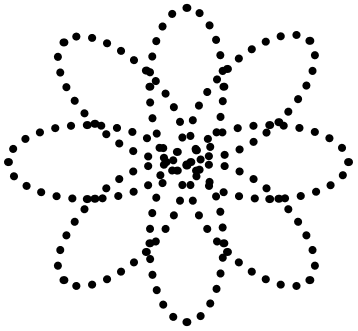
Eightfold Architecture

Enlivening transitional buildings and cities.

Karissa Meiers

Thesis 2013 2014



Eightfold Architecture

A Design Thesis Submitted to the Department of Architecture and Landscape Architecture of North Dakota State University.

By

Karissa Meiers

In Partial Fulfillment of the Requirements for the Degree of
Master of Architecture

Primary Thesis Advisor

May 12th, 2014
Thesis Committee Chair

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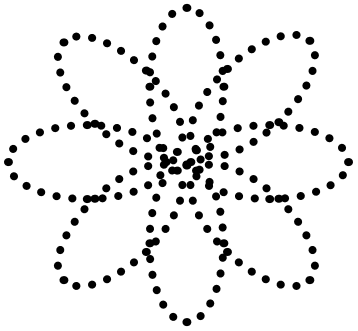
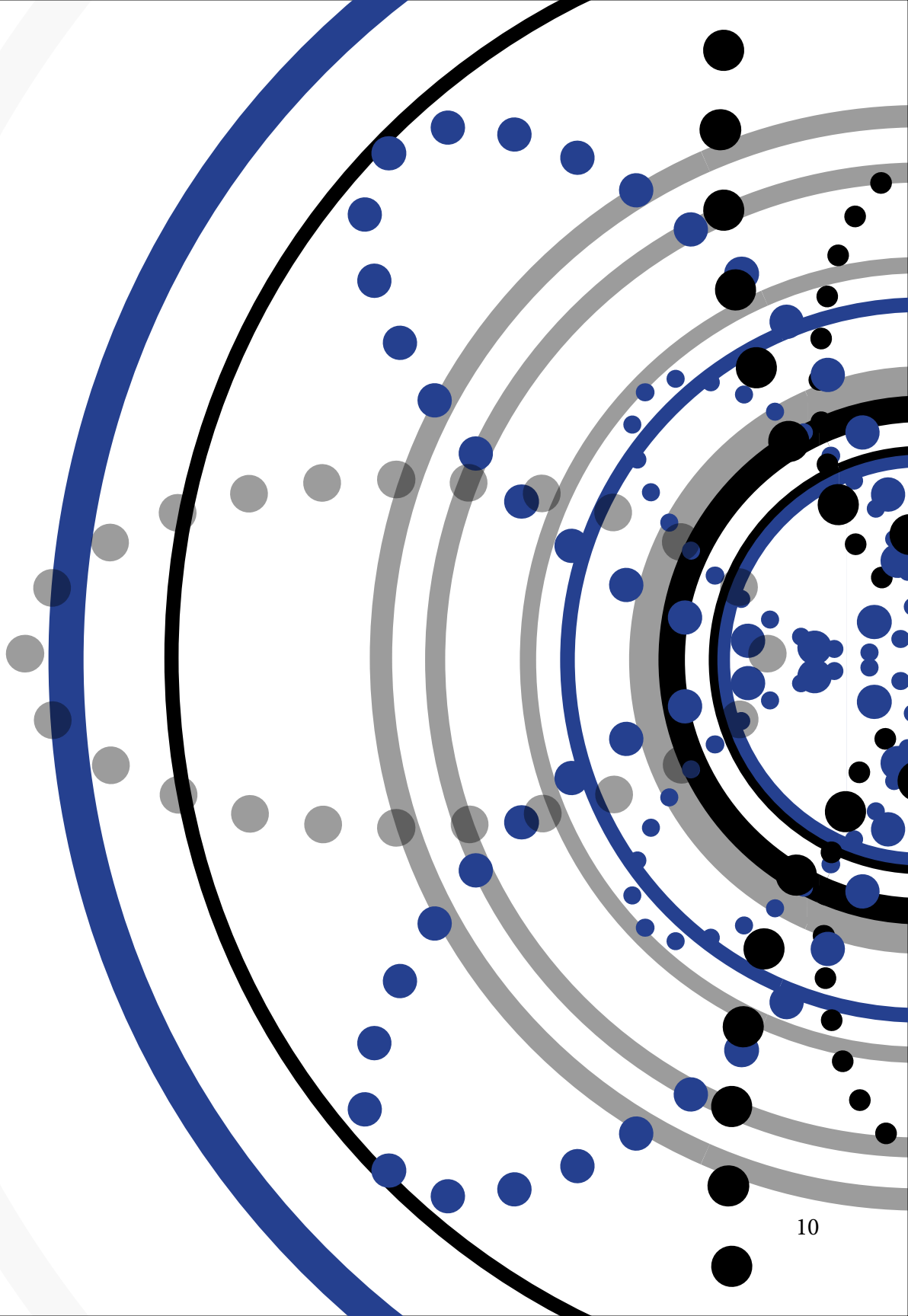
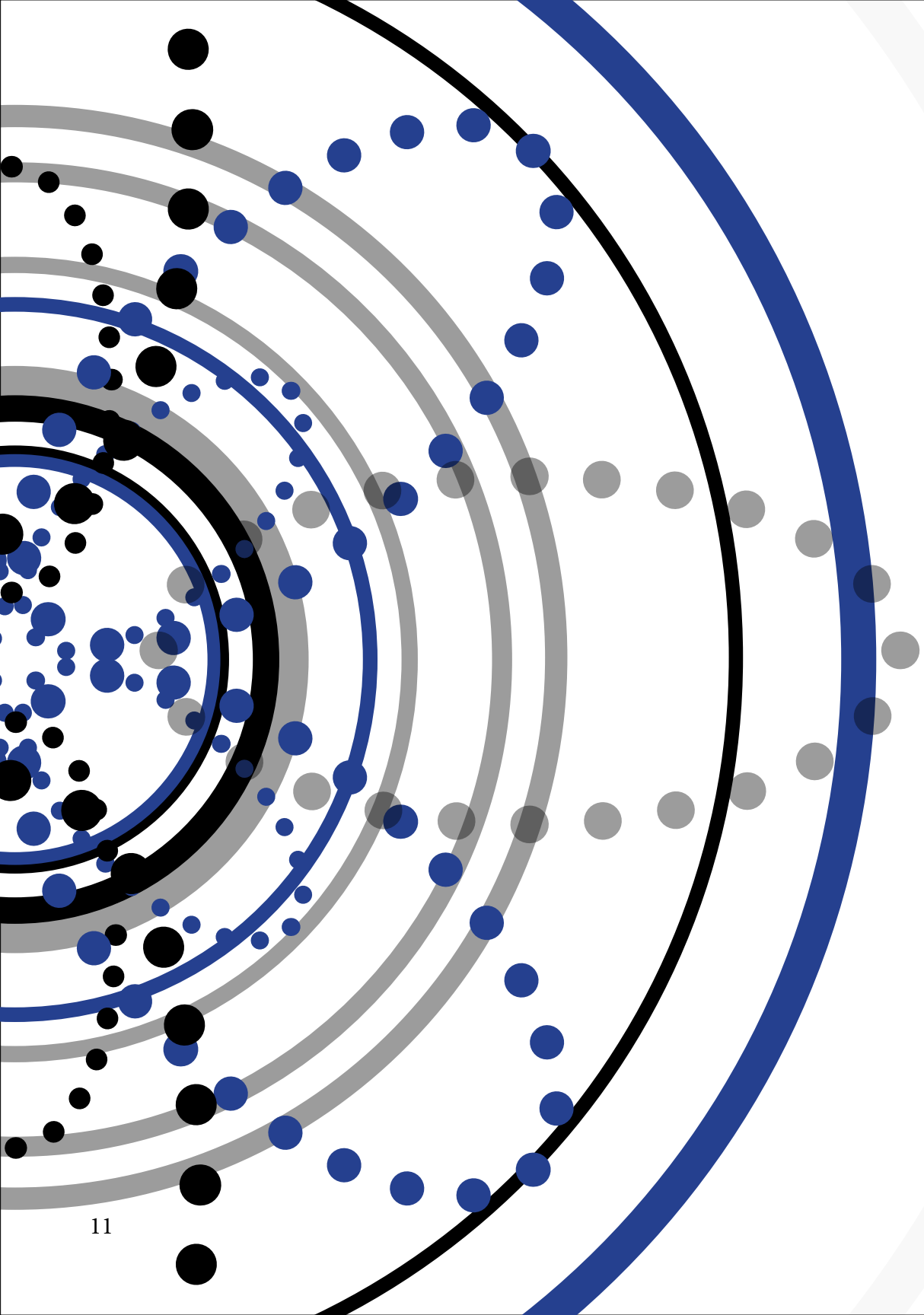


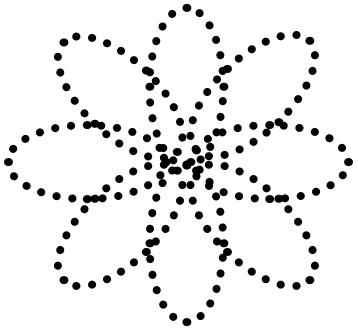
Table of Contents

Tables & Figures

Table 7.10	Noise Diagram Image: Karissa Meiers
	Image: Karissa Meiers
Table 7.11	Topography and Average Air Movement Diagram Information:http://www.npwrc.usgs.gov/resource/habitat/climate/wind.htm
Table 7.12	Image: Karissa Meiers Existing Pavement and Soil Layers Diagram Pavement Informatoin: http://www.okhotmix.com/Websites/oapa/Images/Parking%20Lot%20Design%20Manual%20for%20Web.pdf Soil Information:http://www.nrcs.usda.gov/Internet/FSE_MANUSCRIPTS/north_dakota/fargoND1903/fargoND1903.pdf Image: Karissa Meiers
Figure 8.1	Photo Grid Diagram Image: Karissa Meiers
Figure 8.2	Photo's taken by Karissa Meiers
Figure 8.3	Photo's taken by Karissa Meiers
Figure 8.4	Photo's taken by Karissa Meiers
Figure 8.5	Photo's taken by Karissa Meiers
Figure 8.6	Photo's taken by Karissa Meiers
Figure 8.7	Photo's taken by Karissa Meiers
Table 9.1	Image: Karissa Meiers
Table 9.2	Image: Karissa Meiers





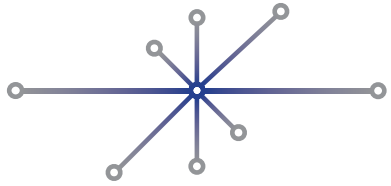


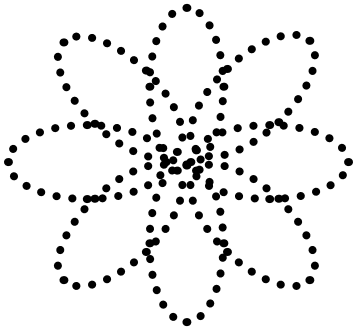
Abstract

This thesis investigates the question of how *Eightfold Architecture* can help inspire us to save existing abandoned buildings, and with this bring an enlightened functionality to transitional areas of our cities. The concept of *Eightfold Architecture,* rather then architectural renovation, has been chosen to guide this research and design so to keep the importance of a cyclical nature in mind and to emphasize the reality of ethics in this way of designing.

The current downtown campus has been very successful. With moving part of the NDSU campus downtown a spark of new life was created in the existing downtown. Unfortunately, the downtown campus is missing a student gathering facility. For the application of this project I will look into how re-birthing the vacant Christian Science building, along with an addition across the street, for the use of a student union will help to continue and to expand on the breath of new life that the downtown Fargo area has. Since this project is re-birthing an existing vacant building it is my motivation to really dive into the history of the context, site, and existing building to extend it's consciousness, through *Eightfold Architecture,* to create a successful development of an existing building, a new building, and an urban environment.

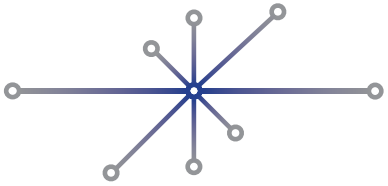
Key Words: *Eightfold Architecture,* Reality, Breath of New Life, Cyclical, History, Extended Consciousness, Urban Environment, Re-birth.

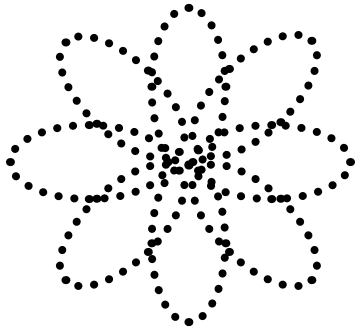


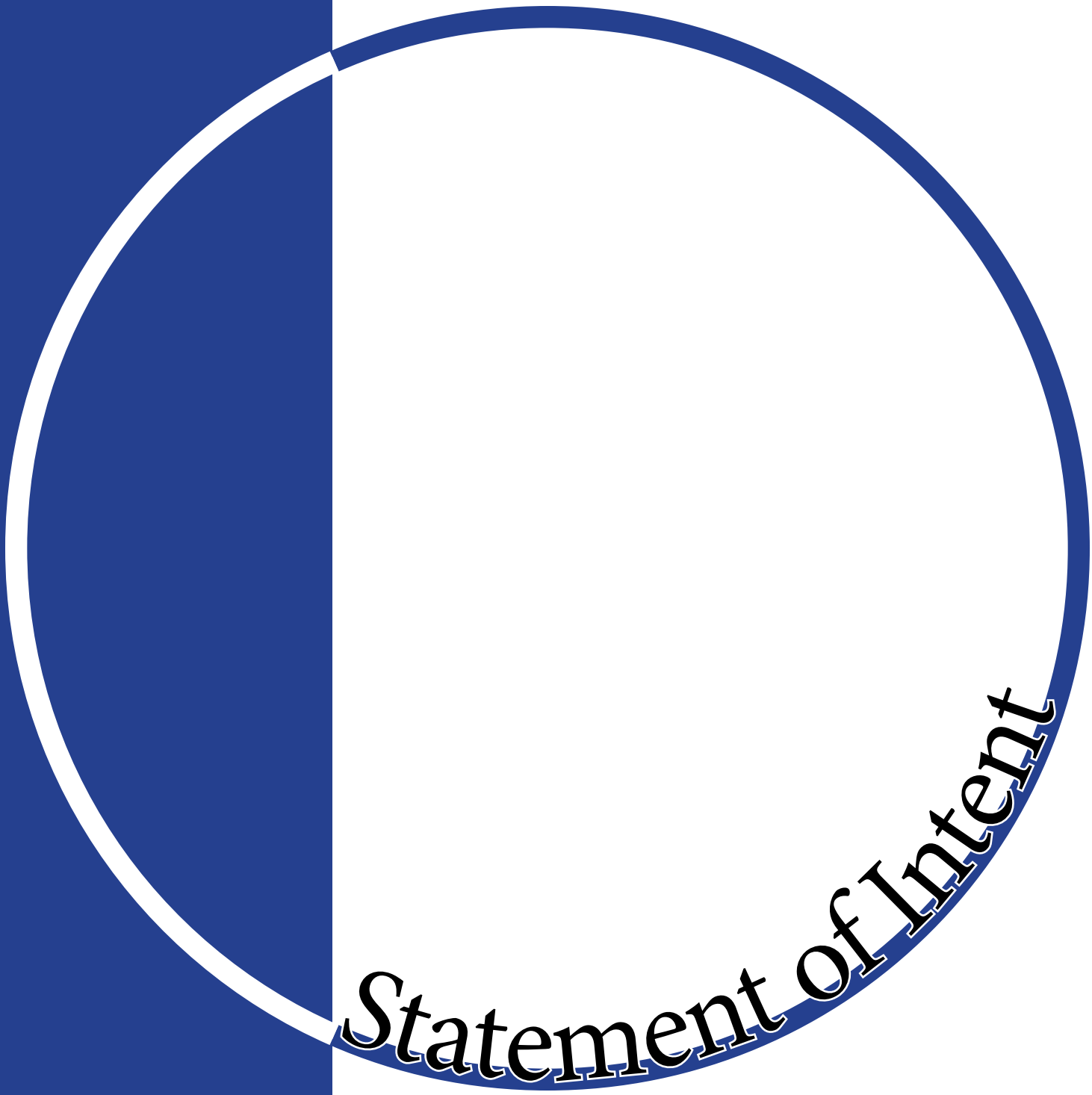


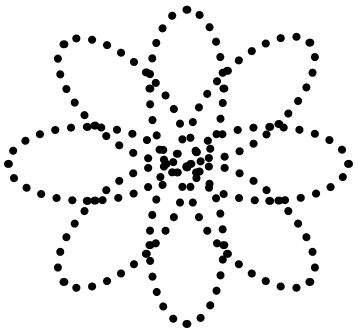
Problem Statement

How can the idea of *Eightfold Architecture* help inspire us to save existing abandoned buildings and bring new life to transitional areas of our city?






Statement of Intent



Typology

NDSU Downtown Student Union

Claim

By re-birthing structures that have been vacant we can bring new life, with the means of *Eightfold Architecture,* to not only the building, but also transitional areas of our cities.

Theoretical Premise /Unifying Idea

Premises

NDSU lacks a formal student gathering point downtown. By creating a student union downtown students would be benefited by a formal gathering space.

There are several abandoned buildings in the downtown Fargo area. By moving a student union into an abandoned building this unused building would have the chance to serve another purpose.

Giving new life, in this case as a student union, to an abandoned building downtown not only could benefit the students of NDSU but also benefit the city by bringing new life to a more transitional area of downtown Fargo. This would be from choosing a location in downtown that, besides residentially, is not flourishing.

Actor

Students and faculty need to have a formal gathering place in the downtown campus. This will in turn effect the community members of the area.

Action

Architectural rebirth with the influence of *Eightfold Architecture* can create new potential functions in the existing built environment.

Object

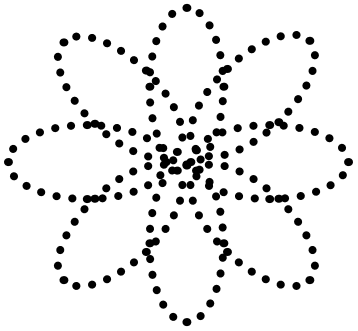
This concept will bring new life to the vacant Christian Science building and a transitional area of Fargo, ND.

Manner

Through *Eightfold Architecture* new life will be brought to a structure and a transitional part of Fargo.

Unifying Idea

Abandoned buildings need a new purpose through *Eightfold Architecture,* and with this new found purpose, will come more lively parts of cities that may have been lacking functions due to a transitional location.

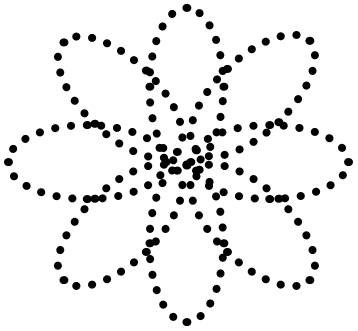


By giving abandoned buildings a meaningful purpose not only will new life be given to these buildings but a new dynamic functionality will be brought to transitional areas of our cities.

"The history of a community is incomplete without an historic and architectural structures survey of buildings which make up the neighborhoods and the business districts. Such structures, regardless of architectural style or age, are a part of the streetscape which makes a community a 'home.' Preservation of such structures and districts is critical to providing a cultural continuum, an anchor for an evolving community." (Roberts, 1983) This quote is from the preface to a book called *Fargo Heritage* and written by the Fargo Heritage Society. This quote shows that there is a desire in Fargo to preserve its architectural history. In order to do this these buildings need to continue themselves with new functions.

"Blight and Deterioration. The Renaissance Zone is located in the oldest part of the city, which could explain some of the physical deterioration that currently exists. However, the Zone also contains some of the community's most distinctive and important buildings. The age of the building stock does not, in and of itself, constitute a reason for blight and deterioration to continue in the Zone. The implementation of the Renaissance Zone Development Plan will provide a coordinated response to development concerns and issues in the Renaissance Zone area, giving both investors and customers a reason to "come back downtown" and to believe that renewal, reinvestment and redevelopment is, in fact, possible and profitable." ("Addendum of 1999 Fargo Renaissance Zone Development Plan," 2003).

"The main reason these redevelopment projects are so important to our communities is because it is a way we can preserve older buildings, which in their own way tell a story about a cities history. It allows people to improve their community without having to demolish a building and build new things. But also it can create a big economic and social impact. It creates jobs within the community, enlivens the community through the creation of culture and new businesses, and brings in more money for that given city." (Livorsi, 2013)




Proposal

Narrative

As you approach an abandoned building your senses are striking out. What are you feeling? Do you feel small? Do you feel curious? Humble? Spectral? Forgotten? Inconsequential? Vacant buildings hold a sense of absent grandeur. You may even question what happened here? Why is this structure unused? Is this building really so depleted of life that it could not serve another lively purpose? Thoughts of what this building could be might even pop into your head. My thesis is about how I have a sneaking suspicion that these feelings that we have when we walk up to a building of this abandoned nature is for a reason. These buildings are not an end; they are just a beginning of a new life.

Throughout my life, from traveling and being at home, I have discovered the oddities of some of the bare buildings that surround me at home. Growing up in Stanley, Grand Forks, and Fargo, North Dakota, I have continuously been struck by the absent feeling that these numerous vacant buildings give me and the surrounding area. I have been lucky enough to travel for many different occasions in my life. I have seen the potential that abandoned buildings possess. For example, Antwerp, Belgium as a city became a prosperous city as far back as the 16th century ("A Brief History of Antwerp," 2011). Since 1984, after many years of growth and decay as a city, Antwerp has turned to reuse and urban renewal projects (Lorquet, 2012). Obviously, the 16th century is not the only time in history that Antwerp was prosperous in. It was quite a lively place in the early 1900's, I have read, but it has taken some time for the city to create prosperous urban renewal plans and realize that the old is the new. I sense that some of our cities in the midwest are still too young in their histories to realize that it is critical to rebirth our existing buildings. Give these lifeless buildings a new form. Give these vacant structures a new life. This is truly caring for our city.

If something is to be appreciated, cared for, and remembered this something needs to have characteristics that define and shape it as a form. If a building is designed with a clear focus towards a set of architectural ethics the building could be virtuous with this guide. If we want to recreate in an ethical way we need to look towards an ethical concept to guide us. How could you design an architectural ethics system? I will try to examine a relion that speaks of life and morals to try and understand their regard towards ethics and see if this can translate into a system of how ethics influence architecture.

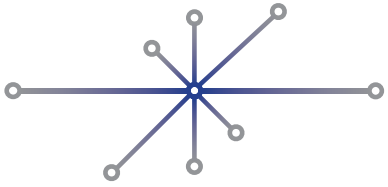
User/Client Description

The Downtown union will mainly have three different types of people using this academic facility.

There will be the student. Students will be the main occupants of this building just because these are the people who will spend most of their time in this building. Here the students will come in the morning to park their cars or bikes, study before class, grab a coffee, eat meals, congregate for different events, showcase their work, mingle with friends, purchase school items, pay campus bills, use public computers, workout, and get information about the campus.

There will be the employee. The employee will use this facility the second most. The employees will go about their jobs in this building. There will be a need for building staff members, sales associates, receptionists, professors, baristas, cooks, and computer technicians. These employees can also use the building as a student would, for example have a meal, but they will most likely spend a little bit less time here then the student because of their schedules.

There will be the guest. Guests will use this building the least but are regarded with much respect in the building. Guest will likely be family or friends to either the student or employer. These people may be invited for a multitude of reasons to be in this building. They could use this facility to view student art, eat or grab a coffee with the person they know that uses this building, see a presentation, receive campus information, or buy campus items.



Major Project Elements

Downtown Student Union

Scholarly and Technology Spaces
Auditorium
Computer Zone
Gallery
Main Study Space

Mechanical and Overlap
Corridors
Mechanical Space

Business,Operations, and Sales
Bison Connection
NDSU Store
Information Office

Dining, Recreation, and Wellness
Coffee Shop
Dining Center
Wellness Center

Site
Car and Bike Parking Ramp
Green Space

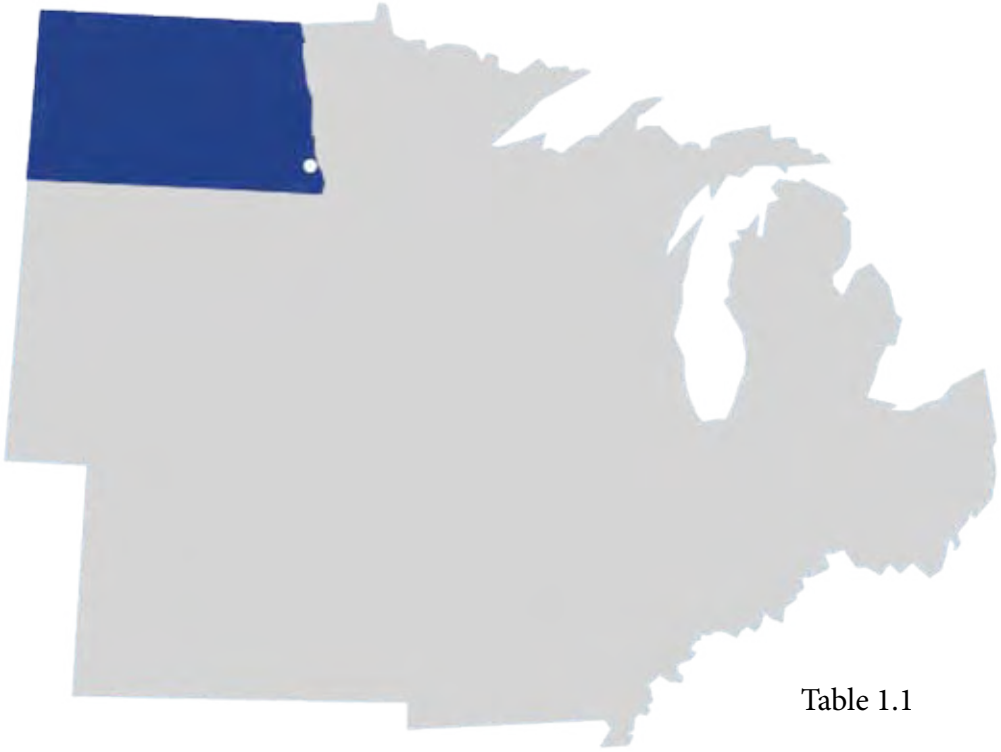


Table 1.1

Midwest Region

This site is located in the midwest region of the United States. More specifically, this site is located in Fargo, North Dakota. With 9.98 inhabitants per square mile North Dakota has the fourth lowest inhabitants per square mile in the United States. One of the primary goals of this project is to combat this rather absent feeling of low population and unused buildings through the preservation of a piece of existing architecture with an addition on the site.

Fargo

Fargo, North Dakota is a city on the East border of North Dakota. The Red River is the dividing line between Minnesota and North Dakota. This is the largest city in North Dakota, having 105,549 inhabitants.

In comparison to other cities in the world Fargo is a very young city with only being founded in 1871. Fargo is striving to hang on to its fairly youthful history and is doing this through having a Renaissance Zone. The Renaissance Zone of Fargo is a zone of buildings that are among some of the older buildings in Fargo that have great potential for reuse. "The Zone contained a combination of commercial, retail, and residential properties that were deemed to have high redevelopment potential. The boundary was recommended by the Renaissance Zone Advisory Committee following an exhaustive evaluation, ranking, and selection process." ("Addendum of 1999 Fargo Renaissance Zone Development Plan," 2003). The Renaissance Zone, in the downtown Fargo area, is a zone of buildings that give property tax and income tax incentives to possible investors in hopes of creating a more dynamic downtown. ("Addendum of 1999 Fargo Renaissance Zone Development Plan," 2003).

Table 1.2

Christian Science Building Site

The sites for my project is located on first avenue and surrounding 9th street and is within the Renaissance Zone of downtown Fargo. It is in a transitional edge of downtown and is within a few blocks of Island Park. There is one building on this site and that is the Christian Science Building which was built in 1914 by local architects Hasby and Gillespie ("Property Summary," 2008). This building will stay on the site throughout my project and will be re-birthed to serve the function as a Downtown Student Union for NDSU.

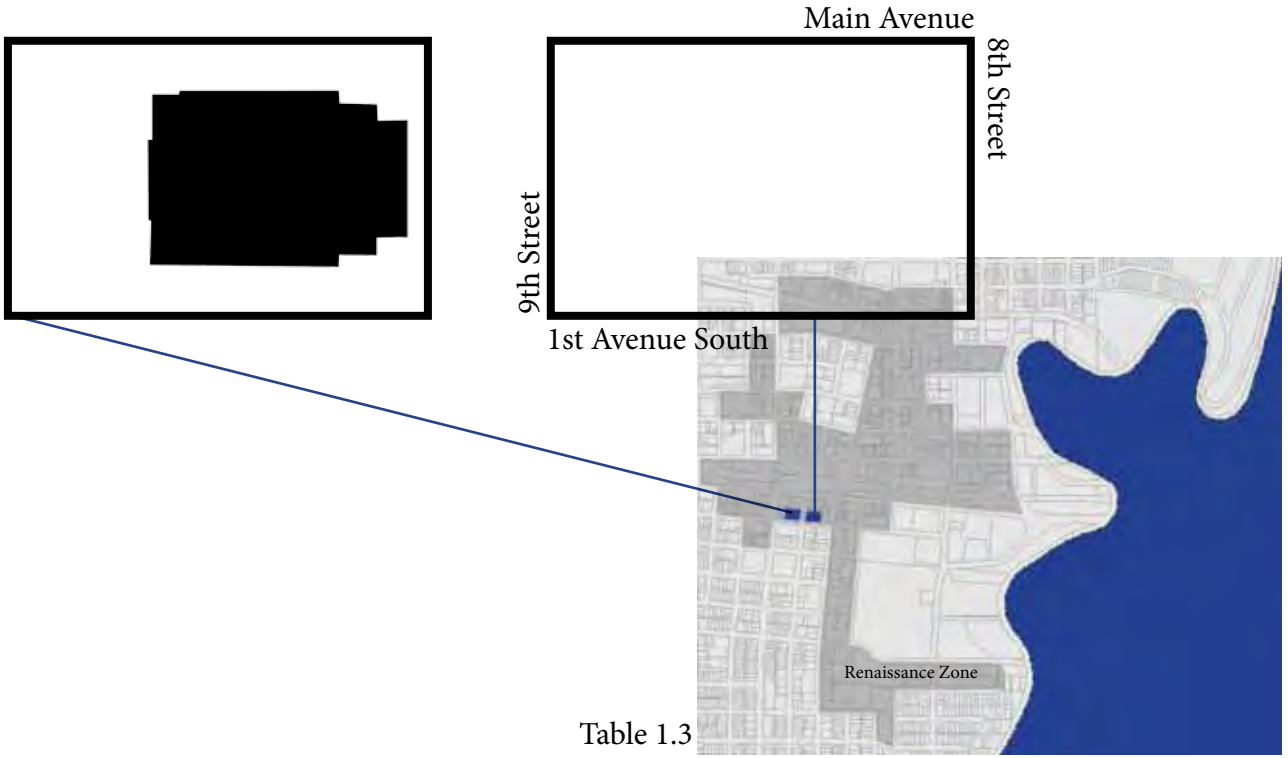


Table 1.3

Site Photos

Figure 2.1: K. Meiers, 2011

Figure 2.2: K. Meiers, 2011

Project Emphasis

Abandoned buildings need a new purpose. Through *Eightfold Architecture* and with this new found purpose that the rebirth of a struture can bring, will come more lively parts of cities that may have been less lively and transitional. *Eightfold Architecture* is a concept that I have come up with that has a few different meanings embodied in it. I will explain what this concept means in the terms of renovation, city development, and design and where these meanings will take my research.

Firstly, architectural rebirth means to take an existing piece of architecture that lacks a given purpose because of neglect and give it a new breath of life. This is not just a renovation. This is a rebirthed piece of architecture that will have the utmost sensitivity towards the projects site, context, history, sustainability, and future. Specifically, this concept will be applied to the Christian Science building in Downtown Fargo. This building, with focusing towards *Eightfold Architecture,* will be rebirthed as a Downtown Student Union for NDSU. This concept does not allow for a building to be renovated and its history to be lost or forgotten, it needs to be reactualized. The buildings existing architecture holds a very important piece of this history, the history is a part of this buildings essence or soul, and it is my intention to be respectful and preserve this history.

Secondly, architectural rebirth means bringing new life to an area of a city that might only be used for transitions. New life will come to this area because there will be a new population of people using this area of the city because of a new use of a building, the NDSU Downtown Union. The Christian Science building is on the border of the more occupied area of downtown Fargo. By bringing a new group of people; students, faculty, and visitors, to this area this will no longer be a transition of the downtown but another lively area of the downtown.

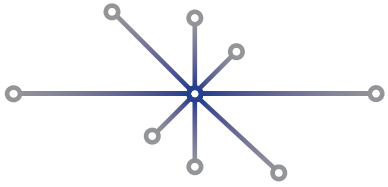
Thirdly, architectural rebirth means to design with an ethical conept in mind. To create an ethical concept it would be important to gain influence from somthing that speaks of ethics. *Eightfold Architecture* is a set of ethics to focus on and utilize while designing to help the designs of architecture to be focused around morals so as to create virtuous buildings.

A Plan For Proceeding

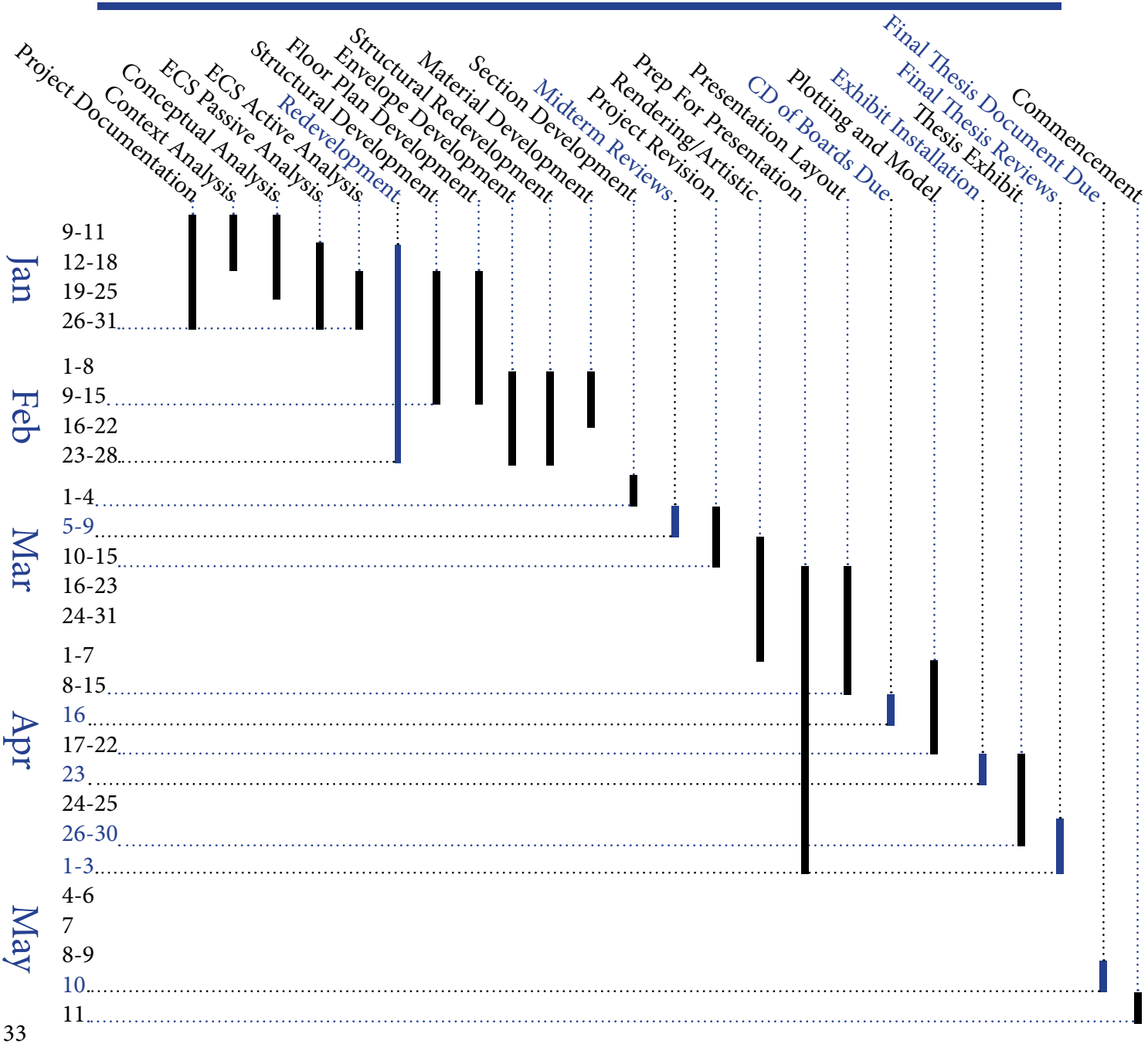
My research direction is as follows. My research will be conducted in a way so that I will have the necessary knowledge needed to design within the scope of *Eightfold Architecture*. This research will continue to evolve throughout the entire project. Specifically my research will be focused on my theoretical premise/unifying idea, project typology, the ethics of architecture, historical context, the history of the site, the history of the existing building, site analysis, and programmatic requirements.

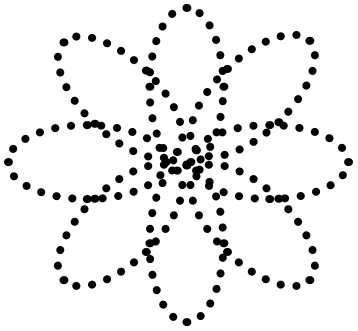
The following is my plan of design methodology. The design methodology I will employ throughout my research and design identifies most closely to a mixed method quantitative/qualitative approach. This approach will be influenced by the concurrent transformative strategy. I will use multiple means throughout this project to gather these different types of data. I will use graphic analysis, digital analysis, writing, drawing, and a more personal method of gathering this information such as face to face encounters. Observing, interpreting, searching, analyzing, and creating will be my actions in the research.

This is my plan for documenting the design process. These pieces of design will be preserved digitally and physically in this book. It will also be available in the North Dakota State University libraries digital collection in the architectural theses institutional repository. My schedule, which lists the completion dates of different aspects of my design and deadlines, in on the following page.



Spring Schedule






Program & Unifying Idea

Introduction

Unifying Idea. Abandoned buildings need a new purpose through *Eightfold Architecture,* and with this new found purpose, will come more lively parts of cities that may have been lacking functions due to a transitional location.

Introduction. The following research is the path I chose to create a conceptual design method based off of morality. I have looked towards Buddhism to help inspire me to create a virtuous design concept that can be applicable to anyone rather then only people of a certain belief system like Buddhism. I chose to examine Buddhism because I was looking at abandoned buildings as a lack of life. I searched for a belief system that spoke about life. I wanted to design in a way that used morality as a basis of design. I saw Buddhism as an insightful religion that spoke clearly about life and morality. Buddhism inspired me to create a framework of architectural ethics for me to follow while creating and redesigning the existing abandoned building so I could create an extension of the building that was virtuous.

The following research is an investigation at understanding Buddhism. I wanted to understand with more depth the Buddhist's idea of rebirth and how this is achieved. With having gained the knowledge of what the eightfold path is I wanted to see how and if this could translate into an architectural ethics system that could be used for designing beyond Buddhist Buildings. The translation I have created is called *Eightfold Architecture.* It's focus is on ethical principles of design that would create virtuous buildings. The Buddhist Eightfold path serves as a parti for my development of this concept of *Eightfold Architecture. Eightfold Architecture* essentially being a set of moral design aspirations can then be used for designing any type of architecture that's design pursues virtuousness.

Proceeding this specific Buddhism research, the development of *Eightfold Architecture,* and the conclusions I draw from this there will be more research about the historical relevance, site characteristics, and typological needs of this project. Further research and inquiry into developing student unionsm, the sites needs, and the historical aspects of the site will create a project that will work cohesively in its environment and be the base knowledge that will be essential for the onset of designing with *Eightfold Architecture.*

The Way of the Buddha

Buddhism. Buddhism is a religion or path where the practice and experience of spiritual development leads to insight into the real nature of reality, rather then a system of beliefs relying on faith which many Westerners are accustomed towards. ("What is Buddhism," 2013). Much of our society in the United States were raised as Christians so this concept may be confusing or puzzling to us. We understand Christianity as a belief system with relation to faith. Faith is accepting the beliefs of that system. Buddhism, however, teaches you to practice Buddhist teachings and to discover for yourself, rather then having faith in a belief. (O'Brien, 2013). Inevitably, by discovering these teachings from your path, changes will happen within yourself and qualities such as awareness, kindness and wisdom will be gained.

Observing is also a prominent factor of Buddhism. Many forms of art and imagery are used in Buddhist writings to communicate the ultimate truth in which Buddha realized. This ultimate truth is called Dharma. Dharma is meant to be something that someone should seek and see for themselves. This ties back to the path of spiritual development. (Trainor, 2001)

Figure 3.1

Buddha. Buddhism began about 2,500 years ago based off of the teachings of Siddhartha Gautama. Siddhartha Gautama, it is said, was born to a royal family of a small kingdom on the India and Nepal border. It is hard to say an exact date of when Gautama was born but scholars have accepted the range of 486 BCE to 483 BCE. Gautama's mother dreamt a white elephant entered her womb through her right side while she was pregnant. In their culture this represents future greatness. After birth, a holy man predicted to Siddhartha Gautama's father that his son would either be a great king or a holy man. Siddhartha Gautama lived a sheltered life because his father hoped for him to become a great king and did not want him pondering about life. Inevitably, one day Siddhartha Gautama left the palace and saw a dead man, a sick man, and an old man. (Trainor, 2001).

Siddhartha Gautama abruptly took himself out of his privileged upbringing after realizing that life included old age, sickness, and death. This began his pondering over the meaning of life, which led him to leave his palace and become a wondering holy man. After some time of wondering he had not solved the meaning of life and death. This led him to take a different route, which was to look into his heart and mind. He vowed to sit beneath a Pipal tree until enlightenment was gained. After forty days he became enlightened. After this the Pipal Tree is known as the Bodhi tree, which means enlightenment tree. (Trainor, 2001). The first thing Siddhartha Gautama gained knowledge of was his past lives, and then he gained the divine eye, which is the power to see others past lives. Enlightenment, also, brought insight to him from the different aspects of life, such as suffering which was what brought him on the quest in the beginning. Siddhartha Gautama became known as Buddha, "one who is awake," after realizing the nature of life, death, and existence. Buddha never claimed to be a god just that he was enlightened. ("Who Was The Buddha," 2013). For seven weeks after his enlightenment Buddha meditated in different places. Each place Buddha meditated he experienced, felt, and thought different things. (Trainor, 2001). After Buddha's seven weeks of mediation he traveled and spread understanding as well as his liberating new found knowledge. His spread of knowledge is known as the first turning of the dharma wheel. As mentioned earlier, he did not teach what he realized when he was enlightened, he taught people how to realize this for themselves. Enlightenment is reached through one's own experiences, not through beliefs. (O'Brien, 2013). His teachings are known as the Buddha Dharma or teachings of the enlightened one. The Buddha Dharma is broken down even further into three traditional divisions of Buddha's

The name of this piece is Darmachakra Mudra. Made out of sandstone this sculpture is a little over five feet tall. It is located in the Archeological Museum in Sarnath India. The Buddha's hands in this picture are in the position of Darmachakra Mudra, which is associated with his first teachings. (Tchi, 2013)

Figure 3.2

teachings. Firstly, there are the sutra's. This is Buddha's words that were recorded by his monks. Secondly, there is the vinaya. This is how monks and nuns should handle themselves. And thirdly, there is the abidharma. This is a more complex classification of Buddhist concepts. His teachings and enlightenment have been gained and passed down through the present day. (Alexander, 2006).

Rebirth. The cycle of birth, death, and rebirth is known as samsara. The only way out of this cycle is finding a means of liberation from it. Liberation from this is nirvana. (Trainor, 2001). The following sentence describes what Buddhists believe happens at death until rebirth. "We have seen earlier that a being is nothing but a combination of physical and mental forces or energies. What we call death is the total non-functioning of the physical body. Do all these forces and energies stop altogether with the non-functioning of the body? Buddhism says 'No'. Will, volition, desire, thirst to exist, to continue, to become more and more, is a tremendous force that moves whole lives, whole existences, that even moves the whole world. This is the greatest force, the greatest energy in the world. According to Buddhism, this force does not stop with the non-functioning of the body, which is death; but it continues manifesting itself in another form, producing re-existence which is called rebirth." (Rahula, 1974).

Rebirth is commonly confused with reincarnation. The idea that there is some sort of identity that gets re-birthed into a new body is rejected in Buddhism. Buddhist's believe humans, like everything else in the world, are in a state of changing flux so a static concept of soul is not possible.

This is the Fengxian Temple from the 6th Century A.D. This particular Buddhist cave scene is located in the Xiangtang Mountains of China. It is a common Buddhist pilgrimage site.

Figure 3.3

This concept is known as anatman or non-self. What the Buddha did believe a person was made up of was a physical body, feelings, perceptions, mental dispositions, and consciousness. The concept of non-self serves the purpose of informing us that attachments and desires are constructs that our created individualities have made and this ends up leading to suffering. (Trainor, 2001).

Four Noble Truths.

The four noble truths are how Buddha understood the human condition and were the contents of his first teaching. Through Buddha's realization of these truths he became enlightened. The first noble truth is that all life includes suffering. The point of this truth is not to be pessimistic but to observe realistically. To observe this is escaping from denial of life's suffering. Once this is realized people can try to lower this suffering in others by showing love and kindness to all. The second noble truth is that all of life's suffering is caused directly from desire. According to Buddhism if people stop acting out of desire there would be nothing to suffer over. Desire is what creates harmful actions. It is in the most optimistic light that these truths are taught. They are taught so people can understand that humans have the potential to go beyond suffering if they can live without desire. (Trainor, 2001). The third noble truth is where the typical cyclical Buddhists pattern becomes less cyclical. The third noble truth is that there is an end to suffering if someone can detach themselves from all desires. This truth is where many people become confused. The other truths were direct statements that are easy to understand. The third truth is becoming a more spiritual concept. It is something many would need to experience from living this

This Buddha resting in Nirvana is known as Manuha Paya. The temple where this Buddha can be found is in Pagan, Burma. (Trainor, 2001).

Figure 3.4

way to understand or to believe. (Byrd, 2013). If you can follow the first and second noble truth that you can go beyond the cyclical patterns that desire, karma, and rebirth have on life. Going beyond this is to attain Enlightenment or Nirvana. Going beyond attachment and suffering is guided by the fourth noble truth in which it says this can be attained by following the eight fold path. (Trainor, 2001).

Eight Fold Path.

As explained earlier, the eightfold paths are necessary ways of life that must be followed if nirvana is to be realized. This path works on morality, meditation, and wisdom. Each part of the path is a necessary framework to actualize the next. (Trainor, 2001).

The first factor of the eightfold path is right understanding. It is said that with right understanding individuals take on their responsibility from their thoughts and actions. Right understanding is insight into the true nature of reality. (Harvey, 1990).

The second factor of the eightfold path is right thought. Right thought is the controlling of your thoughts from any sort of cruelty to loving kindness. (Harvey, 1990).

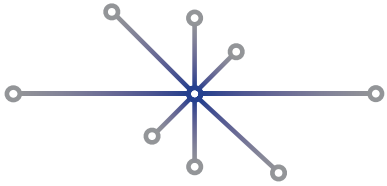
The third factor of the eightfold path is right speech. Right speech is the abstinence from gossip, back stabbing words, or any other sort of message spread by the mouth that is not necessary and good. (Harvey, 1990).

The fourth factor of the eightfold path is right action. Right action is viewed as stopping from acting wrong with your body. Things that would be considered wrong action would be like stealing

This is a mandala known as Womb World. (Shumacher, 2013). A mandala is a meditation object to help attain enlightenment. (Trainor, 2001). Womb World is a Japanese mandala that was created sometime between 1392 and 1568. It is apart of Sylvan Barnet and William Burto 's private collection.

Figure 3.5

or physical fighting. (Harvey, 1990).
The fifth factor of the eightfold path is right livelihood. Right livelihood is making a living justly. It is not right to make a living in any way that causes suffering to others. (Harvey, 1990).
The sixth factor of the eightfold path is right effort. Right effort is the development of the mind. Right effort is training the mind to avoid attachment, unskillfulness. It also focuses on developing your meditation practice. The last part of right effort is to maintain these developments of the mind. (Harvey, 1990).
The seventh factor of the eightfold path is right mindfulness. Right mindfulness is a factor while meditating that means to be aware of what is arising and diffusing. (Harvey, 1990).
The eighth factor of the eightfold path is right concentration. Right concentration is the focus of the self on keeping collected. This focus comes from meditation objects and creates a deep calm. (Harvey, 1990).
By following the four noble truths and the eightfold path a progression to enlightenment takes place. The eightfold path causes deep reflection and meditation that begins to form the right morality for a Buddhist. This morality is often looked at as wisdom. To successfully reach nirvana more then knowledge of the path must exist. Following the path becomes a way of life and the true understanding of the path can only lead to Nirvana. (Trainor, 2001).



Eightfold Architecture

Architectural Rebirth.

The previous research about Buddhism helped inspire me to create a virtuous design concept that can be applicable to anyone rather then only people of a certain belief system like Buddhism. I chose to examine Buddhism because I was looking at abandoned buildings as a lack of life. I searched for a belief system that spoke about life. I wanted to design in a way that used morality as a basis of design. I saw Buddhism as an insightful religion that spoke clearly about life and morality. Buddhism inspired me to create a framework of architectural ethics to follow while creating and redesigning the existing abandoned building so I could create an extension of the building that could be seen as virtuous. The following is a way of looking at architecture that can help to produce more lively buildings and to breathe new life into existing buildings. *Eightfold Architecture* is my set of design aspirations to follow to help me create a virtuous building.

The first virtue of *Eightfold Architecture* is that of Right Consideration. Right Consideration in architecture has to do with the implications and necessary information about the project to start conceiving a design. Considerations for virtuous architecture include the history of a place, typological considerations, site and context concerns, aspirations, the current impact of design, the community, the users, and the future of place.

After developing a better understanding of what may be relevant considerations for virtuous design it is an appropriate time to begin forming design intentions. The second virtue of *Eightfold Architecture* is that of Right Intention. Right Intention deals with using the knowledge gained from the previous architectural considerations in developing intentions that will produce the most positive results in the built environment. It is important to understand that our considerations have large physical and social impacts. Our intentions must keep these physical and social impacts in mind at all phases of the design.

The third virtue of *Eightfold Architecture* is that of Right Appearance. Appearances are often what people think architecture is. As knowledge grows about what architecture needs to consider it becomes clearer that there are a lot of other aspects besides appearances at work regarding architecture. However, through appearances we create environments that can cause positive and negative experiences. So appearance do seem to be a very important piece of architecture. The appearance of architecture can have a profound impact on life. People inhabiting a building are exposed to the different psychological factors that color, size, smell, and light can impose on them. Also, having nature present in or around your building can reduce stress in occupants. (Wells, 2008). In order

for a built environment to be successful and convey virtue it must be formulated from ethical considerations. It is important that the appearance of our buildings do indeed create beautiful environments that have positive mental and physical results.

Forming an appearance of a space must work hand in hand with how the space operates. The fourth virtue of *Eightfold Architecture* is that of Right Operation. As an architect develops the appearance of a building it is important to understand how the building is intended to operate. It is necessary for the building to serve its function well. It is also necessary for the building to operate for everyone. This means it is important to understand how people may move through the space. The building must allow for people to move through the space with disabilities and without disabilities. Moving through space leads to how buildings also play a role on our physical health. The location and walkability of the building can lead to health factors that must be thought of. The safety and accessibility of the building can also keep people safe from harm. Along with this, it is important to consider how a building will smell, sound, feel, and look at different times of the day. Perceptions are unique to the individual so it is important to keep in mind how different people might perceive the space or how the perception of the space might change over time. How the building operates can highly effect how people perceive the space. Also, it is important to think about the impact your building has on the site's plant life or animal life. (Wells, 2008).

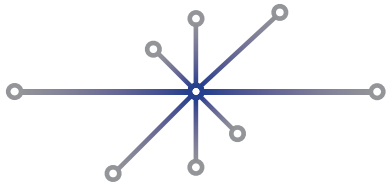
The fifth virtue of *Eightfold Architecture* is that of Right Sustenance. It is not only important for the building to appear and operate in the right way but also to sustain itself in a virtuous manner. It is important for a building to use energy efficiently and not deplete the environment of important resources. It is important to understand what are the ways buildings can negatively effect the environment so this is not the case with future designs. Buildings are responsible for 40% of the world's energy consumption and one third of the world's carbon dioxide emissions. Excessive carbon dioxide emissions are heating up our cities and creating smog which then negatively effects life. By heating up our cities more air conditioning is needed and therefore more energy. Architecture has been know to use water inefficiently as well. By understanding that these are problems positive design working against these factors can be accomplished. ("Environment For Beginners," 2013). Along with this the building must be built to sustain itself. The materials in the building must be durable as to allow for a long life. With a long life it is almost certain that some changes may occur in the building. The building should be built with these changes in mind. The building should not be built so statically that no other function than the one it already serves can be successful.

The architect should think about the potential transformations the building might undergo in the future so to be prepared for sustaining itself through these transformations as well.

How will you and others interpret the space being created? This is what the next virtue of *Eightfold Architecture* is based off of. The sixth virtue of *Eightfold Architecture* is Right Interpretation. It is important to understand how you, others, community members, visitors, residents, and anyone may interpret your created environment. It is important that the design conveys virtuous results to everyone with the considerations of the necessary sustenance, operations, and appearance of the building and does not make a negative statement on the buildings environment. Architecture should promote lively conditions into objects. It should be a goal of architects to create environments where people can interpret these lively conditions from the objects we create.

The seventh virtue of eightfold architecture is Right Application. Once all of the necessary components of design are on track with the path of *Eightfold Architecture* the final application needs to be laid out. It is here with this final design that it is important to see if the application of all the previous rights created a virtuous building that will promote good for its users and for its environment. It is important to make sure that this building does not damage but enriches nature.

The last right of *Eightfold Architecture* is Right Production. This is the phase of design that speaks to actualizing the building in a virtuous, respectful, and mindful manner. The production must utilize sustainable practices and minimize waste as best as possible. It is important for the building to be built with care so there is not flaws that can produce undesirable results later so the building can live in harmony with its users and environment.



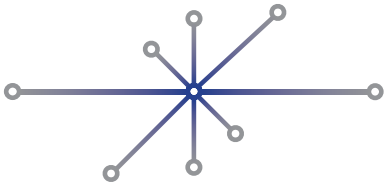
Summary

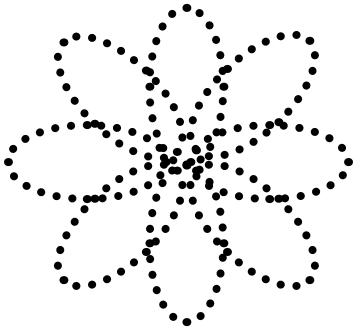
The information that was located previous to *Eightfold Architecture's* theoretical premise and unifying idea research was all very important information that was necessary to form an idea for what path would be necessary to follow during this research. The information leading to the theoretical premise and unifying idea research did its job in leading me towards ideas that would give me something I was interested in and ideas that were fruitful to other parts of the project. I have understood this research to be a very important middle step in this book. First came the basic research, thoughts, and ideas that were necessary to understand the scope or the vision of the project. This research was the next step in the necessary process. This step is learning the very important ideas that will influence your desin intentions. This step is becoming experts in the topics we have chosen to guide our thesis. What follows this research is important particulars that also helps in the process of becoming an expert in the thesis topic.

In summary to the theoretical premise and unifying idea research, this thesis has made the claim that by re-birthing structures that have been vacant we can bring new life, with the means of *Eightfold Architecture,* to not only the building, but also transitional areas of our cities. In order to develop the concept I have created of *Eightfold Architecture* it was necessary for me to find a concept that spoke about the cycle of life. My thesis finds importance in the development of lively architecture so I looked towards Buddhism to see how this religion regarded life. Researching this religion led me to understand that rebirth into life is a cycle called samsara and that in order to be free from this cycle, Nirvana, you must follow the eightfold path that is based off of morality, meditation, and wisdom. The eightfold path is essentially a path of ethics to follow to obtain enlightenment. This made me wonder what a design concept based on design morals would be able to create. Would following an architectural eightfold path be able to create a enlightened or virtuous building that would be the guiding inspiration for me to follow to create a successful rebirth of the Christian Science Buildings? Could the application of *Eightfold Architecture* on this built environment help to create a lively and functional new environment in a transitional neighborhood of Fargo? With these questions, I decided to think about the most important design morals that could be applicable to all built environments and create the concept of *Eightfold Architecture* with them. Would this set of architectural ethic's be able to create a virtuous building?

The goal of creating *Eightfold Architecture* is to create a virtuous building rebirth of the unused Christian Science Building and an addition to this building that will work with my unifying idea that abandoned buildings need a new purpose through eightfold architecture, and with this new found purpose, will come more lively parts of cities that may have been lacking functions due to a transitional location.

As I mentioned earlier, there is another section of this thesis that has more research about the historical relevance, typological needs, and site analysis necessary to this project. Further research and inquiry into developing student unions and the historical aspects of the site will create a project that will work cohesively in its environment and be the base knowledge that will be essential for the onset of designing for a specific building typology with *Eightfold Architecture*.





Case Studies

Langara Student Union

I chose to examine the Langara Student Union in Vancouver, Canada because an extension of the Langara Student Union is situated between two existing classroom buildings on the Langara college campus. The Langara Student Union, with its 17,900 square feet, works as a hub among the campus buildings. ("Langara Student Union / Teeple Architects in association with IBI/HB Architects," 2011). For Vancouver Canada this student union is distinguishable because the architects that designed the building at Steeple Architects decided the best material for this building would have a black color. This is unusual to Vancouver since many of their buildings are made of glass so most of their buildings pick up light blue and grey tones. (Soules, 2010).

The Langara Student Union is similar to the other case studies I chose because like all of the other cases a large part of the project was how this building would interact with the existing buildings on the site. This student union needed to work as a hub for the campus so cohesion was necessary for this student union to be successful on this campus. However, this building differs in that this essence of a hub meant creating a flow of moving through the space. It was important for the students to flow through the different buildings on the campus and flow from inside to outside with ease by the use of this building. ("Langara Student Union / Teeple

Figure 4.01

Architects in association with IBI/HB Architects," 2011).
As mentioned earlier, the Langara Student Union works as a hub among the different campus buildings of Langara College. The Langara Student Union brings flow and unity to the campus from its unique design that was inspired by some challenging elements that are located on its site. This flow and unity was not the easiest creation because of the challenges the many different ground elevations created. The use of ramps and stairs in an elegant and sleek fashion is how the Langara Student Union's design overcame the large shifts in elevation. These ramps and stairs serve their purpose straight forwardly when it comes to function but their less straight forward function is the unique outlooks onto the campus that they create. (Soules, 2010).

Figure 4.02

The physical design of the Langara Student Union was largely based off of the site but the other design considerations that went into this student union that make this building quite unique is it's sustainability features. This student union hoped to have large energy savings and as minimal as possible greenhouse gas emissions. This building found it logical to use a new heating and cooling system called Thermenex. Thermenex stresses to build an efficient envelope that uses glass sparingly and design for optimal usage of lights, fans, and motors while designing aspects to resuse wasted energy. This is exactly what this student union did. Then with the building designed for these features in mind and with the Thermenex your buildings heating and cooling needs are taken care of. The Thermenex works by moving thermal energy from wasted areas to areas where it is needed. Thermenex uses water to move

this heat focusing on the waters temperature as to not be wasteful. Thermenex technology is a pipe that reduces the work needed to move the heat. With the need for fewer components and heating and cooling in one, this system reduces life cycle costs. (Thermenex, 2012). Heat is taken from areas that generate heat, like computer rooms and moved to areas of the buildings that may need this heat. This shift of heating and cooling is used throughout the building.

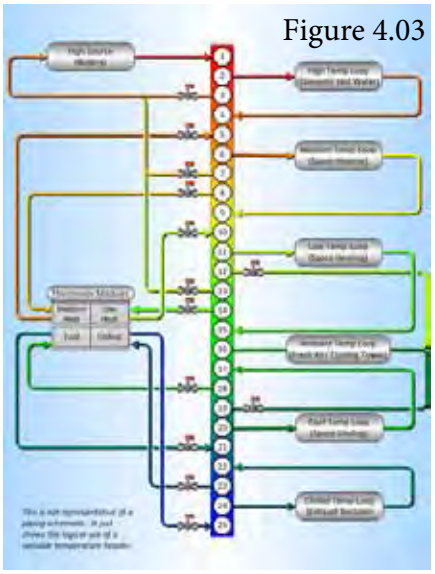


Figure 4.03

This system heats the student union building, one of the existing buildings it connects with, and a few other buildings next to the student union. This building is LEED Gold status and getting all 10 points for energy. Three fourths of the annual heating energy demands of these buildings come from thermal exchange within these buildings.

With my idea of eightfold architecture, sustainable practices working with and shaping design will become important during my design process. The fifth virtue of *Eightfold Architecture,* right sustenance, is about this. It is not only important for the building to appear and operate in the right way but also to sustain itself in a virtuous manner. It is important for a building to use energy efficiently and not deplete the environment of important resources. The concept of *Eightfold Architecture* contains virtuous parameters that are important to architecture that I plan to uphold my designs to. In this case study I learned about a heating and cooling system, Thermenex, that could work relatively well in Fargo, North Dakota since it is operating efficiently in Vancouver, Canada. With the accumulation of the knowledge I gained from researching this student union my unifying idea has stayed the same but this case has expanded upon ideas I have for *Eightfold Architecture.*

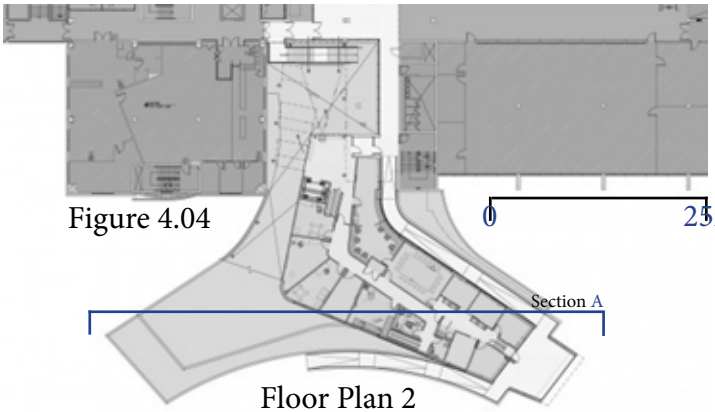


Figure 4.04

Floor Plan 2

Figure 4.05

Floor Plan 1

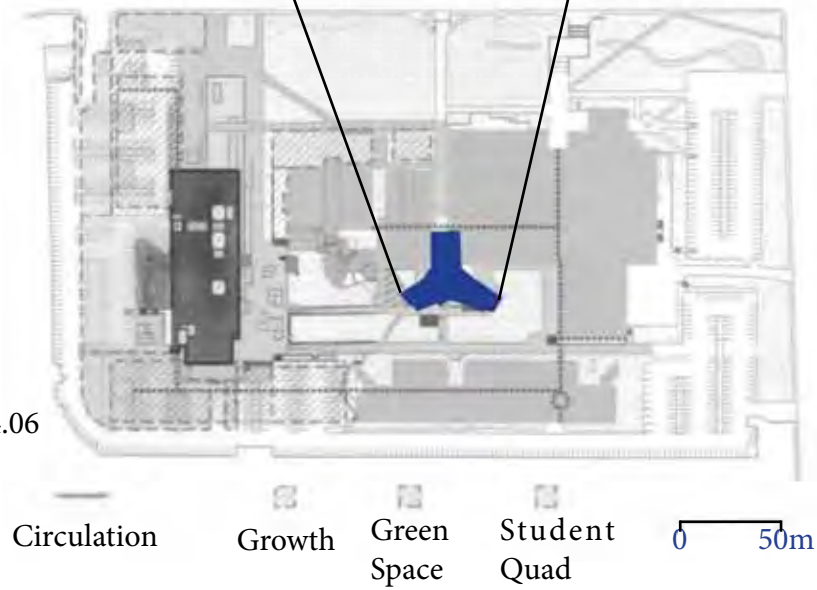
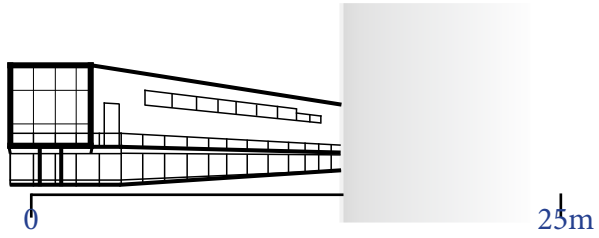
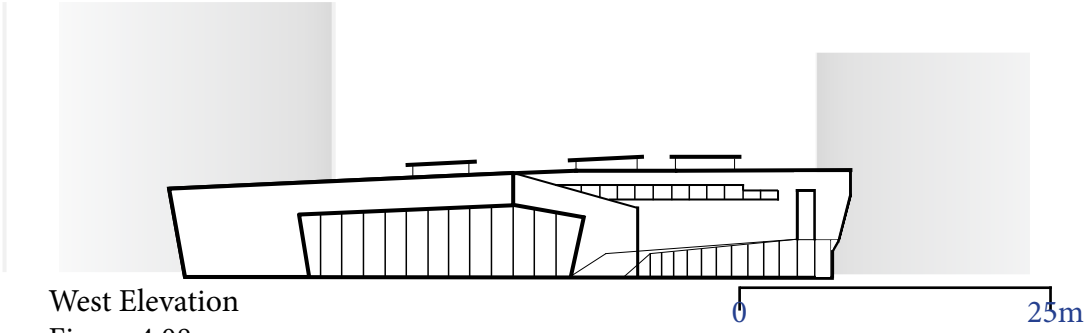


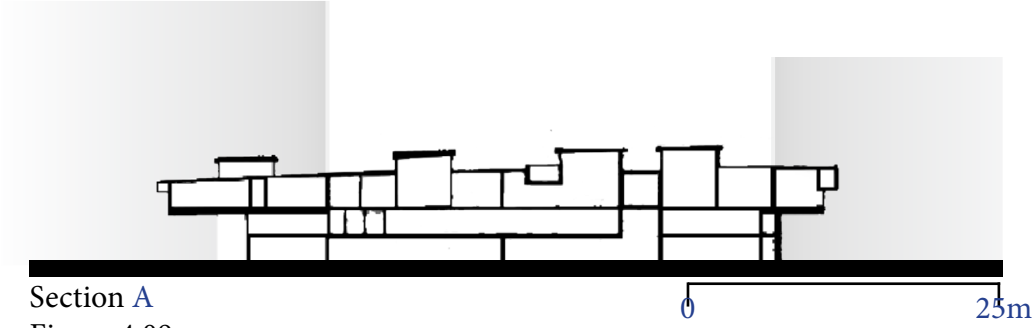
Figure 4.06



North Elevation
Figure 4.07



West Elevation
Figure 4.08



Section A
Figure 4.09

Spatial Diagrams

Figure 4.1

Geometry

Hierarchy of Space

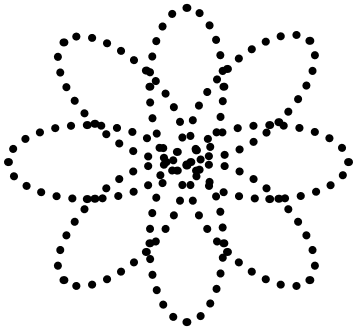
Structure

Natural Light

Circulation

Massing

Plan to Section



Flanders Business School

I chose to examine the Flanders Business School in Antwerp, Belgium because this building was a renovation of a 19th century building that was in need of lots of design work. The Flanders Business School, with its 1,608.07 square meters or 5275.82 square feet, was a unique development because it was important that the design of this building respect the history of the building and surrounding area yet be able to function efficiently for modern requirements of academia. Buro II & ARCHI + 1 with help from Jan de Vloed made sure to keep the important elements of the existing building apparent from the beginning of the design process. ("Flanders Business School Renovation / BURO II & ARCHI+I," 2011).

The Flanders Business School is similar to the other case studies I chose because they all have to do with, in varying degrees, renovating old space for a new purpose. However, unlike the other case studies this renovation was also changing typologies. The other renovations were staying within the same typology. This change of typology for this building is not surprising since this is the oldest buildings of all the case studies I chose being built in the 19th

Figure 5.01

century. ("Flanders Business School Renovation / BURO II & ARCHI+I," 2011).

The Flanders Business School's design was largely invented by the social needs of a business school. Modern education has spatial requirements that this business school needed to address by the means of an existing building that had spatial restrictions. It was clear that new infrastructure was needed for the Flanders Business School but it was a desire of the schools to preserve much of the original architecture of a large room on the ground floor and the

Figure 5.02

facades of the building. With the necessary renovations to the infrastructure the design met the modern requirements the Flanders Business School was looking for. The spaces that met these requirement are an auditorium, cafeteria, conference rooms, coffee shop, and office spaces. ("Flanders Business School Renovation / BURO II & ARCHI+I," 2011).

Flanders Business School wanted to be recognize as being creative and dynamic as entrepreneurs. It was important to the school that the design emphasized this creativity and dynamism in an en-

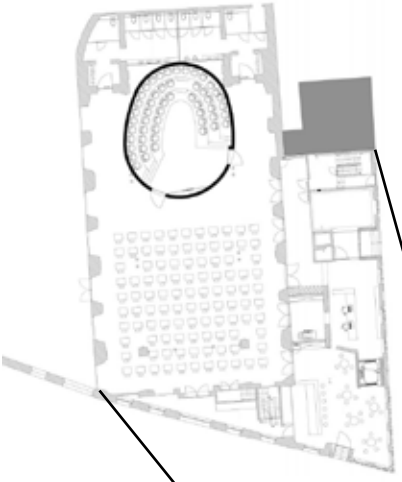
gaging way. The architects designed in a way where the circulation among the spaces and their relationships represented to one another this engagement of it's priorities. An example of this is how one of the conference rooms is semi suspended out of the existing historic building. This is a representation of how the architects found a creative design solution to mixing modern design with the old but still keeping the character of the historic building. Another example of mixing modern design with historic architecture is on the ground level where many aspects of the building were desirable to keep. Here, instead of taking away from the historic large room, a circular room was added. The original room containing this circular room contrasts it's modern organic shape with its 19th century architecture. ("Flanders Business School Renovation / BURO II & ARCHI+I," 2011).

Figure 5.03

Like the last case study, this case study worked well with my thesis and did not alter my unifying idea. I enjoyed seeing ways that architects showed respect to existing architecture by restoring it but at the same time got to use their modern designs. What I found most appealing about this case study was how interesting the modern shapes they designed looked in the midst of a historical building. I would really like to create such an intriguing environment with my design that allows the historical building to look elegant but at the same time showcase how interesting modern design can look juxtaposed next to older buildings. The original building made modern design a challenge because of its spatial limitations and this could be a problem that I run into with my project.

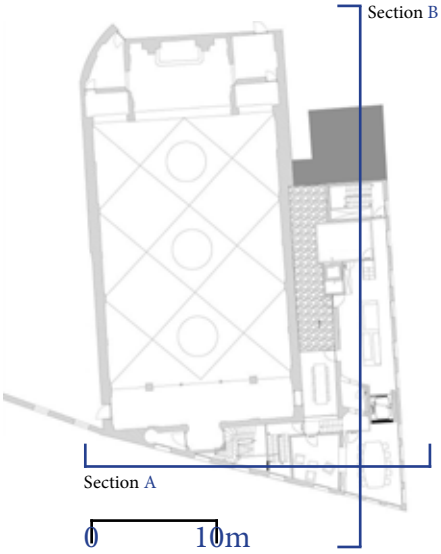
Antwerp, Belgium

Flanders Business School



Floor Plan 1
Figure 5.04

0 10m



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Floor Plan 2
Figure 5.05

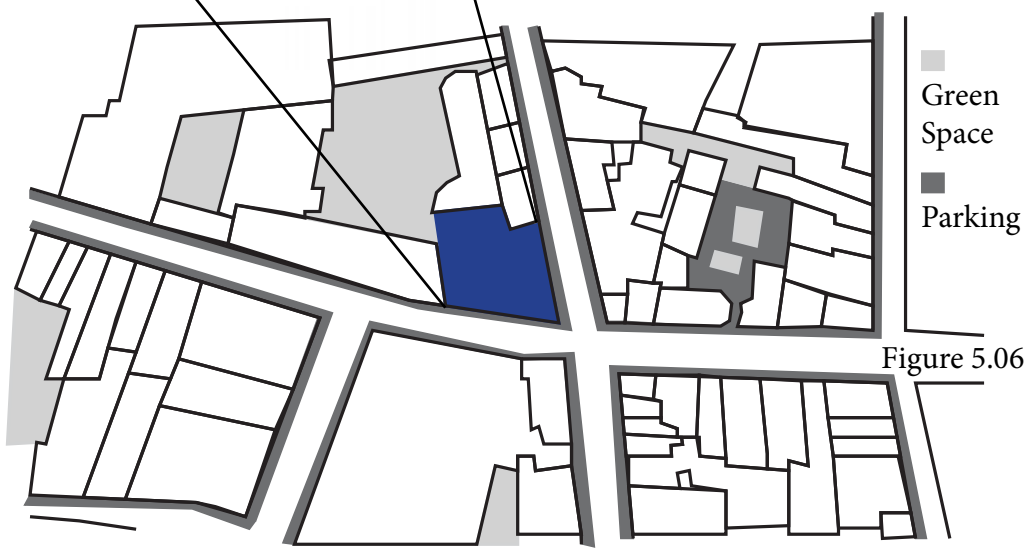

Figure 5.06

Figure 5.07
South Elevation

0 10m

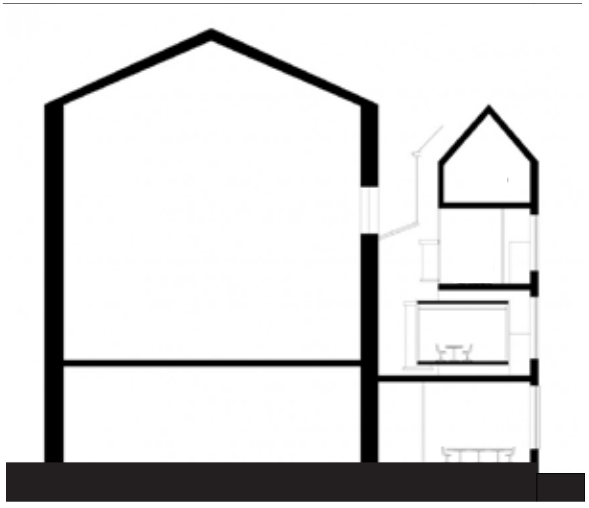

Figure 5.08
Section A

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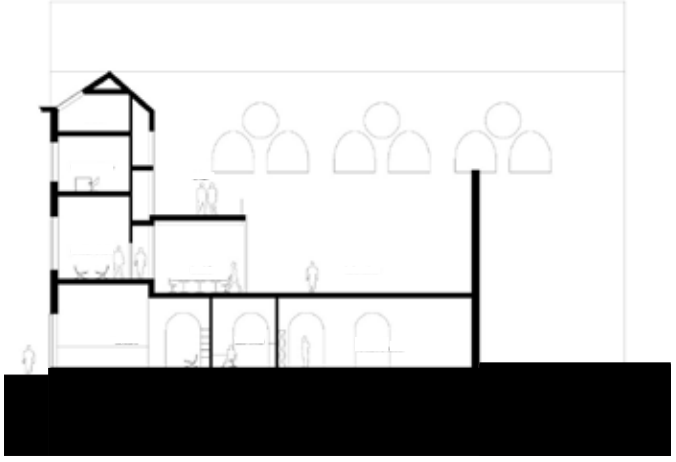

Figure 5.09
Section B

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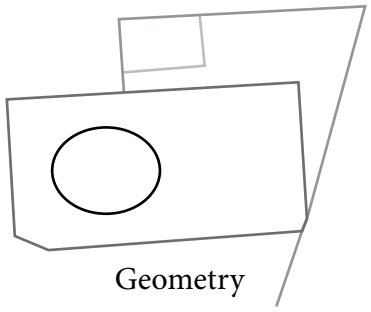
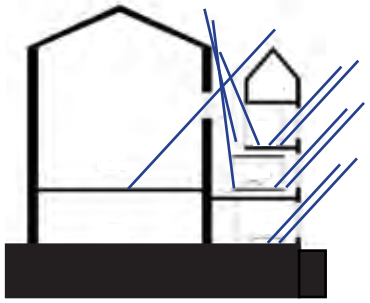
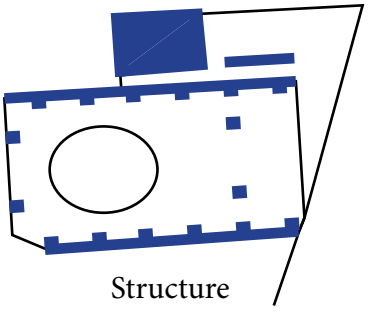


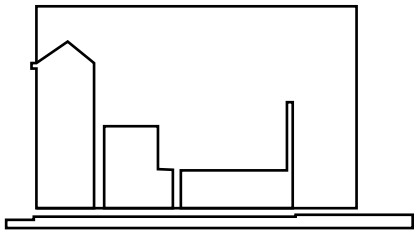
Geometry



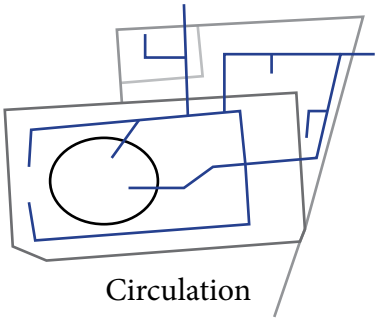
Natural Light



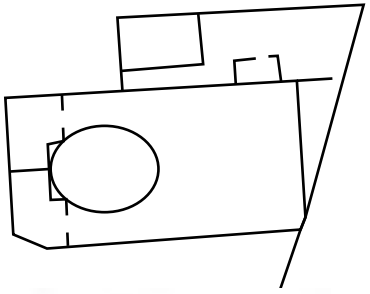
Structure



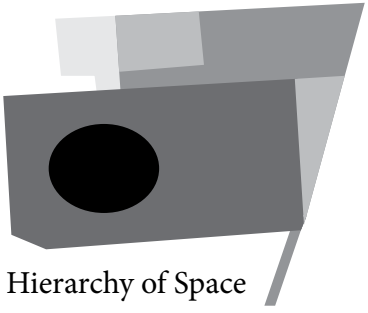
Massing



Circulation



Plan to Section



Hierarchy of Space

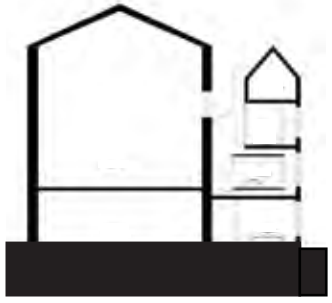
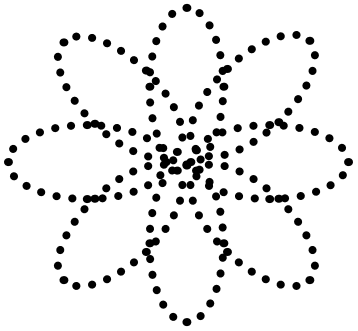


Figure 5.1

Spatial Diagrams

Flanders Business School



Nulman Lewis Student Center

I chose to examine the Nulman Lewis Student Center in Providence, Rhode Island, USA because the building's site constraints interested me and because the spatial restraints were relevant to my project. ("The Wheeler School Nulman Lewis Student Center / Ann Beha Architects," 2011). The Nulman Lewis Student Center is a student center for ages of students just beginning school through highschool. The Nulman Lewis Student Center, with its 5,000 square feet of space to develop on, was a space constraint that Ann Beha Architects decided to make less constraining by using a transparent material to link the existing school buildings that were be renovated with this project as well. The renovation area of the existing space was 5,000 square feet. (Lentz, 2013).

This project is similar to the other projects because it was designed in a way that was committed to sustainability. However, this building is the only one of the case studies that has a green roof that benefits the building by keeping it cooler and absorbs rainwater to help the storm water system. ("The Wheeler School Nulman Lewis

Figure 6.01

Center / Ann Beha Architects," 2011).
The Wheeler school needed a student center for its rising number of students. Several designs from various architects were considered but Ann Beha Architect's design was selected because of it's strategic look at space that would be prime to develop on. The architects suggested using a narrow plot of urban space between the schools existing alumni house and the middle school. Previously this space was wasted, consisting of a concrete slap with dumpsters on it. This student center, on the narrow site, became a functional bridge between the two existing buildings. (Lentz, 2013).


Figure 6.02

It was important that the design of the student center stood out among the historic buildings and did not try to copy their style. The linking building was to stand out but not overwhelm the other buildings. In order for the new student center to not overwhelm the existing buildings but still stand out, certain design features were to be learned from the existing buildings. The student center stood out by being the only transparent building between the existing structures but it's aluminum mullions learned their proportions from these existing structures so there was cohesion among the three. Some sort of cohesive element on the exterior of the

building hinting to how these three buildings worked together was necessary. Inside these three building, with the help of renovations, it is hard to tell the buildings apart because they function as one building. (Lentz, 2013).

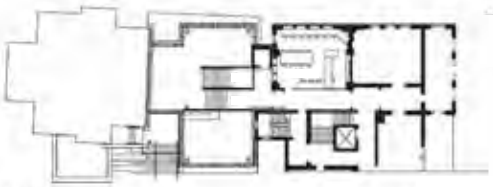
Just as much thoughtful design went into creating this building's interiors. The concrete structure is left exposed to show how the building is structured and to give some insight to students on how buildings are constructed. A steel stair divides certain spaces and connects each floor with the next. ("The Wheeler School Nulman Lewis Student Center / Ann Beha Architects," 2011).

Figure 6.03

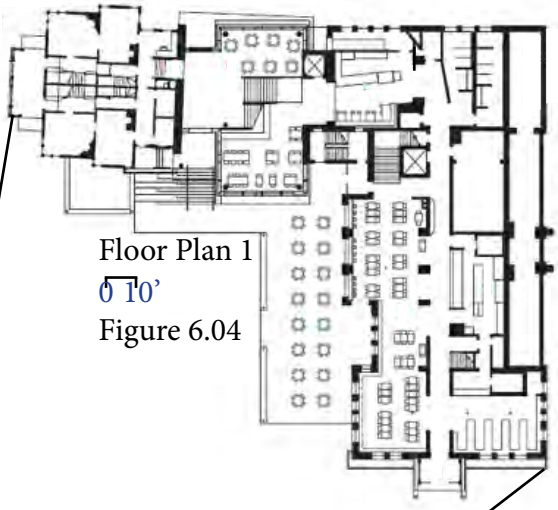
The orientation of the new student center creates interest from the side walk for the Wheeler School. All of the original buildings of the Wheeler School face inwards while the back sides of the buildings face the street. Originally the existing school buildings lacked a building that's orientation welcomed someone into the school. The new student center with it's contemporary clear bridge like space and orientation towards the street welcomes students and visitors from the street into the more private school area. ("The Wheeler School Nulman Lewis Student Center / Ann Beha Architects," 2011).

This student center did not make me change my unifying idea but did warn me about the importance of orientation in designing with existing architectural influences. This correlates to my sixth virtue of *Eightfold Architecture;* right interpretation. I plan to focus on how people will interpret the design. Things like how welcoming a space is because of it's orientation are important to think about if a design is to be successful.

Floor Plan 1 Figure 6.06
0 10’

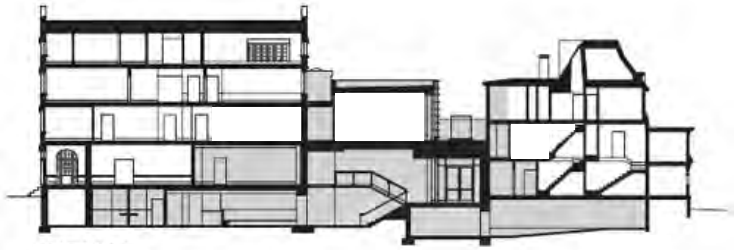


Floor Plan 1 Figure 6.05
0 10’

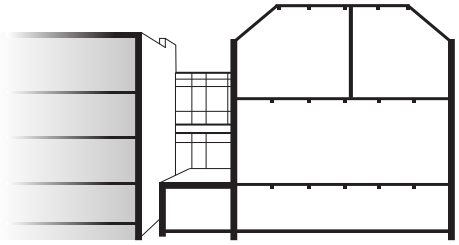


Floor Plan 1
0 10’
Figure 6.04

Figure 6.07
Site Plan
0 20’



Section A Figure 6.08
0 10’



Section B Figure 6.09
0 10’

South Elevation Figure 6.10
0 10’

Nulman Lewis Student Center

Spatial Diagrams

Figure 6.11

Typological Summary

I chose the individual projects within this series of case studies because they all had a unique way of designing either within the constraints of an existing building, beside the constraints of an existing building, or between the constraints of existing buildings. Each of the projects I chose to use for my case study series also had a slightly different typology but they all had to do with being educational buildings. Having these slightly different typologies be a part of one series let me examine how the architects designed for these types and made me see how a collage student union may differ from a student center for younger students or how it may be different from a business school with more needs for conference and auditorium space. These are some of the factors that made me chose these projects to look at for my case studies.

Each one of these projects I chose for my case studies were created in a circumstance where they were to interact with an existing building. The Langara Student Union was the most different from the other two cases in that it interacted with not very old existing buildings. The other two cases interacted with historical buildings. The site I have chosen for my thesis has a historical building on it. In the regard to new buildings interacting with historical architecture the Langara Student Union is not quite as applicable to my project as the other cases. I will need to focus on how a new building can stand out in this context yet not stand out so that it looks awkward next to an elegant historical building. The Langara Student Union did not offer my project much advice in this area. Yet, in other areas the Langara Student Union was very applicable to my project.

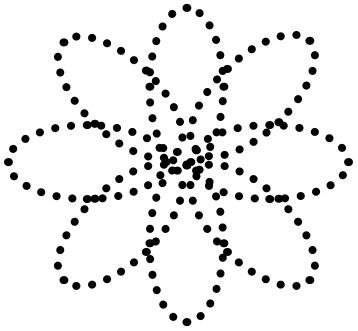
A way that the Langara Student Union case study applied to my project was with having similarities with the means that I plan to create my project. The Langara Student Union is an incredibly sustainable building that is inspiring to my fifth virtue of *Eightfold Architecture;* right sustenance. This case gave me some wonderful ideas on how sustainability

can influence your architecture's form and relation to an environment. This case even further emphasized the importance of me creating a set of parameters to guide my design to be a virtuous building like all the buildings in my case study series.

Another project in my case study series that really spoke to my concept of *Eightfold Architecture* was the Nulman Lewis Student Center. It emphasized one of the virtues of *Eightfold Architecture,* right interpretation. This virtue is a bit more subtle then the more demanding task of creating sustainably but it can have just as big of an impact. It made me realize how important the orientation of a building is. Not only can the orientation effect which side of your building will get the most sun but it can effect how people perceive your building, how people interact with your building, and how people approach your building. Originally the Wheeler school, where the Nulman Lewis Student Center is now located, was unapproachable. It was learned that creating one building with a different orientation then the rest of the existing buildings of the Wheeler School, the school is now understood as welcoming and approachable. The interpretation of your building must be thought about.

The Flanders School of Business was the most different of the case studies in that its typology was not a center or union for students but that it is a business school. Being a building that was a renovation and still within the academic typology made it relevant to this case study series. All of the cases used materials in an interesting way but I found the Flanders School of Business to be the most intersting with its materials. This school was able to use materials in a way to divide spaces under existing structural constraits without creating unusual spaces that did not cohere to one another.

These cases served to lend themselves as important tools in developing my concept of *Eightfold Architecture.*



Historical Narrative

The Evolution of the Student Union

Historical Narrative. This thesis will be examining the evolution of the student union to see how this typology evolved over time and to understand how or if the importance of the roll that the student union has served has changed over time. After researching how the student union has evolved with academia I will look into the history of NDSU and its growth over the years. An important aspect to understand about NDSU was there trasition to the downtown campus and the effects that had on the school. This leads this narrative into understanding the history of Fargo, North Dakota. This will be the historical basis of *Eightfold Architecture.*

Student Unions. Proceeding the development of the college union in America by almost 100 years, Cambridge University in England began in 1815 their development of the student union. The union began as a union of certain people debating against others. Finally in 1857 it was organized to have a formal space built as a student union. It was buit to hold a student area, debate halls, a reference library, a dining room, meeting rooms, a game room to play pool in, some different lounging spaces, and offices. The union is England was centered around creating a space for interaction through debates. "Unions in England have played such a large part in preparing students for participation in public life that they have come to be known as 'the cradle of the British Parliament.'" (Association of College Unions-International, 1982).

The American student union was beginning to be established in 1914 when members of the Ohio States Univeristies Student Union gathered to discuss with administration and student leaders the possibility of a formal gathering and recreation space dedicated as a College Union Building. Since nothing like this had been done before school leaders pushed these students to envision this conept more and talk to people about this conecpt. (Robinson, 2013).

From these beginnings a student union was the student body, the students, of the campus. Without a formal building to hold meeting activities the student body organized and held meetings anyways. The sort of meetings these students held discussed issues like how students raise concerns about different issues, the sharing of solutions on topics, and further development into how to make a formal student union building possible. Clearly, there was a lack of space to hold meeting functions in fueling students driven to talk about academic issues and unions. Eventually these meetings, without a formal meeting space, became an important organization of peers where students got the chance to use self governance, to form leisure habits that benefited society, and work on their

professional skills. (Robinson, 2013).

In 1925 talk about the student union was getting much more formal. At this time the Association of College Unions decided upon what the complete student union's spatial program would consist of. This spatial program was the result of whatever space anyone in the association adviced or wished for a student union to have. Spaces on this list included a barber shop, alumni offices, a candy store, dance rooms, locker rooms, music rooms, a post office, radio broadcasting space, smoking rooms, trophy rooms, art rooms, a bowling alley, and various other activity rooms. Much of these you can clearly see are quite dated spatial requirements! Although England thought of the student union first, America's scope and big imagination for the student union surpasses that of the spatially restricted English student union. (Robinson, 2013).

The most rapid growth for the student union took place shortly after World War II. Universities began seeing much larger enrollment rates so the idea of a student union was logical so these universities could accomidate the rapidly rising amount of students at the universities. (Association of College Unions-International, 1982).

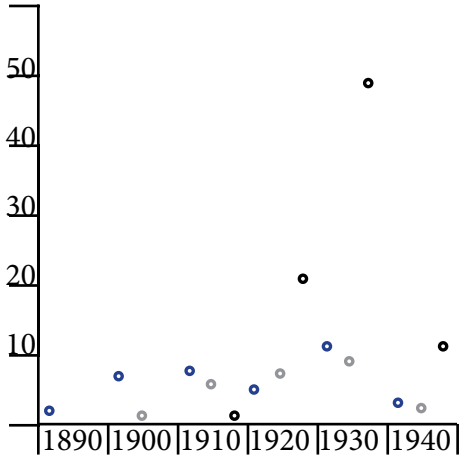


Table 7.00
Construction of Student Unions By Year.

- Woman's Unions
- Men's Unions
- Coed Unions

NDSU History

NDAC to NDSU. The development of North Dakota State University was begun in 1890 when North Dakota's first land grant university was established. The mayor gave one square mile for the campus of NDAC. ("History, 2013). This was known as North Dakota's Agricultural College (NDAC). This college was created "to teach such branches of learning as are related to agriculture and the mechanic arts, in order to promote the liberal education of the industrial classes and professions of life." (Self-study Steering Committee, 2006).

For a winter agricultural course, right as North Dakota's Agricultural College opened, the class size was thirty students. The universities president was Horace E. Stockbridge who worked at NDAC with a five person faculty. A few other courses were taught at North Dakota's Agricultural College at this time. The other classes being offered were chemistry, horticulture and forestry, veterinary science, English, Botany and Zoology, and Mathematics. In 1892 Old Main, which is still serving as an administration building, was completed. (Self-study Steering Committee, 2006). With the formation of the Athletic Association in 1893 the college had more organized athletic programs for the students to participate in. There are pictures of the men's track and field team from 1894 that can be viewed on flickr under NDSU University Archives. Also in 1894 the first organized football game was heald between North Dakota's Agricultural College and the University of North Dakota. A woman's track and field team was developed a little more then a decade after this in 1908. ("Bison Athletics," n.d.).

Alfred G. Arvold began working at NDAC in 1907. In 1914 he founded the Little Country Theatre on campus. Arvold brought world famous entertainers to NDAC. Besides teaching at NDAC he wrote and produced plays as well as developed the Public Programs series. ("Alfred G. Arvold - Professor, Entrepreneur, Community Leader," n.d.).

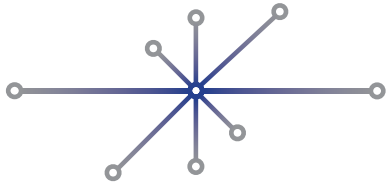
North Dakota's Agricultural College had a history of growth. During the time John H. Worst was president of NDAC and enrollment was on the rise. Ten new buildings for the college were built and the staff of the college tripled. In the following years the collage continued to be a success and in 1915 North Dakota's Agricultural College became accredited by the North Central Association of Colleges. This meant NDAC could award four year degrees and master's degrees. (Self-study Steering Committee, 2006).

Unfortunately the school began to have some problems after the stock market crash in 1929. Much

of the school's budget for salaries and operations were cut. This created conflict between the college's president of the time, John B. Shepperd, and the Board of Administration. In 1937 Shepperd resigned from his position as the college's president and seven faculty members were fired from North Dakota's Argricultural College. With all of the disorder at NDAC the college was temporarily taken off the accreditation list of the North Central Association of Colleges. From strong studentand alumni support the schools reputation began to strengthen after the hard times in the 1920's. While Frank L. Eversull was president the college, NDAC regained back it's accreditation in 1939.

In 1960 there was a vote on if the name of the college should remain as North Dakota's Agricultural College or if it should change to North Dakota State Univeristy of Agriculture and Applied Science. The name was voted to change. At this time the school was continuing to get larger and five doctoral programs became accredited. Expansion of the campus was and still is common place for NDSU. (Self-study Steering Committee, 2006).

Growth and success, as I mentioned, was commonplace for North Dakota State University. In 1999 when Joseph A Chapman became president of NDSU the school became "a progressive campus based on innovation, partnerships, and commitment to excellence." (Self-study Steering Committee, 2006). Chapman had high aspirations that he pushed NDSU to achieve. These apsirations were to advance to the Carnegie Doctoral/ Research-Extensive Classification, achieve a national and global reputation, achieve enrollment rates of 12,000 students by 2006, adjust salaries to a middle range, develop more partnerships, and increase philanthropy. Numerous new buildings were built when President Chapman was at NDSU. (Self-study Steering Committee, 2006).



NDSU Growth

Transformations On NDSU's Campus.

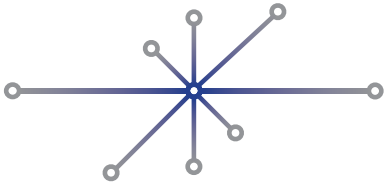
"North Dakota State University is a vibrant institution of higher education in a time of dynamic growth and transformation. In recent years, NDSU has experienced a dramatic increase in the number of students, added faculty in the classroom, expanded numbers of academic majors, significantly expanded the number of graduate programs, demonstrated excellence in many areas of research, applied new and better teaching strategies and techniques for enhancing student learning, increased the number of classrooms, and improved living arrangements for students." (Self-study Steering Committee, 2006).

As a reaction to North Dakota State Universities success, major building growth has been occuring on the campus. NDSU is located on 22,053 acres of land. This is quite the difference from 1890 when it was located on only one square mile. ("History, 2013). In 2000, while Chapman was president of NDSU, many buildings were constructed. The Research and Technology Park was a part of this construction. This Technology park consisted of an Alien Technology Research and Technology Plant and another buildings for researching. NDSU also built a wellness center. In 2002, Sudro Hall was remodeled and expanded. In 2003 Minard Hall gained an addition, barns and research plots were added to the campus, and the remodel of the former YWCA building took place so it could house the Criminal Justice and Public Policy Building. In 2004 NDSU's campus expanded downtown and gained Renaissance Hall. The expansion continued on campus as well. Construction was taking place for student living facilities like the Living or Learning Center, F Court, and Bison Court Apartments. A 72 bedroom hotel was also built on campus. "The research team found that during the past five years, NDSU's growth has generated an $800 million impact on the state's economy. The study said NDSU's budget grew from $156 million to $237 million from 1999 to 2004. That growth, combined with jobs created by construction projects and total spending by a larger student body, was shown to support 2,450 new jobs." (Self-study Steering Committee, 2006). In 1999 NDSU had an annual enrollment rate of 9,710 students. ("Annual Fall Term Enrollments," 2013). It was Chapman's goal to obtain 12,000 students by the year 2006. (Self-study Steering Committee, 2006). He was successful with the annual enrollment rate of 2006 to be 12,258 students. As I understand it, for all of this building growth at NDSU to be justified the university needed to have grown 2,290 more students in 16 years, from the years 1990 to 2006. The rapid building was to accomidate the rapid enrollment rates. Currently in 2013, NDSU's annual enrollment rates are

14,629 students. In only seven years NDSU has gained 2,371 students. In less then half of the time that spurred so much growth with Chapman NDSU has grown just as much. NDSU lacks a formal gathering point, or student union, for students spending all or most of their day on the downtown campus. I feel the large and growing enrollment rates at NDSU support this. ("Annual Fall Term Enrollments," 2013).

Moving Downtown.

It was mentioned in the previous section that a part of the NDSU campus moved downtown in 2004. Previous to NDSU moving downtown some important events occurred that easily may not have happened if it were not for people stopping the demolition of buildings. Renaissance Hall was originally the Northern School Supply building. In 2000 this building was going to be demolished. Before this destruction, Doug Burgum bought the Northern School Supply building. Burgum proceeded to spend 1.5 million dollars on this building and then donated it to NDSU. This building now holds the visual arts programs, the architecture program, the landscape architecture program, and the tri-college office. Burgum said this about Renaissance Hall, "This gift was a triple win, it breathed a new life into a historic building, it solved a tremendous need for NDSU and it became the catalytic tipping point in the renaissance of downtown Fargo." (Dawson Insurance, 2009).



Downtown Fargo

Historic Downtown Fargo. The railroad was a large reason why Fargo was settled. This area was settled by the Northern Pacific Railroad because this is where the railroad would need to cross the Red River. ("A brief glimpse into Fargo's early history," 2013). 1871 marked the year that Fargo was settled yet Fargo did not get the title to the land until 1873 when Native American claims to the land ended. The population of Fargo ath this time was only 300 people. (Roberts, 1983).

"The Great Dakota Boom" marked a time of success and growth for Fargo. (Roberts, 1983). This lasted through the 1880's. Bonanza farming was promoted in the Red River Valley so Fargo became the distrubution point for all the new settlers. What is now Main Ave was the most used street that ran through Fargo. Fifty new buildings, designed in styles like gothic and italianate, were erected in 1878 to accomidate this rapid growth. The prime location for business spread from what is now Main Ave to Broadway when Northern Pacific's Headquarter's hotel was built there. The tracks at 5th street North were built in 1881 through 1882 which further enhanced Fargo's success. (Roberts, 1983).

Fargo grew to 8,000 people by 1892 and the city was really transforming. The city had large wooden sidewalks, an opera house, a shakespearean society, saloons, fire companies, a board of health, two colleges, and 227 telephones. Most of these buildings were woodened framed. (Roberts, 1983).

In the next year Fargo would almost be destroyed. On June 7, 1893 a fire started on what is now Main Ave which was then called Front Street. (Roberts, 1983). There was a strong south wind that day and most of Downtown was destroyed within a few hours. ("A brief glimpse into Fargo's early history," 2013). More than three million dollars was lost on property. Luckily, most of these buildings were insured and with the help of the insurance companies and the determined people of Fargo the city was able to rebuild itself. (Roberts, 1983). After the rebuild of 246 new buildings within one year, the city was back to being an attractive place. ("A brief glimpse into Fargo's early history," 2013). Within eight years Fargo's population doubled and business continued to grow. (Roberts, 1983).

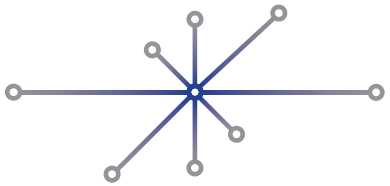
Fargo had learned its lesson when redeveloping aspects to the city. The city, with disaster in it's hindsight, created new sidewalks of a material that would not burn—concrete. Firewalls became mandatory every fifty feet of built space. (Roberts, 1983).

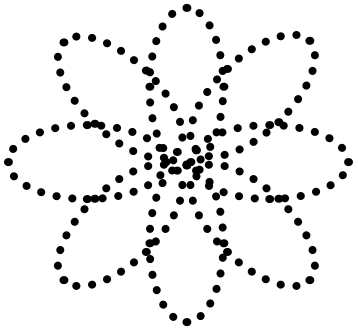
Renaissance Zone.

Fargo created the Renaissance Zone in 1999. The purpose the Renaissance Zone in Downtown Fargo is to revitalize not only buildings but the downtown of Fargo as a whole. (Pfennig, 2013). The Renaissance Zone of Fargo is a zone of buildings that are among some of the older buildings in Fargo that have great potential for reuse and revitalization of the city. "The Zone contained a combination of commercial, retail, and residential properties that were deemed to have high redevelopment potential. The boundary was recommended by the Renaissance Zone Advisory Committee following an exhaustive evaluation, ranking, and selection process." ("Addendum of 1999 Fargo Renaissance Zone Development Plan," 2003). The Renaissance Zone, in the downtown Fargo area, is a zone of buildings that give property tax and income tax incentives to possible investors in hopes of creating a more dynamic downtown. ("Addendum of 1999 Fargo Renaissance Zone Development Plan," 2003).

Christian Science Building.

The Christian Science building was built in 1914 by local architects Hasby and Gillespie. ("Property Summary," 2008). "Like the Boston edifice, the Christian Science Church in Fargo boasts bold columns that remind one of the ancient Greco-Roman worlds and incorporates a dome-shaped structure atop the building. From left to right, the structure is symmetrical, both inside and out." ("Churches' diverse architecture adds to worship experience," 2010). This is a little about the asthetics and symbolism of the Christian Science Buildings. Much of its linear edges and arches have to do with the need for simplicity in the Christian Science religion. This building was put onto the market by the Christian Scientist's of the area since it was larger then what was needed for them. ("Churches' diverse architecture adds to worship experience," 2010).





Goals of this Thesis

Introduction.

The goals for this thesis project have been developing since I started thinking about what I could do for my thesis. This was probably sometime in fourth year. Back then my goals were simple like I hope to pass the class or I hope I do a project that keeps me interested. When I really started to develop larger goals for my thesis project was the summer before fifth year. I started to look at past projects and to understand the scope of a thesis project. I started to understand that what makes a thesis project really special is how there really is room for the individual to follow and discover their own passions in the project. I like that our personal goals for this thesis project are included in the thesis book. I think that it is very important for us to have strong academic goals that we have been learning to strive for for the past five years. I think it is important that we have developed professional goals since this is what we are working towards. I think that this project allowing for personal goals is what makes it really unique.

Academic Goals.

My academic goals for this thesis project are a bit more formal and straight forward then my professional or personal goals. I hope that my thesis project leads me in a successful direction of inquiry. Along with successful inquiry, I hope for success in my final thesis class. I plan to work at this project until it is successful.

I hope that this thesis can be relevant to others in academia. I would like for this thesis project to hit home with other people's goals for their project. I hope that it could be useful to other students in the future.

I want my thesis project to be a series of discoveries. I want these discoveries to work with the skills I have already gained through school yet challenge these skills so that I have room to grow with this project.

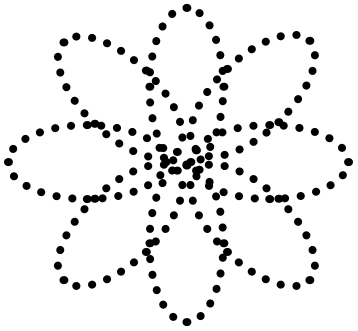
Professional Goals.

I have a few professional goals and hopeful outcomes for this thesis project. I would like this thesis project to further emphasize that I should be an architect, even if it is just for a little while. And of course if it is for a long while too! I would like this project to inspire me to bring my different passions into the workplace and to not forget about each one of these passions. I would possibly like to get a post graduate degree after working and trying towards my license. I hope that this thesis project helps me to discover different areas I could focus in for this endeavor.

I hope that this concept of *Eightfold Architecture* is not something I just discard after this thesis project. I would like to continue to keep in mind this ethical way of looking at architectre so that I can one day actually build a building that would be considered virtuous architecture.

Personal Goals.

My main personal goal for this thesis project is to get to explore my personal value and interest in ethics and try to work with the application of the concepts that ethics inspires in an architectural environment. I feel that by allowing myself to explore a concept that I really care about for this thesis project that I wont be able to have a dull moment. By choosing a topic that I truely care about on a personal level and bringing that into an academic and professional level, I feel I will do everything in my power to create a well rounded and nourished thesis project. When finished with this project I hope that this thisis project has lead me into different avenues of research that I did not expect and that these different avenues can be important areas of inspiration to me.



Site Analysis

Site Narrative

My sites, surrounding 1st avenue South and 9th street, are located in a built urban zone. The site, located on the west side of 9th street, has an existing building on it. This is the Christian Science building.

Generally, not a lot of human interaction goes on in either of these sites. There is the occasional person that walks or bikes by to get to a different location. This occurance of the pedestrian on and near these sites decrease even further, to almost no one walking or biking by, in the winter. This area is what I like to call a transitional area of the city. People are in transition while here, either they are coming by or going by. Most of the travel you see in this area is done by the automobile. Since most people leave their travel to the automobile this area can get a little noisy from traffic sounds since two major roads are only about one block away from these sites. These major roads within a block of the sites are Main Avenue and 10th Street. Some of the noise from these important streets carries to the site. The traffic on less busy streets, along 9th street and 1st avenue south, are less loud then the frequintly used streets. There is also an alley that runs along the site seperating these sites from the other buildings.

The site on the east side of 9th avenue is currently a giant parking lot where people can park if they are eating at Mexican Village. It is rare to see more than ten cars in this parking lot that is made for upwards of forty cars. A few dumpsters occupy space in this parking lot as well.

The light quality is really nice on this site. With the surrounding buildings all being relatively short, on average about three floors high, the site is rarely covered in shadows. The sites are surrounded by the shelter of a few deciduous trees that cast small shadows that could, in the summer, offer a bit of shade. However, in the winter these trees loose their shelter-

ing quality with the lack of their leaves.
The views from these sites are aesthetically pleasing to someone who finds beauty in differences. The surrounding built forms are all unique in their types and designs. Of course there is the existing Christian Science building of white plaster on one of my sites. Across the street to the south of the Christian Science Building, constructed of a burnt orangeish red colored brick, is the Native American Ministries Building. Also across the street to the south of the blank site is a light tan brick apartment building and an older white house. To the east of the blank site is the backside of a row of yellow stucco buildings. These buildings have various shops, one of them being Nicole's Fine Pasteries. To the north of the blank site is the white backside of Mexican Village, a ligth brown building labeled 818 main place, and the brown bricked Rede River Health Building. To the north and next to the Christian Science building is a dark brown bricked law firm. There is a lot of brick in this area but a nice variation of colors of brick and overall shapes of the buildings.
The only presence of water on these sites are when it rains or snows. When it rains enough to create water movement, due to the minor slope of the existing parking lot, the water runs into the alley way. When the weather is storming and with high wind speeds most of the water eventually gets pushed to the streets, becuase of the minor slopes of the built area, and drawn to the cities drains. Much of the heavy winds come from the North but this is where one of the rows of existing buildings are so the sites get protected by them. Snow is prevelant on the site in the winter. The southwest courner of the site is where most of the snow that has been dozed ends up. Besides having a number of immediate characteristics that affect the site these sites will be influenced by much of the characteristics of Downtown Fargo. These sites, with these varying site conditions, would work well with a new urban purpose. Most of the exisitng site conditions would lend well to development of the land.

Table 7.01
Temperature

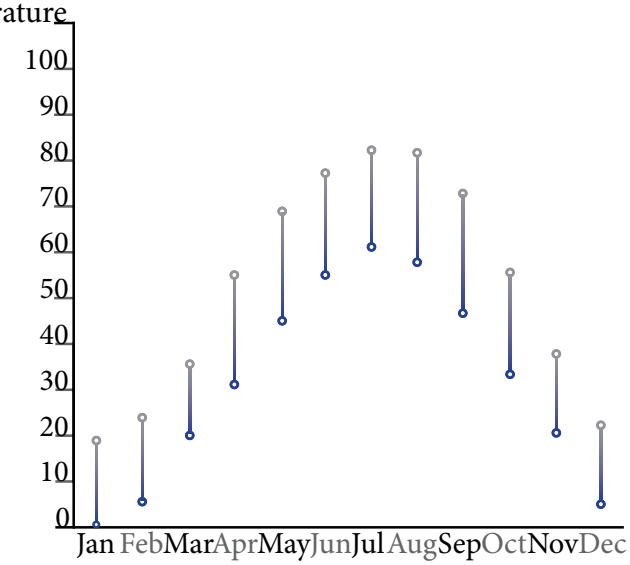


Table7.02
Humidity

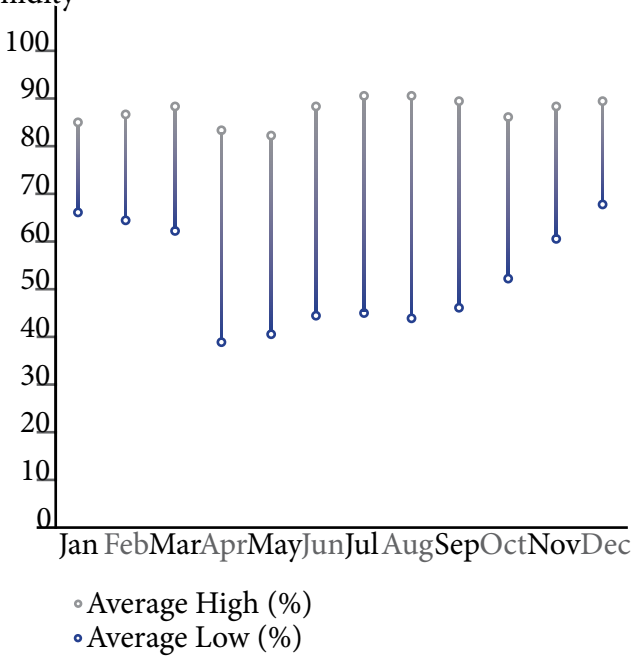


Table 7.03
Precipitation

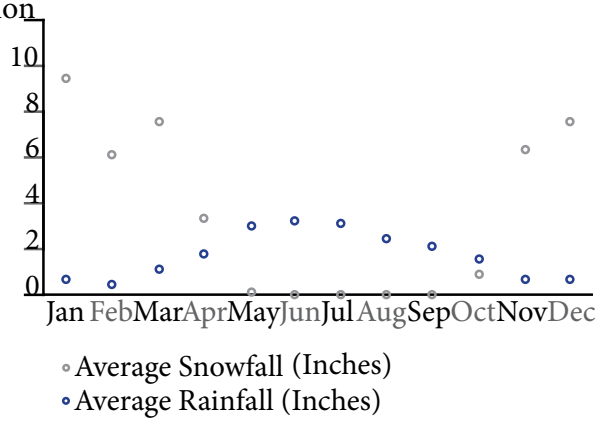
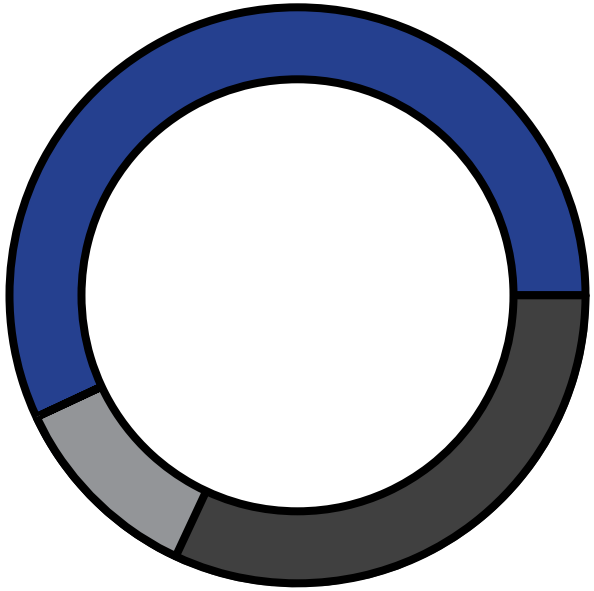


Table 7.04
Cloudiness



57% Sunny
11% Partly Sunny
32% Cloudy

Table 7.05
Wind Speed

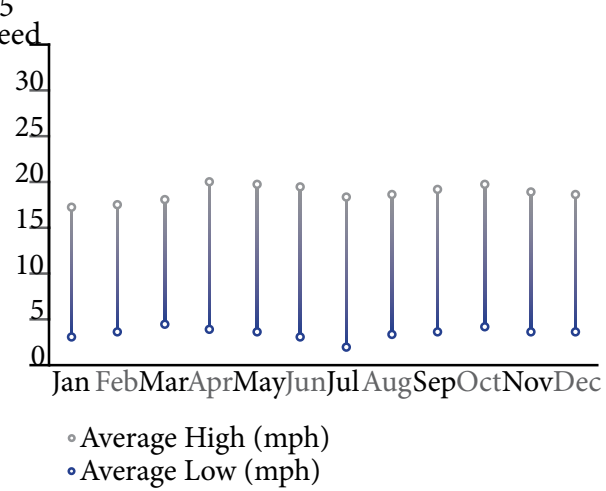


Table 7.06
Wind Direction (mph)

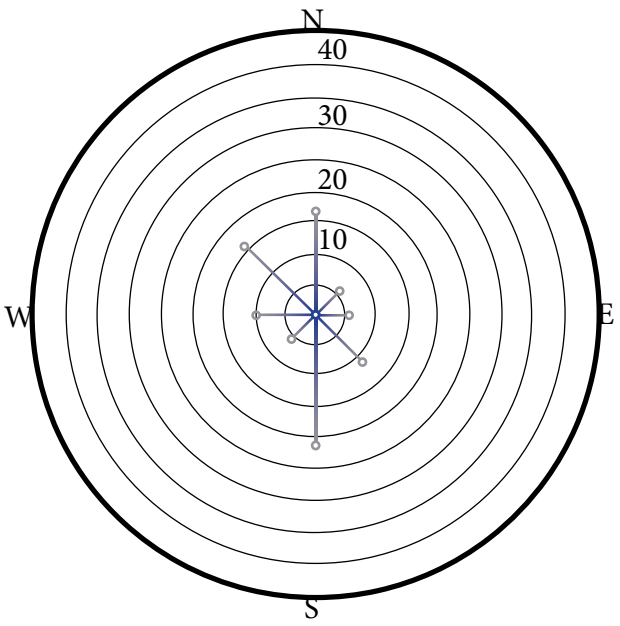


Table 7.07
Sun Path

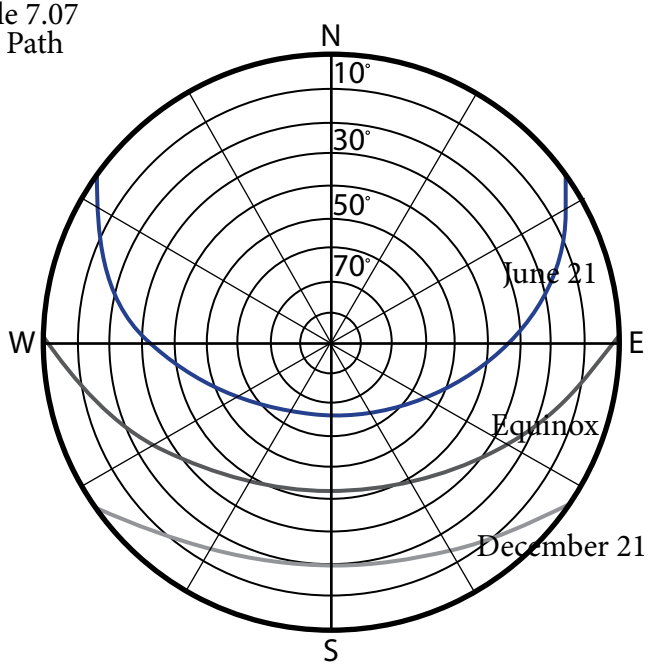


Table 7.08
Slope and Climate
This site has a continental climate. This means it will have warm summers and cold winters.
This site has a 1% slope that is lower on the North side of the parking lot for drainage.

Table 7.09
Shading

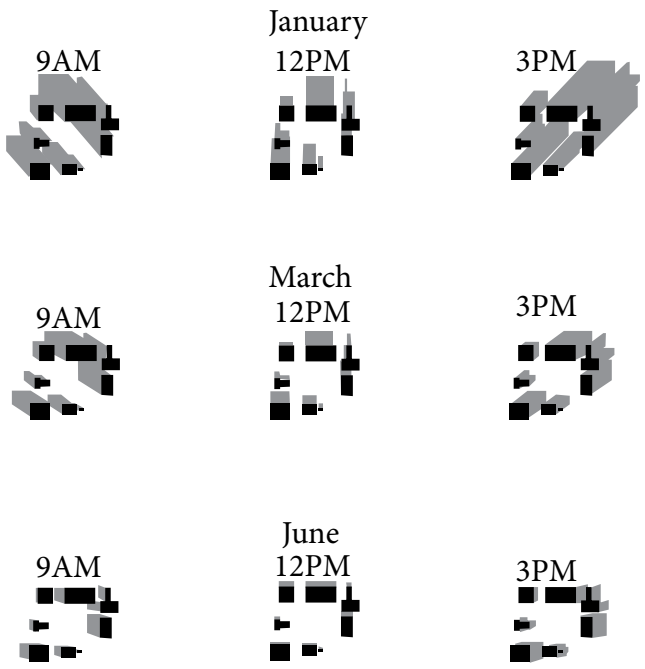


Table 7.10
Noise

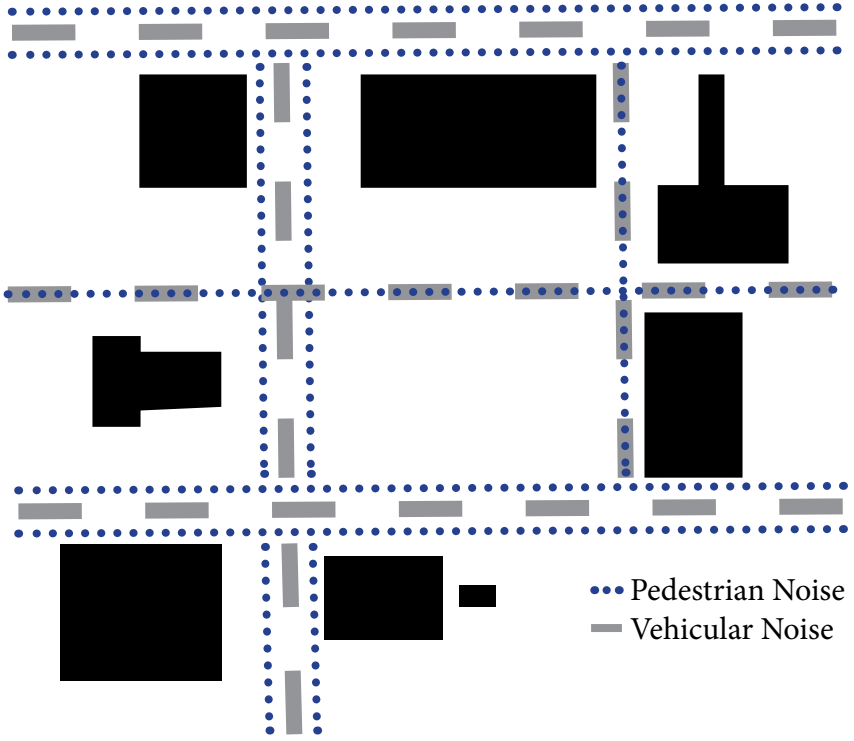


Table 7.11
Topography and Average Air Movement

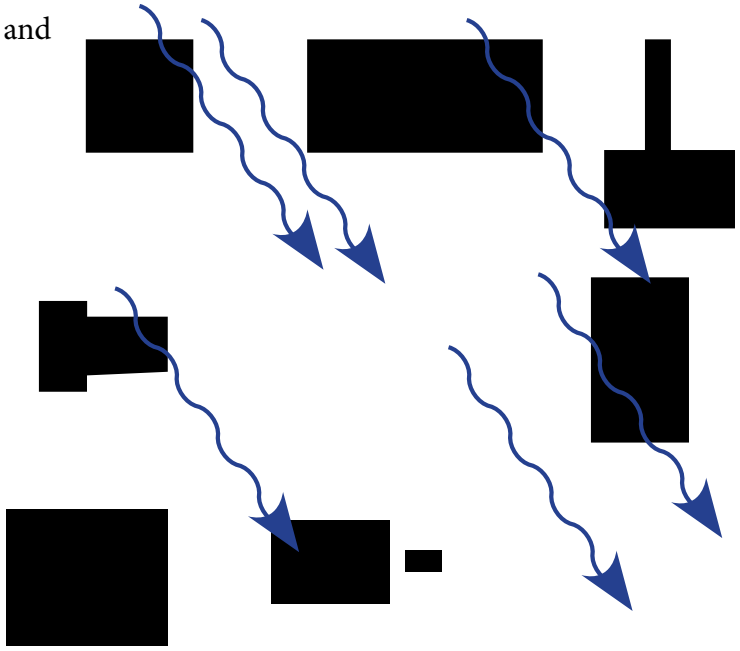
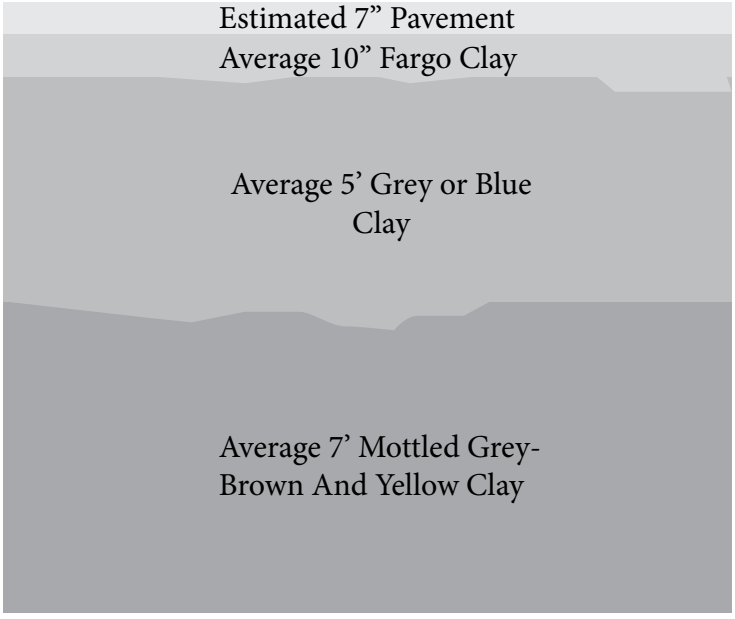
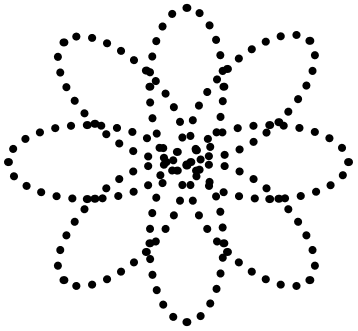


Table 7.12
Existing Pavement & Soil Layers



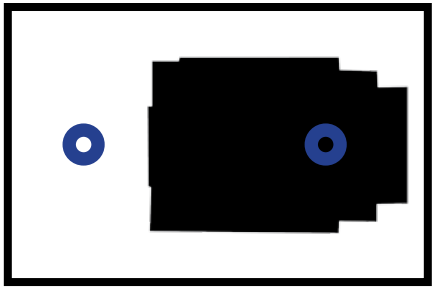


The following photos are the picture I tool while I visited the site one morning. On the east site I tool the pictures from the center of the site looking out. On the west site I tool the picture looking into the site. I felt this method of shooting worked best for showing the important aspects of the sites. The east site is very vacant so a bit of this context is seen from the photos but most of the photo's substance is of the surrounding area. The west site was shot facing in. This was because this site has a lot more interest to it. I wanted to show the existing structure, the Christian Science Building, in these photographs.

I set up a meeting with a man named Jay Nelson from Konrad Olson Real Estate. He let me into the Christian Science Building and let me know the information he knew about the history of the Christian Science Building. As I walked around and took photos of the interior space he mentioned that this building was only around 20,000 dollars when it was first built in the early 1900's. The organ that is being sold with the church costed almost a fourth of what the building cost when it was originally made. Apparantly, there are almost identical churches in other parts of the country as well. While he explained this we walked into the sanctuary that has a giant dome in the center of it. There is a crawl space where you can get to the top of this dome in this attic like space and look down into the church. The dome is lit by a few different colored lights that you can change and that are controlled behind the sanctuary. The basement of this building has extremely low ceilings. They are only about 6 feet tall. There is also no elevator leading to the basement.

I tried to document this site visit the best I could with these following photographs. Jay was very kind and offered to let me into the building again if I had more questions about the structure. (Jay Nelson, Personal Communicaiton, December 16, 2013).

Figure 8.1



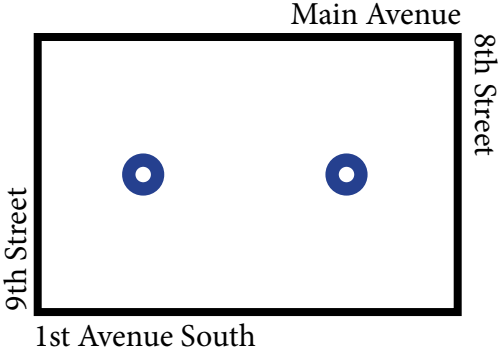


Figure 8.2

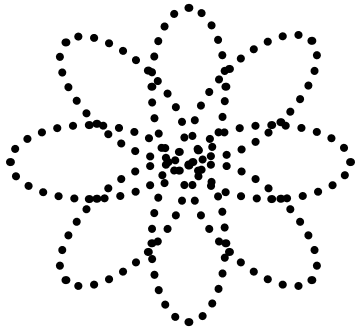
Figure 8.3

Figure 8.4

Figure 8.5

Figure 8.6

Figure 8.7



Exterior
6500 Sq. Feet
Exterior Entries
Parking
Green Roof
Green Roof Useable

Transitional Space
2600 Sq. Feet
Entries
Corridors
Bathrooms
Changing Rooms
Reception, Info, Sales

Scholarly and Technology Spaces
3800 Sq. Feet
Auditorium
Computer Zone
Main Study Space
Gallery
Presentation Space

Business, Operations, and Sales
4000 Sq. Feet
NDSU Store
Bison Connection
Administration
Break Room
Meeting Room

Dining, Recreation, and Wellness
4300 Sq. Feet
Dining Center
Dining Area
Coffee Shop
Wellness Center

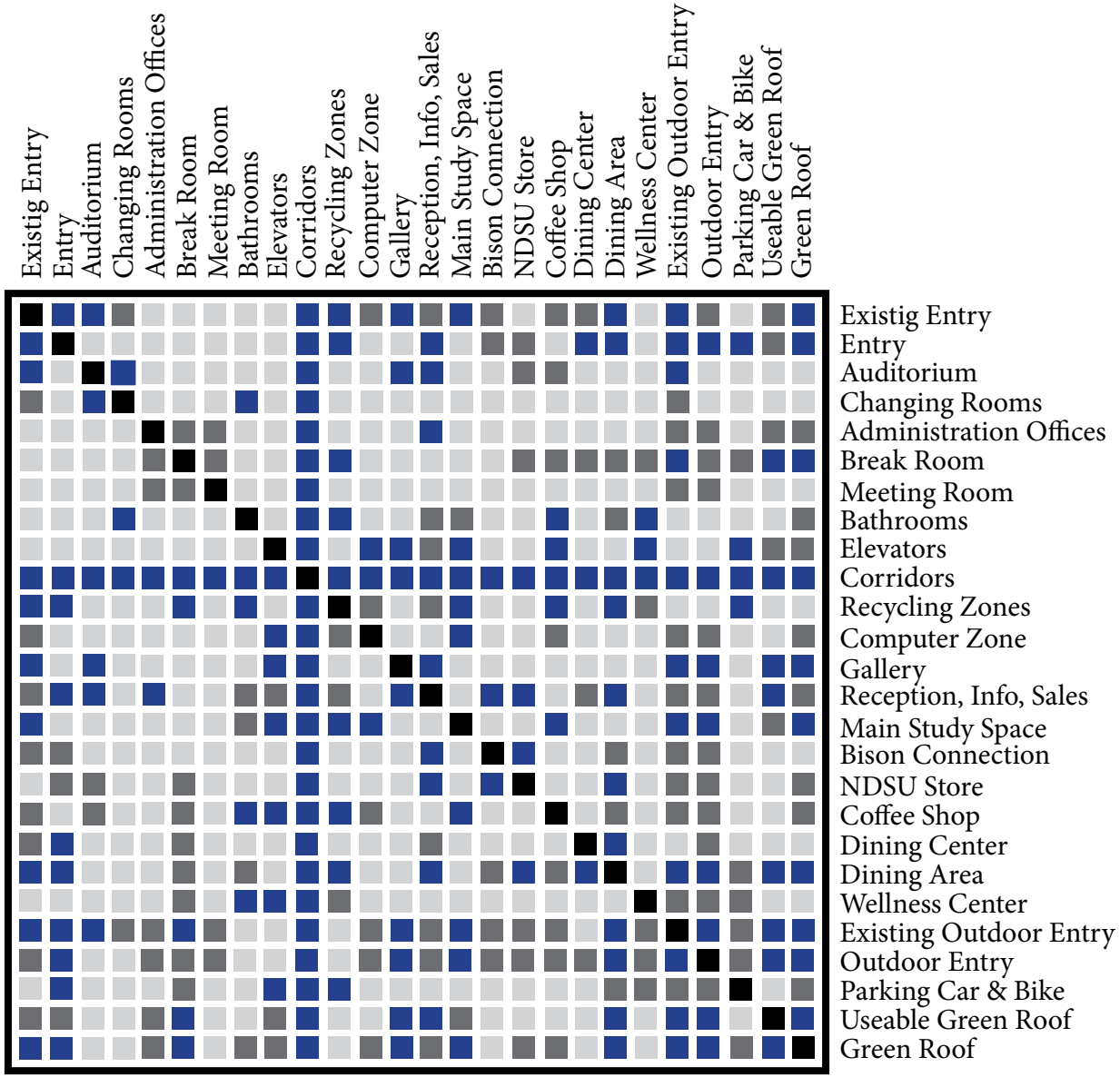


Table 8.1
Interaction Matrix

- Necessary
- Optional or Semi Relvent Space
- Unnecessary

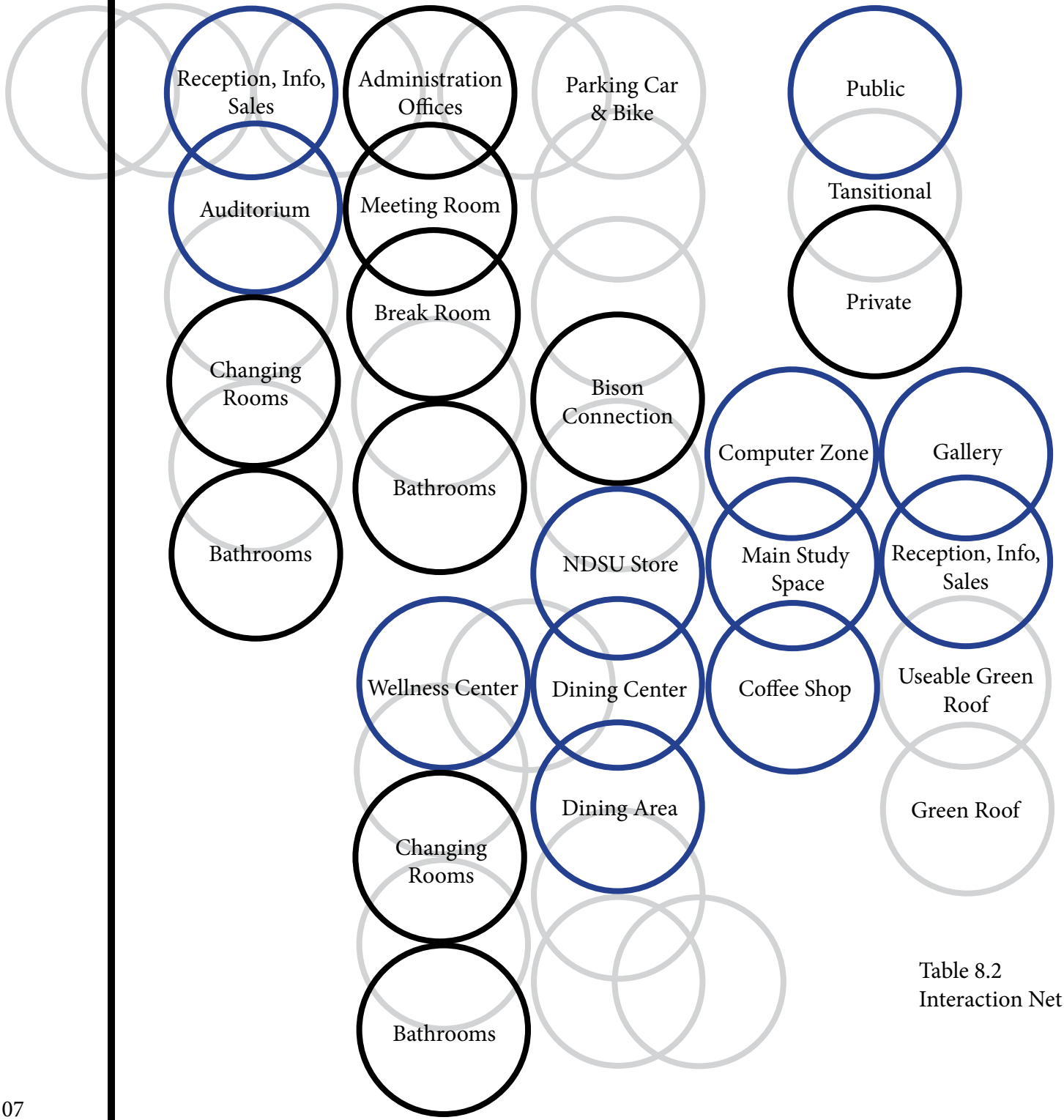
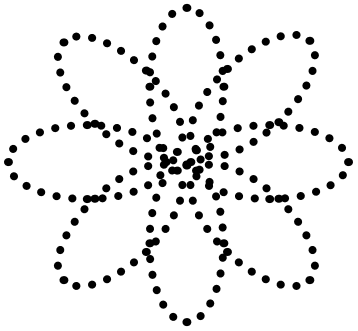


Table 8.2
Interaction Net



Process Introduction

For my thesis I really wanted to find a way of looking at architecture that would help me articulate the way we care about people through design. My thesis investigates our moral commitments as architects. I began by thinking about what I thought were our moral obligations as architects. My conclusions were eight broad principles that I know as Eightfold Architecture. These eight rights, if considered while designing, would push architecture to hold the value of virtue. This would be an environment that is sensitive to it's occupants,site, culture, history, context, sustainability, and future and with this sensitivity the architecture would hopefully be described as having strong moral attributes.

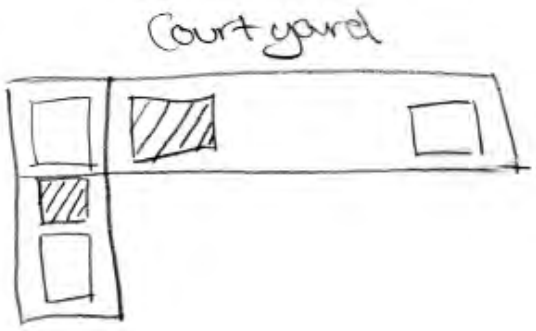
Specifically, my project was creating a 35,000 square foot downtown student union for NDSU that worked as an inhabitable bridge to bring new life to a transitional neighborhood of the south of main area of downtown Fargo, North Dakota. I chose to design while keeping my concept of Eightfold Architecture in mind to meet this goal. I decided while designing to try and focus on a couple principles every week as to take time to address these issues in this project.

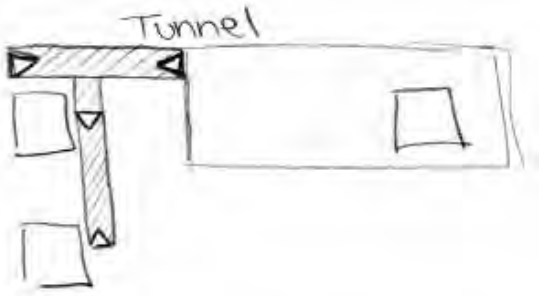
Right Intention

Right Intention is the phase of design where it is important to articulate what your goals are for a project. These goals should produce positive results in the built environment. It is important during this phase to keep in mind that our intentions can have not only physical but also social impacts.

How can the idea of Eightfold Architecture help inspire us to save existing abandoned buildings and bring new life to transitional areas of our city?

One of the first steps I had to face for this project was how to create not only a connection between an existing building and addition, but also a connection between a lively area of downtown and an area where this begins to transition into a less lively neighborhood. I looked at inspiring projects such as the Kolumba Museum to give me inspiration. I enjoyed the idea of leaving a respectable gap where the user makes or is the connection, yet there is not necessarily an obvious physical connection. Through playing with these connection sketches I began to discover the idea of a bridge. I found that the idea of a bridge spoke a lot to my project considering its whole purpose is that of connection. I chose not to visually connect the addition bridge with the existing building as to leave that respectful gap between the old and the new so that the individual user can fill this gap in with whatever meaning they so choose. I found this to be an applicable solution since the students end up being one of the strongest connecting elements of the project. However, I did want there to be a way to access the two buildings without going outside so I did created an underground tunnel.


Courtyard


Tunnel

Right Consideration is the necessary information you need to study about the project to start conceiving a design. It is also important to think about the possible implications of a project. Typical considerations for a project could be its history, typological considerations, site and context concerns, aspirations, the current impact of design, the community, the users, and its future.

A lot of this step of my project was covered in my thesis book. I chose to create a building and reuse a building for a downtown student union because NDSU has seen rapid growth in the past decade. With this growth, parts of the campus moved downtown yet NDSU never added a downtown gathering location for students to study, eat lunch, hangout, see a presentation, workout, or see another students work on display. With this lack of a student union for the downtown campus the students downtown feel less connected to a larger student body.

I chose the Christian Science Building as the building to reuse because this building is a historical building that has been vacant for some time now. This building has spaces that fit like a glove to the needs of a student union. This building is located in the south of main area of downtown Fargo that begins to have a less lively feel but for no good reason in that there are many shops, recreation areas, and restaurants to enjoy. By giving this building new life, as well as creating an addition to serve the space needs of a downtown student union, new life for the area would be sure to follow.

The most informing form idea I had in this phase of design of right consideration came from learning a lot about the history of the Fargo area. Fargo owes much of its settlement to the railroad industry

and to farming. I wanted to make sure that while designing I kept these considerations in mind to best work with the environment in Fargo as well as to work with the occupants.

During these discoveries I began to see the horizontal nature of much of the natural and built environments in the area. I thought that this horizontal shape should hold true for this building as well as to stay within this sense of place.

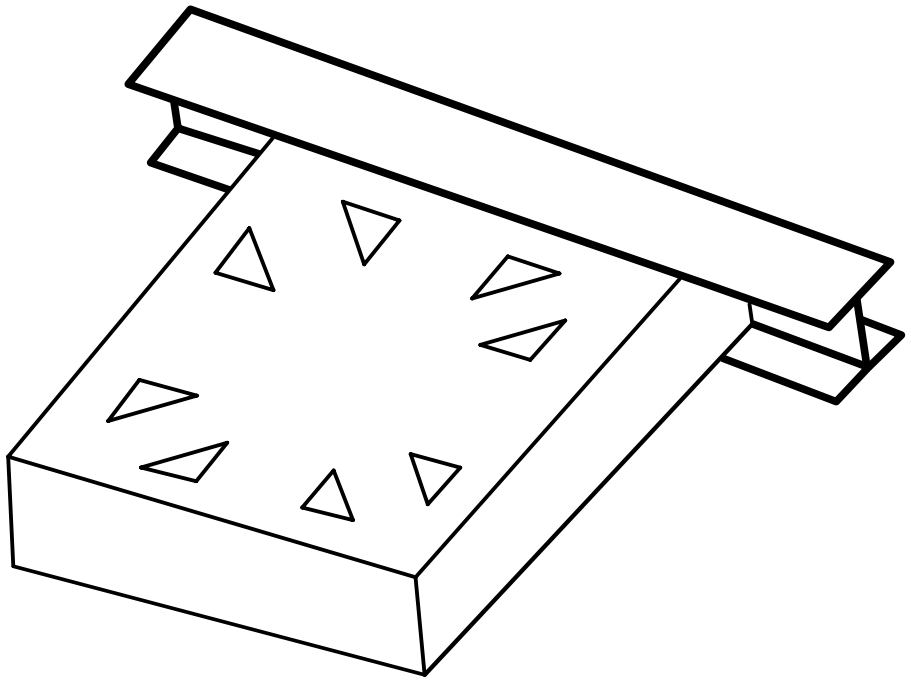
Another inspiring investigation I did within right consideration was to think of the orientation of space with its visual connections to the environment. This led me to start trying to decipher where I should put certain spaces to work best with these visual connections.

Right Appearance

Right Appearance is the consideration into how appearances can affect life and architecture. Appearances are one of the modes in which our architecture gets expressed. Through appearances architecture can cause positive or negative experiences. It is important to be mindful of the psychological impacts that colors, sizes, smells, nature, and light can impose on the occupants. It is important for the physical nature of this building to produce positive mental reactions.

This phase of Eightfold Architecture went on for most of the semester. When choosing materials I would think about what the implications of using that material were such as color, weight, feeling, or size. I chose to predominately use the color blue to represent this project. I thought that this color connected with the nature of the project as well as having psychological effects, such as promoting intelligence and calmness, that could benefit students using the building.

One of my blue materials is glass. I wanted to use it not only for the obvious window material but also within the building to let light flow from floor to floor. I created a floor pattern that would use glass inserts into a concrete floor slab to let some light transfer happen between floors. I decided to arrange these glass inserts in a pattern that would make a connection to the existing building's cornice design.

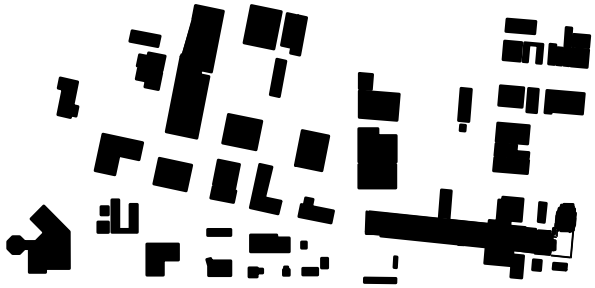


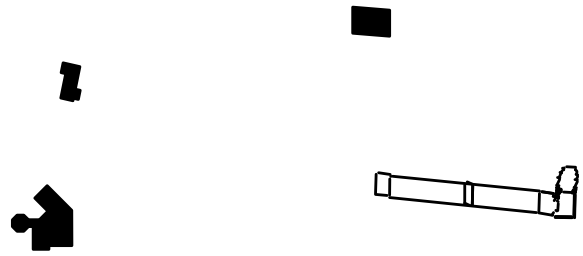
Right Operation

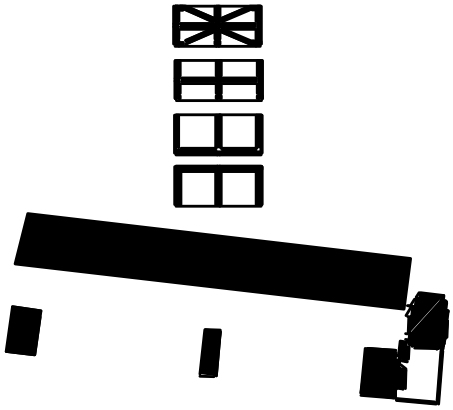
Right Operation is the phase of design where I considered how a building must operate and function for all of its users. It is important to think about how people move through a space so you can evaluate the level of ease this can be done at. How we move through a space can even play a role in our health. Having a walkable location will promote a more healthy way of transporting oneself to and from the building. The building must also operate in a safe way. It must acknowledge worst case scenarios, such as fires, as to be prepared to operate in a way that will keep its users safe.

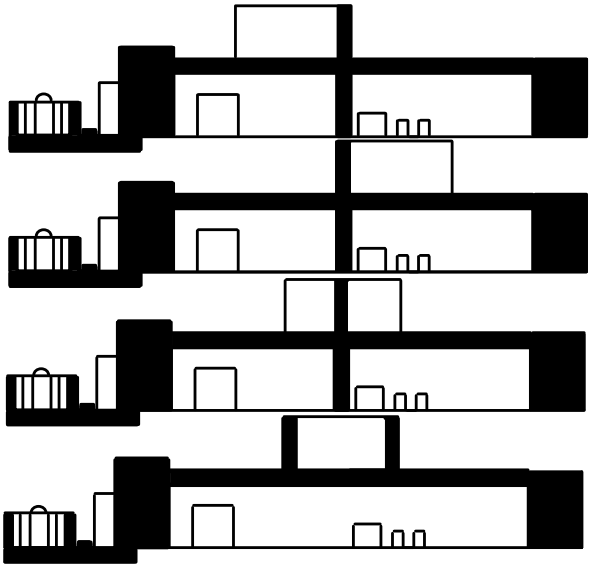
This thinking is first present in my design process when I started working on expected methods of moving through the spaces in and around my building. I began this by drawing diagrams on different ways of moving though a bridge type structure, diagrams of movement to and from an existing building and the community, and diagrams on movement to and from its entries. By examining how I expect people to move around this space I could take the next step and start making these spaces accessible for everyone through stairs, ramps, and elevators.

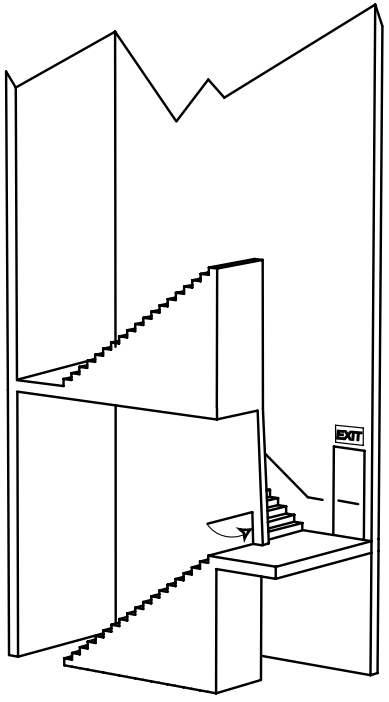
After this I decided to think about fire safety. This was very important to my building because much of the time people will be up in the bridge portion of the building. I created two hour safety stairways in the three vertical transportation cores of my building to allow for safe egress from the building.










EXIT

Midterm Analysis

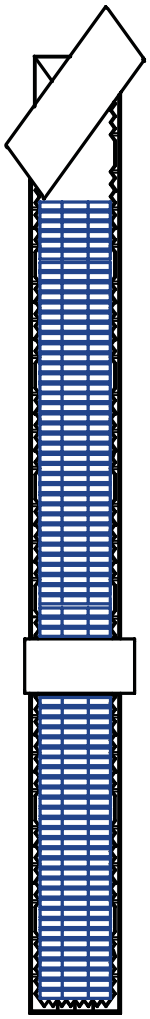
Creating design solutions for these four principles filled my time until midterm reviews. The midterm was a critical point in the semester where we were given the chance to present our project. We were encouraged to push our projects to a point where they could be understood as almost complete. This way we could get feedback with our semi-finalized material yet have time to correct or push the project further. I realized at this point that I needed to graphically display the connection between my principles of Eightfold Architecture and my building better. For the rest of the semester I would focus on the last four principles along with making these connections clearer to the unfamiliar eye to my project.

Right Sustenance

Right Sustenance is the ability of the building to contribute to sustainability with a sensitivity towards the future. This phase of design should take a close look at energy, consumption, and waste matters as to acknowledge the possible positive ways these issues could be addressed. The building should use materials that will age well as to allow for a long life span.

I wanted to be aware of generally how much energy my building would use. By knowing how much energy my building needs I could set realistic sustainability goals. The power consumption for this project is about 925,000 watts per day. A huge energy need for a building located in North Dakota is heat. After doing the calculations I figured out that I would need 190 photovoltaic panels to supply the energy for heating these buildings.

I also found thinking about a building's future to be an interesting point of this category. I already was reusing a building to extend its life but I wanted to think about the future of the addition building as well. My main building elements for the addition are steel and concrete, which both have a long life expectancy because of being quite durable. With careful and quality construction of a structure made mostly of these two elements it is likely that it will have a lengthy life span with minor maintenance needs.



Right Interpretation is the insight and consideration into how a space will be interpreted by the community, visitors, residents, users, as well as yourself. Architecture should promote lively conditions into objects. It should be a goal of architects to create environments where people can interpret these lively conditions from the objects we create.

To understand the interpretation of a building of this nature I tried to think about the livelihood of downtown Fargo. I created a culturally significant map of downtown Fargo which located important historical information to my project, areas of artistic interest, local restaurants and shops, and areas for leisure activities. Most of the contents of this map are specific to the main user group which is a student but are places that are relevant to the larger community as well. For this user group this building creates another gathering destination that also serves as a way to safely get across the train tracks and Main Avenue. This building adds a safer route for people to access these points of interest in downtown Fargo whether they are on the North side of Main Avenue or the South side.

Along with bringing students to this building it will also serve the function of creating a more lively neighborhood of a transitional area of Fargo. This is a sort of urban edge that although containing many stores and restaurants begins to have a primarily residential feel. In this way this area of town does not seem to be getting used to its full potential.

I think that the community would be pleased with this less desolate feel for the area. The presence of a university building could bring an atmosphere of excitement, new beginnings, and an educational depth to the neighborhood.

Right Application

Right Application is the phase of design where it is appropriate to be speculative and see if the design is actually functioning in a moral and virtuous manner. This is the time to be reflective on where the project came and if you are still moving in the right direction. It is important to take a step back and re-evaluate the design to make sure that the building enriches its environment and does actually promote good.

I began doing this by asking myself if I have applied these principles in the right way. While designing I would make informed judgments to the best of my ability but midterms is where I really started to work with this principle. Getting feedback from people who did not know my project helped me to see the difference between where I needed to design something better or where I needed to explain something better.

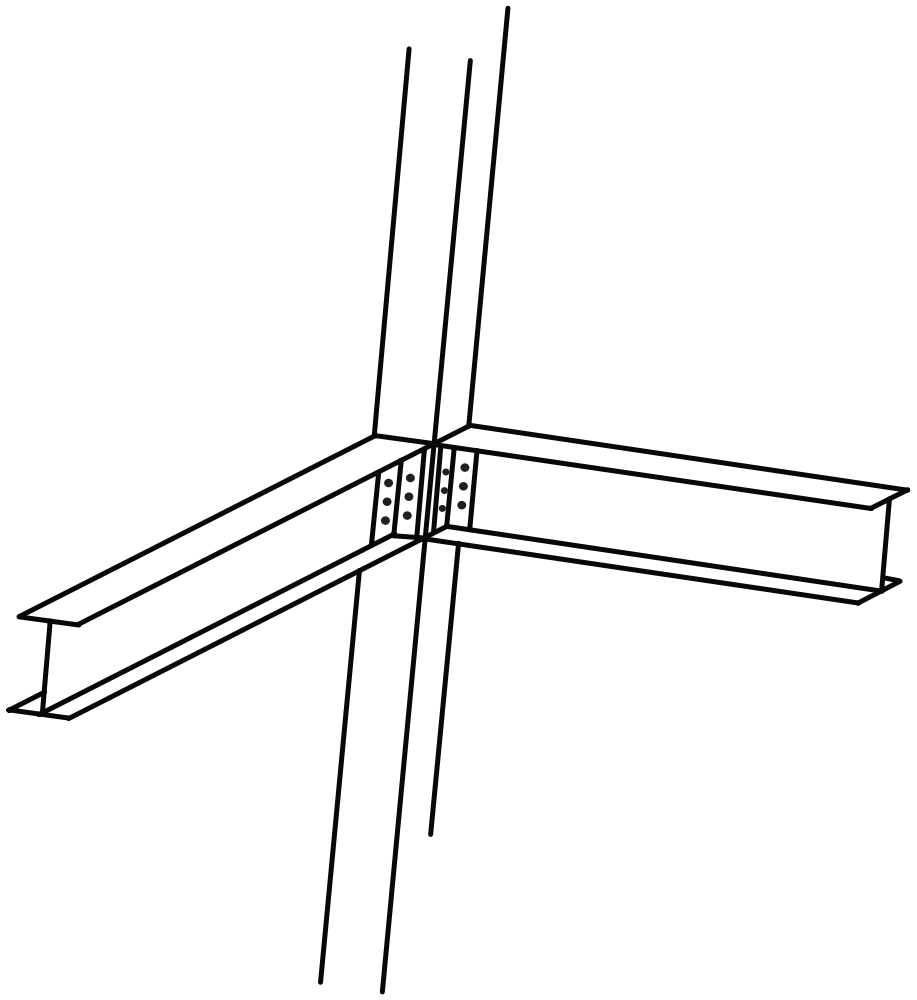
My renderings are the predominate illustrations of where I applied the proceeding principles in a way that, as a whole, function in a virtuous manner. I chose to write a small story for a couple of my renderings to show what a typical person would feel or think when approaching this site. I tried to image how the space would be occupied and perceived when creating my renderings so to create a scene that was lively and reflective of how people would use the space.

Right Production

Right Production is the phase of design that speaks to actualizing the building along with models in a virtuous, respectful, and mindful manner. The production must utilize sustainable practices, consider recyclable materials, and minimize waste as best as possible. It is important for this building and models to be built with care so as to avoid hasty mistakes that can produce undesirable results later so the building can live in harmony with its users and environment for a significant amount of time.

For this phase of design I focused on how the steel structure of my building makes its connections. I decided that a beam to column flange connection would be sufficient. These connecting pieces of steel are joined together by a steel plate that gets bolted to the beams that run through the building and to the outside structural columns.

Because of this principle I tried to keep in mind that using recycled materials for my models would be beneficial and reduce waste since these materials would be reused instead of disposed of. I used some recycled cardboard for my site model for midterms and I made my base to hold my models out of previously used pallets. I image that if this building were to be constructed that these sustainable production methods would be continued to be used.



Final Presentation

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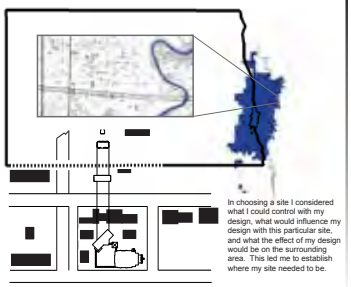
EIGHTFOLD architecture



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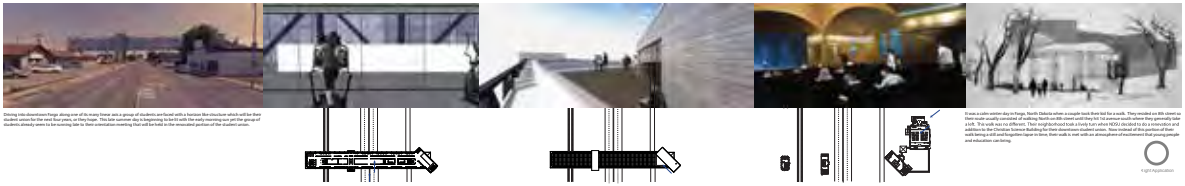

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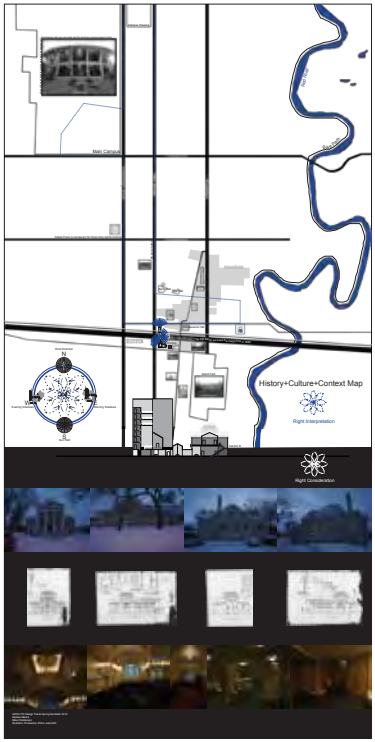

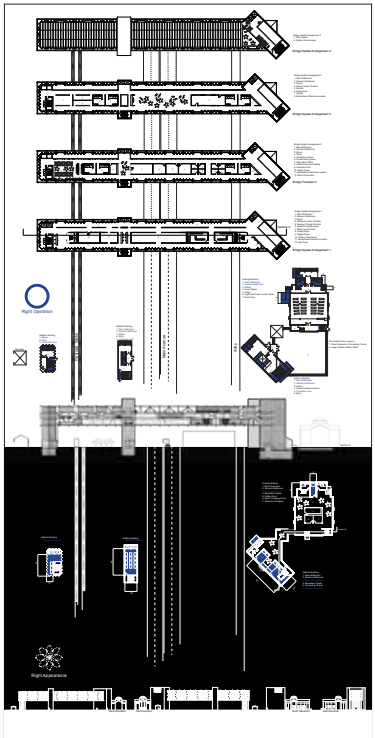

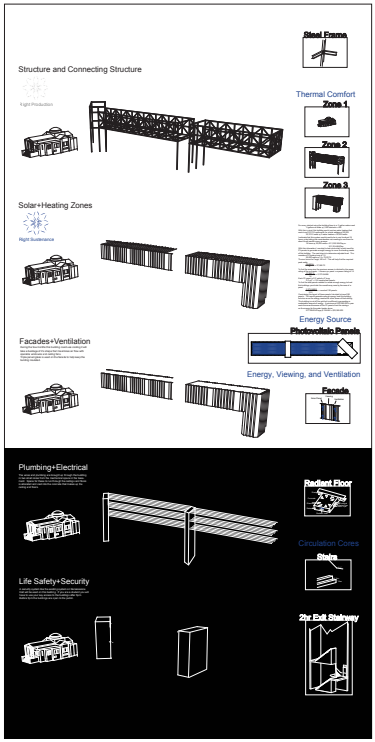

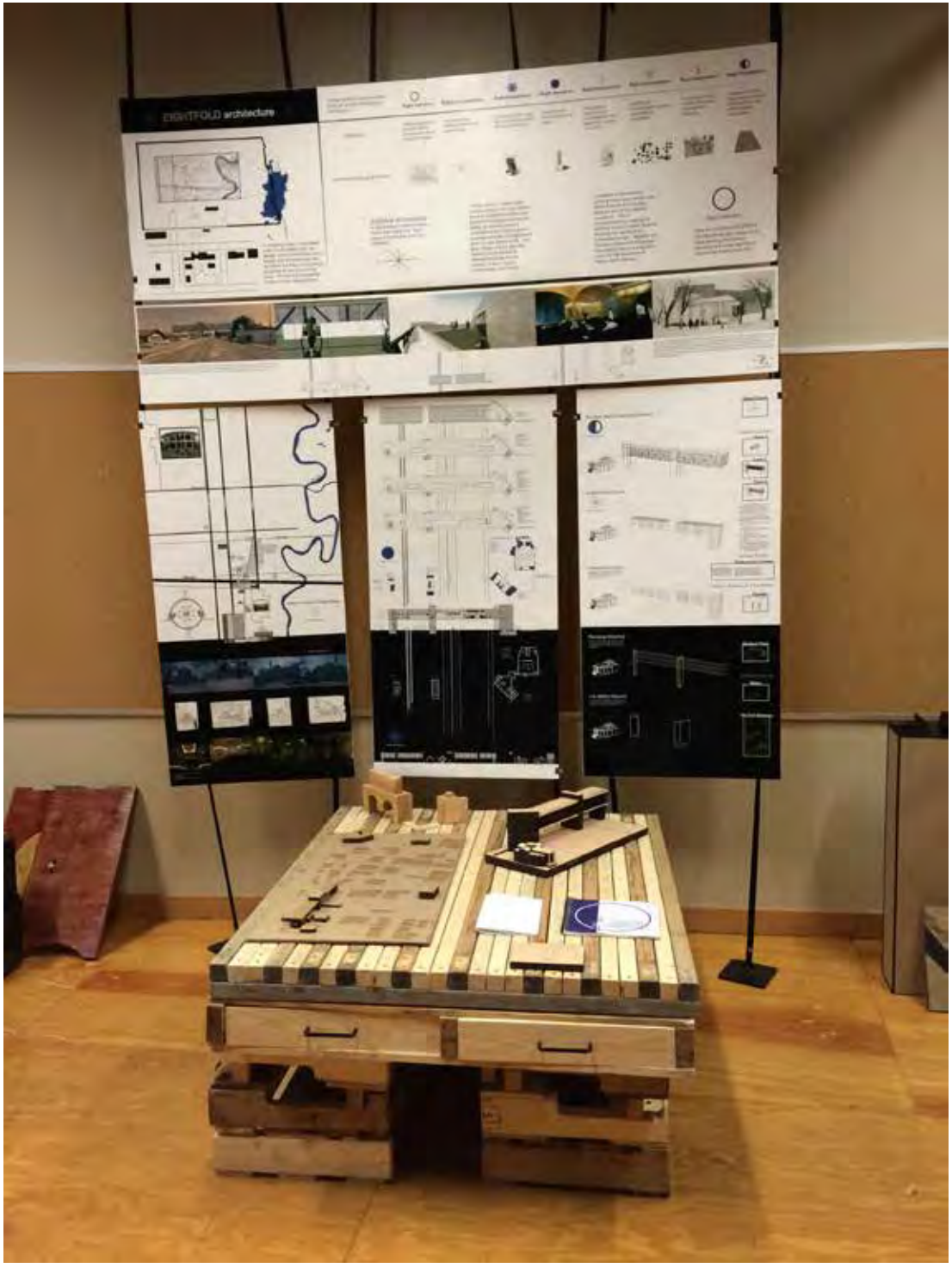
EIGHTFOLD architecture

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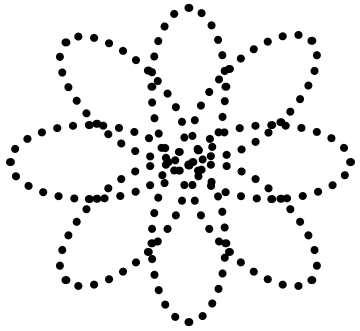
In conclusion, I feel like I explored this idea of Eightfold Architecture through my interest in moral motivations for architecture to the extent allowed within the given time frame of the thesis project. I found that even at the very end I would be coming up with ideas to further this thesis. I think this thesis was successful in that it kept me constantly entertained since it was a concept that not only interested me in an academic way but also interested me in a personal way. This aspiration to do a project that interested me on many different levels was one of my goals from the beginning. The avenues I chose to investigate led me to interesting moral architectural discoveries that I hope are clear throughout my graphical layout.



Process Introduction

For my thesis I really wanted to find a way of looking at architecture that would help me articulate the way we care about people through design. My thesis investigates our moral commitments as architects. I began by thinking about what I thought were our moral obligations as architects. My conclusions were eight broad principles that I know as Eightfold Architecture. These eight rights, if considered while designing, would push architecture to hold the value of virtue. This would be an environment that is sensitive to it's occupants,site, culture, history, context, sustainability, and future and with this sensitivity the architecture would hopefully be described as having strong moral attributes.

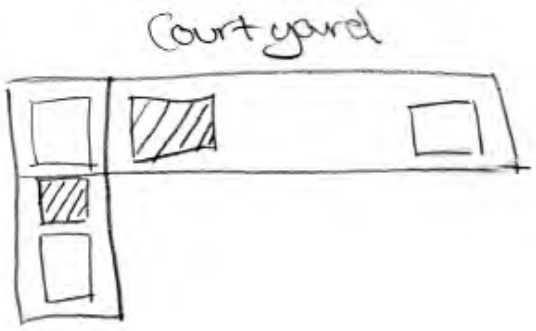
Specifically, my project was creating a 35,000 square foot downtown student union for NDSU that worked as an inhabitable bridge to bring new life to a transitional neighborhood of the south of main area of downtown Fargo, North Dakota. I chose to design while keeping my concept of Eightfold Architecture in mind to meet this goal. I decided while designing to try and focus on a couple principles every week as to take time to address these issues in this project.

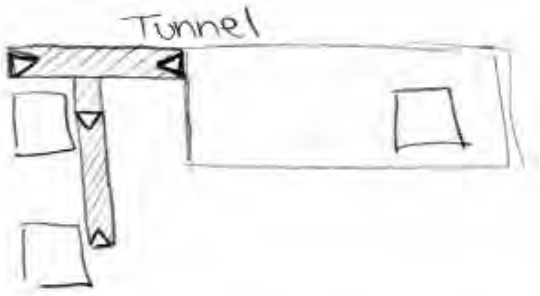
Right Intention

Right Intention is the phase of design where it is important to articulate what your goals are for a project. These goals should produce positive results in the built environment. It is important during this phase to keep in mind that our intentions can have not only physical but also social impacts.

How can the idea of Eightfold Architecture help inspire us to save existing abandoned buildings and bring new life to transitional areas of our city?

One of the first steps I had to face for this project was how to create not only a connection between an existing building and addition, but also a connection between a lively area of downtown and an area where this begins to transition into a less lively neighborhood. I looked at inspiring projects such as the Kolumba Museum to give me inspiration. I enjoyed the idea of leaving a respectable gap where the user makes or is the connection, yet there is not necessarily an obvious physical connection. Through playing with these connection sketches I began to discover the idea of a bridge. I found that the idea of a bridge spoke a lot to my project considering its whole purpose is that of connection. I chose not to visually connect the addition bridge with the existing building as to leave that respectful gap between the old and the new so that the individual user can fill this gap in with whatever meaning they so choose. I found this to be an applicable solution since the students end up being one of the strongest connecting elements of the project. However, I did want there to be a way to access the two buildings without going outside so I did created an underground tunnel.


Courtyard


Tunnel

Right Consideration is the necessary information you need to study about the project to start conceiving a design. It is also important to think about the possible implications of a project. Typical considerations for a project could be its history, typological considerations, site and context concerns, aspirations, the current impact of design, the community, the users, and its future.

A lot of this step of my project was covered in my thesis book. I chose to create a building and reuse a building for a downtown student union because NDSU has seen rapid growth in the past decade. With this growth, parts of the campus moved downtown yet NDSU never added a downtown gathering location for students to study, eat lunch, hangout, see a presentation, workout, or see another students work on display. With this lack of a student union for the downtown campus the students downtown feel less connected to a larger student body.

I chose the Christian Science Building as the building to reuse because this building is a historical building that has been vacant for some time now. This building has spaces that fit like a glove to the needs of a student union. This building is located in the south of main area of downtown Fargo that begins to have a less lively feel but for no good reason in that there are many shops, recreation areas, and restaurants to enjoy. By giving this building new life, as well as creating an addition to serve the space needs of a downtown student union, new life for the area would be sure to follow.

The most informing form idea I had in this phase of design of right consideration came from learning a lot about the history of the Fargo area. Fargo owes much of its settlement to the railroad industry

and to farming. I wanted to make sure that while designing I kept these considerations in mind to best work with the environment in Fargo as well as to work with the occupants.

During these discoveries I began to see the horizontal nature of much of the natural and built environments in the area. I thought that this horizontal shape should hold true for this building as well as to stay within this sense of place.

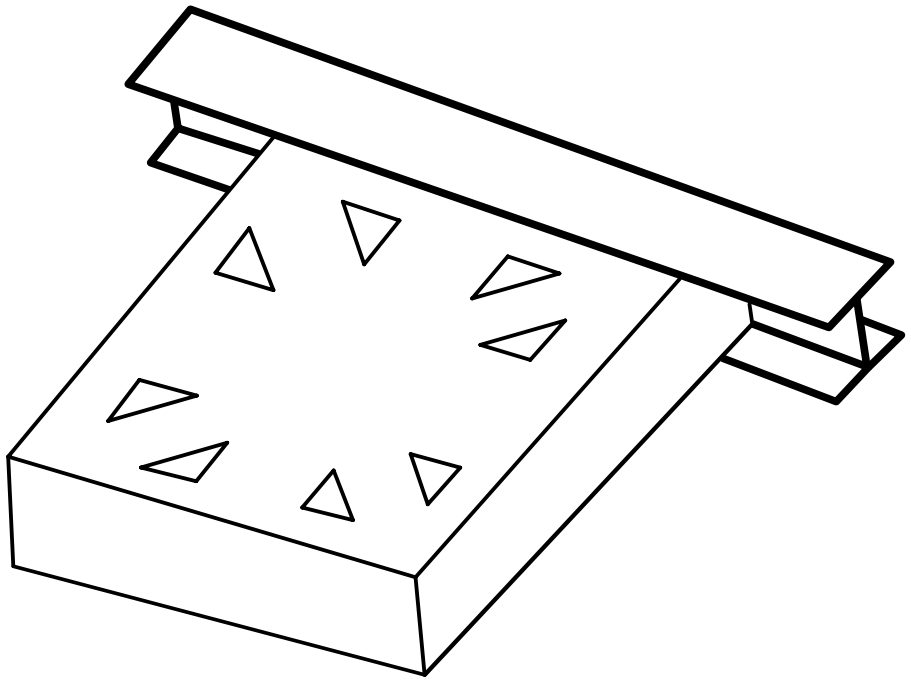
Another inspiring investigation I did within right consideration was to think of the orientation of space with its visual connections to the environment. This led me to start trying to decipher where I should put certain spaces to work best with these visual connections.

Right Appearance

Right Appearance is the consideration into how appearances can affect life and architecture. Appearances are one of the modes in which our architecture gets expressed. Through appearances architecture can cause positive or negative experiences. It is important to be mindful of the psychological impacts that colors, sizes, smells, nature, and light can impose on the occupants. It is important for the physical nature of this building to produce positive mental reactions.

This phase of Eightfold Architecture went on for most of the semester. When choosing materials I would think about what the implications of using that material were such as color, weight, feeling, or size. I chose to predominately use the color blue to represent this project. I thought that this color connected with the nature of the project as well as having psychological effects, such as promoting intelligence and calmness, that could benefit students using the building.

One of my blue materials is glass. I wanted to use it not only for the obvious window material but also within the building to let light flow from floor to floor. I created a floor pattern that would use glass inserts into a concrete floor slab to let some light transfer happen between floors. I decided to arrange these glass inserts in a pattern that would make a connection to the existing building's cornice design.

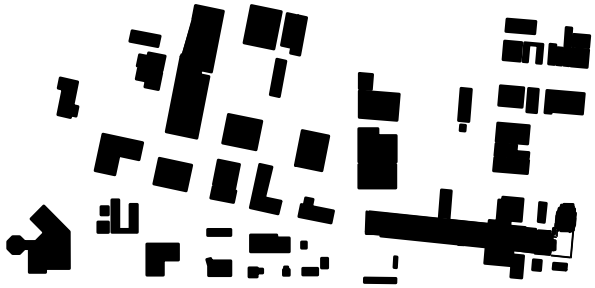


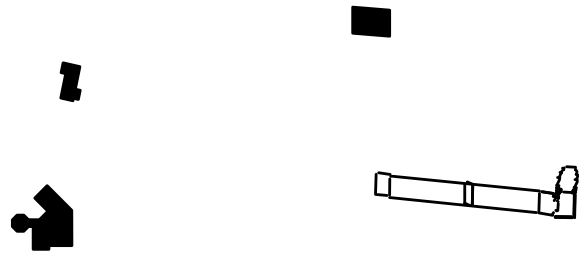
Right Operation

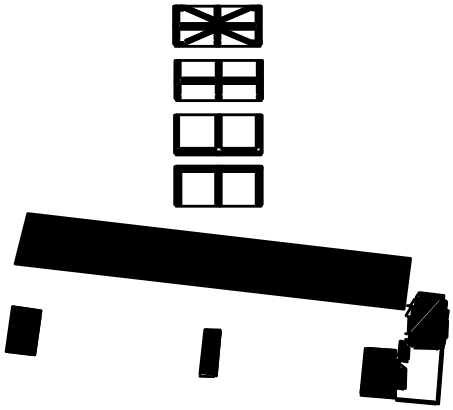
Right Operation is the phase of design where I considered how a building must operate and function for all of its users. It is important to think about how people move through a space so you can evaluate the level of ease this can be done at. How we move through a space can even play a role in our health. Having a walkable location will promote a more healthy way of transporting oneself to and from the building. The building must also operate in a safe way. It must acknowledge worst case scenarios, such as fires, as to be prepared to operate in a way that will keep its users safe.

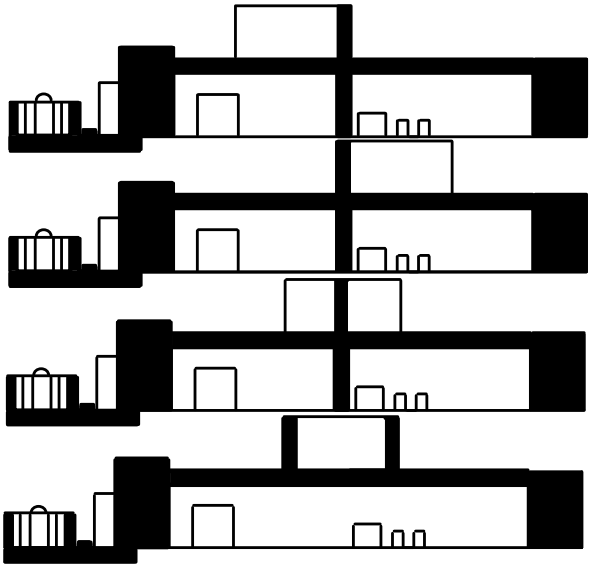
This thinking is first present in my design process when I started working on expected methods of moving through the spaces in and around my building. I began this by drawing diagrams on different ways of moving though a bridge type structure, diagrams of movement to and from an existing building and the community, and diagrams on movement to and from its entries. By examining how I expect people to move around this space I could take the next step and start making these spaces accessible for everyone through stairs, ramps, and elevators.

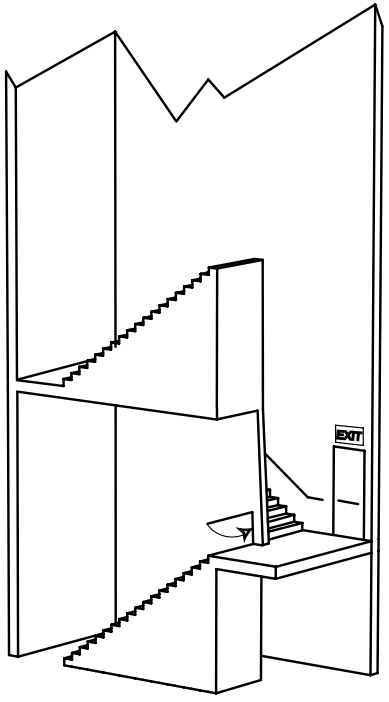
After this I decided to think about fire safety. This was very important to my building because much of the time people will be up in the bridge portion of the building. I created two hour safety stairways in the three vertical transportation cores of my building to allow for safe egress from the building.










EXIT

Midterm Analysis

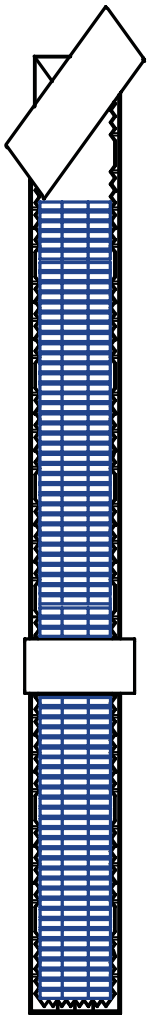
Creating design solutions for these four principles filled my time until midterm reviews. The midterm was a critical point in the semester where we were given the chance to present our project. We were encouraged to push our projects to a point where they could be understood as almost complete. This way we could get feedback with our semi-finalized material yet have time to correct or push the project further. I realized at this point that I needed to graphically display the connection between my principles of Eightfold Architecture and my building better. For the rest of the semester I would focus on the last four principles along with making these connections clearer to the unfamiliar eye to my project.

Right Sustenance

Right Sustenance is the ability of the building to contribute to sustainability with a sensitivity towards the future. This phase of design should take a close look at energy, consumption, and waste matters as to acknowledge the possible positive ways these issues could be addressed. The building should use materials that will age well as to allow for a long life span.

I wanted to be aware of generally how much energy my building would use. By knowing how much energy my building needs I could set realistic sustainability goals. The power consumption for this project is about 925,000 watts per day. A huge energy need for a building located in North Dakota is heat. After doing the calculations I figured out that I would need 190 photovoltaic panels to supply the energy for heating these buildings.

I also found thinking about a building's future to be an interesting point of this category. I already was reusing a building to extend its life but I wanted to think about the future of the addition building as well. My main building elements for the addition are steel and concrete, which both have a long life expectancy because of being quite durable. With careful and quality construction of a structure made mostly of these two elements it is likely that it will have a lengthy life span with minor maintenance needs.



Right Interpretation is the insight and consideration into how a space will be interpreted by the community, visitors, residents, users, as well as yourself. Architecture should promote lively conditions into objects. It should be a goal of architects to create environments where people can interpret these lively conditions from the objects we create.

To understand the interpretation of a building of this nature I tried to think about the livelihood of downtown Fargo. I created a culturally significant map of downtown Fargo which located important historical information to my project, areas of artistic interest, local restaurants and shops, and areas for leisure activities. Most of the contents of this map are specific to the main user group which is a student but are places that are relevant to the larger community as well. For this user group this building creates another gathering destination that also serves as a way to safely get across the train tracks and Main Avenue. This building adds a safer route for people to access these points of interest in downtown Fargo whether they are on the North side of Main Avenue or the South side.

Along with bringing students to this building it will also serve the function of creating a more lively neighborhood of a transitional area of Fargo. This is a sort of urban edge that although containing many stores and restaurants begins to have a primarily residential feel. In this way this area of town does not seem to be getting used to its full potential.

I think that the community would be pleased with this less desolate feel for the area. The presence of a university building could bring an atmosphere of excitement, new beginnings, and an educational depth to the neighborhood.

Right Application

Right Application is the phase of design where it is appropriate to be speculative and see if the design is actually functioning in a moral and virtuous manner. This is the time to be reflective on where the project came and if you are still moving in the right direction. It is important to take a step back and re-evaluate the design to make sure that the building enriches its environment and does actually promote good.

I began doing this by asking myself if I have applied these principles in the right way. While designing I would make informed judgments to the best of my ability but midterms is where I really started to work with this principle. Getting feedback from people who did not know my project helped me to see the difference between where I needed to design something better or where I needed to explain something better.

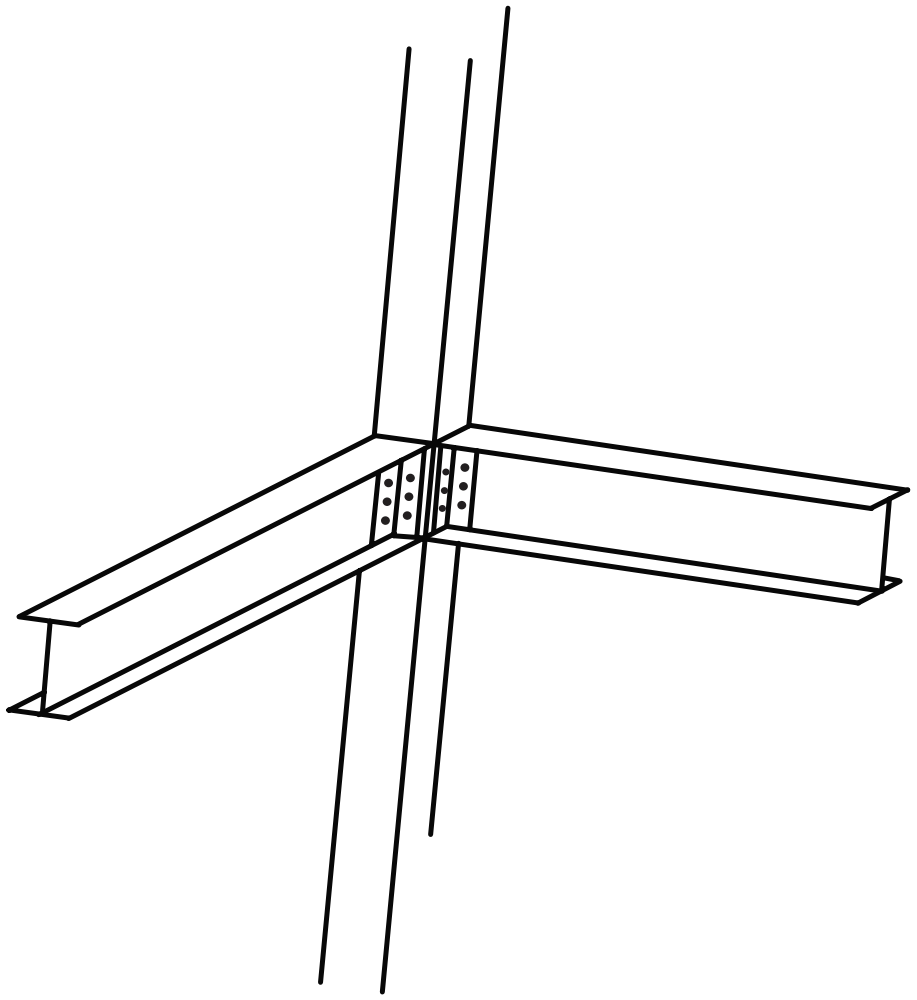
My renderings are the predominate illustrations of where I applied the proceeding principles in a way that, as a whole, function in a virtuous manner. I chose to write a small story for a couple of my renderings to show what a typical person would feel or think when approaching this site. I tried to image how the space would be occupied and perceived when creating my renderings so to create a scene that was lively and reflective of how people would use the space.

Right Production

Right Production is the phase of design that speaks to actualizing the building along with models in a virtuous, respectful, and mindful manner. The production must utilize sustainable practices, consider recyclable materials, and minimize waste as best as possible. It is important for this building and models to be built with care so as to avoid hasty mistakes that can produce undesirable results later so the building can live in harmony with its users and environment for a significant amount of time.

For this phase of design I focused on how the steel structure of my building makes its connections. I decided that a beam to column flange connection would be sufficient. These connecting pieces of steel are joined together by a steel plate that gets bolted to the beams that run through the building and to the outside structural columns.

Because of this principle I tried to keep in mind that using recycled materials for my models would be beneficial and reduce waste since these materials would be reused instead of disposed of. I used some recycled cardboard for my site model for midterms and I made my base to hold my models out of previously used pallets. I image that if this building were to be constructed that these sustainable production methods would be continued to be used.



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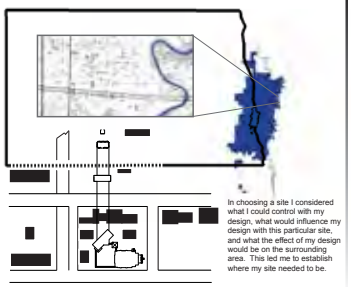

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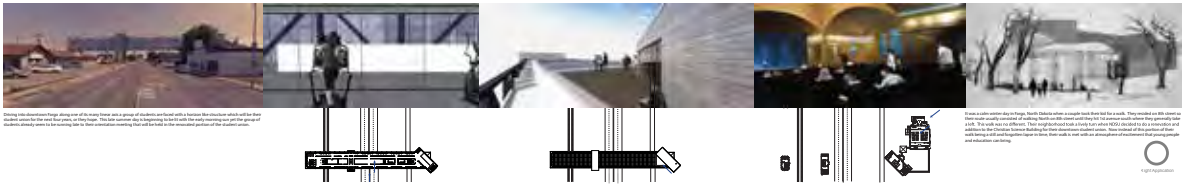

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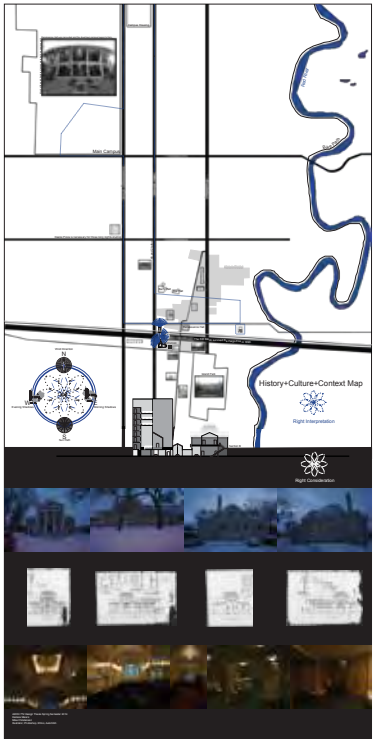

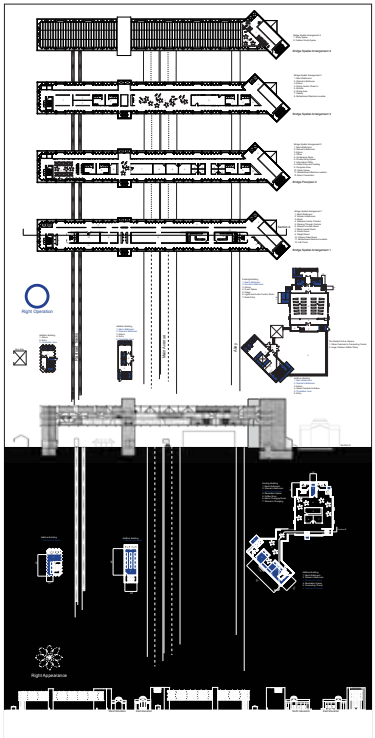

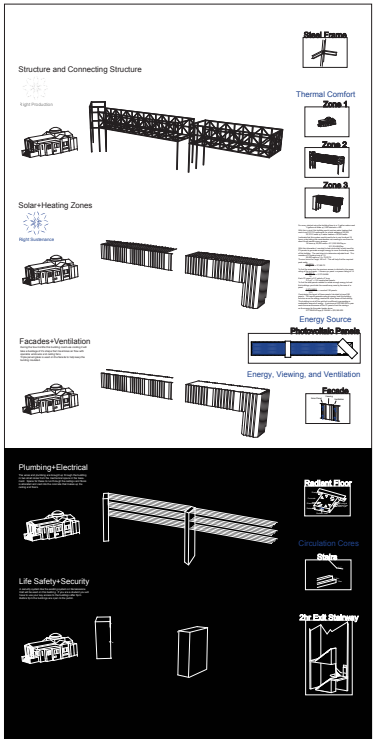

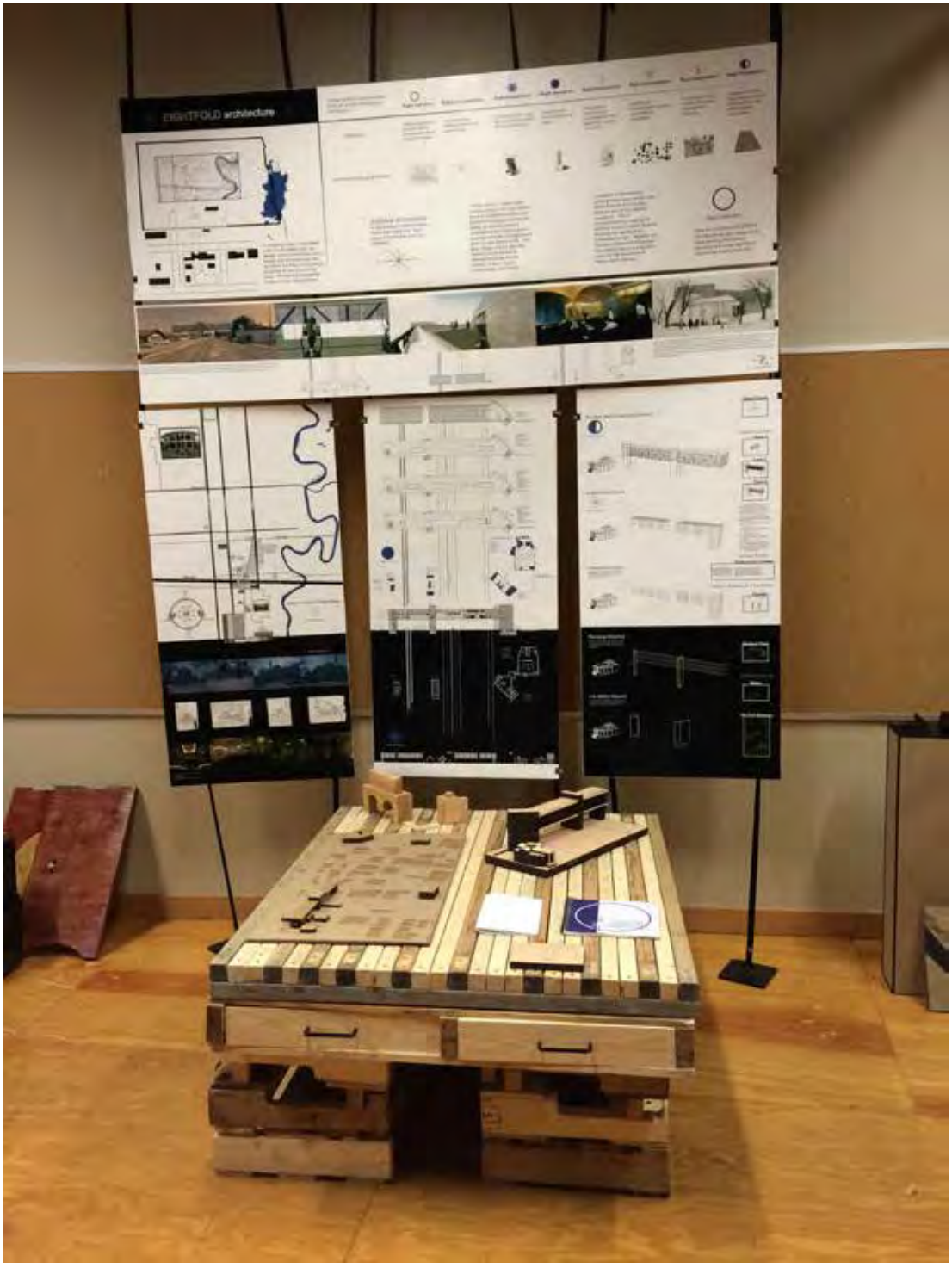
EIGHTFOLD architecture

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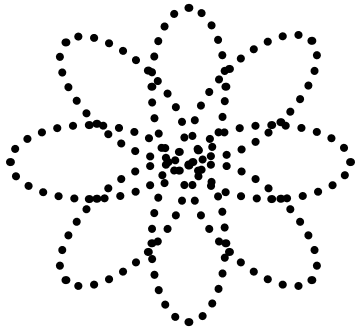

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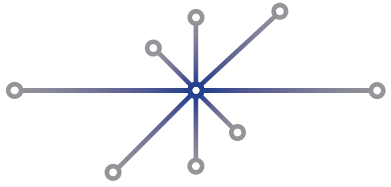

Previous Studio Experience

Fall	Darryl Booker	Tea House Site: Fargo, ND Boat House Site: Minneapolis, MN	2nd Year
Spring	Cindy Urness	Montessori School Site: Fargo, ND Bird House Style: Rem Koolhaas Dwelling Marfa, Texas	
Fall	Steve Martens	Wild Game Research Center Site: Just North of Grand Forks, ND Mason's Lodge Site: Pipestone, MN	3rd Year
Spring	Milt Yergens	Crochet School Site: Fargo, ND Grain Research Center and Elevator Site: Hillsboro, ND	
Fall	Bakr M. Aly Ahmed	DLR Design Competition Theme: Light and Dark High Rise San Francisco, CA	4th Year
Spring	Paul Gleye	Antwerp Design Charrette (Cloudscapes) Supervisor: Nestor Montenegro (Spain) Urban Design Site: Antwerp, Belgium	
Fall	Mike Christenson	Parasitical Design Site: Kyoto, Japan	5th Year
Spring	Mike Christenson	Thesis (Architectural Reincarnation) Site: Fargo, ND	

Karissa Meiers

As a result of my time at NDSU I am much further along my path of self discovery.

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