Renewing Life

Samuel Kalscheur
Recovery: Mind, Body, Architecture

A Design Thesis Submitted to the Department of Architecture and Landscape Architecture of North Dakota State University
By Samuel P. Kalscheur
In Partial Fulfillment of the Requirements for the Degree of Master of Architecture

[Signature]
Primary Thesis Advisor

[Signature] 05/11/11
Thesis Committee Chair

May 2011
Fargo, North Dakota
NON-EXCLUSIVE DISTRIBUTION LICENSE

By signing and submitting this license, I (Samuel P. Kalscheur) grant to North Dakota State University (NDSU) the non-exclusive right to reproduce, translate (as defined below), and/or distribute my submission (including the abstract) worldwide in print and electronic format and in any medium, including but not limited to audio or video.

I agree that NDSU may, without changing the content, translate the submission to any medium or format for the purpose of preservation.

I also agree that NDSU may keep more than one copy of this submission for purposes of security, back-up and preservation.

I represent that the submission is my original work, and that I have the right to grant the rights contained in this license. I also represent that my submission does not, to the best of my knowledge, infringe upon anyone’s copyright. If the submission contains material for which I do not hold copyright,

I represent that I have obtained the unrestricted permission of the copyright owner to grant NDSU the rights required by this license, and that such third-party owned material is clearly identified and acknowledged within the text or content of the submission.

IF THE SUBMISSION IS BASED UPON WORK THAT HAS BEEN SPONSORED OR SUPPORTED BY AN AGENCY OR ORGANIZATION OTHER THAN NDSU, I REPRESENT THAT I HAVE FULFILLED ANY RIGHT OF REVIEW OR OTHER OBLIGATIONS REQUIRED BY SUCH CONTRACT OR AGREEMENT. NDSU will clearly identify my name(s) as the author(s) or owner(s) of the submission, and will not make any alteration, other than as allowed by this license, to my submission.

[Permission Rights IV]

(Student Signature) 5/10/11

(Date)
# TABLE OF CONTENTS

Thesis abstract.................................01  
Thesis problem statement..................04  
Statement of intent..........................05  
Proposal........................................07  
  Narrative 08  
  User/Client 10  
  Major Project Elements 11  
  Site Information 13  
  Project emphasis 16  
  Plan for Proceeding 17  
  Previous Studio Experience 18  
Program Document..........................19  
  Theoretical Premise Research 21  
  Case Studies 37  
  Historical Context 49  
  Site Analysis 59  
  Programmatic Requirements 81  
Design Documentation......................83  
References.....................................97  
Personal Information.......................100
This thesis project focuses on the need for a more holistic approach in today’s health care system, one that puts a greater emphasis on the psychological healing of a person; a facet that is too often neglected. Specifically, it aims to discover ways to design that will reduce anxiety in those dealing with cancer by promoting wellbeing both mentally and physically. This will be done by studying how the environments around people affects their state of mind and then, in turn, affects their body. Also, an investigation will be done into ecopsycology and the affects that a strong connection to the natural environment can have on a person. The intent of this thesis project is to discover how we react to our environment and how it affects us. Discovering how we react to our environment, both built and natural, will make it possible to learn how to manipulate these environments in a way that promotes health and wellbeing.

The typology of this project is a cancer caring facility, located in Eau Claire, WI, where those afflicted with cancer can go to get away from the stress of a hospital to gain information, spend time conversing with others, or simply find a private space in which to reflect. This 4000 sq. ft. center will respond to the wide range of psychological needs that those with cancer have to promote: wellness and a better quality of life.
Can the built environment, in connection with the natural environment, promote psychological healing in those who are dealing with a traumatic experience?
THE STATEMENT OF INTENT
A Cancer Caring Center where those afflicted with cancer, directly or indirectly, can come to find psychological relief and healing.

A person’s environment has the ability to affect their wellbeing and quality of life by creating a situation that responds to their psychological needs.

Humans react to the various stimuli that are found in their environment. These stimuli, in turn, dictate how a person will feel, act or respond to their surroundings.

Changes in color, lighting, scale and the presence of the natural environment affect the mind differently and cause a variety of responses to the surrounding stimuli. If the right combinations of stimuli are present, there can be a positive response in the mental and physical characteristics of people.

There is a direct correlation between a person’s state of mind and the state of their body. A person’s psychological wellbeing will aid the wellbeing of the body.

The built and natural environments can be designed in a way to aid the psychological healing and recovery of those experiencing trauma.

Being diagnosed with a disease such as cancer creates a great strain on people not only physically, but psychologically. The issue though, is that more often than not in today’s health care system, there is not the time nor the effort available by the medical caregivers to address the full psychological needs of the individual with cancer. Emotions and behavior of anxiety, concern, panic, hopelessness and isolation are common after hearing the diagnosis of cancer. It becomes imperative to address these to aid in a person’s fight against cancer.
NARRATIVE

Everyday people receive the news in hospitals and clinics around the world, “You have cancer.” What is incredible is how, in the short period of time that these words are uttered by the medical professional, only a few seconds, a person’s world is torn apart and their life is drastically changed forever. People are thrown into a situation of uncertainty and anxiety. They will often become depressed, feel hopeless and become isolated from the rest of the world. These are the psychological effects that the trauma of cancer can cause.

At a hospital the psychological needs of the patients are not the priority, their physical ailments are, leaving the state of the mental health unattended. Is there a connection between mental health and physical health? What are the psychological needs of a those afflicted with cancer? What can calm and relieve the anxiety of a traumatized person? How can they escape the current mind set? Where can they go?

The question “Where can they go?” implies a place or environment that is suitable for a person in this situation. What is the relationship between a person and their environment? My belief is that our surroundings play an important and a potentially therapeutic role in our lives. The environment that surrounds a person is critical to their state of mind. If the goal is the wellbeing of a person, then the environment that a person resides in must also reflect this belief. This is where architecture becomes critically important to the cause. What this situation calls for is not architecture in the sense of arranging elements into a composition to be admired for beauties sake. This is about the experience that architecture can give people by evoking an emotional response. Is this connection to the architecture important? If so, how can a space be designed to stir the desired response in a person? What elements need to be present to create a safe and welcoming built environment for those in need of psychological healing?

In addition to the importance of the relationship that people have with the built environment, the connection with the natural environment also becomes utterly important in the situation of mental health. This is the premise of the work done in the field of ecopsycology. Ecopsycology is a branch of psychology that views personal psychological issues as closely connected to nature and uses nature as a source of therapy (Ecopsycology, 2005). This still begs the question: why do we
need the natural environment, and what affect does it have on people’s mental health?

More important to mental health than the environment are the relationships people have with each other and themselves. Great amounts of comfort and mental healing can be achieved through interaction with another person or a group of people whether it be conversing or just listening. Then, other situations call for a quiet place to be alone, reflect, and meditate. It is important for the built environment to be a reaction to all these needs and to facilitate them. The goal will be to design the environment in a way that holds these contradictory functions, peaceful and active, in a cohesive manner.

Through this thesis project, I will investigate the relationships between people, the built environment and the natural world. By understanding these relationships, it may become possible to create a design that will be able to heal the mental ailments of those dealing with cancer.
Owner-
The owner of the project will be a private, non-profit health care entity who will work in collaboration with the local public health care provider, Luther Hospital of Eau Claire, WI.

Those who are being affected by cancer-
The people who use the facility will be of any age who have been diagnosed with various forms and stages of cancer. Users will include the whole spectrum of visitors from those that need essential information, to those who need support, or those that just need a place to get away. People will be able to access the facility 24 hours a day to have their needs met with the expected peak times of activity to be normal business hours.

Caregivers-
The caregivers for the center will consist of psychologists and nurses. The psychological therapists will be trained in dealing with those with cancer and end of life situations to help meet the mental and emotional needs of the people. A nurse with a specialty in cancer and cancer treatment will be present to provide information as needed. There will be someone on staff 24 hours a day with the most heavily staffed times of the day being during normal business hours in to the early evening.

Visitors-
Visitors (family, relatives, and friends) are welcome at all hours of the day. These people will range from those needing information to people who are taking advantage of the available over night rooms to be near the hospital in which a loved one is staying. There will be 6 of these rooms available to visitors.
Communal Areas
Having a great variety and many different social areas is essential to keeping the open and casual feeling to the building. These areas will be places to talk, play games, laugh or where social events can take place. The center will revolve around one main social area, or hearth.

Dinning and Kitchen
The dinning area will be a place where all who visit, reside, or work at the center can take a moment from their lives to sit down and enjoy the company of other people and eat a good meal. This will be one of the more important social areas in the building. A kitchen will be available for all patrons and staff of the center to make anything from a cup of tea to a full meal.

Group meditation Area
There is to be a space where up to 12 people can assemble and participate in a class on meditation, inner reflection or yoga.

Private Support Rooms
These will be private rooms with a casual setting where patients can talk to a trained psychologist about how they are feeling or any other concerns that they may have in their lives. The private support rooms can also be used by the nurses to discuss information with the patient on treatments, nutrition or cancer.

Private Reflection Rooms
To complete the variety of needs that people who visit the center will have, there will be nooks and rooms that a person can go to be alone with their thoughts or to read information.
**Exterior gardens**
Nature naturally places our body in a state of calm, so the integration of gardens with the facility is very important to the design and the goal of creating a calming, pleasant environment.

**Library**
There is to be an area set up with information on cancer, treatments, nutrition, relaxation techniques as well as any other relevant literature. This space will also house 4 computers, which people can use for research. Also, there will be a TV on which to watch the movies in the library collection.

**Overnight Rooms**
At the center there will 5 available overnight rooms that can be used by visitors who need a place to stay as their loved one is kept at the hospital for treatment. The rooms are to have a domestic feel in an attempt to alleviate the stress of the visitor during their stay. A private bathroom will be in each room.
The Region

This site lies in west central Wisconsin in the heart of the North American continent. Here, in the “dairy land” (as the area is called) lies a beautiful landscape of rolling hills, fields of crops and livestock, and areas of dense wooded forests. In this area bodies of water are plentiful, ranging from quiet lakes to swift moving rivers. The area is characterized by its four distinct seasons, each with its own significance and feelings it brings to people who experience them, whether it been the warmth of summer, the aroma of fall, the snow of winter, or the vitality of spring.
The City

The site is to be located in Eau Claire, WI. This area was chosen for two reasons. The first is the natural and built environmental beauty that the area has to offer. Meandering through the city is the Chippewa and Eau Claire rivers that have shaped the city and given it life during the days of logging. Though no longer used for logging, the rivers are still important to the feel of the city. Eau Claire itself is draped over the undulating terrain of the land creating an interesting, laissez faire character to the city. The second reason for choosing this area is that the city hosts two large regional hospitals, both with certified oncology centers. These are the only two certified oncology centers in a 120 mile radius, which creates a regional health care hub in Eau Claire as well as a need for a center for psychological healing.
The Site

It become apparent early on that this cancer caring center belonged within a short distance from a hospital’s oncology center as to make it easy for those leaving the hospital to find. It was also important to choose a site that held qualities that would promote peacefulness and tranquility. The chosen site became the perfect candidate as it is 500 feet away from Luther Hospital yet trees shield the direct visual connection between the two. The characteristics that make this site ideal are the small, quiet lake it sits on and the dense trees that surround the site, protecting it from the urban environment. This creates a natural oasis with in the larger fabric of the city in which people can escape and reconnect with the natural environment.
The focus on this project will be discovering how the built and natural environment affects a person’s state of mind. After discovering that relationship, it will become key to understand how the built environment can be manipulated to respond to the needs of those with cancer. My belief is that humans have a direct connection with their environment that can dictate their state of mind. To understand how to design with respect to that, the project emphasis will lie in the relationships that are created between people, the built environment and the natural environment.

The project is to be designed in a way that responds to our inherent need for a connection to the natural world. This will be done by blurring the lines between the built and natural environments and creating a situation where the two will work together in harmony. To achieve this, it is necessary to understand the effect the built environment has on the natural world while designing in a way that is not only sustainable, but regenerative.
**Definition of research direction**

Only through the channels of appropriate research will this thesis become a successful project. The basis of the research will be on understanding and exploring the theoretical premise/unifying idea in a great amount of depth. Research will also be needed to achieve a greater understanding of the project typology, the site, historical contexts, the programmatic requirements, and relevant code issues.

**Design Methodology**

For this thesis I will employ an in-depth mixed model method for both research and design. This will involve gathering and interpreting qualitative as well as quantitative information simultaneously. Qualitative data will be gathered through site visits, touring and exploring other cancer centers, as well as interviews. Quantitative data will be collected through books, journals, magazines, and archives. Both means of collecting data will be used throughout the whole process in order to be as informed as possible before making a design decision.

**Documenting the Design Process**

There will be an added emphasis on documentation of the design process throughout the whole project. At each incremental phase of the project, all relevant sketches, drawings, photographs, scans and digital images will be documented as to have a clear picture of how the design process started, where it is now and where it will be heading. Documentation will be done digitally as well as in a binder that will contain all physical documents as well.
Second Year
Fall 2007: Darryl Booker
- Tea House
- Rowing Club
- BioHouse
Spring 2008: Stephen Wischer
- Photography Studio
- Music House

Third Year
Fall 2008: Ron Ramsey
- Longbow Golf Club
- Moorhead Public Library
Spring 2009: Steve Martens
- Museum of the Far North
- Grand Portage Community Center

Fourth Year
Fall 2009: Don Faulkner
- San Francisco High Rise
Spring 2010: Frank Kratky
- Urban Community Master Plan
- Kigoma, Tanzania Sustainable School
- Santo Domingo Housing

Fifth Year
Fall 2010: Mark Barnhouse
- Water Research Facility
THE PROGRAM DOCUMENT
**Theoretical Premise**
The built and natural environments can be designed in a way to aid in the psychological healing and recovery of those experiencing trauma.

**RESEARCH**

To clearly understand what is implied by the theoretical premise, it is necessary to break the statement apart into various pieces for the purpose of research. The parts that were identified from the theoretical premise statement are the needs of the people experiencing trauma, response to the built environment and the connection to the natural world.

The first investigation is to be done into the needs that humans have. This is done by looking into the work of A.H. Maslow in his groundbreaking paper on the basic needs that all humans have: titled “Theory of Human Motivation”. The information discovered will then be applied to the case of a person with cancer. It will look at what essential needs the disease is robbing them of and what they need to fulfill their basic needs.

The second part will look into how the built environment can and does psychologically affect people. It examines research on a human’s relationship with the built environment and explores how we as humans experience space and how we derive meaning from these experiences.

The third area of research will look into our connection to the natural world and why it is important for humans to have this connection. This will be done by gaining an understanding of ecopsychology; the benefits of this natural connection will be explored. It will also investigate the need to rejuvenate the natural world to extend the relationship we have with it.
OUR NEEDS

We all have various needs, both physical and psychological, that have to be met for us to live life to its fullest extent. What are the needs that we have? What needs are essential to a balanced and enjoyable life? In 1943 A.H. Maslow formulated a theory to explain the basic needs humans have in his paper, “Theory of Human Motivation”. When formulating the theory, Maslow didn’t define the standard of basic human needs as what is needed for a person to just live and survive but rather he defined the basic needs as what is needed to live the fullest, most productive life. He did this by studying “how the best, happiest, most productive, most creative, and most fulfilled human beings act” and what they needed to reach that level of what Maslow called “self-actualization” (Wolestian, 2001). Self-actualization is a state of being where “the desire for self-fulfillment, namely, to the tendency for him to become actualized in what he is potentially. This tendency might be phrased as the desire to become more and more what one is, to become everything that one is capable of becoming” (Maslow, 1943). Thus, self-actualization is the goal of human motivation; to be the happiest, most fulfilled people we can become.

To get to this level of self-actualization, Maslow argues that there are four levels of basic human needs that need to be in met to reach self-actualization. The needs he lists are physiological, security, social, and esteem, with self-actualizing being the last of the needs. The list of needs is set forth in a way as to show that physical needs which are essential to basic life are the most important to survival, followed by needs that become increasingly psychological. “Human needs arrange themselves in hierarchies of pre-potency. That is to say, the appearance of one need usually rests on the prior satisfaction of another, more pre-potent need” (Maslow, 1943). Though, Maslow is careful to state that the order in which these needs are fulfilled does not necessarily follow this standard progression (Maslow, 1943). Below is a summarized version of Maslow’s basic needs as done by Kendra Cherry in the 2010 article titled “Hierarchy of Needs”.

**Physiological Needs**
Physiological needs include the most basic needs that are vital to survival, such as the need for water, air, food and sleep. Maslow believed that
these needs are the most basic and instinctive needs in the hierarchy because all needs become secondary until these physiological needs are met.

**Security Needs**

Security needs include needs for safety and security. Security needs are important for survival, but they are not as demanding as the physiological needs. Examples of security needs include a desire for steady employment, health insurance, safe neighborhoods and shelter from the environment.

**Social Needs**

Social needs include needs for belonging, love and affection. Relationships such as friendships, romantic attachments and families help fulfill this need for companionship and acceptance, as does involvement in social, community or religious groups.

**Esteem Needs**

After the first three needs have been satisfied, esteem needs become increasingly important. These include the need for things that reflect on self-esteem, personal worth, social recognition and accomplishment.

**Self-Actualizing Needs**

Self-actualizing needs are the highest level of Maslow’s hierarchy of needs. Self-actualizing people are self-aware, concerned with personal growth, less concerned with the opinions of others, and interested fulfilling their potential.

After proposing the five basic needs, Maslow then explains that if the needs of a person are not being met, the effect would be a state of neurosis. Neurosis is defined as behaviors that “are characterized by anxiety, depression, or other feelings of unhappiness or distress that are out of proportion to the circumstances of a person’s life. They may impair a person’s functioning in virtually any area of his life, relationships, or external affairs, but they are not severe enough to incapacitate the person.” (Psychoneurosis, 2010). Maslow realized that neurotic behavior is triggered by the frustration of not receiving the basic needs or having the basic needs blocked from a person. Neurosis is a psychological disorder that has implications on the wellbeing of the
physical body also.

When researching the physical effects of stress, depression and anxiety, which are the forms of neurosis, it became clear that all of these disorders share the same physical symptoms. The symptoms include irregular heartbeat, fatigue, insomnia, tremors, headaches, and physical aches and pains with no apparent source. These symptoms not only put stress on a person’s mind, but on their body as well. It is also documented that stress, anxiety and depression wear on the immune system as “constant stress can make you more likely to get sick more often. And if you have a chronic illness...stress can make your symptoms worse.” (Stress Management Health Center, 2009). Though neurosis is classified as a psychological disorder, it has documented negative effects on the human body.

After understanding the basic needs of all people, it is time to transition to looking at the basic needs of the specific group of people associated with this project: those affected by cancer.

**THOSE WITH CANCER AND THE BASIC NEEDS**

Cancer works in a way that blocks the basic needs of those afflicted with it, keeping them from realizing self-actualization. Cancer, by definition, is “the general name for a group of more than 200 diseases in which cells in a part of the body begin to grow out of control. Although there are many kinds of cancer, they all start because abnormal cells grow out of control. Untreated cancers can cause serious illness and even death.” (What is Cancer, 2010). Though it is a very physical disease, it also has deep psychological and social implications. Cancer touches all of the basic needs that were proposed by Maslow. The following is a look at how cancer affects each level of the basic needs and what is now specifically needed for the fulfillment at each basic level as a person deals with the disease.

**Physiological Needs**
**Effect:** Cancer doesn’t alter the basic physiological needs of the patient. They will still need the water, air, food and sleep just as before, but the cancer causes a new basic need to be added to the list. This new basic need that is now vital to extending and maintaining life in a patient is
Achieving the need: For cancer the treatment varies among the types of cancer but most involve some form of radiation, chemotherapy, surgery, or a host of more experimental options (Types of Treatment, 2010).

Security Needs

Effect: When a person is diagnosed with cancer, any feeling of safety and security in their life is quickly replaced with emotions of fear and uncertainty. “Cancer does kill of course—but fear, compounded by ignorance and false knowledge- is paralyzing in its own right.”(Jenks, 1995). Often the person doesn’t have much prior knowledge of what cancer is and it’s even more unlikely that they have an extensive knowledge about treatment options. Being uninformed is the breeding ground for anxiety.

Achieving the Need: What those with cancer need is to feel safe and secure again. The way to do that is by gaining knowledge and receiving it in the right setting. “Knowledge is indeed power, as Francis Bacon proclaimed” said Stephen Jay Gould, an individual with cancer who defeated the odds by being proactive and educating himself on all the treatment options he had, not just those set forth by his doctor (Jenks, 1995). Knowledge is important to relieving the fear, but if a person is not secure in the setting in which they receive the information, it can be very tough to erase the anxiety and fear. “In general hospitals are not patient-friendly. Illness shrinks the patient’s confidence...patients who arrive relatively hopeful soon start to wilt” (Jenks, 1995). Creating a familiar, secure and comfortable setting is essential to settling the person down as they begin to sift through the endless amounts of information in a calm, constructive manner.

Social Needs

Effect: Now, more than ever, a person with cancer has the need to belong, to be loved and to feel affection, but the barriers cancer creates weakens some social ties. People become unsure how to interact with a person who is afflicted by cancer. In our society there is a social stigma that comes along with having a life threatening illness (DeSpelder & Strickland, 2009). The stigma can lead to a change in the way people
act towards those with cancer. This then creates a situation where interaction with those who have cancer becomes timid, overly nice, or slightly awkward. These poor interactions with people can lead a feeling of being unaccepted or “feeling walled off from the rest of society and somehow invalid” (DeSpelder & Strickland, 2009).

**Achieving the Need:** A person needs to be able to interact with others who can relate to and really understand what they are going through. “I suddenly felt very alone...” recalls Lucy, a woman who dealt with breast cancer, “It didn’t make any difference that I had a loving family and wonderful friends. This was not happening to them.” (Lee, 2010). Being able to talk and listen to those experiencing a similar situation will allow for strong social bonds and connections between people. By creating the connections, the patient will again feel socially accepted and not alone.

**Esteem Needs**

**Effect:** A person’s self-esteem is a reflection of their perceive self-worth. Those with cancer often tend to feel like they become a burden to their families, the health care system, and society (DeSpelder & Strickland, 2009). By viewing themselves as burdens, their self-worth deteriorates to the point where some even question the drive to live.

**Achieving the Need:** Those without a sense of self-worth need to be reminded that they are indeed still important to many people and that there is a reason to get up every day. They need to feel supported by the people around them and to have people telling them how much they do mean to them. This support will lead to a higher self-esteem and recognition of their self-worth. A realization needs to be made that they are more important than the cancer and that they are in control their lives, not the cancer.

**Self-Actualizing Needs**

**Effect:** Cancer inevitably changes a person’s life forever as it may shorten or push it onto a new course. Before cancer, a person may have had a vision of what they thought their full potential in life could be. After cancer, that vision could change or be gone forever, sending people into a state of confusion as they search for direction and meaning in their lives.
Achieving the Need: Orville Kelly, the founder of Make Today Count, on how he dealt with cancer, “I do not consider myself dying of cancer, but living despite it. I do not look upon each day as another day closer to death, but as another day of life, to be appreciated and enjoyed.” (Kelly, 1977). This is the new line of thought, to continue to live life even with cancer, that must be realized as their new potential and ultimate goal. As before, the only path to self-actualization is the fulfillment of the rest of the basic needs. By addressing each need that an individual afflicted with cancer may have, they can then live out their rest of their lives, whatever the length, in happiness and psychological wellbeing.

As can be seen in the previous research, cancer makes fulfilling the basic needs of those afflicted with the disease a challenge. After many years as a nurse in a oncology ward and later the head coordinator of a Maggie’s Center, Laura Lee shares what she sees as the psychological reaction from those diagnosed with cancer. “Cancer challenges people’s perception of themselves, their existence in the world, and their sense of purpose and meaning in life...cancer brings a strong sense of isolation and loneliness” (Lee, 2010). In short, cancer blocks the basic needs from being fulfilled. As stated before, if the basic needs were not being met, the effect would be a neurotic state of mind. With cancer making it difficult to satisfy the basic needs, it is an appropriate correlation to state that cancer is the cause of neurosis in those afflicted with the disease. By understanding that, it became possible to identify the specific problems that were causing the neurosis.

Stated earlier in the research was the that fact that neurosis had a direct effect on a person’s physical wellbeing. In the case with a person who has cancer, their body is already under a tremendous amount of stress from dealing with the cancer and treatment. Adding the bodily stress of the neurosis can cause a decreased chance in the body recovering from the stress of the cancer or treatment. This makes dealing with the neurosis not only important for the psychological wellbeing, but for the physical wellbeing of the patient as well.

EXPERIENCING THE BUILT ENVIRONMENT

It is no great mystery that the environment which we are in makes us feel
a certain way. In fact “it is a commonly held belief (in the psychological community) that the environment around us affects our mental health and wellbeing” (Halpern, 1995). The phenomenon occurs around us every day and often times we recognize it. If a person was placed in a room with no openings and just four white walls they would call the room boring. Why? Because of the lack of stimuli that the room has to offer would soon create a state of boredom in the person. The room also offers no connection or meaning of any sort to the person. The study of the psychological effects of the environment on people is called environmental psychology.

Environmental psychology “is a direct study of the relationship between an environment and how that environment affects its inhabitants” (Bechtel & Ts‘erts’man, 2002). It is a very broad discipline that takes on the study of all of the various environments (examples are built, natural, social or informative) under one heading. Even with the study of all the various environments, there is one common thread in the research; the environment does indeed have an effect on the user.

While the previous paragraph almost seemed like a given, it was important to establish that fact to move onto the next question of how and why the environment affects us the way it does psychologically. It is also important to note that for the remainder of this section of research I will be concentrating solely on the built environment.

When a person enters a built space they immediately, consciously or not, begin interacting with the space. This interaction, as with most interactions, inevitably evokes an experience. The psychologically effect, or feeling, that the person gets from the space depends on what sort of experience that they have in that space. This then begs the question, how do we experience space? In “Body, Memory and Architecture” Bloomer and Moore argue that the human body is at the center of understanding and experiencing the built environment. Bloomer and Moore then go on to say that the understanding comes from the formation of our body-image or the sense of form individuals have of themselves. Our body-image forms as we “unconsciously locate our bodies inside a three dimensional boundary... by our using our haptic system” (Bloomer & Moore, 1977). Our haptic system is defined as our “sense of touch reconsidered to include the whole body rather than
merely the instruments of touch such as the hands” (Bloomer & Moore, 1977). Our self image starts to form in early childhood as our haptic experiences inform us of the world we live in. It is the haptic sense that allows us to experience and feel space in the built environment around us.

With an understanding of how we experience space taken care of, the next question is then, how do we derive meaning from these experiences as which to cause an psychological response? Bloomer and Moore explain that we derive meaning by referencing and remembering similar past haptic experiences and applying it to the current situation. Applying meaning to experiences and sensation is the basis of a branch of philosophy that has very important architectural implications: phenomenology. In its most basic definition phenomenology from the *Stanford Encyclopaedia of Philosophy* is “the study of structures of experience, or consciousness... studies conscious experience as experienced from the subjective or first person point of view” (Phenomenology, 2008). According to Martin Heidegger, a renowned phenomenologist, meaning was derived from our past experiences as well. “He believed that as human beings, our meanings are codeveloped through the experience of being born human, our collective life experiences, our background, and the world in which we live” (Byrne, 2001). Heidegger is stating that our experiences are the amalgamation of what has happened to us in our lives and what has had influence our lives, for example, culture or location. When taken in architectural terms, Heidegger is implying that we create our own meaning of space from what our past experiences are telling us about the current experience.

We experience space through the use of our own physical bodies and the use of our haptic sense. This experience, in turn, gives the space a “feeling.” We are then able to describe this feeling after referencing experiences from our past that inform us on what this feeling means and what is associated with it. What this means for the thesis project is that to create a space that responds to the need of those with cancer, it becomes important to design in such a way that evokes certain past experiences as to create the desired feeling or response to the built environment.
‘People with access to nearby natural settings have been found to be healthier overall than other individuals. The longer-term, indirect impacts (of ‘nearby nature’) also include increased levels of satisfaction with one’s home, one’s job and with life in general’ (Kaplan and Kaplan, 1989)

Since the beginning of the species, humans have had a strong connection with the natural world. It is estimated that modern humans have been on this planet for some 100,000 years. For almost the majority of our existence, we have lived with and relied upon the natural world for all of our basic survival needs (Brill, 1994). We were a part of the environment and we became hard wired to interact with it. The connection we had with nature was a strong one for tens of thousands of years until the beginning of the Industrial Revolution. This marked western society’s shift away from the natural world as people migrated to the cities, and there became an increased reliance on technology, not the natural world. Ever since, there has been an increasing alienation from the separation with nature (Walsh, 2009). This disconnect with nature has been exacerbated in the last 50 or so years as technology increasingly continues to dominate our lives. Now more than ever, we are separate from the natural world. “People were embedded in nature once,” says Linda Buzzell-Saltzman, a psychologist and the founder of the International Association for Ecotherapy, “We’ve lost that, and we’re paying the price.” Does it matter if we apart of nature? How does this separation affect us? What can happen if this connection is reestablished? These questions are the foundation of the branch of psychology called ecopsychology.

Ecopsychology is a relatively new branch of psychology that analyzes the connection that humans have with nature. It is defined as the study that essentially “connects psychology and ecology... based on the intimate connection between humans and nature” (Davis, 2009). A fundamental concept behind ecopsychology states that “it is psychologically damaging for humans to live disconnected from their ecological context, as most of us do in contemporary urban industrial cultures” (Ecopsychology). By investigating the connection with nature, ecopsychologists have concluded that it can be very therapeutic for
people to have interactions with nature, no matter what the scale of that interaction may be. The psychologist, John Swanson, stated it best when he said “Reconnecting with nature reawakens us to pleasure and beauty that feed us in body, mind, and soul” (Swanson, 1997).

“Ecotherapy” has emerged as a promising avenue for understanding nature’s influence and its therapeutic applications. Consider this study. In 2007 researchers at the University of Essex in England found that a daily dose of walking outside could be as effective as taking antidepressant drugs for treating mild to moderate depression (Walsh, 2009). Also, this study done by environmental psychologist, Roger Ulric, found that patients who had gallbladder surgery recovered faster and needed fewer strong painkillers when they had a view of trees through their hospital window than when they looked out on a brick wall. Ulrich measured a whole array of physiological measures (including heart rate, skin conductance, muscle tension and pulse transit time) to quantify recovery and health. He found that recovery was faster and more complete when test subjects were exposed to nature rather than urban scenes (Swanson, 1997). Workers with a view of trees and flowers felt that their jobs were less stressful and they were more satisfied with their jobs than others who could only see built environments from their window. In addition, employees with views of nature reported fewer illnesses and headaches (Kaplan and Kaplan, 1989). Numerous research studies of programs like Outward Bound, that give people a chance to experience the wilderness, have concluded that they had a positive impact on self-concept, sense of personal control, self-assertion, and personality. A review of more than 300 studies of participants in wilderness experience programs found that the most significant pattern emerging from these studies was increased self-esteem and sense of personal control for participants (Swanson, 1997). In a review of the empirical research, it was found that the psychological response to nature involves feelings of pleasure, sustained attention or interest, relaxation, and diminution of negative emotions, such as anger and anxiety. Nature even has an impact on the physical wellbeing of our bodies. A 2006 article in the Health Promotional International Journal states that “Empirical, theoretical and anecdotal evidence demonstrates contact with nature positively impacts blood pressure, cholesterol, outlook on life and stress-reduction” (Maller, Townsend, Pryor, Brown, & St Leger, 2006). With all of the evidence provided it has become
increasingly clear that the natural world can be used effectively as a form of therapy and healing in those who are depressed, stressed, or have anxiety, which can also be called a state of neurosis.

Interacting with nature calms, relaxes and rejuvenates people in ways that the built environment cannot. While our relationship with nature is very beneficial for us in a myriad of ways, the reverse also needs to be true; we cannot just take, we must also give. Nature has to gain something from us also to make the relationship a harmonious one. How can we do this? We can start by stop taking from nature without thought or fear or repercussion. Then, we work to repair the damages that we have done to nature by rejuvenating it, just like the way that nature rejuvenates us. This idea of rejuvenating nature moves beyond the current trend of sustainability. Sustainable architecture is “architecture which is designed in an environmentally friendly ways” (Smith, 2010). While the intent is good, all that sustainable architecture means is using less; less virgin materials in construction, less CO2 emissions, less VOC’s or less of a dependency on mechanical system. While sustainability is slowing down the pace at which we are destroying our earth, it doesn’t solve the problem because we are still destroying the earth. What does address the problem is regenerative architecture.

Regenerative architecture “seeks to go beyond doing no harm - it is the co-evolution of human and natural systems, to design to actively heal the environment” (Aikan, 2007). This concept looks towards the way that nature operates for instructions on how to work. When looking at nature’s own system, we find that it operates with “a closed loop model where the effluents of one organism serves as the raw material of another organism. This is a cycle where material flows are constantly exchanged and renewed.” (Aikan, 2007). Pardon the cliché but in essence, this is the circle of life; one organism living and then dying only to be used by another organism.

There are six essential concepts of regenerative architecture. They are explained here by information from the article *Regenerative Architecture | Beyond Sustainability - Design to Actively Heal the Environment* written by Aikan:

1. **Effectiveness** - This is mainly concerned with making good
decisions. ‘Good’ is not defined as for the sole benefit of the human species, but well in terms of all species. We are not detached from the ecosystem and we need to start recognizing that what is good for us may not be good at all for the ecosystem.

2. **Closed looped system** - We need to design and remake our production processes to form closed loops where material flows are cycled and remove the concept of waste. This field of study is termed industrial ecology. An industrial ecosystem is a system in which the consumption of energy and materials is optimized, waste generation is minimized and the effluents of one process serves as the raw material for another process.

3. **Integrate human processes with natural processes** - We are very much part of nature, as much as we don’t realize it. Plants convert carbon dioxide to the oxygen that we breathe. The hydrological cycle constantly replenishes our freshwater supply. We need to start to redesign our processes to be aligned with natural processes, to protect, reinforce and strengthen them where possible. For example, rather than building seawalls to protect against erosion and flooding, it’s far more effective to use natural vegetation to do the same work!

4. **Symbiosis between different elements** - We need to start designing our systems to take advantage of shared linkages that would provide mutual benefit. This is similar to processes in nature where bees and flowers, for example, share and are mutually dependent.

5. **Multiple pathways** - Like ecosystems, we need to redesign our systems to have multiple means to the same goal. This makes our system resilient. Going by the efficiency theory, only one method should be the best, but viewing from the lenses of effectiveness, it creates a dynamic web of flexible, mutually supporting relationships. Using the same example of bees and flowers, although a flower depends on bees to pollinate, alternative pathways exist like the hummingbird, which also fulfill the same function.

6. **Within renewal capacity** - Any system, when overloaded, will degrade over time. Hence, regenerative systems must work within the carrying capacity. Hence, the role of the designer is to decide what is appropriate development and how much is optimal development.

To reciprocate the endless benefits that nature has to offer us in terms of healing and life sustaining gifts, we need to give something back. The use of regenerative architecture would do just that by not only
reducing our consumption but replacing what we take. By doing this we would create a harmonious relationship with nature that would be intact indefinitely.

SUMMARY

With the body of research presented here, it is undeniably evident that cancer is not just a physical ailment; it is a disease that wreaks havoc on a person’s psychological health and wellbeing. The concern is that modern medicine, especially in cancer care, is at a stage where it doesn’t concern itself with addressing the psychological needs of those individuals with cancer. It is not that those medical professionals don’t care about the mental health of the person with cancer, it is that the current medical system in place is one of efficiency and doesn’t allow for them to take time to adequately address the issue. What needs to happen is for the healthcare system to evolve into an entity that meets the holistic needs of the patient. This is where this thesis project comes into play. In the research there were three areas of concentration that were dictated by the theoretical premise: the needs of cancer patients, experiencing meaning in the built environment and the connection to the natural environment. What was not explained was the connection each area has to each other, and the remainder of the summary will be dedicated to this.

As previously discovered, those with cancer have a specific set of ways to achieve the basic needs laid out by Maslow. What has yet to be correlated in this research is how these needs of individuals with cancer can be dealt with directly by the built and natural environments. If this is true and the built and natural environment can indeed aid in the fulfillment of the basic needs, then these environments can also relieve the neurosis cause by the frustration of not having the needs met which, would imply an improvement in psychological health and wellbeing in that person. Let us again revert back to the five basic needs of humans to demonstrate this idea.

Physiological Needs

While it is true that the environment around a person cannot provide direct physical cancer treatment to the body, such as radiation or chemotherapy, what it can do is provide the means to possibly make
those treatments more effective. It was stated and shown that a person’s environment, both built and natural, holds the ability to assist a person in fulfilling their basic needs. When this happens, any sort of neurosis that person may have had disappears. What then also disappears are the negative physical effects that the neurosis had on the body. Recall that the “constant stress (of neurosis) can make you more likely to get sick more often. And if you have a chronic illness...stress can make your symptoms worse.” (Stress Management Health Center, 2009). It can then be said that if the environment can potentially alleviate neurosis, which includes the physical ailments of neurosis, then the environment can contribute the physical wellbeing of a person with cancer. A brief disclaimer here is that this is not implying that the environment can cure cancer, but it is safe to say that it can help.

Security Needs
A built environment itself cannot give a patient the information they need to make informed life choices about cancer treatment and options. This will have to become a function or service of the built environment’s program to achieve the goal of alleviating fear and anxiety through the use of knowledge. What the built environment can provide, in connection with the natural environment, is a safe and secure environment in which to receive all of the information. This can be done by designing space in a way that a person can connect the feeling of the space with a previous experience or memory of safety and security. With the feeling of vulnerability gone and replaced by security, those individuals with cancer can settle down and really be able to digest the information to gain the knowledge which creates security and safety.

Social Needs
A person’s social needs will run the gamete from large group discussion all the way down to a private one on one conversation. Cancer interrupted this need by creating a barrier between people with cancer and society. This leads to feelings of not being accepted and isolation. By creating a center especially for those individuals with cancer, it gives people a chance to talk with someone who can relate to them and who is going through the same situation. The built environment can provide a place not only for these interactions but an environment that can encourage these interactions. Restoring, or at least aiding in the restoring, a
person’s social needs can be done by creating a spacial organization and spaces that facilitate social interaction on all the necessary levels.

**Esteem Needs**
A person with cancer tends not be able to fulfill this level because the cancer has robbed them of their self-esteem and feeling of self-worth. What architecture can do to give back the feeling of self-worth is to design a space that makes a person feel like it was designed just for them. This feeling of architectural personalization can cause a person to feel like they were important enough, worth enough, to have something designed just for them. In a quote from Charles Jenks about what patients tell him about Maggie’s Centers (see case study #1) “Patients tell us that the architecture makes their smashed egos expand again, makes them feel important and light hearted. I have heard this enough to start believing them” (Jenks & Heathcote, 2010).

**Self-actualizing Needs**
Self-actualization, which is synonymous to becoming “the best, happiest, most productive, most creative, and most fulfilled human beings”, comes after all of the other needs are previously met and the state of neurosis is defused (Wollestian, 2001). As described in the previous four needs, the built and natural environment can help with the basic needs and help to alleviate neurosis. This means that the built and natural environments have the ability to help people reach the level of self-actualization and happiness with their life despite cancer.

This shows that the needs of people, the built environment and the natural environment are all intertwined with each other. If one of the three is changed, it can have an effect on the other two. If a balance is struck between the three elements, a situation and feeling can occur that can lead to wellbeing in those who interact with that environment.
CASE STUDY 1

Bear Cottage Children’s Hospice,
New South Wales, Australia

architect: McConnel Smith & Johnson
client: Children’s Hospital at Westmead, Australia
completed: 2001
size: about 3500 sq. ft.

The Bear Cottage Children’s Hospice was the first hospice dedicated to children in New South Wales. The hospice was to be a palliative, end of life care oasis for young people and their families. The facility has enough rooms to accommodate ten inpatients at any given time. There are also two two-bedroom apartments on site to allow parents or families of the children to comfortably stay at the center. The building is located on the grounds of the historic St Patrick’s Estate in Manly. This is an excellent site as it has seaside surroundings and groves of trees on site, in which the building sits.

The architect, McConnel Smith & Johnson, took on the project with the intent of eliminating the institutional nature that is ever present in hospitals and other health care centers in the area. To the architect, the way to reject the institutionalized style became to design the children’s hospice with domestic feel to it. It was a noble idea that turned out to be very complex because the building was still required to have all the normal functions of an institutional environment, as it is still a medical center. This clashing of functions and ideas leads to an excellent case study on the hybrid building and how the architect dealt with these issues.
As mentioned before, the building is situated on a gorgeous site on a slopped hill that overlooks the sea. With having the privilege of a spectacular site, the architect took many steps to preserve, connect to and showcase the natural beauty of the site. The path that leads you to the entrance meanders through the natural vegetation, stripping away memories of the asphalt parking lot. The building itself is a reaction to the contours of the site. There is a distinct ridge that runs through the site and the architect took advantage of this by building into the hillside to preserve the site and to lower the profile of the building. Natural light floods every available space inside and there are operable louvers and windows placed all over the building for extensive environmental control that also helps create a connection to the outdoors.

The meandering path leads you up to a very non imposing building which has a very domestic feel to it. Its scale is that of a home with the pitched roofs and two apparent chimneys (really mechanical vents) which all add to the domestic feel of the exterior. Upon entering through a front door like one found on your own home, what can be noticed immediately is the absence of the elements that characterize a hospital. The grays and neon lights, are replaced with warm woods, gentle colors and soft carpets. The architect even went so far as to design the inpatient rooms to have all cords and outlets that are medically related be hidden by shelving or wood panels. The main corridor, to delineate when the corridor is a hall or when it is meant to be a gathering area, is not marked by a sign, but rather a change of flooring material from wood to carpet stripping away even more institutional elements.

The most striking feature of the Bear Cottage Hospice Center is its “tree house” that extends off of the east side of the building. It is a 12’ x 12’ free standing structure
that’s only connection to the main building is a wooden deck. It is designed with a minimalist vocabulary such that it is a very transparent structure that is made only of glass, steel and wood. The transparency would give the user a strong connection with the natural environment around them. The function of the room is to be a private place where children, parents or families can go to remove themselves from the rest of the people at the center. The isolated room was designed to be a peaceful, reflective area, and I believe that the architect was indeed successful in creating the space.

The building’s special layout includes a dominating east to west axis with rooms right off this main corridor. In plan, it is a very dominating feature and would be an area where the architect didn’t achieve the goal of moving away from and institutionalized style. Ask anyone what the stereotypical hospital is characterized by and odds are one of their responses will be its endless, long, and wide hallways. I feel that it would have been important to not have such a dominating axis. The architect did attempt to address the issue and mask this strong path by placing an open area in the middle of the building that weakened the axis and also presenting a new axis. The architect also tried to “warm” the corridor by the use of materials like woods and soft paints. That attention to detail does make a noticeable difference to the space as seen in the pictures.

This was a excellent case study in how to try and mix two contradictory aspects like domestic and institutional. The architect was pretty successful, and what I learned from the project were some tips on how to make a medical building seem anything but medical.

The information and graphics for this section was taken from the book Innovations in Hospice Architecture by Stephen Verderber and Ben J. Refuerzo and also from a review done by Charles Reed on architecturemedia.com
CASE STUDY 2

Maggie’s Center London
London, England

architect: Richard Rogers, Rogers Stirk Harbour + Partners
client: London’s Charing Cross Hospital
completed: 2008
size: 3982 sq ft

The Maggie’s Center at London was designed to address the psychological needs of those who have cancer. The function of the building is to be a place where visitors can receive informal personal counseling, gain information, participate in individual and group therapy, and learn about such things as nutrition, stress reduction, and other kinds of therapy. The center’s mission is to get people who have been knocked down emotionally by cancer back on their feet and ready to keep fighting. More importantly, the center shows people how to live life again and to be happy. A place like this seems to naturally want to be placed in a serene, natural setting, but this was not the case for this project. The building is placed in the heart of London at a busy intersection and in front of a giant modernist hospital. This project is a big challenge and responsibility for an architect to take on but Richard Rogers accepted the challenge.

The absolute contradiction between the building program’s intention and the urban site were a stark contradiction of each other. Rodgers dealt beautifully with the situation of the urban environment by constructing a protective red-orange, a great color for those in a weakened state, wall around the building.
to gain privacy. As protective as the wall is, it is the approach to the building that really strips away the urban environment. Here is an account from Charles Linn, writer for Architectural Record “One approaches the center by crossing a courtyard inserted between a few of the site’s mature plane trees. The only hint of what’s inside is a glimpse of an enclosed outdoor courtyard visible through a cutout in the south wall of the building. One passes it, turns 90 degrees, and then another 90 degrees to reach the protected entry. The effect is to become, with each step, more and more isolated from the hustle and bustle of London, a process that...is described as accepting the hug of the building.” (Linn, 2010).

Upon entering the building one ends up right in the kitchen, which is a strong focal point of the building. This was done so that coming into the building became as unintimidating as possible because most of those with cancer are fearful to enter due to the emotional conflicts of asking for help and admitting to others they cancer. From there the rest of the building was designed with attention to the human scale and to achieve the feeling, as the architect says, “domesticity”. Even with the domestic intent, the building does not come off as a home that is there to pat you on the head and tell you everything is going to be ok. Yes the building is homey but the concrete and ply wood interior is meant to be warm feeling but also strong, like a good shelter.

Besides the bright wall, the most dominating feature of the building is the hefty roof that seems to hover over the building. None of the interior or exterior walls, except the glass, reach all the way up to the canopy. It sits on and cantilevers out over the columns that supports it. The roof is meant to have a protective presence at the center, which it does, as the roof also has triangle perforations cut out into it to allow views up to the sky and to flood the building with natural light.
The floor plan and the layout of the building are fairly simple. It is laid out in a “pinwheel spiral” with the kitchen, like mentioned before, and the kitchen table as the center of building. Branching out from that central space are a variety of social areas. Some are meant for large groups, others are for private conversations while other spaces are just for a person to be alone to reflect or let out some pent up emotion. The designer made an effort to create a lot of different corners where people can retreat to and “hide” in the building.

Maggie’s Centers, there are currently seven centers open at various hospital campuses, have been a source of inspiration and direction for me since the beginning of this thesis. They showed me that not only is it important to treat the physical ailments of cancer, but to also heal the mind as well and architecture can do this. These centers gave me the inspiration to base my project on how architecture can help the lives of those afflicted with cancer.
CASE STUDY 3

Minneapolis Pathways
Minneapolis, MN

architect: Anmahian Wilton Architects, Design Architects
client: Pathways
completed: 1993
size: 4000 sq. ft.

Minneapolis Pathways “is a crises resource center who works with people who face serious life threatening illnesses” states the executive director, Howard Bell (Linn,1994). This is not a physical treatment but rather a treatment center for the mental health for those who are dealing with a life threatening disease such as cancer. “We help people empower themselves is a psychological,emotional and spiritual sense, to enable them to live their lives again” says Bell (Linn,1994).

Since the beginning of Pathways, visitors and staff have gathered at an old victorian style home; but due to the great response to the program, more space was needed to accommodate the demand. When it came time to design a new building, the group was hesitant because the old building was very non-institutional and non-threatening, which was key to success of the program. It greeted visitors with its old home charm, made them feel welcome and safe. The group wanted these feeling to be replicated in the new building as well and they didn’t want the building to be over done, in the sense that would stand out from the other buildings on the street. Even with the groups warning against over doing the architecture, the architects still felt the building should
project its own identity and not be designed to just look like another standard residential home.

The exterior materials are a bleached wood siding and sand blasted concrete, and on the interior there was an extensive use of a nice, soft colored wood with white walls. The exposed glulam beams adds a nice touch as it gives the rooms some real character. The Library and lecture room both look out to a little garden that is located at the back of the house to bring a connection to nature into play.

The floor plan is laid out in a pin wheel style, which works well for the program of the project by allowing those who come to visit the center to decide what they feel comfortable doing, whether that is joining the large group or being alone to meditate. It is a no pressure situation for those who may feel a little anxious by coming for the first time to Pathways.

The building was supposed to have a residential feel to it and that was pulled off very well by the architects with the use of layout and proportion. I think that it feels too much like a house and, except for the large lecture room, it is a house. I have never been there so it is tough to really know what the interior feels like but I perceive it as a standard house. I don’t think this necessarily works because it seems like the building is, in the words of Edwin Heathcote, “patting you on the head,” as if it feels sorry for you. While this place definitely needs to be comfortable and safe, it also needs to be a little bit challenging. It needs to have something to the design that also inspires people and is a catalyst for taking action to live again. It is just too safe for what I think the building should be which is something I will be cognizant of during my own design.
CASE STUDY 4

Oxford Maggie’s Center
Oxford, England

architect: Wilkinson Eyre
client: Oxford Hospital
completed: Unbuilt
size: about 1000 sq. ft.

This building is also a Maggies’s Center just as Richard Rogers Maggie’s Center in London. The building was designed with the same program and overall intent to bring comfort and hope to visitors. This project is still in the development phase with hopes of being built in the coming years.

The major difference between the two Maggie’s Centers is that the site for the Oxford Maggie’s center is nestled in the trees as apposed to stuck in the middle of the urban environment. The architect, Wilinson Eyre, respected this opportunity to design with nature so he challenged himself to leave the natural site as untouched as he could.

The resulting design became one that was poetically light and transparent. The most intriguing element of the design is that the building did not actually affect any of the trees on the site. Eyre has designed the shape of the building to fit perfectly into the voids left between existing trees, and it leaves the natural environment virtually untouched.
The building hangs over the edge of a hill with most of it not even touching the ground plane. The overhanging sections of the building are supported by randomly placed and angled columns that blend in with the surroundings as they appear to be tree trunks, as can be seen in the drawn section.

The spacial layout is in the pinwheel fashion where the visitor is brought into the middle central space, which is the hybrid kitchen and table, and from there they are free to branch out to the group or private spaces. There is a small terrace that circumvents the entire building and allows a person to step out into the natural world at any point for get a breath of fresh air. The building is enclosed in a variety of folds to give privacy where privacy is needed, and in other parts of the building there is floor to ceiling glass to blur the lines of indoor and outdoor.

I chose to investigate the Oxford Maggie’s even after already looking at another Maggie’s center because even though the programs are similar, these are two very different buildings. Each design was a direct and beautiful response to the environment. By investigating the Oxford Maggie’s I was able to look at a project that has the utmost respect for nature. It allowed me to understand the ways that a building can harmoniously interact with the natural environment in which it sits. The building responds beautifully to the site and trees to uphold that integrity of the natural environment. When the Oxford Maggie’s is built, it will truly earn the nick-name it has already received, “the Tree House”.
When going out to find case studies for this portion of the thesis, I searched for projects that would inform me about the various facets of the theoretical premise: human needs, the psychological impact of the built environment and the connection people have to nature. The four case studies I found were all of a similar typology and size but each project was very unique in its own way. The ways the projects were different gave me the most information on this typology. After reviewing the case studies, I felt as though my theoretical premise was not only supported by the studies, but reinforced by them.

The stereotypical healthcare facility is a modernist building with long white, sterile corridors that have cramped and artificially lit patient rooms directly off this main artery. The corridors and hallways are seemingly a maze to keep people lost and trapped inside. At the entrance of each of these hospitals is a dull, life sucking waiting room were a congregation of sick and injured people sit and wait for their turn to see a doctor. The building is not designed for the users in mind, but instead as an efficient machine that shuffles people in and out quickly. This is the actual setting that most individuals with cancer or any other life threatening illness is forced to face every time they have a doctor’s appointment or when they need to come in for treatment. These individuals need another option to the hospital because they deserve better than that. What they need is a space that is a complete rejection of the institutionalized style of today’s health care system. What they need is a design that focuses on them as people.

The typology of this thesis is not an exact match to any of the case studies, but instead is a hybrid of all of them. The project is to be a place for psychological healing where people can come to get information and counselling, but it will also incorporate a few over night rooms for families of the ill to stay at. These case study projects informed me how I could effectively incorporate the two ideas into a harmonious design.
The similarity found throughout each of the case studies was a complete rejection of the notion that a health care facility has to have an institutionalized style and feel to it. Instead, each was built with the patient and their psychological well-being in mind during the design process. The rejections of the institutionalization style led to the motif of building at the human scale because a space designed to the human scale is a comfortable space that reminds people of their cozy and secure homes. Since these spaces do evoke memories of home, it can be said that each project was designed at the domestic or residential scale, which was very successful in each case. Though, as said before, the project cannot take it too far to essentially design a home because this is not a home. These ideas of designing for the human scale to ensure comfort and security deals directly with the theoretical premise idea of how the built environment can facilitate a healing environment.

Designing with respect to the site and building context is an important design element. What was gained through the case studies was an understanding of how each individual project interacts with and responds to its site and site context. Richard Roger’s response to his urban site was to block out its surroundings while Wilkinson Eyre’s design is integrated with the site and encourages interaction with natural environment. Each project attempted to take advantage of the healing powers of nature. The project either created a direct connection with the existing natural environment through views and/or creates a garden area to act as the connection to nature.

The special arrangement that seemed to work the best with this specific typology was that of a pinwheel arrangement. The pinwheel arrangement is where there is a central space and the rest of the functions branch off there. In most of the buildings there was a focal point or hearth of sorts in the central space which is directly accessed upon entry into the building. Reading various accounts an arrangement like this is not intimidating thus making it perfect for getting people into the building and making them feel welcome.
History of Health Care Architecture

Hospitals and health care facilities hold an extremely important role and place in our lives. It is at a hospital where many of us will come into the world. The hospital is also where more and more of us will be spending our last days on this earth. It is a place that can cause celebration and happiness but can also elicit tears and sorrow all under one roof, sometimes just a few rooms away from each other. The hospital becomes a truly unique sort of place in the lives of humans for what it does for us. People from the beginning of time up until about the Enlightenment understood the importance and symbol of the hospital and it became the heart of many cities with architectural significance. The hospital stood in the ancient cities as a symbol of mercy and charity, a sign that there is good and compassion in the world. During the modern era the hospital changed. It became a machine that was there to do its job quickly and efficiently, as Edwin Heathcote, an architectural historian, said it best when describing the modern era hospital “Architecture flat lined” (Heathcote, 2010). The next few pages is an in depth look at the history of health care and the architecture associated with it from the beginning of written history to the present and then to where it is going.

The marriage between architecture and healthcare is evident all the way back to the times of the ancient Geeks. Of course this is only as far back as recorded history goes, making it tough to really place an early timeline on the use of architecture and health care. Through extensive archeology and some speculation, it has become known that Stonehedge, one of the great wonders of the world, was possibly one of the first known constructed hospitals, built in 3000 BC (Heathcote, 2010). While this fact is still disputed among scholars, there are other early great works of architecture that were indeed places for healing.

In ancient Greece, temples were designed and constructed to be
for the god of healing, Asclepius. These buildings became a cross between a temple and a hospital, which led to a very holistic sort of health care. The ancient Greek city of Epidaurus, which is most famous for its 15,000 person capacity theatre, was the site for one of the grandest hospitals of Greece, the Sanctuary of Asclepius, which was built in the 4th century BC. Epidaurus was thought to be the birthplace of Asclepius causing ill people to travel from far away to come and receive his healing powers. The hospital was a complex which embraced the idea of holistic healing by treating the patients with spiritual means, natural medicine, and respecting the human experience. The complex was a series of baths, gymnasion, palaestra, the theatre, courtyards and katagogeion (dormitories for patients) (Sanctuary of Asklepios at Epidaurus). There is the old cliché of “the body is a temple” but in ancient Greek architecture the phrase seemed to have been taken to heart (Heathcote, 2010).

The next advancement of hospital architecture came when the Romans adopted Christianity around 325 AD (Heathcote, 2010). Because of the Christian affinity for healing the sick, it was declared that every city in the empire was to have a place to care for the sick. New hospitals were built all over and became the center or focal point of many of the cities.

The idea of a holistic hospital was by no means a Western idea as many examples of early hospitals can be seen all over the Far East dating from as early as the 4th century BC. These hospitals carried a similar sense of prestige to them as well, just as the Greek and Roman hospitals did. They were often some of the greatest examples of architecture in their cities. It was actually the East that was more advanced at the science of medicine at the time but each hospital was still affiliate with a religious center, keeping the idea of holistic care.

In Medieval times there came the rise of monasteries all over Europe, which is where the hospitals and care centers of the time were built. Then in the 12th century, there was a move away from the monastic model and instead hospitals become located in the heart of cities again (Heathcote, 2010). This marked the slow removal of the hospital from the church and spiritual healing. By the 14th
century, hospitals were mostly under the control of the city and not the church.

One of the first major buildings that ushered in the period known as the Renaissance was the hospital Ospedali degli Innocenti designed by Brunelleschi in Florence, built in 1419 (Heathcote, 2010). The elegant colonnaded facade was a completely new look (as was much of the hospital design) which launched Renaissance Architecture. During this time the hospital was “transformed from a relatively simplistic tool of care….to a much more specialized, medicalized…institution” though it still kept charitable passion for helping people and the salvation of the soul (Henderson, 2006).

The age of Enlightenment, starting in the 18th century, ushered in a new area of thinking that was based not off of spirituality or religion but of one of science and reason. There was also another idea introduced in the Enlightenment era, the idea of social control. The buildings that exemplified this new trend were the hospitals and prisons that were constructed during this time period. In Britain, The hospital became characterized aesthetically “by a somber combination of repetition and the lack or ornamentation” (Heathcote, 2010). The hospital became a place of last resort, people would only go there if the absolutely had to. This was due to the industrial revolution and the migration of massive amounts of people to the cities. The migration brought poor hygiene and sickness to the city, filling the hospitals. More hospitals had to be constructed and it seemed like a waste of money to create architectural works like in the past. A fear of hospitals came over people as they had become dreadfully gloomy and were essentially efficient buildings full of sick and dying people. Most of the wealthy would not go to hospitals and instead have physicians come to them. At this time the hospital had completely fallen from grace and were held in very low regard by society.

What created a drastic change in hospitals at the end of the 19th century was the advancement of medicine and hygiene, which allowed the hospitals to offer treatments that people just could not receive at their home. This brought the wealthy and middle class back to the hospitals and forced hospitals to cater to the higher
class of patients. By the time the 19th century was over the hospital was no longer a place of fear and death, but one of hygiene and comfort. It was explained as “somewhere between a hotel, a civic structure and a church” (Heathcote, 2010).

The discovery of infection at the end of the 19th century also became the precursor for the sterile, white surface and terrazzo floor motif that is so common in hospitals of the 20th century. This also became the template for a functionalist modernist aesthetic that was born in this time period. The template was to “strip architecture naked” and clear everything out to make everything look clean and smooth and minimal. The architecture of hospitals became the functional modernist attempt to, as Sara Wigglesworth stated in her essay titled *A Fitting Fetish*, “purge the tainted, decayed urban fabric with a pure architecture of science and engineering, a mechanism as much as a building”. The new hospital became seen as a machine not only to cure the sick but also cure society.

At this time, the 1960’s, the field of medicine was advancing so quickly that hospitals built just 20 years ago were already obsolete due to not enough space for new machines. The response to this was the building of super hospitals that would have enough room for any new advancement in medicine. In this flurry of new building many of the hospitals were designed hastily by poorly trained architects who tired to mimic the modernist style. The results were terrible. The architecture of hospitals saw a decline in ambition in their design and a lowering of standards. Edwin Heathcole described this time of hospital design as only familiar to us as “a subconscious archetype of purgatory”.

The 1980’s and 1990’s experienced a growing trend in the medical world to reintroduce the patient, as a human, back into the medical design. New hospitals began to shed the white, sterile feel from them and move towards elements that evoked comfort to patients. While there is still a high demand for hospital super centers due to large groupings of population, the greatest advancement in hospital architecture for the patient has been in the small clinics in rural and small cities. These intimate buildings look at the patient and embrace them to let them know that they are the center of attention at this
Every year the life expectancy of people around the world becomes longer and longer. As people become older there is a greater reliance on health care, making the hospital a bigger part of our lives. This fact has been recently recognized and a small shift is beginning to take place in hospital architecture to a more humanistic design. Ali Parsa, confident managing partner of health company Circle, explains it this way, “a night in a hospital costs more than in a five-star hotel, so why shouldn’t people get a similar experience?” With this idea and human experience at the current forefront of design, hospital architecture is heading in the right direction.

History of Eau Claire

Eau Claire, WI has a rich and full history that has shaped this great city into what it is today, a vibrant and exciting place. Here is a brief look at the history of the city of Eau Claire.

Up until 1767, the only people to know of the rich land of the Chippewa valley, where Eau Claire is located, were the Native Americans of the time who had been there for about 400 years. The area was inhabited to the Ojibwa (Chippewa) Indian tribe who lived off the land in harmony with nature. Then in 1767 the first European explorer, Captain Jonathan Carver, found the area. The first European settlement of the area didn’t occur until 1790 when a French fur trader post was establish about a mile up river from today’s downtown Eau Claire. What followed was years of tension and struggle between the Native Americans and the European traders.

Eau Claire become an official city in 1856 and shortly after, the lumber industry emerged in the area due to the great number of white pine. Because of Eau Claire’s placement on the Eau Claire and Chippewa River, it became a lumber hub with so many saw mills it became known as the “saw dust city”. The lumber industry also attracted many new people and Eau Claire experienced a time of growth. The extensive clear cutting of white pine led to due the decline of industry by the early years of the 20th century. In 1924
the last of the great lumber mills closed and the era of lumber in the Chippewa Valley came to a close (Barland, 1960).

Since the closing of the saw mills, the industry in Eau Claire has seen a drastic change. A tire plant opened in the 1940’s which became the primary industry. Then in the early 1990’s that plant closed. Since then a number of computer technology plants have come to the area; retail, health care and education are the primary employers in the city. The education jobs are driven by the two public colleges, The University of Wisconsin Eau Claire and Chippewa Valley Community College, and two private colleges, Immanuel Lutheran College and a campus of Globe University/Minnesota School of Business. With so many colleges the town is flooded with young adults. In 2007 Eau Claire was named by America’s Promise one of the 100 Best Communities for Young People (Eau Claire History and General Information, 2009) due to its vibrant culture.

History of Health Care in Eau Claire

Since the subject of this thesis project is a health care facility and the site is located within 500 ft. of Luther Hospital, it seems appropriate to briefly take a look at the history of health care in Eau Claire.

The beginnings of Luther Hospital can be found in 1895 when a community group got together to discuss the desperate need for a hospital in Eau Claire to serve its ever-growing population. In 1905 the dream from that first meeting was realized when Luther Hospital opened its doors. The mission statement of the hospital became “Its doors are open to every suffer, with no shadow of restriction to the color of their skin or their money, or the shade of their religious belief” (Barland, 1960).

Shortly after the opening of the hospital it was realized that there was a need for a nursing school, which was started in 1907. The nursing school continues to this day at UW- Eau Claire and is one of the best nursing programs in the country.

The building has expanded and grown over the year to meet the high demand for patient care and space for new technologies.
you visit the hospital today you can see every one of the additions made to the hospital as there has not been demolition over the years. Even the original 1905 building is still there. In 1992 Luther Hospital merged with Mayo Health care. As of 2000, Luther had a medical staff of 180 physicians and saw over 676,000 visits to its clinic that year. In November of 2010, a new addition to the building was completed that nearly doubled the size of the hospital. The beautiful new area is full of natural light and makes an effort to make the patient experience the best it can possibly be. The addition was done by Kahler and Slater Architects and Engineers.
My personal goals for this Thesis Project is to...

1. Provide an original, clearly defined and thought provoking theoretical premise/unifying ideas, one that was derived from a need for social change.

2. Present a project typology that challenges social norms and has a direct connection to the theoretical premise. The typology is to be both progressive and innovative in its intent and content.

3. Research the theoretical premise to its fullest extent to gain extensive knowledge on the subject and to document the research in a way that is meaningful and logical. It is this gained knowledge that will allow for a complete and comprehensive final design.

4. Produce final documentation of the thesis book and presentation materials at the highest quality possible. The design is understood through this media, making it imperative that it is thoughtful, clear and expressive of the project.
5. Stay on a timely schedule that will challenge me, keep me focused, causes me to take time to understands all of the elements of production and encourage a thorough thesis project.

6. Gain a clear understanding of all of the building elements that are needed and how to put them all together for a complete final project.

7. Understand the relationship between the built and natural environments as to design a building that will work with, not against that natural world.

8. Realize that this project is a reflection of who I am as a designer, and the final design needs to be done to best of my ability. My efforts, abilities, and intellect will be on display for all to see when the project is presented.
The site is one of the most critical aspects to a well done project. Not only does the site provide its own characteristics to the final project, but it often becomes the driving force behind the design concept. For a project like this that relies heavily on the natural environment to create a peaceful situation, a complete understanding the site is essential to a successful project.

A building is not only just built for the people who will experience it, but it also should be designed for the site as the building has now become a part of that environment. This means that understanding the nuances of the site becomes critical to creating a harmonious relationship between the built and natural environments. To begin to understand these critical details of the site, it is important to first experience the site to truly understand it. The following is a narrative from my experience during a site visit.

The experience of the site starts during my journey there. The first glance of the site takes place when descending Cameron St. on the west side of Half Moon Lake. Here the calm lake and the thick trees along the shore are first seen in stark contrast to the residential and business district I am driving through. On the north side of the lake, the trees part for only a moment to reveal a small open area that is to be the site. The view is soon gone as the journey continues. I stay on the road for another half mile past businesses and homes until I turn into a road with semi empty parking lots flanking either side of it. Just ahead, through the asphalt fields, lays the site.

After arriving at the site from the north and stepping from the car onto a poorly graded gravel parking lot, I am taken aback by what is presented in front of me. Still fresh in my memory is the maze of parking lots that were just navigated through two minutes ago to get to the site and how empty it felt to drive through them. Though once on the site, the urban environment begins to disappear.

The site is located right in the heart of Eau Claire, WI but yet looking
from east to south to west, all that can be seen is a small, peaceful lake and the throngs of deciduous trees that line its shores. Almost no built environment of any kind can be seen. I notice that when there is a slight breeze to rustle the leaves of the trees, the sounds of the city are almost nonexistent. The quacking of the swimming water fowl replaces the sounds of cars, creating a pleasant atmosphere. Walking southwest down the steep embankment that divides the site in half brings me to the water’s edge. The subtle aroma of the lake and vegetation takes my mind away from the hectic urban scene behind me.

The scene calms and puts me at ease. A feeling of solitude begins to take over as I’m immersed in the natural environment of the site. The water shimmers as the sun light dances around on the surface of the lake. The sun is warm on my face and it gains intensity as the afternoon progresses. I take off my shoes and socks to wade into the cool water. The muddy sand squishes between my toes and after a few minutes of standing still, a few brave little fish can be seen nearby. I have almost forgotten that I am still in the city until I hear the siren of an ambulance from the hospital on the other side of the trees to the east, reminding me of where I am.

The site does have visible signs of human activity on it. The area was designed to be a park and still bares the name Half Moon Park. It has a sandy beach at the water’s edge but throughout the sand a plethora of grassy patches have grown due to lack of use. Right behind the sand stands the sites biggest scar. Sitting into the hillside is a concrete block building that is in poor shape. The intent to make a nice park appears to have failed as the maintenance of the area is poor.

Even with the unfortunate human interventions on the site, it is still overflowing with potential. I am confident that after feeling the effect the trees, water, sounds and smells had on my own state of mind, the site is a perfect choice. This site holds the natural characteristics that my project will rely on to create a calming and rejuvenating space. The challenge now is to take what the site offers and use it to create a strong connection between people, the built environment and to the natural environment.
Views and Vistas

The most striking parts of the site is all the views that it holds. The site contains beautiful natural landscapes that can be viewed by looking out to the south and south west. Looking out over the lake and seeing the light reflect off of it leaves one with a calming sensation.

To the north the views are a stark contrast to the natural landscape to the south. To the north is a sea of asphalt that does not provide any sort of value to the site. A design priority will be moving the focus and thoughts away from this urban parking lot view.

The east and west views of the site are dominated by dense trees and underbrush that covers the shore of the lake. This provides natural color to the site as well as shields the site from the urban landscape on the other side of the grove of trees.
Textures in Plan

Surrounding the site to the north and northeast is the hard, unforgiving concrete and asphalt. Moving closer to the site, the concrete and asphalt transitions into course gravel and sand parking lot. Continuing towards the water, one finds the crunchy grass or the course sand at the waters edge. The water of the lake is calm and still due to the lack of current but during a windy day can bring some small waves.

Material Textures

The materials textures found on the site are natural and soft in contrast to the hard urban surfaces just outside of the site. The pallet of material textures begins with the slightly undulating, yet soft looking blue surface of the water, which really gives the site its serine quality. It then transitions into the soft sand and grasses up the the north part of the site where the hard asphalt lays.
Light Quality

While the majority of the southern part of the site is unprotected by trees, it does receive abundant sunlight from roughly morning until dusk, though parts of the east side will receive shade from existing trees in the morning hours. During the afternoon the sun can become very intense and warm with a bright glare coming off of the water.

At dusk the sun provides vivid reds, oranges and pinks in the sky as it sinks below the tree line on the opposite shore of the lake. The opposite shore also casts a shadow over the water eliminating the evening glare.

Vegetation

Where the ground is not covered with gravel or sand, a variety of grasses grow on the site. About 75% of the grass is mowed on the site, while a patch on the west side of the site is left to grow freely.

There are a variety of trees that enclose the site on its east and west sides. They appear to be mostly deciduous trees: a mixture of oaks, maples and ash. There are a few coniferous trees by the apartment complex, and they can also be seen on the opposite shore line.

At the water’s edge, a few different aquatic plants can be found, including cattails and marsh grasses.
**Water**

It was the water the first drove me to investigate this site because of the calming and soothing effect that water can have on people. The body of water immediately bridges the disconnect that the urban environment causes in people’s relationship with nature.

The site sits on the shore of Half Moon Lake, which is a small body of water. When it is a calm day with no wind, the lake looks absolutely pristine. There are no motorized boats allowed in Half Moon Lake so its integrity is always upheld.

**Wind**

The wind predominantly comes out of the south and west, which is the sides that the site is not protected on. This means that any structure built here will take the full brunt of the wind for most of the year.

Even without the protection of the trees, the wind is rarely strong due to the topography of the surrounding area. Often the only wind is a pleasant, calm breeze that will rustle the leaves on the trees.
Human Characteristics

This site has very visible signs of human intervention and use. The site itself was designed for human use as a small park with a beach for swimming. The bathroom/changing building was built in an effort to facilitate the intended activities of the park. Scattered around the site, there are picnic tables that people can sit at. On the southern most corner of the site there is a short dock, maybe 15 feet by 4 feet wide, that extends out into the lake.

While all of this human intervention has the good intention of making a pleasant little park and place to swim, it seems to have failed. The beach is covered with litter and patches of weeds are growing all over the sand due to the lack of foot traffic which implies little use. Also, the poor condition of the locked changing house suggests that it is no longer open for use.

During the visit to the site, very little human activity was observed. The only people that were seen coming to the site were nurses and/or hospital staff who were looking for a place to smoke.

The one positive human intervention is the walking path that starts at the north east corner of the site and works its way along the edge of the lake. It is paved and well maintained with walkers, bikers and roller bladers all using the path.
Distress

As mentioned before, the park that resides on the site seems to receive limited use and thus has become poorly maintained. In the gravel parking lot and on the beach, the grass has begun to grow through, making it visually less than appealing.

Probably the greatest distress on the site is the beach itself. Loads of sand were brought to this place and now covers about a third of the site. The sand stifles the growth of native plants and most likely has had an affect on the micro ecosystem of the site.

Though not immediately noticed due to the nice glimmer of the sun on the lake, the water is dark and cloudy. The cloudiness of the water may be natural, but the water itself is not clean. Multiple times over the summer of 2010 announcements warned people on the radio to not swim in Half Moon Lake and other bodies of water in the area. This was due to the high content of phosphorus and algae in the water from human activities. Taking this into account, a goal will be to turn this trend around and clean up the lake.
Soil
The soil in the area and on the site is very consistent with the soil in most of western Wisconsin, which is menahga sand (loamy sand) that was deposited during glacial activity (Web Soil Survey, 2009). Characteristically, this soil type drains well, yet retains moisture. It is also nutrient rich, making it ideal for cultivation and planting (USDA, 2009).

Loamy sand is a suitable soil to build on as long as there are not large deposits of buried vegetation that could still decompose and cause a shift in the soil (Web Soil Survey, 2009). In the area of the site, the layer of loamy soil may only be a 0 in to 40 inch covering over the underlain sandstone bedrock, which is adequate to rest a footing on (Protecting Wisconsin’s Groundwater, 2007).

Utilities
The site currently has access to all the utilities necessary for a building on the site. This is known because there is a fire hydrant located right next to the site and electrical lines are running into the changing room area.

Vehicular Traffic
A main vehicular artery Madison St. runs north of the site which is a heavily used road throughout the day. There is also a network of side streets south of Madison St. that navigate through the parking lots of Luther Hospital and are lightly used. These side streets lead to the site and will be relied on to bring people there. Every hour of the day, from 8:00 am to 6:00 pm, bus #20 of the...
Eau Claire Public Transportation System comes down Whipple St. and makes a stop at Luther Hospital, right across the street from the proposed site (Route 20 Schedule, 2009).

**Pedestrian Traffic**

There are sidewalks on both sides of Madison St. and another lead south from Madison St. along Whipple St. The paved trail receives moderate foot traffic throughout the day from walkers, runners, bikers and roller bladers. A clear connection to the trail from the site will be considered in the final design.

Pedestrians are allowed access to the park during the daylight hours. When at the park, there are no limitations to where people can go, but there is a main paved path that leads down to the water. On the site there are signs of only light pedestrian traffic due to the poor state that the park is in, making it not a sought after destination for people.
1. Luther Hospital

To the southeast of the site, blocked from view by a line of trees, sits this large hospital complex. The large new addition, seen in the picture to the left, provides some interesting architecture with large gently curving walls, material changes and use of glass.
2. Apartment Complex

In between the site and Luther Hospital sits a small, three story apartment complex. The piece is not architecturally significant and mostly blocked from view by the trees on the east side of the site.

3. Changing Room Area

Currently built in the middle of the site is a concrete structure that was intended to be a changing area for the beach. It has not been open in years and is beginning to deteriorate.

4. Residential home

This appears to be the one home that held out from selling their land when the hospital bought up the surrounding land for parking lots. It is a small house that is blocked from view by the vegetation.
Site Maps

- Site Legal Boundary

- Existing Structures
- Vegetation Cover
- Half Moon Lake
Existing Structures

Streets

Walking Path

Existing Structures

Paved Surfaces
CLIMATE DATA

Annual Temperature (F)

- Blue line: Average Low Temperature
- Red line: Average High Temperature

Humidity (%)

- Orange line: Humidity in the morning
- Brown line: Humidity in the evening
Cloudiness (%)

- Cloudy days
- Partly cloudy days
- Clear days

Sunshine (%)

- Sunshine
<table>
<thead>
<tr>
<th>Month</th>
<th>Prevailing Wind Direction</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>West - Southwest</td>
</tr>
<tr>
<td>February</td>
<td>West - Southwest</td>
</tr>
<tr>
<td>March</td>
<td>East - Northeast</td>
</tr>
<tr>
<td>April</td>
<td>Northeast</td>
</tr>
<tr>
<td>May</td>
<td>Northeast</td>
</tr>
<tr>
<td>June</td>
<td>South</td>
</tr>
<tr>
<td>July</td>
<td>South</td>
</tr>
<tr>
<td>August</td>
<td>South</td>
</tr>
<tr>
<td>September</td>
<td>South</td>
</tr>
<tr>
<td>October</td>
<td>South</td>
</tr>
<tr>
<td>November</td>
<td>West - Southwest</td>
</tr>
<tr>
<td>December</td>
<td>West - Southwest</td>
</tr>
</tbody>
</table>

Wind Speed (MPH)

![Wind Speed Graph]

[Site Analysis]
<table>
<thead>
<tr>
<th>Area</th>
<th>Square Footage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Foyer</strong></td>
<td>25 sq. ft.</td>
</tr>
<tr>
<td><strong>Communal Areas and Dining</strong></td>
<td>600 sq. ft.</td>
</tr>
<tr>
<td><strong>Kitchen</strong></td>
<td>200 sq. ft.</td>
</tr>
<tr>
<td><strong>Group meditation Area</strong></td>
<td>600 sq. ft.</td>
</tr>
<tr>
<td><strong>Small Group meeting areas</strong></td>
<td>200 sq. ft.</td>
</tr>
<tr>
<td><strong>Private Support Rooms</strong></td>
<td>150 sq. ft.</td>
</tr>
<tr>
<td><strong>Private Reflection Rooms</strong></td>
<td>100 sq. ft.</td>
</tr>
<tr>
<td><strong>Library</strong></td>
<td>400 sq. ft.</td>
</tr>
<tr>
<td><strong>Overnight Rooms</strong></td>
<td>900 sq. ft.</td>
</tr>
<tr>
<td><strong>Offices</strong></td>
<td>200 sq. ft.</td>
</tr>
<tr>
<td><strong>Rest rooms</strong></td>
<td>100 sq. ft.</td>
</tr>
<tr>
<td><strong>Mechanical room</strong></td>
<td>75 sq. ft.</td>
</tr>
<tr>
<td><strong>Circulation</strong></td>
<td>400 sq. ft.</td>
</tr>
<tr>
<td><strong>Total square footage</strong></td>
<td>3950 sq. ft.</td>
</tr>
</tbody>
</table>
Hope
An Environment for Revitalization

Cancer Support Center

Physiological

Emotion

Self-Actualization

Security

Creating a sense of security is key to helping those who suffer from cancer. The design of the Cancer Support Center should aim to create a calming and comforting environment that promotes healing and recovery.

Rationale

The design of the Cancer Support Center should focus on creating a space that is both functional and therapeutic. The use of natural materials and lighting can help to create a sense of well-being and relaxation.

Esthetically

The design of the Cancer Support Center should be aesthetically pleasing and inviting. The use of materials and colors should be chosen to create a sense of harmony and tranquility.

Model

The model of the Cancer Support Center should be created with attention to detail and accuracy. The use of materials and techniques should be chosen to create a realistic representation of the final design.

Hope House

The Hope House is a residential unit designed to provide a supportive environment for those recovering from cancer. The design should focus on creating a sense of comfort and security.

Physiological

The design of the Hope House should focus on creating a space that is conducive to healing and recovery. The use of natural materials and lighting can help to promote a sense of well-being and relaxation.

Emotion

The design of the Hope House should be emotionally appealing and inviting. The use of materials and colors should be chosen to create a sense of warmth and comfort.

Model

The model of the Hope House should be created with attention to detail and accuracy. The use of materials and techniques should be chosen to create a realistic representation of the final design.

Self-Actualization

The design of the Hope House should focus on creating a space that promotes personal growth and self-actualization. The use of materials and colors should be chosen to create a sense of inspiration and motivation.
The First Sketch

To begin the semester it was requested by our professor to present him with a series of sketches. While doing these sketches we were not to think about what we were drawing but just to draw. While this seemed like a simple exercise, I was constantly looking back at these sketches for inspiration and guidance.
The First Creation

After creating a crude model in which to investigate and gain a better understanding of the site, I began to explore with various forms modeled in clay. This gave me a better understanding of how different shapes interact with the site and how the design could sit on the undulating landscape.
The Needs

After struggling to find a true starting point for the design, I resorted back to the basis of all of my research: the human needs. The initial goal of the project was to fulfill all the needs of those dealing with cancer as to help them regain hope and enjoyment in their lives. By going back to my original intent of satisfying the needs, I gained a basis for every design decision I made. When I was stuck on a choice, the answer came from the question, “how does this affect the needs?” Once I realized the reliance I had on the needs, I produced a series of sketches relating to each of the needs. The sketches were quick interpretations of the needs and what they entailed. These became the foundation to my design and thought process.
Concept

After exploring the needs, it became very clear that what the design needed was to make people feel safe and secure. This was done by exploring the idea of shelter at its most basic form. The design then evolved from the idea of a roof and how to hold it up.
Process at Midterm Review

Though the design still needed lots of refinement, various elements started to form the ideas of holding, safety, and supporting.
Digital Refinement

Through previous exploration the design concept became strong and clear. Now that design needed multiple stages of refinement to become a holistic design. Present here are various screen shots of the design as it went through this refinement. Throughout this whole process I constantly referred back to the list of needs and the first sketches to dictate the design decisions that were made.
Hope
An Environment

Cancer Support Center
When a person receives a dreaded diagnosis of cancer, their life immediately changes. They are thrown into a situation of uncertainty and anxiety, often without knowing where to turn or what to do. As a hospital, they will be pulled into a treatment program that they don’t fully understand in the hopes of surviving. This is the hospital machine doing its job, diagnosing the ailment and curing the physical disease. The problem is that cancer affects much more than just the body; it is also devastating to the mental and emotional well-being of a person, which most hospitals do not address. Those afflicted with cancer need the means to also heal psychologically so to receive a holistic treatment that will give them a better chance of defeating the disease.

Security
Cancer robs the feeling of security by taking away what people know and are comfortable with.

Creating a Shelter
In the design the idea of a roof is exaggerated by creating a massive plane which covers all of the building under it.
A yellow structure confidentially holds the roof giving the occupants visual security of how the large mass is held up.
The roof and structure rest upon a strong stone foundation that holds up the building.
The thick wooden exterior walls surround the building as if hugging and protect the occupants inside.

Final Presentation Material
for Revitalization

We all have a variety of needs, both physical and psychological that we need to have met to not just to survive but to live a happy and fulfilling life. A. H. Maslow called being able to do this his term “self-actualization”. To be able to do this, all the hypothesized, specific needs need to be met. The needs that must be met are as follows: physiological needs, security needs, social needs, esteem needs and self-actualizing needs. What these does is keep people from achieving each of these needs, distorting them from living a fulfilling life. This cannot support context looks beyond the physiological needs that a hospital addresses and aims to help people achieve all of their needs. What people need at this time in their lives is a place that inspires hope.

Physiological

The body has certain basic needs that are vital to everyday survival. Those essentials are the need for food, sleep, air and water, when lacking with cause. Missing medicine also becomes a basic need for survival.

While these most basic physiological needs can occur anywhere, humans need to have a meaning attached to the where these take place for us to perceive that the need is met. It is the meaning that we have come to attach to various spaces during our life experiences that will determine if a space is the right space for a meal or for sleeping. This is what the support context strives to achieve, establishing a sense of place with which the needs can be fulfilled to their fullest extent.

Social

People need a place to reconnect with other people and even more importantly, connect with those who can relate to their situation.

A detailed organizational scheme was used to make all parts of the building accessible to a visitor as soon as they enter. In this scheme a person will enter into the heart of the building and then be given the option to move to a variety of spaces from private to public.
Esteem

It is important for people to feel good about themselves, to have a feeling of self-worth and to have a sense of accomplishment. Cancer ruins people's feeling of self-worth and value.

To raise the esteem of the visitors the building had to be designed in a way that made people feel like it was designed especially for them. The response to this need was carried through throughout the building. Also visitors were given the ability to control their environment through the use of operable windows and an adjustable-screen sun shading system.

Self-Actualization

Being diagnosed with cancer often denies visions and dreams people have for the future leaving them grasping for a purpose in their life. The center helps a person find meaning in their life by providing opportunities to experience something new. This discovery could be finding the inherent connection humans have with the natural world or it could be a new relationship that was facilitated by the design.

The Meditation Room overlooking the lake.
REFERENCES


Jenkins, S. (2006, December 6). Not a fortress, or a temple, or a calendar. Stonehenge was a hospital. Retrieved December 6, 2010, from gaurdian.co.uk: Not a fortress, or a temple, or a calendar. Stonehenge was a Hospital


PERSONAL INFORMATION

NAME
Samuel Paul Kalscheur

ADDRESS
413 9th st South
Fargo, ND 58103

PHONE NUMBER
715-556-1912

EMAIL
samuel.kalscheur@gmail.com

HOMETOWN
Menomonie, WI

ABOUT NDSU
“With the base of knowledge I have gained at NDSU I will enter the professional world more than prepared and confident in my skills as a designer.”