

DESERT DESIGN: RE-THINKING THE ADOBE

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*Corner Window:
Chaco Culture, N.H.P., N.M.
Florence C. Lister & Lynn
Wilson, Windows of the Past,
Title Page*

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Ambrose Farm

ACKNOWLEDGMENTS

to Valerie and Rachel - my family
for all your love and support...

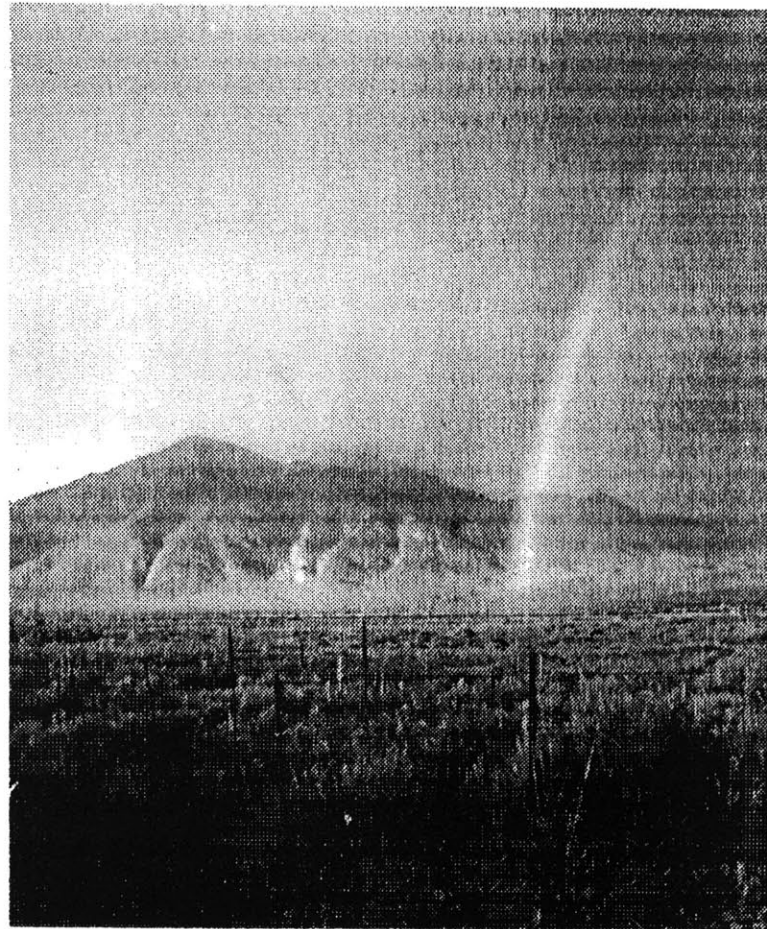
to my colleagues - Bjorn, Cola, Kristen & Leah
for answering all my questions

special thanks to Honor

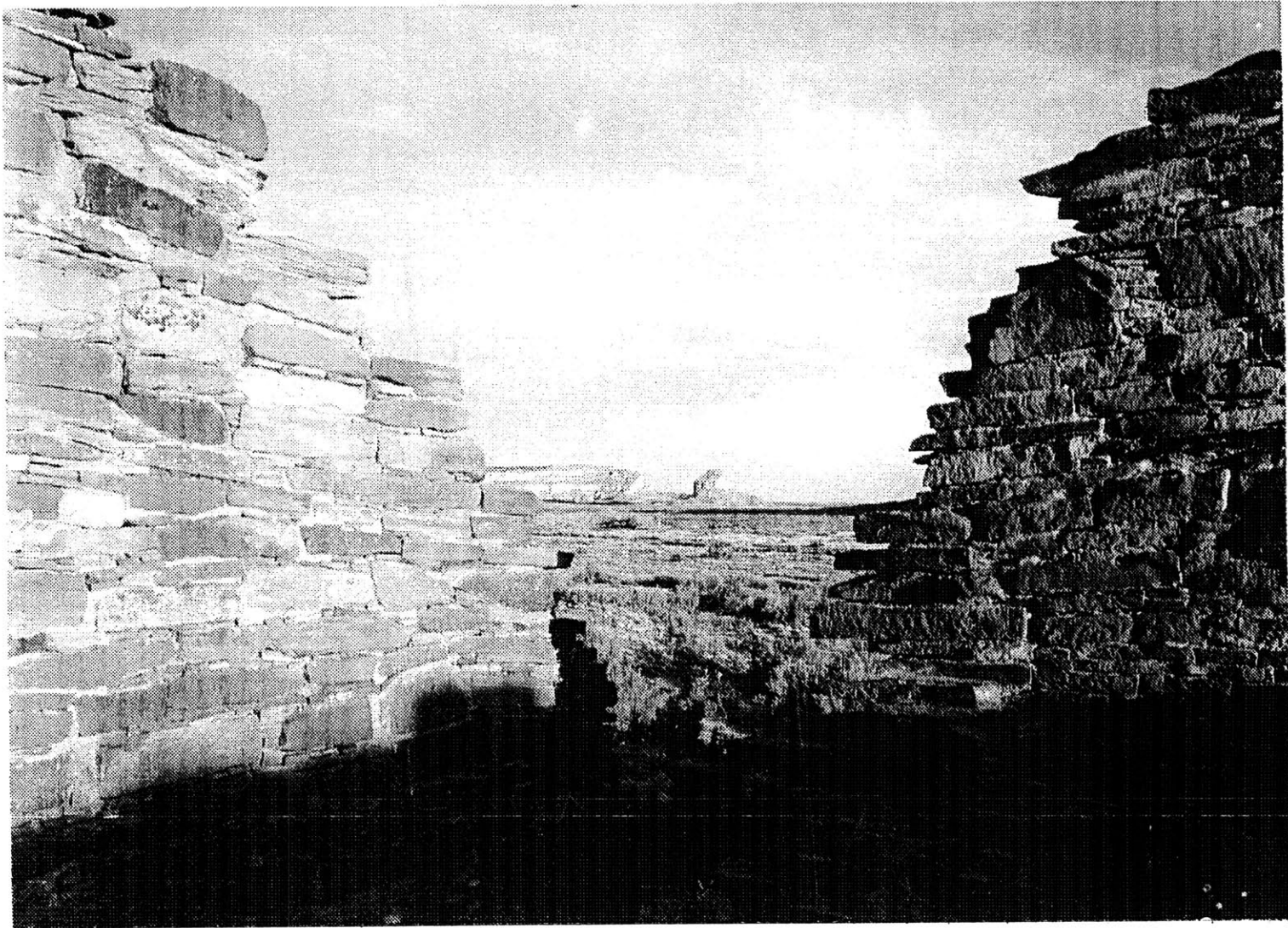
to my committee:

Fernando Domeyko, Rosemary Grimshaw &
Francesco Passanti -
for your critical insights and encouragement

*In memory of Ruben Montoya -
You taught me fencing, irrigating and haying...
We worked hard together and we laughed alot
You were a big part of the landscape
New Mexico won't be the same without you.*



Taos Mountain



Fajada Butte from Hungo Pavi: Chaco Culture, N.H.P., N.M.

Florence C. Lister & Lynn Wilson, *Windows of the Past*, pg. 45

**DESERT DESIGN:
RE-THINKING THE ADOBE**

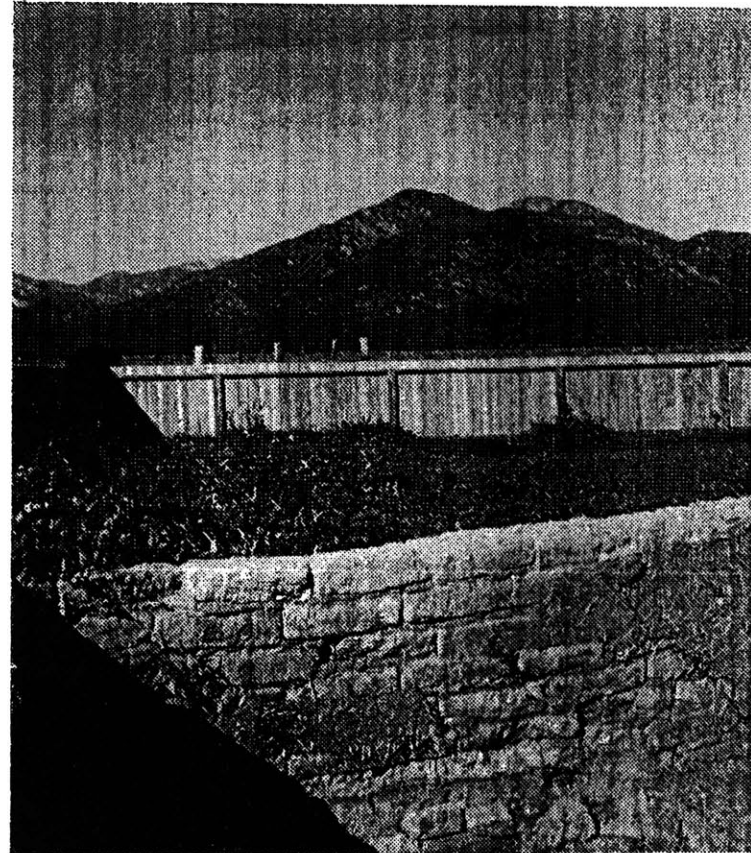
by Paul N. Richard

Submitted to the Department of Architecture
on January 14, 1994
in partial fulfillment of the requirements
for the Degree of Master of Architecture.

ABSTRACT

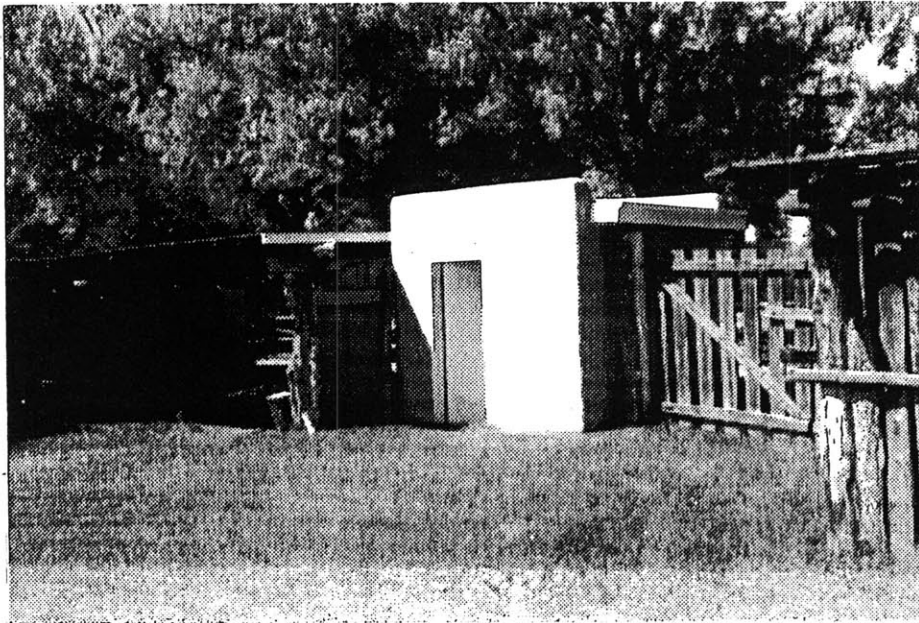
The focus of this thesis is the relationship between the natural landscape and the architecture of northern New Mexico. Through the design of a home and work-related out-buildings elements of reference are used to preserve an interplay between the landscape and the architecture. A dialogue between the largeness of the landscape and the comparative smallness of the human scale is maintained through the use of references such as walls, columns and gateways. Additionally, this thesis explores the multiple roles of these references in exploring the function of transitions (inside to outside and outside to inside). The architectural history of northern New Mexico as well as current building trends inform the thinking and the design presented. Materials such as pumice, wood, stone and concrete are used to understand the different ways materials interact with the landscape and how they are experienced in relation to the landscape.

Thesis Supervisor: Fernando Domeyko
Title: Lecturer, Department of Architecture



*Landscape Sequence
Revealed Through Series of Walls*

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Adobe Well House and Corral

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*Civilizations leave marks on the earth by
which they are known and judged. In large
measure the nature of their immortality is
gauged by how well their builders made
peace with the environment.*
Nathaniel Alexander Owings

Lance Chilton & Katherine Chilton et. al.,
New Mexico: A New Guide to the Colorful State,
Pg. 165



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Painting by Alyce Frank

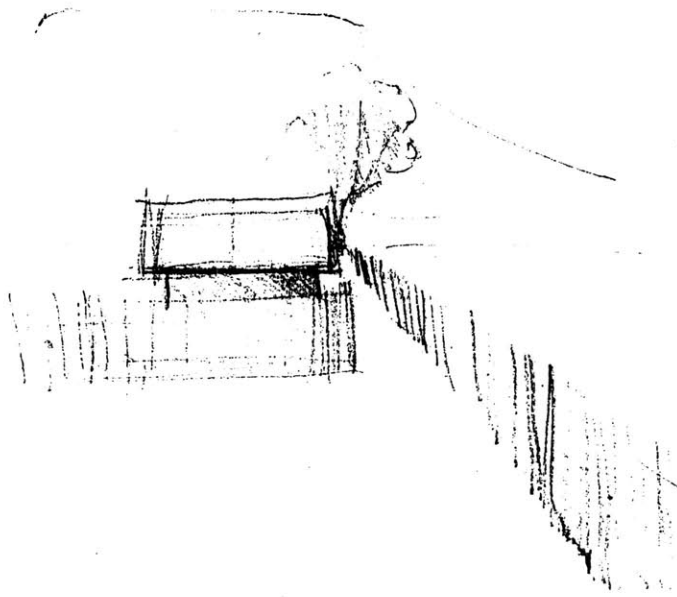
INTRODUCTION

My first visit to New Mexico was in 1988. The impact that New Mexico has had on my life has been quite remarkable. Having lived on the east coast most of my life I could never have prepared myself for the wonderful extremes New Mexico has to offer. In an instant a person is exposed to tremendous landscape, majestic mountains, a big blue sky and sparkling sunlight. It is more beautiful than one can begin to imagine. This symphony of landscape, light, color, smells and sounds call on all of one's senses of perception. The landscape is grand in scale and may change significantly from one place to the next. A simple mark or element in the landscape can substantially alter one's perception of the landscape - how one views the landscape. As the sunlight moves across the mountains they seem to come alive, dancing with movement and change. Huge cottonwoods, pink adobe walls, light and shadow, endless skies and mountains began to raise my awareness as to the many things which may affect one's perceptions and thus how important visual references are in making sense out of a place of this magnitude.

It was only after living and working in northern New Mexico that I began to wonder about how



The Day It Snowed Two Feet
Alyce Frank

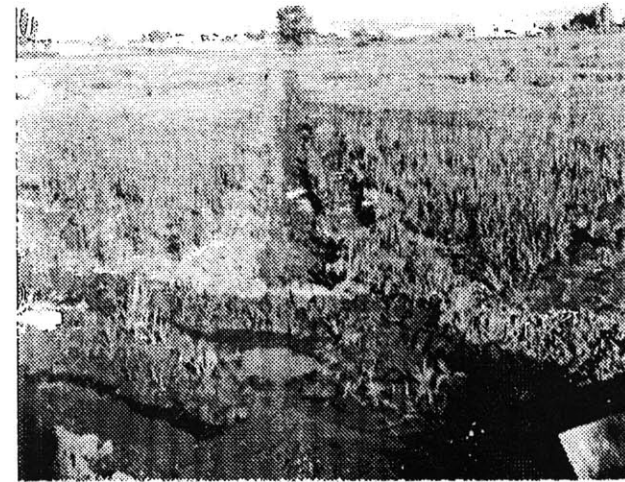


Looking South: Landscape Perspective

one might manage or control for a person's perception of place and distance. How can one manipulate elements in order to make a person feel comfortable with a certain view in relation to where he or she is referenced in the landscape? An exploration of these issues is essential to a consideration of building in New Mexico. One cannot separate the integral role that the landscape must play with architecture. Any spatial planning must maintain a dialogue between the largeness of the landscape and the comparative smallness of the human scale.

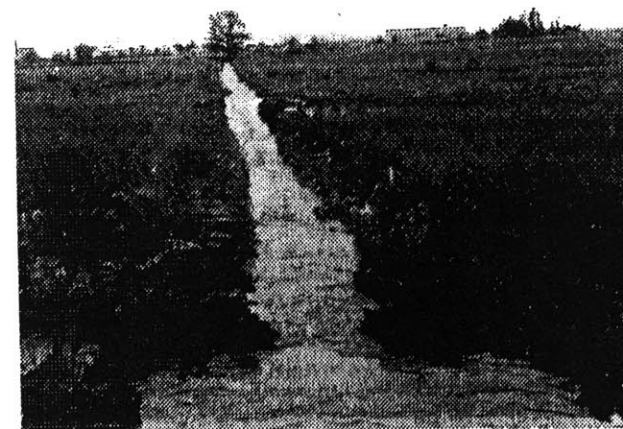
The purpose of this thesis, then, is to explore designing and building with a specific intention rather than designing solely from programmatic issues. This thesis develops around the proposition that maintaining a single intention from the onset of a design process is the basis from which a rich design can evolve. References are used to strengthen and generate forms which continually rely on the initial intention. For example, this thesis explores the use of walls and columns in various sizes, locations and configurations as references to enhance one's perception of space and place in relation to the landscape. These elements are also used in concert with light and shadow to dance as the mountains do with

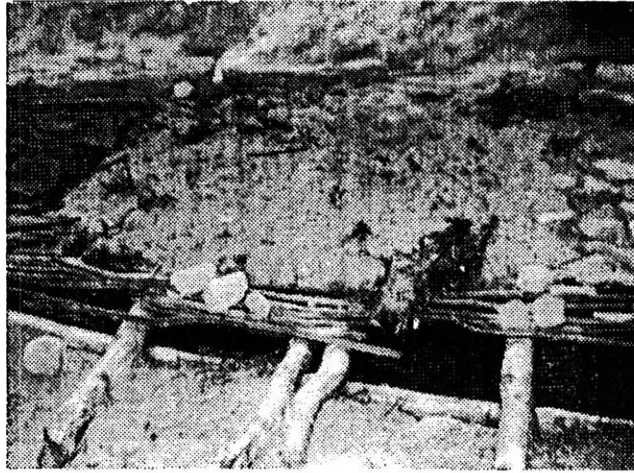
the sunlight as the day progresses. The intention, therefore, is to use these elements and abstractions of these elements to create a whole architecture - from a small scale to a large scale create an environment which recognizes the occupant as an essential part of the composition. This thesis is the result of an investigative design process which has circumnavigated through historical images, writings, references, experiences, criticisms, drawings and models. This process has been a circular, organic process - one which I contend models that which ought to be employed when one considers merging architecture with New Mexico landscape.



Irrigation Ditches Pointing West

*Flowing Water
Adds Dynamic Quality to Landscape*

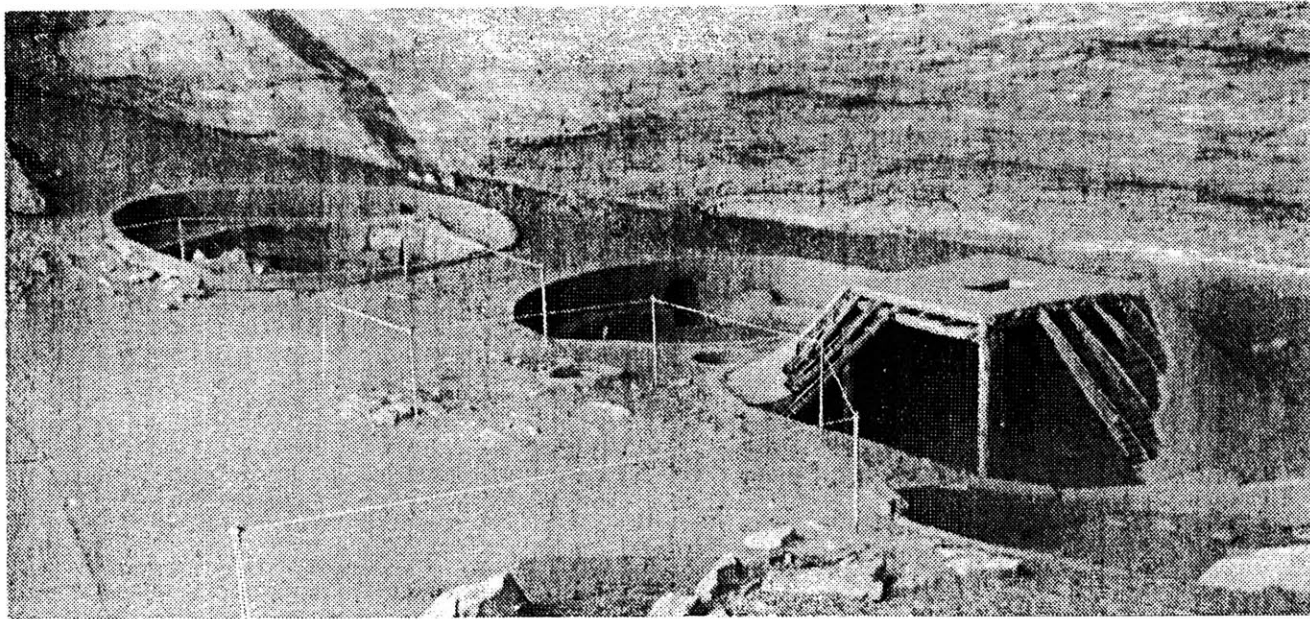




Top and bottom

Sticks and Mud (used as an early building material)

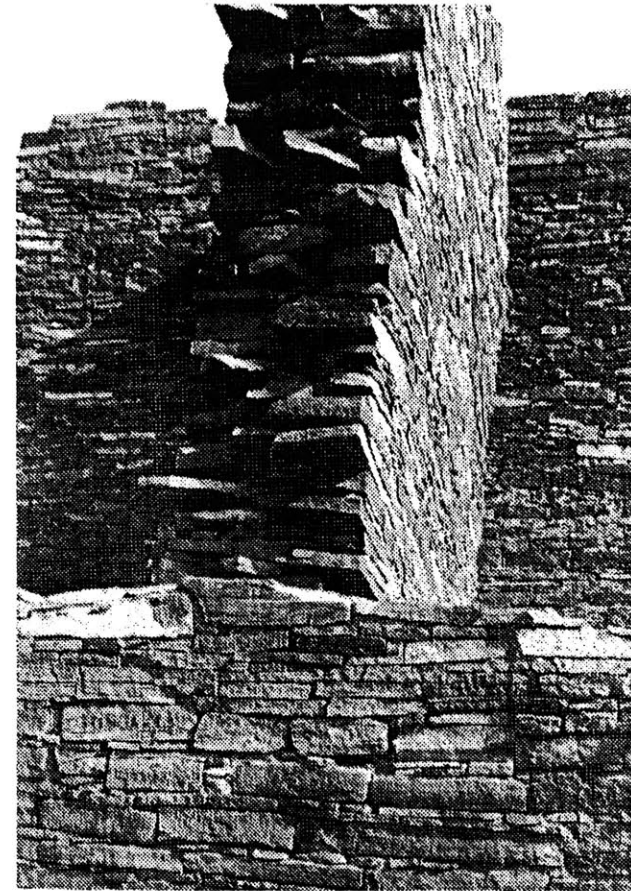
William M. Ferguson and Arthur Rohn,
Anasazi Ruins of the Southwest in Color,
Pg 36 (top) & Pg. 115 (bottom)



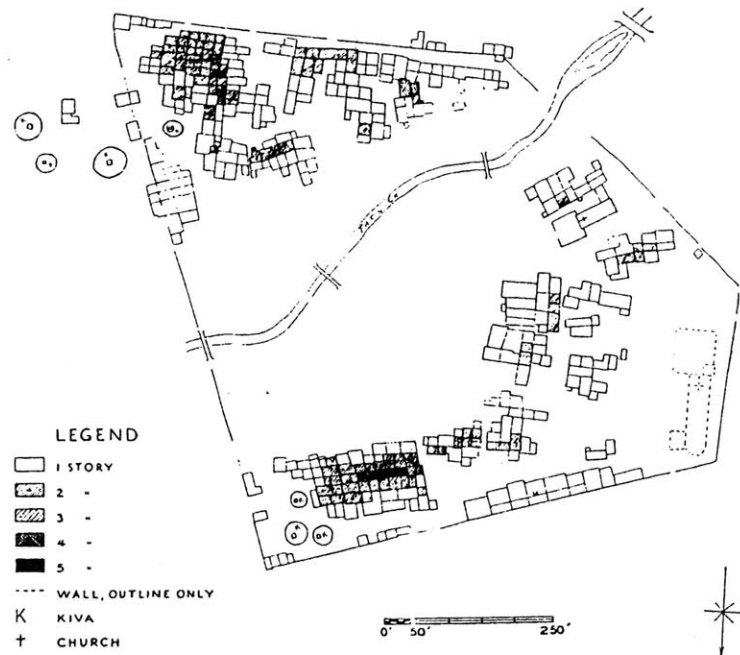
Early Architecture of New Mexico

New Mexican architecture has been influenced by three main cultures: American Indian, Spanish American and Anglo. With the entrance "(entradas)" of each new culture came architectural changes. However, with this transience there also lies a continuity to the architecture of New Mexico mostly due to the continued use of indigenous materials (Lance Chilton & Katherine Chilton et. al., *New Mexico: A Guide to the Colorful State*, 1984, pg. 165),

Early inhabitants of New Mexico were the Anasazi Indians (a Navajo word meaning "the old ones"). The Anasazi dwelt primarily in caves, cliffs and pueblo type communities. The Anasazi culture dates back to about 1000 to 1500 A.D. Chaco Canyon appears to have been "the religious or administrative capital of an interdependent network of pueblos" (Lance Chilton & Katherine Chilton et. al., *New Mexico: A Guide to the Colorful State*, 1984, pg. 22). The Anasazi of Chaco Canyon were very skilled stone masons. Their building techniques and styles evolved from a single course of masonry used for one story dwellings (a very basic construction) to triple courses of masonry for dwellings as much as five or more stories high (a much more sophisticated building process). Roofs were made



Example of Early Stone Masonry of Anasazi
William M. Ferguson and Arthur Rohn,
Anasazi Ruins of the Southwest in Color,
Pg. 35



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Taos Pueblo Plan
 Vincent Scully,
Pueblo: Mountain Village Dance,
 Pg. 51

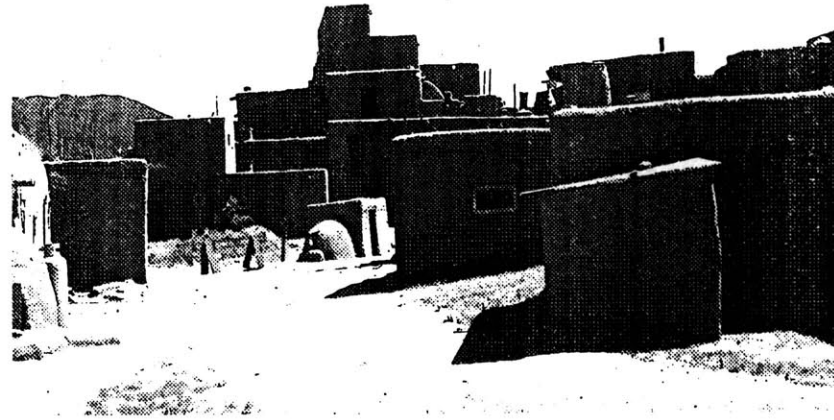
by alternating different layers of timber and then applying mud as a filler.

The Anasazi appeared to have a clear organizational intention in their designs. The Anasazi built in clusters using an east-west organization. Living areas faced south onto a community area and a shared outdoor work space. Within this form of layered organization the storage areas were located to the north of the living areas while the kivas were located to the south of the living areas.

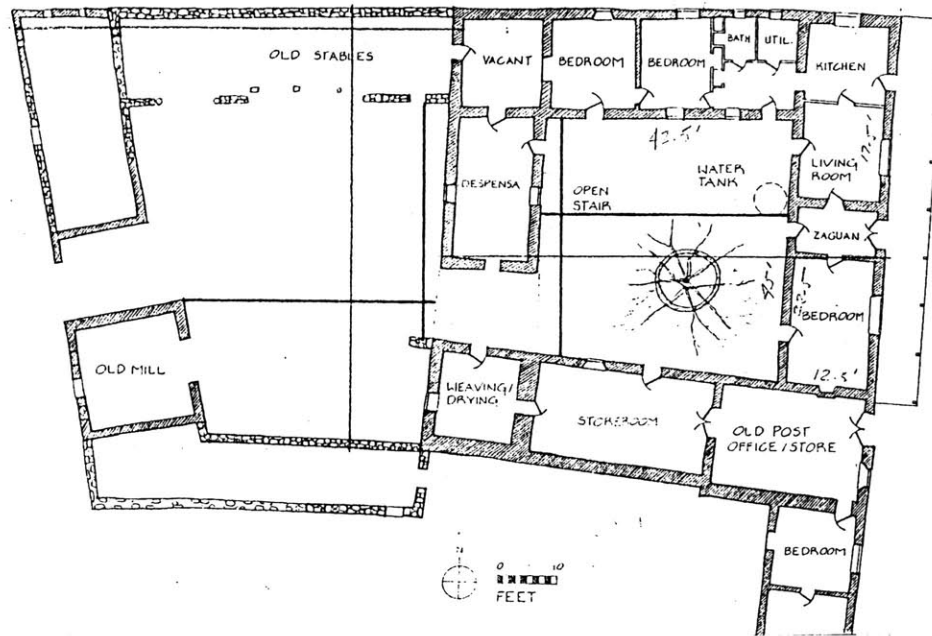
The Anasazis were eventually forced to move and abandon their settlements. They ultimately scattered as a result of long droughts and many moved to the Rio Grande valley. These settlements were the origins of the existing pueblos of New Mexico. Like their predecessors they relied on farming and required permanent homes and structures to store their food. Most of the pueblos of New Mexico organized themselves in a square or rectilinear plan. A centralized open area was used as community space and was surrounded by two and three story dwellings terraced back from the main community space. Taos pueblo, however, utilized a different configuration. Taos pueblo consists of two densely configured building developments separated by a community gathering place. It is pos-

sible that this separation occurred as a result of wanting to build on both sides of the river as a way of maintaining easy access to the river. What remains similar between the Taos Pueblo and the other pueblos of New Mexico is the east-west organization with living spaces opening up to the south.

The influx of the Spanish through New Mexico brought additional building techniques to the region. The Pueblo Indians had been building homes out of adobe for sometime, however, it was the Spanish who taught the Pueblo Indians to make bricks from sun dried mud which marked the introduction of adobe bricks to the region - a building technique which continues to be used today. The Spanish settled along the Rio Grande Valley and built haciendas and settlements which exist today as small towns dotting the landscape of New Mexico. The introduction of the courtyard, house and plaza were also very important and prevalent contributions from the Spanish settlers. Their houses grew as their families grew and were added onto accordingly. The courtyard configuration was usually the result of an additive process of developing the home around a centralized space often taking place over many generations. This process resembles the growth of those communities such as the



Taos Pueblo



Plan of Gallegos House
 Beverly Spears,
American Adobes,
 Pg. 57

Anasazi culture and the Pueblo culture who both adopted a similar systematized method of growth, orientation and building processes.

What is apparent, then, is that while these two cultures cohabited in this area they clearly must have shared many ideas about building methods and building organizations. Many of these building techniques established by the Indian and Hispanic cultures continue to be used today

With the introduction of the American pioneer who migrated to New Mexico in the 1800's there were yet more layers of building techniques and information added to the already diverse architectural blend. Major contributions of the American pioneer to New Mexican architecture centered primarily on their detail work and their refinement of already existing architectural elements.

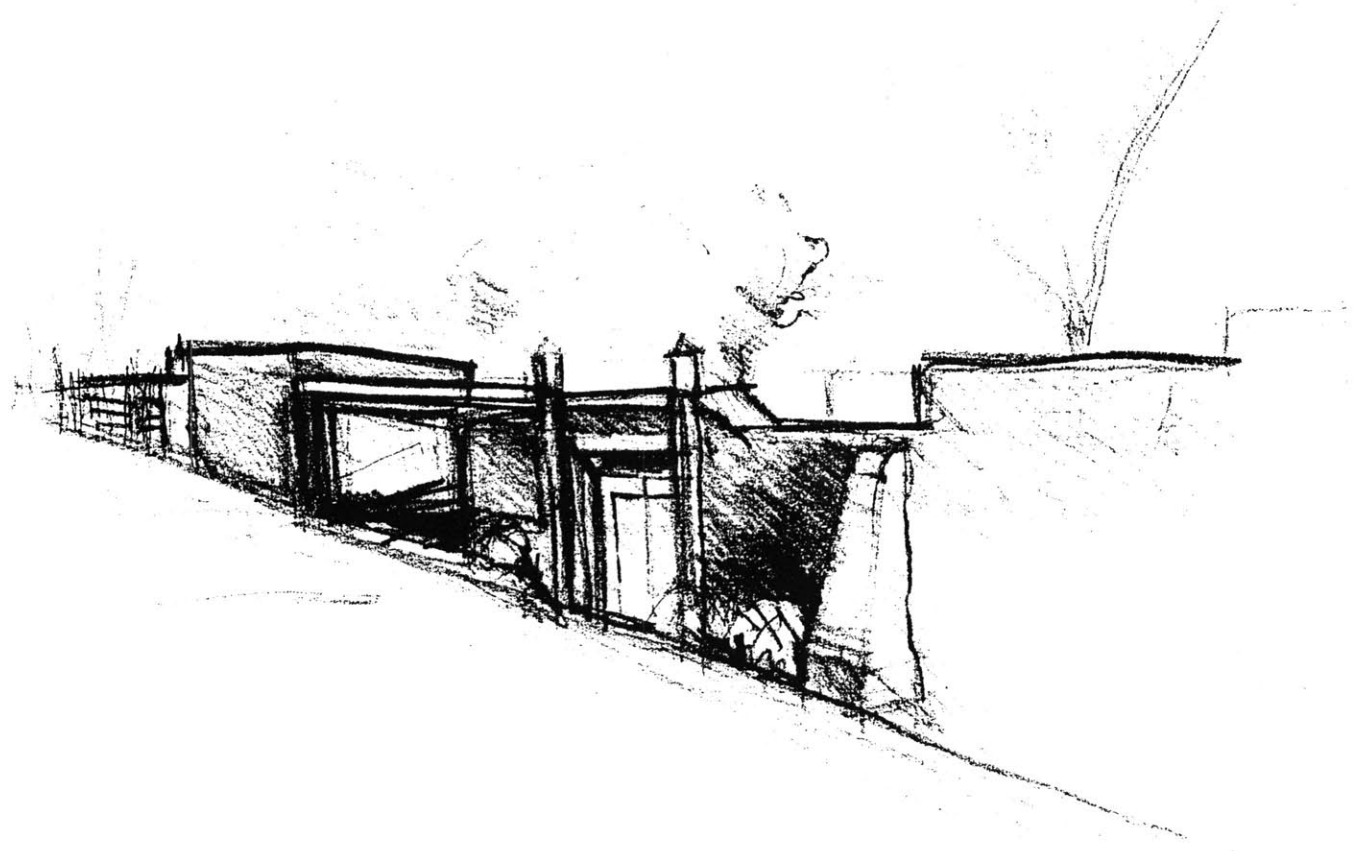
" Adobe architecture can be found in many parts of the world: Africa, the Middle East, Spain, and Latin America; however, the adobe houses in northern New Mexico are distinctly American. They have evolved naturally from diverse cultural sources and have become a rich and varied regional style, different from adobe styles else-

where in the world or those brought here from Spain and Mexico. Their evolution and diversity show a continuing concern for incorporating current fashion into the basic style and for modifying the house for greater comfort and convenience" (Beverly Spears, *American Adobes, Rural Houses of Northern New Mexico*, 1986, pg. 4).

Today, as one sifts through the layers of ruins, building techniques, spatial organizations, forms and materials one realizes a very rich palette from which to draw. How these references are used to inform an architectural work represents the intention of this thesis. These references are woven into the design process in considering how they might inform an understanding of space, place, or a way to organize and aggregate buildings.



Gallegos House
Beverly Spears,
American Adobes,
Pg. 56



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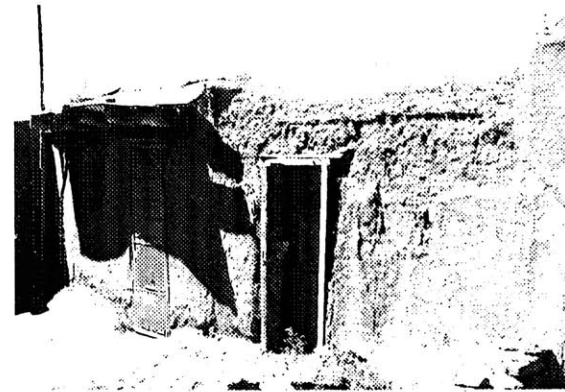
Taos Adobe

Current Building Practices

Current building trends tend to mimic the old adobes of the region. The old adobes were built for protection from intruders as well as for shelter from the elements. While the buildings still must be designed in such a way as to provide shelter from the elements, they no longer need to be designed to protect from intruders.

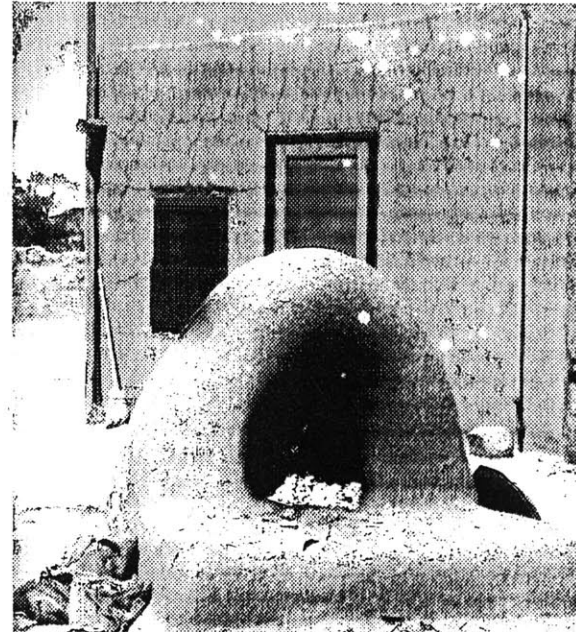
With the introduction of new building techniques and technologies, the tendency has been to open the adobe structure to the sunlight and to the landscape. The result has often been disappointing. The light and dark contrasts that the old adobes created is frequently lost in the more contemporary adobes. Too much light can be as ineffective when dealing with spacial issues as too much darkness and shadow. When dealing with issues of experiential qualities of a place one must strive for contrast variations. If everything is of the same value then there is little differentiation and thus less depth of experience possible.

While addressing contemporary needs and issues new homes should respond to the intense natural condition of this region. Most do not. Much of the new regional vocabulary is based on existing historical architecture which is then

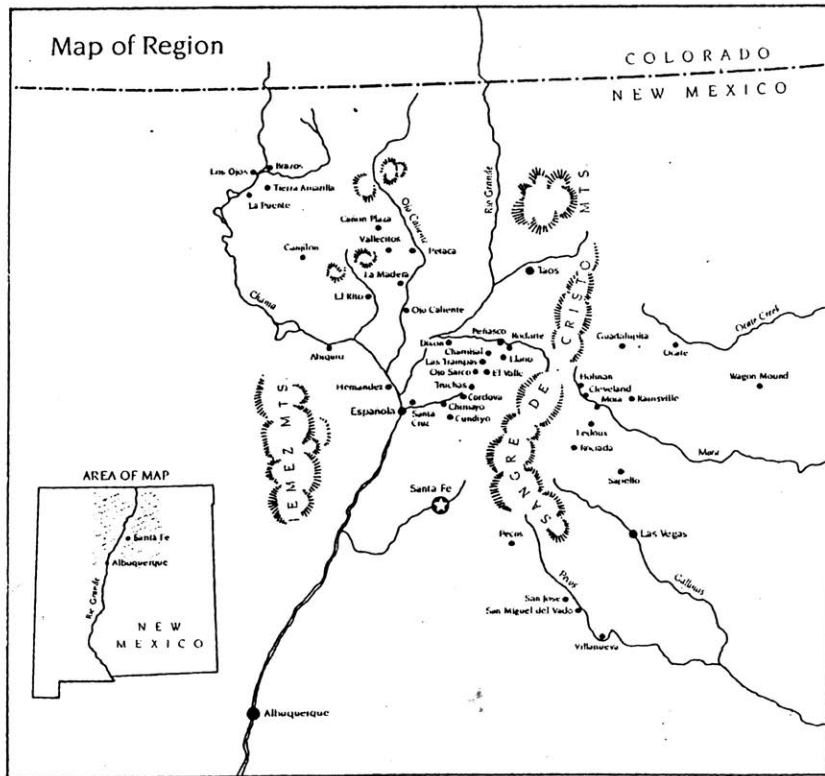


*Mud House
Taos Pueblo*

copied for contemporary needs. New building techniques are being used to replicate formal arrangements which were based on the more primitive needs and capabilities of an agrarian culture - one which is becoming increasingly obsolete. There seems to be little of this understanding as to why certain formal arrangements have been used historically. New buildings lack the formal and spatial continuities necessary to adapt to the local natural conditions. The present challenge lies in understanding what is of continued value from the old architecture and how these elements of structure can be integrated with developments in technology, modified building techniques and materials.



*Bread Oven
Taos Pueblo*



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Map of Northern New Mexico

Beverly Spears,
American Adobes,
 page x

THE SITE

Understanding the Landscape

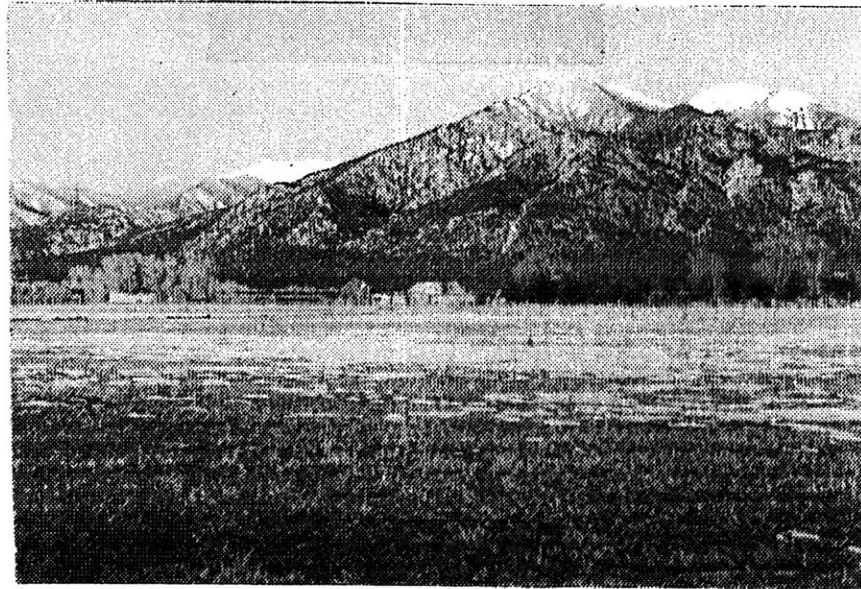
In his book *The Interpretation of Ordinary Landscapes: Geographical Essays*, D. W. Meinig distilled the following from John B. Jackson's writings:

1. "The idea of landscape is anchored upon *human life*; "the true and lasting meaning of the word landscape: not something to look at but to live in; and not alone but with other people..."

2. Landscape is a *unity*, a wholeness, an integration, of community and environment; man is ever part of nature...

3. Therefore we must always seek "to understand the landscape in *living terms*," "in terms of its inhabitants;" judgments of landscape quality must begin by assessing it "as a place for living and working" and proceed toward a conclusion based on how "productive" it is for the needs of the whole man - biological, social, sensual, spiritual.

4. "Just as the elementary unit of mankind is the person, the elementary unit in the landscape is the *individual dwelling*, "the oldest and by far the most significant" man-made element in the landscape. Thus in the study of landscape, "first comes house," for it is the microcosm, the "most reliable indication of (man's) essential



The beauty that we see in the vernacular landscape is the image of our common humanity: hard work, stubborn hope, and mutual forbearance. Landscapes which make these qualities manifest can be called beautiful. Their beauty is not simply an aspect but their very essence and it derives from the human presence.
John B. Jackson

Jerry Holan,
Norwegian Wood: A Tradition of Building,
Pg. 13



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Irrigating an Alfalfa Field

identity." This "ordering of man's most intimate world" is the prototype of how he orders his larger world...(D. W. Menig, *The Interpretation of Ordinary Landscapes: Geographical Essays*, 1979, pg. 228).

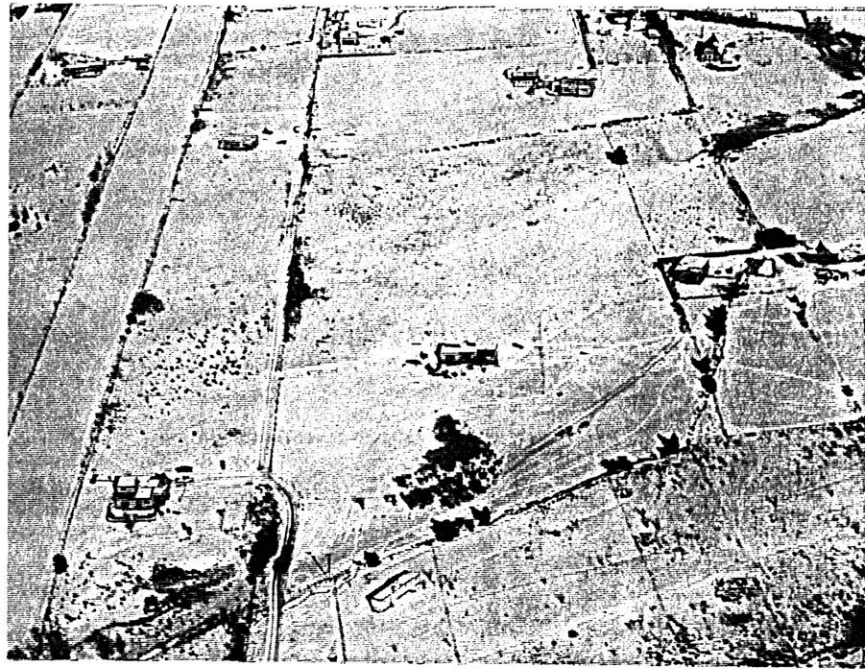
Thus, the objective of the design proposal of this thesis is to build form and space that engages in a dialogue with the natural conditions of the landscape and intensifies ones perception of 'being there'. The intention is to create an experience which recognizes this dialogue as the basis for design.

The site is a six acre lot situated a few miles north-east of Taos, New Mexico in a town called Arroyo Seco. This region is located in the north central part of the state and lies at an elevation of 7,200 feet above sea level. Twelve to thirteen thousand foot mountain peaks surround the site on three sides: north, east and south. To the north and east are the Sangre de Cristo mountains and to the south of the site are Truches Peaks. The western edge opens up to the Rio Grande Valley, desert flat lands and mesas; providing views which extend for miles. Due to the unobstructed view to the west and the advantageous climate one experiences spectacular sunsets almost daily.

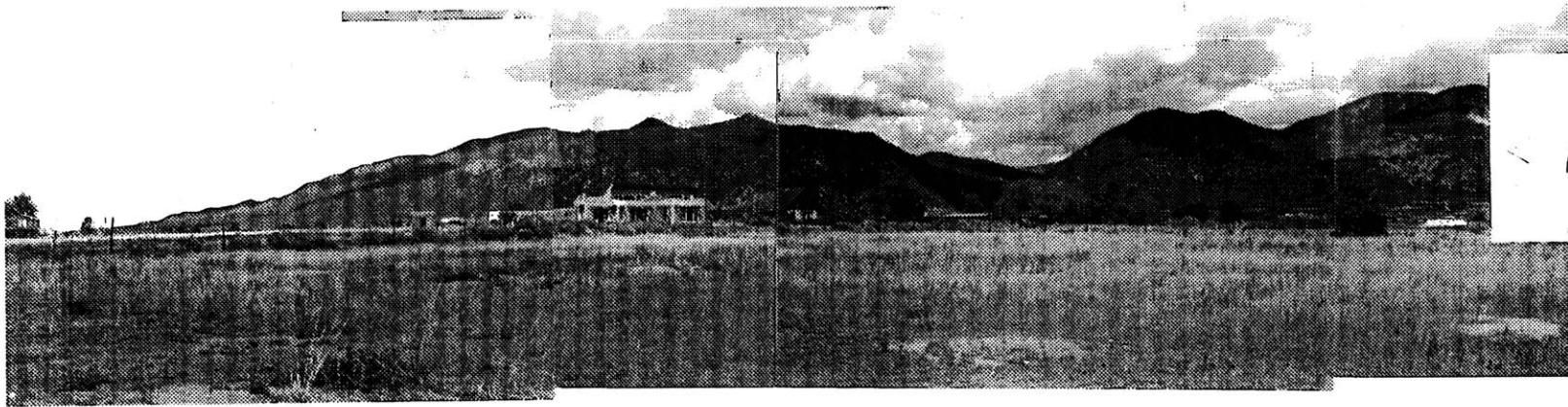
Northern New Mexico is known to artists throughout the world for its spectacular light conditions and the dramatic effects that light has on the landscape and objects in the landscape. This phenomenon of unusually brilliant light (resulting from a thin atmosphere) intensifies the color of natural elements and produces effects which contribute significantly to how one experiences the environment.

The summers in this region are hot and dry. Winters are very cold with snow covering the mountain peaks from October to June. Winds are predominately westerly and are, at times during the year, extremely strong.

The architecture of northern New Mexico reflects an emphasis on protection from the environment - whether it be from the intense sunlight, the winds, or the cold winter and hot summer temperatures. Thus, in designing a home in northern New Mexico one must take into consideration the topography, the light and the climate.

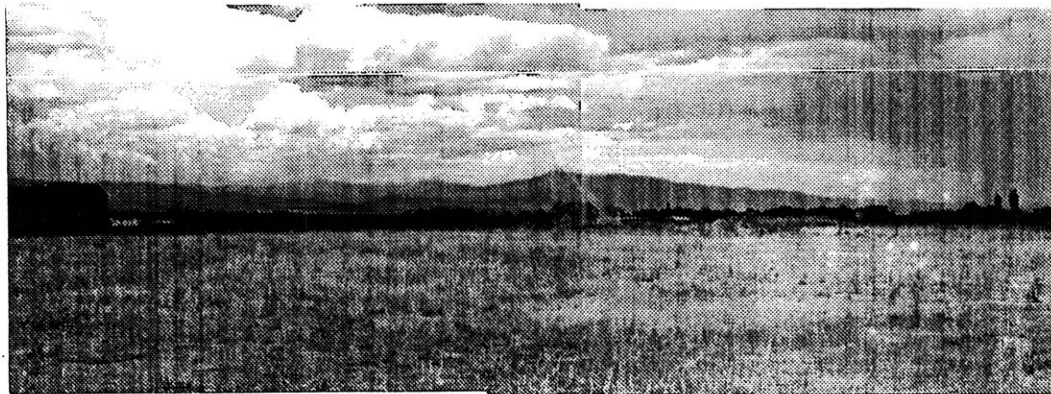


Aerial Photo of Site: Northern View

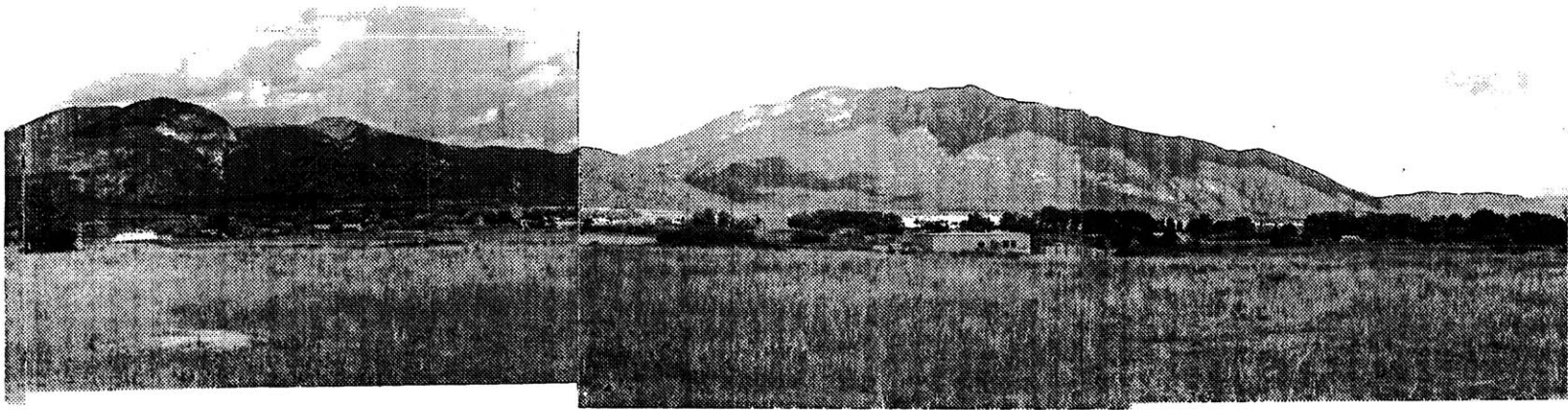


View North

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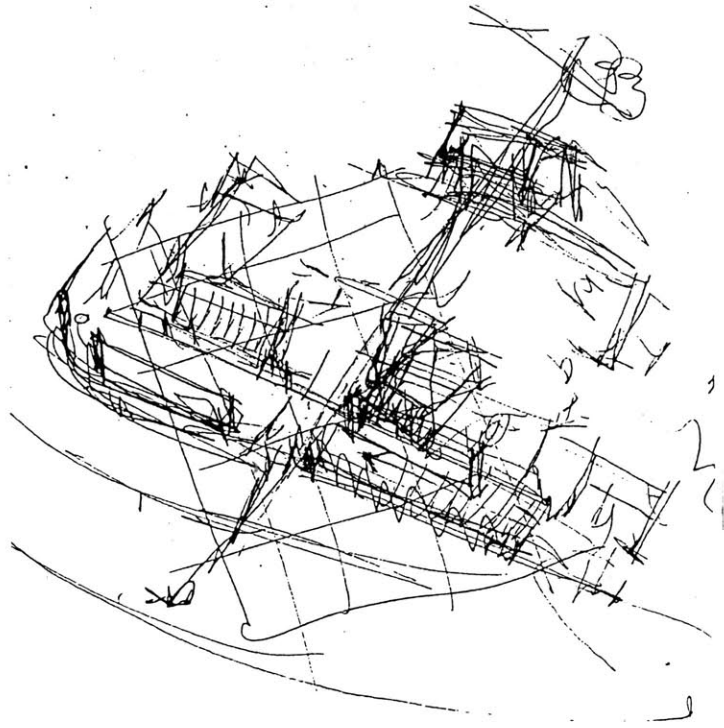
View South



View East

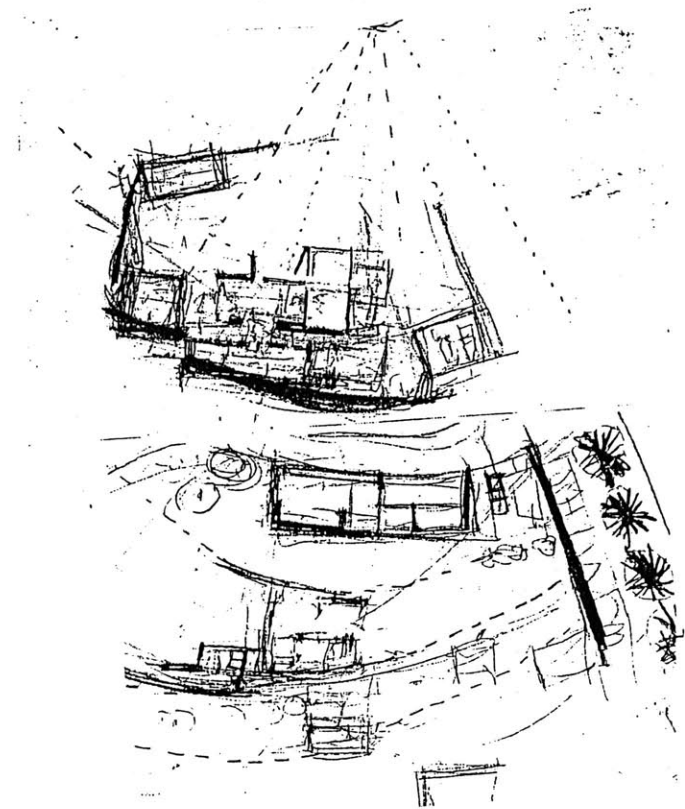


View West



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Sketch Study: 9/30/93

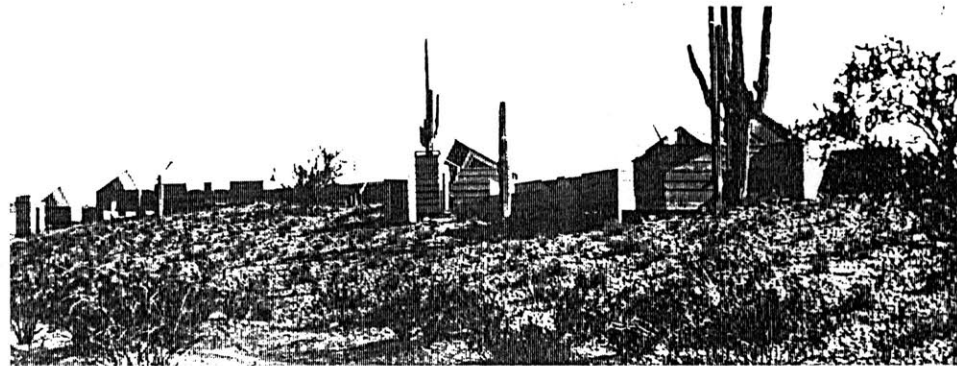
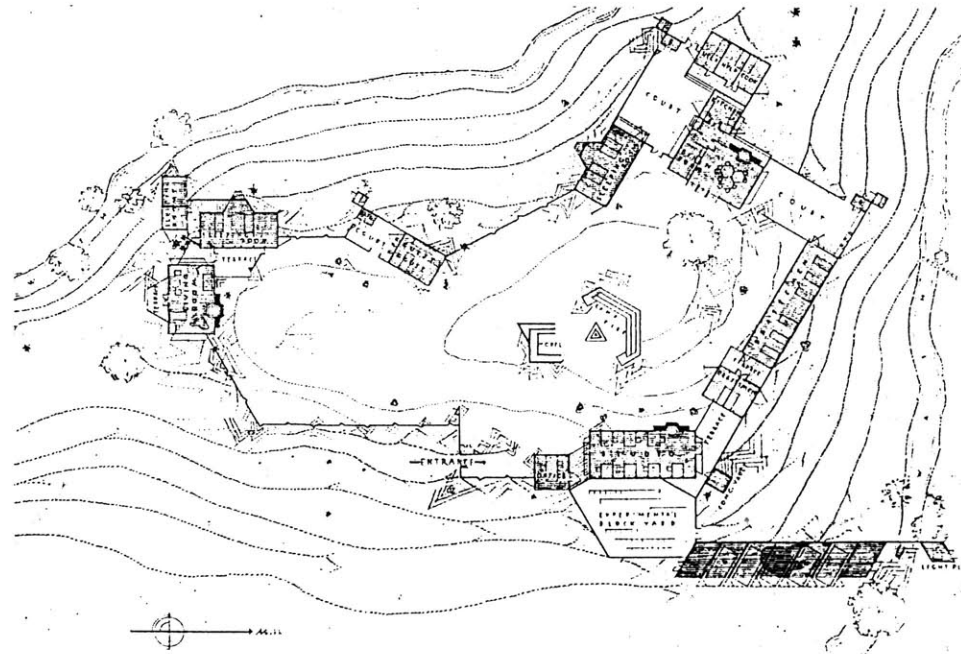


*Further Development:
House Facing South (responding to curves and
contours of site)*

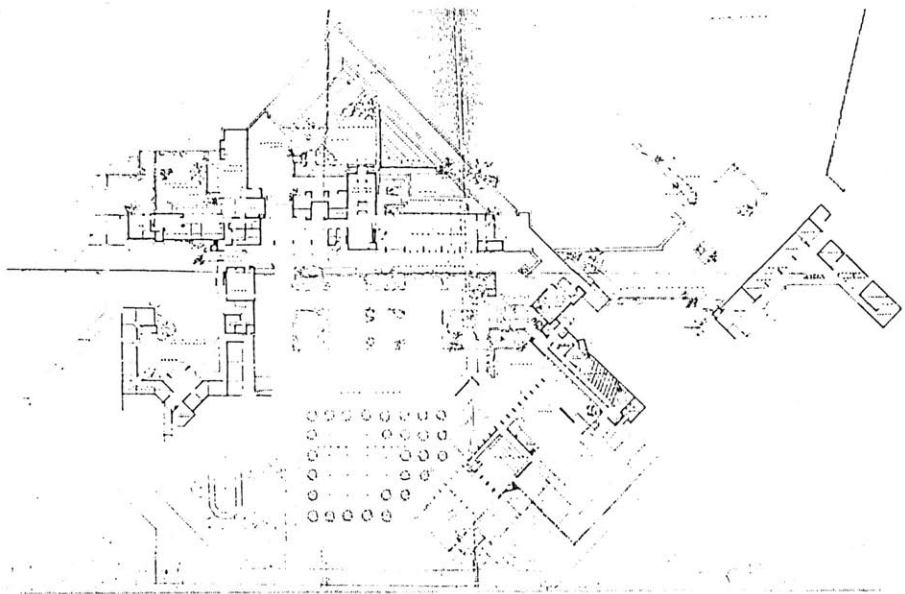
Organization of the Site

Organization of the site serves as a response to the landscape and the local conditions of the area. Topography, sunlight, prevailing winds, water and views are all contributors to the thinking behind the organization and configuration of the built elements and forms. Identification of some clue of an existing built fabric as well as some prediction as to how the local area might evolve also contributes to the organization of the site. Future development of the site in terms of growth and aggregation of the building is considered as well. Proposing how the building might be phased in order to make further expansion and development of the house apply to a preplanned logic. Aggregating built forms, rooms and buildings plays a significant role in the richness one experiences in wandering through an old hacienda, farm or prehistoric ruin.

Frank Lloyd Wright understood the importance of the relationship between landscape and architecture. Ocotilla, Frank Lloyd Wright's first desert compound responds directly to the Arizona landscape. The camp is situated very appropriately within the concentric contours of a desert hilltop. Buildings are arranged around a central space with a "campfire", creating a plaza



Ocotilla Desert Compound
Edited by Yukio Futagawa,
Frank Lloyd Wright Selected Houses: Taliesin West,
Pg. 24 (top) & Pg. 25 (bottom)



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Taliesin West

Edited by Yukio Futagawa,

Frank Lloyd Wright Selected Houses: Taliesin West,

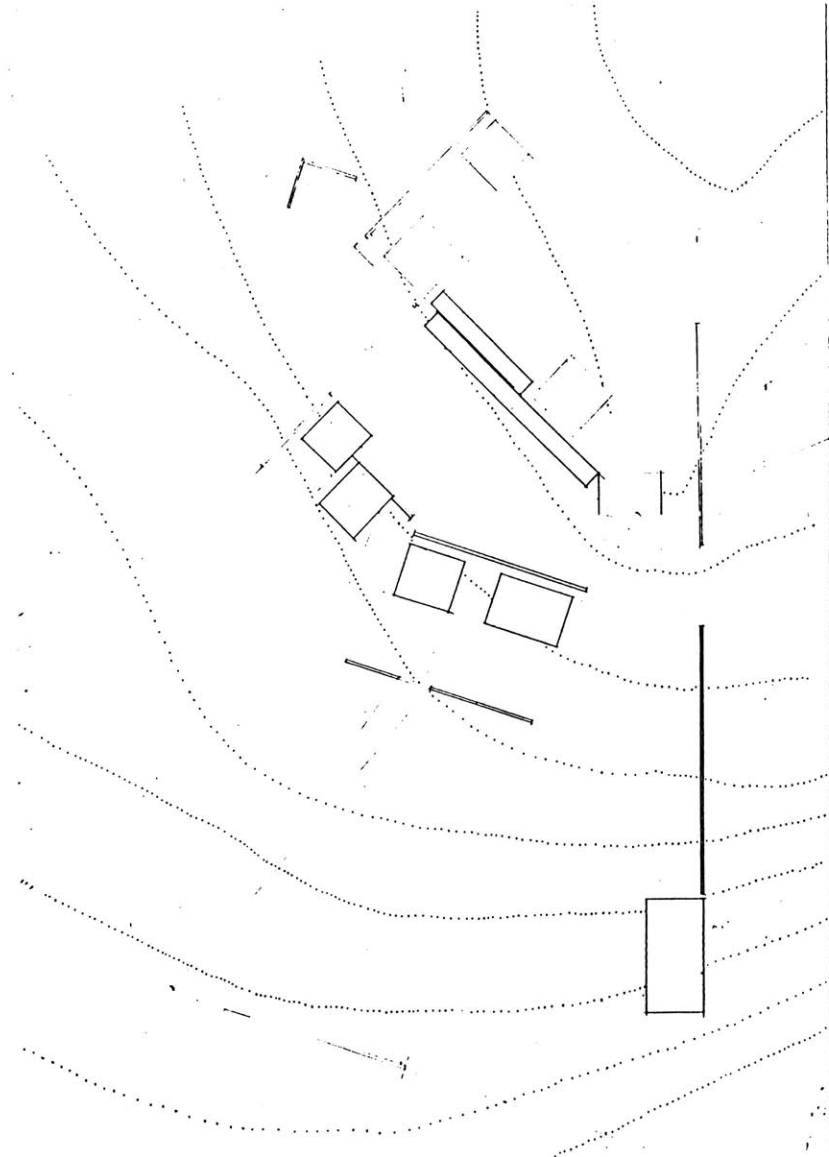
Pg. 49 (top) & Pg. 53 (bottom)

or gathering place.

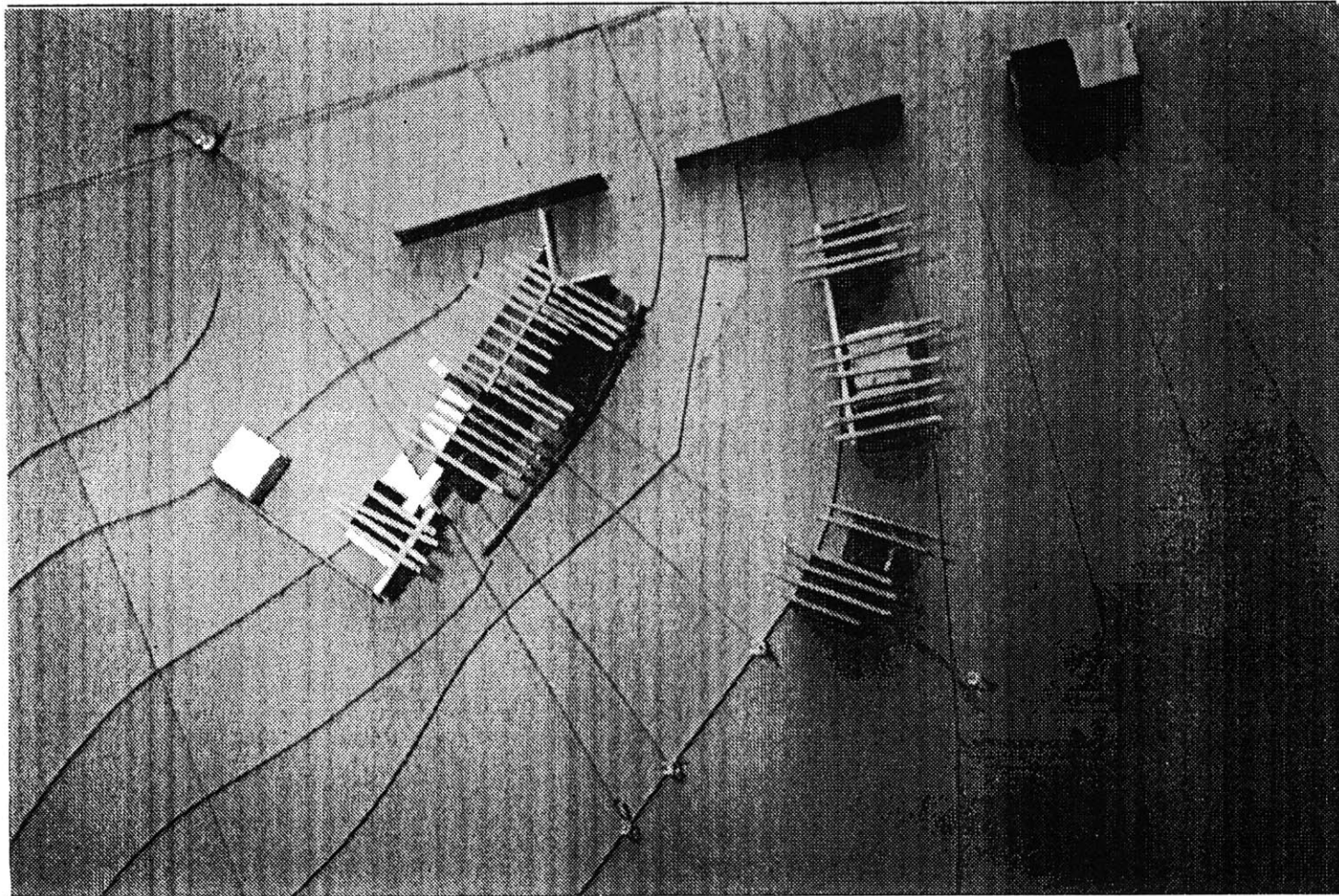
Ocotilla was the predecessor to Taliesin West. Taliesin West reveals the influences of the southwest Indians. The massive stone masonry walls and geometric forms seem to rely heavily on the early cultures of the area. Organizationally the compound expands along a central axis. Many of the living and working areas are connected or adjacent to a large courtyard.

The primary organizational element of the scheme presented in this thesis is the long portal or porch which is shifted slightly from an east-west orientation allowing the main house to develop along it or surrounding buildings to be registered to it. The intention is to establish a strong reference to which any expansion of the main house or outbuildings may occur. An east-west orientation allows a southern exposure to be maintained for the living spaces offering solar heat, light and views of Truches Peaks which are off in the distance.

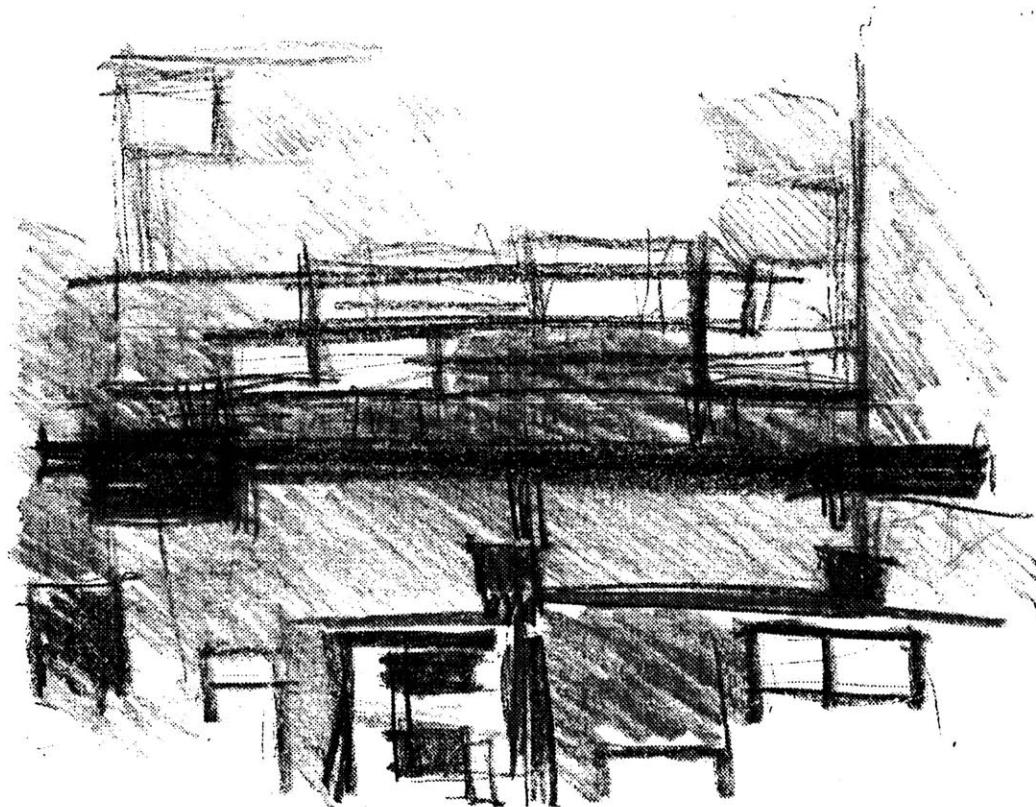
*House Begins to be Organized Within Some
Pragmatic as well as Dimensional Parameters*

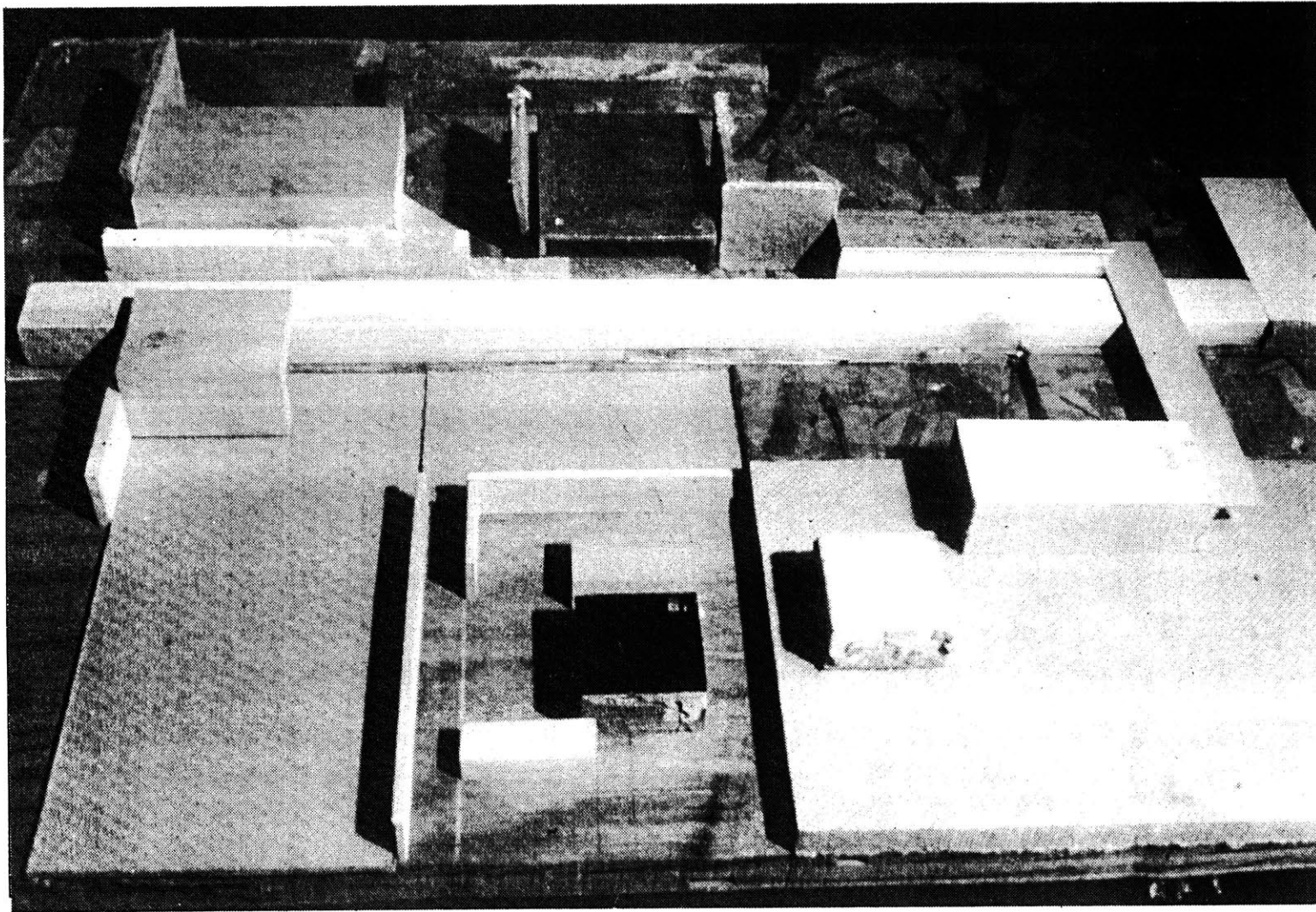


Model Study: Facing South - Organizing House Around Contours of Site



*Diagram of General Organization With Introduction of
Irrigation Gates Into Courtyard*





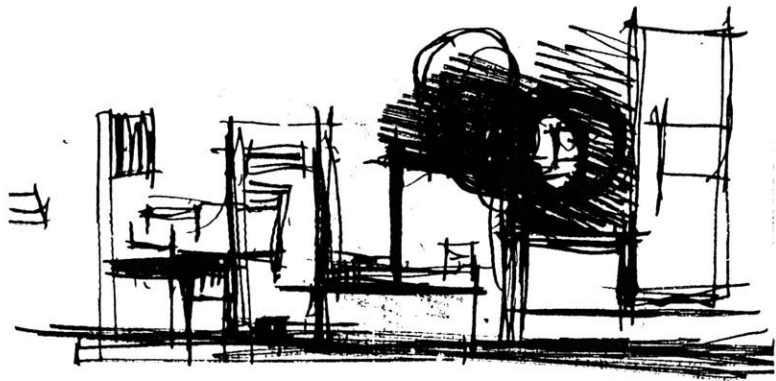
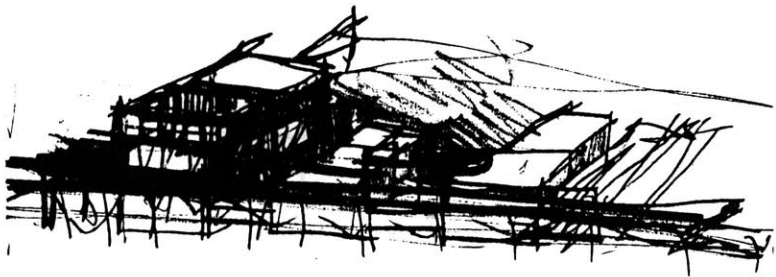
Model of Diagram: Organization of House Along East-West Axis Which Evolves to Become Portal (porch) - Rooms of House, Courtyard and Out-buildings are Referenced to Portal

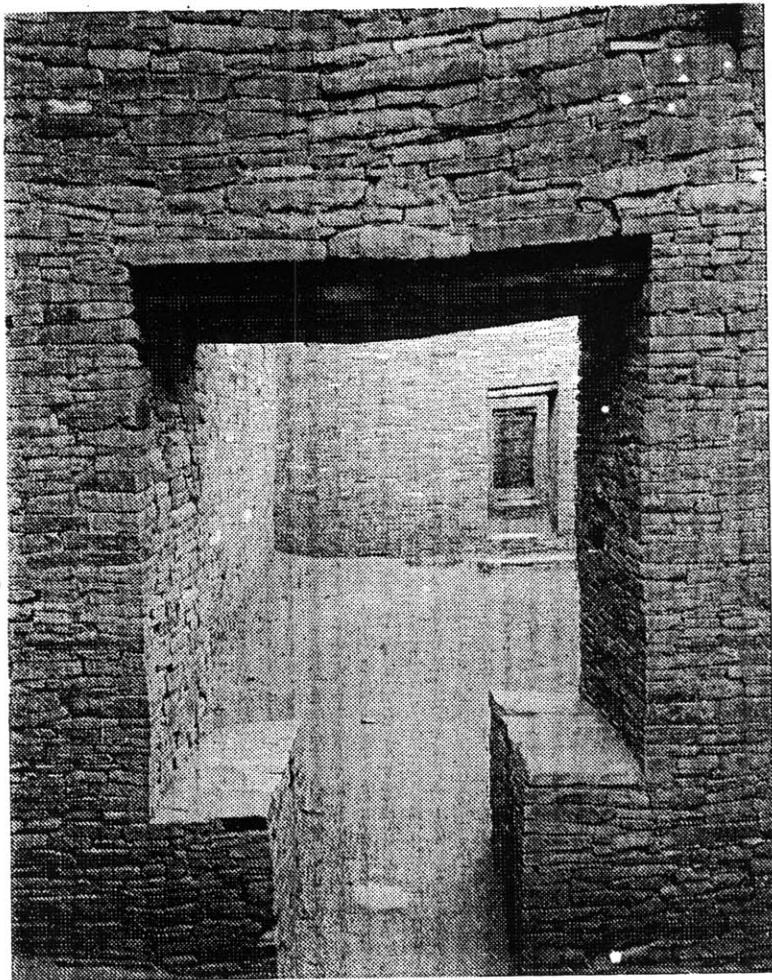


*Three Diagrams Showing How House Might
Grow or Expand Along Portal*

*Because Movement Along East-West Axis Along Portal is So Strong it
Was Necessary to Strengthen Circulation Perpendicular to Portal
(the arrow in the top diagram illustrates this)*

*Diagrams Also Explore Possibility of Built and Not Built Territories -
Alternations of Landscape and Building*





Layering to the Inside

T-Shaped Doorway: Chaco Culture, N. H. P., New Mexico

Florence C. Lister and Lynn Wilson,

Windows of The Past,

pg. 89

DEFINING TERRITORIES

Spatial Relationships

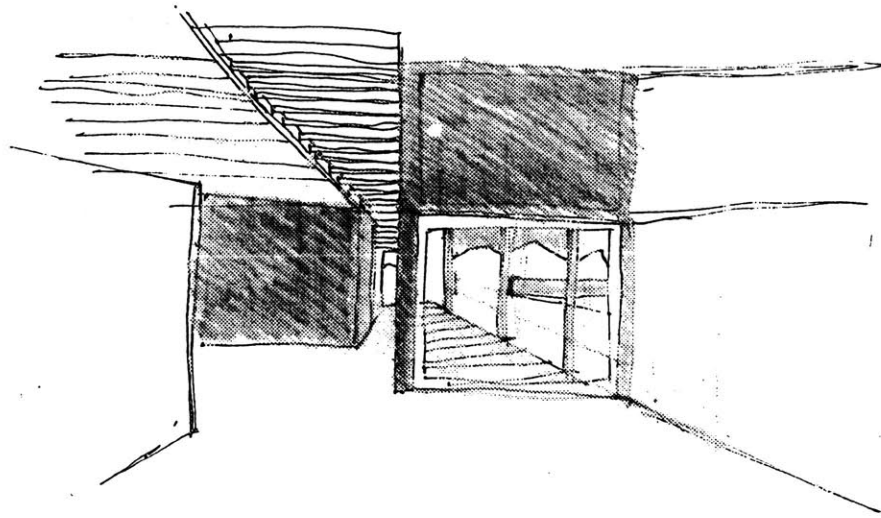
As one observes the Anasazi ruins of Chaco Canyon or Mesa Verde one clearly recognizes the different territories defined by the network of remaining walls penetrated by windows and doors connecting interior rooms and outdoor spaces. In addition to this are the remaining massive stone walls which now seem to alternate between solid and transparent. Light and landscape move in and out of the ruins while the towering vertical walls reveal the sky.

The ruins of Chaco Canyon have informed my thinking about the importance of layering and sequencing as a way of creating transitions between inside and outside. Expanding on this I have sought to use the layering and sequencing to not only create successful transitions but also to intensify the experience of the transitions. This phenomenon provides the individual with visual references as to where he or she is located in relation to other rooms or in relation to the outside.

The layering of small and large elements and open and closed surfaces are used to develop transparencies which recall images of the ruins



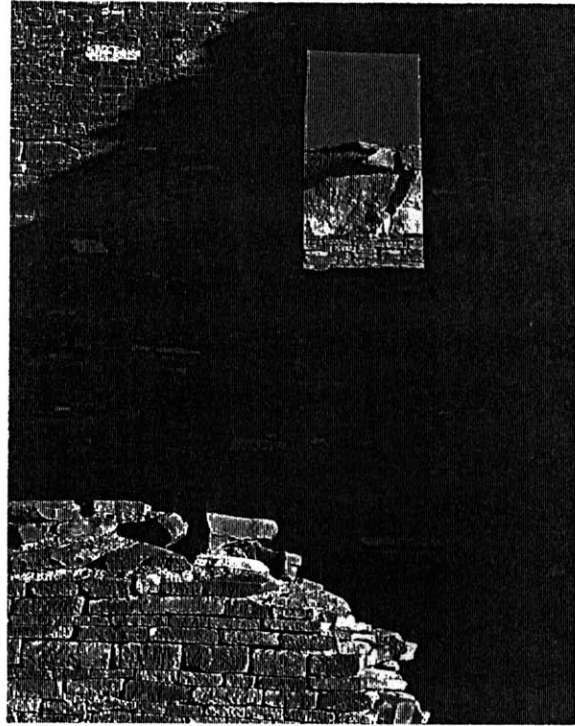
Pueblo Bonito: Chaco Culture, N. H. P., N. M.
Florence C. Lister & Lynn Wilson,
Windows of The Past,
Pg. 38



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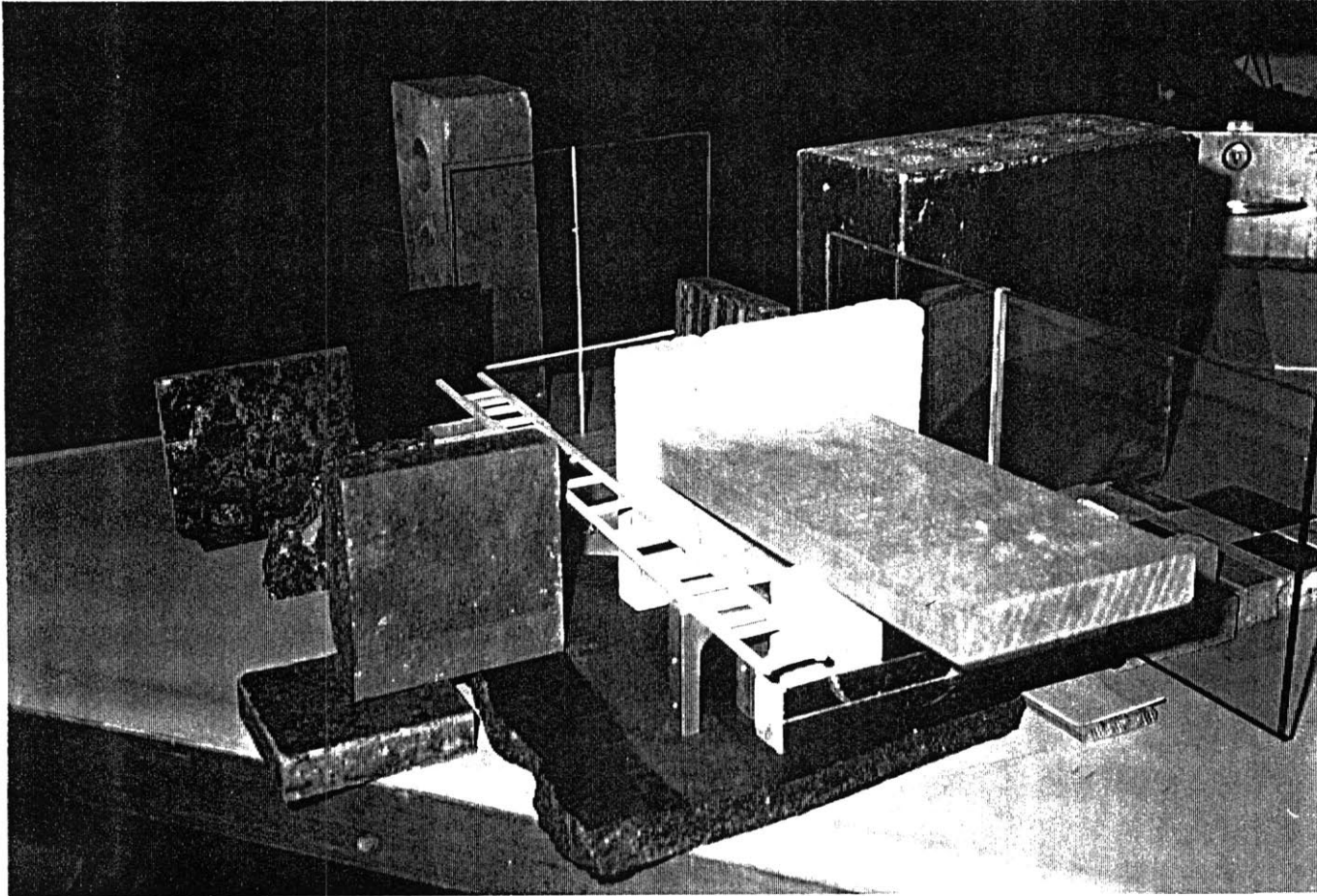
*Conceptual Drawing:
Looking From Inside of House to Outside*

and other artifacts of the regional landscape. Transparent is defined as the ability to see through from one place to the next or to an object or objects beyond that place. Transparency also refers to the property of transmitting light thus providing a clear view of the object beyond. In his book, *The Mathematics of the Ideal Villa and Other Essays*, Colin Rowe cites Gyorgy Kepes on the subject of transparency: "transparency means a simultaneous perception of different spatial locations. Space not only recedes but fluctuates in a continuous activity. The position of the transparent figures has equivocal meaning as one sees each figure now as the closer, now as the further one" (Colin Rowe, *The Mathematics of The Ideal Villa and Other Essays*, 1976, pg. 161). The function of transparency is important in the definition of space and the articulation of individual elements. It activates a duality between both the structural role of a built element as well its architectural composition with the landscape.



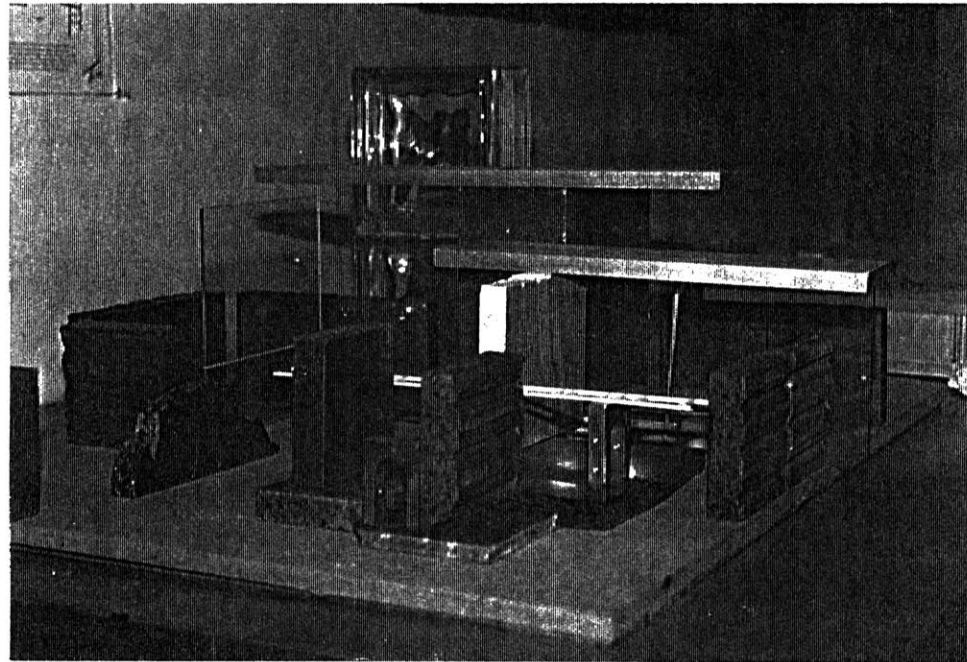
39

Window and Walls:
Chaco Culture, N.H.P., N.M.
Florence C. Lister & Lynn Wilson,
Windows of The Past,
Pg. 13

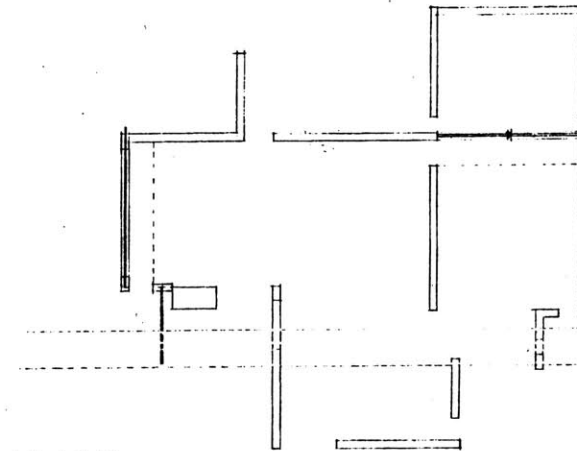


*Model Study:
Material and Space*

A modeling technique that assembles authentic materials such as marble, brick, glass, steel and wood was used as a point of departure for the study shown (opposite page and this page). Although this method represents an abstract, conceptual vision of a building, this modeling process involves one immediately with the raw building materials. This has the effect of helping one have a more clear experience both of the relationships between the materials and the space as well as between the materials and light and shadow. Thus, the intention is to elicit a visceral understanding of the materials used as well as maintaining structural integrity. These initial studies represents a series of rooms defined by thick walls of masonry. Walls are rooted in the earth by their mass. The walls function as structure or as definition of territory. They also have a role in concert with other elements. How one experiences the wall is determined by how well it is placed in relation to other building elements and how well it is read in relation to light and shadow. Columns are used to define territories and movement. Lighter materials are used to define ceilings and screens. Smaller elements are used to relate directly to a person's size. These smaller building elements are also used as references at a particular size to set up clear visual clues as to how a territory may be defined.



Model Study: With Glass Wall and Wood Roofs



Model Plan



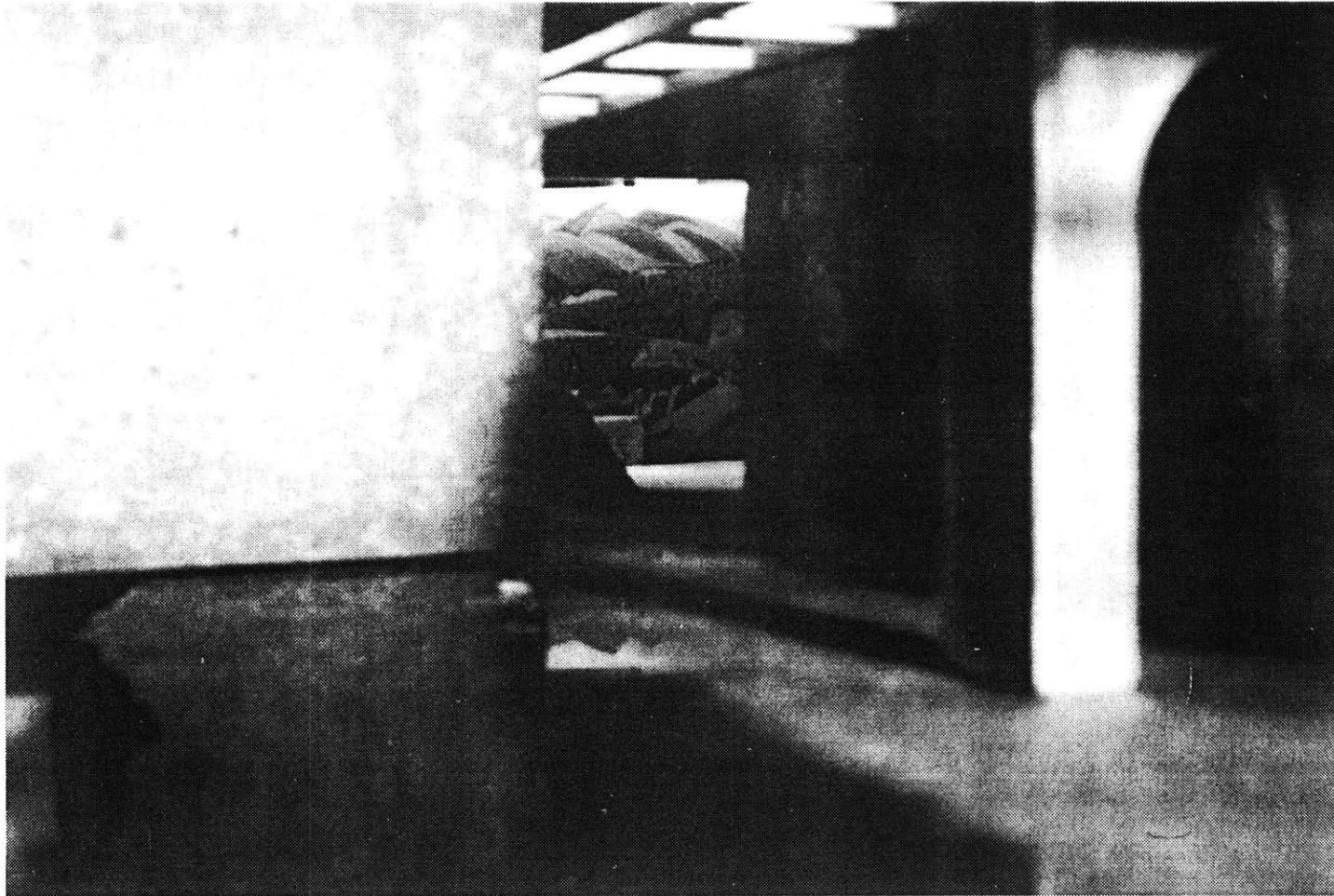
Photo of Previous Model: Shows Interior Space Looking Out Toward Mountains - Without Mullions (it is difficult to distinguish where one space ends and another begins)

For example, mullions were placed in the two large windows to define an interior room in relation to the outdoor view. A clear spatial order was the immediate result. What was discovered was that without mullions one could not as easily differentiate the inside room from the outdoors. Two very clear spatial definitions read as a singular space.



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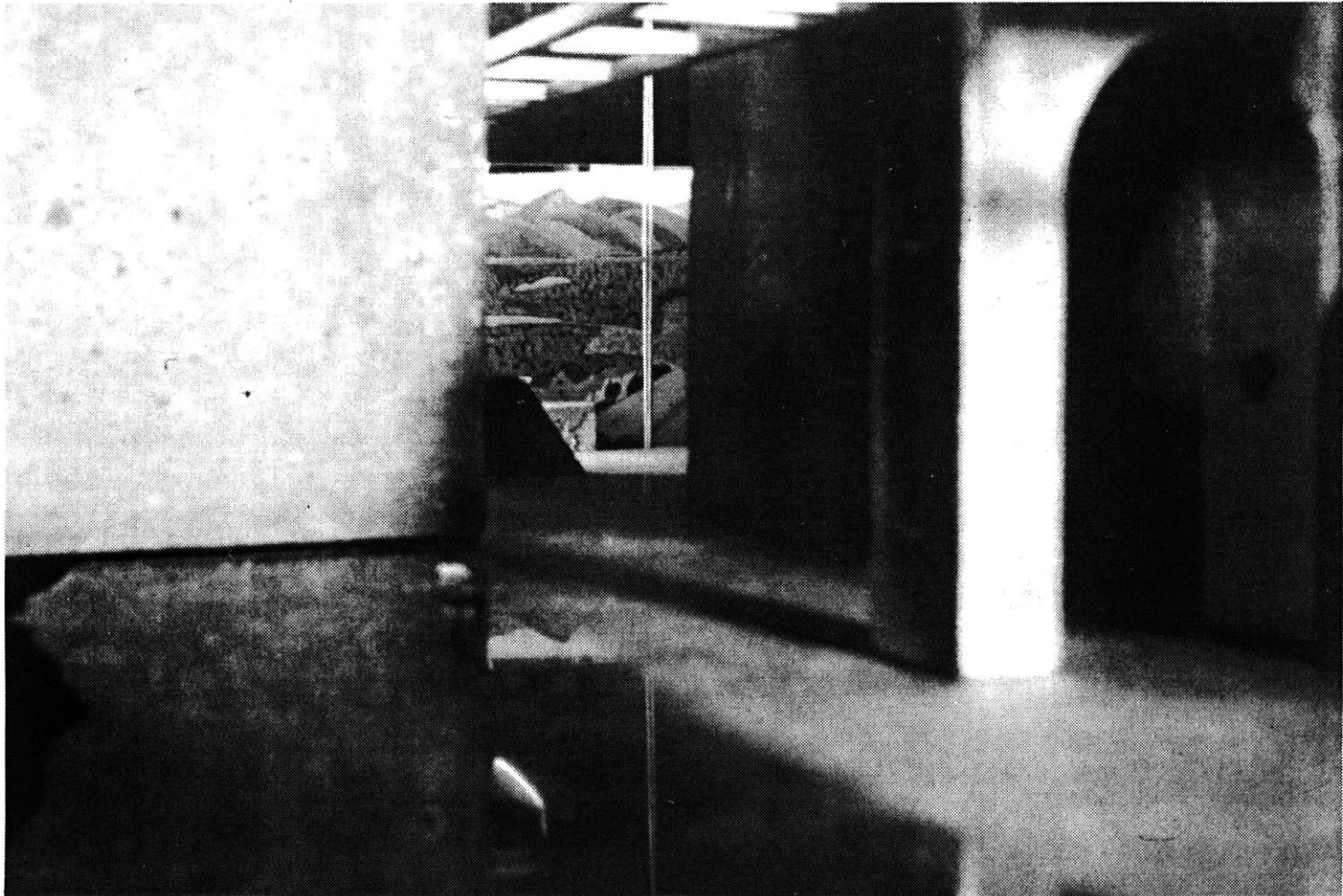
*Same Space Shown With Mullions Placed in Window -
One Begins to Read Inside and Outside Space*



Photos of Same Model:

This Page - Looking Down Central Hall to Another Room and Ultimately to Outside

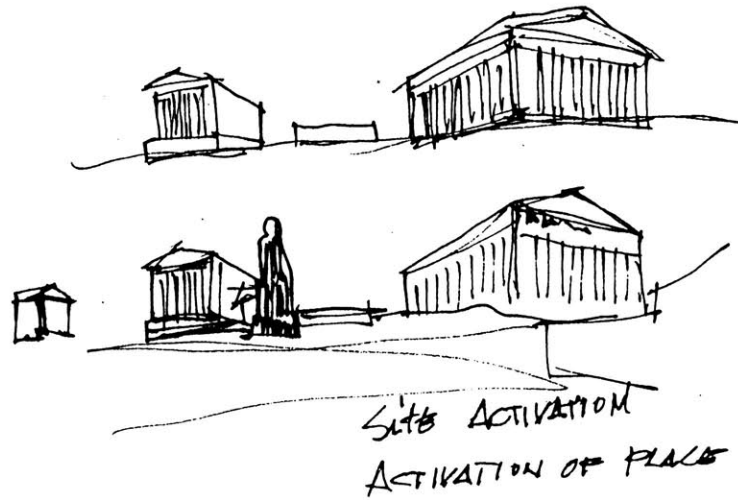
Opposite Page - Includes Mullions.





Living Room of Luis Barragan House
Armando Salas Portugal,
Barragan,
Pg. 57

The preceding study was inspired predominantly by the works of Frank Lloyd Wright, Carlo Scarpa and Luis Barragan. A subtle use of this phenomenon of transparency can be found in the work of Luis Barragan. Barragan built on small very densely populated urban sites. Most of his sites are dedicated to the house leaving small amounts of land for outdoor courtyard spaces. These courtyards tend to be surrounded by very high walls. Transitions are celebrated with gateways and passageways highlighting the changes from one place to the next. One loses the sense of a compact urban fabric once inside. Spaces open up in a way one would not expect in such a densely populated area. In many cases the walls extend out into the courtyard making the room seem larger. Barragan makes a direct visual connection to the courtyard with large glass windows. Barragan allows you to read inside and outside with the use of mullions in the windows and by carefully placing objects both in front of and behind the glass. By providing these visual references the three dimensional qualities of the room are greatly enhanced.



SITE ACTIVATION
ACTIVATION OF PLACE.

10/24/93

Three Dimensional Qualities Depicted in Sketch
C. A. Doxiodis,
Architectural Space in Ancient Greece,
Pg. 35

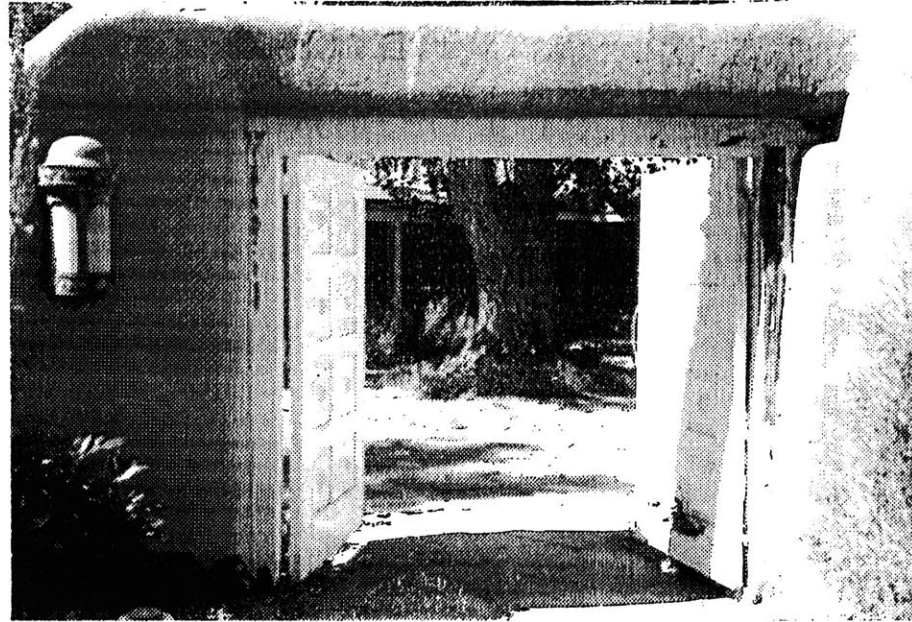


Entering a Neighborhood

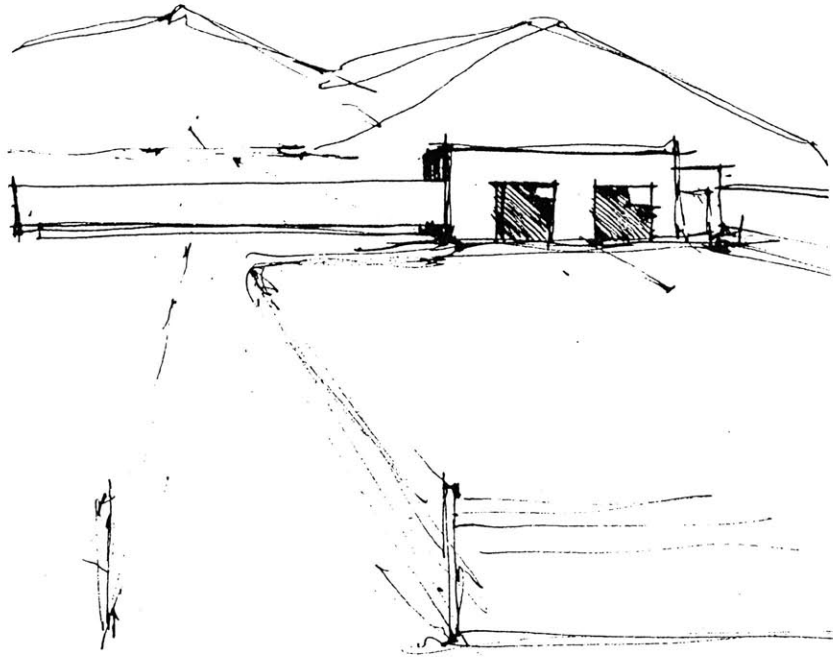
Gateways

Moving from one place to the next defines a transition. Transitions are explored in this thesis through the use of underpasses, walls, screens and through gateways to the outdoor and indoor landscapes. Transition signifies a change. Using an architectural element such as a gate, underpass, wall, or screen one can define or mark transitions, intensify the experience and begin to set up spatial relationships at the scale of the landscape in preparation for the move into the house or from the house to the outside.

Many of the courtyard entries of the old New Mexican adobes provide for this transition. A move from the large landscape to the small landscape is marked by a gate and underpass usually into a courtyard defined by the house on three sides and a wall on the fourth side. Upon entering the Taos Pueblo the experience is similar. One moves from the large landscape to a community plaza defined by the location of dwellings surrounding it. This transition from public to private is marked by a gateway off the main access road to the pueblo defined by the walls of buildings which are adjacent to this main access. This serves to prepare one for an entirely different experience - the entrance into the home.



Gateway to Courtyard



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Entering the Site

An order has been set up in the proposed organization of the site and this order is carried throughout the entire scheme relating to the original intention of integrating architecture with landscape. A repetitive system of open and closed areas, light and dark and inside and outside are set up to provide a clear understanding about where one is and how one may move through the house. This system seeks to continually build connections between the different scales - landscape and human.

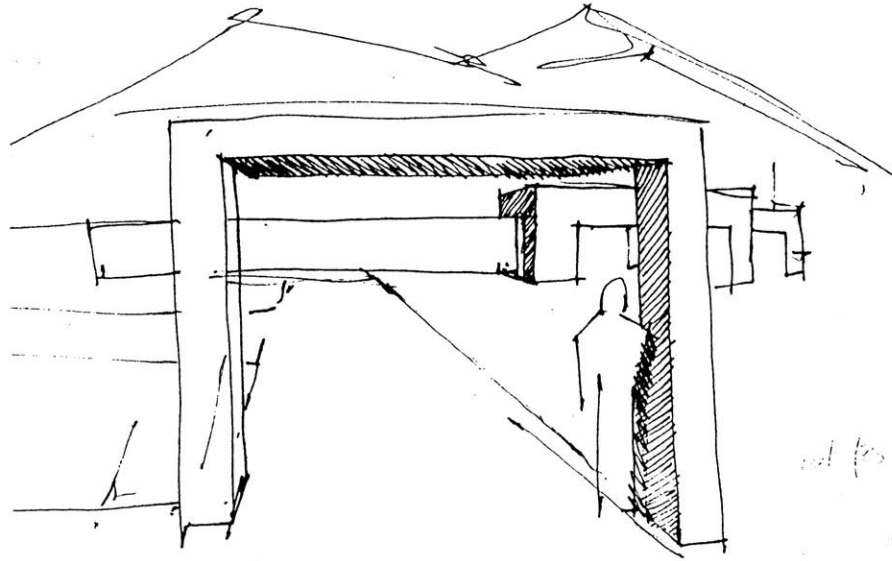
A gateway exemplifies the concepts of transparency and spatial definitions. As one stands in one place and looks through a gateway to the space beyond, the gateway serves to define the two places as inside and outside controlling the vast dimension of the landscape with elements which provide a reference (the gateway) in terms of human scale.

A gateway accomplishes several things. It

1. Provides territorial definition.
2. Provides a sense of arrival, a stop.
3. Intensifies the three dimensional spatial characteristics within the immediate area.

4. Provides a reference at human scale in relation to the vast landscape where one is dealing with much larger dimensions.

5. Sets up the next series of moves or experiences which may be the transition from a more public outside space to the semi-private courtyard space, that of moving into the house which is marked by the doorway or threshold (another form of gateway).



PROGRAM

One must consider the interplay of architecture and landscape in designing in Northern New Mexico. Many people now moving to Northern New Mexico are professionals who want their homes to be adaptable for both living and working; a place of comfort and livelihood. This thesis will use these issues to program the needs and uses of a house and several outbuildings.

Main House 8000 Sq. Ft.

living room

large kitchen

dining room

library

study

sitting room

master bedroom and bath

two children's bedrooms

two guest bedrooms

Guest House 1000 Sq. Ft.

living room

kitchen

one bedroom and bath

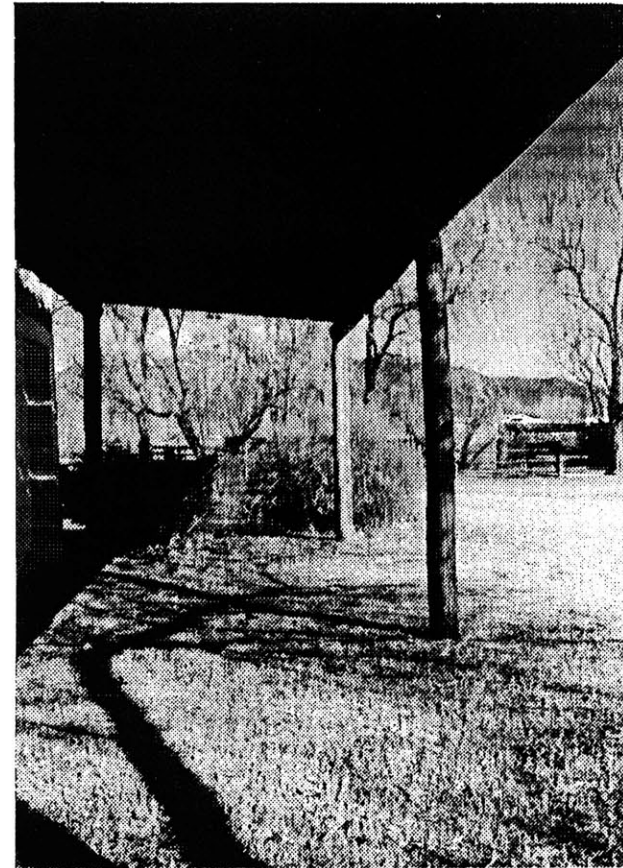
Studio and Workshop Space 2000 Sq. Ft.

Office Space

500 Sq. Ft.

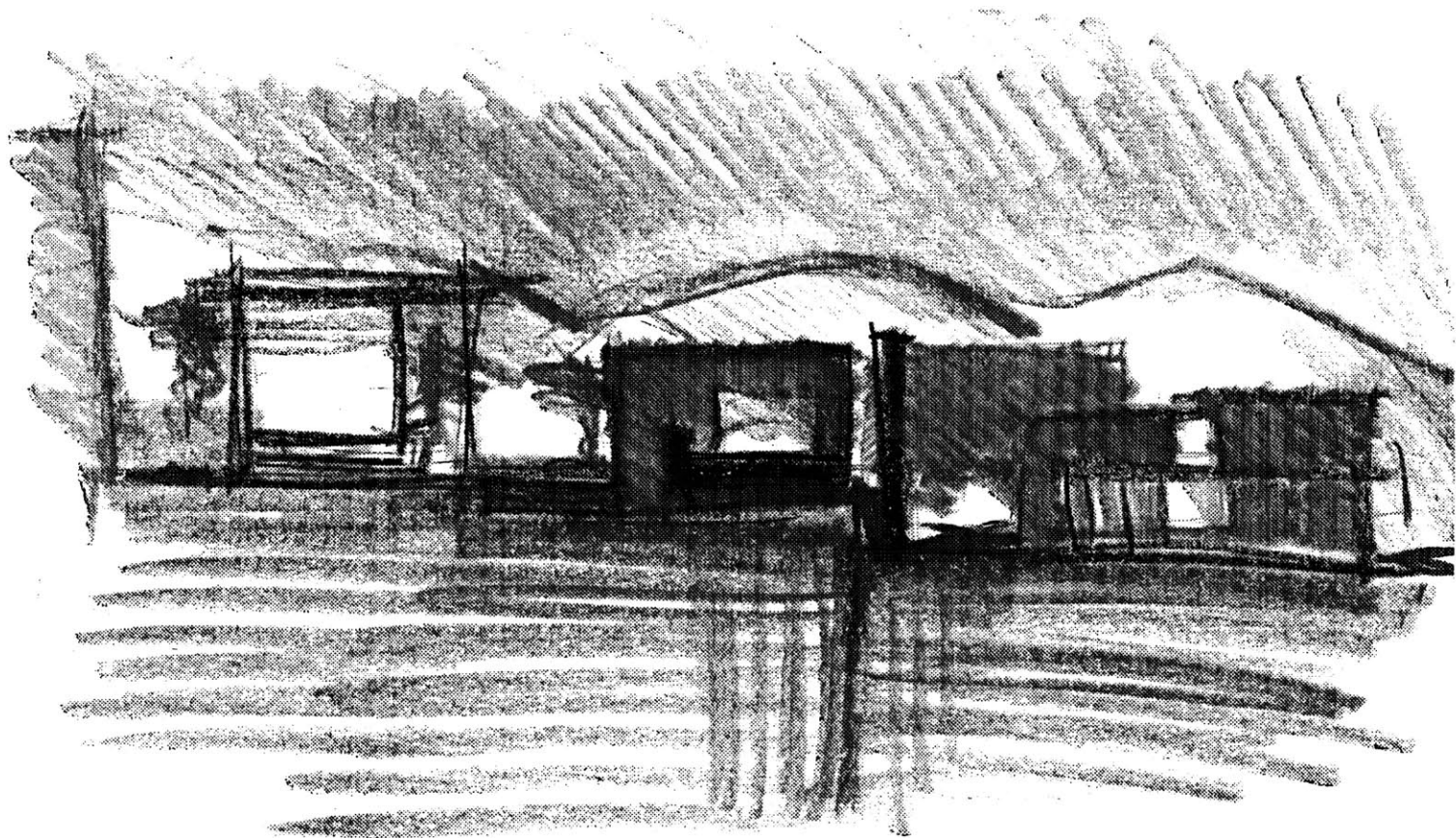
Storage and Small Barn

1200 Sq. Ft.



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Looking Out From Portal

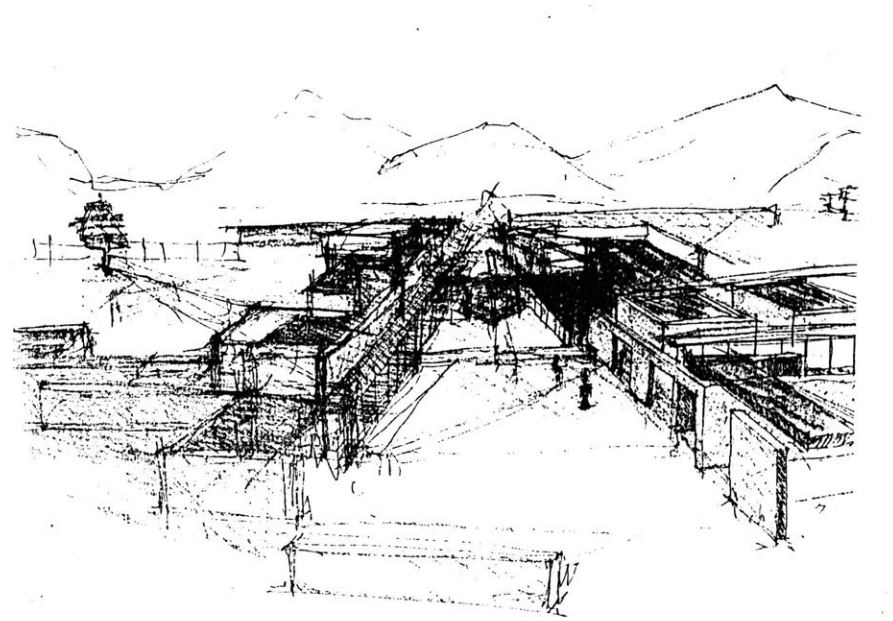


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Early Concept: North, South Section

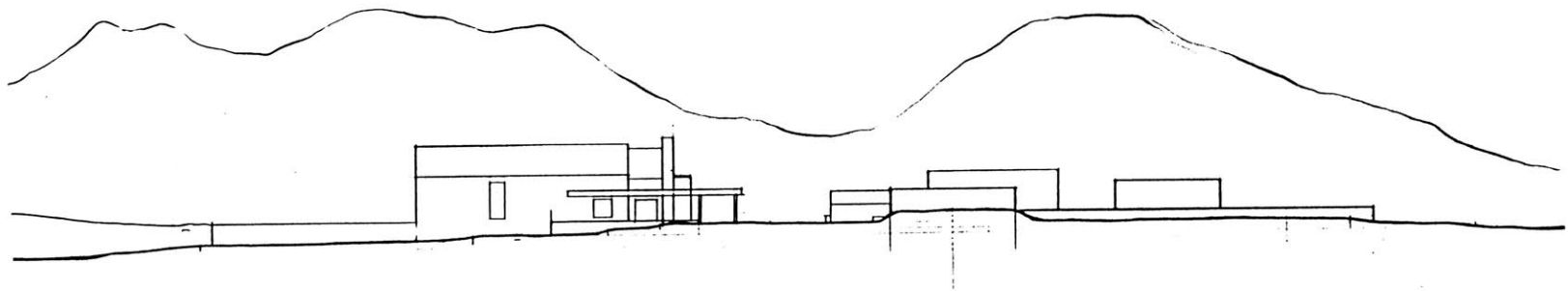
BUILDING PROPOSAL

I have chosen a pumice and timber building construction. Pumice serves as the primary building material constituting the walls of the structure. Timber is utilized for roof supports and interior structural beams. Pumice is a relatively new building material to Northern New Mexico. Its primary functional values are that it is less expensive than adobe, is much less labor intensive than adobe and it has an increased insulation value over adobe. However, it does not have as significant a thermal mass as adobe and thus does not hold the heat as well as adobe. This can be corrected for by providing thermal mass through utilizing other materials such as concrete or stone on one's interior walls. Both an aesthetic and functional advantage of pumice is that, like adobe, it has mass and thickness. The walls are poured like concrete, however the material is much lighter than concrete. Pumice walls must be at least twelve inches thick for structural loading. The proposed wall thickness in the house is 16" - 24" for the exterior walls and 12" for the interior walls. A reinforced concrete bond beam is used to cap all the load bearing walls (Vishu Magee, *Building with Pumice-crete*, Fine Home Building, November, 1992, No. 77, pg. 55).



Courtyard Sketch

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Site Section

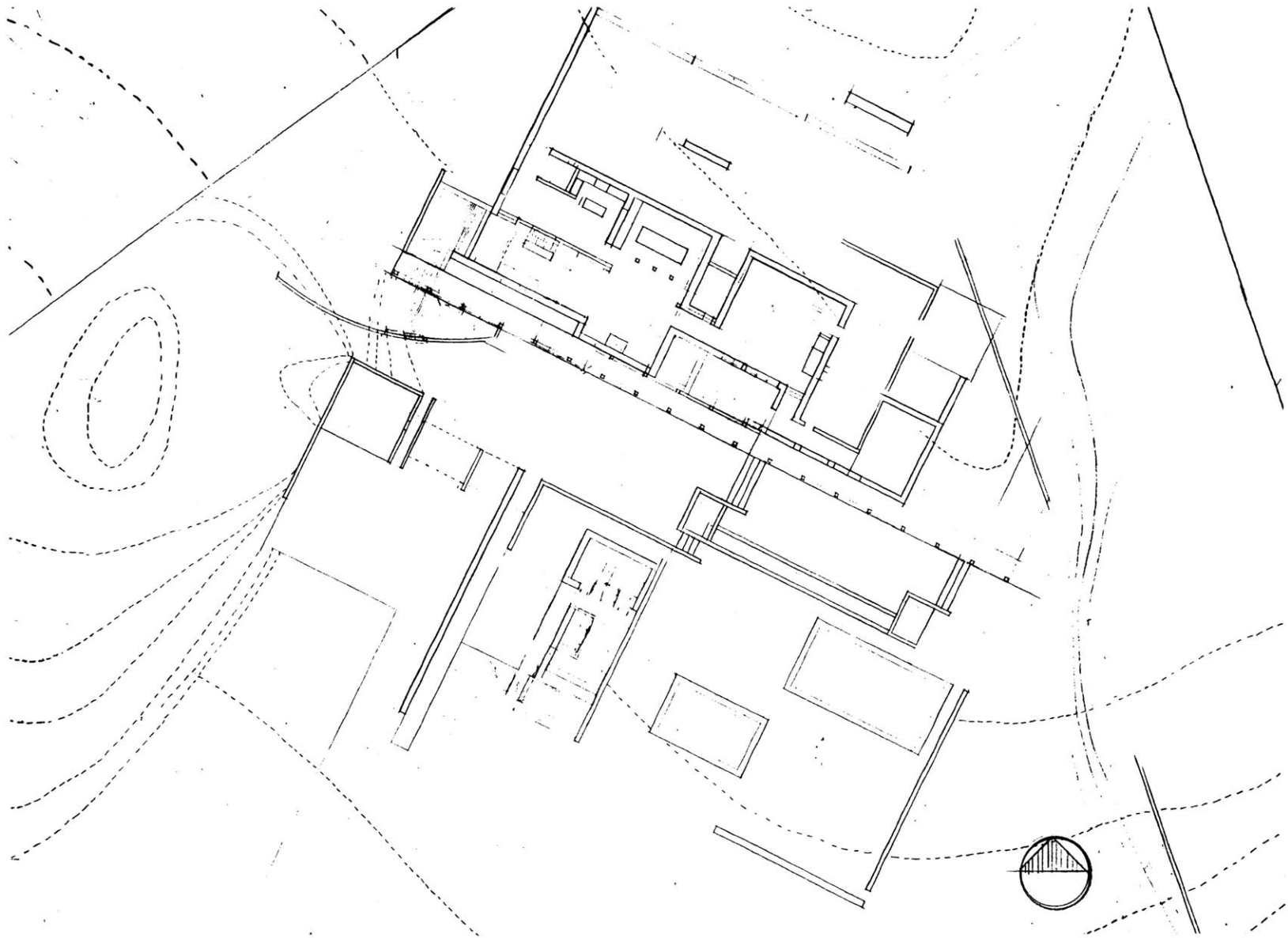
Entering the Site

The site rises from south to north at a rate of 1 foot to every 20 feet for about 600 feet along the eastern edge of the site. From west to east the site climbs slightly. These grades are almost imperceptible due to the size of the surrounding mountains. As one enters the site from the southwest corner there is a gradual incline to the house. A north-south section through the buildings takes advantage of the grade by stepping the buildings. By stepping the buildings the slope of the site is revealed. The western edge of the site adjacent to the buildings has been burned up as a partial barrier against the prevailing westerly winds. All the buildings are nestled into the landscape as much as possible. The horizontal nature of the landscape is emphasized by keeping the profile of the buildings much smaller in comparison to their length. The main house sits higher than the other buildings to maintain unobstructed views of the landscape. An entry gate provides a place of arrival - a reference point. The gateway is the point at which one moves from the large landscape to a more private territory, the site. This passage marks the first of a series of events leading to the house. The organization of the buildings is set up so that more and more is revealed the further one moves into the site.

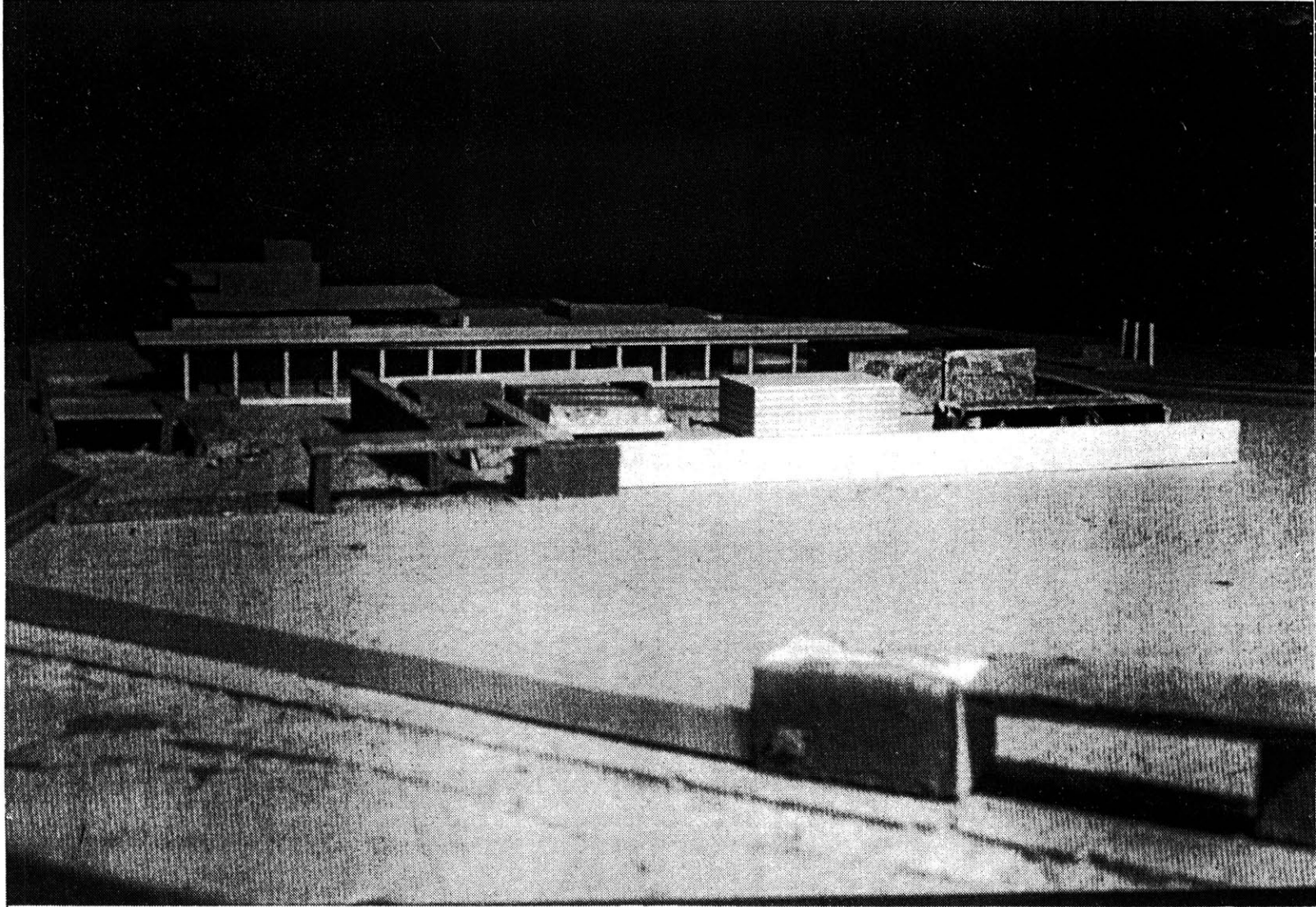


Barnyard

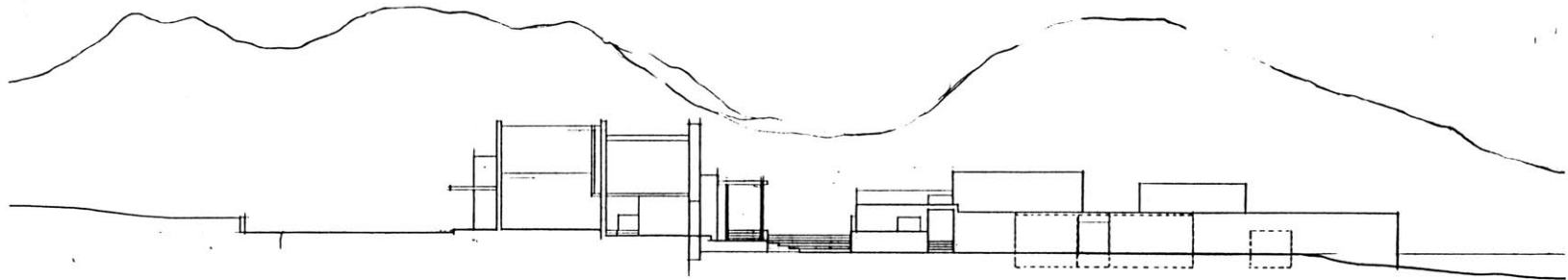
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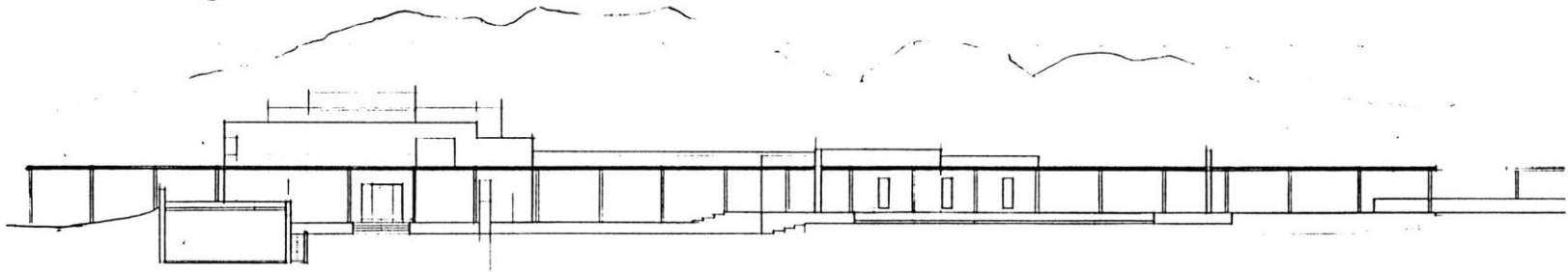
Early Site Plan



Study Model: Entrance to the Site and Buildings



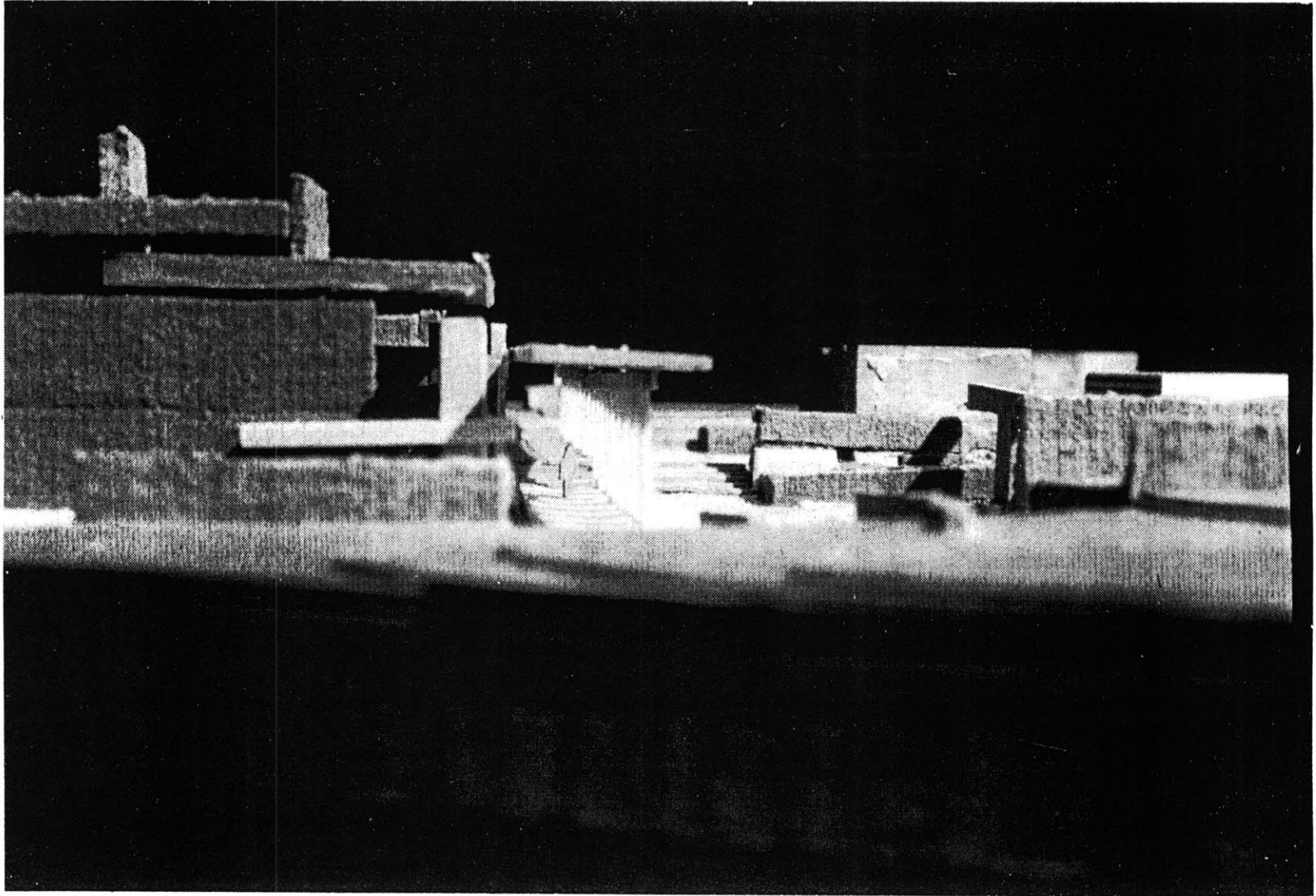
62



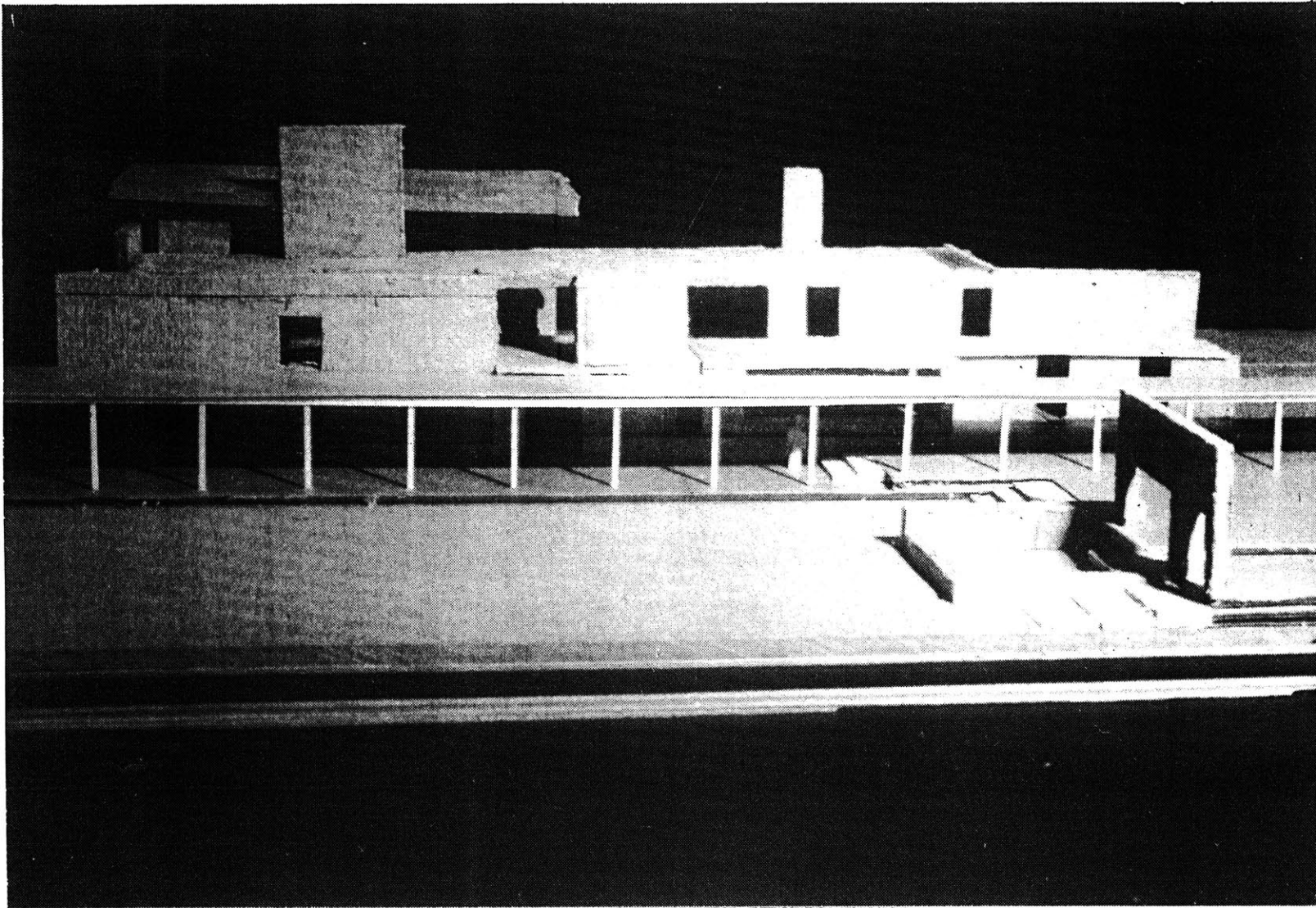
Top: Site Section
Bottom: Main House Elevation

The Courtyard

The entrance to the courtyard is marked by a second gate beyond the initial gateway to the site. The courtyard is a common open space connecting the main house with the out-buildings. The courtyard extends towards the east and is stepped upward in the direction of where the sun rises between two mountain peaks. A long portal provides definition for the northern edge of the courtyard and serves to extend the house and the courtyard into the landscape. Irrigation waters are also brought into the courtyard with a series of control gates which regulate the flow of water. A series of walls on the back of the irrigation gates emphasizes a movement upward toward the eastern mountain peaks and then to the sky. Bringing the water into the courtyard provides a dynamic contrast to an otherwise very dry landscape. The spatial characteristics of the courtyard are enhanced by alternating walls and open spaces or columns and open spaces, or by establishing a relationship between column and wall. The play of light and shadow on these elements animate their roles.

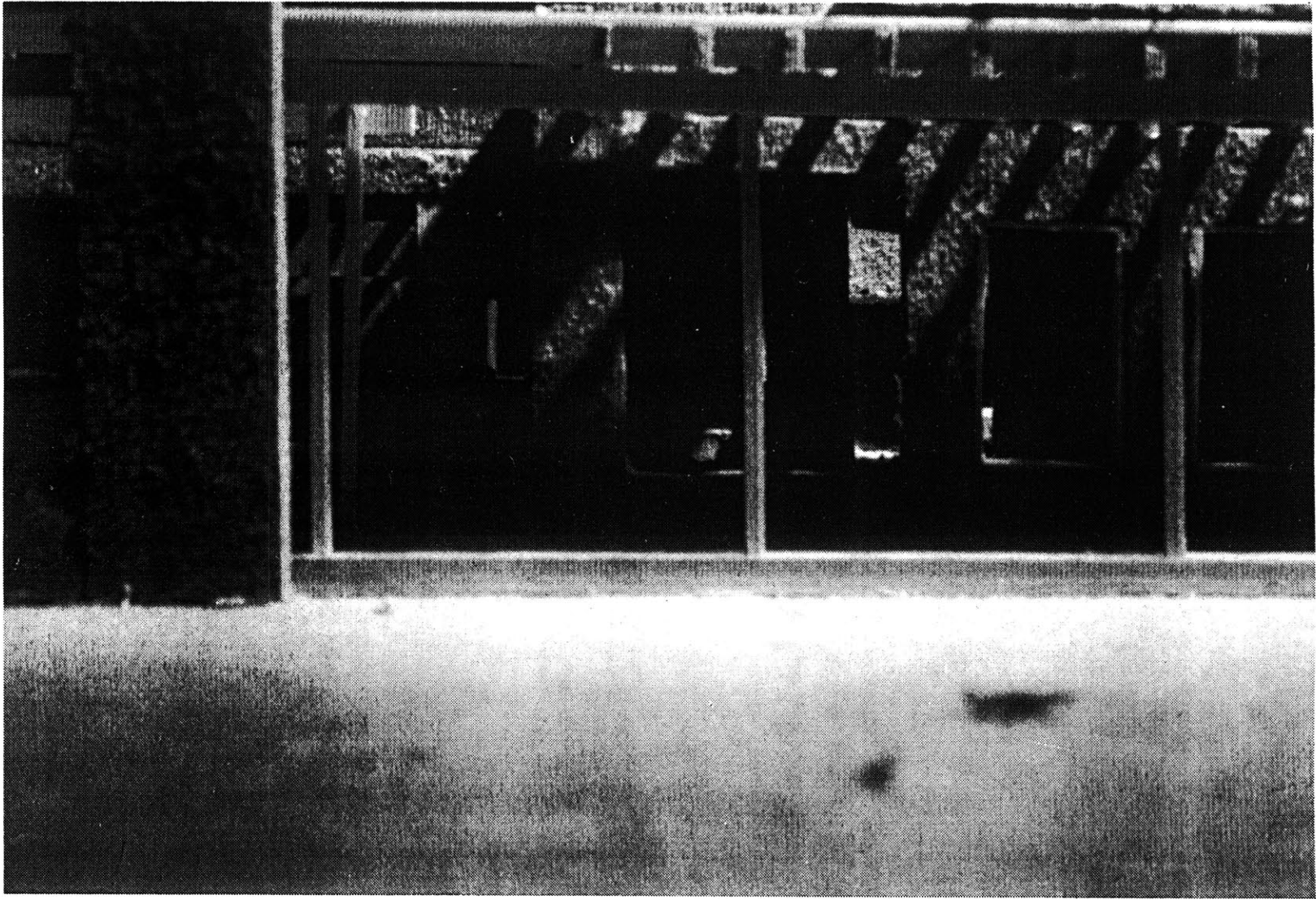


Courtyard Study Model



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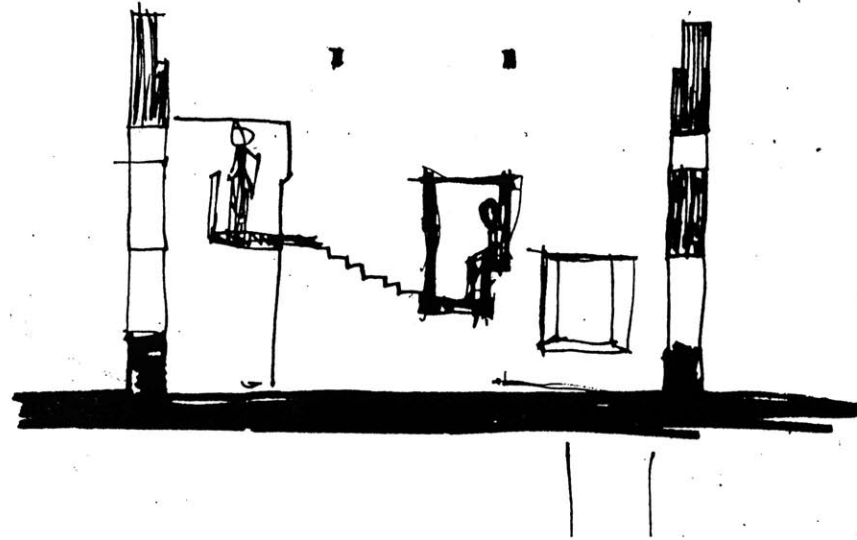
Courtyard Study Model & Irrigation Gate



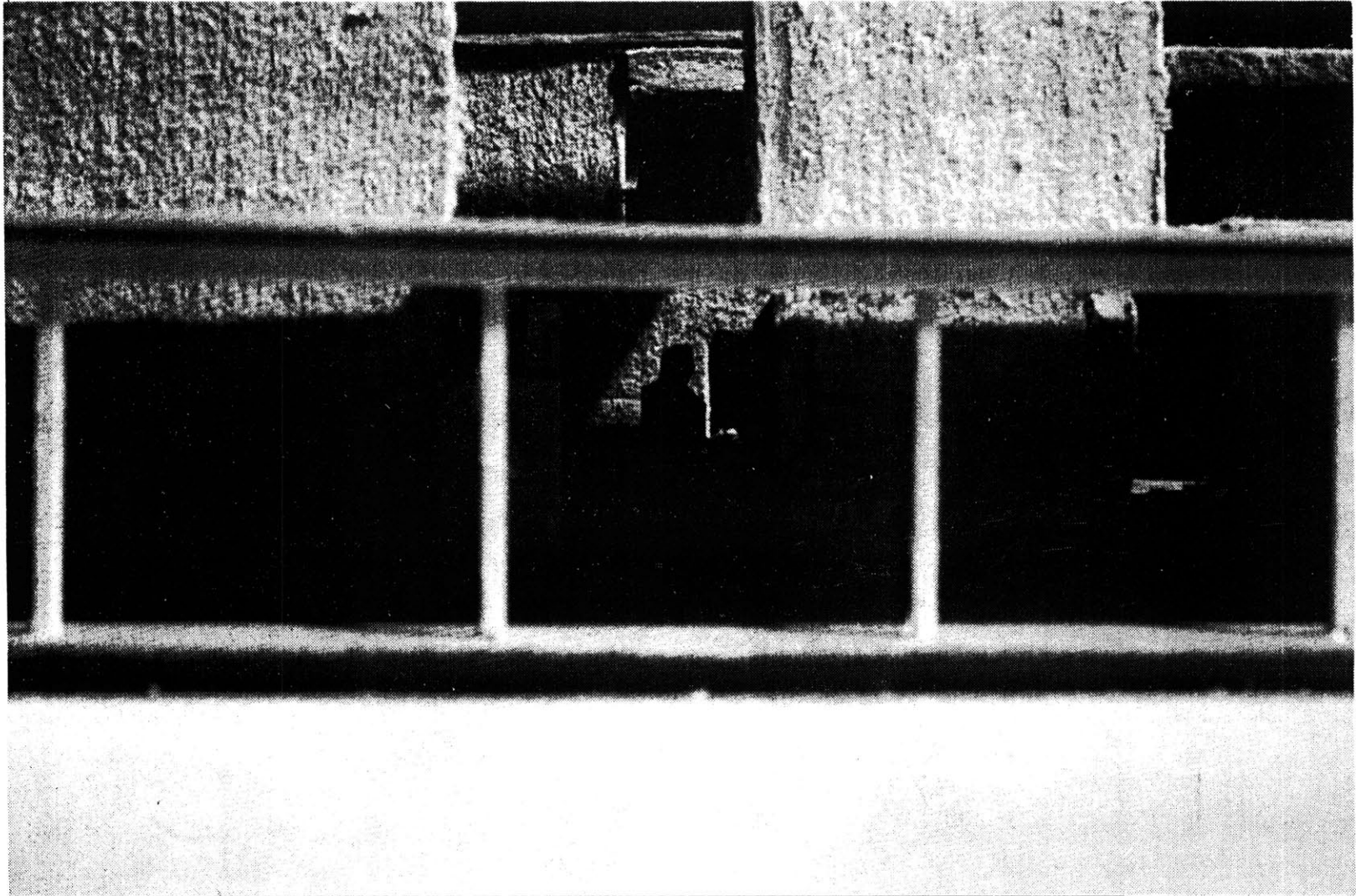
Relationship Study: Columns, Walls and Sunlight

Entering the Home

The home is designed to be a microcosm of the organization of the larger landscape. It is meant to yield a continuation of transitions and revelations as one moves through it. To enter the house one passes through the portal into a main entry hall. This transition allows one to adjust from the very bright light of the landscape to the darker interior of the entry where the light is more subdued. This allows one to catch glimpses of natural light moving into other parts of the house and toward the outside - through openings in walls and through columns set up as screens. Objects such as benches, window seats, fireplaces and columns provide a human scale dimensional reference in contrast to the massiveness of the pumice walls which correspond to the scale of the landscape. The main living areas are connected back to the landscape through a layering of openings, screens and objects. These layerings are positioned to create an enhanced three dimensional quality of the room in relation to the outside and help to control light and the effects of light entering the house. Other rooms provide an insulation from the outside giving one a choice of being more removed from the landscape.



Doorway Study

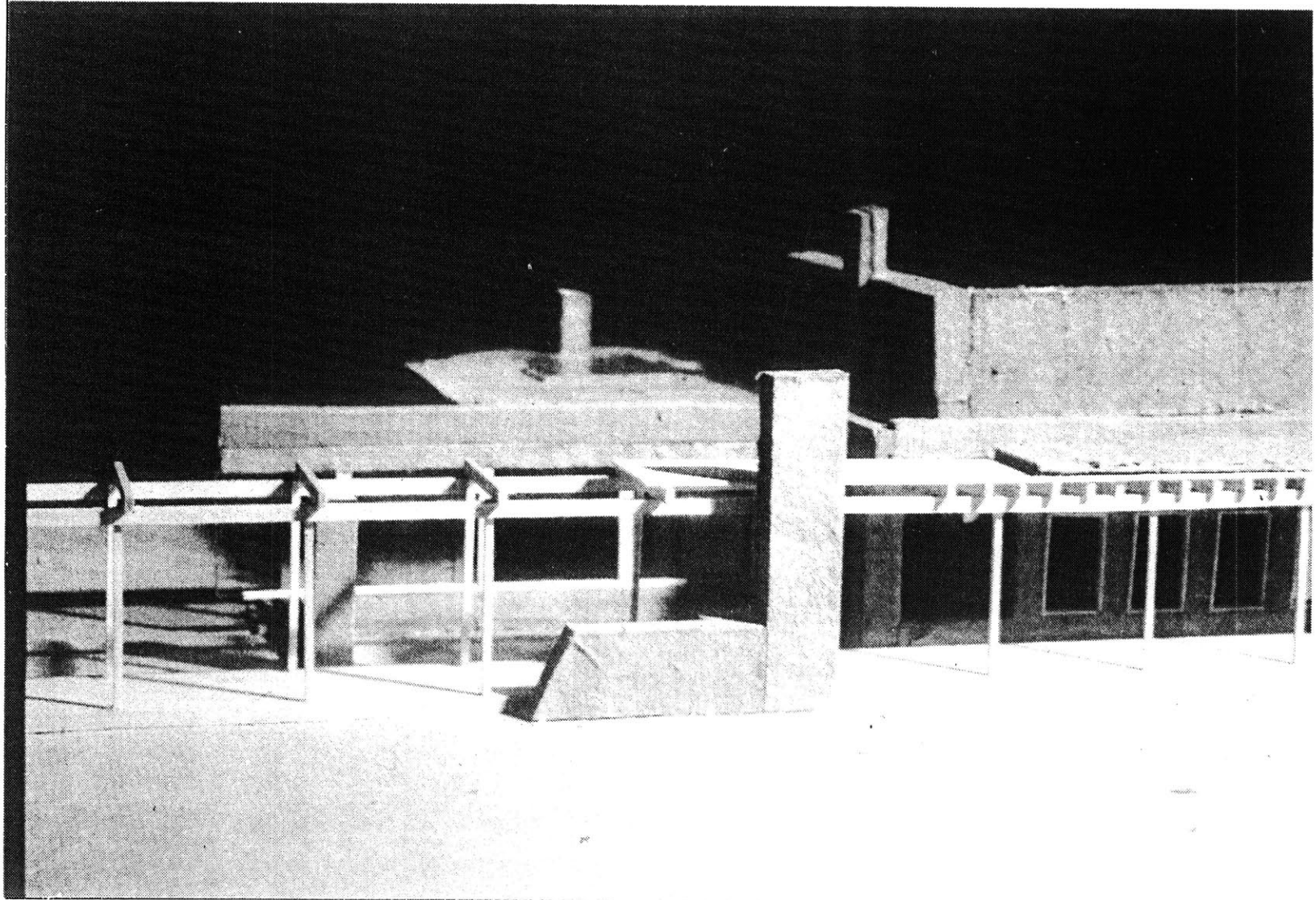


Study Model: Entry

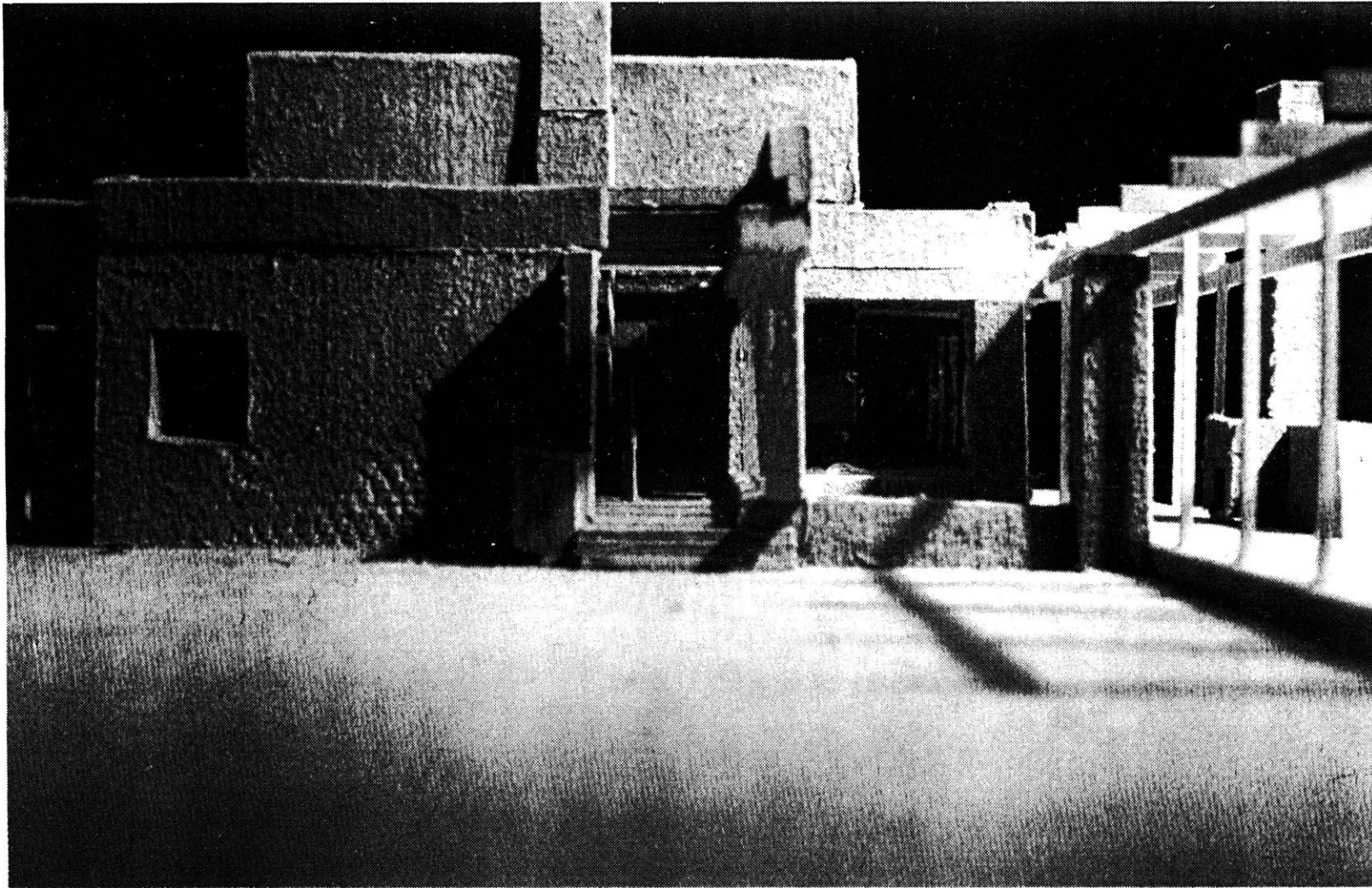


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Study Model: Entry



Study of Portal in Relation to House



Living Room Entrance, Courtyard and Portal

LIST OF DRAWINGS AND MODELS

Pg. 78 Preliminary Plan: Main House & Guest House - Ground Floor Plan

Pg. 79 Preliminary Plan: Main House & Guest House - Repositioned Circular Library

Pg. 81 Section Through Living Room and Circular Library (Top)

Pg. 81 Section of Hall to Living Room (Bottom)

Pgs. 82 & 83 Perspective Studies of Entrance

Pg. 85 Preliminary Section Through Living Room, Dining Room & Sitting Room

Pg. 87 Site Plan with Barn and Entrance

Pg. 89 Site Plan: Guest House Ground Floor Plan

Pgs. 90 & 91 Site Plan: Main House Ground Floor Plan

Pg. 93 West Elevation

Pgs. 94 & 95 Preliminary South Elevation of Main House

Pgs. 96 & 97 South Elevation of Main House

Pg. 98 Revised Plan of Living Room & Library

Pg. 99 Axonometric Sketch of Living Room & Library

Pg. 101 Axonometric Sketch of Library, Living Room & Courtyard

Pg. 102 Section East: Wall of Living Room & Library

Pg. 103 Section West: Stairs to Library

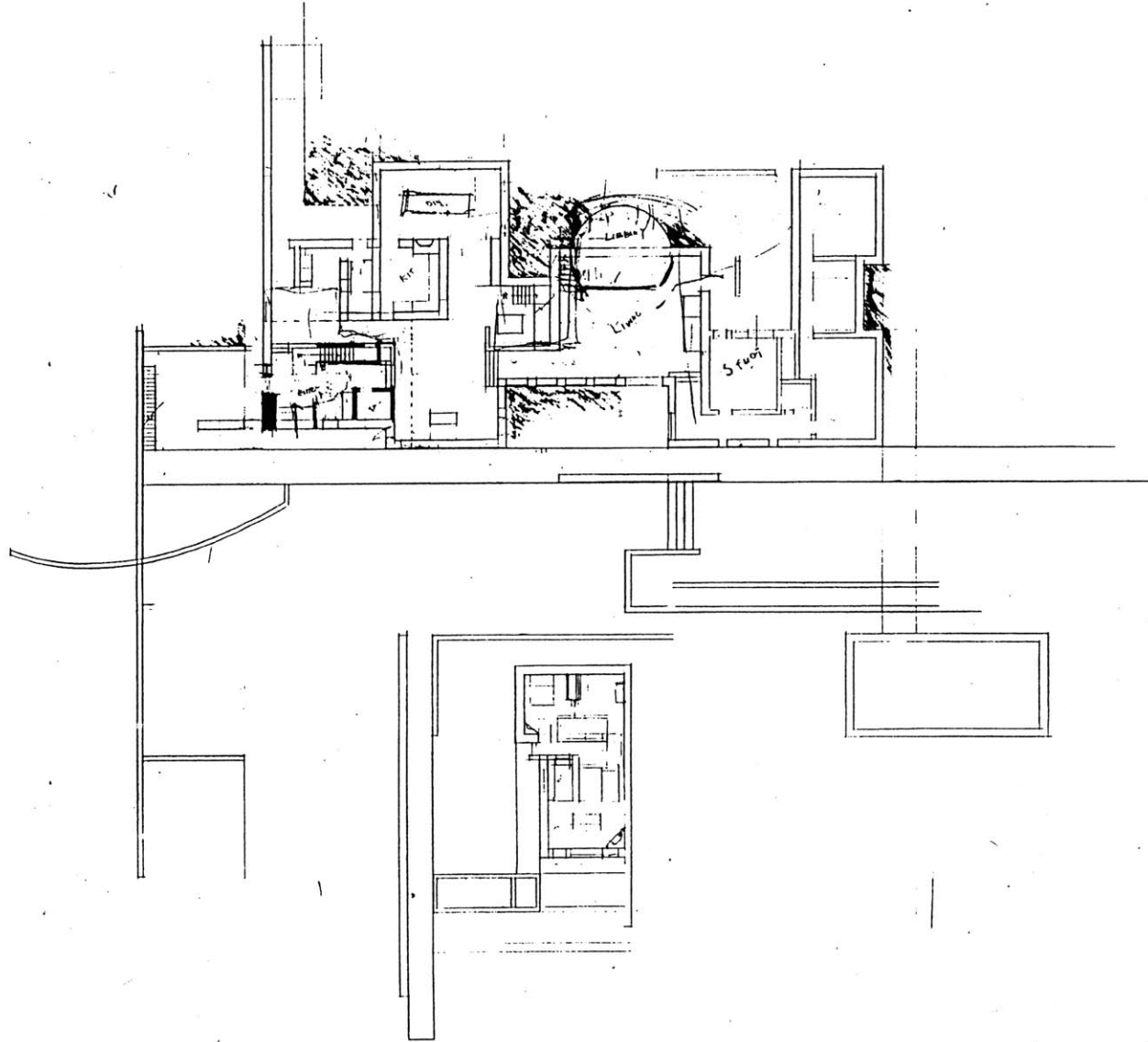
Pg. 105 Model of Library, Living Room & Courtyard (Model Built by Honor Merceret)

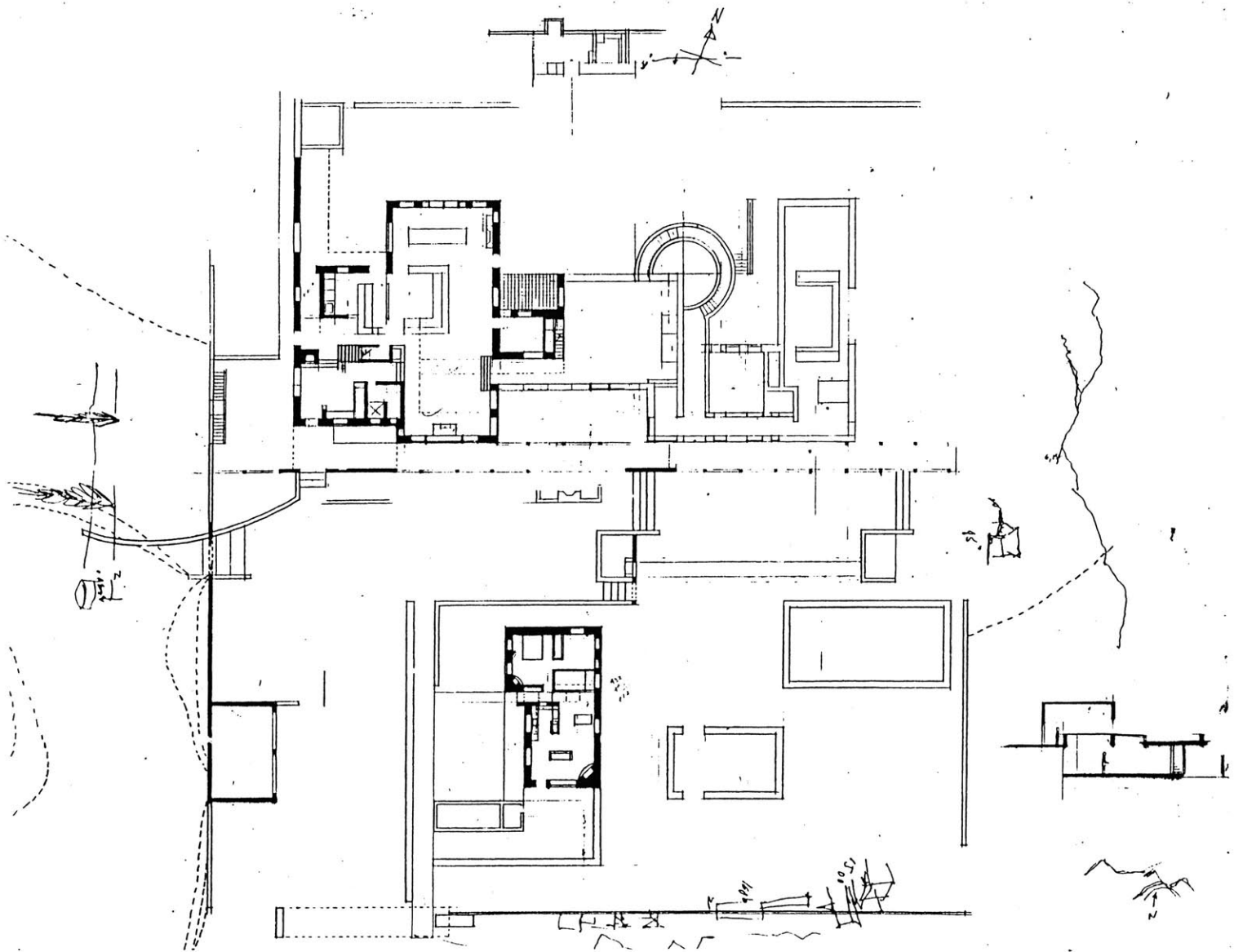
Pg. 107 View Through Living Room to Courtyard

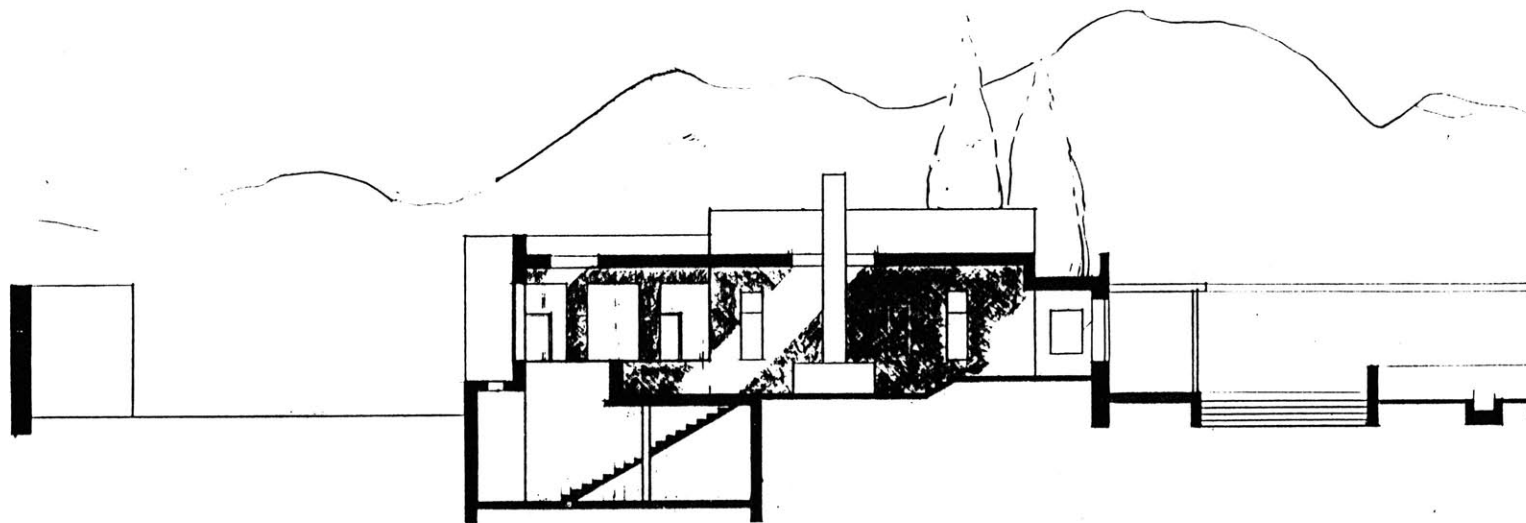
Pg. 109 View From Courtyard

Pg. 111 Stairs & Door to Second Floor

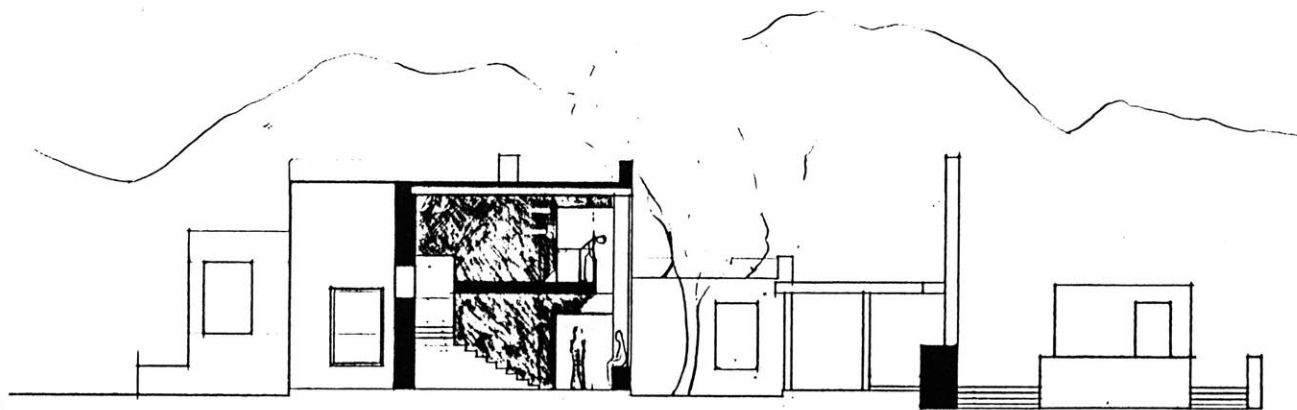
Pg. 113 Library Entrance

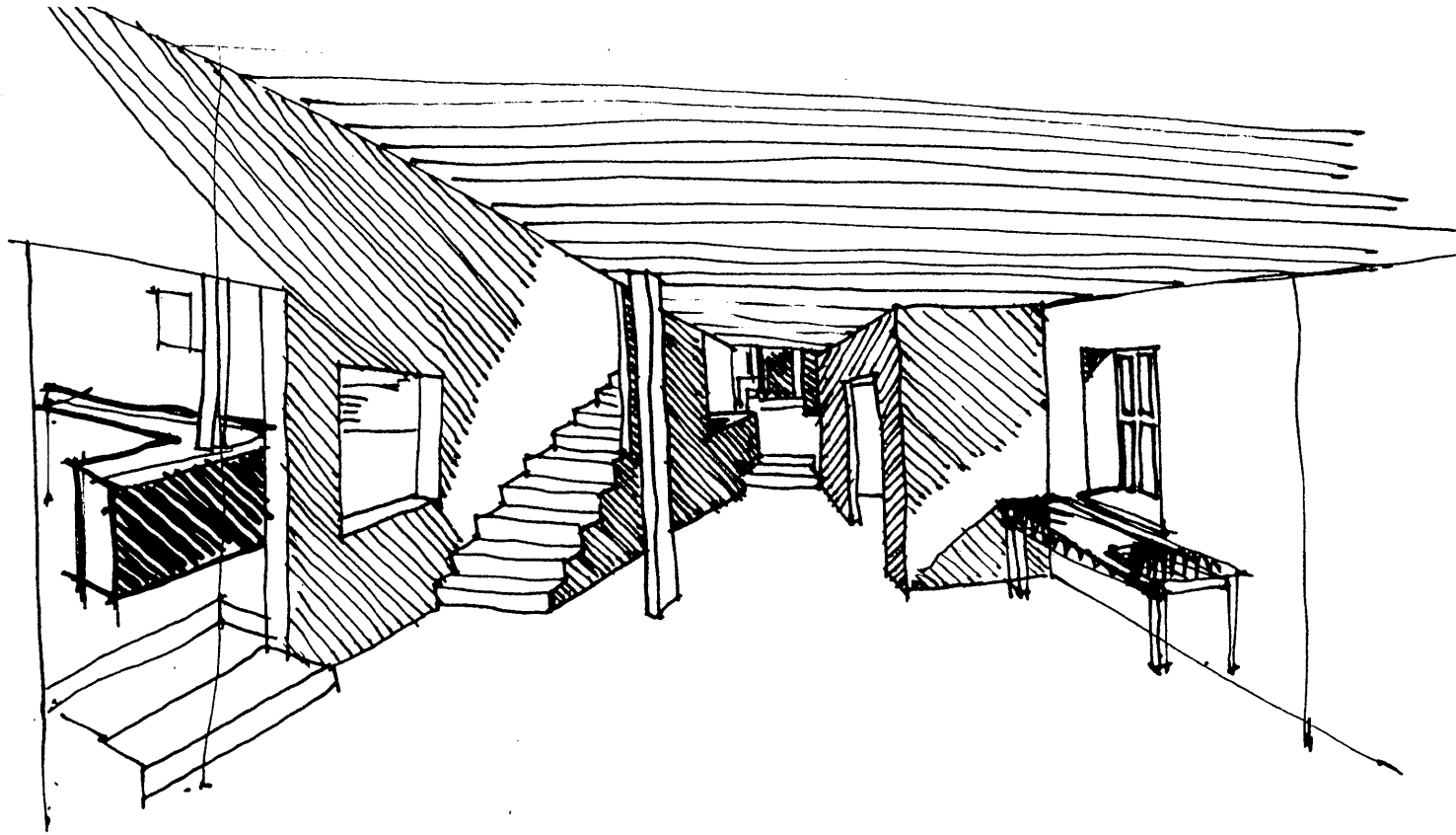


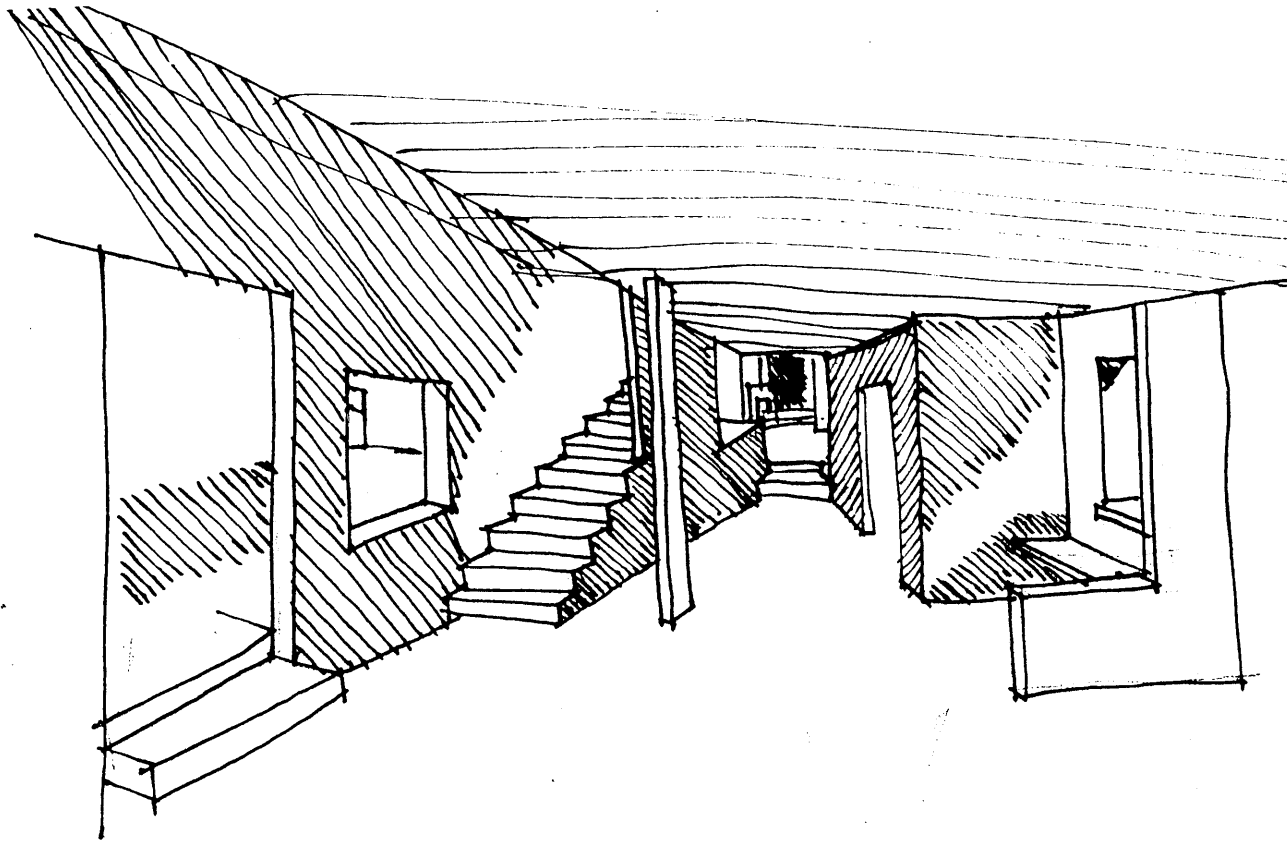


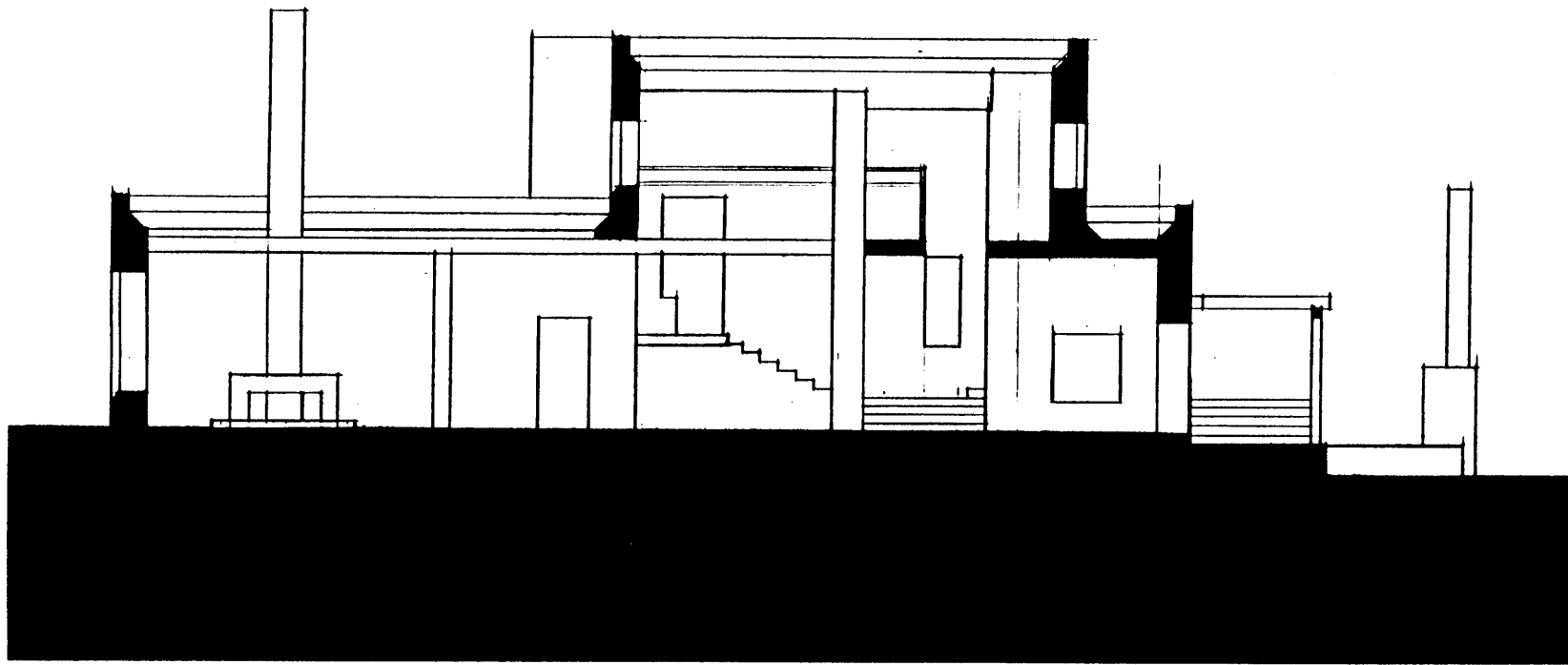


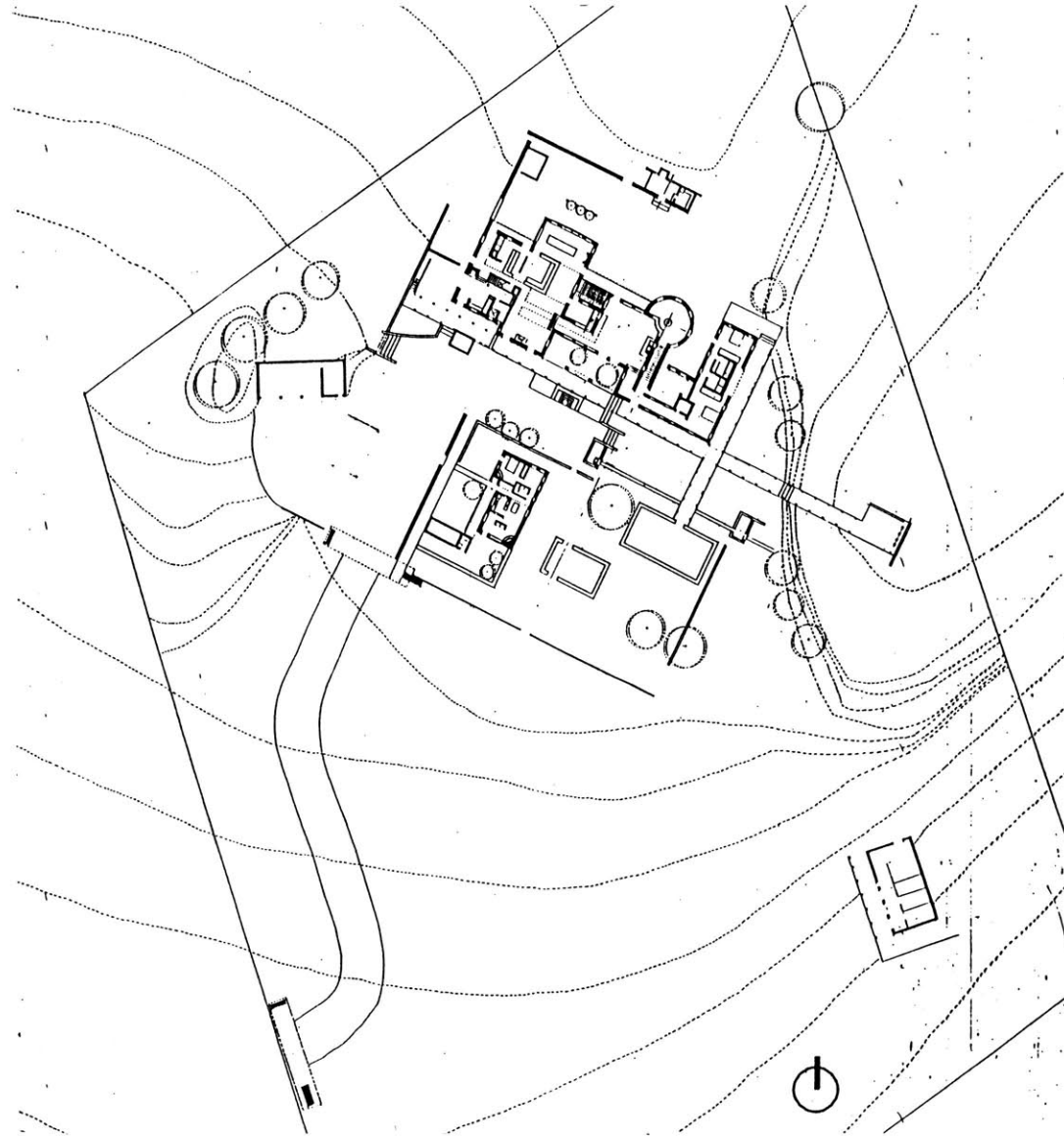
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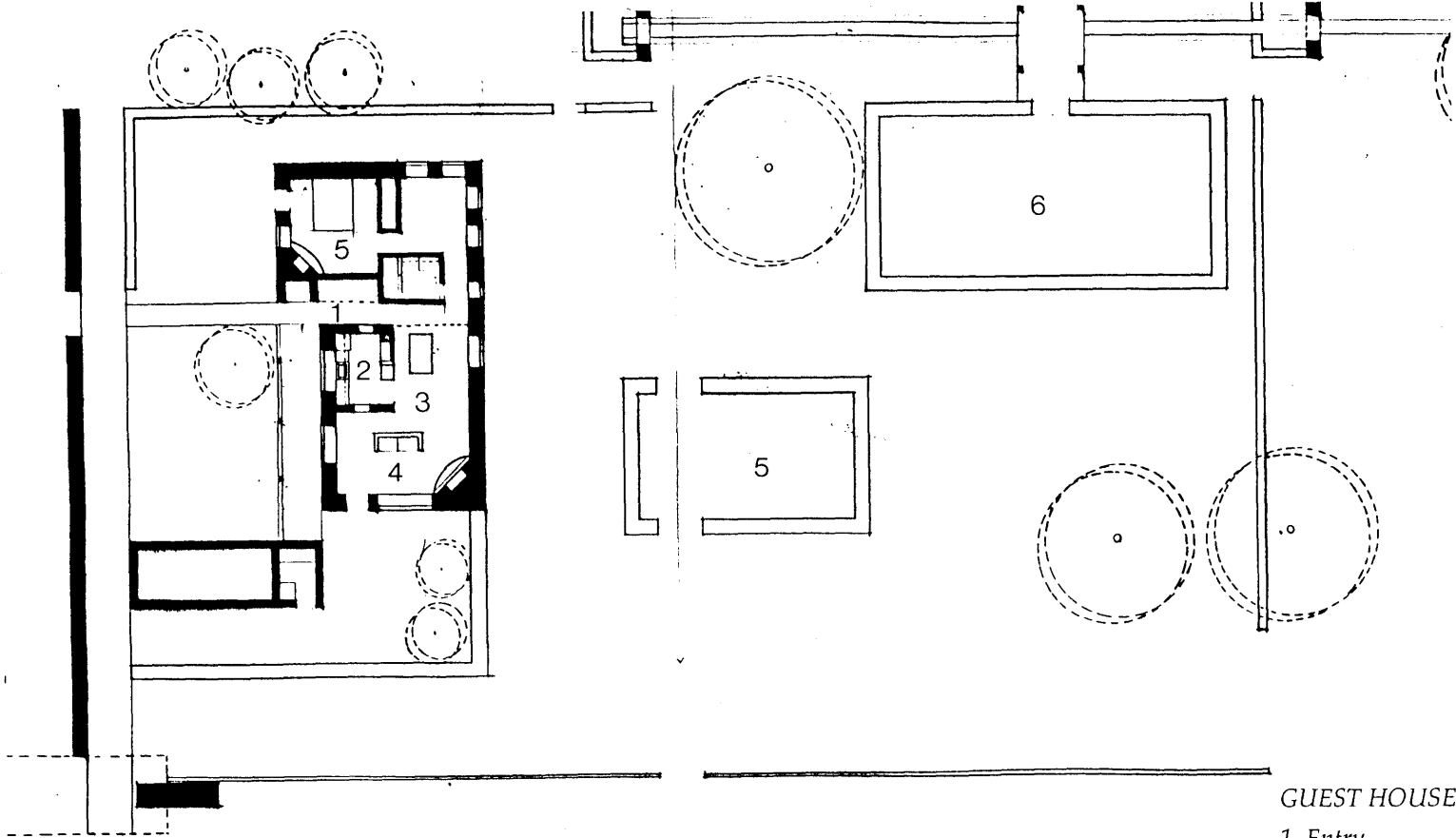










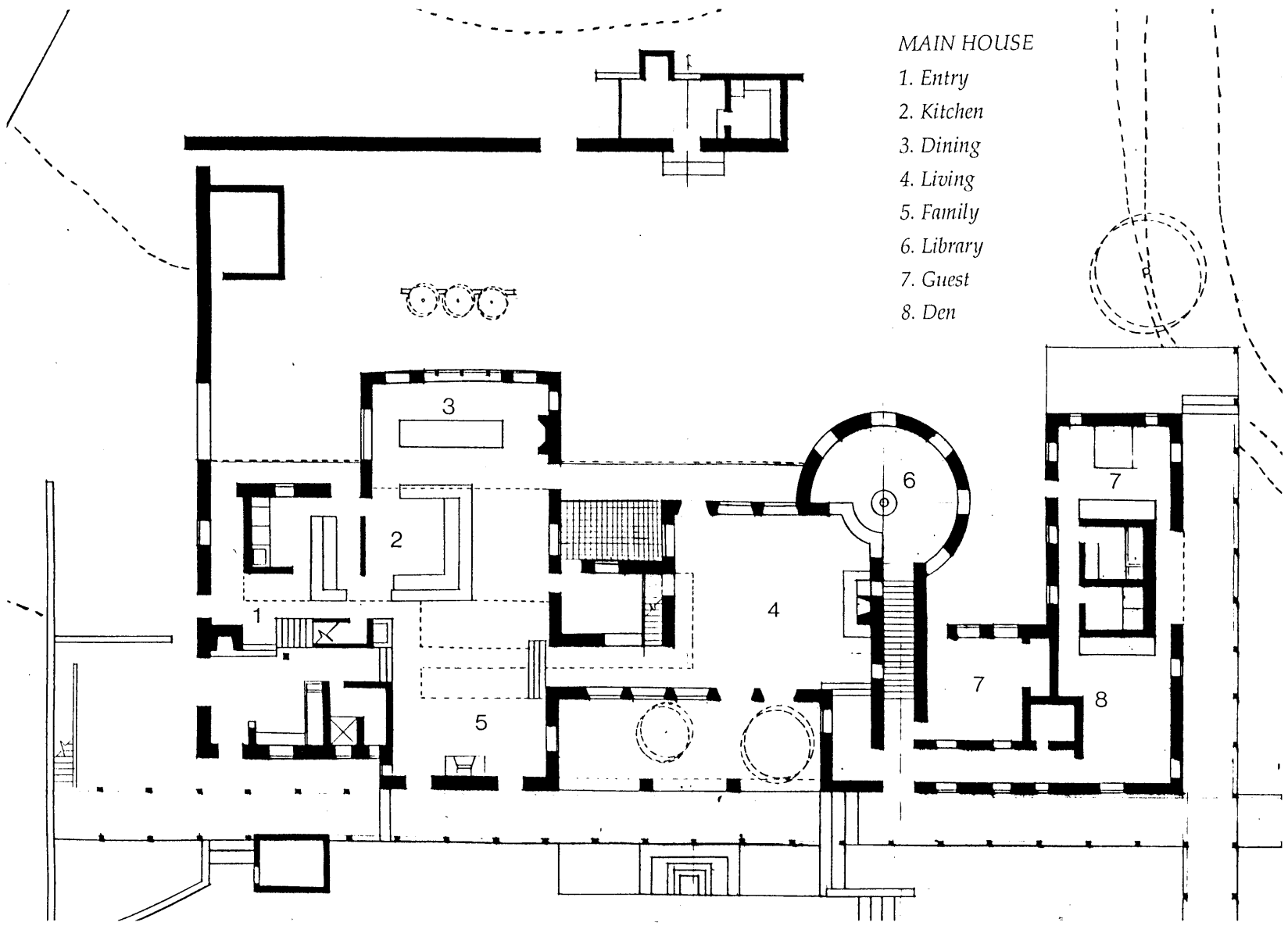


GUEST HOUSE

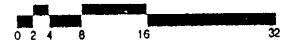
- 1. Entry*
- 2..Kitchen*
- 3. Dining*
- 4. Living*
- 5. Office*
- 6. Studio & Workshop*

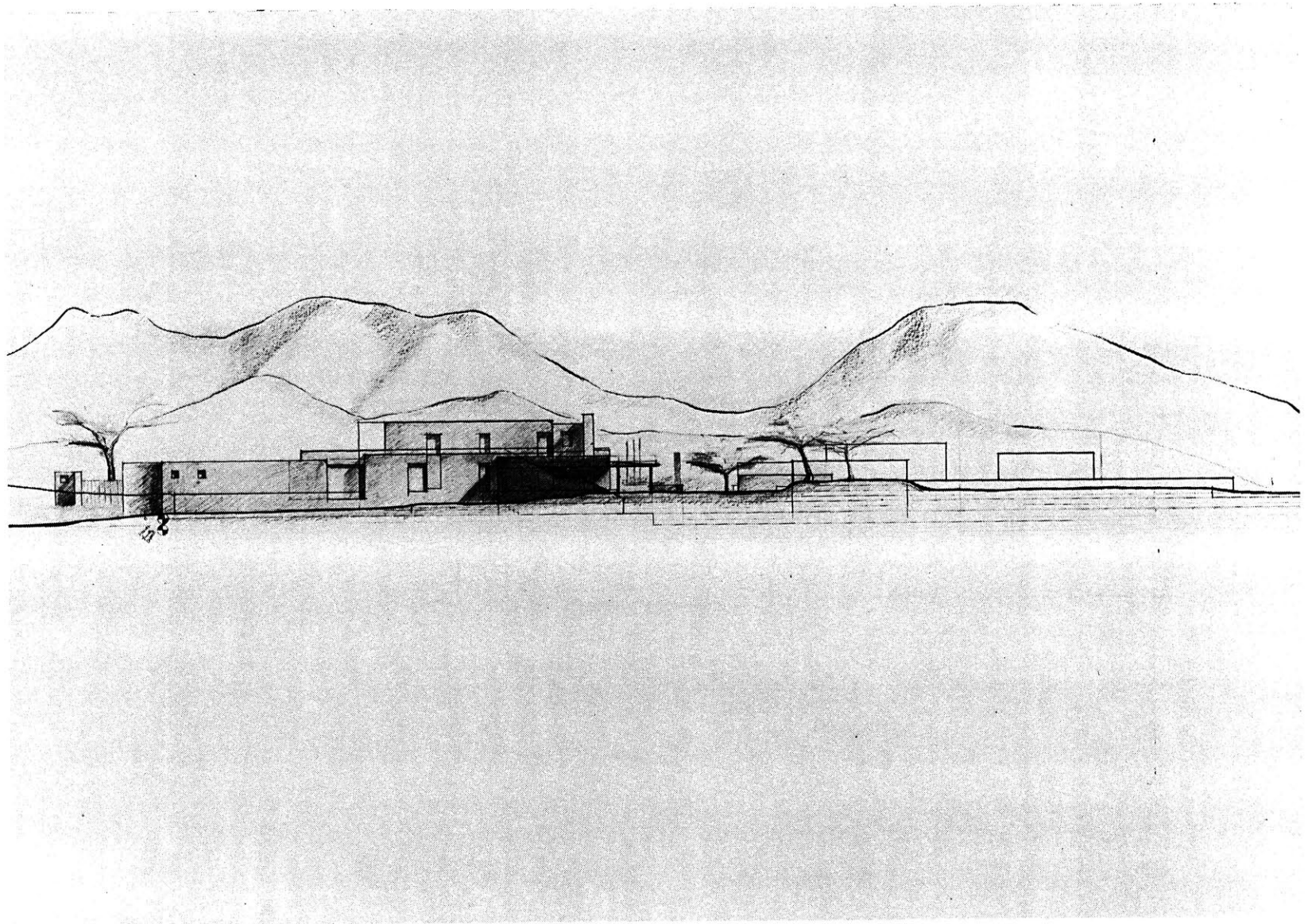
MAIN HOUSE

- 1. Entry
- 2. Kitchen
- 3. Dining
- 4. Living
- 5. Family
- 6. Library
- 7. Guest
- 8. Den

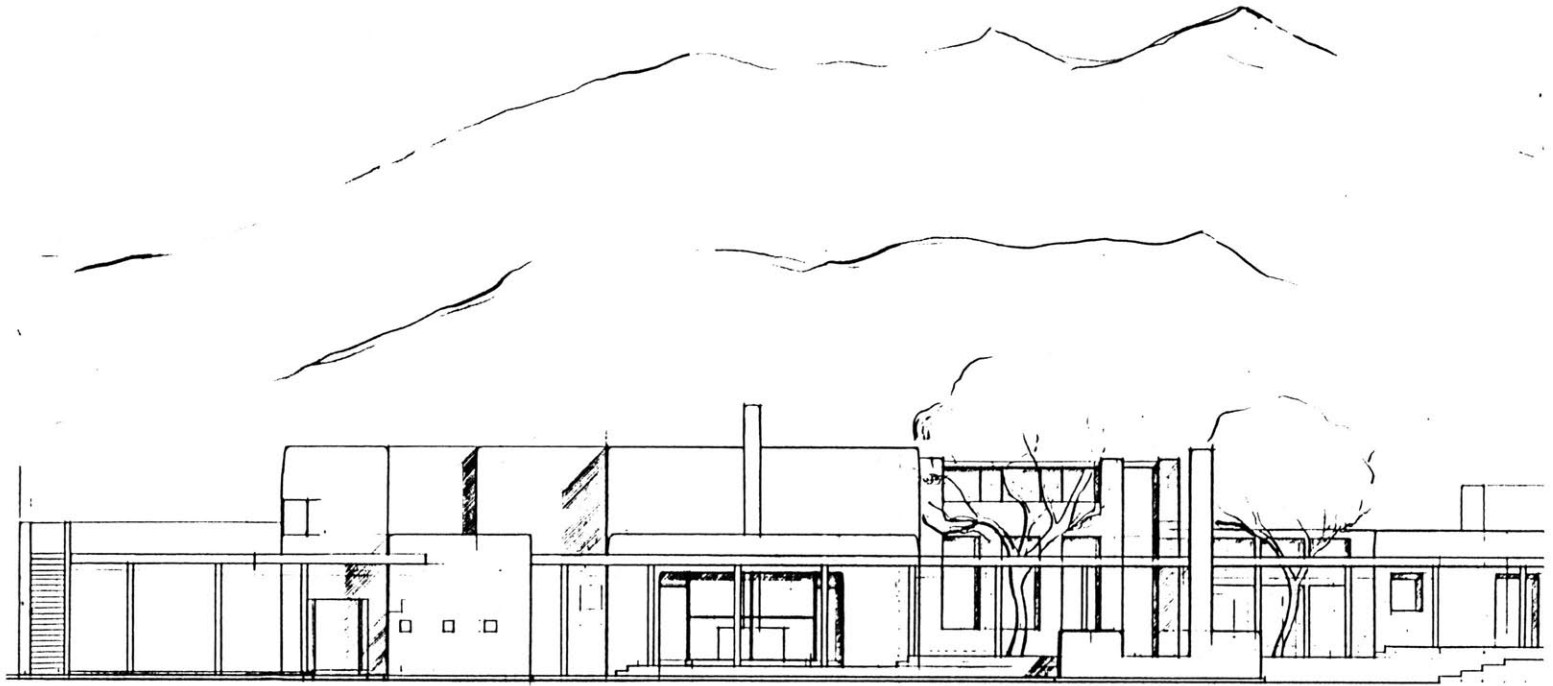


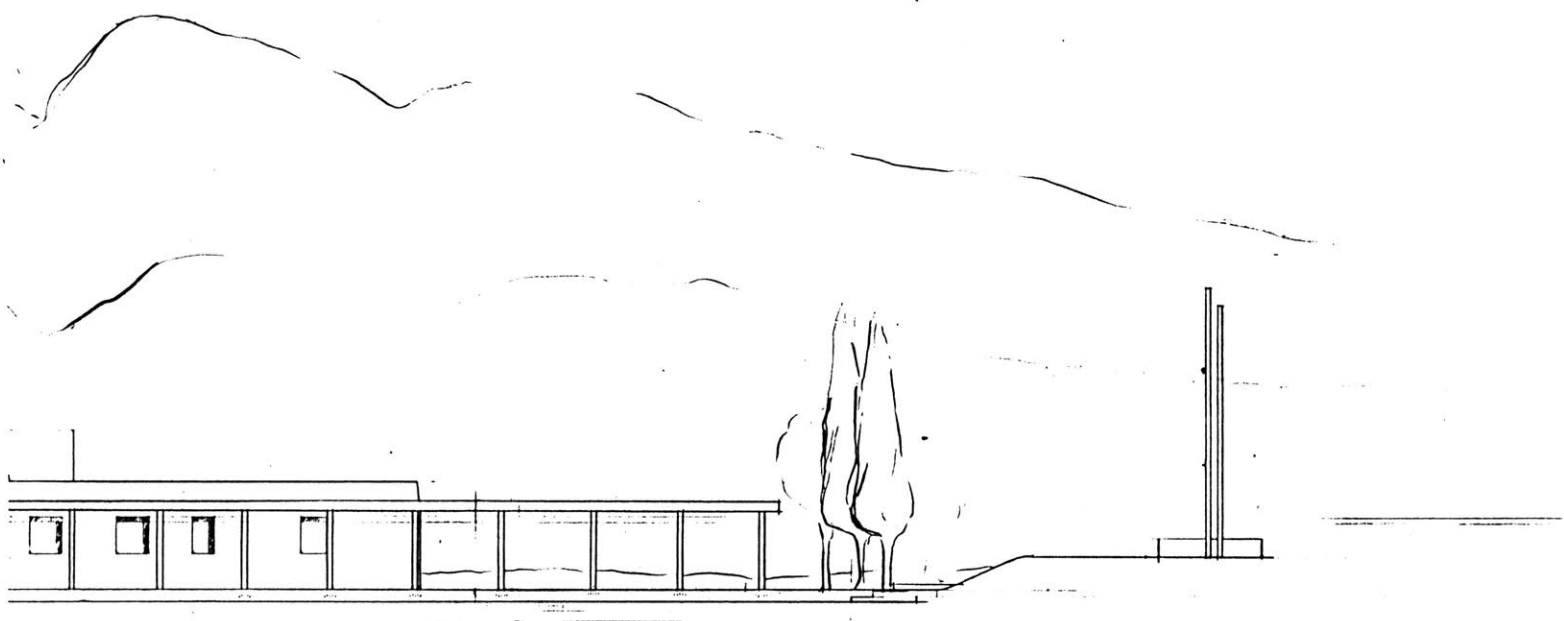
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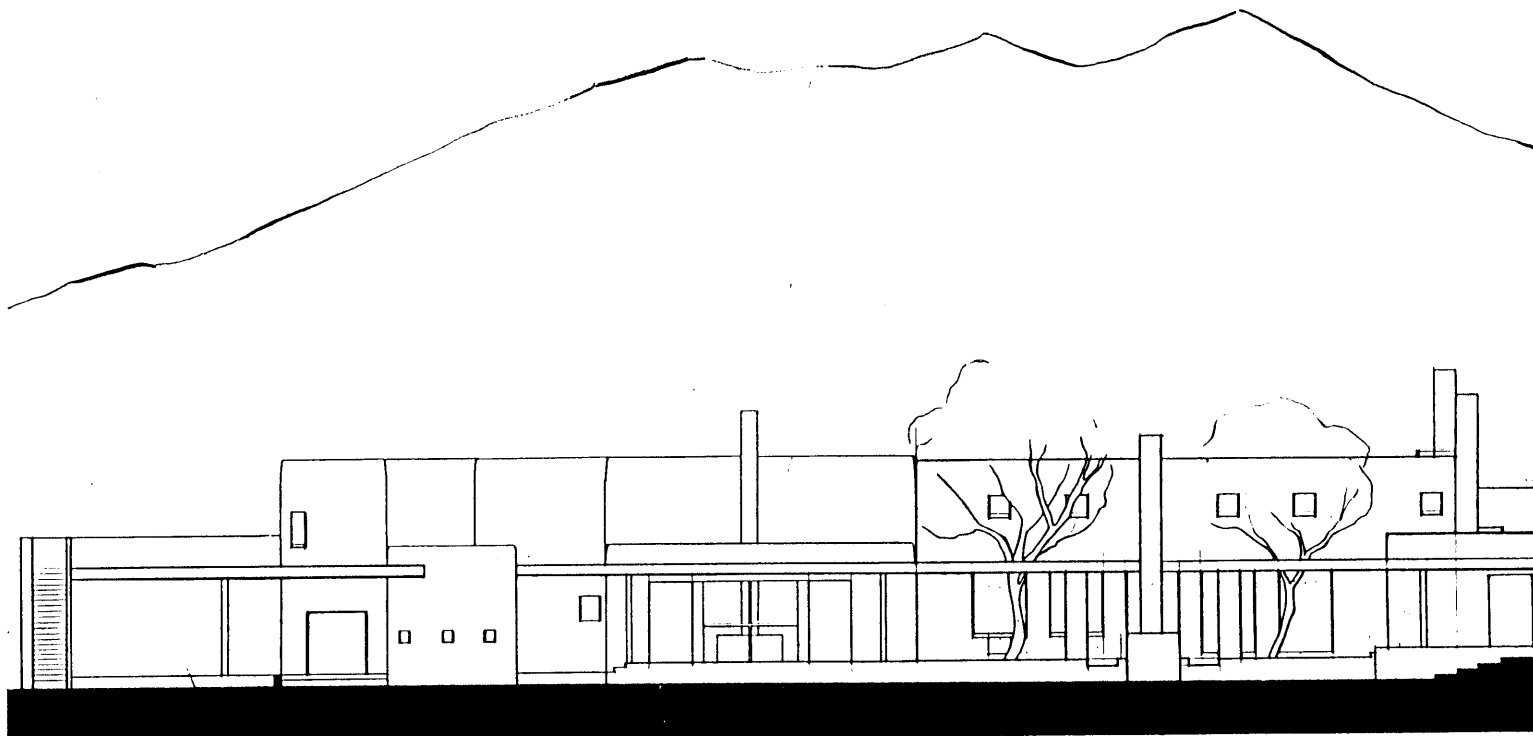


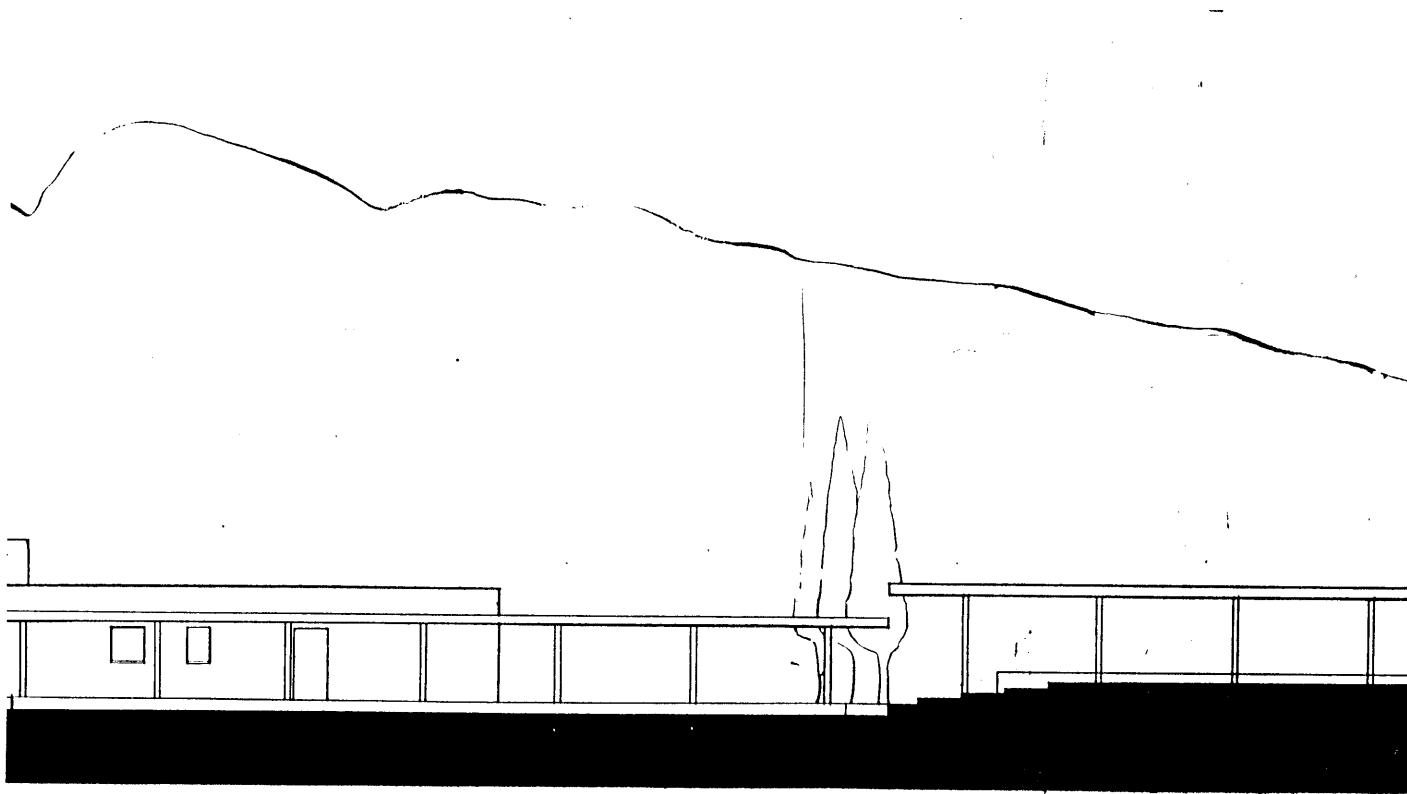


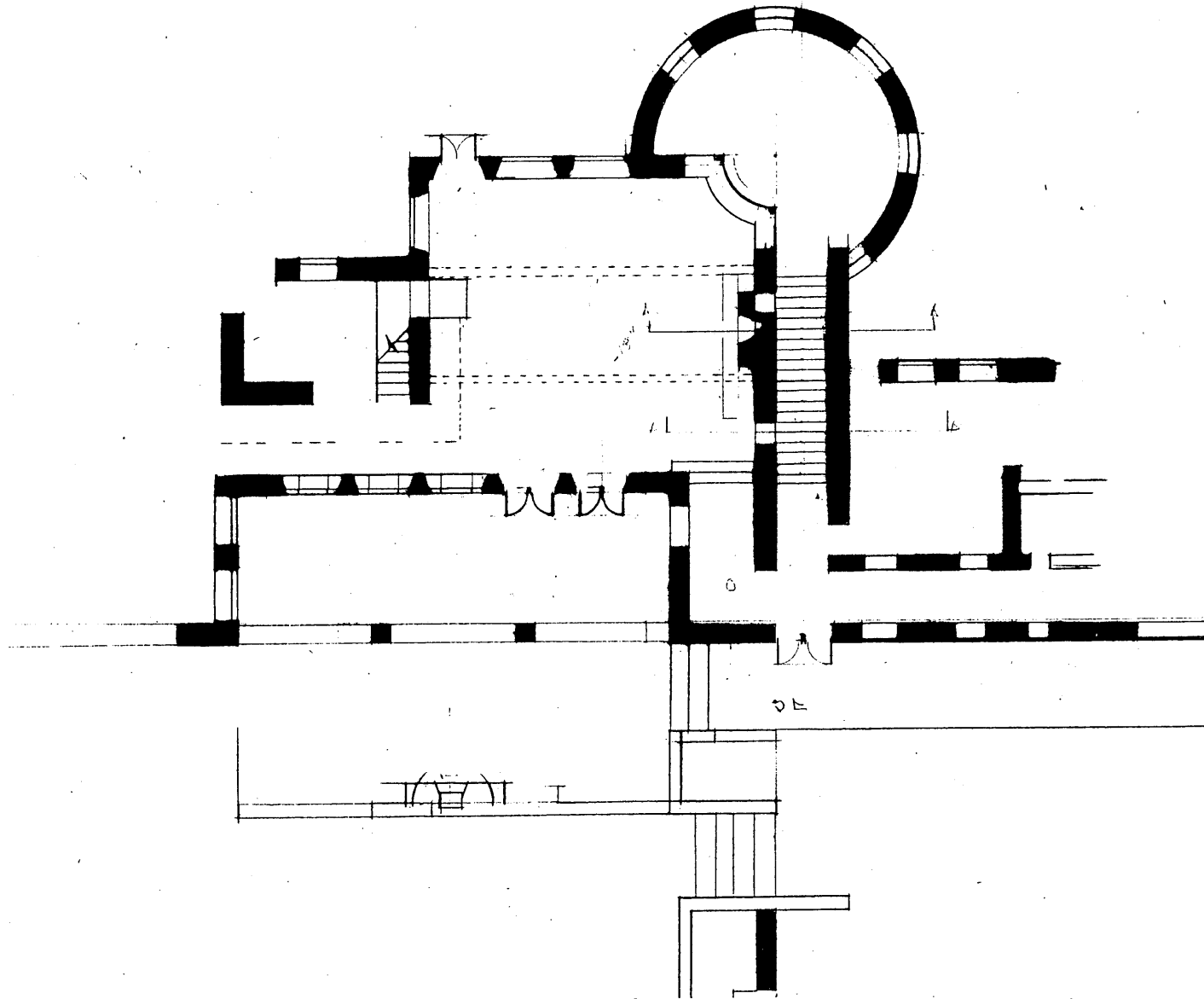
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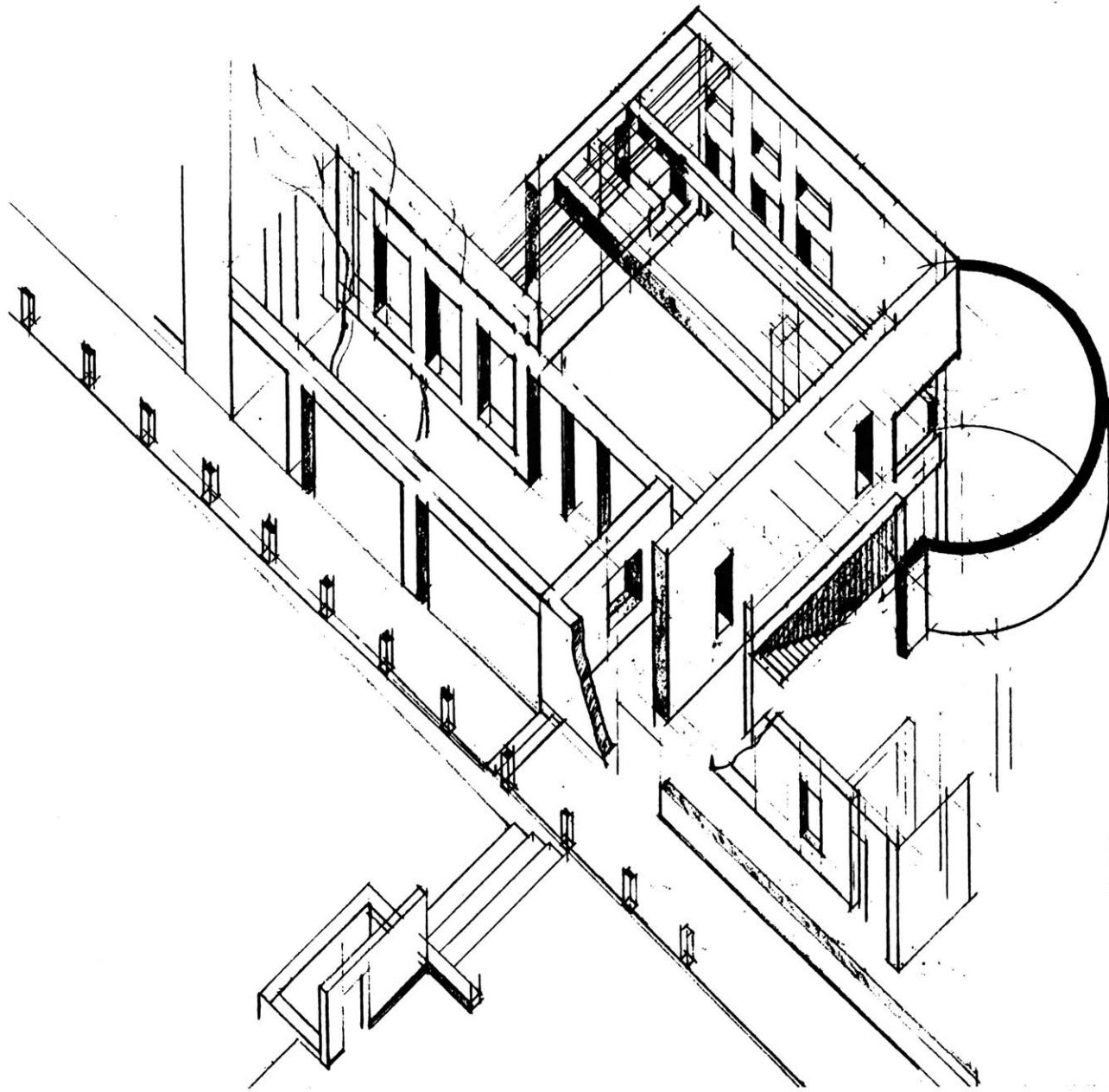


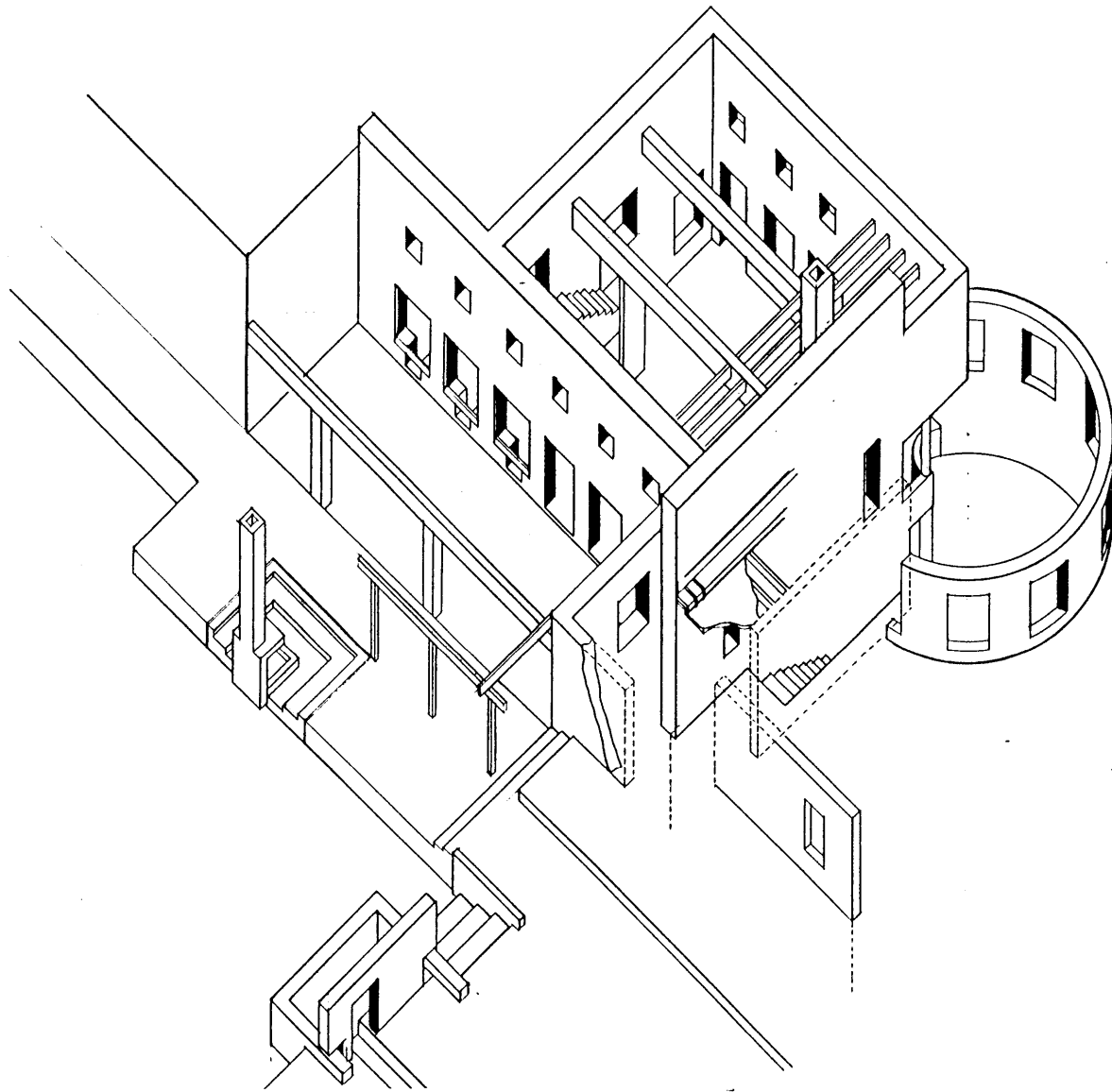




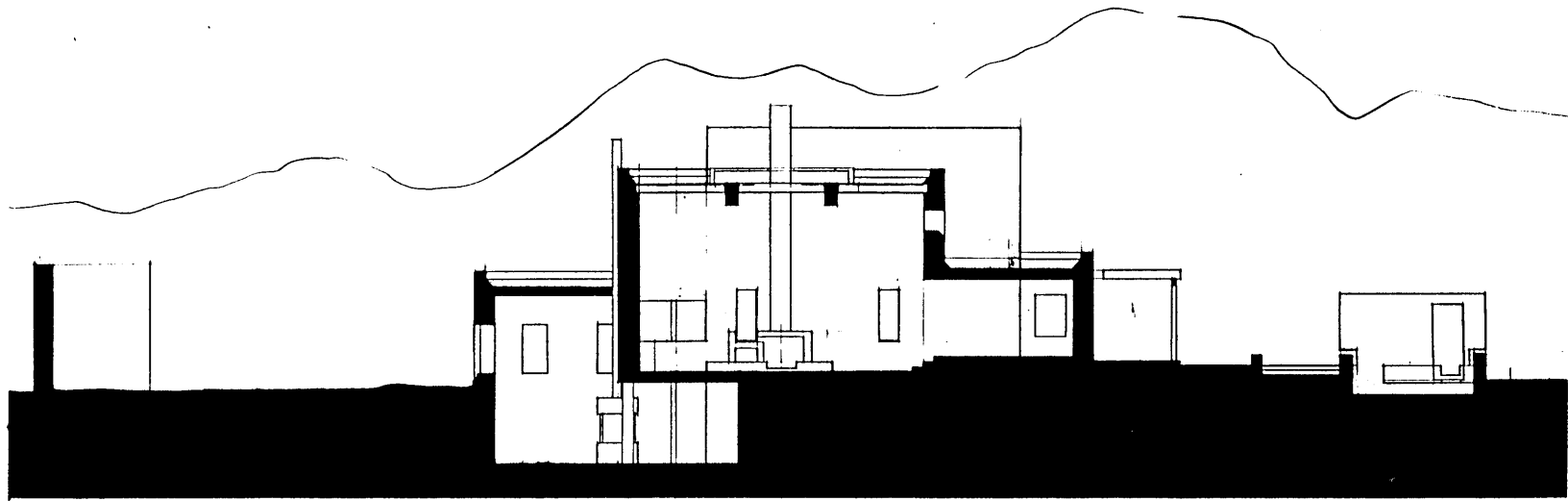


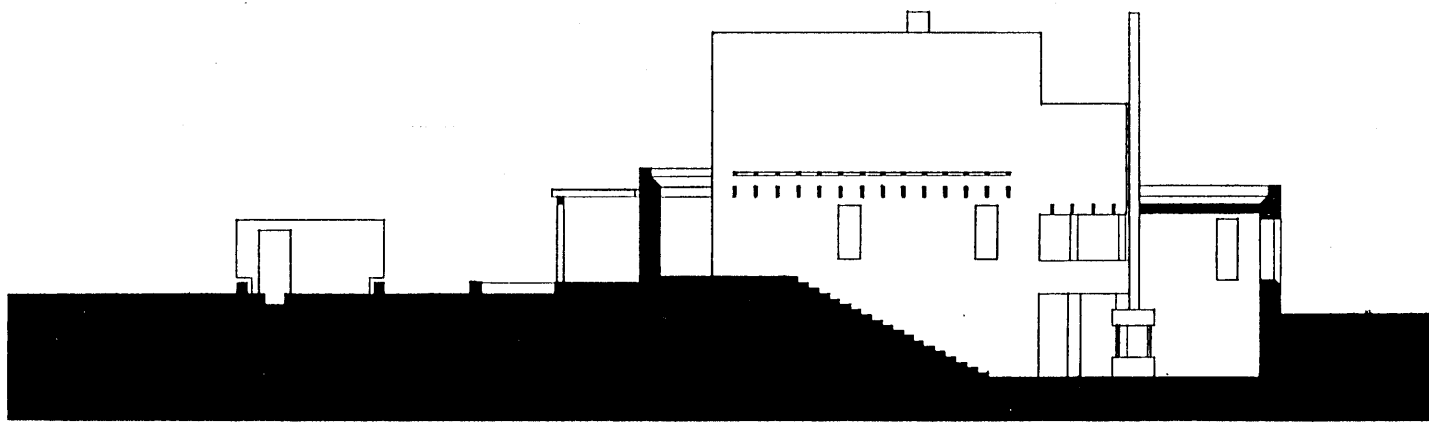


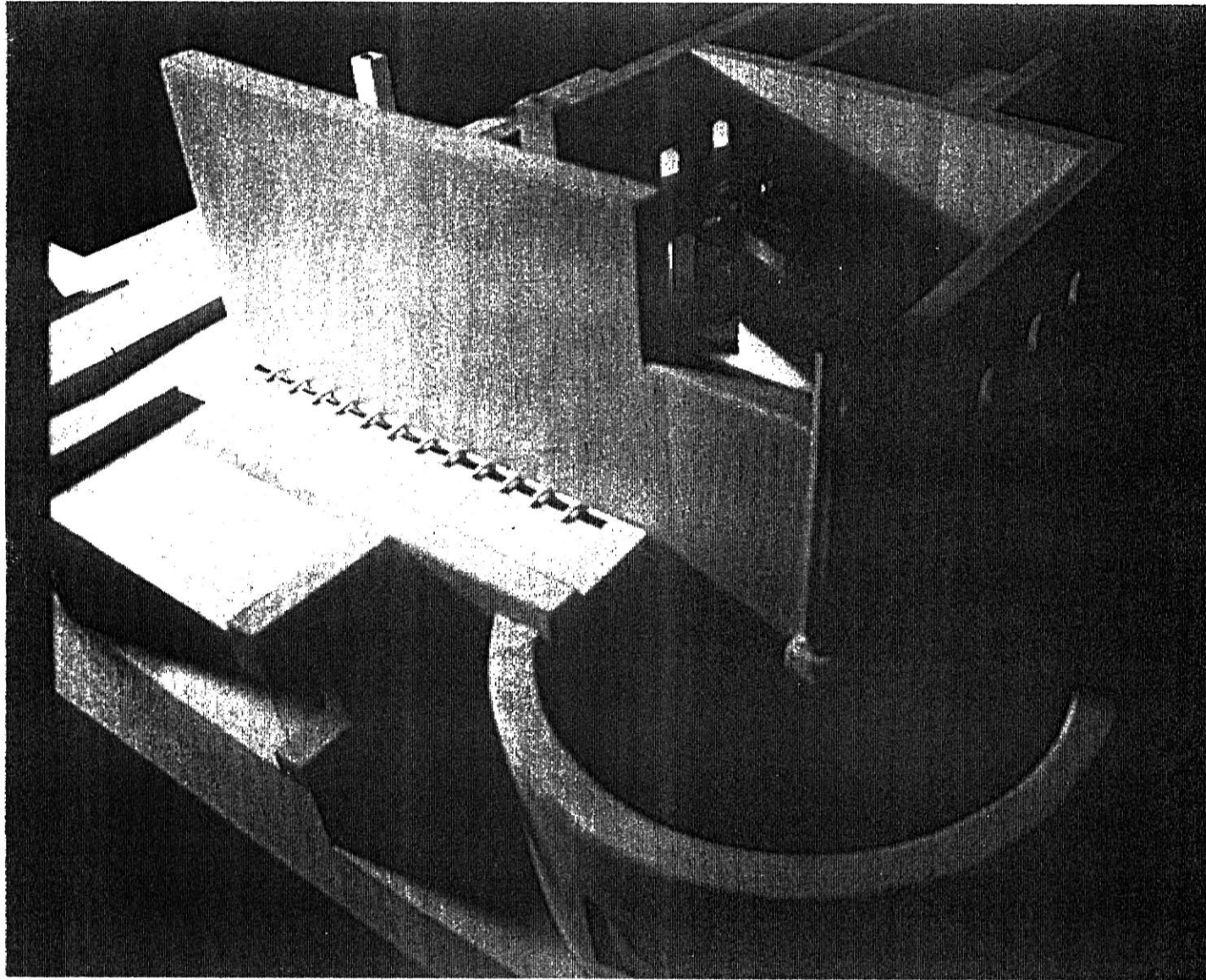


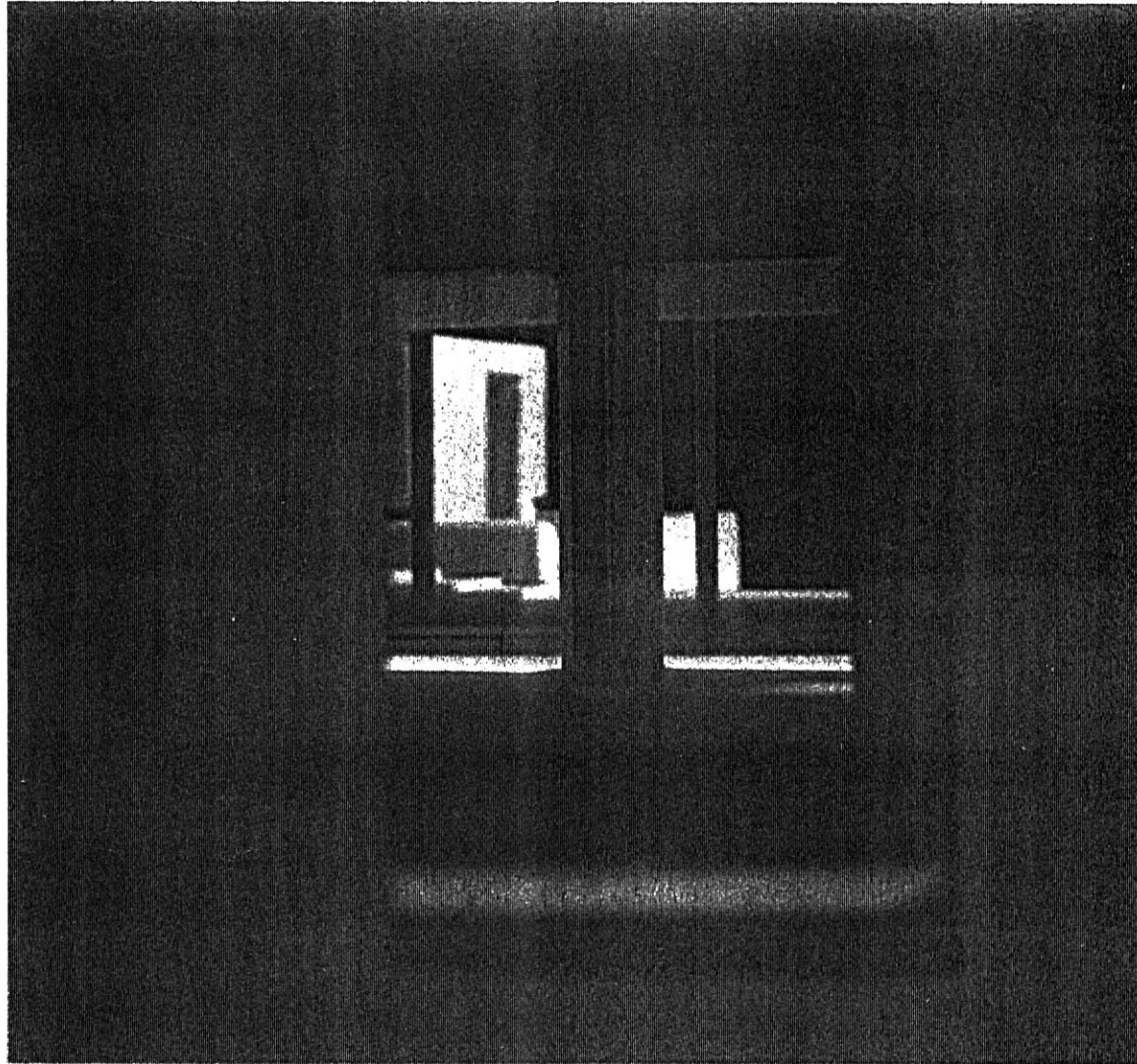


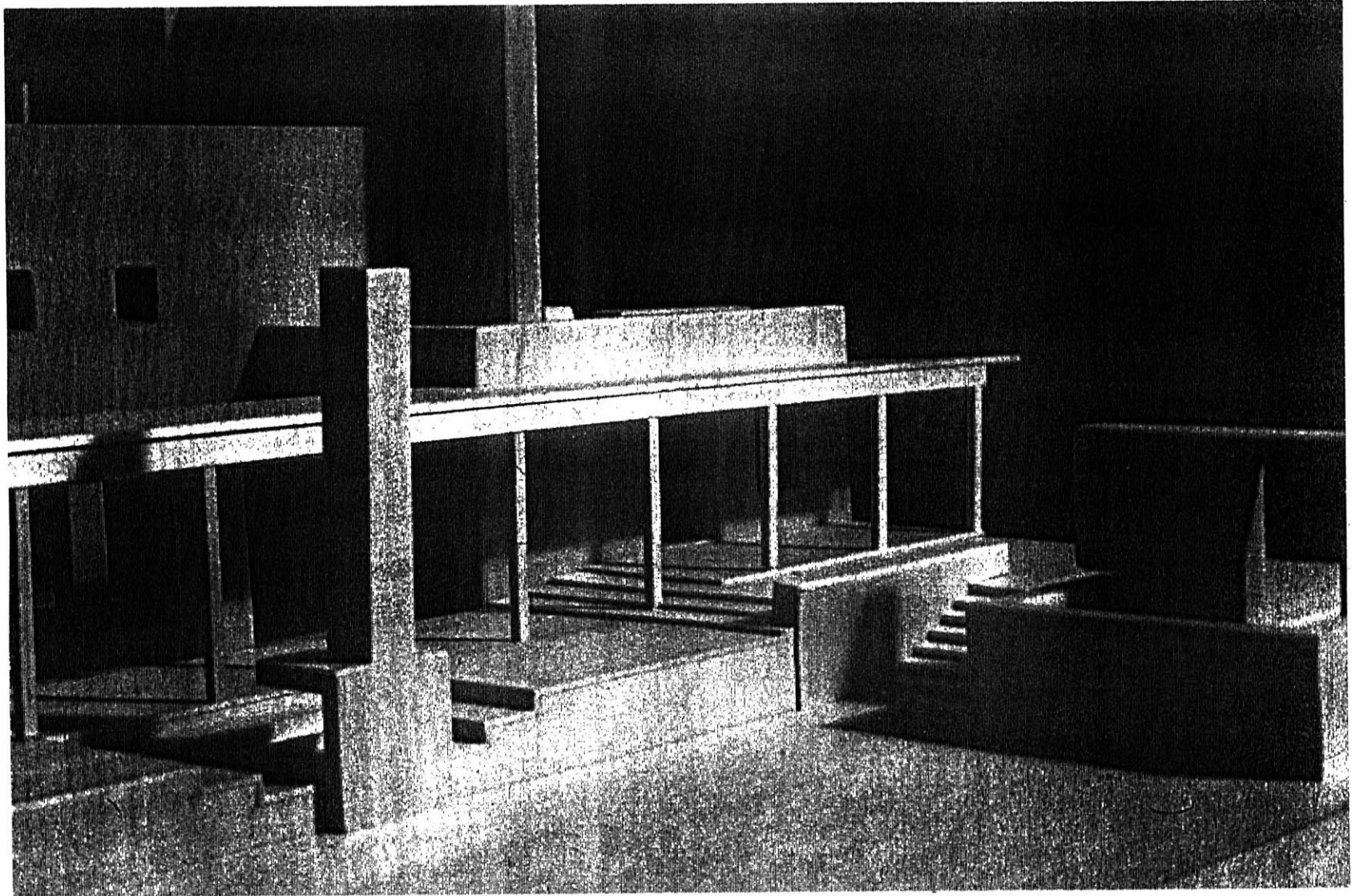
102

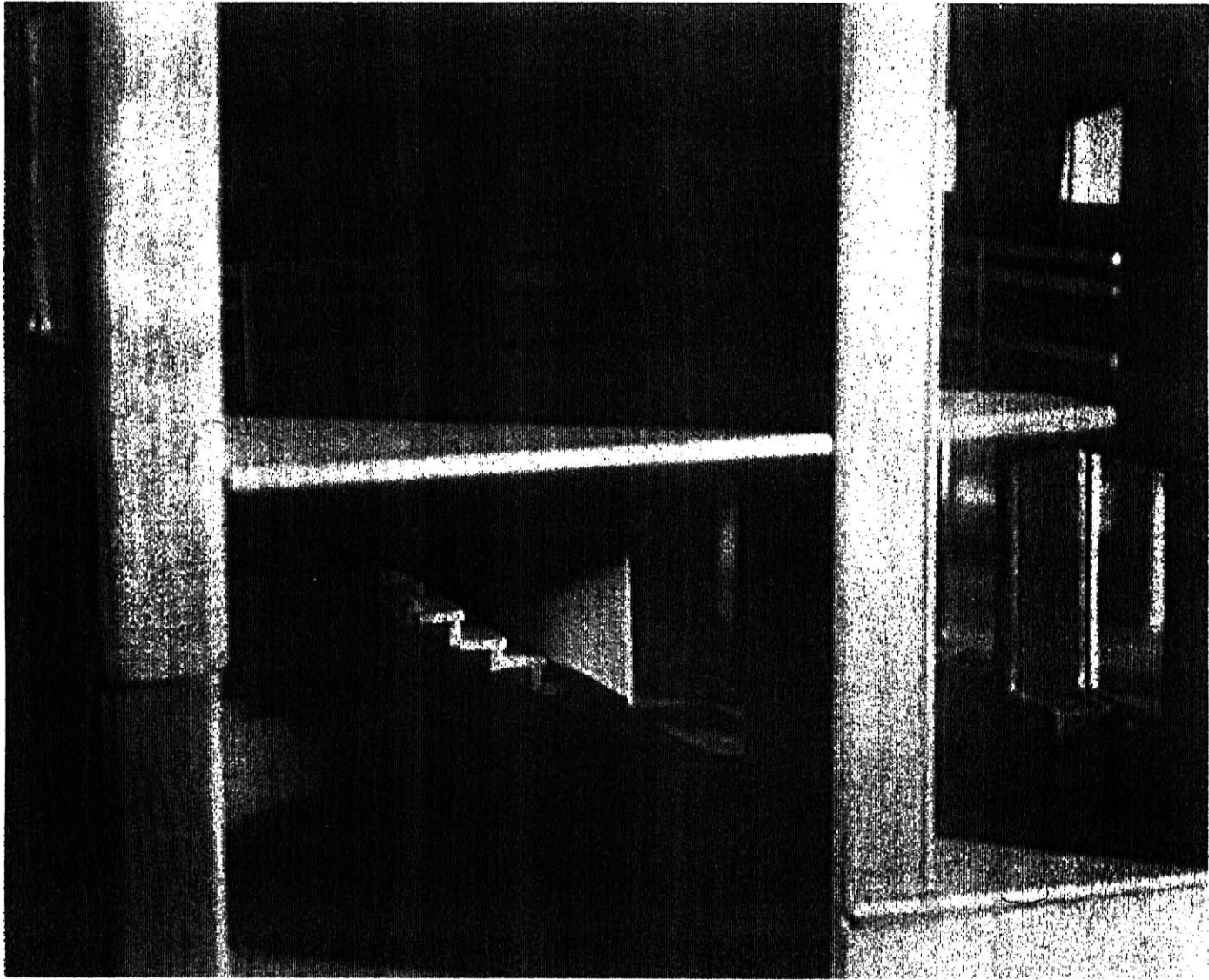


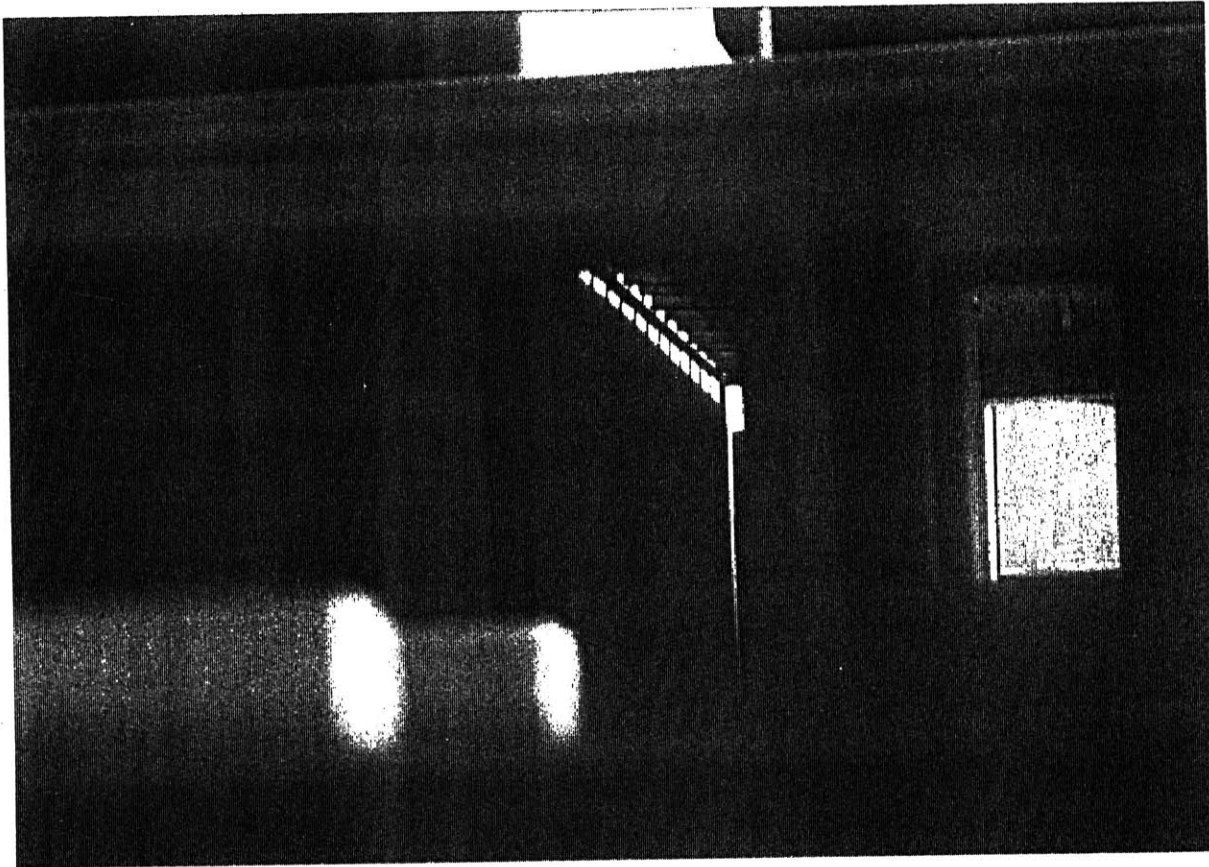












CONCLUSION

The initial intention of this thesis was to explore the relationship of architecture and landscape using a site in northern New Mexico. The resolutions that evolved seemed to be centered on what contributed to making the connection stronger - how one maintains a continuity between inside (home) and outside (landscape).

I was struck by all of the issues that emerged out of the initial focus of the thesis - the interplay between architecture and landscape. What makes something static? What makes something dynamic? What does it mean to activate a place and what impact does this then have on the whole scheme? What is the connecting tissue? What ties everything together? One theme which became apparent in the resolution of each of these issues was the importance of continually being able to fluidly move between the large scale of the landscape and the comparative smallness of the human scale.

In designing for this site I found it important to focus on the original question by continually trying to put myself at the site or at the

house and look from this vantage point. This challenged me to have not only the perspective of one who is the architect (objective perspective) but to also try to put myself in the perspective of the individuals who would be living and working in this environment (subjective perspective). However, when designing for people it must always be understood that there is no guarantee that two people will experience a place or a space in the same way. All that an architect can do is provide a setting for experiences to occur.

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