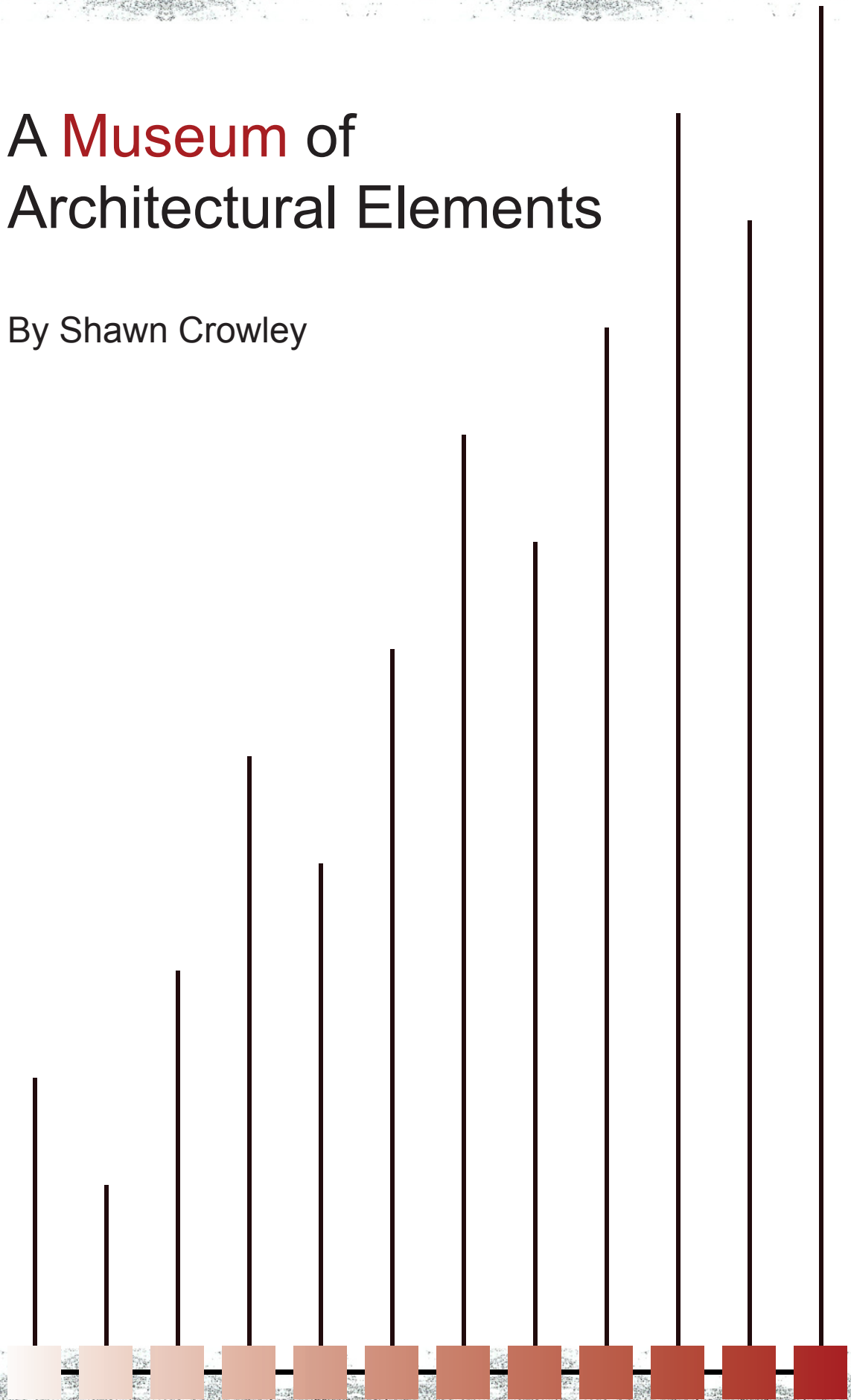


A **Museum** of Architectural Elements

By Shawn Crowley



A MUSEUM OF ARCHITECTURAL ELEMENTS

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

By

Shawn Crowley

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


Primary Thesis Advisor


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May 2010
Fargo, North Dakota

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Abstract

The theoretical premise of this thesis is “Architects communicate through the innovation, adaption and organization of elements like: structure, materials, motifs, signs, symbols and form with a society whose members are diverse in their understanding of these elements”. Research was done exploring how architecture can be understood and experienced by individuals using the language of architecture. The typology is a museum of architectural elements. It is located in downtown Fargo, North Dakota on NP Ave and 8th St. and resides on the same block as the Plains Art Museum. The size of the project is 30,000 sq. ft.

Key Words:

language of architecture, communication, experiencing, museum, semiotics, metaphors, architectural sign

The Problem Statement

What is the language of architecture, and how can it be understood by non-designers?

Statement of Intent

Typology:

A museum of architectural elements.

Theoretical Premise/Unifying Idea

Claim:

Architects communicate through the innovation, adaption and organization of elements like: structure, materials, motifs, signs, symbols and form with a society who's members are diverse in their understanding of these elements.

Premises:

Architects have a unique language consisting of many elements that are not all readily understood by members of society.

Communication can be defined as the interchange or transmission of thoughts, ideas, opinions or information.

By viewing a building, society communicates with the architect who designed it, but each person will interpret the conversation based on their understanding of the elements in the language of architecture.

The changing or reordering of architectural elements can alter the message that is received by the viewer.

Theoretical Premise/Unifying Idea:

Communication using the language of architecture is multifaceted and not completely understood by any single person. Designers can use architectural elements understood by people as a way of closing the gap in communication.

Project Justification:

There are more non-designers in this world than there are designers, so buildings should be designed with this larger group in mind. Architecture is used by different people in society so it is also important that it is understood by many different people. Designers can learn from non-designers through observation and communication, why/how certain architectural elements are understood, and why others are not. All elements will not be understood the same by each society member, but as in music, there are some instances when architecture can be universally understood. Whether or not this is always possible, it is important that we work to create more beautiful, desirable, and mutually understood built environments.



T H E P R O P O S A L



Narrative

It can be difficult for architects to communicate effectively to society through their buildings because architects and non-designers are taught to see the world differently. This lack of communication occurs because society doesn't understand all of the elements in the language of architecture. Architects must learn how society understands each element and vice-versa or the message can be misinterpreted.

This misinterpretation became evident to me after my experiences as a first and second year architecture student. I would bring my projects home and try to explain to my parents why the building was designed a particular way and the meaning behind the design. I was met by blank stares and polite nods. I knew then that architects communicated to society in ways that were not readily understood by the average society member.

Architects learn the language of architecture in school and it becomes our second language. We understand what we are saying through our buildings, but society wasn't educated the same way we were. We can't expect society to be proficient in a language they don't practice regularly or haven't fully learned.

Communication using the medium of architecture is similar to most other forms of communication. The purpose of communication is to convey a message to an observer that they will understand. Without understanding there is no communication between two parties. If society doesn't understand what designers are communicating through their architecture, then buildings mean nothing more than shelter.

Society is varied in their understanding of the language of architecture, which results in different messages being received when viewing the same building. This is because different levels of understanding lead to different levels of communication. For example, I can have a much better conversation with someone fluent in English, than I can with someone who is just learning English. This is because we understand more elements of a common language.

Innovation, adaption and organization of basic elements in the language of architecture greatly affects their meaning. A column is a basic element in the language of architecture like words are basic elements in the language of English. Words gain significance based on their use or placement in a sentence. A word is also affected by the tone of how the sentence is delivered. For example the word "great" can be mean different things depending on if it is said sarcastically or seriously. Columns will also gain significance based on how and where they are used in a building. The tone of a column can be set by how column is approached or by its materials. The language of architecture has many elements and how they are changed affects how they are understood.

The miscommunication between architects and society regarding the language of architecture is caused by a lack of understanding by both parties. To obtain understanding requires learning and a museum of architectural elements gives designers the opportunity to teach society how we view the language of architecture. It also allows us to learn from society how we can be more clear in our messages using the language of architecture.

The combination of teaching society and learning from them will improve communication using the language of architecture, which will result in more mutually understood architecture overall. These ideas are the basis for my research regarding the character of my Theoretical Premise/ Unifying Idea.

User/Client Description

Every public building has many users other than the client paying for the building. It is our duty as designers to take into account these other users and make sure we are designing something that can be used harmoniously by a variety of different people.

The following are groups of people in the Fargo area that could benefit from a museum of architectural elements:

PAM Staff

There will need to be an increase in staff at the PAM in order to maintain this new addition. This will include a curator, security, tour guides, maintenance, landscapers, administrative and any other needs.

Parking - 15

Employees - 12

School Children

Part of the PAM's expansion plan is the addition of a creative center for children in collaboration with the Fargo public school district. This means that many more elementary and high school students will be coming downtown. Children of all ages can benefit and learn from a museum of architectural elements. Exhibits will be designed so that it is largely up to the individual person to determine what they want to learn for the museum.

Parking - 2 Buses parking spots and a bus stop,

Peak Usage - 225

College Students

NDSU's continued expansion has caused a major influx of college aged adults into the downtown area. There is a huge opportunity to become more connected with the NDSU architecture and arts program. This addition can bring more classrooms and exhibition space for NDSU. 5th floor of Renaissance Hall is a great space, but work can't stay there too long. The PAM can show student work where it won't have to be moved as often and where it has better visibility to the general public.

Parking - 0 and a bus stop,

Peak Usage - 100

User/Client Description

Local Firms

The majority of Fargo's firms are located in the downtown area and this addition could become a great asset for them. This addition will have a place for firms to showcase their work along with spaces to meet with and educate the general public.

Parking - 5

Peak Usage - 15

General Public

Museums are public buildings so it is expected that members of the community will want to explore what this addition has to offer. Exhibits will be a mixture of interactive and display pieces to enhance the public's enjoyments. This is a place where the public can learn what architects do and why we do certain things. The public can learn from us, and architects will learn from them. The museum itself will be open Monday through Saturday from nine to seven, but other public spaces will be open later to enhance usage.

Parking - 80 and a bus stop,

Peak Usage - 320

Downtown Working Public

The position of this museum in downtown Fargo opens up opportunities for usage by the many workers downtown. I believe that the sculpture park could become a lunchtime spot for many people.

Also, various events held during lunchtime may bring interest to the museum.

Parking - 0

Peak Usage - 30

None of these groups have any specific physical restrictions or health issues that pertain to the design of this museum. Although care will be taken to ensure that the design considers general issues such as ADA, safety and sustainability. In addition, all numbers will be researched further to ensure an accurate estimate of usage for the building.

Major Project Elements

General Public Spaces:

This category encompasses spaces like: the bathrooms, gift shop, and the lobby. I believe the current gift shop will need to be expanded and that this addition will need a separate entrance to function properly.

Exhibition Spaces:

A great deal of space will be required to house the exhibits of the museum. There will be an area for temporary exhibitions which will be designated for local student and firm work. Permanent exhibitions will be interactive and focus on particular aspects of design in architecture. They will try to enable people to experience different elements like light quality or material textures. This will help show people the impact each element can have on how spaces are viewed or understood.

Auditorium/Multi-use Space:

This would be a large, flexible space that could be used for films, speakers, and other public and private events. The ability for the space to become partitioned would also enhance its functionality. This space must be able to be used when the museum is closed.

Classrooms and Meeting Spaces

By providing spaces for the design community and the general public to interact with each other, we will be able further enhance our understanding of each other.

Major Project Elements

Staff Spaces:

Offices will be needed for administration, curatorial, and other staff requirements. Security offices and checkpoints will also be needed to protect museum exhibits. A break room and staff bathrooms/lockers may also be beneficial.

Building Analog/Sculpture Garden:

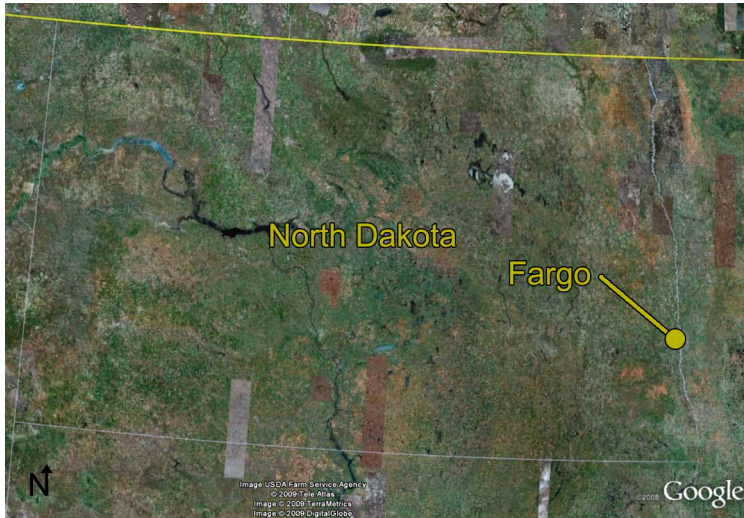
This outdoor space would display parts of actual buildings that were built as samples. It would also contain large scale sculptures. This garden would give the public a greenspace that would also function to teach them about how buildings are put together. This portion of the museum will be used more like a public park and will be accessible to everyone.

Receiving/Storage:

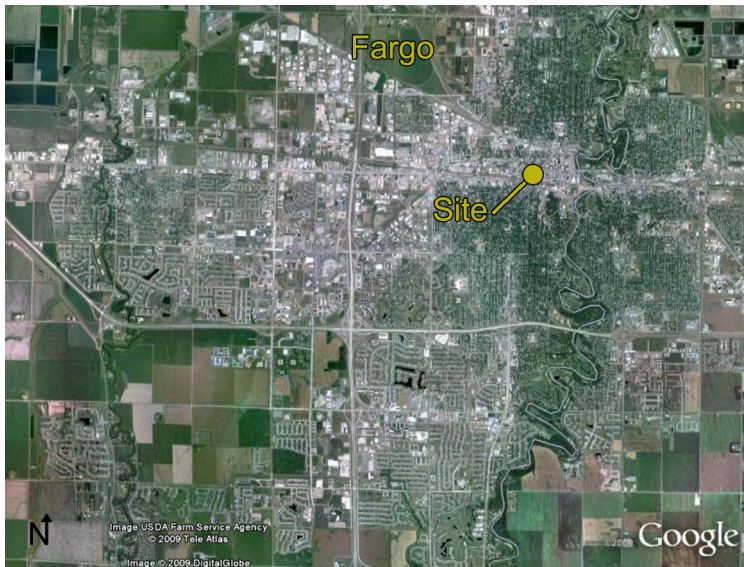
Space will be needed to house traveling exhibits, potential installments, museum collections and various other storage. These spaces may already be partially provided by the existing PAM.

Other typical spaces like circulation, mechanical, and parking will also be needed.

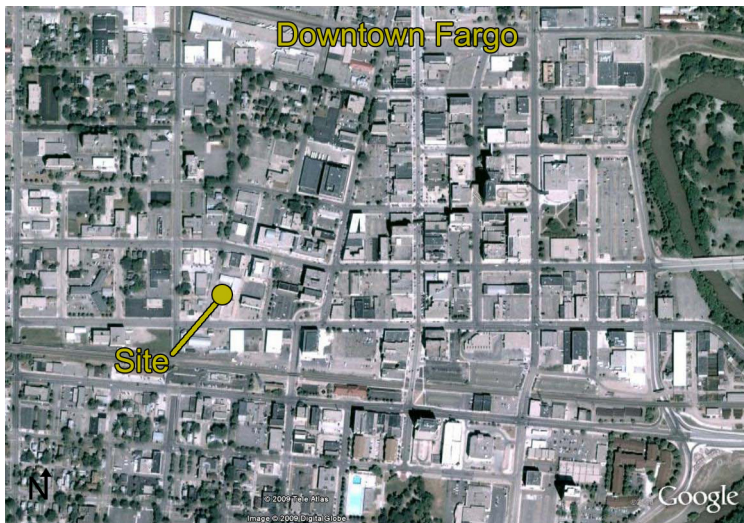
Site Information-Macro



(Google, 2009)



(Google, 2009)



(Google, 2009)

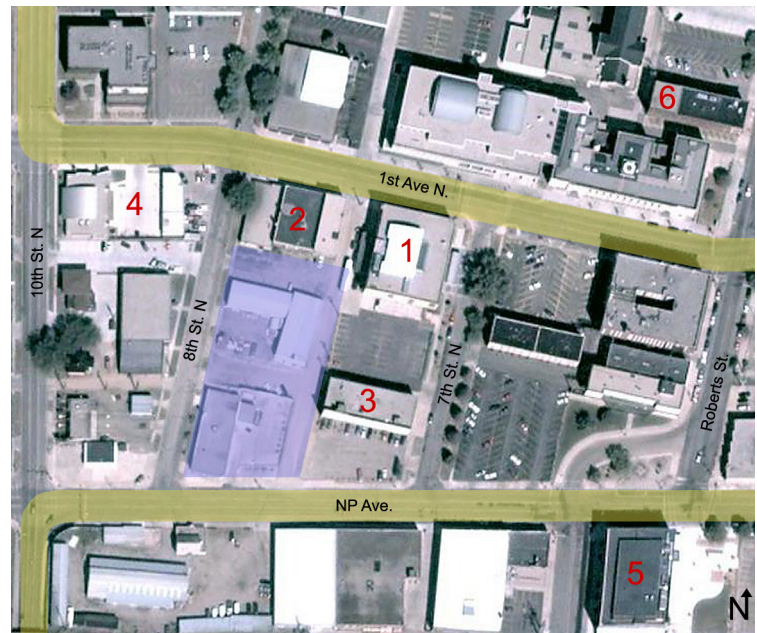
Site Information-Micro

Location

The growth of NDSU continues to bring more and more residents, students, parents and visitors into the Fargo area. This shows means that Downtown Fargo is a great place to build this museum because there will always be new people to experience it

The site is located in downtown Fargo on NP Ave. and 8th St. S. on the same block as the Plains Art Museum, hereafter referred to as PAM. This museum of architectural elements will be an expansion of the current PAM and will be run by their staff.

This site was chosen because of its proximity to the PAM, the NDSU downtown architecture campuses, and the majority of the architectural offices in Fargo. The downtown area is the heart of the architecture community in Fargo, which will allow this museum to be used by this community of designers and be enjoyed by all.



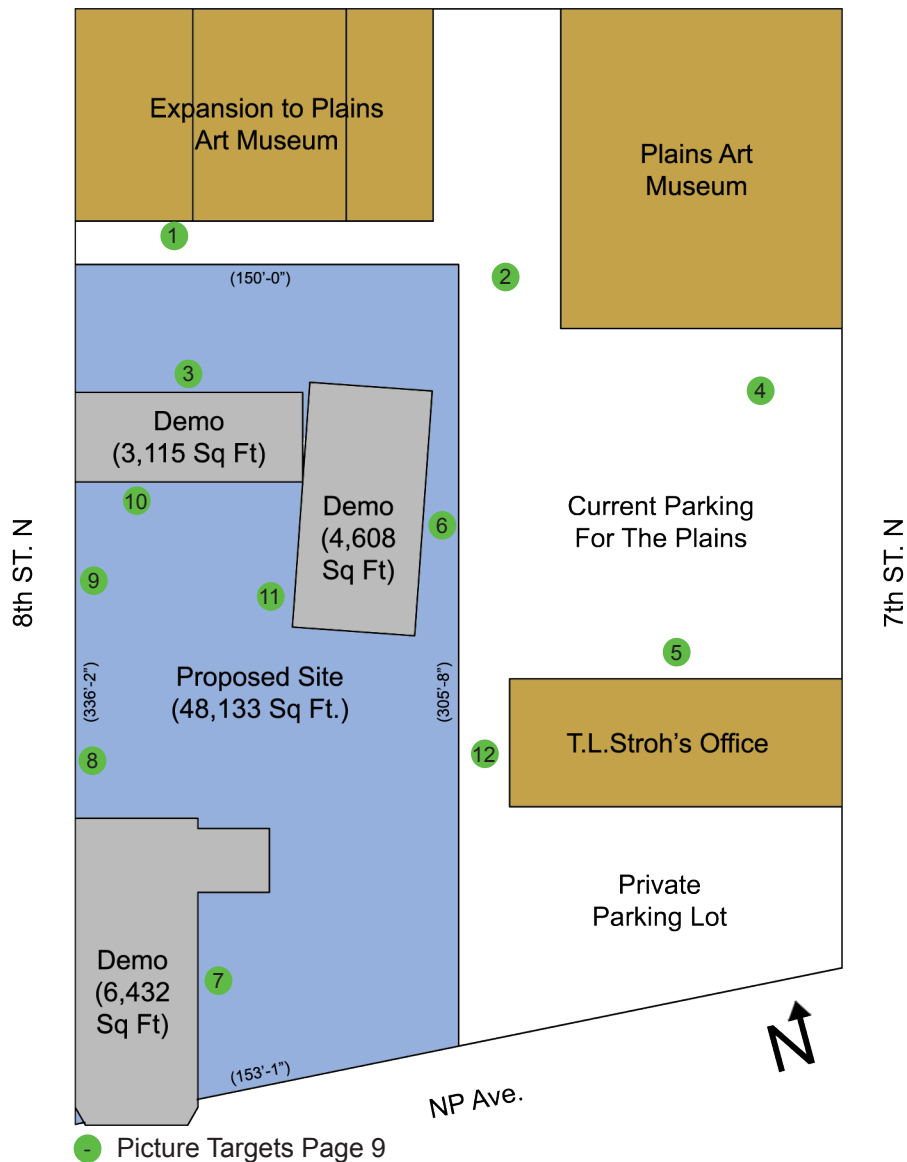
- Site Boundries
- Context
- Bus Routes

- 1.Plains Art Museum
- 2.Planned expansion of PAM
- 3.T.L. Stroh Architects
- 4.Foss Architects
- 5.NDSU Renaissance Hall
- 6.EAPC Architects and Engineers

(Shawn Crowley)

Site Information-Micro

1st Ave N.



The PAM already has plans to expand into the buildings west of its current building. The site for this museum was designated to be everything directly south of the expansion down to NP Ave. By doing this the southern exposure of the site was cleared and a connection was made to the major bus traffic on NP Ave.

This expansion will require the demolition of three under used buildings that contain lumber storage, Labor Ready, and a small church. Every attempt will be made to reuse materials from these buildings in the new museum. Overall, this new addition can better utilize the space and help create a cohesive museum complex.

Site Information-Micro



1. PAM Expand Building



2. PAM Expand Building



3. Mural (May be saved)



4. PAM and Parking



5. Parking



6. Storage East Side



7. Labor Ready/Church



8. West Side Neighbors



9. West Side Neighbors



10. Storage south side



11. Storage west side



12. T.L Stroh's office rear
Photos: (Shawn Crowley)

Project Emphasis

The basis of the research will be focused on what methods or elements designers can use to communicate through their architecture. Also, research will go further to address how these methods impact society's understanding of the language of architecture.

Communication using the language of architecture is complicated and designers need to know if their messages are being understood by society. A museum of architectural elements is a place where architects can teach society about the language of architecture and why it is helpful for them to understand. It is also important that architects learn how society views elements in the language of architecture. Only then will an architect's message be readily understood by society.

A Plan for Proceeding

Definition of Research Direction:

Research will be conducted in many related areas of interest to ensure complete understanding of the problem and site. These areas will include: programmatic requirements, historical context, site analysis and case study analysis of the project typology. Also special consideration will be taken in researching the Theoretical Premise/Unifying Idea.

A Plan for Proceeding

Design Methodology:

A mixed method approach to the research will be employed while more specifically using the Concurrent Transformative Strategy. Qualitative and quantitative data will be integrated at various stages to ensure an encompassing view of my premises. I will present all final analysis and interpretations of data both in text and graphically.

Qualitative data will include but is not limited to site visits and interviews with the PAM staff. This data will help in understanding how the museum works currently, and how it relates to it's surrounding context.

Quantitative data will include but is not limited to statistical and scientific data gathered from reliable secondary sources. This could include data regarding, climate, soils, topography and other important items.

Priority in the research will be given to how a museum of architectural elements can be used to teach society and architects to better understand communication using the language of architecture.

Design Documentation:

Progress will be compiled every two weeks during the design process. All elements will be documented digitally through photography, and scanning. These elements may include: sketches, digital drawings, models and any other important aspects of the design process. All valuable information will be included in the final thesis book so it can be made available to future scholars.

Previous Studio Experience

Second Year

271 Fall 2006 - Stephen Wischer

“A Tea House”

Fargo, ND

“Minneapolis Boathouse”

Minneapolis, MN

“A House for Twins”

Fargo, ND

272 Spring 2007 - Joan Vorderbruggen

“Waldorf School”

Moorhead, MN

“Prairie Dance Academy”

Fargo, ND

Third Year

371 Fall 2007 - Cindy Urness

“A Center of Excellence”

Bismarck, ND

“Cranbrook Academy Library and Museum Addition”

Detroit, Michigan

372 Spring 2008 - Ronald Ramsay

“Urban Renewal/Student Housing”

Fargo, ND

“Mid Rise Hotel”

Chicago, Illinois

Fourth Year

471 Fall 2008 - Bakr Aly Ahmed

“High Rise Competition”

San Francisco, California

“My Life in a Cigar Box”

KKE Competition

472 Spring 2009 - Darryl Booker

“Informal Settlement Master Plan”

Santo Domingo, Dominican Republic

“African School, Marvin Windows Competition”

Tanzania, Africa

“Community Center”

Santo Domingo, Dominican Republic

Fifth Year

771 Fall 2009 - Mark Barnhouse

Water Research Facility

Linton, ND

T H E P R O G R A M



Theoretical Premise Research

The world is filled with numerous languages that all function to accomplish one purpose: communication. In order to understand what is being communicated, people must go through certain steps that are universal to all languages. These steps are found in the communication model and are used to explain how messages are sent from a source to a receiver.

The Communication Model

Communication is the interchange or transmission of thoughts, ideas, opinions or information. Whether communicating in Japanese, English, sign language, or the language of architecture the same basic communication model is followed. Figure one below outlines the parts of this model and we will address how these pertain to communication using the language of architecture.

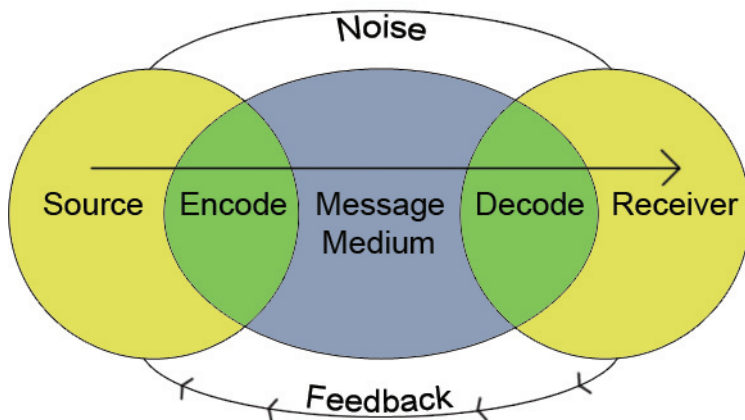


Fig. 1 (Shawn Crowley)

Source

The source refers to the person or organization who is sending the message (Solomon, Marshall, Stuart, 2008). In architectural communication, the source will normally be the designer or the architect. They are responsible for the original message that is being conveyed through their building.

Encoding

Encoding is the process of translating an idea into a form of communication that will convey the desired meaning (Solomon, Marshall, Stuart, 2008). This refers to the process of designing the building itself from conception to construction. Architects try to decide the best way to express their desired message by using architectural elements.

Theoretical Premise Research

Message

The message is the actual communication that is going from sender to receiver. It is important that all information is included to properly understand the message (Solomon, Marshall, Stuart, 2008). The message would be what the architect is trying to convey or represent through their building design. It can be something as simple as pure function to an abstract idea or feeling

Medium

The medium is the communication vehicle through which a message is transmitted to a receiver (Solomon, Marshall, Stuart, 2008). In architecture this will almost always be the building itself. This occurs because architecture is a physical art, so instead of words, designers use the elements of architecture to communicate. There may also be words and signs present on the building, but the main message is meant to be conveyed through the arrangement of the architectural elements.

Decoding

Decoding occurs when the receiver assigns meaning to a message and translates it back into an idea (Solomon, Marshall, Stuart, 2008). It is at this step where most architectural communication gets lost. Most members of society either decode the message improperly or don't know how to decode it at all. This can be the fault of the architect if they didn't encode the message properly at the beginning or be caused by a lack of knowledge by the receiver.

This step is where I believe the most progress can be made in improving architectural communication overall. If designers can better inform the public in how they encode their messages using architecture, there can be greater understanding.

Receiver

The receiver is the individual or organization that interprets the message (Solomon, Marshall, Stuart, 2008). This refers to anybody and everybody who views a building. Each person who looks at a piece of architecture is going through this process of communication with the designer.

Theoretical Premise Research

Noise

Noise is anything that interferes with effective communication and can occur at any step along the communication model (Solomon, Marshall, Stuart, 2008). This can refer to many different things in architecture. Noise can be an element of a designer's building that doesn't convey the same message, thus preventing full communication. It can also be neighboring architecture that is suggesting a different message because of its proximity. A message may also be clear at first, but become blocked later by the addition of something in the future.

Feedback

Feedback is the receiver's reactions to the message by the source. This is done to gauge the effectiveness of the message so that it can be fine-tuned (Solomon, Marshall, Stuart, 2008). This can be hard to obtain in architecture from the average society member. Architects normally receive feedback from their clients, users of the building and critics, but this doesn't always occur. One weakness when using the medium of architecture is that once a building is constructed, it is normally difficult and expensive to go back and try to fix a misunderstood element. It may be necessary to go back if the miscommunication is effecting the function of the building, but otherwise it is normally left alone. Architects only get one chance to get their message right in buildings using the medium of architecture.

The communication model is simple in concept, but can be difficult to complete when using the language of architecture. As I have explained, the message can be altered or misinterpreted at different points in the process and there is only one chance to get the message right. Architects need to understand what their buildings are actually saying to society versus what they think they are saying. This distinction makes all the difference in clear communication.

Theoretical Premise Research

Semiotics

In order to understand architecture as a language, we first must understand semiotics, which is the study of signs in a society. Semiotics is a branch of linguistics developed by the Swiss linguist Ferdinand de Saussure and the American philosopher Charles Sanders Peirce. In Saussure's model, which is more readily accepted, communication is referred to as a system of signs (Chandler, 2005).

We use signs to communicate in a variety of ways.

Signs can take the forms of various things like words, images, sounds, odor, etc. A sign consists of a two parts: the signifier and the signified. The signifier is the form which the sign takes and conveys meaning. The signified is the concept or message that the signifier represents (Hattenhauer, 1984). Using English as an example, the word dog is a signifier and that would convey a meaning or signified of a furry, cold nosed animal that barks. Each person may associate a different image of a dog with this word, but they are receiving the same message.

One important thing to remember is that nothing is a sign unless we invest some sort of meaning into it (Chandler, 2005). In English, the word dog is a signifier, but in Spanish the word perro is a signifier for the same signified. If I speak only English and not Spanish, the word perro is not a sign to me, but the word dog would be a sign. This occurs because each language contains its own code and clear communication requires each member to understand the same code (Hattenhauer, 1984).

We can further explore this issue if we go back to the communication model and the process of encoding and decoding. Architects encode their buildings with a message that they understand in terms of an architectural code. Society in turn, tries to decode these messages using a different code than the architect and the result is a misinterpreted message.

Theoretical Premise Research

Types of Signs

There are three major types of signs identified in Saussure's sign theory of semiotics: symbolic, iconic, and indexical. Each type explores a different relationship between the signifier and signified which results in different uses in semiotics.

Symbolic signs occur when the signifier does not resemble the signified. Their relationship is only connected through an arbitrary or conventional system. This means that in order to understand symbolic signs, people must be taught these relationships. Languages in general can be classified as symbolic signs because as signifiers, words do not resemble their signified. The word tree has no resemblance to a tree of any kind, but people can make the connection because they were taught the relationships of English (Chandler, 2005).

Iconic signs occur when the signifier resembles or imitates the signified. This could be in appearance, sound, taste, feel, or smell. It can also be described as possessing some of the same qualities such as portraits, cartoons, scale models and metaphors (Chandler, 2005). The use of metaphor in architecture can have many implications to how a building is viewed. More will be discussed on metaphors later in the research.

Indexical signs occur when a signifier is directly connected to a signified in some way, whether physically or causally. This link can be either observed or inferred and signs of this type can be referred to as natural signs (Chandler, 2005). Some examples are smoke meaning fire, a knock meaning someone is at the door, or a pain meaning something is injured.

In addressing the language of architecture, one might argue that architecture relates only to iconic signs and that it doesn't use symbolic or indexical signs. This might be true, but I would argue that architecture uses all types of signs and that they all have their place. Each type of sign can convey something others cannot and they are all useful to architectural communication.

Theoretical Premise Research

Duck vs Decorated Shed

In the past there has been much debate regarding signs and their use in architecture. Robert Venturi had a particularly interesting view called the duck vs the decorated shed debate. A decorated shed is a simple enclosure with signs like billboards attached to it indicating its function (Fig. 2). On the other hand, a duck is a building designed to represent its function like a duck shaped building selling duck decoys (Fig. 3). Many people would call the Sydney Opera House a real life example of a duck. Taking from what was discussed earlier about signs, it is clear that decorated sheds are symbolic signs and ducks are iconic signs (Jencks, 1991).



Fig. 2 (Jenck, 1991).

Ducks give us the benefit of visually understanding what they are without have to read their function directly. This a good thing because it means that people are understanding the message the architect is trying to convey through the architecture. The problem is that if the function changes a large amount of work needs to be done to express this new function. Duck buildings are not designed to be very adaptable and this can effect their useful life.



Fig. 3 (Jenck, 1991)

Venturi believed that all buildings should be designed to be decorated sheds as opposed to ducks. Sheds don't have the problem of ducks because if their function changes the sign out front would be changed. The problem with decorated sheds is that designers believe they are too simplistic and that they would be limit their opportunities to communicate (Jencks, 1991).

I don't believe that either option is the correct one, because they are too far apart on the spectrum. As is true with most things, the correct answer normally lies somewhere in the middle. Architecture can embody both symbolic and iconic signs, but not to the extremes. In the future, the meanings of signs will change making duck buildings too limited in their long term use. On the other hand, decorated sheds are too simplistic in their meaning to possess much intrinsic value worth keeping.

Theoretical Premise Research

Metaphors

Since society doesn't understand the code of architecture, they will try to understand buildings with their own codes. This type of reading will most likely result in a metaphor. Society will try to decode an unfamiliar building form by comparing it to something it resembles (Hattenhauer, 1984). This building form will start out as a metaphor, then turn into and cliché, until it is finally recognized as an architectural sign. An example of this is the precast grill (Fig. 4), which started out as a metaphor of a cheese grater, but then eventually led to the meaning of parking garage (Jencks, 1991).

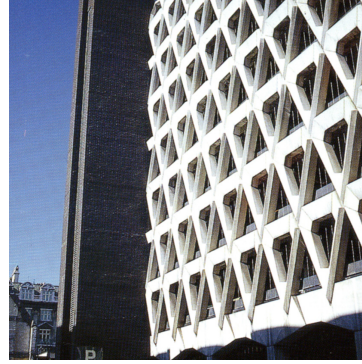


Fig. 4 (Jenck, 1991)

Metaphors can be very ambiguous in their application on a building form. Sometimes the architect either deliberately leaves the form up to interpretation, or doesn't clearly define the form. When the form isn't clearly defined, it is open to various interpretation that may or may not be what the architect wanted. This situation of multiple metaphors has occurred on many famous buildings including the Sydney Opera House and Ronchamp.

The Sydney Opera House is compared to flowers unfolding, sailboats in the harbor, fish swallowing each other, and many others (Fig. 5). Ronchamp also possesses many interpretations and is compared to hands praying, a ship, a duck, and many others (Fig. 6-9). Some critics have called it overcoded and as a result, the building seems upsetting to some and enigmatic to others. The architect Le Corbusier only admits to the visual acoustics of the curved wall and the crab shell shaped roof (Jencks, 1991).

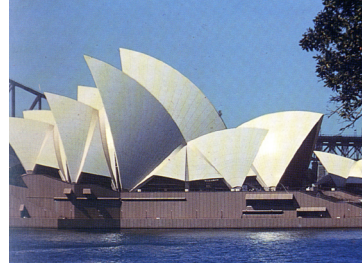


Fig. 5 (Jencks, 1991)

With metaphors, two other aspects of the architectural signified are used. These are the denotation and the connotation. The denotation refers to the actual function of the object or form. Functions are important because unlike art, architecture must function to be considered architecture (Broadbent, G. & Bunt, R. & Jencks, C., 1980). For example, stairs denote the function of traveling up to another story and a door denotes the function of entering or exiting a room.

Theoretical Premise Research

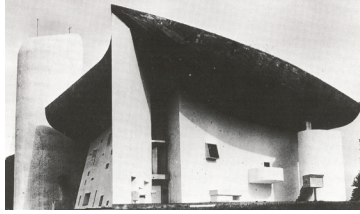


Fig. 6 (Jencks, 1991)

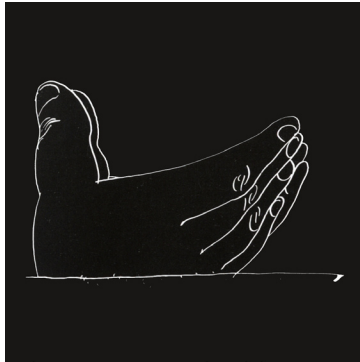


Fig. 7 (Jencks, 1991)

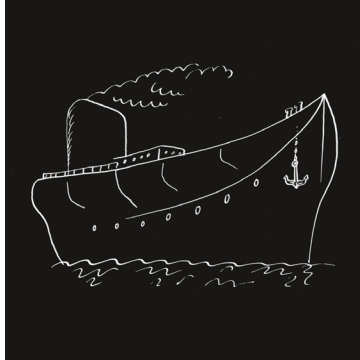


Fig. 8 (Jencks, 1991)

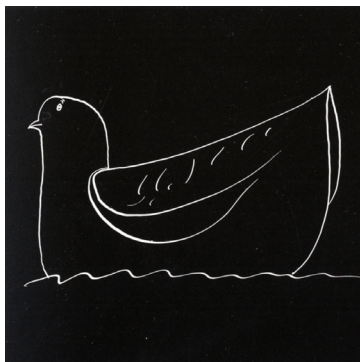


Fig. 9 (Jencks, 1991)

The connotation refers the associated meanings of the architectural form. For example, an escalator may connote fun for some people, but danger for somebody else. In order to use an architectural form, it must be decoded first. Each person who uses it may have a different code and some codes are more easily understood than other. For example, Someone who had not seen stairs before would probably figure them out quickly, but an escalator would take longer to decode (Hattenhauer, 1984).

Coded dennotations of objects may not be as clear as some people think and the lesson of the toilet bowl illustrates this concept. Many modernists viewed the toilet bowl as the ultimate object in “form follows function”. When it was introduced to people who had not used one previously they had other interpretations. In rural Italy, it was used to wash grapes by suspending a net inside the bowl then flushing to wash them. In northern Greece, toilets resembled traditional fire pits and were used as fireplaces and people simply flushed to put the fire out (Broadbent, G. & Bunt, R. & Jencks, C. 1980). It seems that there are no universals when it comes to interpreting objects.

Connotations of objects can change as time goes by, but they are also affected by past connotations. For example, tall buildings were consider sacred in many cultures because they were viewed as being closer to the heaven. During that period, the connotation was intentional. In present day society, skyscrapers aren't meant to mean this, but they can still be interpreted this way (Hattenhauer, 1984).

The connotation or meaning of an architectural sign can become more important than its function and form. It can be said that form may follow function, but function follows communication. People must understand an architectural sign before they can use it. It is also true that the symbolic meaning of something can be more important than it's function. For example, a throne is meant communicate as a status symbol more than as a comfortable place to sit (Jencks, 1991).

Theoretical Premise Research

Experiencing Architecture

“Architecture is not an art independent from reality. Real architecture, real painting, real poetry, real music is never detached from physicality. In architecture, that’s it. Architecture is at the edge, between art and anthropology, between society and science, technology and history. Sometimes memory, too, plays a part. Architecture is about illusion and symbolism, semantics, and the art of telling stories. It’s a funny mixture of these things. Sometimes it’s humanistic and sometimes it’s materialistic” Renzo Piano (Architectural Record)

As seen from this quote by Renzo Piano, architecture speaks to people on multiple levels at the same time. It is impossible to understand all of these levels without experiencing the building personally in its physical form. Pictures, videos, and written descriptions of buildings are wonderful tools, but are not substitutes for the real thing.

Many elements are considered when experiencing a building for the first time and they will affect people’s perceptions of the architecture. Major ones to consider are: scale and proportion, rhythm, texture, daylight, sound and color.

Scale and Proportion

Scale and proportion deals with how well architecture relates to the scale of other buildings, the scale of its own elements or the human scale. It makes a difference if a building is designed in a monumental scale or that of a human scale. The former results in an awe inspiring experience and the latter has a more comfortable and practical demeanor (Rasmussen, 1992).

Scale also relates to perception and how each person views the size of an object. The human scale is meant to help architects design with the size of people in mind. This is important but different people will still experience architecture differently based on their size in comparison to the architecture. Something designed to be universal can never be so because people are not the same (Unwin, 2003)

Theoretical Premise Research

Rhythm

Rhythm relates to how well elements flow and seem to be compatible. Architects can get caught up in the traditional rhythm of solid void solid which most people understand. This can be too simplistic to have much meaning, but it is important to establish a rhythm because everything cannot be experienced at once.

Rest needs to occur in between elements so that their relationships can be appreciated, but not so much that it is necessary to start the process over again. If this idea is compared to physical work, breaks are necessary, but resting too long may result in your work coming undone. The hammer can be used as an example. The rhythm of a hammer is constant for each stroke on a nail and should continue until the nail is completely done. If it is stopped, the next stroke may result in a bent nail because the rhythm is lost.

Some of the best rhythms are actually unplanned and created completely by accident. These rhythms can occur in any developments that have seen changes that couldn't have been predicted, but happen to work out (Rasmussen, 1992).

Texture

Texture deals with the relative softness or roughness of an object. There are many other different textures that have all sorts of appearances. Each texture and its relation to other textures can suggest something different about a building. A high polished surface may appear clean and sleek whereas a rough and bumpy surface may appear rustic (Rasmussen, 1992).

Designers can use texture to suggest uses for an item, create a certain mood or to distinguish one space from another. For example, a carpeted room feels warmer and softer than a concrete floor. Also moving from say carpet to hardwood can suggest a different use for that area if you are in the same room (Unwin, 2003).

Theoretical Premise Research

Some materials like plastic can be made to have the texture of many different types of materials, but this isn't the same as experiencing the textures of the materials themselves. Maintaining a degree of honesty in material selection can have an effect on how the architecture is viewed by the public. A building made of imitation materials can be viewed as cheap and lacking in character (Rasmussen, 1992).

Daylighting

Daylighting is very important in the design of architecture and can vastly shape the feel of a space. An interesting aspect of daylighting is that it is one element of architecture that cannot be fully controlled. The sun is constantly moving and clouds move in and out of the sun's rays. An architect can't design for each individual day so they have to design for an overall average, which will not be the optimum solution for everyday (Rasmussen, 1992).

When considering daylight in any space, it is important to look at quality over quantity. Too much direct light will result in too few of shadows for proper viewing. Light quality in a space will be greatly affected by: how the light enters, how many openings, and how big of openings. In general, light from above results in a very diffuse light that may not be the best quality for rendering of textures. Sidelights will fix this, but may result in too much direct light which causes glare. Each lighting solution will result in a different feeling in the space and will greatly change how spaces are experienced (Rasmussen, 1992).

Sound

It may sound silly to ask how architecture sounds, but acoustics can have an effect on how a space feels. Different shaped rooms and materials provide for different reverberations. Also, a space can easily be recognized based on the sounds it creates or by its affects on sound. Religious spaces are for their large echoing sanctuaries that emphasize every sound. On the other hand, a bad sound can completely ruin the experience of a piece of architecture (Unwin, 2003).

Theoretical Premise Research

Color

Color has many psychological effects on people that will change how they view a space. A room can be made to appear larger by painting it with lighter colors or smaller by painting it with darker colors.

Red has a warming effect, blue has a cooling effect and green is a calming color. Also, many associations are made with colors that range from culture to culture. It is nearly impossible to convey a message using only colors because they have so many interpretations (Rasmussen, 1992).

Although colors are interpreted differently, they can still be used universally through codes. A room that is painted green may be referred to as the “green room”. This reference is easily understood by anyone whether they associate any meaning with the color green (Unwin, 2003).

Color is valuable, but should only be used to accent a building element. It should not be the accent itself, because colors by their nature, fade. The architecture of a space will probably remain longer than its color. This is illustrated by the greek and roman temples which were originally very colorful, but the colors did not last as long as the architecture (Rasmussen, 1992).

Many people want to use the elements of scale and proportion, rhythm, texture, daylight, sound and color to determine if a piece of architecture is good or not. It is possible use these elements to determine if a piece of architecture has character, but no person really has the right to grade architecture's value. By giving a building a grade of A or B would utterly spoil the pleasure that it's architecture gives. Great architecture, like great art, has its own standards and we can't set up absolute rules that it must follow (Rasmussen, 1992). Each person must decide for themselves the value of a particular building based on their experience of the architecture as a whole.

Theoretical Premise Research Summary

The basis of my research was focused on what methods or elements designers can use to communicate through their architecture. Also it went further to address how these methods impact society's understanding of architecture.

By applying the communication model to the language of architecture, it was discovered that architecture acts as the medium for the message between the architect (source) and society (receiver). Designers encode their messages in the architecture of their buildings so that it can be decoded by society when the building is viewed and experienced. Designers receive feedback from society pertaining to how well the message is understood. Noise can interfere with the message at anytime during the process of communication. This exercise shows us that buildings are the medium used in the language of architecture and that they can be understood the same ways as other languages.

The language of architecture isn't considered a true language because it doesn't have clear and constant interpretations of its elements. It is sometimes thought of as a language because of its connections with semiotics. The linguistic branch of semiotics studies signs and their meanings in different societies. Signs consist of two parts: the signifier and the signified. The signifier is the form which the sign takes and conveys meaning. The signified is the concept or meaning the signifier represents. Signs are complicated in that they aren't always universally understood. The meaning of a sign depends on the code used to read it. Architectural code and society's code is different in most areas which is the reason for most misinterpretations of architecture.

Architecture has been called a system of signs and we learned that there are three main types of signs: symbolic, iconic and indexical which can be found in architecture. Each type of sign displays something different and can help to communicate different things in architecture. Symbolic signs relate to languages, iconic signs relate to metaphors, and indexical signs relate to cause and effect relationships like smoke equals fire.

Theoretical Premise Research Summary

Symbolic and Iconic signs can be seen in Venturi's duck vs decorated shed debate. Ducks use their forms to express their function through metaphor and act as iconic signs. Decorated sheds use billboards to tell you their function through a language and act as symbolic signs. This shows designers that there is more than one way to communicate through their architecture. The method used depends on the message they want to convey.

Metaphors occur when society tries to understand architecture without understanding the architectural code. When society doesn't understand something they will compare it to something they do understand.

Some architecture can have many different metaphors associated with it because each society member understands architecture differently. In conjunction with metaphors are denotations, which are the function of an object, and connotations, which are the understood meanings of the object.

Much of what is understood about architecture is only gained by experiencing the spaces themselves.

Important elements to consider are scale and proportion, rhythm, texture, daylight, color and sound.

Each one of these elements will have a considerable effect on how people experience a building. Although these elements are important there is no way to grade a building based on how well each element is used.

Each individual will decide from themselves if the architecture is good or bad and everyone is entitled to their opinion.

Through my research, I have come to a few conclusions regarding the language of architecture.

First of all, it is impossible for anyone to read architecture as a true language because the meanings of its elements are constantly in flux.

Secondly, there are many meanings both functional and symbolic that can be communicated through architectural elements that may or may not be understood by society. Lastly, in order to truly understand architecture people must experience the spaces first hand. It is only through this experience that people can sense all of the various communication elements used by designers.

U.S. Holocaust Memorial Museum - Case Study #1



Fig. 10 (Phaidon, 1995)

1. Meyerhoff Theater
2. Amphitheater
3. Stairs to Hall of Witness
4. Education/conference center
5. Classroom
6. Cinema
7. Temporary exhibit
8. East entry
9. Group entry
10. Stage
11. Hall of Witness
12. West entry
13. Loading dock
14. Permanent exhibition
15. Hall of Remembrance
16. Hall of Learning
17. Tower of Victims
18. Library of Victims
19. Conference room
20. Photo archives
21. Survivor registry

Project Type - Memorial Museum

Location - Washington D.C. USA

Year Completed - 1993

Architect of Record - James Indigo Freed

Total Floor Area - 258,000 sq ft.

Site Area - 1.7 acres

Major Program Elements - library, gift shop, cinema, theater and classrooms.

Major Architectural Elements - complex glass roof, integrated site context and in-depth symbolism.

Introduction

Some events that happen in life are so powerful that they cannot and should not be forgotten. To forget them would be to pretend that they never happened, which would risk them happening again. The Holocaust is one of these such events. This memorial museum helps to forever immortalize the suffering that occurred so that it will not be repeated. It also honors the lives that were lost and lets families know they will be remembered.

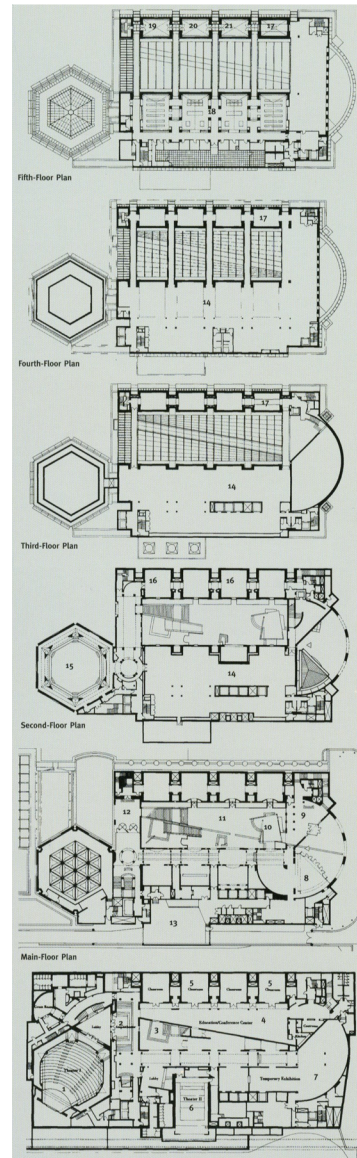


Fig. 10a (Naredi-Rainer, 2004)

U.S. Holocaust Memorial Museum - Case Study #1

Project Description

This museum focuses on a very difficult event that occurred in our history and reminds people of things they may have wanted to forget. The symbolism in this building is so prevalent and almost universally understood; it can't help but remind us of the Holocaust.



Fig. 11 (Phaidon, 1995)



Fig. 12 (Phaidon, 1995)



Fig. 13 (Phaidon, 1995)



Fig. 14 (Phaidon, 1995)

The site is located between 14th and 15th St. in Washington, D.C. just off the central axis of Independence Avenue. The building is placed between two existing buildings: the Auditor's building clad in brick to the north and the Bureau of Engraving and Printing clad in limestone to the south (Fig. 11). One of the main schemes was to clearly link this new building to these existing structures. The resulting design acts as an extension of both buildings, yet marks a disconnect from both. This symbolizes the Holocaust's connection with the 20th century, but recognizes its unbridgeable break from it (Phaidon, 1995).

The building itself has two main entrances which are meant to show the dichotomy of democracy versus dictatorship. The 14th St entrance is very large and triumphant with an emphasis placed on symmetry (Fig. 13). There are two large pillars flanking either side which seem to want to frame a single individual in the center. The facade is false and the real entrance is back behind in the corner which suggests that dictators are aren't always what they seem and are hiding behind their overt displays of grandeur. The 15th St. entrance in contrast is unsymmetrical and very subdued in scale (Fig. 12). It is in the center of the facade, but has no sense of being framed, which gives it a more democratic feel (Phaidon, 1995).

Once inside the building, we can begin to understand the true nature of the structure. Four pointed towers of brick on the north acts as a connection to the auditors building, but clearly make reference to the death camps. The building acts as resolutions to these adjacent buildings connected by skywalks above (Fig. 14). This central dividing space is called the hall of witnesses (Phaidon, 1995)

U.S. Holocaust Memorial Museum - Case Study #1

The hall of witnesses functions as a central space and non-place all at once (Fig. 15). It's fractured demeanor is shown in the articulation of the stairways and the skylight roof. The skylight acts as a gash in the roof seeming to cut the building in two (Fig. 16). Many other details share this fractured concept and they were designed to be as unresolved as possible. I believe this is meant to suggest the inherent messiness of the holocaust and how it isn't fully resolved in our minds. The brick is also brought into the interior and bound by metal straps to further suggest the brick ovens of the death camps and how they were bound to hold back expansion (Fig. 17) (Phaidon, 1995).

The program of the building works to operate as a public memorial and a private museum. The functions are so well interwoven that one can experience the entire memorial without realizing that they didn't enter the museum. The building also houses numerous other program elements and exhibition space that is much larger in comparison to my other case studies and my proposed museum. This five story buildings houses a permanent collection of about 70,000 sq ft, temporary exhibition space of 9,500 sq ft. and a library of 20,000 sq ft (Phaidon, 1995).

Another important space to mention is the hall of remembrance. This six sided space relates directly to the star of David and the six million that died during the holocaust. The space itself is empty, but is marked by a unique light coming in from the corners and from above (Fig. 18). The hall of remembrance serves to as a solemn reminder of what was lost and suggests that we look inward to ourselves and that we remember (Phaidon, 1995).



Fig. 15 (Phaidon, 1995)



Fig. 16 (Phaidon, 1995)



Fig. 17 (Phaidon, 1995)



Fig. 18 (Phaidon, 1995)

U.S. Holocaust Memorial Museum - Case Study #1

Graphic Analysis

Structure

The structure appears to be a combination of masonry bearing walls, steel columns and steel beams. The columns are wrapped, but the roof structure is left exposed. The pattern of the elements is on a grid (Fig. 19a), but there is a logic to their placement, as seen in plan.

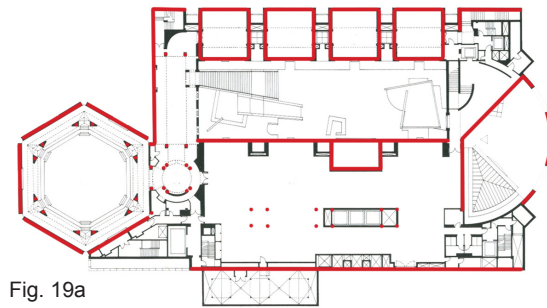


Fig. 19a

Natural Light

The proximity to surrounding buildings made it nearly impossible to bring light in from the sides so the majority of light comes from a large skylight (Fig. 19b). The skylight covers the hall of witnesses which functions as a major gathering and circulation space.

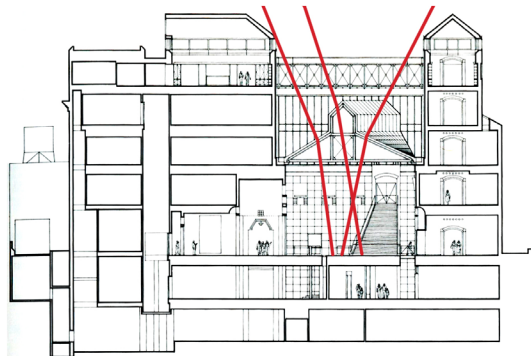


Fig. 19b

Massing

The building is very compact in form, but key masses can be distinguished from the plan (Fig. 19c). The hexagon and semi circle are easily separated from the rest of the form and define the important spaces of the entrance and hall of remembrance. Four squares mark the towers and the other rectangles finish out the major spaces of the hall of witnesses and the permanent galleries.

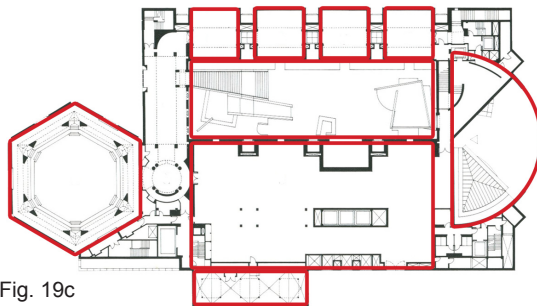


Fig. 19c

Plan to Section

When comparing the plan to the section, we can identify a parallel between the two. It shows that this building seems to have a proportional relationship. This means that the section is proportional to the plan in some way. This is seen most evidently in the towers because they keep the same widths, but their heights become stretched (Fig. 19d).

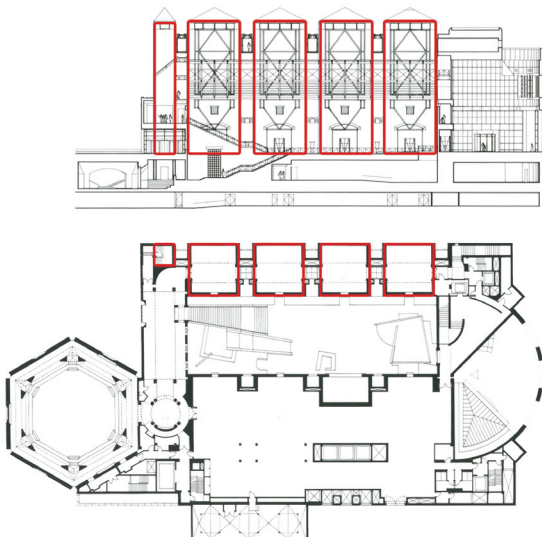


Fig. 19d

U.S. Holocaust Memorial Museum - Case Study #1

Circulation to Space

This building most closely follows the pattern of central use with linear circulation (Fig. 19e). The hall of witnesses is an important space that can be used for circulation, but is circulated around on most levels. Vertical circulation is limited to the corners in this building.

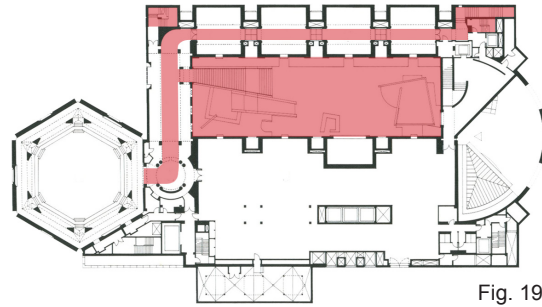


Fig. 19e

Geometry

The mixture of spatial types makes this a hard building to define as one pattern (Fig. 19f). The hexagon and four squares on top are pure shapes and the semi circle is clearly defined. There are also rectangles present within a larger overall rectangular form.

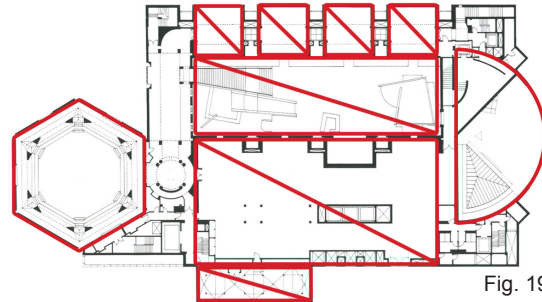


Fig. 19f

Hierarchy

The most dominant features in the plan are also the most dominant in section (Fig. 19g). It also makes sense that these are most important spaces, like the towers, hall of remembrance and the entrance.

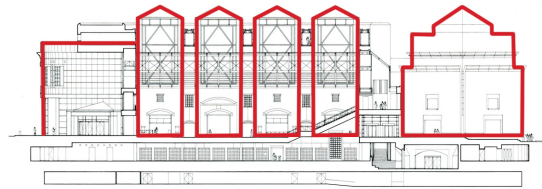


Fig. 19g

Unit to Whole

This building most likely possesses the pattern of units making up the whole (Fig. 19h). There are many clearly identified units that exist inside in the building plan and work to build on each other to make the final form.

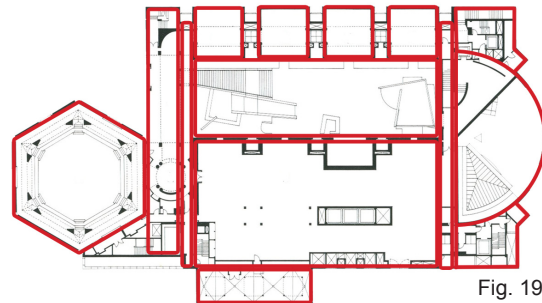


Fig. 19h

U.S. Holocaust Memorial Museum - Case Study #1

Summary

This building is described by the architect not as symbolic, but suggestive. We are meant to see his forms and details as suggesting certain elements or events. Many of the forms are quite distinctive and lead most visitors to the same conclusion, which is what makes this piece a powerful case study relating to architectural communication. It shows me that with the right elements, people can be encouraged to see similar messages in architecture.

The Glass Pavilion - Case Study #2



- 1. Enclosed gallery
- 2. Gallery
- 3. Cafe
- 4. Enclosed courtyard
- 5. Hot Shop
- 6. Lampworking
- 7. Courtyard
- 8. Rest Area
- 9. Food Handling
- 10. Multi-purpose

Fig. 20 (Pearson, 2007)

Project Type - Glass Art Museum

Location - Toledo, Ohio

Year Completed - 2006

Architect of Record - Kazuyo Sejima and Ryue Nishizawa

Total Floor Area - 76,000 sq ft

Site Area - 5 acres

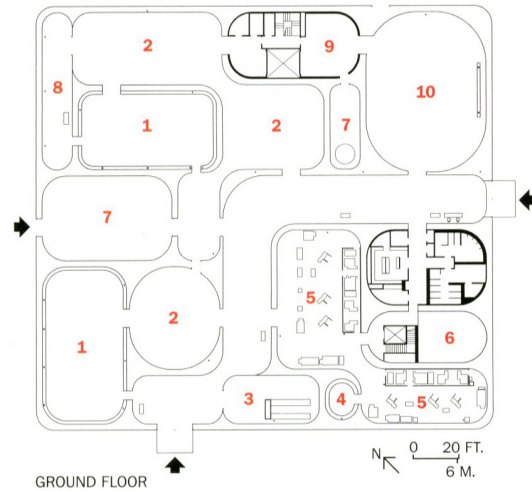


Fig. 20a (Pearson, 2007)

Major Program Elements - Galleries, courtyards, glass working area, cafe,

Major Architectural Elements - Mullionless float glass walls and thin solid steel columns.

Introduction

When I think of glass in buildings, I normally first think of windows. Glass windows enable designers to bring light into their buildings without exposing the users to the elements. SANAA's glass pavilion has a different take on glass and uses it in a radically different manner. All of the walls in this building are made of glass which changes how people view and experience the architecture.

The Glass Pavilion - Case Study #2

Project Description

Lead architects Kazuyo Sejima and Ryue Nishizawa, SANAA, are known for their functional museum designs, relation to the site, and their cutting edge work with architectural glass. These elements are illustrated well in the design of this building.

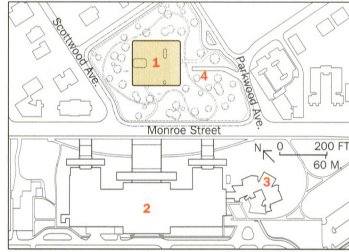


Fig. 21 (Pearson, 2007)

The glass pavilion is situated across the street from the main building of the Toledo Museum of Art which was designed in 1912. To the northwest, there is an old Victorian residential neighborhood and the site is immersed in numerous large trees (Fig. 20-21). All of these factors contributed greatly to the final design of the museum (Pearson, 2007).



Fig. 22 (Killory & Davids 2008)

SANAA felt that this museum needed to be made of more simple and modern materials that had clean lines. In addition, they felt that the building should be low in profile because of its proximity to the residential neighborhood and its location among trees (Fig. 22) (Pearson, 2007).



Fig. 23 (Killory & Davids 2008)

The resulting design is a building with all glass walls that is only one story in height. The glass walls provide a different experience in its spaces that is not felt in other more solid buildings. When inside the Glass Pavilion you can see everything, but you are not able to reach everything directly. The design is a maze of sorts that guides people through the building. As people walk through the spaces they can sense that they are very close to adjacent spaces, but not in them (Fig. 23). Many of the glass walls flow into each other or next to each other, leaving either a pathway or closing in on itself.



Fig. 24 (Killory & Davids 2008)

A connection to the site is maintained even while inside the building because the openness of the glass walls allow people to feel like they are walking outside in the trees. Additionally, exterior courtyards are placed within the building which allow users to flow from inside to outside without leaving the building itself (Fig. 24) (Pearson, 2007).

The Glass Pavilion - Case Study #2

The glass walls are roughly 13 ft tall and come in 8 ft wide panels. There are over 360 of these panels in the building with each of them weighing about 1,500 lbs. There are no sharp corners because everything is finished with a rounded glass edge (Fig. 25). The walls themselves can support no weight so the building is held up by slender steel columns measuring about 4 inches in diameter. The roof was kept as thin as possible to emphasize the glass and the low profile. All mechanical equipment was placed on the floors or in the basement to avoid bulky protrusions on the roof (Pearson, 2007).

Internal partitions were placed about two feet back from the exterior walls to provide a thermal buffer (Fig. 28) This buffer works to reduce energy consumptions and prevent moisture condensation. Silvery curtains are also equipped around some gallery spaces if they should become too bright (Fig. 27).

An interesting programmatic issues is that this building houses both a glassmaking studio (hot shop) and glass sculpture galleries. These spaces are very different if their requirements and challenged the architects considerably. The resulting design allows visitors to view finished art while at the same time being able to look across the building into a studio making art (Fig. 26).

The organization of the spaces are straightforward with the galleries on one side of the building and hot shop spaces on the other with the main circulation running in between them (Toledo Museum of Art, 2009).

The design is very simple, clean, straightforward and would be interesting to experience. The light coming in at various time of the day results in different feelings every time people visit the building. I think this is a wonderfully contrasting building that shows people many things about experiencing daylight in spaces.



Fig. 25 (Pearson, 2007)



Fig. 26 (Pearson, 2007)



Fig. 27 (Killory & Davids 2008)



Fig. 28 (Killory & Davids 2008)

The Glass Pavilion - Case Study #2

Graphic Analysis

Structure

Since the walls of this building are made of float glass, they can support little to no weight. This means that there must be an underlying structure to support the roof. The supports used in the Glass Pavilion are slender steel column about 4 inches in diameter. They can barely be distinguished so I have highlighted them on fig. 29a. along with the few bearing walls used at privacy areas.

Natural Light

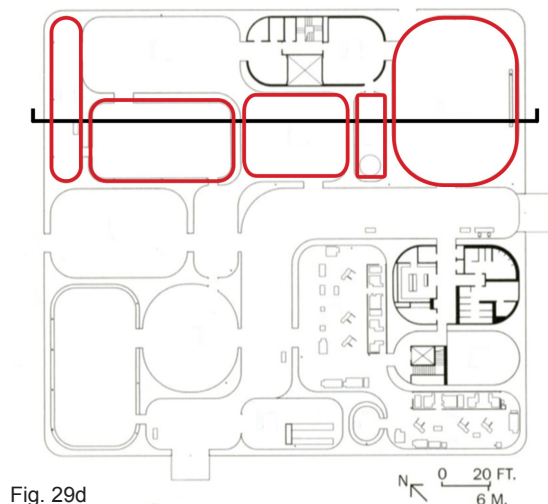
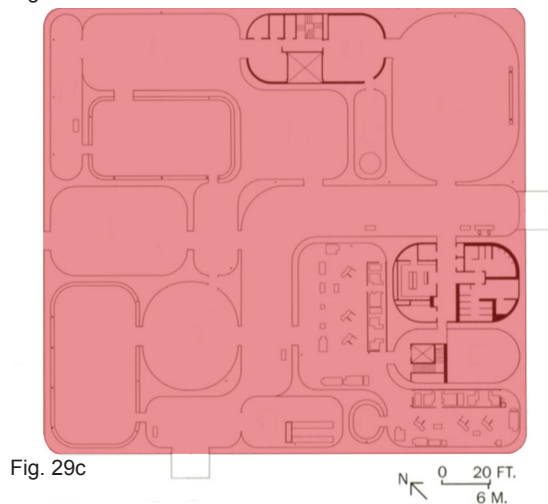
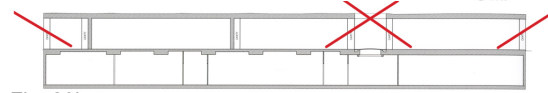
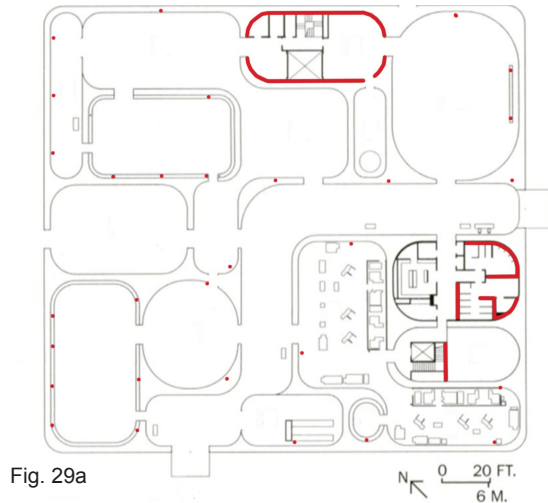
The spaces in this museum have access to numerous amounts of daylight, but all of it is sidelight (Fig. 29b). There are no skylights, but there are open enclosed courtyards within the building. Also the interior glass walls are set back from the exterior to allow the roof to shade some of the space.

Massing

The form used in this design suggests one large flat mass from the exterior perspective (Fig. 29c). There are no differentiations on the exterior that suggest different spaces or functions. The whole building comes across as very streamlined and cohesive.

Plan to Section

One weakness of this case could be it's lack of much development in section. The section is cut through a variety of different sized spaces, but they all have the same ceiling height (Fig. 29d). There doesn't seem to be any type of relationship found from the plan to section.



The Glass Pavilion - Case Study #2

Circulation to Space

The major circulation path of the building flows between the two main entrances. It also acts as a dividing line between the hot shop in the lower right corner and the glass sculpture galleries (Fig. 29e). This type of circulation could be classified as a mixture on linear and central because the path follows a line, but exists in the center of the building to a degree.

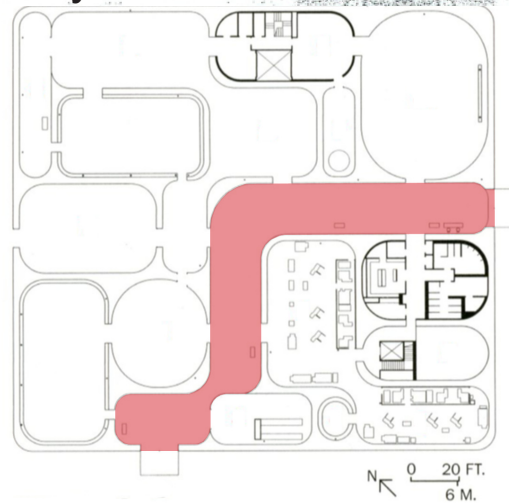


Fig. 29e

Geometry

The building's geometry is basically a rounded square in plan, but the overall theme suggest 4 square arrangement. This occurs when four squares center on a centrally used space. In this case the circulation is at the center of these squares (Fig. 29f). Inside these squares are various other rounded squares and rectangles that are continuously connected by glass walls.

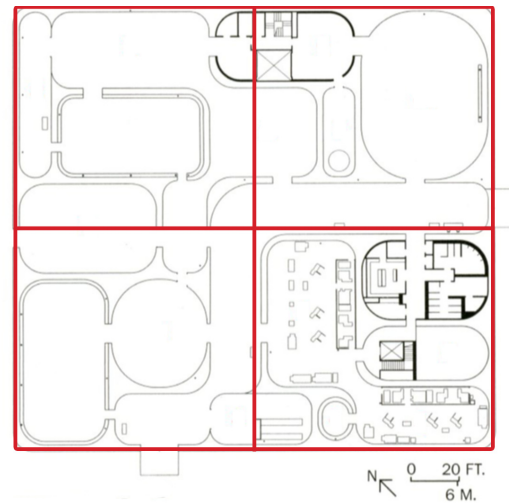


Fig. 29f

Hierarchy

The flatness of this building in section results in all the space being equal in height. People cannot distinguish one space from another when looking from the exterior of the building (Fig. 29g). Since this occurs, we could say all the spaces equal in value because there is no hierarchy shown in the section.



Fig. 29g

Unit to Whole

This case study clearly displays a units contained within the whole configuration. There are many easily distinguished units displayed in the plan and they all exist within a larger whole building form (Fig. 29h)

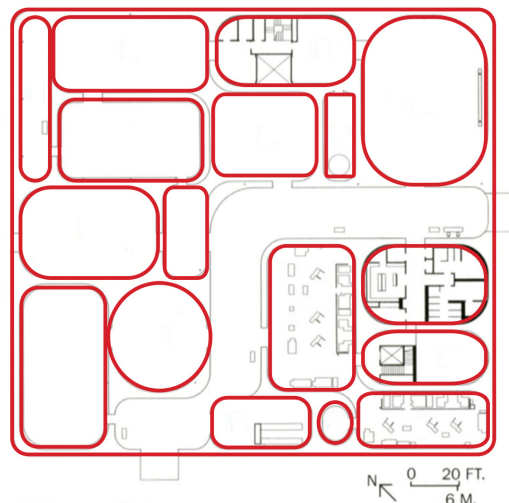


Fig. 29h

The Glass Pavilion - Case Study #2

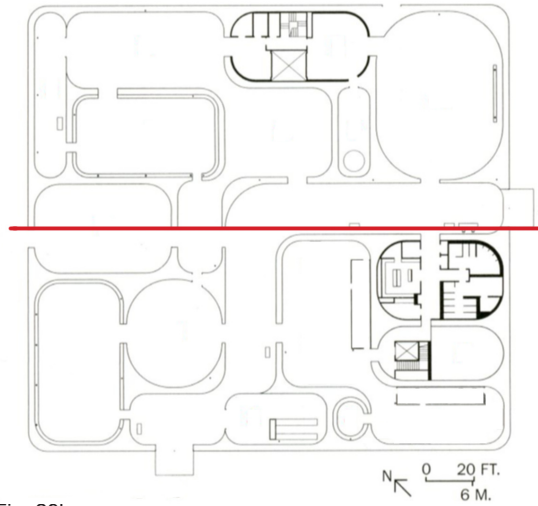


Fig. 29k

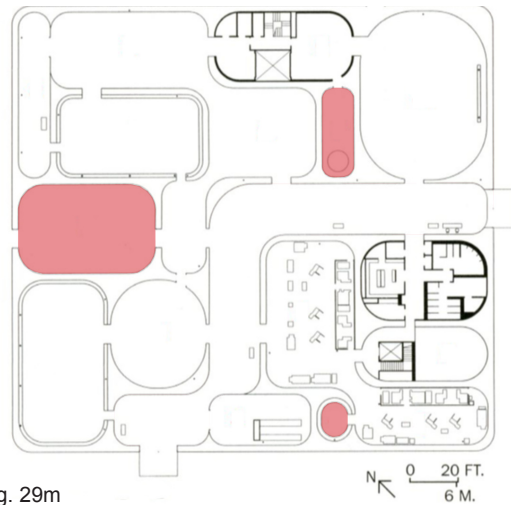


Fig. 29m

Symmetry and Balance

The building appears very symmetrical in elevation because the continuous exterior glass wall makes the building appear as a solid surface. In plan it isn't symmetrical at all, but it is generally balanced as a whole in terms of spaces (Fig. 29k).

Additive and Subtractive.

There is some evidence of subtractive elements found in this case. The courtyards are cut out of the plan (Fig. 29m) and subtract from the overall form even if they cannot be read easily from the exterior. It could also be said that the whole design could be thought of as subtractive because individual spaces are cut out of the overall large square.

Conclusion

The simple form of the Glass Pavilion is contrasted by its unique organization and complex material choice. The case illustrates that buildings don't need to appear complex to evoke different experiences from them. The things that are important are how the various building elements like light and structure are handled. The Glass Pavilion is a great example of how varied experience can occur with a simple building.

Nasher Sculpture Center - Case Study #3



Fig. 30 (Dillion, 2004)

1. Main entry hall
2. Art gallery
3. Cafe
4. Multi-purpose
5. Gift shop
6. Boardroom
7. Offices
8. Coats
9. Classroom
10. Auditorium
11. General storage
12. Art storage
13. Conservation
14. Workshop
15. Kitchen
16. Loading
17. Truck lift
18. Secondary entrance
19. Mechanical
20. Staging

Project Type - Sculpture Museum

Location - Dallas, Texas

Year Completed - 1997

Architect of Record - Renzo Piano

Total Floor Area - 55,000 sq. ft.

Site Area - 2.4 acres

Major Program Elements - Sculpture Garden, Indoor/Outdoor Auditorium

Major Architectural Elements

- Unique aluminum sun shading over a glass roof, vaulted roof forms supported by cables and travertine walls.

Introduction

This modestly sized museum contains one of the world's greatest private collections of modern sculpture. There are 350 pieces in the collection that are conservatively valued at over 500 million dollars.

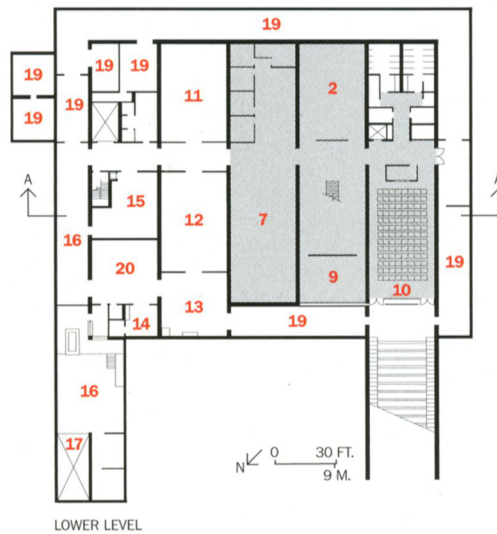
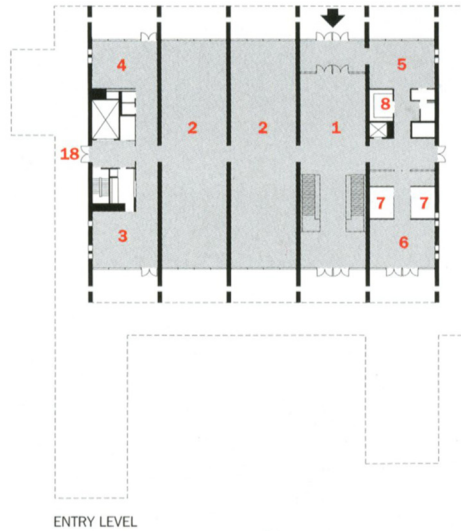


Fig. 30a (Dillion, 2004)

Nasher Sculpture Center - Case Study #3



Fig. 31 (Dillion, 2004)



Fig. 32 (Dillion, 2004)

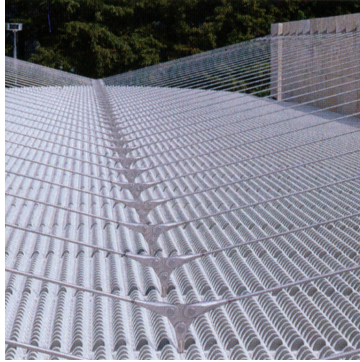


Fig. 33 (Dillion, 2004)



Fig. 34 (Dillion, 2004)

Despite interest from major museums like the Tate, the Guggenheim and the National Gallery of Art, Raymond Nasher chose to build his own museum and keep his collection in downtown Dallas (Dillion, 2004).

Project Description

The selection of Renzo Piano for this project ensured Nasher a beautifully detailed building. Piano's concept behind the design of the Nasher related to how crumbling ruins can still differentiate space despite their missing roofs. From this concept we get his travertine walls as they protrude out of the building and into the landscape (Fig. 30). These walls go all the way through the building and act as main dividing elements. On the exterior they are rough and unfinished, resembling how they would appear straight out of the quarry (Fig. 31). On the interior, the travertine is highly smoothed and polished resembling fine cabinetry (Fig. 32). These walls also work to conceal all of the security and mechanical systems so that there is nothing to distract from the art (Dillion, 2004).

As we know from many other museum designs by Piano like the Menil Collection and Cy Trombley Gallery, he is a master at bringing natural light into his buildings. Piano was challenged by the client to do something more delicate and different from his other museums at the Nasher. The result is a wonderfully refined design that took over 3 years to design and construct. The roofs are glass barrel vaults spanning between the travertine walls. They are supported by thin ribs below and held from above by rods (Fig. 33) (Dillion, 2004).

On top of these roofs Piano places an aluminum shading device that resembles egg cartons. This sunshade consists of 500,000 oval scoops that are oriented due north. This allows them to bring nice indirect light in from the north and block all of the harsh direct light. On the interior, this results in an interesting experience because when looking at the roof one way people see an unique aluminum texture, but if people look the other way they can see the whole sky (Fig. 34) (Dillion, 2004).

Nasher Sculpture Center - Case Study #3

The major interior spaces consist of three bays of gallery space, one restaurant bay, and a gift shop in the last two bays. Additional gallery space is located downstairs along with an indoor/outdoor auditorium and a library. All of the spaces flow into each other in a seamless fashion without need of many corridors to define traffic flow (Fig. 35). The color palette used inside is very subdued and natural with white oak floor, tan travertine, silvery aluminum and extra white glass. These colors work to further emphasize the art and help to not take away from it (Dillion, 2004).

Another important programmatic element of this project was the outdoor sculpture park. Mr. Nasher insisted that this be an important part of the project and it was designed by landscape architect Peter Walker. The original design was meant to be very organic with mounds of grass and serpentine edged ponds and paths reminiscent of Mr. Nasher's garden. The final design however resulted in something more complementary to the city landscape and the museum itself (Dillion, 2004).

The park is 1.7 acres in size and works to mimic the building's geometry with trees (Fig. 36). Large oaks and elms follow the lines of the travertine wall and stream out into the landscape. It time they will grow large enough to completely cover and shade the walkways in the summer, but allow low southern light into the museum in the winter (Fig. 37). This large garden features only about 25 large sculptures. This was done intentionally to give viewers time to rest and contemplate what they saw before going on to the next sculpture. The color palette in the garden is similar to the museum in that it is subdued (Fig. 38). There are no showy plants that might compete with the sculptures (Dillion, 2004).

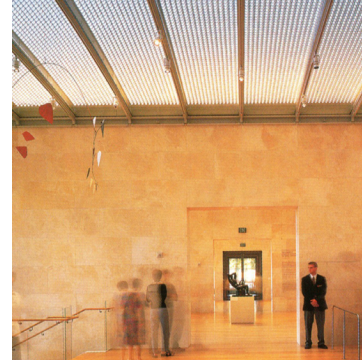


Fig. 35 (Dillion, 2004)



Fig. 36 (Dillion, 2004)



Fig. 37 (Dillion, 2004)



Fig.38 (Dillion, 2004)

Nasher Sculpture Center - Case Study #3

Graphic Analysis

Structure

The supporting structure of this building consists of six travertine clad bearing walls (Fig. 39a). They are dominant design features and also work to resist the force of the glass arched roof and hold up the sun shades. They also contain all of the security and HVAC systems for the building making them very multi-functional.

Natural Light

The light that is allowed in from the glass roof is perfectly diffuse and offers the perfect glow to look at sculptures (Fig. 39c) North and south walls are also completely glass to allow some direct light into the space so that textures can be read easier.

Massing

The building is separated into five arched bays by the six travertine walls that protrude above the rest of the structure (Fig. 39c). Each bay is equal in volume and they create a very simple pattern of mass void. This massing pattern can be felt in section and plan alike.

Plan to Section

The relationship between plan and section is most likely proportional. Long slender spaces in plan are shrunk down into short semi-rectangular spaces in section.

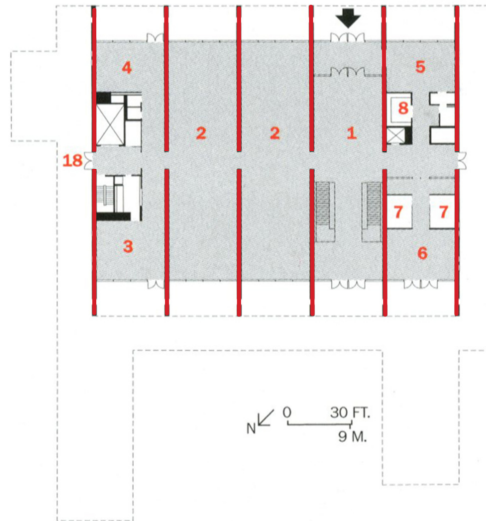


Fig. 39a

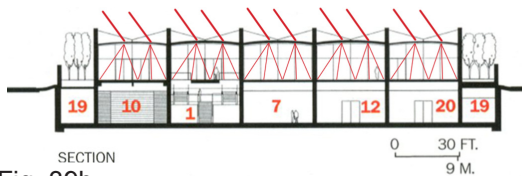


Fig. 39b

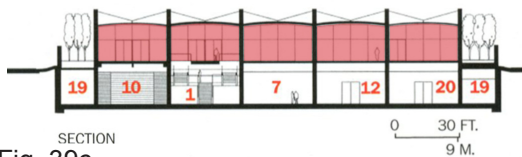
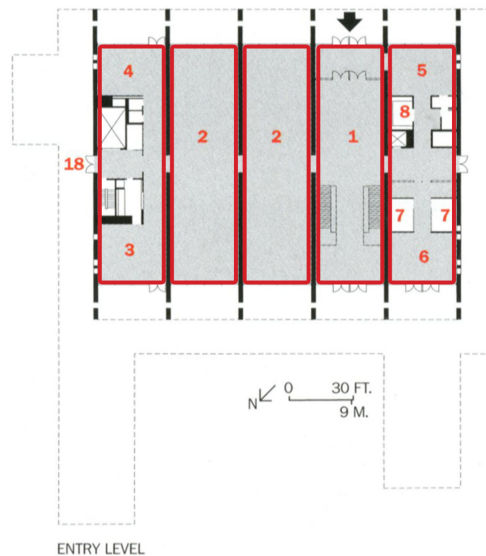


Fig. 39c



ENTRY LEVEL

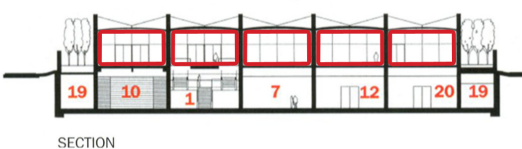


Fig. 39d

Nasher Sculpture Center - Case Study #3

Circulation to Space

The circulation pattern used here seems to be linear because pathways flows straight through the spaces both vertically and horizontally (Fig. 39e). Although circulation is not defined by corridors, paths are easily distinguished throughout the building. They work as connections between doorways and can be read this way also.

Geometry

The basic geometry of the building works as a large rectangle. The travertine walls break up this larger rectangle form in smaller rectangular bays (Fig. 39f). This simple arrangement offers easy connections and provides for a pure form overall.

Hierarchy

The travertine walls seem to command the greatest degree of attention (Fig. 39g) because they protrude above the rest of the structure and work to hold it up. They are easily distinguished as dominant elements both in plan and in section.

Unit to Whole

This building follows the pattern of units aggregate to form a whole. This is done bt adjoining individual units to form the entire structure. The Nasher has five bays that of equal size that work to form the whole building (fig. 39h).

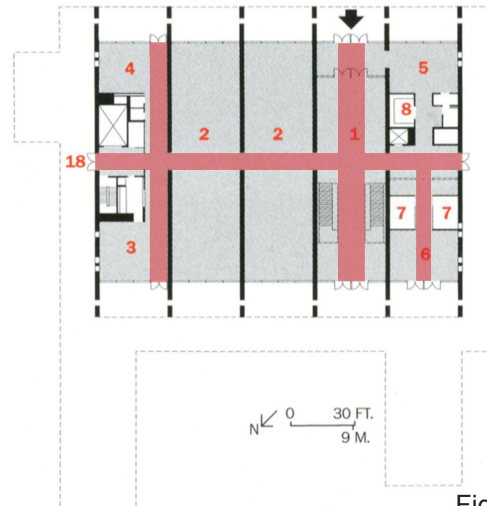


Fig. 39e

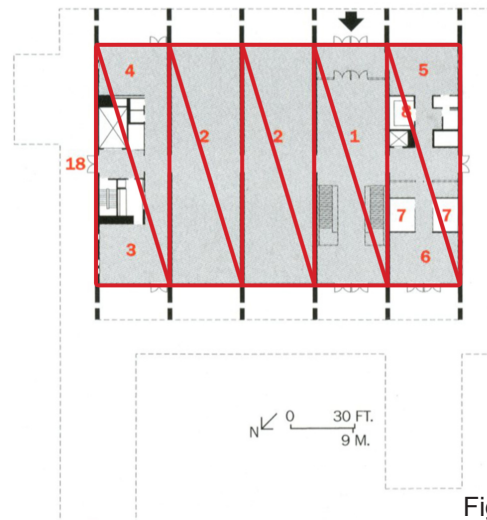


Fig. 39f

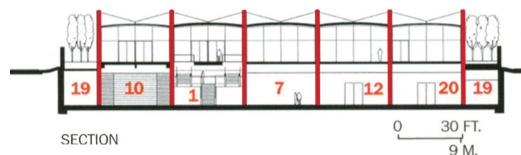


Fig. 39g

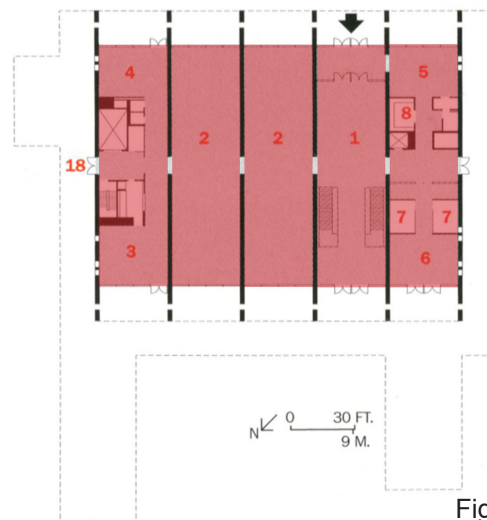


Fig. 39h

Nasher Sculpture Center - Case Study #3

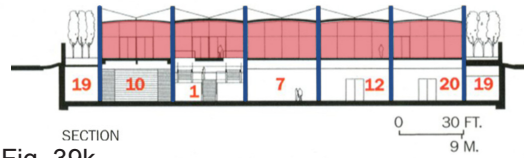


Fig. 39k

Repetitive to Unique

There is a very obvious use of repetitive forms in this building, but it is through their repetition that the overall form is defined as unique. One barrel vaulted space or one wall is not very interesting, but when they are alternated they make an interesting form that can be read separately from the individual parts (Fig. 39k).



Fig. 39m

Symmetry and Balance

This building is a perfect example of bi-lateral symmetry. A dividing line can be drawn right down the middle and each side of the building in exactly the same (Fig. 39m). This can be seen easily in plan and would be noticed in elevation also.

Conclusion

The Nasher Sculpture Center by Renzo Piano is a beautifully designed and elegant building. The attention to detail is evident in numerous aspects of the design including: sunshading, light quality, material selection and finishes. This case offers some insight into my theoretical premise in that it shows that buildings can clearly communicate functionality while emphasizing experience. These spaces clearly function well, but it is in their experience that we gain the true meaning of the space and it's usage.

Case Study Summary

Case studies are useful tools that we use to study what other designers have done with similar problems or typologies. I chose each of my case studies specifically for the insight they offered into either my programmatic requirements or my theoretical premise research. My case studies series consisted of these three different types of museums: memorial, glass art and sculpture.

Analysis

The analysis of these case studies has brought to my attention some interesting developments. First of all, structure and light seem to play important roles in all of the cases. Toplighting was employed in two of the three cases. Massing and geometry were varied, but a preference was shown for more rectangular spaces. Plan to section greatly helped display some of the relationships between the two and clearly demonstrated if the section was developed or not. Circulation tended to flow through the spaces themselves or through centralized gathering areas. Hierarchy was important in some cases and tended to work with the structural elements. Unit to whole was varied in its expression, but was found in each case. Lastly, repetition, symmetry, subtractive elements were used less often than others. Overall, the analysis was useful in distinguishing patterns and helping to understand what the designer was thinking.

Conclusions

As with any building type, there will be some shared characteristics among different museums. Each case study worked carefully with the selection of materials and their effects on the experience of the spaces. Another common trait was their use of natural light to display different aspects of the design and the artwork itself. Lastly, each design worked to integrate itself into the urban context in a way that complemented its surroundings. These commonalities suggest to me that materials, light, and surrounding context play a large role in the experience of a museum and how it is understood by its users.

Case Study Summary

Though there were many common characteristics between case studies, there were also many differences. The scale of the Holocaust Museum as opposed to the other two cases was about three times the size. The Nasher was the only museum to have one program while the Holocaust and the Glass Pavilion had two opposing programs. The glass pavilion functions as a glass art gallery as well as a glass making studio. The Holocaust Museum is both a memorial itself and houses a permanent collection. Lastly, each architect's take on what a museum should be was largely different.

The Holocaust Museum and the Glass Pavilion's architecture were treated as art themselves, whereas the Nasher was designed to display the art in a non-competitive way. My theoretical premise was influenced by these differences in that they show the resiliency of the typology and its ability to communicate. Despite the size differences and the architects' view on museums, they all worked to communicate what they wanted to do in a clear and understandable way.

As stated earlier, each museum was designed with a different underlying concept. The Holocaust Museum's goal was to create a dichotomy in the building and for it to appear very unfinished and fractured as a whole. The Glass Pavilion's emphasis was placed on letting people feel close to the exterior and to other spaces without actually being in the spaces themselves. Lastly, the Nasher was designed to act as a ruin within a city that blended in the landscape and the artwork without emphasizing itself. These three concepts are very different, but all result in a very clear message to the users. They show that whatever message is being communicated, the best way to get it across is through experience.

Case Study Summary

A building's site will affect its design and these museums were no different. All of the sites were urban because most museums exist within centers of cities. However, the sites for the Nasher and Glass Pavilion were much larger in size and not as tightly confined by buildings as compared to the Holocaust Museum. This resulted in more integration with the landscape, single story buildings with larger footprints and opportunities to provide views. The site of the Holocaust Museum was smaller and its program was much larger so it needed to take more advantage of its site. Its design resulted in a multi-leveled building that was developed much more in section and responded to the buildings immediately next to it. Although all the sites were urban in character, the studies show that the size and context greatly affect how the design unfolds.

The city a building is located in also affects its design because of different cultures, politics and social relationships. The cities involved in these case studies are: Washington D.C, Toledo Ohio, and Dallas, Texas. Washington is filled with different memorials that all evoke a certain feeling. The Holocaust Museum followed this theme and was very symbolic and though provoking in it's design. Toledo may not seem like the place for an all glass museum, but the Glass Pavilion is positioned across the street from one of Gehry's buildings. If the city accepted his titanium curved building, then why wouldn't they like an all glass building? Dallas is not known for extravagant design and Piano recognized this with his not quite traditional, but simple building design for the Nasher.

I also noticed some functional and spatial relationships that will be helpful in the design of my museum. First, the bookstore and permanent exhibition space are normally located near the entrance/exit. Second, exhibition space tends to flow together without other spaces in between with the exception of different floors. Third, major public spaces like restaurants have separate exits. Last, storage, loading, and other such task are handled out of sight from the patrons.

Case Study Summary

Many technical issues also arise in the planning of museums spaces. First of all, the entrances need to be monitored/secured so that people pay to get inside. Second, light quality in the exhibition areas can be a huge issue depending on the type of media used in the artwork. Third, HVAC systems need to be considered because keeping the art the proper temperature is vital. Last, wayfinding within the building is important and must be clearly outlined so that users don't get turned around.

All of these issues are important to consider when designing museum spaces because they can have a huge effect on the functionality and feeling of the overall spaces. Designers must carefully analyze and understand related case studies so that they are sure to include all the items necessary for the typology in the best manner possible.

Historical Context

The Plains Art Museum

The PAM was founded in 1965 under the name of the Red River Art Center and was located in the old Moorhead post office. In 1975, it joined with the Rourke Art Gallery and became known by its present name. Headed by James O'Rourke and a dedicated Board of Directors, the Plains Art Museum began to grow and bring in famous artists such as: Tim Solien, James Rosenquist, and Fritz Scholder. By the early 90's the museum had experienced much growth and was looking to expand to a larger facility that could better suit its needs. Their search eventually led them to find the International Harvester Building located at 704 First Avenue in Fargo, North Dakota (Plains Art Museum, 2008).



Fig. 40 (Caron, 2004)

The International Harvester Building was built in 1904 as a branch house for the company. The main floor was used exclusively for shipping and receiving. Items were received from the factory in crates from the railroad and were then distributed to individual dealers in the region. The second floor contained a large display area along with offices for sales, administrative and accounting. Lastly, the third floor was used as a storage area for parts. International Harvester moved out of the building in 1962 and it remained unoccupied until 1977 when it housed Plunkett's furniture. The building was placed on the national register of historic places in 1983. In 1985, it was owned by Famous Brand Furniture until it was bought by the Plains Art Museum in 1994 (Caron, 2004).

Historical Context

After the purchase of the International Harvester building in 1994, plans began for its renovation. The firms of Foss Associates, Hammel Green & Abrahamson, Inc., and Lee Jones & Sons were enlisted to develop the design for the renovation. Hammel Green and Abrahamson are also known for other museum works such as: the Minnesota History Center, the Walker Arts Center and the Minneapolis Institute of the Arts (Plains Art Museum, 2008).

The final renovation was completed in 1997 and resulted in a 56,000 square foot museum. About 9,000 of that is equipped with security, climate and light control properties. These areas house the exhibition space for the art. That leaves 47,000 square feet left to house other functions such as a print shop, Café Muse, a bookshop, a resource library, meeting space, a frame shop, a wood shop, the visitor services center, storage, and various other functions.

The Plains Art Museum currently has a permanent collection numbering over 3,000 works from various artistic movements. The Plains was accredited by the American Association of Museums in 2003 and became the only accredited museum in North Dakota. There are a total of 16,000 museums in the United States and only 750 are accredited, which shows the dedication of the Plains Art Museum (Plains Art Museum, 2008).



Fig 41. (Plains Art Museum, 2008)

Historical Context

Fargo History

Fargo was founded in 1871 and was intended to be the next big city west of Minneapolis and St. Paul. It's location was centered at the point where the Northern Pacific Railroad intended to cross the Red River. A bridge was built across the river starting in 1871 and finished in 1872.

The city of Fargo continued to grow, due largely to the influx of immigrants wanting to have their own land, even after its official founding in 1871. The economy in those early times was centered around farming and the railroad. Farming continues to be an important element of this region, but the railroad seems to be in decline.

A fire ravaged Fargo in 1893, nearly destroying the entire city. With the majority of the buildings being built of wood, the fire was nearly unstoppable. After this disaster a new building code was enforced that required most buildings downtown to be built of noncombustible material. This is why the majority of the downtown buildings are made from brick or other masonry. Fargo is also subjected to yearly floods varying in intensity and unpredictable blizzards. The residents of this city are very resilient and don't back down easily (Caron, 2004).

Fargo is a very traditional railroad town that has very conservative values. Its roots come from hard work and determination relating both to the railroad and farming. It is highly religious, family oriented and very conservative politically. The architecture of this city and region also tends to be very conservative and functional in nature. These characteristics make it the perfect location to place my museum of architectural elements. The absence of high style architecture gives my museum the opportunity to learn what the people really think instead of what they have been told to think. Working from a clean slate gives me many more opportunities in my museum to learn from and teach people.

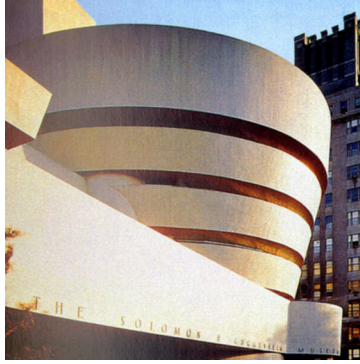


Fig. 42 (Naredi-Rainer, 2004)

Museum Architecture through the Years

The feeling and character of museum architecture has changed considerably over the years, but like most building types it has tended to follow the styles of the times. The museum as a building type began during the Renaissance because of the renewed interest in the arts found globally. Early museums were designed in the classical or gothic styles which resulted in very symmetrical, ornate and rigid buildings. Many designers preferred these historical styles because they saw museums as places to store history (Naredi-Rainer, 2004).

Feelings towards museum style started to change shortly after World War II and Wright's addition to the Guggenheim (Fig. 42) is seen as part of this transition away from the classical style. Museums began to be designed with more freedom and flexibility of spaces. One common motif seen in many new museums was the sawtooth roof (Fig. 43). This roof form was valued for its ability to bring in natural light without compromising the integrity of the artwork. Other forms also became more expressive and started compete with the artwork. Some people don't like architecture competing with the artwork, but others like Wright think "architecture does not need to serve art, but instead challenge it" (Naredi-Rainer, 2004).



Fig. 43 (Naredi-Rainer, 2004)

The museum has been called the most culturally significant building type of our era. Numerous new museums and additions have appeared across the globe and nearly all of them are designed by a "stararchitect". The museum has become a cultural icon that serves to help cities establish its identity or position themselves as a tourist destination. The museum has become the place to go by offering numerous functions like, plays, films, shopping, dining and numerous other opportunities. They are no longer seen as a boring place to go and look at art, but instead have become interactive and compelling places to visit (Stephens, 2004)

This newfound appreciation of the museum as a typology will serve my mission to improve the downtown while engaging and teaching society well.

Historical Context

Architectural Interpretations Through History

The question of how buildings are interpreted has been the subject of debate among many theorists and historians alike. Many theories developed on the subject have their own viewpoints on how buildings should be interpreted. Some people compare the interpretations of buildings to the process of reading as understood by an analogy to language. This method was discussed in great depth during the theoretical premise research. Now another approach is explored that has been used by historians to examine architectural interpretations through history (Whyte, 2006).

Another method of architectural interpretation compares its understanding to translation as opposed to reading. This method is more helpful to a historian because looking at history is more like translation than reading. For example, when people look at architecture through history they are viewing it through their current understanding and their language. This means that instead of reading the architecture to understand its message, they are translating it into their language (Whyte, 2006).

When using this method of understanding architectural interpretations they rely on three assumptions. First, that architecture is capable of being understood, or that in some respects it is a text. Second, that architecture and architectural interpretation involves a wide variety of media and genres. Lastly, it can be argued that as a building evolves from conception to construction to interpretation that both the intention of the creator and the meaning understood by the interpreter may change (Whyte, 2006).

With these three assumptions comes two conclusions. First, historians should understand a building as a series of transpositions and secondly, these multiple transpositions make up the work of the architecture itself. This means that buildings should be interpreted as they are planned, built and inhabited to explore how meanings may change. A building undergoes many different stages during its design and construction so it makes sense that its meaning may also change during this process.

Architecture should be understood not for its meaning, but for its meanings (Whyte, 2006).

Architecture and Meaning

The assumption that buildings convey meaning is not new and it was stated in 1745 by Germain Boffrand that “An edifice, by its composition, expresses as on a stage that the scene is pastoral or tragic, that it is a temple or a palace, a public building destined for a specific use, or a private house. These different edifices through their disposition, their structure, and the manner in which they are decorated, should announce their purpose to the spectator.” It was Vitruvius who stated that architecture should contain, commodity, firmness and delight (Whyte, 2006).

Many other writers and architects have maintained that buildings are more than just utilitarian. It has been suggested that buildings from different eras take on the *Zeitgeist* of that period. In other words, the building design reacts to the spirit of the times and how things are unfolding in society at that time. By the mid twentieth century it was widely accepted that architecture contained meaning that was typical of both the *zeitgeist* and of the culture that produced it. To illustrate this point, let's presume that a piece of architecture was designed to be meaningless.

When experienced, it would be interpreted as intending to be meaningless and thus would have the meaning of intending to be meaningless (Whyte, 2006).

Historical Context

Changing Meanings

If the logic of architecture as a series of translations, then we must look at how meanings can change throughout history. First, we must understand that architecture and architectural elements can have two functions which are the primary and the secondary. Its primary function (denotation) refers to its function like a library or a column. Its secondary function (connotation) refers to its underlying meaning. Both of these functions are important in understanding how architecture is interpreted throughout history.

Architectural styles have been compared to different languages because the functions of elements can be changed from style to style. This is because when a style changes our understanding of the elements also changes based on the new style. These changes in styles can result in altered, lost or recovered primary and secondary functions.

First, the primary function can be lost while the secondary functions remain somewhat constant. An example of this is the Parthenon. This building is no longer readily understood as a place of worship, but many of the original symbolic connotations still exist.

Secondly, the primary function can remain while the secondary function is lost. This is illustrated in the example of an antique lamp. Its primary function is still to illuminate, but its secondary function has changed from a household appliance to a valuable historical artifact.

Thirdly, the majority of the primary and secondary functions are lost and the original secondary functions are replaced by others. The pyramids are a perfect example of this type of translation. They are no longer experienced as tombs for the monarchs which was their original primary function. Many of the secondary functions of astronomy and geometry are no longer understood and have been replaced by the symbolism of tourism (Broadbent, G. & Bunt, R. & Jencks, C., 1980).

Historical Context

The fourth option is that the primary function becomes the object of the secondary function. In other words the primary and secondary function become the same. This is seen in certain forms that have been typified. For example, in the Midwest a gambrel roof form can have both the primary and secondary function of meaning barn.

The fifth option is that the primary function is lost and replaced by another primary function while the secondary function is deformed. Here we can use the example of a cradle from a Mexican village being taken and used as a magazine holder in a house. It's primary function changes from cradle to magazine holder. Its secondary function deforms to meanings of Latin-American or folk art.

Lastly, the primary and secondary functions can be vague and imprecise. This can occur in mixed use buildings when numerous functions are needed and no one function is clearly expressed. The result is a building that is not understood as anything in particular (Broadbent, G. & Bunt, R. & Jencks, C., 1980)

There are many ways that the primary and secondary functions of architecture and it's elements can change throughout history. Each change may or may not be readily understood by society because we may have only experienced architecture in one way. We only view its functions to be singular and the only way to understand otherwise is to look back into history and how it functioned previously.

Goals for the Thesis

Academic

This thesis serves to illustrate what I have learned during my time here at NDSU. After five years in the architecture program, I have been exposed to many things that I never would have experienced in any one major. These issues include: sustainability, semiotics, structure, engineering, philosophy, site planning, sociology, and many others.

After all I have experienced, I have come to see the world and the built environment in an entirely different light. I can no longer look at a building and see it in the same way I did five years ago. This newfound discovery of the world around me will ultimately continue to shape my life and career for years to come.

Each student who follows after me through this program will experience something new that will also shape their lives in some way. My hope is that my thesis can serve as a testament of the valuable experience to be gained at this university and to serve as a guide for others on their own roads of self discovery.

Professional

As I prepare to graduate and enter the professional environment of architecture, I want to leave NDSU with as much knowledge, understanding and experience as possible. The more I learn now, the closer I will be to better comprehending all of the issues involved in this ever more complicated profession.

In addition to learning, I also want to be able to leave something that can benefit other students and professionals alike. I hope that my work regarding the language of architecture can offer some insights into how present society perceives the built environment. I believe that it is important that architects understand their clients and how they view our designs and vice versa. Without mutual understanding we are missing out on an important aspect of design.

Goals for the Thesis

Interpreting architecture is a subjective endeavor in general, and I don't pretend to have all the answers.

The truth is that there are no clear cut answers because interpretations are constantly changing. Each style offers a different interpretation and, in turn, each architect or society member offers their own interpretation of that style. If my thesis can help a few people better understand architectural interpretation and why designers do certain things then I will view the project as a success.

Personal

When a person spends so much time and effort on something they become very attached to that item. I believe this is very true of architecture and my thesis project in particular. I have spent four years working up to this project and now I am spending one final year almost completely devoted to it.

With this much time and effort invested into my thesis, I strive to work as hard as I can to produce a project that illustrates the depth of my knowledge, skills and understanding regarding architecture.

In particular, I want my digital renderings, physical model, graphic design, and oral presentation to be of the highest quality attainable. Each of these elements is a vital piece in communicating the importance of my thesis to the design community.

May they also reflect my devotion to the field of architecture and my determination to see this project through to completion.

This projects serves as the epitome of my architecture career and may be the last chance I have to display my design skills as an individual. I want to be able to look back at this project years later and be able to say that I did everything to the best of my abilities at that time and have no regrets regarding my performance.

Site Analysis - Qualitative

Downtown Fargo has seen much increased growth and redevelopment in the last decades. Many new projects have been constructed and numerous renovations have changed the face of downtown. All this has been done in an attempt to make downtown Fargo more desirable and to bring people back to the center of the city.

In continuing with this trend of urban renewal, I wanted my Museum of Architectural Elements to help draw people to the center of the city instead of farther outside. I believe this building will help downtown because the typology of museum tends to have a status symbol associated with it and every city wants to show up the others. A new, creative and interesting building in downtown Fargo will help create buzz about the city and facilitate future growth.

I chose Fargo specifically because as a city it is becoming more open to the arts and architecture, but it isn't overexposed to high style architecture. I didn't want a city that was known for having cutting edge buildings, like San Francisco, because those residents will have preconceived notions of how buildings should be designed. I believe that more value can be gained by starting with a clean slate.



Fig. 45



Fig. 46



Fig. 47



Fig. 48

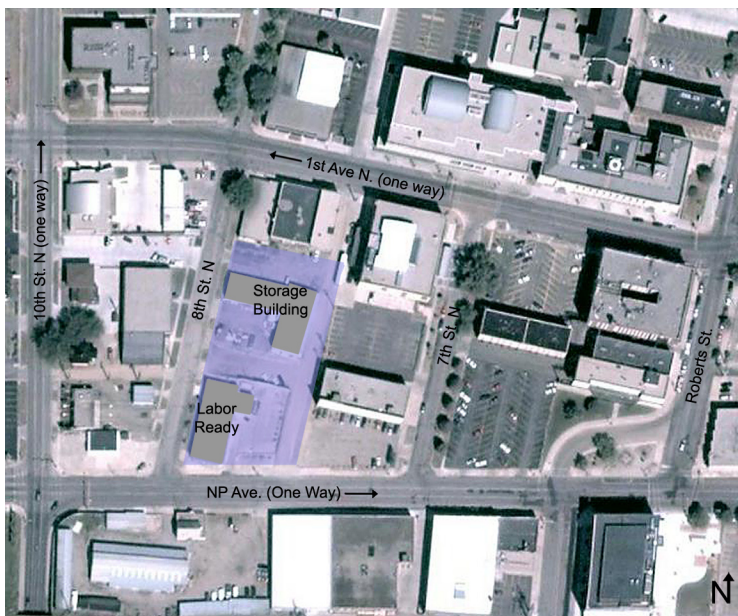


Fig. 44 (Shawn Crowley)

Site Boundaries

Site Analysis - Qualitative

Site Location

The site sits on 1.4 acres of land located on the same block as the PAM directly to the SW. The southern boundary is marked by NP Ave., the western by 8th St. N., the eastern by a small alley and the northern is marked by the PAM expansion buildings. The 8th St. N. boundary doesn't follow Fargo's grid of streets running north-south and avenues running east-west. This makes the site unique in that it sits on a portion of the city that runs off axis, but parallel to Roberts St.



Fig. 49

The two main ways to approach the site by car would be from the SW along NP Ave (Fig. 45) or from the NW from 1st Ave N (Fig. 46). Most pedestrians will probably approach it from the east as they will be coming from downtown Fargo (Fig. 47-48).



Fig. 50

Views

Being surrounded by buildings on most sides provides for limited views. To the south there are low buildings that allow a view of the sky and we can see the tip of the courthouse in the distance (Fig. 49) A raised viewpoint in that direction might offer some decent views. The north is blocked by buildings, but the NW allows a view Barry hall and some older trees (Fig. 50). The east allows a framed view of Renaissance hall between the PAM and T.L. Stroh's office (Fig. 51).



Fig. 51

Existing Buildings

Currently on the site there are two buildings comprising of roughly 14,000 Sq. Ft. One is Labor Ready and the other is a storage building. Their designs are very utilitarian in nature and possess no intrinsic architectural value worth retaining (Fig. 52). Both structures appear to be made of concrete block and are both painted white. Their placement on the site results in a very unstructured organizational system and the site appears very fragmented. It is because of these reasons and others that I plan to demolish them in order to construct my museum.



Fig. 52

Site Analysis - Qualitative

Surrounding Context

Many of the buildings surrounding the site contain functions that will be beneficial to my museum. They also provide a basis for the architectural style of the Fargo downtown area.

To the north of the site are the expansion buildings for the PAM. Their back sides face my site and are clad in yellow utility brick which was probably done to save money. The buildings step down in elevation from three stories to one story starting at the PAM. They are rough in appearance and have punched window openings with rundown wooden windows. There are also numerous wires and cables running down the back of the buildings (Fig. 53). Connection with the PAM will probably be done through these buildings as it would be easier to make a solid connection.

The PAM is to the northwest of the site and it also clad in yellow utility brick, but this was done for the whole buildings, not just the back. This building was originally a storage building so it had no need to be clad expensively. The backside of the PAM appears to contain the loading dock and you can see some of the heavy timber details even at this location. Most of the windows of the PAM's west side have been filled in with brick to prevent light from reaching the exhibition space (Fig. 54)

The eastern side of the site contains T.L. Stroh's office building. Stroh finished renovating this formally unoccupied building the spring of 2009 into his office with apartments above. The apartments are fully occupied and probably contain a large percentage of college students. The building itself is clad with red brick for the first two stories and then is finished off with yellow brick for the third story (Fig. 55). There was probably a building directly next to this one in the past so nobody would have seen that change. On the north side of Stroh's building is a tapered stair tower clad in horizontal metal paneling (Fig. 56). In my opinion, that portion of the building looks completely out of place, and I would have done it differently.



Fig. 53



Fig. 54



Fig. 55



Fig. 56

Site Analysis - Qualitative



Fig. 57

To the southeast of the site and across NP Avenue is a simple shed. It has a single pitched low slope roof with cladding of vertical standing seam that is yellow in color. It is very basic and is purely functional in nature (Fig. 57).



Fig. 58

Directly south of the site is fairly open and contains only a one story covered car port that can house a number of cars.

Southwest of the site there are more basic sheds and the main office for the lumber company. This company probably owns the building I will be demolishing. Their building is red and white in color with a flat roof and an awning with their name on it. The company also appears to have attached to square white house with gable roof that is in the background (Fig. 58).



Fig. 59

The western edge of the site is mainly covered by an apartment building called 8th St. Lofts which contains mainly college students. The building uses a combinations of vertical standing seam metal panels, gray concrete double tees and blue painted block to form its facade. The standing seam metal is also used on portions of the building to form sweeping half-arched roofs (Fig. 59)

Lastly, the neighbor to the northwest is one of the buildings owned by Foss Architects. Their offices are housed in two different buildings separated by a parking lot. Their closest building is clad in tan EIFS and gray standing seam metal (Fig. 60).



Fig. 60

All of these neighboring buildings and their functions will have a large impact on how well my museum will fit into this area of downtown Fargo. The apartment buildings and the architecture office will provide users and contributors for my museum. The challenge now is to determine how I want my building to relate to these buildings in functionality, materiality, views, sun shading and numerous other aspects.

Site Analysis - Qualitative

Human Intervention

As stated earlier, the site currently houses two buildings, but in addition to that there are many other signs of human intervention. The site consists almost completely of paved or gravel surfaces that house two parking lots. The first one is directly east of Labor Ready which is recessed in to the landscape and surrounded by a concrete wall. The other lot is squeezed in between Labor Ready and the lumber building and is designated for T.L. Stroh's office (Fig. 61). I will need to replace the parking spaces that I am taking from Stroh and the best option would be to give him part of the PAM's current parking lot.



Fig. 61

Other signs of intervention occur near the lumber storage building which has stacks of pallets around it along with a mural painted on it's north side (Fig. 62). The mural was made by the PAM so I will make every attempt to preserve the majority of it in my museum. All of this infrastructure and development by people results in little or no vegetation on the majority of the site.



Fig. 62

Distress

Portions of the site show signs of poor maintenance and upkeep. This is clearly evident around the storage building where I saw peeling paint, weeds, piled lumber pallets, and standing water (Fig. 63-65). Other signs point at a lack of use by the community. The lumber building appears to be somewhere excess items are placed and forgotten about for long periods of time. The Labor Ready parking lot is never full and before T.L. Stroh moved next door, the site was even more vacant and in greater disrepair.



Fig. 63

Texture

The current feel of the site is very bland and uninviting. This occurs because the paving and the buildings are both white and very smooth in texture. There isn't much to catch someone's attention so the site gets glazed over by the eye. This is further emphasized in the winter when the whole site appears to be one big pile of snow.



Fig. 64

Site Analysis - Qualitative



Fig. 65



Fig. 66



Fig. 67



Fig. 68

Wind

The buildings currently on site help to block some of the wind, but also work to funnel it in between them, creating higher wind speeds in areas. Once these are demolished the site will be completely open to the NW which means the cold NW winds will hit it directly in the winter. It is fairly open to the south though, and this allow the cooler southern breezes to penetrate deeper into the site.

Light Quality

Light quality is very good on the site and appeared to be a light yellow in color during my visits. This yellow color gives the site a warming feeling, but the white buildings are giving the light a whiter color which isn't as relaxing (Fig. 66). The buildings are also causing some glare in certain areas because of their reflectivity. The removal of these buildings will greatly enhance the light quality of this site. In general, there are opportunities to get sunlight all day to the southern portion of the site but the northern half will get mainly afternoon sun.

Vegetation

Vegetation is sparse and consists of about three small trees on the SW edge of the site (Fig. 67) along with some patches of grass and weeds. There is also some landscaping on the west side of Labor Ready (Fig. 68).

Noise

During the weekdays, the site is exposed to vehicular noise coming from the busy roads of 1st Ave and NP Ave. This noise is quelled to a degree on the weekends because of decreased traffic downtown. The faint sound of the trains and the train crossings are heard from the Main Ave tracks. Engine horns are no longer a problem due the enactment of the downtown quiet zone.

This site has been written off and largely forgotten by the residents of Fargo. This is shown by its absence of activity and overall somber appearance. In general, I believe that the character and energy of the site will be greatly improved with the addition of my museum.

Site Analysis - Quantitative

Soils

The soil of my site is classified as I457A Urban Land with a slope of 0-2% (Web Soil Survey, 2009). I believe it is classified as this because it is currently a developed site which means that the soil beneath the buildings is probably not the original type.

In general, the soils of Fargo possess the agricultural classification of Vertisol with the dominate suborder of Aquert. This particular suborder is found in only a few areas of the country such as the lower Mississippi, parts of Texas and the Red River Valley. They are comprised of clayey soils that shrink as they dry and swell as they get wet (USDA, 2009).

In Fargo, the upper layer of soil comprising of the first 20 feet is called the Sherack Formation. This soil has an engineering classification of silty-clay and is tan-buff in color. Underneath that is approximately 85 ft of fat clays called the Brenna/Argusville Formation which are gray in color. The following list engineering properties of both soil types:

Sherack Formation (0-20ft)

- PL (Plastic Limit) - 30
- LL (Liquid Limit) - 85
- N (Number of blows) - 12
- Qu (Unconfined compressive strength) - 3000

Uppermost Brenna Formation (24 ft)

- PL (Plastic Limit) - 31
- LL (Liquid Limit) - 113
- N (Number of blows) - 6
- Qu (Unconfined compressive strength) - 1370

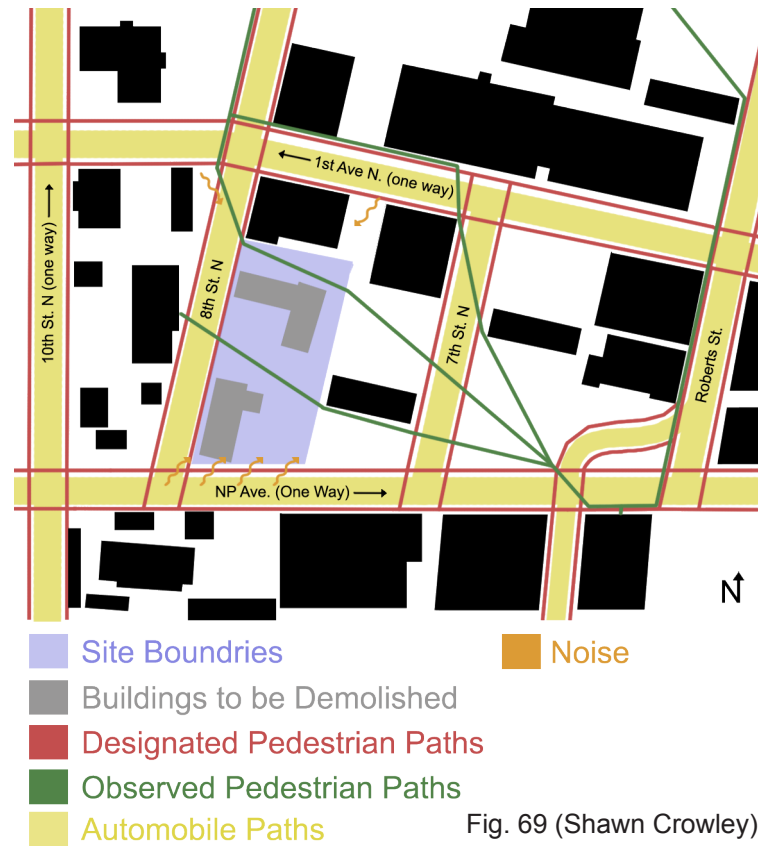
Below both of these layers at approximately 100 ft is a layer of glacial drift which is vastly more stable than both layers above. Any heavy or tall structure built in Fargo, like the Fargodome, must be supported down to this layer (Schwert, 2009).

Site Analysis - Quantitative

Topography and Slope

As stated previously in the soils section, the site's slope is in the range of 0-2% and slopes from down from north to south. Such a low slope probably stems largely from the fact that it is already developed and covered with hard surfaces. This means that the site seems flat and is largely usable for all types of activities. This flatness may make it difficult to receive sun on the north side of the site.

Traffic and Noise



The urban quality of the site provides numerous paths for both automobiles and pedestrians. The traffic on the roads will probably produce some unwanted noise on my site. Along major roads there are sidewalks for pedestrians, but I also observed some paths that don't follow these sidewalks. One of these paths leads directly through the center of my site and ends at an apartment building directly west of the site. These observed pedestrian paths may begin to suggest where my building analog garden will be placed. There are also two one-way roads running east and west that will limit automobile access.

Site Analysis - Quantitative

Site Character

The buildings on the site are very basic and in need of a more vibrant look and function. They do very little to enliven the area and only serve as wind blockers. The gravel alleys next to the site tend to retain water in areas. Vegetation is almost nonexistent and the only three trees next to the site were planted by the city as boulevard trees. In general, the site lacks much architectural character.

Utilities

Since the site is located in an urban setting, it has easy access to all utilities. Sewer and water are most likely located under 8th St. There is an electric box on the SW corner of the site and the west side of the site has what looks like a checkpoint station for the gas lines. Locations are shown on the base map below.

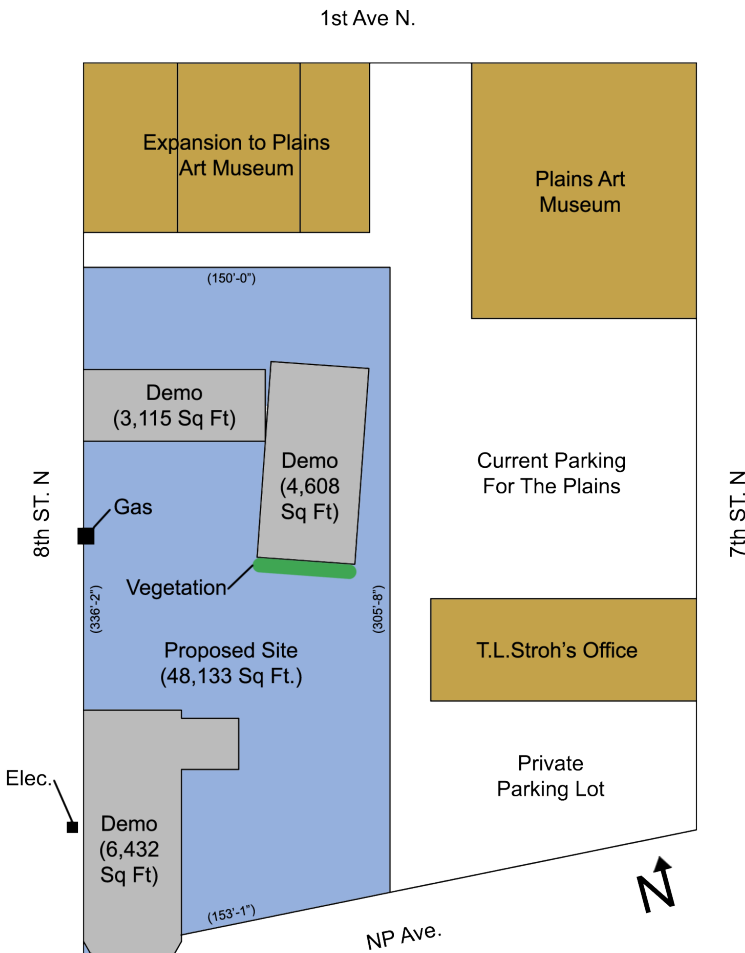


Fig. 70 (Shawn Crowley)

Site Analysis - Quantitative

Site Reconnaissance - Photogrid

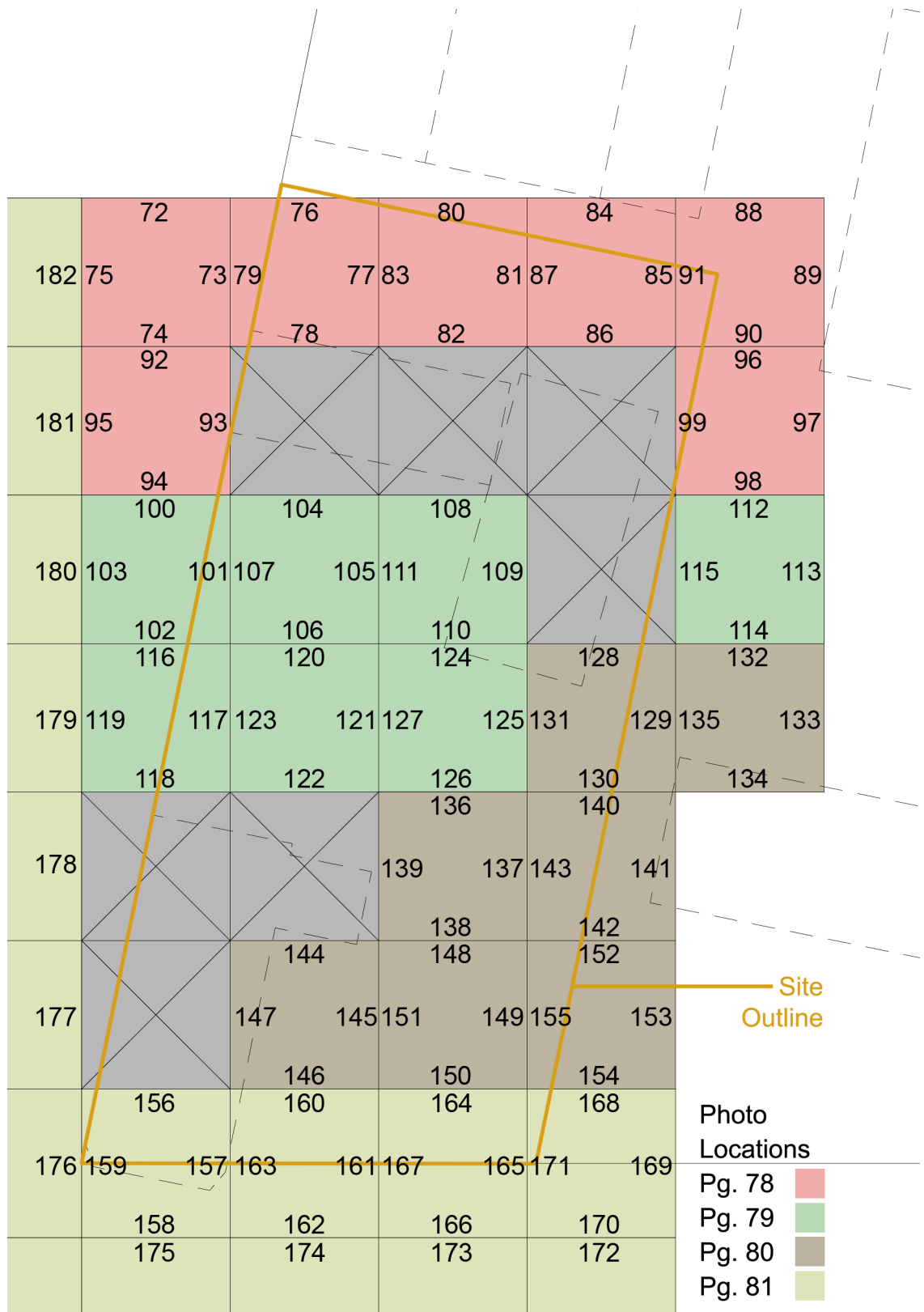


Fig. 71 (Shawn Crowley)



Site Analysis - Quantitative

Site Reconnaissance - Photogrid

Area One



Site Boundries



Fig. 72



Fig. 73



Fig. 74



Fig. 75



Fig. 76



Fig. 77



Fig. 78



Fig. 79



Fig. 80



Fig. 81



Fig. 82



Fig. 83



Fig. 84



Fig. 85



Fig. 86



Fig. 87



Fig. 88



Fig. 89



Fig. 90



Fig. 91



Fig. 92



Fig. 93



Fig. 94



Fig. 95



Fig. 96



Fig. 97



Fig. 98

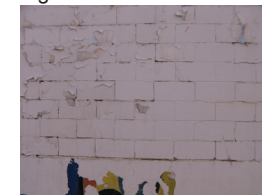


Fig. 99



Site Analysis - Quantitative

Site Reconnaissance - Photogrid



Fig. 100



Fig. 101



Area Two
Site Boundries

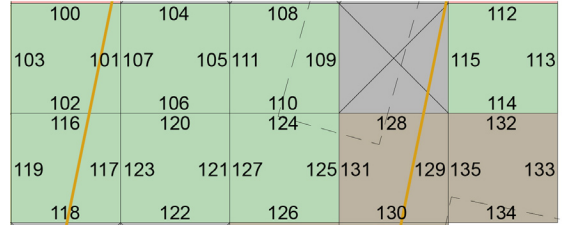


Fig. 102



Fig. 103

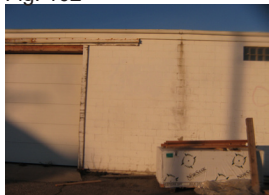


Fig. 104



Fig. 105



Fig. 106



Fig. 107



Fig. 108



Fig. 109



Fig. 110



Fig. 111



Fig. 112



Fig. 113



Fig. 114



Fig. 115



Fig. 116



Fig. 117



Fig. 118



Fig. 119



Fig. 120



Fig. 121



Fig. 122



Fig. 123



Fig. 124

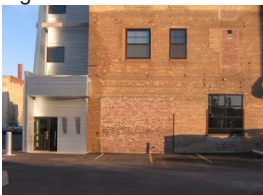


Fig. 125



Fig. 126



Fig. 127

Site Analysis - Quantitative

Site Reconnaissance - Photogrid

Area Three

Site Boundries

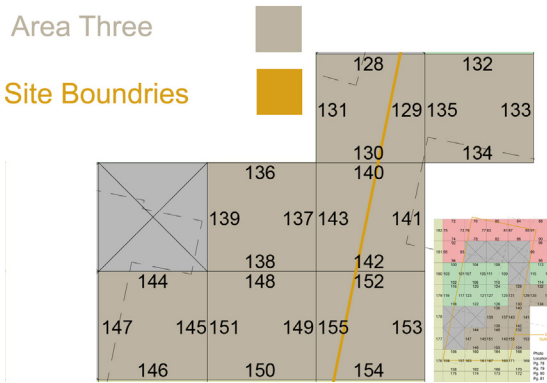


Fig. 128



Fig. 129



Fig. 130



Fig. 131



Fig. 132



Fig. 133



Fig. 134

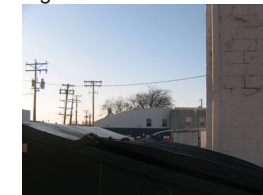


Fig. 135



Fig. 136



Fig. 137



Fig. 138



Fig. 139



Fig. 140

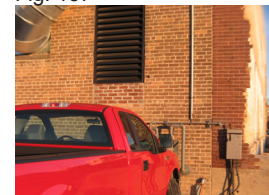


Fig. 141



Fig. 142



Fig. 143



Fig. 144



Fig. 145



Fig. 146

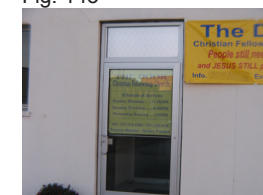


Fig. 147



Fig. 148

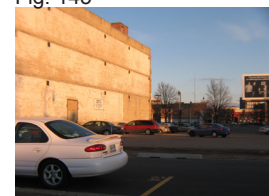


Fig. 149



Fig. 150

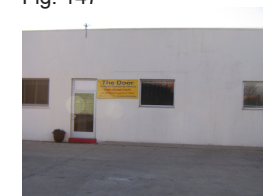


Fig. 151



Fig. 152



Fig. 153



Fig. 154

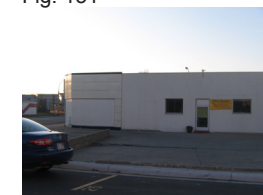


Fig. 155

Site Analysis - Quantitative

Site Reconnaissance - Photogrid

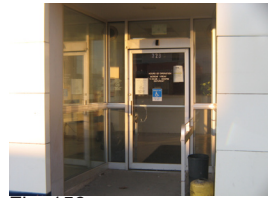
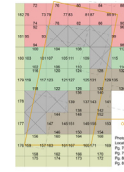


Fig. 156



Fig. 157



Area Four
Site Boundries



Fig. 158



Fig. 159

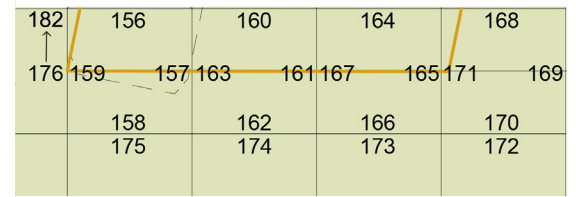


Fig. 160



Fig. 161



Fig. 162



Fig. 163



Fig. 164



Fig. 165



Fig. 166

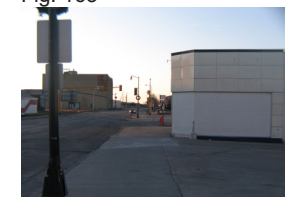


Fig. 167



Fig. 168



Fig. 169



Fig. 170



Fig. 171



Fig. 172

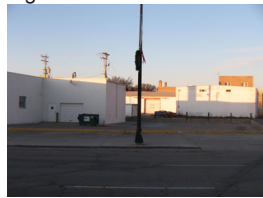


Fig. 173



Fig. 174



Fig. 175



Fig. 176



Fig. 177



Fig. 178



Fig. 179



Fig. 180



Fig. 181



Fig. 182

Site Analysis - Quantitative

Regional Climate

Having lived in Fargo for the last four years, I have experienced many of the different types of weather associated with this region. I know that wind is always an issue despite the season and that temperatures range dramatically, but an in-depth site analysis will grant me greater insight into how to design in this region. With this additional knowledge I will be able to better respond to the climate in the design of my museum.

Wind Speed and Direction

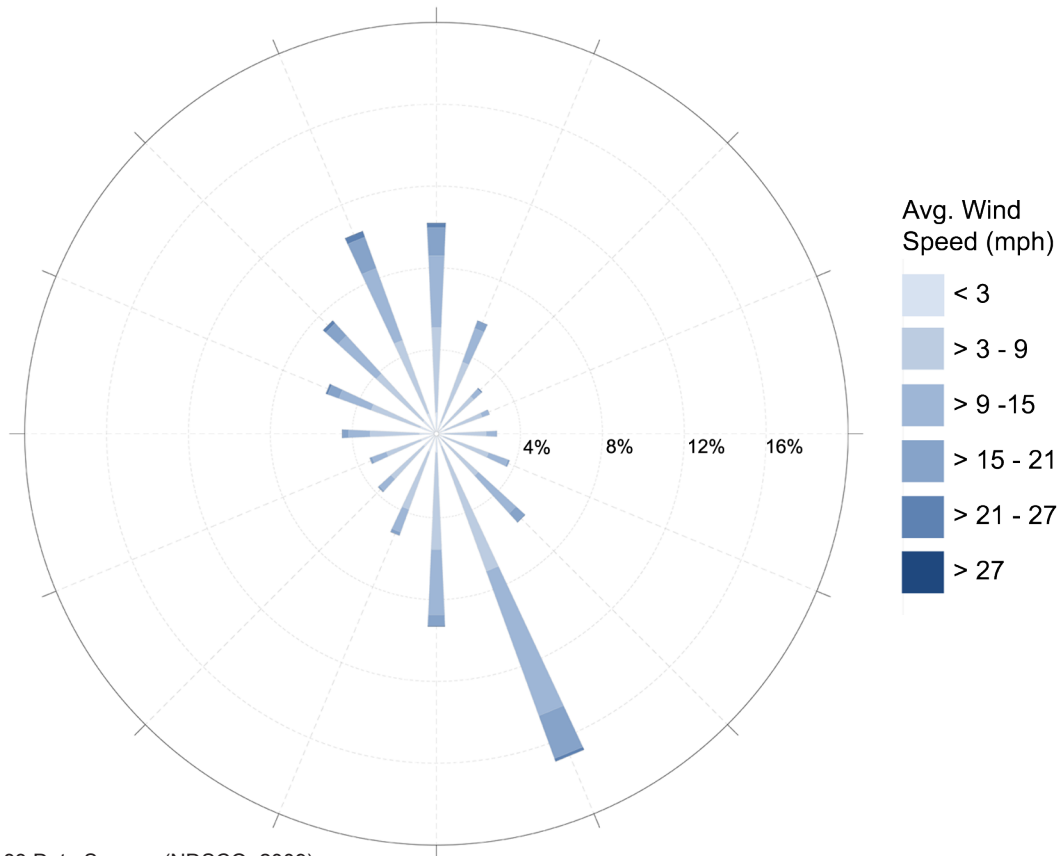


Fig. 183 Data Source: (NDSCO, 2009)

The wind is a dominating factor in the Fargo region. Average wind speeds only range from 0-27 mph, but are still detrimental because there is nothing to slow them down over the flat terrain. Fig. 183 above shows that the prevailing winds come from the SSE, NNW and N. SSE accounts for 17% the yearly wind, while NNW and N account for about 10% each. North winds normally bring cooler air from Canada and are stronger in the winter, whereas southern winds are strongest in the summer.

Temperature

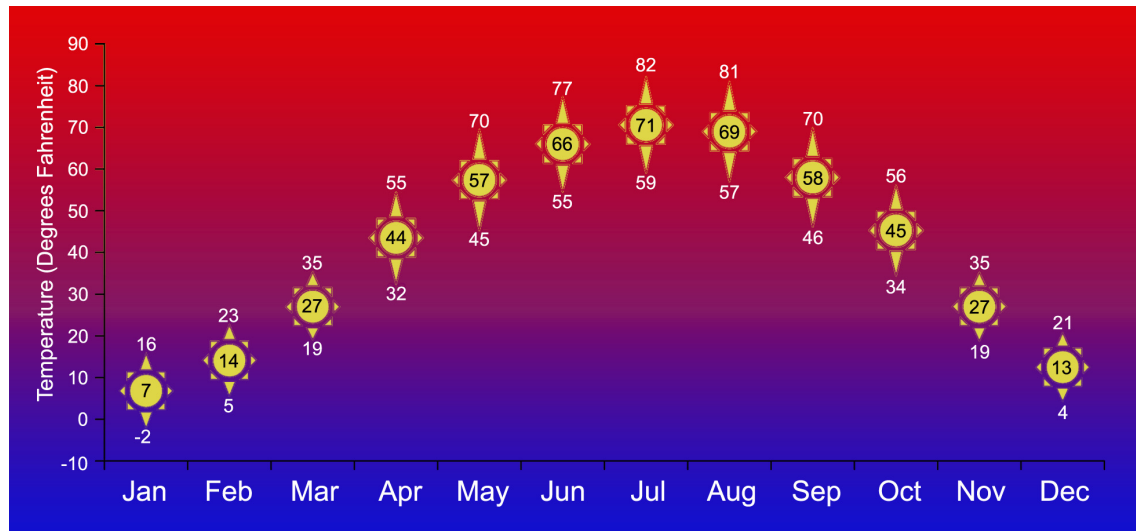
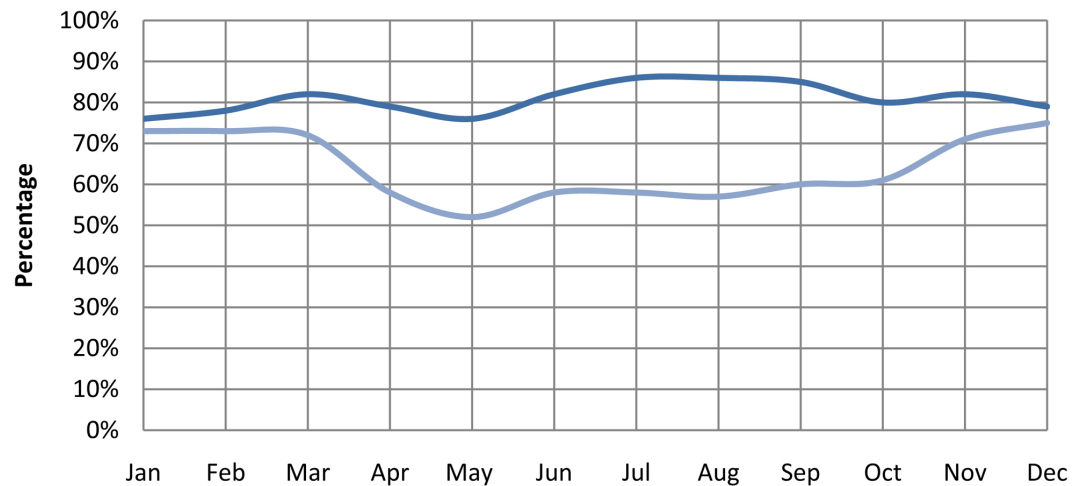


Figure. 184 Data Source: (NOAA, 2009)

As shown in Fig 184 above, Fargo ranges in temperature from -2 - 82, but if you have lived in Fargo you know that it can get much colder and hotter than that. This graph shows average temperatures and it doesn't take into account humidity, wind chill or various other factors that affect the temperature we feel.

In general, we can take from this graph that buildings in Fargo need to be designed to withstand a range of temperatures from hot to cold.

Relative Humidity



— A.M. — P.M.

Fig. 185 Data Source: (NOAA, 2009)

Relative humidity is the measure of how much water vapor is in the air and has a great impact on how warm we feel. As a general rule, the higher the relative humidity, the warmer you feel. As shown in Fig 185, Fargo has high levels of RH in the morning which is most likely because water condenses during the night. The RH decreases during the day in the summer because the heat evaporates some of the water vapor. High humidity can cause problems if water vapor begins to condense in walls or on surfaces.

Site Analysis - Quantitative

Precipitation and Snowfall

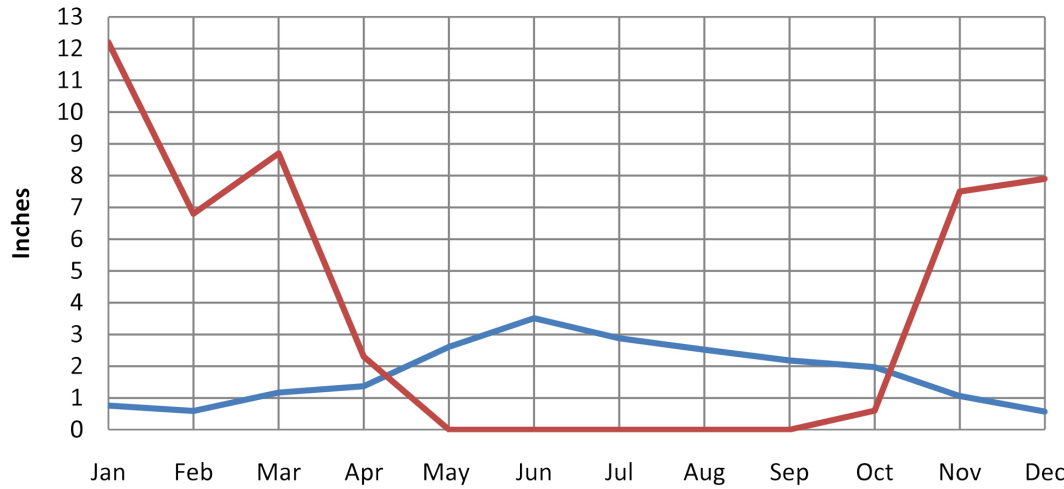


Fig. 190 Data Source: (NOAA, 2009) — Precipitation — Snowfall

Fargo is known for having quite severe winters and it is not uncommon for it to receive large amounts of snow. As shown in Fig. 190, snowfall is high in the winter months, but it doesn't amount to much precipitation. This occurs because snow doesn't actually hold that much moisture, which means the summers actually offer more precipitation.

Cloudiness

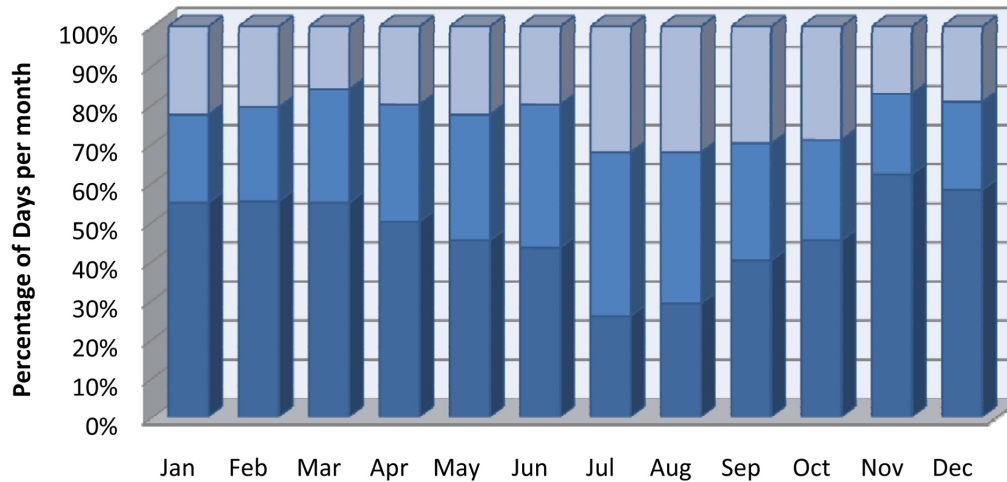
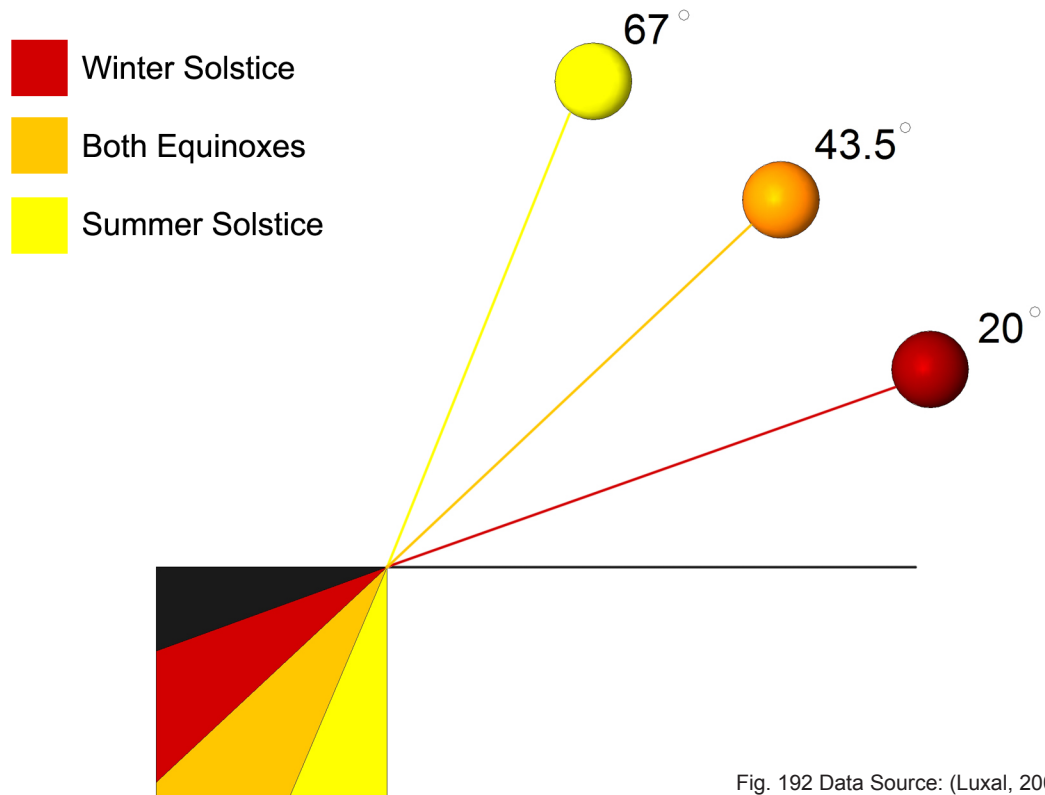


Fig. 191 Data Source: (NOAA, 2009) ■ Cloudy ■ Partly Cloudy ■ Clear

Cloudiness can greatly affect the light quality and heat gained from the sun. Fig. 191 shows that Fargo is either cloudy or partly cloudy the majority of the time. The most clear days occur in July, August, September, and October. Careful consideration will need to be taken during some these months to ensure that there will not be overheating in the building. Cloudiness can be beneficial in that overcast days provide a gentler and more diffused light that can be quite pleasing for interior spaces.

Site Analysis - Quantitative

Sunpath Diagram - 47 Degrees Latitude



The path of the sun at each latitude has a large effect on how much solar radiation a site will receive. For the northern hemisphere, the sun angle is lower in the winter and higher in the summer. Each latitude has varying degrees of how high or low the angles are. At 47 degrees latitude (fig. 192) the sun reaches a peak angle of 67 degrees in the summer and a low angle of 20 in the winter. The rest of the year it ranges between those two points. This data will be very useful in determining solar gain and proper sunshading for this museum in Fargo.

Shading

The site is very open to the south so there should be no issues of shading from other buildings as soon as the buildings on the site are removed. There are also very few trees to provide shading either. This situation means I have free access to solar radiation, but that I will have to provide my own shading through landscaping or building elements.

Conclusion

The site contains many qualitative and quantitative issues that will need to be addressed in the design of my museum of architectural elements. Some of these issues are advantageous and others are not, but each one will be important in determining placement, orientation, form, structure, materials, and many others.

Programmatic Requirements

Museum Program

List of Spaces Est. Sq. Footage

Entrance/Lobby	1,500
Reception	200
Temporary Exhibition Space	1,500
Permanent Exhibition Space	
Virtual Reality Module	3,000
Material Module	1,500
Light Quality Module	2,000
Form Module	2,000
Interpretation Module	1,000
Gift Shop	750
Classroom/Meeting Rooms	
Large	2 @ 600
Small	2 @ 300
Auditorium/Multi-use Space	4,000
Offices	
Enclosed	4 @ 120
Open space	500
Break Room	300
Loading	500
Security	200
Storage	2,500
Staging	750
Bathrooms	4 @ 250
Janitorial/Maintenance	300
Mechanical/Electrical/Data/Garbage	2420
Building Total	27,300

Building Analog Garden

20,000 - 30,000



Programmatic Requirements

Entrance and Lobby

Hours of Operation

This space will be open during regular museum hours and whenever the auditorium is being used.

User Group

The lobby will serve all visitors as well as staff.

Description and Character

This is the first space that visitors will see when they enter the museum so it is important that it is very open and inviting. A great deal of daylighting should be used along with providing views to the building analog garden. The space should be equipped with soft seating for patrons to rest while waiting.

Program Adjacencies

It is important that this space be directly connected to reception, temporary exhibits, permanent exhibits, restrooms, the auditorium and the gift shop.

Classrooms/meeting spaces should be close by but don't need to be directly connected. The lobby should have the capability to be closed off from the auditorium.

Programmatic Requirements

Reception

Hours of Operation

This space will be open during regular museum hours.

User Group

Reception will serve all visitors and will be staffed by 1-2 employees based on the time and day.

Description and Character

This space needs to be clearly defined so that visitors will know where to go when they enter the lobby. It will function as both the information desk and the ticket counter.

Program Adjacencies

It is important that reception be located in between the lobby and the permanent exhibition spaces since it acts as the ticket counter. No one should be able to enter the permanent exhibits without going through reception.

Temporary Exhibition Space

Hours of Operation

This space will be open during regular museum hours and whenever the lobby is open.

User Group

It will serve all visitors as well as staff.

Description and Character

Temporary exhibition space will display local firm and student work. It needs to be flexible enough to accommodate models, boards, animations and any larger scale work. This section will be free to the public so it does not need to be closed off.

Program Adjacencies

The temporary exhibits should be located next to or consolidated with the lobby. People using the auditorium will be encouraged to wander into this space so proximity to that space will also be vital.

Programmatic Requirements

Permanent Exhibition Space (All modules)

Hours of Operation

This space will be open during regular museum hours.

User Group

It will serve all paying visitors.

Description and Character

Each module will address a different aspect of architecture and how it is understood or experienced.

Virtual reality - Must be able to house 5 virtuspheres (100 sq ft) and have wall space for the corresponding 5 projection screens.

Material - This module will focus on the materials available to architects. Issues presented may be texture, cost, sustainability, strength or any other valuable subjects.

Light Quality - This area will address issues related to artificial light versus natural light. It will work to let people experience different light types and how they affect how we feel.

Form - An interactive area that will be more of a building workshop. People will be allowed to work with various types of medium to construct forms. These might be Legos, clay, building blocks, sketch-up etc. It will also focus on why certain forms are used.

Interpretation - Here is where we will try to learn what the public sees in buildings. This space will be equipped with many interactive displays that will ask them questions regarding real life buildings.

Program Adjacencies

All spaces should flow together starting from reception and ending at the gift shop.

Programmatic Requirements

Gift Shop

Hours of Operation

This space will be open during regular museum hours

User Group

It will serve all visitors and be staffed by 1-2 employees.

Description and Character

The PAM currently has a gift shop, this additional shop will serve to sell items more related to architecture and this museum. It should be an open and flexible space with large amounts of wall space. Daylighting is not required in this space, but would be welcomed.

Program Adjacencies

A direct connection with the lobby is necessary and this space should also serve as the ending point of the permanent exhibits. Restrooms should also be located nearby.

Classroom/Meeting Spaces

Hours of Operation

These spaces will be open during regular museum hours and when the lobby is open.

User Group

They will serve anyone who reserves them and will be used by the staff as conference rooms.

Description and Character

Each space should be flexible and have the capability to be used in a variety of ways. They should all be equipped with an overhead projector. Daylighting is not useful unless it is northern light.

Program Adjacencies

Close proximity to the the lobby, restrooms and the offices would be ideal. They need to be located in a location that is easily found, but still maintains some privacy.

Programmatic Requirements

Auditorium/Multi-use Space

Hours of Operation

This space will be open during regular museum hours and will be rented out for private events.

User Group

It will serve all visitors and any private events.

Description and Character

This should be a column free space that has high ceiling and large amounts of daylighting. Shading devices need to be installed to completely black out the space if necessary. The space should also have the capability to be divided into two different spaces. A separate entrance to the outdoors should be provided because this space may be open when the museum is not.

Program Adjacencies

A direct connection with the lobby is necessary because that will serve as the entrance point from the museum. Restrooms should be located nearby that can serve the space when the lobby is closed.

Offices

Hours of Operation

These spaces will be open during regular museum hours.

User Group

They will primarily be used by the museum staff.

Description and Character

The offices are a mix of closed and open. Daylighting and views should be provided for both the open and closed offices.

Program Adjacencies

Restrooms and meeting/classrooms should be in close proximity to the offices. Also, they should be located near the access point to the existing PAM.

Programmatic Requirements

Break Room

Hours of Operation

This space will be open during regular museum hours

User Group

It will serve primarily the museum staff.

Description and Character

This space gives staff members a place to relax and have lunch or take a coffee break. Tables and chairs should be located in the space along with a refrigerator, microwave, stove, and sink. Daylighting isn't necessary, but is always appreciated.

Program Adjacencies

The break room should be located close to the offices and the meeting/classrooms. It may be used periodically by groups using the meeting rooms.

Loading

Hours of Operation

This space will be open during regular museum hours and after hours if needed.

User Group

This space will be limited to museum staff only.

Description and Character

The space should be comprised of durable materials and its floor level will be raised to truck level. It should be equipped with an overhead door that is accessible by a truck.

Program Adjacencies

Security will be directly located to this space and storage should be in close proximity.

Programmatic Requirements

Security

Hours of Operation

This space will be open during regular museum hours and after hours.

User Group

It is limited to select museum staff only.

Description and Character

This space will be manned at all times and will house all video surveillance equipment. It will also check all shipments received in the loading area. It must be a secure room with no windows.

Program Adjacencies

Security will be directly located to loading and will serve as the gateway to storage.

Storage

Hours of Operation

These spaces will be open during regular museum hours and accessible by select user after hours

User Group

They will limited to the museum staff only.

Description and Character

No daylight should be used as it may degrade the stored items. Large amounts of flexible shelving will need to be accommodated.

Program Adjacencies

It should be located nearby security and loading. A direct connection with staging is also necessary.

Programmatic Requirements

Staging

Hours of Operation

This space will be open during regular museum hours and accessible by select user after hours

User Group

It will limited to the museum staff only.

Description and Character

No direct daylight should be used as it may degrade the item. This space will be used as a prep area for items going on display.

Program Adjacencies

There should be a direct location with both storage and permanent exhibits.

Restrooms

Hours of Operation

These spaces will be open during regular museum hours .

User Group

Open to use by public and staff.

Description and Character

There should be 2 bathrooms for each gender situated in areas that are private yet accessible. Daylighting is not necessary in these spaces.

Program Adjacencies

Restrooms should be located near the lobby, gift shop, auditorium, meeting/classrooms and offices.

Programmatic Requirements

Maintenance

Hours of Operation

This space will be open during regular museum hours and after hours.

User Group

It is limited to select museum staff only.

Description and Character

This space requires no window and will serve as the storage space for the maintenance workers.

Program Adjacencies

It should be centrally located with emphasis on placed on putting it near the restrooms.

Mechanical/Electrical/Data/Garbage

Hours of Operation

These spaces will function 24 hours a day.

User Group

It is limited to select museum staff only.

Description and Character

These three functions can either be combined into one space or broken into smaller spaces. Data and electrical only need about 100-150 sq ft each and they can be separated from mechanical.

Program Adjacencies

An ideal location for mechanical room would probably be in the center of the building in the basement to avoid excess noise in public spaces.

Garbage collection should occur in a truck accessible area that is out of site from the entrance.

This would most likely be next to the loading dock.

Programmatic Requirements

Building Analog Garden

Hours of Operation

Open 24 hours a day.

User Group

All museum staff and users along with the downtown public.

Description and Character

This outdoor space is meant to be a downtown park that also works to teach the public about architecture. It will be equipped with sculptures and building pieces that help to explain how buildings are constructed. It is important that this space is accessible to everyone. Portions of the building can be made to interact with the space as an indoor/outdoor space.

Program Adjacencies

The garden should in some degree connect with the entrance to the museum.

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