

A HEBREIC CONCEPT OF FORM:
A Tabernacle for the Newton Center Shabbat Minyan

by James Moss Brandt
A.B. Environmental Design,
University of California, Berkeley, December, 1981

Submitted to the Department of Architecture
in partial fulfillment of the requirements of
the degree of Master of Architecture at the
Massachusetts Institute of Technology,
June, 1986

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Abstract

I propose to design a place of study and worship for the Newton Minyan, a Jewish community fellowship based in Newton, Massachusetts. While the project's programmatic design considerations and adopted iconography will certainly reflect an inherited tradition, the specific needs, worship styles, and continued interpretation of a tradition make necessary a development of a new archetype. This archetype will be developed by interpreting the needs of the community, and by rediscovering applications of a Hebreic concept of building.

Thesis research focuses on a Hebreic concept of form as an architecture acknowledging time. One that composes and retains cultural meaning by integrating space and time; one that recognizes the cycles of nature and generations. Biblical models are interpreted to rediscover a tradition of Jewish place making and the discoveries are interpreted into a client generated program of use.

The thesis uses the design process to develop the relationship between architect and builder by employing an adaptive foundation system and modular structural and enclosure systems that encourage on-site and post-occupancy design changes. It aims for a building that speaks about how it is made, following the Hebrew view that materials are hallowed by their use and must be employed with honesty and integrity -- according to their nature. It aims for a building that tells the story of its creation, a product that avoids the master plan and extends the process. It looks to expand, and improve, the architect-builder relationship by inviting the user into the place-making process. These aspects are brought together to examine how the built environment -- and the process of building it -- can sponsor cultural growth and ground our shared meanings in the past-future. The thesis looks to improve the process of building, and to explore the meaning found in it.

Thesis Advisor:

Maurice Smith

Professor of Architecture

A HEBREIC CONCEPT OF FORM:
A TABERNACLE FOR THE NEWTON SHABBAT MINYAN



JAMES MOSS BRANDT

25 FEBRUARY 1986

16 ADAR 5746

This work is dedicated to
my father,
Rudolph Joseph Brandt,
of blessed memory
and
my mother,
Suzanne Crausman Brandt

May their teachings and
examples be forever a
blessing of peace upon Zion.

ACKNOWLEDGMENTS

It is a rare pleasure and a privilege to publicly acknowledge those who have helped to make my work meaningful. I apologize in advance to anyone I may have left out. I have been blessed with so many worthy relations that it is difficult to record them all at one time.

I am indebted to Maurice Smith, whose critiques and suggestions remain unsurpassed and whose design methodology has proved to be an invaluable tool. I am grateful to Rabbi Daniel Shevitz, who acted as the user representative for the Newton Center Shabbat Minyon in client meetings, and to Melvin Alexenberg for his inspired thoughts and priceless references. I would also like to acknowledge the suggestions and input I received from Stanford Anderson, Elin Corneil, Julie Messervy, Sharon Parks, and Rabbi Yosef Wosk.

I extend special thanks in each case to Steve Greenberg for his help with the photography, to John Villani for his support and beautiful truss work, to Kelli Workman for her editing and for being there, to Stuart Simon and John Moses for taking such good care of me over the past year, to Rav. Moshe Holsher for his patience with my basic questions, to Richard Berg for his tough crits and for all that we have shared over the past two years, to Kevin Thornton for being the best big brother in the world, to David Frydman for the hugs, and not least to my family for everything.





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"The Synagogue". Etching by Rembrandt, 1648

INTRODUCTION

This document records the development of a design methodology that is rooted in the Jewish tradition and the organic movement in 20th century architecture. Biblical models of form making are particularly emphasized. The Tabernacle of the Sinai Desert, the Temple in Jerusalem, and the sukkah, a ritual hut central to the autumn harvest festival, are major examples investigated toward the understanding of a Hebreic concept of form. Connecting the organic principles and the references taken from the Jewish tradition aided to interpret philosophical content into physical form. Writings of architects, theologians and humanists are cited as they influenced the design. Examples of formal principles as they are manifested in built and natural environment are partially recorded.

In the following chapters the collected material is organized by topic, documenting the process that produced the final design. The format is purposely fragmented and discontinuous. The chapters may be read in full or in part and in any order. Each aspect may stand on its own, but is enriched when woven together with other understandings. The following symbols indicate the tradition from which the reference was taken.



Reference from built and organic form.



Reference from the humanistic tradition.



Reference taken from Biblical models and the Jewish Tradition.



Application for the Newton Center Shabbat Minyan.





ASPECTS

MODELS

PRINCIPLES

IDEAS

You shall inscribe the commandments on the doorposts of your house, and on your gates - that your life and the life of your children may be prolonged in the land, which the Lord promised He would give to your fathers, for as long as the sky remains over the earth.


Deuteronomy 6:9





A HEBREIC CONCEPT OF FORM: AN ARCHITECTURE OF TIME

For the Jew every image of God is incomplete. The Almighty is understood to be beyond the realm of the physical and no image can represent God's existence. The Jewish conception of religion is man in search of God. The incomplete image makes this search a dynamic, evolving process. Following, the hebreic form is unfinished in evolution, one that accepts new occupations and new truths. The architectural process is extended by realm and in time. The architecture would be truly inhabited, meaning a communication with external reality and a continuation of building. Ritual is localized not only in time, but also in space. For a Jewish architecture, this makes an open design, one that is constantly in process and unfinished: an invariable.

⌚  "Judaism is a way of life that endeavors to transform virtually every human action into a means of communication with God. Through this communion with God, the Jew is enabled to make his contribution to the establishment of the Kingdom of God and the brotherhood of men on earth."

--Finkelstein
The Jews, Vol.IV pg. 1327

⌈⊗ "The Jew experiences time as being primarily cyclical. He greets the sunrise each day with his morning prayers, and recites his afternoon prayers as the light fades into sunset. Each month begins with the new moon, with the reappearance of the lunar crescent. The Earth's annual cycle is marked by the seasonal festivals and Rosh Hashana. (The prayerbook for these holidays is called Makhzor, literally "cycle") In contrast with these celebrations of natural cycles which have spatial referants (i.e. the Earth's daily motion, the changing phases of the Moon, the yearly movements of Earth and Sun), the seventh day is sanctified and celebrated as the Sabbath even though it is unrelated to any natural cycles: A cycle completely detached from the world of space and existing only in the realm of time is created.

Judaism is a religion aimed at the sanctification of time."

- Melvin Allexenberg
"Toward an Integral Structure
through Science and Art"

⌈⊗ In the entire Hebrew Bible we do not find a single description of an objective "photographic" appearance. Biblical accounts describe the "making of the object. It is the process that interests the Israelite not the appearance of the finished product. The use is what is important in Jewish buildings, for they are not themselves objects of beauty, but are implements of human or divine action.

⌈⊗ "The Jewish artist faces the need to revive, to derive new art forms not from an artistic tradition, but from the deep structure of Jewish consciousness."

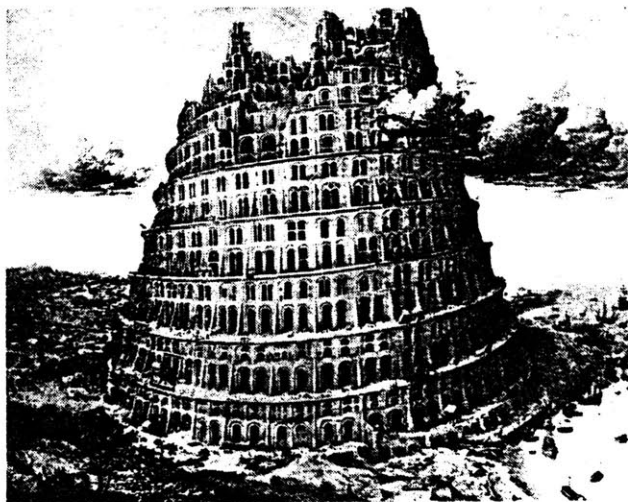
--Melvin Alexenberg
Booths, Beerhalls, and BMW's

⌒ ⊗ "Our intention is not to depreciate the world of space. To disparage space and the blessings of things of space, is to disparage the works of creation, the works which God beheld and saw 'it was good'. The world can not be seen exclusively sub specie temporis. Time and space are interrelated. To over look either of them is to be partially blind. What we plead against is man's unconditional surrender to space, his enslavement to things. We must not forget that it is not a thing that lends its significance to a moment, it is the moment that lends significance to things."

--Abraham Josuah Heschel
The Sabbath, pg. 6

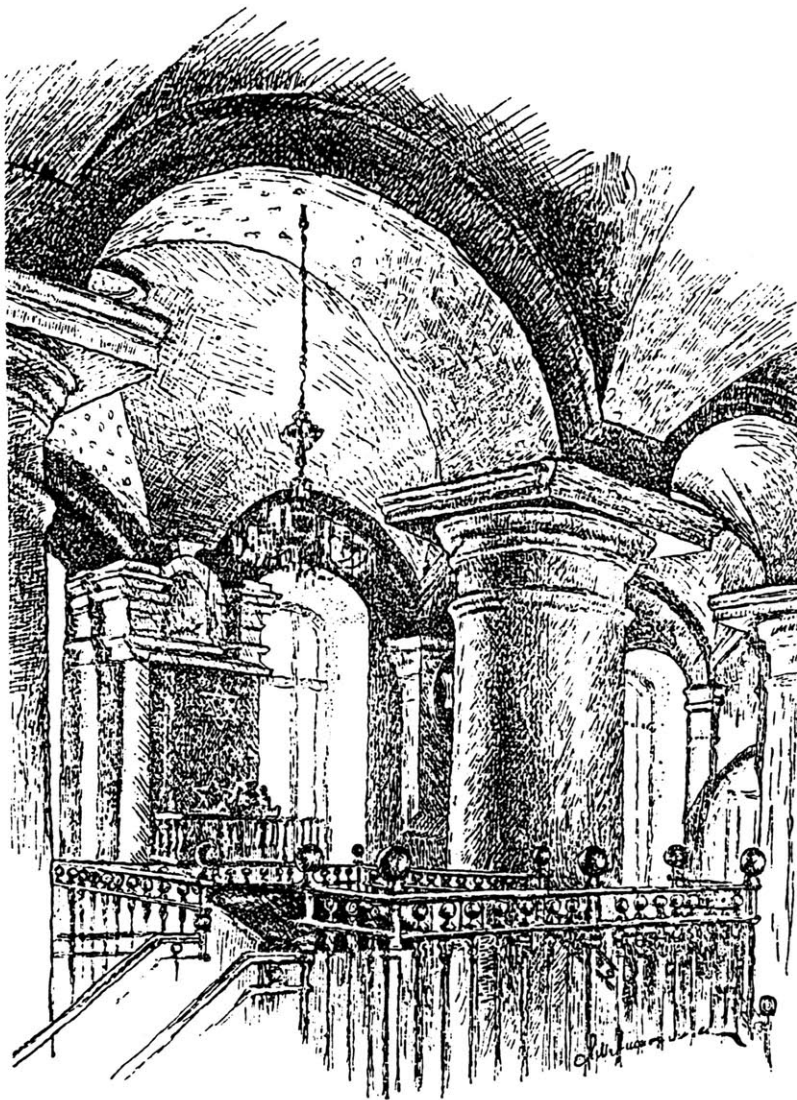
⌒ ⊗ "When history began, there was only one holiness in the world, holiness in time. When at Sinai the word of God was about to be voiced, a call for holiness in man was proclaimed, 'Thou shall be unto me a holy people". It was only after the people had succumbed to the temptation of worshipping a thing, a golden calf, that the erection of a Tabernacle, of holiness in space was commanded. The sanctity of time came first, the sanctity of man came second, and the sanctity of space came last. Time was hallowed by God. Space, the Tabernacle was consecrated by Moses."

--Abraham Josuah Heschel
The Sabbath, pg. 36



The Lord spoke to Moses, saying: Tell the Israelite people to bring Me gifts; you shall accept gifts for Me from every person whose heart so moves him.

— Exodus 25:1





THE NEWTON SHABBAT MINYAN: AN INTERPRETATION OF USE

Carl Jung built a house for himself in Bollingen. It started as a kind of primitive one-story dwelling. A round structure with a hearth in the center and bunks along the wall. After some time, the house was too primitive. A dwelling tower was added. Again when the expression of the house became insufficient, a central structure with a tower-like annex was added. The annex was later extended to provide a place for spiritual concentration. Wanting a place that was open to the sky and nature, Jung enclosed a courtyard and loggia. Jung built his house, incorporating new parts to it as he outgrew its limits and meanings. He wrote: "Words and paper, however, did not seem real enough to me.... I had to make a confession of faith in stone.... At Bollingen I am in the midst of my true life, I am most deeply myself."¹

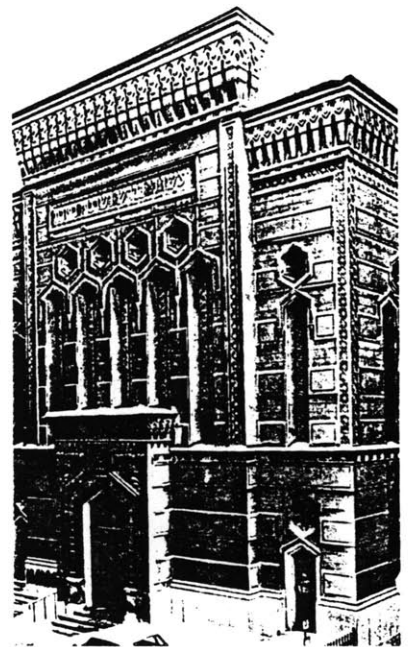
Cultural building is a process by which we make meanings and preserve the past. Architecture -- ever more than poetry or music, for they are contained within architecture -- conquers our forgetfulness and preserves our tribal truth. John Ruskin explains in his "Lamp of Memory" that "We can live without architecture, and worship without her, but we cannot remember without her."² The importance of this work is the preservation of truths in memory, and their meanings in historical development, not their preservation as a static reality. Architecture is an additive process; the master plan is limited by the understanding at the building's conception. Our buildings, as our communities, must be designed not to endure history but to evolve, accepting new truths over time. Mental development is a continuous construction comparable to the erection of a vast building that becomes more solid with each addition.³ Through

architecture we compose meaning and thus define for ourselves our humanness, our relationship to nature and to God -- what ultimately is and what is ultimate.

1. Carl Jung, Memories, Dreams, Reflections, p. 225.
2. John Ruskin, Seven Lamps of Architecture, p. 169.
3. Jean Piaget, Six Psychological Studies, p. 4.

⌋ ⊗ The minyan, a quorum of ten necessary for the Jewish prayer service, not the building itself, constitutes the synagogue in the most fundamental sense. "Synagogue" was adopted from the Greek word, "Syngein" which means "to bring together." Hebrew lacks a word for the place of prayer, for it is the time, not the place that is important.

⌋ ⊗ Exodus 25:2 says: "Tell the Israelite people to bring Me gifts; you shall accept gifts for me from every person whose heart so moves him." A midrash (teaching) by Rabbi Shuel comments on this saying: "When Moses came to Israel, saying: 'God told me "Make Me a sanctuary,"' the princes said: 'God commanded that all Israelites contribute their share towards its construction.'" From this it is understood that the synagogue should be conceived in a manner so that every member of the community will have an opportunity to affect the design.

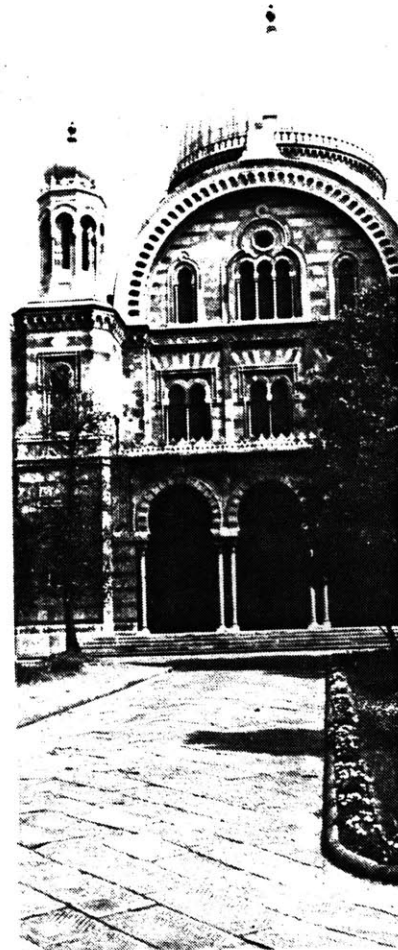


⌚ The first synagogues, or even the records from which to reconstruct them, have never been found. It is probable that they were first formed when Nebuchadnezzar carried the Jews into Babylonian captivity in 535 B.C./B.C.E., after destroying Solomon's Temple. Historically, there is no conventional style for the synagogue which usually reflected the institutional vernacular of the society in which the Jews lived. The Jews, who did not receive normal civil rights in any European country until the French granted them in 1791, tempered architectural ambitions to suit political and social circumstance.

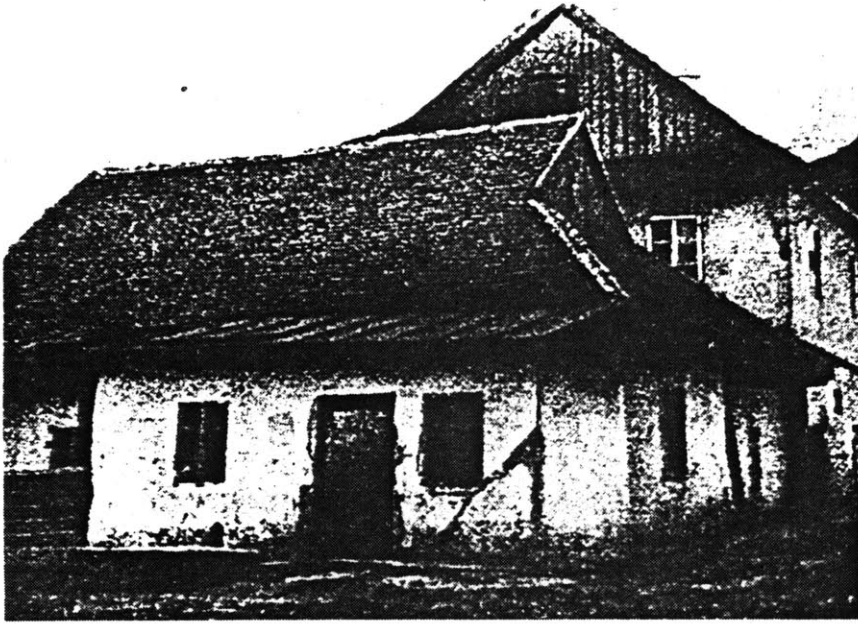


⌚ R. Ezekiel Landau, the great legist of the 18th Century, points out that "we have no prescribed form whatsoever for the shape of synagogues," although he frowns on innovations which merely are imitations of current fashions. There is even reference in some Rabbinic sources to some who dispensed with the synagogue altogether and, like Isaac (Gen. 24:63), prayed out in the open. Since prayer was defined as "service of the heart," the Rabbis placed primary emphasis on intention and extolled the worshipper who becomes totally oblivious to his surroundings.

-- Joseph Baumgarten,
Art in the Synagogue:
Some Talmudic News



⌚ Jewish Synagogues of varying styles.



⌒ ⬡ The synagogue of the Baal Shem Tov (Master of the Good Name) was in a simple one-room house.



⌒ ⬡ Reading of the Torah on the lawn of Cabrini College, Radner, Pennsylvania, July 4, 1985.



A synagogue in ruins may only be used for certain secular purposes, because some sanctity remains associated with it. Ideally, the ruin would be left untouched, with wild grass and weeds growing to arouse compassion in the viewer. "And I will bring your sanctuaries into desolation" (Lev. 26:31) suggested to Talmudic sages that the "little sanctuaries" should be left as the Lord foretold.

-- Carole Herselle Krinsky
Synagogues of Europe, p. 10



Ruined structures, in the process of going back to the earth, are enjoyed everywhere for the emotional sensations they convey. This pleasurable melancholy may be coupled with the observer's satisfaction at having survived or be tinged with righteous triumph, esthetic delight, or intellectual enjoyment. One may loot the ruin or live in it or put one's name on it. Accumulated literary associations add depth to the experience; place names become pegs for layers of commentaries, as in the Chinese culture. But at the base of the emotional pleasure is a heightened sense of the flow of time.

-- Kevin Lynch,
What Time Is This Place?, p. 44



According to Jewish law a shortcut may not be made through the sanctuary. The rabbis explain this statute not as an intention to sanctify the place but to make the worshiper feel at home. "Just as a man would not want his home to become a shortcut."



Sanctuary, from the Greek "Sanctum," meaning a private room where one is not to be disturbed, is the most sacred part of a sacred structure, a place of asylum or immunity.

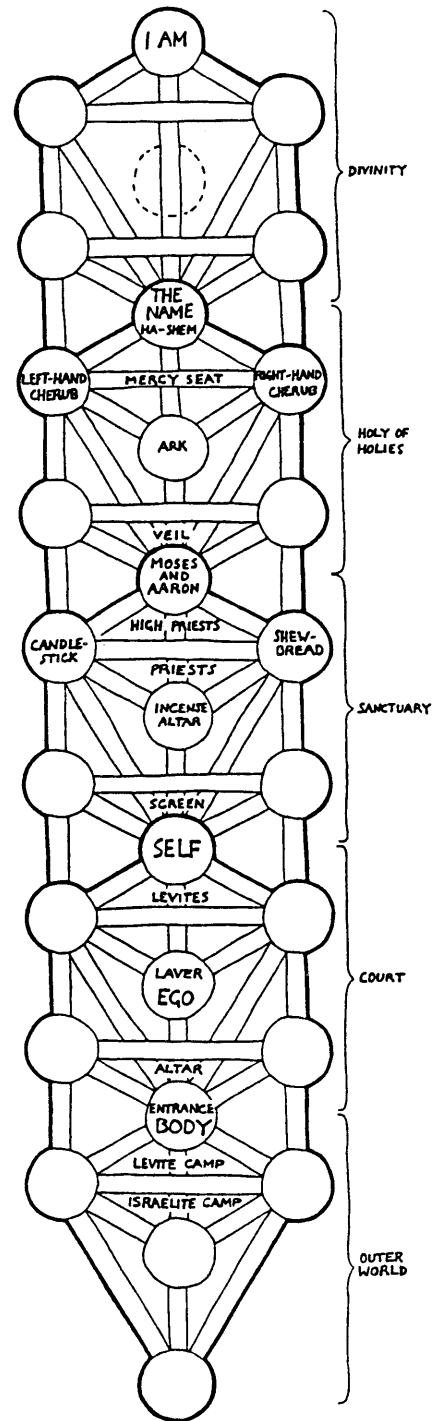


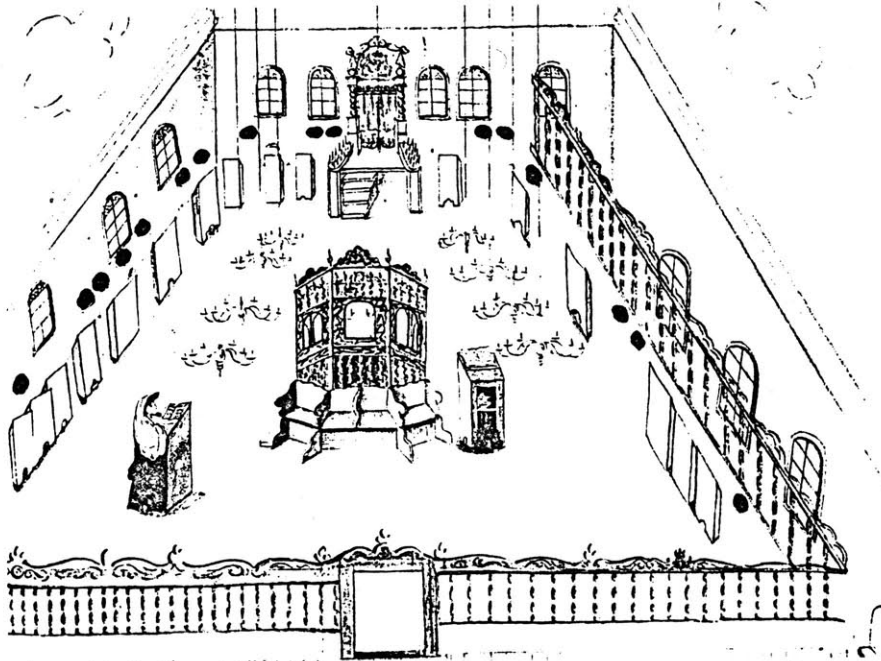
⚡⊗ According to Jewish law, the synagogue must have windows, a requirement stemming from Daniel 6:11, which described how Daniel prayed by windows facing toward Jerusalem. The talmud warned against praying in a room without windows.

◻⊗ There must be a vestibule between the sanctuary and the street. In the vestibule, Judah Loew ben Bezalel of Prague explained, the thoughts and cares of the outer world are shed before entering the holiness of the inner sanctuary.

J⊗ In the Newton Tabernacle the approach to the sanctuary is from the east. A 180° turn is necessary to enter the vestibule.

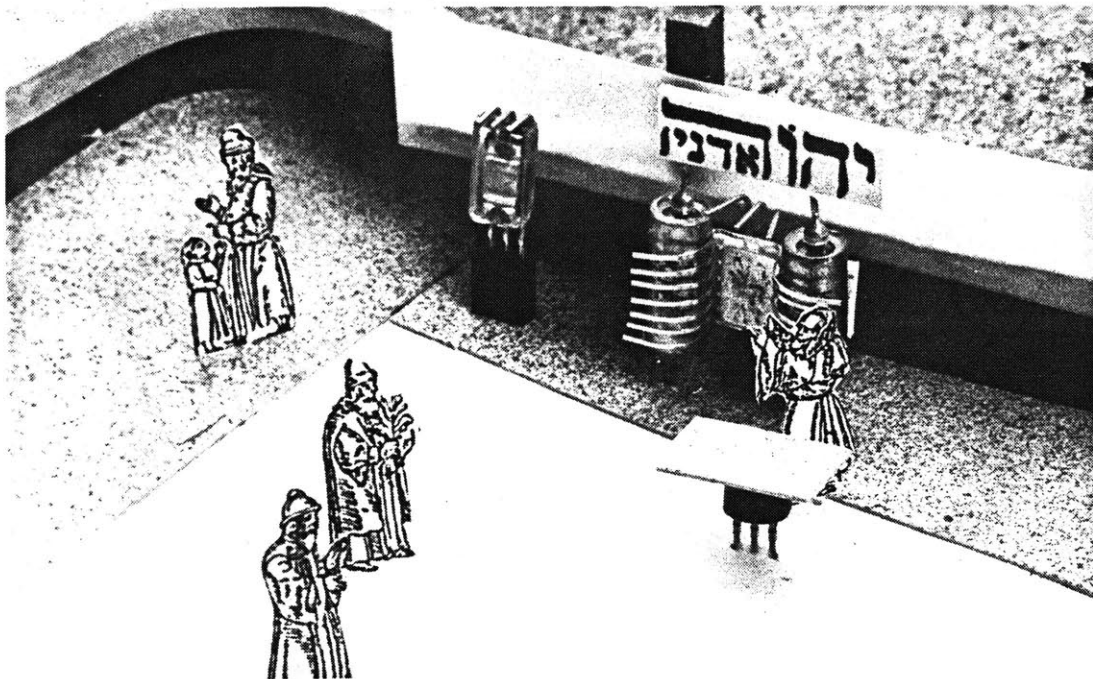
|⊗ The architectural elements that are essential to the Jewish prayer are the Ark, a container, either free standing or wall mounted, and containing the Torah scrolls; the Bimah, a reader's platform, from which the law is read; and eternal light, a lamp that burns whenever the Torah is in the Ark.





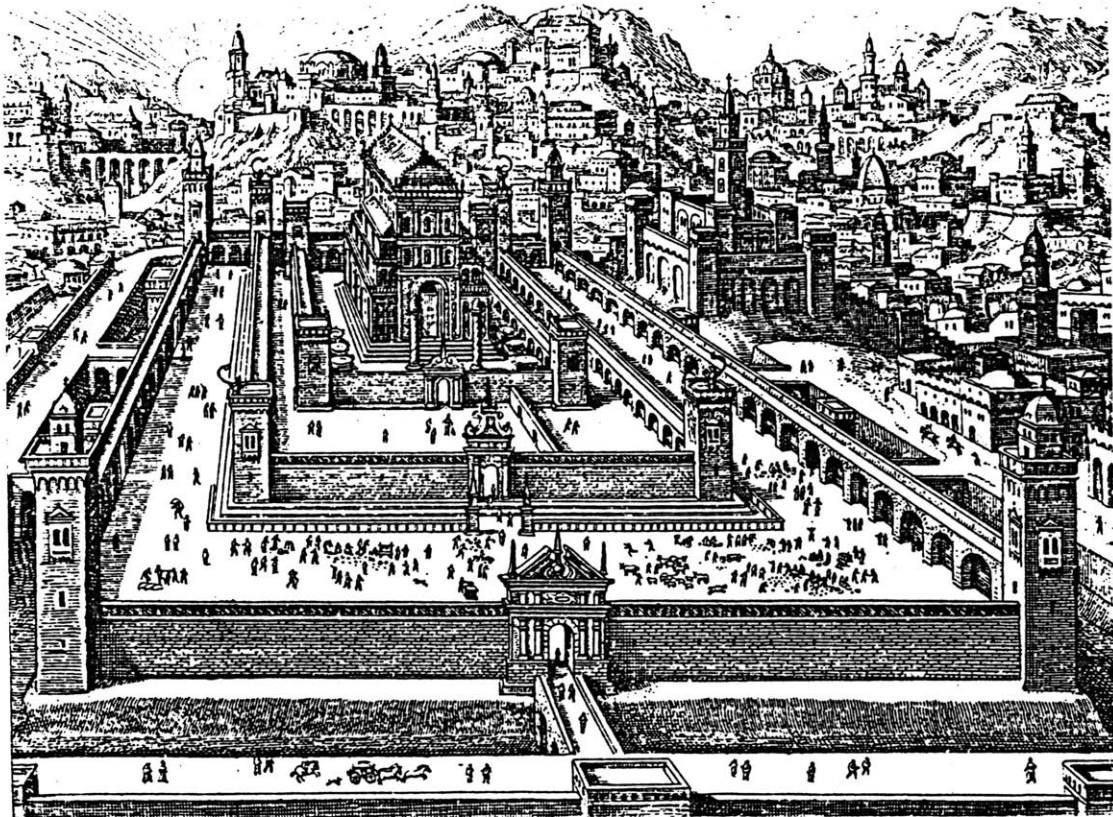
ד ◉ A drawing by Johann Caspar, shows the readers platform and a wall mounted Ark.

(Lengnau, 1754)

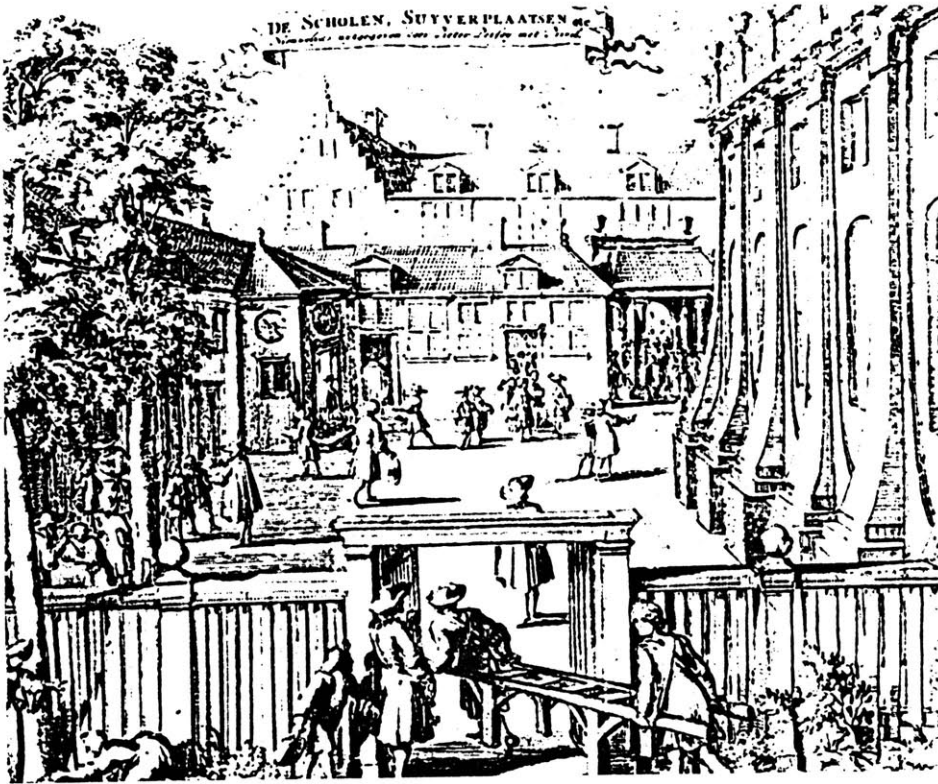


ע ◉ The Torah-shaped model ark was crafted from small capacitors and a computer chip. The eternal light was made from an electric diode.

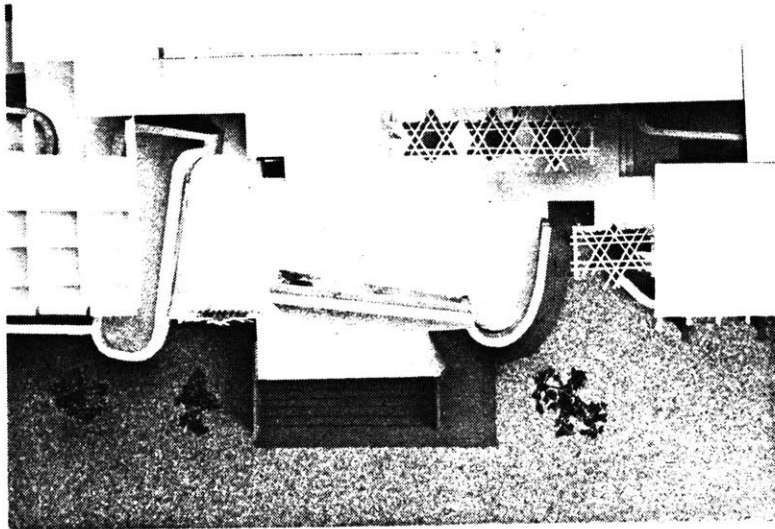
☞ ⬡ The synagogue is traditionally used for certain secular purposes as well as for prayer. The Torah fuses sacred and secular elements. The divine will is expressed in everyday activity, and daily affairs have sacred implications, as shown by the fact that the outer court of the Temple of Jerusalem sheltered commercial and public activity.



☞ ⬡ The court of the Temple in Jerusalem.



Y ⊗ (Portuguese Synagogue, 1675. Engraving
 by Peter Persoy showing the side overlooking the
 court.)



Y ⊗ Courtyard of the Newton Tabernacle.

The Newton Center Shabbat Minyan

The Basics (a questionnaire answered by Rabbi Daniel Shevitz, August 1985)

How many members does the Havurah have? **About 100. Not all come frequently.**

How many children are in the group? **40-50.**

How many people attend Shabbat services? **Varies, 30-50.**

Do you have Friday night services? **Rarely.**

How many people would attend Rosh Hashana/Yom Kippur services if there was ample space to accommodate larger groups? **120-150.**

When was the Havurah formed? **4 or 5 years ago.**

Do you anticipate growth, is it desired? **Group divided on issue.**

The following is a preliminary architectural program, a starting place.

If it is immediately obvious that some of the following assumptions do not hold true, please indicate. Likewise, if I have left something out, please feel free to add to the list.

Chapel: A place to house the "Torah" and to worship in community. **Could be one place.**

Study/Library: A place for weekly classes, as well as storage for books and literature.

Administrative Office: Headquarters of the Havurah, space for membership files, bookkeeping, etc. **Most of our administration is done out of homes. It is an informal group with little ongoing administrative procedures.**

Kitchen/Dining area: Used bi-monthly by the entire community and on a limited daily basis by the religious class members. **Weekly. After service for Kiddush. Once a month, a potluck lunch.**

Lounge: Place for informal discussions and meetings -- planned and not planned. Could be adjacent to the library, and double as a reading area. **An all purpose drawing/studying/meeting room might suffice -- especially if partitions could be used to make it smaller/more intimate, when appropriate.**

Children's area: including chapel, classrooms and social meeting area. A day care room will be provided for the youngest members. An outside play area is desired. **Two play spaces -- older and younger kids. There won't be a religious school -- most kids go to day school.**

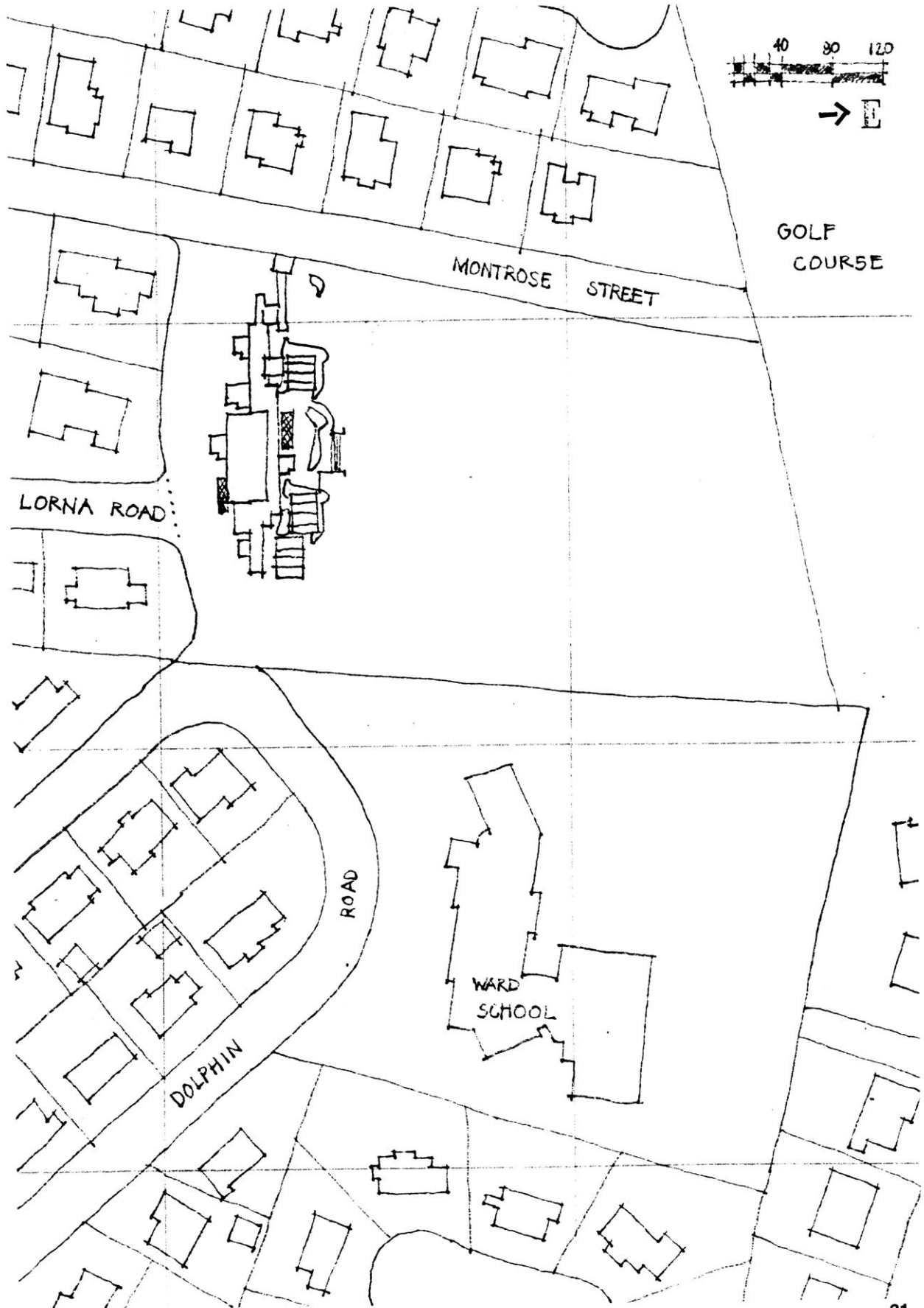
Vegetable Garden/Yard: A communal vegetable garden will be provided as well as outdoor space for warm weather prayer, celebrations, etc. **Nice.**

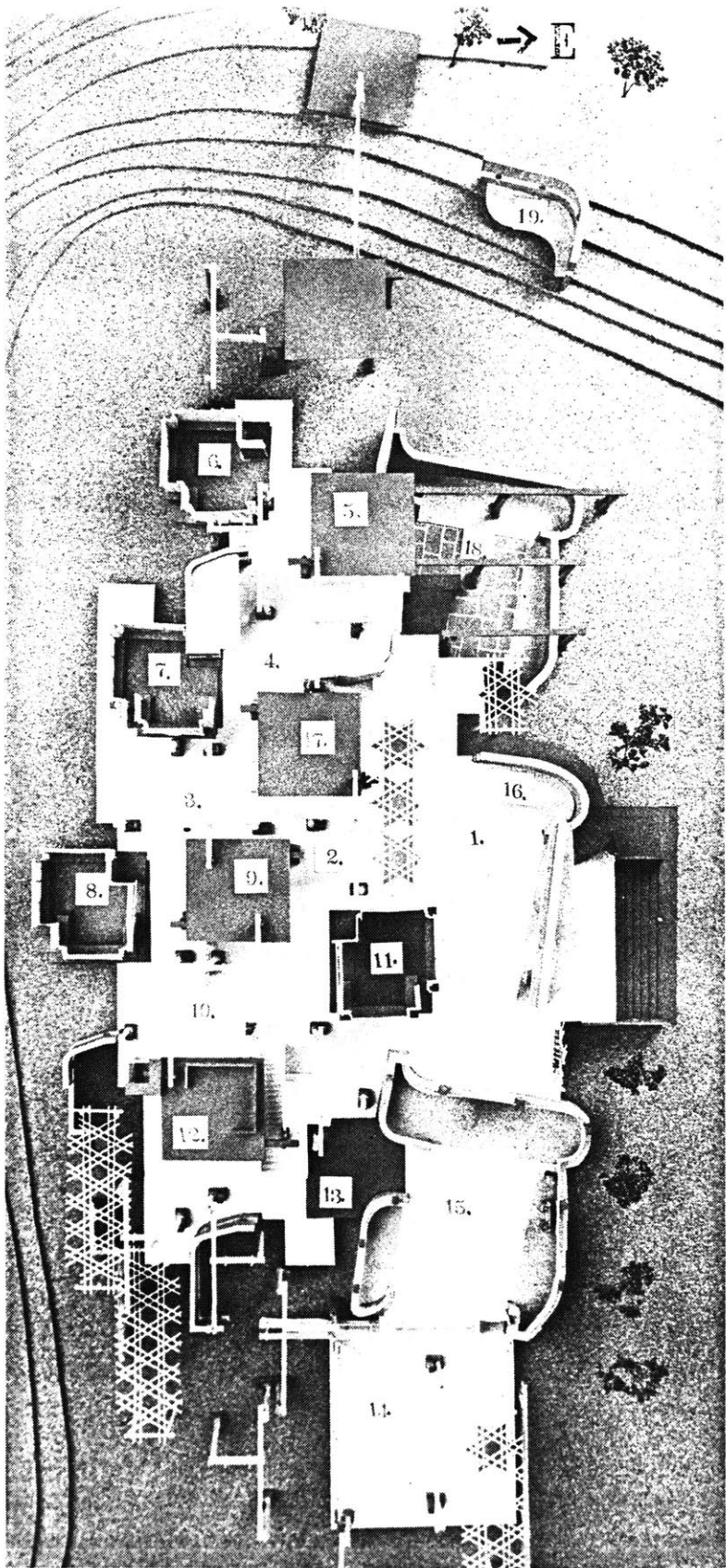
The Newton Center Shabbat Minyan
A Place of Worship

Preliminary Program
10 October 1985

Lounge/Entry Informal discussion area adjacent to entrance. Place to greet friends as they arrive. Comfortable seating for relaxing.	450' sq.
Sanctuary Place where prayers are held. Removable roof, rafters to hold sekhakh during Sukkot. Moveable seating. Ark on the east wall, reader's platform. Places on edge for individual, dual prayer.	2000' sq.
Study/Library Place to hold study sessions. Adjacent to sanctuary. Could be opened up to accommodate High Holiday crowds. Place where any organizational meetings would be held.	800' sq.
Administrative Office Adjacent to Study. Small office for working on administrative tasks. Storage for office machines, typewriter, etc.	200' sq.
Dining Area Adjacent to study, sanctuary. Could be opened up to accommodate High Holiday crowds, or a large study group.	650' sq.
Kitchen (kosher)	600' sq.
Children's Area (2) Childcare function. Particular use undetermined.	400' sq. 600' sq.
Restrooms, Storage, Utilities	500' sq.
Total interior space	6800' sq.
10% Access	680' sq.
Total	7480' sq.



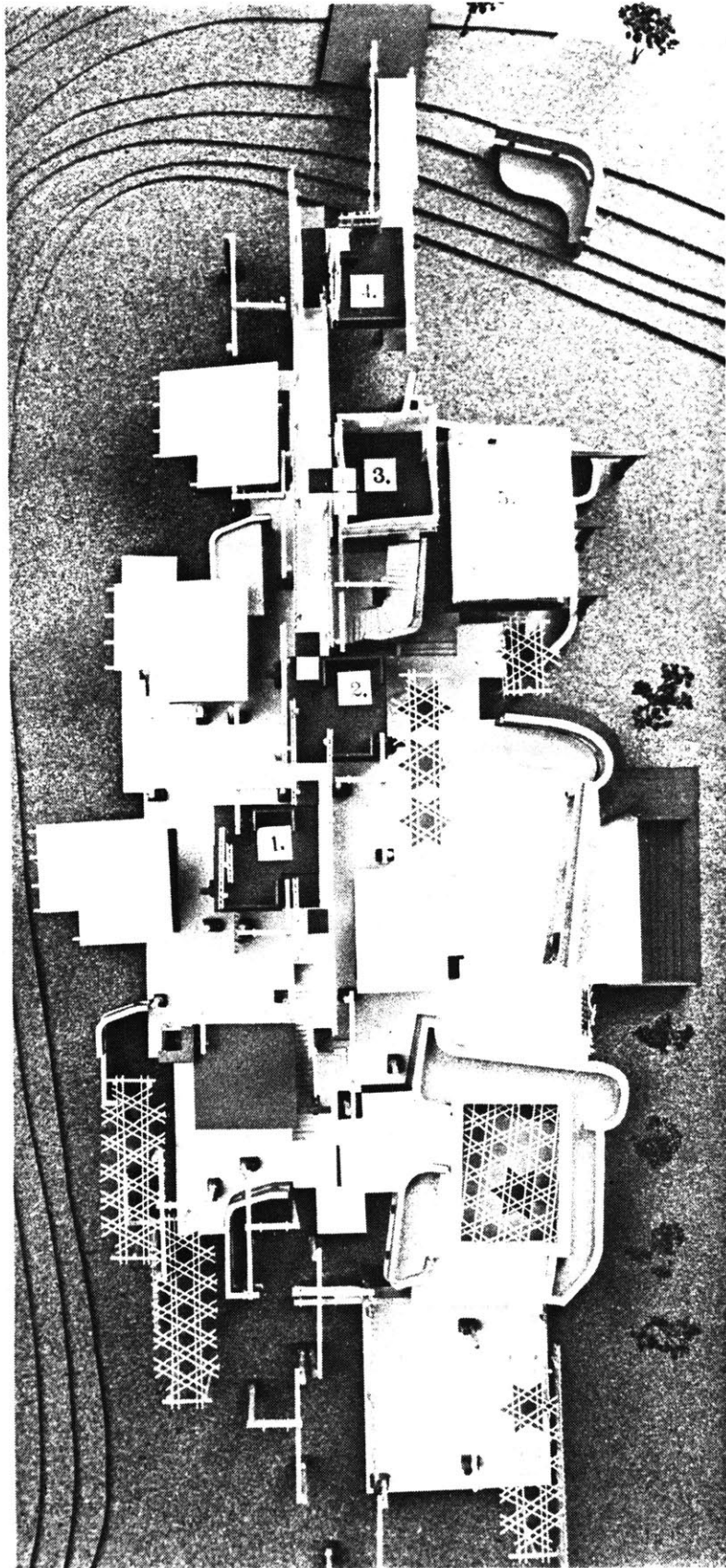




Use Diagrams

Ground Floor

- 1. Courtyard
- 2. Entry Hall
- 3. Dining
- 4. Entry Stair
- 5. Child care
- 6. Child care
- 7. Administration
- 8. Kitchen
- 9. Kitchen
- 10. Social Hall
- 11. Meditation room
- 12. Guest pavilion
- 13. Sanctuary vestibule
- 14. Sanctuary terrace
- 15. Sanctuary
- 16. Waiting seat
- 17. Restrooms
- 18. Play area
- 19. Sunset viewing



Second Floor

1. Meditation
2. Meditation
3. House of Study vest.
4. Entry platform
5. House of Study

And whenever the cloud was taken up from over the Tabernacle, the Children of Israel went onward, throughout all their journeys. But if the cloud was not taken up, then they journeyed not till the day that it was taken up. For the cloud of the Lord was upon the Tabernacle by day, and there was fire therein by night, in the sight of all the House of Israel, throughout all their journeys.

— Exodus 40:38





LEARNING FROM THE TABERNACLE: BUILDING THE TEMPORARY

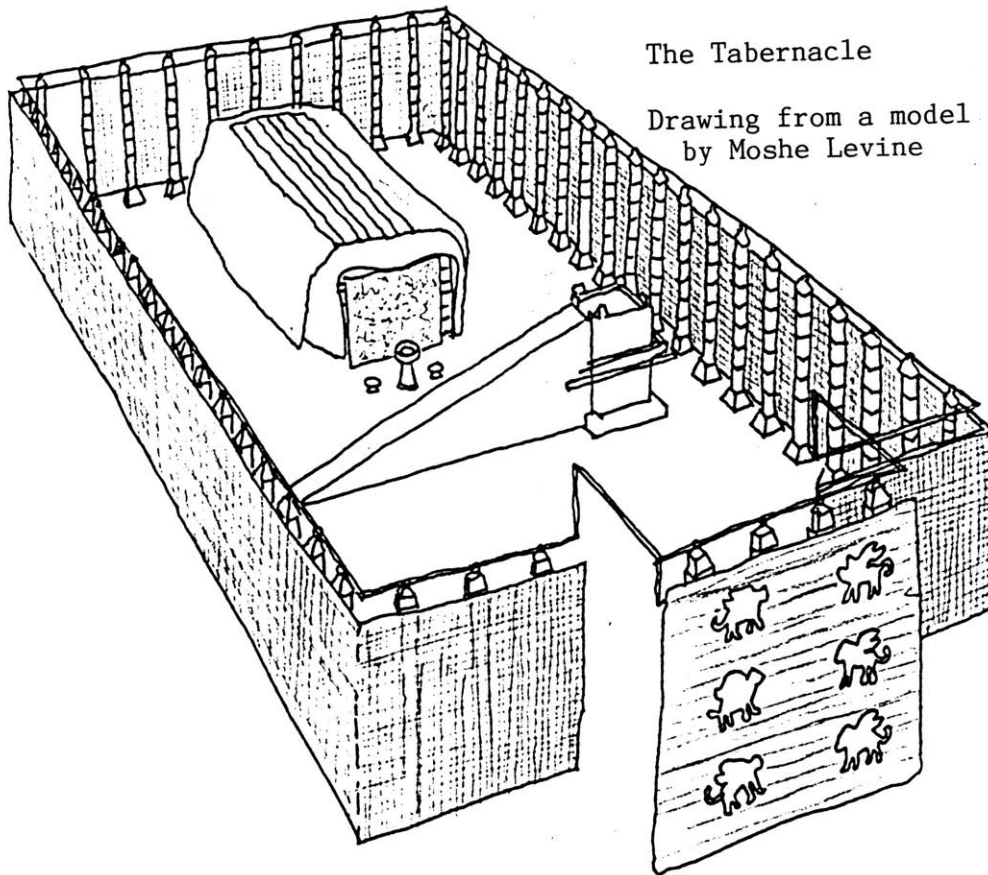
After four hundred years of Egyptian slavery, the Children of Israel were released from bondage and journeyed through the wilderness toward the Promised Land. From the Mountain Sinai, God revealed to the prophet Moses the Torah, a code of laws and morals that inscribed the righteous path. Throughout the desert journey, the tablets, upon which the commandments were etched, were carried in an ark gilded of pure gold. In camp, the Ark was placed inside the "Holy of Holies," the central and most protected room of the Tabernacle, a structure which could be broken down and reassembled. It was designed to protect the tablets and as a place of prayer and sacrifice. Each of the twelve Hebrew tribes was responsible for the transport, maintenance, and assemblage of a particular part of the structure. When making camp, the tabernacle was constructed first. Around it, a court defined by screened fabric walls provided a community prayer place. The Israelites then set up their tents around the court, forming the camp's outer ring.



⌋ ⊗ The Israelites encamped under their standards in the wilderness.

⌋ ⊗ Long before 70 A.D./C.E. when the Temple went up in flames, the Jews of the diaspora had learned to live their religious life away from the center of Jerusalem without sacrifices and without priesthood. The exile divorced religion from a particular ethnic group and any particular land. The synagogue and the house of study became the local sanctuary to Jews everywhere. But the other side of the coin must not be overlooked. Though the Jews and Judaism were now a part of world civilization at large, they were forever mere outposts of the homeland. That the Jews remained an ethnic group with strong historical ties to the Holy Land down until modern times was owing to the legacy of the idea of diaspora which they had inherited from Temple days. It was the diaspora by its very definition as exile which saved the Holy Land as a living force in Jewish religion. For diaspora implied transiency, a temporary state which would be set aright only by the fulfillment of the messianic promise of return.

-- Abraham S. Halkin
Zion in Jewish Literature

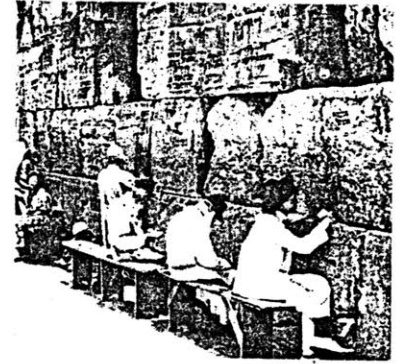


The Tabernacle

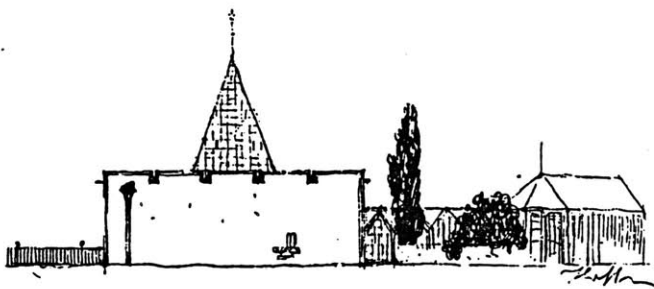
Drawing from a model
by Moshe Levine

Today, almost two thousand years after its destruction there is still a dream that the Temple will be rebuilt. The worship places of the diaspora are considered temporary, as places to pray until the Temple service is restored. The Jew's condition in the diaspora is reminiscent of the days of wandering in the desert awaiting arrival into the Promised Land. For this reason, in designing a community house for prayer and study for the Newton Center Shabbat Minyon, the Tabernacle of Sinai serves as a primary guiding metaphor.


I ⊗ Prayer at the western wall of the Temple in Jerusalem.

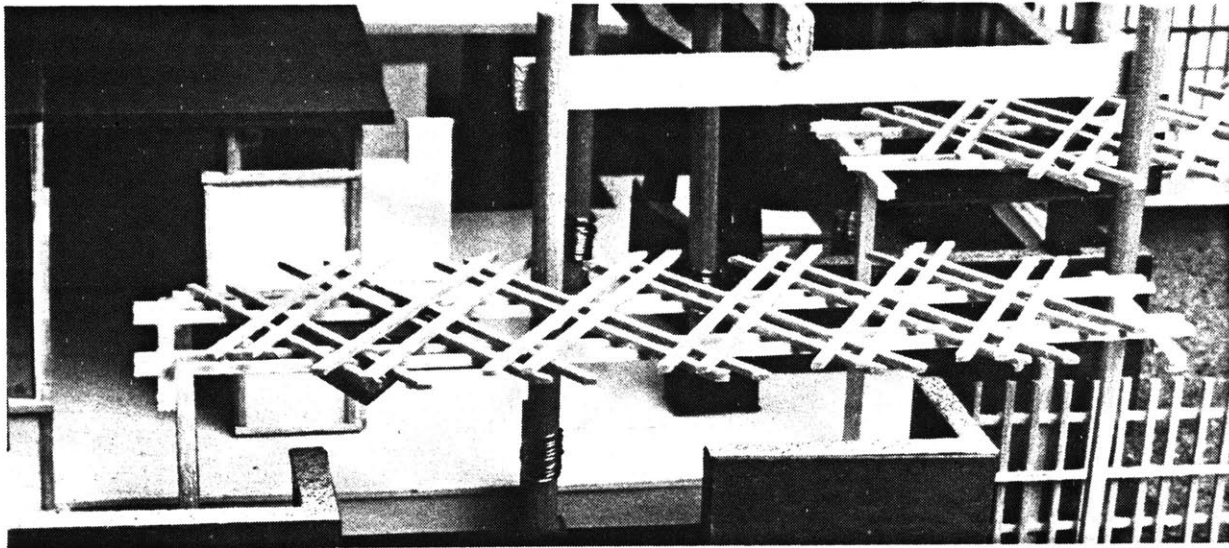



Γ ⊗ The synagogue outside of Israel and the notion of a movable tabernacle that is the center of community prayer and study though not rooted to a particular holy place is reflective of the hebreic conception of sanctity. Jewish prayer is called at fixed times, but there are no fixed places. The understanding of creation hallows the days; not the site. There is no mention of a sacred place in the ten commandments. On the contrary, following the giving of the law, Moses is told, "In every place where I cause My Name to be mentioned I will come to thee and bless thee." (Exodus 20:24)



Π ⊗ Temporary forms reminiscent of the Tabernacle have become a popular theme in Jewish religious architecture. In this competition sketch for a synagogue by Joseph Hoffman in 1926 the building was conceived as a tent.

b  The Newton Tabernacle is designed to speak of its temporary nature. The architecture, though seemingly unmovable because of its size and programmatic requirements, is assembled of prefabricated parts that can be easily dismantled and moved.

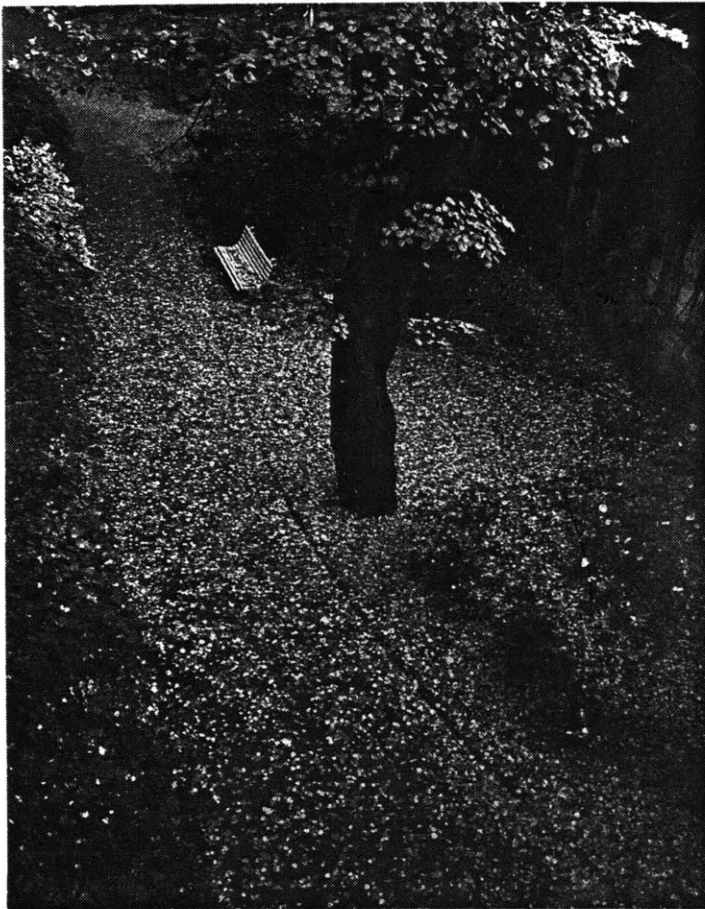


'  The Tabernacle of the Sinai was constantly being disassembled, carried through the desert, reassembled and again disassembled. It was truly an architecture in motion. The site-to-site transport of the Tabernacle is remembered by advocating movement in contemporary synagogue design. Land ownership and the realities of real estate and a site-stable community make physical site-to-site movement impractical. Movement is translated into formal terms, and is advocated by the building systems.

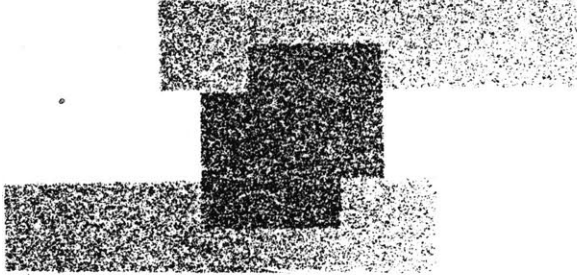
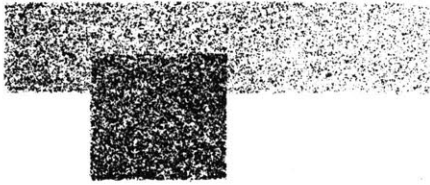
An Architecture To Move Through

⌋ ⊕ Movement and dynamic quality is not achieved through the walls being covered in the Art Neveau manner with neurotic linear patterns which evoke recollections of movement, nor through the composition being such as to necessitate ocular movement before it is intelligible (as in the plan of the Bauhaus). Spacial movement corresponds fundamentally to the actual movements of the man who inhabits it; organic -- not abstractly utilitarian but, in the integral sense of the word functional. One can not look at the house as if it were a picture. Regard structure as the complex of all the human activities and feelings of the people who will use it.

-- Bruno Zevi,
Towards an Organic Architecture



⌋ ⊕ Place and path.



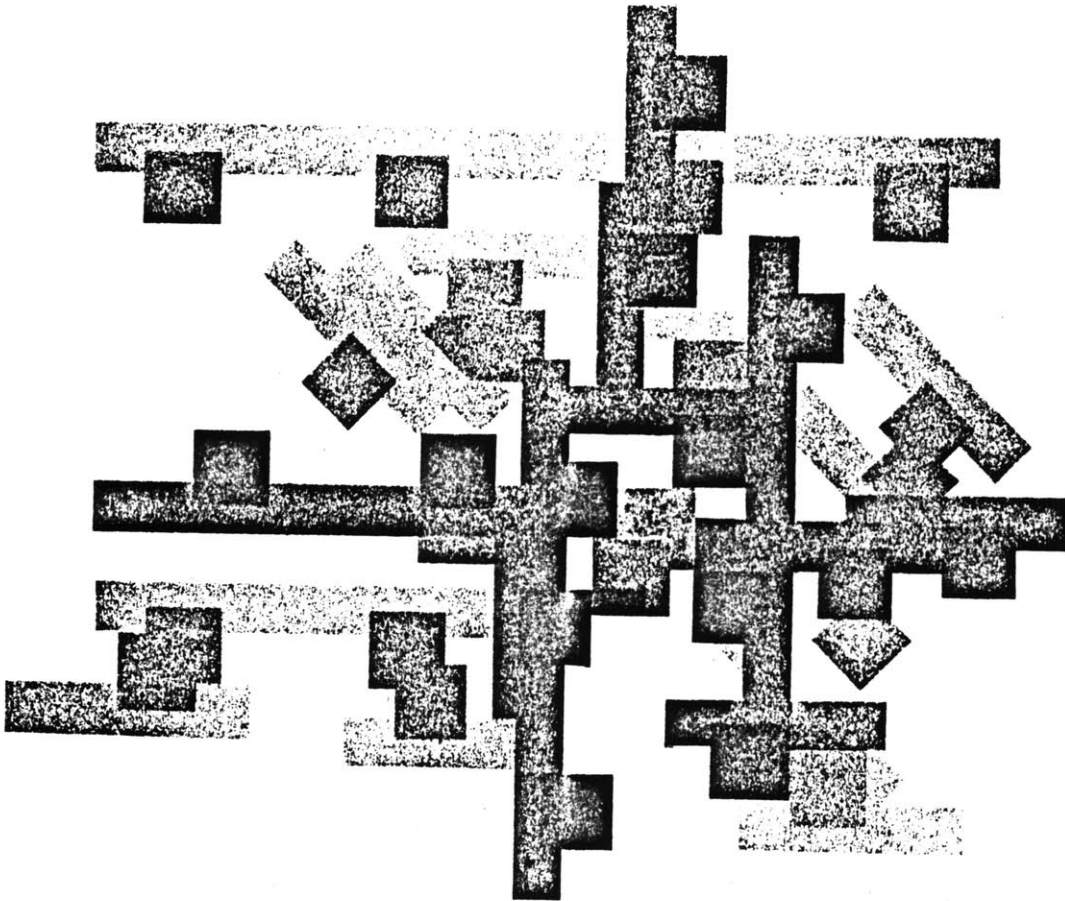
↳ ⊙ The territorial grid used in the design process begins with a stop-place and an access-path that adjoins and continues past.



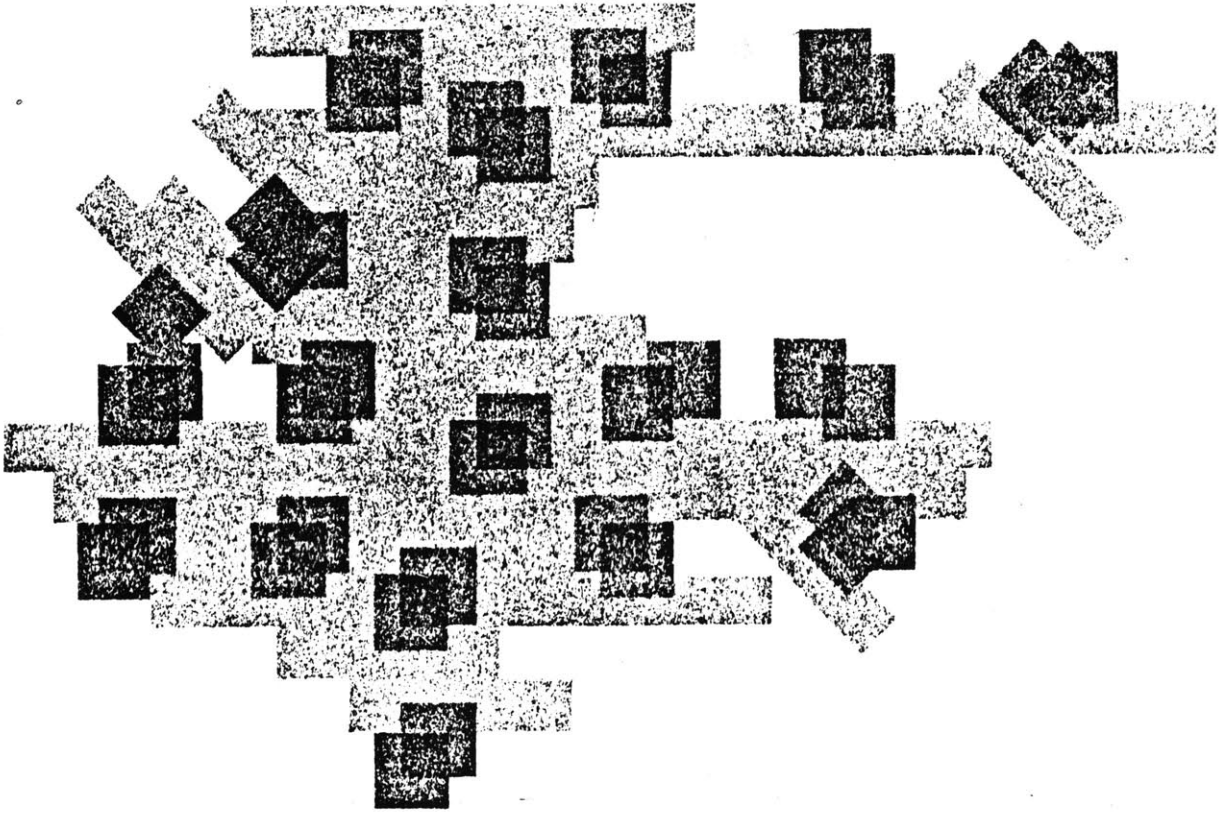
↳ ⊕ A directional field moves through the garden.



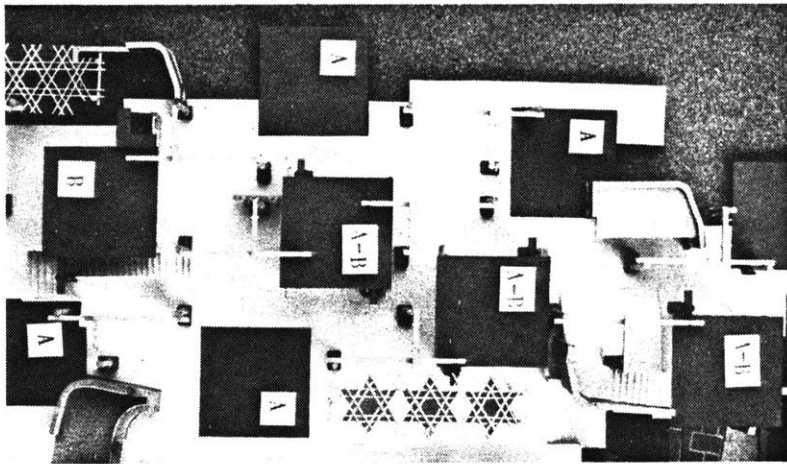
□ ⊕ Rocks on the shore make places to stop in a field of otherwise continuous movement.



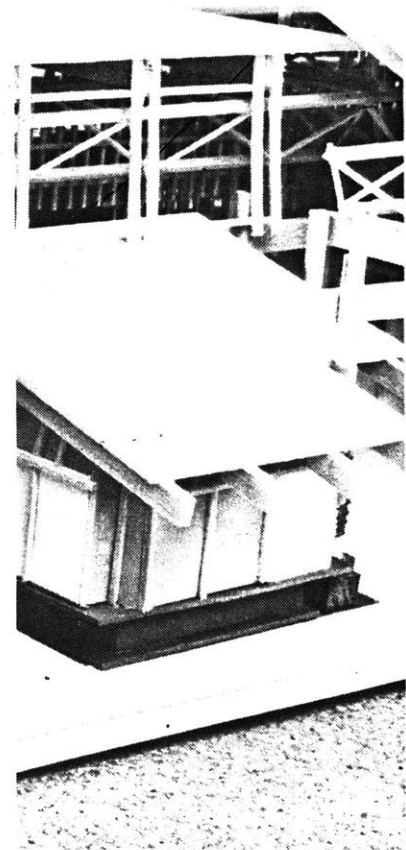
J ⊕ An access diagram shows primary (dark) and secondary (light) movement patterns.



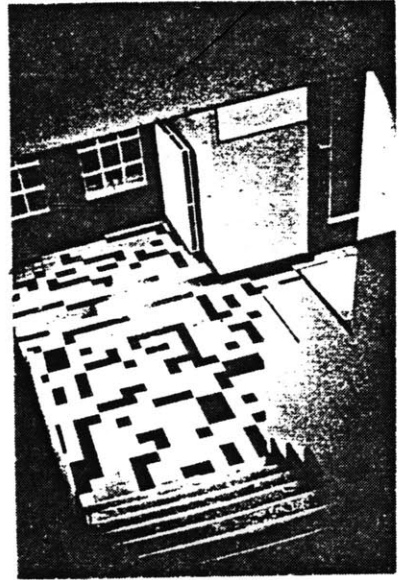
| ○ The access-paths make an additive, continuous field.



▷ ○ The pavilions serve as relative containments; access happens between them allowing generation of several (optional) directions.

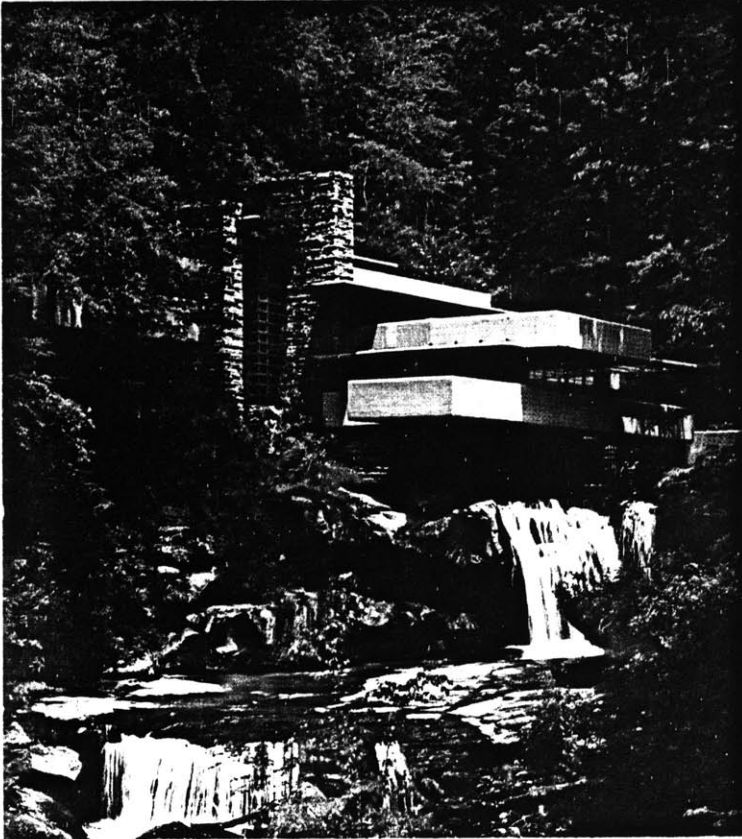


⤵ ⊕ In this design for a tile floor, the light tiles are continuous, generating movement while giving identity to dark singular geometries. (Theo van Doesburg; De Vonk Residence, 1917)



⤵ ⊕ The primary formal movement is in a horizontal direction. The columns of the tabernacle only serve to raise the trusses. Even the columns are territorial, never singular; the territories moving in the primary built direction. Inspiration comes from the forest where the trees are never alone. The trunk-columns are our friends; companions along the way. They live only to reach the light and to raise the shade.





7 ⊕ Frank Lloyd Wright's Fallingwater celebrates movement, lateral movement particularly -- the kind always found in nature. Horizontal uses planes stacked above the landscape adding displaced layers of rock to the earth's surface. The verticals exist, as in nature, for the horizontal, and even they are composed of stacked material. Fallingwater is truly an organic architecture, not only by orienting to physical particularities of place, but by awareness of the formal laws of nature. Dimensions are borrowed from the landscape and composed in a field of material that understands the greater physical context.

Y ⊕ His celebrated house Fallingwater and his helicoptal shaping of the Guggenheim Museum's cavity in New York, represent the victory of time over space, that is, the incarnation of Hebrew thought, even more significant because it was fully realized by a non-Jew. Like Schonberg's music, Wright's architecture is based in linguistic polarity, emancipated dissonance, contradiction; it is at once expressionistic and rigorous; it applies Einstein's concept of "field"; it is multi-dimensional; it extols space by demolishing all fetishes and tabus concerning it, by rendering it fluid, articulated so as to suit man's ways, weaving a continuum between building and landscape. In linguistic terms, this means a total destructuring of form, denial of philosophical a priori, and repressive monumentality: action architecture, aimed at conquering ever more vast areas of freedom for human behavior.

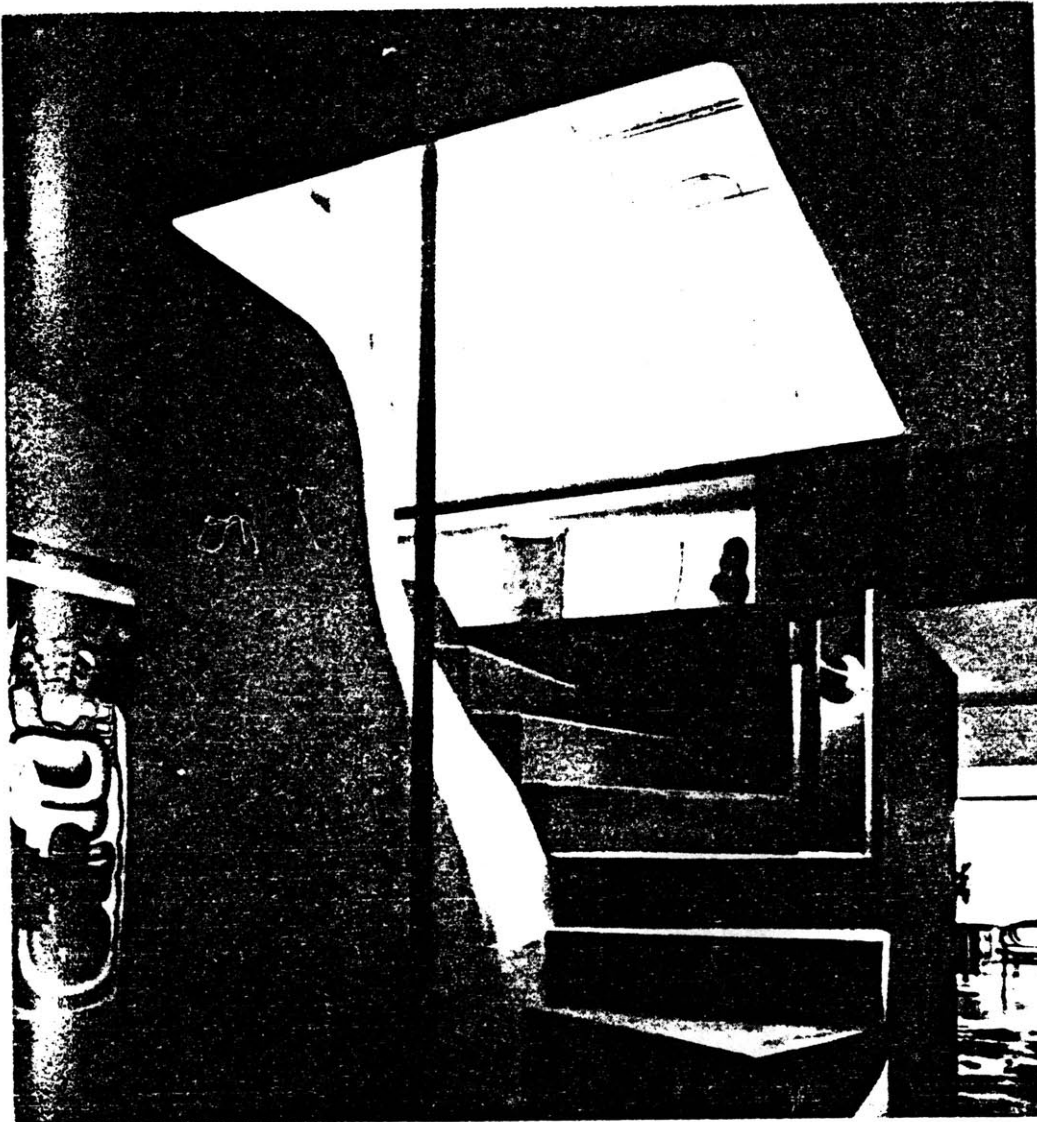
-- Bruno Zevi
Public lecture at the
Tel Aviv Museum, 1974

Y ⊕ The key to Wright's thought and perhaps to Romanticism in general is to be found in a characteristically Biblical and anti-Hellenic emphasis on the dynamics of personal being; as against the static and objective being-of-things.

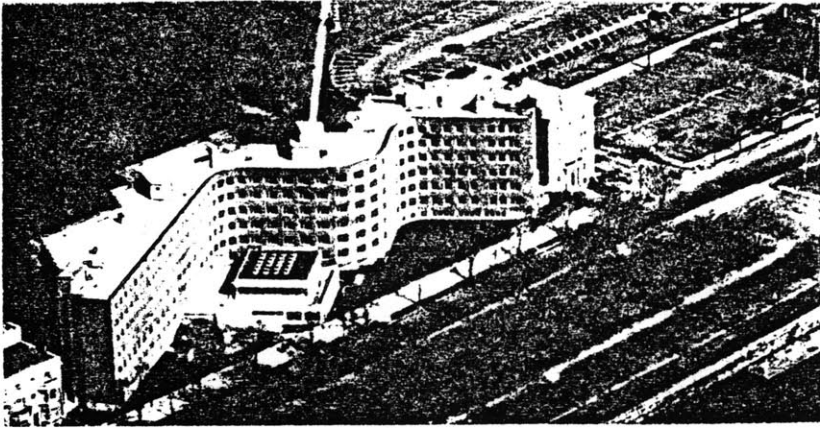
-- Norris Kelly Smith,
Frank Lloyd Wright: A Study in
Architectural Content, p. 175

P ⊕ I know that Architecture is life; or at least it is life itself taking form and therefore is the truest record of life as it was lived in the world yesterday, as it is being lived in today or ever will be lived. So architecture I know to be a great spirit. No it is not something which consists of the buildings which have been built by man on his earth. Architecture is that great living creative spirit which from generation to generation, from age to age, proceeds, persists, creates, according to the nature of man, and his circumstances as they both change. That really is architecture.

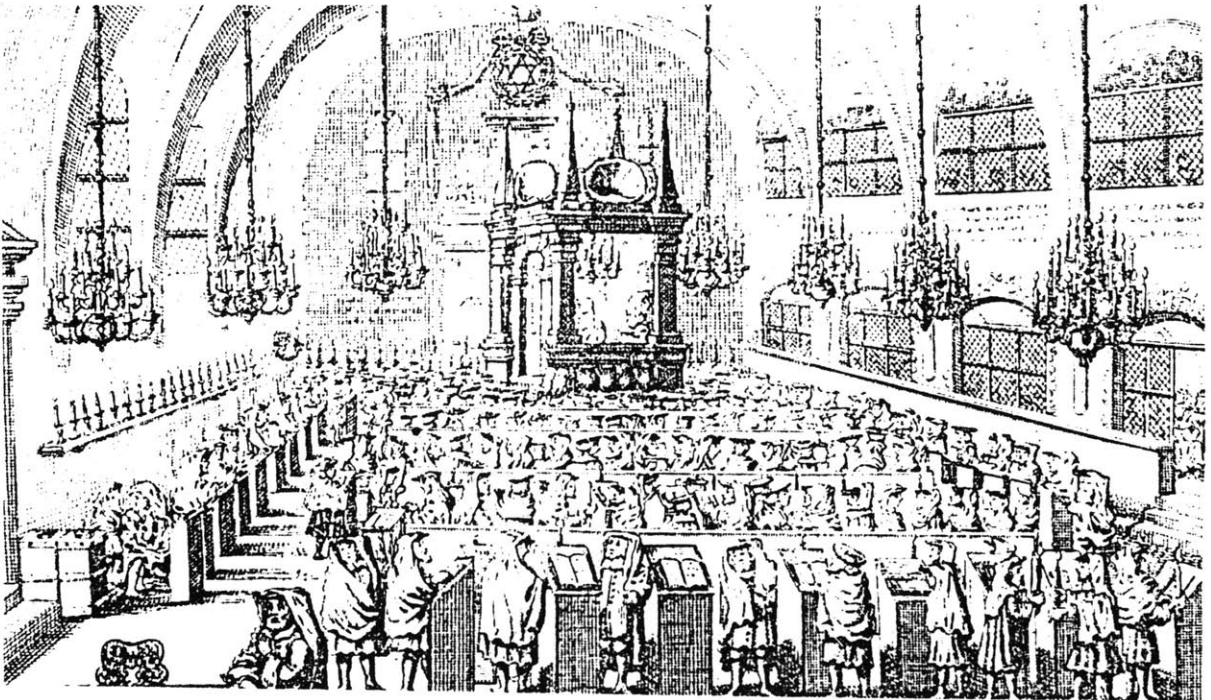
-- Frank Lloyd Wright,
The Future of Architecture, p. 288



7 ⊕ Villa Savoye at Poussey is an example of an architecture that is moved through. The house is slashed from ground to roof garden by a ramp that is visible throughout the house. Le Corbusier called it "Promenade Architectural," an architecture to walk through. The turning stair with its organic balustrade inspired the study room stair of the Newton Tabernacle.



⌋ ⊕ The stairs in Aalto's Baker Dorm run the length of the building, serving as vertical streets that the residents move along. The stairs connect the lounges on each floor, effectively breaking down stacked communal divisions.



⌋ ⊕ In the Fuerth synagogue each congregant has his own prayer table, allowing flexibility and individual control. (Engraving, 1705)




⌘ ⊕ In this religious fellowship the prayer seats are defined by movable floor cushions. The cushions remain in place at the prayer's end to remind us of the event. (Havurat Shalom, Somerville, Massachusetts)

⌘ ⊙ Seats in the sanctuary are designed for single occupation and are movable, allowing for flexibility in seating and in use. Citizens, unrestricted by the row, are made responsible for their own seat.

You shall not make idols for yourselves,
or set up for yourselves carved images or
pillars, or place figured stones in your
land to worship upon, for I am the Lord
your God. You shall keep My sabbaths and
venerate My sanctuary, Mine, the Lord's
— Leviticus 26




Gift of Kevin Thornton.



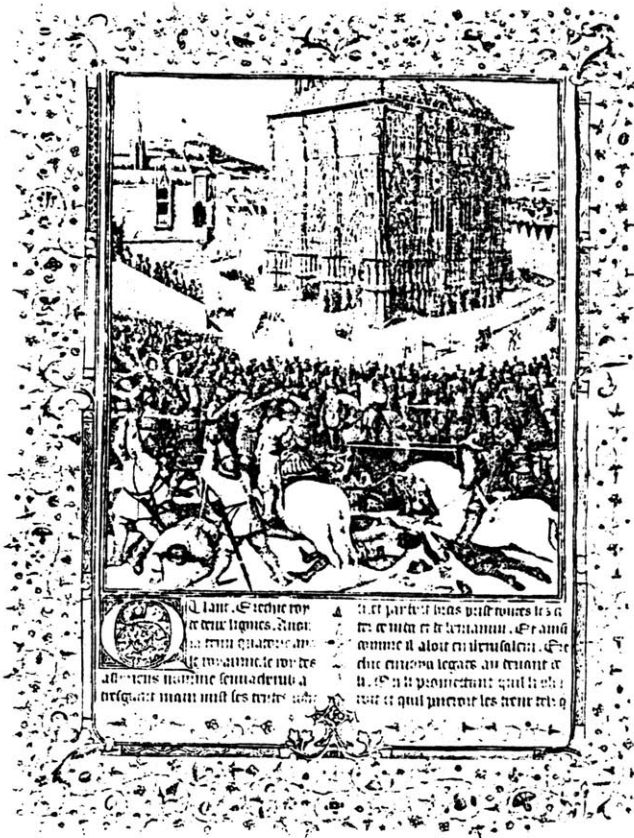
REMEMBERING THE TEMPLE: BUILDING THE UNFINISHED


After forty years of wandering through the desert the Israelites arrived in the Holy Land (present day Israel). In Jerusalem a permanent temple was constructed to replace the traveling Tabernacle as center of prayer and sacrifice. The Temple was located on the highest hill in the city, adjacent to Solomon's Palace and surrounded by a great public court. It is said that its location reflected the objectives of the Babylonian Ziggurats who sought domination by building upwards. The Temple's succeeding courts were influenced by both Egyptian and Phoenician building. The general plan is reminiscent of the twelfth dynasty Egyptian temples, and the execution and detail was largely the work of imported Canaanites. The Temple functioned as a royal chapel. A high priest officiated and performed the sacrifices. The temple was destroyed in 589 B.C./B.C.E. and the Hebrews were forced into Babylonian captivity. It was probably during this period that the first synagogues emerged as Jewish places of worship. The Temple was re-secured, but was again destroyed by the Romans in 70 A.D./C.E.


The second destruction of the Temple and the siege on Jerusalem scattered the Jews throughout the Roman Empire. With the loss of the religion's spiritual and political center, sacrifice was ended, replaced by communal prayer. The synagogue, or Bet Kenneset in Hebrew, virtually replaced the Temple's role in the spiritual life of the people.

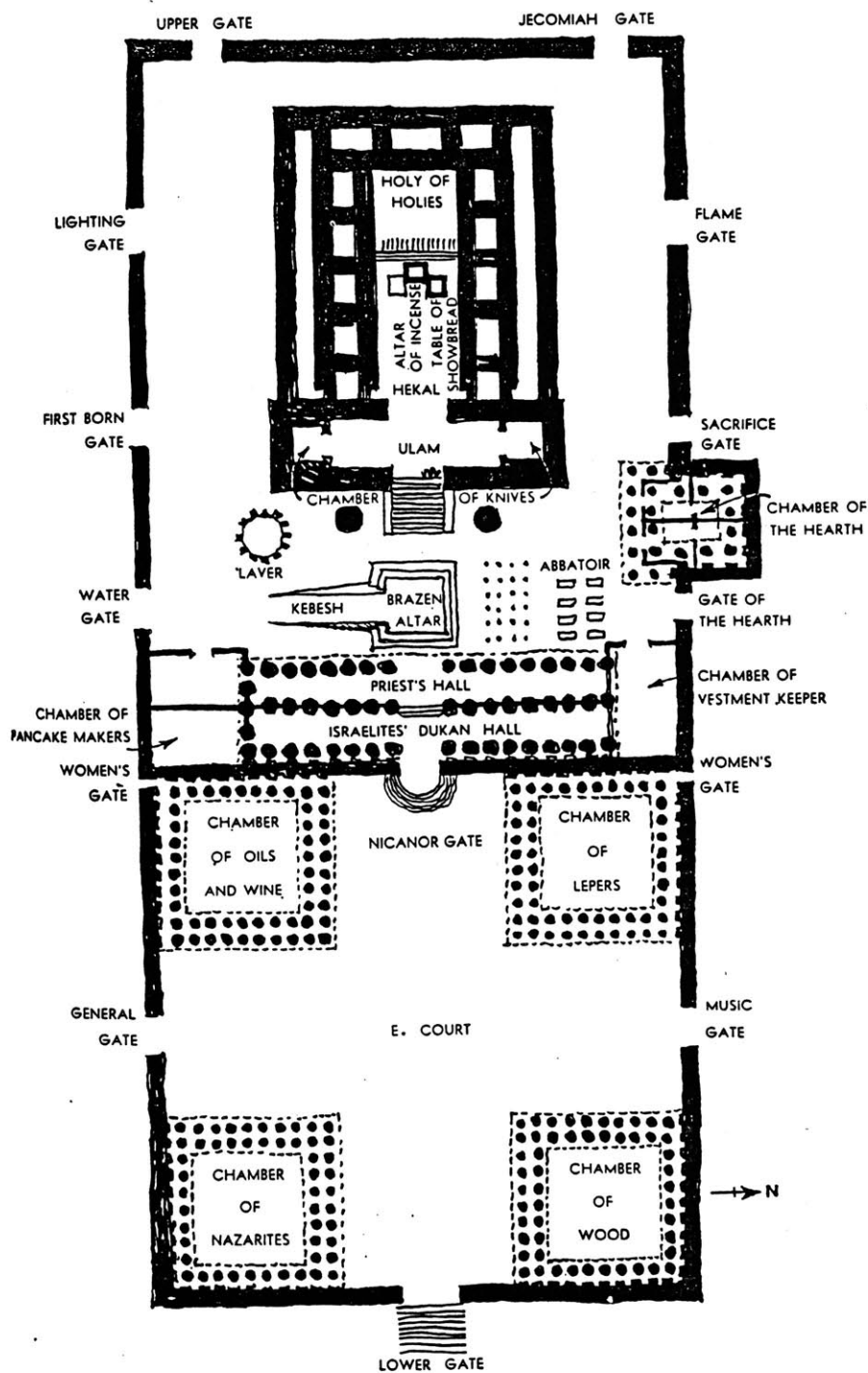
1  With the fall of the Temple, the messianic ideal of return and restoration, born in the times of the Scripture, now acquired new significance. Every Jew, even the one who dwelt in the Holy Land, now felt himself to be an exile. Three times daily all Jews could now pray with added fervor: "Sound the great shofar for our freedom; raise the standard for the gathering of our exiles, and assemble us from the four corners of the earth.... Restore our judges as of old.... And to Jerusalem thy city return in mercy and dwell therein as thou hast spoken; rebuild it soon in our days as an everlasting building, and speedily set up therein the throne of David." No grace after meals, no festivity or service was complete without a prayer for the restoration of the Temple.


-- Abraham S. Halkin
Zion in Jewish Literature



T  Nebuchadnezzar's army attacking the Temple, in a miniature by Jean Fouquet, France, .


 A Jew may pray wherever he may happen to be situated, but in acknowledgement of the Temple service, he is obliged to face in the direction of the Temple.




 Plan of the Temple of Solomon.

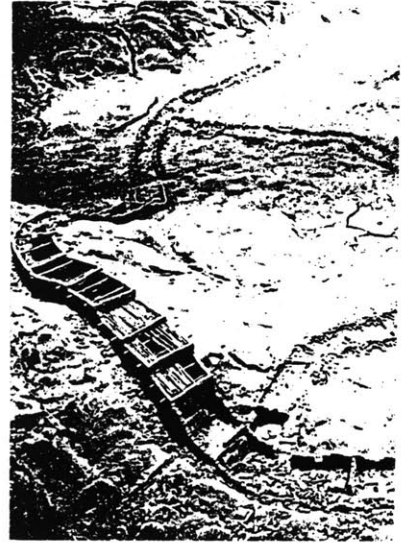
I (a) Organic architecture, one that suggests the incomplete -- the growing -- is also one that is in relation with human nature. The metaphor of the tree or the machine can not be translated into physical terms but are only examples of rational systems that follow natural or mechanical principles in order to complete a task. Organic architecture means exactly that -- nothing less and nothing more. The very fact that it is incomplete reflects its organic foundation.

┌ (a) When you have all the answers about a building before you start building it, your answers are not true. The building gives you answers as it grows and becomes itself.

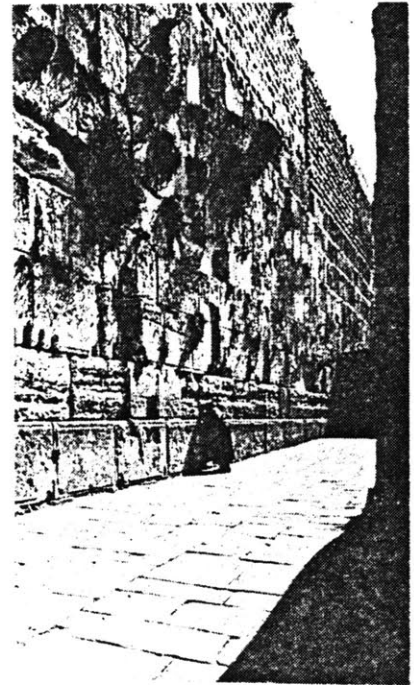
-- Louis Kahn

∩ (a) Change and recurrence are the sense of being alive -- things gone by, death to come, and present awareness. The world around us, so much of our own creation, shifts continually and often bewilders us. We reach out to that world to preserve or to change it, and so to make visible our desire. The arguments of planning all come down to the management of change.

-- Kevin Lynch
What Time Is This Place?



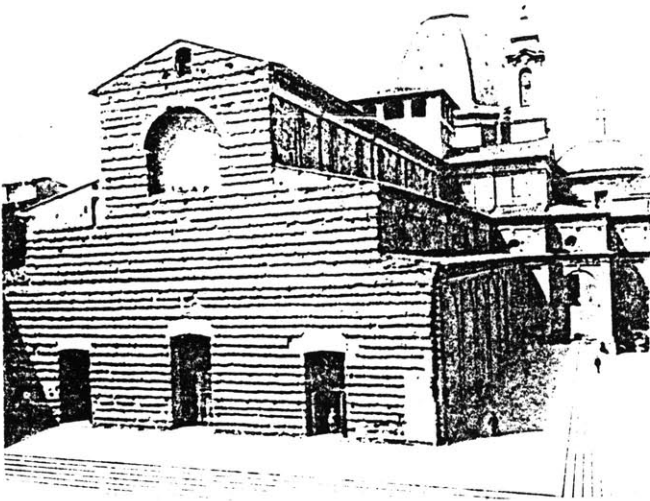
ⓁⓈ The dwellings of Charles Simmonds' imaginary tribal builders demonstrates and records the passage of time. They are built to become ruins. The building process understands seasonal change. Solar/lunar movements guide the movements of the people. Utility is planned, but not at the expense of history, which is built and finally ruined. The tribal structures are constantly in construction, the building is an integral part of life. For the "people who build in lines," the architecture is a physical time line, a recorded history. Changing attitudes become directional shifts towards or away from other architectures, or land forms. Crossings are accompanied by weddings. The building itself is an activity of making meaning.



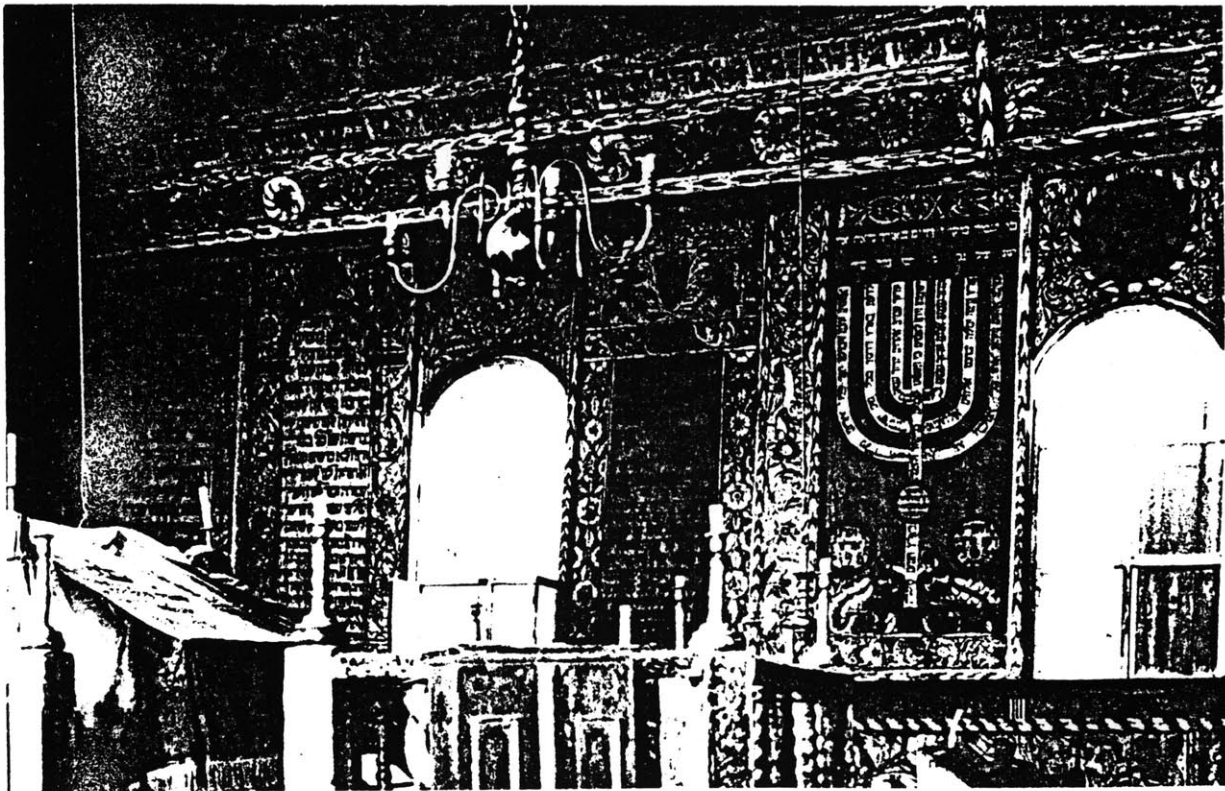
① Prayers, written on paper and stuffed between the stones, make the mortar of the remaining western wall of Solomon's Temple.



② Graffiti adds meaning to the city and manifests a desire for individual expression.



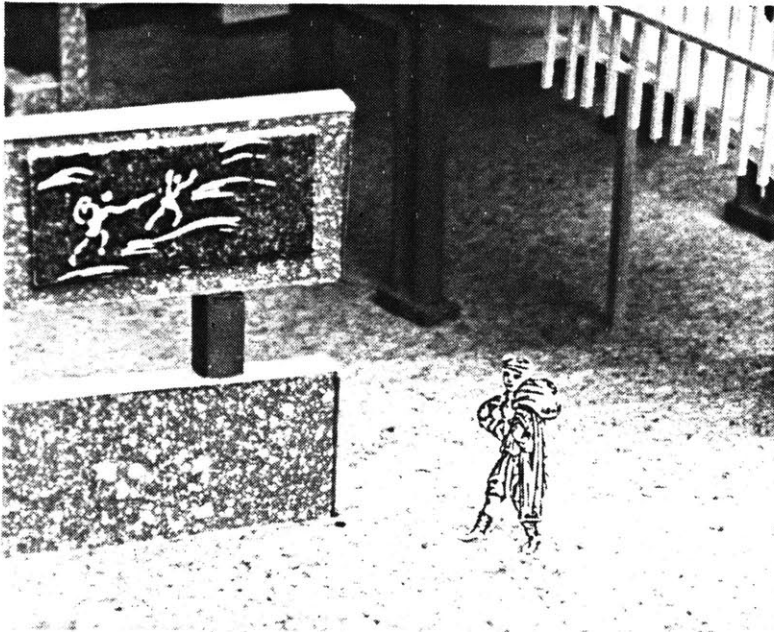
① The facade of San Lorenzo was left unfinished. The rough surface allowed later meanings to be attached.



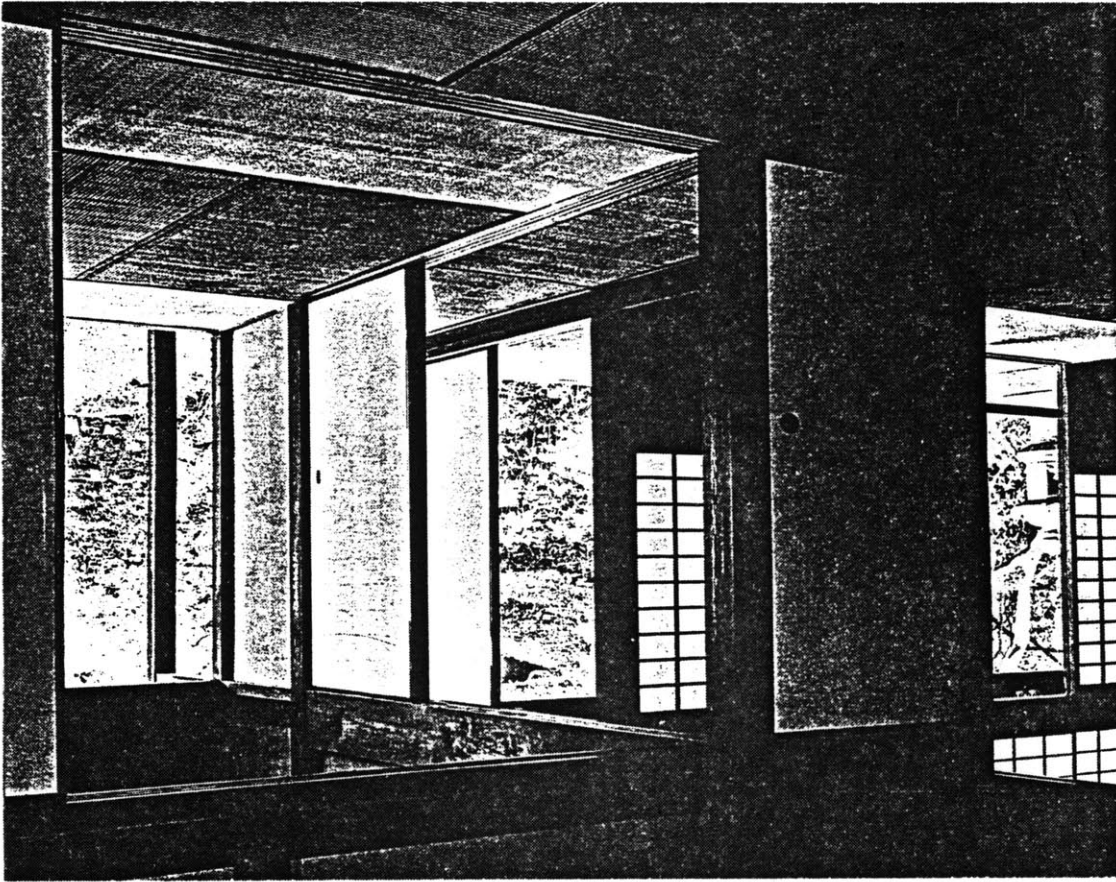
② The intensified walls of a European synagogue tell many stories.



☞ ④ The stones of the cemetery have special meaning for those who visit. Each one has a particular history -- partially recorded -- that someone must know. Each holds meaning alone; together they record the passage of time. The cemetery has its own life and records its story.

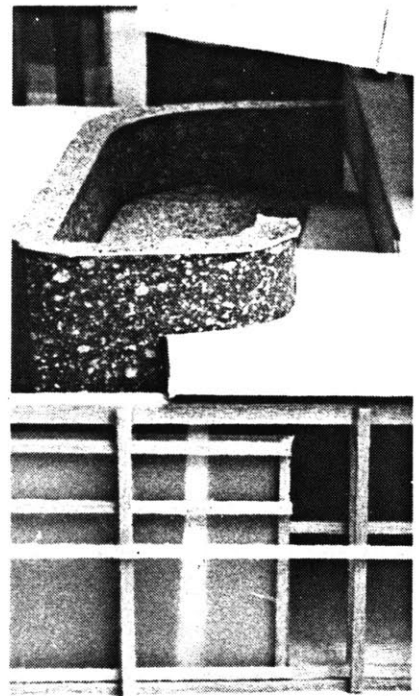


□ ● The sanctuary wall is made from poured-in-place concrete with a rough surface. Tiles that can be made by the congregants over time can be added to the surface, intensifying it with historical meaning.

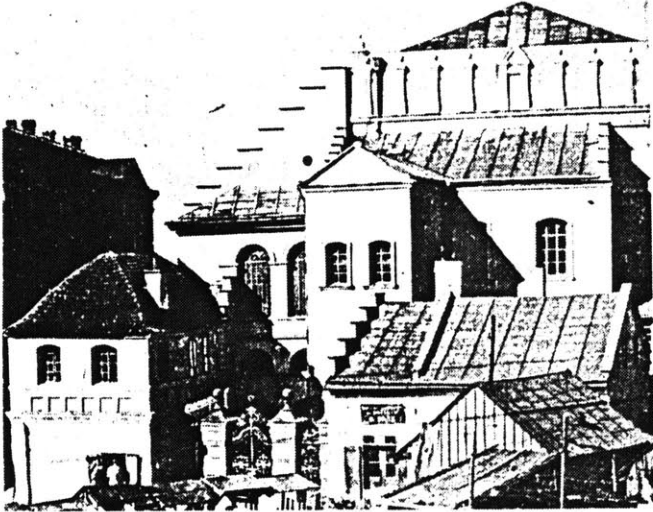


J ⊕ Japanese sliding panel systems inspired similar applications to provide easily changeable space.

| ⊙ The terrace belongs to the sanctuary. During the holy days and festivals when the entire (extended) community will be present the enclosing edge screen will be opened to extend the worship floor.

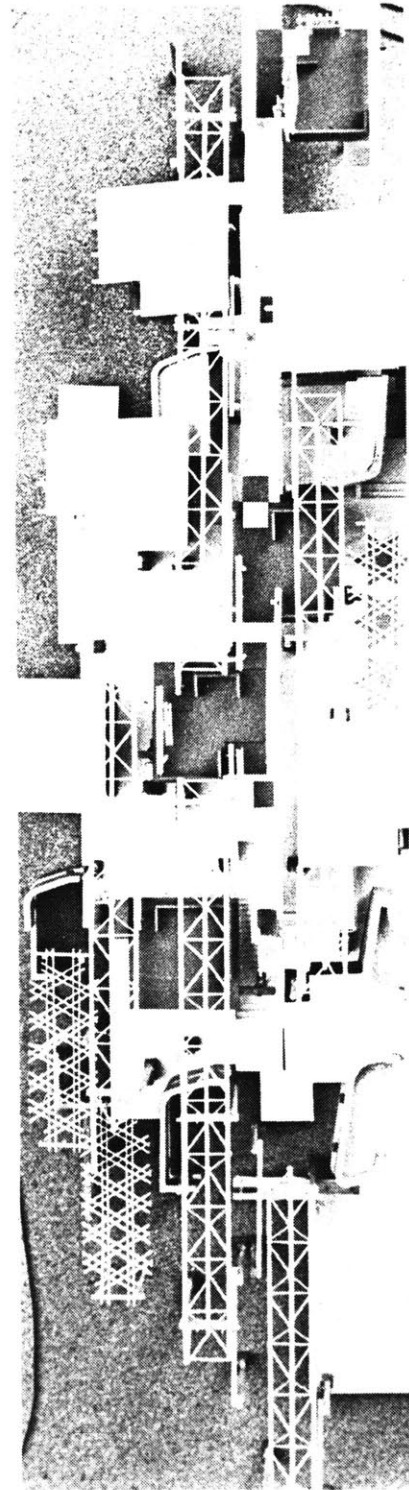


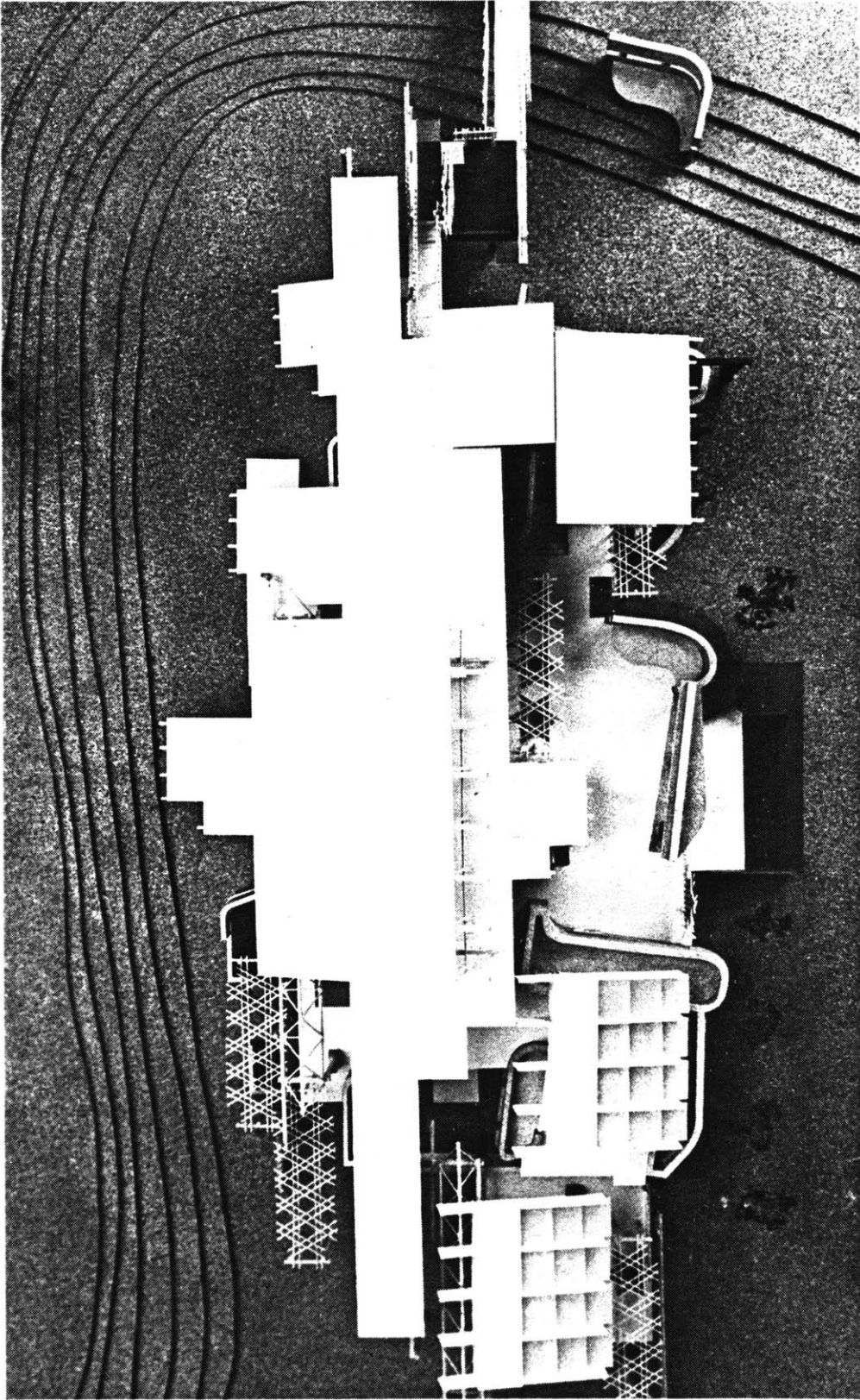
☐ ⊙ The trusses move across the landscape in a directional field that can be extended.



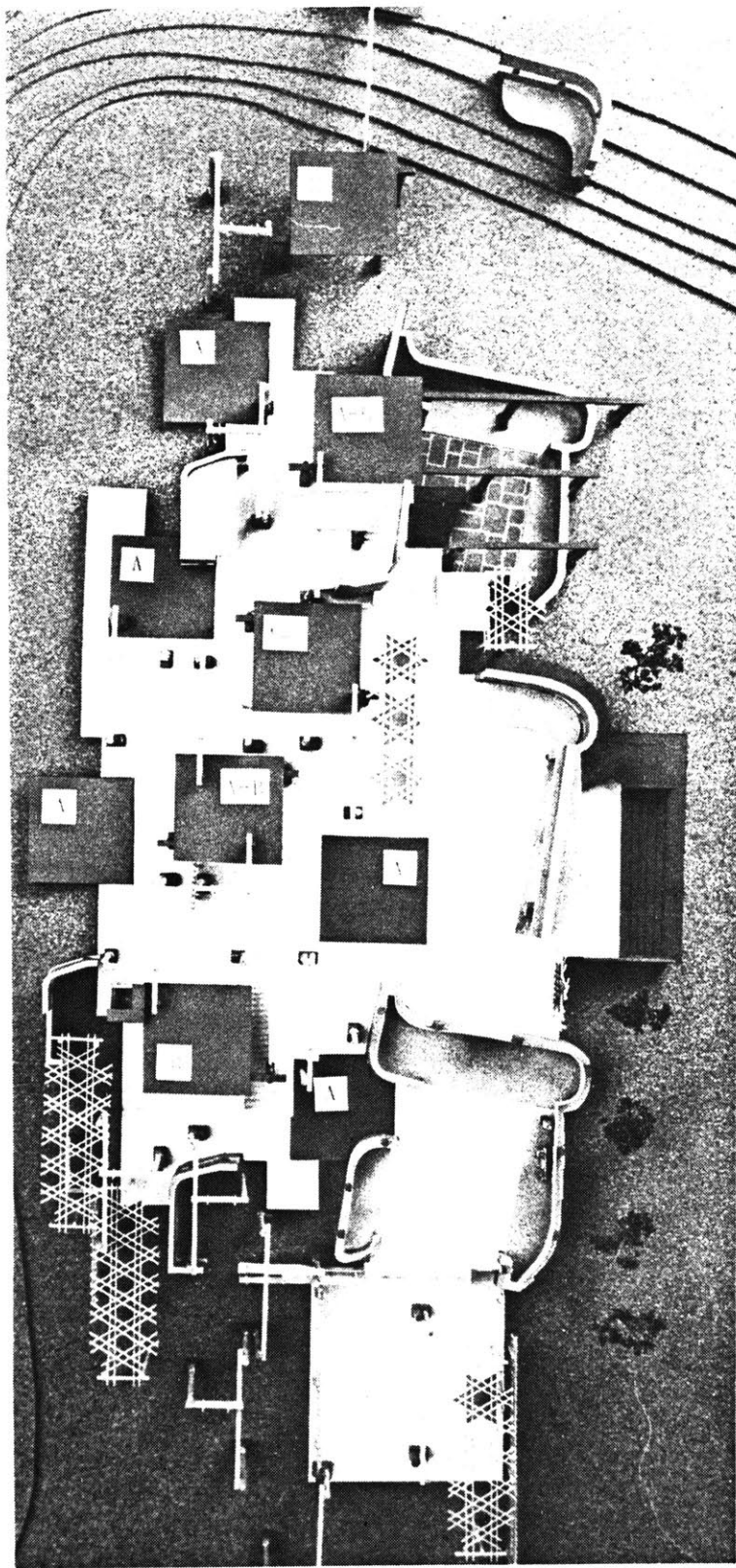
∪ ⊙ An assemblage of several building forms makes the synagogue and encloses the courtyard. (Przemysl Synagogue, 1595)

∩ ⊙ Architectural growth does not occur molecularly as in a tree or materially as in a flower arrangement, but territorially. A Hebraic architecture is composed of territories to which similar territories could be easily added or subtracted.



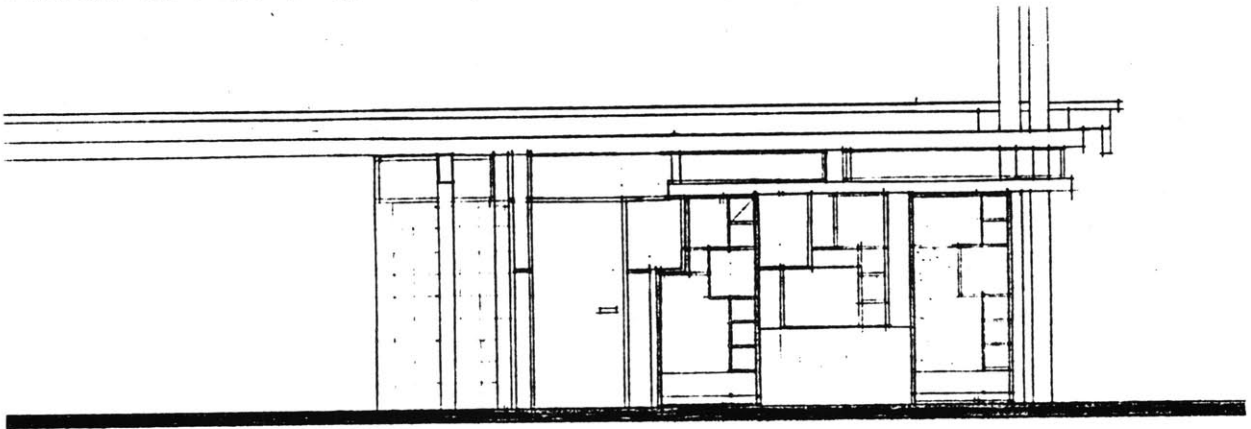
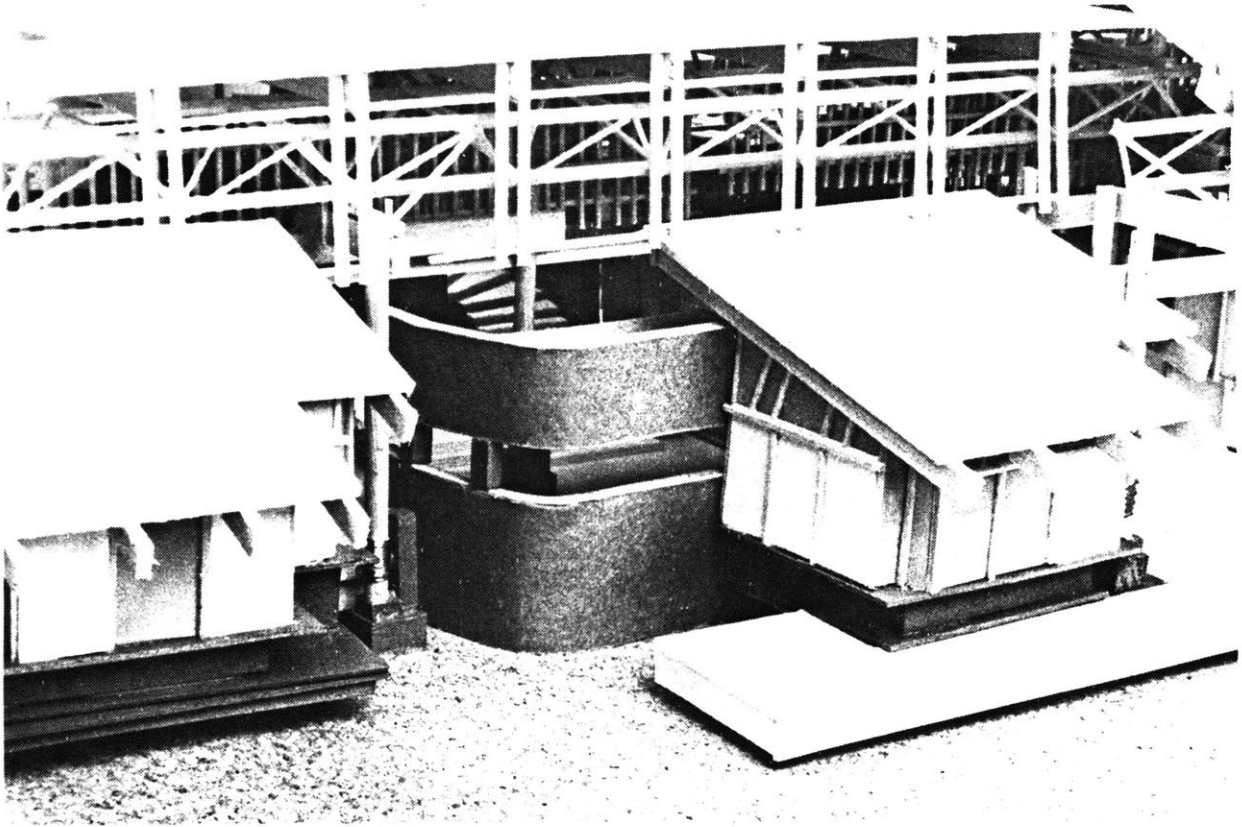


70 An additive system of passing roof planes allows for addition or subtraction.



Pavilion Diagrams

- A. Pavilion with cement floor and wood structure and roof.
- B. Concrete Pavilion-single inhabitable level.
- A-B. Concrete Pavilion- two inhabitable levels.



Y ⊙ A removable wood and glass paneled wall system facilitates change in the tabernacle's pavilion enclosures.

Y ⊙ The module is not the repetition of a motif, but the expression of an architectural principle.

-- Louis Kahn

P 

When the Temple was destroyed, large numbers in Israel became ascetics, binding themselves neither to eat meat nor to drink wine. R. Joshua got into conversation with them and said to them: "My sons, why do you not eat meat?" They replied: "Shall we eat flesh, which used to be brought daily as an offering on the altar now that this altar is in abeyance?... Shall we drink wine which used to be poured as a libation on the altar, but now no longer?" He said to them: "If that is so, we should not eat figs or grapes either, because there is no longer an offering of first fruits ... we should not drink water, because there is no longer any ceremony of the pouring of water." To this they could find no answer; so he said to them: "Not to mourn at all is impossible, because the blow has fallen. To mourn overmuch is also impossible. The Sages, therefore, have ordained thus: A man may stucco his house, but he should leave a little bare in memory of Jerusalem. A man may prepare a full-course banquet, but he should leave out an item or two in memory of Jerusalem.

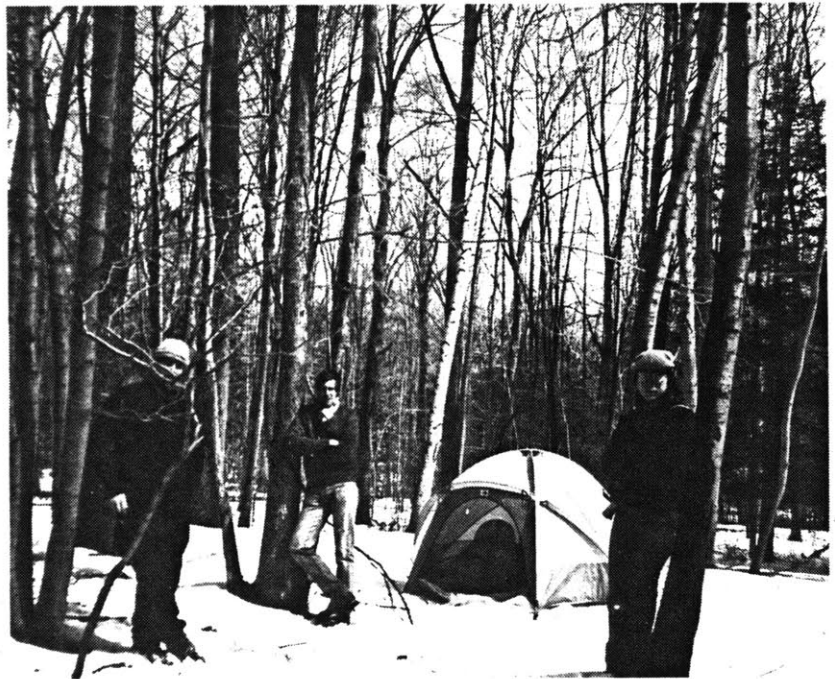
-- Abraham S. Halkin,
Zion in Jewish Literature

7 

God's first creation is the creative process itself. Divine power could have created the entire universe in one instant. Why take six days? Perhaps it is to teach us that engaging ourselves in the process of creation is acting in the image of God.

In the booths you shall dwell seven days
in order that your generations shall
know that I caused the Children of
Israel to dwell in booths when I
brought them forth from the land of
Egypt.

— Leviticus 23





LEARNING FROM THE SUKKAH: BUILDING THE VULNERABLE


The dwelling in the sukkah commemorates the clouds of glory with which God surrounded the Jewish people to protect them on their journey through the desert, and to provide them with all their needs. The sukkah is a frail, temporary dwelling that gives little security against weather or intruders. By dwelling in such a vulnerable structure Jews emphasize their trust in God and their faith that God will sustain us at all times and in all conditions. While a sukkah can be built and decorated in various ways, there are certain requirements for it to fulfill the commandment that was related in the Torah. The sukkah must have at least two complete walls and a part of a third wall. Leaves, branches, and other plant materials or "sekhakh" is placed on the roof as covering. This sekhakh must be cut from that which grew and is not susceptible to ritual impurity. It must be arranged so that the shaded area will exceed the unshaded. The partial roof of the sukkah is the most important architectural feature of the structure as it makes the ritual booth a symbol of human mortality and vulnerability.

1 ② Meaning-making is a process of holding on and letting go. While searching for broadened, incorporating truths as a way of developing our humanness, we maintain the meanings that compose our lives. We let go of truths as we enter into communion with those who we previously excluded. Allowing newly incorporated perspectives to inform and transform previous ones -- allowing ourselves to be vulnerable -- is the breath of human development. Breathing is evolving, a movement back and forth that allows us to revisit old issues at a whole new level of complexity. Taking each breath, we release the previous one to allow the new air into the chamber of the lungs. Air held in the lungs always gets used up, without the new breath we suffocate. The same is true for meaning-making; the letting go is necessary for integration. The exhale is the vulnerability of the cardiovascular system; the letting go is the vulnerability of the human; the human being is the vulnerability of God. It is always the vulnerability that allows for new life, new creation.




T In our last conversation we spoke of designing a sanctuary that has a retractable roof and would comply with the laws that govern the building of the sukkah. It was proposed that by doing so, the sukkah would inform the sanctuary most directly, and that the retractable roof could be opened and the sky would be brought in. By further investigation I found that the sanctuary could in fact be designed as an inspirational place to worship and provide a kosher sukkah when the roof was opened and the sekhakh was hung from rafters provided for that purpose. The question that arises is that even though the sukkah-sanctuary could be designed as kosher, how would the experience of leaving steadfast shelter for a temporary "booth" reminiscent of those that the Israelites constructed in the desert be affected by the integration of sanctuary and sukkah into single, though changeable, space?

-- From a letter to Rabbi Daniel Shevitz,
 James Brandt, 10 October 1985

7  Sukkot, the time of dwelling in the ritual booth, was the time of redemption, when all the nations would come to celebrate together with the Jewish People. The Sukkah, open to all who come, is a symbol of universal harmony and brotherhood.

Zechariah 14:16

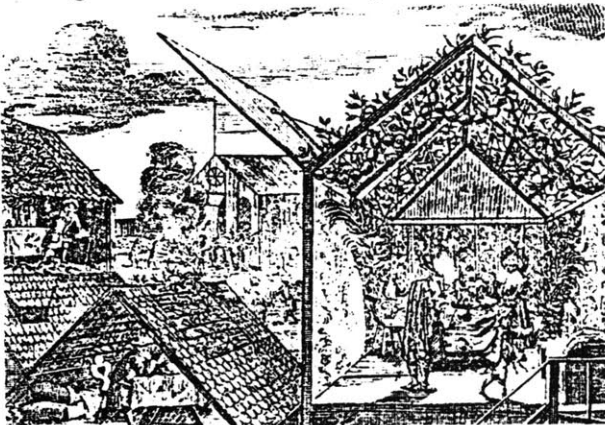
I  The Work of Unification must involve contact with other spiritual traditions. At this level the outer forms of worship become less important: mystics meet in a spiritual World that is above form. A Jewish Kabbalist may converse with a Muslim Sufi or a Christian contemplative and discover the same reality beneath differing theories and practices. This unity at the spiritual level does not mean that the outer form of a tradition is redundant -- each religion has its role to play -- but that all human beings are made in the same Divine image. (The union of Islam, Christianity and Judaism, as figured by Rabbi Jacob Emden of Altona, Germany, 18th c.)



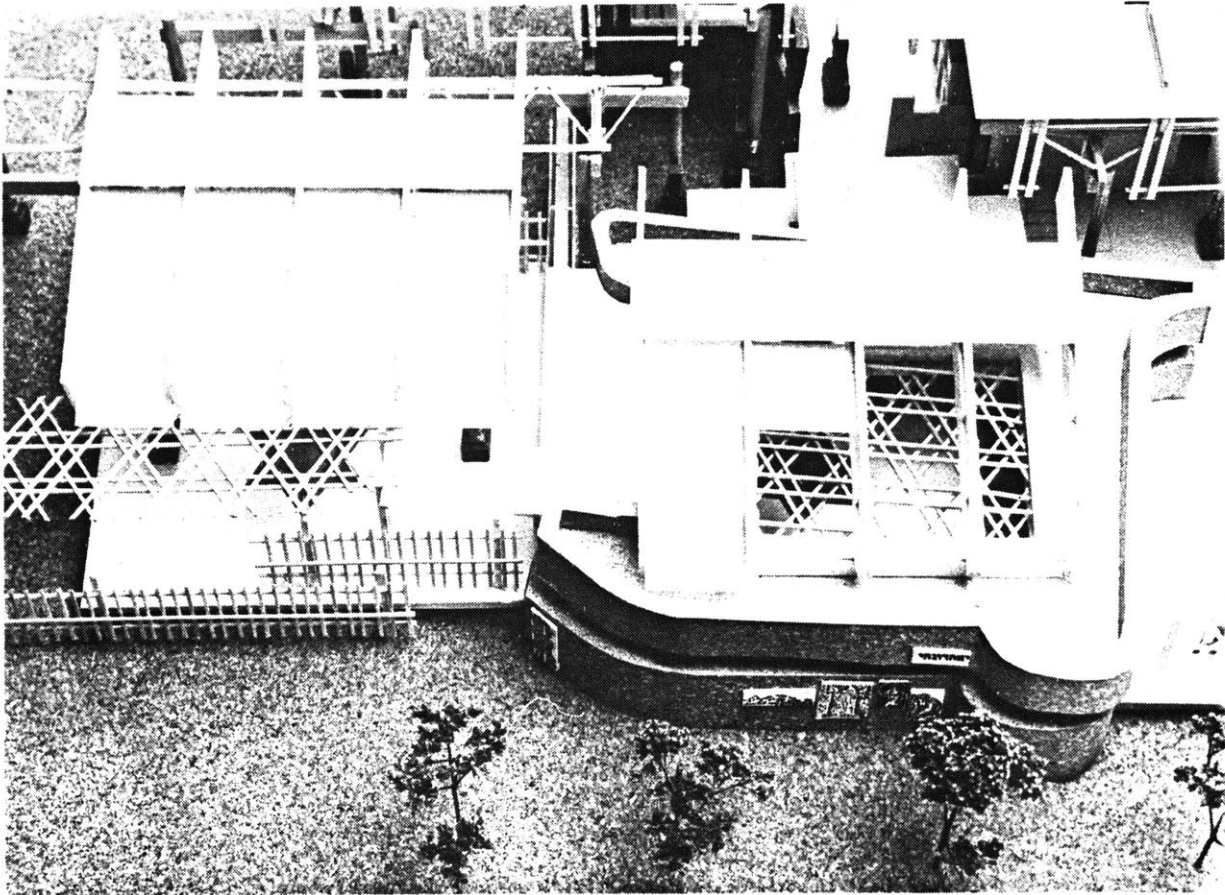
-- Z'ev ben Shimon Halevi,
Kabbalich: Tradition of Hidden Knowledge,
 p. 92.




⊠
 Drawing of the Sukkah meal by Bernard Picart, Amsterdam, 1722. The opulent sukkah in the foreground is contrasted with the more simple structure of the less wealthy family in the background. Amsterdam, Stedelijk Museum.

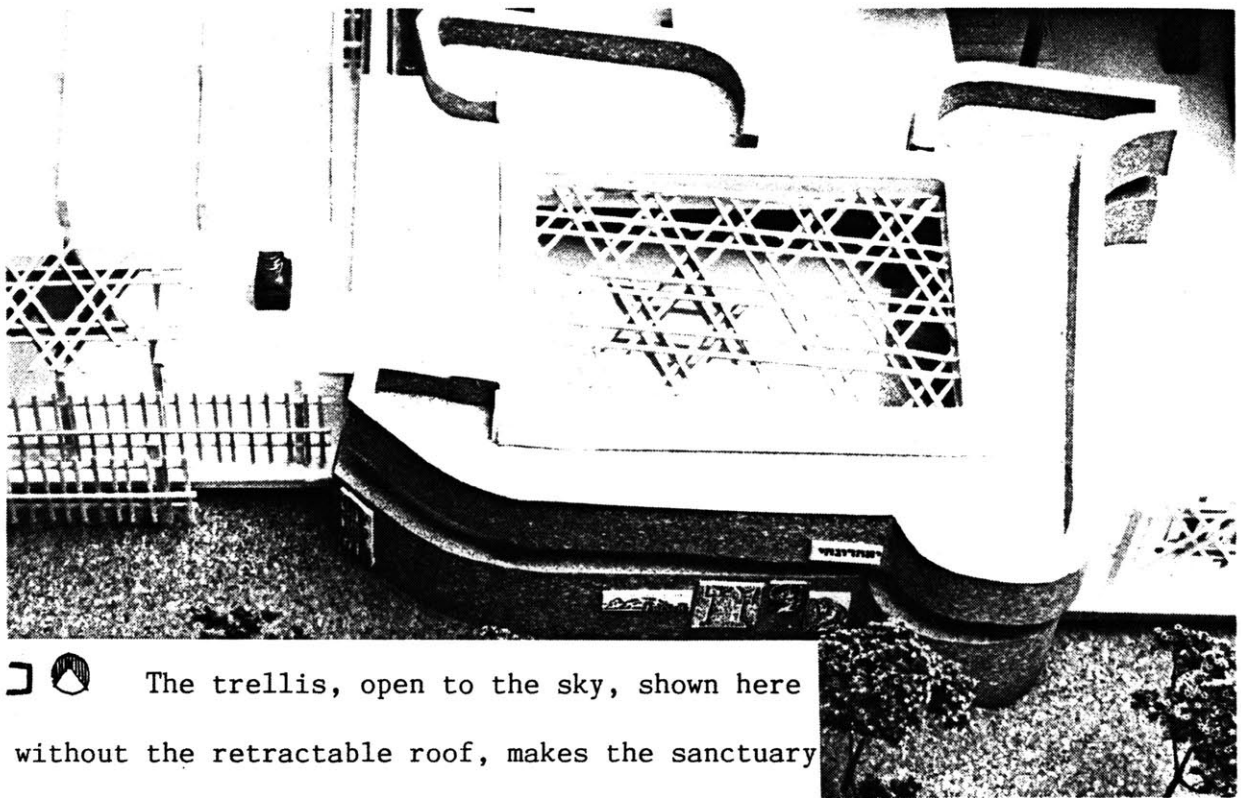


⊠
 Engraving of a 17th century German sukkot scene. Shown are various types of sukkot including one (at right) in an attic with a special roof hinged open for this purpose. From P.C. Kirschner, Juedis ches Ceremonial Beschreibung, Nuremberg, 1734.



b  The sanctuary of the Newton Tabernacle is designed so that the worship place could be used as a sukkah. Below a retractable roof a trellis is designed to carry the living vines and branches. The south wall of the sanctuary slides open so that the terrace beyond may be included as a room extension. The intention of informing the sanctuary of the sukkah is to provide a place that is optionally vulnerable, to bring the memory of the sukkah and the meanings of the festival to daily prayer.

⊙ In the retractable roof that covers the sanctuary and adjacent terrace, the architecture acknowledges the changing seasons. The sliding, translucent panels could be open or partially open in the warm spring and summer months. As the sun moves lower in the sky toward evening/winter, the panels could be closed to retain heat. A wood and colored glass screen defines the partial horizontal enclosure of the sanctuary. It casts its repeating star pattern on the wood and granite floor in shadow and awaits the hanging fruits and branches of the harvest festivals.



⌋ ⊙ The trellis, open to the sky, shown here without the retractable roof, makes the sanctuary into a sukkah when branches and fruits are hung from the rafters.



The Shemoneh Esheh, the central

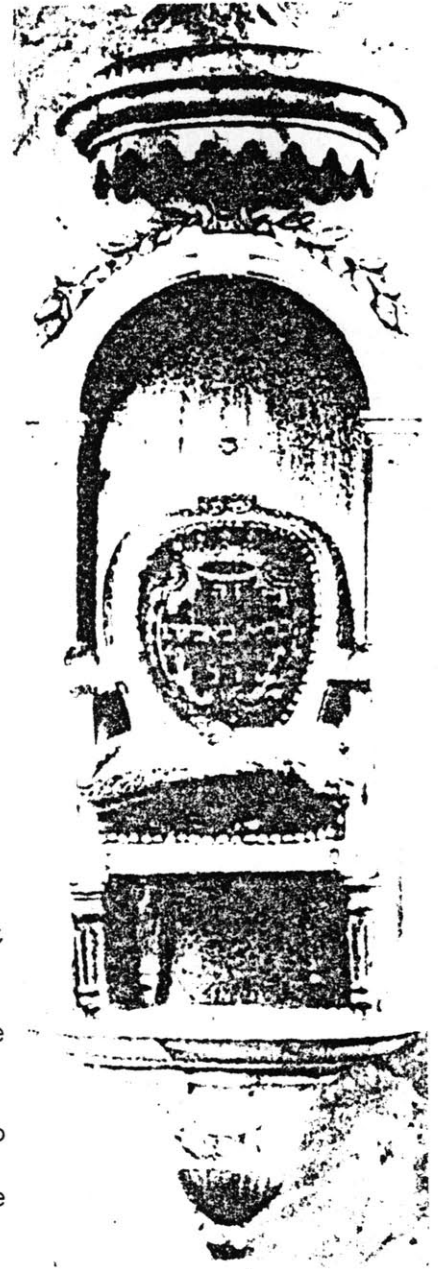
meditation of the daily prayer service, refers to our relationship with God on four levels. The Almighty is described as "King" (Melekh), "Helper" (Ozer), "Rescuer" (Moshla), and "Shield" (Magen). In the four words the prayer informs of God's closeness. First He is seen as a benevolent but distant king, then as a willing helper, then as a nearby rescuer, and finally, as an imminent shield. By these four words the praying Jew makes the transition from viewing God as a remote transcendental force to seeing Him as a protector who is closer than the air around us. Feeling Divine presence as a shield that surrounds like a suit of armor, the Jew feels as if s/he is being protected by God, so that nothing in the world can be harmful. The closeness of God, represented by the shield image, is a daily reminder of God's protecting qualities, a central theme of the sukkah.

⚡⊗ Chair of the Prophet Elijah in the Synagogue at Carpentras.

⚡⊗ It has become a tradition to reserve a seat for Elijah in the synagogue. A glass of wine is poured and left for him at the Passover Seder, the ritual service-meal that celebrates the exodus from Egypt. In the Newton Tabernacle a literal seat is not reserved for the messianic prophet, rather the building systems were designed with inhabitable slack to serve for supernatural occupation.

□⊗ Out of this firm faith in the messianic return, a new Jewish hero type was born: Elijah the prophet. Elijah, the Bible tells us, did not die, but was translated to the heavens. Subsequently, the prophet Malachi proclaimed: "Behold I will send you Elijah the prophet before the coming of the great and terrible day of the Lord. And he shall turn the heart of the father to the children, and the heart of the children to their fathers." Thus, the Bible assured that Elijah would herald the great day, the day of the messiah, and that he would also proclaim the new era of peace and harmony on earth. No wonder then if in Rabbinic lore, Elijah became transformed from the fanatical zealot we know from the Bible into the kindly old man known in Jewish folklore -- miracle worker and comforter of Israel. He is the symbol of Jewish suffering and Jewish hope; he is the awaited house-guest at every circumcision and at every Passover service. In ancient synagogues, a seat was reserved for him near the ark. Along with the Messiah himself, Elijah becomes the Jewish alter-ego, the symbol for the whole people: exiled and tortured, but alive and hopeful.

-- Abraham Halkin,
Zion in Jewish Literature



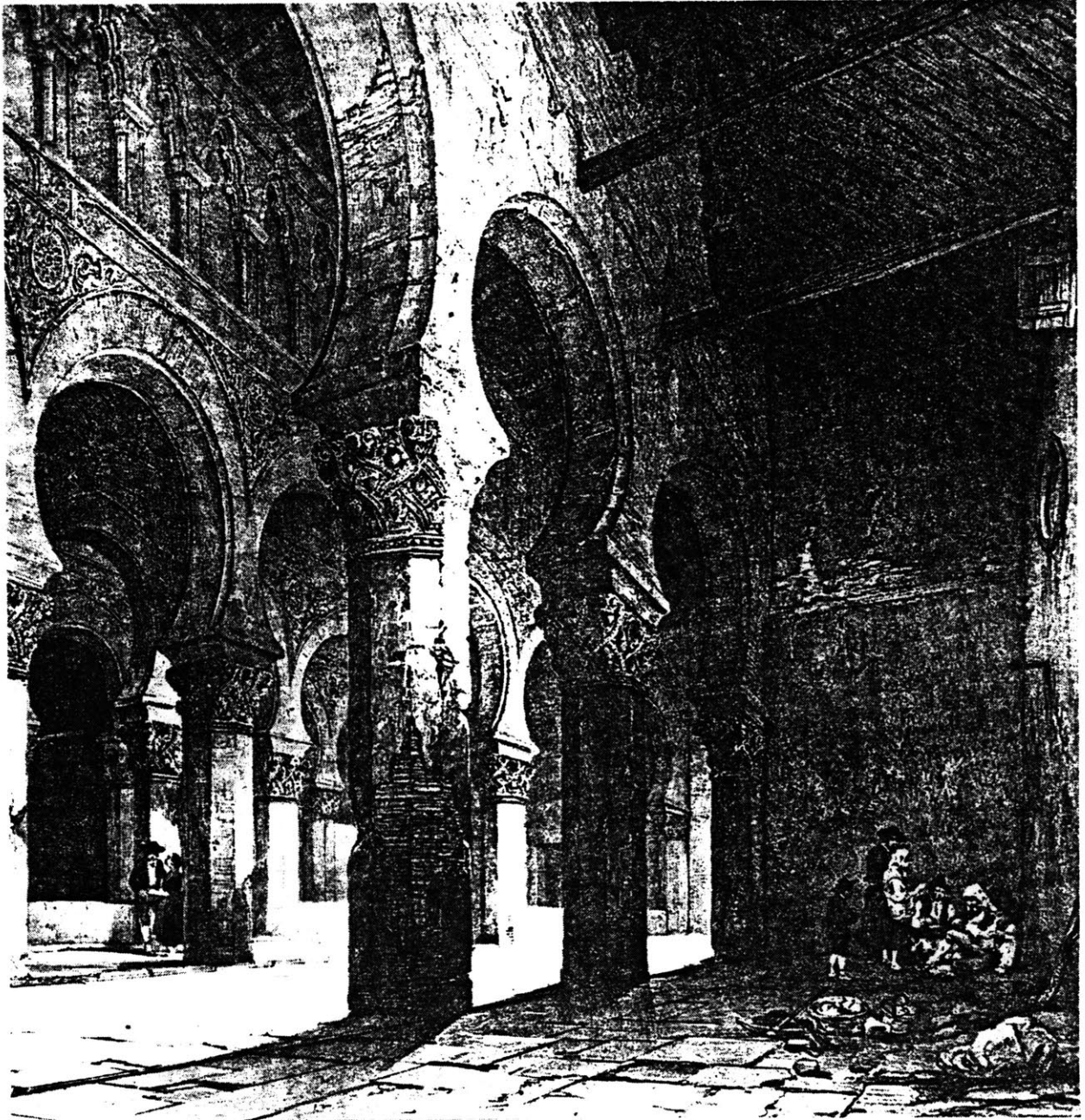
J The Talmud justifies the reciting of the Kiddish in the synagogue, despite the fact that "Kiddish is recited only at a meal" (Pes. 101a), on the grounds that it was recited for the benefit of visitors and wayfarers "who eat, drink, and sleep in the synagogue." An inscription on a first century synagogue records that it was built by Theodotus, son of Vettesos, who built the synagogue "for reading of the Torah and teaching of the commandments and also built the hospice and chambers and water installations for lodging needy strangers." A painting by Bernardo Villamil y Marraci of La Blanca, a Toledo synagogue, depicts a group of people sitting on the floor, eating. What looks to be a makeshift bed surrounded by personal articles is in the foreground. How might the tradition of the synagogue as a place of shelter for the visitor or needy be integrated into the design of the place of worship/community center for the Newton Minyan? Should there be a specific place for lodging? If so, what would be its nature, the extent of its use?

-- From a letter to Rabbi Daniel Shevitz,
James Brandt, 10 October 1985

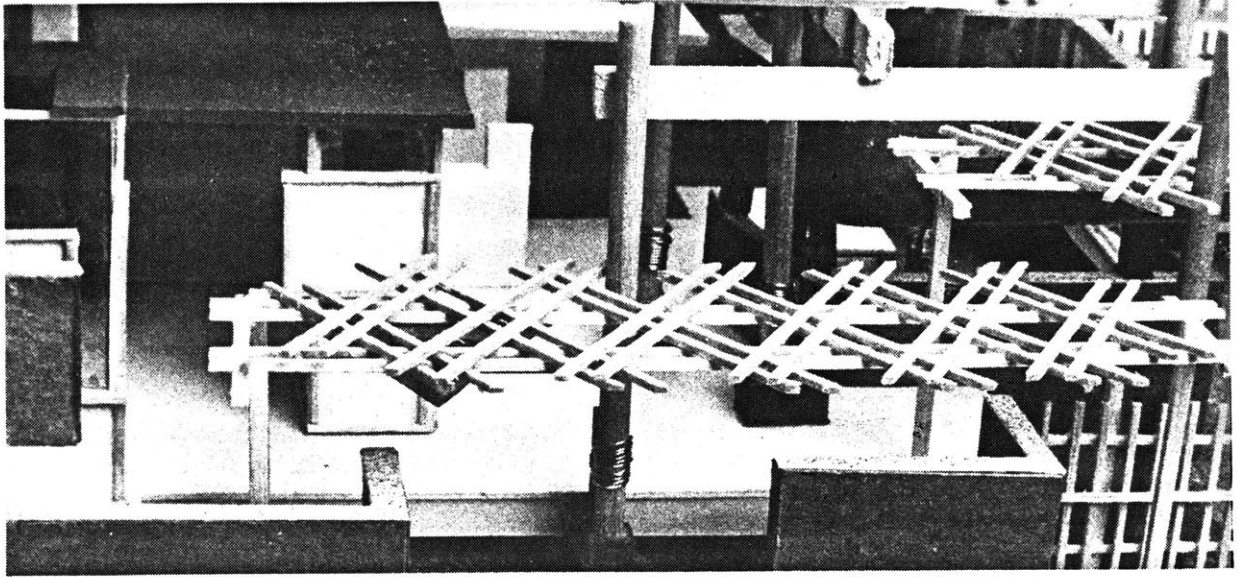
| ⊙ In a discussion meeting following the letter quoted, it was concluded that besides the charitable efforts of the community to alleviate the problem of the homeless, some physical part of the tabernacle should be left for occupation by the homeless visitor.



▷ ⊙ Drawing of a Portuguese synagogue showing angels hovering over the reader's platform.



∩ ⊗ A painting of a Toledo synagogue by
Bernardo Villamil y Marraci of La Blanca.



9. ① The guest pavilion opens to the outdoors directly, providing an adjacent shelter with a private entrance.

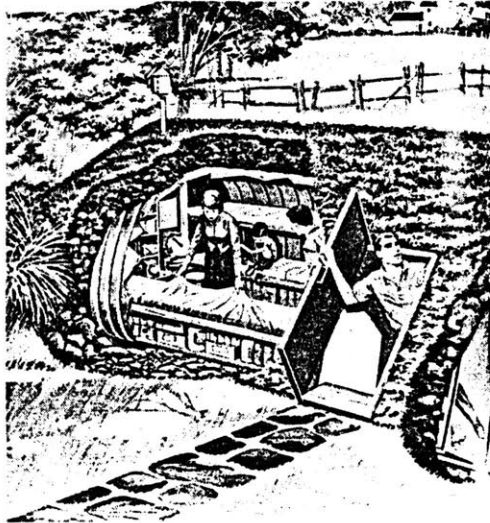
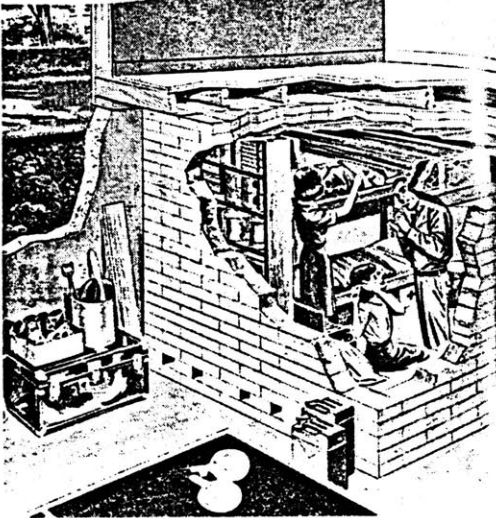
7. ② Entering into inter-dependent relationships with the oppressed peoples of the third world, our culture begins to work towards the development of the collective and the self. "The oppressed bear in a special way the promise of a human community and a faith to celebrate it, if only for the reason that their needs for development, unlike ours, cannot be dissociated from the need to dismantle the walls of the exclusive society."

-- Ronald Marstin,
Beyond Our Tribal Gods, p. 106

① In the years following the Second World War, as our nuclear capability was realized, the United States Government advocated a civil defense strategy that implemented underground fallout shelters as a means to survive a nuclear attack. Despite the expanding civil defense budget, scientific evidence clearly shows that the only way to survive a nuclear attack is to prevent one from happening. Facing the technologies of our weapon systems, vulnerability has a new meaning today. All of our structures -- all life -- is vulnerable to our own destructive powers. "Sheltering" has changed from passive hiding to active searching and educating. Our new bomb shelters -- the only effective ones -- are built for vulnerability, not protection, and will aid us in entering into communion with those previously excluded.

γ ① Global Thermal Nuclear War, a strange game. The only way to win is not to play.

-- "War Games"



P ⊕ Fallout shelters

drawn by Elmer Wexler

for Life magazine,

September 1961.



7 ⊕ Think not to settle down in any truth but use it as a tent in which to pass a summer's night; build no house for it, or it will become your tomb.

-- Belle Vallerie Grant
and George Trevelyan

∨ ⊕ Marstin explains the opening of our communities as the only way to broaden our necessarily limited understanding of faith. "We grown in understanding only as we are touched by the experience of those whose experience has never before touched us."

-- Ronald Marstin,
Beyond Our Tribal Gods, p. 129

God said, Let there be lights in the
in the expanse of the sky to separate
between the day and the night ; and
they shall serve as signs for the festivals
and for days and years ; and they shall
serve as lights in the expanse of the
sky to shine upon the earth. And it was
so...

Genesis 1:14-18



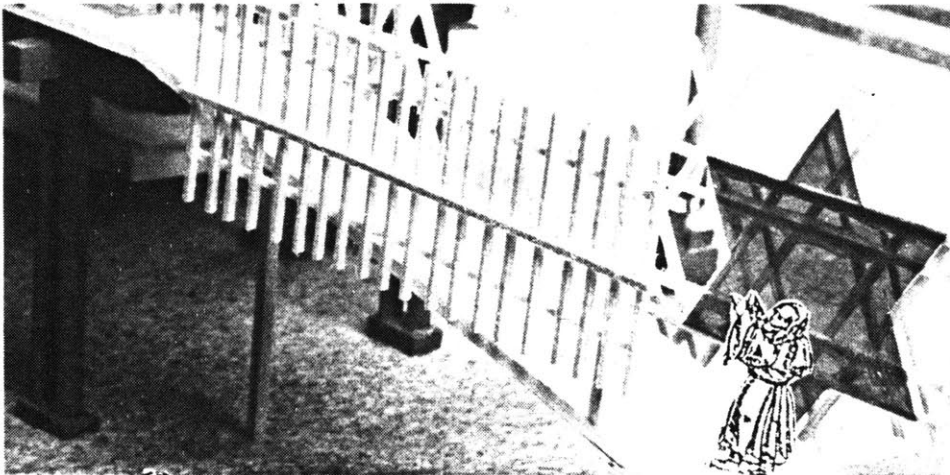
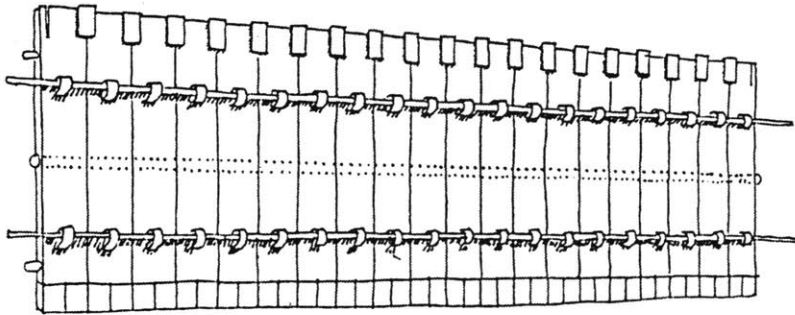
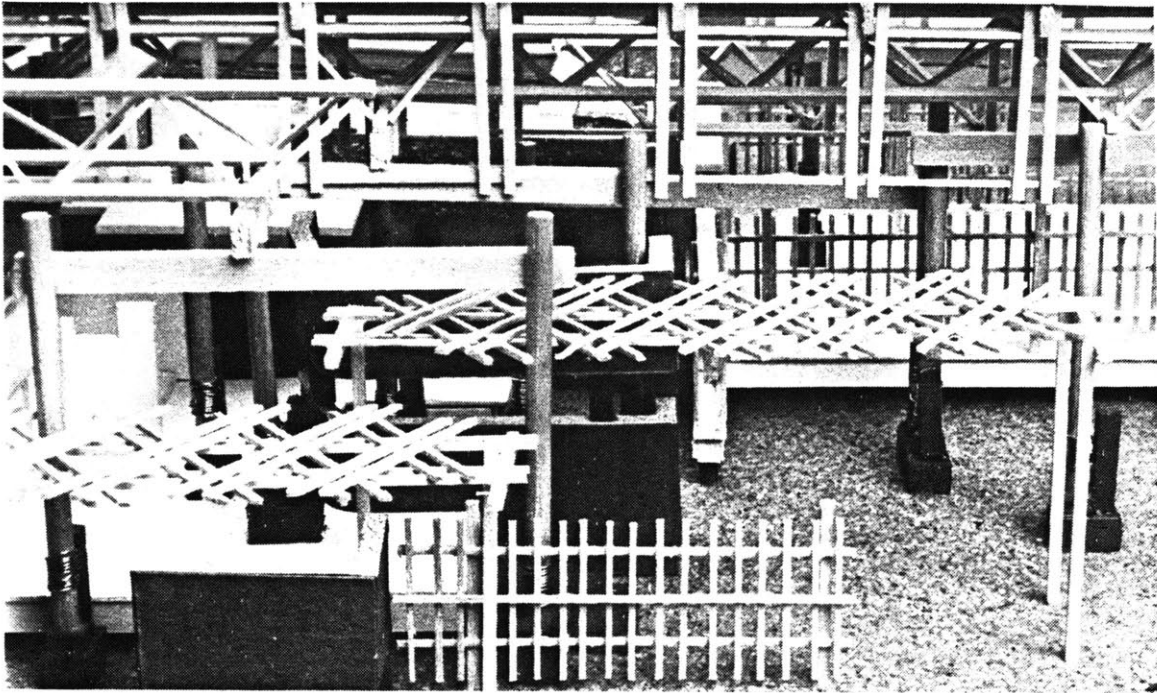



A HOUSE UNTO THE SEASONS

One of the most important facts in the history of religion is the transformation of agricultural festivals into commemorations of historical events. The festivals of the ancient peoples were intimately linked with nature's seasons. In the urban centers of today's world the passing seasons are often obscured by the technologies that we have tied to our lives. By watching the light and building places that watch with us we can reconnect to seasonal change, and to time's passing.

⌋ ⊗ The Hebrew experience of light corresponds with the view proposed by modern physics. The Jewish psyche is comfortable with shifting perspective between viewing light as a wave or a particle. It is at home with relativity and uncertainty. It can easily accept the fact that visible light is only a thin band within a far ranging electromagnetic spectrum. This dynamic, multifaceted concept of light forms a central part of a new paradigm that is emerging in all realms of human endeavor. It is a paradigm that links Einsteinian physics with non-figurative art and humanistic psychology.

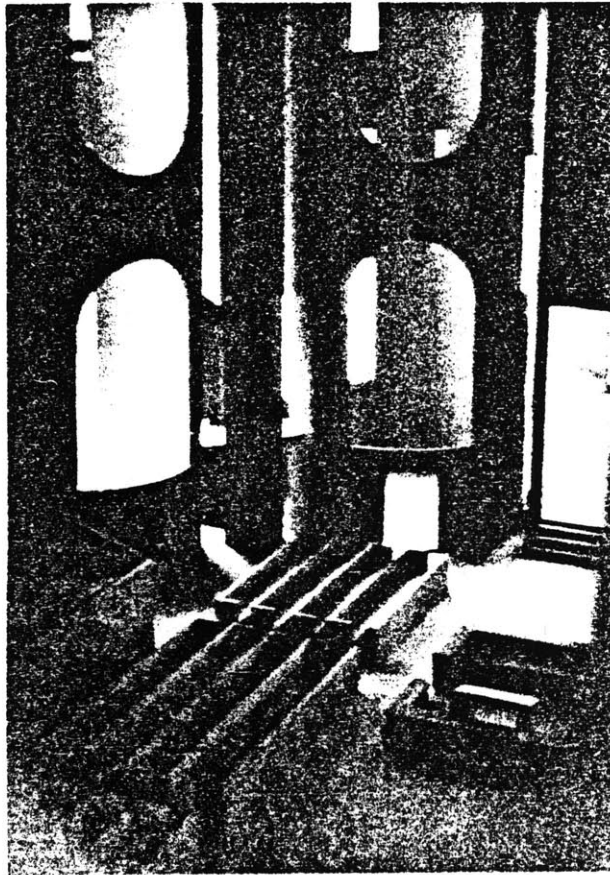
-- Melvin Alexenberg
"Lights of Creation: Sight and Insight"



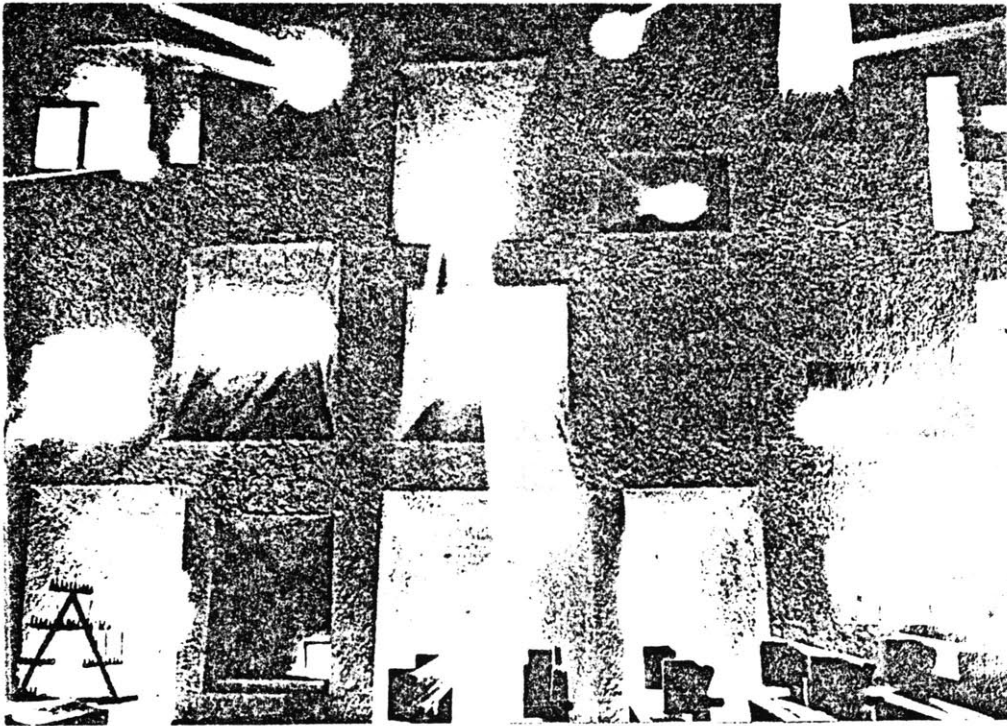
T  The Tabernacle's modular wall was adapted into a spacial system to make screens for the Newton project.



⌈ ⊕ Shadow garden.




⌈ ⊕ The light that reaches the sanctuary's interior is diffused within hollow columns.
(Mikveh Israel, Louis Kahn, architect.)




⌈ ⊕ Lightwall in Le Corbusier's church at Ronchamp.



⌈ ⊗ Light illuminates the reader's platform.
 (Lancut, Synagogue. Watercolor by Zygmunt Vogel,
 late eighteenth century.)

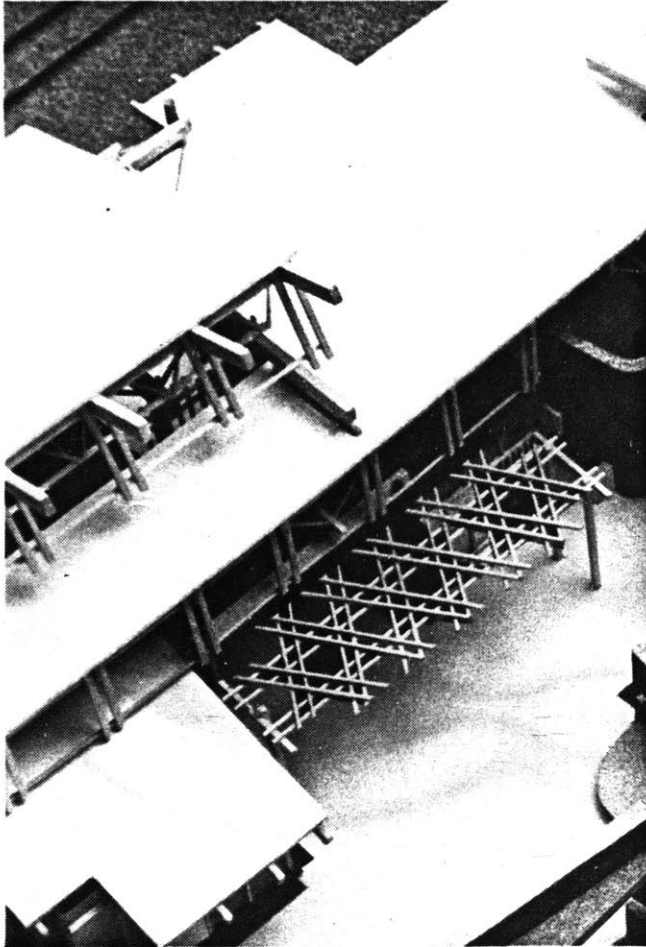
b  The Jewish calendar uses the moon for its basic calculations, and makes adjustments according to the solar seasons. The United States uses strictly a solar calendar. The moon is a sign of the redemption of Israel, subject to becoming, birth and death, renewal.



1  A floor mosaic in the fifth century synagogue of Beth Alpha. In the center is the sun rising out of the darkness of night; the signs of the Zodiac encircle it; the four seasons decorate the corners.

☞⊙ The moon shows his true human condition; that in a sense man looks at himself and finds himself anew in the life of the moon.

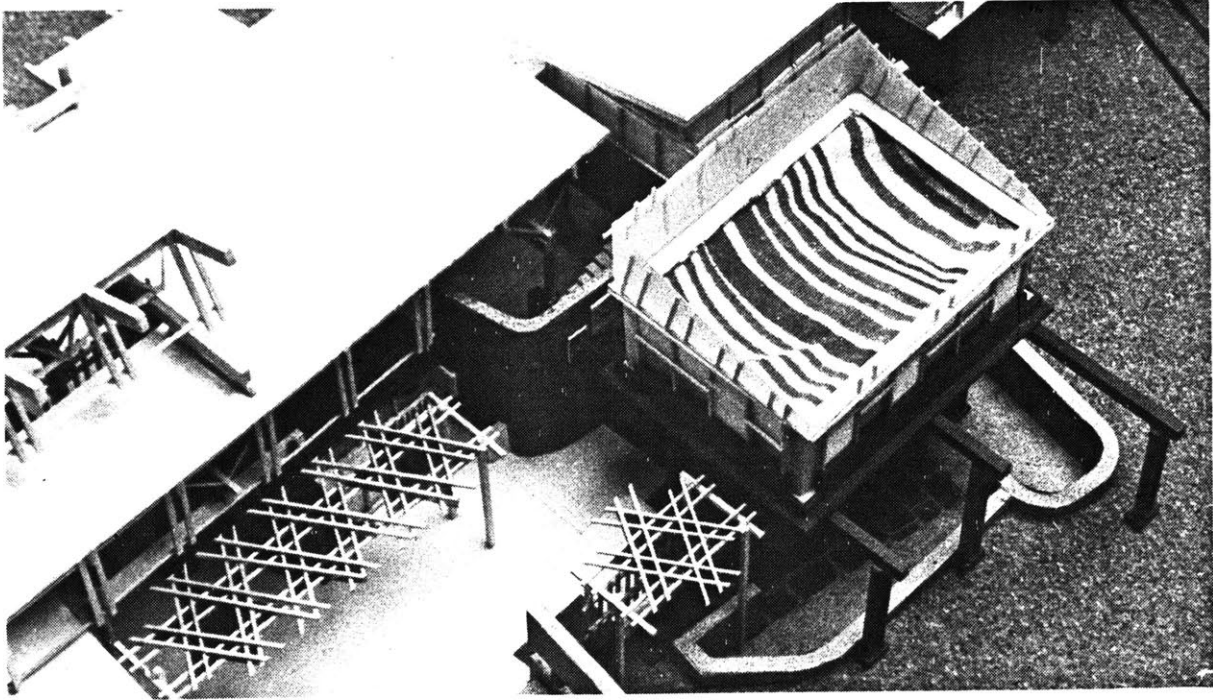
-- Mircea Eliade,
Patterns in Comparative Religion



⌋⊙ The tabernacle's sloping roof opens to the east.

⌋⊙ Jewish ritual may be characterized as the art of significant forms in time, as architecture of time. Most of its observances -- the Sabbath, the New Moon, the festivals, the Sabbatical and the Jubilee year -- depend on a certain hour of the day or season of the year. It is, for example, the evening, morning, or afternoon that brings with it the call to prayer.

-- Abraham Josuah Heschel,
The Sabbath, p. 8



☞ Ⓞ The roof of the house of prayer is made of a fabric pattern adopted from a tallis, a Jewish prayer shawl.



☐ Ⓞ A prayer shawl is used as a canope over the couple during a Jewish marriage service.

I will make all My goodness pass before you, and I will proclaim before you the name Lord, and the grace that I grant and the compassion that I show. But... you can not see My face, for man may not see Me and live... See, there is a place near Me. Station yourself on the rock and, as My Presence passes by, I will put you in the cleft of the rock and shield you with My hand until I have passed by. Then I will take My hand away and you will see My back; but My face must not be seen.

—Exodus 19-23





A HOUSE UNTO GOD:
A HOUSE UNTO THE PEOPLE

Prayer is a dialogue between (wo)man and God; between creation and creator. The tabernacle is the meeting ground. In sanctuary we acknowledge ourselves, we strive to become more human. The aim of prayer, getting close to God, is at the same time a process of knowing ourselves -- and each other. An architecture that acknowledges the laws of creation, that records the breath of time's passing and unlocks the human spirit is one that is approachable by the divine.

1 (a) In understanding the nature of a chapel, I said first you have a sanctuary, and the sanctuary is for those who want to kneel. Around the sanctuary, is an ambulatory and the ambulatory is for those who are not sure, but want to be near. Outside is a court for those who want to feel the presence of a chapel. And the court has a wall. Those who pass the wall can just wink at it.

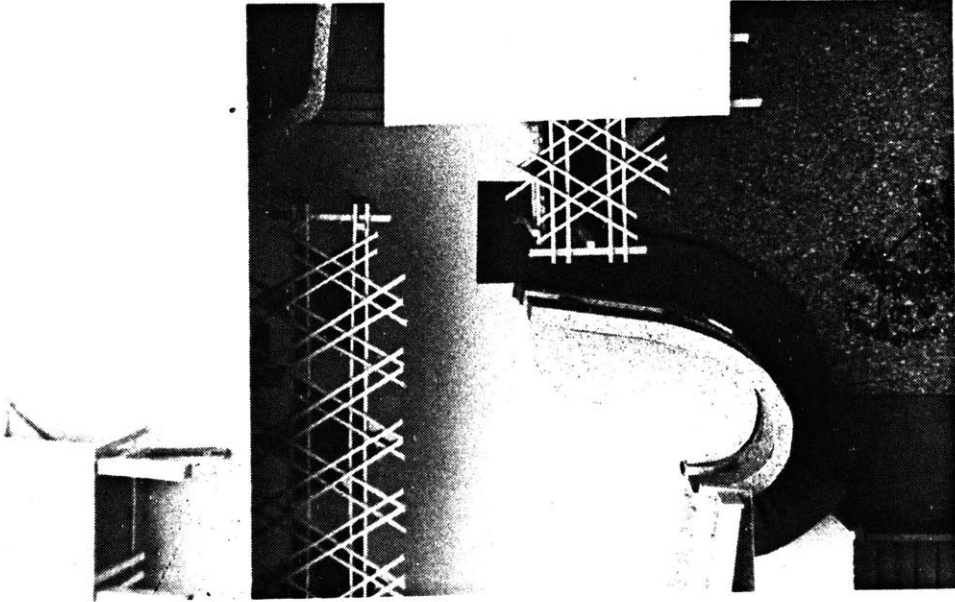
-- Louis Kahn
John Lobell, Between Silence and Light,
p. 47

T ⊕ We can find in a good building a sequence of public to private. Finally a place to get inside of ourselves. A sanctuary for every level of privacy.

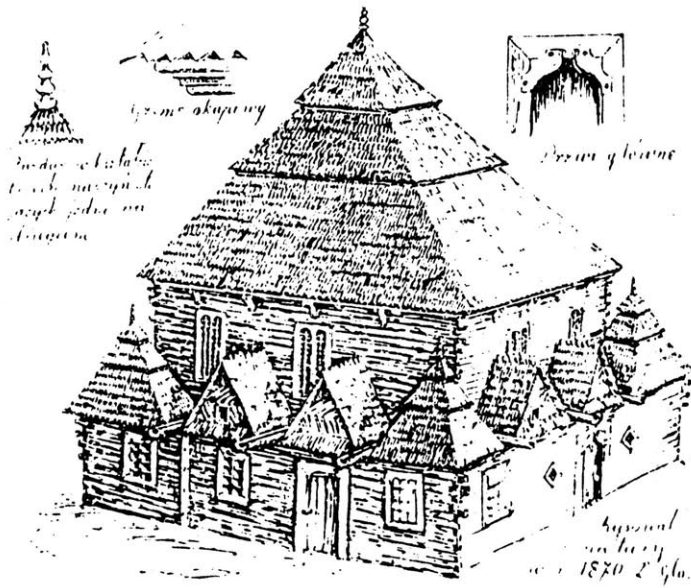
-- Louis Kahn



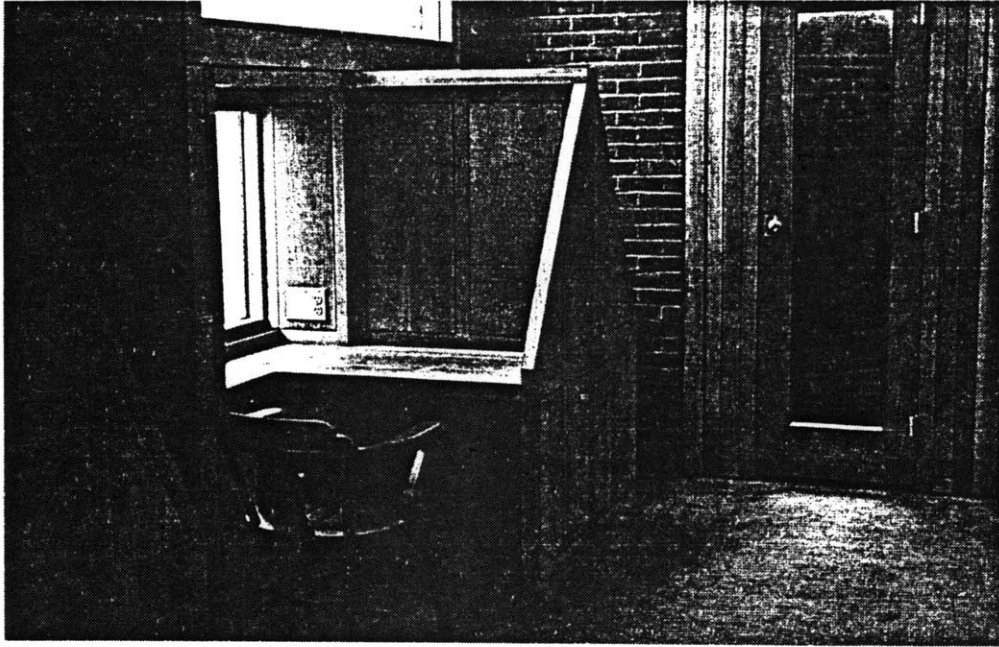
∩ ⊕ The porches along the edge of the street are relative privacies that announce the more private beyond the opening. This territory between relative public and private announces each to the other. The edge is an opportunity for change, a place to inhabit, intensify. The most private places happen at the edge, or the exchange between territories.





⌋ ⊙ Screens intensify the building's edge and the entrance.

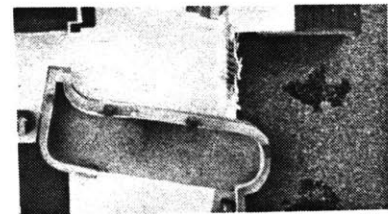
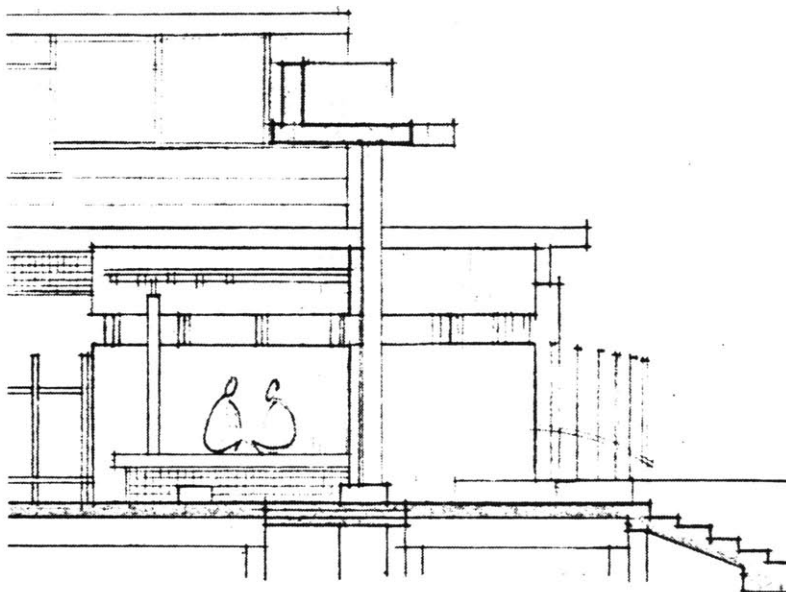



⌋ ⊙ Pavilions make the edge of this wooden synagogue in Poland.



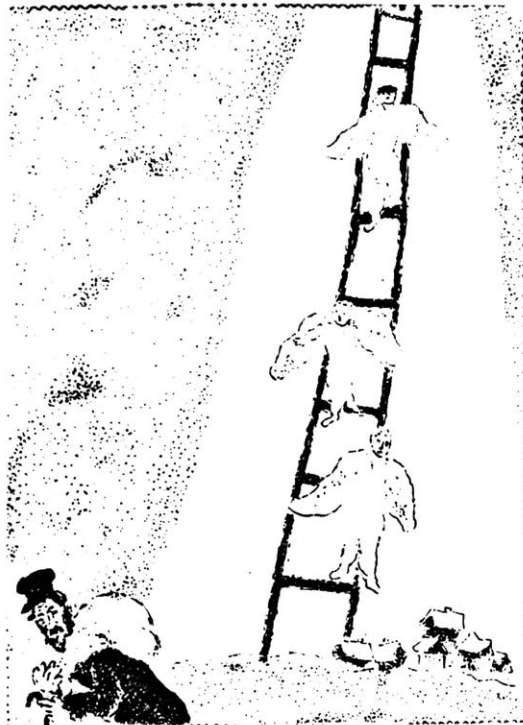

 The window seats in Kahn's Exeter Library are single person size territories inhabiting the edge. The window brings in the world beyond.


 The curving walls of the sanctuary partially enclose meditation places.




 Platform seat by entry.

⌋ ⊕ The act of climbing or ascending, breaking the orthogonal plane, makes communication between different levels of reality possible. Ideas of sanctification, life, death, love, and deliverance are all involved in the symbolism of stairs.



⌋ ⊕ Rembrandt, "Jacob's Ladder," Etching.

Mark Chagall, "Jacob's Dream," 1931.

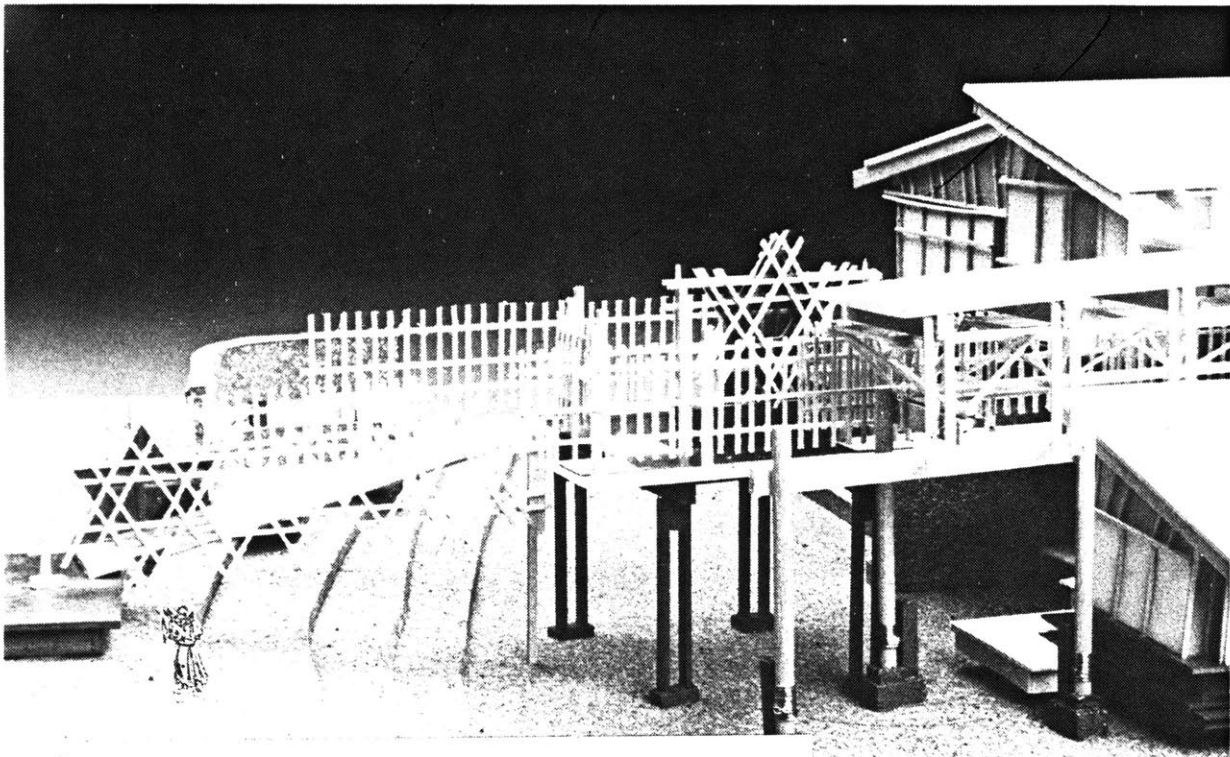
⌋ ⊕ The ladder or stair "to heaven" is a rich symbol that makes transcending possible.



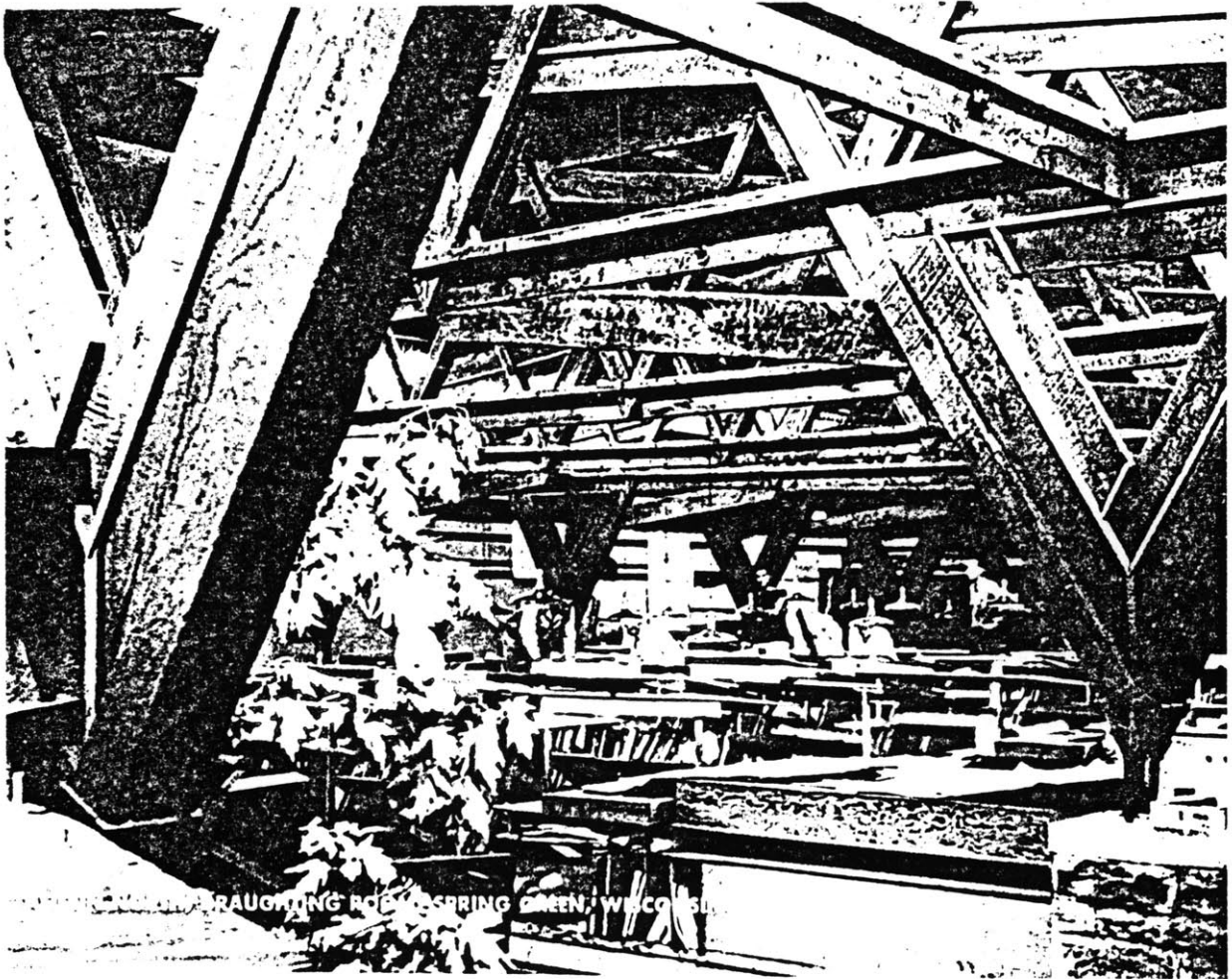
☞ ⊕ Oskar Schlemmer: Bauhaus Stairway, 1932.

Gift of Kevin Thornton.

□ ● On the second floor of the Newton Tabernacle access is along a wood deck, characteristic of an ocean pier. At one end a stair descends to the sanctuary vestibule, on the other the pier continues above the landscape, culminating in a ramp that stops at the public street. The pier passes by four territories, inhabitable roofs of ground floor pavilions. One makes the entry to a raised study room, the others are for meditation and private study. The views are to the entry hall, dining area, and social hall below, and, through-inhabited trusses, to the courtyard and landscape beyond.

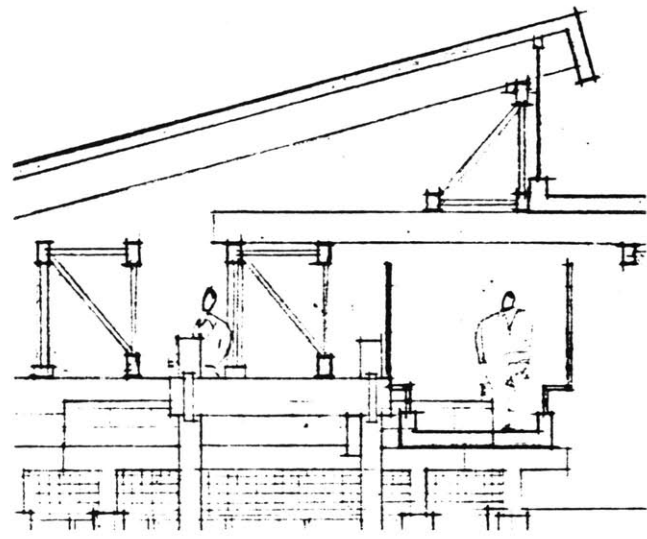


J ● North ramp connecting street level and the tabernacle's raised floor.



DRAFTING ROOM, SPRING GREEN, WISCONSIN

| ⊕ The trussed roof of the drafting room of Taliesin North inspired the inhabitable trusses of the Newton Tabernacle.



▷ ⊕ Inhabitation of the truss.





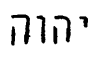


☞ ⊕ Studying in the treetops.




"Let them make unto Me a sanctuary."

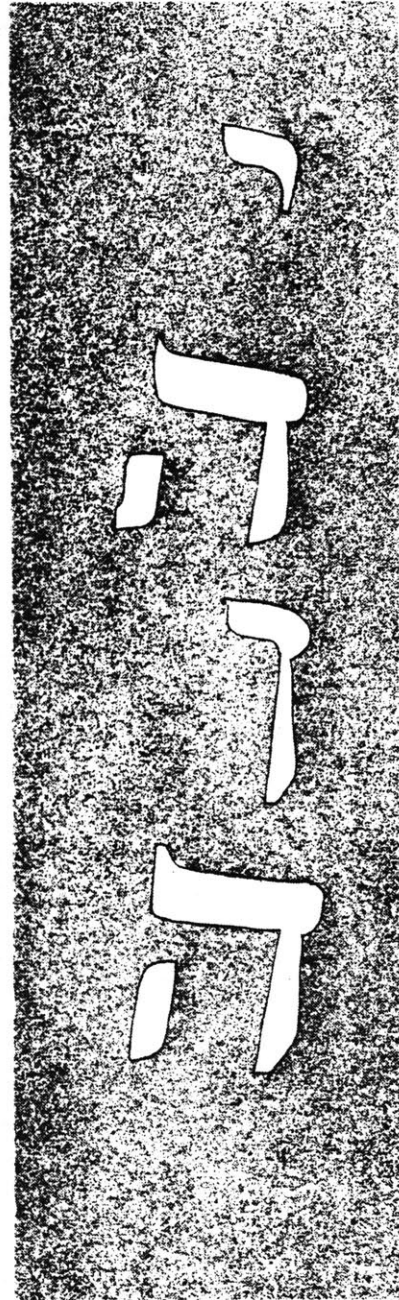
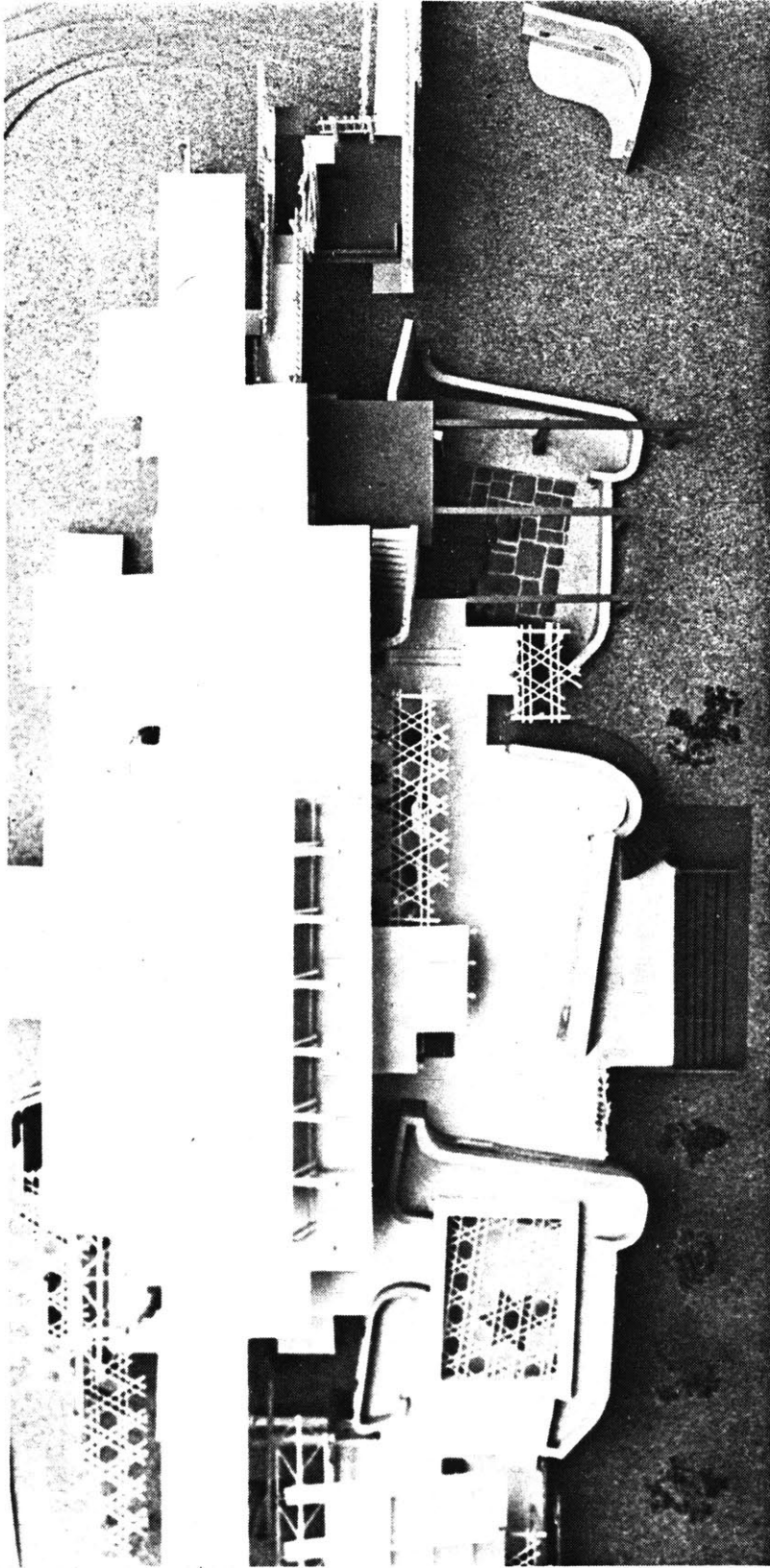
י ⊕ It can be compared to a King who possessed only a daughter. When one of the princes took her to wife and would remove her to his country, the King pleaded with his son-in-law thus: "As she is my only daughter, I cannot part with her for good; nor, as she is now your wife, can I prevent her going with you. I have but one request of thee. Wherever you make your home, reserve a small room for me whither I could repair occasionally to be near my beloved daughter." This is what God said to Israel: "I have given you the Torah. Take it away from you I cannot; part with it I cannot, but wherever you are on earth, construct for me a house wherein my presence may dwell." Hence the command: "Let them make unto Me a sanctuary."

-- Exodus Rabba

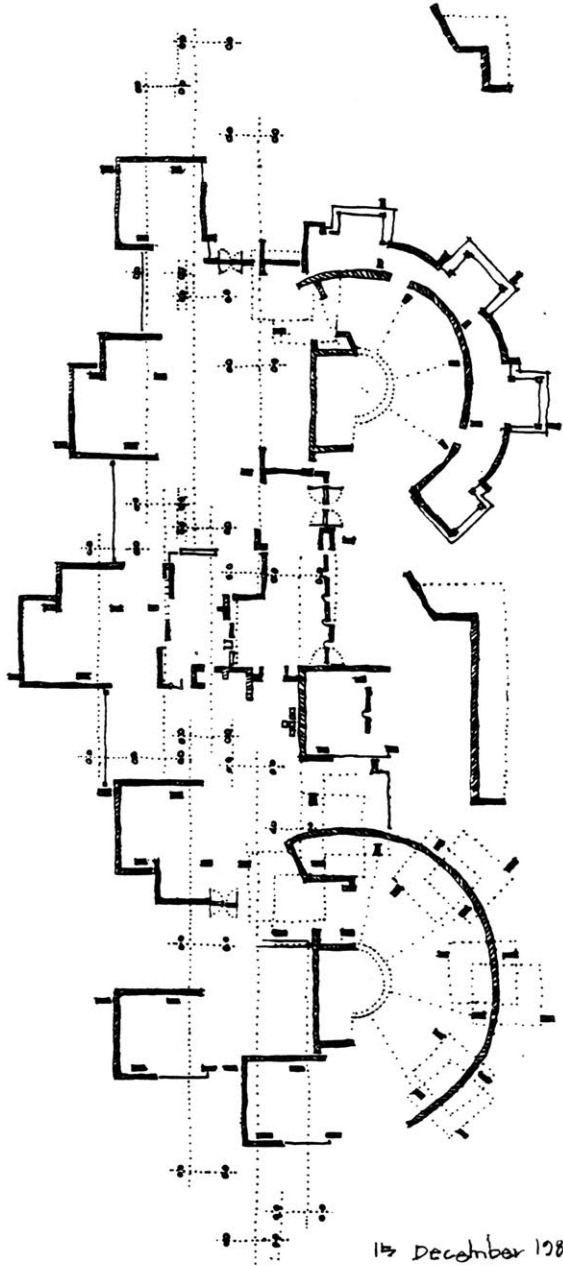

 Contrasting the additive form of the tabernacle's body spine, the eastern entry edge and containments are made from continuous concrete walls. The forms are taken from letters of the hebrew alphabet. The sanctuary and lower arena inscribe the letter . The gateway to the tabernacle's courtyard and its adjoining platform seat compose the letter ; a sunset pavilion to the north inscribes the letter . The walls that are the letter's edge are divided by a band of light, thus intensifying the section. The width of the letters are paved in granite on the ground in the sanctuary and arena, on a raised use surface in the sunset pavilion, and overhead at the courtyard gateway. Reading the letters from north to south, they spell , an inutterable hebrew word that sums up all creation, meaning that which was, is, and will be.







 from a Sephardic prayerbook. Note how the final  is extended to contain another word.

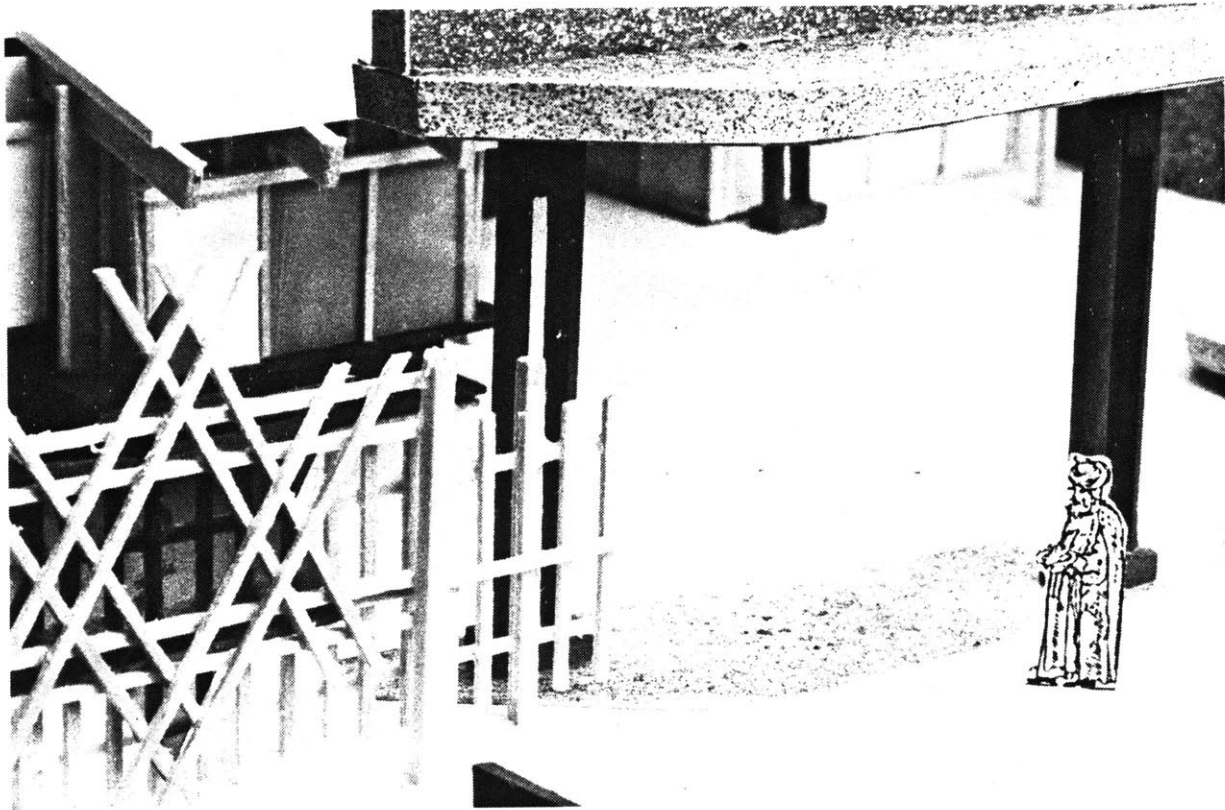


70 Plan of the Newton Tabernacle showing the spelled graphic.

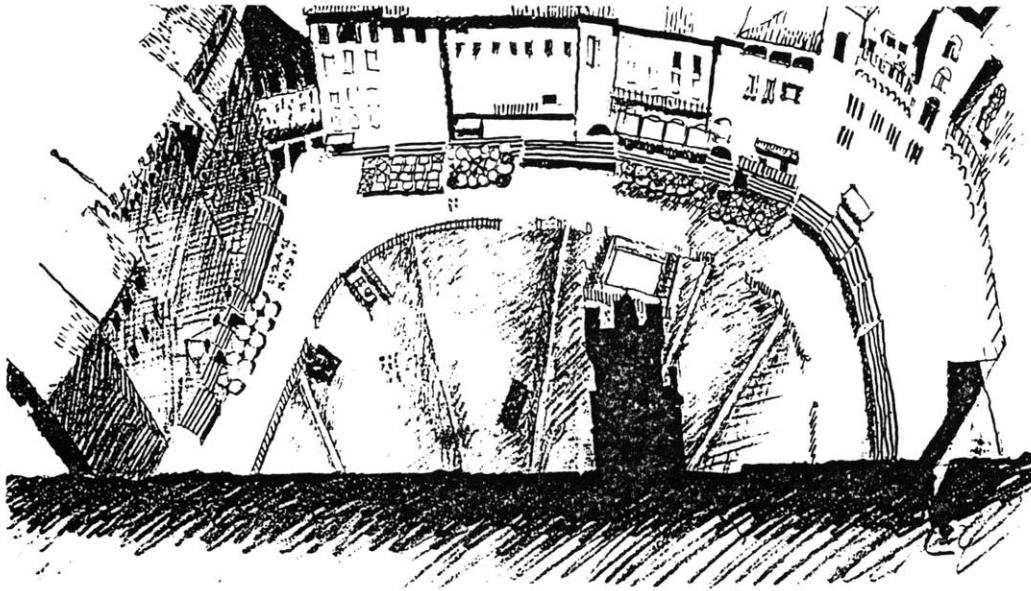



 A diagram showing the sanctuary and arena as circular forms.

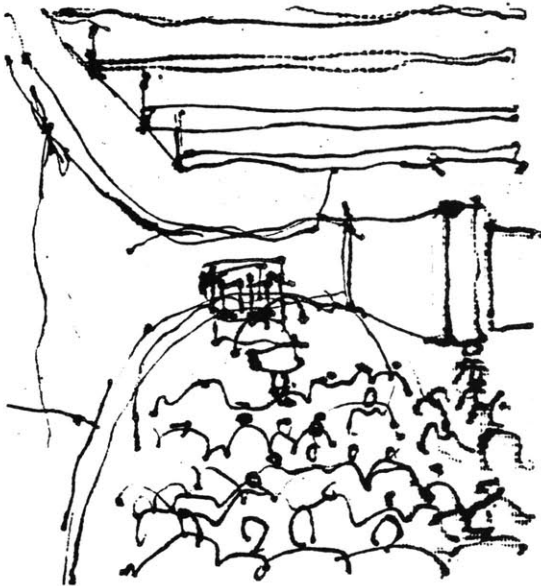
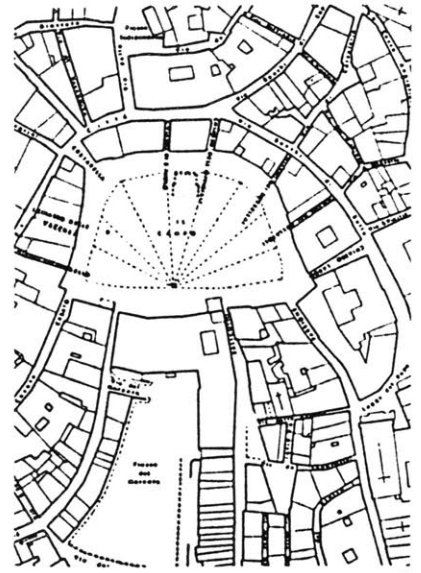
Л ⊕ Louis Kahn distinguished between spaces to move through and spaces created for arrival. "Arrivals, also, must not be static. They should foster human communication, intellectual tension, or waking after sleep."



К ⊕ The spine of the letter 7 and the letter's granite "shadow" make the tabernacle's entrance.

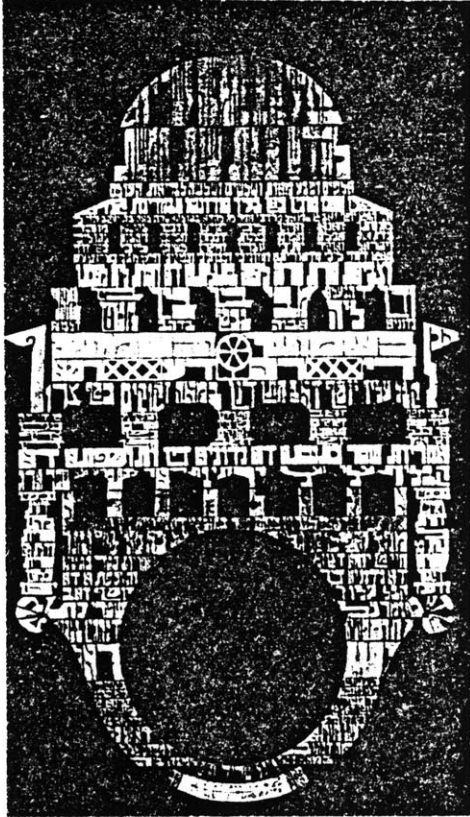



☐ ⊕ A partial containment makes the city center. The campo, Siena.




λ ⊕ Sketch of the sanctuary in use.


⌈ ⊕ A plan of the building makes a mosaic on the wall of the entry hall allowing the graphic to be seen at a readable size.



 Hebrew letters are a common theme of Jewish art. Here the letters make an architectonic drawing; text is fashioned into a human figure.

 Know that each letter is a complete living being. And when one does not put his whole strength into it, it is like a creature with a missing limb.

-- From the Hasidic oral tradition

 The Talmud, the commentary on the law, says, speaking of the architect of the Tabernacle: "Betzael knew how to combine the letters through which heaven and earth were created."

ת, ⊗ The letter is the spiritual substance of the thing. The world is made of thirty-two pathways, i.e., twenty-two letters of the alphabet, ten sefirot (emanations of God). Their combinations produce all things, make up the heart of the thing. The Hebrew language knows this. Each word, a family of letters. Each word, its physiognomy. The letters of the word, in their unique combinations, are its essence. To pronounce a letter is to invoke its essence. Although a source of potential chaos, letters have staying powers: they hold a thing together.

-- Siegal, Strassfeld,
The First Jewish Catalogue, p. 186

Renewing Our Days as of Old:

Rediscovering the Organic

ב, ⊙ When we speak of organic architecture we mean an architecture that in every element, in every word, is related to a social content. It is a tradition that hallows the process of creation by applying natural principles, acknowledging divine spirit. Architecture is a system of people, not things. The purpose of organic architecture is to desecrate the building as a symbolic entity of power, as an absolute value, and to shift attention to the life that is its purpose to sponsor.



' 1 ② In the 20th century unfinished architecture was rediscovered. Frank Lloyd Wright vowed in various figures of speech to produce an organic architecture, a "living" architecture, an architecture imbued with the "order of change." Wright referred to architecture as a living spirit stating that "It continues to bestow the years with forms designed to change and to be strange to men yet to come." (Future of Architecture, p. 52) He detested buildings such as Plato' City for 5040 and LeCorbusier's Apartment for 1600, that were indifferent to the phenomenon of growth. Wright learned from Sullivan that "organic" means living and development and not Functions without Forms, Forms without Functions. It means that the use of the building and its forms should be unified as is true in nature. Its principals, too, come from nature. Inspired by the environment and the landscape.

3, 1 (a) Organic for Wright meant "religious": it pertained to an emotional commitment to certain convictions about man and the world; more specifically it expressed his fundamental belief or intuition in religio: about that which makes possible a "binding up," a turning of the many into the one -- in short "universe."

-- Norris Kelly Smith,
Frank Lloyd Wright: A Study
in Architectural Content

7, 1 (a) To be harmonious is to be beautiful in a rudimentary sense: A good platform from which to spring toward the moving infinity that is the present. It is in architecture in this sense that "God meets with nature in the sphere of the relative. Therefore the first great necessity of modern architecture is this keen sense of order as integral. This is to say the form itself in orderly relationship with purpose or function: the parts themselves in order with the form: the materials and methods of work in order with both: a kind of natural integrity -- the integrity of each in all and all in each. This is the exacting new order.

-- Frank Lloyd Wright,
The Future of Architecture,
p. 200

4, 1 (a) "Organic," Einstein defined it, that is anti-classic, living, opposed to all kinds of absolutist axioms, relativistic and creative. Einstein states that physics is a logical system of thought in a state of evolution, whose foundations cannot be grasped by distilling lived experience through some inductive method, but exclusively through free invention. Translated into architectural terms, this means "Architecture is a logical system of thought in a state of evolution, whose foundations cannot be grasped by distilling lived experience through some inductive method, but exclusively through free invention."

-- Bruno Zevi,
Lecture at the Tel Aviv Museum, 1979

2, (a) Architecture is organic when the spatial arrangement of room, house and city is planned for human happiness: material, psychological and spiritual. The organic is based, therefore, on a social idea and not on a figurative idea. We can only call architecture organic when it aims at being human before it is humanist."

-- Bruno Zevi,
Organic Architecture

□, (a) Out of the ground into the light -- yes! Not only must the building so proceed, but we can not have an organic architecture unless we achieve an organic society! We may build some buildings for a few people knowing the significance or value of that sense-of-the-whole which we are learning to call "organic" but we can not have an architecture for a society. We who love Architecture and recognize it as the great sense of structure in whatever is -- music, painting, sculpture or life itself -- we must somehow act as intermediaries -- maybe missionaries. But I know well how dangerous the missionary spirit is; I myself come from a long line of preachers going back to the days of the Reformation, ... but for an architecture to become to social being in this sense of an organic architecture we who practice it must inevitably become missionaries to a certain extent.

-- Frank Lloyd Wright,
The Future of Architecture,
p. 230



GLOSSARY OF TERMS

Ark (aron ha-kodesh, [h]ekhal): Cabinet in which the Torah scrolls are kept in a synagogue. Originally freestanding against the eastern wall of the synagogue, often placed in a niche or apse. Generally approached by steps and covered with an embroidered curtain.

Bet ha-midrash: See house of study.

B.C.E.: Before common era. Refers to the numbered years before the birth of Jesus Christ; commonly B.C.

Bimah (tevah): Platform or table in a synagogue from which the Torah scrolls are read. The platform supporting a table is often of squarish or polygonal shape, and usually is approached by steps on two sides. A railing used for security and beauty encloses it. The bimah usually is placed on the main (east-west) axis, in the center of the synagogue in Ashkenazic orthodox synagogues, at the east end in Ashkenazic Reform synagogues, and opposite the ark in Sephardic-, Italian-, and Comtadin-rite synagogues.

C.E.: Common era. Refers to the numbered years after the birth of Jesus Christ; commonly A.D.

Diaspora: Dispersion of Jews outside the Holy Land.

Havurah: From the hebrew, haver, meaning friend or companion, a fellowship or study group.

High Holy Days: Autumnal days inaugurating the new year (Rosh Hashanah) and providing a day of atonement (Yom Kippur). These days and the time between them constitute ten days of penitence.

House of study: School and religious discussion room for Jewish adults. It is holier than a synagogue in religious standing. It may be annexed to a synagogue or separately built, either in a purpose-built structure or in a room in a building used for other activities. It may have an ark and a bimah so that people can use it for prayer. It may be called in Yiddish a kloyz or shtihl (cf. German Klaus, Stuhe) especially if it is private (rather than owned by a congregation or by an officially designated Jewish community) or if it is used by Hasids.

Kiddish: The prayer recited over wine on the Sabbath and holidays.

Midrash: A tradition Jewish literary form that combines commentary, legends, and stories that fill the spaces between the letters, words, and lines of the Hebrew Bible. It reveals deeper meanings of scriptural passages.

Minyan: Quorum of ten adult male Jews, required for the establishment of a congregation and for recitation of certain prayers.

Rabbi: Term of respect originally used for religious sages and teachers, now used for ordained Jewish ministers of religion. Rabbis historically have been scholars whose learning entitled them to be Jewish community judges, performers of weddings, and religious representatives.

Sekhakh: The branches, leaves, fruits, and flowers that are hung on the roof of the ritual booths of Sukkot.

Sephardic (Sefarad = Spain, in Hebrew): Adjective referring to the Sephardim, Jews who trace their origin to the Iberian peninsula, or who use some form of the rite initiated there.

Shabbat: Weekly holiday, from sunset on Friday to sunset on Saturday, commemorating God's rest after creating the world. Celebrated in the synagogue with the reading of the Torah. Observant Jews abstain from all work on the Shabbat and reserve the day for rest, prayer, study, and reflection.

Shavuot: One of three pilgrimage festivals, now a festival celebrating the presentation of the Torah to the Jews, accomplished by Moses at the foot of Mount Sinai.

Sukkot ("booths" or "tabernacles"): The festival, beginning on the 15th day of Tishri, which commemorates the sukkot in which the Children of Israel dwelt in the wilderness after the Exodus. The festival lasts 7 days. Celebration takes place in a booth decorated with branches, fruits, and flowers.

Tabernacle: Used in this document with a capital T to indicate the structure that was erected for sacrifice and worship, and carried by the Israelites during their journey through the Sinai Desert.

Talmud: Record of legal decisions and discussions of ancient Jewish sages, the fundamental work of the Oral Law that complements the Written Law (Pentateuch). There are two versions of the Talmud -- "Babylonian" and "Palestinian" or "Jerusalem." Each is divided into the Mishnah and the Gemara.

Temple: Used in this document with a capital T to indicate the central sacrificial sanctuary in Jerusalem, built by King Solomon, rebuilt after the Jews' exile in Babylonia and under King Herod.

Torah: Written Law, the Pentateuch. Handwritten on parchment scrolls, it is kept in the synagogue ark.

SOURCES CONSULTED

- Barlev, Shlomo; and Oren, David. The Jewish: A Pictorial History. New York: Leon Amiel. 1974.
- Birnbaum, Philip. Daily Prayer Book. New York: Hebrew Publishing Company. 1949.
- Boman, Thorleif. Hebrew Thought Compared With Greek. Philadelphia: The Westminster Press. 1960.
- Carver, Norman F., Jr. Iberian Villages: Portugal and Spain. Michigan: Documan Press, Ltd. 1981.
- _____. Japanese Folkhouses. Michigan: Documan Press, Ltd. 1984.
- de Breffny, Brian. The Synagogue. New York: Macmillan Publishing Co. 1978.
- Einstein, Albert. The World as I See It. Alan Harris tr. New York: Philosophical Library. 1949.
- Eliade, Mircea. Images & Symbols: Studies in Religious Symbolism. New York: Shead and Ward. 1969.
- Halevi, Z'ev ben Shimon. Kabbalah: Tradition of Hidden Knowledge. Golborn, Lancashire: Thames and Hudson. 1979.
- Halkin, Abraham S. Zion in Jewish Literature. New York: Herzl Press. 1961.
- Halperin, Don A. The Ancient Synagogues of the Iberian Peninsula. Florida: University of Florida Press. 1969.
- Hertzberger, Herman. Hubertus House. Amsterdam: Stichting-Wonon. 1982.
- Heschel, Abraham Joshua. Man Is Not Alone: A Philosophy of Religion. New York: Farrar, Straus, and Giroux. 1951.
- _____. The Sabbath, Its Meaning For Modern Man. New York: Farrar, Straus, and Giroux. 1951.
- Jung, Carl G. Memories, Dreams, and Reflections. New York: Random House. 1961.
- Kahn, Louis. Light Is The Theme. Texas: Kimbell Art Foundation. 1975.
- Kaplan, Aryeh. Jewish Meditation, A Practical Guide. New York: Schocken Books. 1985.
- Kegan, Robert. The Evolving Self: Problem & Process in Human Development. Cambridge, Mass.: Harvard University Press. 1982.

- Krinsky, Carole Herselle. Synagogues of Europe. Architecture, History, Meaning. New York: The Architectural History Foundation. Cambridge, Mass.: MIT Press. 1985.
- Levine, Moshe. The Tabernacle. Tel Aviv: Melechet Hamishkan. 1969.
- Lobell, John. Between Light and Silence: Spirit in the Architecture of Louis Kahn. Boulder: Shambhalg. 1979.
- Lynch, Kevin. What Time Is This Place? Cambridge, Mass.: MIT Press. 1972.
- Namenyi, Ernest. The Essence of Jewish Art. New York: Thomas Yoseloff. 1960.
- New Jewish Agenda. The Shalom Seders. Three Haggadahs. New York: Adama Books. 1984.
- Orlinsky, Harry M. The Synagogue: Studies in Origins, Archaeology and Architecture. New York: Krav Publishers. 1975.
- Piechotka, Maria; and Piechotka, Kazimierz. Wooden Synagogues. Warsaw: Arkady. 1959.
- Reifenberg, A. Ancient Hebrew Arts. New York: Schocken Books. 1950.
- Ruskin, John. The Seven Lamps of Architecture. 9th ed. New York: Farrar, Straus, and Giroux. 1984.
- Salvadori, Mario; and Heller, Robert. Structure in Architecture: The Building of Buildings. 2nd ed. New Jersey: Prentice-Hall, Inc. 1975.
- Siegel, Richard; Strassfeld, Michael; and Strassfeld, Sharon. The (First) Jewish Catalogue. Philadelphia: The Jewish Publication Society of America. 1973.
- Smith, Norris Kelly. Frank Lloyd Wright: A Study in Architectural Content. 2nd ed. New York: American Life Foundation and Study Institute. 1979.
- Strassfeld, Michael; and Strassfeld Sharon. Creating Community: The Third Jewish Catalog. Philadelphia: The Jewish Publication Society of America. 1980.
- The Hebrew Bible; The Five Books of Moses. Philadelphia: The Jewish Publication Society of America. 1962.
- Thiry, Paul; Bennett, Richard M.; and Kamphofner, Henry L. Churches and Temples. New York: Reinhold Publishing Corp. 1953.
- Tuan, Yi-Fu. Space and Place: The Perspective of Experience. Minneapolis: University of Minnesota. 1977.

- Waskow, Arthur. Godwrestling. New York: Schocken Books. 1978.
- _____. These Holy Sparks: The Rebirth of the Jewish People. New York: Harper and Row. 1983.
- Wright, Frank Lloyd. The Future of Architecture. New York: Bramhall House. 1953.
- Zevi, Bruno. The Modern Language of Architecture. Seattle: University of Washington Press. 1978.
- _____. Towards an Organic Architecture. London: Faber and Faber Ltd. 1950.

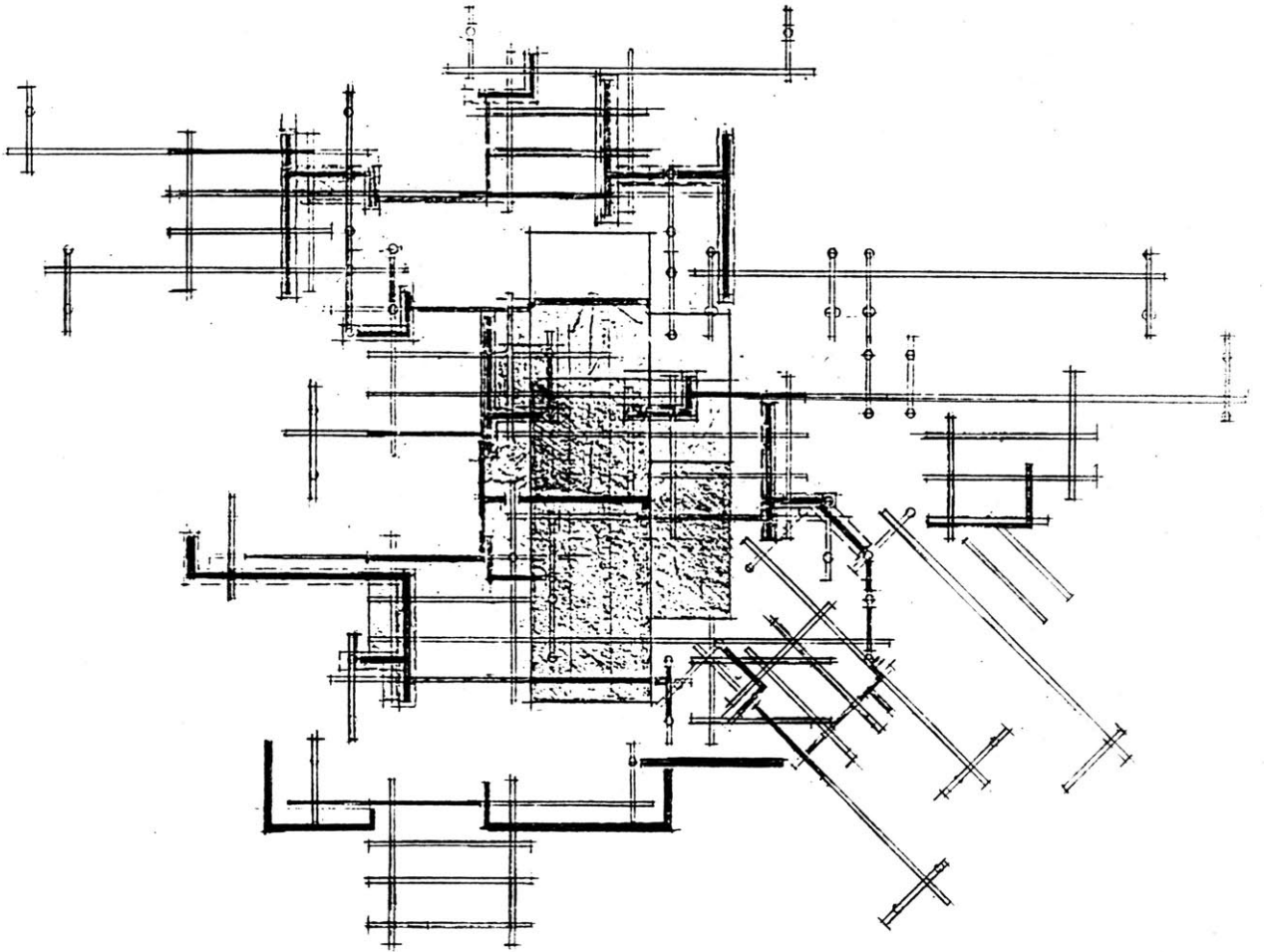
Catalogues, Pamphlets, Articles, Lectures, Encyclopedias

- Alexenberg, Melvin L. "Lights of Creation: Sight and Insight. A Proposal for an Exhibition at Yeshiva University Museum, 1986." 1985.
- _____. "Toward an Integral Structure Through Science and Art." Main Currents in Modern Thought, Vol. 30, No. 4 (April 1974): 146-152.
- Charles Simonds: Museum of Contemporary Art, Chicago. Chicago: Museum of Contemporary Art. 1981. Catalogue for the collection.
- Chertok, Haim. "Booths, Beerhalls, and B.M.W.: Building a Sukkah in Munich." Moment, October 1984, pp. 52-56.
- Donaghy, John A. Peacemaking and the Community of Faith: A Handbook for Congregations. New Jersey: Fellowship Publications. 1982.
- Encyclopedia Judaica, 1971 ed. S.V. "Sukkah."
- _____, 1971 ed. S.V. "Synagogue."
- Fleishman, Jay George. "A Synagogue." Architecture Thesis, Massachusetts Institute of Technology. 1959.
- Goody, Marvin. "A Spiritual and Cultural Synagogue Center for Modern American Jewry" (An Architectural and Sociological Study). Architecture Thesis, Massachusetts Institute of Technology. 1951.
- Smith, Maurice. "Fragments of Theory/Practice." Space and Society, 18 (June 1982): 36-63.
- van Eych, Aldo. "Un Nouveau Centre De Gravite." A.A. L'Architecture D'Aujourd'Hui, 235 (October 1984): 18-23.
- Zevi, Bruno. "Architecture and Einstein's Space-Time." Public Lecture. Tel Aviv: The Tel Aviv Museum. December 19, 1979.

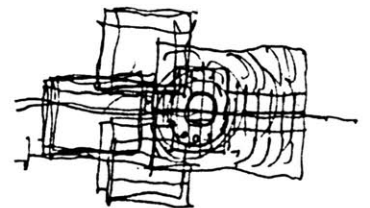


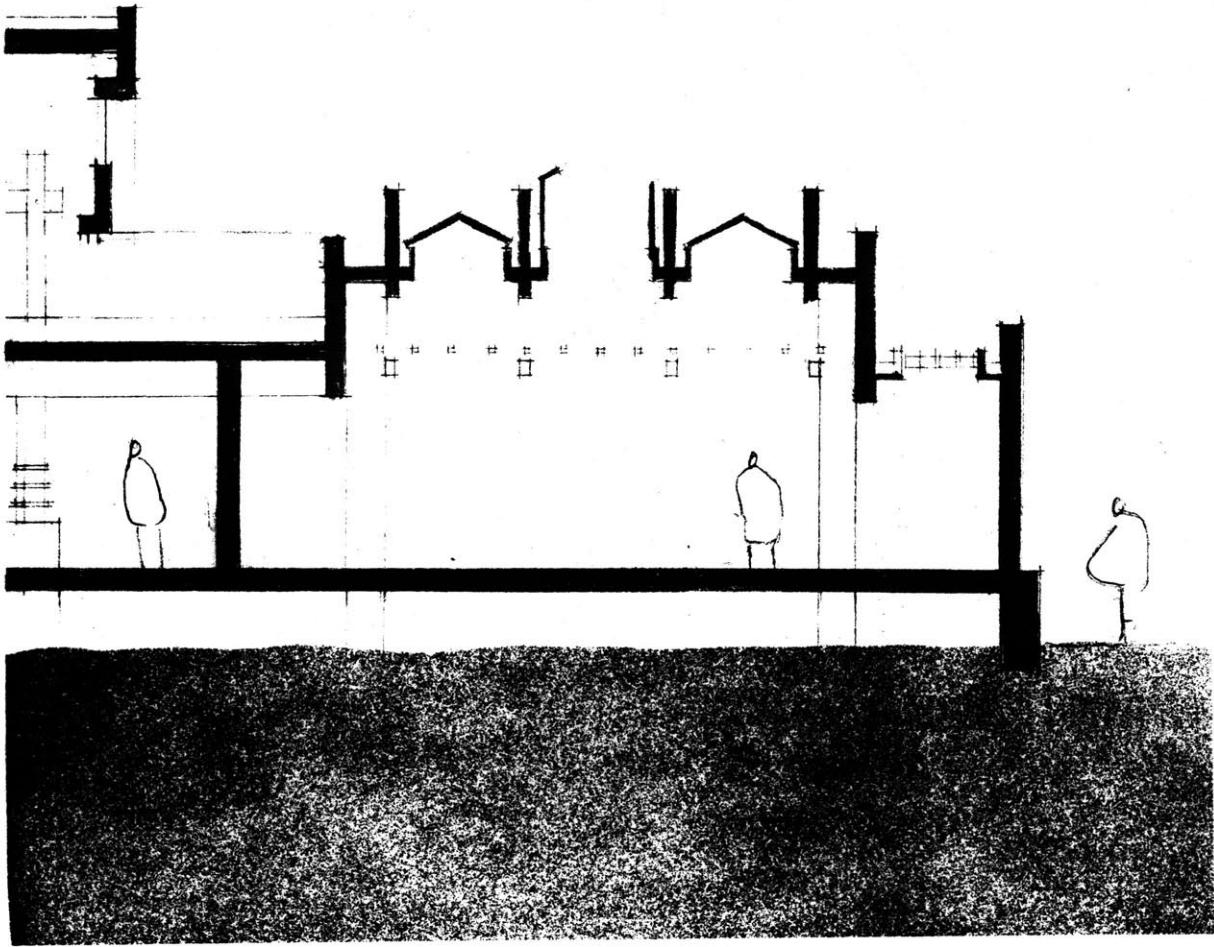


APPENDIX I
PROCESS DRAWINGS



Structural diagram
investigating a direction shift

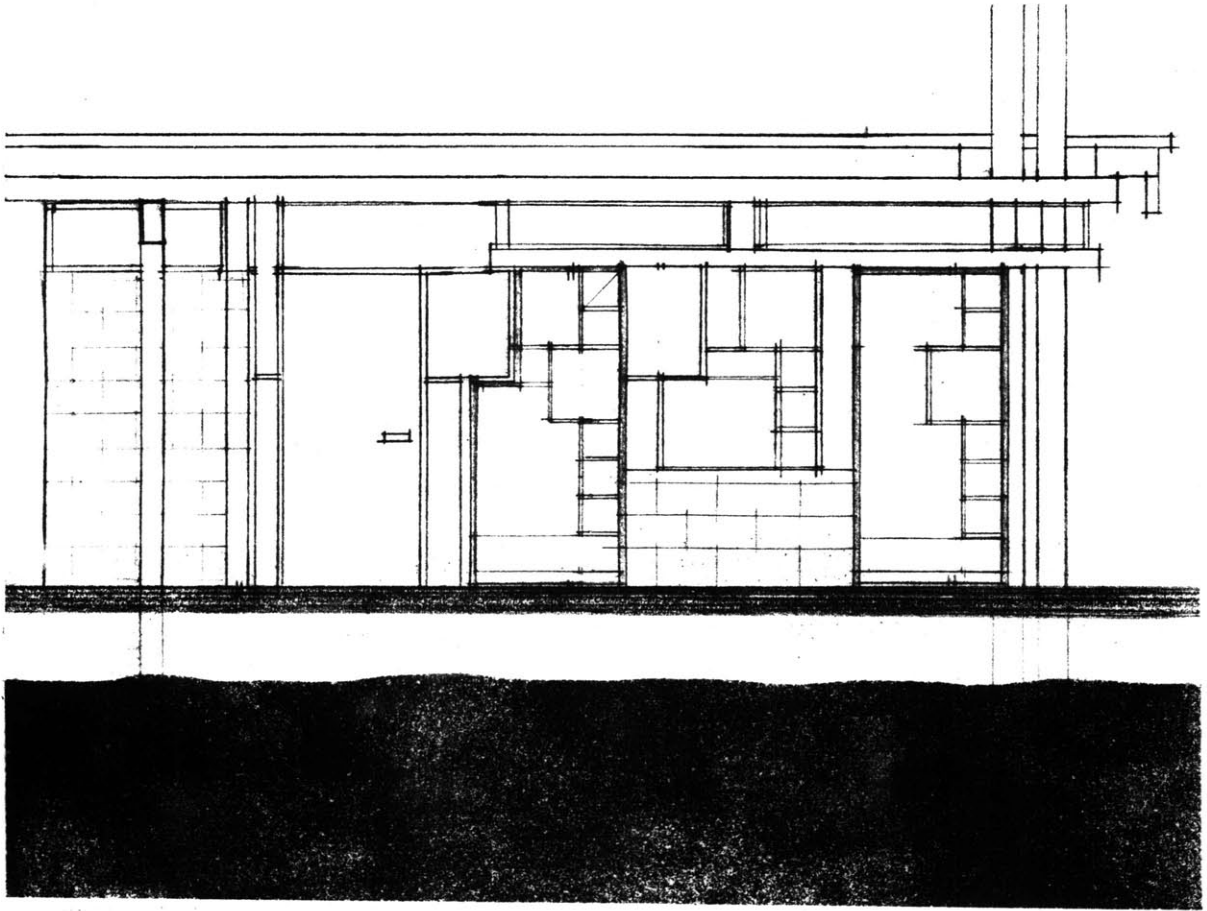




Early design of sanctuary roof

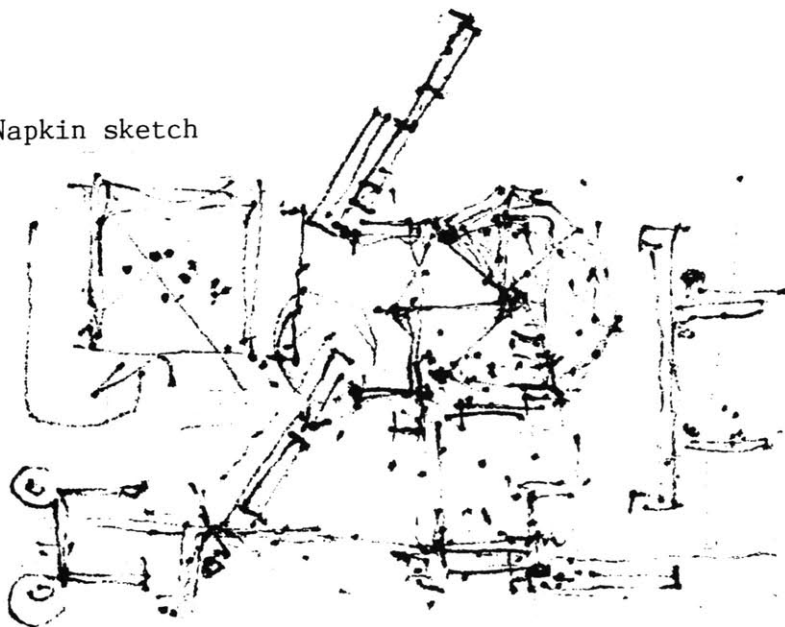


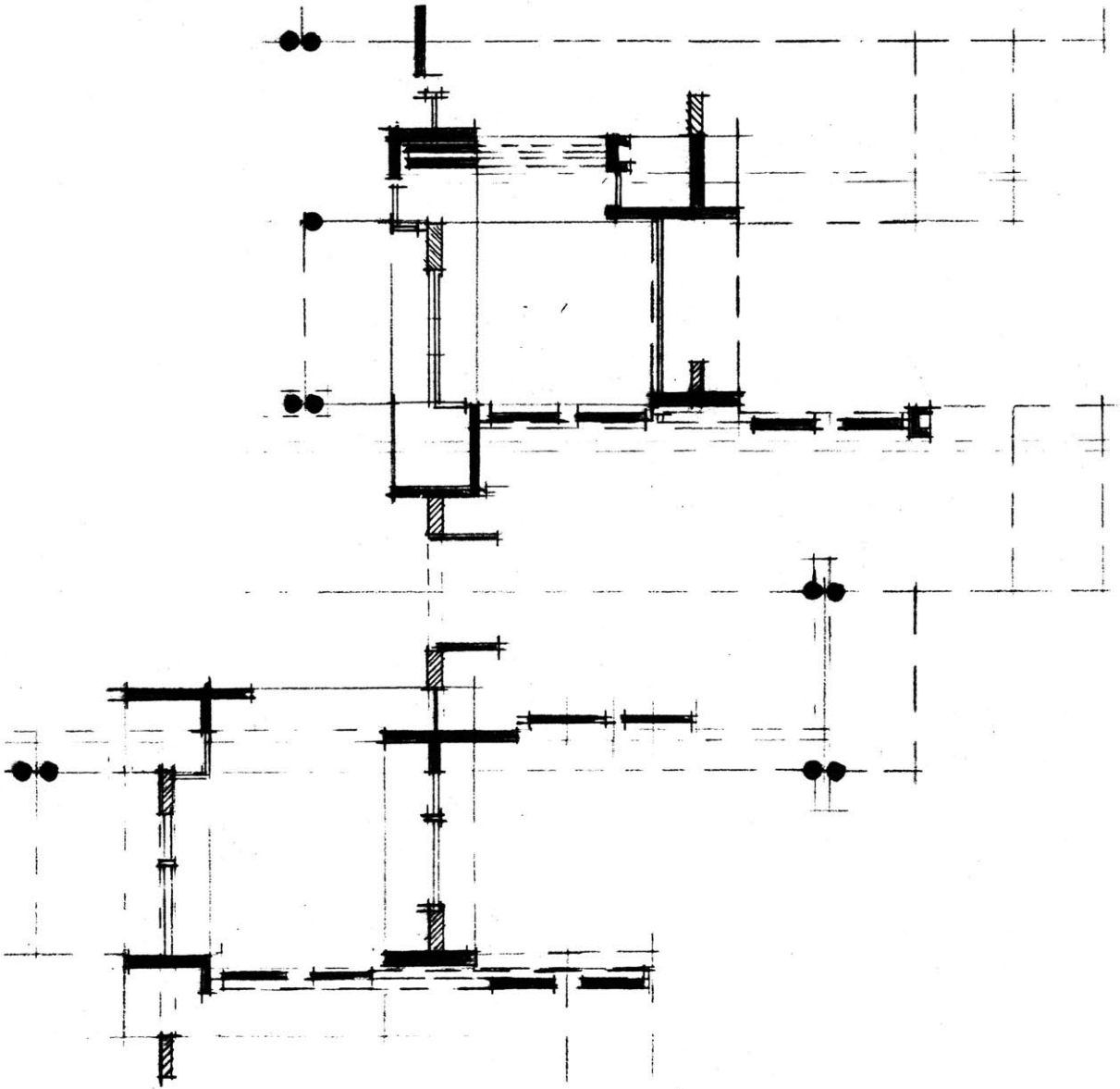
Early sketches of inhabitable letters



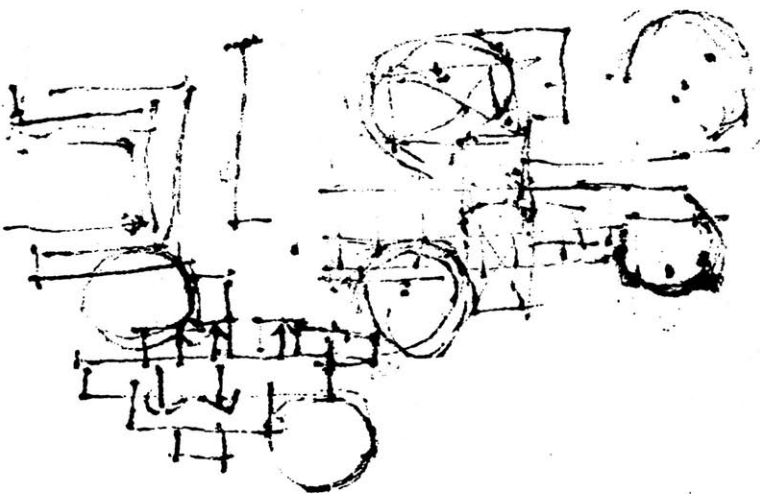
Paneled wall

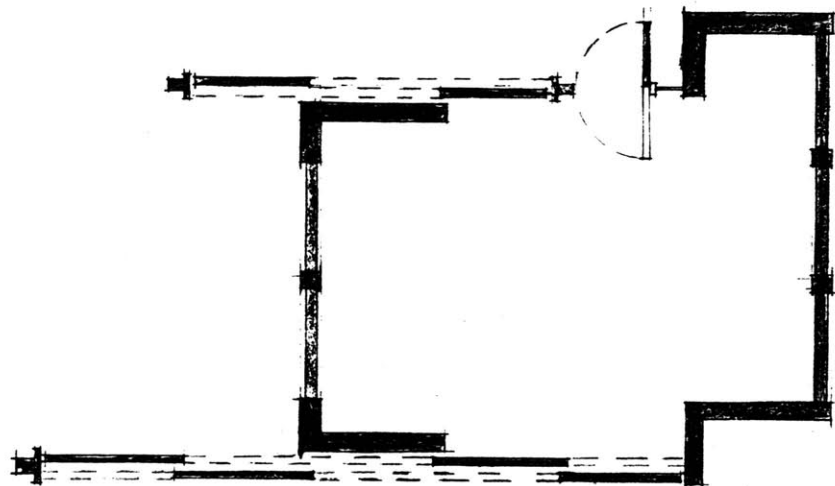
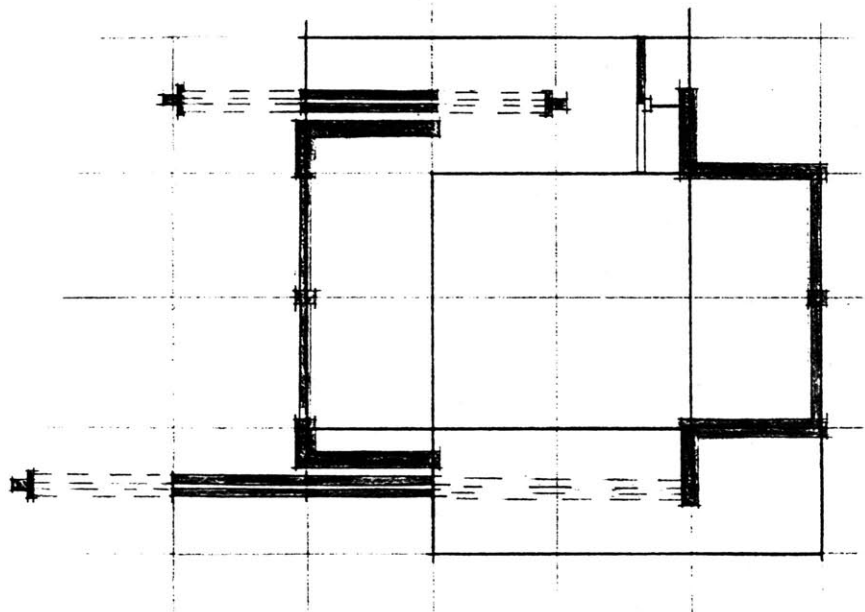
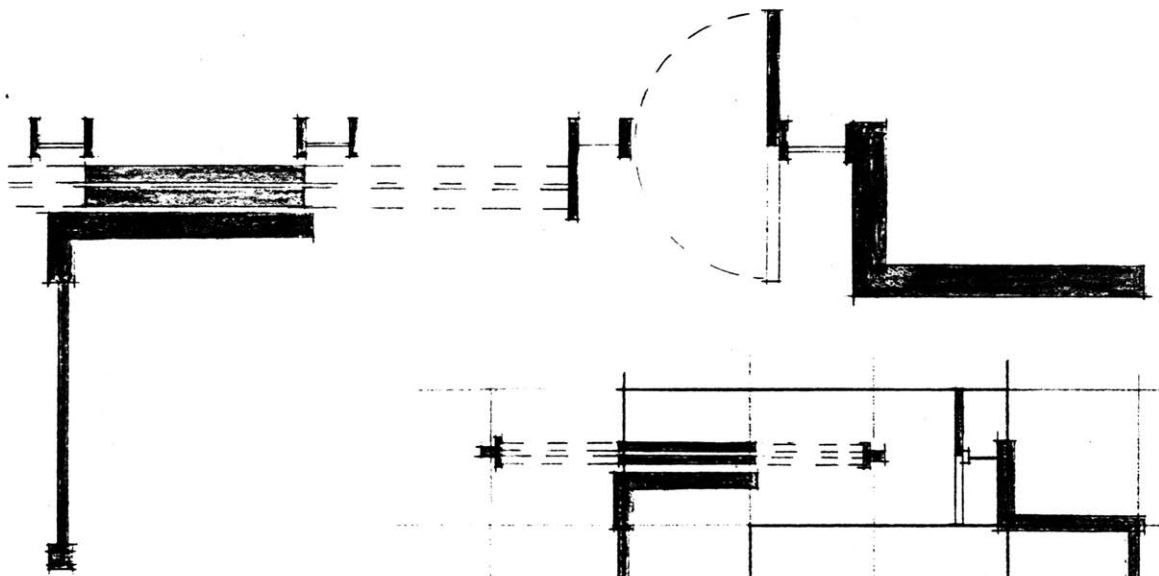
Napkin sketch



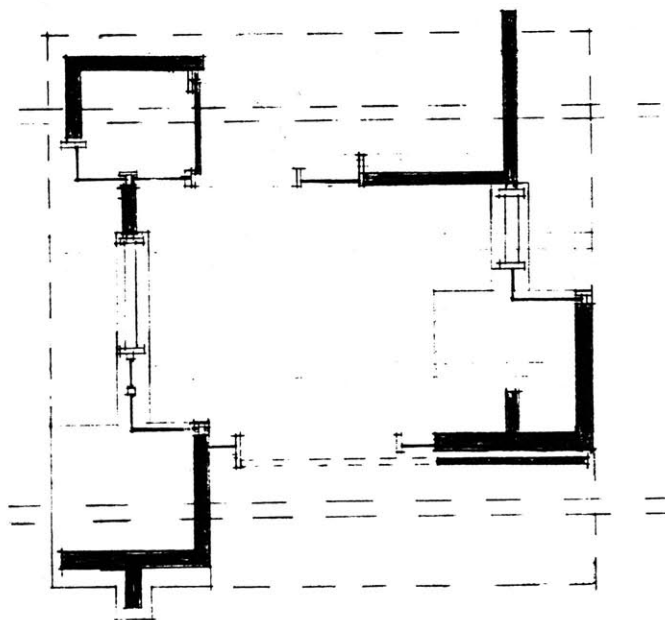
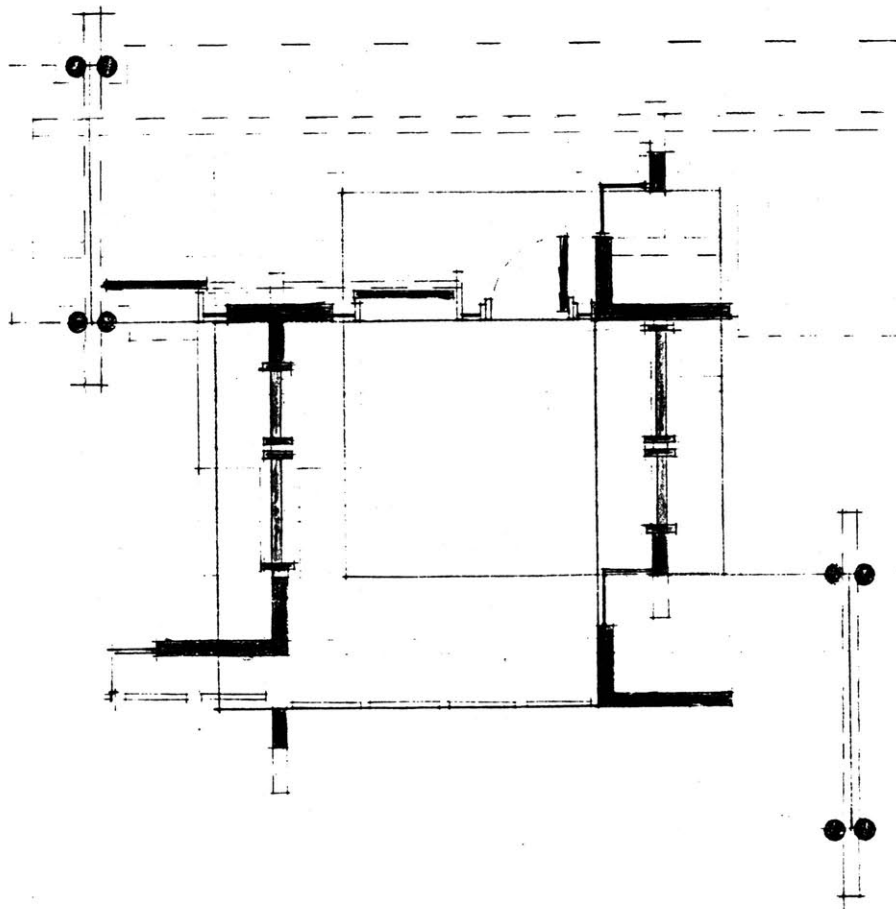


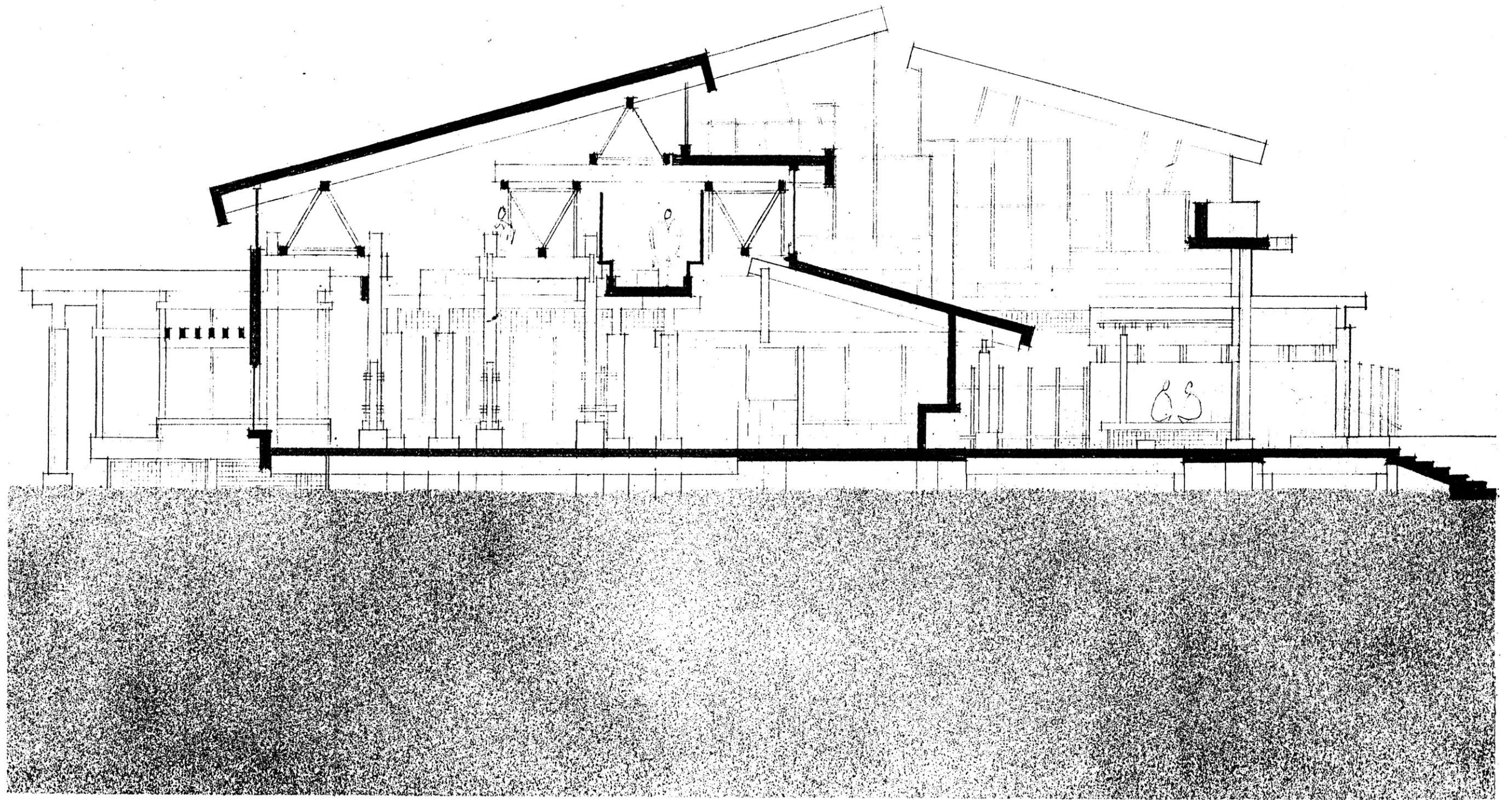
Pavilian relationship study



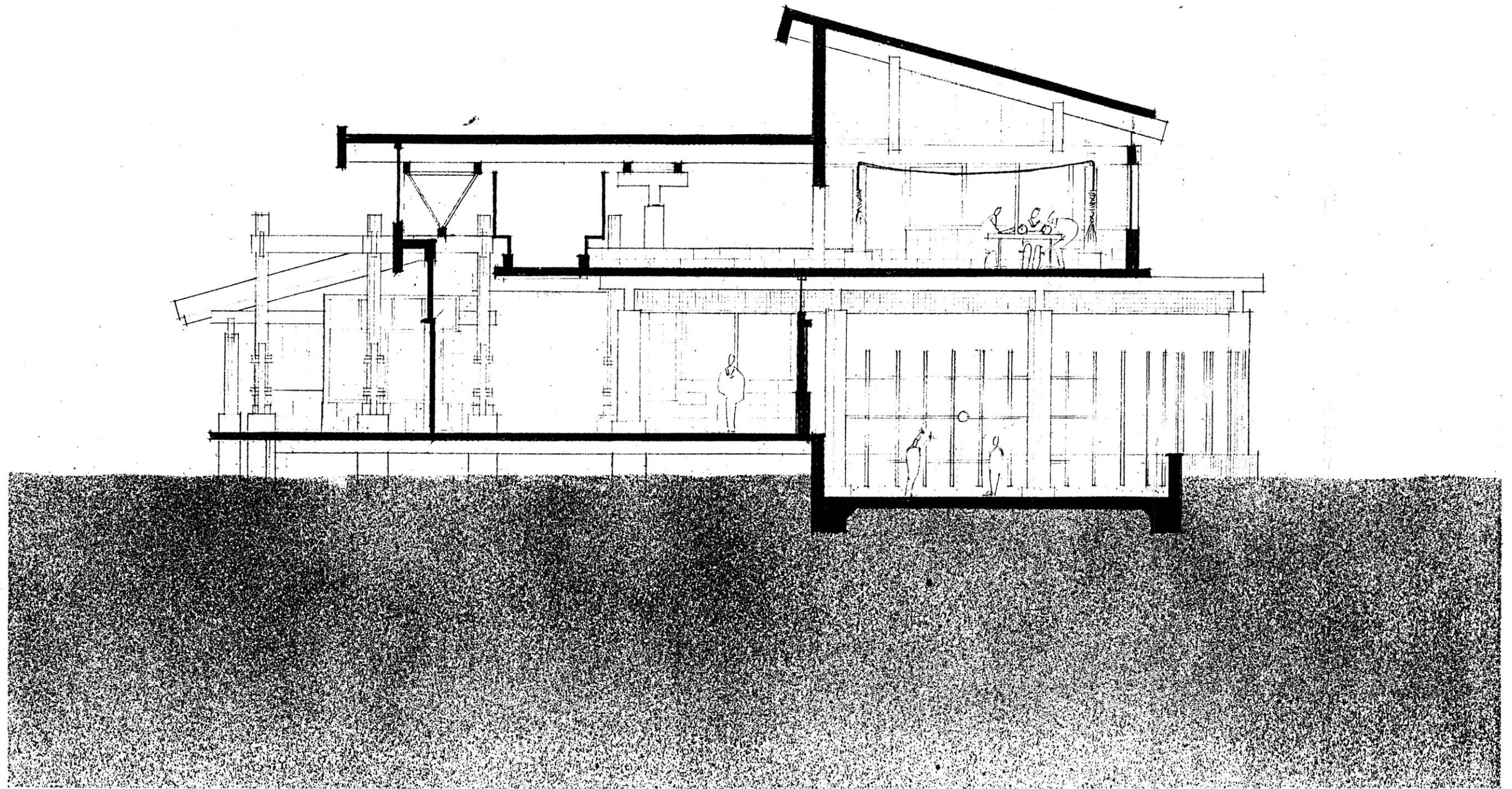


Pavilian studies





Section looking north through entry court



Section looking north through house of study