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MY UNBORN SON WHOM I WILL NURCHER &
cherish for the rest of my life. My thesis is
TO MAKE PEOPLE HAPPY, I DO ALL THIS FOR HIM.

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WATER, ARCHITECTURE & SACRED SPACE.

BALL STATE UNIVERSITY
THESIS 2000.

CREATION OF A SACRED SPACE WITH WATER.

CHAPEL ON THE WATER.

BRIAN HARDIN.
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REFLECTION
Most of these images were taken in the fall semester as part of a field trip to Pennsylvania and Washington. During this trip my thesis began to develop and expand upon my design intentions for human experience in architecture. It was at places like Fallingwater and the Lincoln Memorial that the power of water in design and architecture were shown to me.
INTRODUCTION

Together architecture and water have a unique opportunity to recreate a rich history of meaning and tradition. Together, they create a foundation in measuring physical and natural wonders. Water is a common thread woven through religion, art, and literature in all cultures. In my thesis investigation, I will use water as an architectural element to symbolize and represent feelings and emotions of sacred space. Water is a source of life. Everything living needs water to survive. This quality gives water a symbolic life giving. Specifically in this project, I will design a Chapel on the Water on an existing site in Chesterfield, IN. This chapel will use water as a place of spiritual enlightenment and as a gathering space. The feelings and emotions that water will represent are spiritual healing, forgiveness, passive, soothing, and calm. The design will transform and manipulate water to take advantage of dynamics, reflection, and collection, tranquility, and refreshing qualities of water. Water will designate areas of sacred space especially the baptismery. These sacred spaces will speak to the user mind about spiritual matters, care for the human body, and feed the soul with mythic wonders.
The Seattle Chapel is a concept of light and architectural space. This building was used as a precedent for sacred space. This chapel is based on a college campus and the reflecting pool in front becomes an excellent place for gathering for students.

**Sacred adj.** - holy, cursed, to make sacred; dedicated or set apart for the service or worship of deity; devoted exclusively to one service or use; worthy of religious veneration.

*Webster’s Dictionary*

**Water n.** - The liquid that descends from the clouds as rain, forms streams, lakes, and seas, and is a major constituent of all living matter and that is odorless, tasteless, very slightly compressible liquid oxide of hydrogen H2O which appears bluish in thin layers, freezes at 0 degrees C, and boils at 100 degrees C, has a maximum density at 4 degrees C and a high specific heat, is feebly ionized to hydrogen and hydroxyl ions, and is a poor conductor of electricity and a good solvent.

*Webster’s Dictionary*
RESEARCH

One major aspect of Hindu religion is pilgrimage to sacred sites around India. The pilgrimage to the Ganges River is one of the best examples. Coming to the Ganges is a spiritual enlightenment like no other. Hindu’s believe that she is a purifier, a healer.

Water is necessary for life, and rivers are respected because Hindus believe they are a symbol of God the creator of all things, Brahma. There are 7 holy rivers in India, but the most famous is the Ganges River. Millions bathe in its water, they believe drinking one drop will get rid of all sins, either in this life or in past lives.

The architecture of the Ganges is made up of several major elements. The first is illustrated in the photo’s to the right. Ghats are platforms or steps along the sides of a river. These become stages or thresholds for all worship. The next element is the river itself. The water is holy water. This water is used for worship or daily functions such as laundry. The last element is the desire and respect shown towards the river. The river is sacred because of the believers using it.

This precedent shows how some eastern thought of religion can tie into my modern western theme of water and sacred space. Water becomes a symbol for reaching a higher level of spirituality with God. This is the heart of my thesis. Creation of sacred space through water. Driving a physical and emotional response to the architecture.
TADAO ANDO, JAPAN

Church on the Water
Church of the Light

"Bringing nature inside." Ando wanted man and nature to confront each other within the enclosed world of his architecture.

At the Church on the Water, the site slopes gently towards a nearby river. In the winter the lake becomes a skating rink. The Tomamu Region is covered with snow from December to April when it is transformed into a beautiful white expanse.

Horizontal expanse of the water bounces the light into the interior space where it is trapped. From the interior of the box a glass wall slides open, this creates an ambiguity, raising a sudden doubt as to the certainty of the inside and the distinctness of the outside. He uses objects of symbolism in the landscape to create a view or connection to the exterior. This is the famous view of looking from the inside to the exterior reflecting pool where a cross is strategically placed.

Ando considers himself a "Monumental Minimalist". This is seen by the simplistic design of his architect. His designs become on with the landscape and bring in the natural world. This can also be seen by the light that penetrates the interior spaces.
LOUIS BARRAGAN,

Planes and colors, water and light.

"Wonderful labyrinth."
Two of Barragan's favorite "materials are water and light."
"These became components and the generators of his spatial configurations and of his planes. The study of liquid planes, vertical and horizontal, which led to the indoor pool."
"If water expresses the significance of union and maternal fertility, light is a direct evocation of the presence of God."

Francisco Gilardi House, 1975-77

Barragan represented external reality by figures endowed with an absolute synthetic power. These are the liquid planes, the tubs of water that metaphorically condense the multiplicity of nature into a unique surface. He allowed only the horses to violate these planes, to live by penetrating them, resolving, therefore, the symbolism of the metaphor he had created.

The liquid is a manifestation of form and of time, of a time that the water distills from the bowels of the plain from which it gushes. Through this liquid, the great values that the architect guards, beauty, order, truth, become perceptible, if only for a moment.
It was here at the site, the program for the Chapel was realized. It will be a small Chapel serving 25-50 patrons. The Chapel is under the ownership of a small Christian Church in Chesterfield. The Chapel can be used for special occasions and regular services. The chapel will use existing entry (1) and procession routes that have already been established on the site. You enter the site from the northeast corner. Then proceed down the gravel road and through the thick woods. Once the trees start to thin out, you can see the lake and river beyond. This is the threshold (2) of entering the site. There is a large clearing around the lake. The chapel (3) will be on the East Side of the lake and take advantage of views across the lake to the West. The photos on the bottom are several that were taken upon the first visit to the site. These were excellent for studying the site characteristics, and they drove the design of the chapel through the materials captured in many of the photos.
BACKGROUND

was a very important part of the thesis discovery. The site is 5 miles north of the Great
Anderson, Indiana. These mounds are the best-
Indian mounds in North America. The site is visited
In the middle of the site is a large lake. The site is
by the White River to the south & the site is also fed
by tributaries from the east and west. This site is
This is God's great creation. The thesis investigation will
focus on several ideas found on the site. The minimalist design on
access to the sacred spot on the site, and the
place where the water comes from (3).
On my second visit to the thesis site, I visited the Great Mound in Anderson, Indiana. This site is only five miles south of my thesis site in Chesterfield. It was a pilgrimage to get there through snow, ice and steep terrain. The photos at the left and top are of the trip to the mound, the sign at the entrance to the mound and a view into the interior of the mounds. This space is sacred. You can feel the presence of the ancient Indian tribes that worshipped here. The ground was hallowed and careful consideration was given to each step. The view at the top is looking at the mound from the exterior. There are actually two mounds in one. The outer mound is 1200' around and 9' high and 60' wide at the base. Ceremonies would have been held on top of the interior Mound. This Great Mound was constructed over 1500 years ago, and is one of the largest and best preserved.
DESIGN OBJECTIVES

My design objectives were stimulated by the thesis topic and the selection of a site. Upon my first visit to the site, I knew it was hollowed ground. The site was picturesque and beautiful. The design for the Chapel would take the same materials found on the site and reinterpret them in a new way.

Stone, wood, water and natural plantings were all found there and used in the design.

The Chapel would continue the same minimalist design patterns found on the landscape. The site was so simple, but yet complex and intriguing.

The design for the Chapel will be an exploration of discovery, just as the landscape evokes a discovery of the unknown. Where did the water come from? Where is it going?
Sanctuary............
RESULTS

Schematic Design

Development

of Silence

Chapel on the Water
SCHEMATIC DESIGN

The schematic Design phase was very exciting. After finding and investigating the perfect site and developing concepts for the chapel, ideas of space and conceptual diagrams began to develop that would drive the rest of the project. These concepts again were:

Use of materials native to the site. These materials included stone, wood, grass, trees & water. These materials are derived from the site photos, especially the pumping station photo in the bottom right corner.

The next concept is a system of “layering.” Layering of materials, layering of spaces & layering of water. The drawings and models to the left represent the concept of layering.

The last concept is creating a sacred source for all the water on the site. This space is the baptistry of the chapel. This space becomes the focus of the entire project, and the chapel itself. A schematic sketch to the right shows the concept of the baptistery.
SCHEMATIC DESIGN

During this phase plans, sections and details were added to the project. Taking the schematic plans and concepts, plans like the one to the left started to form. The plans represent ideas of spaces in the chapel, especially the sanctuary, baptismry and entry hall. The models below were quick studies of how the chapel would engage the site, procession to the chapel, and a series of frames to lead the user thru the space. The next stage was a 3 dimensional model that represents these concepts.
These images are a series of shots from a 3-dimensional fly-through that was generated for my first review. The feedback for this first design was excellent, and this design became the focus for the rest of the year.
SCHEMATIC DESIGN

Schematic 3-dimensional model

This model shows the essence of the project. The simplistic design draws upon the qualities of the site and the design of a chapel on the water. The lake is the focus of the chapel, and breathtaking views from the chapel overwhelm the user. The small reflecting pool in front of the chapel is a focal point. The baptismal fountain is tied to the reflecting pool visually.
Hall of Silence
The Hall of Silence is the main entry into the Chapel. This piece of architecture is the enlightenment of the whole chapel processional experience. In this space is a combination of water, procession, light, experience and time all play part in the emotional experience in the Hall of Silence. This is a small-condensed space that acts as a purifier, a cleanser. The water crashing down the walls on the inside and the movement of light throughout the space bathes the user as a transitional sacred experience. The Hall transitions the user from the profane to the sacred, and prepares them spiritually for the chapel.
SCHEMATIC DESIGN

The final plans and layout of the chapel were done in this stage. Along with hand drawings, models and Form Z models, the design came to fruition. The interior perspective to the right shows the view from the sanctuary. The reflecting pool on the outside ties the chapel and the site together.
The models below were used as light study boxes. These were 8th inch study models converted. In order they are the Hall of Silence, The Alter space and the Baptistery model.
WATER & LIGHT

Water and Light are two very important aspects of sacred space. The light is symbolic of God in the midst of the sanctuary. This page represents light studies modeled and photographed to track the sun patterns over the sanctuary. These light studies became pivotal in helping to study how to make a strong presence with the light. Upon the completion of the first light study, the correct lighting effect had not been achieved. Then water was used as a reflective surface to get a crisp, deeper light into the space. From the example of the baptistery light study 10:00 am, you can see the light cut sharply down the wall. This affect is achieved by water reflecting or refracting the light. The studies included entire spaces: the Sanctuary, the Baptistry & the Alter Space. These were all important because of the issues learned, not just light, but design issues such as shading, ceiling heights, floor levels & general ambiance of the spaces.
CHAPEL ON THE WATER

The plan is situated on the lake to maximize views of the surrounding landscape. The Chapel is on the water and the water is fed to the lake through the chapel in theory. This is the illusion of the baptistery being the sacred source for all the water. The main floor of the sanctuary is crossed by water flowing from the baptistery to the reflecting pool. The altar space is circular in form and is on direct axis with the entry, or the main Axis Mundi that runs through the Chapel itself.
CHAPEL ON THE WATER
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My thesis investigation started 5 years ago at Ball State University when I first enrolled in architectural school. During this time I have learned that the built environment can and does have a profound influence on the user's mind, body & soul. This year I wanted to explore ideas of how water can begin to influence a person emotionally, physically & spiritually. I first started my thesis investigation looking at spaces that could heal, or have the ability to make someone happy. As I researched further, I discovered that water truly is Sacred. My thesis tested ideas of water and how it creates a strong link to sacred spaces. Water has the ability to transcend cultures and time; it is one of the most if not the most sacred element on the earth. Water gives life, we are born of water. We are water. Spaces designed carefully with water provide happiness, refreshment and spiritual enlightenment. The Chapel uses water and combined it with architectural elements such as light, procession, materials and text, mind to create a space for worshipping God. These spaces are dedicated to God and become a vehicle for worshipping God. Water as emotions and thoughts on spiritual matters, it is a cleanser, a purifier, a vehicle for salvation. My thesis is to make people happy. It is simple, but powerful. This idea is architecture; we are here to provide a service for all. As architects live to make people happy. The Chapel on the Water provides this happiness by providing spaces to worship God, the creator of all things. This place can help one up from this mundane world of chatter and sorrow, and transcend to a place beyond this earth.

Bria Stratton: Water, Architecture and Sacred Space