

An abstract, low-poly geometric artwork. The composition is dominated by dark, angular shapes in shades of grey and black. In the center, a bright, glowing yellow triangle serves as a focal point, with light rays emanating from it. Silhouetted figures are present: one person is perched on a high ledge in the upper right, and another stands in the lower center, gesturing upwards. The overall mood is dramatic and architectural.

IDEA ABOUT SYNAGOGUE

JONATHAN BLOCK FRIEDMAN

Introduction by Dean Judith Di Maio

Exhibition Catalog for the New York Institute of Technology's School of Architecture and Design

Center Space Gallery
Education Hall
Old Westbury Campus
Old Westbury NY 11568
March 5 to April 9 2010

**Special thanks go to Dr. Edward Giuliano, President of NYIT
and to Judith Di Maio, Dean of the School of Architecture and Design**
for their generosity and support. Part of this work was also supported by
and completed at The MacDowell Colony, Peterborough NH. I am deeply
grateful for their wisdom, kindness, and continuing existence.

I also thank my sons Charlie and David, my extended family, and my stu-
dents and colleagues at the University of Kentucky, NJIT and NYIT. I thank
Julio San Jose and Paul Amatuzzo for their example and teaching, and to
honor the memory of those other mentors who shared their insights with
me, including Robert Slutzky, Debbie Huff, and Jullian de la Fuente. Above
all I thank my wife Marilyn for her quite possibly successful very long term
project of rescuing me from myself. My love for you knows no bounds.

Photograph on page 5 courtesy of the photograher, Joanna Eldridge Mor-
rissey. Images on page 7 include toys circa 1950 made by Renwall, Lionel,
Revell and Louis Marx toy companies, among others. Photographs of these
items in author's collection, and all other images, are by author. Catalog text,
layout, and graphic design are by author. © 2010 Jonathan Block Friedman

Jonathan Block Friedman is an architect, author, inventor and teacher.
He studied at Princeton and Cambridge, was National Merit Scholar, Eagle
Scout, and Dean of NYIT's School of Architecture and Design for 8 years.

GROWING UP IN SPACETIME

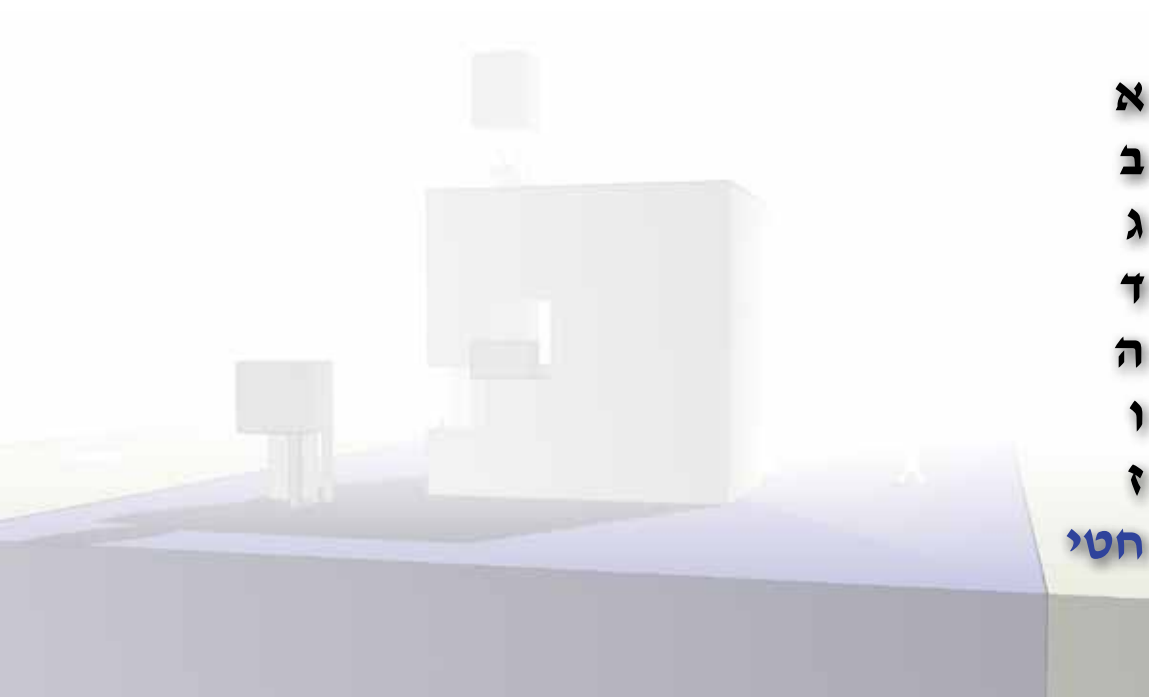
“Intellectual growth should commence at birth and cease only at death”
Albert Einstein



If my mind was ever a tabula rasa, if it began empty of content or form, it sure was eager to drink. My earliest memories are of lambent morning light, sparkling with rising dew, and some solid house or barn emerging from the mist. Time was a gift and space held promise. Time is evident to children only when it moves too fast or too slow. At moments of riveting experience or intense concentration, time seems not to move at all. As a child I raked the clay in a corner of Sergio’s Tennis Courts between the brook and Brookside Avenue in Freeport Long Island while my father played Sunday morning doubles. This vivid movie pageant now exists only in my mind. There is no web search that can document it. With effort, a great film director like Fellini might reproduce the essence for others to catch it well enough, and might even find the right actor to play my father or me-- but, as Francois Villon asks, where are the snows of yesteryear? How to capture that tennis time and space? That first perfect taste rush of a cold Orange Crush on a hot summer day slid out from the metal rack in the noisy old electric freezer box and popped open with a church-key? Or the wine-like juice of grapes fermenting on the trellis vine overhead in autumn? Where does the blessed existence of my forebears truly reside?

I grew and continued to invent from whatever was at hand. Empty lots became battle grounds for dirt bombs and snow forts, the root ball of a bulldozed tree became handholds to the levitated fuselage and cockpit controls of a B-29 cruising above a continent of Imagination. The mind plays and the body may lead or follow. I ventured beyond home and schools and found new worlds fashioned by other equally intense and creative minds. Once I built a shelter, a tensegrity greenhouse, whose polyethylene skin in the California sunlight caught for a fleeting moment that first bright morning light of my childhood. Sitting still in a chair is moving at the speed of light--through time. Time washes through mind, but mind is not still. As time moves through me, as I move thorough spacetime, branching pathways emerge from and open toward the far horizon of possibility. The present is reality, yet the mind extends this eternal now backwards in memory and forward via projection. I can generate possibility beyond immediate requirements. I become my own client to reconsider the settlements of my youth. The context of past and future spacetime is the fabric of my life. Le Corbusier and Einstein are my contemporaries.

A life is not one idea. But a life dedicated to thinking through form, to reifying externally what is first internal and murky, may arrive at an idea or two. Where and when do form and mind meet each other? If a way to see time is to take a long look, then to see time in mind is to look deep into an idea. To enter into imagined space and find how it intersects with implacable realities is to feel the joy of discovery-- of the unexpected yet suddenly familiar, as chaos and disorder play counterpoint to the satisfaction of ordered relationships. With rigor, improvisation, and no small measure of good fortune, the mind may wake up enough to make discoveries of its own.



א
ב
ג
ד
ה
ו
ז
חטי

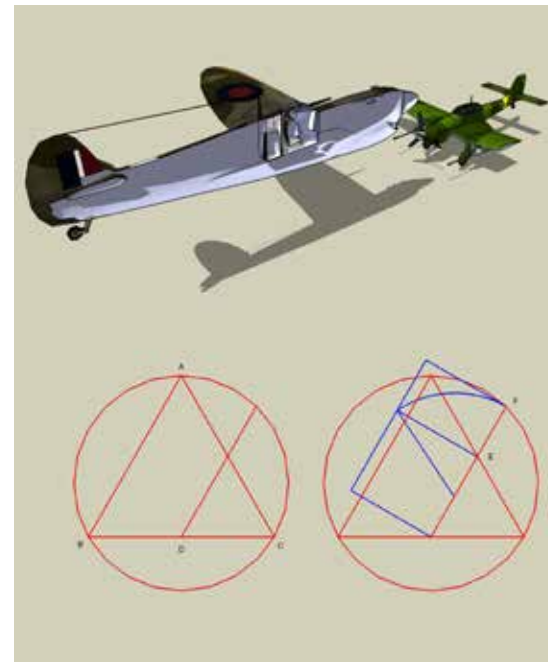


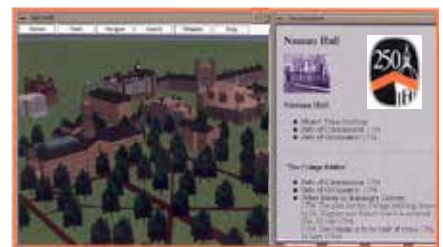
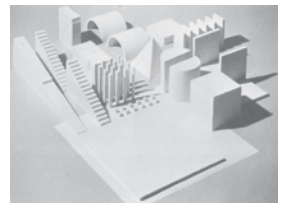
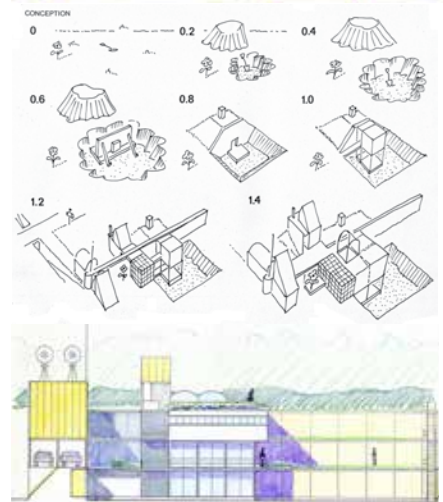
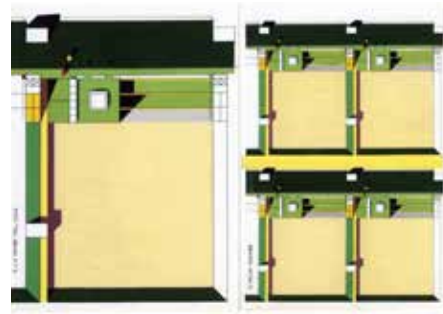
MIND AWAKE 1946 TO 1969

An old snapshot shows me, my father, and his father. It captures the light of hope shining on my childhood home in the capital of the world, New York after WW2. The United Nations was born and lived here! Our new home in the new and still quite empty landscape of Long Island suburbia was filled with delights, garden, climbing trees, brook through field and forest, new schools, friends, and the freedom to roam and invent through all of it. There were no fences between neighbors, no playdates. Kids were only counted when called for dinner, a name shouted into the neighborhood from a kitchen door.

Everywhere experiment and exploration beckoned, and all new things were games for the mind: toys to play with, puzzles to solve, models to build, sets to complete. The day I solved the Logstix problem was a revelation. The solution to keeping these guys from falling apart was to pop the last one into the 3D mesh. It held! I could make a crow's nest for a mast on the pirate raft. A plumber's truck (35 actual working parts and tools!) with working pipes and valves let me build a water tree and control its flow. Portable construction! I was 6. From reading to geometry, even school was mostly models and puzzles as well.

Like many of my fortunate generation, I went from prodigal to alien freak in less than 20 years. Inside my head was an adventureland no smaller nor less strange than the far horizons outside my door. Toy vehicles amplified my imagination. At age 7 I rode with my parents from flat Long Island to geysers and Badlands, the Rocky Mountains and the Grand Canyon of the Yellowstone. In the 1950's USA was not yet all fenced in, neither Out West nor in my own back yard. Later I discovered the West Coast, still searching for the bucking horse moon, found instead the Whole Earth Catalog, fellow aliens, and a new world for our making. I discovered Taoism and built a tensegrity greenhouse, this mental freak's first spaceship home.



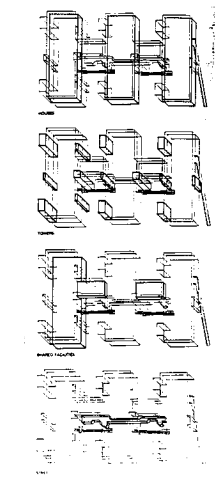
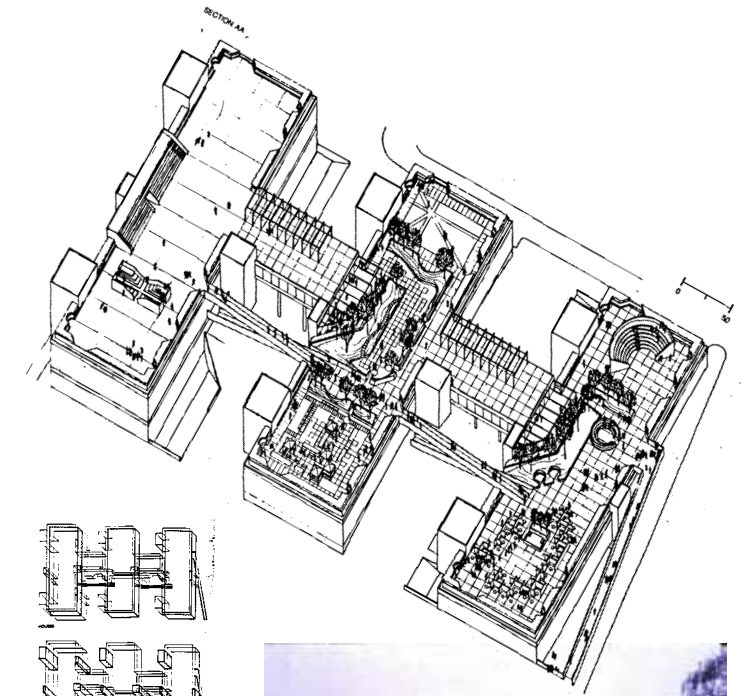
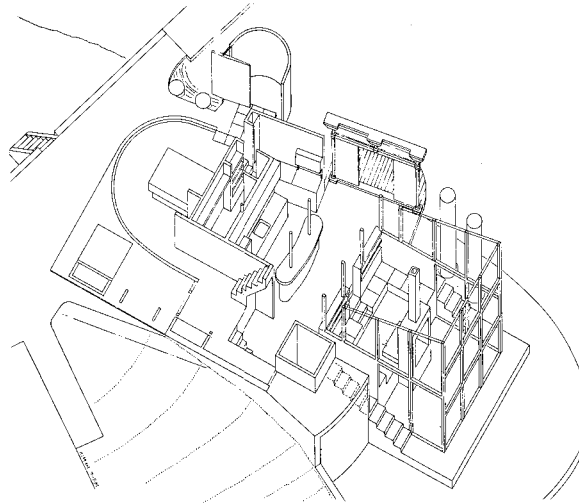


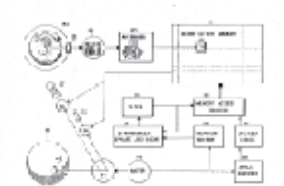
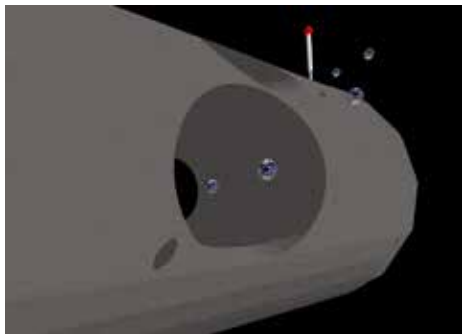
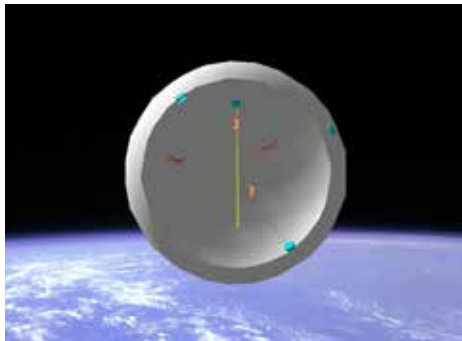
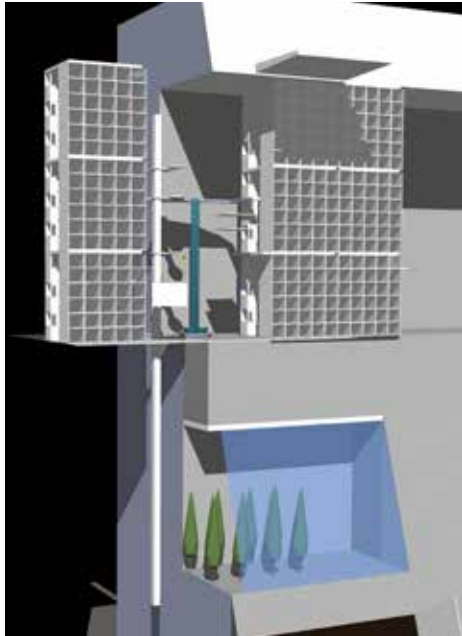
MIND STRETCH 1970 -1990

A typical architecture commission requires answering demands of site conditions, structure, and the program needs of a client. The result may be tactical responses brought together into a fabric of rooms, views, materials, lighting, and so on. While many clever thoughts go into a work like the **Edgewater House**, the outcome is an architectural shape, but it is hardly a Form.

When poetic, plastic, and programmatic intentions converge into a vivid and inevitable whole, then perhaps an architectural Idea may be present. When I learned an axonometric way of thinking, finding three dimensional order became easier. An East Orange NJ **Middle School** expresses its unique educational approach in 3 pairs of 250-student lofts and services set in section to provide stepwise access to a rooftop community park and sunny cafeterias in the bridges opening onto it. Lunch in the sky! Even an existing street pattern fit the plan. Such insights led to a beginning design curriculum which reversed the normal mode of teaching architecture. Building on the youthful habit of playing with blocks, we asked college students to build models from specified parts to explore ideas directly in the medium of space. Only then did they learn to draw in plan and section to document the 3D idea. The results are gathered in the text *Creation in Space*.

The cover of this book is a dynamic scene, not a still life. The astronaut's orbital speed of 18,000 MPH is what keeps him from falling to earth. **Home for Generations** is an Idea about space in time. Its mid-density settlement pattern is an alternative to current suburbias. Energy independence, affordability, sustainability, user-friendly remodeling, extended family needs, and lifetime longevity are resolved in its configurations. A simple conception, its embryology of dwelling maintains the essential form over 80 years of growth. Time in space is also the Idea of *Evolution of a Campus*, a project developed and implemented for the 250th anniversary of Princeton University.





IDEA IN MIND then to when

Utility and familiarity can obscure an Idea. Home for Generations may look like suburban housing but the elegance and integrity of its internal consistency make it a radically different Idea. A strange setting shows how an idea may exist nowhere but in the mind.

Returning from the first landing on the Moon, Astronaut Michael Collins wanted everyone to see our beautiful home planet from his vantage, hundreds of thousands of miles away. I designed and patented **Earth Photo Globe** to experience such a vision. Using satellite imagery it could show your house. It preceded Google Earth by about 3 decades and was my first foray into exoterrestrial architecture. **Spaceball** is a zero gravity sport. Lasers intersect at the center of an air filled elastic sphere. Points are scored when a team member moves through the crosshairs. Players will need the skills of gymnastics, water polo, billiards, soccer, basketball, and roller derby. **Asteroid golf** exploits the small but real gravity fields of these bodies as well as possibly very deep craters or even tunnels through them. A player might bend the shot out and around the object to find the flagstick.

Most dwellings designed for the Moon are buried to protect against harmful radiation. But sightseers seek sights, not periscope views. **EarthLight Lodge** is a proposal for lunar tourism. In the moon's one-sixth earth gravity, climbing a 48 inch "step" is as easy as an 8 inch riser here. Half level landings replace stairs. Water drops at half earth speed, to make spectacular slow fountains and falls. With a proper cape, a person can soar like a flying squirrel in the one atmosphere air of the hotel. From the Moon, the Earth appears 4 times as large as our full moon, but does not move in the sky. A romantic table at Earthlight Café could be aimed directly at Earth, forever hanging low above the crater ridge. But Earth is an active disk, so our dynamic weather might show a storm crossing Florida during the two hours of a leisurely dinner.



IDEA ABOUT SYNAGOGUE

ARCHITECTURAL IMPLICATIONS OF THE FORMS OF COMMUNITY

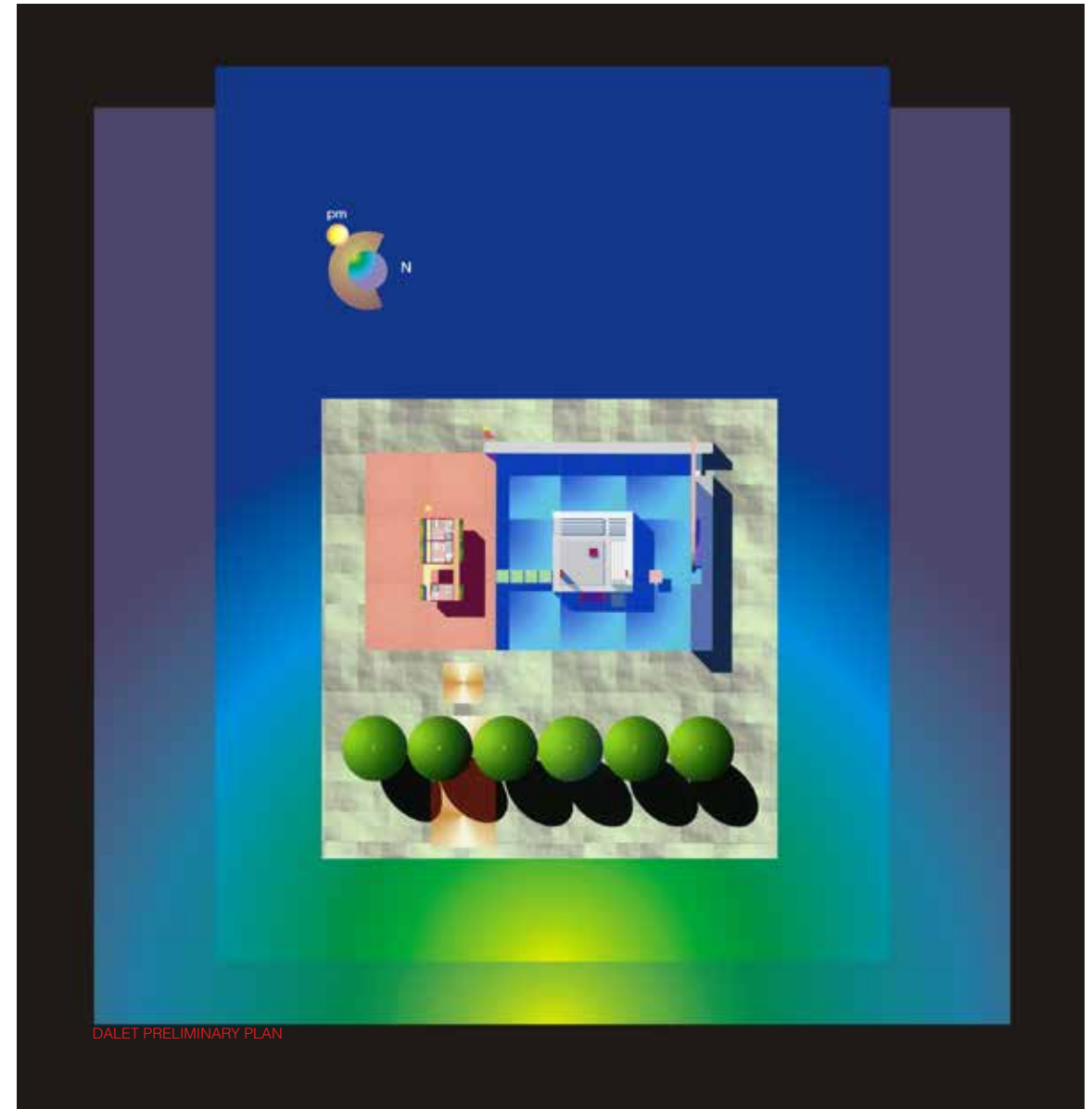


Nothing is transmissible but thought.

Le Corbusier

Theoretical researches in architecture often focus on the house, particularly on the single family dwelling. Although designated in professional documents as an architect's task which requires "consummate skill", the problem of the house does not directly address certain fundamental issues which are larger than an individual or single family group; issues such as birth, death, marriage, famine, plenty, and so forth. Just as no individual can attend the context of her own birth in full consciousness nor supervise his own burial, some architectural concerns require a consciousness of the world as community. For this reason, my own theoretical plastic researches have over the years concentrated on a building type which for me represents a vital way of thinking and a fertile state of mind. I have studied architectural possibilities in the forms of synagogues, finding that considerations of program, site, plasticity, material, structure, vision, and value have become important to me in a way that continually renews itself. In the questions *how can a synagogue be formed?* and its corollary *What spaces and relations of meaning configure a community?* I have found a friend. Taking a long and deep look into the single concept "synagogue" from different approaches in a variety of media and settings, over and over again, may or may not reveal Idea, but it certainly provides an awareness of Mind.

These studies began over thirty years ago when a student asked the simple and obvious question *Is there a history of synagogue architecture comparable to the history of cathedrals we study in school?* By extension, I wondered about all such building types, including mosques, Shinto shrines, Buddhist temples, and the like. They all explore how to consecrate space to enable all aspects of human activity to become significant. An Through such considerations I have begun to find a synthesis in the works of such diverse architects as Kahn, Aalto, and Brunelleschi. In our mobile society, a way to make stations of sustenance, peace, and integration demand the architect's most compassionate care. Synagogue means *a place for gathering together* and first developed after the Roman destruction of the Jerusalem Temple of Solomon. Unlike that Temple, it requires no priest as intermediary to the divine. Its primary impulse is therefore democratic. Any ten men constitute the true form of synagogue. But this assembly must value a reality beyond the simply material; the Wailing Wall speaks and cries in a way every architect seeks and rarely if ever achieves. The major theme of the synagogue is always *God stands in the midst of the congregation*. Such an admonition may serve to protect us from the error of the Tower of Babel, where a brick became more precious than human life. At the age of 15 I learned this phrase: *Judaism is a way of life which endeavors to transform virtually every human act into a means of communion with God*. I can think of no more clearly comprehensive program and brief for an architect. What follows are not separate projects, but rather elements of an ongoing investigation, the first few in a string of 22 elements and lessons for forming language. I look forward to completing designs for all the Hebrew letters at least once in my lifetime.



DALET PRELIMINARY PLAN

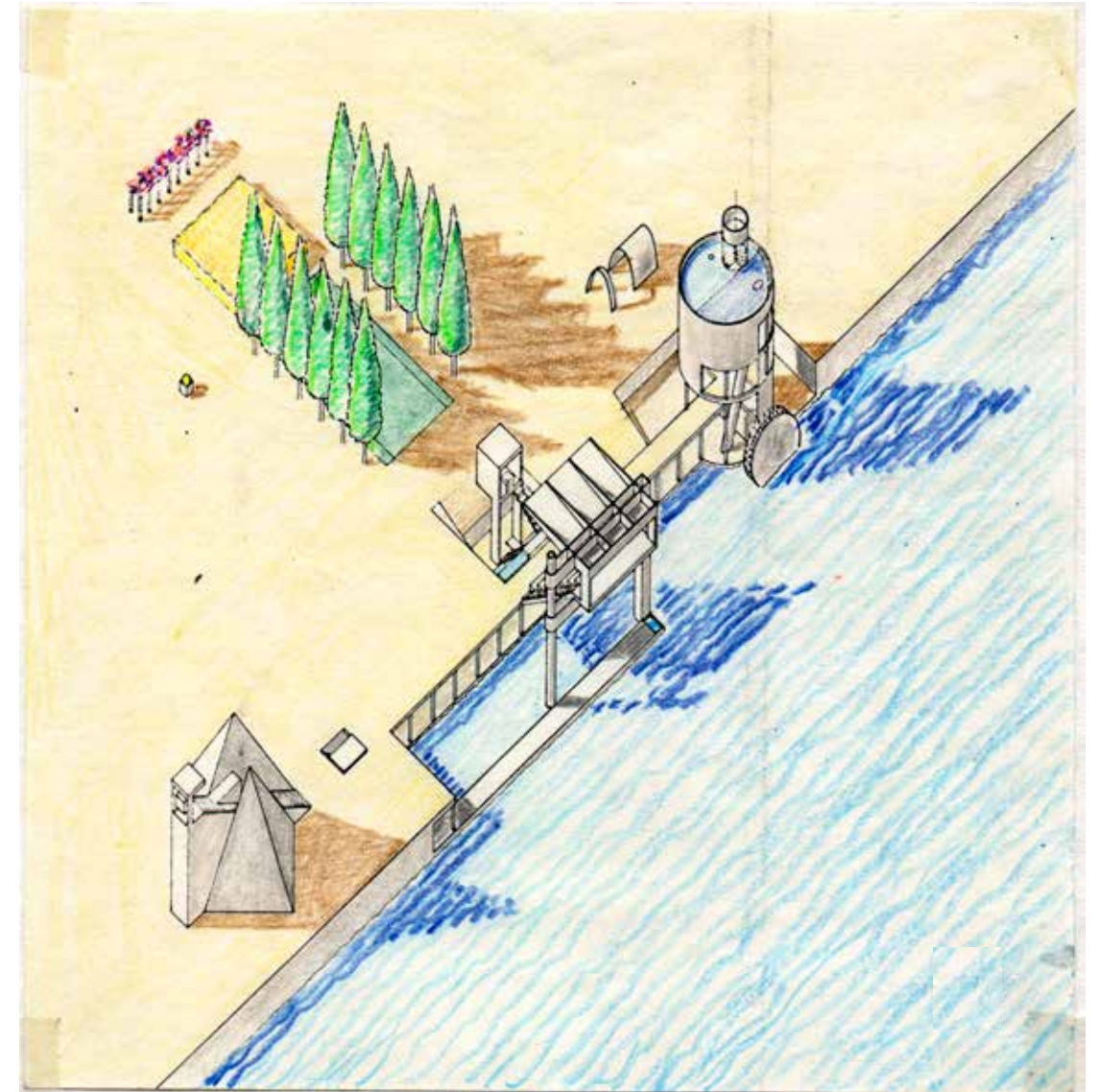
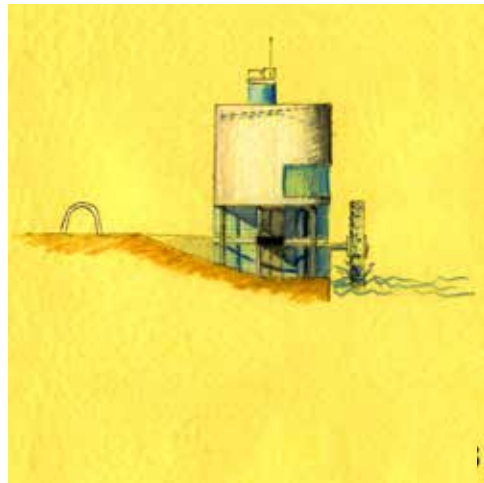
Synagogue Aleph



A traditional program for *Torah* (Five Books of Moses), *Bimah*, (reading lectern), seating, and *Talmud* (Commentaries) is provided for a congregation of 49 people. The roof of the cylindrical school includes observatory, antenna, and solar still. Below is the class-room and below that the library. Grade level permits public meetings, while the lower river level houses digital archives as well as sheltered harbor for boats transporting families. A small pool of water below the Bimah carries a reader's voice to the congregation.

The site, a southern bank of a westward flowing river, is relatively uncultivated, perhaps still barren. Dimensions are an integration of Le Corbusier's Modulor and American standard 8' construction system, using a 25' - 5 1/2" module. Materials include masonry for The pyramid is masonry, Bimah and seating are steel and wood, and the school is reinforced concrete and glass. There is a parabolic tent for the carpenter. The plan provides for the traditional symbolism of the synagogue, including 18 column bays, 2 pillars recalling Solomon's temple, and proper location for ritual according to orientation and time of day. The changeless nature of the Law contrasts with an ever-shifting body of its interpretation. This juxtaposition of absolute and relative provides the theme through which solid land and flowing water, wilderness and cultivation, and duration and tempo contend. Against these dualities are several sets of three including pyramid, cube, and cylinder; carving assemblage, and extrusion; block, sinew, and composite; and monument, vessel, and gnomon.

A water wheel powers the computer and an Archimedean Screw to lift river water to the solar still where the condensate is allowed to return to the river. Thus may the river purify itself. Process calculations determine sizing of these elements. Open-air seating is sheltered from precipitation by its cantilevered parasol and warmed by radiant heating pipes embedded in the underside of the incline. The small central *Bimah* cube is only six steps above the lowest level of the congregation, as required by Law. It is rebuilt every Jubilee Year from the lumber of the next ready tree in the grove of 12 cedars, like the *Ise Shrine* in Japan. The school roof platform and the acme of the pyramid become a celestial calendar. An arbor provides seven bays for grapes and wine. The lawn is grazing land for dairy cattle, while the beehive produces honey.

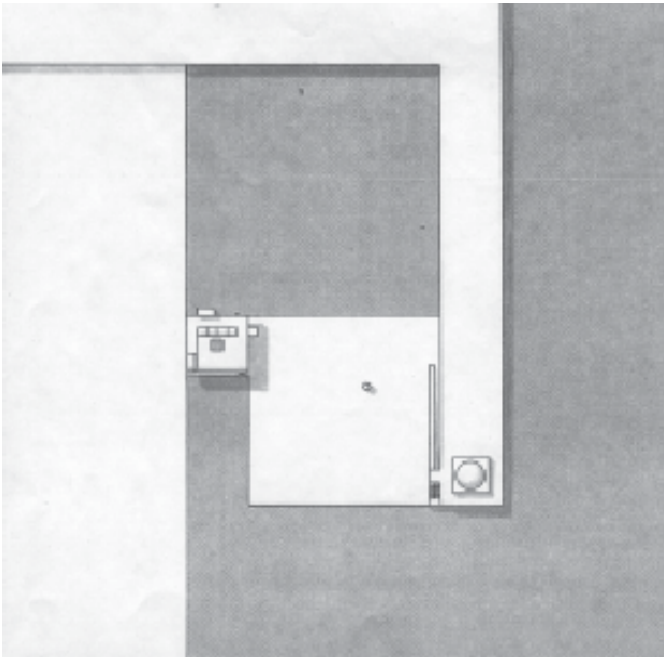
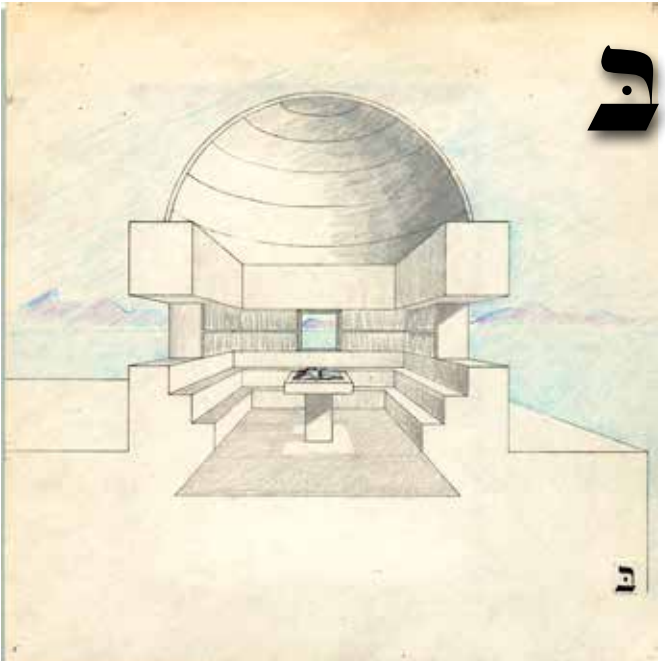
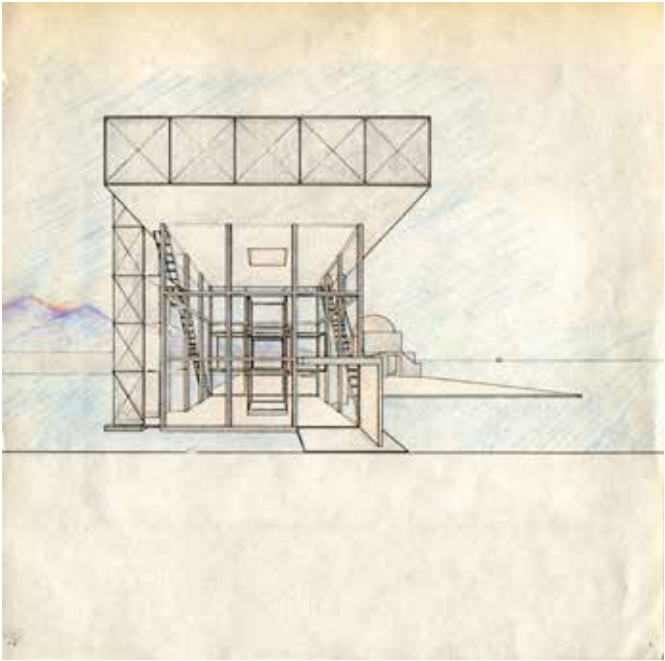


Synagogue Bayt

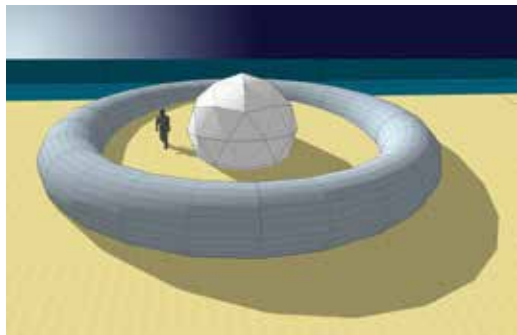
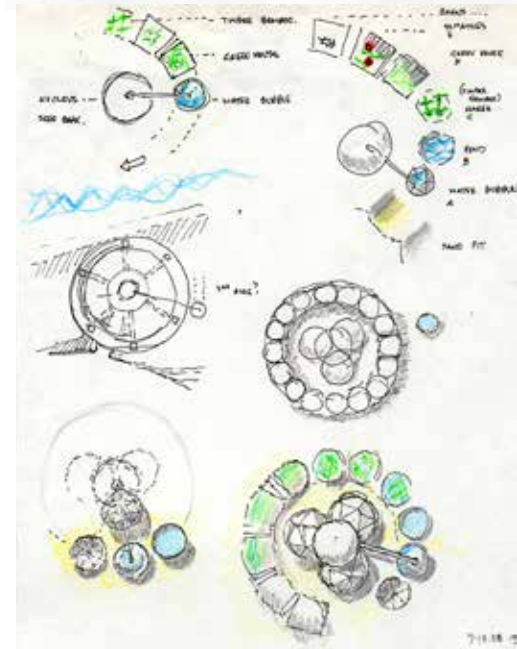
Bayt, the second letter of the Hebrew alphabet, also means “house.” That this reference to architecture should be so close to the origin of this ancient language but not yet the most important consideration in life I find a humane and satisfying outlook on my profession. Hebrew letters, the medium of the divine revelations on Mount Sinai, are often bestowed with complete and unique personalities. The ability to name things to identify their individuality, is considered by Judaism to be one of man’s most holy attributes.

I spent part of the summer of 1974 living and working at Degania Aleph, the first kibbutz ever established in Israel. This pioneer collective community, founded in 1904, borders both Lake Kinneret (the Sea of Gallilee) and the Jordan River. I often swam in both in the same day. Nearby Tiberias still flourishes. Its vernacular dwellings are whitewashed masonry covered by shallow domes. One small courtyard opened to a promontory supporting a single 15’ square building. A low reading lectern sat in the center of its only room. Each wall was covered with bookshelves. Centered in each of the walls a window opened directly onto the lake. Boats, lake, and the mountains of the Golan Heights beyond became stories of their own, equal to the material on the shelves. Simultaneously, the books seemed to spring to life in the midst of the room. Here I understood how a house of study and prayer is a true window to the world and how the world is only truly revealed through enlightened awareness. I try here to clarify, intensify, and celebrate the emotions and feelings I experienced in this place.

The program is a pond, plaza, and two buildings. Lake water enters pond through an inlet beneath a gateway building. Adding salt can generate electricity through electrolytic layering, a technique pioneered in Israel at the Dead Sea. This *Alphabet* building is the place for public events, like weddings, Bar Mitzvahs, and special services. Its space frame roof provides accommodations for visitors. In the distant *Book* building elders meet daily to study Law and apply it to the everyday affairs of life. In this small space, letters dwell in books, whole and integrated thoughts and ideas. In the gateway, ecstatic celebrations may take place, and the Hebrew letters are visible, although obscure, not as parts of stories, but as unique elements in themselves. Thus one can find in the crossed diagonal stairs, Aleph, in the cantilevered gate bridge at the entry, Bayt....



During the period of the technical papers, Freud was guided in his thinking about repression and resistance by conceiving of the mind in terms of a spatial arrangement of the unconscious and conscious states. In the “Introductory Lectures,” proposing a “crude” metaphor, he asks the student to imagine a large entrance hall that opens onto a small drawing room. In the large hall (of the unconscious), mental impulses “jostle one another” as they try to get past the guard who stands on the threshold of the drawing room, which Freud named the preconscious. The fate of most of these impulses is to be immediately repelled by the guard or, should they slip by him and get into the drawing room, to be dragged back. (The latter are the repressed unconscious thoughts.) The few impulses that are allowed into the drawing room are not yet conscious, and may or not become so, depending on whether or not they “succeed in catching the eye of consciousness.” Freud located this “eye” at the far end of the pre-conscious drawing room. The significant border relationship in regard to repression and resistance was not the one between the preconscious and the conscious but the one between the preconscious and the unconscious. This “topographic model of the mind was derived from Freud’s concept of how dreams are formed, and it remains at the heart of psychoanalysis. “The property of being conscious or not is in the last resort our one beacon light in the darkness of depth psychology,” Freud wrote in 1923 in “The Ego and the Id.”

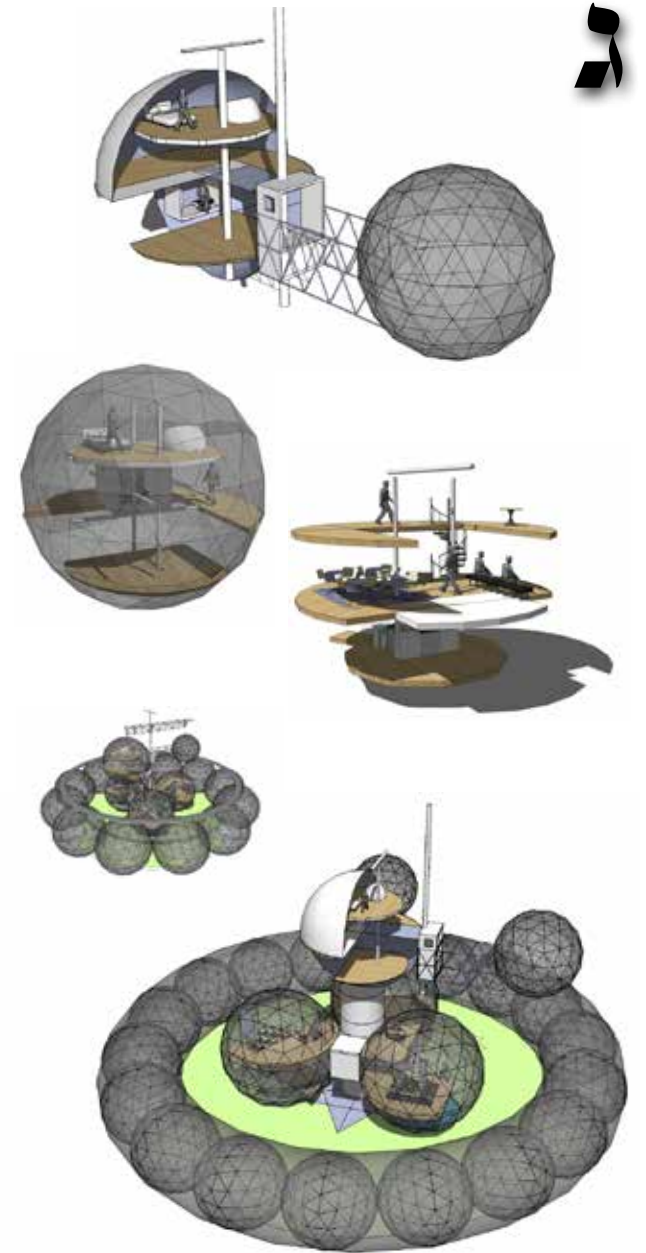
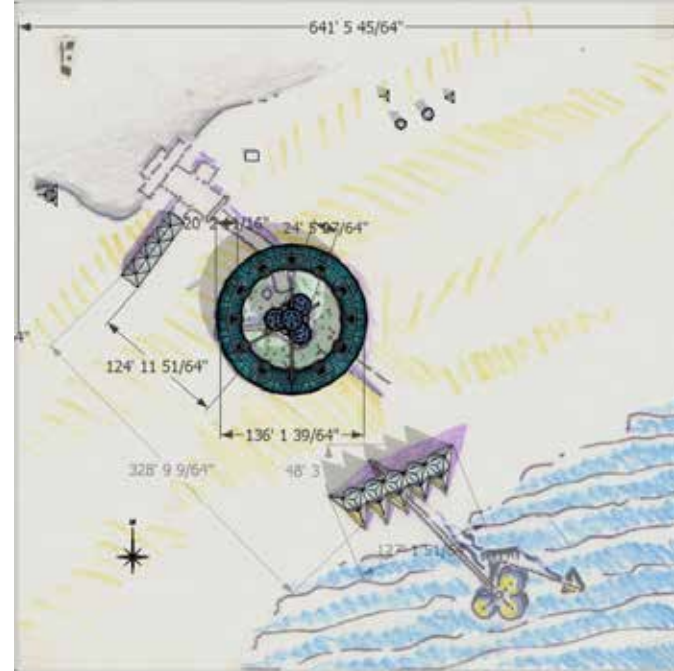
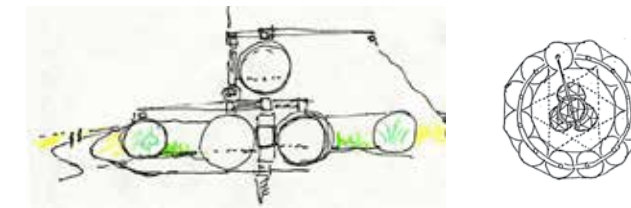
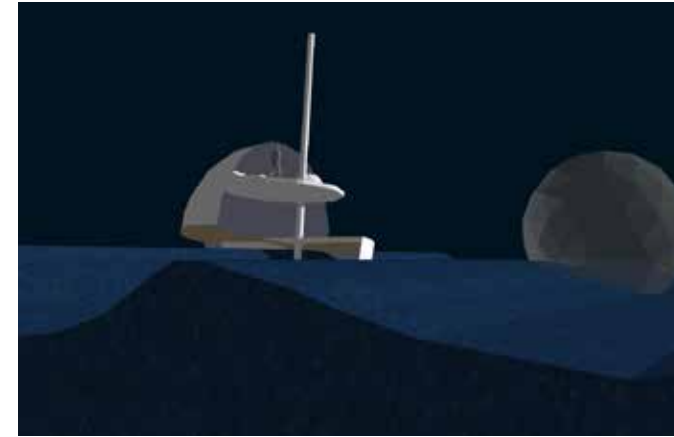


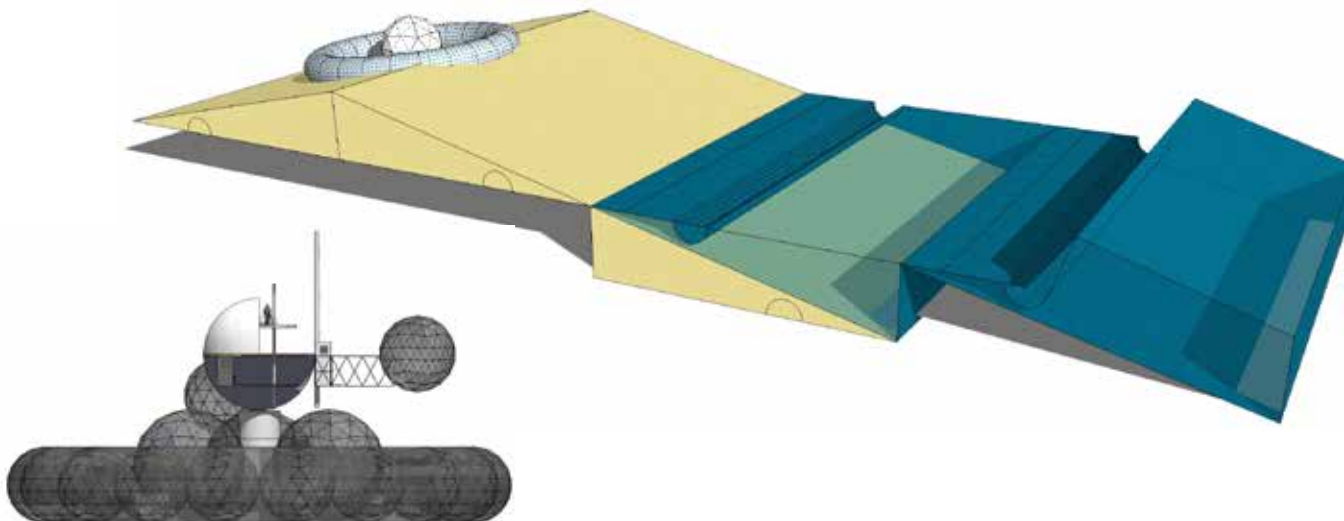
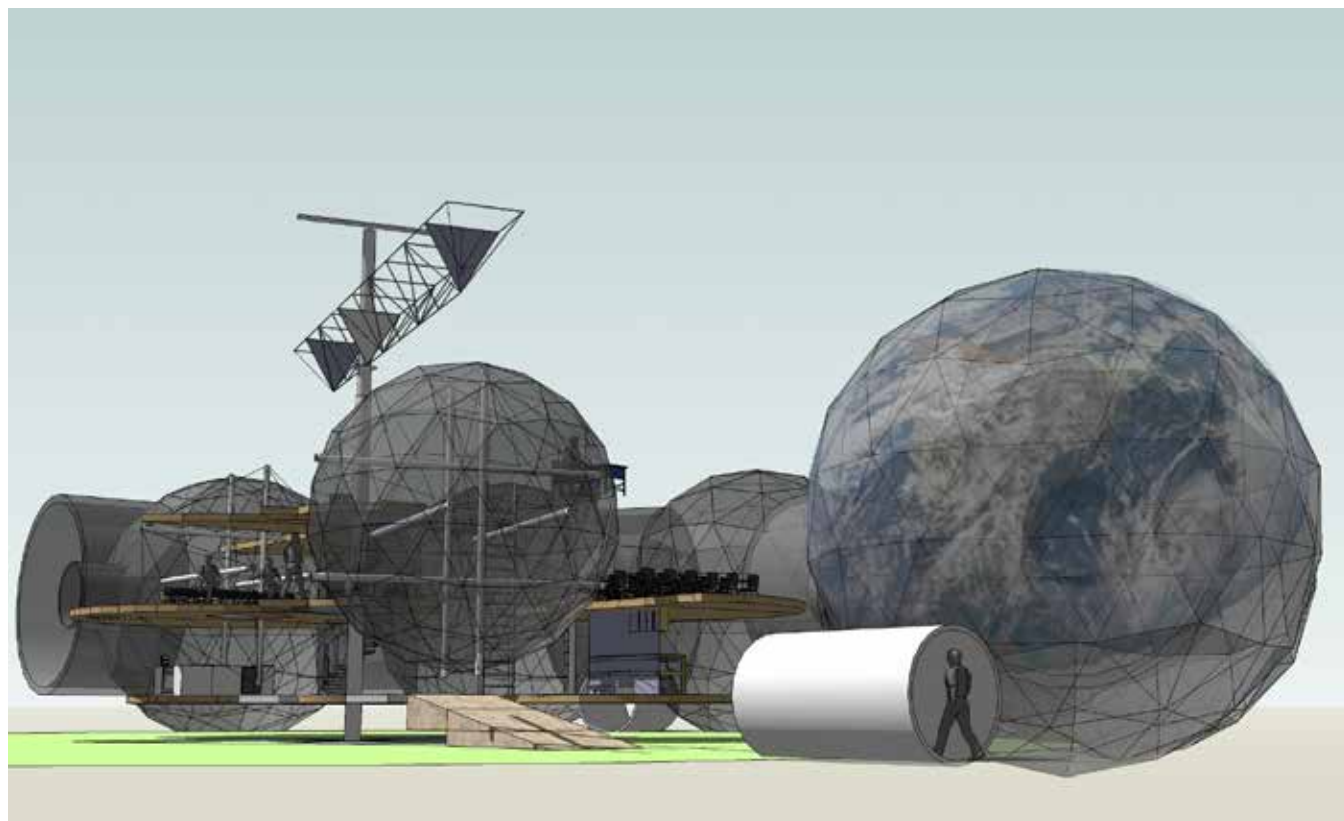
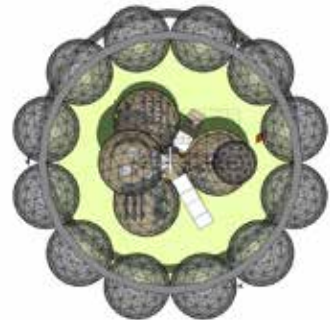
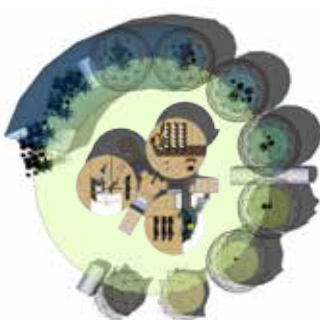
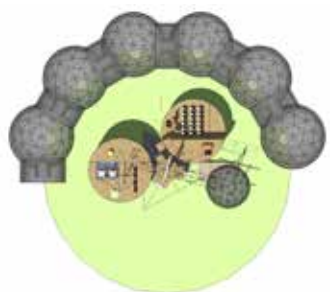
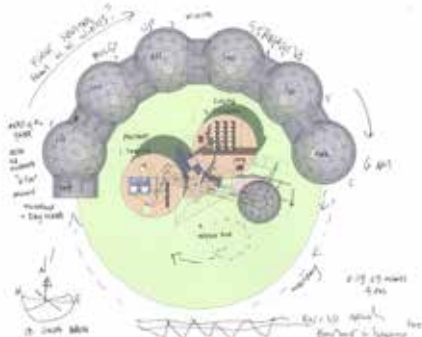
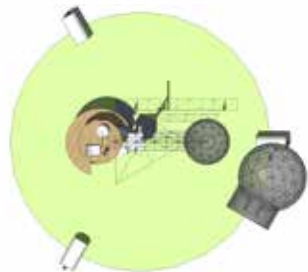
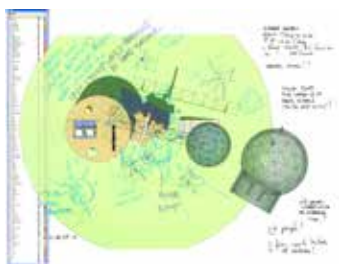
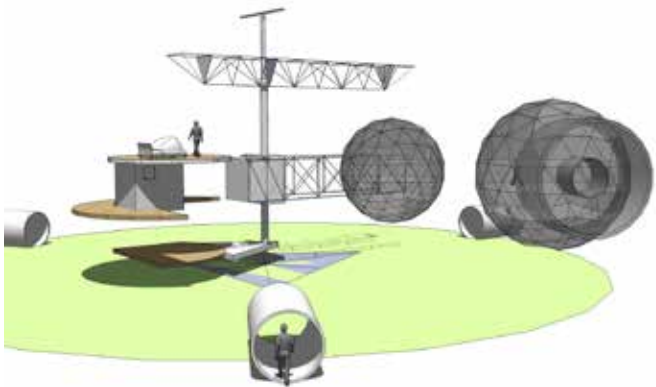
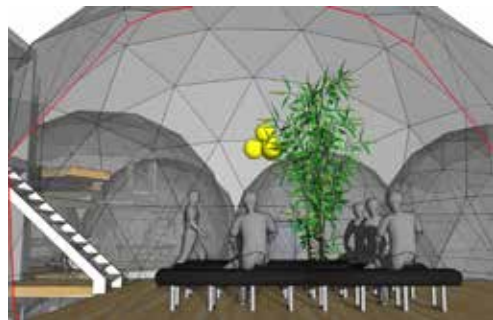
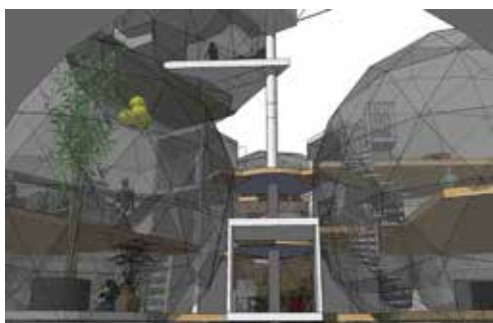
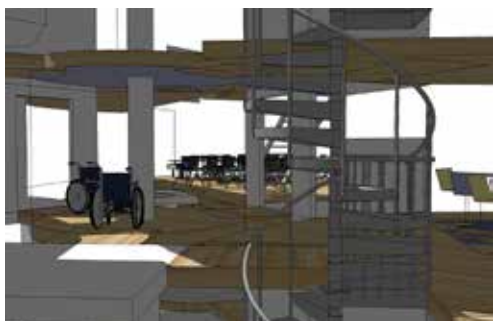
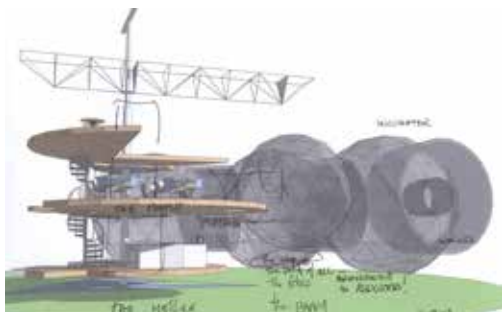
Synagogue Gimel

The third Hebrew letter Gimel is derived from the camel—the ship of the desert. Once when world crisis appeared inevitable. I thought of Noah’s Ark, of humanity’s survival from the ruins of an ecological catastrophe, the Flood. At the end of the Ark’s forty days and nights afloat, perhaps it first landed on a beach on the slopes of Mount Ararat. Grinding ocean waves create sandy beach where the sea ends and terra firma begins. So the arid desert of seaside sand is still a sign of hope, a gift of land for human settlement.

How could Noah have had room for two of “every living thing of all flesh” in an Ark? Add redwoods and wooly mammoths to African and Indian elephants and room soon runs out. If the Ark were an ocean going “seed-pod” gene bank, terrestrial life could survive environmental catastrophe. The post-Flood beached seed-pod can deploy its resources to refructify the land. In Judaism, the Torah (Five Books of Moses) is the “seed-pod” while the Talmud, Mishna, and contemporary debates are the flowering of the vine.

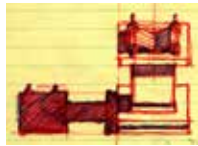
Synagogue Gimel is a phased construction. The ocean-going vessel includes genetic stock, crew quarters, and the Ark of the Torah and other essential ritual elements of Judaism. Pregnant in this first phase, it lands in dunes where it gives birth to the first cell of the torus. This bubble hydrosphere transforms the sandy microclimate into an agricultural soil to support human life. Timber bamboo seedlings mature into structural material for the next cells in the ring. As each cell grows becomes a greenhouse, it grows vegetables for people and pasture grasses for grazing. While the torus is completed, the central cell is triplicated into spaces for school, sanctuary, and celebrations. Finally the nucleus replicates the original ocean-going Life-boat, sitting above the other three, in anticipation of any next Flood. A tetrahedral breakwater shelters the torus and anchors an energy producing tidal pump. It can also support a *Ner Tamid* eternal light-house. Offshore winds drive electric current through suspended cables to precipitate metals from sea water, a system extensively developed by the architect Wolf Hilbertz. These generate structural elements for reinforcing the breakwater wall, which can become a barrier reef. Further inland an octetrahedral solar furnace transforms silicate sand into glass for the greenhouses.







Synagogue Dalet began as I attended a remarkable meeting of the City Council of Glen Cove Long Island in the days immediately following the crash of an Avianca Airline jet in nearby Mill Neck. The Mayor of Glen Cove presented emergency Rescue Squad members with citations for their prompt and heroic emergency aid services to the survivors of this tragic crash. At this same meeting however, the Mayor was intransigent about refusing any kind of assistance to the Hispanic day workers who congregated along the streets of the City. This occurred despite strong vocal protests from the large Hispanic population both within the community and in the entire surrounding region of Nassau County. The evident hypocrisy prompted one member of the audience to observe "It seems as if the only way you can be Hispanic and welcome in Glen Cove is to fall flaming from the sky!"

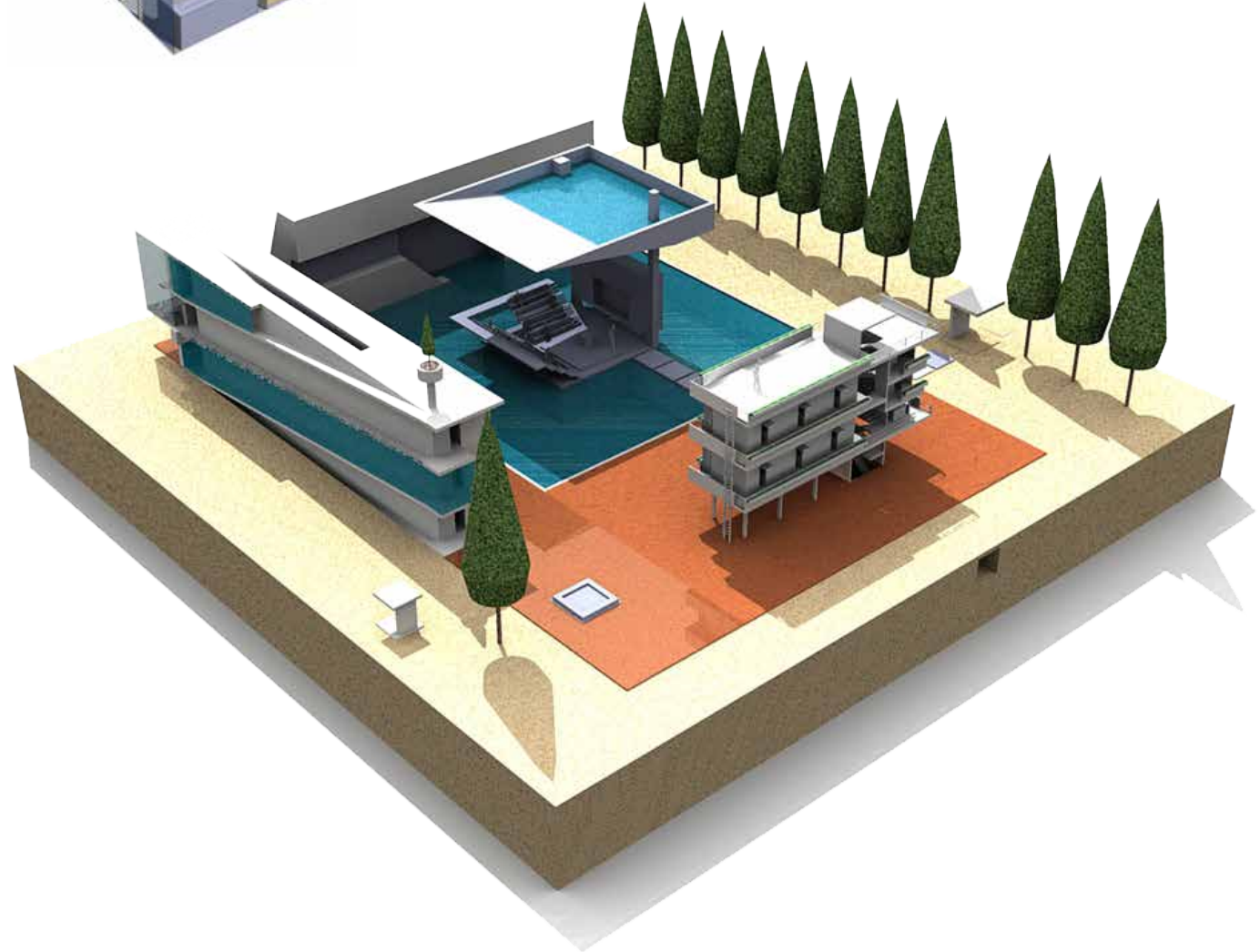
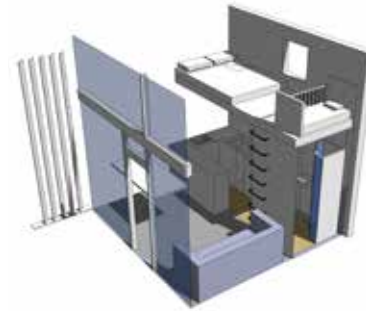


Synagogue Dalet

Dalet, the fourth Hebrew letter, also signifies Door. During a town meeting I thought of rejected Latino refugees in contrast to the complacency of fat cat protected suburbanites-- themselves descendants of immigrants. "I lift my lamp beside the golden door" wrote Emma Lazarus of the Statue of Liberty. A social responsibility every holy person now faces is to consider and act on the plight of our human brothers and sisters who have no homes, no shelter at all. Until the last homeless person finds repose, we shall always have refugees.

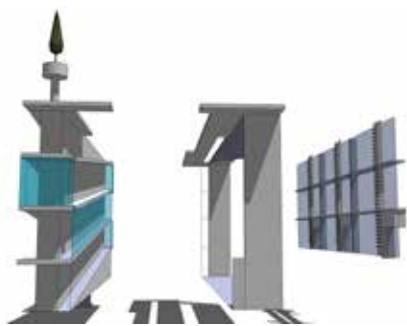
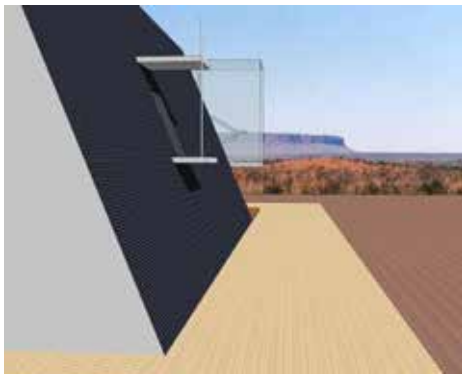
Synagogue Dalet includes not only the ritual elements of *Bimah*, Ark of the *Torah* (*Aron ha Kodesh*), Eternal Light (*Ner Tamid*) and seating for the worshippers, but also homes for four refugee families and a caretaker's apartment. The congregants are aware that these refugees must feel at home and need help to move on to more permanent settlements. Worshippers cannot enter or leave the sanctuary without walking past and beneath the homes of the refugees elevated above them. It is easy to make a space for a family in a 16' cube but almost impossible to fit them comfortably in a single 8' cube. The architectural challenge here is to provide reasonably comfortable temporary lodgings for a family of four in a 12' cube. Each of these apartments includes bathroom with shower, galley kitchen, day bed sofa, table and chairs, and balcony. The loft above provides sleeping space for parents and an infant's crib. While tight, these dwellings are meant to restore the dignity of family life for people whose most recent homes simply no longer exist.

The site is a man-made oasis south of the equator in the Australian Outback, where rain is heaven's rare gift to an arid land. The swimming pool collects rainwater, and pumps it to the overhead canopy to make sheets of aerated falling water on hot summer days. A raft provides dry crossing to the promised land of the grotto in the solar wall to the north. A written Dalet forms a right angle. Three mutually perpendicular folds define a cube of volume. A Dalet of columns and canopy is evident when entering the sanctuary. The stairs and tunnel to the chamber below form another. The third, formed is evident in plan when west is up. The lab's rehumidifier maintains a moist microclimate around the pool and prepares flora for re-vegetating the desert. Australia's policy of "fight or flight" during recent monster wildfires make the sanctuary an ideal if ironic refuge for local populations.





DALET LOOKING WEST, ABOVE; PLAN, BELOW



Synagogue hey...

In the mythology of Hebrew Letters, Hei, the fifth, is the silent letter, associated with the name of the Most Holy. It is a whisper, a hint, a wind, a spirit. If there is any letter in the Hebrew alphabet that is a non-letter, it is Hei. Synagogue Hei must be the subtlest of works. The ramifications of this letter brought me to a full stop. How to make a non-thing, the hint of all other things? Perhaps this one must be left to the very end, completed as the last in the whole series.

Only if all other spaces in my life are correct and properly designed to needs, can I begin this design, a hesitation before the *Schechinah*. I realized that my wife, the painter Marilyn Turtz, did not have a proper studio convenient to her needs for work and family. It became clear that to make a painting studio for Marilyn must precede any further exploration of this theoretical series. Our house, designed by an engineer, had no access to south light. Like so many suburban homes, the south side was given to the garage, so that the car could enjoy good morning breakfast light. We did not have the luxury of turning the plan of our home upside down before construction, so a major renovation was necessary to accommodate these important needs. For now, the renovation of our home has superceded the design of Synagogue Hei. Perhaps I am not yet close enough to the Divine Face to see it clearly.

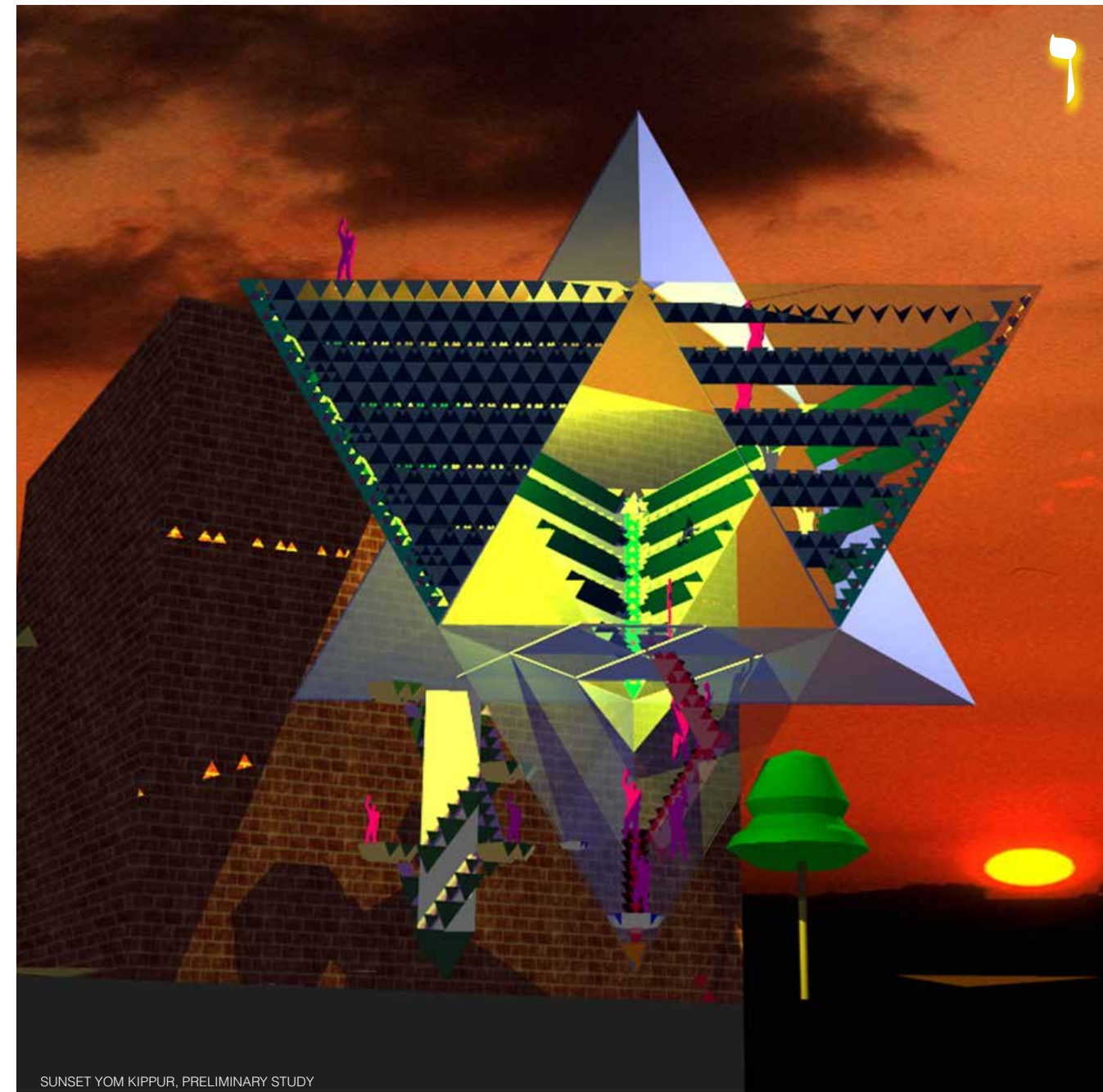
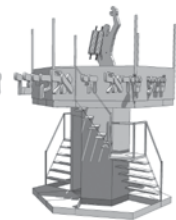
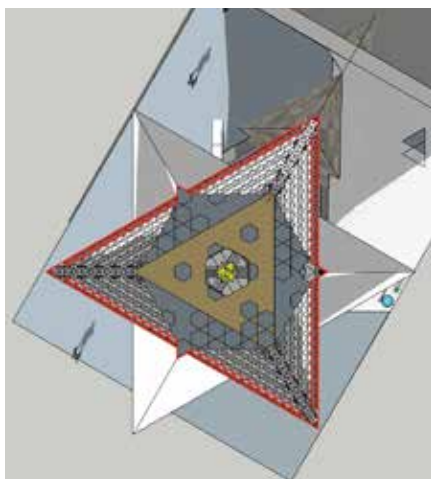
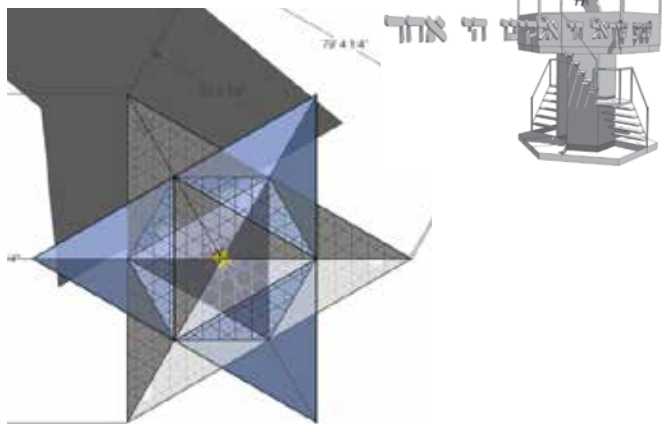
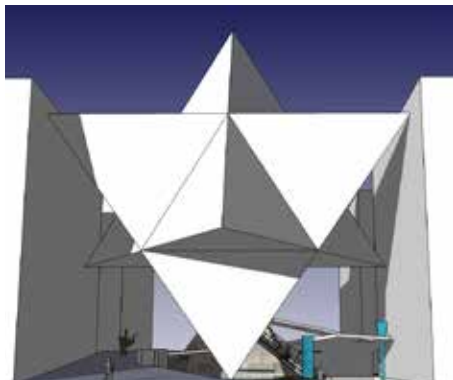


Synagogue VAV

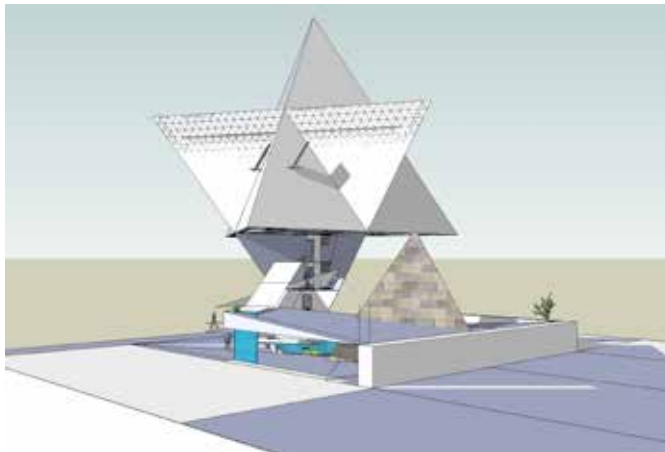
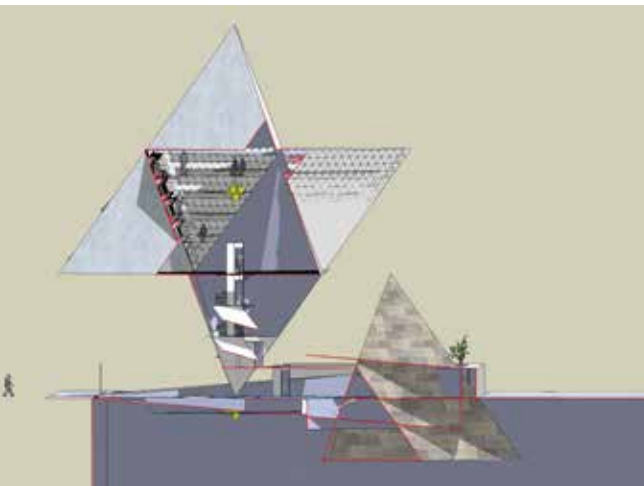
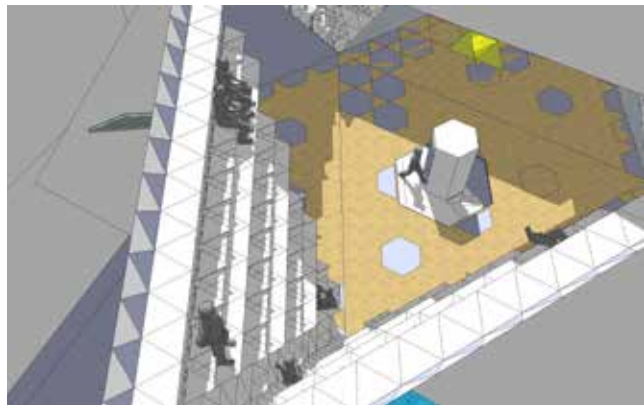
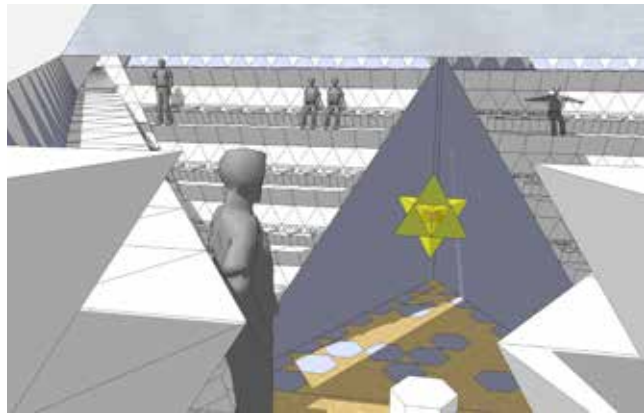
Synagogue VAV represents a synthesis, both literal and figurative. The Hebrew letter VAV is a ligature, meaning AND, strongly suggestive for community space that binds generations together. Its geometry is a simple intersection of two inverted 80-foot tetrahedrons. One of the five Platonic solids, a tetrahedron is composed of four equilateral triangles meeting at equal solid angles. It cannot closepack, the way cubes fill space. But with its dual, the octahedron, another Platonic solid, it is completely space filling. The frame, all triangles, is rigid. Party bearing walls support the whole at the star's 4 contact points. The structure does not touch the ground.

Inside a multipurpose central space provides focus for three major areas of synagogue activity-- prayer, study, and celebration. The upward pointing tetrahedron provides one for each of these 3 activities. The eastern lobe contains the *Aron Ha Kodesh* and *Bimah* that supports the *Torah* during prayer services. The southwest streetside lobe holds conference and study facilities, including a digital workstation, an apotheosis of the *Talmud*, where now through electronic communication all the affairs of the world accessible for commentary and illumination. The third northwest lobe provides kitchen, bathrooms, showers, and a sleeping loft above, for life cycle and social functions like weddings and bar mitzvahs. The downward tetrahedron creates six skylit triangular sloping walls with built-in cushions and footing, and stairs at their intersections. Each provides seating for 24 people, making 12 places for each of the Twelve Tribes. Inside a double helix stair an elevator rises through floor hatches like a service lift on a city sidewalk. Exterior photovoltaic collectors power the *Ner Tamid*, a stellated octahedron located at the precise center of the project. The six candlesticks of the High Holiday platform combine with the *Ner Tamid* directly above to reconcile the original seven-branched *Menorah* of the Temple with the peripatetic Eternal Light of a synagogue.

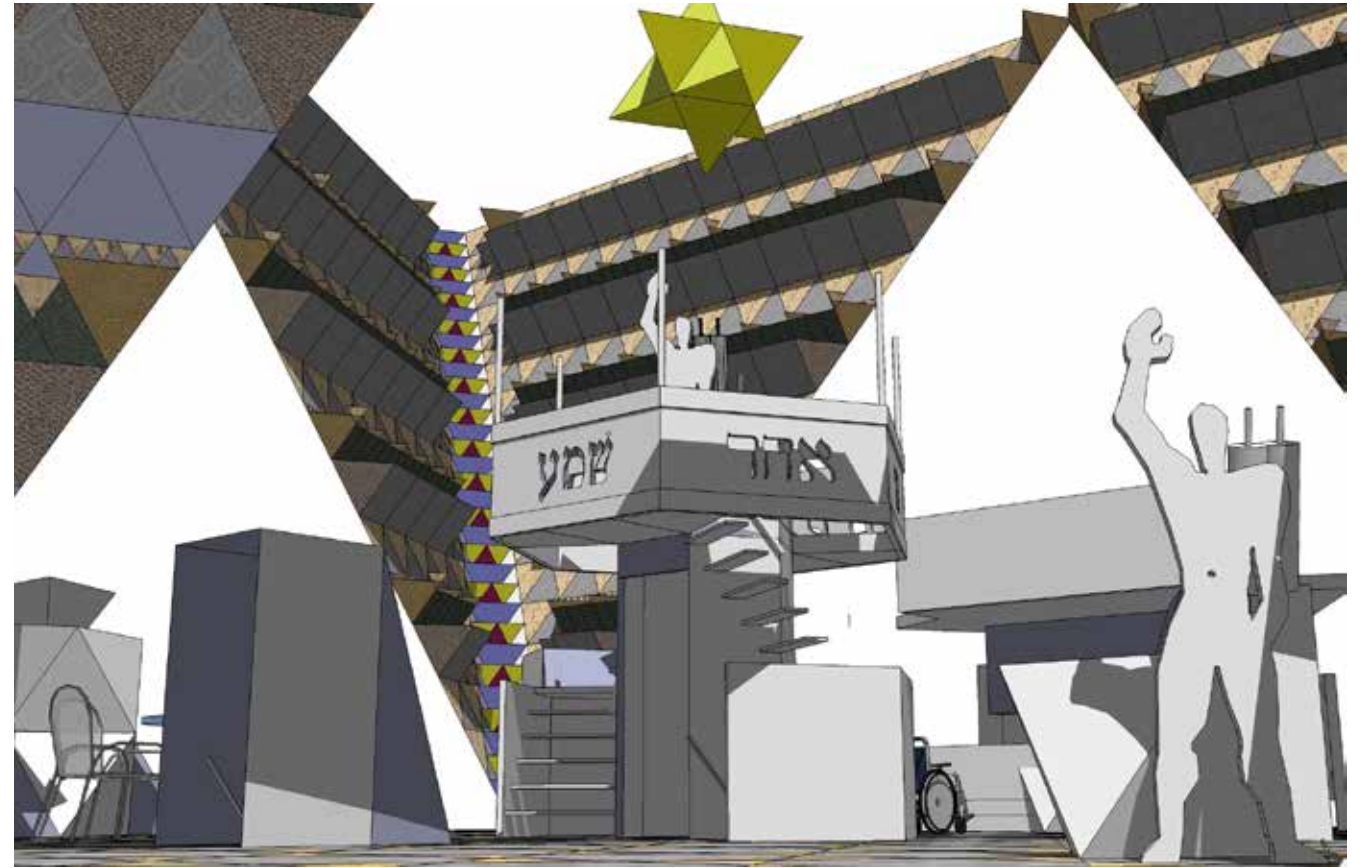
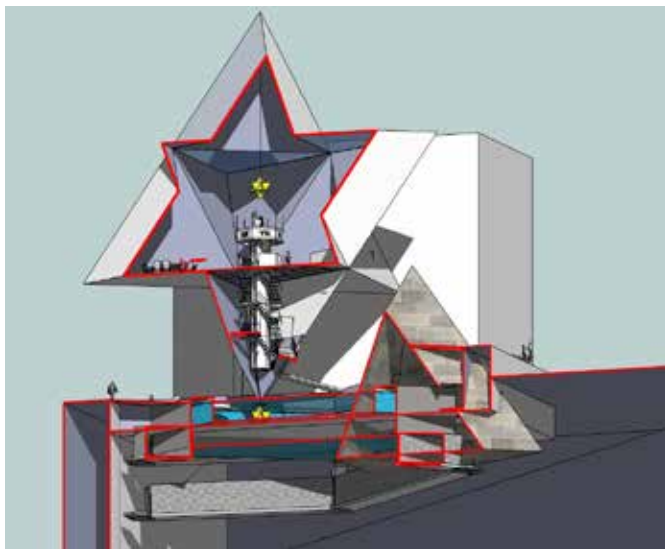
Street access wanders up a 1:12 ramp from dry concrete around a pyramid to a fountain and waterfall oasis at the main entry, a draw-bridge that can be closed for security. Direct wheel chair entry to the central elevator is easy and barrier free. Manhattan's street grid runs close to 60° northeast to southwest, so VAV's rotated plan creates a ritually correct eastern orientation for the Ark in New York City. It could be located on 88th Street between Broadway and West End Avenue, which happens to be the location of B'nai Jeshurun, the oldest Reform Synagogue in America. An alternate history, perhaps.



SUNSET YOM KIPPUR, PRELIMINARY STUDY



This geometry isn't easy to visualize. Sketching a perspective from a vanishing point in a triangular space is a challenge! It made sense to explore designing this space through computer aided digital means. It was this project that led me to discover the beautiful elegance and precision of the software SketchUp. For the first time in a half-century search I have found the means to make and think and edit directly in the medium of space. I believe this presages a coming popular global culture of spacial ideas.

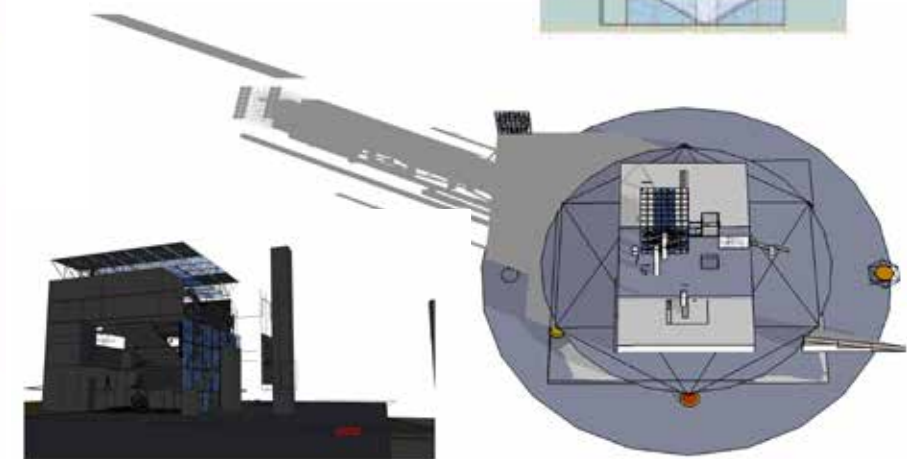
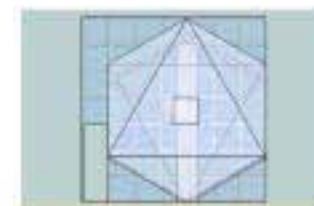
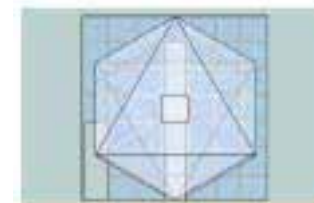
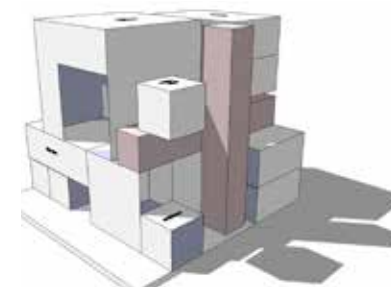
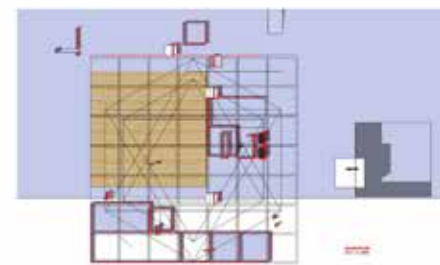
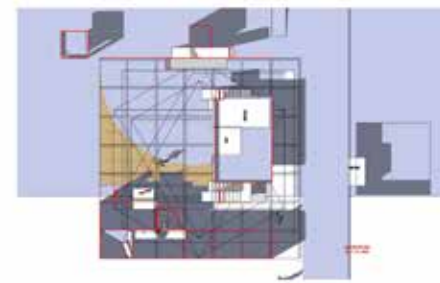
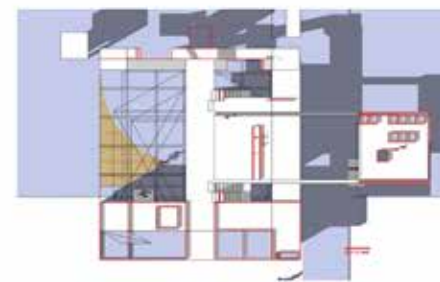
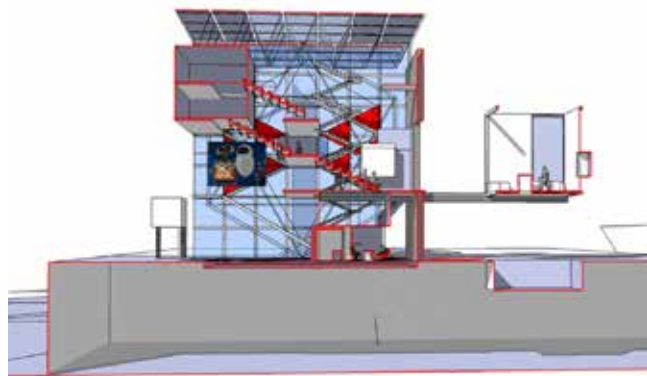
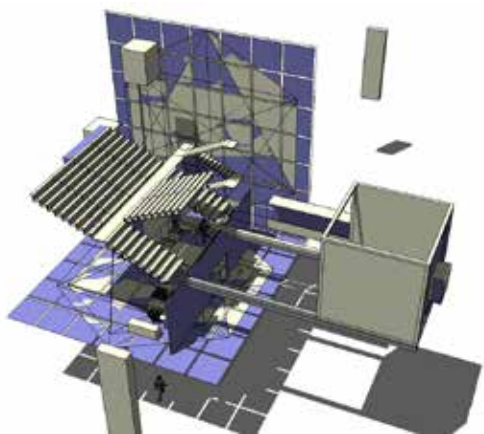
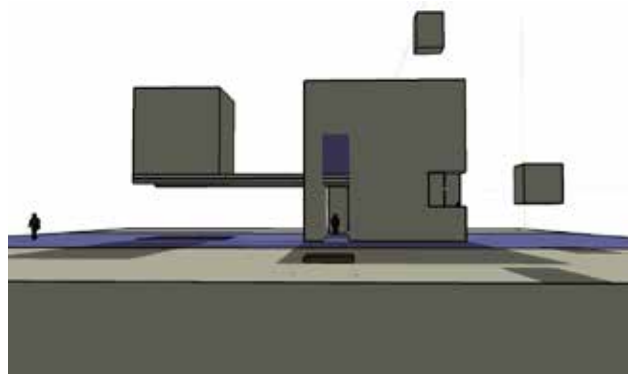


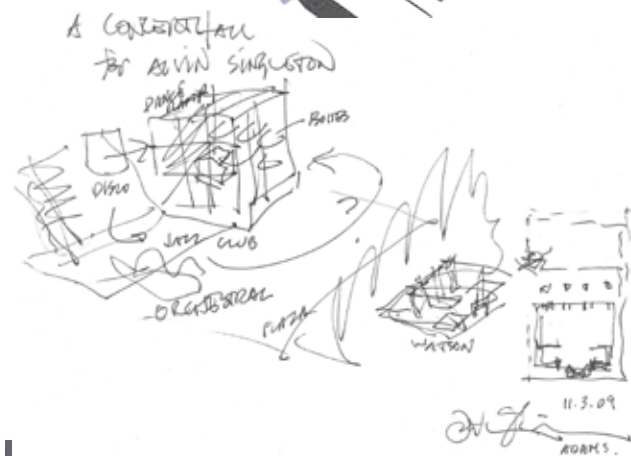
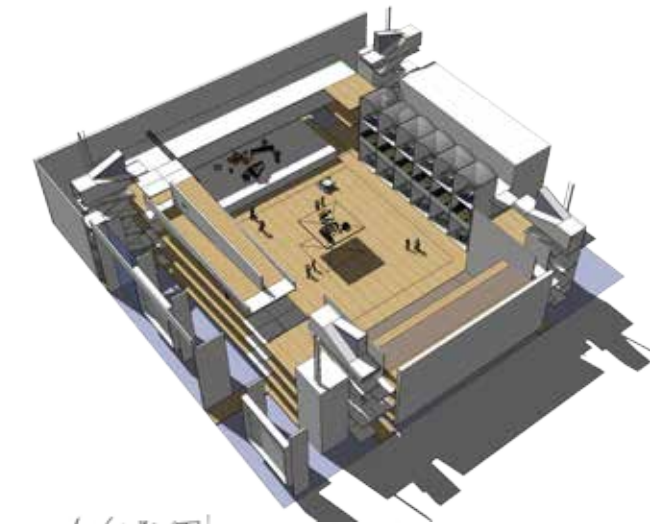
SYNAGOGUE ZION

I imagine a day, perhaps a hundred thousand or a million years ago, somewhere East of Eden, in a cold arid central Asia, our ten thousand times great grandparent blew precious embers brought out of Africa into one more fire, valued now for its heat as well as the light it had bestowed since the warm wet time of Olduvai, and instead of just tossing three more sticks into the fire, set them to make a triangle-- THE triangle, a first conscious geometric construction. Eureka! Sweet... said our grand ancestor, discovering what was always there but had never before appeared. Utility had been transformed into mathematics and philosophy. How long was it before someone said *yes, but...* and rotated a new one over the old to get a six pointed double triangle Star of David?

The Israelites out of Egypt carried the Ark of the Covenant for 40 years in the desert before reaching Zion, the Promised Land. What was sacred enough to carry on the long trek? Was not the encounter at Sinai that brought forth an ethical code of laws a continuation of the speculative abstraction that began with the first triangle? Synagogue Zion speculates that the Family of the Triangles brought their packed dry life from the steppes to the legendary Garden to unfold, expand, and flourish from one generation to the next. Today such expansion often occurs at the High Holidays, when seating demands may be ten times the need for everyday prayer, a minimum *minyan* of 10 souls.

Here a small *minyan* area can slide open to form a large sanctuary. Large social hall with nearby kitchen and bathrooms, classrooms, library, daycare, and senior activity area complete the program. Service spaces include entry, office, and vestry. Zion remains elusive. It is both compact container and airy open volume. Parts must slip by each other like a wooden puzzle. Some of the solution is emerging. Bleacher-style seating can reverse from sacred to secular for concerts, lectures, and dances. The stairs deploy upward and lock into position like a folding towel rack. The volume is a cube of seven 8 foot modules. While positioning the stair flights in the space, I stumbled upon a curious piece of geometry. Sliding the upright hexagon away from the center line *clicked* it into place, revealing that the proportion of a hexagon's horizontal extension to its vertical height was 6 to 7, within a percent. Astonishing! I salute my geometer ancestors.





Synagogue Het Tet Yud

When I learned to recite the Hebrew alephbet, the next three letters Het Tet Yud were spoken in a rush, like elemenohpee in the English alphabet. Het signifies life, Tet, the good, and Yud, the hand. Their combinations are suggestive for architecture. They might comprise a series of 3 interrelated projects: Your Synagogue, My Synagogue, Our Synagogue. Yours is what “you” want, what the world expects, the Tradition! of Fiddler on the Roof. Mine will be what “I” want, the place I feel most in tune with this Holy Universe. Ours may become a synthesis and commentary on the other two.

It is easy to believe in a benevolent Divinity when all is right with the world. In Super-Bowl post game shows, we often hear praise of The Lord from winning team members. I wonder how that same Lord fares in the losers’ locker room. I have never felt more blessed, where the world around me so completely supported my inner aspirations, as I did during a 2009 residency at The MacDowell Colony. Adams, my splendid and spacious studio there, was de facto the current best fit for My Synagogue. So I carefully documented and modeled it in SketchUp. Photos of work on studio walls became equivalent surfaces in the digital model. There my mind was both in focus and in flux. Deep study came in slow time, even stop time; work got done yet the clock did not change! On the facing page shadowed models pop off the page and picture plane, yet also drop deeply into nested self-reference with their own ghostly interiors.

Walking to my studio one morning, I wondered what kind of concert hall would fit the works of composer Alvin Singleton, a fellow colonist whose music ranges from cerebral to sensuous, from concerto to discotheque. After a quick freehand sketch, I translated that passing whim into full-fledged architecture in less than a day. The classic central plan sustains concert stage and seating across a dance hall with 3 tiers of nightclub *boites* facing a wide dance ramp. Balcony access resolves the syncopation of the 8 and 12 foot vertical intervals. Corners contain fire stairs and services. For one person to go from rough sketch to finished design in a day is an astonishing development in the history of architecture. While long experience facilitated rapid decisions, digital technology resolved the Idea to high precision and clarity. Just as in 1946, form emerges from solid darkness into timely light, or is it the other way around?



YOM-KIPPUR SELF-PORTRAITS



Yom Kippur is the Day of Atonement, the culmination of 10 days of prayer and introspection that begins at the start of the New Year on Rosh Hashanah, the Head of the Year. Traditional prayer services include numerous repetitions of the same prayer, and even formalize this iterative practice with something called Additional Service, the Musaf, which essentially repeats the main prayers already just ut-

tered. My creative instincts rebelled at this from an early age, so I sought my own way to engage the spiritual essence of this High Holy Day. Thus, in 1969, as a young recent graduate armed with a Princeton MFA and working for the up and coming architect Richard Meier, yet still briefly living with my parents and commuting with my father to NYC on the LIRR, I found a small mirror on

the afternoon of Yom Kippur, and made a self-portrait. That was my first, at the age of 23, and I have made one on every Yom Kippur since. There are now 40. The 6 above are selected from these. I do not look at any of the previous studies until I finish that year's self portrait. Then I take them all out and regard the realities they offer. More than once I have been surprised to find that what I thought was

a wholly original selection of medium and format was exactly the same as the one done the year before. Although, and perhaps because, this was in direct confrontation with Judaism's iconoclastic tradition, I felt I had to make this drawing as a true act of looking inside myself to seek the Divine presence that lives in us all. It was only after I discovered the Reconstructionist movement that I found a

form of Judaism that understood and celebrated the need to creatively reinterpret and perhaps reinvent past practices into a living tradition for our own time.

Still, every year when I face the mirror, pen or pencil or crayon in hand, there is at least one moment when the great chasm comes through the dark light in my eyes.

