meeting with the Lord

exploring worship space through design

jamison sills
college of architecture
and planning
bachelor of architecture thesis
two thousand three

meeting with the Lord
“Christ does not exist in order to make much of us. **we exist** in order to **enjoy making much of Him.**” --John Piper
meeting with the Lord:
exploring worship space through design

jamison sills
college of architecture
and planning
bachelor of architecture thesis
two thousand three

COPYRIGHT 2003 JAMISON SILLS
now finish the work, so that your eager willingness to do it may be matched by your completion of it, according to your means.

--2 Corinthians 8:11

architectural thesis by:
jamison sills

thesis advisors:

andrea swartz
architectural design studio professor

ted wolner
architectural thesis advisor

acknowledgments:

i would like to take time to specially thank all of those who supported me during the thesis process: andrea, who has helped me identify my weak points and pushed me to overcome them. thank you for your patience and persistence over the past year. to ted, who has blessed my project with his wisdom and knowledge beyond my years... even when we agree to disagree. to my boys: kevin, rick, and jeremy, who have been with me through thick and thin spiritually and socially. we have made it. to erin marie, your support and tender care have encouraged me to do my best work. to my family: mom, dad, and jerrrd, your love and prayer over the past 23 years has been more than enough. and to the lord who's grace and truth inspired me to do this thesis to the best of my ability. i love you.
contents:
acknowledgments.  .4
introduction.  .7

background:
isues and positions.  .8
community context.  .10
spiritual context.  .11
programme summation.  .12
design objectives & methodologies.  .14

research:
precedent studies.  .16
literary research.  .19

resolution:
site context.  .20
issue sketches.  .21
study models.  .22
plans.  .24
community.  .26
light exploration.  .28
sanctuary design.  .29

reflection:
my thoughts.  .30

deference:
bibliography.  .33

meeting with the Lord  .5
now the **dwelling** of **God** is with **men**, and He will live with them. they will be **His people**, 
**Introduction:**

the creator of the entire universe created man, in His own image, in order that we may be in a relationship with Him. after the fall of man, sin separated us from the perfect God the Father. yet the Lord's desire to have a relationship with man was not diminished. He sent his only son, Jesus Christ, to earth two thousand years ago in the form of a man. he came to suffer and die to redeem our sins with his perfect life and death so that we might be reunited with our maker. this is why we worship him. for his justice, truth, grace, and unconditional love.

in this thesis, my objective was to develop a place of worship. i wanted to explore how architectural design can be used to influence the worship experience of a believer in Christ. specifically i wanted to explore how a space can best assist me, personally, in meeting with the Lord in praise, worship, and prayer.

and **God** Himself will be with them and be their **God.** --revelation 21:3

there are countless numbers of denominations of christian protestant churches around the world. even more numerous are the opinions of what is correct, respectful, and appropriate in how people should act and behave in "church". in truth all worship is pleasing to the Lord when the motive is pure. many people dream of designing the "dream house". the challenge of my thesis is to design a place of worship which best assists me in meeting with the Lord in an intimate way.

meeting with the **Lord**
issues & positions:
one primary question of this thesis pursuit is: how can church design more appropriately reflect and encourage the true worship of Christ?

churches are built for three purposes. first, a place of worship provides spaces that invite people into the worship of God. the physical action of singing and praying is essential in worship.

i will praise You as long as i live, and in Your name i will lift up my hands. my soul will be satisfied as with the richest foods; with singing lips my mouth will praise You. —psalms 63: 5

secondly, a place of worship must provide an environment for the body of Christ to come together to learn and grow as christians and to interact as a community of believers. when groups of christians gather together to learn and study the Word, God is glorified.

the fear of the Lord is the beginning of wisdom, and the knowledge of the Holy One is understanding. —proverbs 9: 10

thirdly, a church is to reach out to nonbelievers in order to spread the gospel. evangelism is the resultant action of worship.

i pray that you may be active in sharing your faith, so that you will have a full understanding of every good thing we have in Christ. —philemon 1: 6

this thesis will focus on the spaces that “assist believers in worshipping the Lord.” this goal points towards the design of the sanctuary and its support spaces, while all of the educational, outreach and communal requirements of a church are essential, exploring worship space through design is the thesis.

architectural thesis 2003
three issues arise when pondering how to address modern worship space through architecture.

the first is focusing the sanctuary upon the Lord. whether it is a small chapel for individual contemplation or a larger sanctuary for groups to worship, their focus must be on their own internal relationship instead of on the proceedings of a group of musicians or ministers. users must understand that they are not an audience at a theater come to watch a performance. they are there for a personal experience, by which they are assisted by ministers, musicians, and their fellow congregation. the space must support the worshipper and not take away or overpower their experience in the presence of the Lord. introduction of natural light, use of light, connections to creation in nature, and the dismantling of the audience/performer relationship are critical to achieving these ideals. the Lord's house, without gaudy opulence or unflattering brutalism, should convey a sense of peace, comfort, glory, and respect.

the second and extremely critical issue in worship space design addressing relationships present in a service. the prime relationship is between God and each individual believer. the setting, the views, the massing, must work together to create a place where a person will feel comfortable coming into the presence of the Lord. obviously, these large worship spaces function as a place where a body of Christians meet and congregate on a weekly basis. it is imperative that this large room must be able to breakup the large numbers involved in the congregation and also reduce the hierarchy, which is so easily established in this type of setting. to reduce the hierarchy created between the congregation and the leaders is key. an intimate setting is required to establish the personal relationship between the leading ministers and each member of the congregation. the layout of the worship center must allow for close interaction between all people involved in a service.

the third issue is functionality. a sanctuary needs to be functionally proficient in order to provide an environment, which does not distract, but focuses the attention and perception of a church member. the space must be visually and acoustically competent. it must be flexible to accommodate various forms and possibilities of worship.
community context:
the site selected is located in lexington, kentucky. buried deep within a local community built in the early 1950's, it is an area more diverse than one might realize. the smaller one story houses with attic space are home to many kinds of people.

most obviously there are many aging senoir citizens who, half a century ago, moved into the area and established the community. they are firmly rooted in the area with no reason to leave. another group of people are the middle aged working class. they were drawn here for the smaller, less expensive housing, and the quiet neighborhoods. a third group are the young families and newlyweds. they too are drawn to the cheaper housing and established schools.

though this community is not very racially varied, it is otherwise diverse containing many ages and incomes of people.
spiritual context:

there are many misconceptions of what a christian is. a christian is not someone who is a good person. a christian is not someone who goes to church every week. a christian is not someone who knows a lot about the bible and follows the ten commandments.

there are only a few things that define a christian. christians believe by faith that Jesus Christ is the Son of God. they believe that He came to earth in the form of a man and lived a perfect life and then died to pay the penalty for our sins. they must finally pray to the Lord to express their faith and accept the free gift of eternal life and forgiveness into their heart. then they are made anew as christians, righteous before the Lord.

as a result of these beliefs i am a christian. my relationship with the Lord which had been severed by my sin is now redeemed. this relationship allows me to approach and worship the Lord my God in anyway the Holy Spirit leads. this is why there are so many different types of churches within the protestant movement. when motives are pure and in line with the teachings of the bible, worship is beautiful.

in this thesis i set out to design a worship space tailored to the ideas of praise and worship i hold dear. these habits and practices have developed from a number of sources. the initial influence was the loving teaching and guidance of my parents, who are both christian. the next influence was the 20 years i spent growing up in a southern baptist church named immanuel baptist church in lexington, kentucky. this church followed the southern baptist doctrines of truth based in the scriptures but has been inclined to explore new ways of worship. my involvement with campus crusade for christ and muncie alliance church has continued to develop and broaden the ways i commune with the Lord. finally, and most importantly, the holy spirit which i received from heaven continually molds and shapes my worship relationship.

background meeting with the Lord
programme summation:
this thesis project involved a hypothetical congregation whose building had been destroyed in the previous year. They wish to build a new building on the existing lot and want to use this opportunity to explore new ideas in church design. Located in Lexington, Kentucky, this congregation averages 1000 people weekly in attendance for both worship and Sunday school, but desires to divide into two smaller services, of approximately 500 people, to achieve a more intimate worship environment.

The project had a complete scope of all spaces involved with a church. This included education spaces, recreation spaces, dining and community spaces, outreach spaces, administration spaces, and finally worship spaces. This thesis encompasses the entire program of an independently functioning church but focused on the worship spaces. It was understood that while very important, these other spaces are in support to the main function of a church: to glorify and praise God the Father, God the Son, and God the Holy Spirit. Many modern churches do a fine job building and using effective support spaces like education and dining facilities. However, it is the worship space that requires the most attention.

"A church is essentially a kind of great living room, a place

The worship center or sanctuary needed to address all of the issues presented above. It had to bring tangible light and creation into the worship experience. It also provided a seating arrangement in which even the furthest person from the leaders could experience personal interaction with them, even possibly conversation. Visually each member of the congregation could make eye contact with the leaders. The barriers between leader and audience had to be softened. Sound and acoustics had to be of the utmost quality. For singing, lecturing, and discussion this was imperative. Details had to be clean and simple as to not distract from the activity in the space. They could not be the focus. Lastly and most importantly the Lord had to be glorified and experienced in the space. Not because of the physical features of the room, but by the interaction of the Body of Christ amongst one another, each being a temple of the Lord.
general program:

administration
nursery
educational school rooms
fellowship hall
kitchen
storage
choir room and support spaces
chapel
outreach facility (coffee bar)
entry vestibule
restrooms

where faithful come together to meet the Lord, and one another in the Lord." --bishop bekkers

background

youth room
gym/recreation facilities
worship center
**Design Objectives:**

There are three very clear design objectives stemming from the various issues which present themselves in this thesis.

A church has many callings of purpose. One that can easily be overlooked, as not divinely inspired, is functionality. A church should function effectively in moving people, conditioning air, and direct and absorb sound when appropriate. Yet, "functionality" goes way beyond that. One objective of this church is to act as a place of "total hospitality." To limit this church to mere floors, walls, and ceilings which work together in harmony does not measure the functional proficiency of the building. This brings us to the second objective.

The "church" which Jesus established 2000 years ago, through his disciples, is not dependent upon the labors (buildings) of men. He established His church in the hearts of those who believe and love Him. The Body of Christ (the church) is a community in which Christ is upheld and glorified. The design of this building, where bodies of believers will congregate with each other, still has an important role in assisting and influencing how Christians can interact as a community. The hospitality of a church is very important in attracting new people to the community within as well as making the social interaction, education, and worship of members well integrated throughout the building.

"Church architecture, in the twentieth century, can only have one ambition, and that is to progress slowly, towards the concept of total hospitality."

— Debuyst

The last design objective is to create a place where worship is encouraged and remains the primary function of the church. If all other objectives fail, this one must be accomplished for a successful thesis. In the Bible the Lord calls us to worship Him with all our heart, soul, and mind. This thesis seeks out to help believers fulfill this command. It is understood that people come to the Lord in worship many different ways. To propose that this church could meet everyone's needs is noble yet perposterous. I have sought out the strategizes and techniques which best help me approach the Lord in reverence. The design reflects those things.
methodologies:
an area i have struggled with in the past is translating my design from the second dimension to the third dimension. i forced myself to attack this weakness and do substantial study model exploration, past satisfaction.

a church is a place where a community of believers congregate for spiritual, educational, and even social reason. it is critical for a church building to encourage these issues in its layout and design. i have developed a hierarchy of community meeting spaces through sketches and systems.

light is a wonderful way to connect physical with spiritual realms. i wanted to involve light extensively in the worship space design. in order to do that i developed diagrams, light study models, and perspectives.

nature reminds us of the generosity, creativity, beauty, and awesome power of God. therefore to bring nature (creation) into worship space i have explored nature through sketches and drawings.

the graphic presentation of my thesis was very critical to effectively portraying the atmosphere of worship i had designed. the use of hand drawn plans, sections, and perspectives were used to retain the energy and attitude developed in the project.
he who walks with the wise grows wise, but a companion of fools suffers harm. -- proverbs 13:20

precedent studies:

tadao ando:
church on the water
in this very simple, elegant, minimalist church, ando completely involves the congregation with the natural context surrounding it. the unobstructed view out from the meeting hall and across a reflecting pond is serine and riveting. ando's beautiful attitude towards using nature as a backdrop to the services was an inspiration to me. i used similar strategies to bring focus to the baptismal pool used during special ceremonies.

le corbusier:
ronchamp
le corbusier's masterful use of mass and light in this church drove many of my decisions within my own light design and attitude. the voids left from cutting holes out from the wall bring in indirect light, to create a relief, illuminating the space. at ronchamp, le corbusier also uses light reflected off of colored surfaces to manipulate the mood of the light entering the church.
francesco borromini:
san carlo

in one of my favorite examples of baroque architecture, borromini tackles the challenge of using a directional ellipse to create a focus or give movement to the space. i had a similar desire to incorporate an oval within my sanctuary. borromini’s oval is clearly articulated in the ceiling, where as i chose to let the ellipse dictate my plan.

peter zumthor:
saint benedict chapel:

zumthor has designed a wonderfully elegant and peaceful space of contemplation and prayer for small groups of people. displaying his masterful knowledge of carpentry and woodwork, this small chapel was an inspiration to the design of the prayer rooms in my thesis. the way he brings in soft light across the timber structure of the chapel is beautiful and inspired me to explore ways of creatively bringing light into a room and splash it across surfaces.
timo & tuomo suomalainen: rockchurch
the rockchurch in finland also influenced my attitude about light immensely. the architects used a circular ribbon skylight to bring light in uniformly around the sanctuary. with an opaque ceiling, the design reads like a solar eclipse. this idea of bringing in uniform perimeter light is carried into my thesis resolution.

mies van der rohe: barcelona pavilion
this secular piece of architecture combines many of the issues and resolutions found in the precedents before. the barcelona pavilion is an exquisite example of classical materials used in clean and modern ways. reflective surfaces dominate mies' design of a place for reflection and contemplation. what mies van der rohe created here was a secular building with the feel of sacredness and respect.
**literary research:**

**kathleen bliss:**
**the future of religion**
A religious building is far more than a place to visit or meet in. It speaks out its meaning to the world and it embodies the faith and testimony of the people within it. Great religious buildings were used to represent symbolically the culmination of human destiny. They were places of community, of action and symbolism of worship, of preserving human significance in the uncertainty of life and death.

**c.s. lewis:**
**mere christianity**
God gave man free will because it provides the only love, goodness and joy worth having. God did not design us to worship Him as machines. He designed us to meet Him in worship out of love and in deep connection with Him personally. This is not achieved through rituals and programming, but the moment we are given free will and the identity as "self" there is the immediate desire to put oneself first to try and establish dominance in the relationship. The center is now man not God. The death of Christ made us right with God. The sin in our lives, which previously separated us from a relationship with Him, has been paid through the sacrifice of Jesus' perfect life. A Christian believes that now Christ is operating through them with His Holy Spirit.

**wisdom is supreme:** therefore get wisdom. **though it cost all you have,** get understanding. — proverbs 4:7

**mircea eliade:**
**the sacred and the profane**
For religious man, sacred space is not homogeneous. There is a hierarchy where he experiences many breaks, interruptions, and differences between spaces. These breaks define the world and give it axis for orientation in the spiritual plane. Profane space on the other hand is homogeneous and neutral. There is no hierarchy or orientation in its structure. This is the space accepted by non-religious man.
This site is wedged in between two important roads which move traffic through the neighborhood. All the houses along and around Alexandria and Lane Allen roads are small single story residences with attic space. The small scale of the local neighborhood influenced the segmentation of the plan into modules.

Above is a panoramic picture of the intersection between Alexandria and Lane Allen roads. This northwestern corner is highly visible by traffic as it travels through the neighborhood. This corner played a very important role in the attitude of involvement that the church communicates to the local community.
issue sketches:

function:
it is important that a church functions well as a building and as a community. These sketches show how I wanted circulation to be simple and direct. The circulation paths would run between the larger more important spaces. There, people are oriented and dispersed, throughout the church, from these hubs. The intent was for the circulation and relationships between spaces to be logical, the people are more comfortable and the interaction between them is better.

community:
stemming from the goals of function comes the issue of community. One of the most important strategies I implemented in the thesis design was to develop areas which have a high diversity of private to public spaces. One of these spaces was the courtyard. I designed the courtyard to be a means of entry and involvement with the church. The spaces progressed from an open lawn for picnics, games, and antique sales, to semi public spaces like a cafe patio and gallery area. Finally, the courtyard progresses to a private prayer garden. These sketches illustrate how a courtyard could be oriented with a building to deal with entry and the levels of public to private paces.

...a prudent man gives thoughts to his steps.  
— Proverbs 14:15

focus:
the issue of focus is critical to the ability of a worship space to assist a believer in their journey to come before the Lord in reverence and praise. I decided to use light and nature as avenues in bringing people before God. These sketches illustrate possible ways nature can influence a space. It can be peripheral, yet removed or it can be concentrated and invading the room. I chose to use both strategies to focus my worship space exploration.
site study models:
in the quest to broaden my 3-d exploration of a project, i began my thesis with numerous study models. in the three studies, to the right, i forced myself to explore options beyond the point that i was satisfied with my designs. though it was difficult for me to remain in this stage longer than i was comfortable, it benefited me in the end. the energy and excitement i was able to cultivate here helped me to translate it into the more refined models and drawings later. the model below was a composite of the ideas explored in the six smaller study models. here the sanctuary becomes the most identifiable element from the intersection. it says that the church is open for everyone to enjoy and that the church is an active participant in the local community.
1st sanctuary model:
this model explored ideas of structure and circulation. the waffle structure system seemed imposing and overdone. it was simplified to the uni-directional structural system in the model below. the idea of a perimeter circulation passage was conceived in this model. essentially the corridor was integrated into the structure of the sanctuary and would contain all points of entry into the space. later it was disengaged from the structure.

2nd sanctuary model:
here ideas of light and circulation were explored. the driving concept of this model was a huge cruciform, cut away from the ceiling, to let in direct light. in this shape, influenced by cross-axial naves of cathedrals, the pattern of light on the ceiling would symbolize movement through the sanctuary. skylights around the perimeter would light the circulation path around space. later this idea evolved into an indirect attitude of lighting for the sanctuary circulation system.
2nd level plan

.1 administration
.2 classrooms
.3 sanctuary foyer
.4 conference room
.5 restrooms
.6 nursery rooms
.7 youth room
main level plan

1. sanctuary
2. prayer rooms
3. sanctuary foyer
4. music center
5. library
6. prayer garden
7. patio
8. classrooms
9. outreach cafe
10. hospitality suite
11. reception center
12. restrooms
13. kitchen
14. fellowship hall
15. youth room
16. aerobic room
17. weight room
18. gym

"In our world today, it is a communal home which is demanded for the people of God."

-- keerpunt der Middeleeuwen

resolution

meeting with the Lord
community:

church community:
there are very important spaces outside of the sanctuary where the congregation can come together and interact with each other in large numbers. the above perspective shows the sanctuary foyer. this area is used before and after worship services, concerts, and other activities that go on inside the sanctuary. this space is important for communicating that the body of believers, within the church, should continue to interact outside of just during sunday services.

the perspective to the right is of the outreach coffee cafe. this space is an important space in defining the role of the church in the community. the cafe begins to blur the separation between the spiritual and secular worlds. this is a place where anyone can come and enjoy themselves in an unthreatening environment.
"for where two or three come together in my name, there I am with them." —Matthew 18:20

**worship community:**

Community is especially important in worship space. In a room containing hundreds of people, it is very difficult for a believers to worship the Lord when they are uncomfortable with the people around them. There were a couple of strategies I developed to try and make the sanctuary a place of communion. The first was to get as many people as close to center as possible. This desire called for a circular (elliptical) seating pattern. Another conceptual goal for the space was to break down the division between the congregation and the service leaders. The relationship between these two groups must be very intimate in order for the services to become personal. An arena seating concept was implemented and the elevated stage was eliminated. This gave everyone better lines of site so that eye-contact between the congregation and leaders could be established.
let the light of Your face shine upon us, oh Lord
-- psalms 4:6

focus:
lights was my main strategy for focusing the sanctuary upon the Lord. light is a wonderful way to connect the spiritual with the physical. the goal of my lighting design was to bring indirect lighting into the space by splashing it down walls and across surfaces. christians know the Lord is present in their lives even when they cannot see him. this is similar to the way we cannot see the wind, we see the effects of the wind in the trees, on the water, in our hair. my attitude for lighting in the worship space was to see the way light interacts with the surfaces of my building, yet not allow the congregation to see its source. light was also used in defining paths of circulation. around the perimeter of the sanctuary, direct light illuminates the corridor. inside a cruciform, light stretches across the ceiling referencing the main aisles of movement.
...[He] does not live in temples built by hands. -- acts 17:24
my response:
the perspective below is a response to the comments and criticisms of my thesis jury. some of the adaptations were to first draw the perspective from within the congregation instead of from a birds eye view. this improves the effectiveness of the drawing, allowing us to better experience what it might be like to be in the sanctuary. second the ceiling was lowered. this was a result of the comment that the space seemed like an arena. the lower ceiling creates a more intimate room. the main wall shown in the drawing was widened to allow for a better system for gathering indirect light into the sanctuary. the wall was also widened to allow for a hallway to access the prayer rooms without the person being on display for the congregation. lastly, the hinging wall in the center was changed to a sliding wall so that views will not be blocked when the wall is opened.
i will praise you as **long as i live**, and in your name i will **lift my hands**. my soul will be satisfied as with the **richest foods**; with singing lips my **mouth will praise you**.

-- psalms 63:5

**my thoughts:**
this thesis project was a fulfilling process. i have benefited from it in numerous ways. during the project i was able to push myself in ways that i had not before. one of these areas was in 3-d exploration. i have always had problems transitioning from the conceptual phase, full of energy and spirit, to the refined final stage. usually by the time my previous projects reached these final stages they have lost most of the energy and life evident early on. i wanted to bridge that gap by spending longer periods of my time in the 3-d study models shown before. because of this discipline i feel i took steps towards conquering those limitations.

another way i benefited was in my own personal spiritual journey. my thesis began as a critique of what was right and wrong with churches and how they worship. as my thesis progressed i began to realize that my personal opinions of how to worship are not perfect in themselves. each christian believer’s walk with the Lord is unique. everyone has their own routines and practices for coming before the Lord in reverence and praise. just because their means of worship seem dead or remote to me does not mean that it is false worship. all worship brings glory to the Lord Jesus Christ.

**reflection**
bibliography:

bliss, kathleen. *the future of religion.*

bruggink, donald j. *when faith takes form*

carmichael, hubert, reeves, & schanche. *sacred sites, sacred places.*

debuyst, frederic. *modern architecture and christian celebration.*

eliade, mircea. *the sacred and the profane.*

eliade, mircea. *symbolism, the sacred, & the arts.*

eliade, mircea. *what is religion? an inquiry for christian theology.*

gieselmann, reinhard. *new churches.*

lewis, c.s. *mere christianity.*