AN ORTHODOX CELEBRATION SPACE:

Reinterpreting Tradition

Luka Andjelich
May, 1993
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Reinterpreting Tradition

Luka Andjelich

Bachelor of Architecture degree
Thesis design

Department of Architecture
College of Architecture and Planning
Ball State University
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[Signature]
Luka Andjelich, designer

[Signature]
Dr. Daniel Doz, design studio professor

Michel Mounayar, architectural thesis critic
ACKNOWLEDGMENTS

This book is dedicated to my parents to whom I owe everything and consequently, they owe it to the bank. Hvala vam i ya vas volim puno Mama i Tata!! I'd also like to recognize and thank my sisters and brothers, Nikola, Jovanka, Mara, and Sava, for also contributing to the cause in all emotional, nutritional, and financial support. My love goes out to all the "little supporters"-nephews and nieces-Andrea, Zachary, Krista, Nina, Vesna, Cara, and Andreas, who made my rare trips to home even more worth it!! Last but not least many thanks to Ms. "Wanna go to the Chicago?..Ok! Dios Mio Gio!!"-Maggie; Ms. "Two shoes, a truck, and a game of Horseshoooo, Wanna go to New York? -twice!!"-Lisa; Ms. "Its Mr. 2-D and butter 'em up cows"-Andrea ("ondrea"); Ms. "Sweet thing in the Red, Butt!!-Terrence; Ms. "He saw you! Luka, I know he saw you!"-Kim; and my fellow Mr. "Madonna influenced me into Sex in the Kitchen Cookbook "-editor Alan. Thanks for all the laughs, the late nights/early days, the endless *itch sessions, numerous missions for a variety of forms of chocolate, and finally, all the others that supported me in this endeavor.

-LUKA
'The loss of the believer is to encounter his church.'

_Rene Char, 1907_
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"You should study the ancient cathedrals. They were built when people still believed in God!" exclaimed Finnish architect Tade Huesser. "Today, churches are just aesthetics, built to create jobs and spend church tax-monies," he adds (Lindstrom, pp. 11).

Huesser had it correct to a degree when he stated the above. One should "study" the ancient cathedrals not only for their architectural lessons but also for what they represent. The ancient cathedrals brilliantly spoke to the society of the day and satisfied their desires, aspirations, and needs. Similarly, in contemporary times, the uprooted and lonesome man of the machine age must ask of himself, "What is a church?", in order to improve the design of a place of worship. Furthermore, modern man is lead to think about the meaning of religion and the spiritual guidance it offers in this occasionally chaotic world.

Most faiths have recently addressed the society of today through contemporary design of churches. These "churches" are no longer sanctuaries, but complex social institutions with functions varying from typical Sunday School teaching and evening reception halls to the atypical restaurant and tavern combinations. In essence, religious institutions have demonstrated that they are not antiquated establishments but a spirited and compassionate vehicle of religion, permissive in the search for fresh forms.
Unlike other denominations, the Orthodox have continuously imitated and duplicated the basic form and ornament of church for many centuries, almost unchanged since its beginning. In this sense, the Orthodox Church could also become more sympathetic toward its faithful. For certain, the needs and requirements of today's congregation have changed since Orthodoxy's inception. Therefore, the employment of the same design results in a static atmosphere, unyielding to time, function, and to the society of the period. One can argue that this creates and maintains the strong identity Orthodoxy has developed within itself and its followers yet, if it is to meet the requirements of its faithful, it should find new ways to express itself. The key is for Orthodoxy to respect its traditions and people while reinterpreting itself as time passes. This will then allow the natural creative urge in man to compel him into vigorously visualizing new forms for the modern Orthodox Church.

What follows is an exploration of the changes other religious denominations have experienced. It will allow the Orthodox to firmly embrace and accept change in order to completely satisfy the needs of today's society. The following document only begins to address the main issues associated with today's community and its needs. Therefore, some interpretation and conclusions are expected of the reader due to the exploratory nature of the essay. My design of an Orthodox celebration space succeeds the article. Upon being read, the article permits a review of the project to intelligently occur by addressing and evaluating its design characteristics and beyond.
During the first forty years of the twentieth century, religious structures experienced very little in extreme breaks from the past. Architecturally speaking, there was experimentation with new styles but it was usually an isolated case and not a reflection on the whole. There was uniformity rather than reform.

With the end of the Second World War, a decisive break marks the beginning of change. In Europe and America, the established churches, particularly the Roman Catholic, began a programme of "aggiornamento" or "bringing up to date", releasing their elitist and restrained image and embracing one that is modern and asserting in the equality of all people and respecting their world (Norman, pp. 280).

In architectural circles, the postwar period marked the era of greatest success for the Modern Movement. With the formalization of the Second Vatican Council of 1962-67, complete with liturgical changes, such as the forward facing altar, a period of altering and adjusting the layout of existing churches and monitoring the design of new complexes began. The Second Vatican Council only accelerated the process, already in progress, of the ecumenical trend of modern times. Technology, communications, politics, and natural evolution also aided in the process. The idea of creating a place of worship and religious teaching that addresses, is respectful of, and actively
INTRODUCTION

involves the parishioners was once again prevalent, much like the ancient
gathering of "the flock" around Jesus (Lindstrom, pp. 20).

These developments in religious outlook and theology also had
similar developments in architecture. By 1945, the Modern Movement had
determined for certain its rejection of the past. A new era was being
embarked upon and it conformed to the will of the Church. Patrons and
architects alike were seeking contemporary and untested solutions about
which it is difficult to generalize. This difficulty can best be exemplified by
the observance of occurrences in the Middle Ages where there were some
who believed in employing every available means of art and metaphor to
praise God. On the other extreme, there were those who believed that the
Church was nothing more than the loyal society that surrounded it and that
any location or structure will suffice. Of course, amidst these lie the
countless examples that were a variation of the two extremes, much like the
diversification seen today.

With the above in mind, a description of modern Christian worship,
liturgy, society, and architecture can begin. An important feature of modern
Christian worship which has recently prescribed the design of churches is
the emphasis upon community. The only exception are the Orthodox, where
the genuine liturgy has perpetually continued to shape and dictate the basic
design of a church structure according to Byzantine formulae and the ancient
truths of the faith.

Conceivably, it is here that my thesis design of an Orthodox
celebration space within the United States will be allowed an evaluation or
justification of its design characteristics by observing denominations that
have adapted to modern times. Therefore, the following is an exploration
of modern Christian structures of several denominations that have em-
braced, experienced, and addressed change to architecturally meet the needs
INTRODUCTION

of today's society and effectively respecting their world. Optimistically, from this investigation the Orthodox or any other denomination can learn to better assimilate and to accept progressive change instead of relying completely on tried and true solutions of history. Obviously, the problems and requirements of today's society are definitely different than the society that built the ancient Byzantine structures of which recent Orthodox buildings are intimately based upon.
A SENSE OF COMMUNITY

Respecting society

There are several important aspects of modern Christian worship, in addition to the switch in emphasis upon community, which have influenced the design of today's religious structures, giving them their form and layout. For instance, symbolism in the architecture, art, and furnishings of contemporary churches is sometimes the only distinguishing characteristic between denominations. The choice of materials is also critical in obtaining the desired effects and evoking the proper emotions. Finally, a sense of tradition in a modern interpretation assists in not only acclimating the user but provides a source of identity that is familiar and accepted.

Beginning with the importance of community, today's increasingly intelligible and educated members of society are able to specify and formulate their own values, therefore, influencing the plan and form of their churches. As an example, the Catholic and Protestant Churches have tried to redefine their existence around a communal religious experience rather than around dogma. Churches are becoming an assembly hall rather than the place where only religious mysteries occur or where religious teachings are disseminated. Today religious complexes are incorporated to allow the performance of not only worship, but also allow liturgical dance, meetings, and a wide range of social and teaching functions.

For this reason, the church has increased in importance to the
community because of the many social premises now combined with it. The activities include school teaching, festivals, group meetings, evening receptions, cultural events, and public gatherings. All of these and other events are becoming closely associated with the church and its functional content. Therefore, a flexible plan is sometimes desired within the building program allowing the users to articulate the space according to need and function.

A very early example of incorporating the social aspects into church design would be Frank Lloyd Wright's Unity Temple in Oak Park Chicago of 1906. As can be seen in the plan (Figure 1) the church proper is connected with the meeting hall and Sunday School space. The connection was placed as a 'neck' between the two and also served as the entrance hall. Wright completed over 34 studies before he was satisfied with the connection between these main volumes (Curtis, pp. 88-89). Obviously, the social aspect was seen as very important to both the designer and parishioners, anticipating a future trend by several decades.

This new sense of 'community' can be observed in several changes that have taken place. New churches in the 1950's were often a continuation along the long line of past styles featuring axial, A-frame structures, and the classical nave style seating plans. Changes then began to take place. Pews were placed at an angle to create a visual sense of "gathering around" much like ancient times. In Catholic churches, the altar did not face the reredos wall anymore, instead it was turned around to face the assembled congregations.

The use and acceptance of the fan-shaped or half circle seating arrangement also exemplified the lessened concern with ceremony and the increased concern with the teaching of the parishioners. An extreme example would be Eero Saarinen's North Christian Church in Columbus,

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Indiana of 1964 (Figures 2-3) where the design was completely "in the round" (Lindstrom, pp.20).

Another example would be the design by architects Inger and Johannes Exner with their Sædden Kirke in Eshjerg, Denmark of 1978 (Figures 4-5). Here the pews are arranged in a fan shape that allows a more communal atmosphere. The design is also revolutionary in its placement of the communion rails behind the altar, allowing the communicants to face their fellow faithful, their relatives, and their friends within the congregation. In essence, a more open plan of churches was becoming more commonplace than the traditional Greek or Latin Cross arrangements which separated clergy and parishioners.
A SENSE OF COMMUNITY
Respecting society

FIG. 2-N. CHRISTIAN CHURCH, COLUMBUS, IN
EERO SAARINEN, 1964-73

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A SENSE OF COMMUNITY

Respecting society

FIG. 3-N. CHRISTIAN CHURCH, INTERIOR
EERO SAARINEN, 1964-73

FIG. 4-SAEDDEN KIRKE, ESBJERG, DENMARK
INGER & JOHANNES EKNER, 1978

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A SENSE OF COMMUNITY

Respecting society

FIG. 5: INTERIOR SÆDDEN KIRKE
INGER & JOHANNE EKNER, 1978

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Because the plans of religious complexes were adapting to modern needs and desires, the forms that evolved from the plans also naturally changed. The functional content and forms were both thoroughly analyzed and balanced. The results were typically one of 3 types. First, there is the traditional predominantly longitudinal plan which derives its basis from the ancient idea of the nave although there is some variety and a more modern interpretation according to need and use (Figures 6-8). Next, there are the plans that have an emphasis on the transverse axis. These layouts attempt to bring closer the relationship between the congregation and the altar (Figures 9-11). Finally, the centralized form which further attempts to bring closer congregation and altar into a cohesive whole. Here, the emphasis is on the communal effort and usually results in a fan-shape pew arrangement with degrees of variation (Figures 12-14) (Gieselmann, pp. 27).

Of course there are always exceptions whenever one generalizes. In this case, the exception would be LeCorbusier's Pilgrim's Church of Notre-Dame-du-Haut near Ronchamp, built in 1954 (Figures 15-16). The result here is one of a very sculptural and dynamic experience in that it would be difficult to place in a category. The innovation level reached at Ronchamp is very remarkable. LeCorbusier managed to capture the spirit of place by creating a cave-like space with concave and convex concrete shells punctured by irregular openings. The massiveness of the shell also...
provides a deep sense of shelter. The walls initiated the use of plastic shapes and curves resulting in a very dynamic space that appeals to the senses. The lighting effects are also unique in that bright interiors are contrasted with the darker areas and a thick window wall, deeply perforated with colored openings, brings color and light into what would otherwise be a sober interior. LeCorbusier's architectural ideas at Ronchamp were of a unique and influential force. Even today, his ideas are still indirectly evident to us through the countless and genuine Ronchamp descendants, despite their apparent differences (Figures 17-20).

It can be seen that within each plan type, several uses can either conform to the same space or a layout may contain a church space that is connected or surrounded by several auxiliary spaces that serve varying functions. The distinction between liturgy and life, between sacral and secular is now an idea of the past. Also, within these 3 basic plan layouts, one can begin to notice particularly bold and modern forms that evolve and are generated from the various plans, creating very dramatic shapes which are very symbolic and evocative of these structures (Figures 21-29) (Gieselmann, pp. 18-19).
FORMS

Longitudinal, transverse, & centralized

FIG. 8-ST. FRANCIS DE SALES, MUSKEGON, MI
MARCEL BRUER & HERBERT BECKHARD, 1961-67

FIG. 9-ST. STEPHANUS, BERNHAUSEN, GERMANY
REINHARD GIESELMANN, 1964-68

FIG. 10-PARISH CHURCH, VOLS, AUSTRIA
JOSEF LACKNER, 1966-67

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FORMS

Longitudinal, transverse, & centralized

FIG. 11-ST. JOHANNES, DURLACH, GERMANY
RAINER DISSE, 1962-65

FIG. 12-MARIA-REGINA, FELLBACH, GERMANY
1961-67

FIG. 13-FRIENDS MEETING HOUSE, LONDON, ENGLAND
NORMAN FRIEL, 1964-68

FIG. 14-ST. MARTIN, SARNE, SWITZ.
J. NAEF & E. G. STUDER, 1963-66

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LONGITUDINAL, TRANSVERSE, & CENTRALIZED

FIG. 15: NOTRE DAME-DU-HAUT, RONCHAMP, FRANCE
LE CORBUSIER, 1950-54

FIG. 16: NOTRE DAME-DU-HAUT, RONCHAMP, FRANCE
LE CORBUSIER, 1950-54

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FORMS

Longitudinal, transverse, & centralized

FIG. 17-PEINOSTBERG Kirche, Mannheim, Germany
Carlfried Mutschler, 1939-63

FIG. 18- ST. JACOBUS, SINSHEIM, GERMANY
Reinhard Gieselmann, 1964-66

FIG. 19-PROTESTANT PARISH CENTRE, STUTTGART, GERMANY
Ernst Giesel, 1963-66

FIG. 20-EVANGELISCHE VERSÖHNUNGSKIRCHE, DACHAU, GERMANY
Helmut Striffler, 1965-67

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FORMS
Longitudinal, transverse, & centralized

FIG. 21- NOTRE DAME-DU-HAUT, RONCHAMP, FRANCE
LE CORBUSIER, 1950-54

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Longitudinal, transverse, & centralized

FIG. 22: KALEVA CHURCH, TAMPERE, FINLAND
REIMA PIETILA & RAILI PAATELAINEN, 1959-66

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FORMS

Longitudinal, transverse, & centralized

FIG. 23: KALEVA CHURCH INTERIOR
REIMA PIETILA & RAILI PAATELAINEN, 1959-66

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FIG. 24- ST. FRANCIS DE SALES INTERIOR, MUSKEGON, MI
MARCEL BRUEK & HERBERT BECKHARD, 1961-67

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FORMS

Longitudinal, transverse, & centralized

FIG. 25: MARY'S CATHEDRAL, TOKYO, JAPAN
KENZO TANGE, 1967-69

FIG. 26: MARY'S CATHEDRAL, TOKYO, JAPAN
KENZO TANGE, 1967-69

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FORMS

Longitudinal, transverse, & centralized

An Orthodox Celebration

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FORMS
Longitudinal, transverse, & centralized

FIG. 28 HEILIG-GEIST-KIRCHE, EMMERICH, GERMANY
DIETER O. BAUMEWERD, 1962-66

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Along with changes in the plan layout is another important element in modern church design, which is symbolism. In many examples symbolism may be all that differentiates contemporary Catholic and Protestant churches. The symbolism itself can become simplified, intellectual, and sometimes opposing. The variety of religious symbolism in today's world can range from the traditional use of the cross and crucifix to meaningful references of Christ's teaching and experiences.

There are several points of symbolism to consider with respect to architectural solutions. The object here is to acknowledge them and for each denomination or group of parishioners to formulate their own solutions. One basic theological question about the focus of the church still remains unresolved both in Europe and America and that is, should there be an altar or a table? Dr. Richard Lischer a professor at Duke University Divinity School "observes that at the 'table' there is bread, wine, and conviviality, while at the 'altar' there is body, blood, carcage, and death." This can be observed in several styles "from sacrificial altars to casketlike monoliths to simple wooden dining tables." (Lindstrom, pp. 27) (Figures 30-33).

The German architect Manfred Ludes believes that the form and layout of a church should extend from the altar by employing the most light and greatest height over it (Lindstrom, pp. 31). On the other hand, in 1959-
SYMBOLISM

Altar, pew, font, cross, & bell tower

1962, at the Heilig-Geist-Kirche in Wolfsburg, Germany, Alvar Aalto located the altar at the low point of a large sloping roof and beneath the greatest height of the roof lay the congregation. Here, this may reflect a belief in that mankind is seen as more important or, more simply, that with the employment of a megaphone shape more preferable acoustics can occur (Figures 34-35).

Other points of symbolism within modern church design that involve individual interpretation among denominations are the use of: pulpits and pews, baptismal fonts and founts, cross and crucifix, and instruments and monuments. The pulpit in many Protestant churches in the United States was usually the focus of attention. This would be a characteristic of the Fundamentalist preaching churches. In Europe, where the altar is seen as more important, the pulpit was traditionally placed to one side. This rule generally follows throughout Western Europe in both Catholic and Protestant Churches. As far as pews and chairs are concerned, both seemed to be used as much as the other with no preference except for individual choice. This holds true for both large and small churches, Catholic or Protestant. Naturally, there was also a wide expanse of seating designs that were observed and the arrangement richly differed according to flexibility, use, or function (Figures 36-43).

The location of the baptismal font also varies greatly in the modern church. Sometimes it may even be absent. When there is a font, the major successful preference is for one that is restrained and simple in design. The font in the Gug Kirke in Ålborg, Denmark, designed by the Exner team mentioned earlier, is just that, pure and simple (Figure 44). Other variations in design can be observed in the following examples in which some are occasionally characterized as applications in design, form, or art while some tend to occupy a more meaningful and symbolic existence (Figures 45-49).

The use of the cross and its placement within the church is probably
SYMBOLISM

Altar, pew, font, cross, & bell tower

the most common of symbols yet, its manipulation can range from a
traditional rustic wooden cross as in the Gellerup Kirke, near Århus,
Denmark (Figure 50), to the floor plan of a modified cruciform used in the
Church of the Holy Cross in West Germany (Figure 51), which eventually
evolves into the church's overriding form, to the cartoon-like drawings set
into a concrete wall behind the altar at Vuosaari Kirkko near Helsinki,
Finland, designed by the Finnish architect Pirkko, Ilonen (Figure 52).

The bell tower is another traditional representation of the liturgy
which can also sometimes develop into an application of design, form, or art
rather than being suggestive of meaning. Traditionally, the bell tower was
best captured in the familiar panoramic scene of a soaring church bell tower
above the horizon of a village or city (Figures 53-54). Today, the bell tower
is sometimes seen as a monument with which to call the faithful, to
symbolize strength with, or with which to mark the land in a sometimes
chaotic world. Whatever the reason, the bell tower is of little worth unless
it is of functional value to the congregation.

There are several examples of the varied uses for bell towers such
as an entrance point as in Avedøre Kirke in Hvidovre, Denmark (Figure 55).
The tower at Ravnsbjergkirken, in Vibe, Denmark is fortresslike and unified
with the church (Figure 56). And yet at the Saedden Kirke, in Esbjerg,
Denmark the bell tower also serves as a holding morgue for the body before
the funeral (Figure 57).

As can be seen, the symbolism within a modern church design can
become very complex yet, its selection and assignment within the church
can become weak if the worship space is permitted to become disordered and
chaotic. No matter what the central point of a church is, one factor becomes
apparent and that is that a focus needs to be realized. Just like a respectable
piece of art, photograph, painting, or sculpture a church needs to have a
convergence point. Critical matters within each denomination's unique service need to be addressed to create a holistic design approach that expresses a focal point or ordering principle, whether it be altar, cross, choir, procession, symbolism, liturgy, or congregation, etc.

The views within a religious building's varied spaces should express a hierarchy of form that reflects the overall concept or driving notion of the structure. Several examples of cluttered and ordered church interiors can be observed in Figures 58-61. Within all these interiors, one can begin to visualize the appointment of materials needed to create the various overall forms and symbols of the church that aid in creating a focus or evoking certain emotions.

*FIG. 30- ST. BONIFATIUS, LIPPSSTADT, GERMANY*

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Altar, pew, font, cross, & bell tower

FIG. 31-GUG KIRKE, ALBORG, DENMARK  
INGER & JOHANNES EXNER

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Altar, pew, font, cross, & bell tower

FIG. 32: CATHOLIC CHIESA DI CRISTO, LUGANO, SWITZ.
KINO TAMI

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Altar, pew, font, cross, & bell tower

FIG. 33-ST. JOHANNES KIRCHE, HORNBERG, GERMANY
RAINER DISSLE

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SYMBOLISM

Altar, pew, font, cross, & bell tower

FIG. 34: HEILIG-GEIST-KIRCHE, WOLFSBURG, GERMANY
ALVAR AALTO, 1959-62

FIG. 35: HEILIG-GEIST-KIRCHE INTERIOR
ALVAR AALTO, 1959-62

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Altar, pew, font, cross, & bell tower

FIG. 36-GUG KIRKE, ÅLBORG, DENMARK
INGER & JOHANNES EXNER

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SYMBOLISM

Altar, pew, font, cross, & bell tower

FIG. 37-ST. BERNADETTE, NEVERS, FRANCE
CLAUDE PARENT & PAUL VIRILIO, 1963-64

FIG. 38-ST. BERNADETTE, NEVERS, FRANCE
CLAUDE PARENT & PAUL VIRILIO, 1963-64

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Altar, pew, font, cross, & bell tower

Fig. 39: St. Philip & St. James, Birmingham, England 1963-68

Fig. 40: St. Philip & St. James, Birmingham, England 1963-68

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SYMBOLISM

Altar, pew, font, cross, & bell tower

FIG. 41. ST. ANTONIUS KIRCHE, WILDEGG, SWITZ.
JUSTUS DAHINDEN, 1966-69

FIG. 42. KONZILSGEDACHTNISKIRCHE, VIENNA, AUSTRIA
JOSEF LACKNER, 1965-68

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Altar, pew, font, cross, & bell tower

FIG. 43-CHAPEL OF THE CAPUCHIN MONASTERY, BIGORIO, SWITZ.
TITA CARLONI & MARIO BOTTA, 1969

FIG. 44-GUG KIRKE, ÅLBORG, DENMARK
INGER & JOHANNES EXNER

FIG. 45-KONZILSGEDACHTNISKIRCHE, VIENNA, AUSTRIA
JOSEF LACKNER, 1965-68

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Altar, pew, font, cross, & bell tower

FIG. 46 SØREIDE KIRKE, BERGEN, NORWAY

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SYMBOLISM

Altar, pew, font, cross, & bell tower

FIG. 47-GOTTSUNDA KYRKA, UPPSALA, SWEDEN

FIG. 48-UNITED METHODIST CHURCH, CHARLES CITY, IOWA

FIG. 49-DUTCH REFORMED CHURCH, CAPE TOWN, S. AFRICA

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Altar, pew, font, cross, & bell tower

FIG. 51-CHURCH OF THE HOLY CROSS, ALTENDORF, GERMANY

FIG. 50-GELLERUP KIRKE, ÅRhus, DENMARK

FIG. 52-VUOSAARI KIRKKO, HELSINKI, FINLAND
PIREKko ILOvEN

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Altar, pew, font, cross, & bell tower

FIG. 53-OXFORD SKYLINE, ENGLAND

FIG. 54-OXFORD SKYLINE, ENGLAND

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SYMBOLISM

Altar, pew, font, cross, & bell tower

FIG. 55-AVEDØRE KIRKE, HVIDOVRE, DENMARK

FIG. 56-RAVNSBJERGKIRKEN, VIBY, DENMARK
MAKS MØLLER

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Altar, pew, font, cross, & bell tower

Fig. 58: Tapestry, cross, & sailing ship cause clutter at Avedøre Kirke, Hvidovre, Denmark

Fig. 59: Nice interior but all is in same cone of vision at Østenstad Kirke, Østenstad, Norway

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SYMBOLISM

Altar, pew, font, cross, & bell tower

FIG. 60 - BOLD & SIMPLE WITH CONTROLLED LIGHTING
CREATES ALTAR FOCUS AT MARIA KRONUNGSKIRCHE, ZURICH, SWITZ.
JUSTUS DAHINDEN

FIG. 61 - CLEAN & UNCLUTTERED INTERIOR AT
CATHOLIC KIRCHE, BERLEBECK, GERMANY
J. G. HANKE

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For a modern church, the choice of materials is not only important but also difficult. The materials can be used to evoke certain emotions, create symbols, and essentially give the church its shape and form. Most notably, the use of reinforced concrete, glass, and steel has contributed to the change in modern church construction. During the 1850's, Francois Coignet launched advanced experiments in concrete. The freedom obtained with the use of concrete included large expanses of glass walls and the ability to support great weights fulfilling the Medieval desire to produce translucent and soaring buildings of visible lightness. Other advantages to concrete are its sculptability, its relative cheapness, and speed and ease of construction. In the end, concrete was a material that allowed dramatic shapes to form which was what the modern church desired.

An example of the modern use of concrete would be the Cathedral of Brasilia in the capital of Brazil, designed by Oscar Niemeyer and Joachim Cardozo. The large fins are constructed of reinforced concrete and enclose the interior with walls of glass hung in between the dramatic structure (Figure 62). Other examples of the use of concrete include Our Lady of Guadeloupe in Mexico City (Figure 63) and St. Nicholas in Heremence, Switzerland designed by Walter Forderer (Figure 64).

Another material which has been used increasingly with more
enthusiasm is glass. The increase in use extends back to the medieval preoccupation with colored glass and glass imagery. Today, there are still hints of that medieval desire but with a modern application. An extraordinary example is Sir Basil Spence's Coventry Cathedral of 1956 located adjacent to the Perpendicular Gothic church which was destroyed during WW II and remains as a ruin. Here, the baptistry window creates a "heavenly flood" that penetrates the massive glass wall and into the nave (Figure 65) (Norman, pp. 297). Another dramatic effect is the one created by the tall nave windows that illuminate the interior using narrow lancets set at an angle causing their light to mysteriously project toward the altar, as can be seen in plan (Figure 66).

The largest glass church example would be the Crystal Cathedral in California. This expansive edifice creates a sense of massiveness through its huge facades of light reflected from the all glass surfaces. The distinction between external and internal space is also dissolved through the seemingly non-solid walls and sculptural shapes (Figures 67-68).

On a more human scale is the Thomcrown Chapel in Eureka Springs, designed by E. Fay Jones in 1980. Here, the structure of wood and natural materials almost disappears completely into the forest through the incorporation of an all glass exterior skin which blurs the edge between the interior and exterior (Figure 69).

The other "modern" material which is being used more often is steel. The advantages here are its spanning ability, its relatively light weight compared to the load it can carry, its ability to be mass produced thereby reducing construction time, and its ability to allow full curtain walls of exterior glazing.
MATERIALITY

Concrete, glass, & steel

Several examples employing the use of structural steel are examined. First, at the Gellerup Kirke, near Århus, Denmark, the exterior steel structure is assertive in appearance but allows an agreeable volume and plenty of natural light to enter the nave via the high ribbon windows (Figures 70-71).

At the temporary complex in Vuosaari, Finland, designed by Ola Laiho and Bengt-Vilhelm Levon to be easily disassembled, the effect is similar to the Gellerup Kirke but here there are two buildings which house the church and related social activities. The overall design is simple, functional, and suggestive of mass production (Figures 72-75).

A final example in the use of steel would be the Parish Centre in Hyryla, Finland designed by Kirmo Mikkola and Juhani Pallasmaa in 1965-67. The program called for a church and adjacent parish hall that could be combined. The result was that both spaces would have top lighting by continuous ring windows made possible by the steel structure. The desire was for a simple solution incorporating the different functions of church, gymnastics hall, parish hall, clergymen's homes, and courtyard. In the end, the solution provided for all these functions set in a precise language of purity and technical realization evocative of Mies van der Rohe (Figures 76-79).

FIG. 62-CATHEDRAL OF BRASILIA, BRASILIA, BRAZIL
OSCAR NIEMEYER, 1950's

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MATERIALITY

Concrete, glass, & steel

FIG. 63-OUR LADY OF GUADALUPE, MEXICO, CITY, 1967

FIG. 64-ST. NICOLAS, HEREMENCE, SWITZ.
WALTER FORDERER

An Orthodox Celebration

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MATERIALITY

Concrete, glass, & steel

FIG. 65. COVENTRY CATHEDRAL BAPTISTRY WINDOW FROM ABOVE
COVENTRY, ENGLAND, SIR BASIL SPENCE, 1956-62

FIG. 66. COVENTRY CATHEDRAL, COVENTRY, ENGLAND
SIR BASIL SPENCE, 1956-62

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MATERIALITY

Concrete, glass, & steel

FIG. 67-CRYSTAL CATHEDRAL, LOS ANGELES, CA
PHILIP JOHNSON

An Orthodox Celebration

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MATERIALITY

Concrete, glass, & steel

FIG. 68-CRYSTAL CATHEDRAL, LOS ANGELES, CA
PHILLIP JOHNSON

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MATERIALITY

Concrete, glass, & steel

FIG. 69-THORNIN CROWN CHAPEL, EUREKA SPRINGS, AK
E. FAY JONES, 1980

FIG. 70-GELLERUP KIRKE, ÅRHUS, DENMARK

FIG. 71-GELLERUP KIRKE, ÅRHUS, DENMARK

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MATERIALITY

Concrete, glass, & steel

FIG. 72: PARISH CENTRE, VUOSAARI, FINLAND
OLA LAHO & BENGT-VILHELM LEVON, 1966-69

FIG. 73: PARISH CENTRE, VUOSAARI, FINLAND
OLA LAHO & BENGT-VILHELM LEVON, 1966-69

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MATERIALITY

Concrete, glass, & steel

FIG. 74: PARISH CENTRE, VUOSAARI, FINLAND
OLA LAIHO & BENGT-VILHELM LEVON, 1966-69

FIG. 75: PARISH CENTRE, VUOSAARI, FINLAND
OLA LAIHO & BENGT-VILHELM LEVON, 1966-69

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