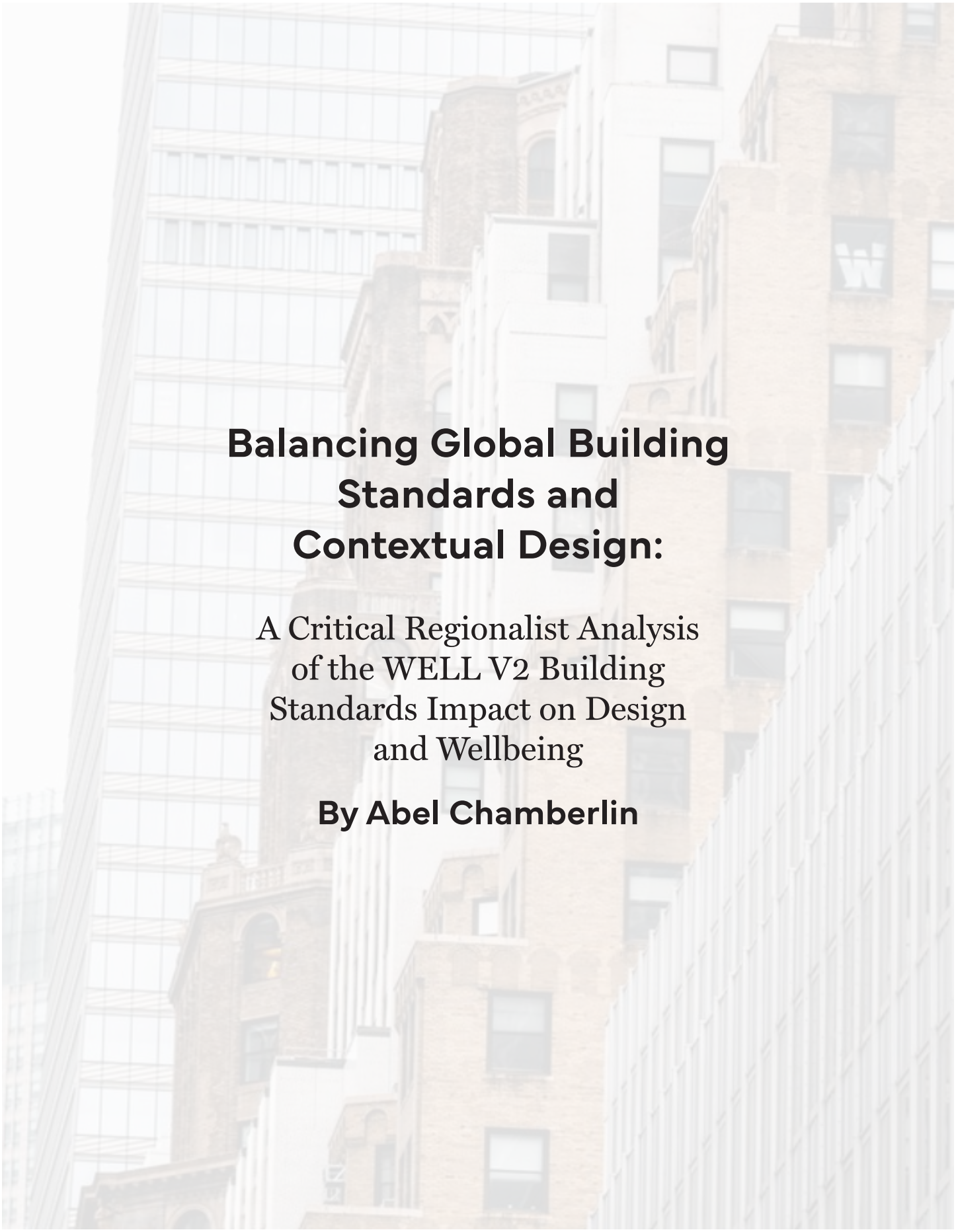

Balancing Global Building Standards and Contextual Design:

A Critical Regionalist Analysis of the WELL V2 Building Standards Impact on Design and Wellbeing

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I'd like to dedicate this thesis to Nate Jones and Case Lindberg. Despite starting the thesis process two months late, they believed in my project. Continuously providing me with motivation and confidence throughout the process.

Thank you.

1: ABSTRACT

1. Abstract

The WELLv2 Building Standard is an extensive building certificate program that strives to enhance the health and well-being of a building's occupants through design interventions and operational protocols. However, there is an opportunity for the standard to contextualize its certification process better using the ideals of an architectural theory, Critical Regionalism. This study will explore the Light section of the WELLv2 Stanard through the lens of Critical Regionalism to build a methodological framework for evaluating all the categories in the standard. Results from this study will provide others with a framework for analysis of other building standard certifications. In the lighting section, there are two specific conditions that I prioritize for observation and analysis. These preconditions are a part of every category in the WELL standard. The research uses these preconditions to provide a way for others to apply this method to other preconditions in different categories. In this project, I apply the architectural theory of Critical Regionalism as a lens to question the contextual depth of the standard, using the same call to action originating from the theory for designers to stray away from over-globalization within their designs. From this over-globalization, the need for requirements to be more accessible for anyone around the world creates the damaging byproduct of over-generalization. This over-generalization runs the risk of the requirements from the WELL standard underperforming and only sometimes maximizing the well-being of its occupants. The application of qualitative research methods can be observed in two case studies in the Denver area.

In these cases, a Critical Regionalist framework is applied as a critical perspective to uncover any overlooked opportunities and design constraints resulting from the WELL process. Based on the analysis of these case studies, it is evident that each one lacks a certain level of relevance to the specific context surrounding each building. From this evidence, WELL may have the unintended consequence of restricting design solutions that are culturally and geographically appropriate for the project location, leading to a homogenized effect where identical designs are repeatedly produced. Lastly, I discuss an opportunity for WELL to augment their standard so that design projects can exhibit their local context while not sacrificing occupants' well-being outcomes.

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2: INTRODUCTION

2. Introduction

"The phenomenon of universalization, while being an advancement of mankind, at the same time constitutes a sort of subtle destruction..." - Kenneth Frampton introducing Critical Regionalism (Docherty, Thomas. 2016).

From his writing on Critical Regionalism, Kenneth Frampton's statement intended to spark a call to action for architects and designers against a globalized architectural style. Notably, the paradox he references within the architecture world is still prevalent across today's design disciplines. Frampton believed that architecture and design were becoming redundant practices in a globalized world due to the postmodern style of the 1980s. "Everywhere throughout the world, one finds the same bad movie, the same slot machines, the same plastic or aluminum atrocities, the same twisting of language by propaganda..." (Frampton, Kenneth, 1983). In the writing, Frampton suggests that architecture is losing its connection to the surrounding city structure and its sense of context. Today, due to the growth of computer-aided design, climate goals, and global building standards, there is a lack of designs that reflect and respond to architectural and cultural contexts. This research uses Kenneth Frampton's' Critical Regionalism as an analytical lens to prevent a well-intended building standard from having the unintended effect of losing regional context and value. I use Frampton's Critical Regionalist "Six Key Points": Topography, Context, Climate, Light, Tectonic Form, and Tactile vs Visual as a framework to analyze unintended consequences of the WELLv2 standard.

The WELL standard implies that building designs provide thoughtful spaces to improve human health and well-being. The WELL process, like LEED and BREEAM, assigns certification levels based on a set of guidelines and criteria that accumulate points. The points derive from ten categories: Air, Water, Nourishment, Light, Movement, Thermal Comfort, Sound, Materials, Mind, and Community. Each of these has "preconditions" that the designer must employ throughout the building's design, operation, and organizational policies count toward certification. For this research, I will analyze the Light section preconditions from WELL through the lens of Critical Regionalism as an application for improving the certification process and its outcomes.

The WELL standard was founded in 2013, first rolling out with the WELL pilot and later WELLv1 in. Initially, the standards seemed to be a challenge to meet and sometimes impossible due to the different circumstances faced by designers worldwide. As the science around improving wellbeing within the workplace grew, the corporation piloted WELLv2. The WELLv2 standards were agreed upon in 2020, meaning there has been little, if any, research to question the possibility of this process becoming over generalized. This globalized stance from WELL, which aims to prompt design solutions that are achievable and relevant for designers worldwide (WELL Standard, Overview, 2023), is the driving force behind this research. In other words, is the idea of interventions being applicable and achievable worldwide at risk of over-generalizing the standard? With WELL's global intention, there may be a lost opportunity to have the standards be more locally contextualized and thus more helpful to occupants' well-being.

With this being the case, applying a Critical Regionalism lens uncovers an opportunity to add more regional value to the WELL standards without compromising the overarching goals of the certification. As the standard has grown in popularity, its goals and standards have become much more globalized. This raises the question: has the globalization of the standard resulted in the rise of the "subtle destruction" that Frampton notes above. With WELL updating its process, it has grown to a much more international scope. This national and international scope runs the risk that if they become overgeneralized, WELL's intended minimums will become practical maximums. In other words, the original goals of such a standard have the risk of becoming low-achieving checklists rather than successfully improving occupants' well-being.

Within the realm of environmental design, these certification processes are a guiding force to the evolution of our practice. As the mental health and well-being of people becomes ever more prevalent, questioning the success of these systems is imperative. With the usage of their standards growing, these outcomes must be accurate and well thought out in any design situation. The project stresses the need for all design disciplines to be able to identify to what extent they are achieving these standards. In critiquing WELL, my intention is to provide designers with a methodology to use while striving for certification to design in relationship with the context surrounding, rather than merely checking boxes.

I utilize Critical Regionalism as a tool to analyze the preconditions from the light section of the WELL Standard by using local case studies to generate a critique. The case studies come from the Denver area and are WELL certified at the levels Silver and Gold. Using a table that looks at each case study from a Critical Regionalist viewpoint, I visit and analyze each site to understand how this view overlays with the preconditions of the light section. The light category from the WELL standard is used because of its robust relevance to contextual design and Critical Regionalism. Using this table I am able to determine how each case study is achieving these criteria at a maximum, and how this approach affects the resulting architecture.

I use Frampton's "Critical Regionalism: Six Points of an Architecture of Resistance", as a building block to form a critique on the WELL certification process. Specifically, I use the light section from this text which suggests that light be provided in ways that speak to what the area is being used for. For example, if the space is a work area, then light is well accounted for and maximized throughout the day, while if there is a lounge space then that lighting type speaks to the user, suggesting that this is a space for relaxing. This view on how light is used within architecture is a key to my critique of how WELL can benefit from a Critical Regionalist lens. If the WELL building style is becoming globalized, do we lose this contextually based architecture and, in turn, lose an architecture that informs the user of its use?

3: LITERATURE REVIEW

3. Literature Review

Critical Regionalism Over the Years

One of the first times 'critical' and 'regionalism' appeared together was in a paper discussing Greek architects Suzana and Dimitris Antonaka in Alexander Tzonis and Liane Lefaivre's article "The Grid and the Pathway" (1). After introducing a possible theory in 1983, Kenneth Frampton fulfilled all the possibilities behind the writing done by Alexander and Liane. Frampton's writing of Critical Regionalism attempted to offer an escape from the "crisis" of the 'international style', battling the postmodern architecture of the 1980s. Following the end of the Second World War, Europe experienced large-scale urban reconstruction, paving the way for the emergence of postmodernism and the international style. However, the takeover of this architectural movement left many people feeling alienated, as the architecture did not align with their specific cultural identities or needs. Thus, Critical Regionalism proponents wanted to restore this sense of specific cultural, sociopolitical, and climatic responses within the architecture (Giamarelos, Stylianos. 2022, pg1).

As the international style began to take over, Frampton believed that architecture around the world was losing its sense of place (Frampton, Kenneth, 1983, pg.148). "If any central principle of Critical Regionalism can be isolated, then it is surely a commitment to place rather than space." (Frampton, Kenneth, 1983, pg.162). Throughout the years, Frampton continued to return to Critical Regionalism and continues to do so today.

Aside from the six key points that Frampton noted in his 1983 version of Critical Regionalism, the relevance has always come back to the idea of resistance (Avermaet T., Patteeuw, V., & Szacka & Hans TeerdsLéa-Catherine. 2019 pg.4-10). This idea of resistance is meant by resisting the typical architecture of the time, and creating work that represents the place, time, and climatic conditions. "...that is, a culture of dissent free from fashionable stylistic conventions, an architecture of place rather than space, and a way of building sensitive to the vicissitudes of time and climate." (Frampton, Kenneth, 1987).

When globalization of the international style took over, the theory's relevance grew. The 1990s reinforced its pertinence as an architectural theory that defends the cultural identity of a place that resists the homogenizing onslaught of globalization (Giamarelos, Stylianos. 2022, pg.2). During the 90s Critical Regionalism was again re-visited by Lefaivre and Tzonis in their text Why Critical Regionalism Today. In the book, they specifically state that defining "region" as "the value of the singular circumscribes projects within the physical, social, and cultural constraints of the particular, aiming at sustaining diversity while benefiting from universality" (Tzonis, 1990, pg.121-34). It was important to Lefaivre and Tzonis that Frampton's suggested six points of Critical Regionalism are not part of their definition of the theory. During this time, the Greek theorists and Frampton engaged in a debate, going back and forth on what the theory was truly meant to be. Tzonis more so states that Critical Regionalism wants to "design" an identity for the particular or place, within the order of globalization (Hartoonian, Gevork, 2006, pg. 122-24).

Frampton seemed to agree with this idea of particular and place, while also placing a reliance on architectural resistance against an international style.

For a while after the early 2000s, Frampton left Critical Regionalism dormant aside from slight updates within his Modern Architecture: A Critical History books. Despite this, a few papers and authors wrote about the possibility of Critical Regionalism returning to the present-day architectural theory universe. Some suggest that we have re-entered or never escaped the crisis of globalization that Frampton notes (Giamarelos, Stylianos. 2022, 2-5). Arguably, as we are currently experiencing a climate emergency, we see that Critical Regionalism is ever more important as a call to action for architecture to demand forward thinking and globally just solutions. With this need for global solutions, understanding and responding to context is critical to our practice. In 2020, the COVID-19 pandemic outbreak highlighted to the U.S. the fragile world system that has been created through globalization (Giamarelos, Stylianos. 2022, 2). As borders closed and supply chains broke down, there was again a need for people to focus on the specific context surrounding them.

Forty years after being recognized as an essential architectural theory, Critical Regionalism is still a fundamental theory in the ideals of many design practices today. Most design professions use Frampton's thinking as a framework to understand the tension between local and global needs, as well as differences in the historical and contemporary differences that they experience in everyday practice (Avermaet T., Patteeuw, V., & Szacka & Hans Teerdsléa-Catherine. 2019, pg2).

In one of Frampton's original writings on Critical Regionalism, he suggested six key points to architectural thinking: Topography, Climate, Context, Light, Tectonic Form, and The Tactile vs Visual. When thinking about these key points from a contemporary perspective, it is apparent they are now fully acculturated into architectural education and practice (Avermaet T., Patteeuw, V., & Szacka & Hans Teerdsléa-Catherine. 2019, pg.5).

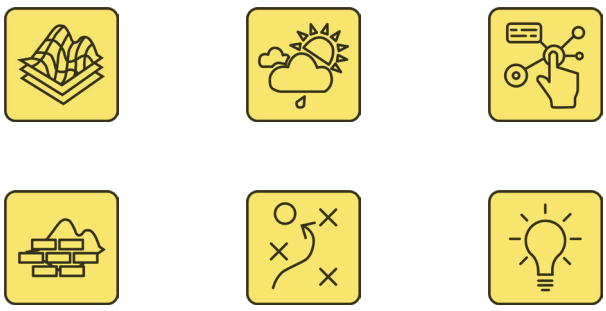


Figure 3.1 Icons to Symbolize Framptons Key Six Points

A Brief Explanation of Frampton's Six Key Points

Topography:

Within the topography category from these six key points, Frampton explains how Critical Regionalist architecture has a certain relationship to the topography that surrounds it. By relationship, Frampton means that the project is not superimposed on the landscape but instead responds to the landscape and incorporates it into the design.

Figure 3.2 Dimitrios Pikionis, Acropolis, Athens

Climate:

Critical Regionalist architecture can connect to climate through the idea that architecture responds to the area's climate. From a Critical Regionalist view, this would mean responding to the sun pattern and vegetation to create shade and comfort.

Figure 3.3 Luis Barragan, Las Arboledas, Mexico

Context:

In terms of Context, Frampton believed that architecture should have a back-and-forth relationship with the surrounding context. For example, Frampton showed a project by Alvaro Siza that took the idea of many pathways, views, and shortcuts in the city and brought this idea into the architecture with views expressed through pathways throughout the project.

Figure 3.4 Alvaro Siza, Bouca Residents Assocition Housing, Porto

Tectonic Form:

The Tectonic Form category in Frampton's description notes that the qualities of architecture relate to the earth in terms of its construction. In this sense, the architecture firmly embeds itself in the landscape, with the buildings almost superimposing upon it. An example is Tadao Andos Koshino Residence, which explicitly demonstrates the building's relationship to the earth around it. It almost seems like the building and earth are flowing in and out of each other.

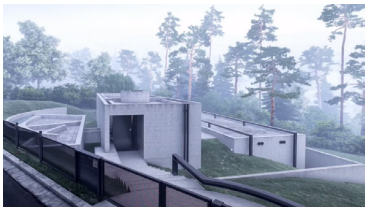


Figure 3.5 Tadoa Ando, Koshino Residence

Tactile vs Visual:

Frampton emphasizes that Critical Regionalist architecture must transcend pure visual form, focusing on the tactile versus the visual. This means the building adopts a tactile approach, prioritizing functionality over the "wow factor" and using architecture to emphasize its intended use. The example Frampton uses for this is Alvaro Altos, Town Hall in Jyväskylä, where the town hall is not used as a beacon but focuses on the tactility of the walls, the landscape, and its relationship to the landscape.

Figure 3.6 Alvaro Aalto, Jyvaskyla

Light:

A more specific category is that of Light, which Frampton believes that the façade can influence light in architecture to create specific zones in a space. This implies using light to generate various spatial conditions, such as emphasizing a space with heavy light or creating a sense of comfort with soft light.

Figure 3.7 Luis Barragan House and Studio, Mexico

Final Remarks on Critical Regionalism

A common critique surrounding Critical Regionalism is not that of the actual theory, but that of the enthusiasm behind it, followed by the lack of suggestions for implementation. While many of the categories and concepts of Critical Regionalism became common in design practice in the past decades, paradoxically, the text itself was all too soon relegated to the pages of history books. Rereading Critical Regionalism today, however, is an invitation to question the state of the current political character of architectural design (Avermaet T., Patteeuw, V., & Szacka & Hans TeerdsLéa-Catherine. 2019, 10). Architecture is a political act by nature. It has to do with the relationships between people and how they decide to change the conditions of living surrounding them (Lebbeus Woods, 84-9). With such ideas in mind, Critical Regionalism can be a theory we consider as a practical use within architectural practice.

My critique of these statements is that these authors fail to mention a way to use Critical Regionalism within the practice. Specifically, no literature mentions this theory as a way of thinking architecturally and how it should be implemented into the present-day. This paper strives to use Critical Regionalism to identify a framework that can be used and adapted to improve the outcome of the WELL certificate and other building standard certificates. To conclude this section, I analyze the literature on the WELLv2 certified spaces to demonstrate how Critical Regionalism might better contextualize and benefit the standard.

The WELLv2 Building Standard

Today, many different building certificate processes such as LEED and BREEAM, both offer a sustainable building design certificate. WELL, is a building standard that focuses explicitly on the health and well-being of the occupants within a space. The WELL Building Standard was initially launched in 2013 by founder Paul Scialla to improve people's lives by developing spaces that enhance occupant health and quality of life (Garofalo, Federica, 2016). The first version of these building standards was globally introduced in 2014. After seven years of research and development with physicians, scientists, and industry professionals, the WELL Building Standard has become an evidence-based and scientific vehicle to support human health within the built environment (WELL, Resources, 2014). Originally, the WELLv1 certification process broke down into seven categories: Air, Water, Nourishment, Light, Fitness, Comfort, and Mind. A WELL score is generated by a project meeting all the preconditions for each one of these categories. Suppose the project strives for higher certification levels like Gold and Platinum. For example, there is a water quality precondition with a broad standard and the optimization furthers this standard with specific numbers on the amount of Aluminum, Chlorine, and Copper within the water which must be met to get the point. Failure to achieve any Precondition in any concept will preclude the award of WELL Certification (WELL v1, 2020). For each category, there are anywhere from two to four preconditions.

After the success of WELLv1, much more research has been done on human well-being in the workplace, thus prompting the creation of a new version of the WELL standard. The WELLv2 pilot was launched in 2018 in response to this. During the two-year pilot phase, WELLv2 underwent improvement and refinement through a rigorous process, including a six-month public comment period and a final stakeholder review, garnering hundreds of market insights across the two phases (WELLv2, 2022). Although the rule regarding preconditions remains the same for WELLv2, the categories in which these were applied underwent significant changes. There are now ten categories for certification: Air, Water, Nourishment, Light, Movement, Thermal Comfort, Sound, Materials, Mind, and Community. As WELL has grown, the standard has added these categories to be more globally accessible. For the scope of this paper, I will be choosing one category to analyze to find insight into the broader WELL standard. The intent is to establish a method that can be repeated to benefit the other categories within the standard and potentially, to other certifications. I will dive deeper into the "Light" category because of the great deal of research on how light affects health and wellbeing. Light also overlaps with Critical Regionalism and specific architectural decisions in a project (circulation, material usage, building orientation, and access to sun).

The WELL Light concept promotes exposure to light and aims to create lighting environments that promote visual, mental, and biological health (WELL v2, Light: Intent, 2022). Light is one of the most important aspects of humans' visual and circadian systems, which, in turn, can lead to other health deficiencies (Legates TA, Fernandez DC, Hattar S, 2015). Obesity, diabetes, depression, and metabolic disorders have all been found as results of disruption or desynchronization of the circadian rhythm (WELL v2, Background, 2022).

These links to the negative impacts of poor artificial and natural light drive WELL's heavy focus on light within their process. With a direct focus on light within the workplace and a need for the standard to be globally accessible, there is a possible missed opportunity to increase people's well-being.

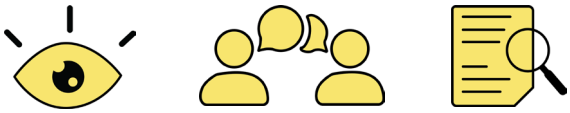
There are two preconditions for the light category, one focusing mainly on natural light within a building and the other on providing visual comfort for users (WELL v2, Light, 2022). Within these separate conditions, there are also multiple options where the applicant only needs to meet one of these criteria. Although the availability of multiple options makes the process more globally accessible, it leaves the door open for questioning whether these alternatives turn the certification into more of a checklist rather than a well-intended goal.

4: METHODS

4. Methods

General Procedure

Case study site visits, observations, and interviews are used in this projects research. Two Denver based case studies are analyzed and identified due to their specific connections to the WELL v2 light condition section. Using the Six Key Points from the theory, diagrams are used to show how each building is affected by WELL in a way that a Critical Regionalist would critique them. The interviews are conducted in person, with WELL Accredited Professionals (WELL APs), meaning they work closely and understand WELL deeply.



Participants

Interviewees participating in the research were chosen based on their relationship to WELL or access to the case studies. The interview participants are middle-aged, practicing designers who are also WELL Accredited Professionals. The Hoplan Macht employee's interview shows the challenges an architect can have when working with the standard. The questions within this interview strive to provide an understanding of whether WELL can be limiting to an architect.

Lastly, I interviewed an interior designer who is also a WELL AP. The questions for this interview provide another point on view of how design professionals use WELL.

Case Study Selection

Case study research is a dimension within design research that aims to explore and illustrate the development of understanding (Cousin, Glynis, 2006). These studies are real-time findings within the field, used to clarify my overarching question. The studies I am using are two different buildings that have been WELLv2 certified.

Specifically, the case studies within this research are being analyzed by looking at the light standards they had to complete within WELLv2 and are assessed on whether a Critical Regionalist view would benefit that process. Each case study will be examined to understand where the certification shows through based on the level at which it has been certified. The first case study will be the NAVA Lakehouse Real Estate Development in the Sloan's Lake neighborhood of Denver, Colorado. The NAVA Lakehouse is a WELLv2 Gold Certified mixed-use project with 196 residential units.

I conducted site visits to the NAVA Lakehouse, first critiquing it from a Critical Regionalist view and then overlapping those with understood design strategies for acquiring a WELL certificate. The goal is to find connections between these design solutions and the lack of contextual design. A Critical Regionalist lens could provide an opportunity for more contextually based design while still getting a certificate.

The second case study is the Hord Coplan Macht Denver Office. Hord Coplan Macht is an integrated office of architects, urban planners, landscape architects, and product designers. Their Denver office is WELLv2 silver certified. For this site visit, I went to the Denver office and interviewed one of the lead architects there. As a result of the interview, there is a better understanding of the challenges architects face when working with or around the WELL certification process. I will also look at this space from the Critical Regionalist point of view, again analyzing its contextual connection to the standard.

Figure 4.1 Case Locations in Denver

5. CASE STUDY OBSERVATIONS

5. Case Study Observations

Observations were conducted at each case study from a Critical Regionalist viewpoint to evaluate how design solutions impact the light section of WELL. The Topography point of Critical Regionalism was not used because each building was built on flat ground.

Architectural Context Surrounding the NAVA Lakehouse Case

The NAVA Lakehouse sits in a residential nieghborhood on the south side of Sloans Lake. It is surrounded mostly by other apartment buildings, with common materials being brick and a plaster like material.

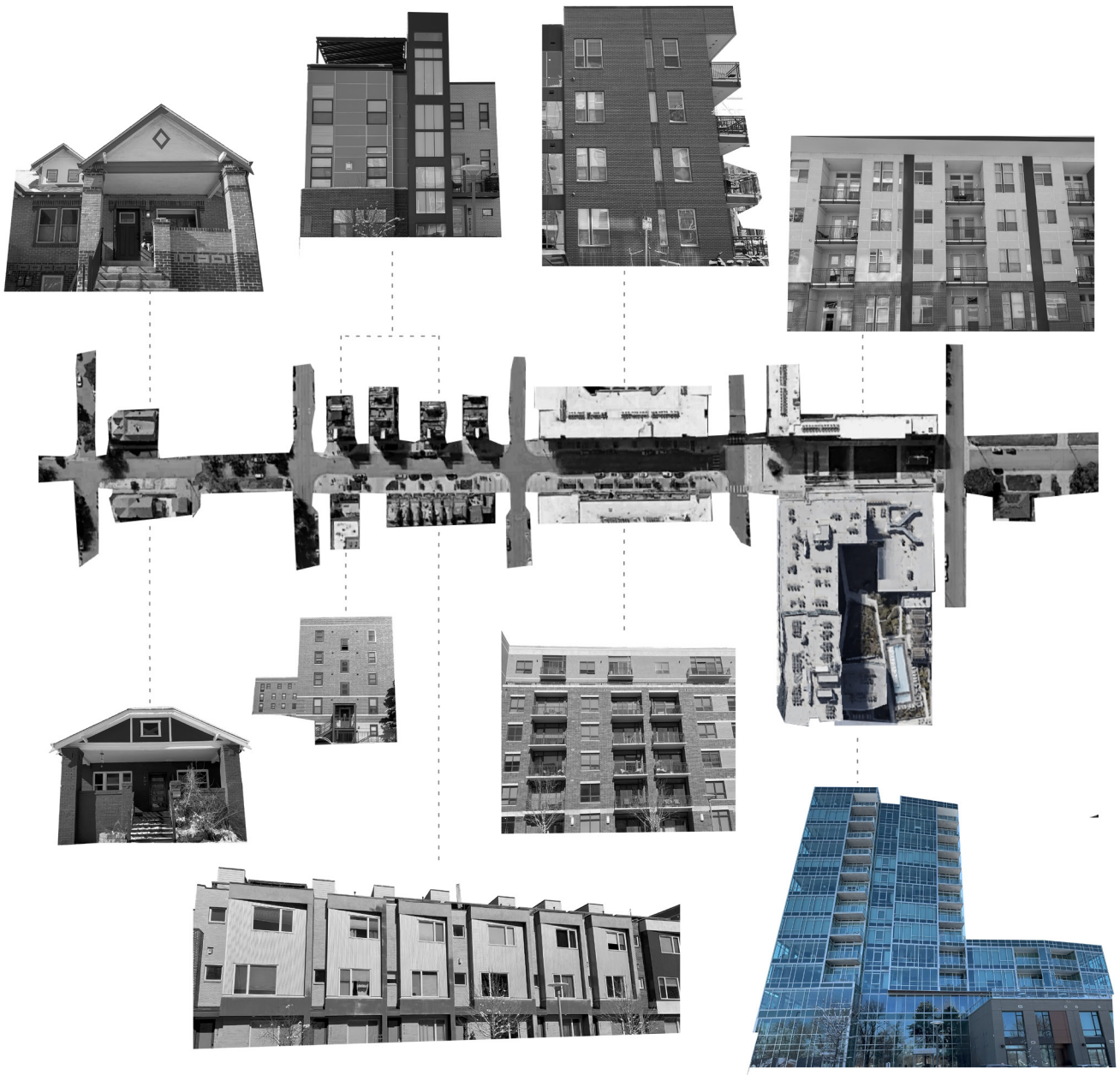


Figure 5.1 Nava Lakehouse Context Diagarm

Architectural Context Surrounding the Hoplan Macht Case

Hoplan Macht is in the Union Station nighborhood in downtown Denver. The architectural context surrounding is almost entirely populated by historical brick buildings. The general city architecture is also important to keep in mind.

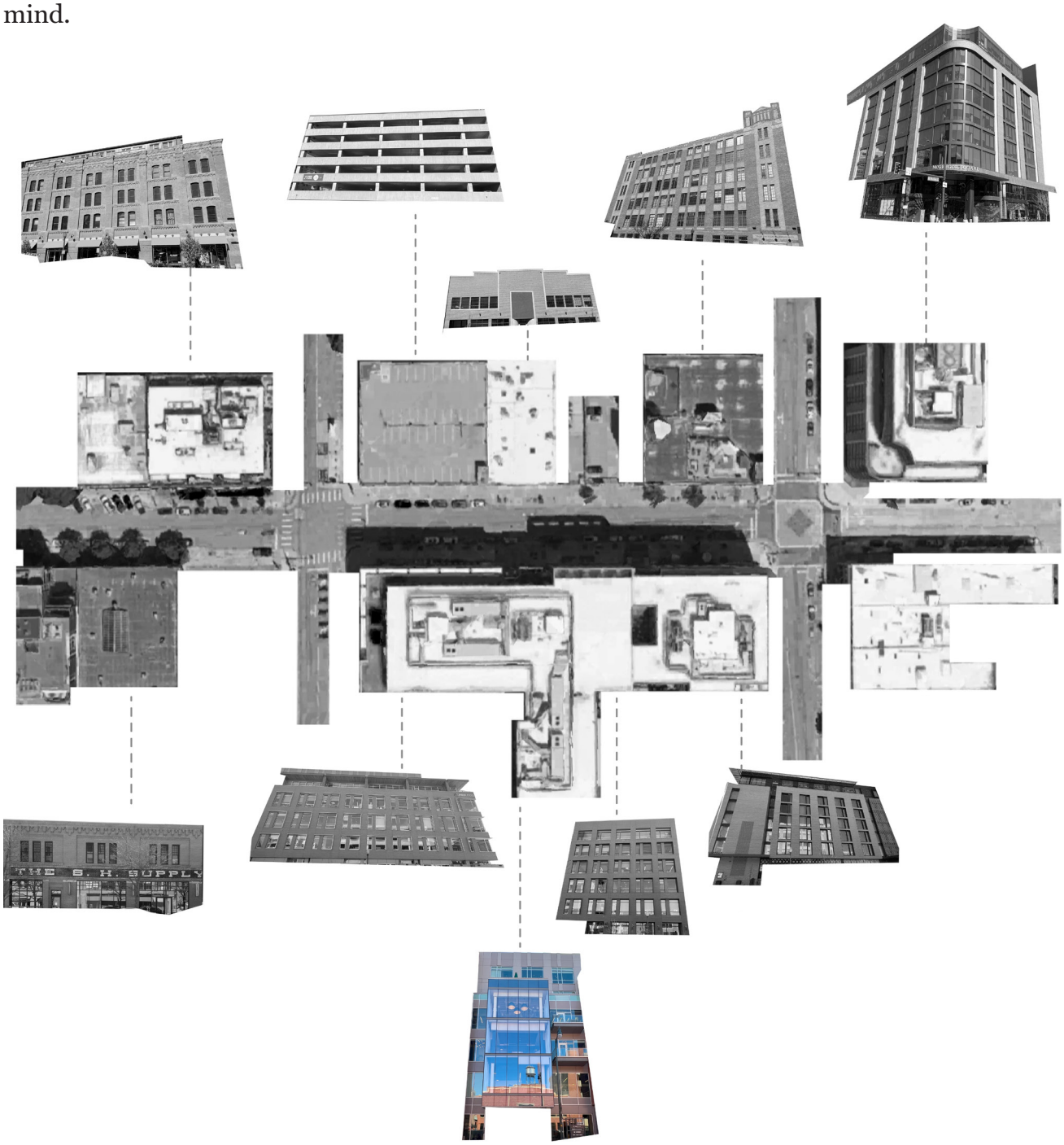


Figure 5.2 Hoplan Macht Context Diagarm

Observations of the NAVA Lakehouse Case

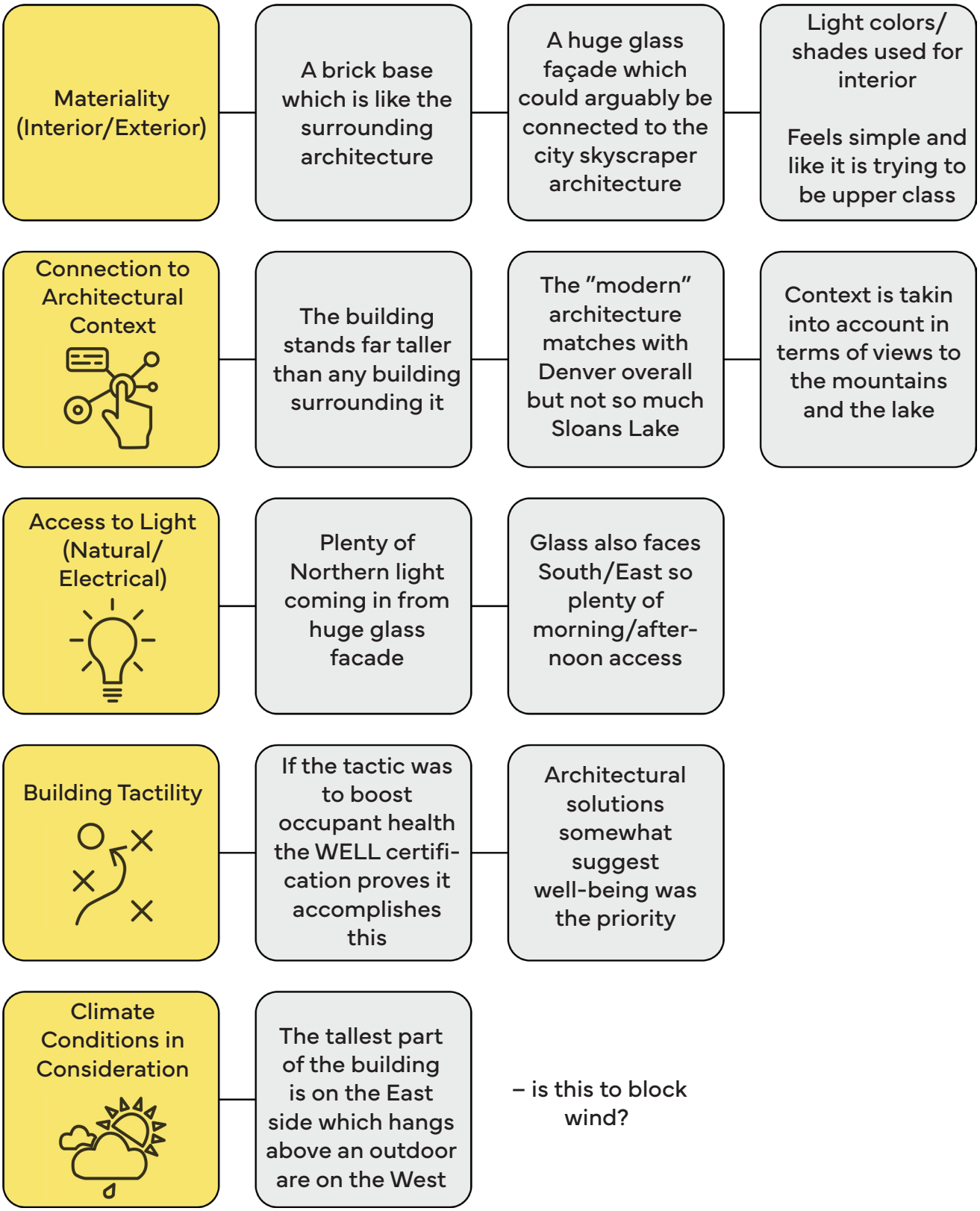


Figure 5.3 Nava Lakehouse Observations Diagram

Observations of the Hoplan Macht Case

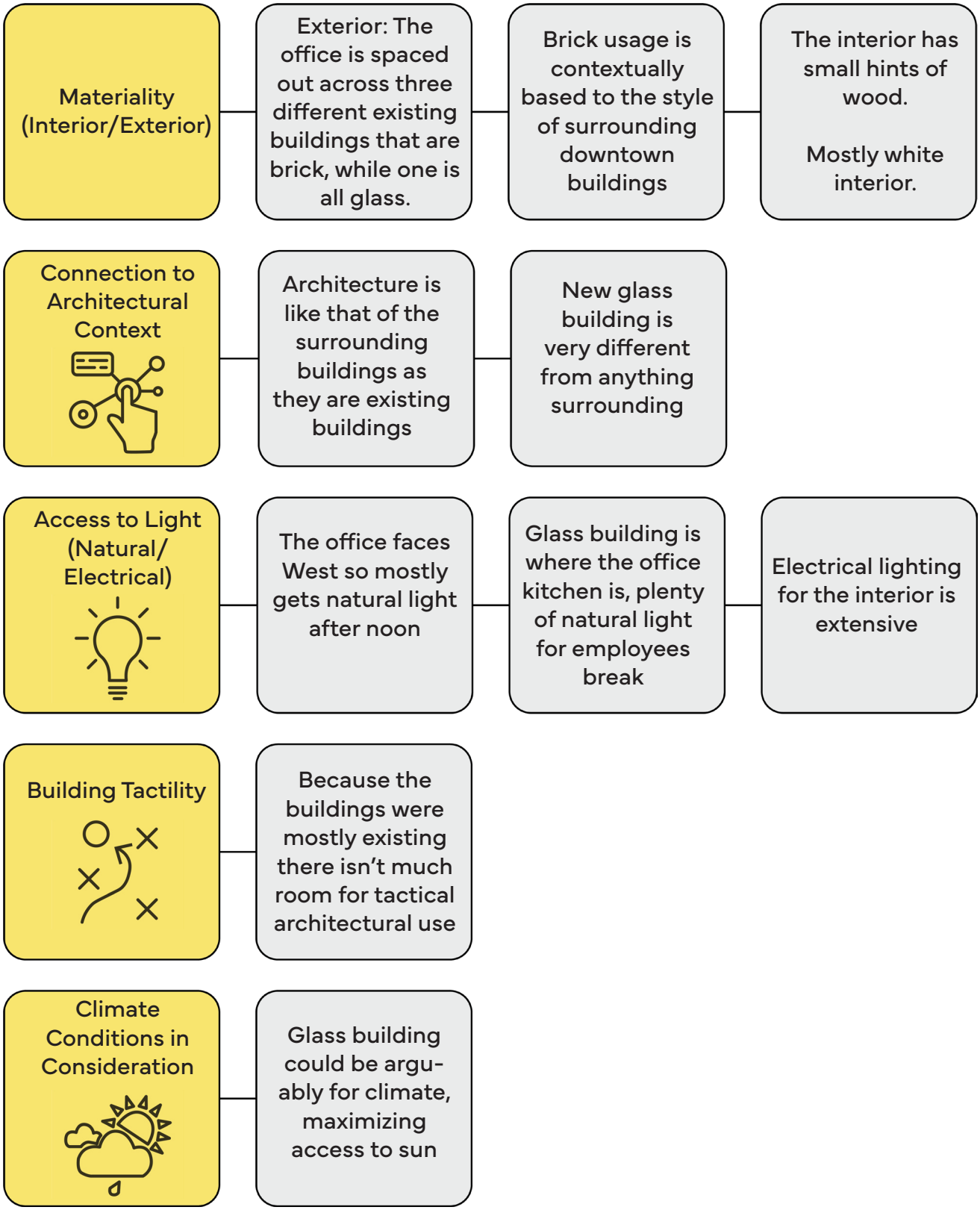


Figure 5.4 Hoplan Macht Observations Diagram

Observation Themes

Upon visiting both WELL-certified case studies, I noticed similar interior and exterior design solutions were used. Although Hoplan Macht is a mixture of three buildings, the newest one has a complete glass façade like the one at NAVA Lakehouse. There is a slight lack of connection to architectural context in both cases. However, the Lakehouse has almost entirely residential living around it, so the area lacks a vast apartment building architectural context.

Both buildings also attempt to have as much natural light in each interior space with large window facades. The interior makeup is also very similar, with both interiors having shades of white or grey used for floor, wall, and ceiling materials.

This observation from a Critical Regionalist viewpoint, we see how two different WELL buildings in different areas can have very similar outcomes. This finding raises the question of whether the standard causes buildings to replicate design solutions.

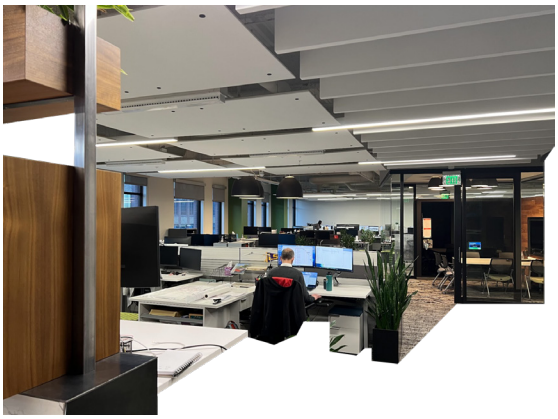
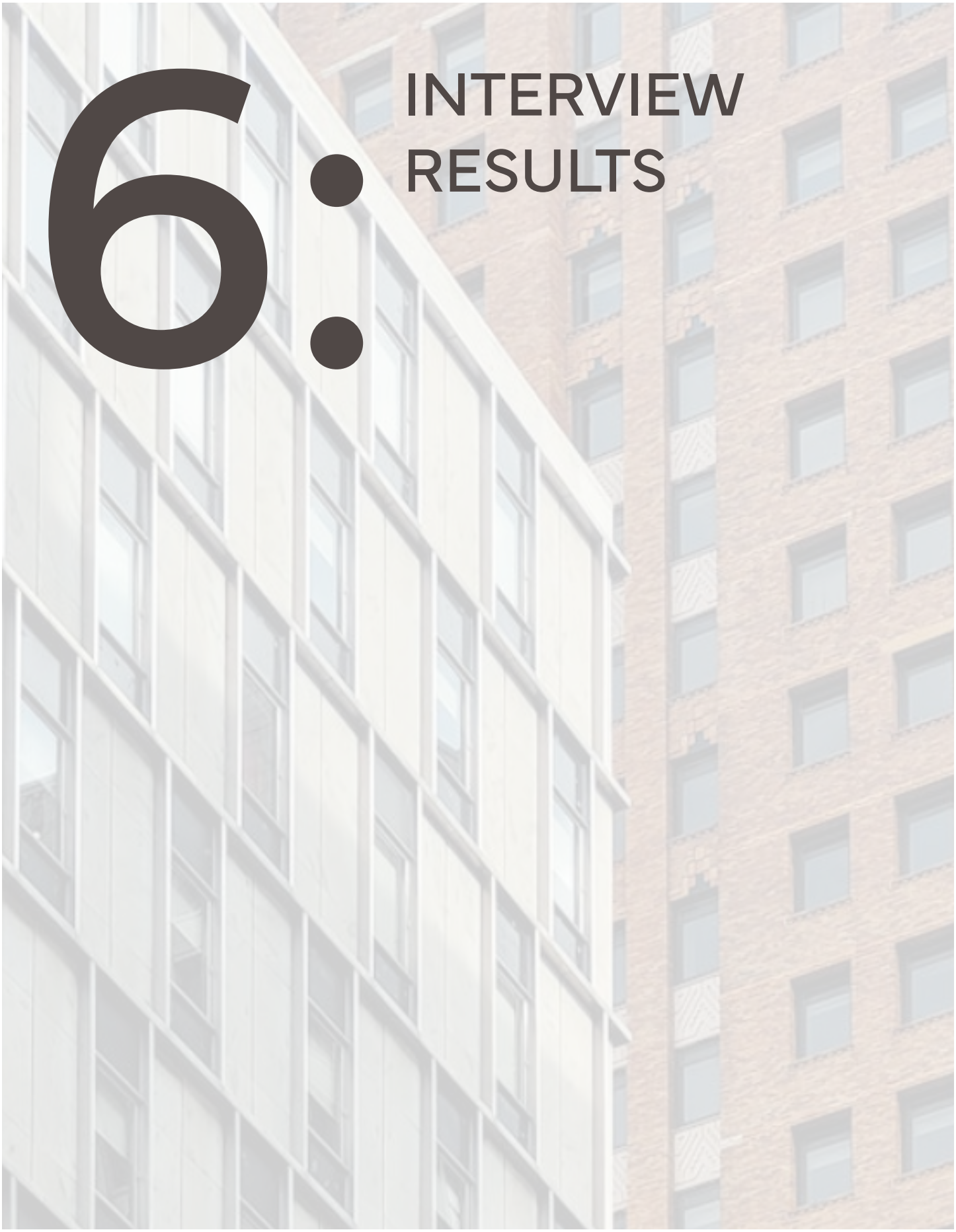


Figure 5.5 Observation Themes Diagrams



6: INTERVIEW RESULTS

6. Interview Results

Interview Results

After completing interviews with interior designers, architects, and lighting engineers, there are clear opportunities for WELL to aid in creating more contextual-based architecture. There is a clear consensus that what the standard is doing is for best practice, but this practice does create questions surrounding globalization. Considering that WELL is a standard growing in popularity, its global expansion in recent years has created similar office design solutions and layouts. When speaking to professionals connected to the standard, many noted a parallel outcome to each project they were a part of. Each interview mentioned the same interior and exterior design solutions despite being in different contexts.

When designers from different practices mention they meet the same challenges with similar solutions to get the certification, the framework behind Critical Regionalism can open the door to a more diverse pool of solutions. Because the WELL standard creates so many challenges for designers, it begs the question of whether a more contextually based standard would be more accessible and have the same positive results.

Interview #1: Interior Designer

Design Strategies in the Process of WELL Certification

In my conversation with an interior designer who is a WELL AP, it became apparent that specific architectural and interior design strategies are consistently used in order to gain certification in the field. It was also evident that when trying to gain certification, there are only so many architectural solutions, which causes an interior designer to be forced toward one solution.

The first general question I asked for this interview was whether architectural strategies that are being used to get certification have become redundant in her experience. She noted, “Yes, certain types of buildings have an easier time getting WELL certified because they all have large curtain walls in order to have more access to natural lighting. This redundancy brings a lot of similarity to the skyline of a city because you have nothing but glass windows.” Much of the lighting standards require the regularly occupied spaces to get a high level of natural lighting inside, and a curtain wall is the easiest and cheapest solution. From an interior standpoint, the interviewee said that responding to this regular use of curtain walls can also force the hand of the interior designer. A huge curtain wall lends itself to be best used by an open office layout when trying to gain lighting points for WELL. She added, “Because WELL asks for 75% of the public spaces to have access to natural light, an open layout is favored. But if an office is asking for a larger variety in public/private spaces in becomes a great challenge to satisfy both WELL and the client.”

Here, we see how such a standard can force the hand of an architect into one design solution while constraining other designers' toolboxes. This outcome is what ends up making our cityscapes indistinguishable. From a Critical Regionalist standpoint, this result pushes a globalization agenda while avoiding an opportunity to have more contextual solutions.

Parallel Effects of One Requirement to Another

A challenge limiting designers' creativity is the subtle ways certain parts of the standard can impact specific design solutions. In this case, I am referencing how the lighting requirements make acoustic requirements hard to reach.

Lighting requirements for most offices require public seating to be near natural light, which results in a reduction in space for acoustic zoning. As the interviewee stated, "because of this it becomes a great challenge for designers to create spaces that have both acoustic zoning while also having the lighting credits completed. This ends up limiting ways you can layout an office, which also limits, from a cultural standpoint, what we might be trying to create as an office culture." When two requirements combat each other by forcing the hand of the designer and changing the culture of an office, we lose the human side of design. The loss of this human aspect of design creates a product of loss in contextual design and the growth in globalized solutions.

Material Challenges in the WELL Certification Process

In Frampton's Critical Regionalism, one of the key points is the importance of material usage in creating content. If an outside force limits a designer's material palette, we can tend to see projects leaning away from context and toward the common material solutions. When discussing interior design strategies, the interviewee mentioned that most office desks and interior paints are white because they best reflect light. WELL places importance on the reflectance of materials as it has numerous requirements in the Light section of the standard aimed at minimizing glare. The most effective way to achieve this is by utilizing light colors. However, the emphasis on white specifically can give a generic appearance to office spaces due to the absence of wood tones, which could also be tailored to the local context.

In the spirit of a possible missed opportunity for WELL, I want to address whether this is necessarily a bad thing. Can we get the same healthy spaces while using better-contextualized materials? In response to this my interviewee said, "It's absolutely possible. There's also a level of cultural orientation of people in offices which can change materials, colors, and layout." She continued by suggesting that she had many reservations about WELL because it is possible to create so many different spaces that are just as healthy without completing the requirements of the standard.

The answer to my earlier question is, yes, we can make healthy spaces with more contextualized materials. Whether using these generic colors is a bad thing or not is a much deeper and nuanced question. While it would be ideal for everyone to be able to use more contextual materials, the affordability, accessibility, and demand for these materials are not always where they need to be.

Interview #2: Hoplan Macht Architect

Is WELL a Limitation or a Guide?

The following interview sheds light on how the initial decisions of architects greatly influence interior design solutions, importantly noted after learning about architects' significant impact. This interviewee is a lead architect at Hoplan Macht who is a certified WELL AP and has worked on many WELL projects. Hoplan Macht is a design firm with an office in Denver specializing in educational architecture (K-12 and college campuses). When speaking to the architect, it became clear she greatly supported WELL and its solutions. This was positive because it contrasted with the last interview and provided a different view on WELL. However, in response to this, I tried to flip between biased and unbiased questions to see if that would level out her bias.

Early in the interview, it was important to understand if she had ever found the design solutions for WELL certification to be repetitive. In response, she said, "For some yes, many of our projects, we have to do energy modeling to make sure we have the right kind of glass and the right amount of glass. Some projects require a lot of glass in order to meet campus styles and the WELL requirements." In respect to contextual and Critical Regionalist design this response has two facets. While the need for glass is affected by the contextual architecture of that campus, it is furthered by the WELL requirements. This means that in some spaces where a designer could further the material context of a building based on the campus style, they are instead forced to use glass to get the correct lighting measurements. However, the question of whether this is limiting to her practice still loomed. From here, she followed up, saying, "I don't know that it is limiting. More often than not, clients are wanting private areas up against the glass. So, it's more a way of providing documentation and examples for reasons to move the private spaces back inboard." Because of all the research behind WELL, it is a compelling way for a designer to say, "My solution will better your office in these ways..." In this sense, the WELL standard ends up helping the designer convince a client that their design choice is optimal. Whether connects to Critical Regionalism and contextual design depends entirely on the situation/designer. From this, it is important to note that the standard can guide the change of office cultures to better the well-being of its occupants. Towards the end of this conversation, the architect also stated how the standard also pushes manufacturers to develop better products and be more transparent about their materials. This change in manufacturing is significant to the climate and can better provide opportunities for Critical Regionalist design.

Choosing LEED Instead of WELL

In the interview with the interior designer, she mentioned that many people often choose LEED over the WELL certification. It seemed crucial to understand the architect's opinion on why this is.

This question is important because it points to more profound limitations within the WELL process, which can affect design solutions. In response to the question, the architect said, "There's a lot of costs involved for WELL certification and to recertify every three years is a big commitment."

Specifically, she noted that for their Denver office to get certified, it cost them $300,000 to get the initial certificate and will cost another $30,000 every three years. It is also important to note that this is for the silver rating within the WELL process, meaning getting a gold certificate can be more costly.

If obtaining a WELL certificate incurs a significant expense, it may also reduce funds allocated for other design components. From a Critical Regionalist viewpoint, this would reduce the budget for locally sourced materials, contextually based design, and architectural climate solutions.

WELL Trend Setting

While the science backing the WELL certificate can convince clients to choose specific designs, this can also force certain trends within a design. Because the science is clear on what is the most beneficial to human well-being within an office space, the options for best practice can be limited. This limitation increases the need for more context-based design, minimizes a sense of office culture, and repeatably pumps out the same generic interior design.

When asking the architect about material limitations when getting the certification, she addressed this point. She noted, "WELL building really wants you to use light colors so that there is still light reflectance off it." By this, she references the "Visual Lighting" requirement in the lighting section, which requires the designer to minimize glare and attain a certain level of illuminance from electrical lighting.

To achieve this, the designer should incorporate vibrant hues (with white being the most effective) to reduce glare and minimize the requirement for additional electrical lighting. Using darker materials would result in light absorption and necessitate higher levels of illumination in a space, which incurs a more significant cost for the project.

When the designer is forced to use light colors, this limitation to materials is furthered, with white being the most commonly used. The interviewee stated, "In a sense having to have these lighter materials just becomes the way it has to be. In fact, white interiors are becoming a really big trend right now, and I think the WELL standard has impacted that." However, as the interior designer stated, creating these similarly beneficial spaces with all sorts of materials is possible. This trend becomes an example of the standard globalizing one trend and minimizing the vast number of possible solutions to the same problem. Thus, the question lies in this trend generated by WELL and its research: is it "best practice" or just the easiest solution to wellbeing issues in an office? Suppose a Critical Regionalist approach was taken, with local materials and contextual architectural solutions, and applied to what we know about well-being in the office. Could it have the same outcome?

7: DISCUSSION

7. Discussion

Limitations of the WELL Process

This research found vital opportunities that could provide the WELL Building Standard with ways to have certification, while also creating more contextually based architecture. After speaking to the interior designer and architect, it is clear that WELL can create a sense of globalization through identifiable themes that provide insights for further discussion. These themes end up creating limitations for possible outcomes a designer can use for a WELL project.

The most recurring theme is replication of all-white, open office layouts in buildings and the usage of specific design strategies while becoming WELL certified. From a globalization and Critical Regionalist standpoint, the first issue would be the need for only light colors in an office. When a standard has demanding and challenging requirements, it ends up forcing designers, by nature, to find the best possible solution. The problem arises now that designers have a solution, and because it works so well, it is the only one in use. The usage of light colors becomes this over used and over-replicated solution.

The replication of this solution becomes a clear example of how WELL's challenging guidelines can cause the globalization of an interior style. With so many separate requirements and sections for optimization, their amalgamation limits a designer to follow one path. Frampton believed that if this globalization of an international style takes over, we will see the same buildings and spaces worldwide. Curtain wall facades pollute our skylines today, and office building interiors are predominantly open spaces, mainly using white materials.

The challenging part of all of this is whether an interior or a building can use a more complex mix of wood tones, interior colors, and a variety of wall-to-window ratios while still having the same positive effect as a WELL building does.

For example, suppose a designer were to create a façade or architectural solution that may not let in as much light. In that case, we can still use electrical lighting that can provide the correct numbers to impact an occupant's circadian rhythm positively. That solution could lead to a higher cost, as the absence of white paint in the office can affect illuminance levels and necessitate specialized lighting fixtures. However, from a Critical Regionalist standpoint, this would allow the designer to be more sensitive to the local context concerning materiality and architecture. In this sense, we can imagine a world where office buildings and office spaces vary in their material makeup and architectural structure while benefiting a person's well-being.

Post-Occupancy Issues

Upon achieving WELL certification, the project must distribute post-occupancy questionnaires inquiring about the occupants' satisfaction with the space. The issue is that these questionnaires do not mandate any action, implying that if all are unsatisfied, there is no obligation to rectify the situation.

The idea of "no required action" becomes problematic because it opens the door to less contextualized designs when not embracing a specific office culture or using local materials. If the surveys required action, they could convince designers and developers to bring the importance of office culture and material context into their designs.

If a survey returned with a negative satisfaction level, the space would have to be re-designed to satisfy the occupants. Thus, applying more reason to satisfy occupants.

Limitations Outside of Critical Regionalism

The WELL certification process becomes something that only large corporations tend to apply for because of how expensive it is. In the modern era, we already see how large corporations can be at risk of over-globalizing their design portfolio throughout the world. A global building standard can further stand as an example of over-globalization when this risk is already prevalent. In reference to WELL, these corporations striving for certification will build office buildings in the same manner once they know one solution works for the certification. This outcome could be a driving force why our cities look so similar.

This problem also applies to smaller companies separately. Companies whose materials are being used in a WELL building must bear the cost of numerous tests to ensure they meet the standard. On the other hand, this cost has implications for companies that specialize in selling locally sourced materials, as they may not have the resources to meet the rigorous testing standards mandated by WELL. As a result, architecture firms may be compelled to seek partnerships with larger corporations that have the financial means to fulfill these requirements.

Future Research Opportunities

This research could be expanded through a few different research lanes, all looking into WELL or other building standards. It would be important to see if there are design strategies that are better contextualized while seeing to what extent they are or are not fulfilling the WELL standard. Future research could also take the opportunity to explore how the standard could serve as a guide to better well-being, if they are unable to achieve certification, despite employing contextually based design.

There is also an opportunity to suggest a "Contextual Design" optimization within the WELL standard. A contextual option would allow WELL to create requirements and extra points for designers who use local materials, local design strategies, and local climate solutions. These optimizations would incentivize designers to lean towards a more contextual and diverse set of design solutions.

Research Limitations

One of the most significant challenges when trying to get research was the lack of access to these WELL-certified case studies. Getting into the NAVA Lakehouse building was incredibly challenging because it is technically a private space. This kept me from having any access to areas aside from the reception area. I was told by the receptionist to get in touch with the project manager to see the private/public lounging areas upstairs. Between the two case studies, after almost three months, over 30 emails, around 10-15 phone calls, and 7 in person visits speaking to the receptionist of each case study, I got one interview from Hoplan Macht.

Another obstacle to this kind of research was the lack of access to the scorecards of each WELL building. By this, I mean there is nowhere online or physical to tell me exactly which requirements from WELL each building fulfilled. These details would allow for much more detailed analysis in connection with Critical Regionalism. These scorecards would also provide more ways to analyze the success rate of each WELL building.

The last limitation would be having a semi-structured interview. This kind of interview lends itself to interviewees going off on tangents that do not connect to the overall theme of the research. From that, having limited time and semi-structured interviews producing a copious amount of good content is hard. Having in-person interviews only in Denver also provides a lack of spread in the research findings.

8: APPENDIX

Architect Interview Transcript

Are there less submissions for the light section of the post occupancy application?

-I think so yes, a lot of the lighting points are things you do before certification and don't often have to get it continuously checked every three years.

Lighting system:

-Our lighting system doesn't follow the circadian rhythm, but it does dim as the light outside changes.

-We had to reselect our lighting sources because the originals didn't have the right shielding, so we had to get the proper ones to decrease glare.

Have you noticed while trying to get WELL certification, are the architectural solutions ever repetitive?

-For some yes, one thing I can think of is that we put all our enclosed spaces deeper within the office so that we could get more workstations having access to natural light.

-We also do energy modeling that allows us to make sure we have the right kind of glass, the right amount of glass. Some projects require you to have a lot of glass in order to meet the campus style and WELL certification requirements.

Is that limiting at all? If you're trying to get certification, is the style often the same?

-I don't know that it is limiting. More often than not clients are wanting private areas up against the glass, so it's more to help convince your clients of why you don't want private in those spaces. So, it's more a way of providing documentation and examples for reasons to move the private spaces back in the office.

Has the WELL certification process ever hindered your "Designers Toolbox"?

-Not necessarily limiting for the designer I would say. It's more so pushing manufacturers to come up with better products and to be more transparent about their materials.

-A lot of it is now best practice.

-Another nice thing is that a lot of what you do for LEED will get you halfway through WELL.

When speaking to an interior designer, she was saying that a lot of people end up just going for LEED over WELL? Why is that?

-There's a lot of costs involved for WELL certification and to recertify every three years is a big commitment. In fact, for us, to decide if we wanted to do the certification, we had to figure out how much it would cost us. In the end it cost us $300,000 to get the initial certificate and then $30,000 every three years.

-A lot of the LEED stuff has become best practices and people are just doing those things anyways.

While trying to get the certification, speaking materiality wise, are you ever limited to specific materials?

-Yes, WELL building really wants you to use light colors so that there is still light reflectance off it. Because if you had a black surface, it would just suck in the light and in turn you would need to add more electrical lighting so I would say that's limiting. However, it is a good practice anyway.

-In a sense having to have these lighter materials just becomes the way it has to be. In fact, white interiors are becoming a really big trend right now, and I think the WELL standard has impacted that. I think it's because they are saying that having these lighter colors are better for vision and better for overall wellbeing. So that has impacted and created that trend.

-To make a white interior is really hard, because if it's not done really well it just looks like the project ran out of money.

With WELL asking for specific materials, a lot of the time it is hard to use locally sourced materials. Do you find that to be true?

-Yes, especially in this location because we are so far from so many things. Like carpet is produced in Georgia which is 200 miles away. We have re-claimed wood, and even though we want it to be from something local there's a lack of availability, so it begs the question of it being pointless?

Does the WELL process ever change the envelope of a project?

-Not too much, sometimes you need to be careful with the window to wall ratio and make the ratio less in order to bring down the heat gained from the windows.

Are there any structural challenges working with WELL?

-Maybe not direct but it could be indirect, so there is a point to have a feature stair and having a stair within 25 feet of the entry so you might have to change the structure of the building around the stair.

From the point of view of someone working in a WELL certified space, do you have any parts of the office that you disagree with?

-It's more so that I wish things were different ever since we went through COVID. The way we are on Zoom calls all day makes things difficult. Because sometimes there are four people around me in a meeting while I'm doing work which can be very distracting. So that comes down to the open office layout that is best for WELL, but now-a-days with meeting on computers there is a need for more private spaces.

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