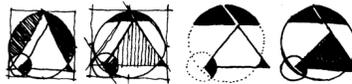
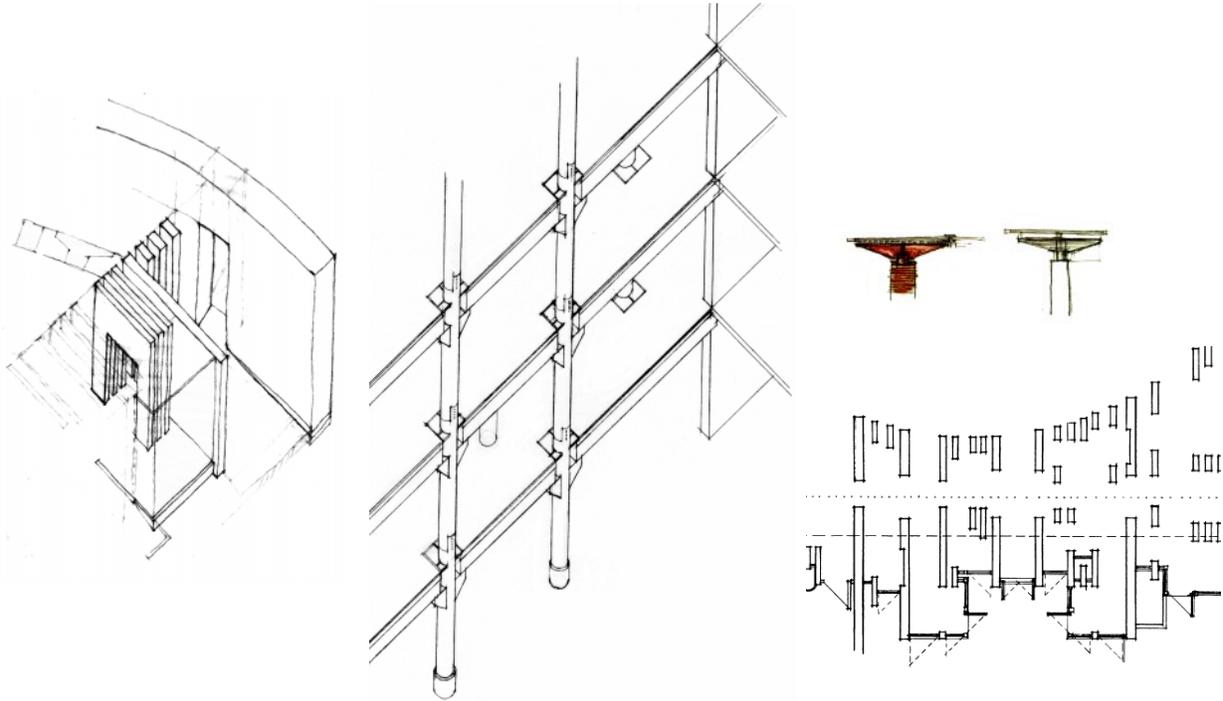


Mabel's Hope

*Tears dry,
Goodbyes spoken.
Held in love.
Moonlight glows upon his cheek.
Breeze brushes the trees,
Arms tighten around me.
A brook trickles.
Her hand squeezes mine.
She sings softly.
A tear slides past.
A firefly darts about.
The pain ends,
Releasing me to God's embrace.*





Knowledge is not a direct description of the structure of things but an imposed pattern, made real because it is only through such patterns that we can know the world. These patterns are not private and personal, but socially constructed; indeed reality is socially constructed¹ and it is in the process of its construction and reaffirmation that the implicit meanings of architecture play their most vital role.²

Left Top, Chapel Sketch.

Left Bottom, Column Sketch

Left Middle, Column Sketch

Right Top, Wall and Room Study

Opposite Page

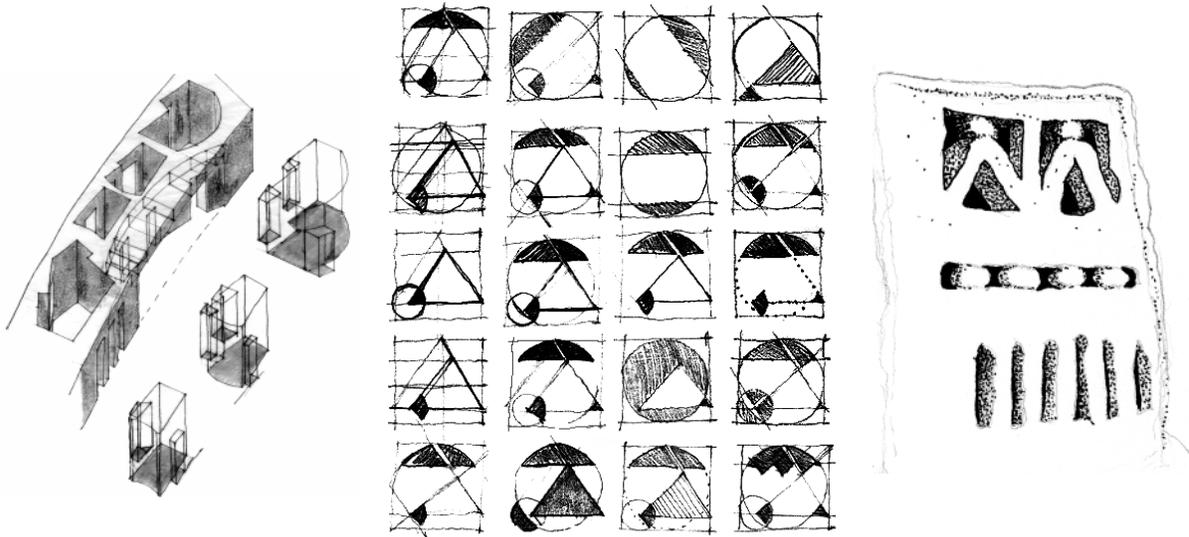
Left, Rooms Carved within the Wall

Middle, Site Study

Right, Soninke Window

¹ P. Berger and T. Luckmann, *The Social Construction of Reality*, (Penguin, 1971), cited by Peter Blundell Jones in "Implicit Meanings," *Architectural Review*, Vol. CLXXVII, No. 1060, June 1985, p.39.

² Peter Blundell Jones, "Implicit Meanings," *Architectural Review*, Vol. CLXXVII, No. 1060, June 1985, p.39.



Hospice and Chapel

Death is a profoundly solitary moment in which one faces the meaning of ones existence. Death is an emotional, spiritual, psychological and physical act. Solitude and fellowship have significant implications for these aspects of dying and for the possibility of triumph over death by simply dying well. Architecture can support such endeavors or defy them. The manner in which the dialectic between fellowship and solitude is embodied in the building has important ramifications for the form of the hospice and the chapel that accompanies it. A hospice and a chapel are designed in this thesis. The aim of this inquiry is to find a consistency between the form of an institution and the values of the cultures that effected it.

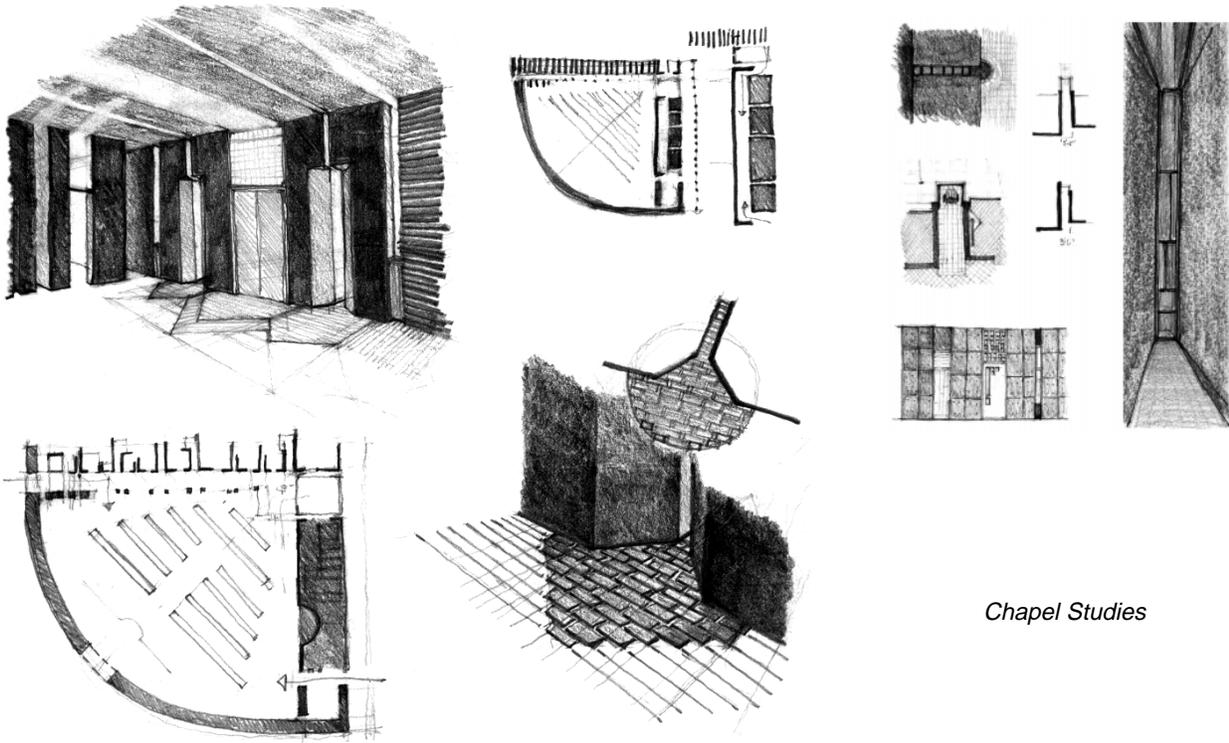
The Framework

The primary purpose of architecture is to elevate human experience through making intrinsically meaningful forms for

the institutions of humanity. Architecture by its nature puts forth a worldview of humans and thus explicates belief, phenomena and custom. Architecture is inherently didactic and contains mythic content.

Several principles in architecture are explored. What governs making? What is the role of shape and form in design? What is the role of geometry in architectural design? How can geometry be used topologically? How do the various geometric elements relate to one another? By studying the relations between the individual forms, we also come to better understand the qualities of the shapes and forms themselves. The quality of the circle becomes most apparent when defined in opposition to the square.

In the same way that we consider how shapes come together, we must consider how the actual elements of construction come together. How does each element and material support the



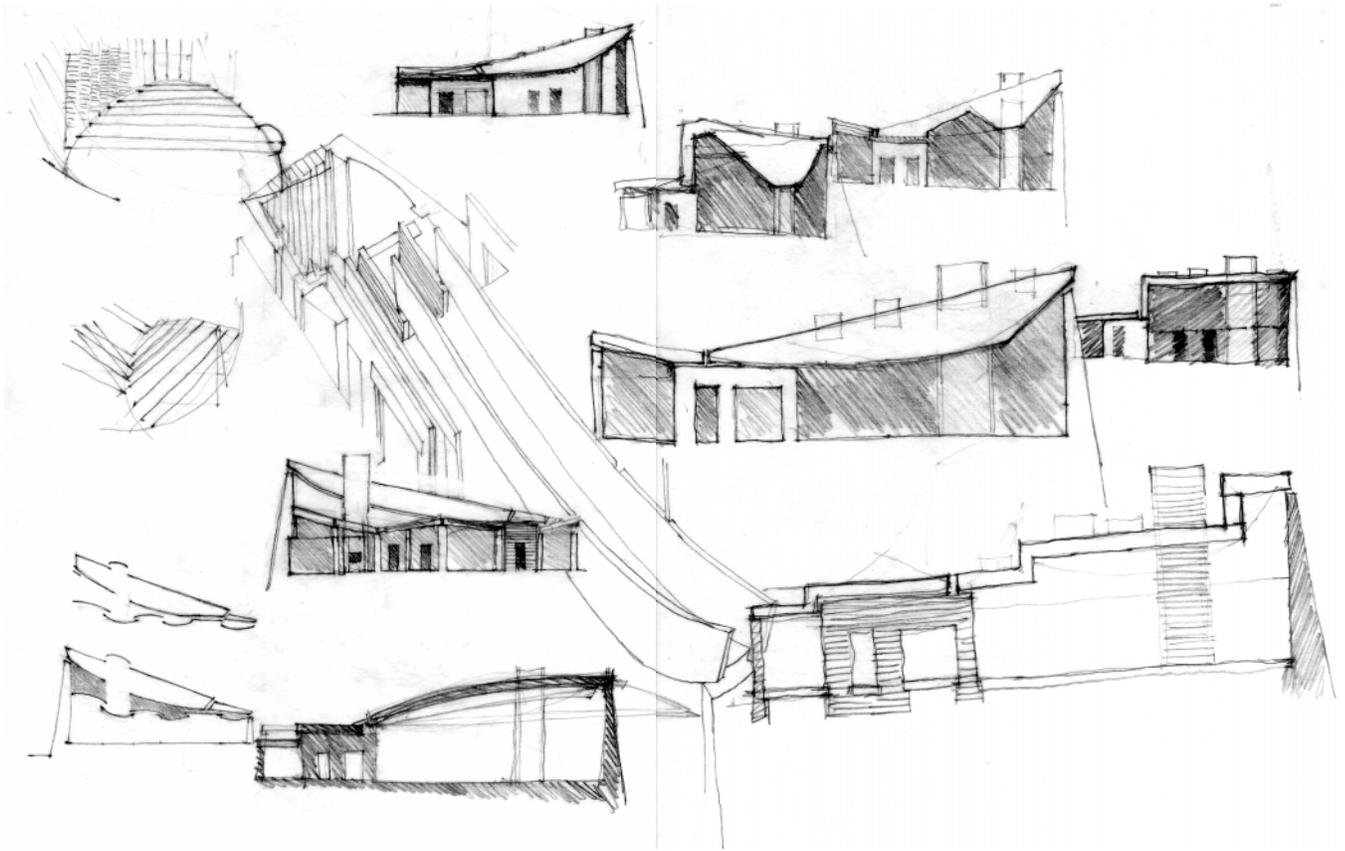
Chapel Studies

other elements without one masking the nature of the others? How can we build massive walls made of composite materials in an authentic sense?

An additional inquiry involves how one recognizes and develops an authentic and distinct architectural voice. Recognizing that the role of geometry is just one of many studies, another issue arises, what constitutes an authentic language of Architecture? Instances of elements combined in a discordant and unconnected manner are all too easily found. Consequently, the question of how one develops an authentic architectural language is a matter of real importance.

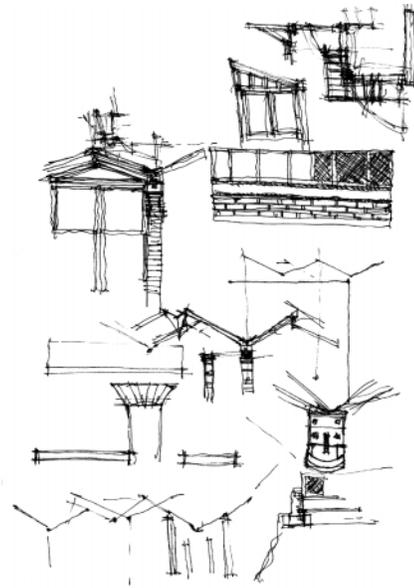
The work of great artists is built not only upon talent and diligence but also upon the spiritual foundation of the principles governing the fulfillment of certain basic laws of art. Representative artists aspire, consciously or unconsciously, to an absolute solution of their problems. This "idea of perfection" comprises all aspects and phases of their activity. It dominates their observation of the exterior world, their inner vision, and the development and execution of their artistic plans.¹

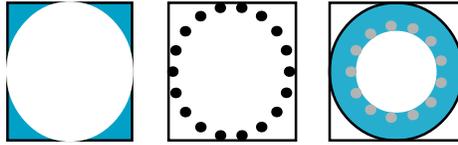
Bruno Adriani



This is also the aspiration of the architect who endeavors to build expressions of perfection, realizing that whatever she does she cannot ever obtain any kind of perfection. One never actually becomes a master; instead one keeps pursuing knowledge and new levels of development. The question then arises: what is the architectural complement to the principles and basic laws of art? What are the basic laws of architecture? What are the principles governing them? What is their spiritual foundation? Clearly there are no definitive answers but rather evolving individual ones.

The spiritual foundation lies in expressing that which is timeless,





...Relation is reciprocity...

Martin Buber¹

humans' relationships to God, the earth and each other. Through architecture we can elevate our understanding of our world and ourselves. The governing principles lie in the orders of the tectonic and of material. The basic tenets of architecture lie in Structuralist thought. All together these can comprise an individual language of architecture that is authentic. A language can result in buildings that are genuine and true to themselves and to one's culture.

Basic Laws of Architecture

While most Modern Architects rebelled against history and its forms, Aldo van Eyck understood history to be a gathering of experiences - neither to be used sentimentally nor ignored.²

Modernist and Structuralist architects were strongly influenced by the philosophical ideas tested around the turn of the century. In Circle Mondrian writes:

"Real life is the mutual interaction of two opposites of the same value, but of a different aspect and nature."³

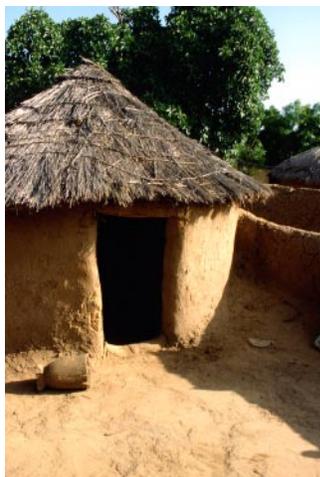
In DeStijl, Mondrian quotes from Philo of Alexandria, concerning a concept of opposites that he believes to "wholly describe the real significance of art"⁴:

"Through their contrast, opposites are known...nothing in the world can be considered from and by itself, but that it is

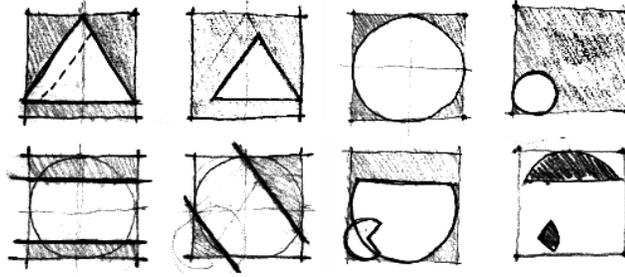
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¹ Buber, Martin. Cited by Henry Plummer in "Realm of the Landing: Reciprocal Form and Spatial Dialectics at the Threshold," *Reflections*, Volume 2 No. 1, Fall 1984, p.48.



Left, Soninke Thatched Roof.
Middle, A Celibate Casse (Unmarried's Hut) Built Into The Perimeter Wall.
Right, French Fort on the Island outside Dakar, Senegal. Sadly the Fort Served Many Slave Ships.



considered by comparing it to its opposite.”⁵

Architecture’s didactic content requires concern with oppositions and their reconciliation. Architecture, like philosophical and mythical thought, mediates the manner in which we live in the world, a way of being and of dying. Addressing oppositions also requires concern with those aspects of a building that although rooted in time, have another timeless dimension. Focusing on unchanging questions (the timeless) adds depth to buildings. Aldo van Eyck seeks to discover in architecture the unchanging conditions and qualities of humans. One of the ways he strives to do this is through place affinity; the design of remembered places that are ordered through their experience. Aldo van Eyck contends, “Whatever space and time mean, place and occasion mean more.”⁶

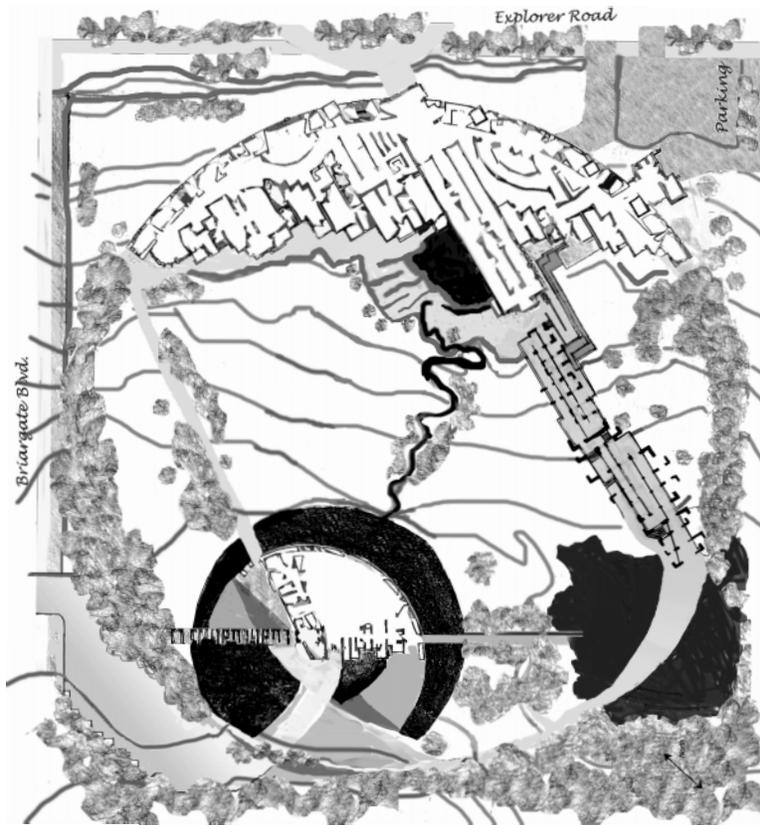
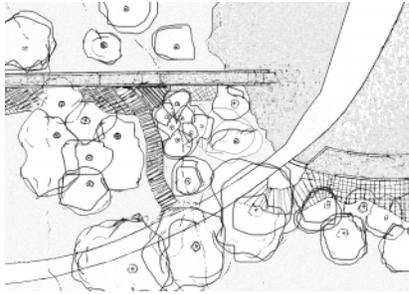
Structuralists propose a signification of place and occasion that is interpretable. The manifestation of dualities is essential to place. The need for dichotomies to constantly nurture each

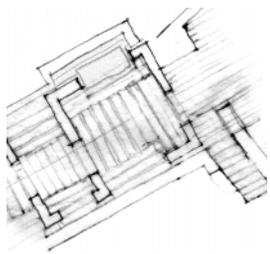
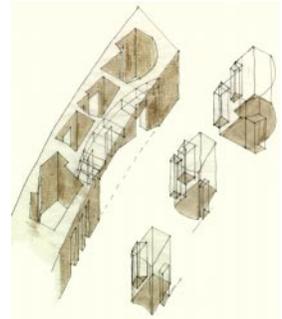
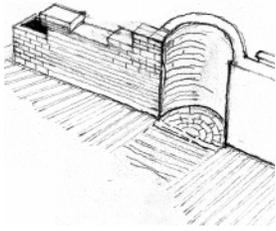


other, van Eyck identifies as “Labyrinthine Clarity.” Once the dichotomous elements separate, each alone becomes stagnant.⁷ By providing for each reality and their cross connections, experiences previously unaided are supported. A strong sense of place that accommodates occasion can result. Architects need to consider the reciprocity between oppositions such as contradiction and contrariety, line and curve, element and relation, thing and idea, field and event, diachronic and concentric.

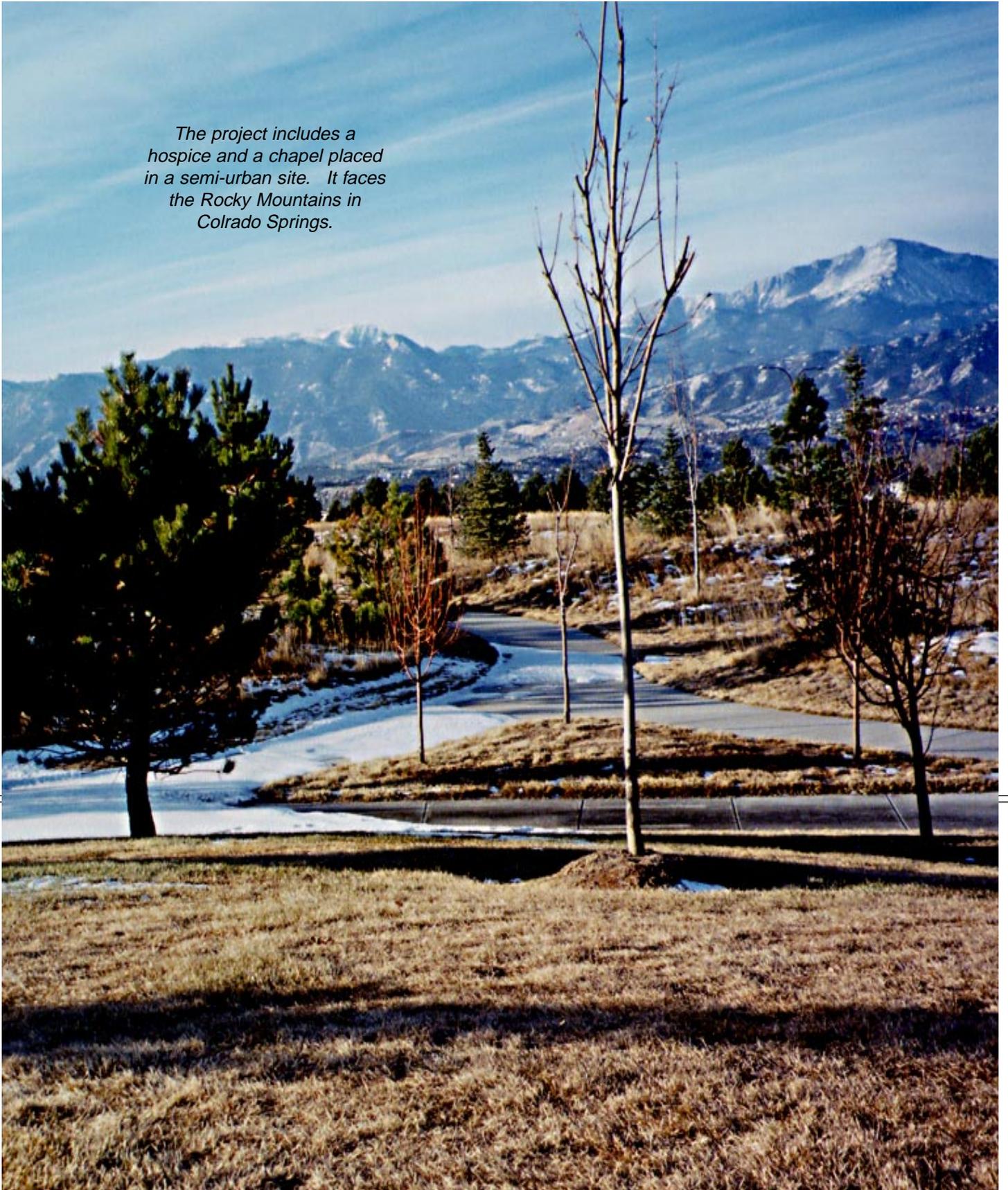
This requires a search for the order within these dual phenomena. It is not an imposed or a structure predetermined. An example of this is the inquiry into the in-between realm, intermediary places that reveal elements that are crucial to each side.

Walking in the tide along the beach provides the experience of being in between land and sea.⁸ We need to build for these experiences in architecture. It is natural to linger. Abrupt entries and exits without thresholds deny this experience. A corridor can become a place to





The project includes a hospice and a chapel placed in a semi-urban site. It faces the Rocky Mountains in Colorado Springs.



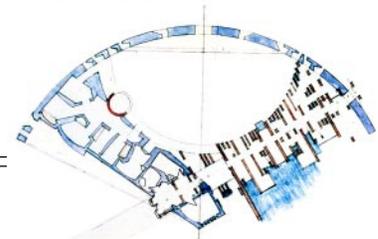


The site lies on the north end of Colorado Springs. The Air Force Academy Chapel lies slightly north. Pikes' Peak is just southwest of the site. The site will retain its view of Pike's Peak. The ground slopes down westward about sixty feet. A natural springs feeds a creek that runs north and south across the

plot. The area fronts a park and a state highway. A wetlands lies to the north across the street.

Top, The view to the southeast is shown. Two office complexes are seen. The creek lies in the ravine. The photo is taken looking up and across the site.

Left, The view from around the Chapel site is shown. The photo is taken from a small park. Pike's Peak can easily be seen to the southwest. The Chapel plan is shown below.

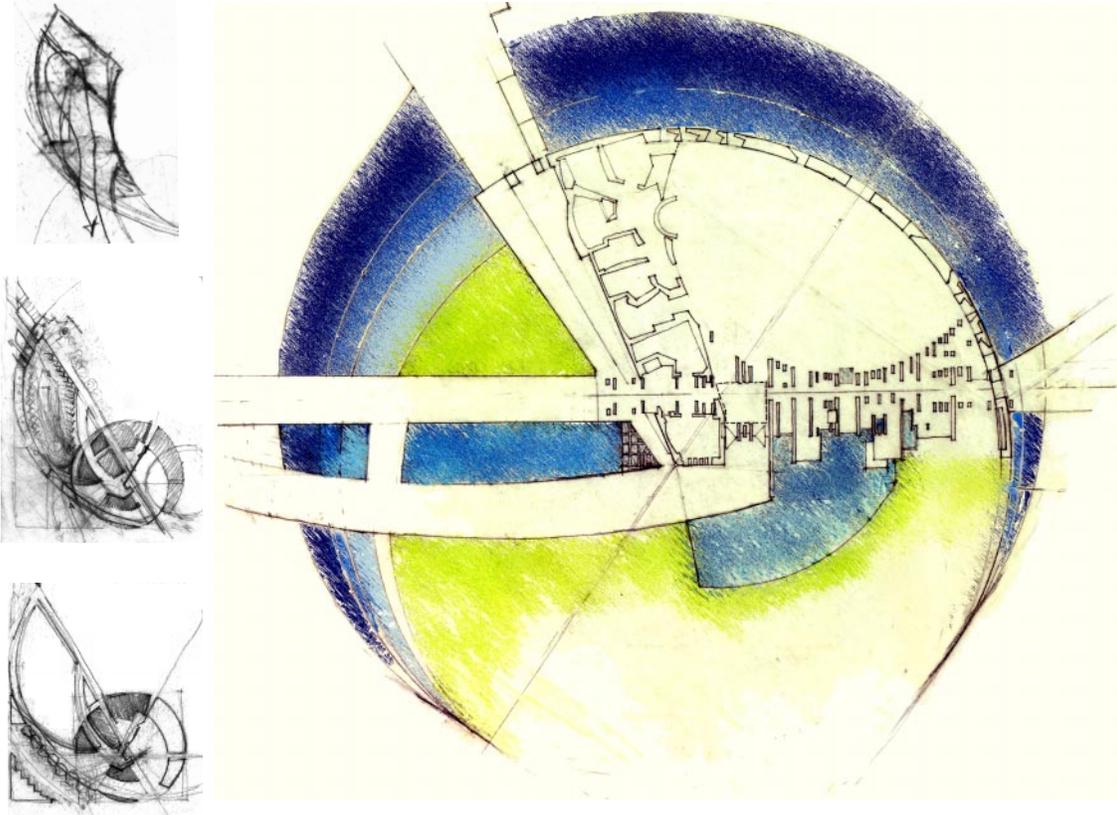


eat, to talk, to play chess, in addition to a place for travel. The desire to reconcile the irreconcilable is a quest embedded throughout time. The reciprocity between oppositions is essential to dwelling. Peter Blundell notes:

Inside and outside, above and below, center and periphery, hierarchies, adjacencies, polarities: these are essential spatial relationships which architecture can provide and upon which an implicit social symbolism

can grow, provided that it is not hamstrung by a meaningless and insistent grid, an irrelevant formalism or overemphasis of mechanism.⁹

Architecture lies between scientific knowledge and artistic thought. Buildings are both objects of knowledge and of "place/dwelling". The making of form is the discovery of the underlying structure behind phenomena such as solitude and fellowship. A useful linguistic model is



Left, Parking Sketches
Right, Chapel Site Study

outlined by Charles Morris¹⁰ that involves inquiry on three levels: the syntactic dimension (the relation of parts); the semantic dimension (the meaning inherent in the building); and the pragmatic dimension (the building's relationship to humans). When a Linguistic or Structuralist model is used a metaphor can provide useful insights. The models are not formulas for design but rather set a framework.

Paul Heyer writes:

Levi-Strauss observes that the visual arts move from a set (object and event) to the discovery of a structure; on the other hand his method of myth analysis ... travels the opposite route, constructing a set (object and event) from a given structure.¹¹



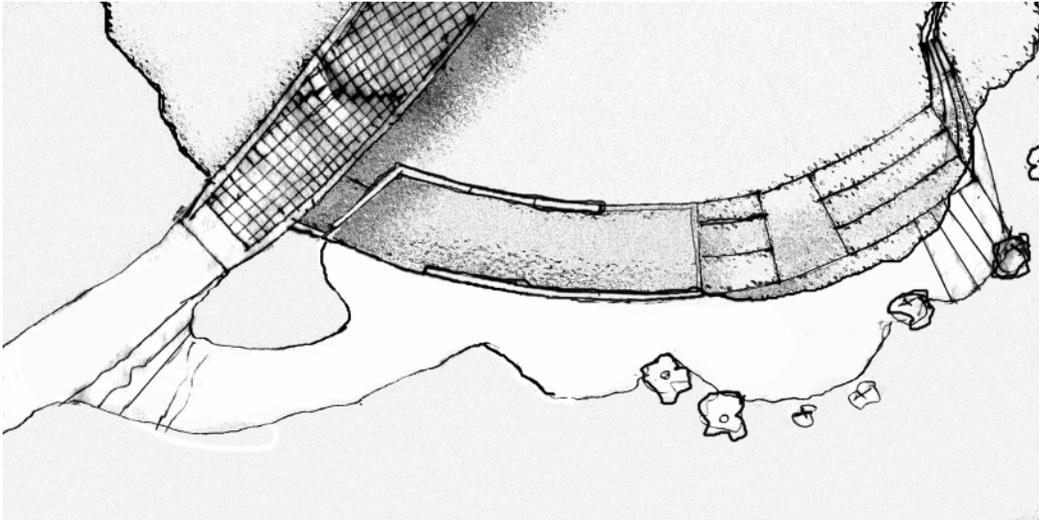
Top, Site Plan. Pike's Peak lies west. The site slopes down to the southwest. The Front Range Mountains lie to the westward approximately 60 feet.

One studies the things one has made and the relations that exist amidst the things made by critically looking at the relations between the objects (Structuralist inquiry). The things one makes shape one's architectural thoughts. These activities lead to the further development of individual voice within an authentic language. The resulting tacit knowledge is discovered by acting and making rather than from

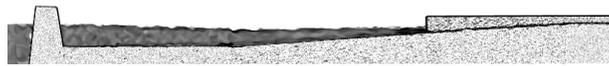
applied rules. Understanding results from both theory and the act of making.

The Nature of Structure

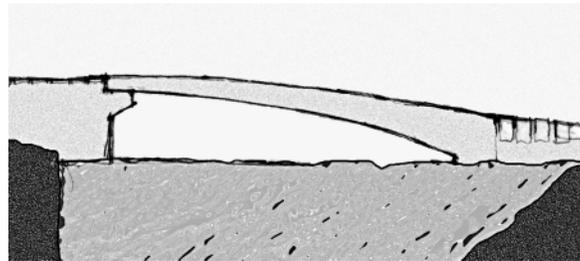
Jean Piaget contends that Structure may be discovered amidst a set of relations between entities that manifest the following basic tenets: the ideas of wholeness, the idea of transformation, and the idea of self-regulation.



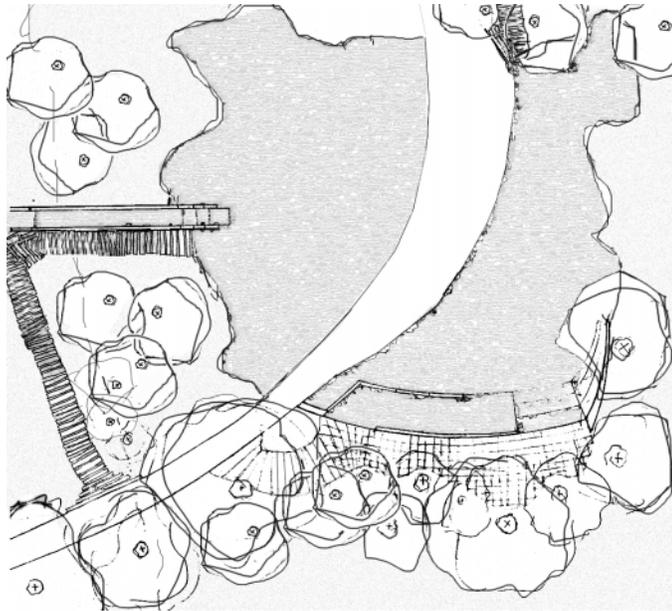
A bridge rises above the pond.



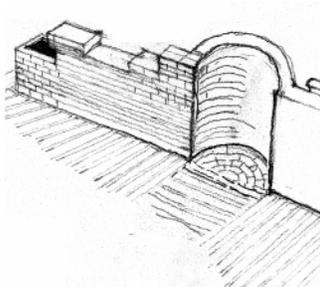
Places are designed to tarry, to sit, and rest alongside the water's edge. A gentle ramp lines the pond edge providing a place to drape one's toes in the water from a wheelchair.



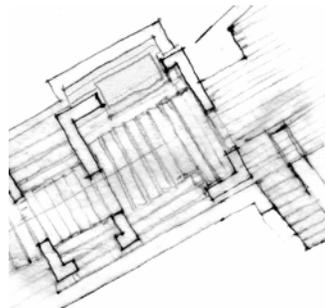
Steps and small platforms also surround the water's edge.



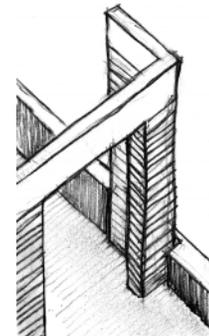
A natural spring would feed the pond.



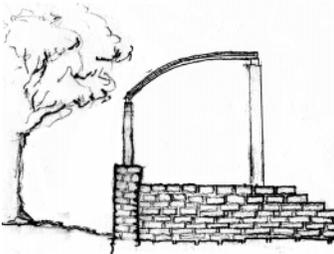
The path defines the circle. The bridge continues the circle. The trees line the circle.



The retaining walls bind the brick walls. Benches line the path and the ramp. Places are designed to watch the stars or rest outside.



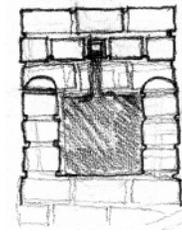
The exterior ramp follows the rules of the interior ramp. The low walls defer to the brick walls while binding them.



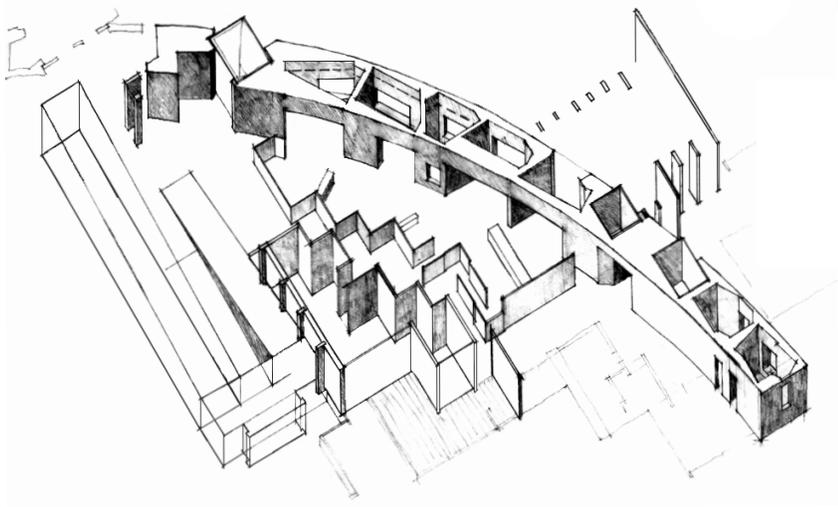
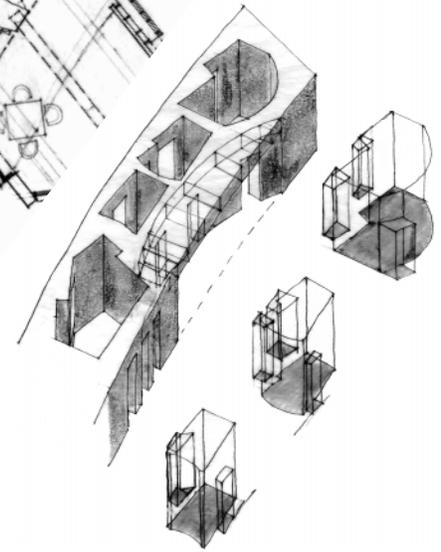
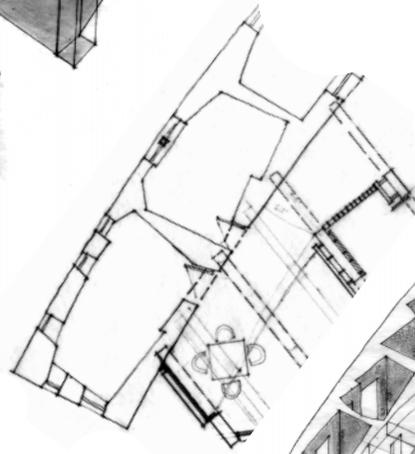
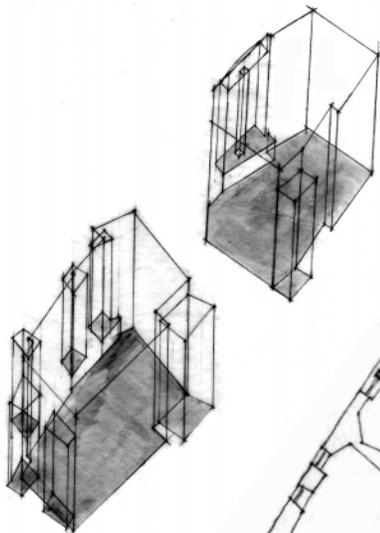
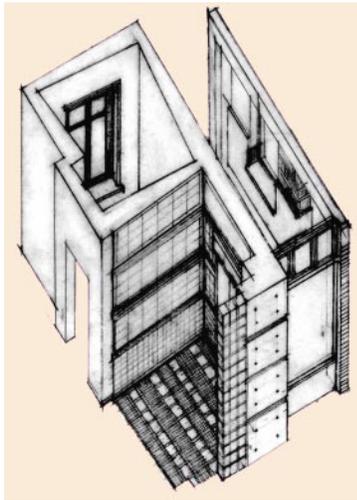
Places are designed along the side of the path to play chess and to read.

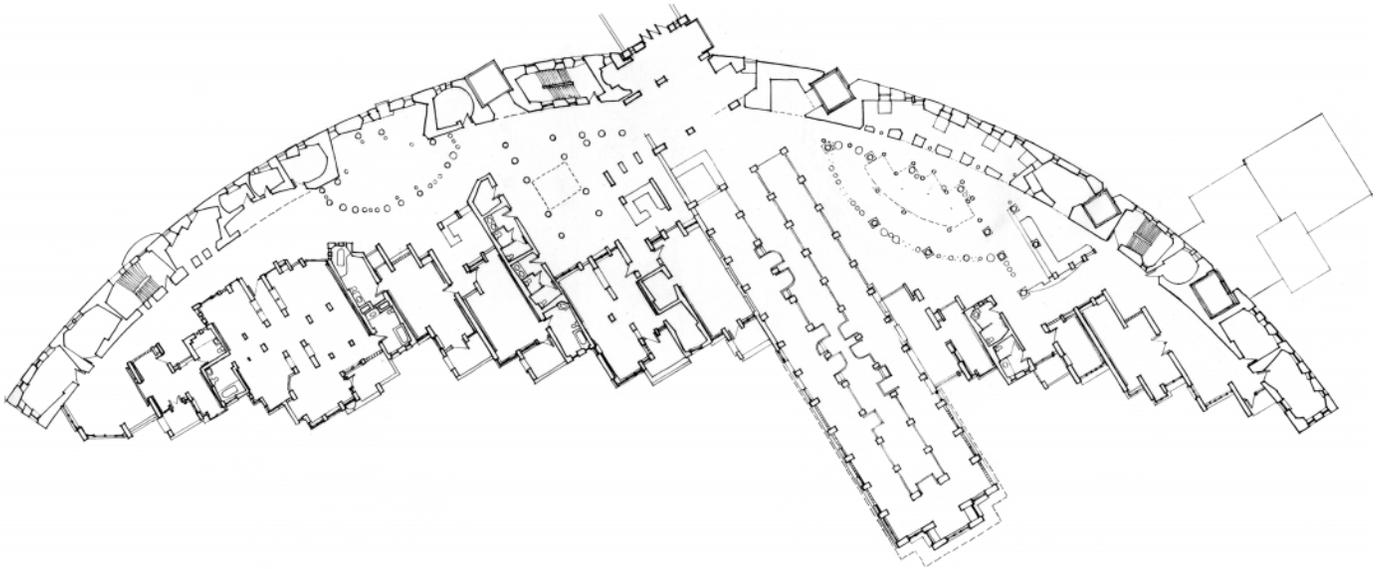


An airplane subtly zigzags side to side to reach its destination. The path marking the circle does also.



A series of walls line the outdoor ramp.





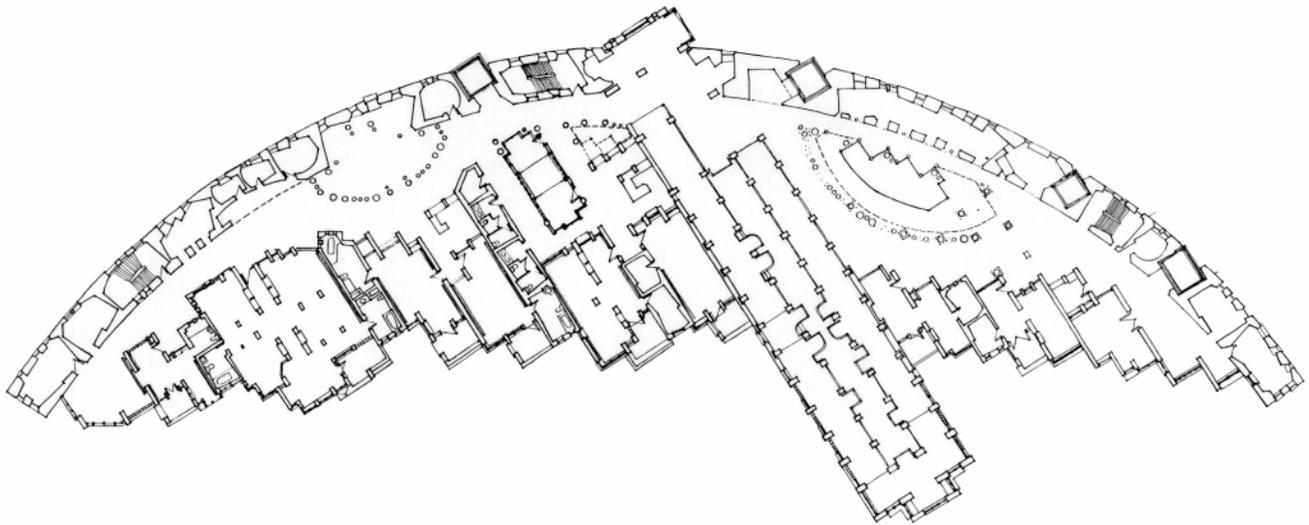
The Hospice has several main elements. The curved massive wall with carved out rooms, the planes and rooms built from constituent parts and finally objects placed within the wall.

A structure may be discovered between entities. The wholeness of a structure contains an inner coherence. Terence Hawkes describes this as:

The arrangement of entities will be complete in itself and not something that is simply a composite formed of otherwise independent elements. Its constituent parts will conform to a set of intrinsic laws that determine its nature and theirs.¹²

Since a structure is not static, it contains methods by which it alters over time (transformation). Certain types of changes are allowed while others are excluded (self-regulation).

“Analogical thought” works by imposing on the world a series of structural “contrasts” or “oppositions” to which all the members of the culture tacitly assent and then proposing that these oppositions are

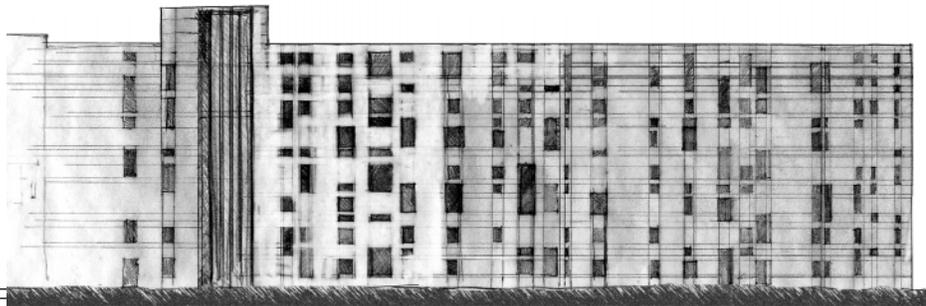


Left Top, Hospice First Floor Plan

Left Bottom, Hospice, Rear Elevation

Right Top, Second Story Floor Plan

Right, Hospice Front Elevation

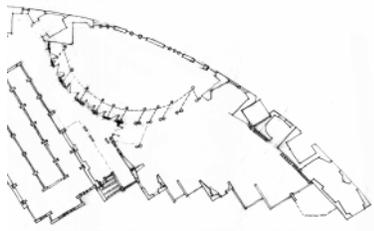
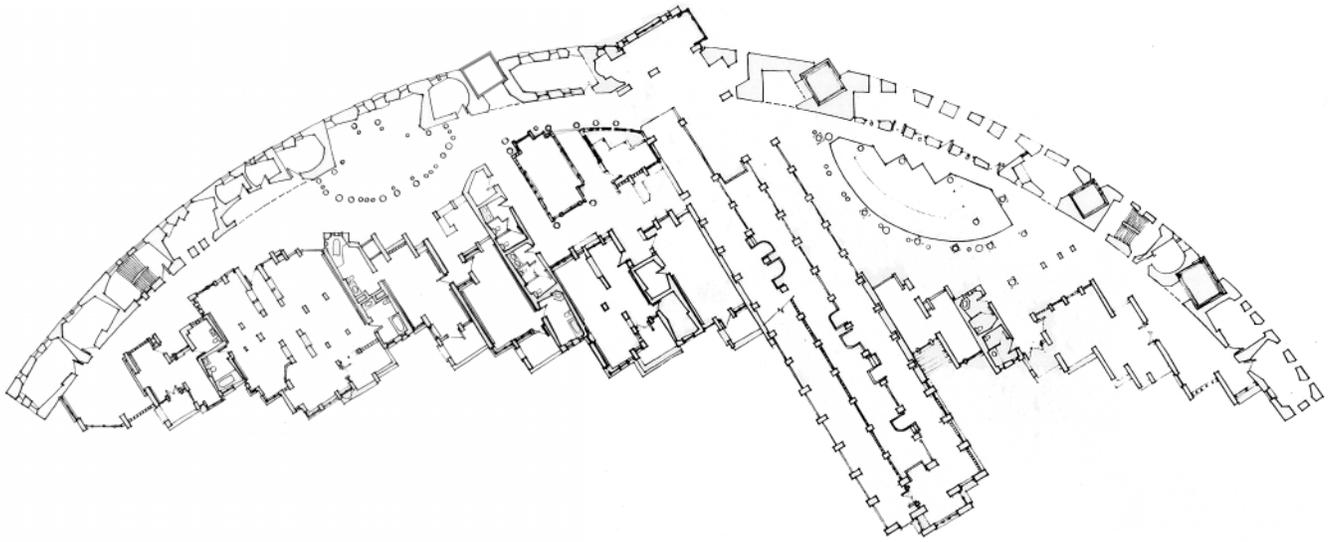


analogically related in that their differences are felt to resemble each other. As a result an analysis of the analogical relationship between the oppositions of “up” and “down,” “hot” and “cold,” “raw” and “cooked” will offer insights into the nature of the particular “reality” that each culture perceives.¹³

oppositions such as female and male, private and public, vertical and horizontal exist as a complex system of oppositions with a great degree of variation. The variation occurs within a fabric of crucial contrasts. Again Terence Hawkes writes: “the notion of a complex pattern of paired functional differences, of binary - opposition as it has been termed, is clearly basic to it [structure].”¹⁴

The binary relationship between

Difference amidst similarity provides



*Top, Third Story Floor Plan.
Left, Garden on Third Floor above Cafeteria.
Far Right Bottom, Floor Study Second Floor Balcony above Cafeteria.*

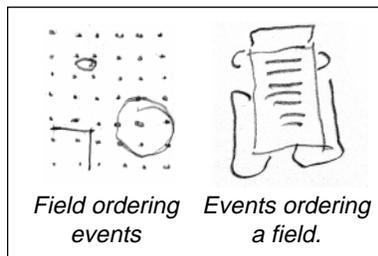
*Facing Page:
Left Top, Section through the Cafeteria
Far Top, Axon of Roof Level above the Cafeteria
Right, Floor Study of Second Story Balcony Area.*

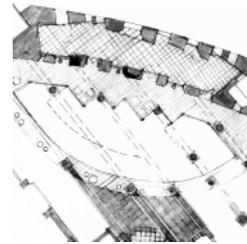
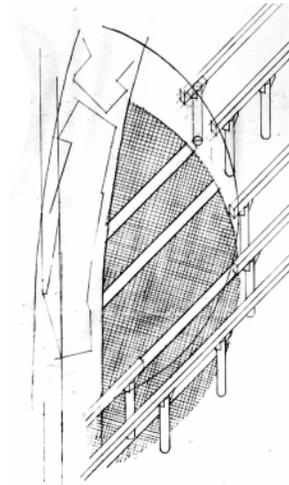
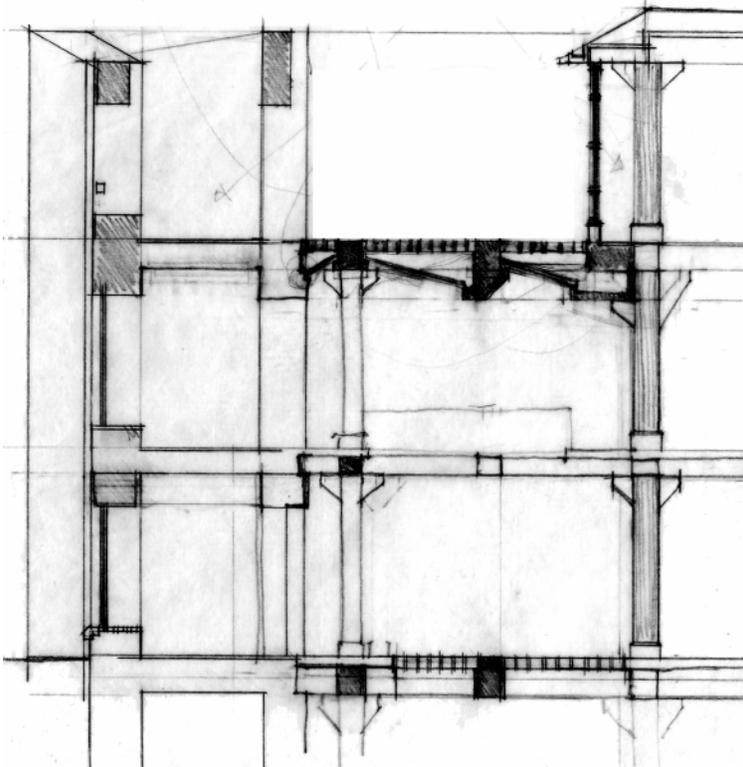
meaning. A word's meaning is embodied in its contrast to other words in a category or group of similar words. The definition of the words "stool", "chair" and "seat" are given meaning through the contrast within a given set. The words have an arbitrary relationship to the object. Ambiguity and multiple meanings are allowed because there is an arbitrary relationship between the object and the word signifying it. The relationship of certain sounds and letters denoting particular things is an arbitrary one.

Language depends on the tenet of establishing difference. The words are endowed with meaning through their contrasting similarities (the set) and their differences.

De Saussure, a professor at the University of Geneva from 1906 to 1911, developed new analytical tools to study language. He established that in

studying language it is vital to investigate its structure. There are many directions and nuances to his work. Some are covered



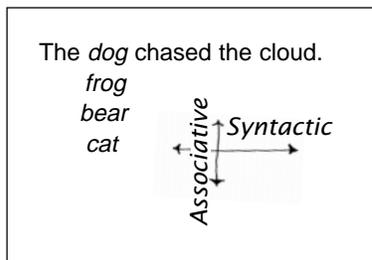


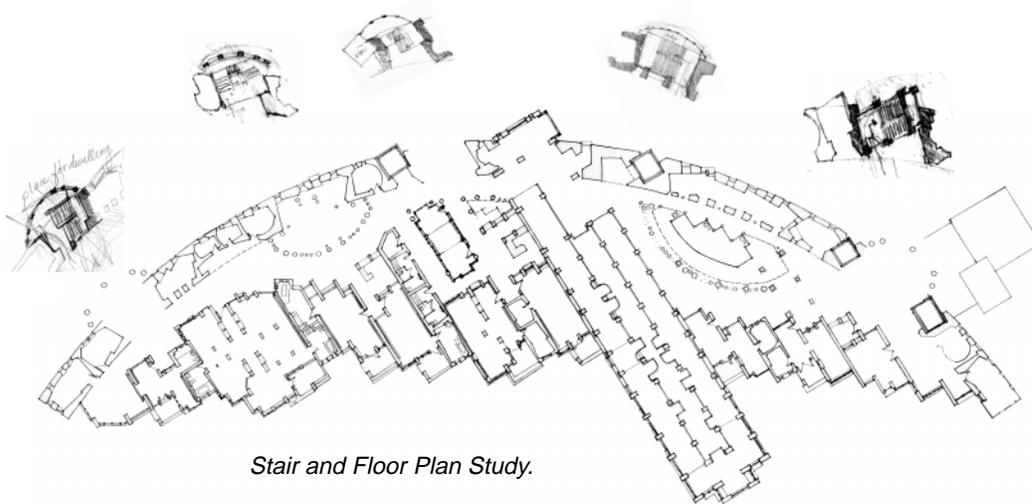
here. The first distinction is between the parole and the langue. Parole notes the existence of individual events of speech within a structure (langue) that governs the events. Langue notes that many possible expressions exist within a set structure. Herman Hertzberger illustrates this concept using the weave in fabric. The warp and weft are woven together. The warp (longitudinal thread) is invariant, while the weft (latitudinal threads) varies in pattern and color.

A second aspect of

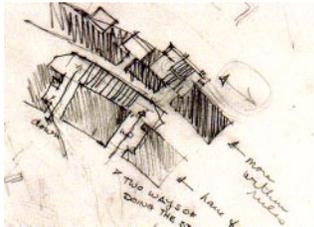
linguistic study developed by De Saussure examines the syntagmatic and paradigmatic dimension of language. Saussure submits that language gains meaning along a syntagmatic axis (horizontal) and a paradigmatic axis (vertical). The "axes of successions"¹⁵ denotes a temporal mode of speaking. Individual words gain meaning through what comes

before and what comes after them. Each word has a syntactic role (noun, verb, and subject) in the sentence.





Stair and Floor Plan Study.



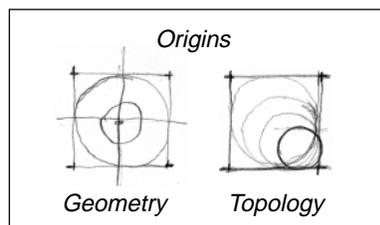
Work In Progress: Should the stairs be ordered by the curved or the angle? The elevators are objects embedded within the wall. The meeting can allow for the in-between. The stairs can become places to linger or places to hurry through.

The site quickly drops off about ten feet. A bridge joins the building to the street level. The drop gives the basement level garden windows.

Left, Sketch Addressing The Order Of The Stairs.

**The dog chased the cloud.
The cheese chased the cloud.**

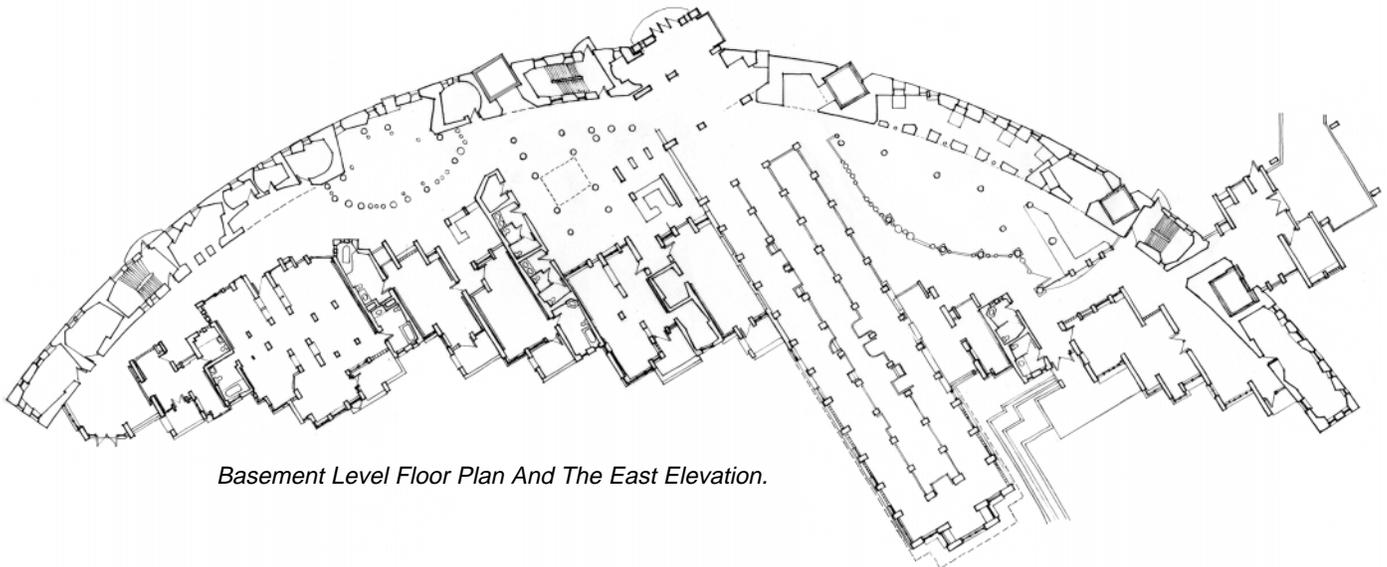
Dog is distinct from chased or cloud. Dog gains its meaning from its opposition to the words/signs preceding and following it. Furthermore, the morpheme "dog" makes sense to us because we understand the phonemes d, o, and g. Opposition to and distinction from other words gives us the ability to understand language. Succession and a sign's placement within a sequence give definition. In



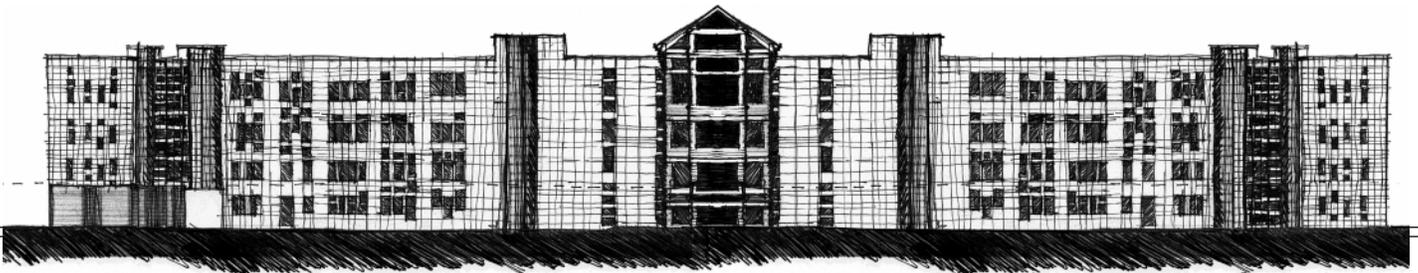
Structuralism: An Interdisciplinary Study,

Susan Wittig comments, "the syntagm is the combination of the opposing or contrasting signs, united *in praesentia* in the moment of speech."¹⁶

The second axis, the paradigmatic axis, is not temporally ordered. It is formed through associative relation. A sign gains meaning through its grouping with other possible choices. A word/sign is chosen from a set of signs that are structurally homologous. The earlier example of chair illustrates this. One homologous set



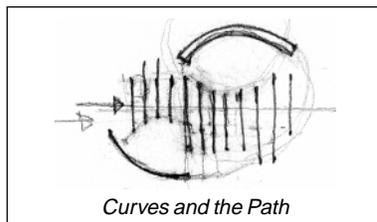
Basement Level Floor Plan And The East Elevation.



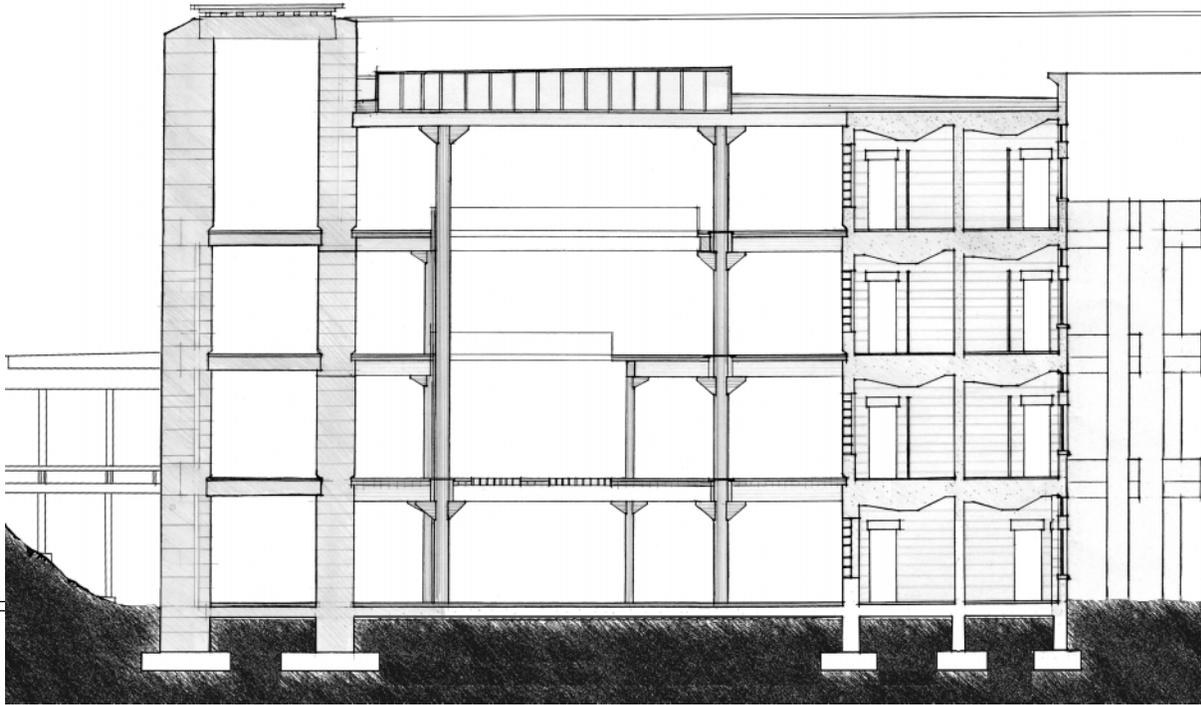
would contain chair, seat, stool, and bench. The set of parallel sounds (hair, chair, and air) also demonstrates a set of paradigmatic relationships. A chosen sign obtains its meaning through distinctions with a set of signs that were not chosen but could have been. A stool is not a chair. A chair is not a couch. The paradigmatic and the syntagmatic dimensions equally order speech. Both of the above sentences are syntactically correct. The second with a skewed paradigmatic dimension is nonsensical. Architects do not use words of course, but

there are families or sets of elements made. In fact, De Saussure uses architecture to describe the interaction between the syntagm and the paradigm conditions,

A linguistic unit is like a fixed part of a building, e.g., a column. On the one hand, the column has a certain relation to the architrave that supports it; the arrangement of the two units in space suggests the syntagmatic relation. On the other hand, if the column is



Curves and the Path

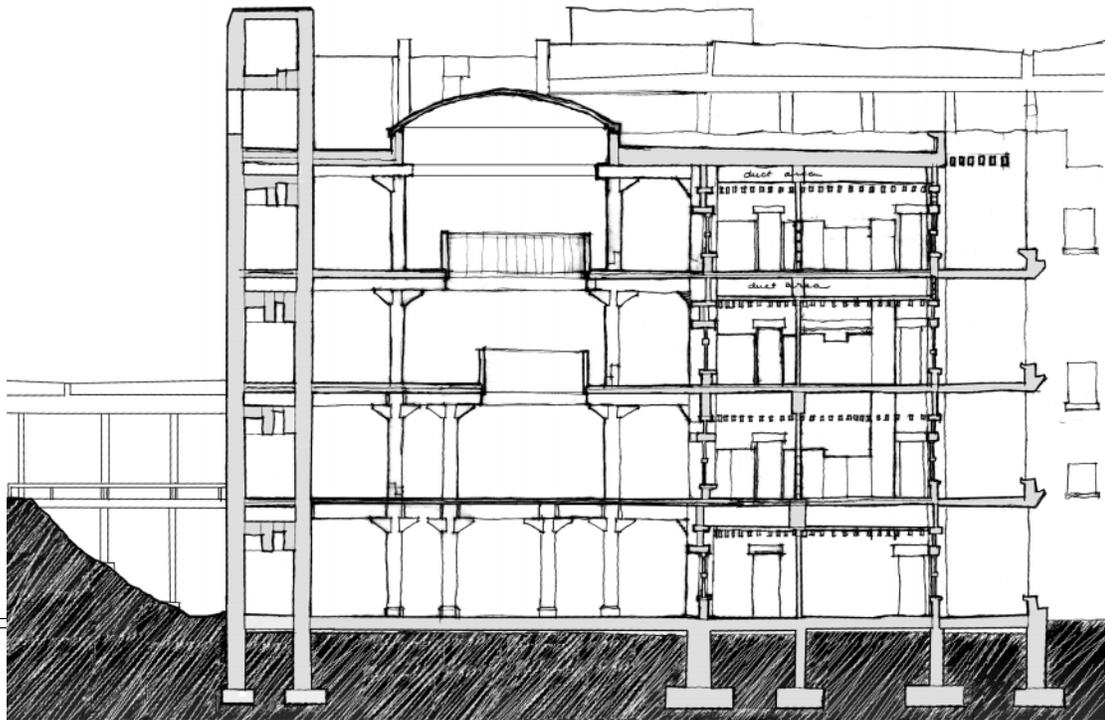


Doric, it suggests a mental comparison of this style with others (Ionic, Corinthian, etc.) although none of these elements is present in space: the relation is associative.¹⁷

Herman Hertzberger's column families illustrate a body of architectural work that explores the paradigmatic dimension. Carlos Scarpa's cemetery reveals a strong paradigmatic dimension to the design. Arne Bystrom's Sun Valley House in Idaho also demonstrates strong paradigmatic aspects in its design.

Distinction and manner of opposition reveal significance to Claude Levi-Strauss' work as well as De Saussure. Aristotle defined four categories of oppositions: contraries, contradictions, privations or possessives, and correlates.¹⁸

Aristotle defines contrariety as pairs of opposite characters originating from a common genus. Contraries comprise the first group. A genus and differentiation define these oppositions.¹⁹ Examples of these complimentary but mutually exclusive oppositions include

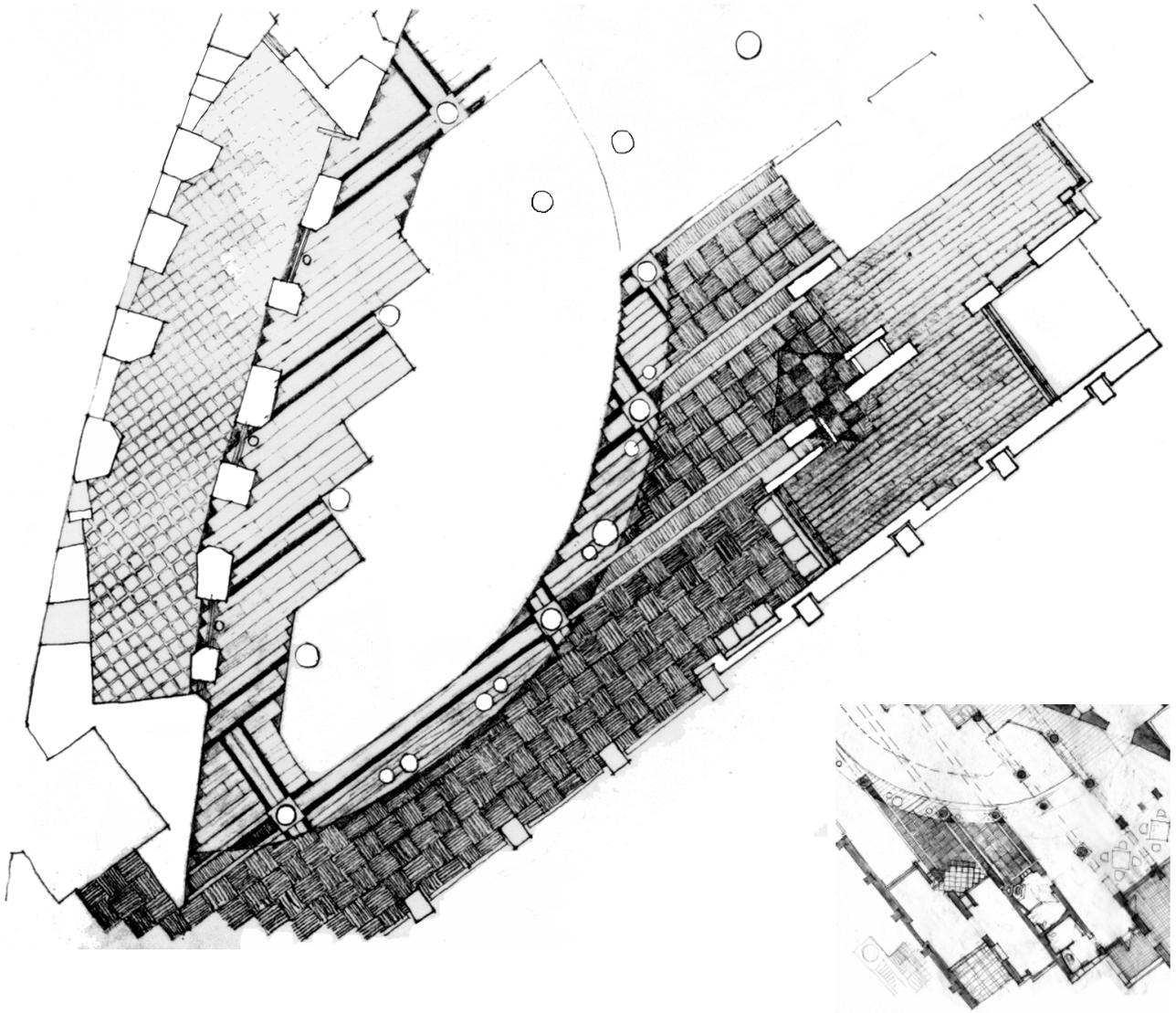


moon/ sun, night/ day, male/female, and hot/ cold. Both phenomena are equal in value. They are related to each other in a complimentary fashion. They also belong in a set together, yet are distinct and have polar qualities from each other. Aldo van Eyck calls these twin-phenomena.

Contradiction defines the second group of oppositions: white, not white; gray, not gray; good, and not good. *Contradictory* terms help to classify relations such as fair and not fair. Here *affirmation* and *negation* occur. The “not fair” applies to

Above, Section taken through a lobby area. The columns are continuous.

Facing Page, Section through the lobby area.

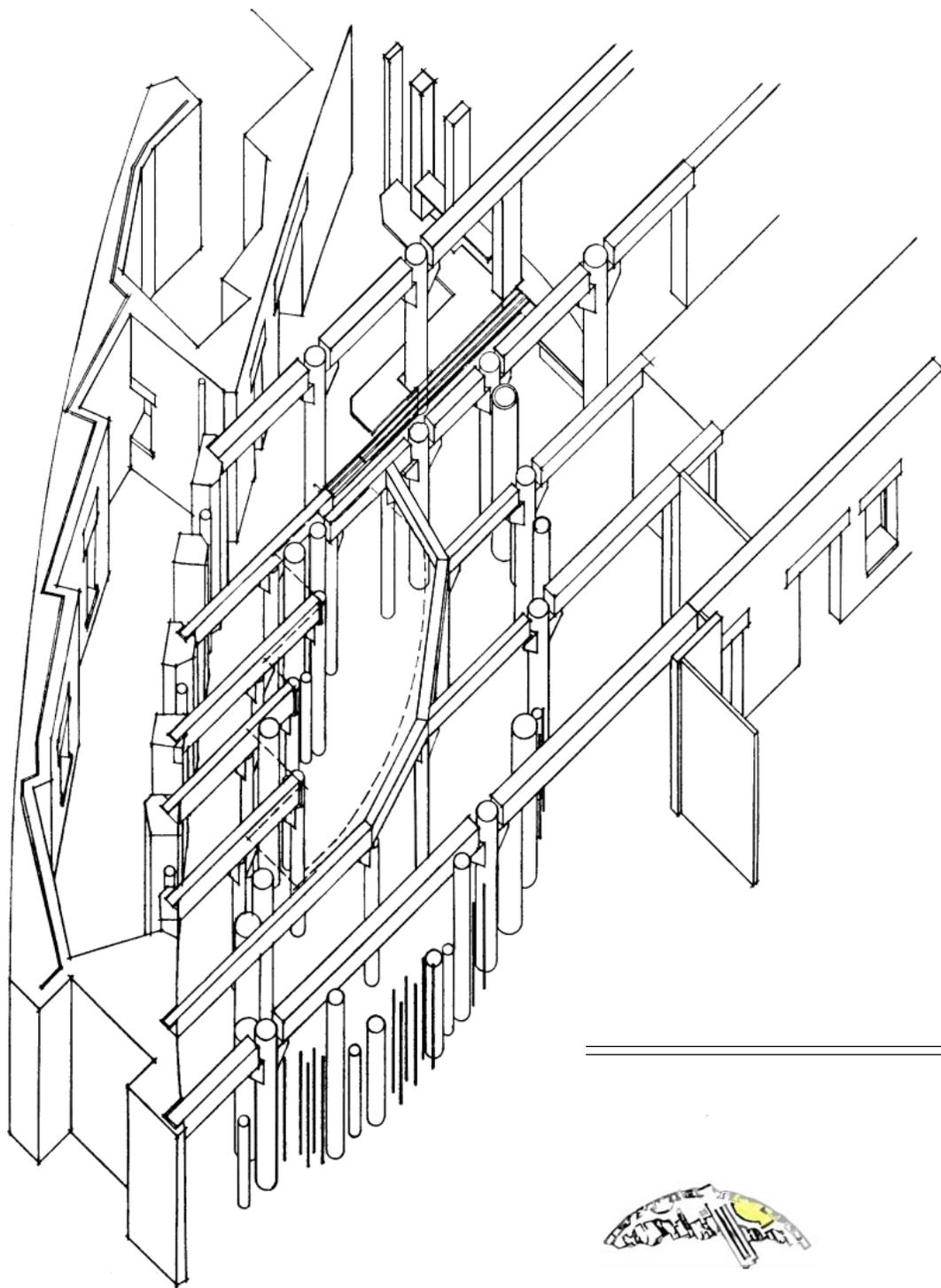


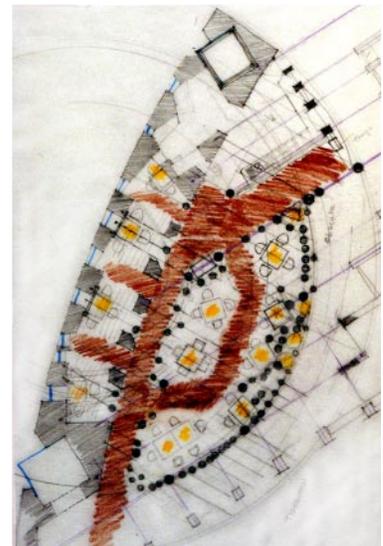
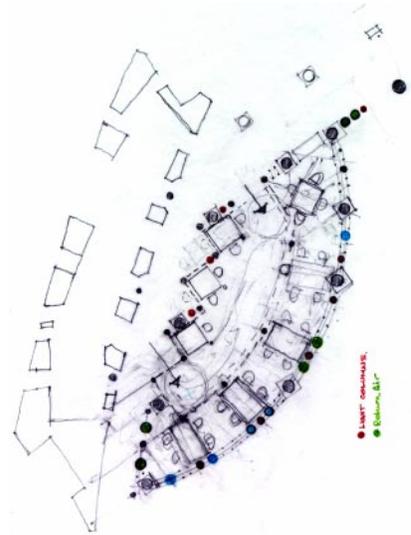
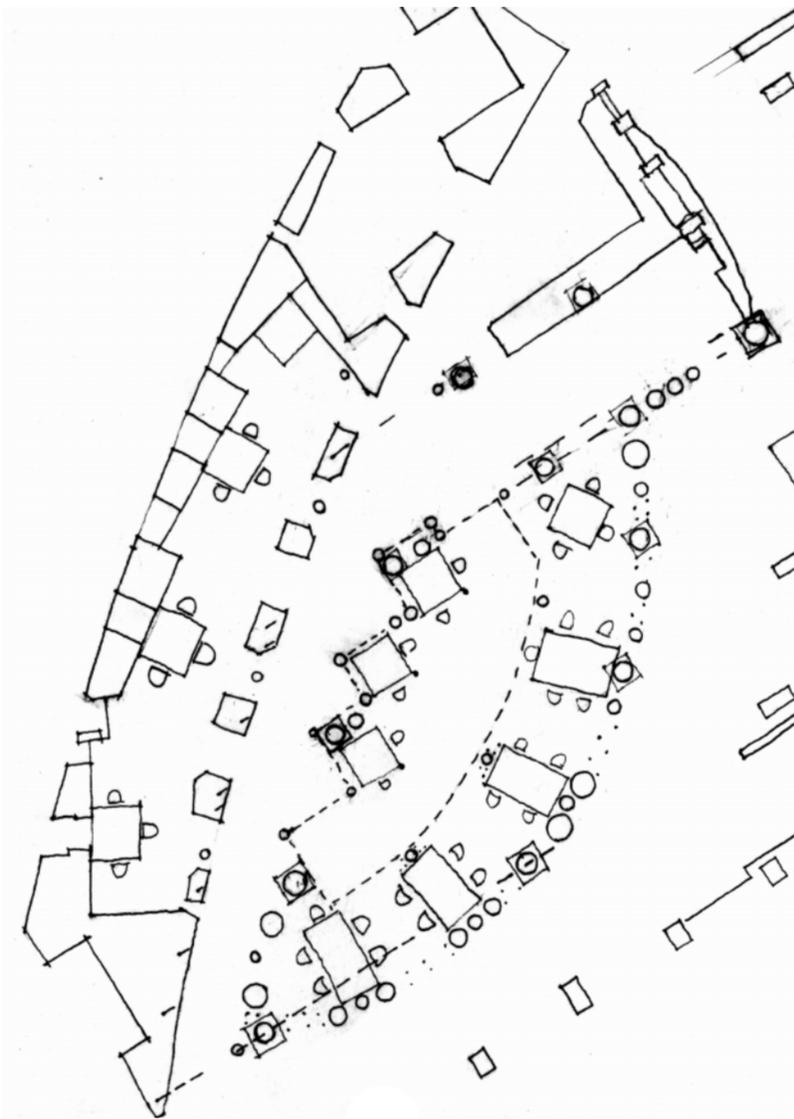
everything not fair in the universe. If genus is involved as in the pair of just and unjust, humankind being the genus then it becomes a *contrariety*²⁰.

The third set of oppositions is ordered by *possession*: color, yellow and purple; animals, monkey; city, market. Further,

The sketch shows the floor patterns for the second story area above the cafeteria. The floor is wood. Each threshold is marked.

*Left Top, Floor Sketch
Left Bottom, Floor Study
Right, Cafeteria Axon.*





where a natural state occurs such as hearing and its opposite defines the loss of the original state, deafness or hearing loss, then it is also called *privation* or *possession*.

Correlations have traits that bind them together such as master/ slave. Correlated elements compile the fourth

group: mother/ daughter, double/half. The opposition pair must refer to each other in the form A of B.²¹ Bundles, correspondences or families of opposition begin to structure our world.

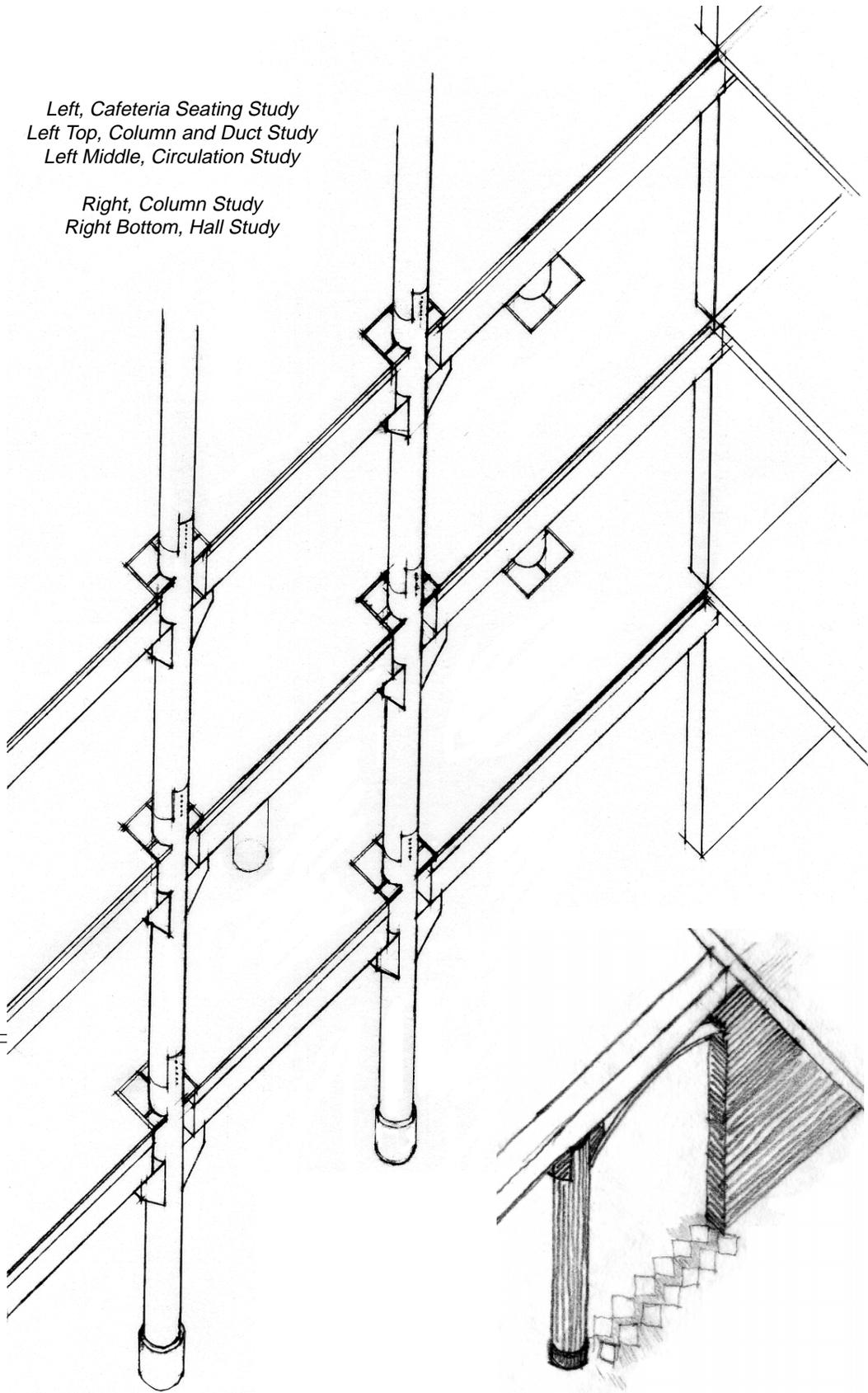


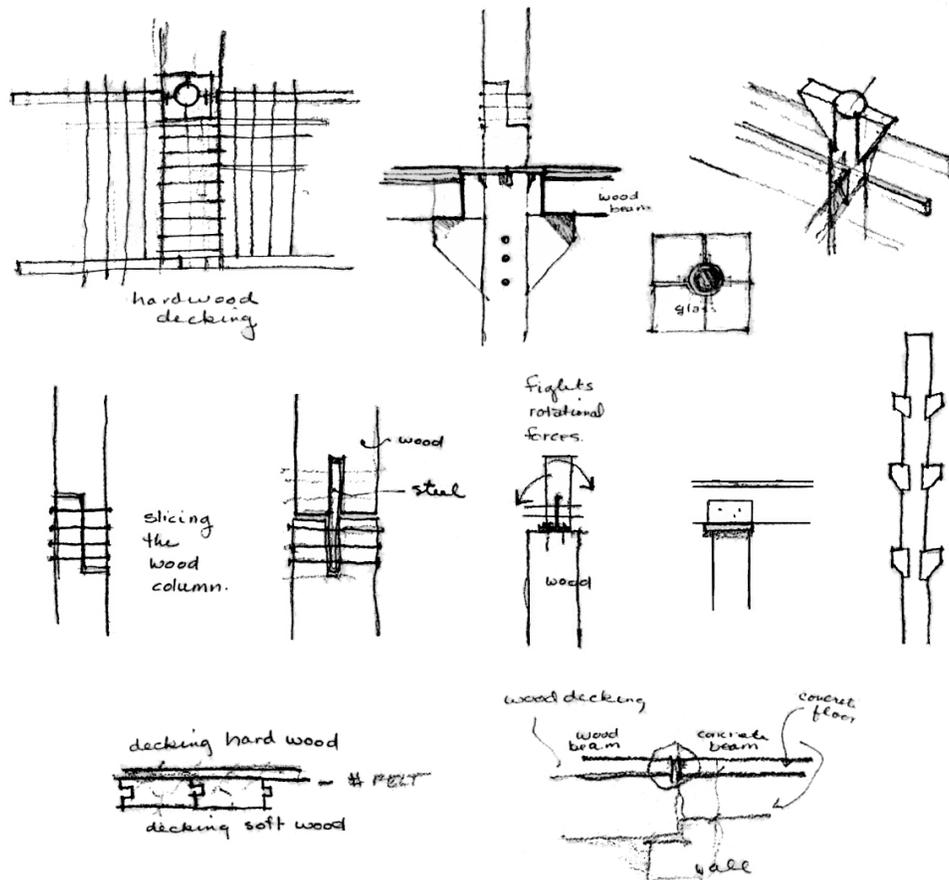
Rings Verses Seed to Sapling

The synchronic dimension of language looks at the whole, each relation, and each

*Left, Cafeteria Seating Study
Left Top, Column and Duct Study
Left Middle, Circulation Study*

*Right, Column Study
Right Bottom, Hall Study*

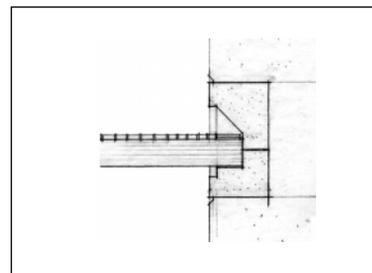




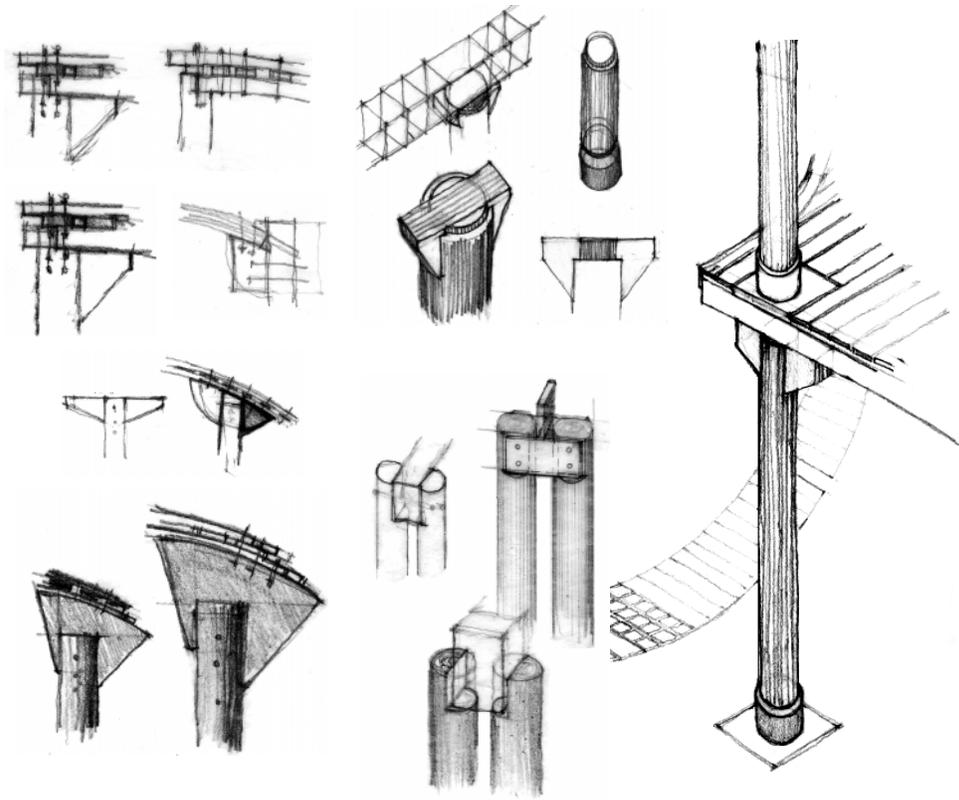
Continuous Columns Study

element within a slice of time. The diachronic dimensions looks at a whole, relation or element throughout time. This can be illustrated with a tree. A synchronic analysis would look at the rings. A diachronic inquiry would look at the life cycle of the tree, seed to sapling, sapling to stump, season to season.

Architecture must move from a set of relationships (object and event) to the

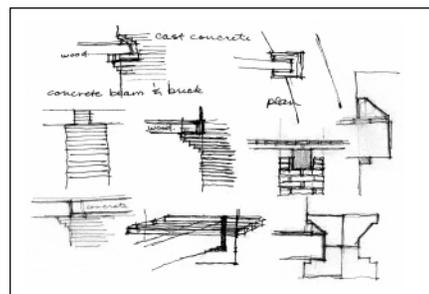


Curved Wall Detail

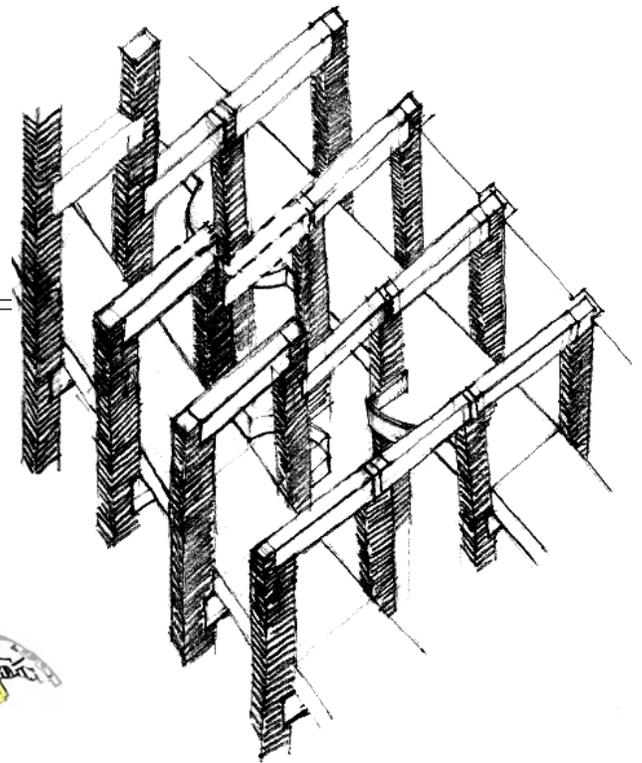
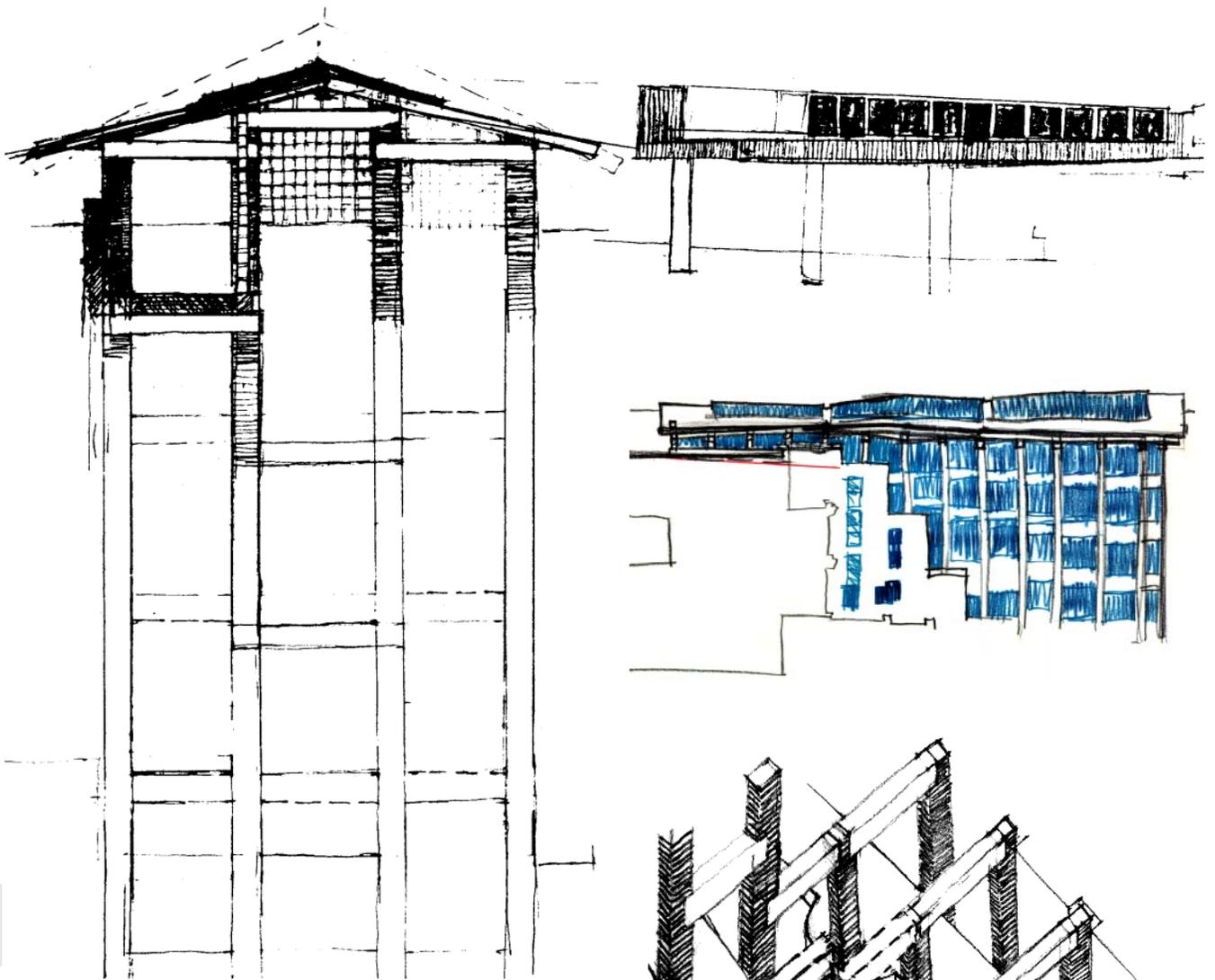


Column Studies

discovery of a structure. The dialectic of solitude and championship/ companionship are phenomenon that helps to order the buildings. The design emerges from inside with the discovery of a project's essence not from predetermined forms. This requires delving below simple content into form. Myths are necessarily demythified during designers' endogenous inquiry. The resulting elements of the myths that are



Beam and Wall Studies



The ramp has many places to stop and watch. It cuts through the curved wall and the site. The path marked by the ramp starts with the bridge to the building. It ends along the pond at the bottom of the site.

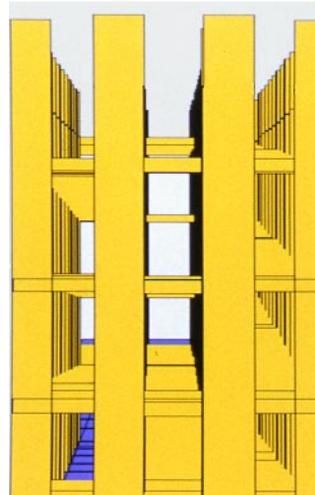
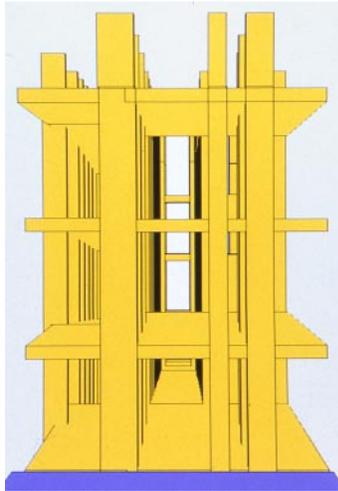




found to be genuine can then be reconstructed into a continually refined, redefined and increasingly authentic architectural language. Architecture, by its nature, puts forth a world-view of people and thus explicates belief, phenomena, and custom. The inner discipline of the design must be

rigorously followed and allowed to evolve. The inquiry is made within the discipline of architecture: wall, window, floor, and column.

The relationship between language and thought is a dialectic one, the development of one's architectural

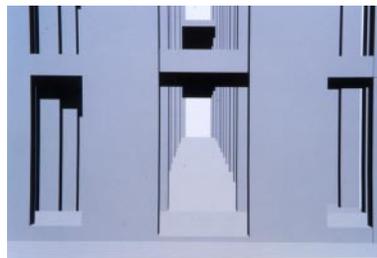


“language” structures thought and the development of an authentic voice. Each architect attempts to create her own aesthetic “language” or voice through the ability to make discrete parts while obtaining inner cohesion between the parts. Qualities are expected to emerge such as the presence of an inner coherence underlying and structuring a body of work. Syntactic, semantic and pragmatic dimensions emerge. Underlying structures behind pertinent phenomena, and form emerge.

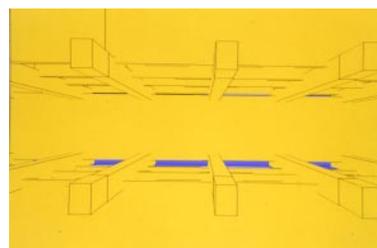
There is a certain point during a work’s formation that it becomes an artifact to which the designer reacts. The designer has consequentially altered the environment in which and to which he reacts. The designer is no longer simply

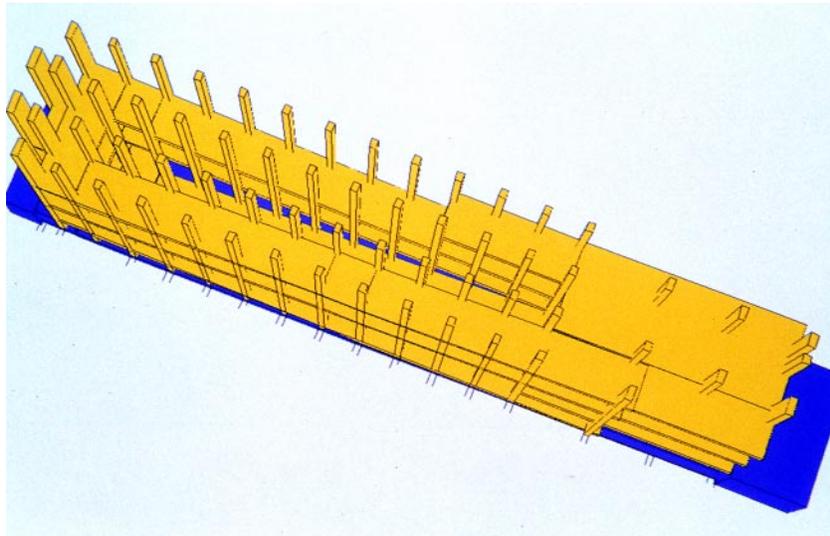
reacting to oneself. The designer has materialized an entity that was formerly only internal, and thus altered the realm of inquiry²². The resulting tacit knowledge is discovered by acting and making rather than from applied rules. The study of as-yet-unidentified unknowns begins through the act of making and learning. By rendering tacit knowledge explicit, it becomes

communicable and subject to critical evaluation. In design the inquiry is one of tacit knowledge, exposure to questions, theories and conventions that are larger than individual inquiry. Understanding results from both theory and the act of making. The making of place occurs through the discovery of the morphology and topology.



Various Views of the Ramp





The Study of Topology:

Aldo van Eyck's architectural studies of the Dogon, the Anasazi and the Pueblo Indians are of particular personal significance. These studies strike a deep chord. My childhood was spent in Congo, just such a world. In these cultures geometric forms and buildings are not placed according to Cartesian reasoning or grids. They are placed according to relationships of agreement. Geometric forms are used for their qualities. These relationships are built upon influences that are not overt. They are chosen according to place and occasion. Dwelling results.

While traveling, I observed the villages of the Soninke, a people in

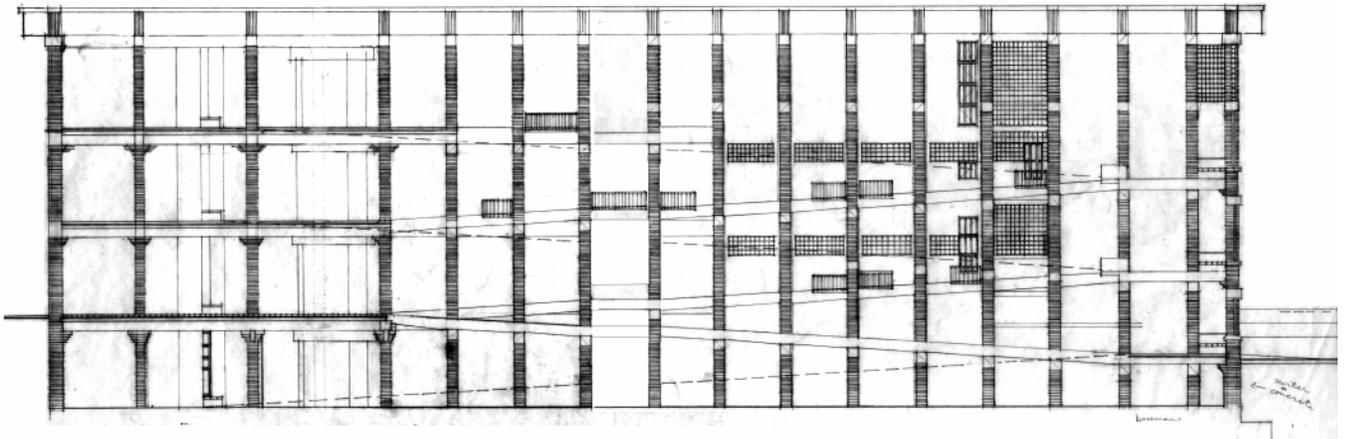
West Africa. I noted some of the cultural oppositions manifested in their architecture. There are several influences upon the placement of a building or form the building took (a circle, a square, or a rectangle). They include cultural patterns, dialectic oppositions, landscape, and weather considerations. The underlying patterns reflect some of the structures of their society. The travel journal can be found in the appendix A.

Geometry is a basic tool in architecture. In topological study architects must develop an attitude toward it. It may be used as a generator or it may be used to denote limits or boundaries. Forms may be used for their qualities. They can be placed according to

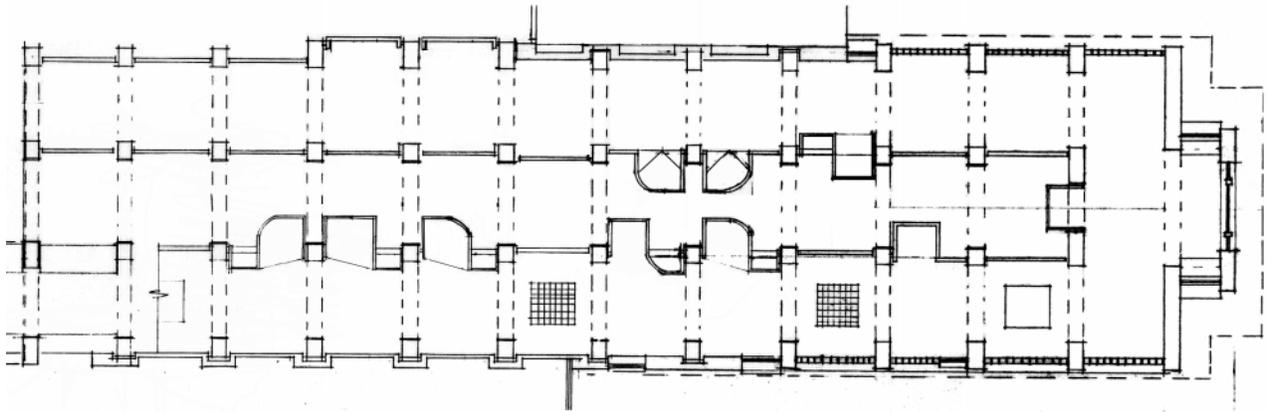


Various Views of the Ramp

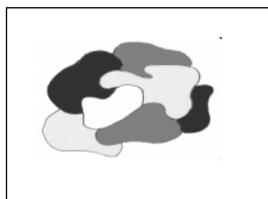




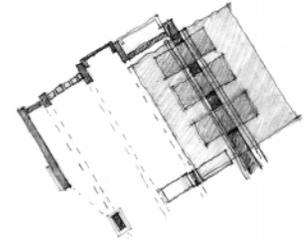
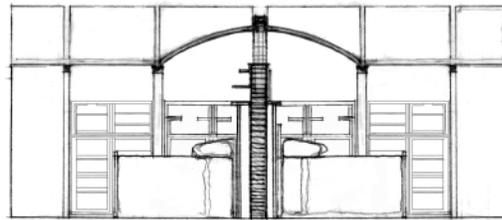
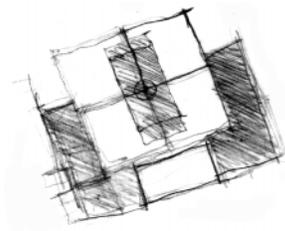
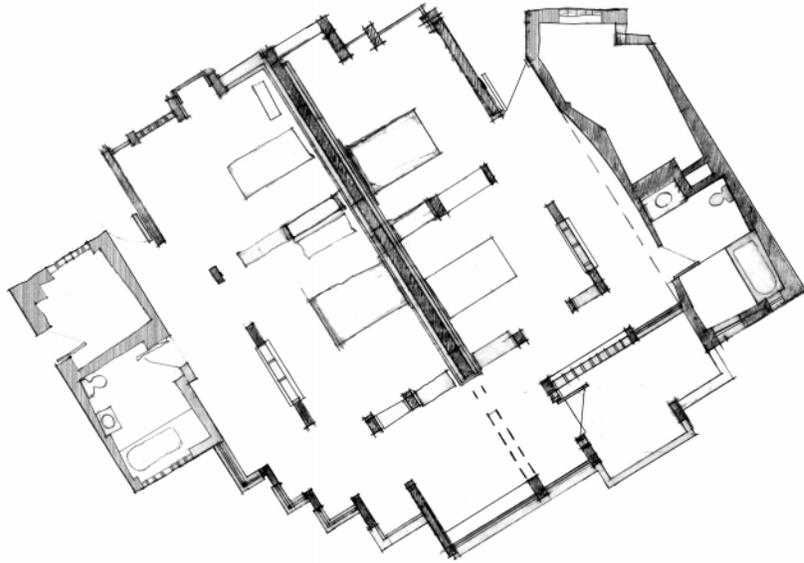
Ramp Section And Floor Plan



forged relationships. As with Scharoun's work, the control device is the void between the elements.²³ Norberg Schultz writes, "Topological spaces do not possess any kind of defined symmetry, but are clearly enclosed. Geometrical spaces on the contrary, represent a common order and therefore suggest or impose certain ideas."²⁴



A circle is experienced many different ways. It may be marked by a series of posts, a level change in the floor, or bound by a ring of sunflowers. It may be carved from a mass or built up from constituent parts. Each marks a place. Each makes a series of boundaries that define a place of dwelling. A circle of banana trees can become a

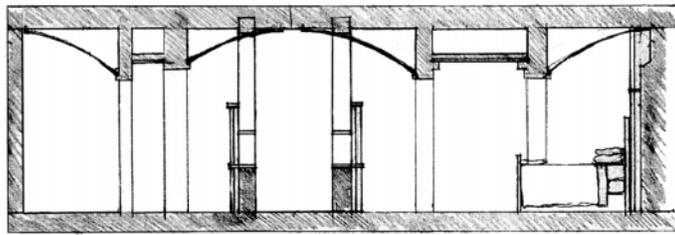
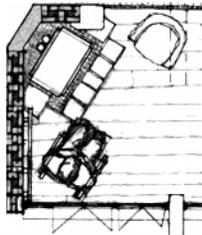
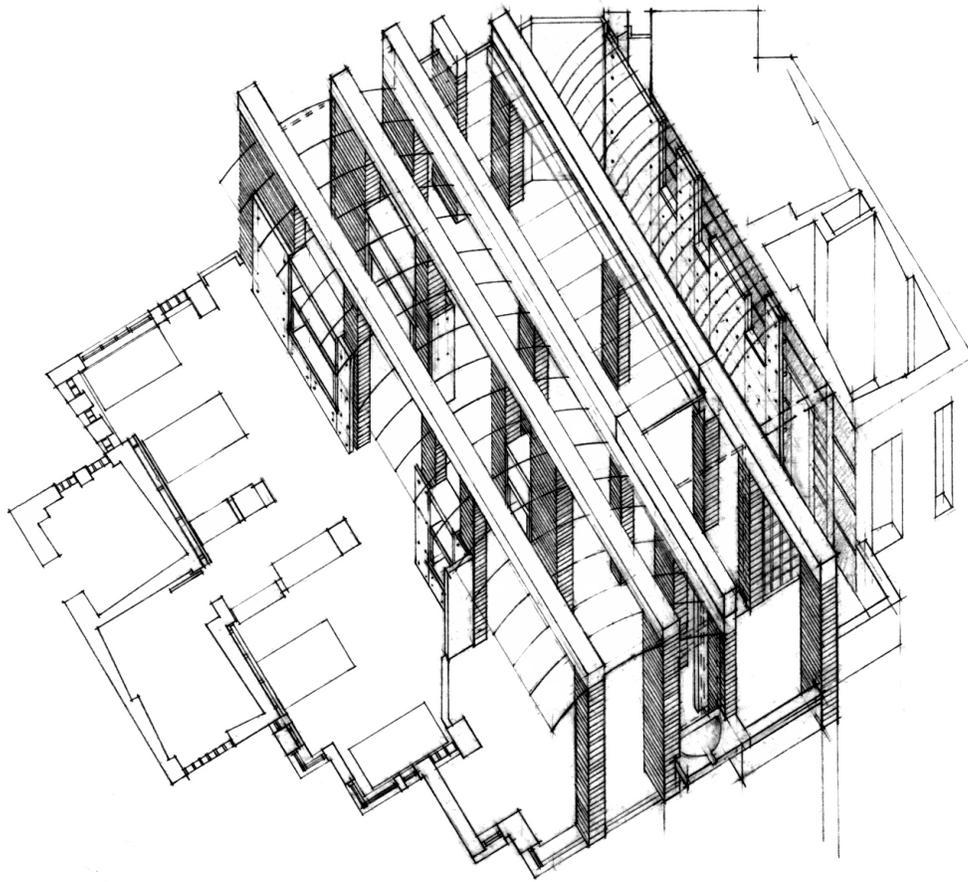


There are several qualitative differences from hospital rooms. First, the patients in the second beds should always have a view of the sky, even while lying down. Second, there are "community niches where patients can have a view outside anytime. Also, each

unit has a balcony. After having spent 9 weeks in a hospital bed, only venturing outside three times, the importance of this possibility is understood. Top, Study of the Four Patient Room. Bottom Left, Four/ Two/ One

Grouping. Bottom Middle, Room Section Bottom Right, The ceiling reinforces one's fellowship with others. Below, The lighting above the beds reinforces one's fellowship with others.





*Above, Four Patient Room Axon.
Left, Shared Nook.
Middle, Section through the Four Patient Room.*

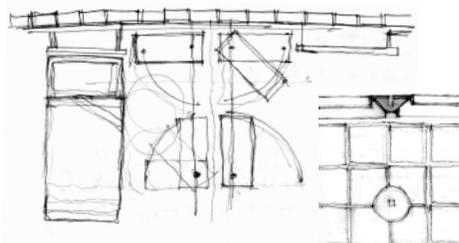
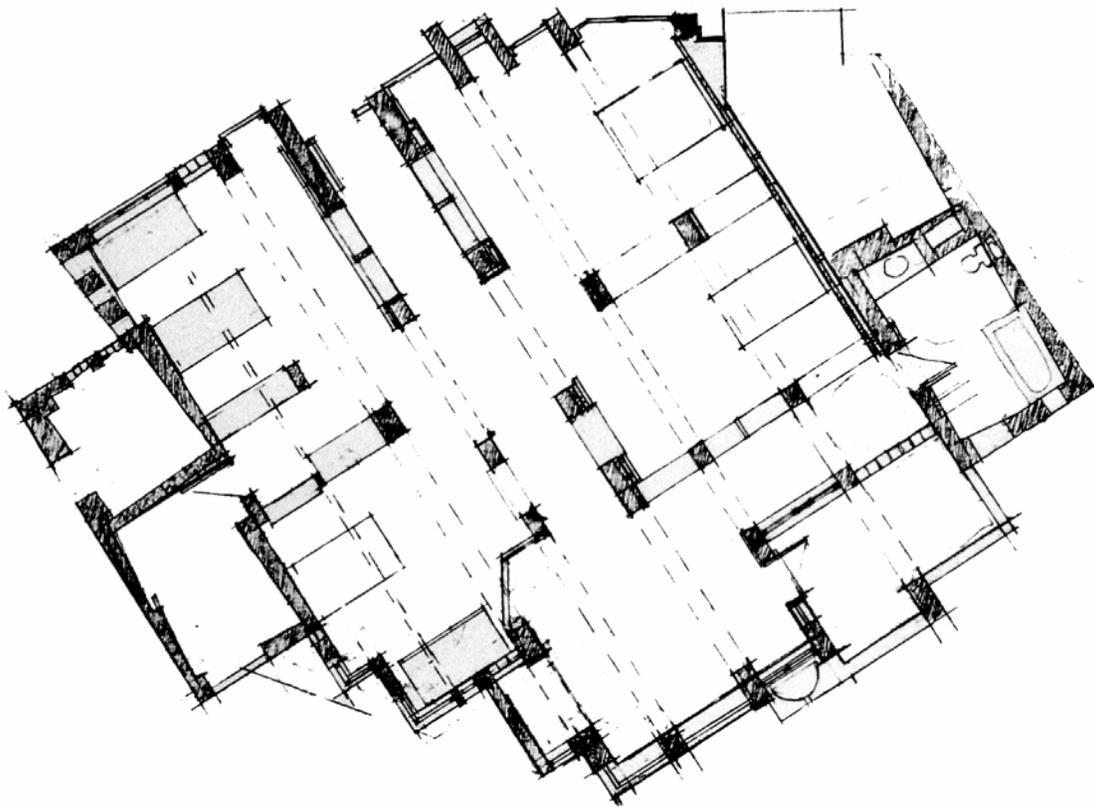
The hospice allows one to experience in death what they loved in life. While those who die here are people who for various reasons can not die at home, they can choose a variety of circumstances from

which to die. A variety of places are designed outside. Balconies adjoin each patient room. Niches are provided by each patient bed for loved ones to stay over night. Each room has a hearth in a small shared room.

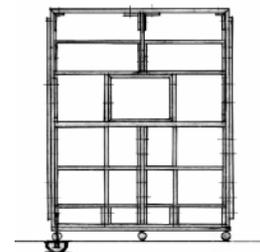
There are private rooms for one patient, two patient rooms, and four patient rooms.

Cabinets, ledges and nooks provide room for knickknacks,





Above, Four Patient Room Floor Plan.
 Left, Sketch of Moveable Storage Partitions.
 Middle, Storage Partitions.
 Right, Floor Anchor.

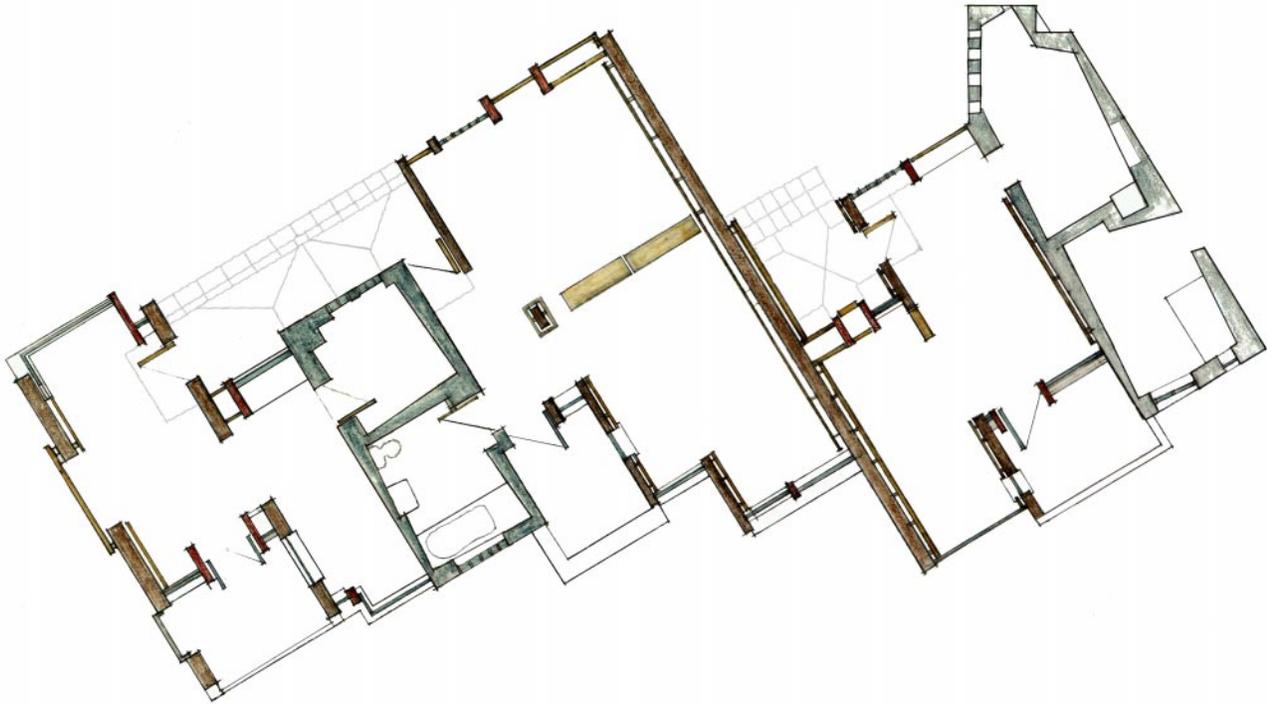


pictures, and personal treasures to be placed around the rooms. Transparent Plexiglass doors close on the cabinets to protect a patient's treasures. This allows the cabinet to be placed in a

variety of positions. A transparent door faces the patient. A translucent pane covers the cabinet back.

One's morale can quickly drop with little prospect of seeing

the sun or the world from a hospital bed. The common nooks and hearth become all the more important in the shared rooms.



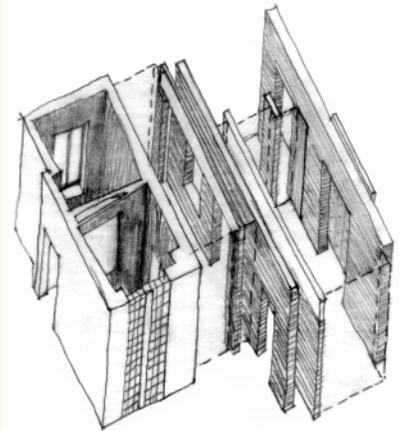
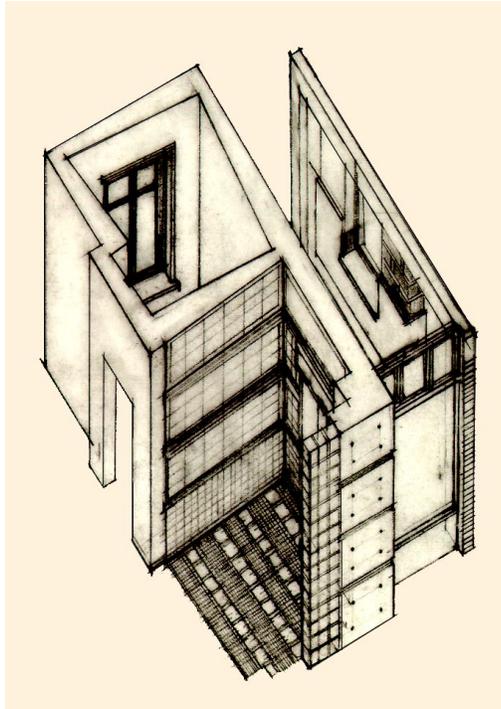
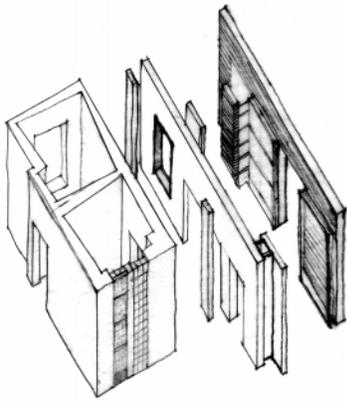
"In the same way, a seat provokes imagined sitting, and the 'promise of function' to use Horatio Greenough's term,³⁷ can be more important than function itself. A barely conscious reading of potential use affects our appreciation of a vast range of things..."

Peter Blundell Jones³⁸

castle, a house, a fort, each a room for living. The series of boundaries that are made define a place of dwelling. Using simple markings to generate place has been a part of culture throughout human existence.

Qualities that belong to a form (circle, square) that are independent of its location in space can contribute to a design. The study of form independent

of geometry can help build place. What forces mold figures besides geometry? What is invariant? What governs a figure's transformation? Figures' attributes are based upon relation, boundary, and what lies in-between.²⁵ All these contribute to Architecture. An example is found in the four-color theorem in map making, where a series of nested relationships are formed.²⁶



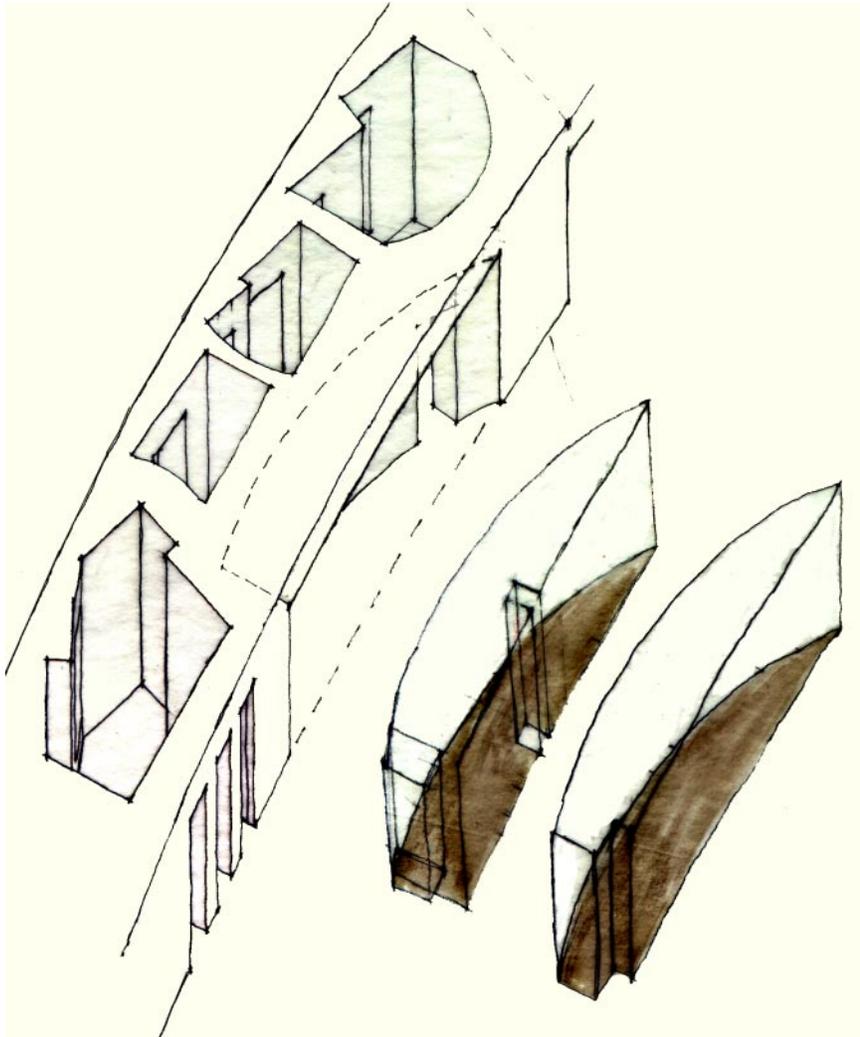
Designing places where you can walk naked or take a bath in the “fresh” air and sensual light without being self conscious can support your being more comfortable with who you are physically. Whether you take advantage of the opportunities is not the issue, rather that a nurturing atmosphere is provided.

Left, Room Study, Middle, Bathroom Axon, Right, Room Study. Facing Page, One and Two Patient Room Plans.

Topology includes the study of relation, place and the in - between. This makes room for dwelling. The study of relation involves inquiries into correspondences. Through these correspondences meaning may be found. The word *relation* indicates an allowed means of placing elements. An *element* is described as having clear bounds and formulation (articulation). The main

topological relation is defined as *proximity*. When elements (more than one) are positioned near each other they form *groups or clusters*. The elements are equidistant from each other or subgroups emerge. The idea of *closure* is correlated to proximity. *Closure* signifies order through a continuous external edge. Norberg Schultz writes, “When one





Several small rooms are carved from the wall. The rooms can provide privacy for a family, reading, or praying.

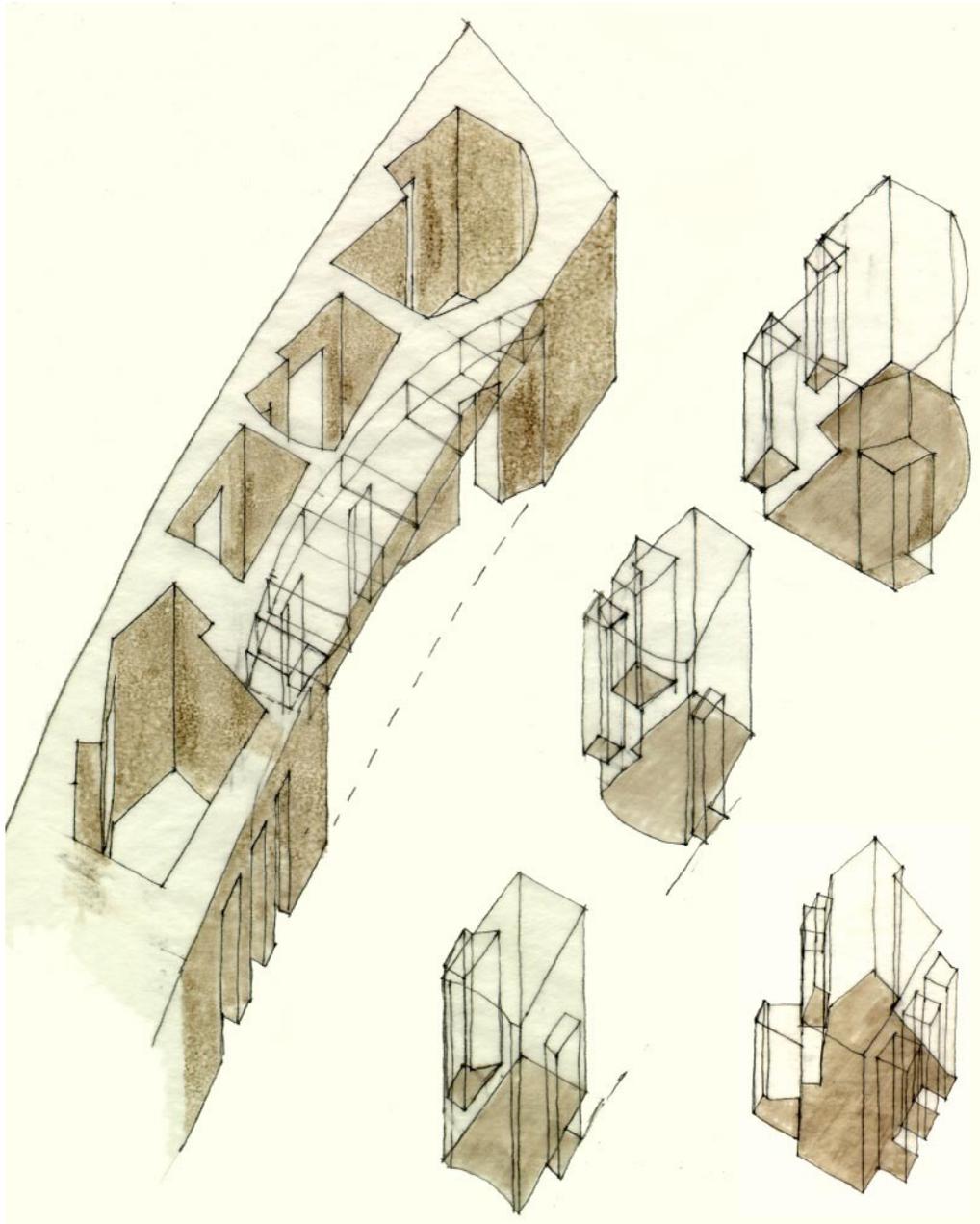
Top, Voids are carved from the wall. Facing Page, Room volumes are carved from the wall.

element is inside another one, we have a property of the closure relation."²⁷

Interpenetration, an ordering principle, occurs when two elements overlap. Each element retains its autonomy. Together they create *ambiguous areas*. These regions belong to both



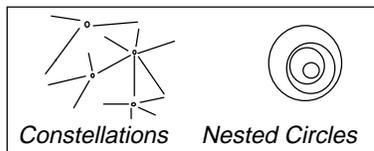
elements. *Fusion* can occur in these zones. Norberg-Schultz writes, "By means of interpenetration and deformation the elements may be brought to melt together in such a way that a formal separation becomes meaningless. A genetical separation, however, is usually possible."²⁸

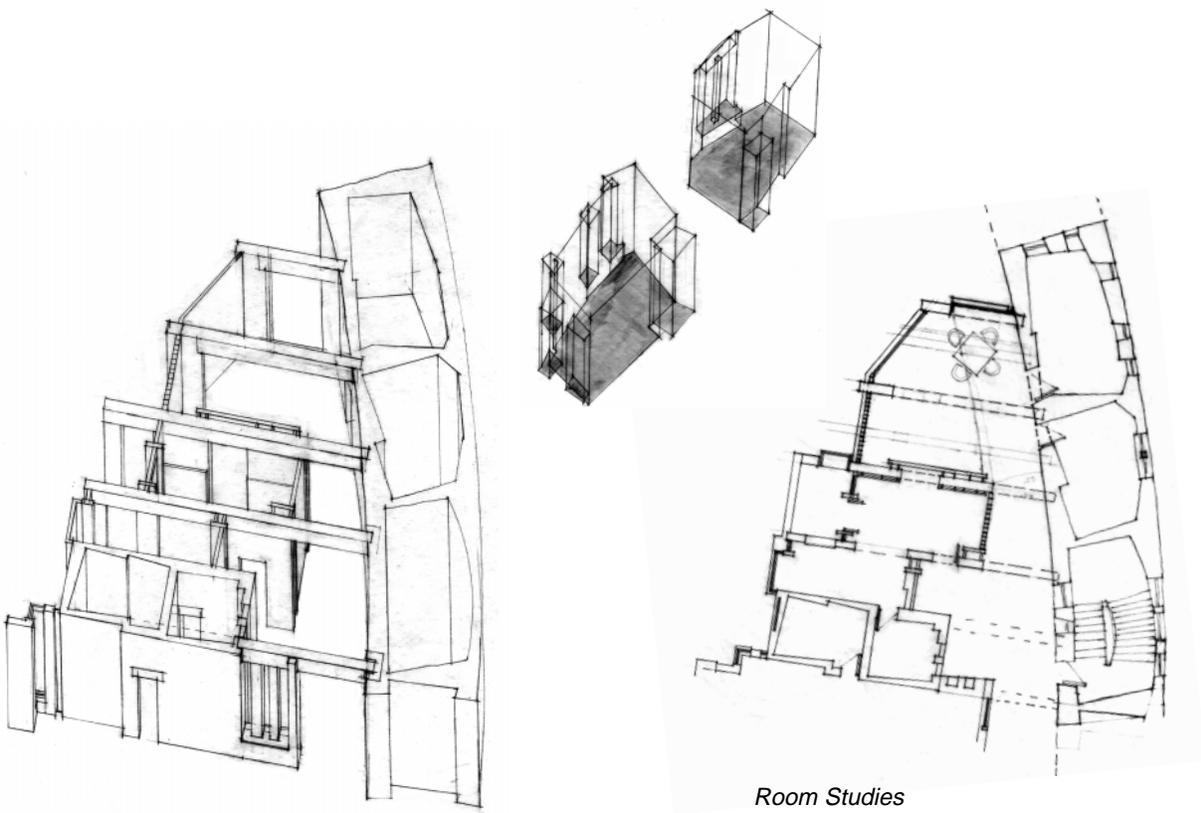


Proximity can order the configuration of unending groups; succession orders relations with beginnings, endings and direction. *Succession* has particular attributes. Proximity and succession are *additive* in nature. There are different methods of articulation both additive and subtractive. *Division* is

for example revealed through the partition of a whole into subdivisions.

The axiom of difference and similarity ordering form and place operates here as well. Norberg Schultz offers, "An order depends upon the possibility of indicating elements as similar or





Room Studies

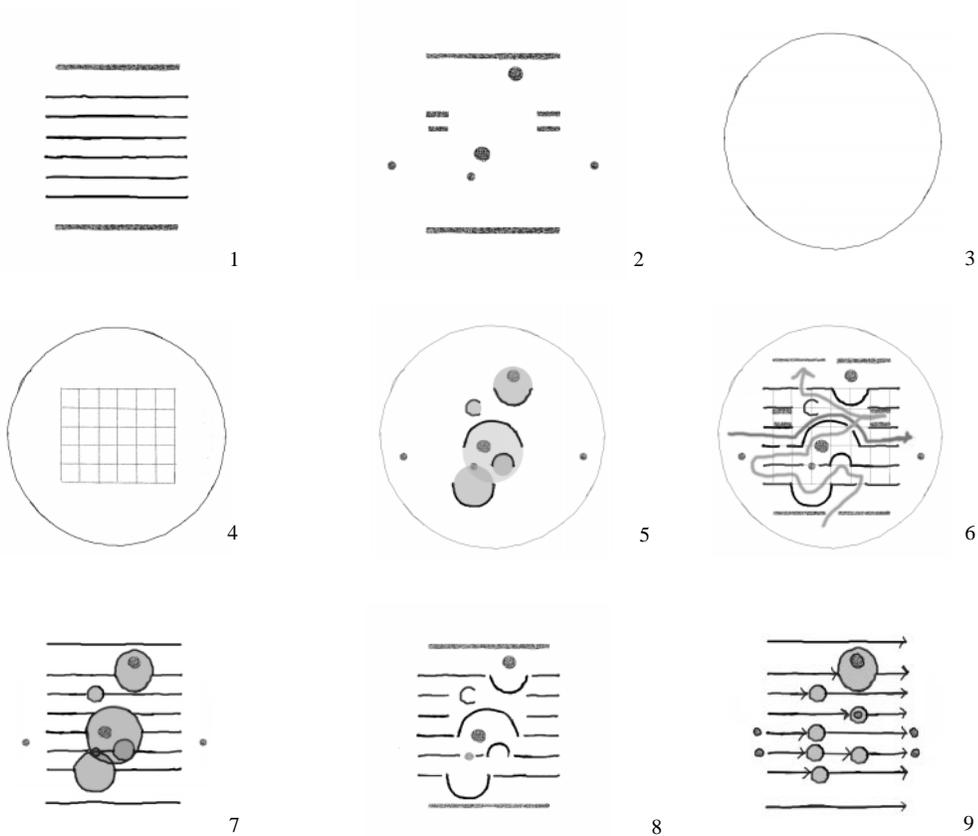
dissimilar. The similarity may be merely topological, or may consist in an exact correspondence of all the properties of the elements.”²⁹ This axiom generates the possibilities for repetition, contrast, and dominance. Note repetition is based upon similar elements repeating, not succession where dissimilar elements follow or precede each other.

The medieval city illustrates the ordering relation of closure. The medieval city had a strong sense of boundary. Each nested circle had its arrival and departure ritual through a variety of thresholds. Donald Kunze notes, “Medieval cities are structured by passage and entry.”³⁰ The Soninke

villages and individual houses are also ordered according to proximity, passage and entry. The clusters and grouping of houses occur within an ordering enclosure, in this case a wall.

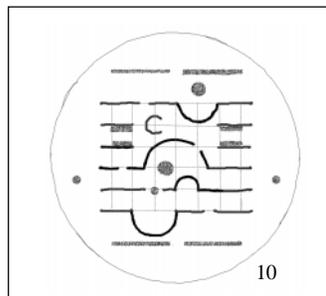
Our own sense of place is much different. It is radial in nature, built upon the idea of the core’s (point’s) dominance over the periphery. The area in-between points is often treated as essentially homogeneous space. Urban sprawl and generic chain buildings demonstrate this. Contrast this with the nestedness of the four-color theorem in map making. The potential of boundary and threshold can be seen.



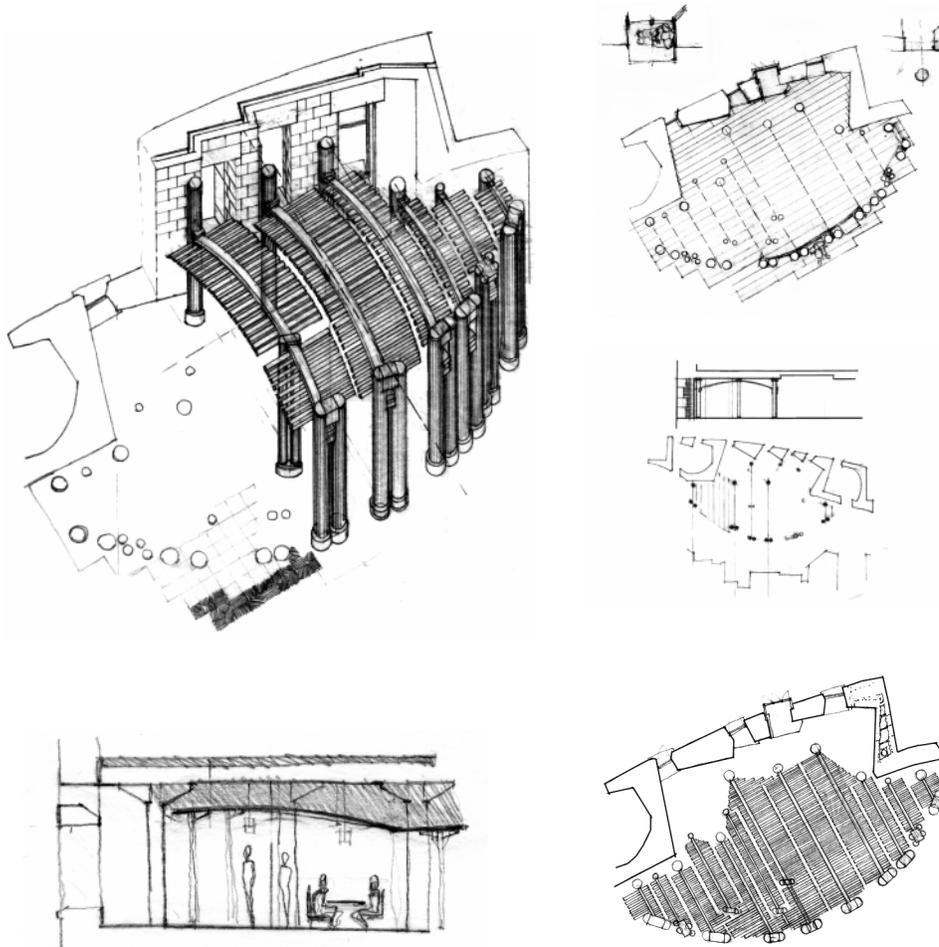


- 1,2, Elements are placed in proximity with emergent subgroups.
- 3, The element reveals the property of closure.
- 4, The properties of closure and repetition are shown. Note that variation and rhythm are not the same. Rhythm is built using the repetition of similar and/ or dissimilar elements to construct a pattern. Variation arises from changes in a basic element.
- 5, Elements are placed inside one another according to the relation of closure. The conditions of interpenetration and fusion are also revealed. Interpenetration (threshold) and fusion are of particular significance to Architecture today.
- 6, Two possible paths through the pavilion are drawn.
- 7,8, 9, The properties of

- succession are shown.
- 7, The drawing shows the "left to right/ right to left" succession.
- 8, The sketch presents a "top to bottom/ bottom to top" view of a succession. The sequence offers meaning through variation, repetition, and rhythm.
- 9, The drawing sketches some of the "horizontal" succession patterns.
- 10, Sonbeek Pavilion designed by Aldo van Eyck.



Note: If you are interested in a fuller discussion of these topological terms see Christian Norberg Schultz's essay on "Form" in his book entitled *Intentions in Architecture*.

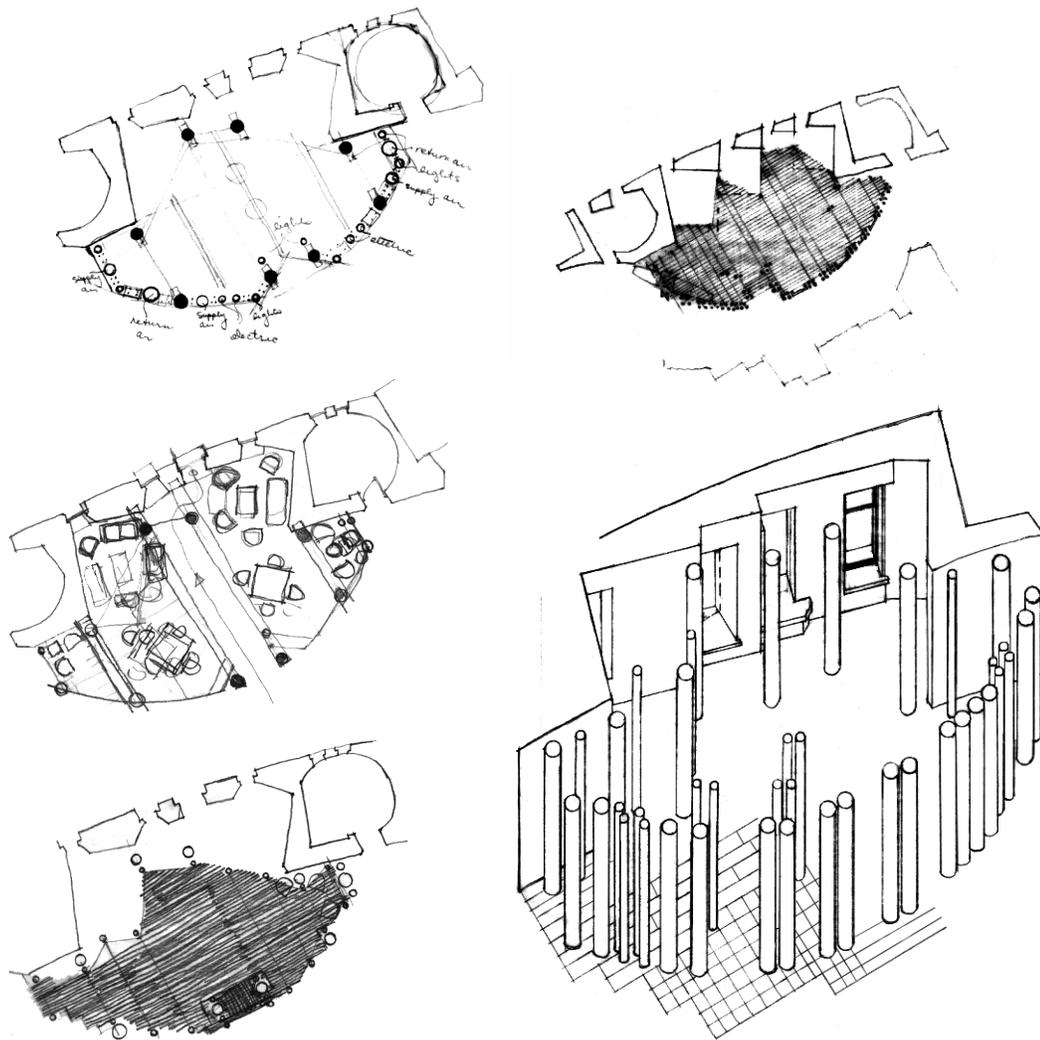


Where the elements meet, a place for dwelling may be made.

The Nature of Time

Through the study of the autochthon, we can better understand our own time and societal needs. Aldo van Eyck's study of the Dogon illustrates what exploring human roots can reveal. Van Eyck finds the Dogon universe stimulates the personal self-realization of the individual according to his own personal idea.

Dogons understand the universe as essentially one entity that pervades all things, providing unity within them. A way of being is reflected throughout their formal language. It illustrates their understanding of the universe. Van Eyck strives in his architecture and writing to encourage a twentieth century counterpart to this way of life. He encourages us to do the same.



Community Room Studies

In the African tribes I found a strong spiritual and societal continuity. Paradoxically, I also found that humans are the same everywhere. This is, of course, a crucial axiom in Structuralist thought, humans are the same everywhere and at all times, but that they react to the same things in different ways.³¹ Within human existence there is a continuum of

basic human qualities intrinsic to us, immutable.

The Nature of Poesis

The primary purpose of architecture is to elevate human institutions. Thus, architecture should intentionally collect into its grammar knowledge of the diction and



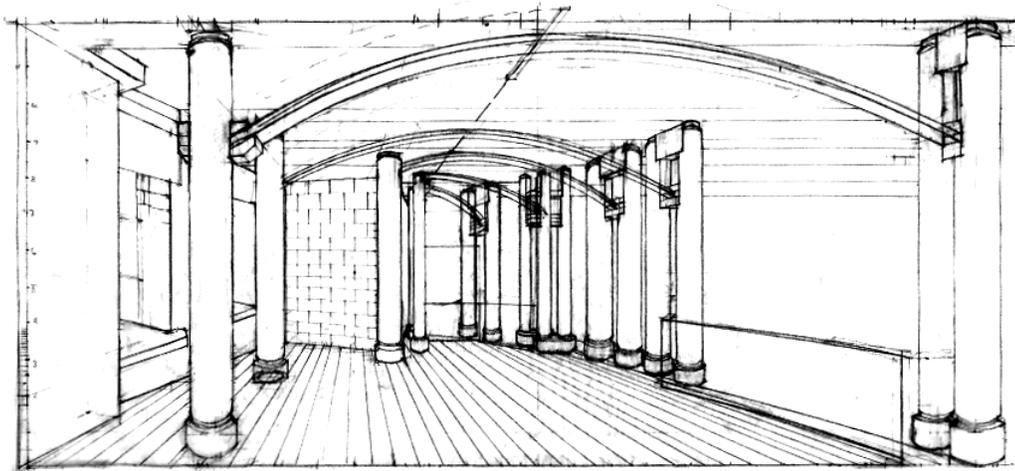


Community Room

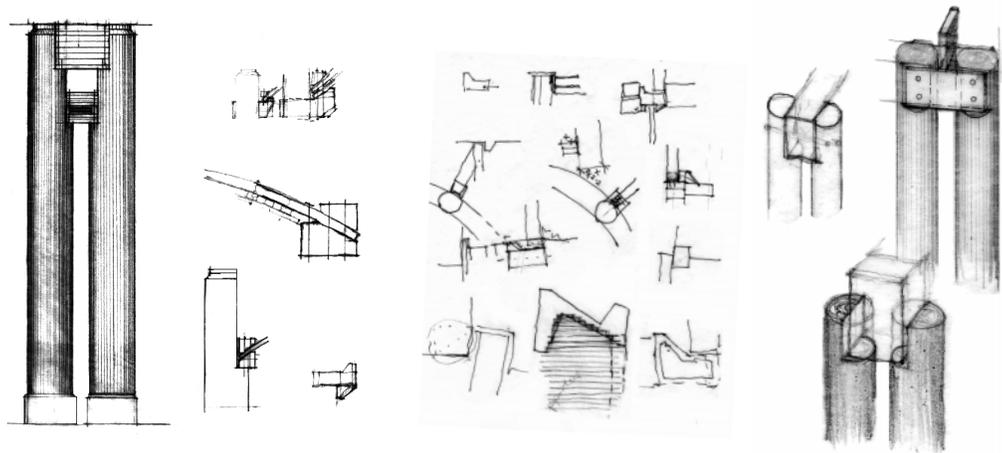


*Sketch of the Area Surrounding the
Community Room*

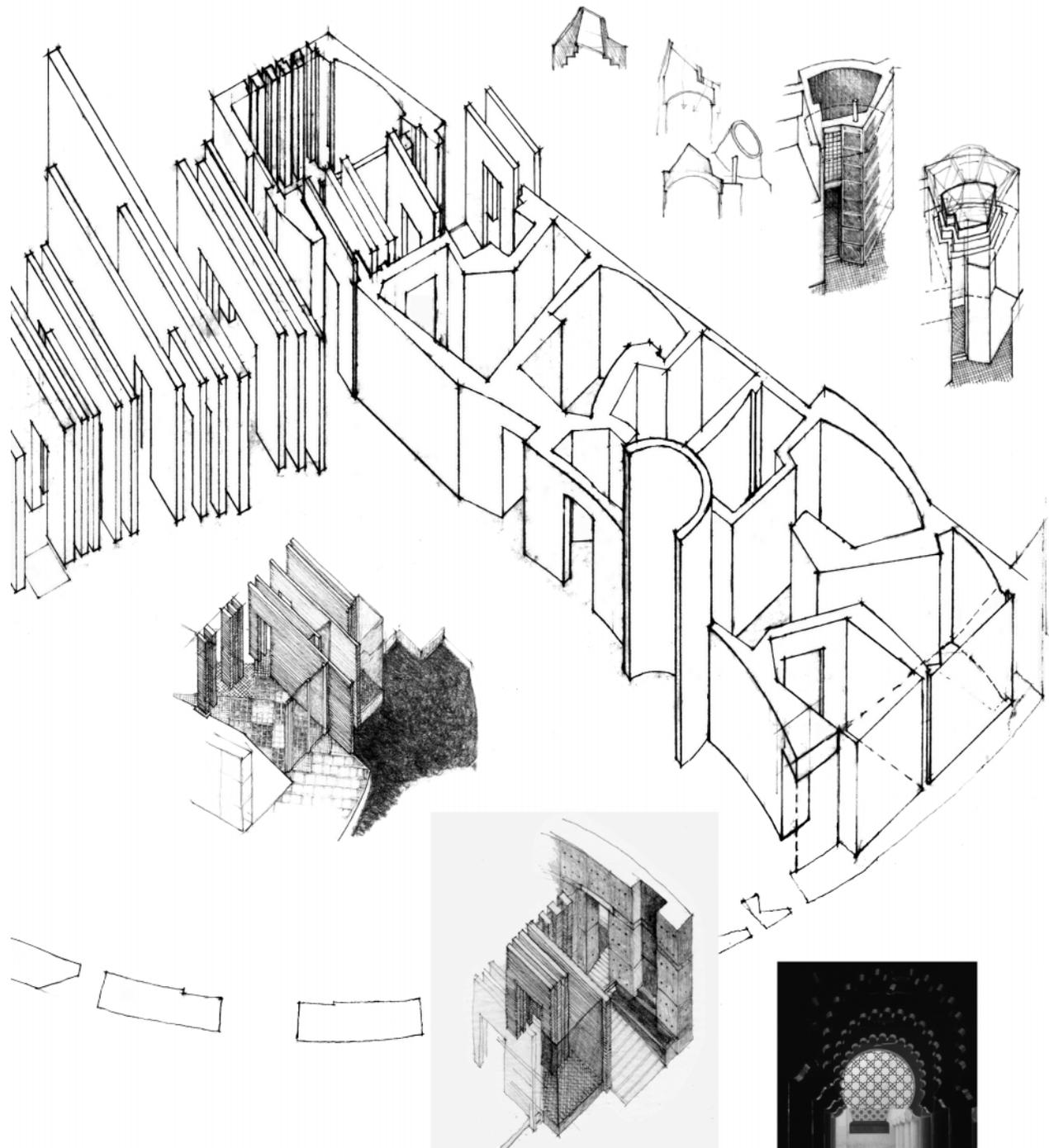
meanings of its past, present and future. Understanding a building's purpose as an institution is imperative to its design. What a building's purpose has been; its history, its roots and its traditions. What it is; its essence, its structure, its order and form. What it could be; its exaltation? Human institutions are filled with inertia.³² Thus, "What it could be", becomes a crucial question to architecture.

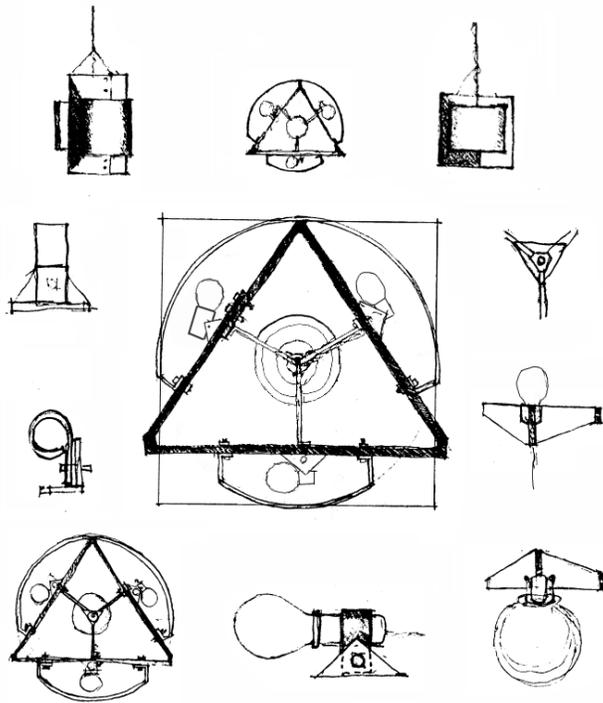


Community Room Perspective



Community Room: Element Studies





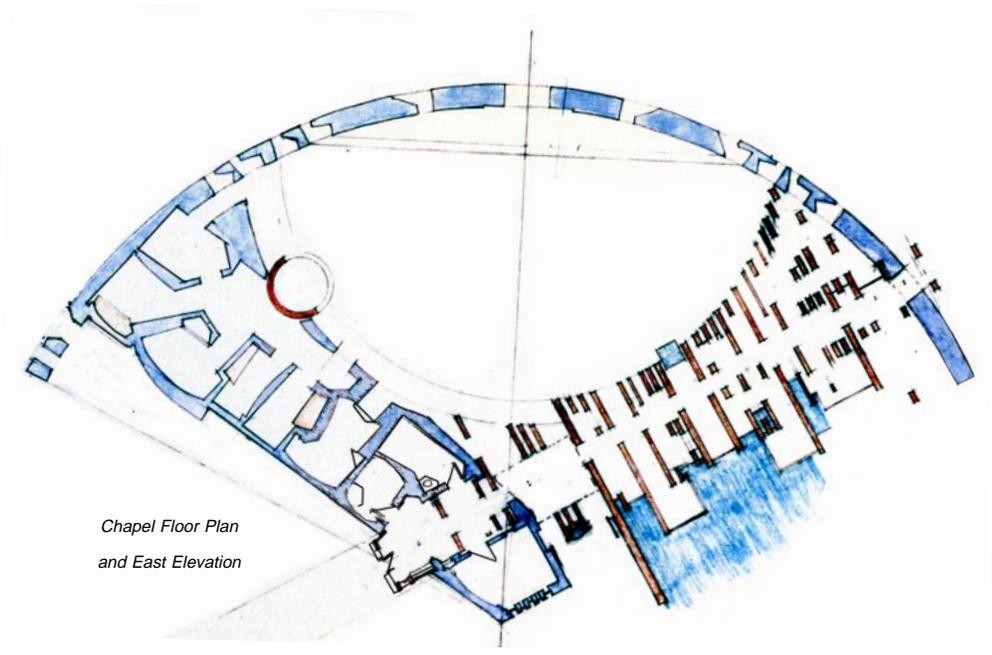
The sanctuary lights are a local resolution of the principal.

Everything the architect does is first of all answerable to an institution of man before it becomes a building. You don't know what the building is really, unless you have a belief behind the building, a belief in its identity and in the way of the life of man.³³

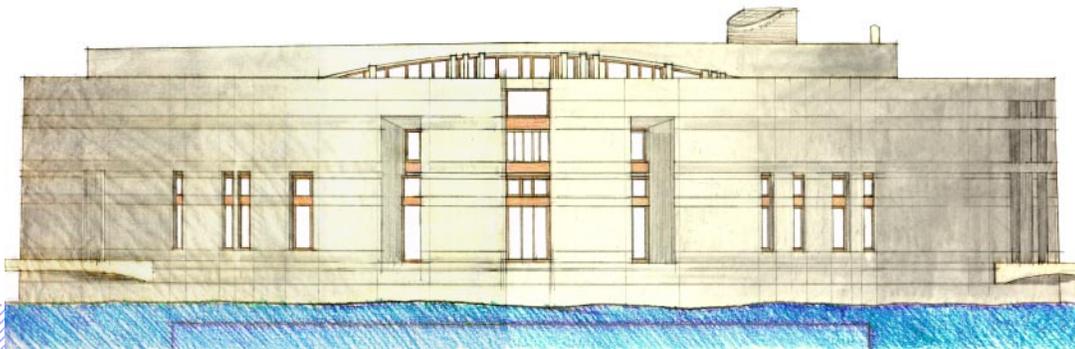
Louis Kahn.

Buildings can support or defy peoples' need to feel at home in them, and in the world. It is for this reason that we talk about the quality of form. Louis Kahn wrote:

The institutions are the houses of the inspirations. Inspiration before he can accept the dictates



Chapel Floor Plan
and East Elevation

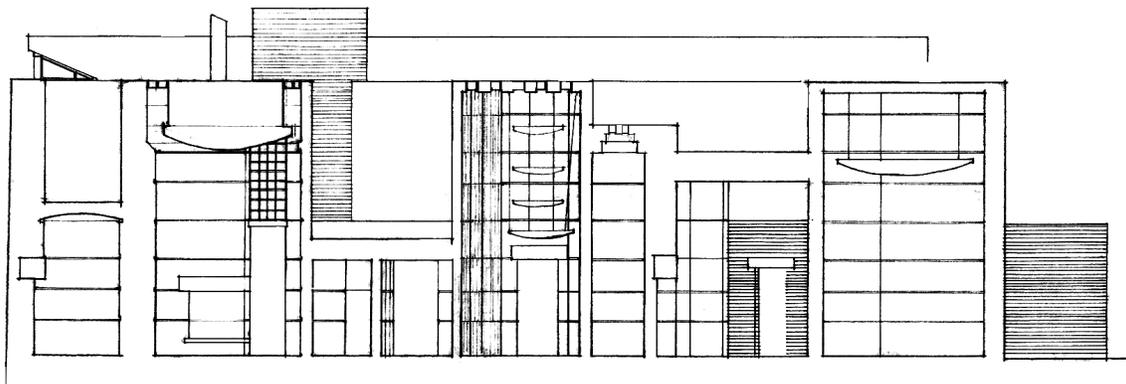
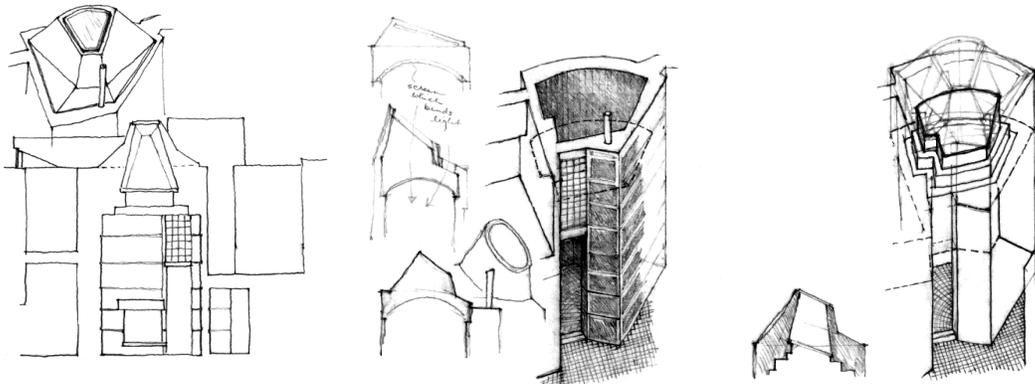


of a space that distinguishes itself from another. When he senses the design.³⁴

The design emerges from inside with the discovery of a project's essence not from predetermined forms. But how does one take inspirations about institutions and make form? This is one of the most

difficult points in design. The emerging answer lies with the extensive exploration of aesthetic ideas and "matching" these with ones inspirations. A process of metamorphosis begins. Paul Valery poetically describes the process of metamorphosis:

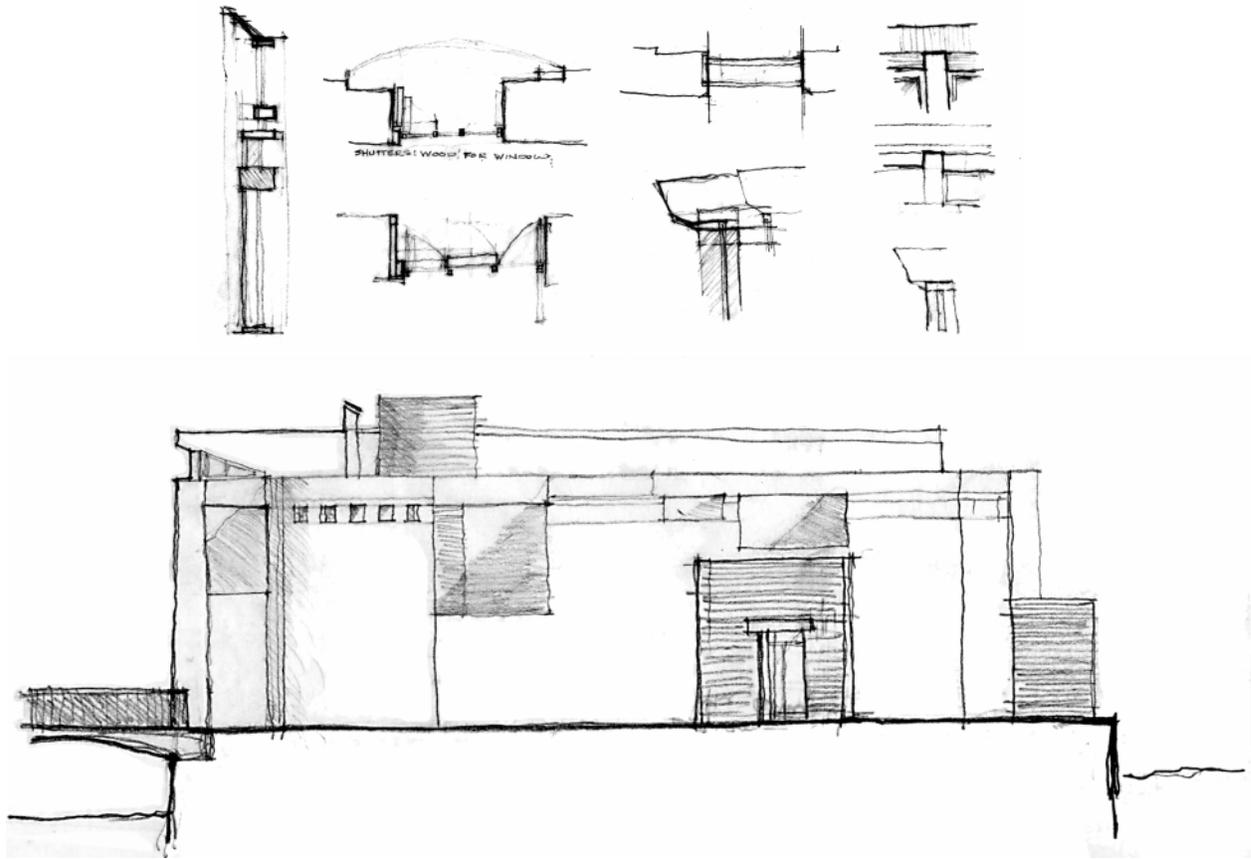
"My aim is to borrow from the



(visible) world nothing but forces - not forms, but the means of making forms."³⁵

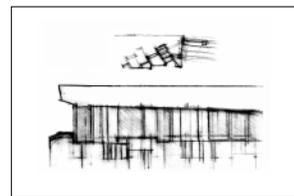
This requires delving below simple content into form. The internal discipline of the design must be rigorously followed and evolved. As a part of the metamorphosis simple geometric shapes may be used for investigating the configuration of a design.

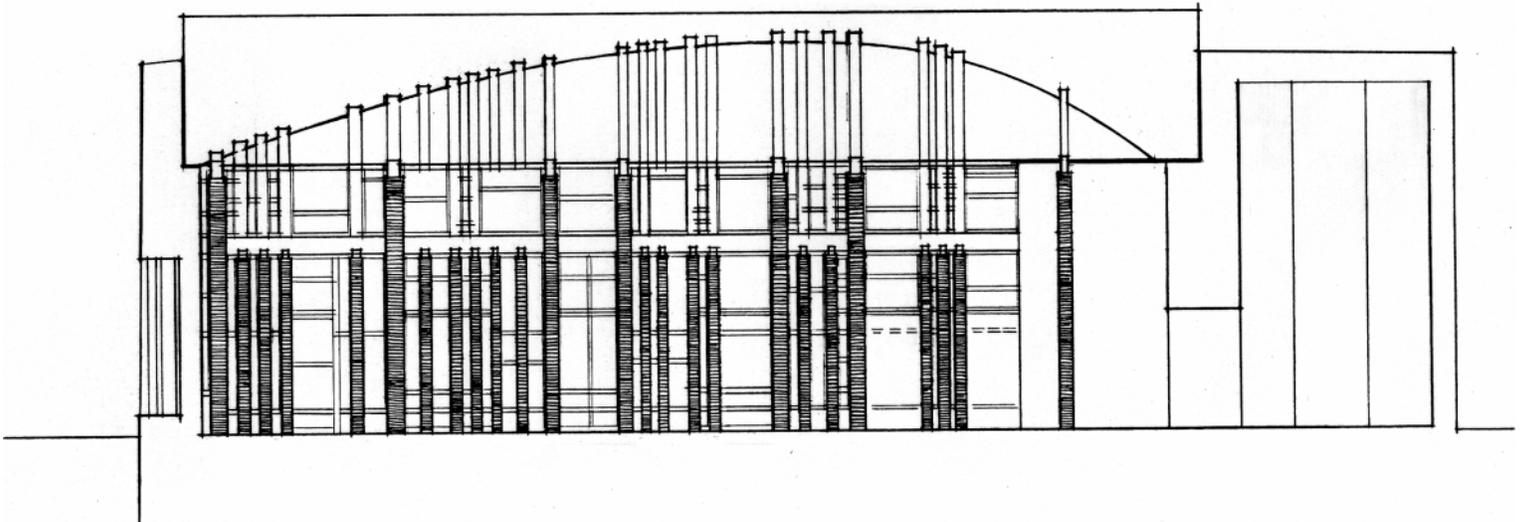
Section through the "mass". Four private reflection rooms are designed. The carved rooms each have their own character. The number of people who are accommodated also varies. Thick wood doors cover the openings. The light descends from above.



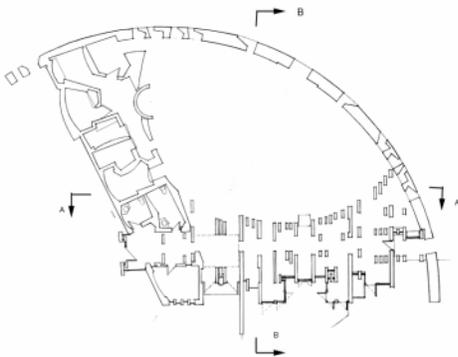
Once we sense the design form, the question becomes: "What tools do I have with which to make it? We construct, of course, with architectural elements (wall, column, ceiling, door, window) considering the elements of the sky and the earth (light, rain, soil). We design the "black". Again, the meaning intrinsic to the form is sought rather than applied. The foundation of a building

*Above, Window and Roof Studies.
Middle, Northeast Elevation.
Below, Roof Study.*





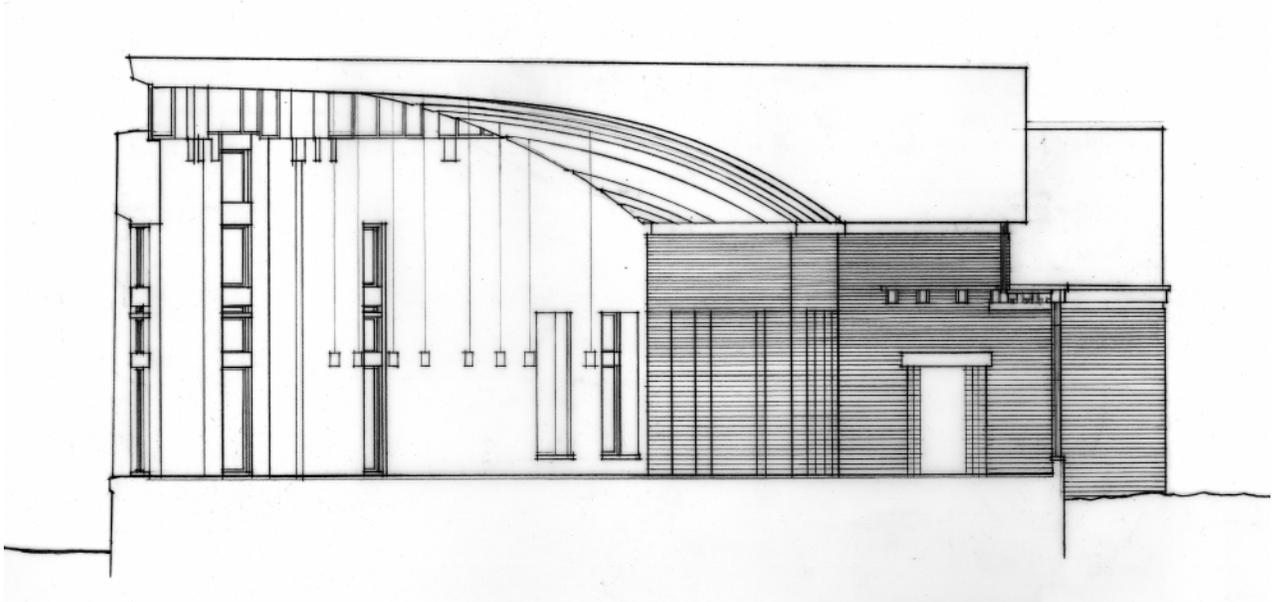
Section A



Chapel Plan

reflects our relationship to the earth. Walls reveal a manner of our living with each other. A roof binds us to the earth or reflects our desire to soar to the heavens. A skylight creates a threshold between the earth and the sky, reminding us of our relation to each.

Myths are necessarily demythified during a designer's endogenous inquiry. The resulting elements of the myths that are found to be genuine can then be

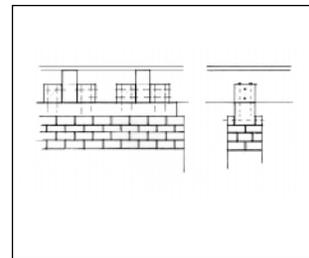


Section B

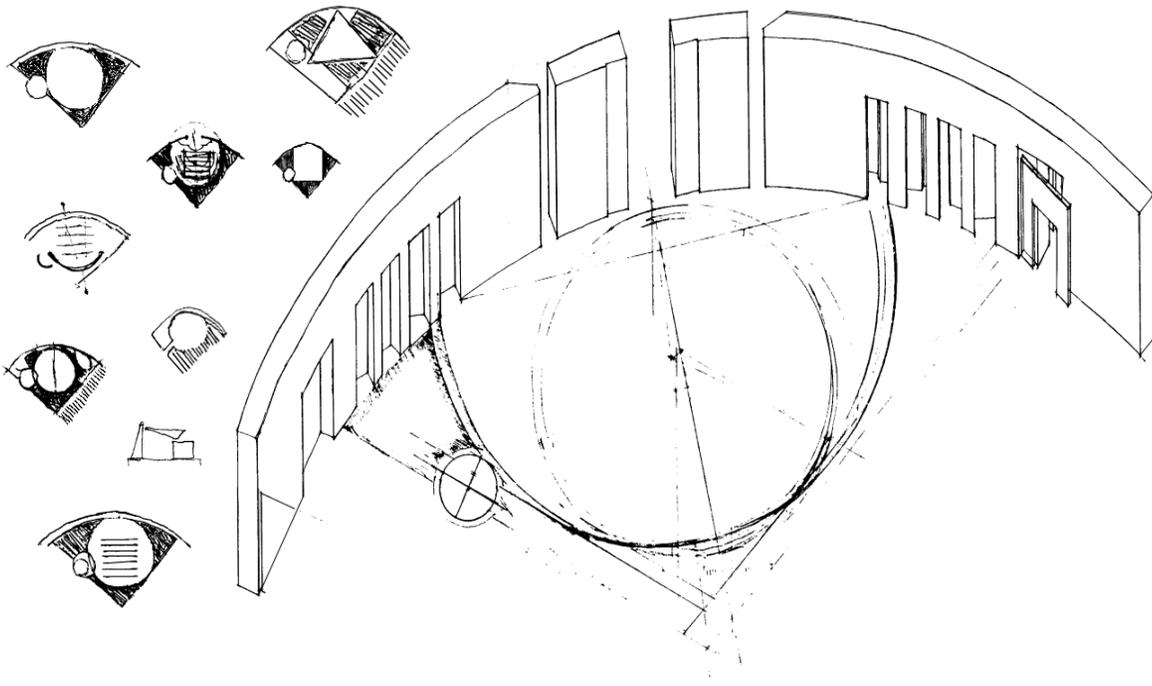
reconstructed into a continually refined, redefined and increasingly authentic architectural language. Again Architecture, by its nature, puts forth a world-view of people and thus explicates belief, phenomena, and custom.

The Nature of Tectonics

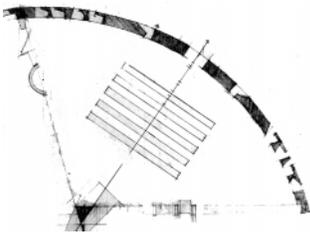
“Tectonics depends upon a very few fundamental aspects of the physical world. One, of course,



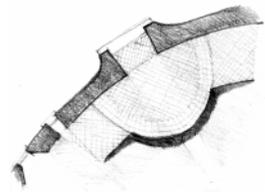
Wall Detail



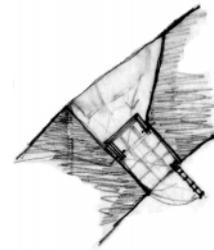
The boundary wall holds several "small room" size windows. The windows have screens to filter the light as needed. The main window faces East. The screens help to filter the intense morning light. The floor is patterned. Sounds of water softly trickle throughout the chapel.



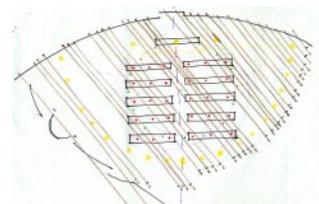
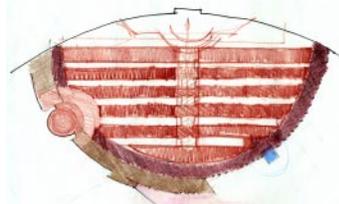
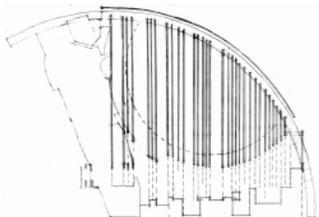
*Above, Chapel Floor Study
Below, Roof Structure Study*

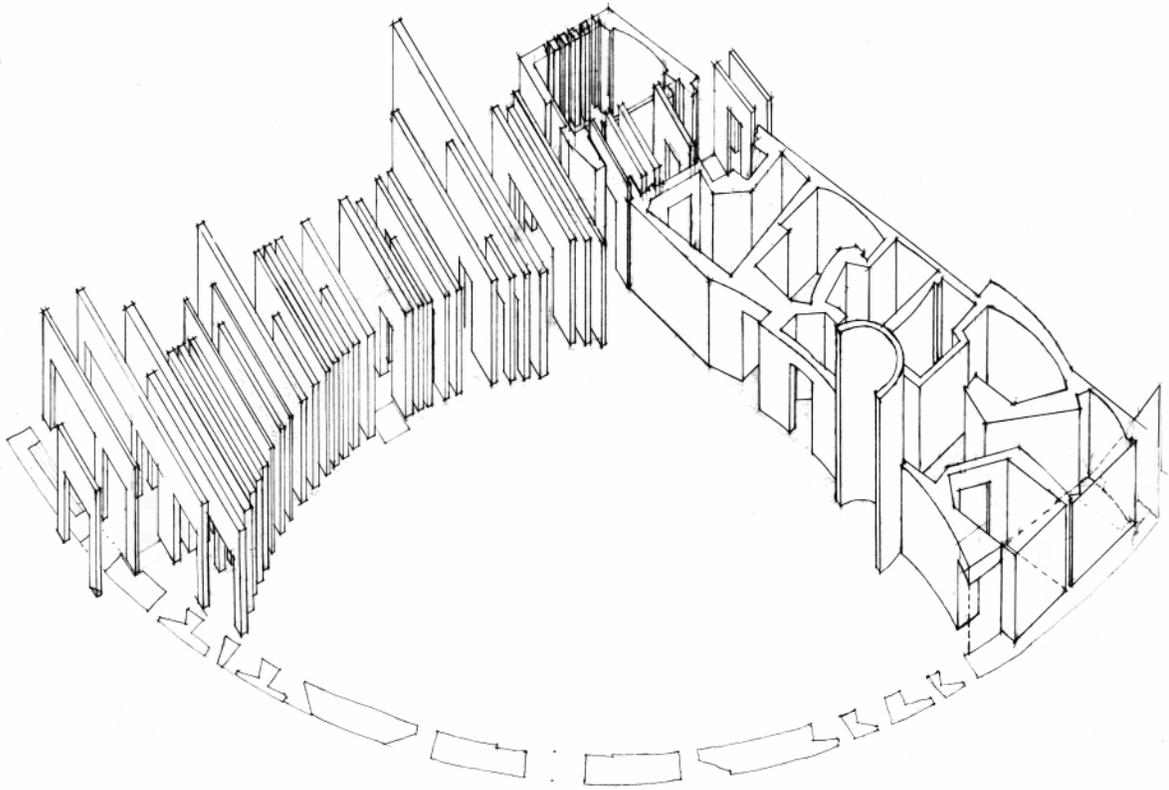


*Top, Chapel Sanctuary Wall
Above, Main Sanctuary Window
Below, Sanctuary Floor Study*

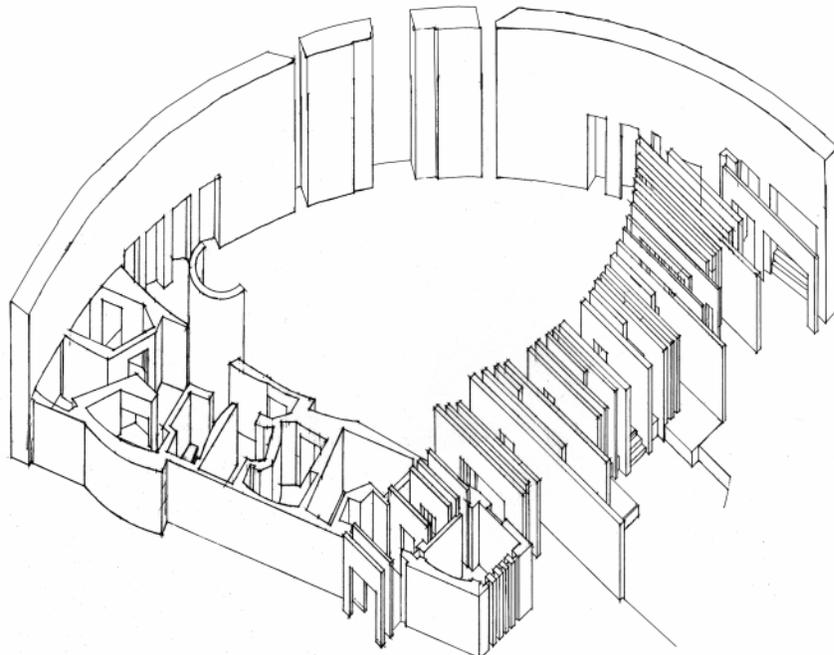


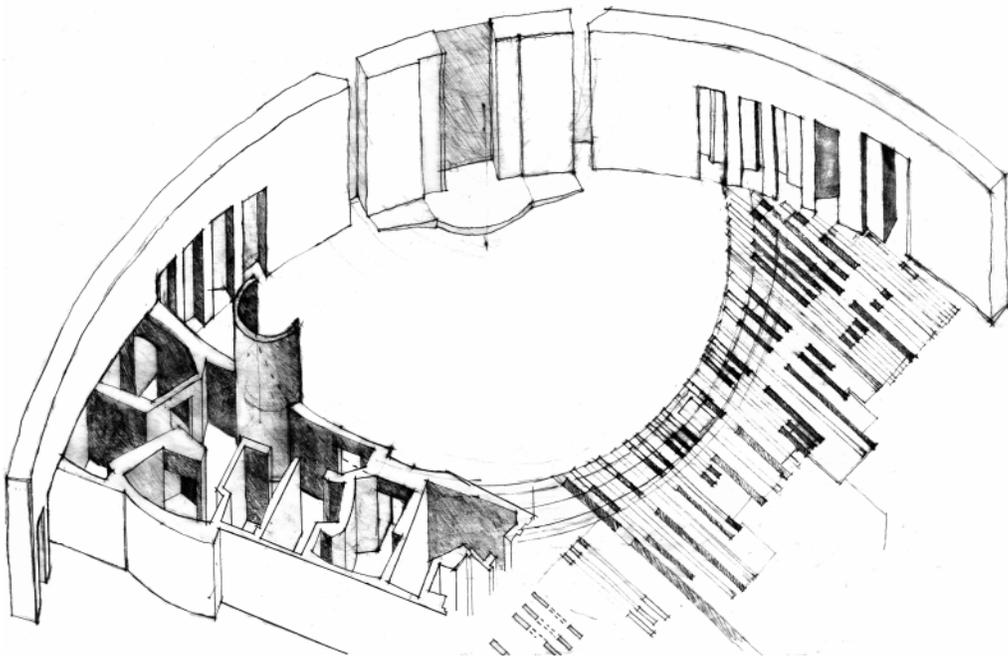
*Above, Sanctuary Window.
Below, Seating, Light, And Roof
Study Sanctuary Axon*



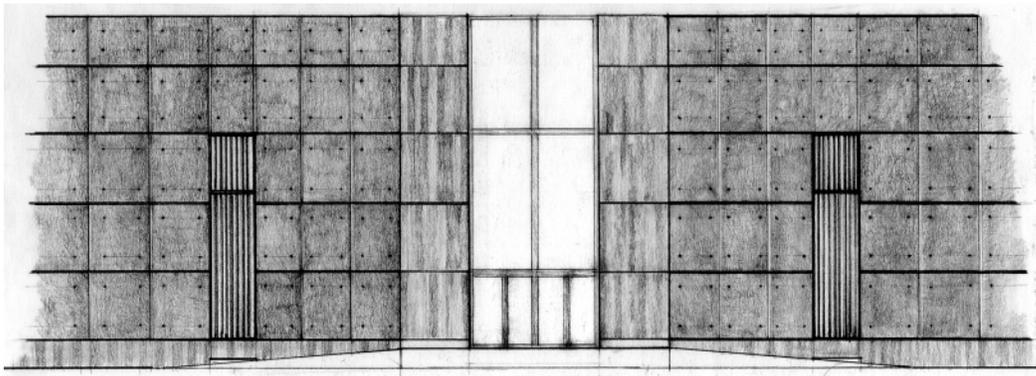


Sanctuary Axons

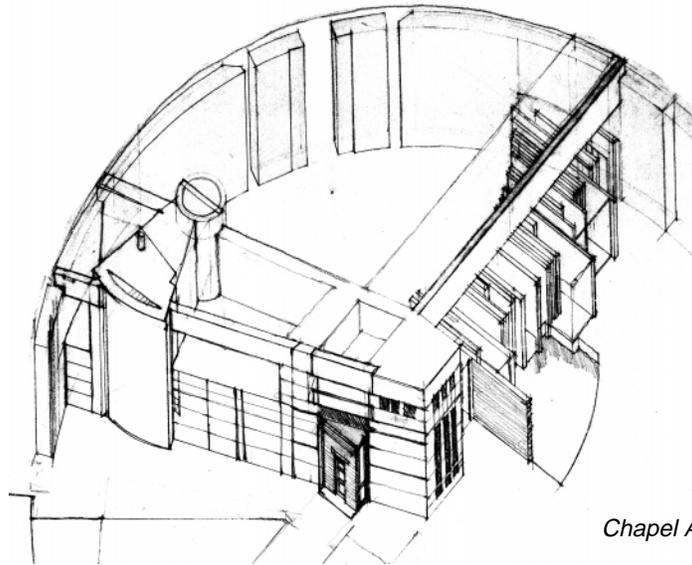




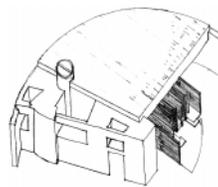
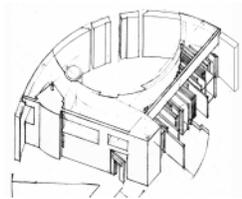
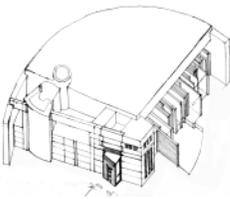
The Sanctuary Wall



The Sanctuary Wall

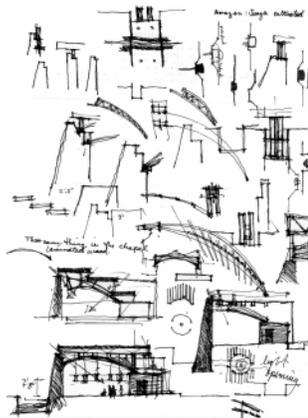


Chapel Axons

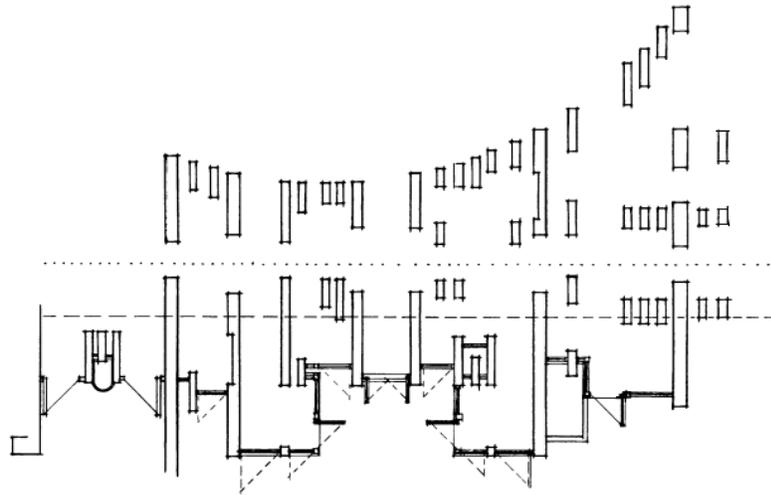


is gravity and the physics that goes with it. Gravity affects what we build and the ground beneath it. Another aspect is the structure of the materials we have, or make, and a third is the way we put those materials together.” Carles Vallhonrat³⁶

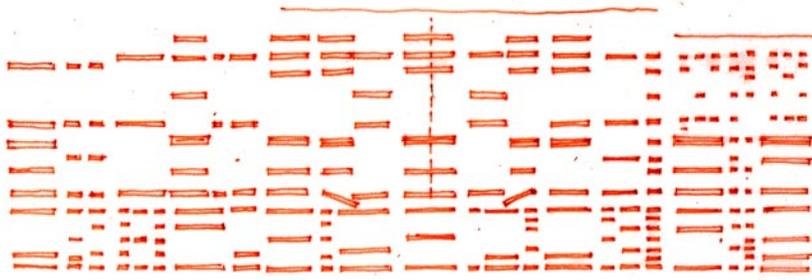
In its making a thing/element is discovered, be it a light, a seat, a connection, or the use of a material. Beauty can emanate from the thing



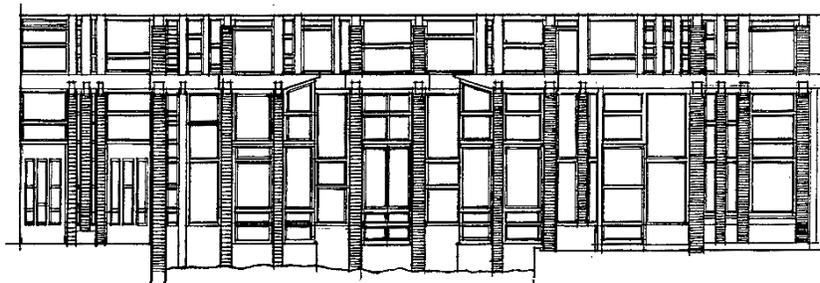
Wall/ Roof Study



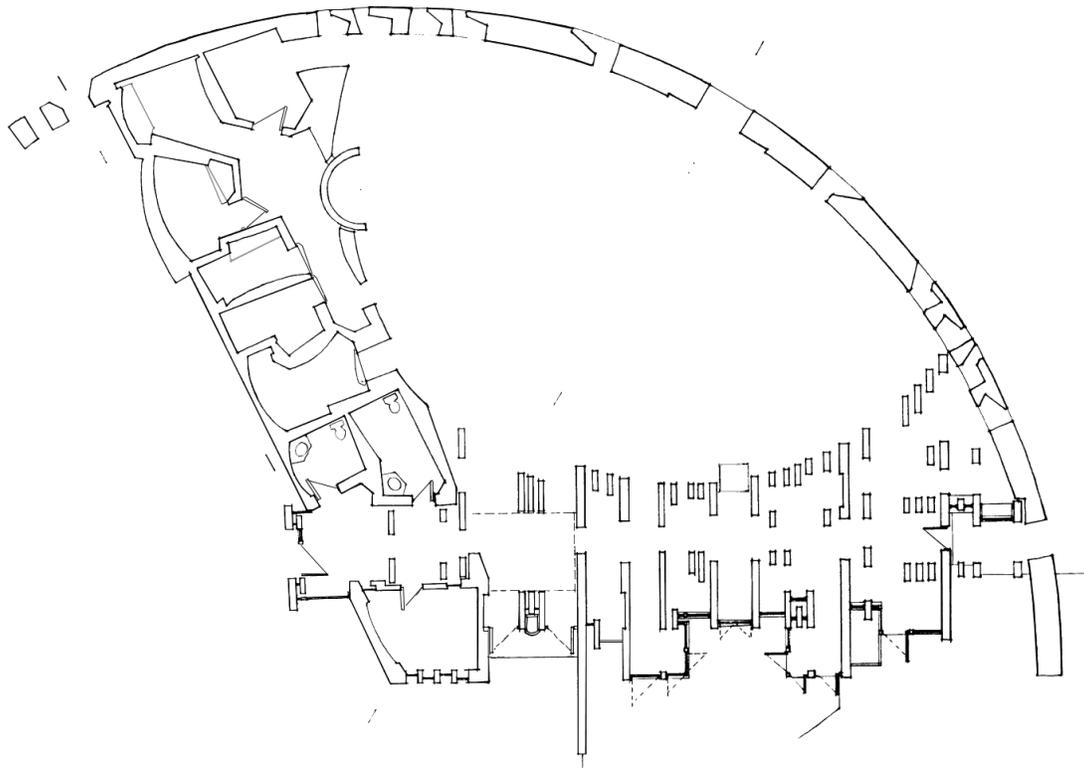
Niche Plan



Window Pattern



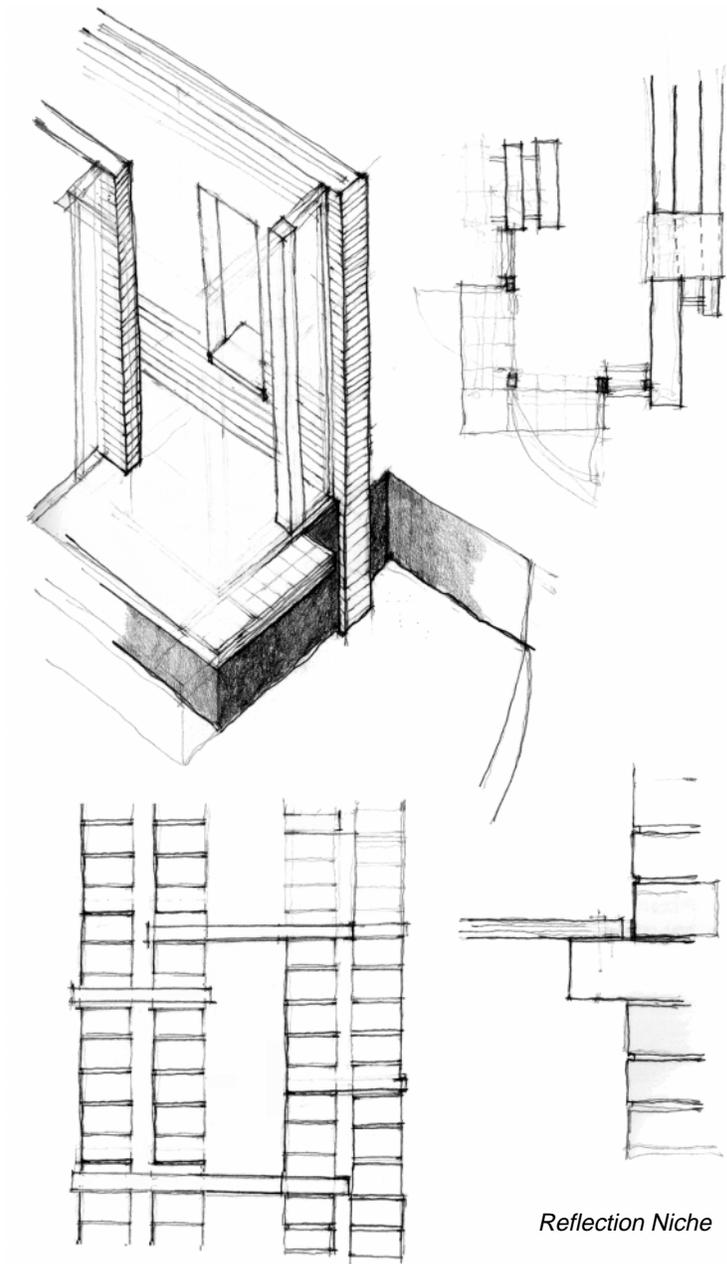
Window Elevation



Chapel Floor Plan



West Elevation

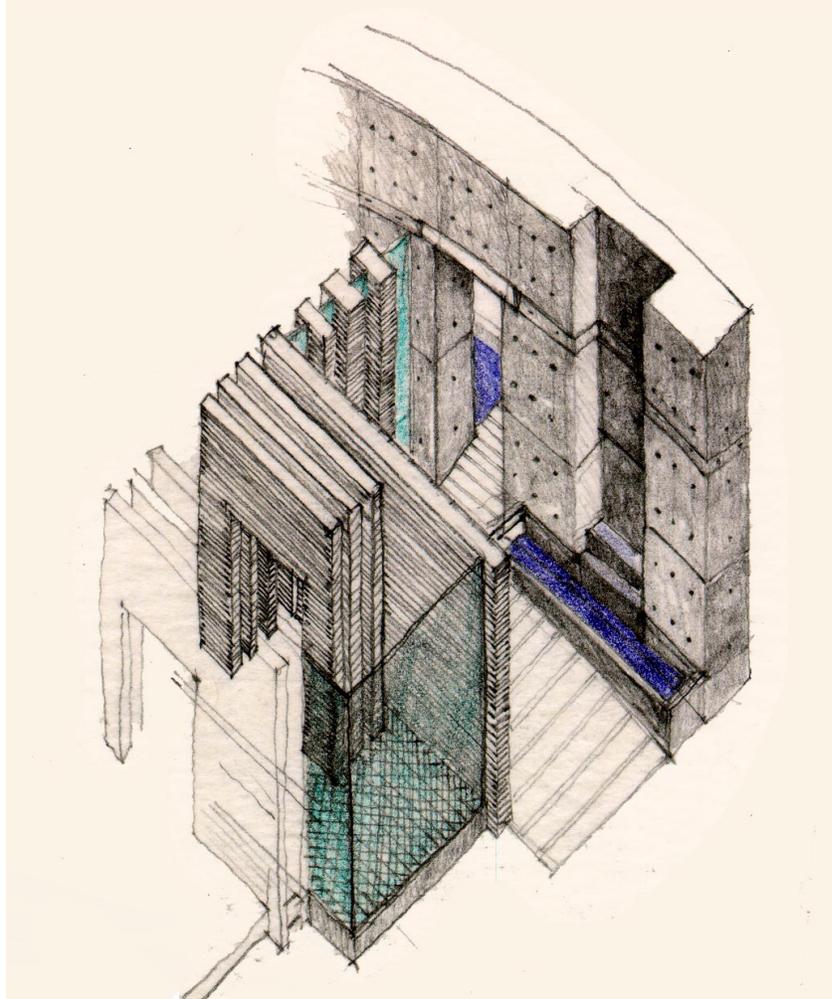


Reflection Niche

itself, its poesis and its tool marks, instead of applied art or decoration. Each part gains meaning through itself, its relation to other parts, its relation to the whole, and from the materials that bring it into being. It is necessary to express the manner in which an

element or material resists nature's forces (such as gravity). The column embodies forces different from the pier. This should be manifested throughout a design.

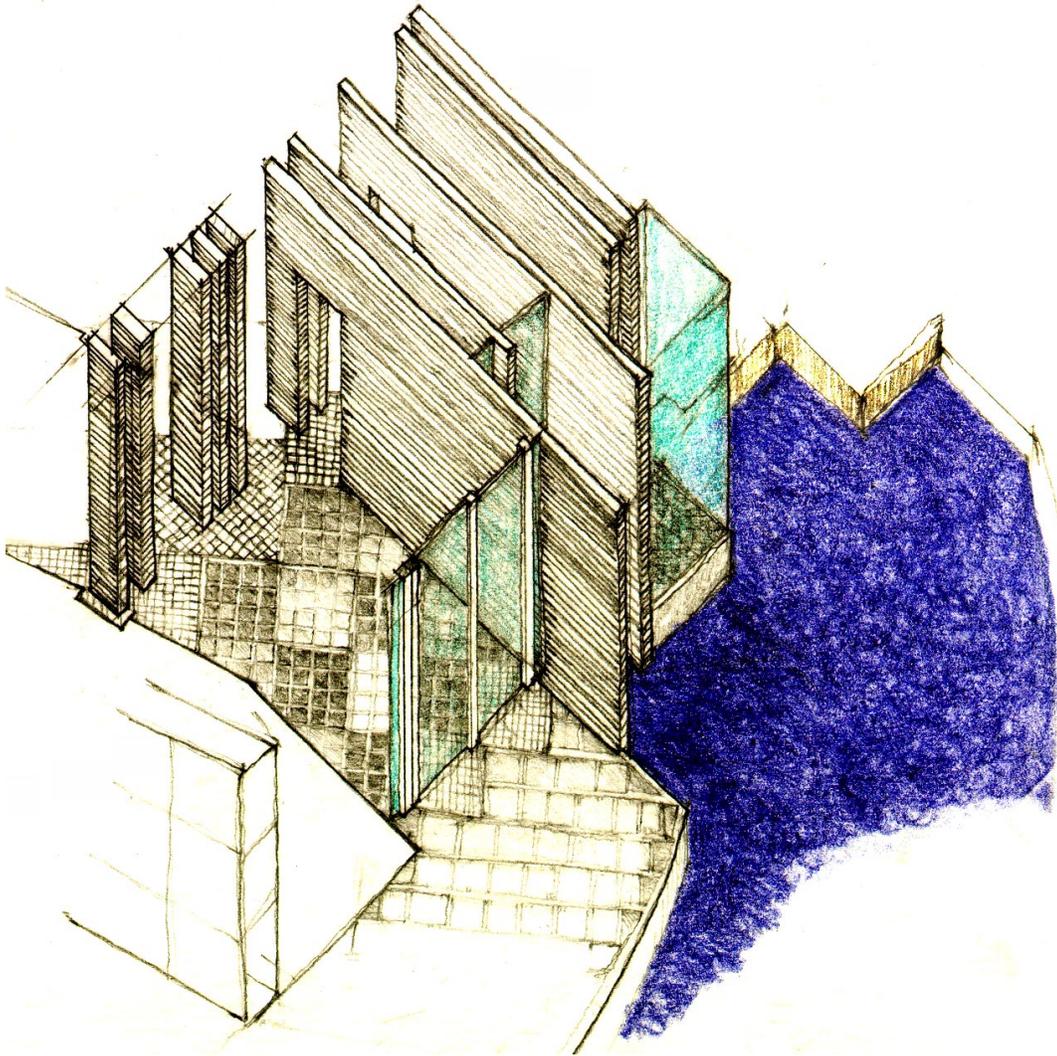
How do parts come together to form a



South Entry

whole? Each part of the building becomes the local resolution of the principal. A dialogue takes place between the local and the principal that informs and alters both. The building design reveals a united intricate story. At each juncture questions of material

and belonging are addressed. Does the stair belong to the floor or to the ceiling or is it separate? How does a concrete wall accept a wood window frame? Each element accommodates several things individually while supporting larger common stories. This can work at all

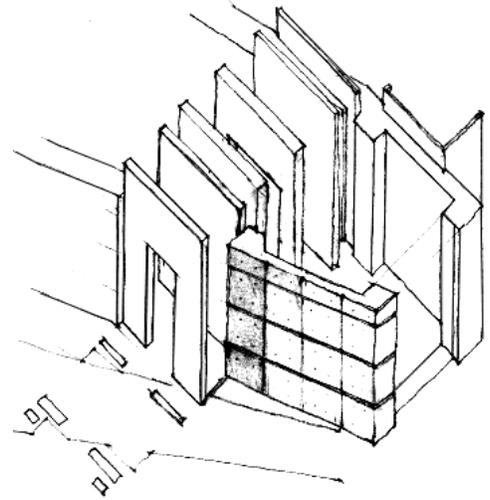
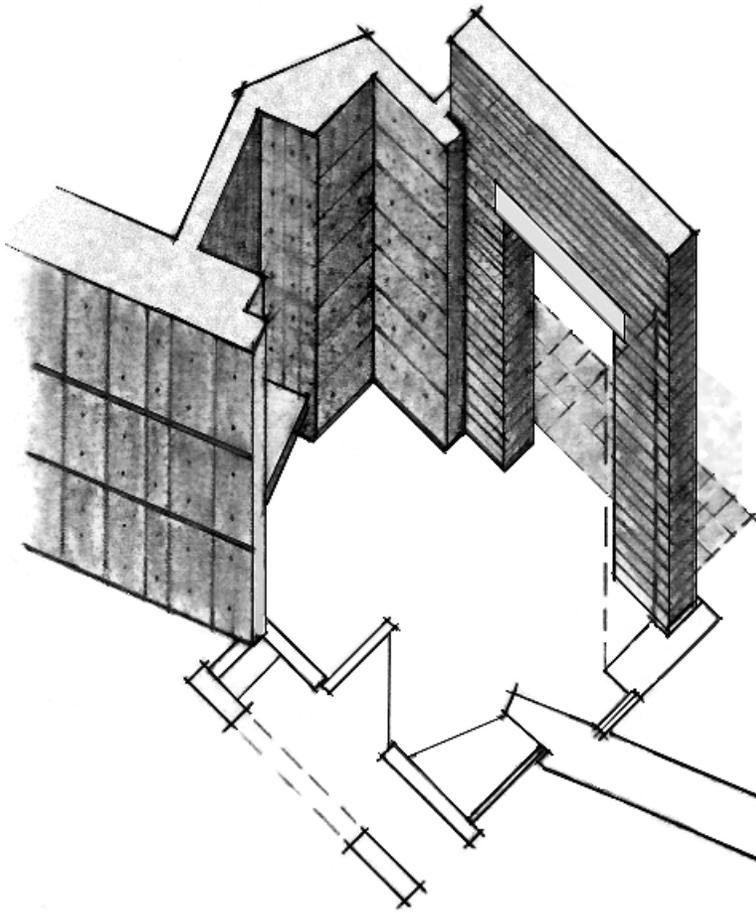


West Entry

There are three main ways to approach the chapel. The first approaches the chapel through a series of walls, entering through a single door. The

second way follows a steeper path, crosses a bridge, entering through three huge columns, to a plaza in front of the chapel. The third journey follows the

walkway up to the community entrance. There is a single door entry or an entry for a small group.

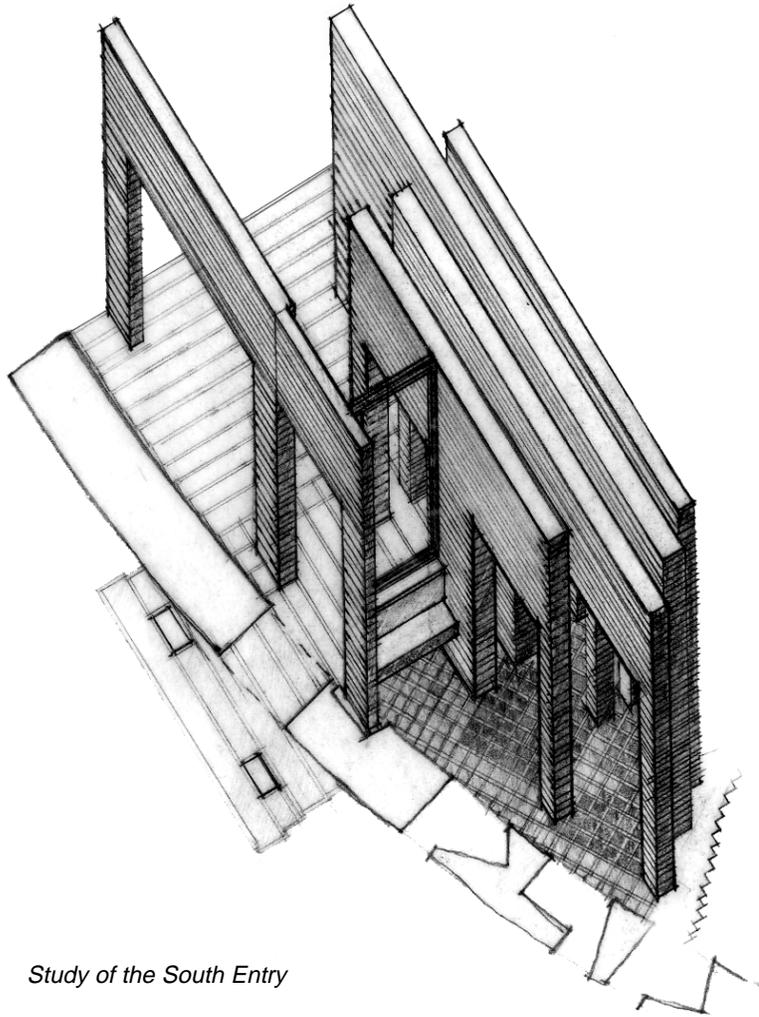


North Entry

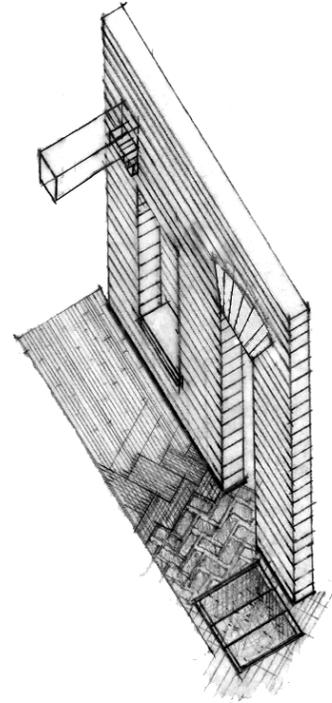
scales, be it a drain spout, a window or a wall.

In a design, the principal determines the form in a way that respects each element's nature. The elements and

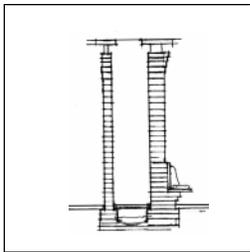
materials must not become ornament to the governing ideas. Forms must not contradict the materials that bring them into being. A brick is a brick. It is not a concrete block. Their natures are not the same. A wall designed with brick is



Study of the South Entry



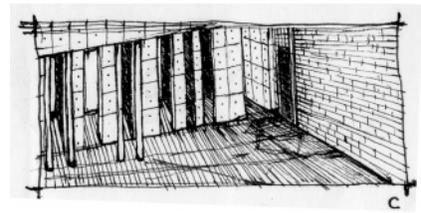
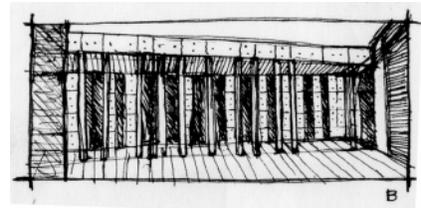
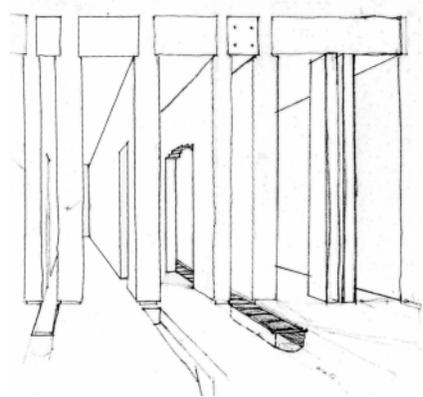
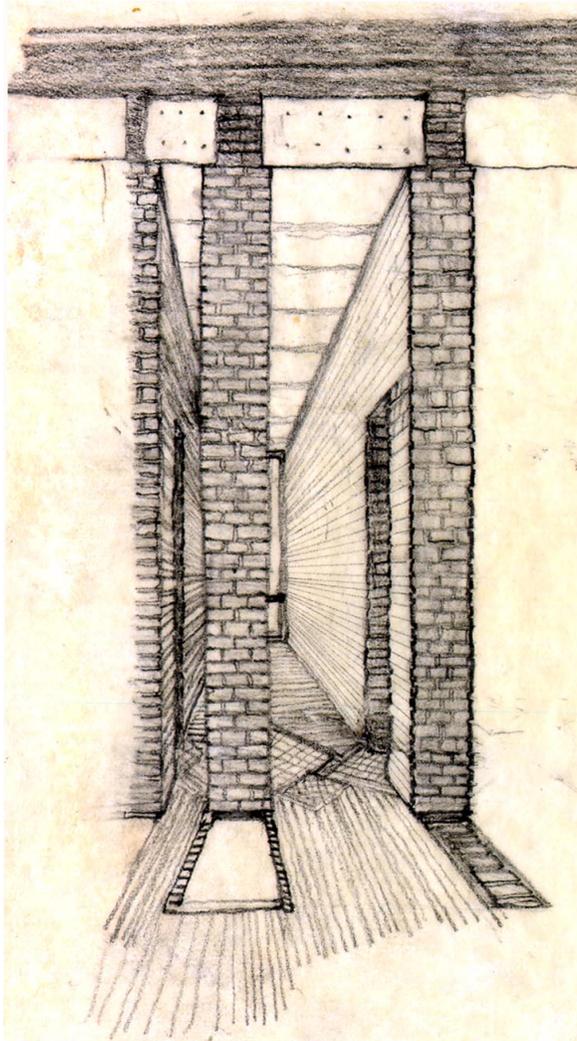
Wall Study



Wall and Floor Study

unique from a wall designed with concrete block. A material's nature should be present in the design as with painted metal, although the material need not be exposed.

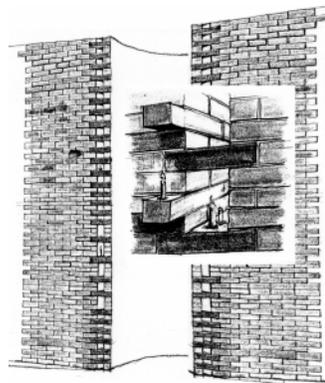
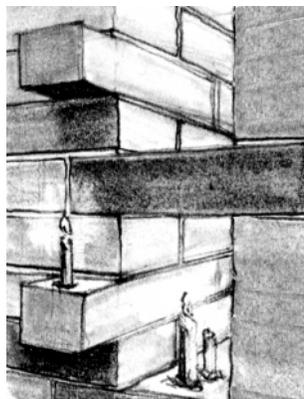
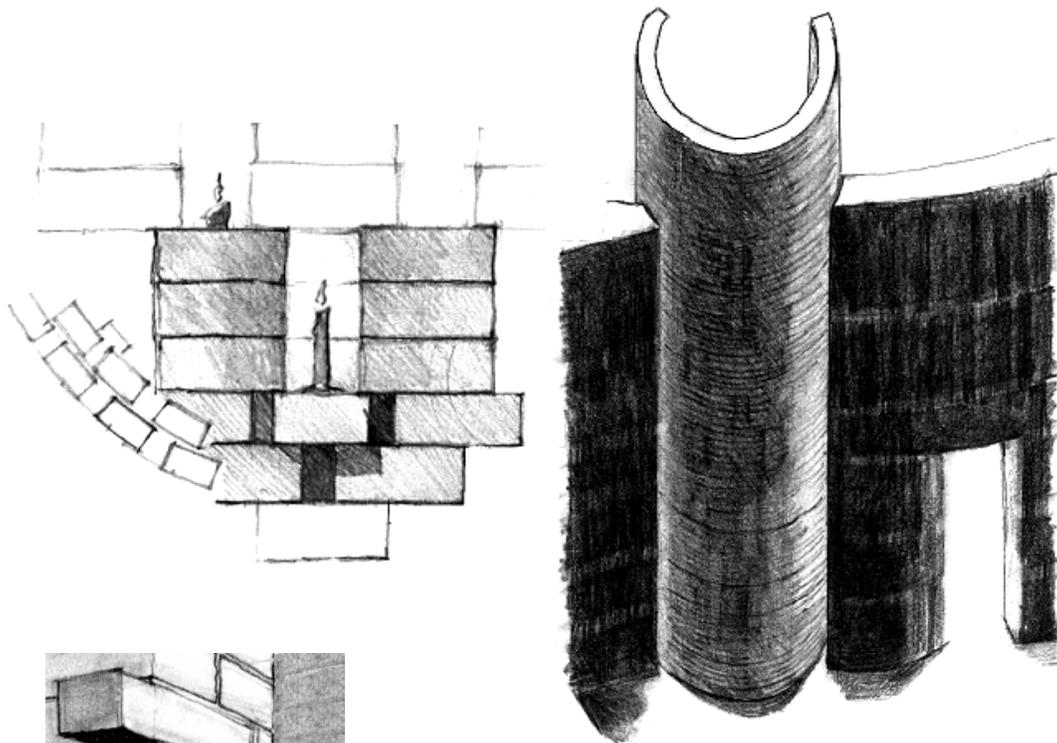
The form and facture of a building



*Left, Path Studies
Top, Path and Floor Study
Middle, Sanctuary Study
Bottom, Sanctuary Study*

can physically express the essences of a principal (whole) and the local (part). The inquiry is made within the discipline of poesis where the tools are wall, window, floor, and column. For example, this investigation requires concern with the aesthetics of a wall; the way of life it

reveals, its essence, its shape, its underlying structure, and its facture. How it is. The meaning intrinsic to the form is sought rather than applied. Following these principles allows knowledge of our place in the world and on the earth. A building can be a



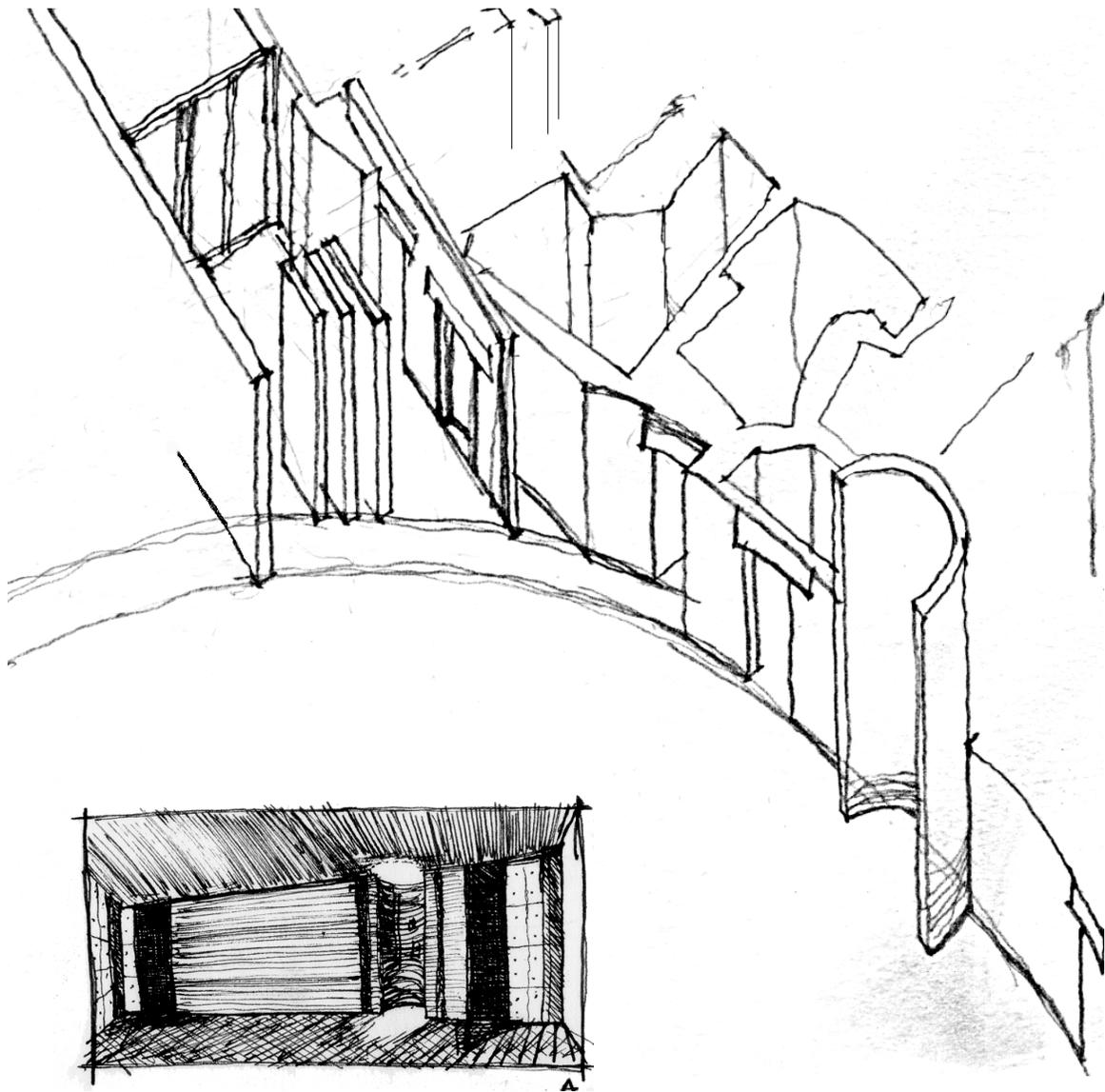
The curved wall is inset into the mass. The brick material allows for it to be set in different patterns. Concrete was ultimately chosen for the surrounding mass. The curved wall is constructed from brick.

medium for understanding truth. The posture of the building is one of permitting knowledge of what is.

Conclusion

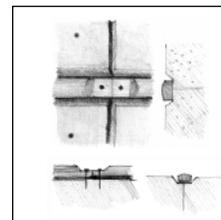
By forming principles such as the order

of the tectonic, poesis, and topology a language of architecture begins to emerge. In the pursuit of an authentic aesthetic "language" or voice certain qualities arise. Qualities emerge such as the presence of an inner coherence underlying and structuring a body of

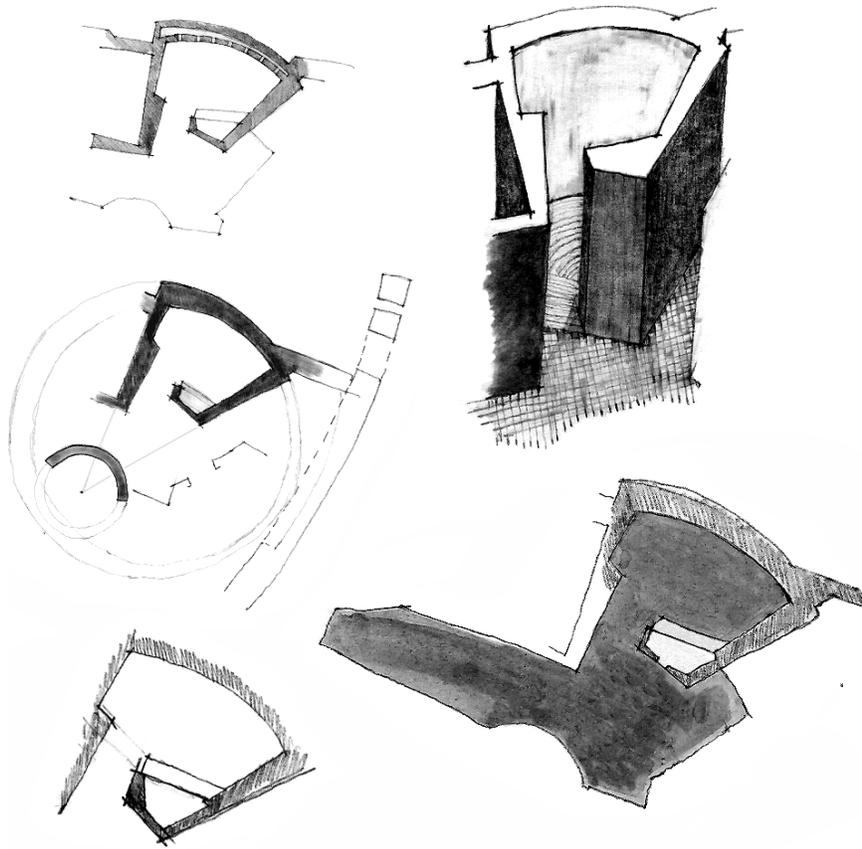


Study Sketches of the Sanctuary Area.

work (reflecting the evolving orders of morphology, topology and typology). This includes the ability to make discrete parts, an inner cohesion of the relationships between parts, the existence of semantic, syntactical and pragmatic levels to a work.



Concrete Pour Joint Detail

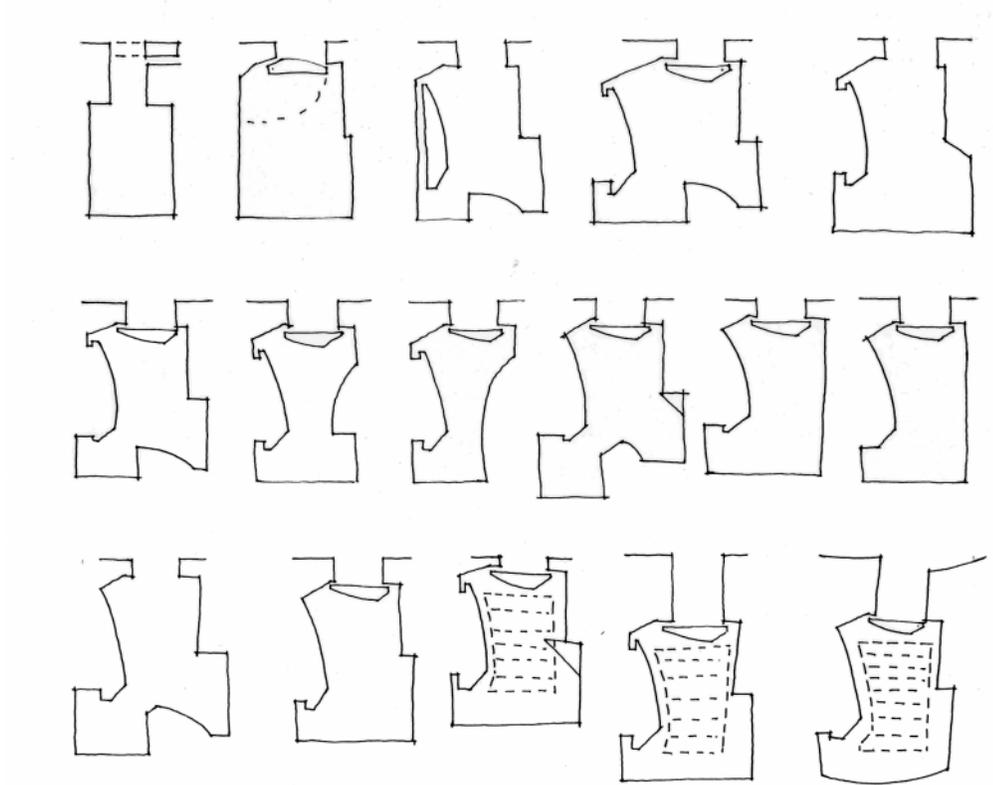


A study of a reflection room containing a fireplace.

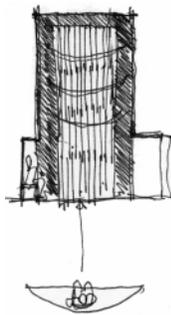
Four small reflection rooms are designed. The carved rooms each have their own character. The number of people who are accommodated also varies. The room can hold a small group.

There is a small gas hearth in the room. The light descends from above. The rooms are reminiscent of the catacombs. Light bounces from the gas fireplace to the back curved wall. Thick easily swung

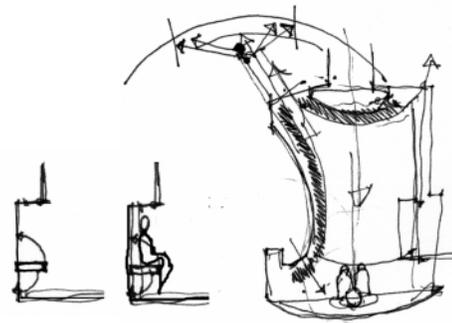
doors cover the openings. There are additional rooms accommodating an office, a mechanical room, storage, and bathrooms.

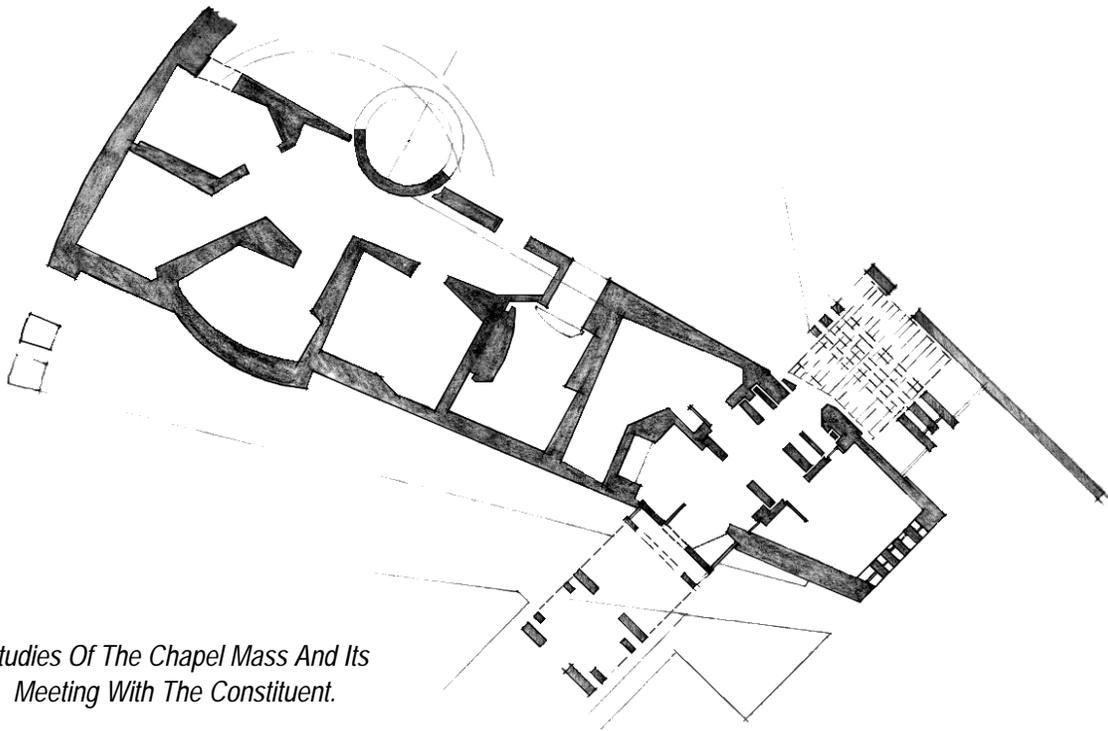
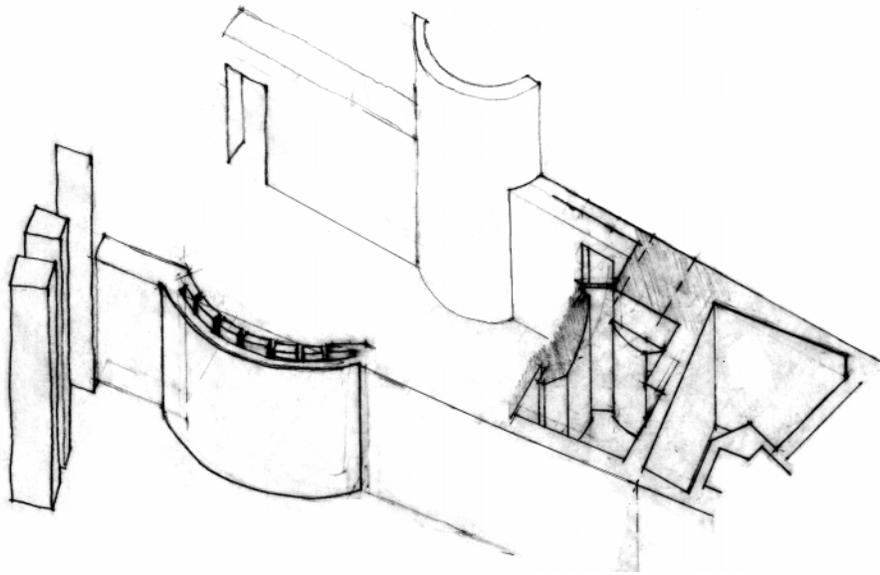


Reflection Room Study

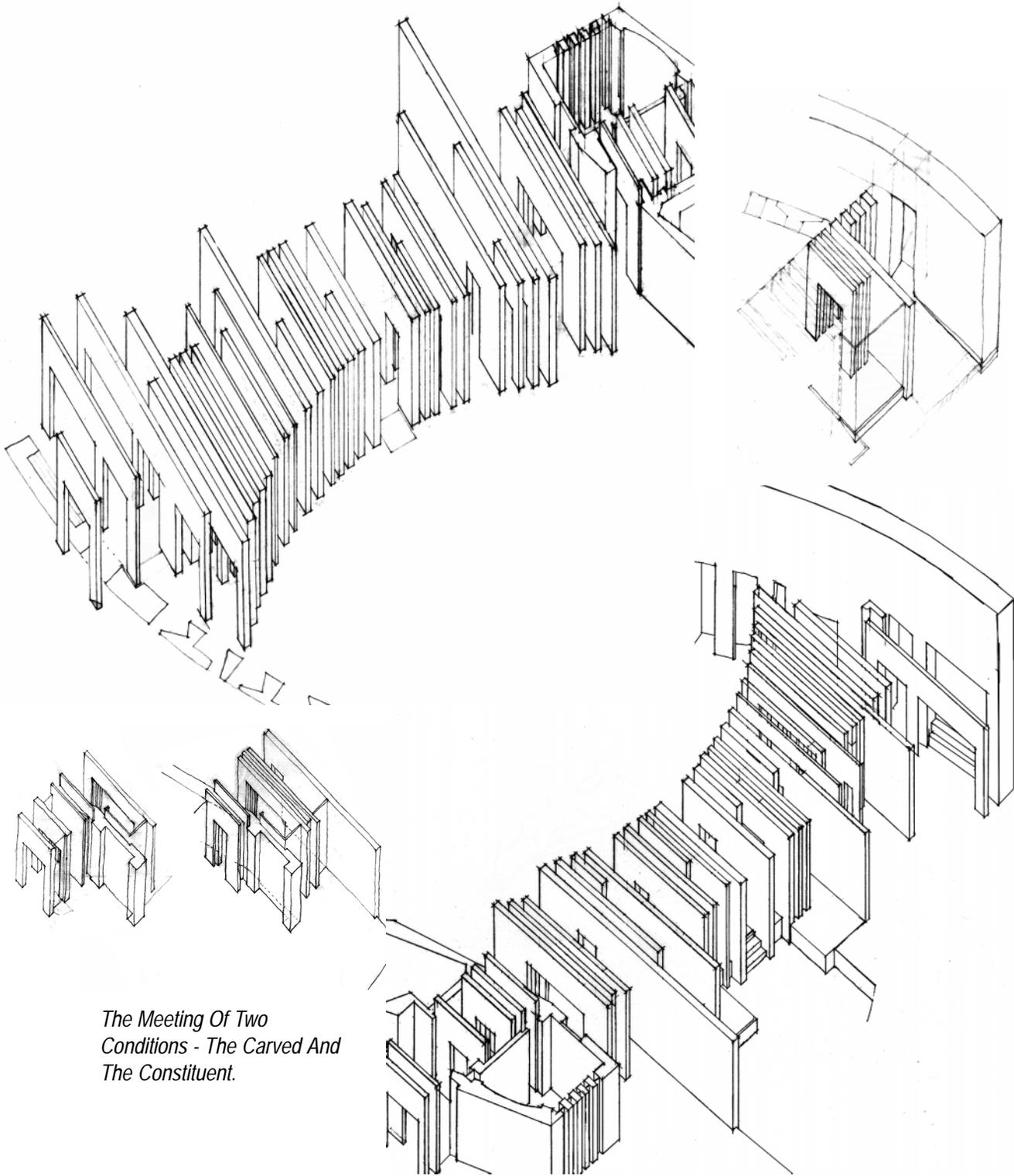


A solid wooden door greets the visitor. A small fountain cascades down a rough wall into a lit pool at the floor.

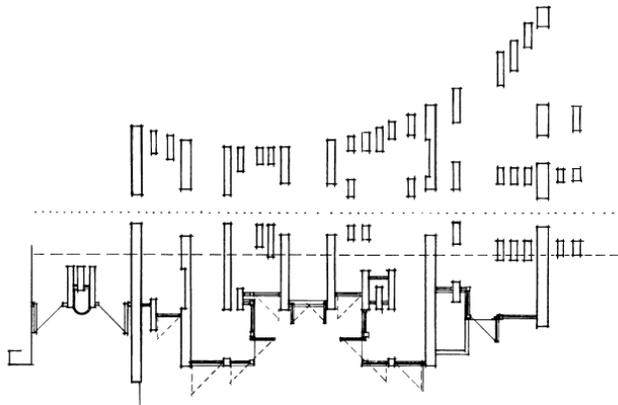
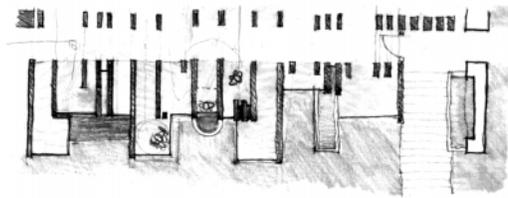
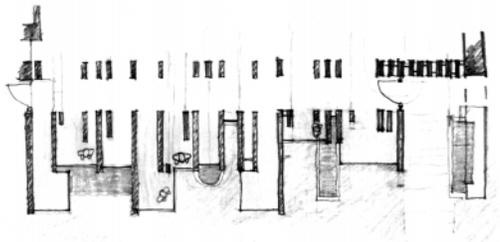




Studies Of The Chapel Mass And Its Meeting With The Constituent.



*The Meeting Of Two
Conditions - The Carved And
The Constituent.*





- ¹ Bruno Adriani, Problems of the Sculptor (New York: Nierendorf Gallery, 1943) p.9.
- ² Aldo van Eyck, "Kaleidoscope of the Mind." Via, 1, 1968, pp. 90 – 95.
- ³ Mondrian, "Plastic Art and Pure Plastic Art," Circle, p.46, cited by Francis Strauven, "A Place of Reciprocity," Lotus, 28, 1981, p.39.
- ⁴ Mondrian, DeStijl, No. 7, 1918, p.73, cited by Francis Strauven, "A Place of Reciprocity," Lotus, 28 (1981), p.39.
- ⁵ Phila of Alexandria cited by Mondrian, DeStijl, No. 7, 1918, p.73, cited by Francis Strauven, "A Place of Reciprocity," Lotus, 28 (1981) p.39.
- ⁶ Aldo van Eyck, Team Ten Primer, ed. Alison Smithson (Cambridge: M.I.T. Press, 1968), p.101.
- ⁷ Aldo van Eyck, "Kaleidoscope of the Mind." Via, No.1, 1968, pp. 90 – 95.
- ⁸ Aldo van Eyck, "The Medicine of Reciprocity: Tentatively Illustrated," Forum, August 1962, p.237.
- ⁹ Peter Blundell Jones, "Implicit Meanings," Architecture Review, Vol. CLXXVII, No.1060, June 1985, p.39.
- ¹⁰ Charles Morris, "Foundations of the Theory of Signs," in The Foundations of the Unity of Science, Vol. 1, No. 2, ed. Otto Neurath, Rudolf Carnap, Charles Morris (Chicago: University of

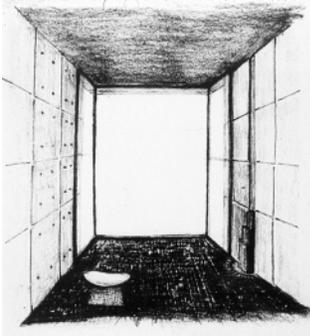
Chicago Press, 1969), pp.79-137.

¹¹ Paul Heyer, "Art And The Structuralism of Claude Levi-Strauss," Structurist, No. 12, 1972-73, p.36.

¹² Terence Hawkes, Structuralism and Semiotics, (Berkeley and Los Angeles: University of California Press, 1977), p.16.

¹³ Hawkes, p.52.

¹⁴ Hawkes, p.24.



¹⁵ Wittig, Susan, ed., "The Historical Development of Structuralism," Structuralism An Interdisciplinary Study (Originally published as Soundings, an Interdisciplinary Journal, Vol.LVVIII, No. 2, Summer 1975; Pittsburgh Reprint Series No. 3, Pittsburgh: Pickwick Press, 1975), p.3.

¹⁶ Wittig, p.3.

¹⁷ Ferdinand De Saussure, Course in General Linguistics, edited by Charles Bally, Albert Sechehaye and Albert Riedlinger, translated by Wade Baskin (New York: The Philosophical Library Inc., 1959; New York: McGraw Hill, 1966; London: Peter Owen, 1960; London: Fontana, 1974), pp. 123-24, cited by Wittig, p.4.

¹⁸ Aristotle, Aristotle's Categories, and De Interpretatione, translated by JL Ackrill (Oxford: Clarendon University Press), 1966.

¹⁹ The Great Ideas: a Syntopican of Great Books of the Western World, Man to World, Volume 2, in the series Great Books of the Western World v. 2-3, "Oppositions," edited by Mortimer J. Alder and William Gorman (Chicago: Encyclopedia Britannica, 1955, c1952), p.325.

²⁰ The Great Ideas, p.325.

²¹ William Galloway, Harmony and Opposition (Blacksburg: Virginia Polytechnic Institute, 1993), p.8.

²² Howard Gruber, "Emotion and Cognition: Aesthetics and Science," in The Arts, Cognition, and Basic Skills, ed. Stanley S. Madeja (St. Louis: CEMREL, Inc., 1978), pp.134-146.

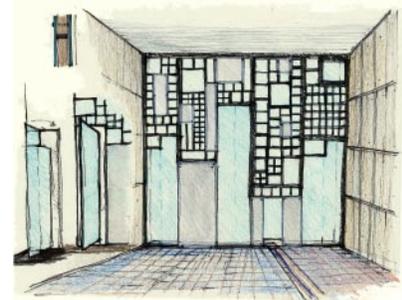
²³ The nuances are based upon discussions with and lectures by William Brown, Virginia Polytechnic Institute, 1992.



²⁴ Norberg-Schultz, The Concept of Dwelling, p.63.

²⁵ The thought nuances are influenced and based upon discussions with and lectures by William Galloway.

²⁶ A maximum of four colors are needed to color a map while keeping adjacent countries different colors. This relationship is independent of an individual country's shape. For further information on this theorem see <http://www.cs.uidaho.edu/~casey931/mega-math/gloss/math/4ct.html>



²⁷ Norberg –Schultz, Intentions In Architecture, p.141.

²⁸ Norberg-Schultz, Intentions In Architecture, p.141.

²⁹ Norberg Schultz, Intentions in Architecture, p 142.

³⁰ Kunze, Donald at <http://integrativearts.ce.psu.edu/representation/representation.html>

³¹ Luchinger Arnulf, Structuralism In Architecture and Urban Planning, translated by Peter Green (Stuttgart: Kramer, 1981), p.19.

³² Many of the nuances of this understanding evolved from conversations with Michael O'Brien.



³³ Louis Kahn, Perspecta, 10/11, 1967, p.305.

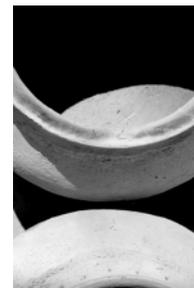
³⁴ Louis Kahn, Perspecta, 10/11, 1967, p.310.

³⁵ Paul Valery, "Tears," in The Collected Works of Paul Valery, ed., Jackson Mathews, Volume 2, Poems in the Rough (Princeton: Princeton University Press, 1969) p.56.

³⁶ Carles Vallhonrat, "Tectonic Considered," Perspecta, 24, 1987, p.122.

³⁷ Horatio Greenough, Form and Function, (1920), p93. Cited by Peter Blundell Jones in "Implicit Meanings," Architecture Review, Vol. CLXXVII, No.1060, June 1985, p.36.

³⁸ Peter Blundell Jones, "Implicit Meanings," Architecture Review, Vol. CLXXVII, No.1060, June 1985, p.36.





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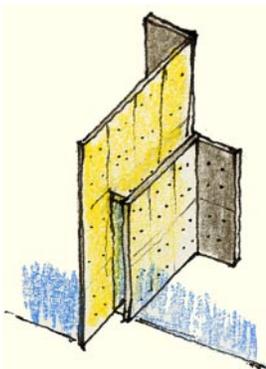
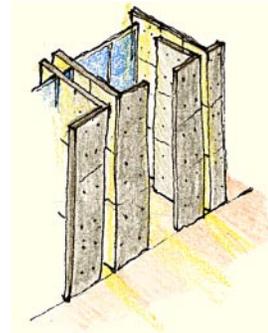
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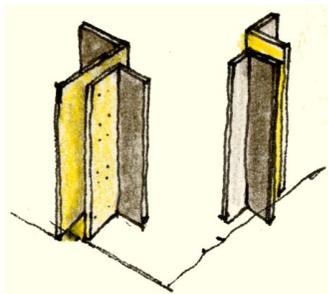
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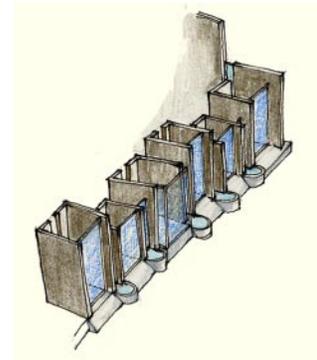
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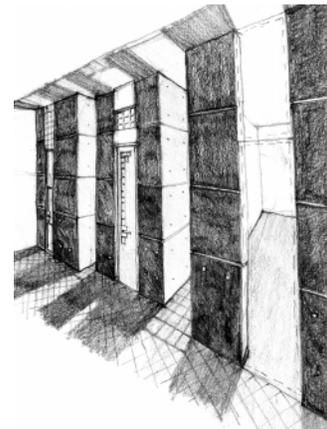
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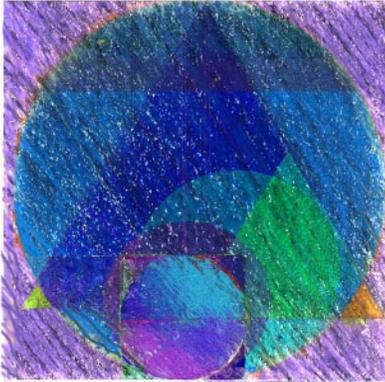
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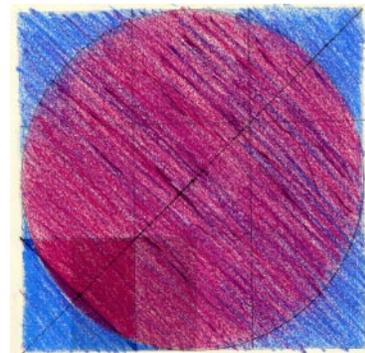
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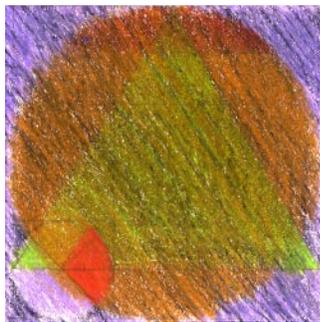
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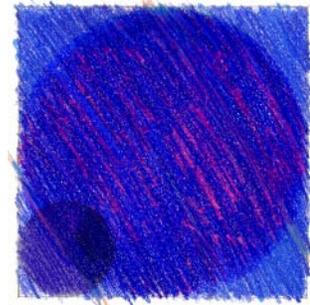
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