

Thesis Proposal

**Designing a Restorative Environments at St. Christopher's Hospital for Children to
Benefit the Patients and their Families**

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Thesis Statement

Modern humans live in a world that is increasingly urbanized and modernized, where life creates various sources of stress, angst and worry on a daily basis. Cities continue to expand, urban populations increase, while the proximity between those humans and natural environments is widening. Natural spaces have inherent qualities that provide mental and emotional relief from stress, anxiety, and other negative emotions. The studies of Rachel and Stephen Kaplan in their book *The Experience of Nature* explore how types of environmental qualities affect a person's ability to engage in what they call a restorative experience. Although their studies focused on the effects of the natural environment, many of the concepts are relevant to interior spaces, and have applications for a variety of areas that are designed for the purposes of mental and emotional healing, such as hospitals or healing centers.

For hospital patients, a restorative experience may aid the overall healing and recovery process by providing alternate spaces and a variety of intellectual and physical stimuli to engage their minds and emotions. Organizations including the American Horticultural Therapy Association embrace current research that indicates a positive effect on patient groups who engage in horticultural activities as part of an overall therapy program. Additionally, the National Institutes of Health reported an increased number of patients between 2002 and 2007 who supplemented their treatment with complementary and alternative medicines (CAMs) including breathing exercises, meditation, and yoga.



Above: Interior, Glass Garden, Rusk Institute of Rehabilitation Medicine

Below: Exterior, Enid A. Haupt Glass Garden, Rusk Institute of Rehabilitation Medicine

Images courtesy of Andrew and Yocasta Baksh



For a patient's friends or family, a restorative environment may provide them with a space that is safe and nurturing, where they can express or reflect on their thoughts or emotions. As Kaplan and Kaplan explain, "A deeply restorative experience is likely to include reflections on one's life, on one's priorities and possibilities, on one's actions and goals." (197). For these reasons, I believe restorative experiences would be extremely beneficial in hospital settings, where patients and their families encounter situations of extreme emotions on a daily basis. *My thesis aims to design a restorative environment that would serve patients and their families at St. Christopher's Hospital for Children, in North Philadelphia.*



Images courtesy of Google Earth

 Proposed Site for Restorative Environment



Thesis Goals

My primary thesis goal is to design a restorative environment to be built at St. Christopher's Hospital for Children that provides a safe, nurturing, and accessible experience for patients and their families. I hypothesize that this is achievable by integrating aspects of environmental psychology, landscape design, museum exhibition design, and universal design. Secondly, I aim to integrate objects, elements, and foci of the external environment in the designs for the interior space. By including botanical and environmental qualities, patients and their families will have an opportunity to experience an environment distinct from the urban sprawl and hospital architecture surrounding them, which may increase their ability to relax and find mental or emotional relief. The third goal of my project is to find ways of presenting art, art objects, and the botanical elements in an engaging and interpretive way to patients and families. I believe that the interpretation of objects is fundamental to the restorative experience by providing an intellectual and emotional bridge between the viewer's life experiences and the objects through education. Lastly, I aim to design a space that can be easily adapted to varying social or personal needs, will provide an array of perspectives and spatial relationships with the viewer, and promotes an overall message promoting healthy bodies and a healthy environment.

Impact Statement

My thesis work focuses on providing a restorative environment for the patients and their families at St. Christopher's Hospital for Children. I believe that the concept of a whole environment, as put forth by Christopher Alexander, reflects the idea that wholeness in the environment is linked with the wholeness of the inhabitants.

"An environment which is whole is one which allows each person to become whole, by his own efforts. A person can only become whole in an environment which is whole. This follows directly from the previous definition. Since most of the forces which occur in an environment are the ones which people experience inside themselves, and since these forces are not in balance unless people are themselves whole, it follows that an environment is whole only if it allows people to become whole; and that a person cannot become whole, except in an environment which is whole." (54)

I hope to draw from work that has been done in other fields on the concept of the restorative environment. My research will expand upon previous studies in medical, architectural, educational, and design disciplines that have sought alternative approaches toward inhabited and interior spaces. In our increasingly modernized and urbanized environment, it has become harder to find experiences that are physically or mentally distinct from our normal activities and responsibilities. Urban sprawl also continues to swallow areas of natural wilderness, further diminishing the scale and availability of natural restorative environments. Edward Hall addresses the importance of the environment in his essay *Meeting Man's Basic Spatial Needs in Artificial Environments*. He writes, "Scientific investigation of population fluctuations in lower forms of life and detailed studies of man's handling of microspace all point to the fact that there is a close relationship between the health and happiness of any species and the space which is available to it." (210) Therefore, increasing the accessibility to a greater variety of restorative environments, especially those that can be incorporated with interior spaces, is essential to the continued mental and emotional health of city dwellers and others who live primarily in built environments.

Thesis Approach

Kaplan and Kaplan describe the restorative setting as having four key components that help provide relief from mental fatigue. The first is described as feelings of escape, whether it is from distraction, routine, or mental pursuit. The second aspect is often characterized as feeling “out of this world” – a sense of physical or perceptual travel. The third idea encompasses feelings of fascination toward an object or stimuli, while the fourth element is an individual’s sense of compatibility and potential for action within the environment. All four of these elements will be considered throughout the development of my thesis.

In order to achieve the goals of my thesis, I will need to begin by expanding my knowledge of my target audience, and investigate how their needs are currently being met. I will explore how a variety of hospitals are currently adapting their designs to accommodate restorative elements, and will look at their effectiveness and how they may be improved. I intend to interview professionals in medical and psychology fields, so that I can become aware of the needs of individuals who have experiences similar to those of my target audience.

I will also continue exploring the physical possibilities of recreating the restorative experience in a built setting. To do so, I will conduct further empirical, on-site research at both indoor and outdoor institutions. Special considerations toward conservation, sustainability, and economic impact on the institution will be present throughout this phase of the research in order to facilitate a realistic approach toward the project. I envision the restorative space to incorporate elements of green design, and will use other design techniques to



A young boy explores a sculpture at the Morris Arboretum in Philadelphia, PA

emphasize harmony between the built environment and the natural elements. Natural effects are expected to play a significant role in the design, therefore further research into elements of landscape design and the use of natural elements (light, water, plants, etc.) will be essential to my ongoing research. Additionally, because the physical needs of my target audience will be varied, I expect that universal design principals will contribute to the overall effectiveness of the space.

Further, I will explore the role that objects and interpretation play in the visitor's overall experience. As Kaplan and Kaplan mention, a sense of fascination toward objects or stimuli is a key component of the restorative experience – therefore I plan to include fine art, art objects, and other interpretive works in the design of the space. These objects will be presented so that viewers have the option to engage in a self-motivated educational experience. Falk and Dierking's research indicates that self-motivated learning is:

“...emotionally satisfying, and very personally rewarding. A number of investigators have found that humans are highly motivated to learn when they are in supporting environments; when they are engaged in meaningful activities; when they are freed from anxiety, fear, and other negative mental states; when they have choices and control over their learning; and when the challenges of the task meet their skills.” (18-19)

I will also consider alternative means of engaging my target audience within the restorative space, by allowing for a physical experience in the space. This may include programs that provide yoga, light stretching or possibly a path for people to walk or run on. Alternatively, aspects of art therapy, work therapy, and play therapy will also be investigated as possible engagement opportunities that assist the restorative experience. The main message of the restorative space will express the concept that a whole environment contributes to the wholeness of the individual, and that environmental health is linked to physical health.

Front-End Evaluation

As my thesis progresses, I plan to conduct interviews with psychologists and other therapists, landscape and hospital designers, and, if possible, patients, families, or staff at St. Christopher's Hospital. I hope to learn from these interviews how the emotional and mental needs of patients and families are being accommodated, and what their responses have been. I also hope to discover the most effective methods of engaging and accommodating my target audience, and how best to create a space that reflects their cultural values and associations. This is one of the five fundamental requirements of the whole environment: "the environment must be built by the people who live in it." (Alexander 55)

S. W. O. T. Analysis

The **strengths** of my thesis project are in the application of my findings to a wide variety of disciplines, including the museum profession, art therapy, and interior/exterior space design within the psychological and medical professions. My project, which is directly applicable to hospital design, is also relevant to museum design, due to the relationship between the restorative environment and the alleviation of mental fatigue, a key component to museum fatigue. There is also research to suggest that my findings will reach a diverse audience within the surrounding community, including hospital staff and local residents in addition to my target audience of St. Christopher's patients and their families.

One of the **weaknesses** that first arose in my research is in the physical incompatibilities between restorative properties that are inherent to various indoor and outdoor spaces. Although one of my thesis goals is to integrate elements of the two types of spaces, there are conservation, health and sustainability issues that will be present throughout the project. These threats include but are not limited to parasites, humidity, light levels, etc., which may damage or destroy the collection or building infrastructure, aggravate allergic risks to my audience, or pose issues of physical or economic sustainability.

Another major weakness that I have identified is the dangers of generalizing the restorative success of a space for an audience with varying needs. Even within my primary audience, the individual reactions and responses have the potential to be in contradiction with one another, which will increase the difficulty in designing a restorative experience for everyone. Thirdly, the concepts of the restorative experience will face weaknesses in the practical application phase. Restorative elements that are found in nature have evolved over millions of years to be sustainable within their environments – attempts to replicate or mimic this have a strong potential to be costly, and may not be realistically feasible. It will be important to address this weakness as my

research progresses so that the restorative environment can be attainable in some form on a variety of budget and spatial constraints.

A primary **opportunity** for my research lies in its application to a diverse audience and a variety of disciplines. An environment that provides restorative feelings for my target audience is likely to have an equally positive effect on individuals who are under varying levels of stress or mental fatigue. This work has direct application in various aspects of the medical field, where aspects of my research may be adapted on a smaller scale in therapy sessions or other parts of the healing and recovery process. The museum field may also benefit from this work, because a positive visitor experience is likely to encourage physical and emotional comfort within the space, deeper connection to ideas or concepts presented, and return visitation.

One of the **threats** to my thesis development lies in the realistic implementation of the space, including possibilities of funding sources, security and facility oversight, long-term sustainability and short-term concerns including vandalism or neglect. The materials, funding, and other challenges must be considered during the design process. Additionally, the restorative environment is in danger of being in direct contrast with other functions within a single setting – in a hospital setting there may be issues of contamination or incompatibility with hospital functions, while in the museum atmosphere it may mean that design elements necessary to create restorative emotions are in competition with the educational message or the presentation of ideas.

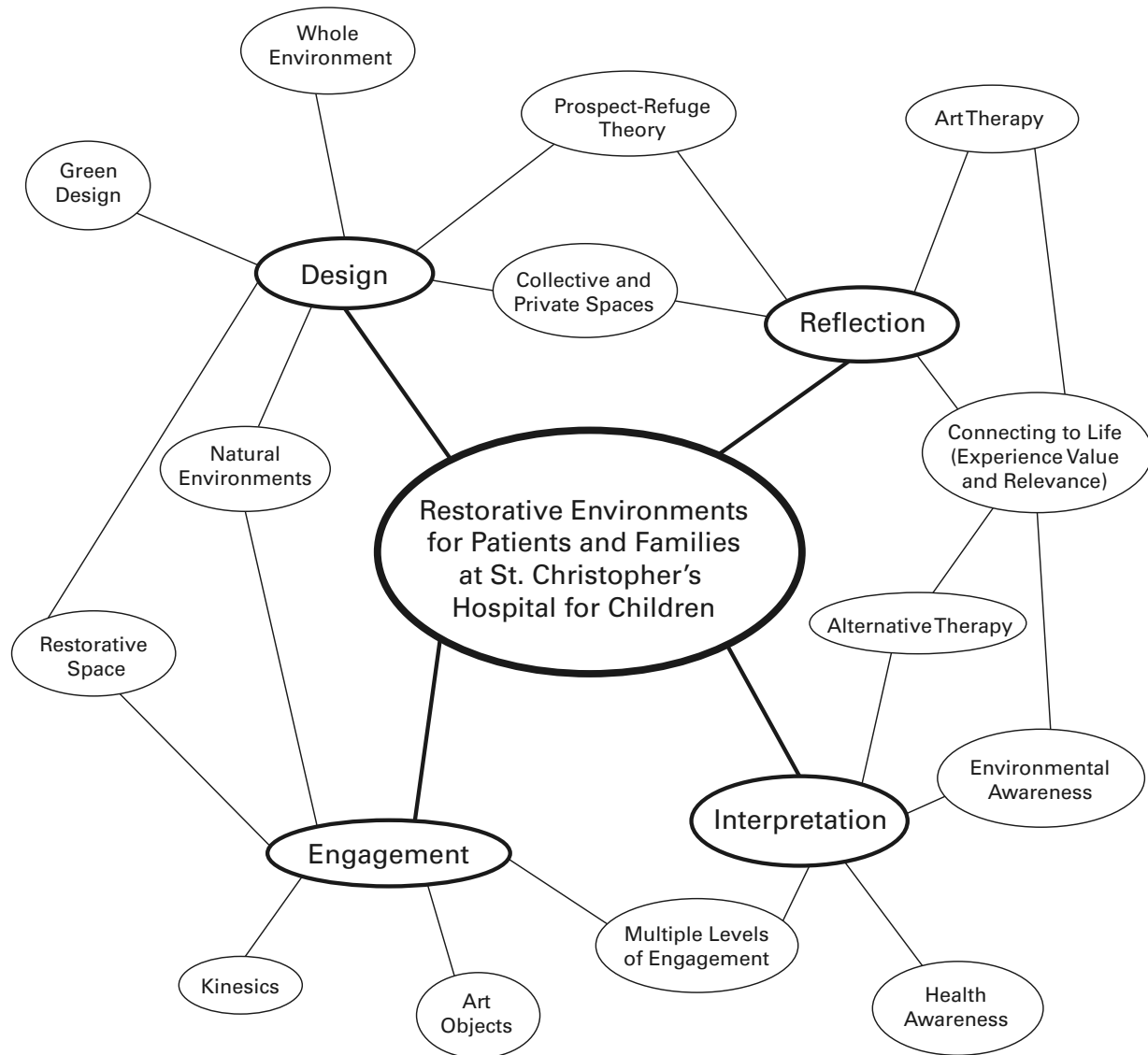
“Idea Trap”

Some of the ideas that arose in the proposal development may be further utilized as my thesis progresses. The concepts that follow are relevant to my approach, and are likely to influence my project as it continues to expand.

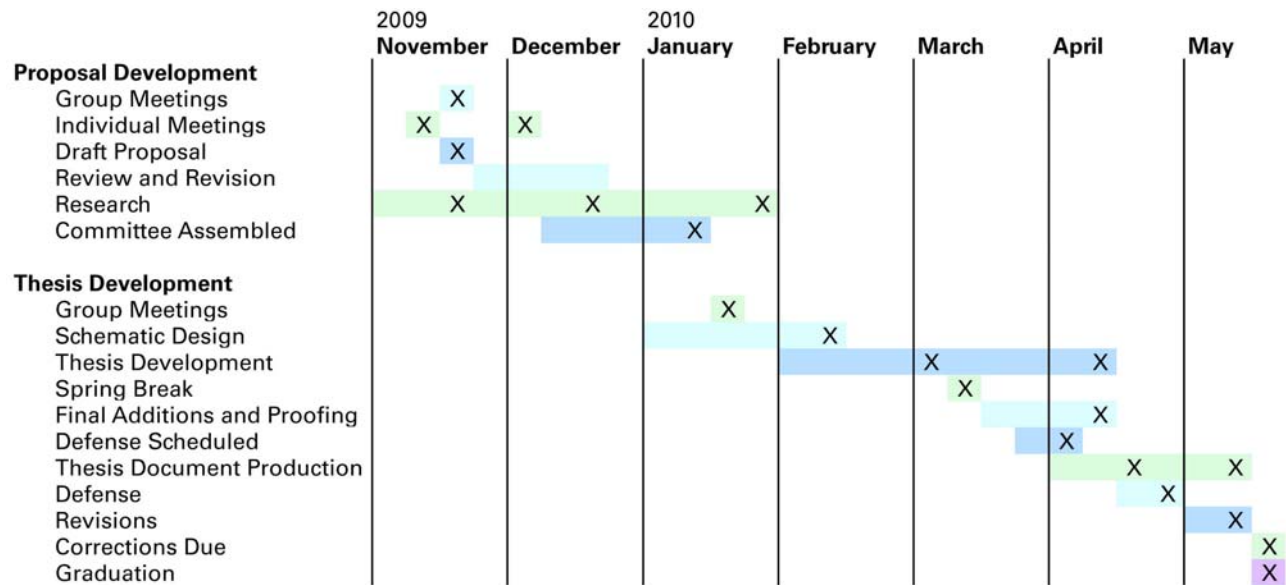
- Preferential Environments (environments can be designed to be preferred spaces of leisure and relaxation, regardless of content)
- Elemental/Natural Foci and Details in Design (the integration of natural elements, such as water, wood, metal, glass, dirt, etc. to promote environmental and visitor harmony)
- Alternative Methods of Restorative Design (Feng Shui, Zen Gardening, etc.)
- Art Therapy and the Role of Creativity in the Restorative Experience
- Work Therapy and Alternative Methods of Engagement (promoting a helping-hand attitude that emphasizes the healthy-bodies-healthy-environment connection)
- Utilization of the Space to Reflect the Community Culture (opportunities for patient artwork to be displayed, community connection between patients, families, and staff)
- Prospect-Refuge Theory (the importance of spaces where one can “see without being seen” and the role it plays in environmental psychology)
- Kinesics and the Restorative Environment (how does the way people move through a space influence the restorative abilities, as well as feelings of interconnectedness with one’s surroundings)
- Object-Centered Learning (what role do objects of interest play in the ability of a space to be engaging, as well as restorative)

Mind Map

The “Mind Map” is used to illustrate how the various ideas in my thesis are connected.



Thesis Schedule



Committee

I intend to include the following professionals in my thesis committee:

- Environmental Psychologist (TBD)
- Art Therapist (TBD)
- Landscape Architect (TBD)

I intend to include the following professionals as thesis advisors:

- Aaron Goldblatt, Exhibit Designer, Metcalfe Architecture and Design

Research

On-site research was conducted at the following locations:

Bartram's Garden, Philadelphia PA (May 31, 2009)

Grounds For Sculpture, Hamilton NJ (August 30, 2009)

Morris Arboretum, Philadelphia PA (September 7, 2009)

Longwood Gardens, Kennet Square PA (October 4, 2009)

United States Holocaust Memorial Museum, Washington DC (November 13, 2009)

Phipps Conservatory, Pittsburgh PA (January 12, 2010)

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Baksh, Andrew. "The following pictures of the GlassHouse and the Enid Haupt Garden were taken on April 22, at the Rusk Institute for my project on Horticultural Therapy." *New York University*. N.p., n.d. Web. 21 Jan. 2010. <<http://www.nyu.edu/classes/keefer/nature/Rusk.html>>.