

A MORMON MISSION-MEETINGHOUSE

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Signature of Author
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Certified by
Thesis Supervisor

Accepted by



ABSTRACTA MORMON MISSION-MEETINGHOUSE

By

Robert A. Fowler

Submitted to the Department of Architecture on August 4, 1954, in partial fulfillment of the requirements for the degree of Master of Architecture.

The Church of Jesus Christ of Latter-Day Saints, more commonly known as the 'Mormon Church', is presently in the process of designing a new branch meetinghouse to serve its members in the metropolitan Boston area. The new meetinghouse is to be located at 100 Brattle Street in Cambridge, Massachusetts, and is to occupy the site now owned by the Church upon which two existing homes are presently inadequately serving the Church needs.

As the proposed meetinghouse site is midst many examples of truly fine historic architecture and because of the peaceful yet visually exciting overall neighborhood—the proposed meetinghouse will require a most delicate and sympathetic architectural treatment. This treatment should be such as not to destroy in any way the existing neighborhood beauty and continuity—yet, on the other hand, the new structure should not suffer for lack of an individual characteristic personality.

Being a member of the Mormon Church, I have always been extremely aware, by direct contact, of our Church architecture. And as in many such enterprising entities today, I have for many years been sincerely appalled by what I have seen.

I have not seen an architectural treatment that has done justice to, nor one that has been characteristic of—the people to which it serves. Instead, I have seen Georgian Colonial of the seventeenth century and our present day producing ecclesiastical architectures that are identical in character. Yet, I have also seen architectural examples dating from the early days of the Church that clearly illustrate a sincere expression that characterized the spirit and faith of the people as well as their needs.

The problem—then—is to discover a contemporary design concept—derived from the peoples characteristics and their spiritual philosophies.

Thesis Supervisor: Lawrence B. Anderson

Title: Professor of Architecture

Cambridge, Massachusetts
August 7, 1954

Dean Pietro Belluschi
Dean of the School of Architecture
and Planning
Massachusetts Institute of Technology
Cambridge, Massachusetts

Dear Sir:

In partial fulfillment of the requirements for the degree of Master of Architecture from the Massachusetts Institute of Technology, I present this thesis entitled, "A Mormon Mission-Meetinghouse".

Respectfully submitted,

Robert A. Fowler

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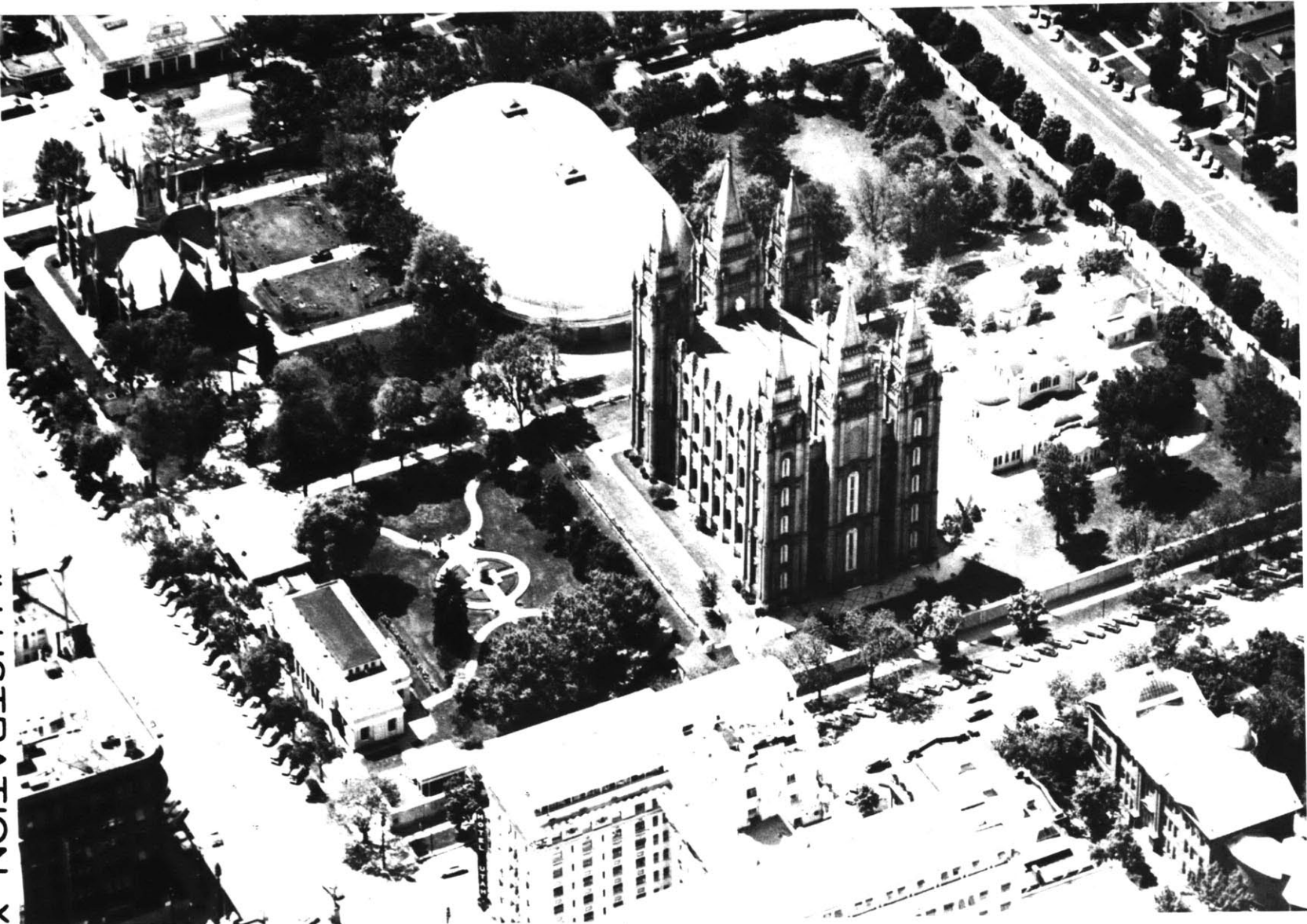
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P R E F A C E

A beautiful religious building has never caused a single soul to be lost or alienated from the church--but who knows how many men and women with a natural appreciation for beauty, have passed by with indifference the ugly, uninteresting church building that is so often erected--imagining (perhaps wrongfully) that the preaching and the order of worship within is as dull and uninteresting as the architecture?



TEMPLE SQUARE - Salt Lake City, Utah

ILLUSTRATION X

CHAPTER I

STATUS OF CONTEMPORARY

RELIGIOUS ARCHITECTURE

The church in past generations was the most powerful motivating force contributing to and directing aesthetic progress. Indeed, in architecture, the "House of God" down through the ages has always been the most noble expression of man's ability to build. This is readily apparent when one considers that the only remaining monuments of many generations are the churches, temples, and tombs which have recorded the human concept of the immortality of the soul, and the belief in the existence of some supreme being.

Why then--in this generation is the church (speaking broadly) contributing so little to architectural progress? Or, to put it more fairly and probably more precisely--Why is contemporary architecture contributing so little to the church? Indeed--have we lost the once inherent ability to create buildings which appeal to man's spiritual sense as well as to his mental.

Probably one explanation lies within the congregations themselves, the Medici of this age, for in the main they are generally most undecided about architecture. So quite naturally they tend to hide on Sunday morning behind sentimental images from the past. We do as Mormons!!! We seem to be homesick for our ancestors' Colonial. But--in truth--is this really entirely the fault of the people or is it due to a great extent to the lack of architectural education--or if

you please, truthful, intelligent propaganda.

However, even I will admit to many fine religious examples produced these past few years which to me have been both appealing and satisfying, but while there seems to be an encouraging strength and confidence in some of our new affirmations--unfortunately there has been no actual design consistency; that is, no pattern to which a lesser architect could look with authority for guidance. Simply stated; there are no existing elements or forms which could validly reflect our times as did the Gothic or the Georgian.

Of our best contemporary religious efforts, the majority have been conceived in the (rapidly becoming standard) Hollywood extravaganza type of attitude. While they initially appeal through novelty they lack fundamental enduring qualities. Too many have simply been the egotistical expression of the individual designer--while none have generated the spark so needed to formulate a coherent religious architecture.

It seems that though there are many fine religious buildings being built today their most important purpose is only to shed more light on the problems of church architecture rather than on its solution.

Certainly, the design of a religious complex is one--if not the most difficult task facing architects today. Though the 20th Century has readily produced the shapes and shelters demanded by most of the facets of our civilization, when it comes to religious structures we have stumbled along uncertain paths. Architects have felt uneasy before the requirements of the contemporary church, and the architectural

expression of its evolving role in today's life. This is particularly true in the United States, and more particularly true in the Mormon Church.

Possibly our most brilliant architects--men like Wright, Saarinen, Belluschi, and Mies van der Rohe will eventually point the way to a unification of our religious architecture, but as of today--this outlook is dim in view of the individualistic circumstances.

The only rational solution seems to indicate a development based upon slow, everpressing, progressive efforts. The architect must proceed slowly--being absolutely sure that what he is doing is honest, not merely novel. Certainly there are all the problems facing the modern movement (I will spare the reader these for they are recorded in a million ways in a million places) but this is as it is in all such innovations. But then there is plenty of time (as Joseph Welch would say) for what is not accomplished by the present generation will be better accomplished by the next. Religious architecture perhaps more than any other type of architecture is best achieved by evolution--not revolution.

CHAPTER II
HISTORY AND CONCEPTS OF THE CHURCH OF
JESUS CHRIST OF LATTER-DAY SAINTS (MORMONS)

Nineteen hundred years ago John the Baptist called upon the Jews in Palestine to "repent", for the Kingdom of God was at hand. To those people who would accept God in sincere faith and who sought to enter into the Kingdom, John announced:

"I, indeed, baptize you with water unto repentance: But he that cometh after me is mightier than I; he shall baptize you with the Holy Ghost and with fire."

So Jesus, indeed in short time, came and established the Kingdom of God upon the earth. Jesus then ordained 12 apostles with authoritative power to preach the Gospel and administer its ordinances. Later Christ chose Seventy others and commissioned them likewise to preach the Gospel to the people.

However, Jesus came to this earth when human attitudes and principles were at an extremely low ebb so it could hardly be hoped that the Gospel would survive in purity among the heathen peoples of the Mediterranean world of that day. For the Church can be no better than its members and the people of the Mediterranean world had at that day sank into the depths of wickedness.

Space does not permit tracing the growth of paganism in the rituals and ordinances of the early Church brought about by the peoples' ignorance and wickedness though many reliable historians have done so

with considerable skill--but suffice to say, that because of this; the priesthood was lost and in time the apostasy was complete. Further, the gifts of the Holy Ghost were no longer manifest and the basic organization of the Church had changed. Hence, when we glimpse Christianity merely several hundred years after the Christian era began, we can see few of the original ordinances established by Christ.

It was a slow process of development for the masses of mankind. Its success is first manifest in the great reformations which began in the 16th Century. Men like Martin Luther, John Calvin, John Knox, and others were moved to rebel against restrictions on Christian thinking and to pace the way for the final restoration of the Gospel.

"During the ages of Christian history the priesthood disappeared from earth. It could neither function nor be perpetuated in righteousness. The best evidence of its absence is the total lack of those gifts which have accompanied priesthood in all ages of the world. Revelation, prophecy, speaking of tongues, healing, and other gifts of the Holy Ghost were not found among men. Without the Holy Ghost to guide men in the reading of scripture, diverse opinions and interpretations sprang up. Following the rebellion of Martin Luther against the Catholic Church, sects sprang up on every land until they numbered more than four hundred. All of these professed to have the true understanding of the Gospel and assumed power and authority to officiate in the ordinances of the Master. The Christian world became a world of confusion."¹

1 Berrett, The Restored Church, Introduction p.xxx

However, the reformation brought with it a rebirth of rational ideals which conformed more closely with the original Christ teachings. Thus, midst the confusion--a powerful undercurrent was preparing the way for Christ's authority to again be established upon the earth and the Gospel to be taught again in its fulness. John the Revelator's words were soon to be fulfilled.

"And I saw another angel fly in the midst of heaven, having the everlasting Gospel to preach unto them that dwell on the earth, and to every nation, kindred, tongue, and people."¹

So from here it was that Joseph Smith, a boy but a mere 14 years of age, tilling the fields in Palmyra, New York, who discontent with the religious rivalry in his day, yet yearning to affiliate himself with God, turned to the Holy Scriptures for guidance.

"While I was laboring under the extreme difficulties caused by the contests of these parties of religionists, I was one day reading the Epistles of James, first chapter and fifth verse: 'If any of you lack wisdom, let him ask of God, that giveth to all men liberally and unbraideth not; and it shall be given him.'"²

Hence, in the early spring of 1820, Joseph entered a grove of trees on his father's farm in Palmyra and prayed to God for divine direction and was duly subjected to a most marvelous visual revelation in which the Father and the Son instructed Joseph to, "...join none of them,

1 Revelations 14:6

2 Personal Account of Joseph Smith, First President of the Church of Jesus Christ of Latter-Day Saints.

that they were believing in incorrect doctrines, and that none of them was acknowledged as His church and kingdom; and he was expressly commanded to 'go not after them;' at the same time receiving a promise that the fullness of the Gospel should in some future time be made known unto me."¹

The event caused considerable excitement and was treated in the main as existing only in the boy's imagination—"Nevertheless, it was a fact that I had beheld a vision..."¹ Further, Joseph Smith's mind was settled, he was to join no church but to await the promise of the Lord.

The story of his life and experiences soon after the vision is best told in his own words.

"I frequently fell into foolish errors and displayed the weakness of youth, which, I am sorry to say, led me into diverse temptations offensive in the sight of God... In consequence of these things I often felt condemned for my weakness and imperfections, when, on the evening of September 21, 1823, after I had retired to bed for the night, I betook myself to prayer and supplication to Almighty God for forgiveness of all my sins and follies, and also for a manifestation to me, that I might know of my state and standing before Him..."¹

Immediately a personage appeared clothed in "exquisite whiteness. It was a whiteness beyond anything earthly."¹ This personage was a messenger of God named Moroni who told Joseph; "that God had a work for me to do; and that my name should be had for good and evil among all nations, kindreds and tongues, and that it should be both good and evil spoken of among all people."¹

1 Personal Account of Joseph Smith, First President of the Church of Jesus Christ of Latter-Day Saints.

Moroni further told Joseph Smith of a book of gold plates which contained information pertinent to the early inhabitants of America as well as containing "the fullness of the everlasting Gospel."¹ Also the use of these plates, their hiding place, and the means of translating the manuscript was revealed. Three times did Moroni appear before Joseph Smith that memorable night and each time the conversation was identical. The next day while working in the fields the messenger again appeared and related again those things he had said the night before--further Joseph was instructed to tell his father of his vision and commandments.

On September 22, 1827, four years after Joseph had received instruction from Moroni he was allowed to receive the golden plates and was duly charged with the responsibility of their safety until a messenger should again call for them.

In 1829 the plates were translated and is known today as the "Book of Mormon" from which the members of the church derive their nickname.

Among the doctrines taught in the ancient plates was that of baptism for remission of sins. Joseph Smith having never been baptized asked the Lord for his guidance and was subsequently baptized by God's messenger, John the Baptist who conferred upon Joseph Smith and Oliver Cowdry the Priesthood of Aaron; hence, the restoration of the priesthood in Latter Days.

Soon after the baptism and ordination, the church was officially organized on April 6, 1830, in Fayette Township, New York; Joseph Smith

1 Personal Account of Joseph Smith, First President of the Church of Jesus Christ of Latter-Day Saints.

being sustained as the Church's spiritual leader.

"The new organization was designated by revelation as the Church of Jesus Christ to which the phrase Latter-Day Saints was later added. This is worthy of note for the church was not named for Joseph Smith nor for any other man. Nor was it named for any peculiarity of Government or function, as has been the case with many religious societies. It was the church of Jesus Christ restored to earth in 'the latter days' and it was so designated."¹

Throughout New England and the Eastern area many prominent people were converted to the new cause mainly through the power of the 'Book of Mormon' among these Brigham Young in Mendon, New York, who was later to assume an important role in the church history. However, though there was considerable emphasis placed upon the scripture dealing with the western hemisphere--the people never lost sight of the Bible which was likewise accepted as being the word of God.

Shortly after the organization of the church the work of Joseph Smith was haughtily denounced in most sections and the persecutions that soon followed plagued the church for many years. In the early church years this persecution was the motivating force that caused the Mormon people to move westward.

Thus the westward trek began first to Kirtland, Ohio in 1831 and at the same time to Jackson county, Missouri; thus, for the next seven years the activities of the church were divided between two locations a thousand miles apart.

1 Hinckley, Gordon B.: What of the Mormons, p 90.

A most outstanding achievement of the people in Kirtland, Ohio, was the construction of their first temple to God discussed in a later chapter. Though funds were meager--spirits and energies were abundant so on March 27, 1836, the building was completed and dedicated.

As the church grew in numbers, the forces working against it became more vigorous and it was not too long until unbearable persecution caused the members of the Church to move again--this time to Missouri.

However, in Missouri as in Ohio the Mormons were pictured as "the common enemies of mankind." Thus, through persistent acts of violence and persecution the Saints fled from Jackson County and eventually in 1839 to Nauvoo, Illinois, just across the Mississippi River.

Though the people in Quincy, Illinois, received the Mormons kindly, an acute problem soon became apparent because of the great numbers of people and for this reason a new site was selected upon which to build their city.

"It was an unhealthy place, so wet that a man had difficulty walking across most of it, and teams became mired to their hips." Of the place and its purchase, the Prophet later said: "Commerce was unhealthy, very few could live there; but believing that it might become a healthy place by the blessing of heaven to the Saints, and no more eligible place presented itself, I considered it wisdom to make an attempt to build up a city."

Thus, Nauvoo (the beautiful location) was begun and in its day became the largest and most magnificent city in Illinois. Nauvoo did not develop in the usual haphazard way of cities. It was fashioned in the

mind of its founder before a stone was laid or a ditch dug. Further, the Nauvoo Temple was built which was reserved to serve for special ordinance work, including baptism for the dead.

In 1843 an English writer described Nauvoo in the following published article: "The city is of great dimensions, laid out in beautiful order; the streets are wide, and cross each other at right angles, which will add greatly to its order and magnificence when finished. The City rises on a gentle incline from the rolling mississippi, and as you stand near the temple, you may gaze on the picturesque scenery around; at your side is the temple, the wonder of the world; round about, and beneath, you may behold handsome stores, large mansions, and fine cottages; interspersed with varied scenery... Peace and harmony reign in the city..."

However, as in the past extrenal forces began to press against the Mormons and persecution was again at hand. In time Joseph Smith was jailed--though illegally, and was later murdered by a violent mob in Carthage Jail. The people of Carthage were extremely surprised when the Mormon forces did not retaliate, for the Saints were content to leave the murders in the hands of Him who had said, "Vengeance is mine. I will repay."

The murder of Joseph Smith did not deter the cause of Mormonism as many outsiders tended to believe, but rather they conferred upon Brigham Young—who had previously had the keys of authority bestowed upon his head by Joseph Smith--as their spiritual leader.

After the shock of the murders erased, depredations against property began again. Houses were destroyed, crops burned, people harassed and thus in light of these miserable circumstances Brigham Young determined to lead his people to a place as he said, "the devil can't come and dig us out."

Before Joseph's death during those peaceful days in Nauvoo, he said, "That the Saints would continue to suffer much affliction and would be driven to the Rocky Mountains...and some of them would live to go to assist making settlements and build cities and see the Saints become a mighty people in the midst of the Rocky Mountains."

Thus Brigham Young led the exodus of the Mormons from Nauvoo in February, 1846, and the subsequent journey across the western plains became an epic event in the pioneer history of the United States.

July 21, 1847, two advance scouts entered the Salt Lake Valley and three days later Brigham Young together with the first of the pioneers rode out of a canyon from where Brigham Young prophetically announced, "This is the right place."

Immediately upon entering the valley, the church members--in typical style--began to build their community which was to become the greatest metropolis between the Mississippi and the Pacific for many years.

Though the remaining years were hard for the destitute people and though persecution still persisted many years later--the people and their faith survived all tribulations and went forth to lay the foundation upon which the Mormon faith thrives today.

Salt Lake City and indeed the State of Utah was further blessed with the greatest variety of mineral resources of any comparable area on the face of the earth--and so today through this, Utah has attracted iron smelting, coal mining, and the giant plants of steel corporations, and the production and processing of valuable radioactive ores. So it is today, that Utah has become a paradise of productivity largely created by the diligent efforts of the early Mormon pioneers.

Today as yesterday--the Mormon church appears to outsiders as a complex network of events, however, to a church member the plan is startlingly simple--for awe and mysticism does not characterize this religion nor is it to be experienced in any respect. Though many practices such as: sacrament, laying on of hands, healing of the sick, baptism, faith, and repentance may constitute mysticism to an outsider--to the church member it is his comprehended basis of life and when the principles are fully explained--to both church member and outsiders--the simplicity is readily apparent.

Rather than to dwell at length on all the church practices and principles, this report will deal hereafter primarily with the contemporary church meetinghouse and the useage and need it fills in the peoples life today. Though a more thorough elaboration on the religious principles would be enlightening it is simply beyond the scope of this report. Sufficing by saying that the people today have their roots firmly emplantated in active Mormonism--though, as would probably be expected, 20th Century sophistication is universally apparent and

I might note--much to the chagrin of this author.

In attempting to set to words an account describing the typical Mormon family and its connection with the meetinghouse, I found myself repeatedly reverting to words in "What of the Mormons." Rather than to confuse the reader by my own amateur style, I shall beg the reader's humble indulgence in quoting--rather extensively--from this simple yet so descriptive account on the matter at hand.

To best describe the church program today reference is made to a sample Mormon family located in either Salt Lake City or any of its branch mission areas. "The names of the family and the ward and stake in which they live are fictional, but actual situations are described.

"Let it be the Jones Family. It consists of the father, the mother, and four children. Ralph is 22, Betty is 19, Bob is 14, and Susan is 8. By profession Mr. Jones is a certified public accountant. He belongs to one of the city's civic clubs, and might be either a democrat or a republican. The family lives in an attractive but modest house.

The Jones family belong to the Hill Heights Ward, which is one of eight wards in the Blue Ridge Stake. There are about 800 people in their ward. They call it their ward as familiarly as they speak of their home. They contributed toward the construction of the building, and each month they contribute toward its maintenance. They feel pride of ownership in it. And they feel at home because they go there often, not on Sundays only, but during the week as well.

Mr. Jones is a counselor in the bishopric of the ward. The bishopric consists of a bishop and two counselors... He has been in this office for two years and will remain for an indefinite period until he and his associates are released with a vote of thanks for their services. Then three other men will take their places.

On Sunday morning everyone in the Jones house gets ready for church except Ralph who is away from home and will be discussed later... At 9:00 the father and Bob go to Priesthood meeting. Bob is a deacon, the father a high priest. Each belongs to a quorum... On this particular Sunday, the bishop announces a matter of particular interest to all of the men and boys. He indicates that the concrete walks around the building are badly cracked, and that the shrubs and lawn also need special attention. Mormonism has always been concerned with the temporal affairs of life as well as the spiritual, so that the mention of such an item in a Priesthood meeting does not appear out of place to those present.

After this item of practical business, the general meeting separates into quorums, where each group considers the welfare of its members, and studies a course of instruction prepared by a general committee of the church. In these quorum meetings is found an expression of fraternity in its finest application...

Sunday School follows the Priesthood meeting. This gathering embraces all members of the church from the very young to the aged. The entire Jones family attend. In their Sunday School 12 different classes are offered for various age groups with a complete curriculum of religious study...

In the evening a worship service is held. Again all of the family attend. Betty and her mother both sing in the choir, and sometimes the father conducts the meeting. As a deacon, Bob, with other boys, passes the Sacrament of the Lord's Supper to those in attendance...

On Monday evening the Jones family remain at home. In fact, Monday is known in the ward as Home Night. The authorities of the church have recommended that all families spend at least one evening a week together to encourage and preserve family unity and fellowship. There are no conflicting ward meetings scheduled for this night.

On Tuesday afternoon Mrs. Jones goes to her Relief Society meeting. The Relief Society is the women's auxiliary organization of the church... The program of the meetings is varied. The first week of the month is devoted to the study of theology. The next week sewing and homemaking skills are taught. The third Tuesday is spent in a study of literature, and the fourth week is devoted to social science.

Following school on Tuesday afternoon, Susan, the eight year old daughter, attends the Primary organization, a church auxiliary for children. Here the young members of the ward receive religious instruction, play games, and pursue various arts and crafts.

On Tuesday evening Betty and Bob attend MIA—Mutual Improvement Association. Bob is a boy scout... A scout room is provided in the meetinghouse, and every boy is encouraged to become a scout when he reaches 12. Betty meets with a group of her own age. They follow various courses of study, including drama, public speaking, dancing, and music.

On Wednesday evening Betty and her mother go to the ward meetinghouse for an hour and a half of choir practice while Mr. Jones attends a meeting of the bishopric to discuss the many problems incident to the operation of the ward.

Thursday evening Mr. Jones and Bob go to work on the ward grounds. Mrs. Jones comes later to serve the refreshments. There men and boys constitute an interesting group, all dressed in old clothes and having a good time together. There is Nelson, the banker; Thomas, the dentist; Peterson, the smelter foreman; Barkley, the auto mechanic; Taylor, the contractor; Myers, who teaches philosophy; and many others, of various trades and professions. Supervising them is Brother Barnum, a little fellow with a big smile, whose regular trade is cement finishing. By 9:30 that night the cement is poured, the grounds are cleaned up, the refreshments are gone, and everyone has had a pleasant time.

Friday night is a big night for Betty. The Blue Ridge Stake is holding its Spring Prom. All wards of the stake unite six times yearly for such dances in a beautiful ball room with an excellent orchestra. There is an air of dignity and refinement. But there is nothing sober, nothing pious about these dancers. They are having a good time.

On Saturday afternoon Bob and his father go out to cultivate peas on the ward welfare project. With fifty others, they make short work of cultivating. But there will be considerable work in the weeks to come, because this ward has an assignment to furnish, among other things, eight tons of shelled peas for the Church Welfare Program.

Other wards will have other assignments, all contributing toward the production of vast quantities of food, clothing, fuel and other commodities to meet the needs of those in the church requiring assistance. Production quotas are worked out by various regional and general committees. All labor is on a voluntary basis, and the results are startling to a stranger.

Eight-five percent of the needs of those requiring assistance are now produced under this program. The combined efforts of the Jones family and their thousands of associates in many areas make this possible...

All this discussion has omitted Ralph, the 22 year old member of the family. He is in England, serving on a mission for the church. During the war he was in the military service in France and Germany. Following his release the bishop talked to him about a mission. He had saved some money while in the army and was glad to go. When his own funds run out, his father will send him what he needs. If it should become necessary his Priesthood quorum will also help.

Without compensation from the church he has gone to preach the gospel for two years. Three thousand other young men and women are doing the same. When Ralph's mission is completed he will return home. Then he plans to finish law school." ¹

Such, in brief outline, is the relationship of the Church of Jesus Christ of Latter-Day Saints to the Jones family--and to the thousands of other families in many parts of the world who comprise its membership. Its program is designed to satisfy their spiritual needs, to afford them

1 Hinckley, Gordon B.: What of the Mormons, p 96-98

opportunity for mental and social growth, and to assist them economically should this become necessary. It aims to make them better citizens, better neighbors, and better friends.

CHAPTER III

MORMON ARCHITECTURE

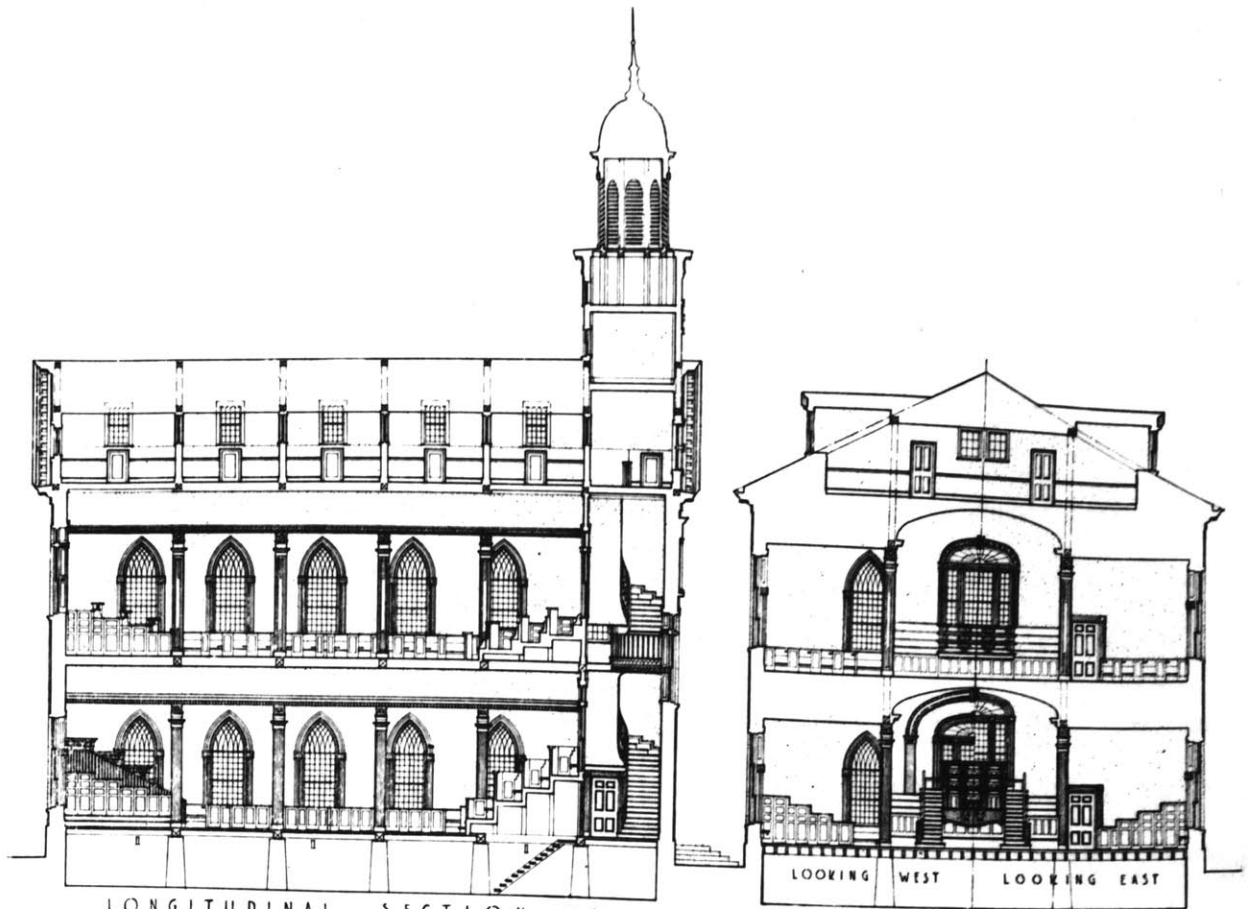
(1) EARLY ARCHITECTURAL HISTORY

In the early stages of the Mormon development its architectural needs were for all general purposes non-existent for the meetings were held simply in the various members' homes and the church was not as yet favored with the need for complex architectural endeavors.

However, in time the need did certainly arise, but data availability pertaining to the very early architectural expressions--particularly before the advent of the western migration--is quite limited.

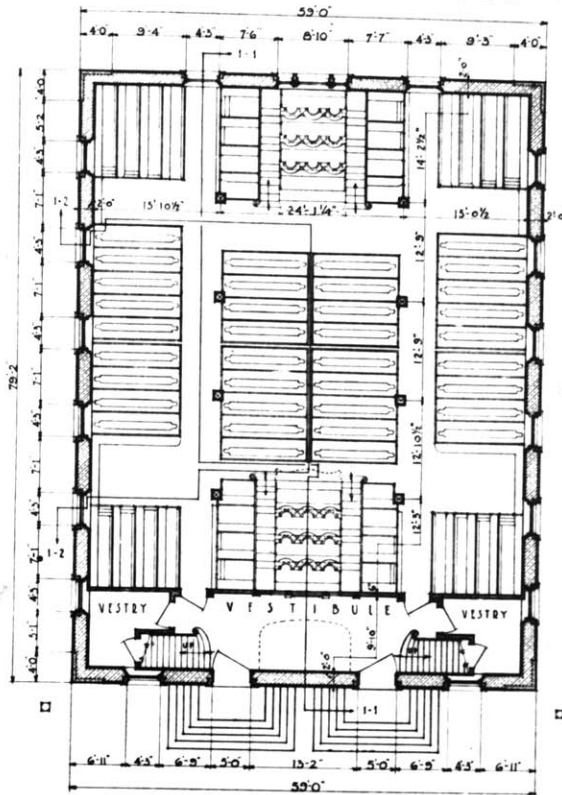
The first building of architectural significance was the Kirtland Temple begun in 1833 in Kirtland, Ohio. At this time the saints were few in number, and most of them were extremely poor and had it not been for the assurance that God had spoken, and had commanded that a house should be built to His name, such an attempt would have been by all concerned, pronounced preposterous.

In this temple Mormon records reveal the active divine direction conceived through inspiration by Joseph Smith. The Lord not only is said to have revealed the form but also designated its dimensions. This is somewhat confusing to me in that the form is definitely patterned after Colonial New England Meetinghouses both in plan and exterior form. That this form should be employed by these people of largely New England Stock

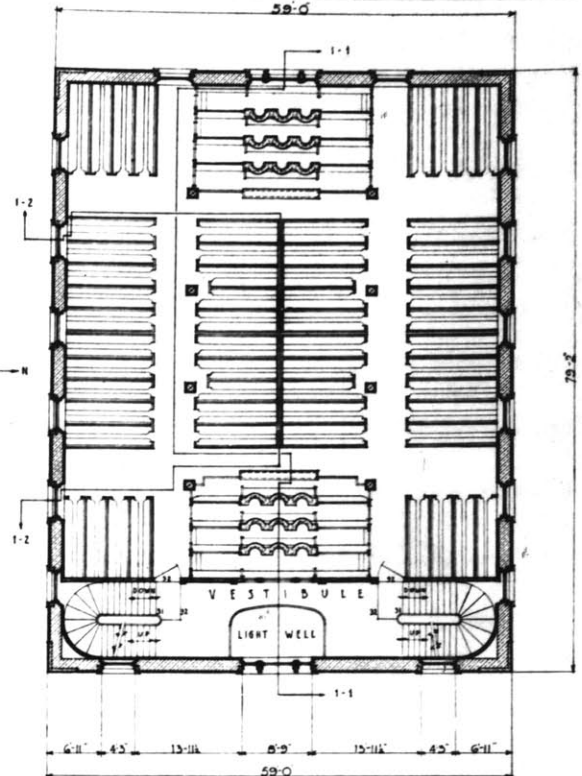


LONGITUDINAL SECTION 1-1

TRANSVERSE SECTION 1-2



CHURCH FLOOR PLAN



APOSTOLIC FLOOR PLAN

KIRTLAND TEMPLE - Kirtland, Ohio
Plans and Sections

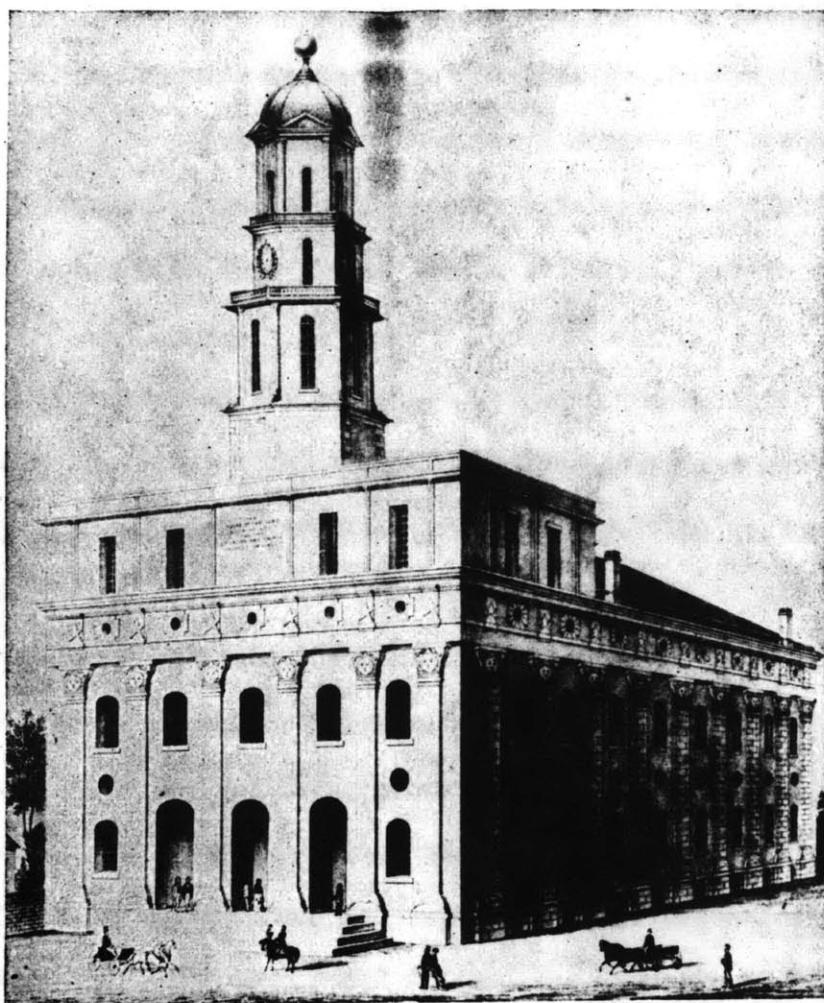
ILLUSTRATION I

is not surprising, but for the Lord to dictate an obvious borrowed form to a completely new religion with no ties to the past is--to this author rather perplexing.

However, it must be noted that a peculiarity in the arrangement of the inner court made the interior extraordinarily impressive--so much that a genuine reverential feeling was encountered. Further, the exterior stone walls were covered with a strange plaster composed of pulverized glass and chinaware mixed with plaster. This gave a sparkling beauty to the exterior which has not been duplicated to this day.

In 1839 after the saints had been compelled to flee from Missouri they went to Commerce, Illinois, later named Nauvoo, in 1839--this swampy and seemingly uninhabitable region was soon reclaimed and Nauvoo became a thriving, prosperous and beautiful commonwealth. It was here that Joseph Smith had his earliest success in town planning and acted as the prototype for all later Mormon cities. Also it was here in 1841 that the Prophet Joseph received a revelation commanding the saints to erect a Temple for the purpose of revealing keys and powers of the Priesthood and for the salvation of the living and the dead.

As in the case of the Kirtland Temple, Joseph Smith actively directed through divine inspiration the construction of the Nauvoo Temple, but since the Temple was destroyed but a few years following its completion and since no visual accounts remain except in two dimensional drawn form--it is difficult to explore the actual produced feeling either interior or exterior.



NAUVOO TEMPLE
Nauvoo, Illinois

ILLUSTRATION 2

However, a quick glance at either of the early Temples reveals a close resemblance to the Early Colonial Meetinghouses. It is obvious both by geography and geneology to see how easily it might have been for men comparatively unskilled in architectural principles to have been influenced by Colonial forms.

Thus both through heritage and physical location, the appearance of the Colonial forms is not surprising--but rather is it to be expected. The question as to whether a divine influence can be noticed in the physical structures is highly debateable--and since it has no direct bearing on this thesis the question will remain at best a moot one.

Following the migration West and the settling of the saints in Salt Lake City, Utah, the church experienced its most exuberant and vigorously successful architectural history. The most representative architectural efforts were produced in the midst of strife and poverty soon after arriving in the Salt Lake Valley in July, 1847, under the leadership of President Brigham Young. In The City of Man, Chistopher Tunnard makes the following comment: "In comparison with other colonizers, Brigham Young was outstanding in the support he received from his flock. Although Penn had established his peace-loving colony in Pennsylvania...and Austin had founded the Republic of Texas..., Young managed to achieve a combination of similar objectives through the sacrifice and hard work of people who believed that they, and only they, had found the true faith... In the span of the Mormon Empire they

built up between three and four hundred cities and settlements."¹

It is easy to forget that the rich valleys of Utah with the present fine irrigated fields were in 1847 part of the Great American Desert--and that Salt Lake Valley was then a barren wasteland considered worthless for the raising of crops and entirely unfit for the habitation of large populations. As the wagon train entered the valley, Brigham Young--though discouraged by the trapper Jim Bridger and others from settling in the Great Basin--arose from a sick bed to survey the country and after several minutes said: "It is enough. This is the right place. Drive on!"²

When the Pioneers drove their wagons onto the site of the present Salt Lake City, the valley floor was a dry and treeless plain. Gray sage, the natural home of the jack rabbit and the rattlesnakes, stretched in every direction until it became a gray haze beneath the distant hills. In short, the Great Basin was completely unconquered. It presented a challenge to civilization and to the ingenuity of man--and to his ability to survive.

Four days after the arrival of the Pioneers on the barren site, President Young while out walking suddenly stopped and stuck his cane into the parched soil and exclaimed, "Here we will build the Temple of Our God." That same evening the ten acres selected for the Temple Block were marked out, and it was decided that the future city should surround that square.

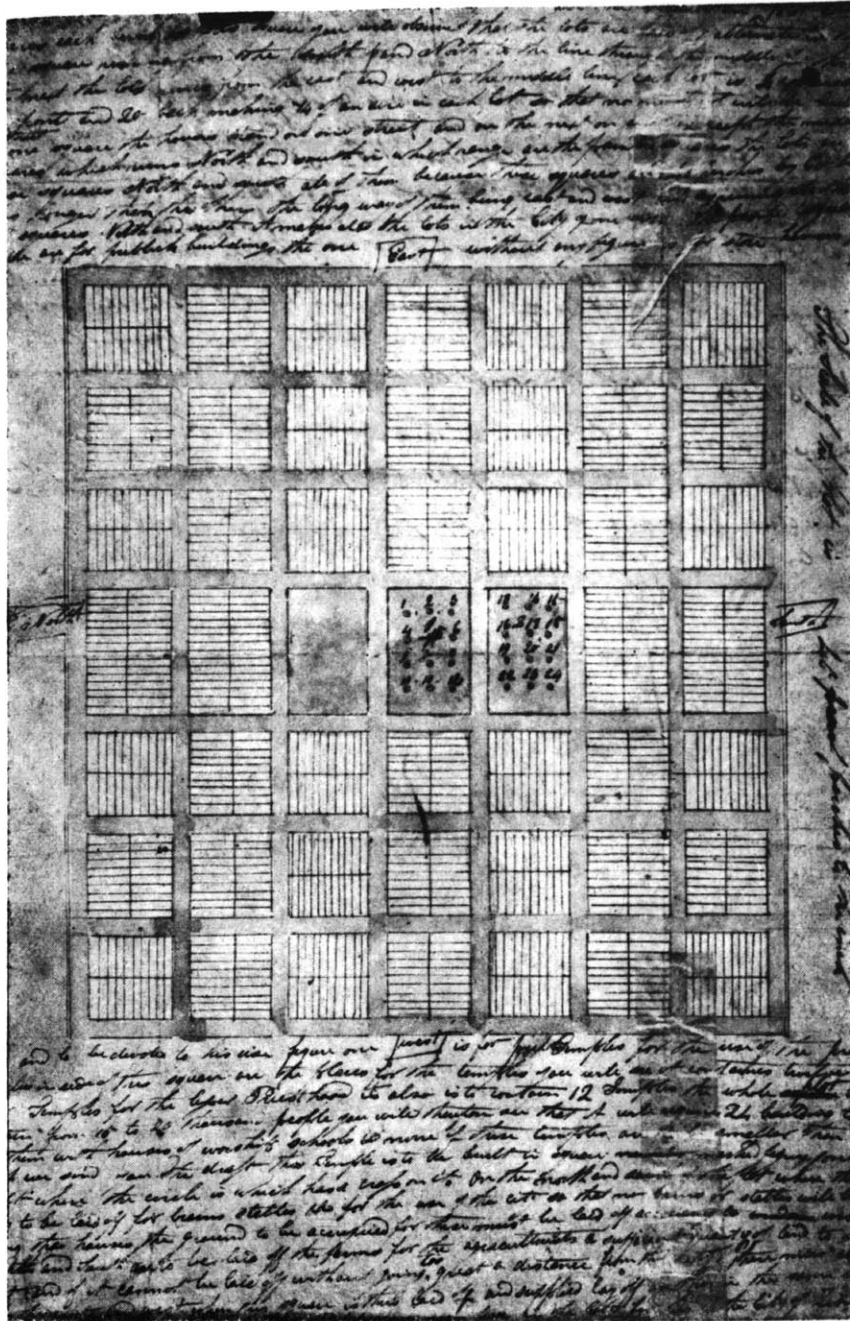
1 Christopher Tunnard: The City of Man.

2 Utah Pioneers, p 23.

The plans for the city were drawn as follows: The city was to be laid out in blocks of ten acres each with streets eight rods wide running at right angles. The lots were to be divided into lots containing one and one-quarter acres in each. One house was to be built on a lot and must be twenty feet back from the street line, "that there might be uniformity throughout the city." Upon every alternate block, four houses were to be built on the West and four on the East. The intervening blocks were to have four houses on the North and four on the South. Thus, no houses confronted each other across the street and those on the same side were eight rods apart.

Four squares of ten acres each were designated for public grounds. Thus this plan followed that laid down by Joseph Smith at Nauvoo for the cities of Zion. The plan was in main a novel and significant idea in city planning generated along the same line as early Puritan settlements. So it was that the farmer and his family could enjoy all the advantages of schools, public lectures, and other meetings. His home was no longer isolated, nor was his family denied the benefits of society. They could surround their homes with the same intellectual life, the same social refinement as could be found in the home of the merchant, banker, or professional man.

This method of laying out all Mormon Towns followed the early Nauvoo model and it is extremely interesting to see the form taken by small towns such as Ephraim, Utah (population 2,000) founded before the turn of the century.



CITY OF ZION PLAT
(ORIGINAL DRAWING)

ILLUSTRATION 3

Suffice this brief description of Mormon Towns by specifying the worthy study it might make to city planners today.

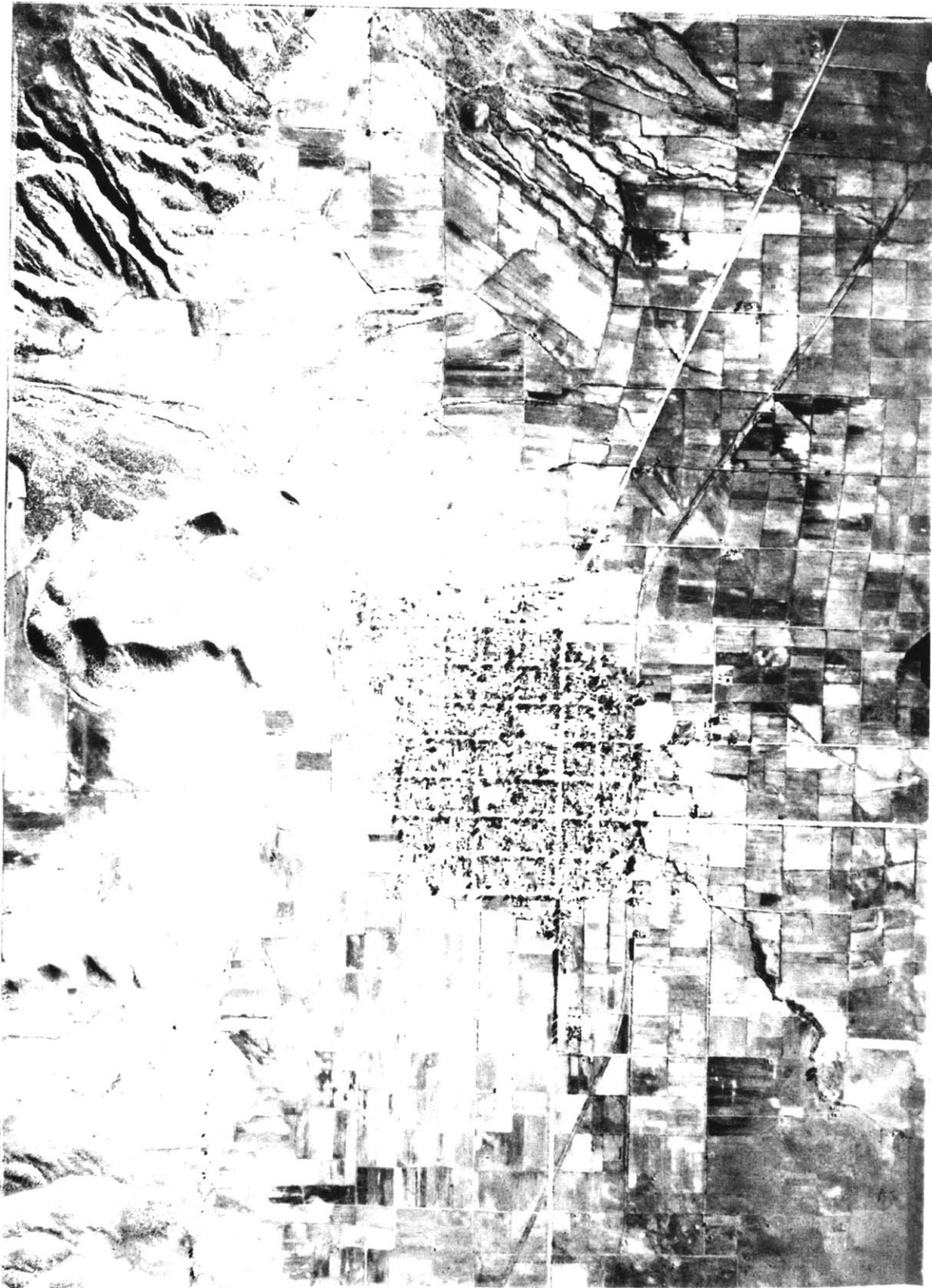
Details of the city plan were gradually changed as specific requirements deemed necessary--as the Temple Block itself was later reduced to ten acres to make it uniform with the others--but to the present day, the city retains many of its unique features.

Approximately three and one-half years after the saints settled in the valley it was unanimously voted to build a Temple.

"It should be remembered that this magnificent structure was planned and its erection begun by a small number of despoiled and destitute people, at a time when they were struggling for existence in the midst of adverse surroundings... It may well be said that the completed Temple is a monument of faith and work unparalleled in the world's history."¹ The Temple was commenced in 1853 and completed forty years later, April 6, 1893.

Other Temples were soon begun and in 1871 work commenced on the Saint George Temple which was completed and dedicated before the completion of the Salt Lake Temple in 1877. Other Temples were built in Logan and Manti, Utah, both being completed just a few years before the Salt Lake Temple. Other Temples have been built in recent times being distributed in various parts of the world such as: Hawaii, Alberta, Canada; Idaho Falls, Idaho; Mesa, Arizona; and one in Los Angeles, California

1 Lundwall, Temples of the Most High



AIR VIEW OF EPHRAIM, UTAH

ILLUSTRATION 4

that is now under construction. Further, designs have been prepared and land dedicated for Temples in Switzerland and England. In the early construction days of the Temple another building was being constructed that has become most remarkable. This building--the Salt Lake Tabernacle--is a structure built for the purposes of church conferences of large numbers--and in design it is with precedents.

"The building was begun September 1, 1865, and religious services held in 1867. No plans exist for the structure, the architects directing the work in the time honored tradition of the master builder."¹

The main problem in the design of the Tabernacle was that the building should be of considerable size, but without interior columns. Henry Graw, previously a bridge builder, proposed an adaptation of a lattice truss--familiar to bridge construction in that period--which was eventually used and is noted today for its remarkable engineering prowess. Its humble yet adequately durable methods of connecting the various members were truly remarkable--these consisting of but mere square wood pegs, four per joint, and Rawhide being used to bind the chords of the truss at the joints. The condition of these trusses today is reported as excellent, and all joints, including those employing rawhide are sound.

Acoustical claims are made concerning the Tabernacle--many of which are erroneous. The plan and section of the building are

1 Wilcox, Keith W.: Thesis, "An Architectural Design Concept for the Church of Jesus Christ of Latter-Day Saints.



SEAGULL MONUMENT AND SALT LAKE TEMPLE

ILLUSTRATION 5



SALT LAKE TABERNACLE

ILLUSTRATION 6

ellipsoidal thus giving rise to concentrated points of sound reflections and possible echoes. A claim widely known and still illustrated by tourist guides in the Tabernacle is the dropping of a pin and the assembled group being able to hear it hit some two hundred feet away. Actually there are only two points where such an experience is possible--those are at the foci points of the ellipse. Actually this demonstration does not prove good acoustics, as is told, but rather unequal distribution of sound where some points are unbearable through intensity while others are completely dead.

However, these faults are not inescapable--for proper contemporary acoustic treatment could remedy the problem satisfactorily. However, the claims of good acoustics is a complete hoax and steps should be taken to rectify this popular misconception.

(2) MEETINGHOUSES

The analysis up to this point has been attempted to describe the highlights of early Mormon architecture--its purpose was to illustrate the character of the people themselves expressed through their architecture. Actually those enterprises mentioned were but a few of the many such building activities that were completed in those troubled years--and yet I have made no historical mention as to a Meetinghouse complex--actually the crux of this thesis. However, I feel that the efforts spent have been important for the intrinsic spirit of the people is best shown in those early years and is a vital heritage to the Mormon people today and should be employed in some way as a design criteria.

Since the beginning of the church to the present time there has been four architectural meetinghouse design periods--although in no period has a sharply defined enduring style emerged.

The first period covers approximately the same length of time as the erection of the Salt Lake Temple--that of 1847 to 1900.

The first meetinghouses erected in Utah resembled in plan and elevation the early eastern Temples at Kirtland and Nauvoo. Therefore, closely resembling the Georgian-Colonial of the New England area. The great bulk of meetinghouse design of this period was modest in scale and simple in plan and design--an obvious outgrowth of the peoples' needs and economic abilities. In a few meetinghouses there were modest adaptations of certain Gothic elements that appeared such as buttresses and windows--these apparently borrowed directly from the European work.

Interesting to note also, at this same time the neo-Greek influence had somehow been carried across the plains for small Greek Capitols are to be found on the Tabernacle piers--somehow a feeling for the new neo-Classical movement that was being emancipated in the Eastern part of the United States.

1900-1932

Two distinct trends were made evident between 1900 and 1932. The first style was the result of standard plans devised from L, T, and U shaped plans--just why these forms were selected is unknown, but it certainly gives some insight into the evils of a church design group and its artificial standardizations. However, the meetinghouses derived from this procedure were not without charm and appropriateness, for here one readily understood the planning by merely comprehending the exterior. A quality lost, somewhat, in our present work. The same Colonial treatment was applied; however, now with the new basic forms the tower seemed inappropriate, or probably more truthfully they simply couldn't find a way to include it and so it simply disappeared.

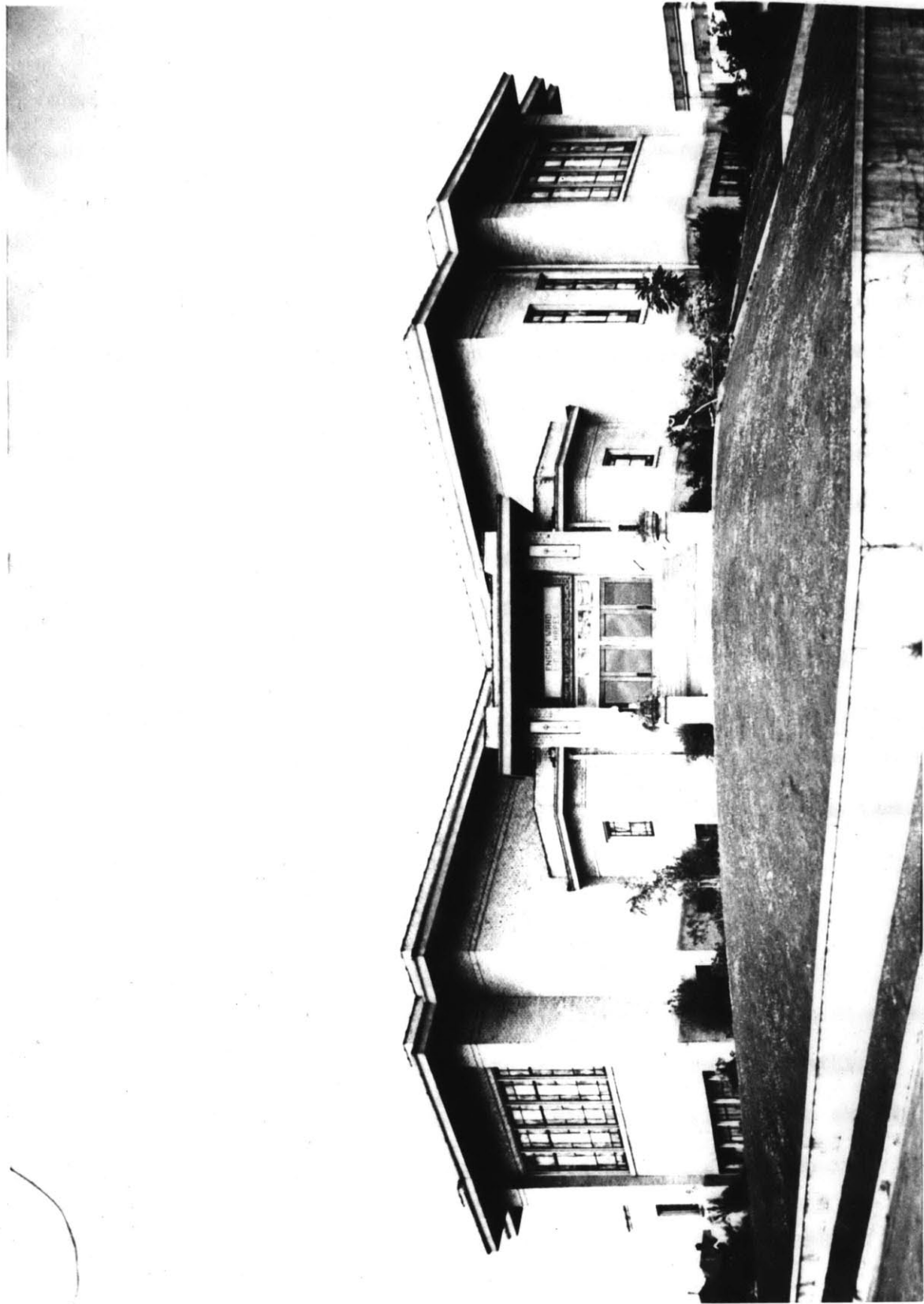
The second trend of this period is to this author the most exciting and imaginative of all meetinghouse designs. Actually its only fault lies in the fact that it seems to have relied too heavily upon the work of Frank Lloyd Wright which at that period was clearly characterized by the Unity Church at Oak Park, Illinois. But one could easily do worse as will be evident later--so the church apparently was better off for its adoption of this style.

There is an easily apparent boldness and massiveness with strong horizontal planes, extended cantilevered overhangs, deep shadows, and no ties with Colonial work either within or without in these Wright influenced meetinghouses. The plans of these meetinghouses grew much freer, the masses simpler and basic proportion more subtle. The reason for the abandonment of this style is not completely understood, but one suspects that the lack of similarity between these meetinghouses and the vision of traditional church forms was mainly responsible.

1932-1942

The next period was "experimental" in nature and lasted but a decade between 1932 and 1942. It has erroneously been called the Modern Period. Throughout this period little use was made of traditional church forms. However, tower steeples and Gothic windows and other Colonial forms on a small scale were still cropping up now and then.

Apparently the period immediately prior to this with its Wright influences paved the way for the attitude of the Authorities in granting permission in this new endeavor. Most admirable in this period was the attempt to approach the design organically and try to derive from the three basic church functions; which were: (worship area, educational area, and recreational area) a visual expression which would indicate both the functions served and the spirit of those people being served. A chance for a truly representational form in meetinghouse design--until then unconquered--and now my basic thesis problem.



ENSIGN WARD MEETINGHOUSE
Salt Lake City, Utah

ILLUSTRATION 7

This period brought many exciting meetinghouses into existence, but at the same time there were also too many obvious failures. As Pietro Belluschi has said, "We have taken away many of the established forms, so cherished by our ancestors, and have replaced them with stark utilitarian ones, which gives little nourishment to the senses. We have taken away from the man in the street all the stereotyped little ornaments, cornices, cartuches, and green fake shutters, but we have not been capable of giving him back the equivalent in emotional value."¹ So here too the consummate intrinsic reverential quality seemed lacking and so the period was terminated in 1942 on the grounds that the results were "completely lacking in church character."

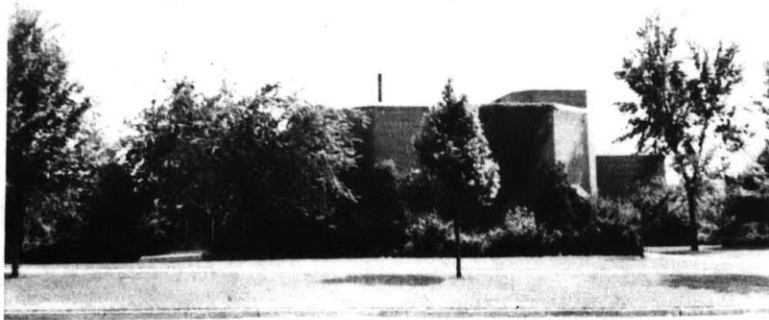
Possibly the real reason it didn't develop into a lasting, satisfying style was because it was nipped in the bud--it simply didn't have time to blossom.

So the attempted contemporary experiment was only an interlude which was sacked 100% and gave way to the present architectural style that has existed since 1942.

1942-1954

When one finds himself lost he does not attempt to discover new paths, but contents himself with the rediscovery of something familiar. This, then, was the mental frame of reference the church authorities and architects were confronted with after abandoning the

1 Belluschi, Peitro: "Architecture & Society", ARCH. RECORD, February, 1951.



21st WARD MEETINGHOUSE
Salt Lake City, Utah

ILLUSTRATION 8



BONNEVILLE WARD MEETINGHOUSE
Salt Lake City, Utah

ILLUSTRATION 9

contemporary medium. So it is obvious to see how the Colonial meeting-house forms once more were resurrected and adapted to the present requirements. Another possible reason for this readaption is that New England Meetinghouses possess a distinctly ecclesiastical dignity and churchly character much sought after. Also the plan readily shows the primary intention of preaching rather than a setting for a liturgical service.

Materials of brick with stone sills and keystones, wood-trim painted white, are those which in addition to being the most appropriate for building of this type--have the advantage of being comparatively inexpensive--a factor well worth considering for structures that rely upon voluntary contributions for their existance.

This style readily adaptable itself to many situations and eventually gave rise to the existance of a Central Church Architectural office which will be discussed subsequently.

While the neo-Colonial churches are being executed in the most precise manner, technologically speaking, still a representative rational architectural form simply does not exist--thus there is much discussion within the church presently as to a true form and this will be the basis for subsequent discussion.

(3) CONTEMPORARY MORMON ARCHITECTURAL PROBLEMS

The President of the Church of Jesus Christ of Latter-Day Saints--as the Prophet, Seer and Revelator is the source from which all directives, policies, and actions originate. The President, in turn, acts under the influence and inspiration of Our Father in Heaven. This principle applies equally to all matters pertinent to the Church--including its architecture, and today as always, the President's decisions are accepted as final and complete. The validity of such an organizational authority is obvious--but not so obvious is the problem created when the Presidency and other Church Authorities have not succeeded in establishing a set of principles whereby an architect could look for official direction. This was mainly the cause for the failure of the experimental modern style in the Thirties. And again it was the cause of the readaption to the Colonial style today.

The Church Presidency has gone no further than to officially specify that the religious structures must "look like Churches," and to give their official sanction to the present Colonial style.

Quite possibly a great deal of the confusion could be attributed to the misuse of the word "Church", for one generally perceives visual images upon hearing the word "Church"--while in reality the very word "Church" is ambiguous, for we attempt to apply it to both edifice and people. Certainly there is no just ground in the Scriptures to apply such a trope as church to a house for public assembly. Wouldn't it therefore be logical to term our structures properly and thereby eliminate any erroneous mental misconceptions that might be applied.

In the Mormon religion the purpose to which our "churches" are dedicated readily reveals that its proper name is and should be termed a Meetinghouse!

This does not mean that because the building is only used for assembly that it need not be reverential in feeling, but it would indicate that a simple rational rewording could direct the way to a more logical design bespeaking just what the building is--and nothing more.

As the Mormon church is of a "new dispensation" and as its name implies--of Latter-Days--it has no actual connection with the past, excepting the Early Biblical times, and because of this one should expect to find a unique architectural expression just as you would expect to find--and do--a unique set of spiritual principles and doctrine. Alas, however, this is not the case for the Mormon church finds itself in the rather embarrassing position of adapting a style employed centuries ago to house their religious services.

It is of the greatest pity to me to see our Mormon buildings impersonating Protestant structures and by this implying that there is a Protestant-Mormon relationship--when in actuality no relationship exists.

Is it then impossible for us to once again vigorously design and build in the same spirit as did our forefathers in 1847? Certainly not--it is but for us to return to simple reasoning--abandon the Colonial and get down to work. This implies that we should again

revert to an experimental development based upon the best that modern architecture and technology can offer and use these tools to create our own architecture. Obviously, a completely satisfactory solution will not be immediately available but ample time for its development must be allotted. Following such a course we could eventually attain results both gratifying to ourselves as well as to the divinity--for which they are intended.

CHAPTER IV

CASE STUDY--MORMON MISSION MEETINGHOUSE

CAMBRIDGE, MASSACHUSETTS

(1) GENERAL

A Proposed Mission Meetinghouse for the Church of Jesus Christ of Latter-Day Saints. Located on Brattle Street in Cambridge, Massachusetts, to serve as headquarters for both the entire New England Mission and the Cambridge Branch. The buildings main purpose will be to house Branch religious, recreational, and social activities, plus incorporating a Mission home and office headquarters.

(2) CONGREGATION

The Cambridge Branch has presently a recorded population of 450 members living in the Branch confines which incorporates the greater metropolitan Boston area. From this there are 225 single persons or family units--there being approximately two children per conjugal unit or about 20% of the entire population with about 4% of the entire population being children of nursery age (4 years or under). As compared to a typical ward, the Cambridge Branch has a relatively high proportion of single persons of college age due to the universities in the area and this rather transient population causes pronounced fluctuations in attendance figures over the entire year. 20% of the overall congregation are college students and they account

for 35% actively attending; thus, they are an important factor in selecting the site as well as causing the attendance ranks to deplete during the off-school or summer months.

While the entire population of the branch is 450 this does not mean that 450 are regularly in attendance for in actuality only 60% of the total membership or 200 adults and 75 children are generally present at one time. However, due to the student influence one can count on only 100 adults and 50 children during June, July and August.

Due to present day economic situations many more people are taking advantage of Cambridge's educational facilities and mainly because of this (with some help from the Military ranks) and local converts in the church, the membership number is constantly increasing and in the next ten years the congregation is expected to double. However, as this increase in numbers and their demands grow, additional meetinghouses will be constructed--the purpose now being to construct a building large enough to handle the present needs as well as the expected increases during the next few years.

(3) SITE

As Mormon membership is not extensive in the New England area the congregation is naturally wide spread and since Cambridge is rather centrally located for Boston and the outlying areas as well as being in close proximity to Harvard and M.I.T., a site on Brattle Street was selected.

The proposed site is but a few blocks from Harvard Square which is a center of academic activity as well as being an important transportation interchange from all points. This site was chosen for the case study for convenience reasons as specified--also lots 1 and 2 shown on Illustration 10 have been for the past few years church property and its activities have been insufficiently carried on in the converted dwellings now occupying the property. Recently the church purchased lot 4 for the siting of its mission home and for this case study I have assumed that lot 3, which is financially available for \$60,000 will be purchased so as to have a sufficient tract of land in one piece for the project. The resulting site for development is a Utah shaped lot with frontages of 200 feet on Brattle Street, 300 feet on Hawthorn Street and 165 feet facing Longfellow Park with land elevations as designated on the plot plan.

The character of the neighborhood is one of charm, dignity, and quietness. The style is predominately Early American Colonial of rather superb specimens and the neighborhood is essentially residential. However, churches, boys schools, historic museums and public parks do exist.

In view of the fact, that the majority of the members arrive by private automobiles as required by the scattered population, some provision on the site for parking is desirable--as well as providing many entrances to the building from the side streets. Planning should discourage parking on or crossing Brattle Street which has proved to be a definite menace particularly to children.

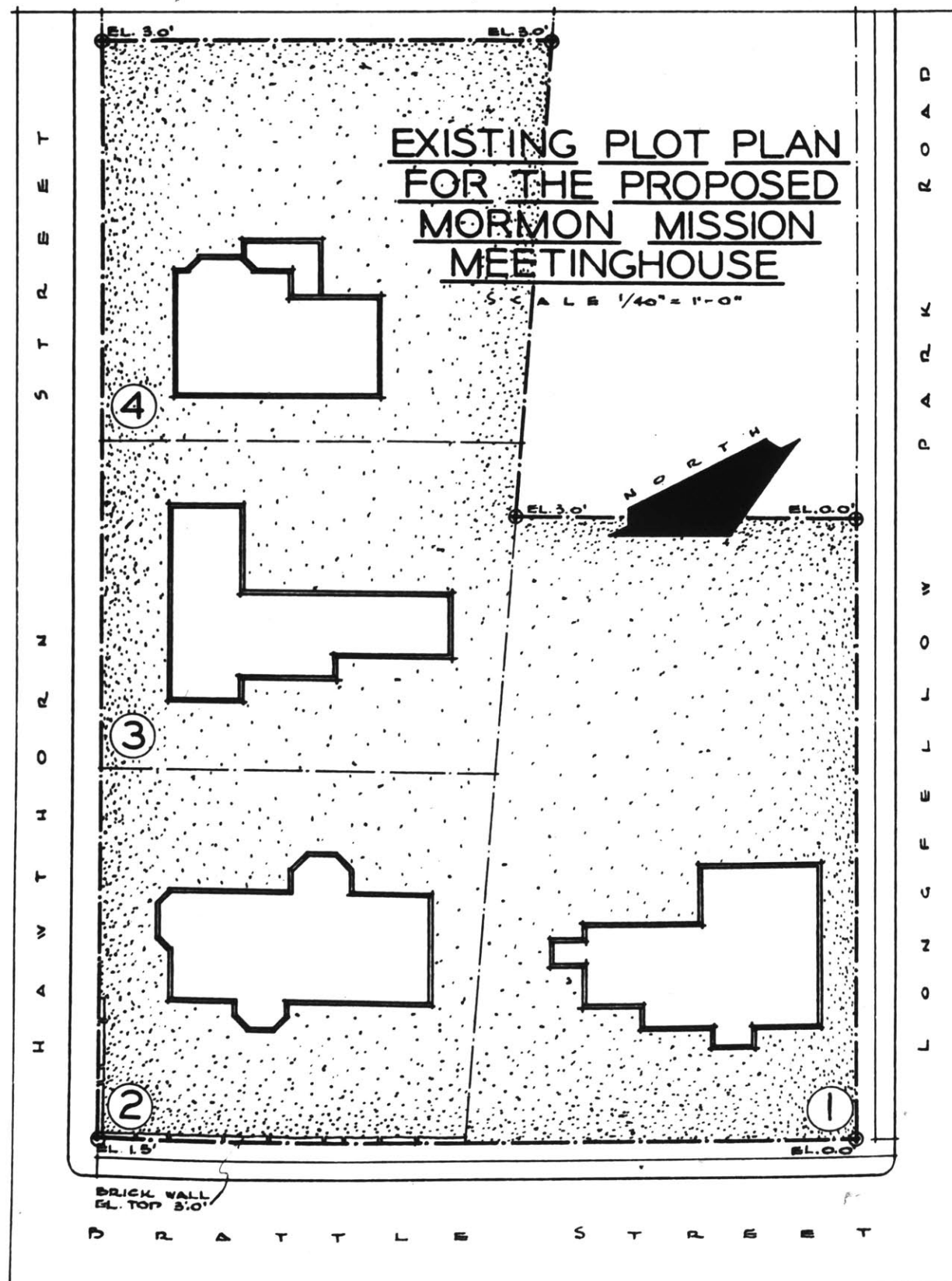


ILLUSTRATION 10

(4) ECONOMIC CONSIDERATIONS

"The act of paying is the most uncomfortable infliction that the two orchard thieves entailed upon us." --Moby Dick

In past societies all the wealth and technical skill the early civilizations could afford were spent on religious structures. However, in our complex society today economic factors prohibit religious buildings from attempting monumentality. The religious context previously attributed to vast heights and structural bulk has in the large part disappeared. Most congregations today are struggling to finance a minimum structure. Simplicity is often a necessity--often a fundamental tenet of the particular sect.

Presently the Church of Jesus-Christ of Latter-Day Saints has over 400 meetinghouses under construction. This means that approximately \$120,000,000 is being expended almost annually. But this tremendous construction program is in grave danger of being curbed or partially shelved unless something can be done to lower costs. The official church architectural office is presently reexamining requirements and analyzing the building program with a view toward consolidating the plant into as economical and usually compact a space as possible. This does not mean that the desirable minimum areas per person should be lessened, but it does mean that a more intensive use of enclosed spaces must be made. Obviously, to achieve maximum efficiency--proposed activities must be so scheduled that rooms may be used over and over by different groups. However, there is a limit to which this practice can be carried

and still not sacrifice proper reverential moods, etc.

The second step toward economical buildings is re-appraisal of architectural styles. "Archeological" types certainly are not economical to build, for in order for them to have substance to their being, stylistic exercises in Gothic and Colonial depend on antiquated materials and methods of workmanship.

Our new meetinghouses should favor the use of architectural concrete or precast concrete units--or they may employ humble natural materials such as wood and brick. Roofs, instead of expensive slate or tile, may well be built-up gravel surfaces. Trusses may be factory laminated units, or plywood rigid frames or girders. By borrowing liberally from industrial construction, many economies will result without sacrifice in beauty or dignity.

Visual education, sound distribution, cheerful lighting, good acoustics and physical comfort are but a few additional advantages to be gained at the expense of unproductive "period designs."

The Mormon church recently adapted a policy intended to cut cost--this policy resulted in the formulation of an official Church Architectural Office. Before this office was instituted the vast amount of architectural work was handled by Mormon architects distributed in just proportion--the official Church Office at the time consisted of a supervisory capacity. However, today the Church Office has been reinforced with personnel in an attempt to rigorously control the building activity. This simply means that all planning and detailing will be handled under the direction of one design group--this might possibly

have two results, opposite and different in nature. Possibly a unified architecture might result which could eventually be truly expressive and functional. However, more probably, there will be a tendency to produce stock plans and to merely revise old plans to fit new needs-- a supposedly economy effort!

(5) FINANCING THE MEETINGHOUSE

After a ward has decided upon their own meetinghouse plan--they will submit their proposal to the Church Authorities who review the project in view of their standards and specifications and if it meets with their approval they will allocate a certain portion of the anticipated cost. In the case of a Branch District Meetinghouse, this allocated proportion is 70% of the entire cost. The remaining 30% is to be supplied from the ward's own building fund, donations, and actual labor. A typical document for requesting building funds is included for reference. In this particular case study the Cambridge Branch will only contribute 20% of the cost while an additional 10% will come from other Branches in the New England area which will use this Meetinghouse as their District Headquarters.

CHURCH OF JESUS CHRIST OF LATTER-DAY SAINTS
Cambridge Branch

96 BRATTLE STREET
CAMBRIDGE, MASSACHUSETTS

May 5, 1954


Dear

As announced last Sunday, a very important action has been taken in connection with the Cambridge Branch Building Program. At a meeting of the General Appropriation Committee of the Church held during Conference Week in Salt Lake City, formal approval was given for the erection of a Cambridge Branch Chapel on the present Chapel-Mission-Home site on Brattle Street. With this approval comes the opportunity for which we have all been waiting and also with it comes responsibilities. The opportunity of erecting a building suitable for our needs is very well-known to everyone in the Branch and we all rejoice in the action that has been taken.

The responsibility is to raise the amount of money the Appropriation Committee has assigned to the Branch. This amount is approximately \$40,000, exclusive of the cost of furnishings. In order to put the fund raising program on a systematic basis so that plans can be made ahead for construction, the Branch Building Finance Committee requests your commitment of the amount that you will contribute to the Building Fund. In reviewing the circumstances of our members in relation to our share of the construction costs, we have arrived at a figure of \$_____ as your share in this enterprise. According to our records, you have already contributed \$_____, leaving \$_____ as the amount we hope you will contribute in the next eighteen months or two years. There will be opportunities for working out part of the contribution as labor but we suggest that these be kept to a minimum at present so that this source of revenue will be available for "overages" which always seem to crop up in building.

You are urged to contact the Branch President or a member of the Finance Committee indicating your response to this call. We ask the Lord's blessings upon our members and all who participate in this historic project, in return for sacrifice which is traditionally made by Latter-day Saints in furthering the Kingdom of God on Earth.

Sincerely, your brethren,


Ira A. Terry
Chairman, Branch Building
Finance Committee
High Street
Ashland, Mass.

Melvin A. Herlin
Branch President
51 Oxford Avenue
Belmont 78, Mass.

CHAPTER V
SPECIFIC ARCHITECTURAL REQUIREMENTS
FOR CASE STUDY MEETINGHOUSE

(1) MEETINGHOUSE COMPLEX

A. Religious

(a) Chapel

- .To be placed on the quietest part of the site and must be reverential in character.
- .Accomodate 250 persons.
- .Stand must accomodate choir, speakers pulpit, and seating for church officials, etc.
- .Provide sacrament table and preparation facilities, with proper seating for priests and deacons.
- .Provision for organ, either pipe or electric to be used in conjunction with both choir and congregational singing.
- .Clear visability.
- .Low noise level.
- .Furnishings, windows, lighting, etc., must reinforce the worship service by being conducive to reverence.
- .Chapel to be located off main lobby but sufficient steps must be taken to inspire proper spiritual adjustments.

(b) Cry Room

- .Acoustically insulated from chapel.
- .Clear view of stand.

(b) Cry Room (continued)

- .Adequate piped sound.
- .Direct exit to foyer and toilet facilities without interrupting the chapel proper.

(c) Junior Sunday School

- .Ages two to seven inclusive.
- .Dual use of Recreational Hall must be made for their needs.
- .Provide general assembly space with low platform.
- .Provide three areas to be partitioned off by folding screens.
- .Must be so located as not to interrupt or disturb the Senior Sunday School being held in the chapel.
- .Storage facilities for children's seats, toys, and work material.
- .Immediate access to toilet facilities.
- .Clear glass windows are preferable.
- .Automatically controlled heating and ventilating required with warm floors possibly radiantly heated.
- .Walls, woodwork, and drapes, etc., should be harmonious in color and finish. Soft colors without glare essential.
- .Possibly direct access to protected out-of-doors for class-work and play would be desirable.

(d) Baptismal Font

- .Font large enough for baptism by complete immersion.
- .Adequate assembly room for visitors and prepatation.
- .Dressing cubicals and showers for baptized persons and Elders.
- .Storage for Robes and equipment.
- .A reverent, sublime atmosphere must be created since baptism is the gateway into the Gospel.

B. Education

(a) Classrooms

- .Classrooms required--nine minimum, 12 maximum exclusive of assembly rooms and halls.
- .Aaronic Priesthood and Scout room must have ample storage for scouting activities. Area may be partitioned off for small Sunday School classes.
- .Adequate in size for each class.
- .Adequate heat, air and light.
- .Relief Society room must be 15' X 30' minimum and must be provided with large walk-in closet. Immediate access to kitchen. Ready access to women's restroom. Room must have a home like character suitable to work and study.
- .Classroom equipment.
 - (1) Blackboards extending across front wall.
 - (2) Portable blackboards.

.Classroom equipment (continued)

- (3) Tablet arm chairs are recommended for seating.
- (4) Teacher's Desk.
- (5) Map Cabinet.
- (6) Carpet floors preferred or good grade linoleum.
- (7) Adequate electrical outlets for movies, etc.

C. Social

(a) Recreational Hall

- .Used for Junior Sunday School as specified previously.
- .Located separately from Chapel and open to outside desirable.
- .Platform stage.
- .Chair storage on low trucks.
- .Direct access to kitchen.
- .As the Recreation Hall is used fundamentally for social activities a gayer more lively atmosphere must be provided. Activities in the Hall would be dances, plays, general programs, movies, bazaars, etc.

(b) Kitchen

- .Must have direct connection to Recreation Hall and must be on the same floor level.
- .Must be easily accessible for delivery.
- .Adequate to serve 250 people in the most efficient manner.

(c) Fireside

.Relief Society room used for this function.

D. Circulation, Administration and Miscellaneous

(a) Foyer

.Adequate to allow proper circulation for ingress and egress.

.Adequate to allow social visiting after meeting dismissal, particularly in inclement weather.

.Need for proper traffic control from classes.

.Provide dignified, attractive bulletin board for notices.

.Easy access to rest and cloak rooms and administration offices.

(b) Entrances

.Large enough and so located to accomodate crowds conveniently.

.Need for outside paving or patios to accomodate crowds.

.Paved and covered approaches.

.Attractive surfacing and landscaping.

(c) Cloakrooms

.Convenient location to entrance.

.Should be large enough to avoid confusion.

.Need good circulation and adequate space.

(d) Rest Rooms

- .Adequate and easy to clean.
- .Inconspicuous but easily accessible.
- .Properly ventilated and absolutely sanitary.
- .Must provide for both adults and children.

(e) Bishop's Office

- .At least two rooms with entrance on foyer.
- .Clerk's office with desk and equipment and conference table.
- .Bishop's office, private in nature, for discussions, tithe payment and settlement, etc.
- .Room for records and supplies convenient to both offices.
Storage vault with fireproof containers needed.

(f) Mechanical Equipment

- .Adequate heating and ventilating to be discussed later.
- .Heating plant to be efficiently placed but so located to be of a minimum fire hazard to large assemblies and children.

(2) MISSION HOME COMPLEX

A. General

Mission home to provide quarters for missionaries assigned to the New England Mission. Must also house the administration office headquarters for New England and must provide adequate storage space for welfare requirements.

B. Office and Administration

For mission President and his stenographer with adjoining space for mission secretary, recorder, and auxiliary secretary.

.Space required for files, records and office equipment conveniently located.

.Work space for literature supplies and mimeographing.

.Bureau of Information in conjunction with the Mission office.

C. Library

.Linked with Mission office

.To be general reading room.

.Built-in bookcases.

.Reading tables.

.Record storage.

D. Living Accomodations

- .Spacious entrance and hallways with small toilet room off main entry.
- .Living room.
- .Dining room.
- .Kitchen with work table in center and ample service, supply and equipment facilities.
- .Laundry, automatic washer and dryer.
- .Bedroom suite for mission president and wife.
- .Guest Bedroom.
- .Housekeeper room.
- .Bedrooms for four Elders.
- .Bedrooms for four Lady missionaries.
- .Ample bathroom and closet facilities conveniently located.

E. Storage and Equipment

- .Two car garage.
- .Large Mission Welfare storage rooms.
- .Laundry room.
- .Storage rooms for trunks, bedding, food, and literature.
- .Boiler room with hot-water heaters, etc. and janitors storage and workroom.

CHAPTER VI

ARCHITECTURAL CONSIDERATIONS

(1) REVERENTIAL ATMOSPHERE

Up to this point the discussion has in a somewhat general nature simply attempted to outline basic background information-- trying to familiarize the reader with the Mormon Church and its architecture.

In the course of the previous discussion, two very important aspects of this thesis were briefly mentioned, and rather than dwell upon them extensively then--I have refrained until now to more fully explore the subjects. Aside from the general planning and technology aspects, of my case study, the two most difficult entities to be solved are: (1) The creation of a meetinghouse fully embraced with a reverential emotional quality, and (2) Integrating a contemporary religious structure into a rather sacred Colonial Residential neighborhood.

While the latter of the two problems might be the most easily solved, the creation of a spiritual mood in a contemporary building could be most difficult. Instances where true religious attributions are felt are relatively few and in those cases where this feeling does exist the building is almost without exception, the product of a most talented architect.

Generally credit is given to the functional, structural, and economic values of our new designs; but emphasis on these factors alone could be regarded as fostering the creation of a secular structure with

but a few applied religious symbols to identify its purpose--the emotional reaction is too often overlooked. Consequently designers lacking original inspiration often turn to traditional forms. The main criticism of modern religious buildings is that they lack feeling, emotional continuity, and inspiration. Indeed, they are the most vital qualities needed--yet it has been these that are so seldom successfully solved.

The big questions then seem to be: (1) what actually produces a religious atmosphere in a building? and (2) what identifies a particular building as a place of worship? Every epoch has argued these questions, but few have been able to find the answers. Our age today is one of negative investigation, but then we are not without hope for there are capable men like Belluschi who (as we shall see) has precisely stated the problem then acted accordingly.

"Emotional continuity," says Belluschi, "may be provided by good design, but no one can define good design anymore than beauty itself can be defined; all we can say is that beauty acquires full validity only when it is discovered through our own efforts and that its face is forever changing... With all the shortcomings of a materialistic world surrounding us, we too must face and solve it (Our religious problems) in the full realization that the main function of a church building is to provide emotional fulfillment.

"Today's need for economy makes us avoid pompously designed monuments, in so doing we have found that much significance can be imparted to simple materials such as wood and brick, and much warmth

and feeling may be achieved by the judicious use of such intangibles as space, light, texture, and color. Paintings, sculpture, stained glass and other decorative arts, if creative and not merely imitative, add immeasurable to the proper solution of the problem which as I said before is to create an environment in which the average man may find spiritual shelter..."¹

Simply stated our best tool for coping with this problem would be to employ basic architectural principles. First the interior space of the building must be derived from the function only and the exterior in turn should be derived from the organization of the interior space. Dignity, quiet, and orderliness should help express the eternal verities for which the church stands. This should be further exemplified by the truth of design, integrity of construction, durability and naturalness of materials, grace of proportion, dignity of scale, beauty of detail, practical symbolism or ornament, and warmth of interior furnishings and art.

(2) COMMUNITY INTEGRATION

The second problem on how to achieve harmony between dissimilar buildings and how to design a truly creative contemporary chapel within a harmonious Colonial residential neighborhood would again indicate merely employing simple architectural rules and a little common sense.

1 Belluschi, Pietro: "The New First Presbyterian Church, Cottage Grove Oregon" (Pamphlet issued at Dedication)

The contemporary church edifice seldom dominates the skyline today--rather the new designs are built in harmonious relation to the surrounding community. Of the different ways of achieving this harmony probably harmony through an analogy of relations is the simplest. That is, employing similar geometrical shapes and proportions. However, one can also create harmony by subtle contrast. The harmony of contrast is by far the stronger method, and when it is used sensitively can be both stimulating and vital for where harmony by similar elements can become monotonous--harmony by contrast can stir the imagination and lift the spirit. The danger in this method is that the gambling stakes are higher for when the contrast is not handled properly the result is usually extraordinarily appalling.

The proposed Mormon Mission Meetinghouse will be, like nearly all buildings, seen in a surrounding--in this case a magnificent Colonial neighborhood. It is of the utmost importance that the proposed meetinghouse and the neighborhood itself should not be destroyed by failing to understand and come to sympathetic terms with the environment. This does not attempt to presuppose a theory that nothing but a Colonial edifice would be satisfactory, but it does indicate the necessity of carefully considering the neighborhood in the planning process.

By observing architectural practices as indicated, a religious building could stand a good chance of becoming a part of the community rather than separating it from the environment.

Following these basic observations, the author hopes that the proposed Meetinghouse might be a worthy example illustrating new

techniques and materials of this generation employed beautifully, harmoniously, and economically to create a structure rich in all the warmth and vitality of the Christian building tradition.

(3) RELIGIOUS ART

As stated, probably the most noticeable need in Mormon church architecture is the requirement for a more formalized and dignified service midst a more conducive worship atmosphere. This success will depend, in main, upon a more understandable and significant use of both architecture and art.

Having previously analyzed those characteristics which produce significant contemporary architecture, it seems to be well worth a few pages to discuss briefly religious art.

A vast majority of the works of art known to man today has dealt with religious experiences or beings. Most of the prehistoric art as well as that of Egypt, Greece, Rome, and Northern Europe sprang from religion--for until comparatively recent times the church was the major sponsor of art.

Religious art, dealing with ultimate purposes, values, and goals of life, involves not only this life but life in the hereafter and in this way it approaches the infinite--the timeless. This was true in Raphael's era as well as today, for our artists still must deal in many factors that are as yet unknown quantities and abstract intangibilities. Thus religious art often becomes mystical--which

inspires great awe and wonder. This latter quality gives religious art an unexpected impetus that has been and could easily be today-- a powerful entity in the lives of men.

However, contemporary religious art has failed to express itself in proportion to its powerful potential. While religious art still attempts to appeal to the emotions it has in most instances failed to use such qualities as permanence. For true religious art like religion itself invariably seeks to express feelings and ideals which have certain enduring qualities.

However, certain fundamental elements have endured and these elements tend to bind together in a rather consistent pattern, the basic spiritual value of religious art--whether it be a Buddha idol--an Egyptian pyramid--a Greek Parthenon--a Chartres Cathedral--or a Colonial meetinghouse. Or, indeed, a Mormon Temple in my own home town.

As religious art has powerful capabilities it is essential that it have proper direction and purpose. Religion's purpose is man's only rational way of finding meaning for existence, to express his beliefs and ideals, and to relate himself to his fellow men, his universe, and his God. Further, because religious art must take direction and grow from a search for human and divine relationships, one of its most significant characteristics is that it belongs to a group, seldom to an individual.

As religion has a divine purpose--art is merely man's way of expressing the human thought and the human emotion in a tangible

form. Significant, is the fact, that fine art has always testified to the beauty and goodness of human life through the love of God, for its use is to remind us of God and the great realities of the Christian faith.

True architecture, and a successful religious building, must incorporate a happy harmony of all associated arts; painting, sculpture, mosaics, carvings, landscaping, stained glass, metal working, and embroidery. Good architecture must also provide for significant expressions of music, another form of art. Common has been the plea that religious art has not been encouraged in these latter times simply because it points toward idolatry. However, beautiful art whether in music, painting or sculpture, does not encourage idolatry—for its purpose is only too clear and its symbol pure.

Art in the Mormon church, as in most religions, has of late been sadly neglected—certainly it is time that sensitive people (like architects and artists) should seek to arouse, to stimulate, to inspire, to appeal to man's feelings through the rich vivid color or stained glass, fresco, mosaics, etc. For beautiful art is more than pleasure, more than happiness. It is unity. Churches need stronger alliance and unity equally as much as good art—particularly as it is a means of repairing the damage wrought by the stress and strain created by the bare matter of living in a mechanistic and material world.

(4) SYMBOLISM

At the dedication of Presbyterian Church at Cottage Grove, Oregon; Pietro Belluschi made the following comment, "In approaching the problem of designing a religious building, the contemporary architect is confronted by the difficult problem of creating forms appropriate to a modern society without destroying the many symbols which have given formal validity to the ideas of Church in the past. These symbols crystallized through the centuries have become identified in the minds of many with religious belief itself, and they gave much strength to all religious institutions."¹

From the very beginning, God almighty used symbolism in order to teach important truths. The flaming sword of the Angel of Eden was a symbol of the authority of God. The mark placed by the Lord upon Cain was a symbol to be read by all men. Naturalistic sculpture and paintings were used, in by-gone days, for church design, though neither had real encouragement for fear of the introduction of idol worship. This one fact has greatly decreased the potentiality of creative symbolic art being explored as a modern day supplementary aid in worship.

As religion is the highest aspect in man's intellectual realm--so art's highest aspect and function is the symbolic expression of otherwise unexpressible ideas. For in some mysterious and rather

1 Belluschi, Pietro: "The New First Presbyterian Church, Cottage Grove Oregon" (Pamphlet issued at Dedication)

intangible way there is a kinship or analogy between this visible beauty and the underlying truth of creating--just as there is between the swift curves of a Greek vase and a mathematical, geometrical formula.

Simply stated, "...lines, together with columns, textures, musical sounds, and a score of other elements besides, may be combined into great and intricate synthesis that we call work of art and as they increase in complexity and approach the fullness of perfection, so does their power grow for the expression and the revelation of emotion. Minor symbols coalesce into a great symbol, and so life is made richer, its significance and potentiality more clearly revealed. Through the symbol man lays hold, though doubtful on the fringes of Reality itself."¹

However, symbolism being then a virtue, it has its danger too--and that is, as has been indicated, that in degenerate times the symbol may be taken as the very thing symbolized. This of course is idolatry, and it is against this that the Lord's Commandments were declared. Further, however, the Lord, himself, in Old Testament days as well as in this latter dispensation (which will be shown presently) gave minute instructions for the construction and furnishings of his temples and tabernacles--interestingly enough--symbols were used everywhere.

Questions immediately present themselves: (1) just why did the Lord indicate the desire to use symbols, and (2) to what

1 Webber, F.R.: Church Symbolism, Introduction p iii.

extent have symbols been used in these latter days by the Mormon Church and (3) how may symbols be correctly incorporated as a means of expression today.

First of all, common understanding cannot argue with symbols. They find their way to one's heart immediately or not at all. More fundamentally—possibly—is that a symbol is a mock of identification and because of this it is simpler, more quickly understood and perhaps more artistic than its represented actuality. Since religious truth exceeds in reality the expressive power or works—then spiritual realities are revealed differently to each person. Words would simply handicap full meaning or create a misunderstanding for some. The range of symbolism is universal throughout Christendom. Symbols stand for ideals and yearnings which shall not pass away. Important symbols aid in recalling great events and truths that have inspired a lasting faith.

Secondly, as was previously pointed out, the Lord expressed interest—through specific directions, in all structures pertaining to divine use. In Mormon history one finds many examples where claims are laid to divine inspiration in regards to its religious buildings. First in Kirtland, Ohio, and then in Nauvoo, Illinois, temples were built according to the Lord's commandment to the people as received through revelation by the Prophet Joseph Smith. Later after the Mormons had moved westward to the Salt Lake Valley, Brigham Young, then President of the Church, received further revelation as regards

the design and construction of the Salt Lake Temple. The following is a quotation by Brigham Young from July, 1847, "I scarcely ever say much about revelations, or visions, but suffice to say, five years ago July, I was here and saw in the spirit the Temple not 10 feet from where we have laid the chief cornerstone. I have not inquired what kind of Temple we should build. Why? Because it was represented before me. I have never looked upon this ground, but the vision of it was there. I see it as plainly as if it were in reality before me..."

Interestingly enough, the Mormon Temple in Salt Lake City, Utah, incorporates many symbolic illustrations and usages. (See illustration 5) On the capstone of the east center tower is a hammered copper statue, 12' 5-1/2" in height, heavily gilded with pure gold leaf. It represents the angel Moroni, blowing a trumpet, proclaiming the restoration of the Gospel. To my knowledge, I have never seen or heard a word of opposition to this statue or its credibility criticized.

Nearly all the keystones of the windows and doors of the Temple are ornamented with a beautifully cut five pointed star. The keystone of the lower windows of the east and west towers have inscribed on them the words of the Lord, "I am Alpha and Omega". This is of particular interest in that the symbol regarding Jesus Christ is seldom correctly used for it has become common practice today to merely inscribe "alpha and omega" which simply stands for the first and last letters in the Greek alphabet--nothing more. Properly used

it must be combined with another symbol which pertains to Jesus Christ such as the cross or Chi Rho to give it complete meaning. However, the inscription on the Mormon Temple is intelligibly understandable simply by "I am..."

Below the lower window keystones is carved the emblem of Clasped Hands, and on the stones at the top of the upper windows is depicted the awe-inspiring symbol of the All-Seeing Eye. The truth recorded in the scriptures that, "The eyes of the Lord are in every place, beholding the evil and good," is expressed by the symbol of the All-Seeing Eye.

"At the top of the buttresses of the east center tower are carved representations of rays of light emanating from clouds. The stones representing rays of light streaming from the midst of clouds indicates Gospel Light dispelling the clouds of error which had enshrouded the world..."¹

Earth stones, moon stones, and sun stones, all 50 in number illustrate the prolific use to which symbols were employed. The Seagull is also a symbolic figure in the Mormon Church due to its saving of the crops from beetles the first year the Saints were in the valley.

Certainly this should suffice to illustrate that symbols do have a just place in the contemporary Mormon society and if they are used properly they may be of great help in conveying intrinsic spiritual truths. Thirdly, however, before a symbol can be effective and useful, it must be correct in nature, intent, and proposed purpose.

1 Lundwall, N. B.: Temples of the Most High, p 139.

There is a close analogy between the correct use of symbolism and the use of church music. Any thoughtful musician will say that church music is not to be used as an end in itself. It is only a means to an end. Its purpose is to express beautifully certain religious truths. To do this it must be impersonal. When music becomes so ornate or so assertive that we are led to admire the melody itself, and lose sight of the truths it seeks to proclaim, it has failed in its purpose. It has become a mere performance, to exhibit the skill of the singer rather than a vehicle used to express profound thoughts. So it is with symbolism. Like music, it must be subordinated to the truths it seeks to set forth. Too much of our modern symbolism has attracted attention to itself, rather than to the meaning back of it.

Pictorial representation must also be avoided in symbolism, unless such representation is treated symbolically. Instead of trying to picture the creation of the world, it is better to show a single scroll with the first verse of the first chapter of Genesis carved upon it. Further, it is important that we select symbols that are consistent with our way of life and that the belief behind the symbol is loved by the people, for if we love a symbol we will call it beautiful—regardless, generally, of whether or not it conforms to the basic aesthetic principles; while if we hate it, no art can make it less hateful. Illustrative of this would be the hammer and sickle, symbolic of Communistic idealism—we are not displeased by the form, for in fact, it is hardly considered, but it is repulsive simply because of its symbolic meaning.

As can be easily seen, man lives a great deal by symbols, whether cognizant or not, and these symbols must possess a meaning which can be understood by men of our own day and also possess the power to kindle the soul and touch the imagination—for if they are not, man is quite likely to be impatient with an architecture of symbolism, even a beautiful and ancient symbolism, if it is found to be too costly, ineffective and troublesome.

In summary, symbols have and should today play an important part in Mormon architecture and everyday living—however, their use has been extremely limited in the design of Latter-Day Saint Meeting-houses and it is felt by this author that an understanding and constructive use of symbols would be a distinct asset in contemporary design.

CHAPTER VII

TECHNICAL CONSIDERATIONS

(1) GENERAL

A complete study on all the technical aspects of a Meetinghouse would serve mainly to exhaust the reader and consume space. Rather than to this I shall consider such an investigation beyond just a general expose of the most important factors to be beyond the scope of this particular thesis.

However, in religious architecture, attention must be given to the tremendous advances made in lighting, heating, air-conditioning, in acoustics, and in decoration and furnishings which are more often successfully employed in our domestic, commercial, and industrial fields rather than in religious buildings.

(2) LIGHTING

Many meetinghouses and religious buildings continue the use of exposed glass bowls hanging unsympathetically from the ceiling. This arrangement seldom increases the aesthetic atmosphere of the chapel--neither does it provide enough light for the congregation. Too many people, including the architect, rely upon insufficient lighting to be the setting for worship. However, the advancement in new lighting skills and its humanistic effects certainly

illustrates that it is quite possible to use sufficient light and still create the emotional mood so essential.

In the past, chapels were not lighted beyond three or four footcandles which contrasts sharply with the present practice of lighting educational and commercial buildings with thirty footcandles. Today the recommended standard is ten with an absolute minimum of six. The light intensity should be governed by the light refracting quality of the surface upon which the light impinges, for this reason the color of materials and finishes must be taken into consideration. Many buildings, by the use of rheostats are able to step up illumination considerably at will—and by reducing the voltage on equipment, the life of the bulbs and lamps is much longer.

Judicious use and placement of light sources and intensities can amplify points of interest and by this proper attention may be focused where desired. Lighting must also be used to enhance the beauty of the architecture and by this it may happily reinforce the reverential feeling.

(3) FURNISHINGS

The full emotional effect and the aesthetic quality of a structure may well be lost if proper attention is not given to the interior furnishings. The design and appropriateness of the interior space and furnishings make of the unit a complete composition. Equal stress, then, must be placed upon the structural and furnished qualities of the building

in order to maintain the spiritual dignity required in the place of worship, and the atmosphere of comfort and utility which should prevail in the social and recreational rooms.

The careful selection of stained glass, grilles and screens, pews, stands, sacrament furnishings, as well as the proper design of the forms of the nave and the treatment of its walls, etc.--all make up a total ensemble which expresses a clear-cut, aesthetic and spiritual unity.

(4) ACOUSTICS

The use of a Mormon Meetinghouse has directly influenced the form of the chapel hall. The character of the Mormon Church--being almost opposite to the Catholic in its type of service demands a chapel space that (1) is most adapted to the spoken word, and (2) is satisfactorily designed for congregation and choir singing both separately and individually.

As is commonly known, good acoustic accommodations for both speaking and music unfortunately do not coincide--so we must designate which is to be of maximum importance and then come to a reasonable compromise. Thus, the organ and choir location must be such as to render the best environment for the generation of music--and the stand should provide optimum conditions for the spoken service. The nave requires the properties of a good listening environment for both speech and music.

Good acoustic properties depend mainly on properly locating the structure in regards to outside noises, to shape the structure so as to get maximum sound diffusion and useful reinforcement, to avoid echoes, sound foci, and long delayed reflections, and to provide an optimum reverberation time for the particular service and chapel.

In a meetinghouse chapel accomodating 250 persons a cube-age of 50,000 could be expected and for the general requirements as listed above for Mormon Chapels a reverberation time of 1.3 seconds would be desirable. This figure would be based on a frequency of 512 cycles with two-thirds capacity audience present. In general, the walls, floor, and ceiling of the stand should be finished with acoustically reflective materials, such as wood panelling or ordinary plaster or lath. The walls, ceiling, and furnishings of the nave should be finished with such materials as will provide the optimum reverberation.

Probably, the most important single element to consider in the initial planning state would be the necessity for insulation against outside noises. The Chapel should be a refuge where one is not disturbed by the noise and turmoil of the outside world, for quiet and undisturbed surroundings are absolutely essential for meditation and prayer. On such a busy street as Brattle, reasonable precaution should be taken in insulating the church against the outside noise, plus guarding against noise which may originate in adjacent rooms, in order to reduce noise level in the Chapel to an acceptable level of 35 or 40 db.¹

The speakers platform should be located as closely to the congregation as is possible and must be easily seen by all members. The

1 Chart, Optimum Reverberation Time for Church Auditoriums, Acoustical Designing in Architecture by Knudsen-Harris, p 375.

more directly the organ can speak into the nave the better, while in good practice it should be located to the rear of the choir so as to support rather than submerge the singers.

If the acoustical design of a small chapel conforms to the principles and recommendations as set forth--speech will be heard satisfactorily in all parts of the nave and chancel, and music will have the required reverberation to balance the separate tonal components and blend the harmony.

(5) HEATING

Two unusual but vital factors guide the approach to Meeting-house heating design. First, the financing of the project is generally voluntary--this means that a lack of funds is a constant and well established church ghost. Second, the hours of heating, will range from four hours on Sunday to two on Wednesday, etc. This means that fast heating is desirable for a brief use of the facilities, while some form of partial or area heating should be provided for the open-door conditions.

The above factors create the first principle of church heating, which is: Provide economy in the design.

The second principle is: Provide uniform heating, without drafts or hot spots. Usually the designer knows all about uniformity in heating, however, care must be taken to guard against church authorities exerting that short cuts must be taken to save money or space.

The third principle of church heating is: Provide heat without noise. Steam and water systems rarely offend in this way, although water hammer in an improperly designed steam system can be extremely irritating. One pipe systems are particularly susceptible to the development of water hammer as a result of building settlement--they are also the most particularly favored by many churches because of the comparatively low initial cost.

Noise in forced-air heating systems originate primarily in the fan. This fan noise often causes a church to reject unit heaters for a more expensive system. If the unit heaters can be arranged with sound treated, short ducts, the problem can be solved.

The transmission of noise can often be effectively stopped by the insertion of a fabric joint between the heater and the duct. Velocity noises through ducts and grilles do not occur if the air speeds are held to the following feet per minute values: Main ducts, 900; stacks, 500; grilles and registers, 500.

The fourth principle of church heating is: The heating system must not offend the architecture. In efforts to observe this principle, heating elements have often been relegated to the most inappropriate and inaccessible nooks and crannies. This always results in a bad design and is fortunately not necessary if proper allowances are made for heating in the initial planning stage.

The fifth principle of church heating is: Design for simplicity. The janitor of the meetinghouse is generally a busy man. Occasionally he is equipped with an understanding for mechanics, more often however, the

less he has to do with the heating system the better he likes it. In consequence, the average system is asked to perform adequately automatically for a long period of time. In short, a simple, sturdy arrangement is what is needed for long and probably neglected service.

(6) VENTILATING

Ventilation requirements are of considerable importance in a religious building, and their needs vary by areas just as heating needs do. Proper ventilation not only provides additional comfort for the occupants but creates a more healthy environment. Kitchen and toilets must be mechanically ventilated and should be on separate exhaust fans. The recreation hall should also have its own exhaust air system and some type of ventilation for the chapel would be desirable.

Actually though, the principles of meetinghouse heating and ventilating are somewhat complex and it is not impossible in either idea or application to provide a religious building with a satisfactory system. The violations result when one is guilty of superficial or wishful thinking.

CHAPTER VIII

CONCLUSION

The principle which truly underlies the activities of the Mormon Church is the conception of life as unity. Life cannot be divided, except in the imagination, into "religious," "social," and "educational" experiences. Nor can any of these experiences be divided into emotional, intellectual, and physical elements independent of each other. For a true religion is not a code of ideas and philosophic principles; nor is it an emotional exaltation or aesthetic pleasure felt in prayer, song, or ritual. Religion is a way of living-- in the manner in which we recognize God in our lives.

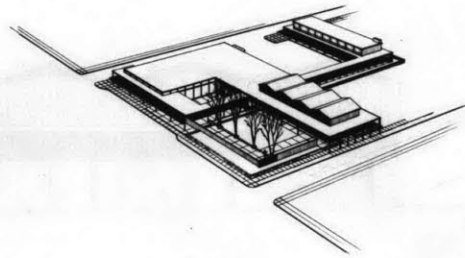
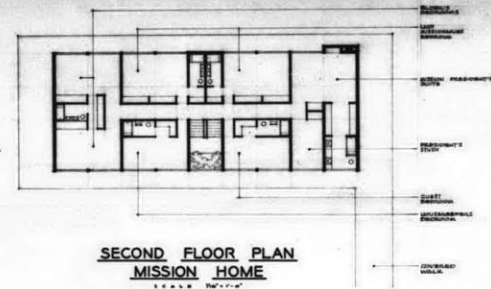
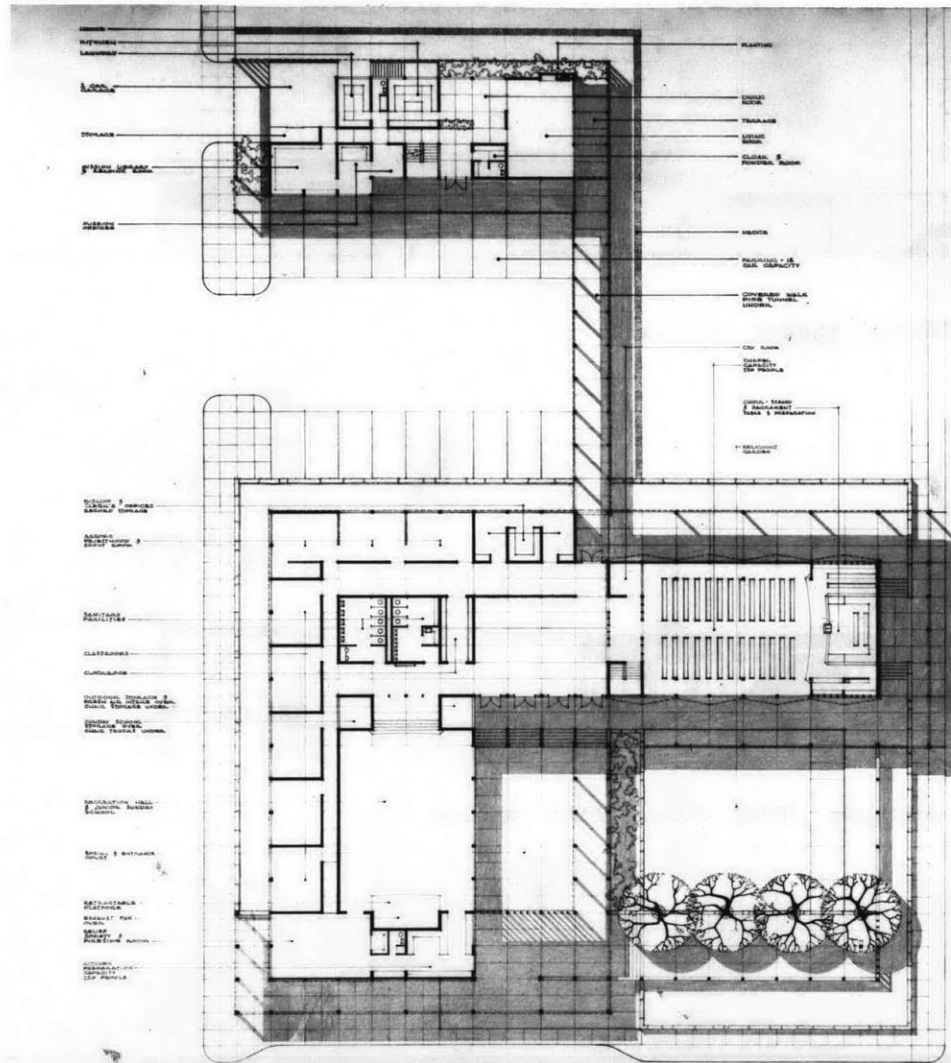
It is this belief in God and the recognition of absolute beauty and perfection that compells us to compose the finest possible environments for our worship and for God's earthly shelter.

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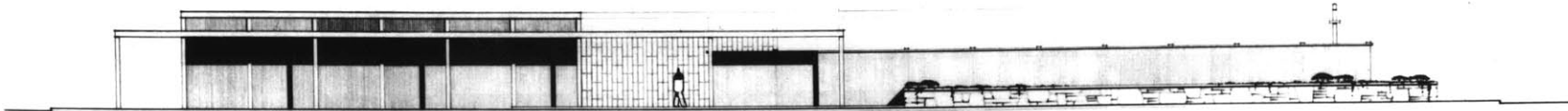
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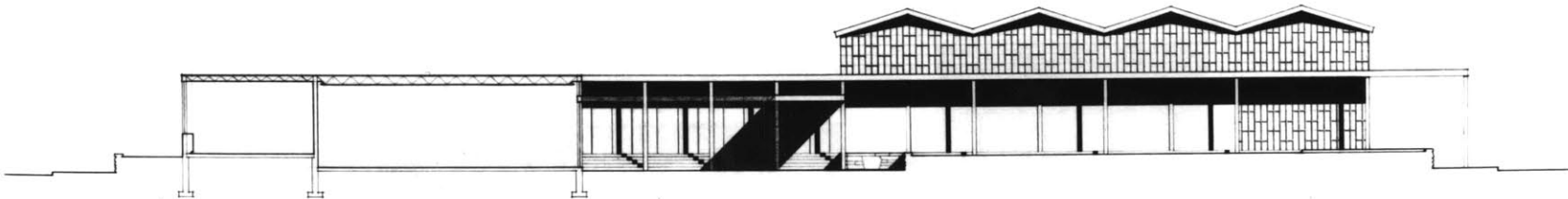


mormon
church

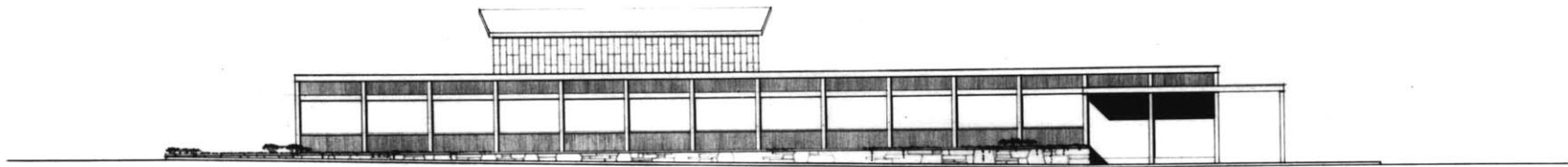




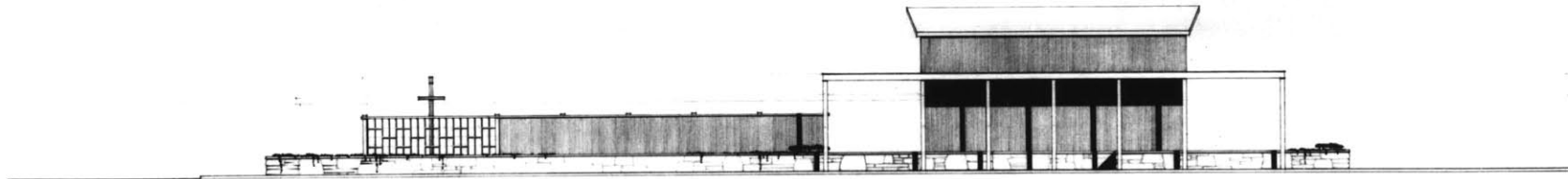
BRATTLE STREET ELEVATION



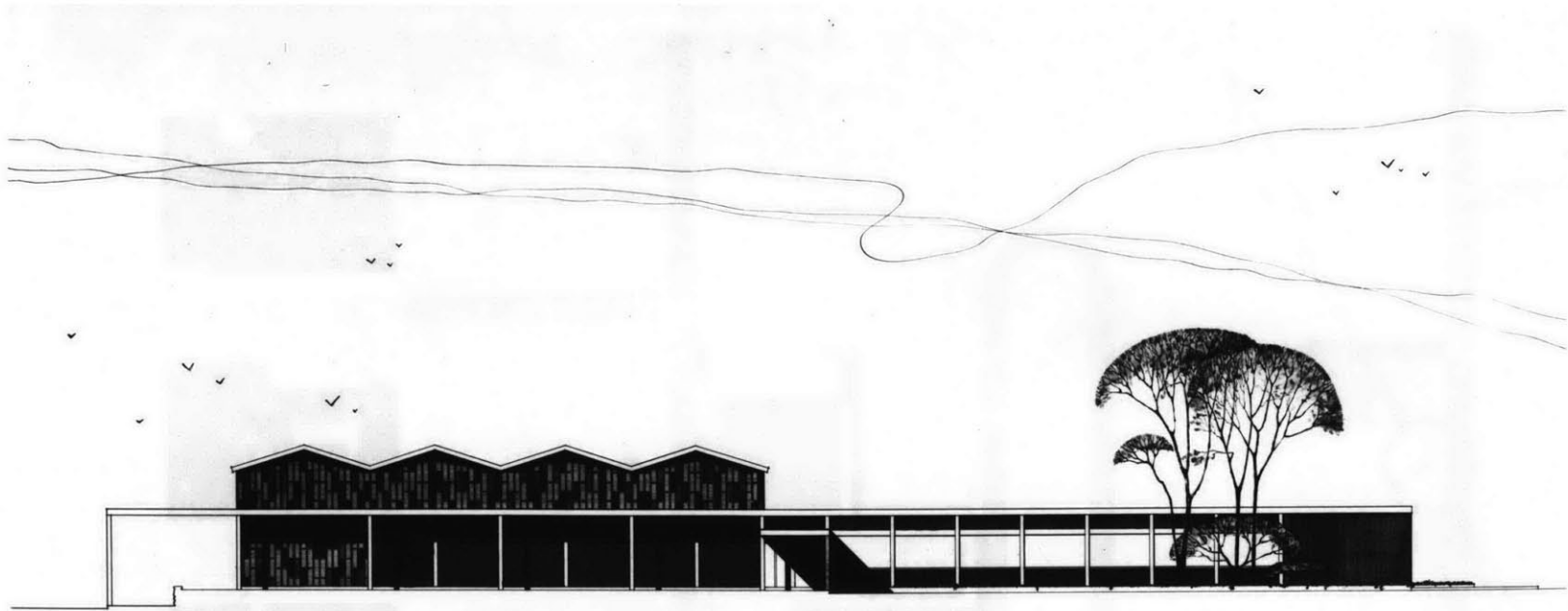
SECTION THRU SOCIAL COURT - REC. HALL ETC. & CHAPEL ELEVATION



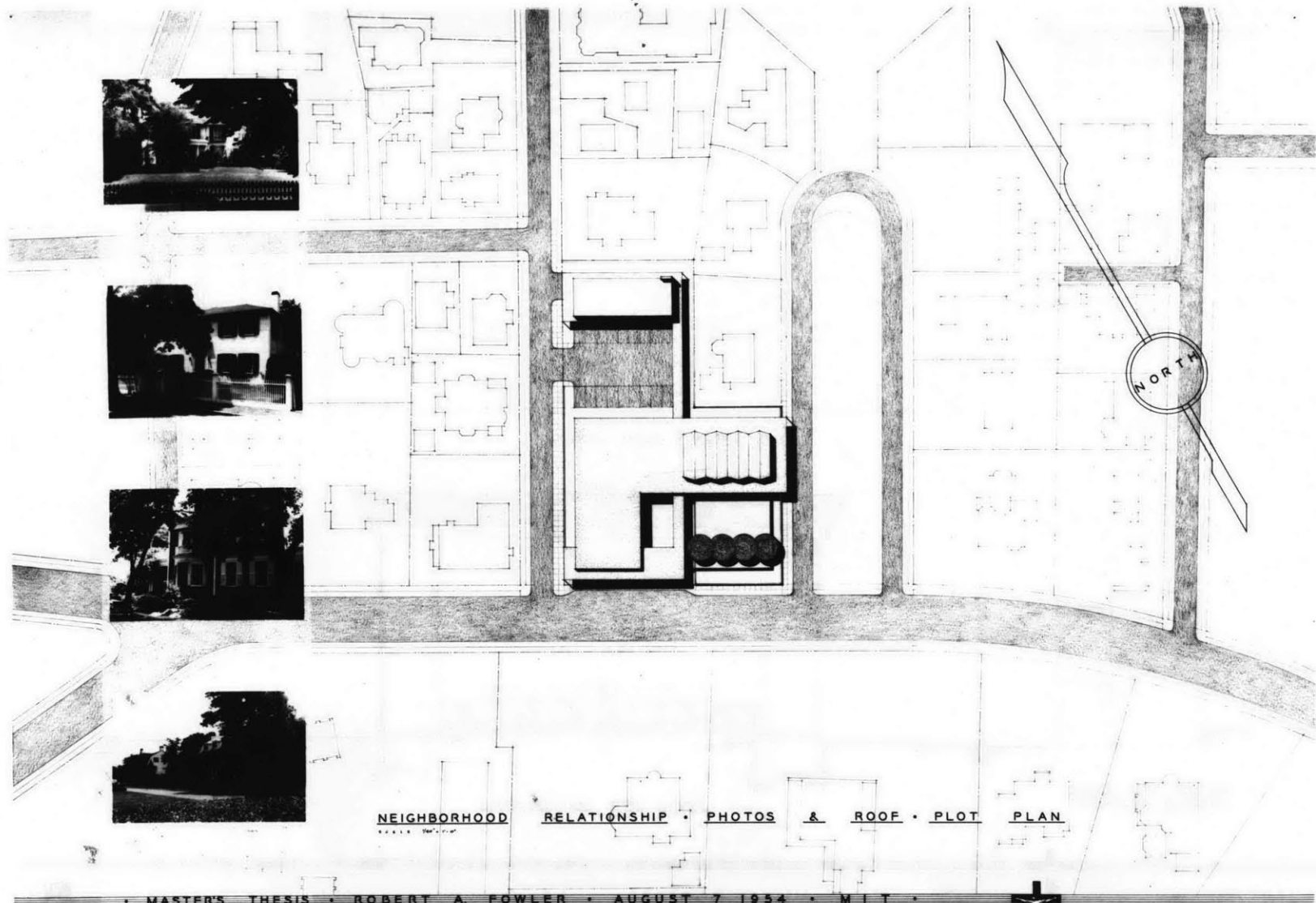
HAWTHORN STREET ELEVATION

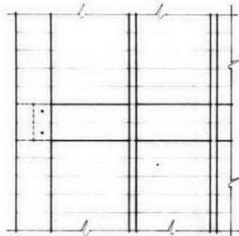
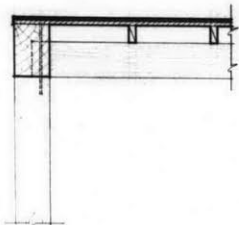


LONGFELLOW PARK ELEVATION

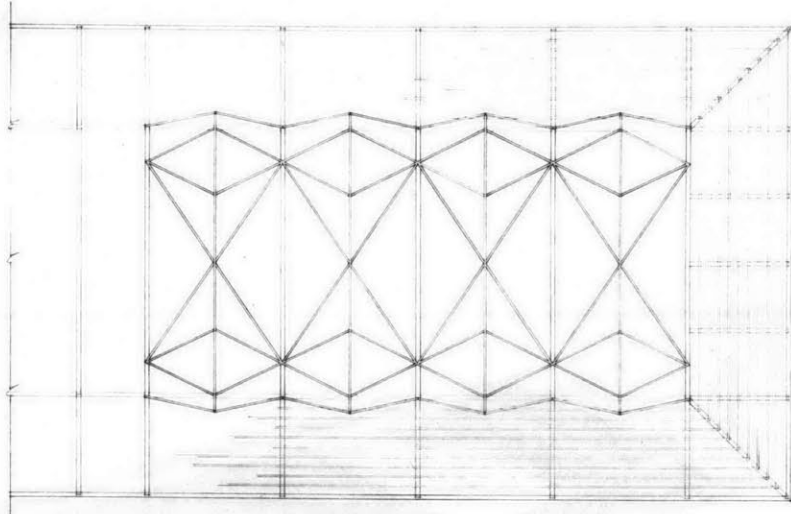


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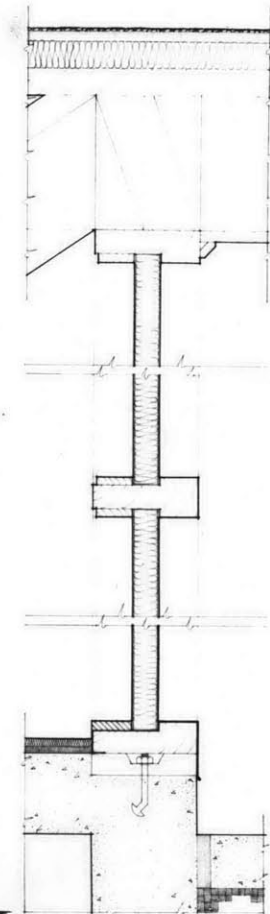




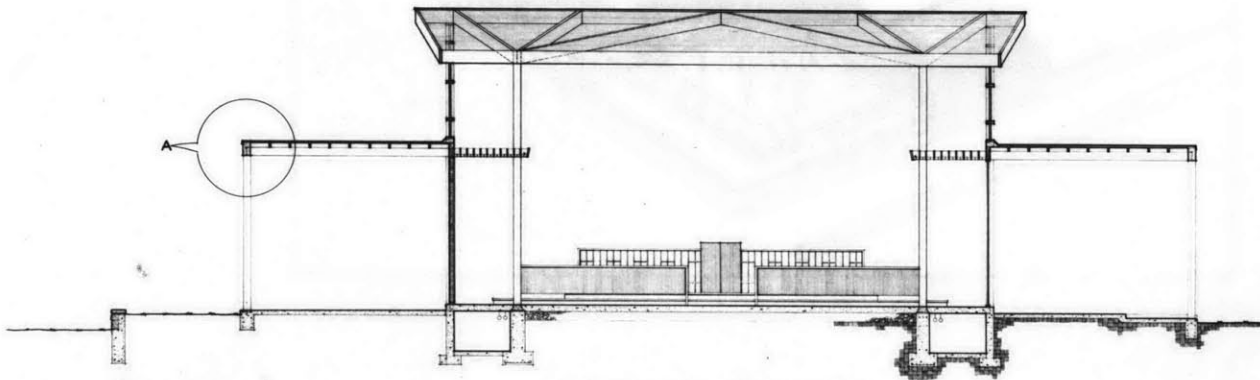
SECTION & PLAN
AT (A)



CHAPEL ROOF FRAMING PLAN



CHAPEL WALL SECTION
THERMOLUX GLAZING



CROSS-SECTION THRU CHAPEL

