A TECTONICS APPROACH TO ARCHITECTURE:
A New Church Building for Buffalo

by Christopher A. Bovenzi

Submitted to the Department of Architecture
on January 15, 1988 in partial fulfillment of the
requirements for the Master of Architecture degree.

ABSTRACT

Architecture can heighten an experience when it
supports the mood of that experience and when it
is felt to embody the idea or purpose of the experi-
ence. The challenge here is that the Christian
Church comes into being wherever the people gather,
so, the architectural task is to make an architecture
that will heighten the congregation's experience
without the architecture coming to seem itself as
the "carrier" of the tenets of belief. A tectonics
approach to architecture can be used to convey
certain characteristics of the Christian Church in
such a way that a contribution is made to the experi-
ence of the congregation. Existing examples of
tectonics in architecture are studied and a major
thrust of the work is in the testing of the thesis in
a design of a new building for the Word of Life
Church, a Pentecostal Christian congregation in Buf-
falo, New York.

Thesis Advisor: Fernando Domeyko
Title: Assistant Professor of Architecture
ACKNOWLEDGMENTS

There are several people to whom I would like to express my gratitude. For having confidence in me to give me my start in the profession of architecture: Weldon Pries. For his energetic support and adept criticism, for sharing his intellect and experience, and for keeping me on track: Fernando Domeyko. For their moral support and adroit criticism, my friends: Robert Piotrowski and David Steele. For their love and encouragement: my parents. For her love and devotion: my wife Kari.
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abstract</td>
<td>3</td>
</tr>
<tr>
<td>Acknowledgments</td>
<td>5</td>
</tr>
<tr>
<td>Table of Contents</td>
<td>7</td>
</tr>
<tr>
<td>Introduction</td>
<td>9</td>
</tr>
<tr>
<td>A Tectonics Approach to Architecture</td>
<td>29</td>
</tr>
<tr>
<td>Site</td>
<td>60</td>
</tr>
<tr>
<td>Programme</td>
<td>67</td>
</tr>
<tr>
<td>The Project</td>
<td>71</td>
</tr>
<tr>
<td>Notes</td>
<td>97</td>
</tr>
<tr>
<td>Bibliography</td>
<td>99</td>
</tr>
<tr>
<td>Perspective</td>
<td>107</td>
</tr>
</tbody>
</table>
Almost nothing was built by the churches of the first three centuries. The chapter on Early Christian Architecture in Banister Fletcher's *A History of Architecture* starts with the year 313. Jesus didn't ask his followers to build anything. In fact, on the mountain of the transfiguration it is shown that Peter's desire to build some shrines was inappropriate:

... they saw his glory, and the two men that stood with him. And it came to pass, as they departed from him, Peter said unto Jesus, Master, it is good for us to be here: and let us make three tabernacles; one for thee, and one for Moses, and one for Elías: Not knowing what he said. (Luke 9:32,33)

The life in God -- the truly religious life -- is not a matter of special places, times, or esoteric rituals, but of spirit and truth. When the gospel account tells of Jesus' rending of the Temple veil, the message is clearly that thenceforth there could be no more
Christ Church in Lancaster County, Virginia. 1732. Architect unknown. Space and light are handled in a simple yet effective manner. The importance of the sermon is expressed by the raised pulpit and sounding board.
sanctuary (Mark 14:58, Matthew 27:51). God's presence was not anymore localized, secret, contained or attached to any particular place. Worship involves persons, not places. Persons are the temples.

Know ye not that ye are the temple of God, and that the Spirit of God dwelleth in you?
(1 Cor. 3:16)

The New Testament gives no indication that the Christians of the apostolic age built places of worship or designated specific places exclusively for worship. From the beginning they gathered to "break bread" in their homes and other private places. They started to teach and preach in the synagogues, but soon found themselves excluded, so they met where they could:

For where two or three are gathered together in my name, there I am in the midst of them.
(Matthew 18:20)
Buildings before the time of Constantine were made in a variety of manners but with two general similarities. The new buildings were patterned not after the forms of temples or shrines but after either the basilicas, which were places of civil assembly, or after domestic buildings. The strong tradition of the early church was one of worshipping in "borrowed" homes, and where the place was still called domus ecclesiae, the house of the church, rather than domus dei, the house of God.

The history of the church building through the Middle Ages is a record of a more explicit expression of a theology, that contradicted in important ways the essential message of Jesus. In the Reformation, the destruction of images and relics and the white washing of existing cathedrals was not fully effective in returning men back to the practices of the early church. From time to time religious groups have reasserted the New Testament posture. Some of the
Mennonite meeting house. Lancaster, Pennsylvania.

Avondale Methodist Church in Colorado.
West Parish Meeting-house. West Barnstable, Massachusetts. 1717.
more radical reformers opposed the concept of a particular place for worship and brought their worship back to the homes. The first Mennonite meeting-houses in Pennsylvania came long after the settlers had established themselves. They were finally built because none of the farmsteads could provide shelter for all the horses in the cold winters during the lengthy meetings; and so extensive stables were built with the meeting-houses adjacent. The Puritans built austere but dignified buildings of domestic character and used them for any public assembly. Of the earliest Puritan meeting-houses in England most were built of brick, often of notably good brick. Though they were of modest nature with no definitely ecclesiastical features externally, they were made with the best materials and workmanship available. The tradition was continued in the meeting-houses of New England but mostly in wood.
Mennonite meeting house.
Lancaster, Pennsylvania.
Neo-gothic forms of the "traditional" American church building since the Ecclesiological Movement. Chapel of Western Reserve University, Cleveland, Ohio. Architect: Henry Vaughan.
About 1840, a very dynamic movement called the Ecclesiological Movement rose in England. It had a great deal of influence there, in Europe and in America. Most churches in this country have been built since, and the forms of church building that most Americans have considered to be "traditional" are the neo-gothic forms associated with this movement: high arched vaults of stone or wood, buttresses, pointed stained glass windows, axial plan, and much ornamental carving and painting. Revivals of other historical styles and eclectic combinations of styles also appeared and other traditions ran parallel such as the colonial tradition but the common thread was the derivative nature of the forms that looked backward rather than forward. One notable exception would be the Shakers, who while coming from the colonial tradition, were very innovative in terms of design.
Shaker Round Stone Barn. Hancock, Massachusetts. 1826. Built of random stone masonry, order and structural integrity are maintained by the use of solid granite lintels and sills around each opening. The main entrance uses a stone arch. Inside there is a central structural shaft of wood which supports the roof. This shaft incorporates a ventilating device designed to bring fresh air into the hay to keep it dry and reduce the risk of spontaneous combustion. The wooden clerestory with windows allows daylight to penetrate the space. Each of the three floors is accessible from the ground by means of ramps.
The late nineteenth and early twentieth centuries saw steel and concrete construction replacing stone masonry and timber. The device of concealing steel or concrete skeletons in masonry or wood sheathing became general practice. The resulting buildings resembled the historic forms but were built by artificial means. Some architects of our modern age preferred authenticity and looked for ways to recover it. In 1908, Frank Lloyd Wright built Unity Temple in Oak Park, Illinois; a forthright concrete structure. The architect was faced with the problem of housing a large congregation within a small budget:

What shape? Well, the answer lay, in what material?... Concrete was cheap. Concrete alone could do it. But even concrete as it was in use at that time meant wood formwork and some other material than concrete for outside facing. They were in the habit of covering the concrete with brick or stone, furring and plastering the inside of the walls. Plastering the outside would be cheaper than brick or stone but wouldn't stick to concrete
Unity Temple. Oak Park, Illinois. 1908. Frank Lloyd Wright. "The power... lies in tense and elemental relationships and in the way the main themes are restated in all the smaller parts. The main elements of vocabulary... included corner piers (containing the stairs), walls, screen-windows, and thinner versions of the main piers to support the structure of the roof. This last element was flat and lifted free of the box beneath it." (William Curtis in Modern Architecture Since 1900)
in our climate. Why not make the wooden form-work so the concrete could be cast in them as separate blocks and masses, these separate blocks and masses grouped about an interior space in some such way as to preserve this desired sense of the interior space in the appearance of the whole building? And the block-masses be left as themselves with no 'facing'.

(Frank Lloyd Wright: Writings and Buildings)

There are many examples of church buildings that by their very modernity have signified that the church wishes to be understood as a living institution, related to the currents of life in the twentieth century. However, it is not a matter of simply using modern building materials in order to acquire a "modern" look. It is essential that we build with techniques that respect the very nature of the materials used whether they be concrete, steel, wood, stone, brick, or glass; an honest approach; a tectonics approach.
Exterior of Stock Exchange, Amsterdam. 1898-1903. H.P. Berlage. Historicizing references are replaced here by a new style in which external form was meant to be expressive of internal function and construction.

Main trading space. Steel arches rest on thickened pilasters within the brick masonry. Spring lines of the brick arches are expressed by constructing the voussoirs out of stone.

Detail of arch connection. Hinging action and tension of the counter thrust the arch naturally produces are beautifully expressed in steel.
A TECTONICS APPROACH TO ARCHITECTURE

This is an essay about joinder. Websters New World Dictionary defines joinder as: "a joining; act of meeting or coming together." Joinder is further defined as: "a joining of parties; a uniting on facts; an accepting of an issue offered." One of the most important attributes of tectonic architecture is the concern for joining. For Louis Kahn the joint is inextricably linked to the process of building:

A building is like a human. An architect has the opportunity of erecting life. The way the knuckles and joints come together make each hand interesting and beautiful. In a building, details should not be put in a mitten and hidden. Space is architectural when the evidence of how it is made is seen and comprehended. The feeling that our present day architecture needs embellishment stems in part from our tendency to place joints out of sight, to conceal how parts are put together... If we were to train ourselves to draw as we build, from the bottom up, when we do, stopping our pencil to make a mark at the joints of pouring or
Spatial joint at building size.
Brion Family Tomb. Treviso, Italy.
erecting, ornament would grow out of our love for the expression of the method.

The Christian Church is in essence a joining of people in faith with Jesus Christ. The Bible uses the analogy of a body that is made up of parts to explain the relationship of the Christian to Christ:

Speaking the truth in love, may grow up into him in all things, which is the head, even Christ: from whom the whole body fitly joined together and compacted by that which every joint supplieth, according to the effectual working in the measure of every part, maketh increase of the body unto the edifying of itself in love.
(Ephesians 4:15-16)

Biblically, some joinings are not as highly regarded as others. The parts of the Church (the people) are not to be profaned by improper use. The realm of the spirit transcends that of the flesh:

Know ye not that your bodies are the members of Christ? Shall I then take the members
Brick oven used by the Shakers in the Church Family dwelling. Hancock, Massachusetts. The existence of iron baking racks on the inside of the oven are revealed by the losenge shaped iron plates on the exterior.
of Christ, and make them the members of an
harlot? God forbid. What? Know ye not
that he which is joined to an harlot is one
body? for two, saith he, shall be one flesh.
But he that is joined unto the Lord is one
spirit. (1 Corinthians 6:15-17)

In Architecture, tectonics refers not merely to the
activity of making the materially requisite
construction that fulfills certain functional needs,
but rather to the activity that raises this
construction to an art form. Tectonic expression
transcends the banality of mere building: it is a
joinder of construction and art. Webster's New
World Dictionary defines tectonics as:

...the constructive arts in general, especially
the art of making things that have both
beauty and usefulness.
Detail of the staircase. "To modern culture and design, decoration and ornament appear as not necessary components of matter revealed, delivered from the indeterminacy of unmeasured quantity. Since 'matter' is merely the 'material' of a product, the value of ornament is determined by technology... Scarpa's ornament uses materials with the respect due to their intrinsic ornamental qualities while the pattern of the details guages and samples their compositional values."

(Barbara Dal Co: Essay on Carlo Scarpa)
Detail of the north exterior wall. One Family House at Stabio. Ticino, Switzerland. 1980-82. Mario Botta. Construction with concrete bricks. Much variety in form and expression is possible when standardized building materials are kept small, flexible, and related to human scale. Architectural ornament and articulation arise within the confines of the construction system. Bricks and blocks can be laid on angles to produce shadow lines or laid vertically for emphasis at meaningful heights on a facade. They can be corbelled or simply stacked horizontally. The qualities obtainable through a sensitive working of raw materials are a large part of what can be discovered when taking a tectonics approach to architecture.
Robert Maulden states in *Tectonics in Architecture*:

The main structural supports for (Kahn's Richards Labs) building -- the post-tensioned columns -- are highly tectonic elements... it is through the physical modeling of this element with visual and symbolic intentions that it attains its tectonic significance and transcends the banality of mere structural or functional requirements.

Just as the Church is made up of various parts (people) with contributing functions --

...some, apostles; and some, prophets; and some, evangelists; and some, pastors and teachers; for the perfecting of the saints, for the work of the ministry, for the edifying of the body of Christ. (Ephesians 4:11-12)

-- so, too, is a building made of parts. A tectonics approach to design has to do with how a building is made: the **materials** and **forms** of materials (concrete blocks, wooden timbers, steel tubing...) and **processes of construction** (stacking, cutting,
Impost block at the loggia opening.
One Family House at Massagno. Ticino, Switzerland. 1979. Honest expression of the juncture between the structural forces of tension and compression. The result is a beautiful juxtaposition of concrete masonry units and poured in place concrete. Architect: Mario Botta.
Tectonics is concerned with the making of buildings and how their making is made apparent.

0, worship the Lord in the beauty of holiness (Psalm 96:9)...Strength and beauty are in his sanctuary (Psalm 96:6)...Holiness becometh thine house, O Lord (Psalm 93:5)...Strength and gladness are in his place (1 Chronicles 16:27)...the true worshippers shall worship the Father in spirit and in truth. (John 4:23)

The characteristics of the Christian Church -- strength, holiness, truth, beauty -- can be attained through the use of a tectonics approach to architecture. An emphasis and expression of structure -- the supporting elements -- can project a feeling of strength in a building. The purity of specific materials used in a manner befitting their inherent nature can contribute to a sense of holiness. Truth in architecture is derived from the honest expression of the individual parts and how they add up to a building. A building thusly made has the potential to attain great beauty.
Meeting house interior. Sabbathday Lake, Maine. The meeting house expresses its structure in a simple manner. The exposed beams have been painted in a dark blue paint. Blue paint, which was costlier and therefore more prized than shades of red or yellow, was so much a tradition in Shaker meeting houses that Shaker laws eventually stated formally that meeting house interior trim should be painted "a bluish shade".
Living room. Villa Savoye. Poissy. 1928-31. Le Corbusier. The fireplace pulled into the space of the room is an expression of the "free plan," one of Le Corbusier's "Five Points of a New Architecture" written in 1926. The habitable horizontal plane: floors, ramps, window sills, and so on, played an important role in the Architecture of Le Corbusier. Window sills doubled as shelves or were enlarged to serve as table tops.

Shaker meeting room in the Church Family dwelling. Hancock, Massachusetts. Built in storage units were used very often by the Shakers who liked their habitations uncluttered. The wood burning stove, was placed in the space where the heat was needed. This was typical practice.
"Le Modulor" is a system of proportions discovered by Le Corbusier. Like Vitruvius, he finds the basis for his system in the human figure. Le Modulor shows the relationship of the dimensions of the human body to the "golden mean", a principal of proportioning that has been long celebrated as the most beautiful and pleasing to man. The fact that this proportion occurs frequently in nature and has such a positive effect on man has resulted in the golden mean to be also known as the "divine proportion". In Le Modulor, the height of the navel is in "golden" relationship to the full body height and in a 1:2 relationship to an upraised hand.

"Lift up your hands in the sanctuary, and bless the Lord." (Psalm 134:2)
Attic of New Lebanon meeting house. The form of the barrel roof is an outward expression of the framing inside the attic story which makes the open span on the first floor possible. (Custom-made curved ladder, used for roof repairs, remains in attic.)

Shaker meeting house. New Lebanon, New York. 1824. This building was the largest Shaker house of worship. The meeting house contained quarters for the ministry on the upper floor. The first floor was a full 65'x80' in area, uninterrupted by columns which would have interfered with the worship services.


Service Yard. Munich. Alternation of glass blocks express the joint between the structure (concrete beams) and the infill (limestone masonry).
Detail of Shaker chair. Pommels on top of the back posts were useful as handles for lifting and moving the light chairs. Shaker chairs were often produced in large numbers. As the back posts were turned on a lathe, thin lines circling the post, known as "scribe lines" were carved to indicate where the holes should be chiselled for the insertion of the back slats. This simple operation helped speed up the next phase of production and left as simple ornament the evidence of the construction methods.

Swallowtail joints.

"Trifles make perfection, but perfection is no trifle," said the Shakers. The side of an oval box shows this attention to detail in the curves of the fingers in the joint; in the careful alignment of the small copper tacks (which will not rust and discolor the wood as iron would); and in the graceful shaping and pivot of the bail handle.
Section showing structural system; view of study. Maisons Jaoul. Neuilly. "There is a new aesthetics of windows. The window is no longer part of the fittings of a house or flat, it can be an architectural subject in itself, inside and outside... It is no longer entirely made of glass: some panels are opaque; bookshelves are attached to it; tables stand against it; it plays a part in lighting the side-walls, ceiling and floor at strategic points." (Le Corbusier in the Modulor 2)

Maisons Jaoul. Neuilly (near Paris). 1956. Le Corbusier. Terra cotta tiles act as permanent formwork for the brick and concrete Catalan vaults. The natural tension of the structure is expressed by one inch steel rods that are used to counter the thrust of the vaults. "...built by Algerian labourers equipped with ladders, hammers and nails, and with the exception of glass, no synthetic materials are being used; technologically they make no advance on medieval building..." (James Sterling in Garches to Jaouel: Le Corbusier as Domestic Architect in 1927 and 1953) In fact, there is at least one significant revision of the Catalan structure in the design of the concrete edge beams. Their deep sections, capable of spanning long distances, allow for large openings in the bearing walls and thus for the pattern of exterior fenestration and the spatial flow between the vaults.
Bethune Hall (formerly Buffalo Meter Company), Buffalo, New York. 1915-17. Lockwood, Green and Co.

"It was... a structure of the same type and generation as those Le Corbusier had used to exemplify his arguments: multi-story American industrial buildings with exposed concrete frames filled in only by transparent glazing; buildings like X-ray images, their very bones on public display... It had subtleties, airs, and graces, some of which Le Corbusier might have despised. High up under the cornice on each of the corner piers, for instance, was a decorative lable in a style something between drastically simplified Louis Sullivan and an anticipation of post-Cubist Art Deco. Could it possibly be a structural refinement of some sort, or was it... a decorative device."

(Reyner Banham in A Concrete Atlantis)
Yale Center for British Art and Studies, New Haven, Connecticut. 1969-72. Galleries on the upper floor. At the center is a view into the entrance court.

Yale Center for British Art and Studies. The main court. In the foreground to the right is the round form of the stair tower.

Kimball Art Museum, Fort Worth, Texas. 1966-72. Louis Kahn. View from the south showing west entrance from the park. Thin concrete roof shells of cycloidal cross-section form the roof structure. The ends of the "vaults" are infilled with Roman travertine allowing the joint to be expressed in a curved strip of light.
Demolition (deconstruction) of industrial building near Massachusetts Institute of Technology. Cambridge, Massachusetts. 1987-88. When a building undergoes deconstruction, what went into the building -- materials, processes of construction -- come out of the building into plain sight. The steel reinforcement bars begin to protrude from the concrete columns, cement plaster cracks off revealing the brick walls behind, floor slabs show their thickness, etc. The complex visual interest, the tectonic qualities revealed in deconstruction tells us what can be desirable in a new construction: expression of the various building parts as they make up the whole, ranges of sizes and textures of different materials in juxtaposition to one another, etc.
SITE

The site is the northwest corner of the intersection between West Utica and Atlantic Streets in Buffalo, New York. The building presently used by the Word of Life Church occupies part of the site. "Buildable" area for the purposes of the thesis project has been established as 80 feet by 160 feet with the longer dimension of the site running from north to south. West Utica Street is an important cross-artery that laterally connects some of the main radial arteries of Buffalo: Richmond Avenue, Elmwood Avenue, Delaware Avenue, Main Street, and Jefferson Avenue. The lot is situated between areas of one and two family house character and the multi-story apartment and office building character of Delaware Avenue.
Dimensional Study. Through this study, it has been discovered that specific ranges of dimensions occur and reoccur in the context of the site. There are some dimensions "...that are simply true, some that are related to cultural experience and construction techniques, and others that are independant of associations for now. The relations between dimensions and dimensional patterns create the possibility of making places." (Fernando Domeyko in The Synthetic and the Real: Notes on Cordoba)
Houses along the north side (photo above) and south side of West Utica Street.

Light industrial building situated across Atlantic Street; due east of the site.

The building presently used by the Word of Life Church on the site.
PROGRAMME

CHURCH BUILDING
Spatial Requirements in Square Feet

1. Entry Lobby 930
   (with coat storage)
2. Upper Lobby 900
3. Sanctuary 2200
   (with seating for approx. 175)
4. Baptistry 450
5. Informal Meeting approx. 400
6. Meeting/Library 1100
7. Reception Hall 2600
8. Church Office 240
9. Sitting Room 300
10. Kitchen 600
11. Nursery 500
12. Garden 2000
13. Toilet Rooms 180
14. Mechanical 360
15. Chair Storage 120
16. Table Storage 800
17. Changing Room for Baptistry 120
18. Misc. Circulation approx. 700
19. Roof Garden 900
MINISTER'S HOUSE
Spatial Requirements in Square Feet

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Kitchen</td>
<td>160</td>
<td></td>
</tr>
<tr>
<td>2. Dining</td>
<td>140</td>
<td></td>
</tr>
<tr>
<td>3. Greenhouse</td>
<td>220</td>
<td></td>
</tr>
<tr>
<td>4. Library</td>
<td>130</td>
<td></td>
</tr>
<tr>
<td>5. Living</td>
<td>200</td>
<td></td>
</tr>
<tr>
<td>6. 2½ Baths</td>
<td>130</td>
<td></td>
</tr>
<tr>
<td>7. Master Bedroom</td>
<td>150</td>
<td></td>
</tr>
<tr>
<td>(with closets)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Sitting Area</td>
<td>56</td>
<td></td>
</tr>
<tr>
<td>9. 2 Bedrooms</td>
<td>240</td>
<td></td>
</tr>
<tr>
<td>(with closets)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Study</td>
<td>130</td>
<td></td>
</tr>
<tr>
<td>11. Roof Storage</td>
<td>70</td>
<td></td>
</tr>
<tr>
<td>12. Roof Garden</td>
<td>1000</td>
<td></td>
</tr>
<tr>
<td>13. Private Garden</td>
<td>625</td>
<td></td>
</tr>
<tr>
<td>14. Basement Storage</td>
<td>1000</td>
<td></td>
</tr>
<tr>
<td>15. Mechanical</td>
<td>150</td>
<td></td>
</tr>
<tr>
<td>16. Entry Vestibule</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>(with closet)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. Vertical Circulation</td>
<td>150</td>
<td></td>
</tr>
</tbody>
</table>

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Church Building</td>
<td>15,400</td>
<td></td>
</tr>
<tr>
<td>Total Minister's House</td>
<td>4,750</td>
<td></td>
</tr>
<tr>
<td>Total Programme Area</td>
<td>20,150</td>
<td></td>
</tr>
<tr>
<td>Total Site Area</td>
<td>12,800</td>
<td></td>
</tr>
</tbody>
</table>
THE PROJECT

The photographs and drawings that follow are a selective representation of the work completed during a four month long design process. The many rolls of sketches required to make this project are not shown, in favor of the draughted drawings. When an architect takes on a design project, he is expected to juggle the innumerable forces that play a role in informing the design to one degree or another. In designing this project, I have responded to many of these but in a somewhat limited manner in order to keep the focus on the theme of the thesis: a tectonics approach to architecture.
Sketch Model. September 1987. This model represents the "first pass" at distribution of programme elements, definition of place, and attitude towards light.


Site model. December 1987. This model shows the final massing of the project in relation to the buildings in the surrounding area.
Final Model. December 1987. Rendered at a large scale (3/16" = 1'-0"), this model shows the structural and enclosing aspects of the architecture, the feeling of the space, the quality of the light and the topologic definition of the project.
View into the model showing the entry lobby and main ramp up into the main space of the church building. The stair to the basement hall is just below the ramp.

Final model under construction in the studio. November 1987. The tectonic qualities slowly emerge as the model progresses.
BASEMENT FLOOR PLAN

1. Entry to Hall
2. Church Hall
3. Sitting Room
4. Kitchen
5. General Storage
6. Mechanical
7. Women's Toilet Room
8. Men's Toilet Room
9. Nursery/Offices
10. Entry to Hall
11. Basement of House
FIRST FLOOR PLAN

1. Entry Lobby
2. Upper Lobby
3. Upper Room
4. Baptistry
5. Garden
6. Chair Storage
7. Changing Room for Baptistry
8. Meeting Room/Library
9. Informal Meeting Room
10. Library
11. Private Garden
12. Greenhouse
SECOND FLOOR PLAN

1. Roof Area
2. Upper Room
3. Garden
4. Greenhouse
5. Study
6. Master Bedroom
7. Private Garden
TRANSVERSE SECTION

LONGITUDINAL SECTION
NOTES

1 Sovik, Architecture for Worship. This work was used extensively in the preparation of the Introduction.
BIBLIOGRAPHY


