THE DESIGN OF A CHURCH

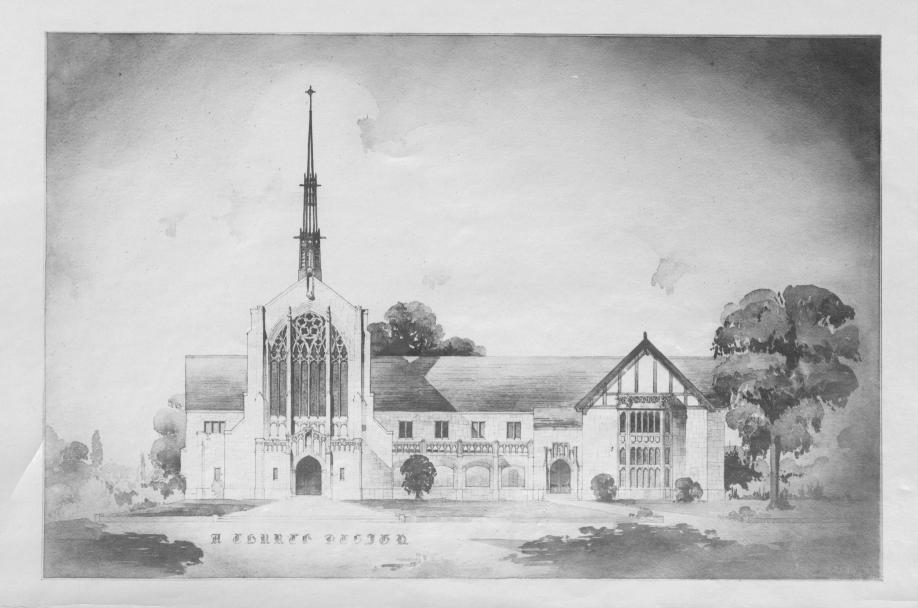
George Malcolm Beal
B.S. in Architecture, B.S. in Architectural Eng.
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Approved by:

Instructor in Charge

Head of Department



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THE DESIGN OF A CHURCH

INTRODUCTION

Church design at the present day is developing in such rapid strides that one can not help but question why and have a desire to go back in a survey over the short but intensive history of the development of church architecture in this country. the very meager beginnings of church architecture with a decided lack of means and ability to execute the work we have developed into a country having capable architects and means with which to erect such temples of worship as the Methodist Temple in Chicago, The Cathedral Temple for Immanuel Baptist Congregation. St. Thomas and the cathedral of St. John the Divine in New York, while some of our architects and religious leaders are dreaming out such conceptions of greater temples as "A Convocation and Office Building for Protestant Centralized Religious Activities" by Bertram G. Goodhue, and the cathedral building for the Protestant Episcopalian Diocese of Chicago by Alfred Granger .-- Dreams of temples of worship standing beside and of equal importance with our great

commercial buildings. Structures that will house not only a place for spiritual worship and communion, but will also provide for commercial interests and include all the activities into which the church is entering in this day, such as, the Church Club, Women's Auxiliary, Visting Nurses Headquarters, Small Emergency Hospital, A Staff for Rescue and Welfare Work, Assembly Room for open meetings of social and civic character, Employment Bureau and many other agencies.

This growth of church architecture has involved problems of all kinds. Not only structurally,
but in arrangement of parts and their planning and
the combining of heretofore separate and distinct
types of architectural character into a unit expressing harmony and singleness of purpose.

However there are as many different problems involved in church architecture as there are places upon which to build a church, each solution being dependent upon the locality, site, denomination desiring to build, available materials, costs, and a good many other things. Therefore with this in

mind it has been thought well after covering the early beginnings of church design in the United States and the function of church architecture, with especial reference to auditorium and sunday school, to present an original design for a particular problem and give the general procedure connected with the development of such a design.

THE EARLY BEGINNINGS OF CHURCH ARCHITECTURE

IN AMERICA

It is not easy for us in this age of luxury, surrounded by many beautiful works of architecture, both secular and ecclesiastical, to project our minds backward to the time when this fruitful territory was being opened and to see the problems which the builders of that day had to face. In order to better appreciate the conditions favorable to the growth of ecclesiastical architecture and the handicaps existing at that time, the following account by Captain John Smith of the first Virginia place of worship will be helpful.

"When we first went to Virginia, I well remember we did hang an awneing (which is an old saile)
to three or four trees, to shade us from the sunne;
our walles were railes of wood; our seats unhewed
trees will we cut plankes; our Pulpit a bar of wood
nailed to two neighbouring trees. In foule weather

we shifted into an old rotten tent, for we had few better. This was our church till we built a homely thing like a barne, set upon cratchets, covered with rafts, sedge and earth; so was the walles. The best of our houses (were) of like curosity; but for the most part far worse workmanship, that neither could well defend (from) wind nore raine. Yet we had daily Common Prayer, morning and evening; every Sunday two sermons; and every three months the Holy Communion, till our minister died; but our prayers daily with an Homly on Sundaies we continued two or three years after till our preachers came."

The antecedent of all church building in this country was the meeting house. A single log structure, rectangular in plan with the bare ground for a floor and a gable roof over head. These embodied no architectural tradition for in reality they were crying out against the form of worship that prevailed in the mother country. The meeting house of necessity was called upon to do double duty, for it was often used as a place of refuge and served the secular as well as the ecclesiastical needs.

The New England meeting house was a fairly large squarish building with a flat roof, placed upon a hill overlooking the approach to the sea and surmounted by six cannon. Here we see that the connection of the church and state became clearly allied. The secular and spiritual needs were so closely connected that an offense against the one was also felt by the other. Absence from church was tantamount to a minor crime and was even considered by many as serious as theft. The New England meeting house might well be considered the true beginning and typical of the spirit of reformation that guided the Colonists in their development.

The meeting house was very utilitarian, but it stood for a real desire for men to unite in common worship before one God. This was a concrete evidence of the habit of regular worship formed by the Colonists in the land from which they came and an evidence of a sincere desire to continue even in the face of many obstacles. This strong urge to worship was no small factor in developing the crude architecture of the meeting house into the noble structures of today.

However, the meeting house soon passed,
the forbidding aspect of the country soon gave way
before the fearless advance of the colonial spirit.
The early huts that served for dwellings were replaced
by the better built and designed home of wood or
stone or even brick. So the box like house of
worship was gradually replaced by the larger edifice, more dignified and more worthy to be called
a church.

As life became more complicated the ritual of worship took form and grew, demanding additions to the original structures. These rearrangements of parts and additions seemed to be caused by two influences that worked in and thru the Colonists. First, that which was no doubt to begin with unconscious to the builders, the effect of the life which they had left at home that still continued unaffected and kept repeatedly exerting itself in one form or another. It showed itself in their habits of life and thought, by influence of visitors from the continent, and by proselyters from Europe. Secondly, the crystallizing custom and practice of a new creed implanted in a new soil with the force

of convictions behind it. Thus the American church architecture was forced to seek a nice adjustment between the forms of worship in England and Europe and the requirements necessary for new creeds.

In most of the colonies we find a referring back to the types of churches in the mother country. For instance if we compare the plan of Christ Church in Philadelphia which was built in 1720, with that of Sir Christopher Wren's St. James Church. Piccadilly, London, we find a very similar plan which was undoubtedly the English Renaissance ori-The Colonists did not have the trained mind and hand to reproduce as high a type of architecture as that executed by Wren. They were consequently forced to rely on their own resources. Bo sprang into existence the carpenter-builder and the masonarchitect, whose tribes have long outlived their utility at the present time, but whose service to the early architecture of this country was of the utmost value, and left a definite influence, especially on church design. These first churches in almost all cases have been replaced by later

structures making it impossible to trace accurately the changes in plan needed to meet the increasing needs.

Another element that presented itself before the advancing development of the church plan was the limited numbers. The population in the United States in 1776 was less than two thirds of that of New York City today, and these people lacked the consolidation which would mean unity in which there is strength of growth. There was dissension among this limited number which divided them into separate denominations and restricted the various congregations to very small groups.

The same community or colony included a number of sects and the early church buildings were always small in size. The smaller the sect group in a given place the less financial aid could the church designers and builders expect. Then, too, the money rendered available for this work came from voluntary contributions or from rentals of seating pews and not from mandatory tithes.

There were no architects to guide the art of building; at the best some masons and carpenters

with no experience as designers. For a good many years a volume of plates of architectural details was a rarity. It was not until 1797 that Ashar Benjamin was bold enough to announce himself as architect and carpenter and then he was probably at a loss to say by which title he would prefer to be known to posterity.

Following this was a long period of stress during which architecture was forming its vocabulary for a more complete expression later, when the nation became more solidified. After passing thru intermediate stages of development the problem from the standpoint of design was fairly well solved. Mevertheless the plan became more difficult and complex as the denominational needs became better established. And to quote R. F. Bach in his article on Church Planning in the United States, "... We witness the hegemony of the architect as one of the finest technical experts of our age, a wilder of styles and of plans and an adjuster of each to the other, so that the exterior may assume adequate beauty of expression architecturally and the plan may not

lose in utility and convenience, nor in its response to denominational or ritual demands."

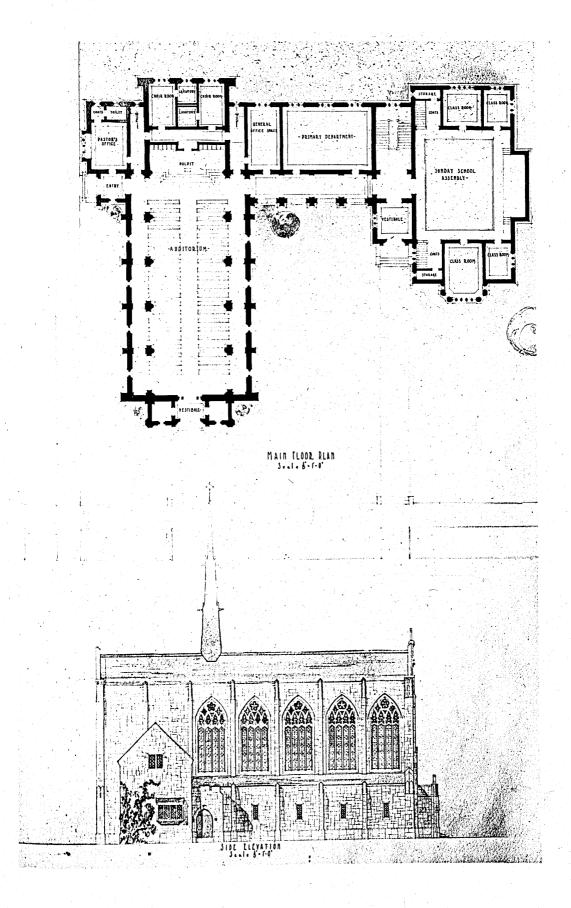
THE FUNCTION OF CHURCH ARCHITECTURE

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The church today is entering into a program which is endeavoring to draw all of the activities of life into harmony with each other and to present them in a unified way. It is saying that life cannot be separated into compartments of 'religious', 'social', and 'educational', nor yet can any of these be divided into emotional, intellectual, and physical elements independent of each other. And into this program that the church has set for itself, of presenting all human activities as one, the service of architecture is called.

How best to promote and to fulfill this conception of life then is the true function of church architecture today.

if the church building is going to meet such a program it cannot be only a great monument, no longer a mighty symbol, but it must include also a grouping of educational, social and recreational



facilities. It must be a real social center, a composition of many rooms, of various design, fitted to meet the requirements of the different activities, but yet fused together by a common spirit and a common dedication. It is an immediate and practical program that the church is entering into and one that requires a useful building to serve real needs. The arrangement of rooms, circulation, the construction and decoration should be governed by the requirements of the particular needs which are being met.

However, with all its usefulness, a church building should be a monument, beautiful, in which symbolism may play its part in helping men to appreciate and understand the service of religion with all its mysteries and possibilities. In order to show the relation of symbolism used in church architecture for the service of religion allow me to quote a description by Rev. Louis C. Cornish of the Memorial Church at Fairhaven.

"One enters the Memorial Church at Fairhaven, Massachusetts, through a deep porch, above which rises a stone cross of delicate design. It does not command; it gently challenges. The meaning is clear; only thru the shadow of the cross, by self sacrifice, do men enter the religious life. Great bronze doors open into the porch. Around the panels in decorative niches are figures of the saints, ancient and modern; the fellowship of the saints welcomes you to its high comradeship. the marble pavement, suggesting but not insisting, are inlaid the signs of the zodiac, the ancient symbols of the outermost realms of space; he who lays hold on religion gains truth that is universal; as true in distant constellations as on this planet. In the beautiful stone baptistry beneath the high tower stands a noble fount. Over it hangs a tabernacle or canopy of olive wood brought from the Mount of Olives, enshrining a multitude of tiny figures of the saints, skillfully carved at Oberanmergau; the striving of the saint through the centuries blesses the baptism. At the chancel end of the church rises a glorious window, the "Adoration", typifying the leadership of Jesus and the mystery and divine possibility of life for all the children

of men. One may visit this shrine times with out number and always find some fresh and delicate religious suggestion through the symbols of truths that are old yet forever new."

This shows in a rather elaborate way the religious element that might obtain in a church. However, through an architect sympathetic to and understanding the noble ideals of religion, this element can likewise be expressed by more economical means in the smaller church structure, which so often is barren of this symbolic significance. By the exercise of care and judgment in placing symbolism into the design it is possible to secure this deeper meaning in a building in which so called practical planning might otherwise dominate.

THE AUDITORIUM HALL

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Consider some of the features of the auditorium that have grown out of the needs of the denominations that are establishing their creeds. Generally speaking all the churches in this country may be classified under one of two heads, liturgical and non-liturgical. In the liturgical churches there are many interesting features. In the first place there is an obvious center of interest in the auditorium because of the importance that the altar has assumed. The altar has had, thru the history of the ritual faiths, a fine mysticism attached to it. This makes the auditorium a place of congregation for adoration and deep in-The long narrow nave, with side trospection. aisles, and transcot with chapels are all interesting additional features. However, greater space and more rooms must be provided in conjunction with the auditorium in the ritualistic church than

in the non-ritualistic church. In the first
place greater space must be provided for the processional parts of the service. Then the initiates and the congregation must be kept separate
during the service; also there are more clergy and
they require more space for the transaction of their
business. Finally the complexity of the form of
worship requires a considerable amount of space for
the storage, preparation and care of the objects
used in the ceremony and general work.

In contrast to the hall of the liturgical church the denominational church has developed its meeting hall not so much a place for adoration and introspection but primarily for the hearing of lectures or sermons. This is quite naturally an outgrowth of the spirit of the original meeting house type or structure. Where the alter takes the dominating point in the ritual church, the pulpit assumes the point of interest in the non-liturgical church. Here the personality of the speaker has opportunity for full expression. A considerable amount of space is not needed in connection

with the services, for the processions are not a part of the worship, except those accompanying the irregular occasions of christening, the marriage ceremony and the funeral, and these functions are not integral parts of a formal mode of group worship.

chapels and ambulatory, is decreased materially in size; only a small chancel suffices for ministerial and choral demands. The body of singers is small, the organ less significant, and the importance of the chant or music, generally thought of as an incentive to right thinking, is much reduced in the service, the congregation entering into the singing of the hymns, while the anthems or solos are rendered by trained voices.

Thus the two types of auditoriums have developed, one requiring more space and different accessories which has grown into a cruciform shape, the other a rectangular plan with a small chancel and practically no accessories. However in the different churches may be found, as might be expected, various combinations of the two types of auditorium.

Through the increased value placed upon the contribution offered in the worship by the minister the rest of the ceremony has been thought inconsequential by the average worshipper. exaltation of the sermon to so great an importance places definite requirements in the auditorium of the denominational church. The pulpit being the dominant note must be placed where the minister may be easily seen while delivering his message, for this is essential for a full meaning of the spoken word. Also the length of the hall is limited on account of the necessity for hearing. The Christian Science Churches that have sprung up in recent times have carried this more completely into their plan than any other denomination. The auditorium. taking the form of a square, strives for the ideal for their services of having all seats an equal distance from the reading desk, giving equal sight and hearing for all.

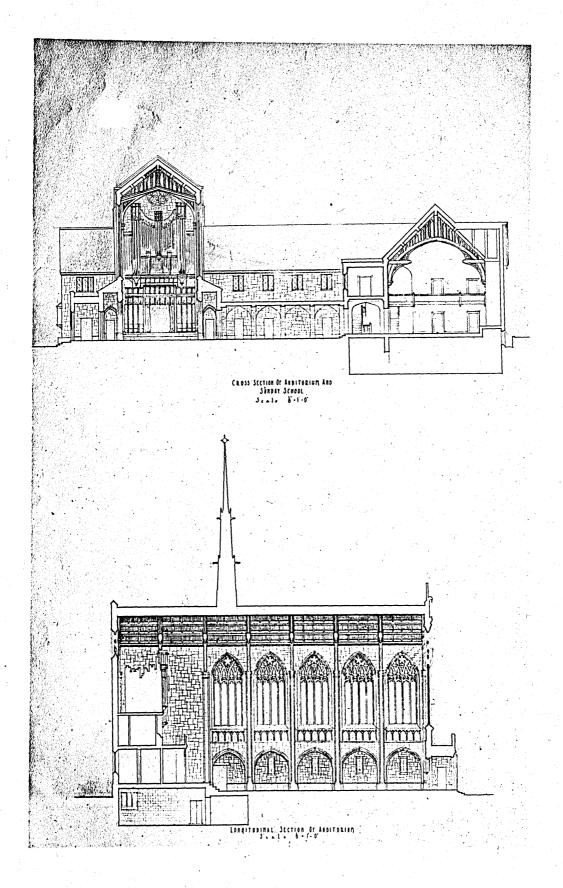
The long nave, giving a heautiful vista, with transept and aisles, for the most part has been done away with because of the obstruction of

sight by columns and supports and the impossibility of hearing distinctly from a long distance. However the transept has been reintroduced in some cases in order to provide for a greater number of seats near the puppit even though it does make for complications in the design. Again possibly the transept has been introduced into our denominational plan because of the exaggerated significance attached to the cross and a desire to express this in plan. This cross represented in the plan was more than likely originally an outgrowth of practical needs for chapels and the like rather than the expression of a sacred symbol.

As a whole then, the plan giving the best opportunity for architectural treatment is that used in the ritual church. Here are the possibilities for graceful nave, transept and side aisles, offering beautiful vistas enhanced in the quality of perspective and line harmony by duplicating the verticals of supporting masses.

The auditorium hall of the denominational church has been designed too often without regard

to the beauty of architectural treatment and the plan has been allowed to assume unnecessarily ugly shapes difficult to treat with real grace and harmony of line. However there have been many cases where the non-ritualistic church has been developed with due consideration to these things, as evidenced especially thru the well known firm of Cram, Goodhue and Ferguson in such churches as the First Baptist Church of Pittsburg Pennsylvania or the Fourth Presbyterian Church in Chicago.



THE SUNDAY SCHOOL

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Both the liturgic and non-liturgic churches have developed Sunday Schools for the teaching of religious truths to children. The ritual church used the body of the nave or an adjacent chapel for educating their minors, and some also have separate rooms for this purpose. But it is to the denominational church that we have to look for the most pronounced development in this field of activity, for it seemed to fit into their scheme in a more marked way.

when the Sunday School was allowed entrance into the church program it was given one corner of the auditorium hall in which to carry on its special work. This was largely giving the children a form of church service, probably for the purpose of segregating them so that the adults would not be encumbered while carrying on their devotions. It did not occur to them that both the children and

the congregation could be vitally benefitted by an earnest teaching of the truths in religion. When it was finally learned that the church obtained its main support in the way of converts and additions from the Sunday School, about eighty per cent coming from this source, things began to assume different proportions. Today the teaching function of the denominational church has grown and assumed such importance that by many religious leaders it is considered the most important activity of the church.

The amount of floor area ordinarily considered to be necessary to carry on the work is now placed at twice that of the main auditorium, quite a different viewpoint from that originally held of allowing a small portion of the main hall to be used for this purpose. Thru this quickened sense of necessity for religious education the plan and arrangement of the Sunday School has undergone many changes and at the present time is still in a process of development.

with the development of the Bible School, something free from the traditions in design, architecture has had to meet a new problem, the treatment of which both in plan and elevation has been a pliable thing in the hands of each new designer. At first it took on the same character of exterior as the main portion of the church, but due to its growth and importance it is now creating its own individual character where the conditions of the problem will allow.

The placing of the school in a corner of the church auditorium was soon found to be unsatisfactory on account of its growing size; a room was located to the side with a movable partition between. In appearance this was not very pleasing. As some one has said, it had the same effect upon the appearance of the main auditorium that a goodsized wart would have on the side of a woman's face. However it served its purpose then, mainly that of saving the sanctity of the sanctuary, and was a step towards a better provision for the school. The movable partition allowed for the

enlarging of the main room when necessary to accomodate the larger meeting.

From this one room addition there developed a new scheme of enlarging the room and dividing it into a number of smaller rooms placed around two or three sides. Each room was separated from the other by thin movable partitions or sometimes merely curtains. This was for the purpose of having the whole school together for the opening exercises. At this period of development all classes studied the same lesson. Often the class rooms were inoreased in number by placing a second group in a gallery. The general shape of this arrangement was frequently that of a semi-circle with the speaker's platform at the center, making it visible from all the stalls or rooms. This grouping is known as the Akron plan, dateing from about 1866 or 1867. The Akron plan was worked out by a layman. Louis Miller, for the first Methodist Mpiscopal Church of Akron. Chio, whence its name was derived.

This plan served for a good many years and even today it can be found in no small number of

churches through out the states. With the introduction of the graded lessons for the church school,
which brought in departmental organization, the
Akron plan was unable to satisfactorily meet the
demands of the new system. This period of trying
to adapt the plan to the graded teaching which was
taken up about 1906, has been very pointedly termed
by H. E. Tralle as the "wilderness period", for the
children in the church were wandering, as he says,
in the Akron plan wilderness trying to find a place
where they could sing "Will There Be Any Stars in
My Crown?" without hearing from beyond a movable
partition. "No. Not One."

The churches today have come to realize the necessity of teaching graded lessons by trained teachers so that the children of different ages and stages of development might enter whole heartedly into the work and gain the maximum benefit from the Sunday School. This necessitates separate rooms for class work with solid partitions so that classes will not be disturbed thru noises and other distrac-

tions which are bound to occur thru the use of thin partitions or half closed in stalls. The more complete the isolation from distracting sights and noises the more efficient the teaching can become. Furthermore, it is very advisable to have a separate assembly hall set aside in conjunction with the class rooms for each department in the school. This will enable more unified teaching in each division, as opening and closing exercises may be held that will specifically meet the needs and requirements for the particular grade.

THE METHOD AND PROCEDURE IN DESIGNING

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To one untrained in the art of design it would be a considerable problem to know just how to proceed, what to do first and the steps that should follow in the solution of an architectural design, especially one as complicated and as varied as that of the modern church. In fact procedure is a very real problem to the advanced student and even to the experienced designer, who is almost always limited as to time.

When we speak of architectural design, what is meant by the term, what does it include? Briefly this might be answered by using a definition by D. Varon. In referring to architectural design he says, "It is the art of putting together the various parts of a structure of whatever class or character, in a way to satisfy best the conditions imposed by the program and the laws of harmony."

Before entering directly into the actual steps taken in developing and presenting the church

design which has been reproduced here, it might be well to give in a general way the method to follow in designing any structure.

If time permits it is best to make a special historical study as well as a study of the current work covering the particular type of structure to be designed, noting carefully the character of expression and how it is obtained. Of course all this should be done with an open but critical mind trying to see how the modern spirit might be employed or the design made more expressive of its purpose.

After having obtained the conditions of the program and having them well fixed in mind, actual work in the form of sketching may be started. The requirements for the structure are received through consultation with the client, in the case of a practicing architect, or should it be a competition, through the printed program given out by the committee in charge of same. By means of small scale sketches a type of plan should be determined upon, symmetrical or non-symmetrical. This is governed mainly by the character of the building and plot

provided for its location. This having been done, the placing of the main features of the building probably having been thought through and more or less determined, thumb nail sketches may be made for general massing. After the spirit of the design has been settled a definite scale drawing of the plan can be made, located on the plot with the first study of the entourage, if any is necessary.

sist of studying plans, sections and elevations more in detail, enlarging the scale of study as these took form in order to better cover the minor points of interest which could not be studied on the smaller drawing. All the problems of massing, balance, harmony, rhythm, etc., should be carefully thought out until the whole design is unified and expressive of its intended purpose, satisfying all the requirements necessary to a complete interpretation of the problem. Of course, all this means many drawings of elevations, plans, sections, details, studies in perspective, in fact,

studies of all the numerous parts that go to make up the complete problem. All this worked out and the arrangement and medium of presentation determined upon, there remains the drafting of the problem onto the final paper and the rendering of these drawings in color or monotone.

In presenting the church design it was deemed expedient to limit the reproducing of the drawings for this thesis to the four main preliminary sketches and the final drawings, consisting of the main floor plan, two elevations and two sections. The including of all the numerous sketches would make the cost almost prohibitive and tend to confuse rather than to aid the reader. The major part of the work necessary for this church design is therefore not shown, but by study of the above mentioned drawings that are perroduced, the main steps in the development of the problem and the final results may be clearly understood.

The first preliminary drawing, which is a pen and ink drawing made without the use of instruments, merely freehand, shows the first concrete

attempt to coordinate the design. Here the plan which assumes a specific shape and the elevation of the main facade become united into a workable scheme. The sketch was drawn at the scale of one-sixteenth inch equaling one foot and was only possible after a number of similar studies at a smaller scale were made. These smaller scale sketches, for the most part, at one-thirtysecond of an inch, were aids in helping to decide such questions as style, location on the plot, orientation of the rooms, the proportioning of masses and the harmonizing of parts in general.

A general conception of the problem having been thus determined, a definite starting point is given upon which the study of the complete design can be based. The next step shows a more careful working out of the first preliminary with a study in section of the auditorium. In plan may be noted the elimination of the stairs in the vestibule with a material contraction in size of the vestibule, the change in proportion of the auditorium and the harmonizing of the juncture of the chancel with it.

enlarged Sunday School room, and a more careful study of the termination of the school wing. In the elevation may be seen such changes as a definite expression of a vestibule, omission of the flying buttresses, proportion in the school entrance and a shifting of the space relations in general. Nowever the design is still in the freehand stage of development.

The third stage of development reproduced gives a drawing drafted out in plan with tee-square and triangle establishing the relation of parts in a more definite manner. The elevation is still a freehand sketch but proportions have again been refined and the details more completely conceived, the whole presenting a more thoughtful appearance. The interior section of the auditorium also has been advanced in its design.

The fourth and final preliminary drawing at one-sixteenth scale shows a very marked change or development in the Sunday School portion. The earlier scheme proving inadequate, a new conception of the Sunday School was developed giving more

space, thus providing for class rooms on the main floor. The Sunday school, which is now placed farther from the auditorium, is connected by a cloister. This separation allowed for a change of expression in the exterior of the Sunday School which has been taken care of in elevation.

studied conception, with many of the problems solved and could in the case of a practicing architect serve as the basis for a contract with the client for the architect to proceed with working drawings and specifications. In developing the design this last study was considered sufficiently complete, it having met the main requirements, to continue at a larger scale giving more careful study to a nicer adjustment of parts and to the detail.

The intermediate studies after enlarging to the final scale have been omitted. However, these considted of studies in perspective, studies of various detail both exterior and interior, plan arrangement and the harmonizing of the whole into a unified conception. After the study was complete.

and the design drafted to the final scale of oneeighth inch equaling one foot, there remained the rendering in monotone of all the drawings. The laying of the washes followed, which completed the presentation of the problem.

This design as presented is intended to meet the problems of a congregation consisting of a membership of about six hundred, located in a well-to-do residence district on a plot of ground requiring a rather compact plan. These are conditions that might prevail in many cities throughout the United States.

These problems, I believe, have been met in an interesting and logical way without adhering to the customary and usually accepted methods of solution. The question of housing the congregation for church worship is met by an auditorium consisting of nave, side aisles and chancel. Here the side aisles have been reduced to serve only as passages, the central portion of the auditorium, or nave, providing space for all the news allowing the speaker to be seen clearly from all the seats in the hall.

The auditorium will seat very comfortably three hundred people, it being possible to seat fifty more in case of need. This number provides for a little over half of the enrolled membership, it being thought best, for the sake of the speaker and for the psychological effect upon the audience to have a well filled hall on all occasions rather than to provide for the maximum attendance that would occur only a few times during the year. The connecting of the chancel to the auditorium without a reduction in width or height, allowing the ceiling to be continuous, gives an added sense of spaciousness and allows for terminating the view down the nave into the chancel in a very imposing way by the choir loft and organ. The doing away with the use of the transept has allowed for a more compact scheme giving more direct access to the other features.

The two choir rooms that are located beneath the organ, were planned to be used for adult men and women class rooms as well. These would also be

very convenient for use as dressing rooms for the staging of pageants.

The Pastor has been provided with a roomy and attractive office placed where it is directly accessible to the street, making it a very usable and practical room. The general office of the church has been placed on the main floor between the auditorium and the Sunday School. In the front part of this space it was planned to have the church library where it could be taken care of by those at work in the office.

Lack of ground area forced the adoption of a semi-detached Sunday School and the placing of the Beginners and Primary department in the link connecting it to the auditorium. The whole Sunday School, class rooms and assembly halls have been located on the first and second floors, thus eliminating many undesirable conditions that would result from placing of a portion of the school in the basement. The beginners and primary department is located in a convenient place where plenty of sunshine may be

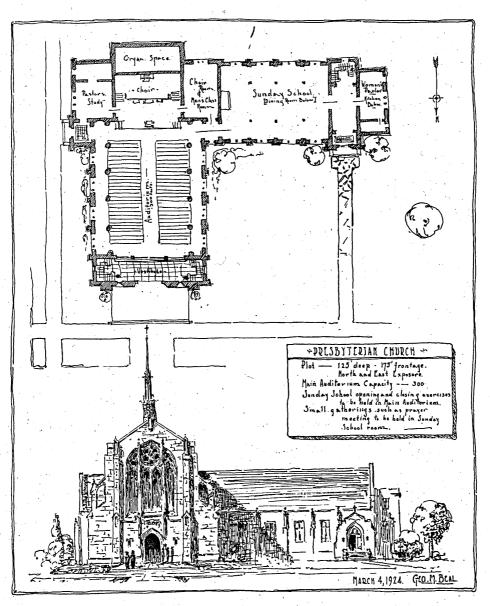
obtained from a south exposure. The adults, seniors, young peoples, and other departments are housed in the remaining portion on the main floor and through all the second floor, each department having their own gro uping of class rooms.

In the basement of the wing directly beneath the Sunday School assembly is located the
kitchen, and dining hall. The remaining space in
the basement not taken up by the heating plant provides space for a scout room with accessories.

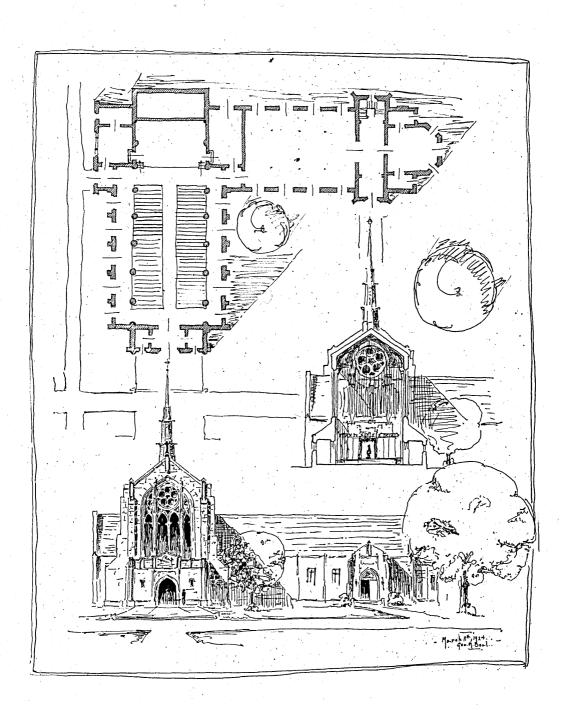
In exterior design due expression has been given the auditorium hall, which is the important feature of any church, and the expressive character of the Sunday School has been allowed to share in the composition, instead of being submerged as is often the fate of this department. The great window over the entrance and the series of smaller tracery windows on the sides of the assembly hall duly express the importance of this feature, while the small narrow windows onthe sides provide light for the side aisles and express these on the exterior. The Sunday School has been separated from the

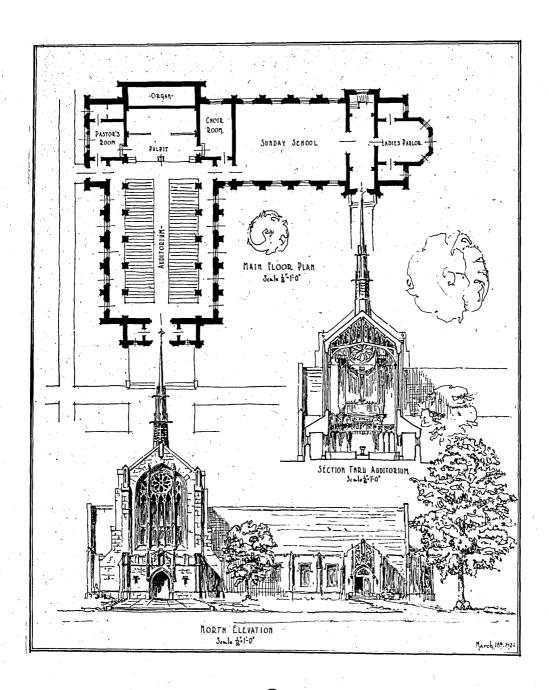
church auditorium in character by a note of domesticity in its design. The solemn dignity of the auditorium has been softened in the Sunday School wing by the bay treatment, which is crowned by a balustrade design in which a number of carvings of oddly shaped animals play an important part. This little touch of humpr and the domestic feeling, along with the school character forms an inviting spirit in this portion of the church.

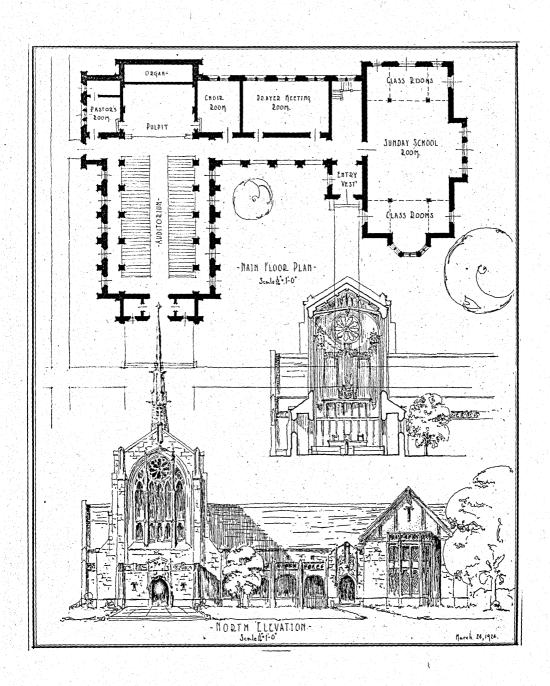
Both the auditorium and the main body of the Sunday School are tied together by a continuous roof over the connecting link. The cloister design also serves to more adequately join the two dissimilar portions together, relieving the connecting link from what might otherwise be common, if not an uninteresting feeling. Thus the two functions of the church become united and the whole composition harmonized through the dominance of the auditorium stressed by a carefully designed fleche.



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BIBLIOGRAPHY

The Architecture of Colonial America

By Harold Donaldson Eberlein

Planning Church Buildings

By Tralle and Merrill

American Churches, volume I and II

The American Architect

Domestic Architecture of the American Colonies and the Early Republic

By Fiske Kimball

1924, April Issue of the Architectural Forum devoted to Church Design

Church Planning in the United States Arch. Record Vol. 40

By Richard Franz Bach

Churches and Chapels

By F. E. Kidder

The What, How, and Why of Church Building
By Kramer

Housing the Sunday School

By Lawrence

Architectural Composition

By D. Varon

Art and Religion

By Von Ogden Vogt

Church Building

By Ralph Adams Cram

The Design of Certain Church Edifices Arch.

Record Vol. 30

By Elmer Gray

The Story of St. Thomas' Church

Arch. Record Vol. 35

By H. L. Bottomley

The Chapel of the Intercession, N. Y. City
Arch. Record Vol. 35

By C. Matlack Price

Fourth Presbyterian Church of Chicago
Arch. Record Vol. 36
By W. A. Nichols

The First Baptist Church of Pittsburgh, Pennsylvania
Arch. Record, Vol. 32

By A. G. Byne

The Works of Cram, Goodhue and Ferguson

Arch. Record Vol.29

By Montgomery Schulyer