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@the_new_house: An Online-Offline Manifesto

A Capstone Project Submitted in Partial Fulfillment of the
Requirements of the Renée Crown University Honors Program at
Syracuse University

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and Renée Crown University Honors
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Honors Capstone Project in Architecture

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Abstract:

The house, as one of the most fundamental architectural archetypes, has long been used as unbuilt or built manifestos to declare the avant-garde of the discipline. Formally they are likely to offer the most intimate scale at which to work and symbolically they have always maintained a potent force, both as vivid representation of lives lived inside their walls and as a powerful influence over the changing course of architecture over the centuries (Rapoport). Iconic houses have become part of an essential language and shorthand of architecture itself.

Follow me as I investigate a return to the design of a house as a manifesto for today's online-offline generation. The house of today for tomorrow will strive to represent our virtual "curated" lives in our physical reality, questioning the very precepts of what a house should be and do.

As designers, we need to re-visualize design concepts to create architecture that integrates and corresponds to the way we dwell. Innovating design in the same way technology and digitalization have been innovating production and the way we live. This thesis investigates a return to the design of a house as a manifesto, focusing on today's advanced modes of fabrication and evolving ways of living to challenge the current design mindset.

https://issuu.com/domenicavelasco/docs/thesis_prep_book

Thesis Summary:

The house, as one of the most fundamental architectural archetypes, has long been used as unbuilt or built manifestos to declare the Avant Garde of the discipline. Formerly they offer the most intimate scale at which to work and symbolically they have always maintained a potent force; both as a vivid representation of lives lived inside their walls and as a powerful influence over the changing course of architecture throughout the centuries. Iconic houses are an essential language and shorthand of architecture itself. Follow me as I investigate a return to the design of a house as a manifesto for today's online-offline generation.

Technology has, since the printing press, the steam engine and now the internet, changed the way we live. The difference today is the intense presence technology has in our lives and the speed of change it is provoking. Today, technology is shaping our imagination. In fact, we are living in an era in which many people are constantly curating a parallel virtual reality. As designers, we need to re-visualize design concepts to create architecture that integrates and corresponds to the way we dwell. By leveraging 3D printing technology, we can innovate design to build for today's needs, bridging the gap between the way we live and the way we design.

This thesis represents itself as an experimental house, an architectural manifestation that re-frames the understanding of the built physical space and the three dimensional implications of the curated images we capture for the virtual space. Social platforms like Instagram, are allowing individuals to instantly create 3D images of what life "is" or "should be" based on curated, snap moments.

Instead of using program as a descriptor, @the_new_house brings the qualities of these three dimensional images into its physical spaces. Using forced perspective geometries and illusion tricks to spatially create an understanding of space that resonates with the way a flat image is perceived in an online platform.

The plans and sections of this experimental house follow experiences, rather than static program as in traditional architecture. The movement is vital to the development of this architectural manifestation, where scenes shift in space. With this in mind, plastic materializes the house, being the very idea of its infinite transformation, plastic is less a thing than the trace of a movement. The shifting characteristics give the house the ability to collapse, transpose and extend the design, while maintaining an architectural form.

Intro to the Architecture Manifesto:

During the 18th and 19th century, the manifesto emerged in the way we know it as a genre of public and political debate that called for immediate and revolutionary action. However, it wasn't until the end of the 19th century, when the manifesto entered the domain of aesthetics. An architecture manifesto is a public declaration of the intentions, motives, or views of an architect or architectural movement (Buckley). Manifestos have been a standard feature of the various movements in the modernist avant-garde and continue to be so today. Architectural manifestos, in their rhetoric, intent to achieve a revolutionary effect. They give a means of expressing, publicizing and recording ideas for the architect.

An architectural manifesto aims to define and criticize a paradigm in contemporary art and culture; which is as significant as to define a set of aesthetic values to position the ideas in the architectural world (Buckley). Frequently, manifestos aspire to be works of art in their own right. For instance, many manifestos writers intend for their texts to be performed, while other manifestos cannot be fully appreciated simply as written statements because they rely heavily on graphic design to make a statement. Historically, there has been a strong parallel between the architectural manifesto and the political one (Leeuwen, Andrew, and Eykemans).

For example, Le Corbusier, one of the pioneers of what is known today as modern architecture, was heavily influenced by problems he saw in industrial cities at the turn of the 20th century. He thought that industrial housing techniques led to crowding, dirtiness, and a lack of a moral landscape (Le Corbusier). Concerned with were industrial standardization was taking the world, he believed the new mode of living derived from a new spirit in which the aesthetics of

mass production was important. He demanded a rebirth of architecture based on function and a new aesthetic based on pure form.

Similarly, Robert Venturi's Complexity and Contradictions in Architecture became a rallying point for young architects around the world who had become disillusioned with the stylistic limitation of the International Style. In 1978, with his project in Cannaregio, Venice, Eisenman changed his theoretical discourse of interiority to exteriority in order to include concepts like context, metaphor, history and memory that would better explain the times in which he was living, the results of The Cold War (Banham). After the bombings of Hiroshima and Nagasaki and during the onset of The Cold War, the American public began to speculate on the possible effects of an atomic attack. The most disastrous impact would be felt in American's denser urban cities, making them the most obvious targets. Margaret Pugh O-Mara, a US Historian and professor at the University of Washington, pointed out in her article, Uncovering the City in the Suburb: Cold War Politics, Scientific Elites, and High-Tech Spaces, some state's began to offer tax benefits for suburban real estate in order to encourage people to move away from cities, a process known as "dispersion". Even though the effects of the "dispersion campaign" cannot be attributed only to the people's fear of another atomic attack, the threat was undoubtedly present. Suburban America did not need to deal with maintaining an efficient, clean, or dense city life.

Throughout the 20th century Iconic houses have served as the test bed of countless manifestos (The Iconic House: Architectural Masterworks Since 1900). They have established a new architecture paradigm or provided a pivotal referring point for a defined architecture or stylistic movement (Jencks, Charles, and Karl Kropf). Their ideas have been key to the development of the way we design and order our homes, based on our constant desires for a fresh

and more informal way of living. Dominic Bradbury, architectural journalist and author of "The Iconic House", illustrates the point "The house has served as a test bed of design experimentation, the place where architects have sought to create new domestic lifestyles".

<u>The Architectural Manifesto Today:</u>

While only a few years ago the architectural manifesto seemed to have disappeared, today we feel flooded by unclaimed architectural ideas. Even though texts have been written about architectural theory and culture, no real effort has been made to catalogue the genre since "Programs and Manifestos on 20th Century Architecture", now more than fifty years old. Five years ago, at a three-day symposium named "What happened to the architectural manifesto?" held at Columbia University, it became clear, prestigious speakers including Craig Buckley, Enrique Walker, Felicity Scott, Jeffrey Schnapp, Peter Eisenman, and Bernard Tschumi, agreed manifestos found themselves as a "dying craft". Arguing the manifesto is no longer necessary in a profession guided not by single genius, "but instead by an agglomeration of anti-heroic gestures". However, doesn't the recent increase in architectural manifestos-like texts indicate a need to question the form of the manifesto itself? Many will argue the manifesto has outlived its useful lifespan and even with its recent revival, manifestos are simply a "product of another century". However, for me, I see the manifesto as an "adaptable" genre, a form of declaration that has remade itself and stands to be redeemed in an age of insanely interactive social media.

Historically, manifestos have flourished in times of trouble, during the years prior to World War I and its aftermath, during the cold years after World War II, during the wars of decolonization, during the rise of terrorism and more recently during the environmental and energy crisis. Manifestos on the other hand, also cause for trouble, as they are a call for change.

Knowing this, we should read manifestos not only as declarations with law-like clarity, but should see their intimate connection to uncertainty, we should understand the manifesto's doubt and concern. Even though the manifesto takes its force from the uncertainties and emergencies of the time, the manifesto also takes its momentum from the most "immediate, cheap and ephemeral media available" (Holt, Michael, and Marissa Looby). Social media platforms are the multiplication of the newspaper, the small magazine, the pamphlet, and the poster that have surged since the mid-nineteenth century. It is through a media's ability to decrease the amount of time it takes the manifesto's message to spread from its creator to the mass public that the manifesto is truly impactful. I question in what ways has the manifesto itself been transformed by new modes of communication?

Enrique Walker mentioned that the manifesto as a form of declaration disappeared with Robert Venturi's "gentle" manifesto "Complexity and Contradiction in Architecture" and Rem Koolhass "retroactive" manifesto "Delirious New York". He claimed books today are filled with "stuff about the city for architects by architect" instead of "decisively analyzing the city's relationship with its architecture" (What Happened to the Architectural Manifesto). However, more than the language behind this important manifestos, I believe it was the "form" of the manifesto itself that no longer holds value in the written world. The book as a written declaration was already too slow to keep up with the rapid changes of the nineteenths century, as Alphonse de Lamartine acknowledged in the 1830's. Today, social media is the future of the written manifesto.

Today, some might even say our generation already feels empowered when just ordering a "small double decaf caramel latte" (Diamands). It is not that today's generation isn't innovative or creative, but rather the written manifesto has been transformed into our million tweets, pins,

and posts that scroll up our screen every day. The manifesto of the 21st century is intangible; today's online manifesto speaks from the cloud addressing today's most relevant questions. It is not that the manifesto has died, but more accurately, we have lost sight of its relevance in such a fast and dynamic world. Today, the manifesto itself has been transformed by new online streams of communication, such as Facebook, Instagram and Twitter.

The Online-Offline Manifesto:

The world not only feels different. Hard facts tell us it is different. Years of research from consulting firms such as McKinsey & Partner and KPMG suggest to specific trends changing the way we live. Urban density, changing demographics, and our online presence are the major trends changing the way we live (Dobbs, Manyika, and Woetzel). These trends are being multiplied especially through today's accelerating technology, however, these changes are not influencing the way we design and built in the same degree in which it is changing the way we live. By rethinking the manifesto, design concepts can be re-visualized.

In the past iconic houses have served as responds to major political and social claims, speaking to the needs of the people. Symbolically the house is a vivid representation of how we live and formally it is a powerful influence on your daily life. Our own house has more influence on the way we think and perceive architecture than a star-architect's museum. Our homes are a personal expression of our own characters, a place of escape in this hyper connected world.

In this same way, the iconic house of today needs to respond to the major trends that are changing the way we live. House design seems to have lost innovation, since humankind first built a shelter, the evolution of shelter design has always been a result of the available materials and construction methods. Today, there is a clear gap between the current advanced modes of fabrication and the way we are building our homes. By leveraging technology, we can design and thus build for today's needs, bridging the gap between the way we live and the way we design.

In order to design the house of today for tomorrow, the four influential forces changing the way we live need to be cohesively addressed.

Technology

Technology has, since the printing press, to the steam engine and now 3D printers have changed our lives. 3D printing technology today is already revolutionizing our world. What was once called a "machine for living" has flipped into "the house made by the machine". 3D printing is giving architects the freedom to design without the limitations of our current built reality. 3D printing technology is taping not only into design possibilities but creating a new building economy. Today, a 3D printer fabricates a square foot of wall in less than 20 seconds. Faculty research from the University of Southern California projects a 2-story house will soon be built in 24 hours. Not only will walls come up in a fraction of the time they are erected today, but they will grow with electrical, plumbing and climate control wiring all at once. We are moving away from a standardized design, while at the same time reducing traditional construction costs by a fifth as production can be on demand, and labor minimum and fast.

For designers, the most powerful advantage of this emerging technology is its capability to increase the design complexity without increasing the built complexity. With 3D printers, concave and convex geometries take the same amount of time, effort and money as orthogonal geometries, since "manual casting and intricate scaffolding" is no longer necessary. As Sean Bailey, architect at Paper Architecture wrote in Txchnologist, an online futurist magazine "Whereas traditional fabrication techniques require additional resources as complexity increases, 3D printers are not bound to this logic.' With a 3D printer, it takes the same amount of time and money to turn a glob of concrete into a cube as it does to turn it into an octopus."

Today, our world has become overpopulated with stuff, new house construction needs to take advantage of recyclable materials. Material that will not add to our overpopulation of stuff, but rather take advantage of what we already have and repurpose them into a usable, long lived

structure. This is why I believe the next iconic house will be specifically built with 3D printing plastic technology. The invention of plastics changed our lives like no other material and even if today we take it for granted, future construction with this material is beyond our grasp. I aim to actualize plastic's unfulfilled vision, exploring how polymer-based materials can be used to create innovative architecture. Even though polymers are commonly used in buildings, they are typically applied to imitate products made from other materials. I believe plastic in architecture should not hide in plain sight. The invention of plastic in the mid-19th century was followed by a period of significant industrial transformation, changing the world of consumer products. Plastics popularity in products arise from its capacity to be easily moldable, fast to assemble, and once cured, strong and light. However, plastics in architecture have not had this same impact, it has not drastically reshaped our built environment.

According to research done by McKinsey, "Plastics are the workhorse material of the modern economy". Demand for plastic has kept the industry growing for more than 50 years. Global production has surged from 15 million metric tons in 1964 to 311 million metric tons in 2014. I will rethink the material's economic cycle to drastically reduce negative externalities of plastic production while leveraging their qualities in home construction. By recycling used plastic into homes I will be reducing the leakage of plastics into natural systems. By exploring and adopting renewable plastics I will promote the use of biopolymers and bio-based resins which with today's technology are reliable replacements for both EPS and toxic resins.

Changing Demographics

Demographics have completely transformed; with raising incomes and access to information, expectations for the growing middle class will continue to heighten. Advances in

global education and technology are empowering individuals like never before, leading to increased demands for decision making. Today, we feel empowered by ordering a "small double decaf skim latte", one action, overlaid by multiple actions. Our generation will not settle for a standard living container, nor will we tolerate time wasted. We seek experiences and convenience, not long commutes, or less-than seamless dealings. Design will need to reflect the reality that future generations will expect everything to favor their individuality, experiences and time commitment.

Urban Density

As a response, people want and have moved to city centers, cities are denser than ever before. By 2030, 60% of the world population will be living in cities. This continuous trend of urban and suburban densification and global urbanization will drastically change our built environment. A freestanding house with wide perimeter gardens are no longer sustainable in our new world. While standard lots will strive to accommodate as many people as possible, our new iconic house will squeeze itself between the misused pockets spaces of metropolitan cities. The new iconic house will find itself utilizing the urban fabric in unique and smart ways. The house will have a small base footprint, with multifunctional spaces. Efficient design as efficient living, cannot tolerate wasted spaces, eliminating completely the idea of a front porch, single story houses, garages, and program driven design.

Online presence

Wireless communications skyrocketed in the early twenty-first century, essentially connecting the entire world through the internet. Today, the internet is such an integral part of

our lives that it is fundamentally shaping our imagination, influencing what we love, and what we dream. In fact, we are living in an era in which people are constantly curating a parallel virtual reality. Unlike never before, we are undeniable living in two parallel worlds, in a physical world as we have always and in a virtual one. The internet is creating a virtual space that has yet to take an architectural form.

As an experimental house, @the_new_house is an architectural manifestation that re-frames the understanding of the built physical space and the three dimensional implications of the curated images we capture for the virtual space. Social platforms like Instagram, are allowing individuals to instantly create 3D images of what life "is" or "should be" based on curated, snap moments. We are living in a 12 by 12, but our cameras are creating a spatial atmosphere that seems otherwise. Instead of using program as a descriptor, @the_new_house brings the qualities of these three dimensional images into the physical realm. To do so, the new iconic house will use the same forced perspective geometries and illusion tricks used by Renaissance masters. The geometries Andrea Palladio used in his onstage scenery of the Teatro Olimpico create the appearance of long streets receding into a distant horizon. Similarly, the diminishing rows of columns and raised floor create the visual illusion that Francesco Borromini's 8 m long gallery in Palazzo Spada is 37 meters long. These geometries will give @the_new_house a spatial understanding that resonates with the way a flat image is perceived in an online platform.

The New Iconic House

       Even though we are leaving behind the physicality of the book, I believe that our

generation is thinking about the physicality of space more than ever. We want to feel, experience

and curate everything. Can we merge the physicality, touch-ability and tactility of both the

virtual and the physical? In fact, we are currently living in both the virtual and the physical. A

six-by-six room in New York City, becomes our personal palace. Our cameras are creating a

spatial atmosphere that differs to our reality. Learning from the online-offline, @the_new_house,

"Some spaces are what they are. Others are only what they appear to be."

       As reference to online, I have analyzed Instagram images and manifest them offline, in a

physical and tactile experience, that is now being brought back online in a new form of imagery

that reveals a more haptic experience. Most of the manifesto houses can be considered luxury

homes, for the standard family. Today's iconic house needs to respond to our changing

demographics and our expectations that continue to heighten. If Apple and Ikea have shown us

anything, it is that if you make design accessible, people do want it. Our generation will not

settle for a standard living container, nor will we tolerate time wasted. Even, Amazon's 2-day

delivery cannot catch-up with us, they had to come up with a free same-day option.

       We seek experiences, convenience and short commutes. As a response, people want and

have moved to city centers. Our new iconic house will squeeze itself between the misused

pockets of space in metropolitan cities, eliminating the idea of a front porch, single story, garage,

and program driven design.

       Today we are living in scenes, therefore @the_new_house is designed in scenes and built

in scenes. The plans and sections of this experimental house will follow experiences, rather than

static program as in traditional architecture. The movement is vital to the development of this

architectural manifestation, where scenes shift in space. With this in mind, plastic materializes the house, being the very idea of its infinite transformation, plastic is less a thing than the trace of a movement. The shifting characteristics give the house the ability to collapse, transpose and extend the design, while maintaining an architectural form. The architecture of @the_new_house will be redefined by 3d printing technologies that allow us to create new qualities from existing materials. For example, @the_new_house incorporates flexible 3D printed technology that can serve as a rigid water shedding facade system on the exterior and as a soft touchable screen in the interior. To explore this, I used today's virtual reality technology, with 3D glasses we can create more haptic atmospheric experiences.

We can give ourselves the freedom to fetishize over finishes, over unique spaces, and one of a kind newness. That maybe, by designing with the digital we can be more extreme than if we went back to buying books.

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