, versatility, durable sustainability and authenticity of concrete in architectural design. This capstone is born out of the contentious debate around the mid twentieth century architectural style "Brutalism". I acknowledge the shortcomings of concrete as a material (chiefly its carbon-intensive manufacturing process), but forefront its positive attributes. This in the face of increasing demolitions of concrete structures, and the trend toward superficiality in architectural design as architects more than ever focus too much on the design of the skin or facades of buildings, rather than focusing on designing good bones.

Executive Summary

For the Love of Concrete (as the name suggests) pays homage to concrete. Throughout this investigation, I've continuously advocated the beauty, versatility, and durability of concrete architecture. This project celebrates concrete's ability to create spatial experiences that are compelling, varied, acoustically attuned and thermally tempered. In the face of increasing superficiality in the world of architecture, this capstone, above all, celebrates the authenticity and substantiality of concrete. In the face of technological superficiality in green building discourse, this capstone celebrates concrete's potential to be authentically sustainable in its durability, adaptability, and "thermal mass" benefits.

What prompted this research is the ongoing debate over Brutalism, the oft-misjudged architectural style. Brutalism is a little-understood and easy-to-hate genre of architecture that emerged in Europe after the Second World War. It quickly spread around the globe, including to America (The Everson Museum of Art, Bird Library, and the S.I. Newhouse School of Public Communications being notable examples here in Syracuse). It was a form of architecture that burned hot and fast however, and by 1980 global production of Brutalist buildings had all but ended. It is a type of architecture that values honesty of materials (usually concrete), and bold, expressive, austere forms. Brutalist buildings have featured prominently as settings for dystopian films like 1984 and Stanley Kubrick's A Clockwork Orange, and recently have been popular settings for art photography, music videos and ad campaigns. Inspiring hate or love, and rarely indifference; Brutalism is certainly the 'Ugly Duckling' of architecture. A brutalist cult following of sorts has grown up, valuing its nuanced surface treatments, bold structural moves, and its befuddling balance of historic and decidedly futuristic references. Still many Brutalist

structures have been prematurely demolished, are about to be demolished, or are experiencing demolition by neglect. These structures are often unable to earn wide community support or be preserved through litigation. Brutalist architecture explicitly references ancient architecture in its massing and materiality; these buildings were built to be immortal! But ironically, Brutalist buildings are now being torn down in droves, despite their demonstrated potential to be adapted. They are at worst being replaced by parking lots and at best being replaced by monotonous glass-skinned boxes that value the optimized, ethereal and temporary over the whimsical, substantial and eternal. The noted architectural commentator Thomas de Monchaux says it well when he says: "So it is worth asking about those Brutalist architects and the public servants who were their primary patrons: What did they know, and aspire to, that we don't?"[1]

A key component of this investigation, was visiting concrete buildings. Study of architecture can be conducted through books, film, drawings and photographs, but it is very difficult to fully comprehend buildings without visiting them in person; feeling the material of the walls, observing how occupants interact with the building, observing them at different times of the day. Additionally, visiting concrete buildings allowed me to source material from buildings that are outside the traditional architectural canon, or are pedestrian, and therefore are not published or documented extensively. Through the lens of my camera, I interrogated two dozen concrete buildings to understand better their successes and failures. These photographs, focusing on 'forgotten' spaces, moments of user adaptation, interesting moments of color and light, are compiled into one of two booklets I have published with the generous support of the Crown-Wise award.

[1] De Monchaux, Thomas. "The Other Modernism." *n+1*, July 12, 2012. Accessed December 13, 2016. https://nplusonemag.com/online-only/online-only/the-other-modernism/.

For the Love of Concrete encourages a return in architectural design to the solid, authentic architecture of the past. Therefore, it jumps off of the above-mentioned site visits and forages for inspiration in the history of concrete construction (from ancient Roman, through 20th century Brutalism, to the exquisitely executed Swiss concrete of today). Last year, I embarked on a scavenger hunt of sorts for authenticity of architecture: looking for solid, largely concrete buildings to emulate in my final design. In looking for projects to admire and emulate, a primary feature I was looking for was lots of "Poche" ("Poche" being architectural jargon for the "walls, columns, and other solids of a building as indicated on an architectural plan, usually in black"[2]).

Some say that beauty is only skin deep. In kind, many architects have become solely obsessed with (and are often relegated to) the design of building facades. This capstone advocates the design of good bones, not just beautiful skin. *For the Love of Concrete* focuses on the design of said bones. The idea is (as demonstrated by the successful adaptation of many brutalist buildings) that if you design good bones of a structure, then the skin can and should be whatever it needs to be. Initially, the intent was to investigate this form of authentic architecture via an adaptive reuse of an existing Brutalist structure, but with the help of my capstone advisor it was decided that the feasibility of adaptive reuse of Brutalist structures has already been well demonstrated. Then, the idea came about that it might be beneficial to deploy concrete as a material in a traditional American house (the idea being to see what happens to an existing typology when you replace its timber structural system with concrete). But after critique from my advisor, panel, and capstone reader Carl Schramm, I was reminded that concrete is an

[2] Poche. Dictionary.com. *Dictionary.com Unabridged.* Random House, Inc. http://www.dictionary.com/browse/poche (accessed: May 2, 2017).

ambitious material, perhaps one not best suited for the small domestic scale. Therefore, I adjusted course and instead refocused my capstone investigation into the design of a good set of architectural ‘bones’ in concrete. The scale of the project was drastically increased, to push the material and design to its limits. The resulting structure blends the history of architecture, speculative structural acrobatics, architecture and art; blending these disciplines into a sculptural ‘absolute’ structure on the scale of a skyscraper, which demonstrates the ability of concrete to create compelling, diverse spatial experiences. In representing this structure, I have chosen to be similarly ambitious, by developing large-scale drawings and models.

The core ambition of this project is to demonstrate, or better yet celebrate concrete as a material of seeming contradictions: ubiquitous, yet anything but common; durable yet adaptable; robust yet beautiful.

Thank you.

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Acknowledgements

First and foremost, I would like to thank the supportive and generous honors faculty and staff; especially Kate Hanson for her feedback and support over this past year.

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Lastly, I'd like to thank my honors reader University Professor Carl Schramm, not only for being a great sounding board and critic, but also for his *Fast Cities / Failed Cities* course which I was lucky to take several years ago. He has engendered my peers and me with an invaluable skepticism that we will carry with us as we begin our careers.

Preface: Excerpt from <u>The Little House</u>

Once upon a time there was a Little House way out in the country. She was a pretty Little House and she was strong and well built. The man who built her so well said, "This Little House shall never be sold for gold or silver and she will live to see our great-great-grandchildren's great-great-grandchildren living in her."

The Little House was very happy as she sat on the hill and watched the countryside around her. In the nights, way off in the distance she could see the lights of the city. The Little House was curious about the city and wondered what it would be like to live there.

Now the little house watched the trucks and automobiles going back and forth to the city. Everyone and everything moved much faster now than before...The air was filled with dust and smoke, and the noise was so loud that it shook the Little House. Now she couldn't tell when Spring came, or Summer or Fall, or Winter. It all seemed about the same.

Then one fine morning in Spring along came the great-great-granddaughter of the man who built the Little House so well… She said to her husband, "That little house looks just like the Little House my grandmother lived in when she was a little girl, only that Little House was way out in the country on a hill covered with daisies and apple trees growing around".

[So] they jacked up the Little House and put her on wheels. Traffic was held up for hours as they slowly moved her out of the city. The windows and shutters were fixed and once again they painted her a lovely shade of pink. As the Little House settled down on her new foundation, she smiled happily. Once again she could watch the sun and moon and stars. Once again she could watch Spring and Summer and Fall and Winter come and go. Once again she was lived in and taken care of.[3]

Virginia Lee Burton (1942)

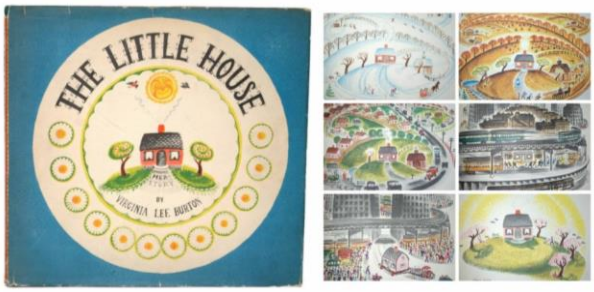

Figure 1 – Selections from <u>The Little House</u>

[3] Selections - Burton, Virginia Lee. *The Little House*. Illustrated by Virginia Lee Burton. Boston: Houghton Mifflin, 1942.

Chapter 1

Introduction

Virginia Lee Burton's classic The Little House is the first book I can remember obsessing over; I would spend hours memorizing the text, interrogating each beautiful illustration. Burton died a full quarter century before I was born, yet has had a noted impact on my life and interests. No surprise then, that her messages have stuck with me; her little personified house wormed its way into my heart and created an architectural preservationist and nostalgic out of a precocious kindergartener. In a way, I can trace my interest in the built environment, the life of buildings, architecture and urbanism to her. Architects by nature seek to innovate, design, build and affect their environments. There is some irony then, in the fact that I aspire to be an architect, yet I am entirely more excited by studying and understanding what others have built before me, than in anything that I might someday design myself. It is from this perspective that I embark upon this exploration: I am a designer, preservationist, and one with a heart for authentic sustainability.

At the heart of this exploration lies an interest in exploring the life and death of buildings as relates to sustainability. The central pretense of this paper is as such: While it may be in vogue to adapt a brand of architectural sustainability that relies entirely upon new technologies, I propose that it is far more appropriate to reframe our perceptions of sustainability around the concept of "durability". Simply put, I believe it is more valuable to build a tough, resilient

structure that can stand up to anything, than a fragile technologically-advanced yet technologically-reliant building. More simply put, I'd prefer a solid, indestructible Buick that will last twenty years to a Prius that might die in five years and need to be replaced, multiplying the environmental impact of constructing it and thus negating the ecological benefit of increased miles per gallon. The first tenet of sustainability needs to be "should we be building at all?"; the default when a new building is called for should be, rather than building new is there an existing structure we can appropriate, is there some building we can save?

While re-reading The Little House some months ago, for the first time in many years, it struck me deeply how relevant it remains. While a childrens' book may seem a rather trivial place to start, nevertheless it brings up several key points I'd like to address in this essay. First, the nature of the house as an inheritable artifact; an item that aspires to be passed generation to generation, something that can survive for hundereds of years. Second, it conveys the importeance of "wellbuiltness" and quality in architecture. Third, it conveys the city as a living object, and buildings within them being victim to and agent of those cycles of urban change. It also alludes to the issue of buildings' impact on the natural world.

As such, I will frame my arguments around three distinct scales: the private building, the public building, and the public city district. More specifically, my arguments will be framed around three areas with personal significance. First, I will look the houses of three generations of my family. Second I will investigate an urban district through the example set by "Kodak Park", a semi-abandoned industrial park in my home town of Rochester, New York. Lastly, I will

investigate “Brutalism”; a style of architecture that has incredible demonstrated potential to be adapted and be sustainable in its longevity, but alas has come under fire in recent decades.

Chapter 2

Architectural Inheritance / Heirloom Houses

Let's take The Little House as a utopian view of what could ideally happen to family houses; the little house gets kept in the family, cherished and nurtured, no one will need to expend the environmental and financial capital to build a new house again! If we accept that situation as a worthy goal in a perfect world, than my family would be seen as a complete failure. We haven't been able to keep a single house standing past a single generation; and therefore have expended huge amounts of environmental capital and economic capital in demolishing and rebuilding houses each generation. While pedantic, I think there is great value in looking at these things with a critical edge to better understand the realities of the life of buildings. Three generations of Carlsons precede me in the United States. My parents, my grandparents, and my great-grandparents (all eight of which emigrated from Sweden to northern Wisconsin in the 1920s). Each generation has achieved much off the backs of those before them, and each has sought to leave behind a legacy for its successors – financial, ideological and physical, in the form of their houses. It is notable that each generation has built themselves a house, with the hope of passing it on to their children, yet none yet has been successful.

1: Edith and Evald Osterberg – My great-grandparents moved west directly from Ellis Island to homestead a 250 acre parcel in in far-northern Wisconsin. There, with no money in

hand and little skill, they built ramshackle bungalow and established a farm. Their intention from the start was for my Grandfather to inherit the parcel and set up his family in the little bungalow built by my great grandfather.

2: Bruce and Helen Osterberg – But alas, when it came time to move in, my grandparents found the bungalow too small for their growing family, too ill-fitted and too ramshackle for the glorious post-WWII era to merit preservation. So they waited until my Great Grandmother passed away, demolished the Bungalow and built a sprawling midcentury ranch right next door. And there my Grandmother has stood guard, keeping the nest warm until one of her children come back home and take up residence. Her house (unlike the bungalow that preceded it) is well-built, thoughtfully-planned, with beautiful bespoke details. But in the time that my Grandmother has lived there, all sorts of employment opportunities in the area have dried up. So while she has a *beautiful* house and would love to pass it along to one of her offspring, none of us can afford to live in an area of the country with rampant population loss and lack of economic opportunities.

Figure 2 – Home of Helen Osterberg – 1975 and 2012

3: Dan and Judy Carlson – Sadly the same sort of development is happening a third time. My parents are still living in the house I was brought home from the hospital to and brought up in. It is a classic, late 1980s tract home; with more bedrooms, dining, living rooms than many would want today, with the middling quality that seemed common at the end of the 20th century; but that said, it sits upon a lovely wooded hill, and in a region that despite loss of industry and population is still a reasonably viable part of the country to put down roots in (Upstate New York).

This investigation brings about three important aspects that affect the ability of buildings to survive over generations: quality, location, and how well it fits the needs of subsequent generations. In the case of my great-grandparents, location was ideal at the time, but quality was poor and it was not deemed large enough for how the family wanted to live. For my grandparents' home, the quality is there as well as the size, layout, but it's no longer a location that is economically viable. My parents' house, while of good quality and in an area of the country that has reasonable economic viability, is however unsuited to any of the desires of my brother and I, and therefore the idea of house "surviving" more than one generation has once again gone away. All this to say, that so many factors must align to make something like The Little House become reality.

Homes can, in the right circumstances serve as time-capsules, bearing traces of occupants long-gone, evoking their memories to those people who live in the buildings in future. 6a Architects, in Never Modern speak well to the complicated nature of the life of buildings with the following: *"Humans speak and buildings don't, buildings last (or some do) but humans*

don't."[4] With such uncertainty in life and beyond, most people have an innate desire to leave behind something that will outlive them by generations, be it a family, a legacy of accomplishment, a business, or in the case of my ancestors, a home. Today with frequency buildings are being built and torn down well within only one generation of occupancy. Buildings should, and *need* to outlive their occupants in light of climate change, given the incredible environmental impact of the construction industry.

[4] Scalbert, Irénée, Tom Emerson, and Stephanie Macdonald. *Never Modern*. N.p.: Park Books, 2013.

Chapter 3

Boom Town / Bust Town

Cities are living things; growing, changing and adapting constantly. But what's to be done when a city or district dies? "Kodak Park" in Rochester NY, named for the photo giant that built it, is a huge industrial sector of the city. Construction on the park began in the late 1800s, and by its peak in 1980 (when my parents both began their 35 year careers there) had expanded to spread over an entire swath of the city; with well over 1000 acres and over 150 buildings (and even its own power plant and railroad). But, with the advent of digital photography, the drying up of the film industry, Kodak lost profits, lost productivity, and saw its vast fields of factories made redundant, as some 12,000 employees had also been made redundant. By the mid-2000s, the workforce in Rochester had dwindled to about 2000 people, leaving a huge industrial infrastructure behind. Despite an aggressive rebranding program begun almost ten years ago, the site is still largely vacant. Therefore, an urban vacuum has taken its place.

This, raising the question: what do we do in cities that have lost a great amount of population in reaction to lost industries? From the year my parents started at Kodak (1980) to the year I was born (1994) New York state lost over 800 thousand people, while other states were gaining millions ("hot" states such as California, Texas and Florida).[5]

[5] Wolf, Peter. *Hot Towns*. N.p.: Rutgers University Press, 1999. 18

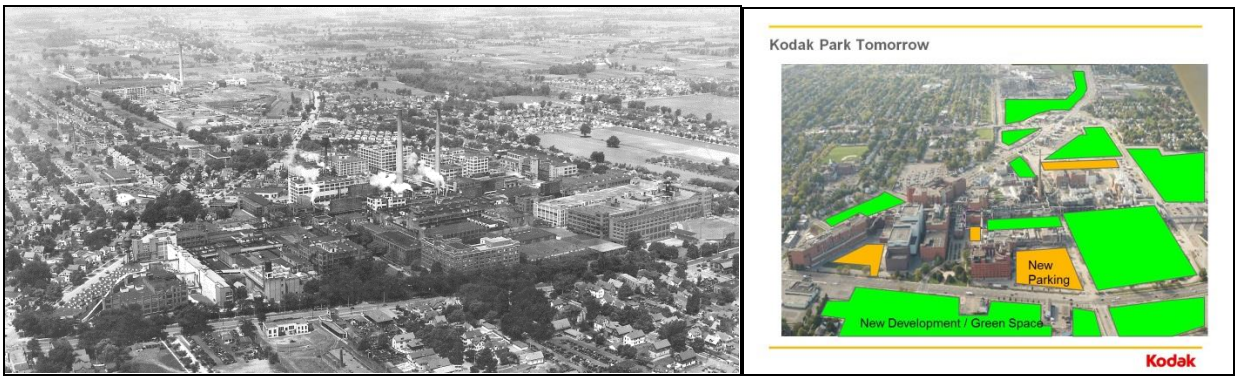

Figure 3 – Kodak Park 1930s and 2008

One of the biggest challenges in redevelopment of this land, is the fact that there is so much of it: *"In the first half of the 20th century the process of growth was accelerated by changers of technology… dispersal of factories was brought about by the use of heavy-duty power transmission cables and, even more, of the assembly line (horizontal processes required more land)."*[6] By nature of the machinery used in the factories, the resulting buildings are and were very specific to certain processes, and are vastly over-scaled to many new uses.

One important aspect that inhibits the opportunity for declining companies to shepherd their facilities on to new uses, is economic burden. On the same line of thought, the economically-motivated diminishing of tax burden through demolition of real estate holdings has the compounded effect of diminishing the tax base of the surrounding community, diminishing by extension the school system, public spaces and the like, creating a death spiral. It is a generally accepted rule of thumb that 75 to 90 percent of locally available revenue is derived from tax on real property within the community, most of which goes to support local school

[6] Banfield 29

districts. *"A vicious cycle begins, and eventually the tax burden become onerous- an unacceptably high and accelerating expense, even for middle-income residents"*[7].

Also of difficulty in this case, as in many post-industrial sites, is the difficulty of redevelopment brought on by decades of improper hazardous material disposal. At Kodak, for example, toxic chemicals were dumped into the ground (and a minor scandal even cropped up a few years ago, when it was revealed that Kodak was holding onto a non-trivial amount of weapons-grade uranium in a basement in Kodak Park). Peter Wolf speaks truth to this conflict between postindustrial landscapes and the potential for natural redevelopment, when he says *"From the beginning and right through to the fifth migration, settlers in America have been reckless both in how they use the natural environment and in how they build the communities in which they live."* [8]

Edward Banfield, in his seminal The Unheavenly City speaks well to the difficulty of bringing back urban districts that have been vacated. *"Despite recentralizing tendencies, it is idle to talk of bringing large numbers of the well-off back into the central city. For the city to compete as a residential area with the suburbs, large districts of it would have to be completely rebuilt at very low densities."*[9] Of course nowadays this statement shows its age, for today bringing back urban centers at suburban densities is a ludicrous proposition.

[7] Wolf 90
[8] Wolf 85
[9] Banfield, Edward C. *The Un-heavenly City*. Boston: Little Brown, 1970. 39

It is of note that Rochester itself is out-performing some of its rustbelt neighbors in several key metrics; Rochester is outperforming both Syracuse and Buffalo in its attractiveness to millennials. From 2010 to 2015 the city's population of 20-34 year olds grew 8.8 percent, more than any other upstate city, and above the nationwide average of 6 percent. As put by Cady Guyton, a 24 year old aspiring Architect in Rochester: *"Rochester today is very different from the Rochester during the Kodak and Rochester heyday –it's picking up on a revival. I thought it'd be very cool to get downtown and be in the heart of it"*[10].

[10] Rochester Business Jounrnal Special Report, February 10 2017 Page 17

Chapter 4

Brutal Demolition, Sustainable Durability

Figure 4 – Prentice Womens Hospital Chicago – b.1975 d.2014
Prentice ca. 1975 / 2012 Adaptation Strategy by Jeanne Gang Architects / Snapchat Art by Erik Carlson 2014

A prime example of buildings killed off far before their time is the architecture of the later 20th century. What incited the trajectory both for capstone proper and for this paper, is my interest in this oft-misjudged architectural style rather unfortunately called Brutalism. Brutalism was in many ways the defining and dominating architectural style in the public realm for much of the second half of the 20th century, characterized by use of severe and abstract geometries, primarily made of concrete. Most cities through the country and the world have at least one or two banks, civic structures, academic buildings that are done in this style (in Syracuse, see Bird Library as a lesser example, and the Everson Museum as a veritable masterpiece of Brutalism). A cult following has grown up valuing its quirky charm, raw concrete materiality and solid appearance. Still, many notable Brutalist structures have been demolished in recent years, unable

to be preserved through litigation because they are too young and unable to earn wide support from community because of their dominant appearance. Brutalist architecture explicitly references ancient architecture in its massing and materiality, these buildings were built to be *immortal* (and therefore ideally durable, sustainable and "Green"). But ironically, Brutalist buildings are now being torn down in droves despite their demonstrated potential to be adapted. They are at worst being replaced by parking lots and at best being replaced by monotonous glass boxes that value the ethereal and temporary over the substantial and eternal.

A perfect example of this issue facing Brutalism can be seen from five years ago, in Chicago. Prentice Womens Hospital, designed by Bertrand Goldberg, was completed in 1975, and notably was one of the first buildings to be developed using computers! Waldo Villacorta and Cyril Marsollier put the issue facing Prentice as such, in their article "Candidate". *"Although not every building is meant to be preserved, the demolition of architectural icons can no longer be explained by functional failure, maintenance costs, or aesthetic disbelief when considering the value generated by saving and transforming… However, what happens when once avant-garde design proves to be obsolete and the vision of a future no longer suits the present?"*[11] Despite a vocal anti-demolition cohort, despite great debate within the architectural community and some of the strongest community support in decades, Northwestern University took ownership of the building, vacated it, and demolished it in quick succession, barreling through litigation. All this, despite many viable adaptation projects being proposed (most notably from Chicago architect Jeanne Gang. By the end of 2014, the structure was demolished.

[11] May, Kyle, Julia van den Hout, Jacob Reidel, Archie Lee Coates, IV, Jeffrey Franklin, and Michael Abrahamson, eds. *CLOG: Brutalism*. N.p.: Clog, 2013. 157

Brutalist architecture is often criticized by environmentalists. Concrete is a material that rapes the environment; mountains are quite literally levelled (especially in the developing world) to collect the necessary components of concrete. The manufacturing process of concrete releases huge quantities of CO_2. But that said, how much more ironic is it then to *demolish* a concrete structure, when so much CO_2 has been expended to construct it?

Key is for us to reinvent our understanding of architecture, reimagining our value system. We must completely abandon the instinct of past generations, which was to demolish and build new more often than not. Thankfully today more than ever we've adopted a more nuanced view: moving beyond the simple appealing nature of perfect preservation, in favor of bold reinventions, renovations, and additions. Buildings should be living artifacts, not frozen in amber or killed off prematurely. The best architecture, in my opinion, is one that is able to adapt to and accept, or even encourage adaptation rather than being stubborn.

An uncommon but successful example of successful adaptation is the "Torre David" in Caracas. It has been under construction for over 21 years, as its construction stalled out in an economic crash 1994. Still, it remains the third tallest building in Venezuela. This tower quickly became abandoned, then became a magnet for squatters – and now over 750 families live there, have adapted the structure and have self-organized a community, the world's largest vertical slum.[12] Torre David has been called a grand urban experiment; we can see clearly three thousand people or so appropriating the bones of an abandoned office building, turning it into so much more, a veritable self-contained and operating city within a city. So we must ask ourselves, does Torre David offer a model for the use of empty buildings in other countries?

[12] Brillembourg, Alfredo, and Hubert Klumpner, eds. *Torre David: Informal Vertical Communities*. N.p.: Lars Muller, 2012.

A new generation of architects has begun to show itself, has begun to take charge of our collective privilege and advocate one more for the sort of architecture advocated for by the Brutalists. This, an architecture which seeks to be sustainable in its durability. I would like to introduce here, the words of Swiss architects Christ and Gantenbein: *"[We] are interested in contributing to the environment by allowing things to last longer. This means building in such a way that the physical reality of the construction resists better... not just for decades but hopefully for centuries. The real challenge is not only to make a construction physically resistant to time (capable of aging well) but to make it able to be valid for other generations."*[13] And finally, the noted architectural commentator Thomas De Monchaux puts it best when he says: *"... it is worth asking about those Brutalist architects and the public servants who were their primary patrons: What did they know, and aspire to, that we don't?"* [14] For me, that aspiration that today's architects lack is a truly groundbreaking and innovative attitude, and an ambition to build for eternity rather than simply the present.

[13] *Christ & Gantenbein. Venice Biennale. 2016*
[14] De Monchaux, Thomas. "The Other Modernism." *n+1*, July 12, 2012. Accessed December 13, 2016. https://nplusonemag.com/online-only/online-only/the-other-modernism/.

Chapter 5

Conclusions

This project demonstrates the ability of concrete structures to be sustainable in their durability, avoiding obsolescence by being adapted rather than demolished. *For the Love of Concrete* forages in the history of concrete construction to speculate about how to best leverage concrete construction as an adaptable, durable and sustainable construction material for the future. Despite the seriousness of these goals, *For the Love of Concrete* also advocates for the continued cultivation of playfulness in the design and delight in the life of concrete architecture.

In light of climate change, our culture of architectural construction, consumption and demolition is in need of a sincere reinvention. Urban commentator Edward Banfield speaks truth to this assertion when he says that *"... most architects and engineers still tend to focus on building rather than preserving, on changing rather than improving, on making a reputation rather than making a substantial (if less visible) contribution"*[15]. If we are to radically and substantially change our view of the built environment, we must work to extend the lives of our buildings. This, by reevaluating our building techniques, tempering our voracious appetites for "newness". *"Traditional planners and engineers, for their part, have typically promoted development and new extensions to cities at the cost of both older city areas and the natural environment: they have willingly cleared already settled areas as well as fields and forests,*

[15] Banfield 87

fouling rivers and the air, leveling mesa and mountain."[16] We as a society need to learn to reassess our standards for demolition, and need to learn to "make do" more often when it comes to our built environment.

[16] Wolf 87

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Figures

1 – Selections from The Little House

Burton, Virginia Lee. *The Little House*. Illustrated by Virginia Lee Burton. Boston: Houghton Mifflin, 1942.

2 – Photographs of the home of Helen Mae Osterberg, Niagara Wisconsin. 1975 photographs taken by Helen Osterberg, 2015 collages completed by the author, Steven Carlson.

3 – Aerial images of Kodak Park, from the personal collection of Judy Carlson, mother of the author Steven Carlson. Slide 1 ca. 1930, Slide 2 and collage overlay ca. 2008.

4 – Three Images of Prentice Womens Hospital, Chicago Illinois. Slide 1 ca. 1975, Slide 2 ca. 1

Slide 1: View of Prentice Womens Hospital, Just Completed ca. 1975

G. Goldberg + Associates. *Building (Prentice Womens Hospital) View When Just Completed*. 1975. Photograph. Accessed May 2, 2017. http://bertrandgoldberg.org/wp-content/uploads/2011/07/pre1-298x400.jpg.

Slide 2: Architectural Rendering by Jeanne Gang and Michael Kimmelman

Gang, Jeanne, Michael Kimmelman, and Jay Hoffman. *Jeanne Gang and Michael Kimmelman's proposal to save Prentice Women's Hospital*. October 4, 2012. Photograph. Accessed May 2, 2017. http://www.archdaily.com/284783/jeanne-gang-and-michael-kimmelmans-proposal-to-save-prentice-womens-hospital/sga_prentice_pedestrian_final.

Slide 3: Snapchat art created by Dr. Erik Carlson, brother of the author, Steven Carlson.

Appendix