

Architecture as Film:

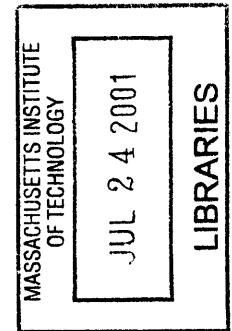
Animation and the Phenomenological Experience

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B.S., Architecture
University of Texas at Arlington, 1991

Submitted to the Department of Architecture
in partial fulfillment of the requirements for the degree

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at the Massachusetts Institute of Technology
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ROTCH



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February 09, 2001

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In his film *L'Avventura*, Michelangelo Antonioni develops startling relationships between his characters and their surroundings. This thesis proposes to use a portion of his film as a precedent for both the architecture's dialectic with its surroundings and the realization of internal spatial disposition. Just as Antonioni uses the camera to amplify juxtaposed psychological states, the design for this Mediterranean cultural center and resort, set in Playa de Granadella, Spain uses different spatial elements to explore the division between the elements--earth, water and sky.

To analyze the film, a methodology involving analysis, recombination, and interpretation was developed. This methodology allowed deeper exploration of the complex relationships between the characters and the landscape within Antonioni's film and a better understanding of the underlying themes behind these relationships. The methodology was then used to inform and inspire the design of the resort.

Thesis Supervisor: Ann Pendleton-Jullian
Title: Associate Professor of Architecture



*I would like to dedicate this thesis to the loving memory of my mother, Cheryce Davault.
Through her, I learned the perseverance to succeed.
Mom, I miss you.*

Acknowledgements

I would like to express a special thanks to Jen for encouraging me to apply to MIT and then providing the emotional support, intellectual stimulation and loving stability, without whom nothing could have been accomplished.

I would like to thank my family: Wes, Shawn, and Dad (that's you, Paul) for their love and support.

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Finally, I would like to thank my committee, Ellen, Julie and Takehiko for all of their constructive criticism throughout my thesis project.

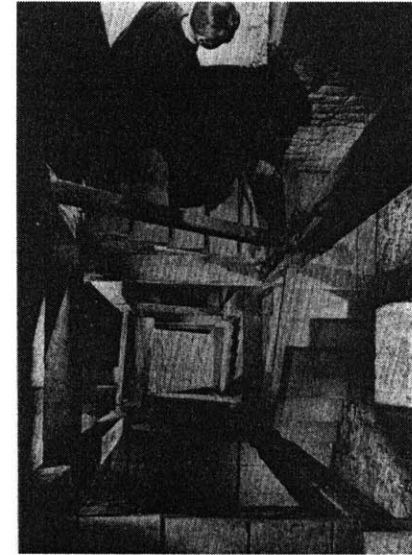
Contents

Introduction	7
Antecedents	11
Design Site	15
Design Program	15
Methodology Analysis	17
Methodology Recombination	23
Methodology Interpretation	33
Methodology Discussion	89
Bibliography	91
Illustrations	93

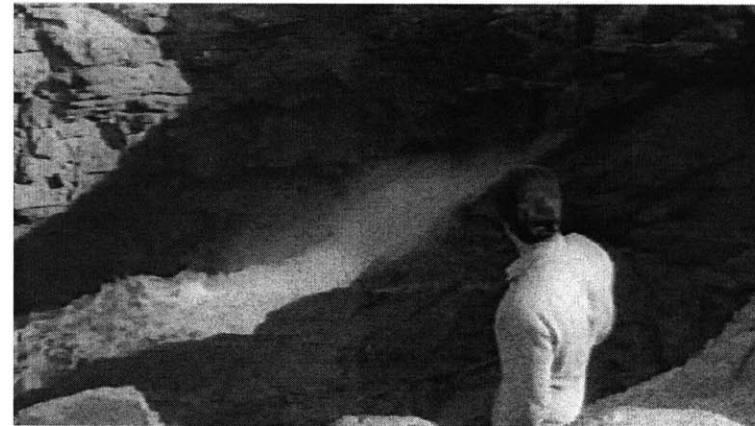
Introduction

In filming each movie sequence, cinematographers and directors often cast the setting as an additional actor within the scene. The way in which the other actors interact with the landscape or background can be used to create or heighten mood. Both the fear and confusion in Hitchcock's *Vertigo* and the tense sexuality within Michael Antonioni's *L'Avventura* are created through the relationship between the setting and the actors. In *Vertigo*, Hitchcock often obstructs the view of his actors through a top down perspective on the winding wooden steps of an old mission bell tower. As the actors race up the stairs, the movement within the design of the staircase heightens the sense of confusion generated by the actors' frenzied chase. This use of the backdrop allows the audience to grasp the paranoid fear associated with the chase.

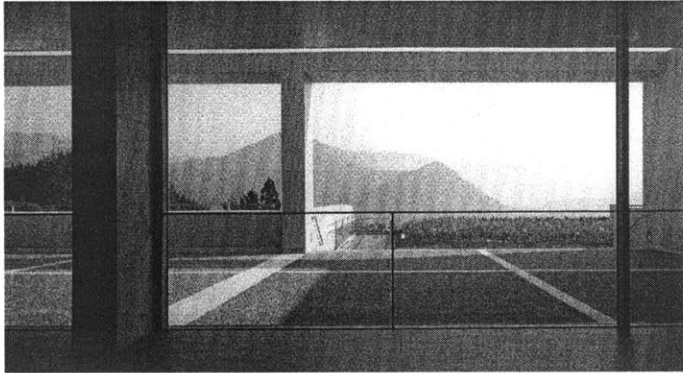
In *L'Avventura*, Michelangelo Antonioni develops startling relationships between his characters and their surroundings. Throughout the film, Antonioni uses the landscape to heighten the sexual tension and the feeling of ennui within his characters. In his search for the missing Anna, Sandro encounters a small, cove that cleaves the island where the waves break in a fiercely sexually suggestive manner. In addition to the use of landscape to suggest the character's sexual tension, Antonioni explores the relationship between male and female through the framing of earth, water and sky. The different types of landscape hint at both the psychological states of the characters and the intimacy between the characters.



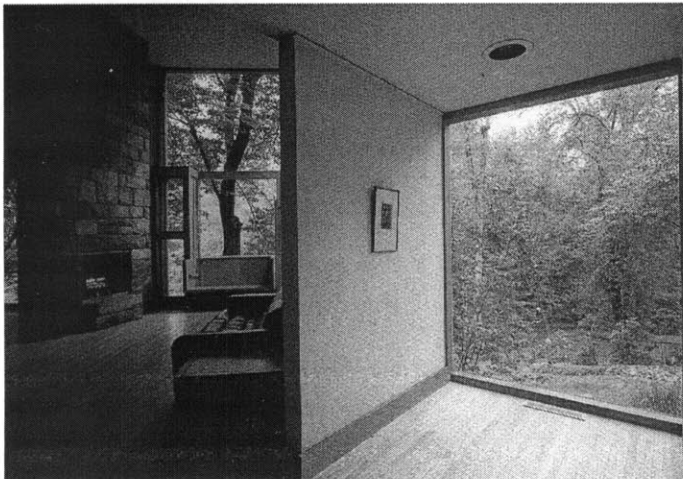
Staircase scene from Hitchcock's *Vertigo*



Sandro searches for Anna, *L'Avventura*



Example of a composed view by Tadao Ando



Example of a composed view by Louis Kahn

Just as the cinematographer and director often use the composed view to augment the film audience's phenomenological experience, architects, such as Louis Kahn and Tadao Ando, compose views of and within their designs to effect a phenomenological experience with the building's audience. Given the heavy reliance on framing the relationship between the characters and the landscape within Antonioni's film, *L'Avventura*, this thesis proposes to use a portion of his film as a precedent for both the architecture's dialectic with its surroundings and the realization of internal spatial disposition. Just as Antonioni uses the camera to amplify juxtaposed psychological states, the design for this Mediterranean cultural center and resort, set in Playa de Granadella, Spain uses different spatial elements to explore the division between the elements--earth, water and sky.

In addition to Antonioni's architectonic scene composition, his dramatic vistas of the Mediterranean allude to another major theme within this thesis, the commodification of view. Just as a filmmaker constructs a particular scene, an architect can compose a view of their design and frame a view of the scenery external to their design. A resort usually involves some commodification of view within the units and public spaces. Part of the lure of a resort is the scenic views afforded by the site. The public spaces often open to some of the most spectacular views of the landscape on the resort. The units within a resort are usually priced to reflect the quality of view from each unit and the size of the room. Thus, the most expensive rooms tend to be both larger in size and have the premium views available of the units at a resort. Rather than commodify the view through the room rate, this project attempts to commodify the view within the public space. This commodification is symbolic through the concealment and revelation of composed views.

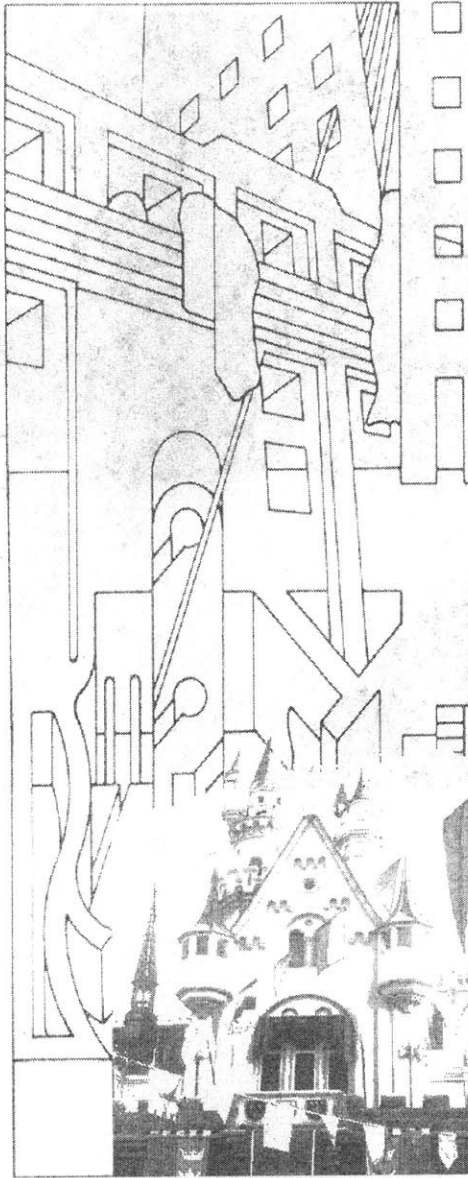


Room with ocean view at the Hotel Santa Marina, Mykonos, Greece

To explore the major themes of commodification and composition of view, this thesis documents the antecedents of using film as an inspiration within architecture, the site and program of the resort, and the methodology used in development of the final design. In conclusion, the use of film as a source of architectural inspiration is discussed and evaluated.



Room with ocean view at the Princeville Resort, Hawaii



Antecedents

Interpretation of film or stage in architectural design has numerous antecedents, ranging from copying design to form generation. The following are a few examples of the use of film in architectural design.

Sleeping Beauty Castle

Disneyland's Sleeping Beauty Castle is a Disney icon. All resort locales with Disney as part of their name have a version of this architectural folly. The castle's inspiration came from amalgamation of the cinematic fantasy of Disney's *Sleeping Beauty* animation and the architectural fancy of Neuschwanstein, the folly of the Bavarian king, Ludwig II. Sleeping Beauty's castle used film as a direct reference for its ultimate design.

Neuschwanstein

The inspiration for Neuschwanstein, the Bavarian royal castle commissioned by Ludwig II in 1866, was part medieval castle and part stage set. Ludwig II identified with the myth of the Swan Knight immortalized in Wagner's opera *Lohengrin* and wished to build a retreat that celebrated both the divine right of kings and the recreation of the chivalric past. Ludwig II commissioned Christian Jank, a renowned stage designer who had worked with Wagner in the scenes for his operas.

Though inspired by the past, the building made full use of modern innovation, such as steel girders to support the fantastic structure, running hot and cold water and central heating. As in stage sets and



Still from Disney's *Sleeping Beauty*



Sleeping Beauty Castle, Disneyland



Neuschwanstein

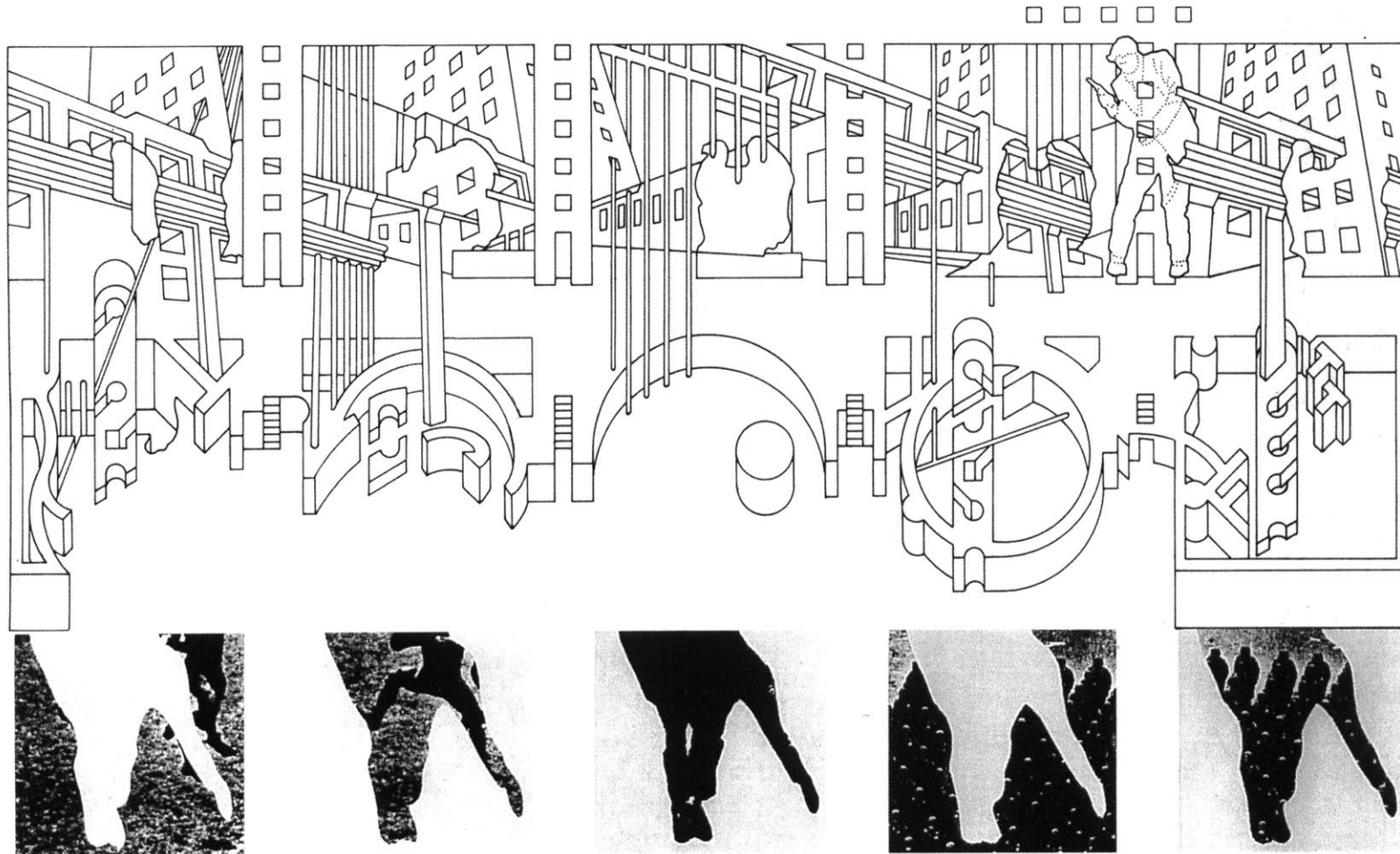
films depicting a by-gone era, historicism was supplanted by modern taste and convenience whenever necessary. Movies, such as *The Lion in Winter*, and stage sets, such as those used for Wagnerian works, which attempted to recreate the past often contained traces of modern style in the dress of the characters, the furnishings or the architectural setting. As in the décor of the castle even hints of the fledgling Art Nouveau style rather than remaining true to the art and furnishings that may have been found in the Lohengrin myth.

The Manhattan Transcripts

In his work *The Manhattan Transcripts*, first published in 1982, Bernard Tschumi used photographs as form generators within his unearthly designs. In generating his fantastic forms, Tschumi would use a set of rules to associate and combine linear and non-linear events, movements and spaces into an architectural form. His strategies for internal manipulations of form included repetitive, disjunctive, distorted and fade-in sequences, with certain parameters often remaining constant and passing from one frame to the next. Although his rules were logical, the subjective application of the transformation to each element resulted in a unique montage of forms.

At the heart of his work was the notion of sequence. Many of his frames use a sequence of photographs that capture stop-motion action like the stills from a movie. In fact, Tschumi expressed his desire to capture the temporal element in his sequences:

The temporality of the *Transcripts* inevitably suggests the analogy of film. Beyond a common twentieth-century sensibility, both share a frame-by-frame technique, the isolation of frozen bits of action. In both, spaces are not only composed, but also developed from shot to shot so that the final meaning of each shot depends on its context. — *Bernard Tschumi*



Sample work from Tschumi's *The Manhattan Transcripts*

Although Tschumi was based on a sequence of images, his work did not use these photographic sequences to inspire his design but to generate form. In generating his rule-based forms, his work retains little of the overall ambience and composition of the original photographs. Rather than exploring composition of the sequence, Tschumi attempted to capture an amalgamation of the sequence in a single set of forms within his overall design.



Map of the resort site on the Mediterranean coast of Spain



Design | Site

The resort is set on the Mediterranean coast in Playa de Granadella, Spain. It is on the site of a formal resort built in the 1960s. New owners who wished to make the resort attractive to global tourists recently acquired the resort. With the recent rise in educational tourism, the owners wanted to build a resort that would cater to the high end of the educational travel market.

Design | Program

This luxury resort and spa is designed to promote adult learning and cultural exchange while minimizing environmental impact and maximizing economic benefit to the region. It is sited on the Mediterranean coast in Playa de Granadella, Spain. It contains a desalinization and water filtration plant to increase the water resources in the area while employing methods to minimize water usage and overall environmental impact. In addition, an off-site local development center will be maintained to equip local residents with the skills needed to maximize local benefit from tourism.



Site with old resort

Cultural Center

The center will house a rotating academic staff expert in:

- ❑ Local history, culture, language and the arts
- ❑ Sustainable development and micro-entrepreneurship

In addition to offering cultural and development lectures and tours, the center will provide courses in holistic living, including philosophy, meditation and holistic exercise.

Classes for guests will include:

- ❑ Immersion language programs
- ❑ Local culture and history
- ❑ Special art and science programs
- ❑ Sustainable development, including green gardening, ecology, economic development and micro-lending

Guest Facilities

The resort will be designed to offer wide-ranging amenities to its guests in a five-star atmosphere. The center experience will include:

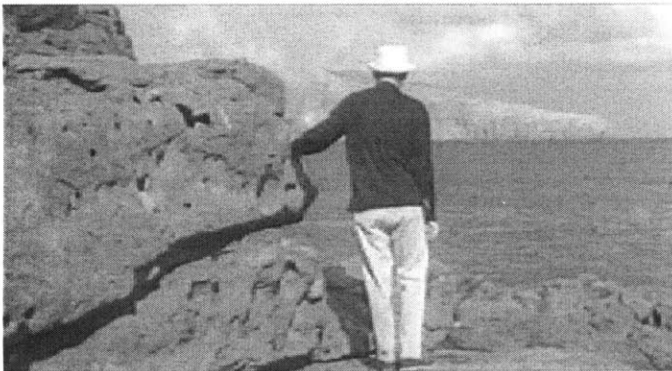
- ❑ Spa, including mud bath, sauna, massage therapy and salon service
- ❑ Salt water pool
- ❑ Indoor and outdoor gardens
- ❑ World-class restaurant
- ❑ Conference rooms and lecture halls
- ❑ Ballroom
- ❑ Laundry service
- ❑ State of the art communication services

Methodology | Analysis

In order to use the film as a point of inspiration for architecture, *L'Avventura* was first analyzed to distill its predominant themes in Antonioni's relationships between the characters and the landscape. These themes could then be used to inform the design process. Five themes permeate Antonioni's film:

Collapse and extension of view

In Antonioni's work, there are significant differences in the intended meaning behind the collapse and extension of the composed view. The collapse of the view is usually associated with a female character who is surrounded or "trapped" by the earth, often reflecting the state of their relationship with one or more of the male characters. The women are shown in close-up, often in repose and in a passive psychological and/or physical state. In contrast to the collapsed view, the extended view is often correlated with male characters in an active pose. The men are shown in the distance, usually in the process of traveling through the landscape or are caught regarding the landscape in a contemplative manner.



Above: Examples of collapsed view with Anna and Giulia

Left: Extension of view



Above: Calm waters,
calm mind

Right: Trouble waters,
troubled psychological
state



Water

Water is used to depict both different psychological states and has various manifestations within *L'Avventura*. Both troubled and calm psychological states are expressed through the movement of water in different scenes. In one setting, Sandro calmly contemplates the crystalline cove below. In another scene, Claudia traverses a small, hazardous ledge while the surf crashes below during her frantic search for Anna.

Water is depicted within the landscape in numerous forms. It is shown as a fountain to suggest action. It cleaves the land to suggest sexuality of the characters. It is shown as a clear cove to indicate Sandro's lack of concern at the beginning of the search for Anna.

Horizon Line

Antonioni explores the vertical and horizontal splicing of space through the sweeping changes in the horizon. In addition to the traditional use of sky to form the horizon, the horizon line can be represented by water, earth and man-made elements. Often the horizon line is artfully hidden and then revealed. The more intensive search for Anna is often associated with a high or low horizon line that indicates an expansive space. When the horizon is constricted or removed, the characters are often deep in discussion or in some sort of heightened psychological state.



Left: Low vertical horizon



Right: High or no horizon line





Above: Journey through the landscape

Right: Journey into the landscape



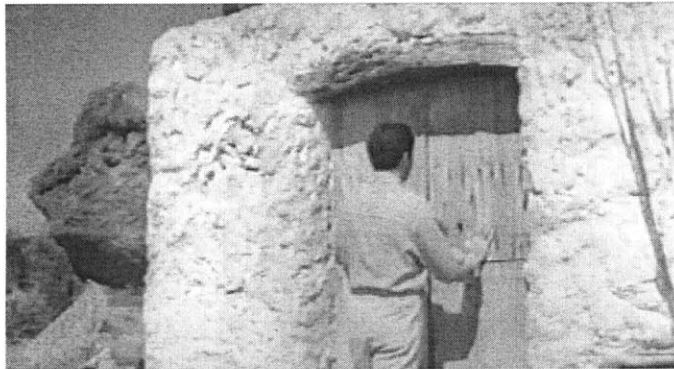
Journey

The search for Anna provokes the characters of *L'Avventura* on their separate journeys across the island. Journeys are either 'into' the island where the characters seem to be traveling into the earth. During these interior journeys, the characters make their own path, picking their way into the landscape. A horizon line is usually absent to orient the audience to the exact manner in which the characters are moving through landscape.

The journeys 'across' the landscape include a horizon line that orients the audience and displays the amount of land that must be traversed by the character(s). The characters usually move horizontally across the landscape using a defined path.

Framing

Antonioni often frames his scenes using another character or part of the landscape. An expansive view is often partially framed by a horizontal landscape element. In one scene, the frame is collapsed to the doorway that Sandro is standing in. In another scene, departing characters and landscape frame Anna just before her disappearance. Antonioni frames his view using his characters and landscape elements just as an architect frames views within the design through window and door placement.



Upper Left: Sandro framed by doorway



Upper Right: Anna framed by Guilia and landscape



Lower Right & Left: Landscape frames scene





L'Avventura stills

Methodology | Recombination

Since film captures movement through time, the analysis of predominant themes within *L'Avventura* cannot address the sequence of relationships between the characters and the landscape found in the film. In an attempt to understand the film's temporal sequences, stills from the film were placed in a jig to inspire the development of a continuous sequence of public space. Although these stills are in sequence, they may skip certain scenes in an attempt to capture more of Antonioni's dialectic between the characters and the landscape.

After analyzing various sequences in the film, a sequence of ascension and descension of the characters into the landscape during their fruitless search for Anna was chosen. This sequence not only comes at a critical point in the film, but it highlights the dramatic relationships between the characters and the scenery.

To improve understanding of relationships between the characters and the landscape within these sequences, the characters and landscape were abstracted by diagramming the relationships within each still. With the change in relationships distilled within each of the diagrams, it is easier to perceive the movement of the characters and the change in the depiction of the landscape. Armed with this enhanced perception of the relationships within the film sequences, the diagrams can provide a focus for inspiration of a continuous sequence of space.

In diagramming the relationships, a single color was chosen for each character and landscape element. The colors were then applied to shapes that roughly reflected the characters pose or their relationship with the earth, sky and water. The shapes were strictly composed of straight lines to heighten the abstraction of the relationships.

After 130 stills were diagrammed, 14 images were selected to inspire the design of two primary sequences of public space: the ascent to the lounge and the descent to the dining room.

Diagram 1

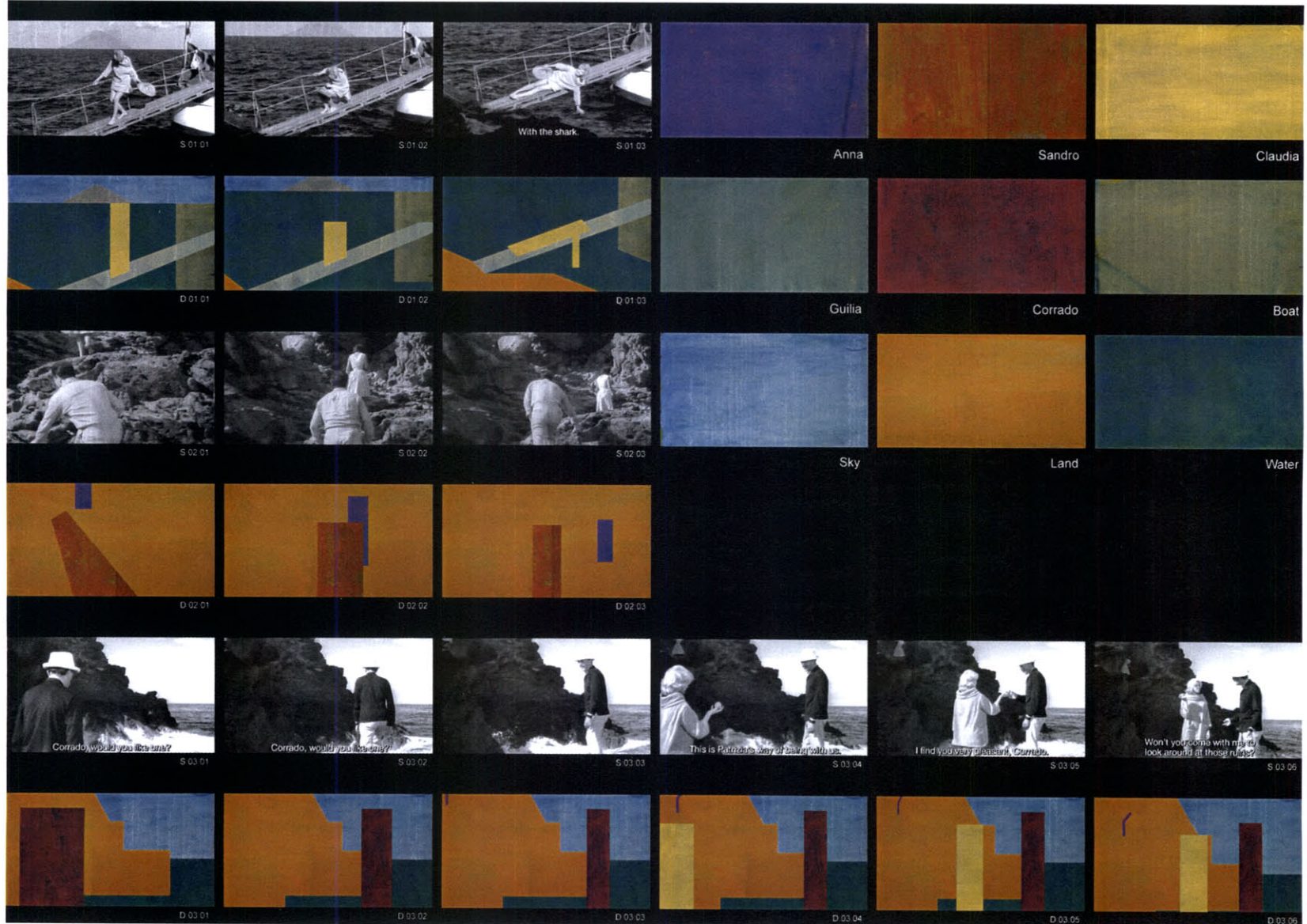


Diagram 2

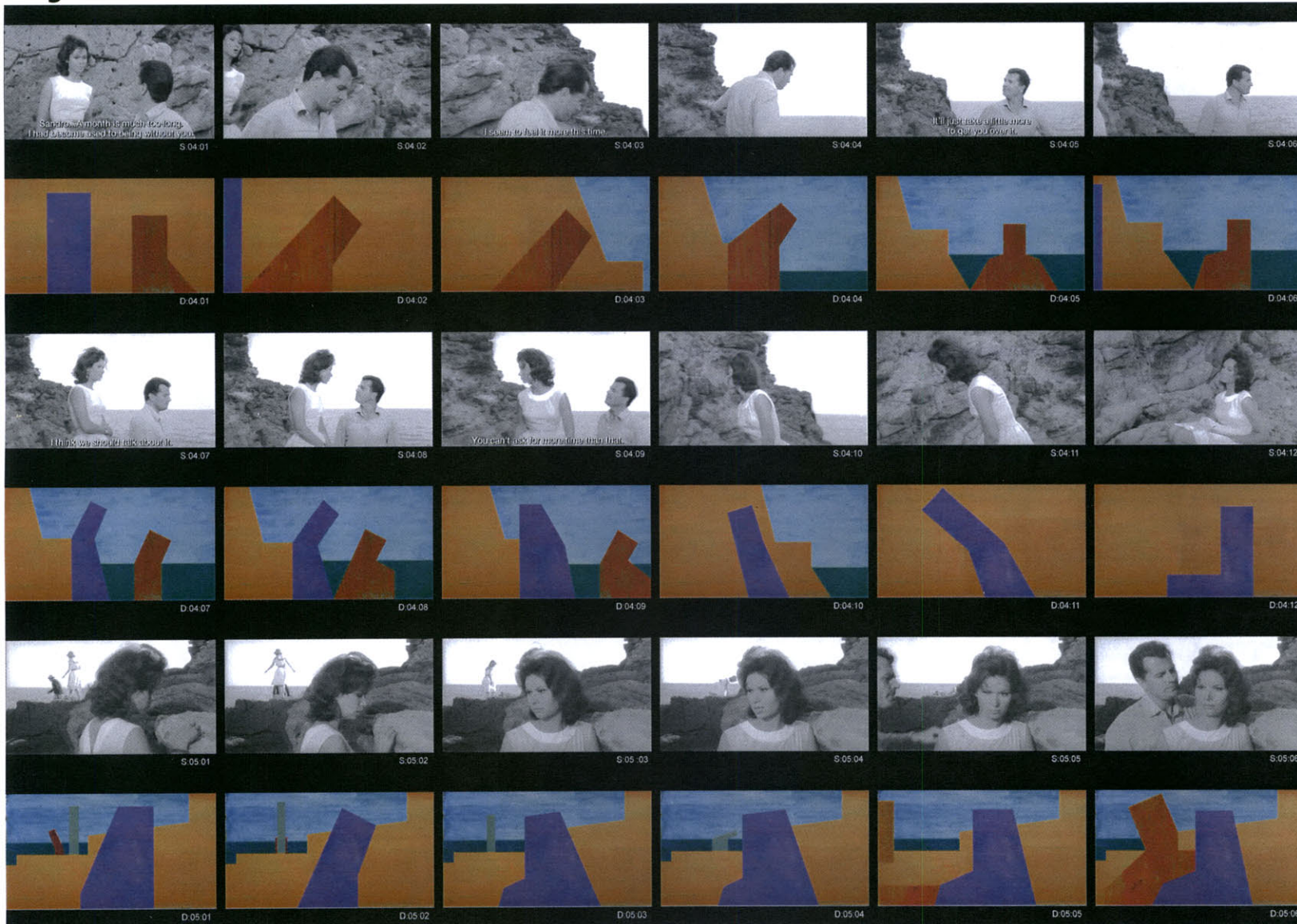


Diagram 3



Diagram 4



Diagram 5

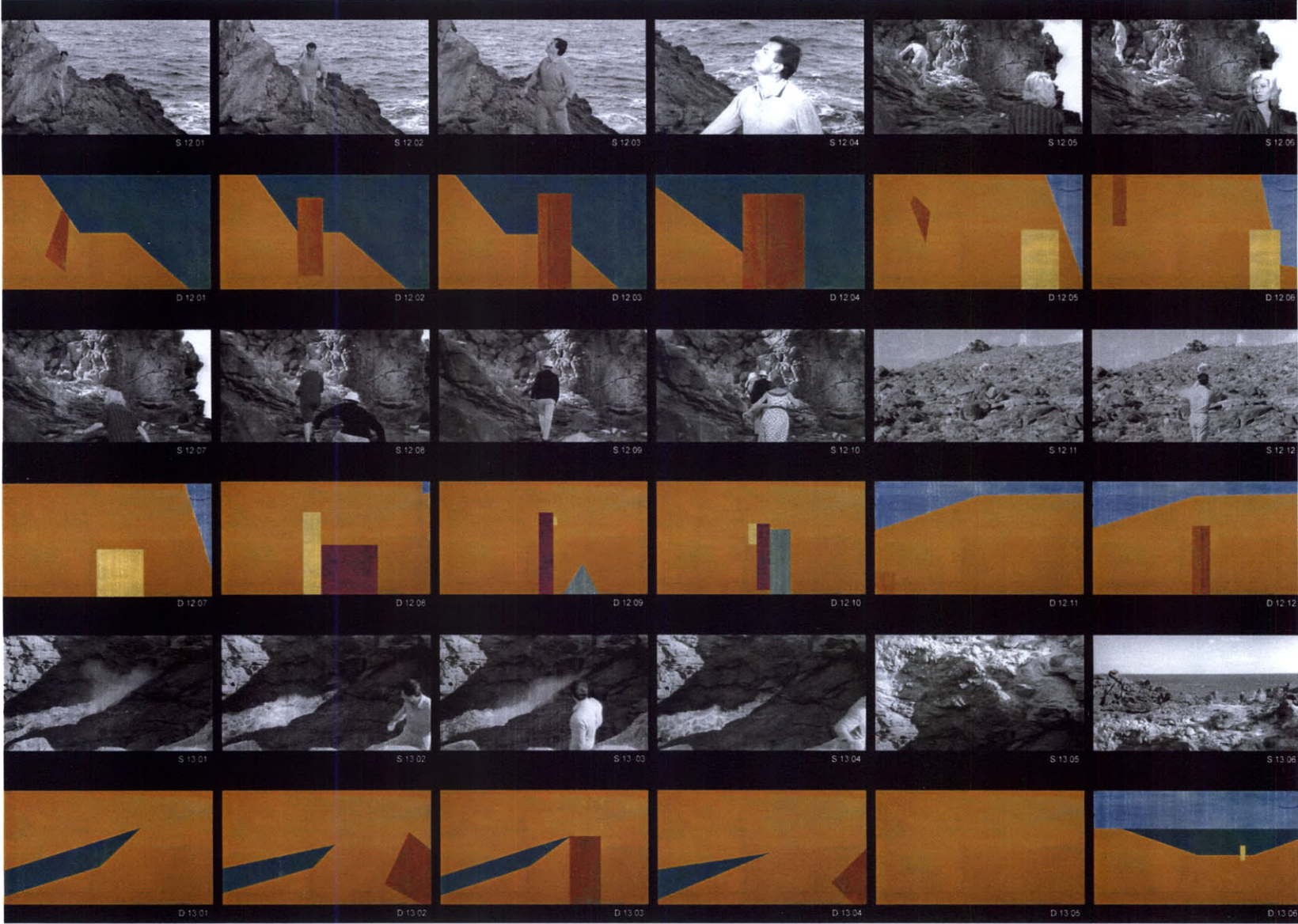


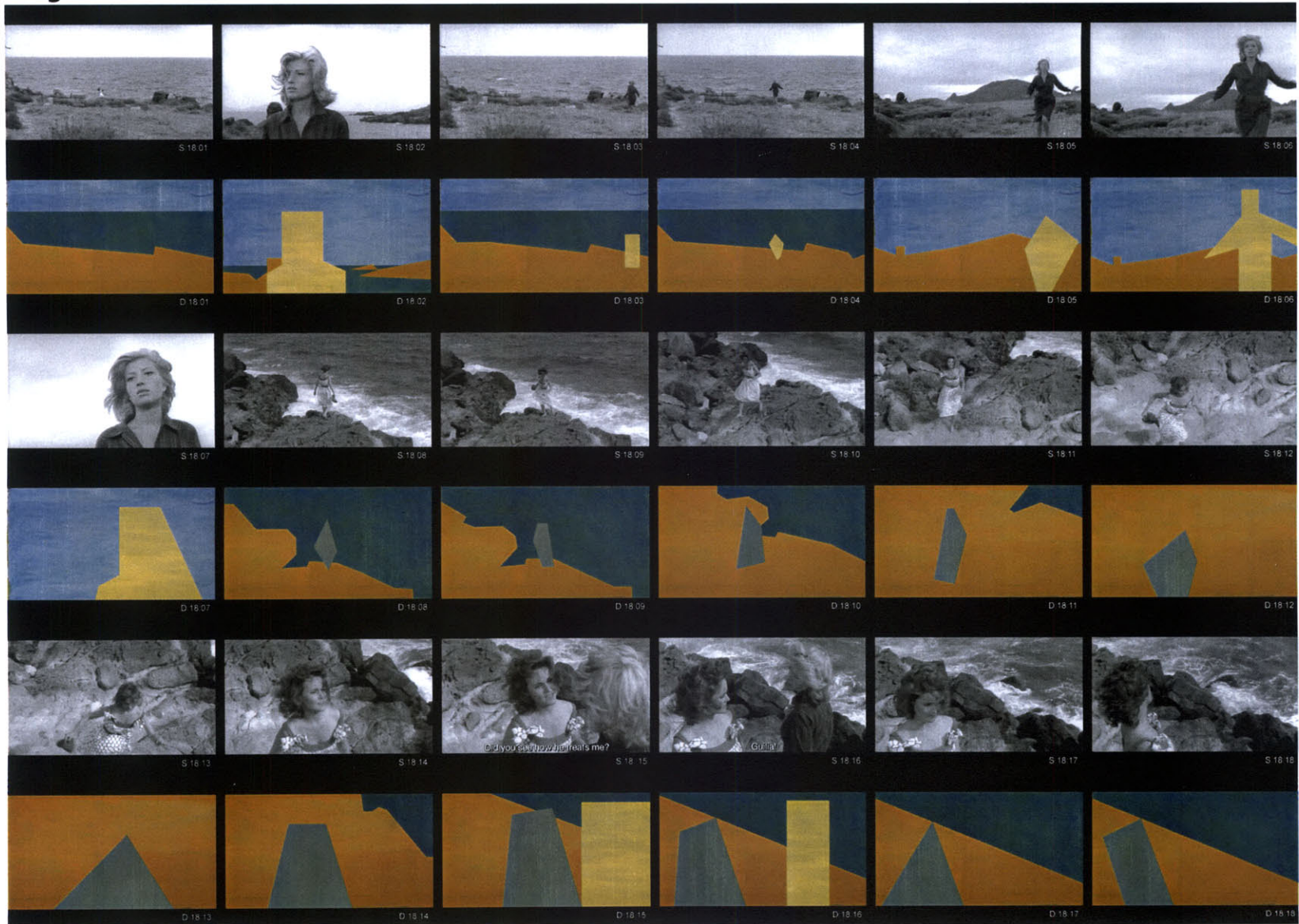
Diagram 6

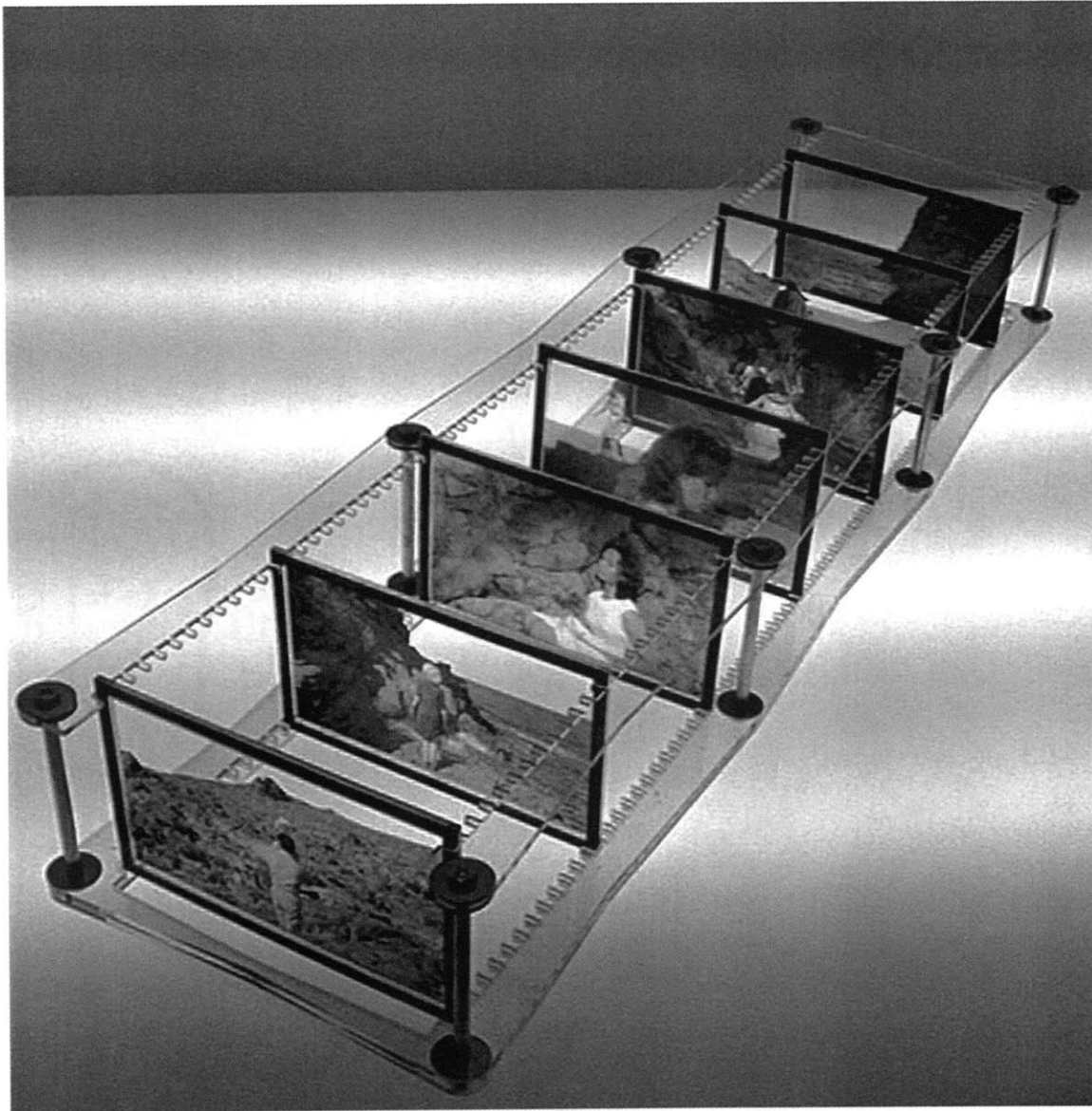


Diagram 7



Diagram 8





Jig with recombined stills

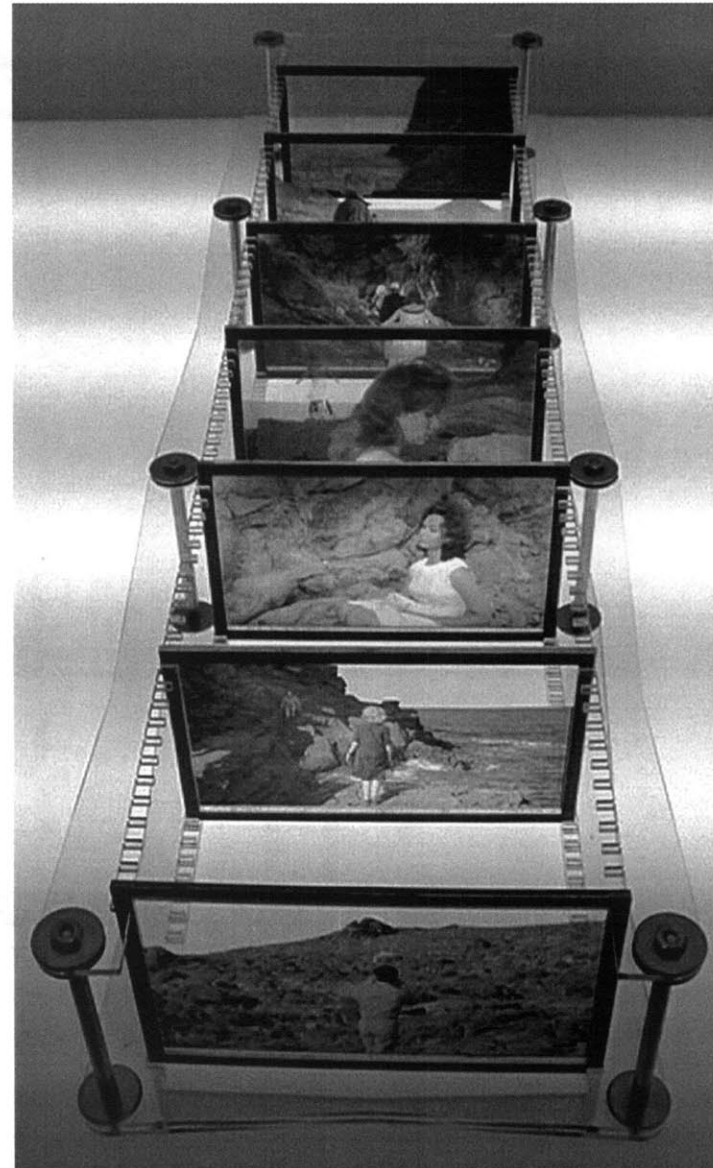
Methodology | Interpretation

Unlike Tschumi's work in *The Manhattan Transcripts*, the interpretation of the diagrams was not a one-to-one form mapping; it served to inspire the design rather than generate form. In deriving inspiration from the diagrams, the primary themes of the film, collapse and expansion of view, water, horizon line, journey and framing, were taken in sequence to influence the composed view within the design. In this manner, the major themes and the temporal sequences within the film were combined to affect the design of the continuous spatial sequences within the resort: the ascent to the lounge and descent to the dining room.

Ascent to the Lounge

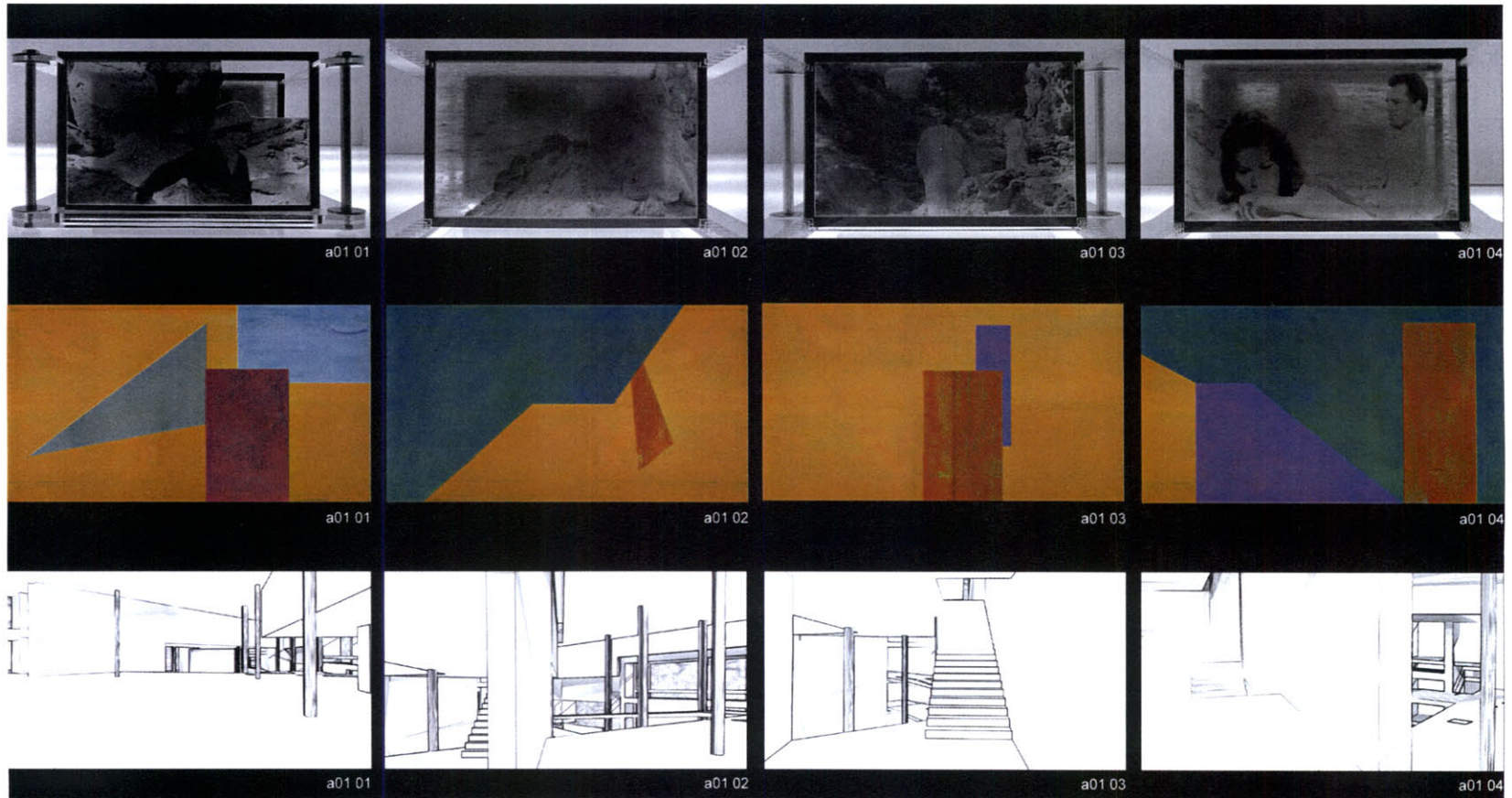
Within the ascent to the lounge spatial sequence, guests traverse a staircase into a lounge area that affords one of the spectacular composed views at the resort. The ascent into the landscape in *L'Avventura* or the 'journey' theme was a major source of inspiration in the design. During this sequence of film, the characters are journeying into the island in their search for Anna. In a similar vein, the guest must 'journey' to be afforded the view.

In the first still, the lighting against the wall in the left of the image alludes to a passage beyond. In the second and third stills, the characters are journeying into the landscape. The second still suggests a movement beyond the visual boundary into the passage inspired by Sandro's movement around the edge of the island. The ascent of the characters into the landscape inspired the placement of a stair.



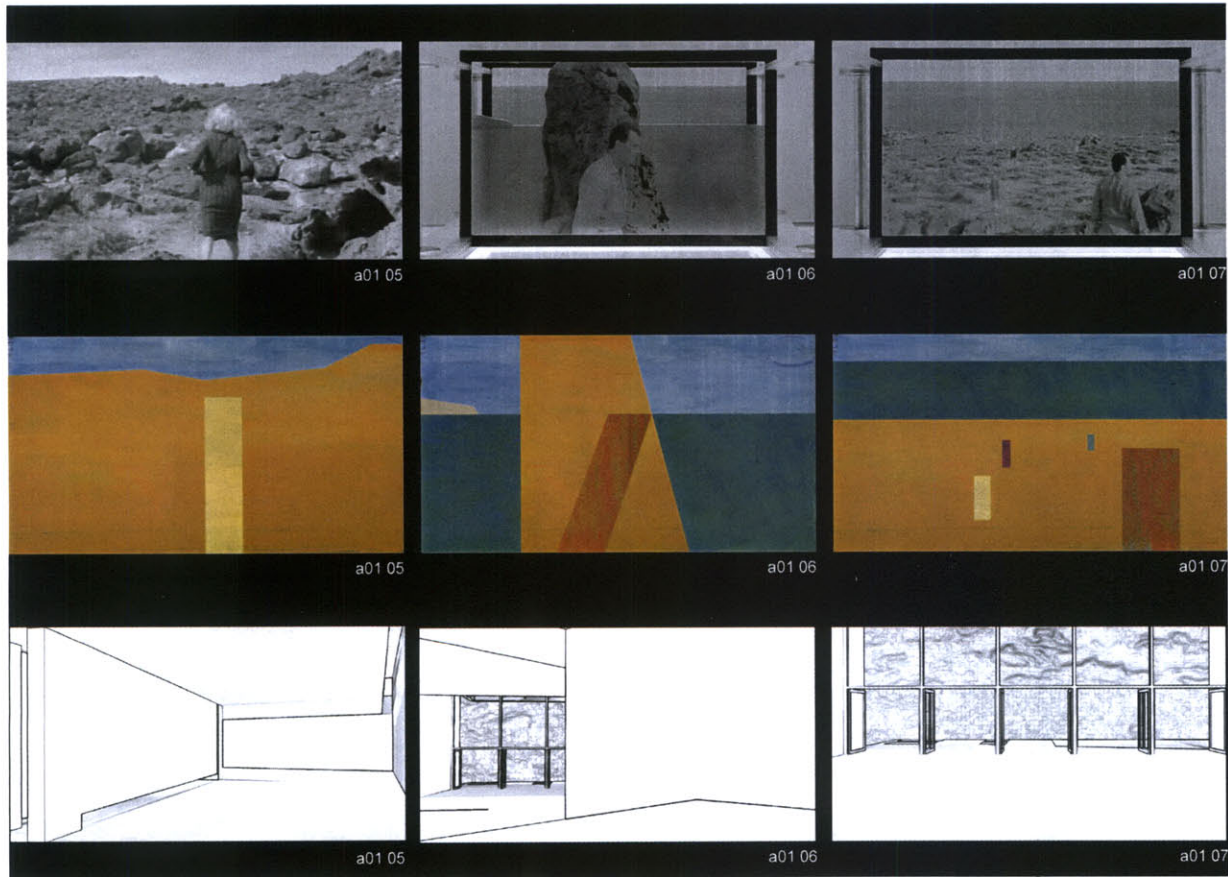
Jig with recombined stills

Ascent to the Lounge

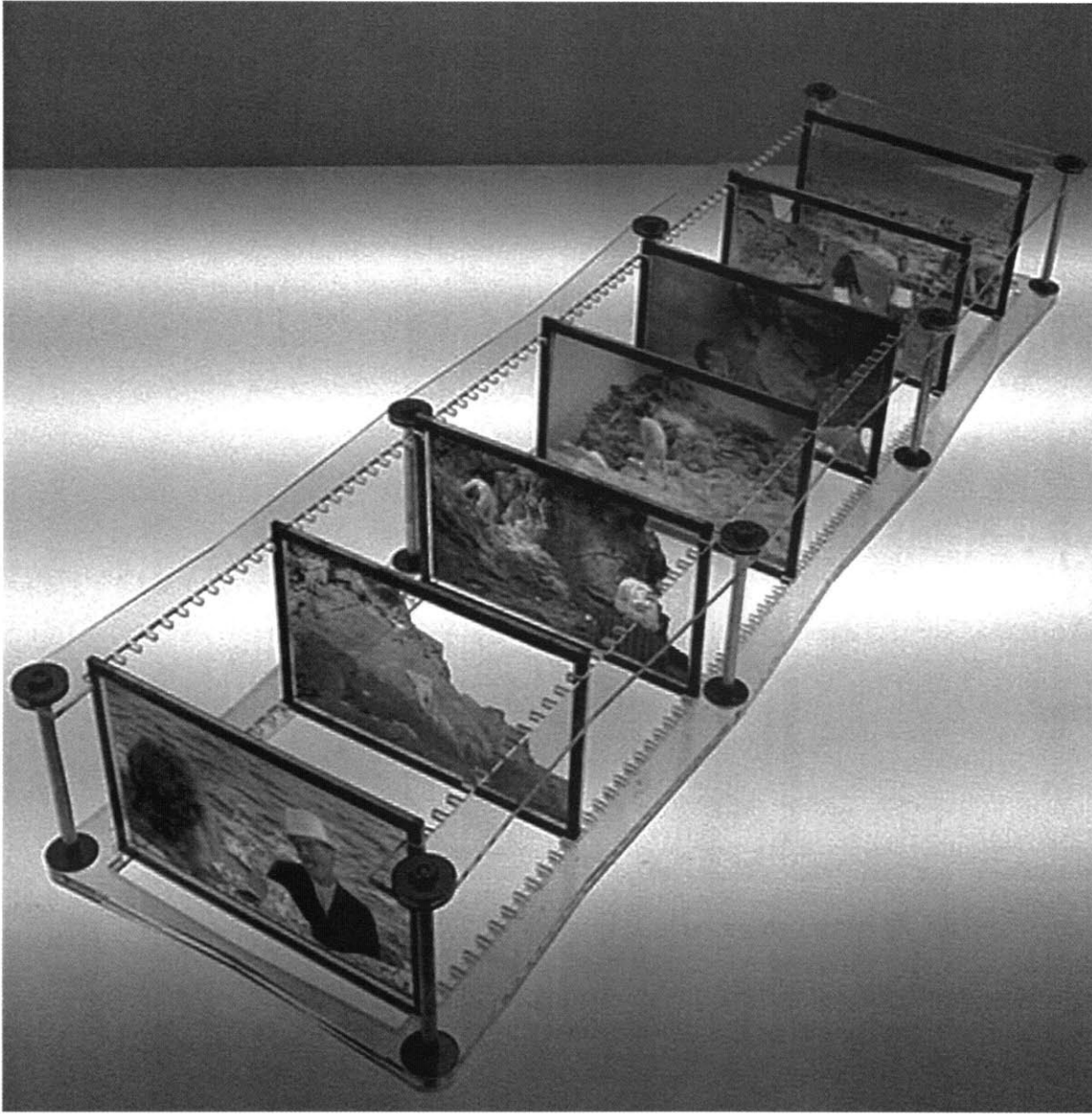


In addition to the use of the journey theme, the horizon line of the sequence was often used as a point of reference when designing the space. The horizon line often corresponds to the relationship between the ceiling and the rest of the structural elements, as is demonstrated in the fifth and sixth stills in the sequence.

In the sixth still, the view of the ocean is partially blocked in the film still. This partial occlusion of the view is depicted in the design with a wall partially obstructing the view. In the final still, the composed view is analogous to a shot of Sandro passing in front of the view to the ocean.



The final shot sets up the view. Until the final still, all of the shots have a small or occluded horizon line. As the guest enters the lounge area, the windows are constructed to mirror the relationship between earth (the floor), water (the ocean) and sky. The commitment of a journey to a hidden view is analogous to the guest's payment for the privilege of experiencing the view and represents the commodification of view within the resort.

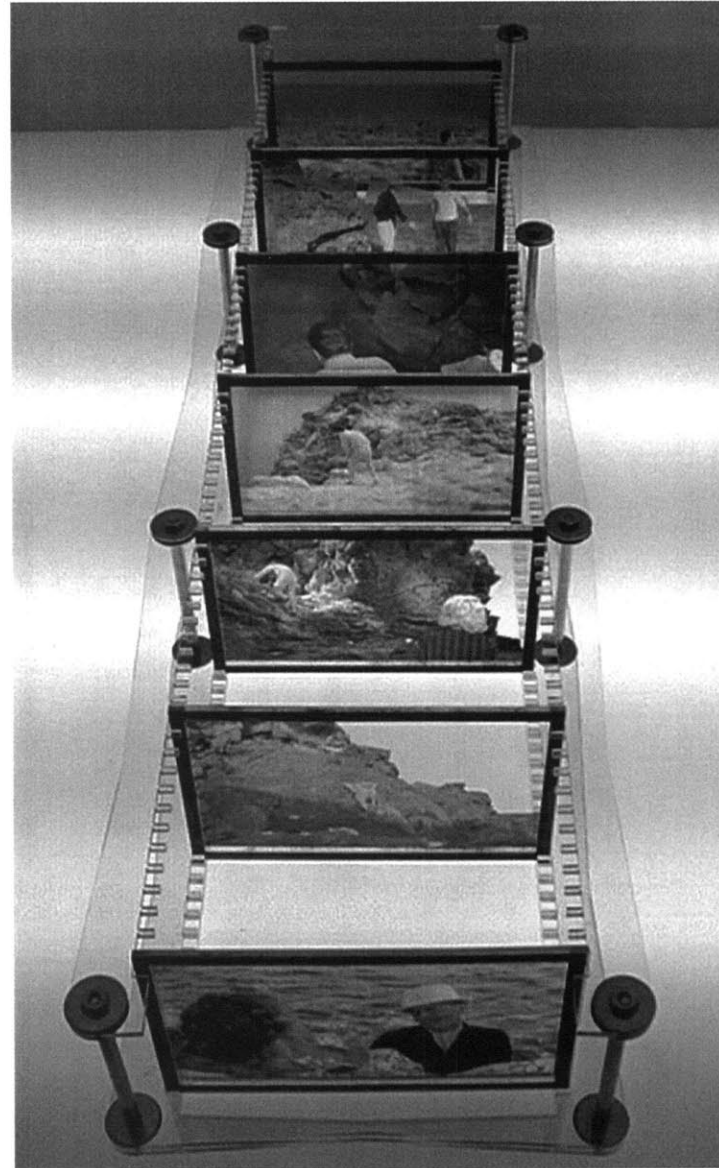


Jig with recombined stills

Descent to the Dining Room

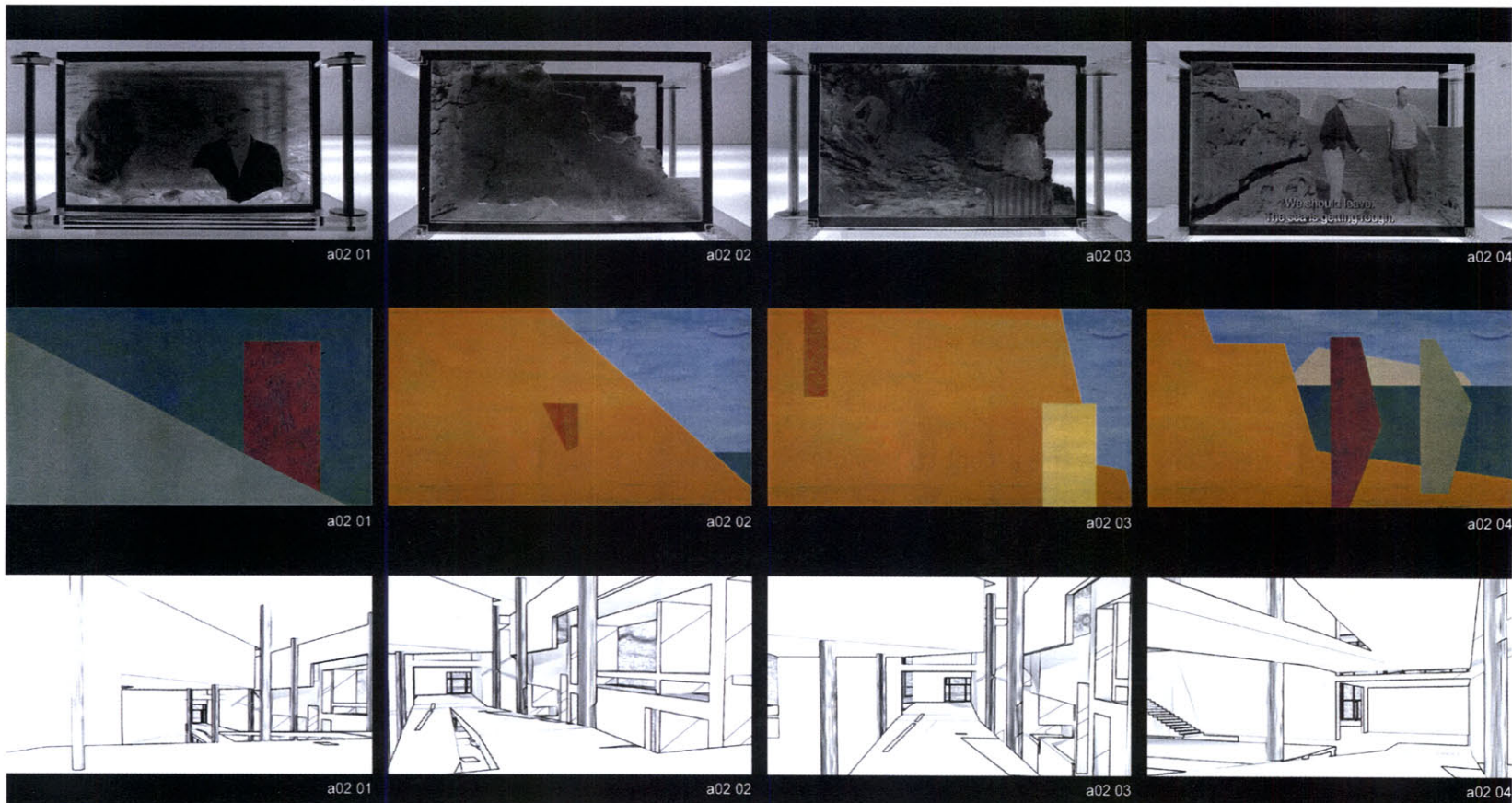
In the descent into the dining room, the figure in the second still becomes the focal point of the shot as the balcony door in the distance is the focal point of this view. In the third still, the characters journey into the landscape as the guests must journey down the ramps to the dining room. In the fourth and fifth stills, Sandro looks out over the cliff's edge to the water below. The sixth shot mimics the occluded view created by cliff's edge. The final still represents the commodification of view.

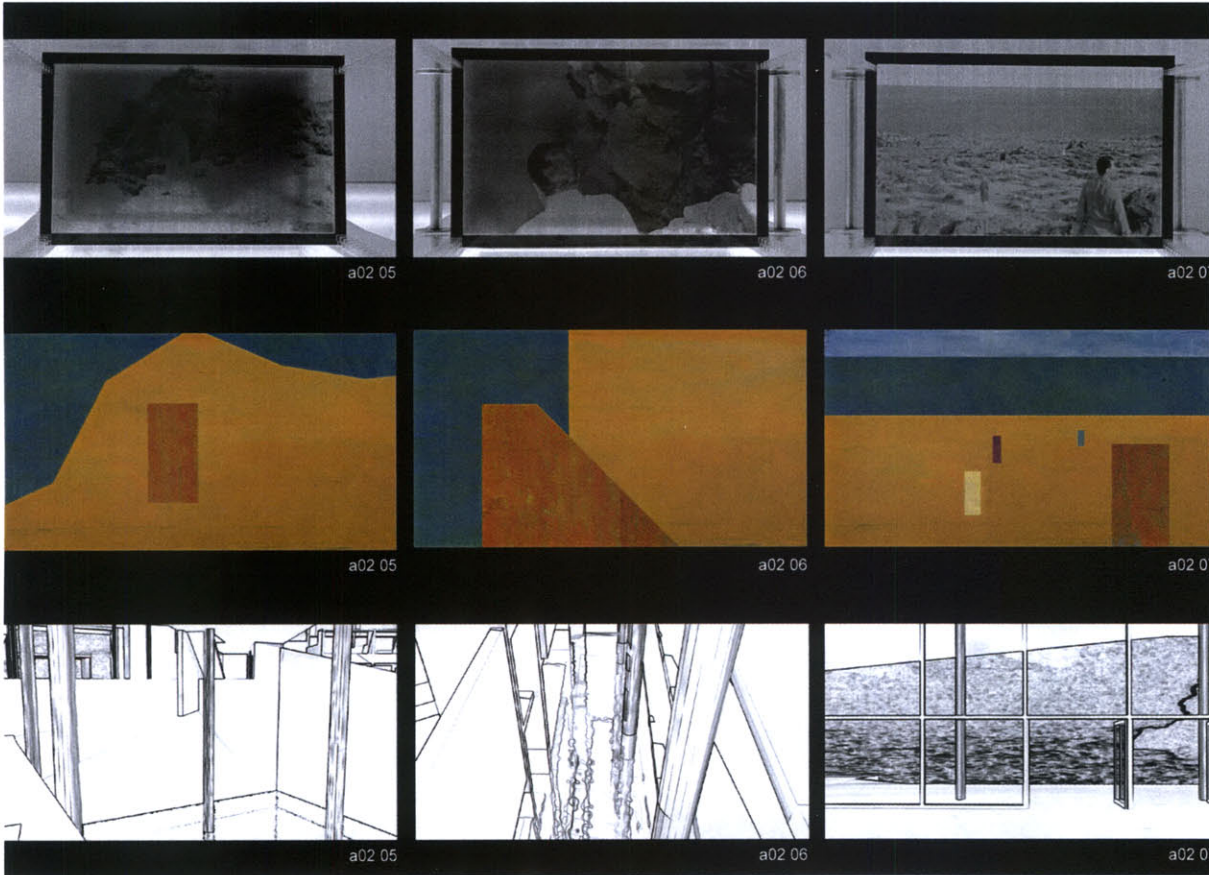
This sequence introduces the film's water theme into the design with the calm reflecting pool simulating the calm emotional state of a vacation. As in the ascent to the lounge, both commodification of view and the journey theme are central influences in the design.



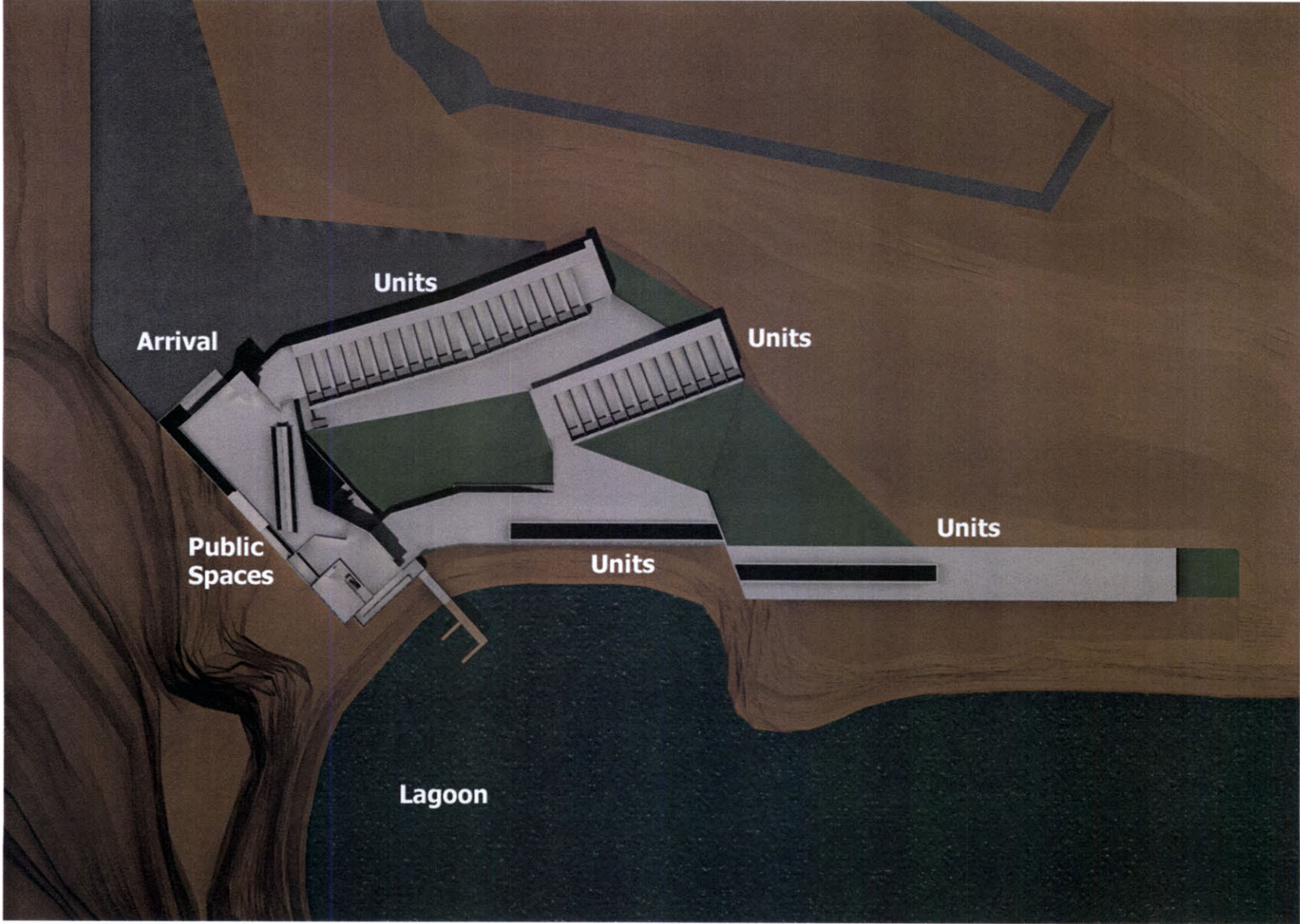
Jig with recombined stills

Descent to the Dining Room

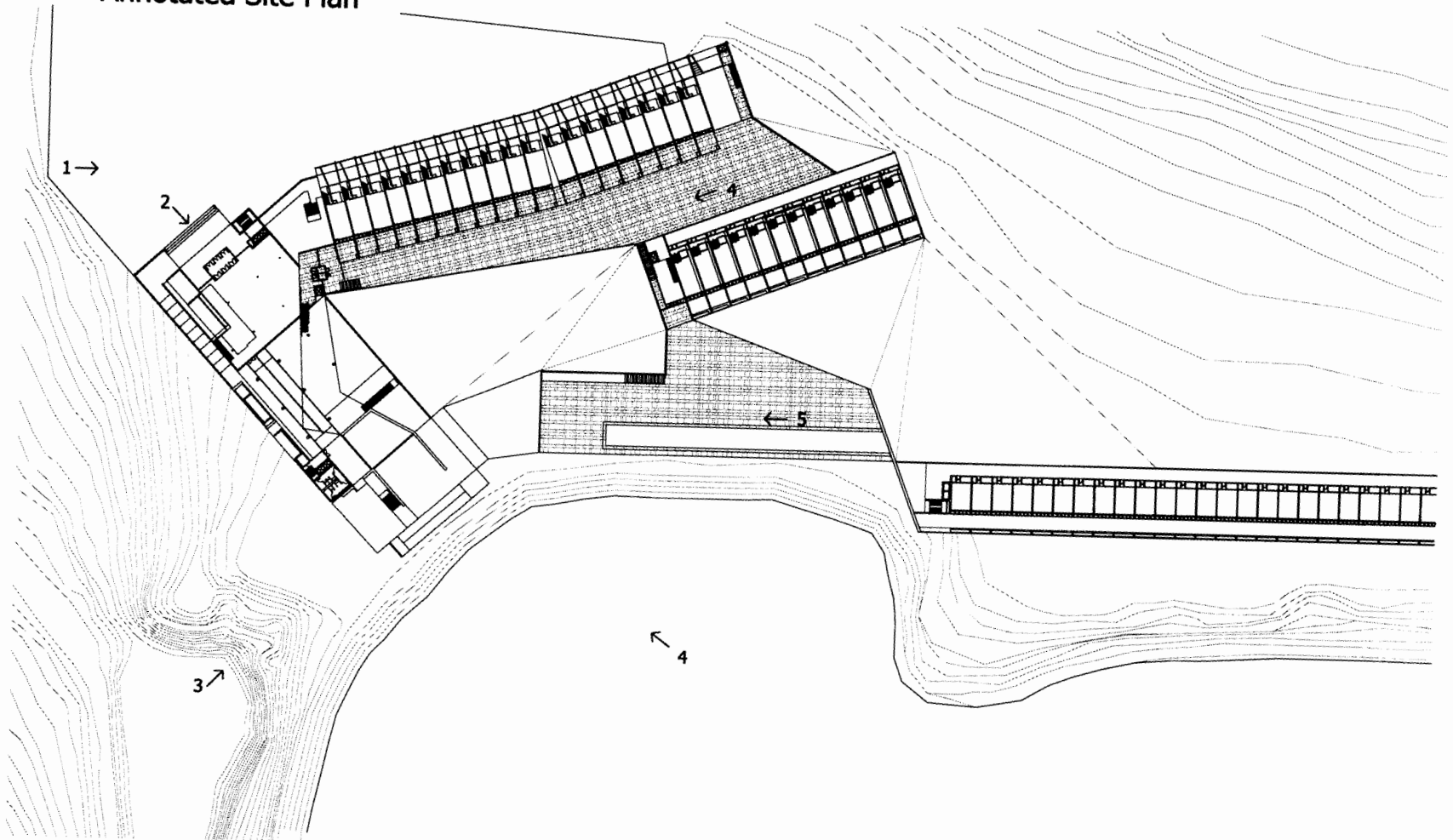




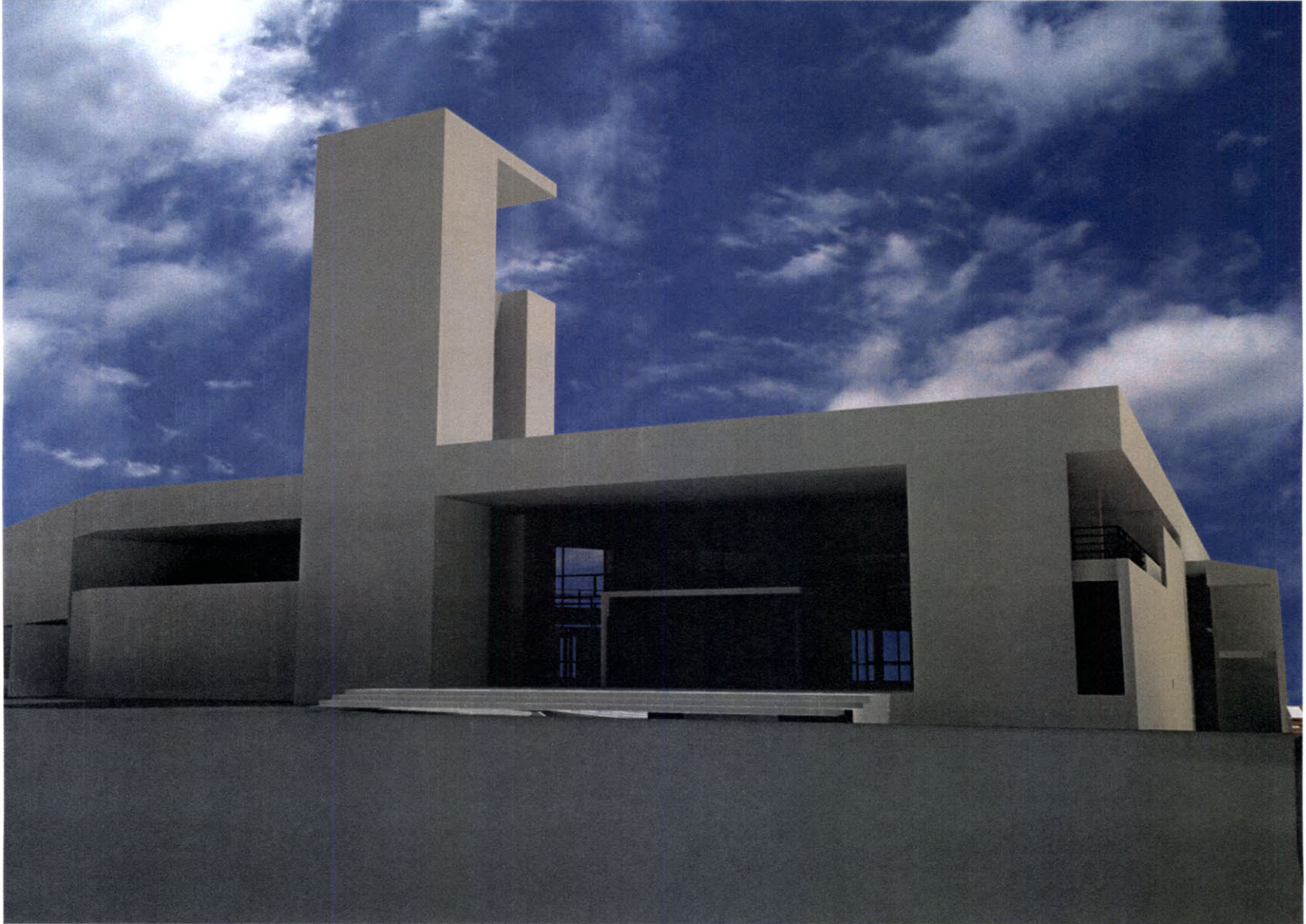
Site Plan



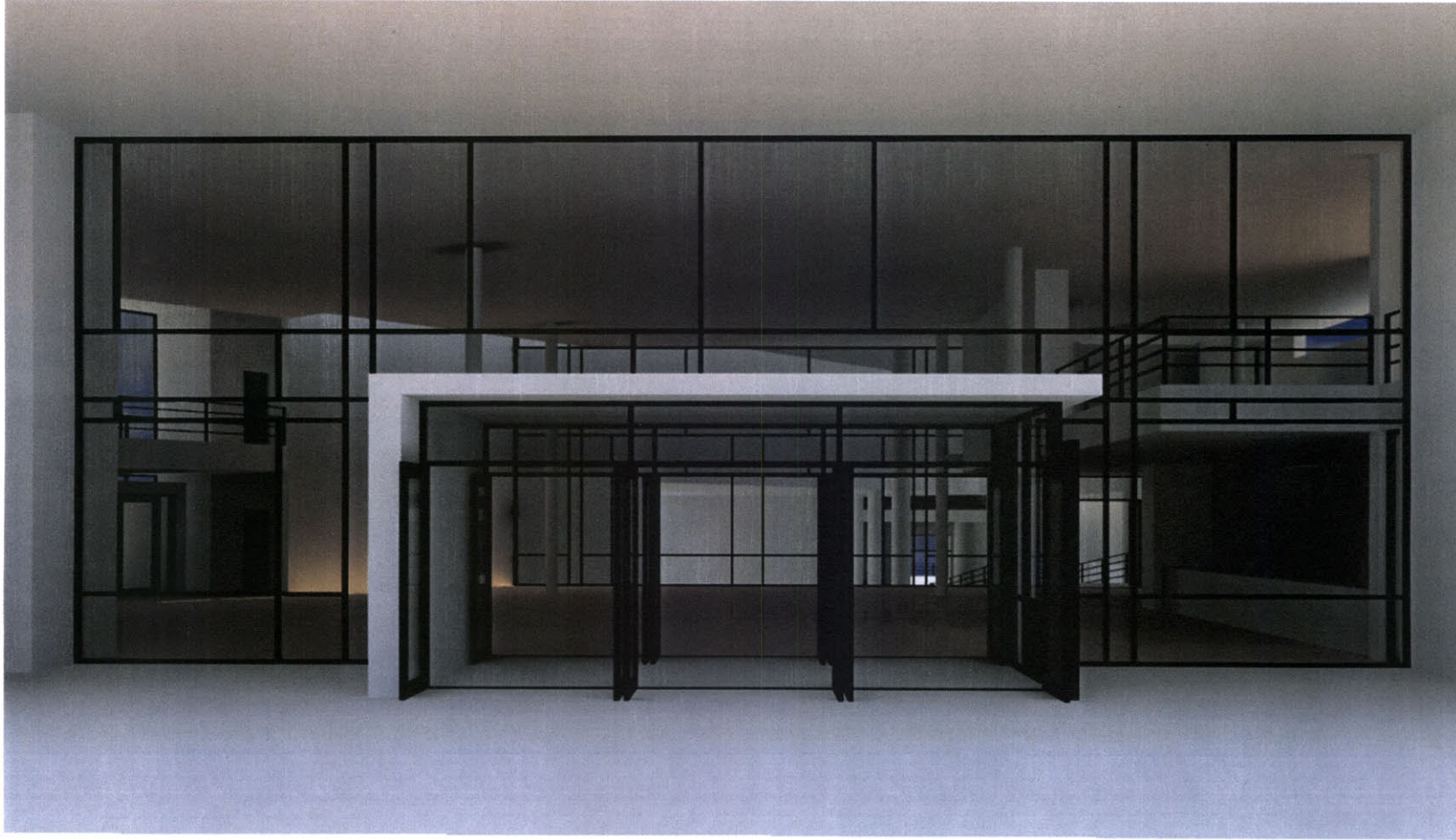
Annotated Site Plan



Resort Exterior 1



Resort Exterior 2



Resort Exterior 3



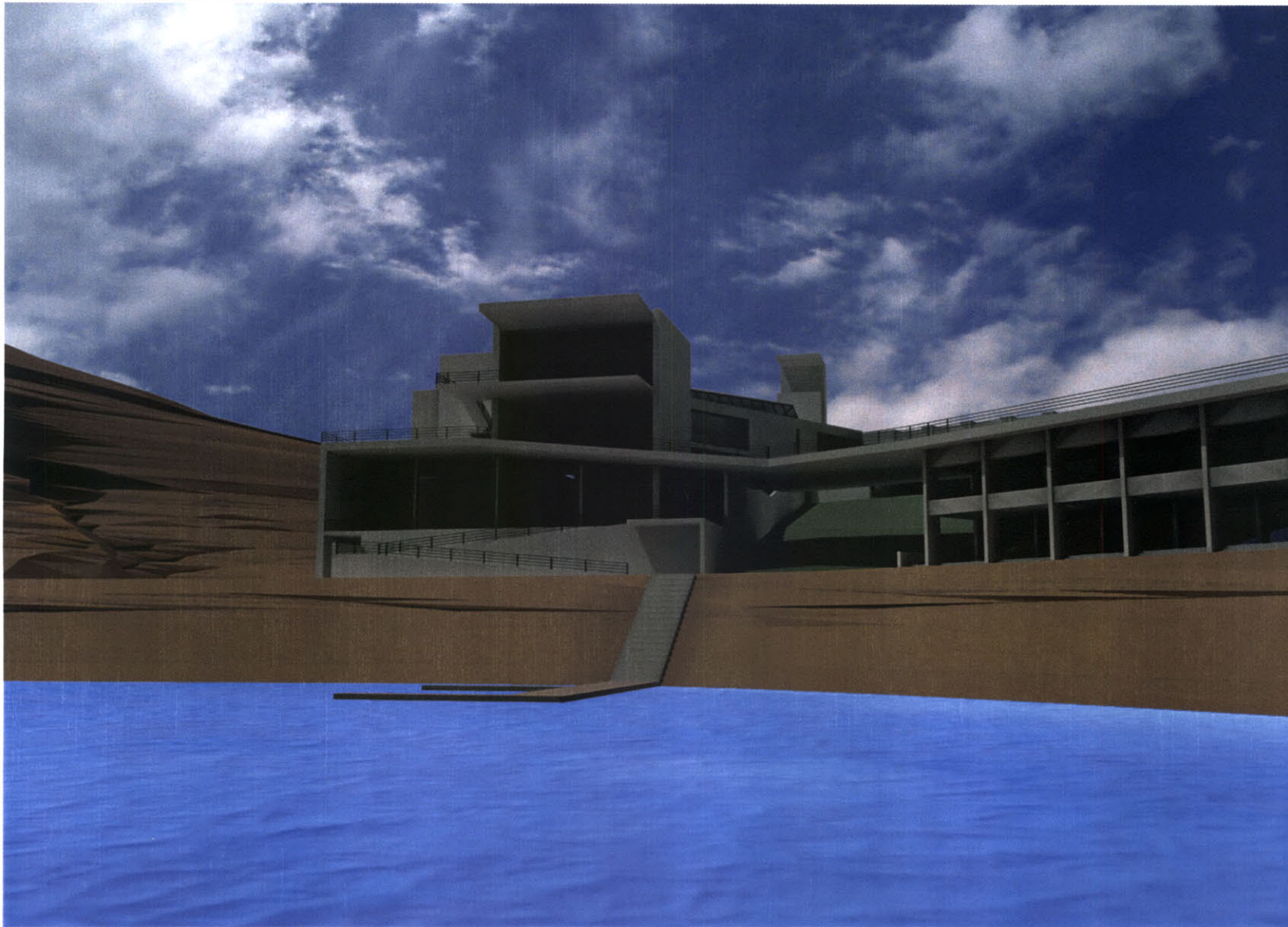
Resort Exterior 4



Resort Exterior 5



Resort Exterior 6



Resort Interior 1



Resort Interior 2

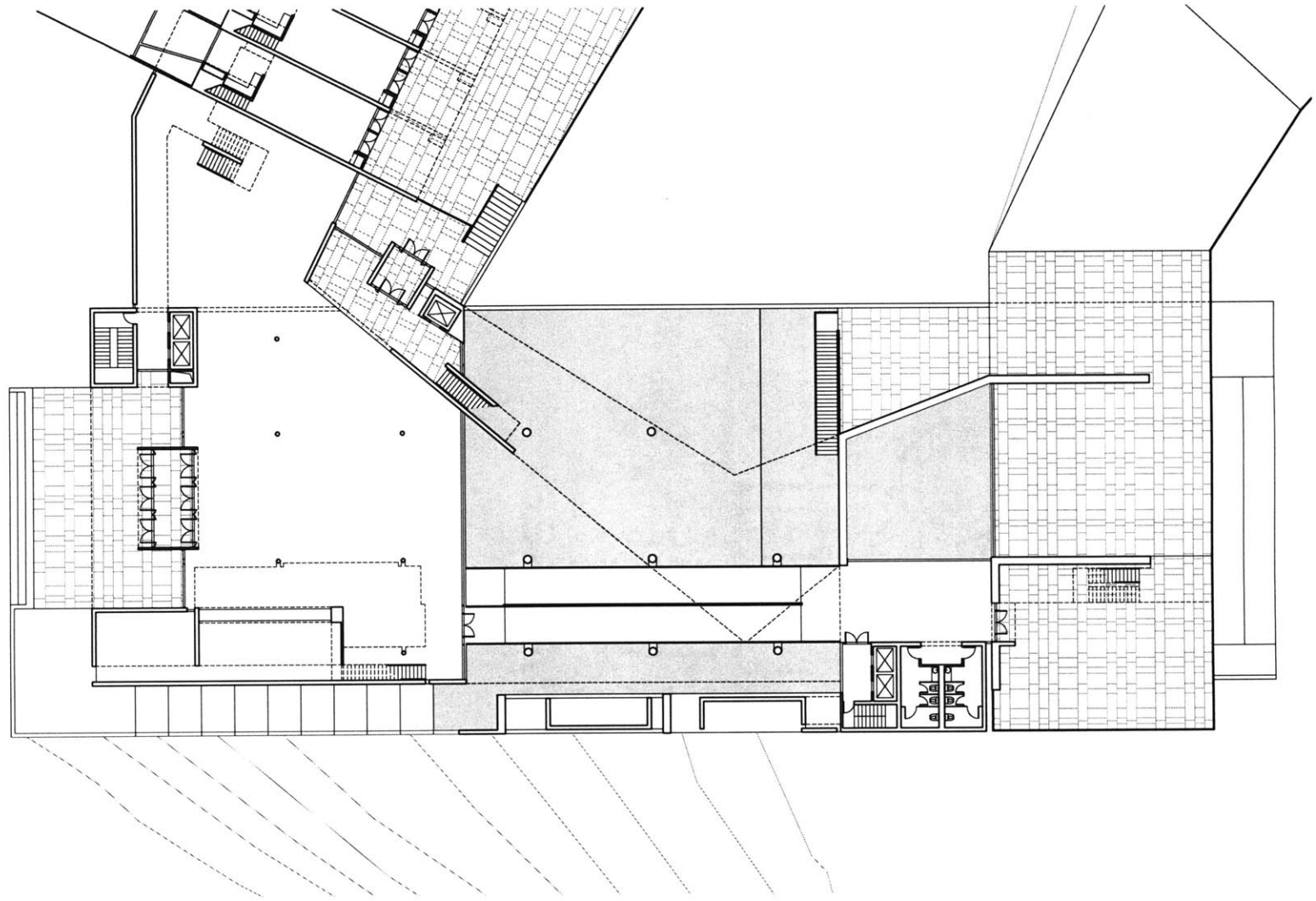


Resort Interior 3



Resort Interior 4

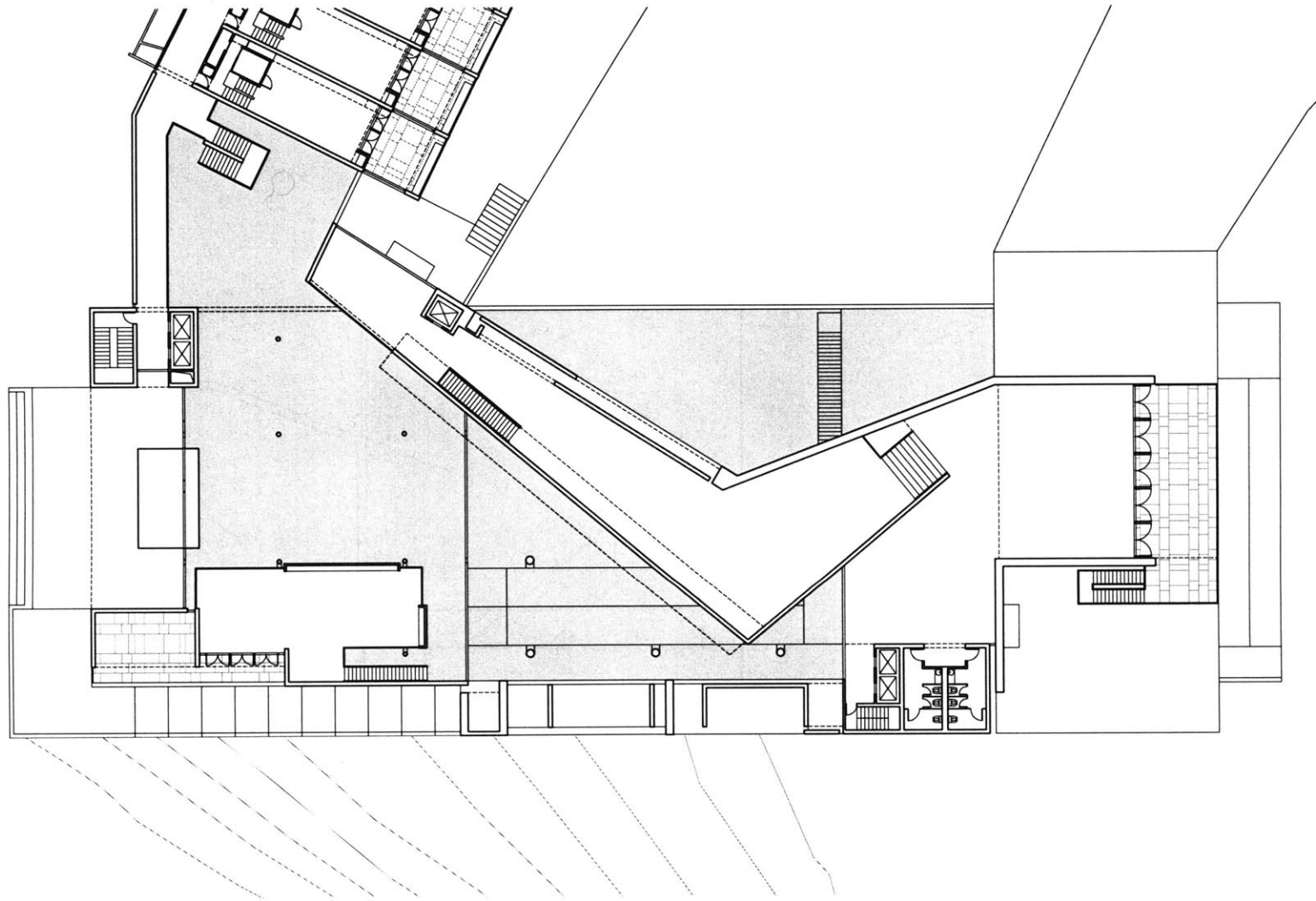




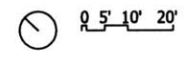
Plan: Entry Level

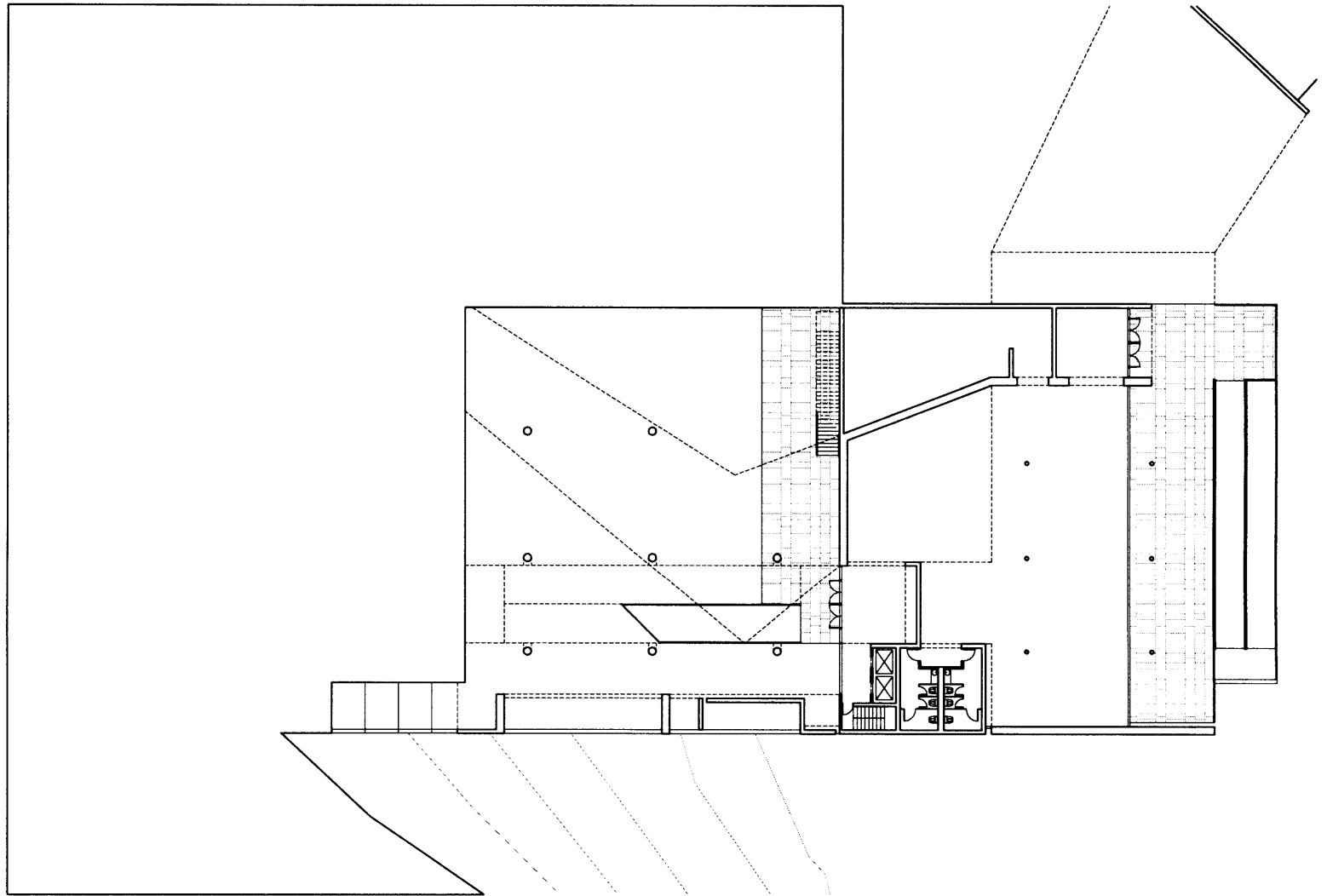


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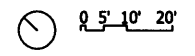


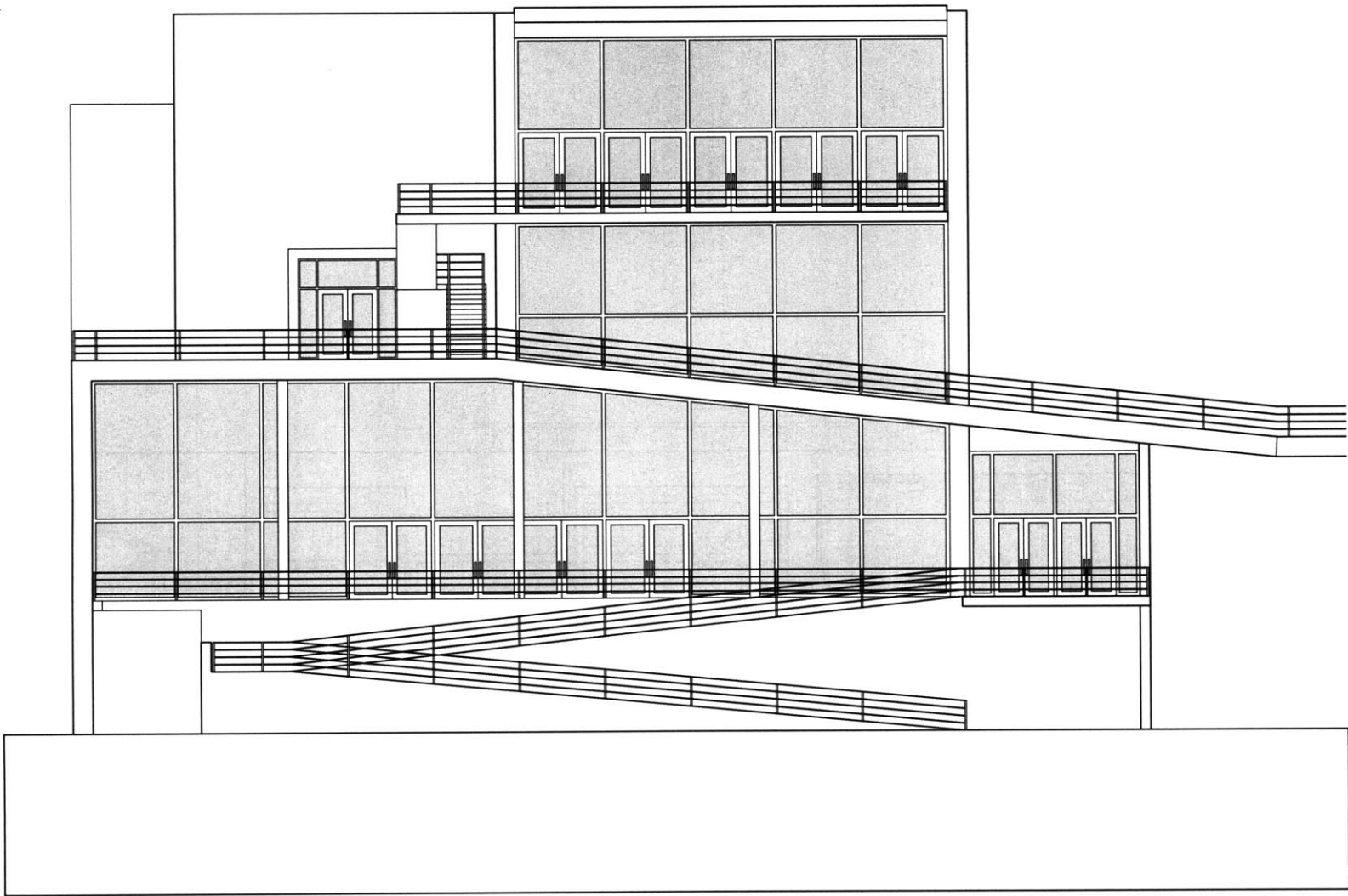
Plan: Lounge Level



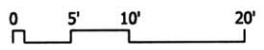


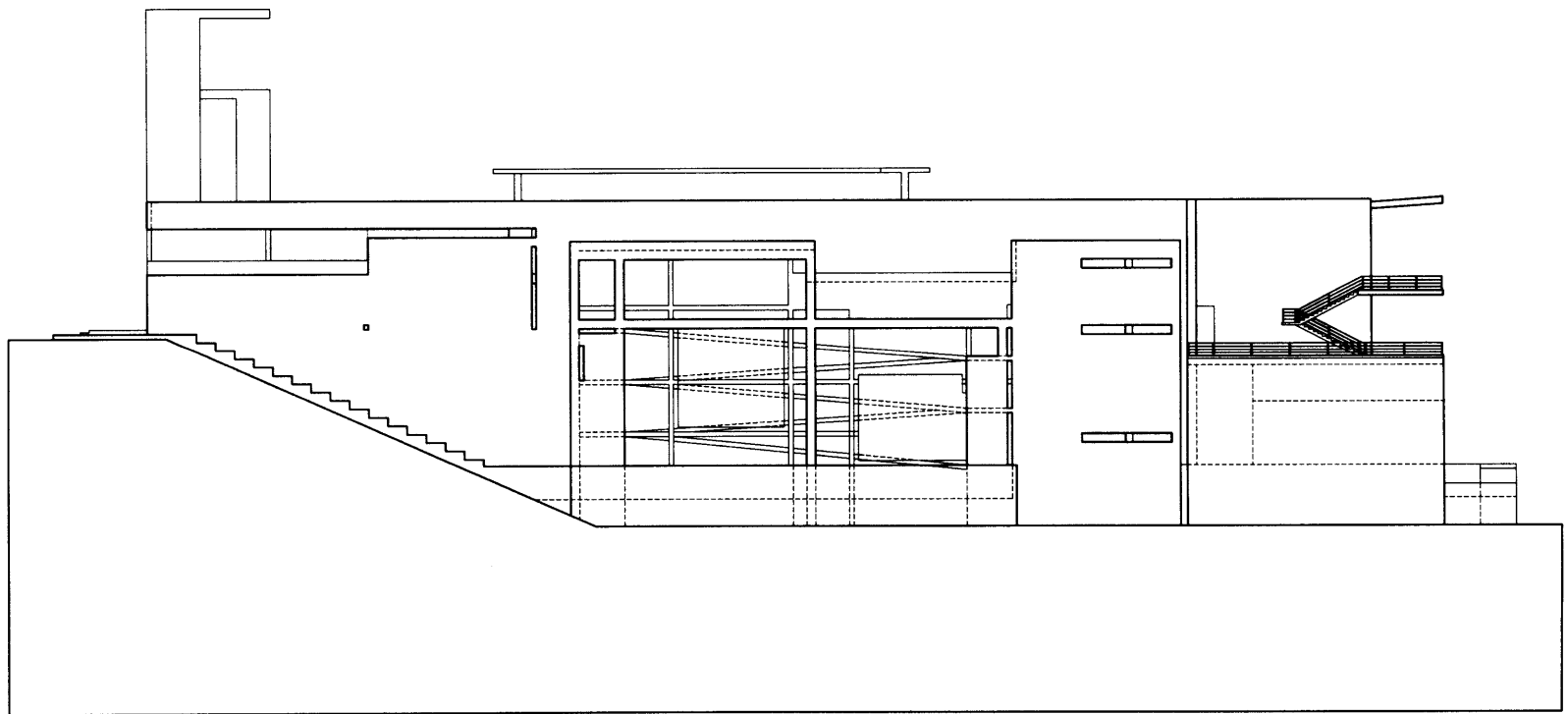
Plan: Dining Level





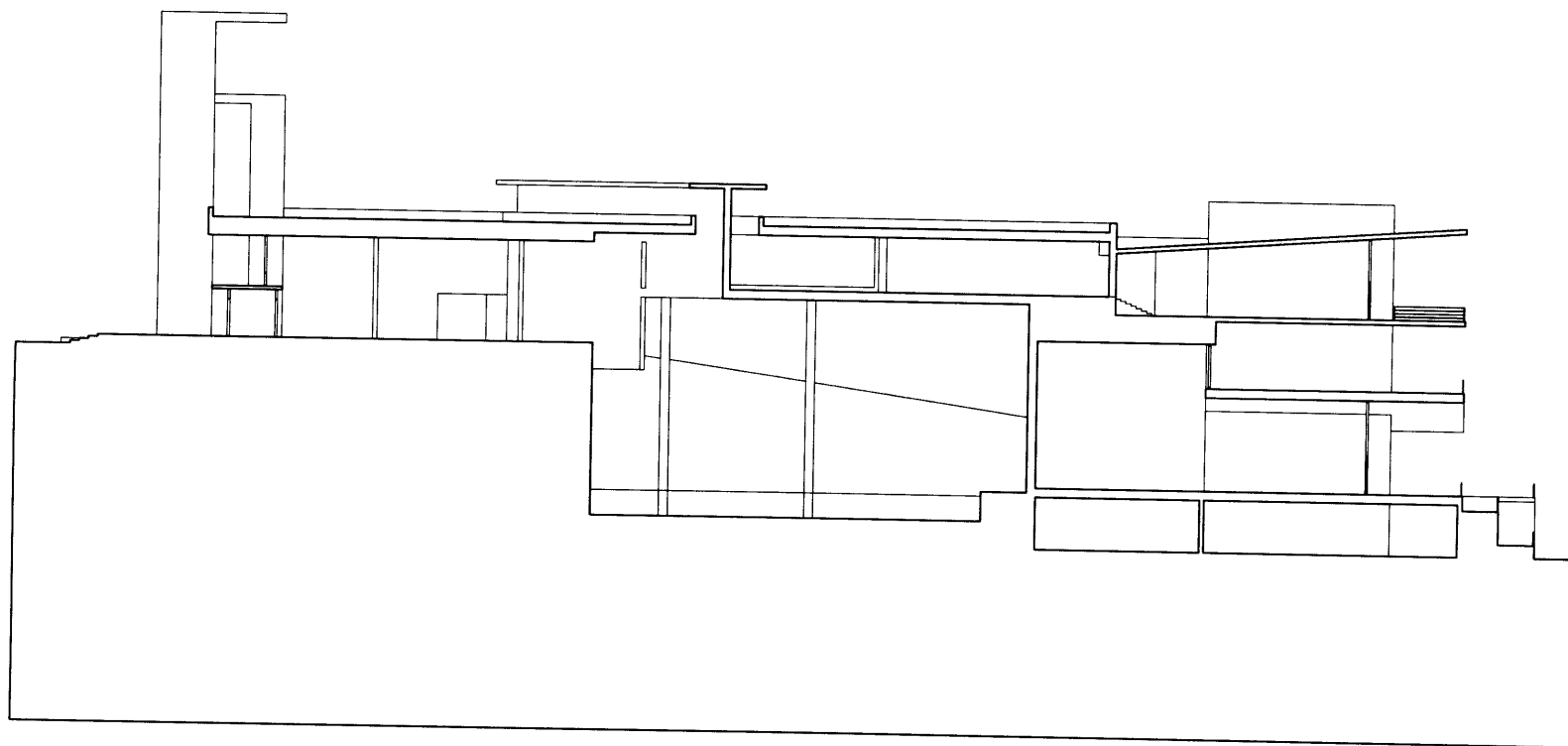
South Elevation: Lounge and Dining





West Elevation

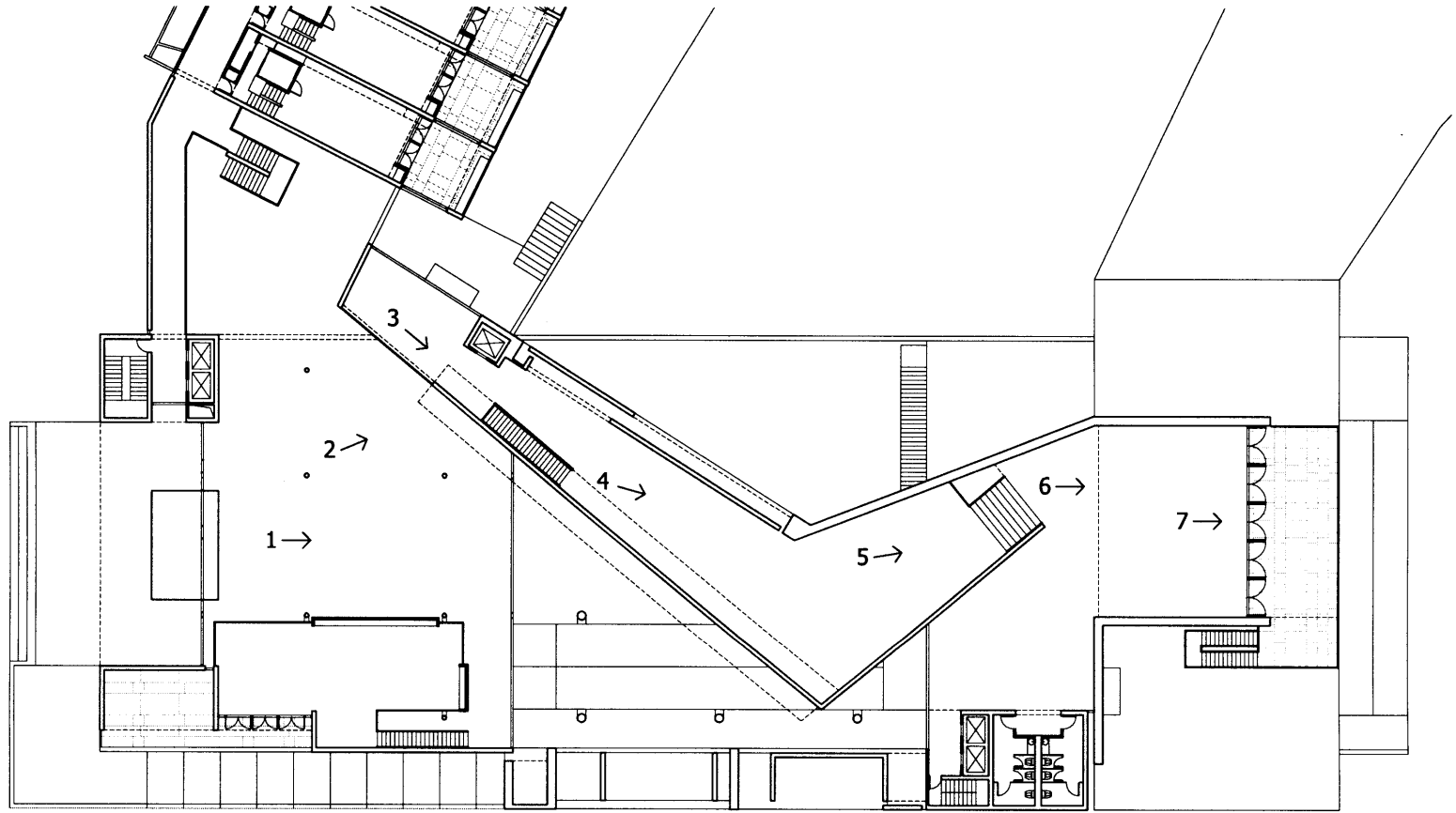
0 5' 10' 20'



Section

0 5' 10' 20'

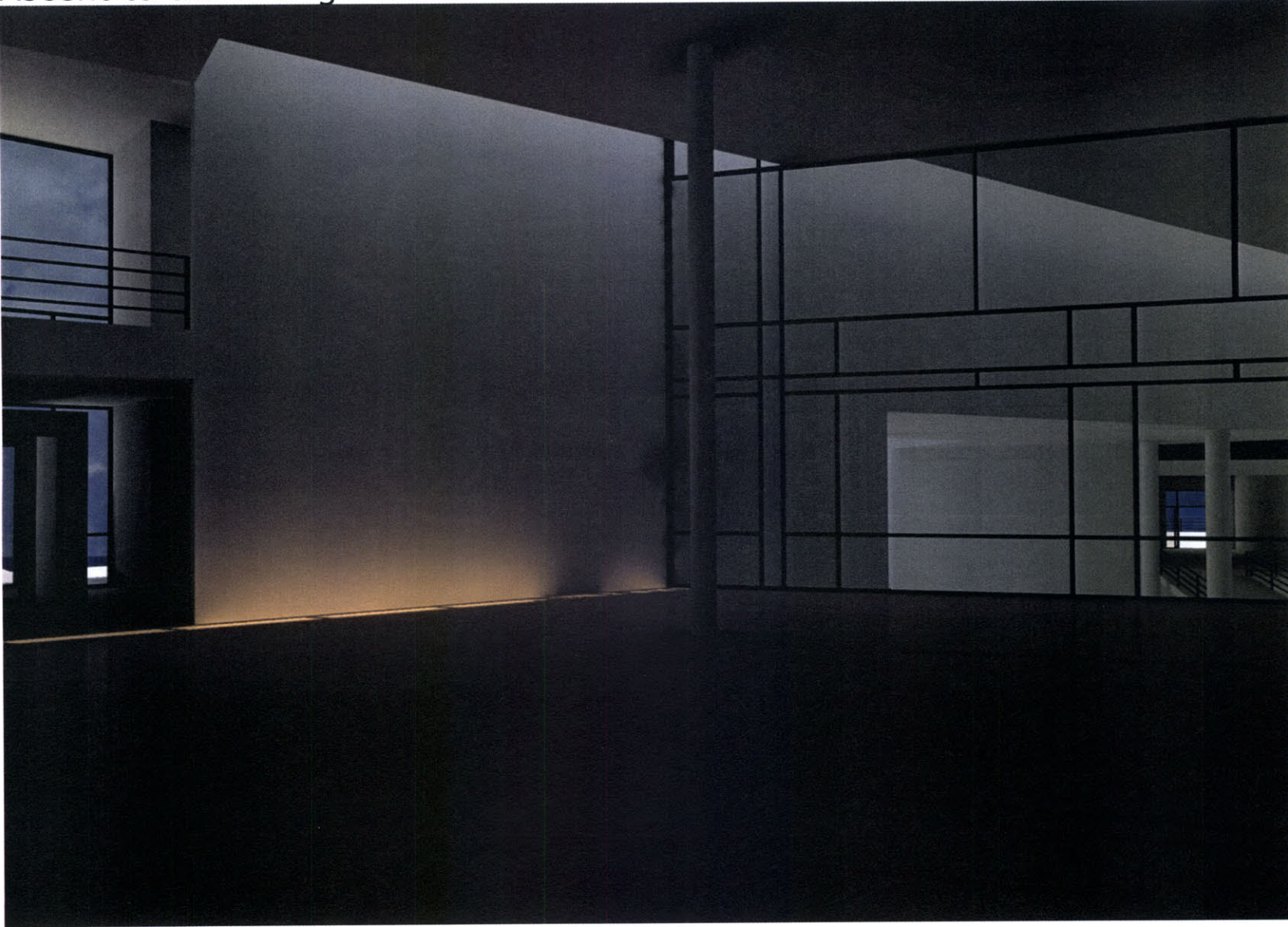
Ascent to the Lounge



Ascent to the Lounge 1



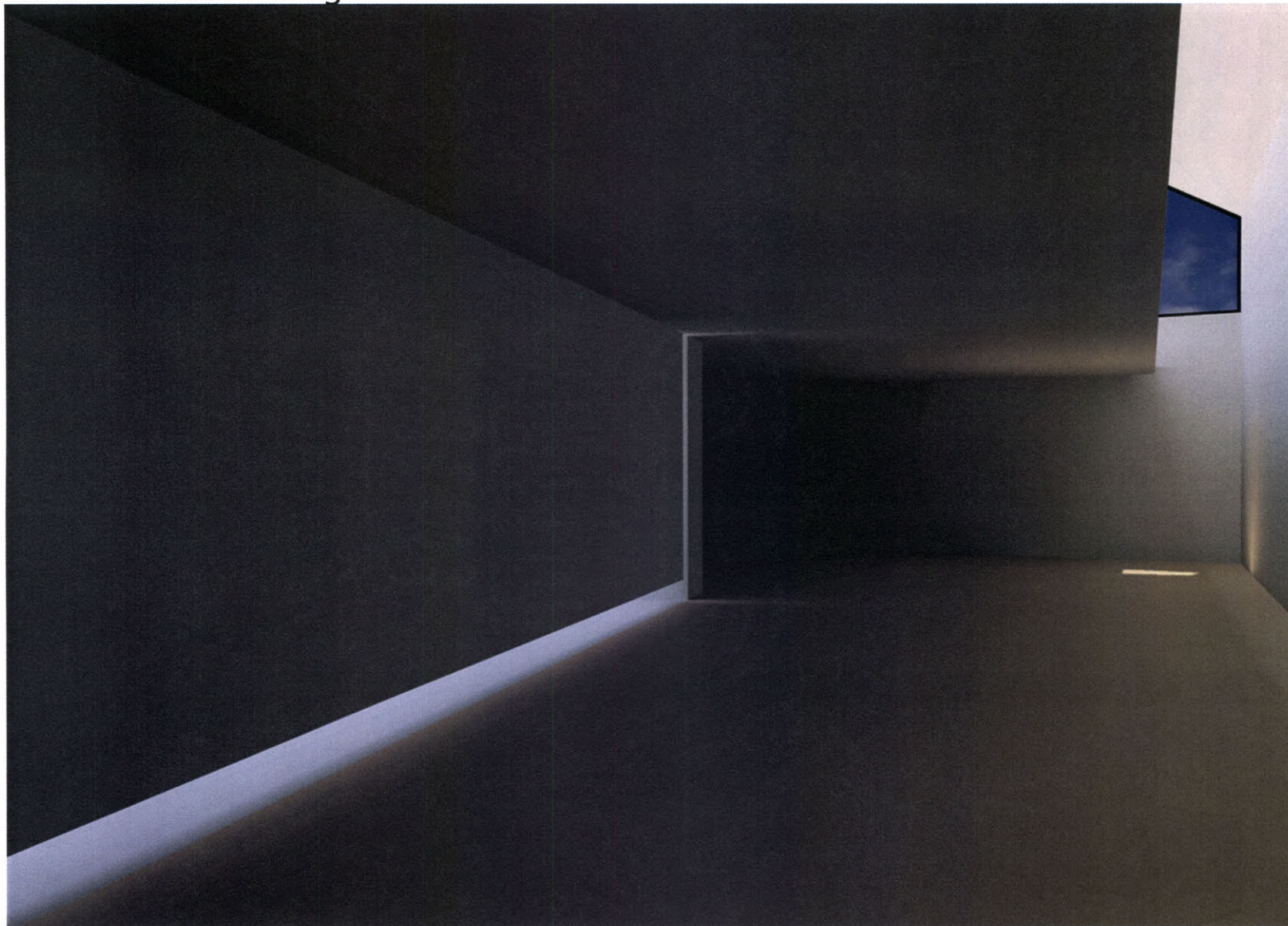
Ascent to the Lounge 2



Ascent to Lounge 3



Ascent to the Lounge 4



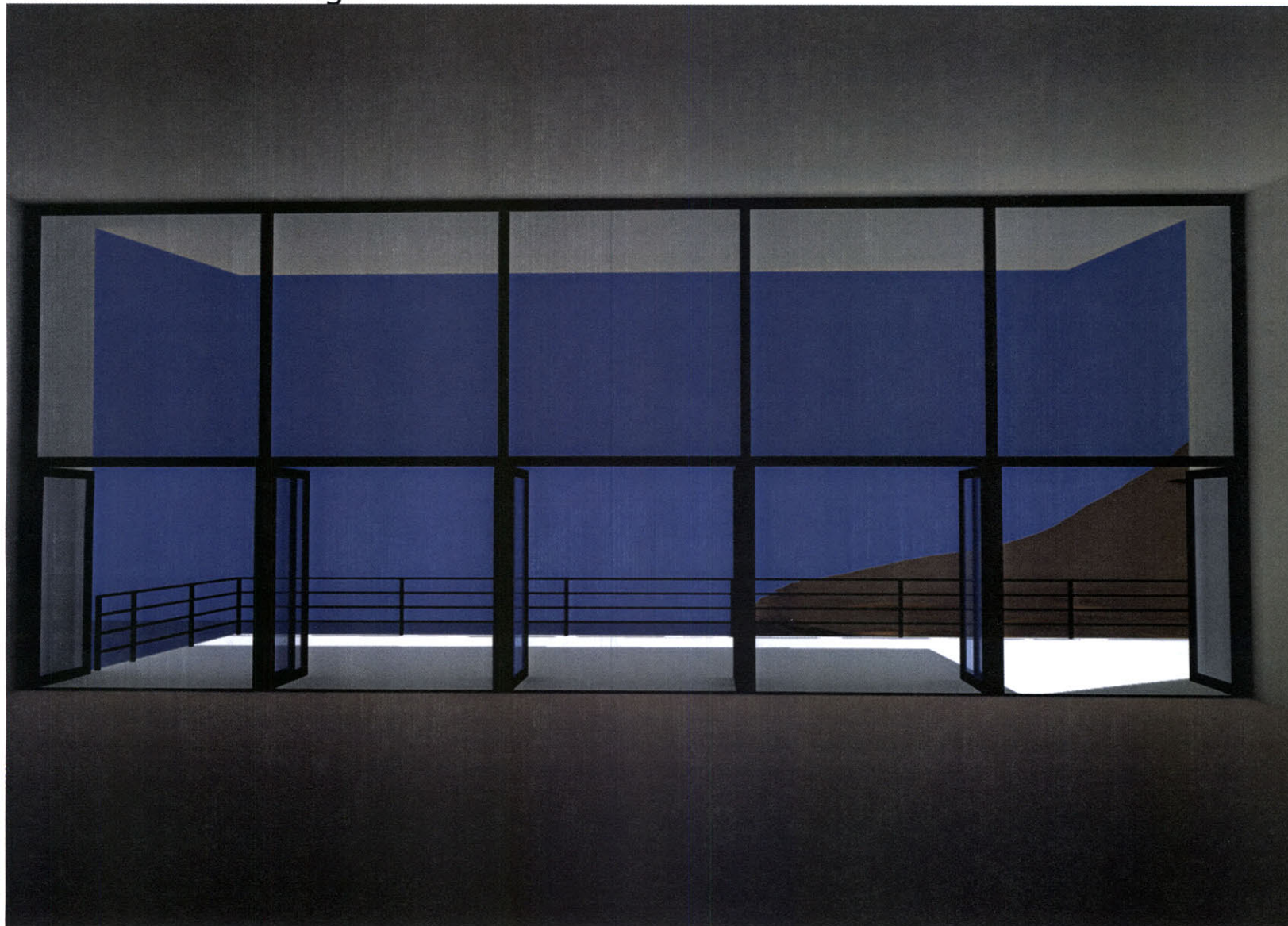
Ascent to the Lounge 5



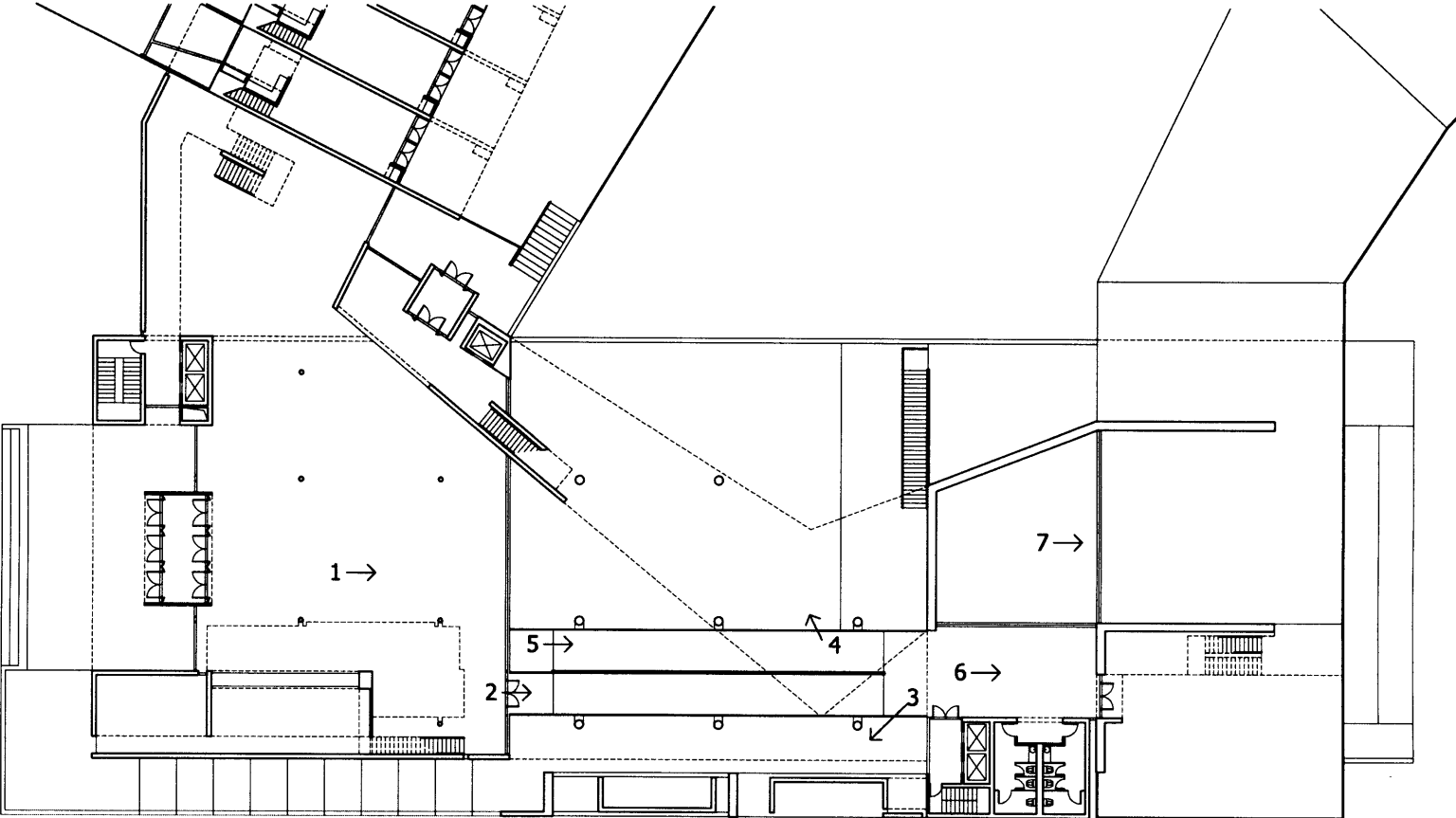
Ascent to the Lounge 6



Ascent to the Lounge 7



Descent to the Dining Room



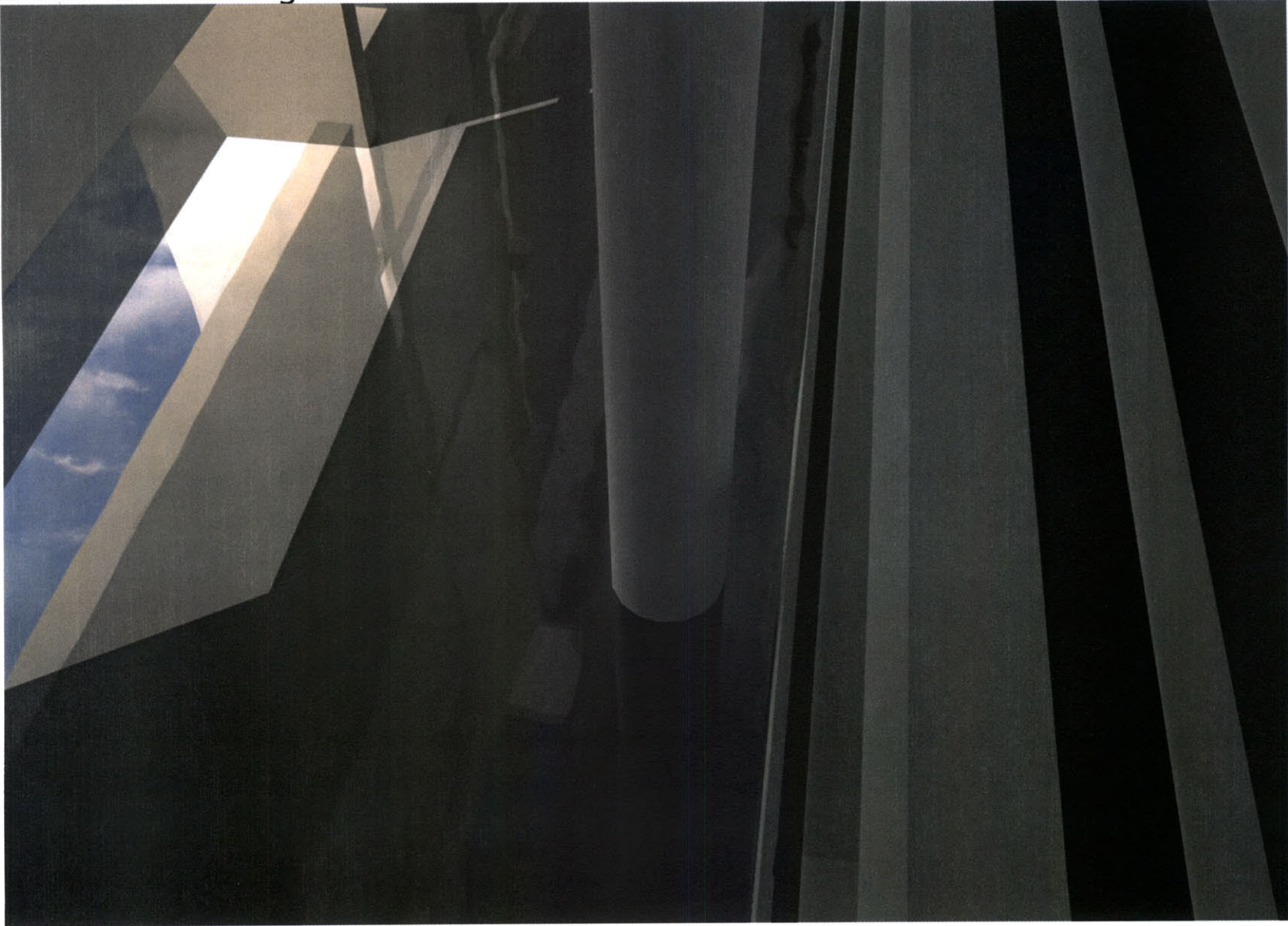
Descent to Dining Room 1



Descent to Dining Room 2



Descent to Dining Room 3



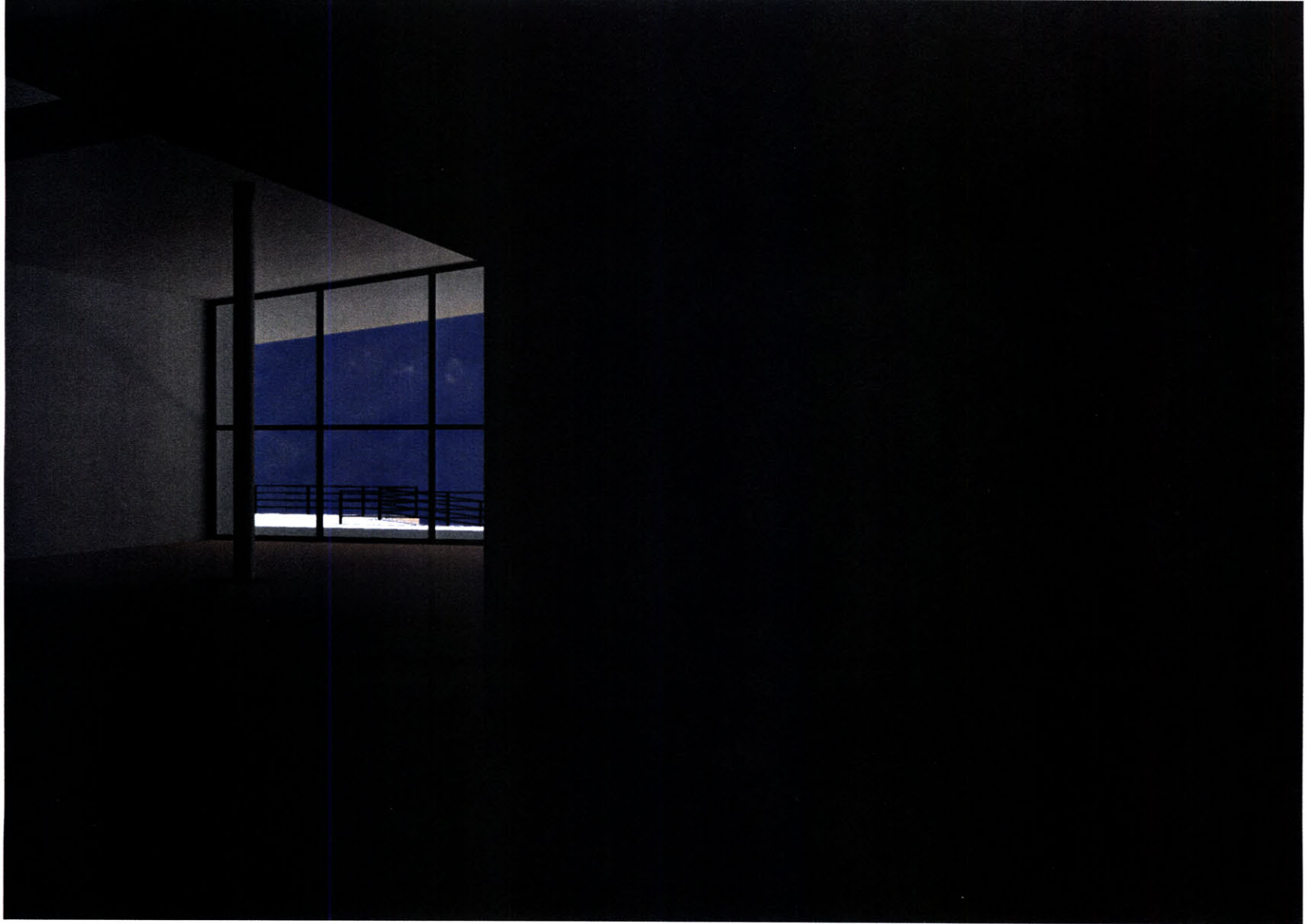
Descent to Dining Room 4



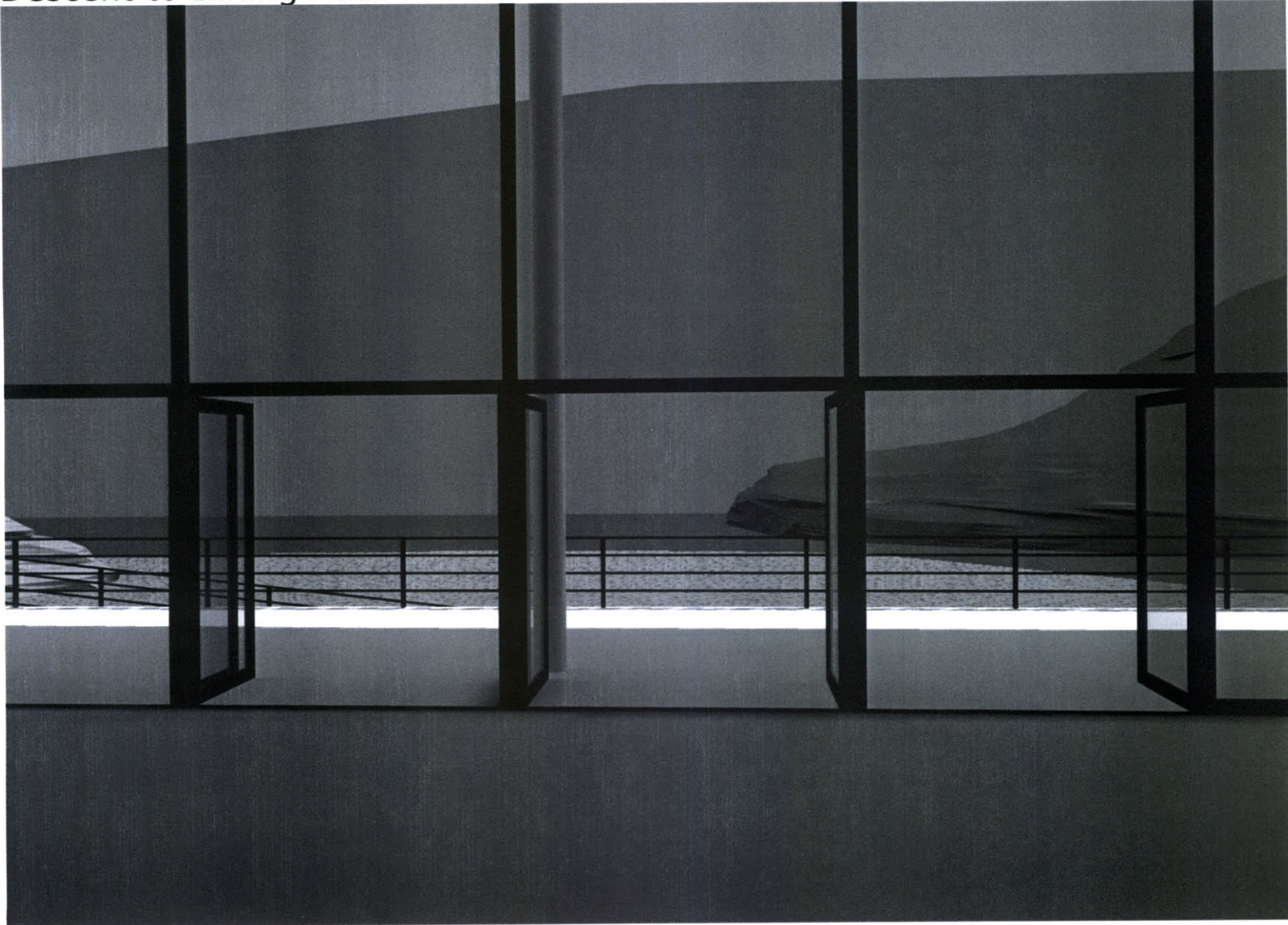
Descent to Dining Room 5

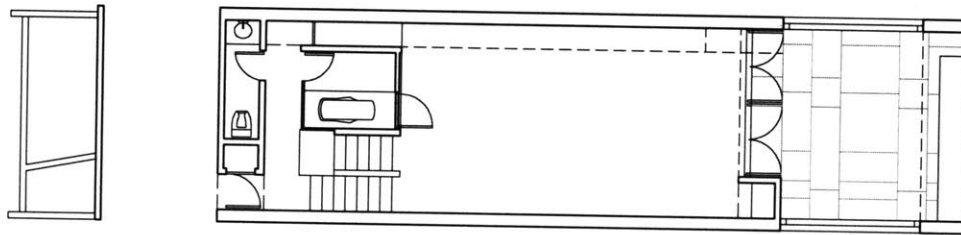


Descent to Dining Room 6

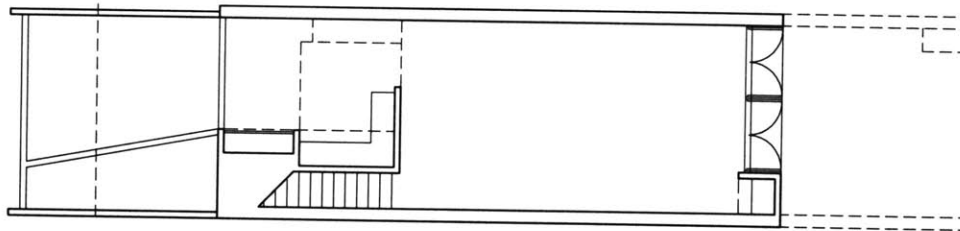


Descent to Dining Room 7

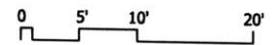
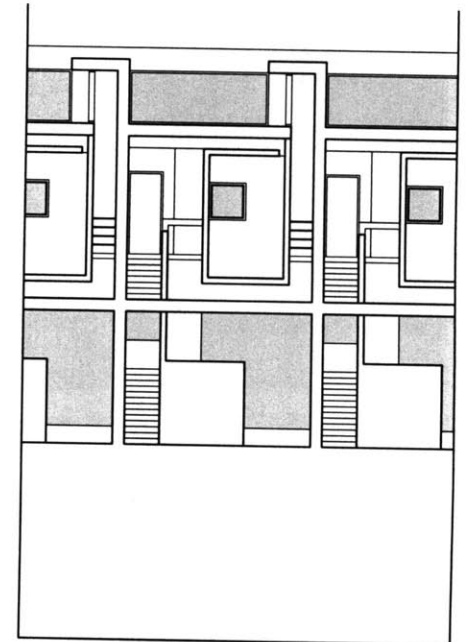
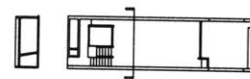


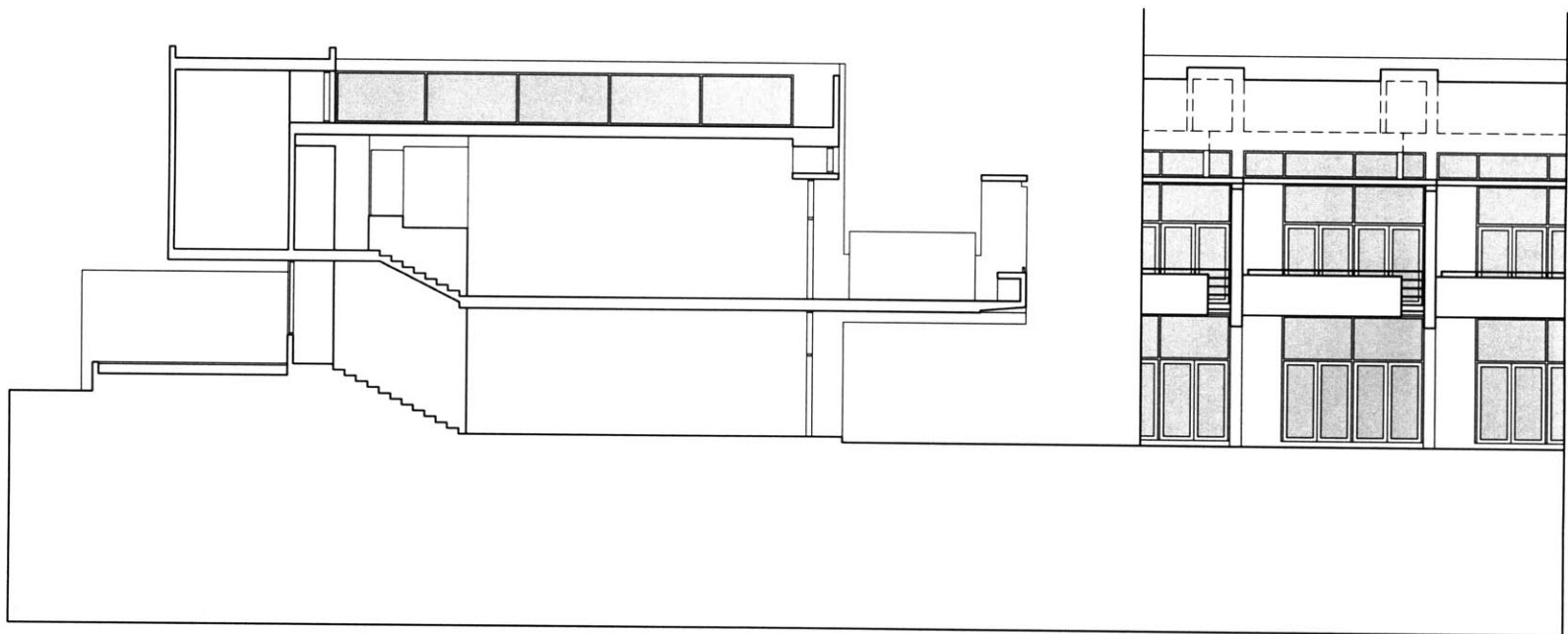


Unit: Plan- Entry Level

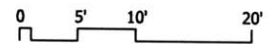
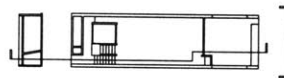


Unit: Plan-Lower Level and Section

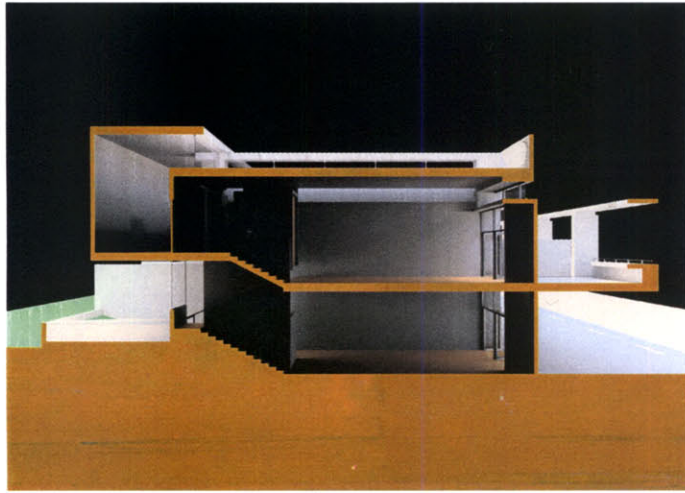




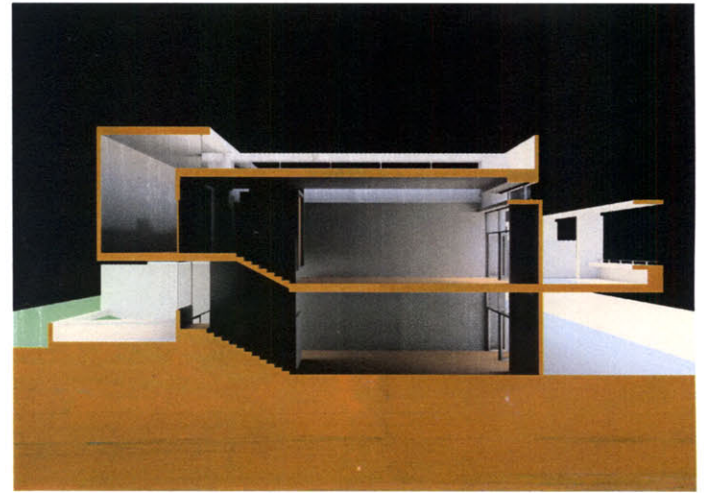
Unit: Section and North Elevation



Unit Time Series: Summer Solstice Sections

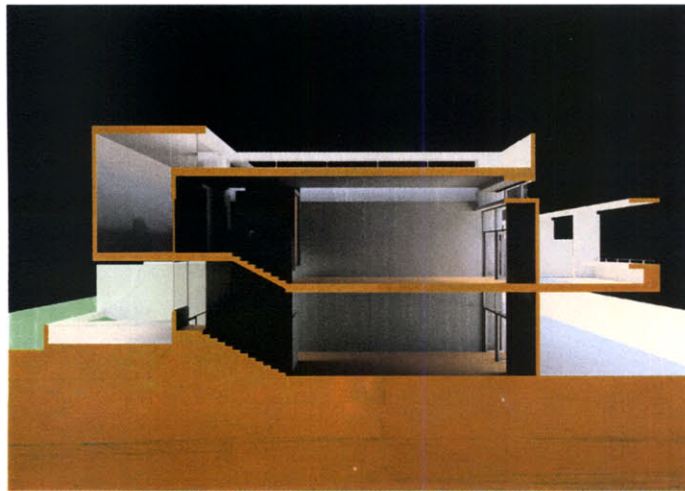


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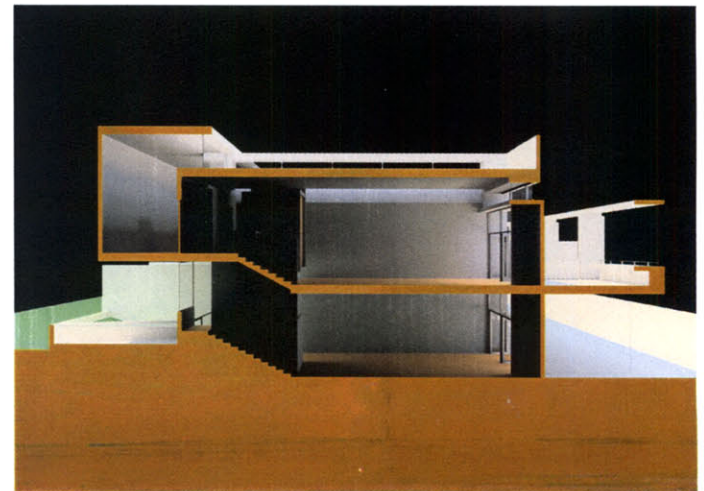


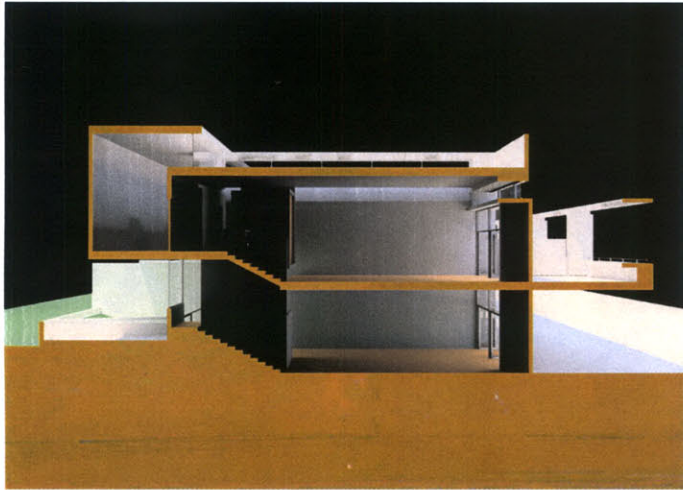
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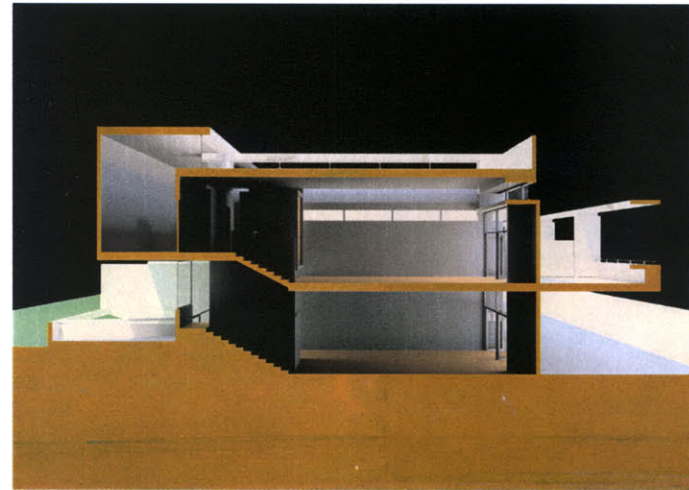


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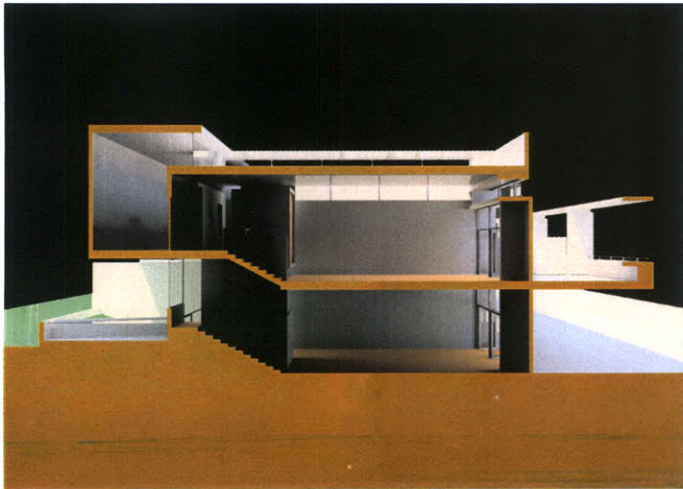


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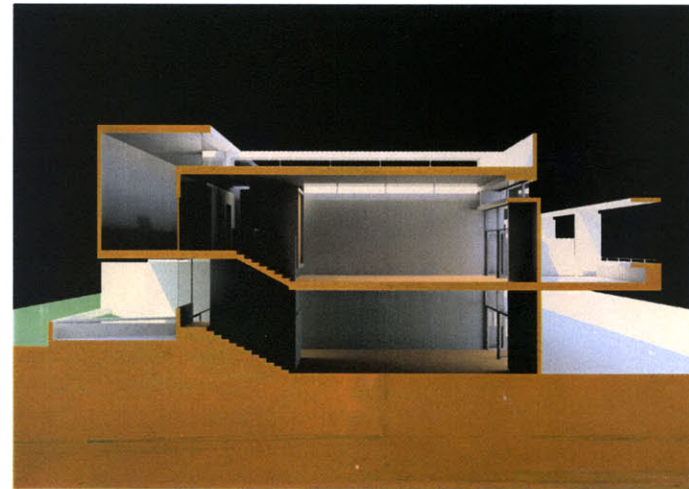


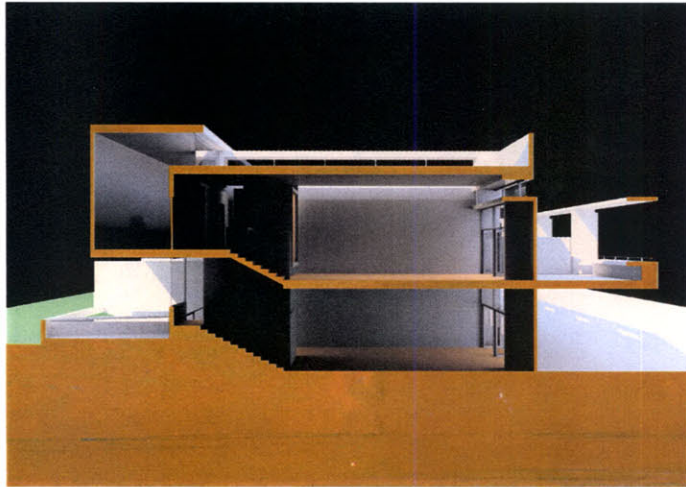
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13:00

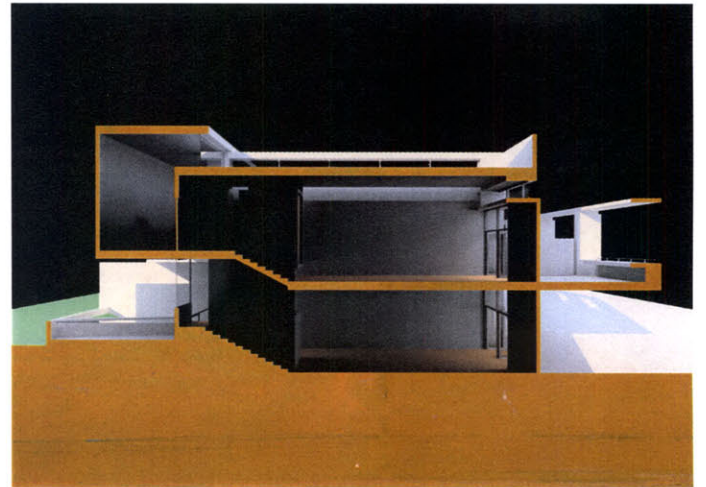


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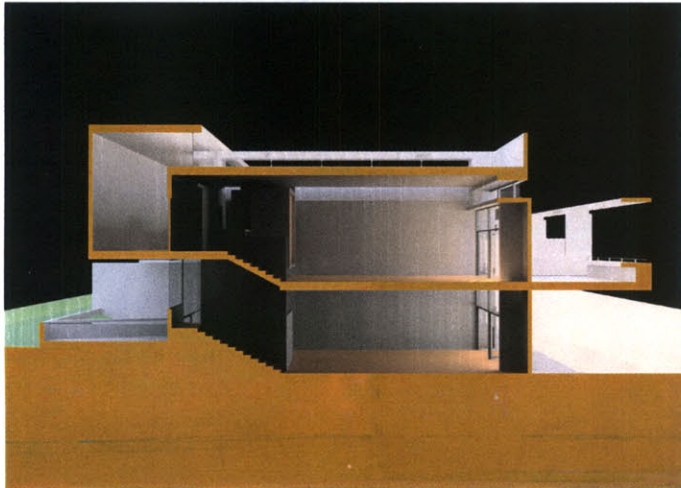


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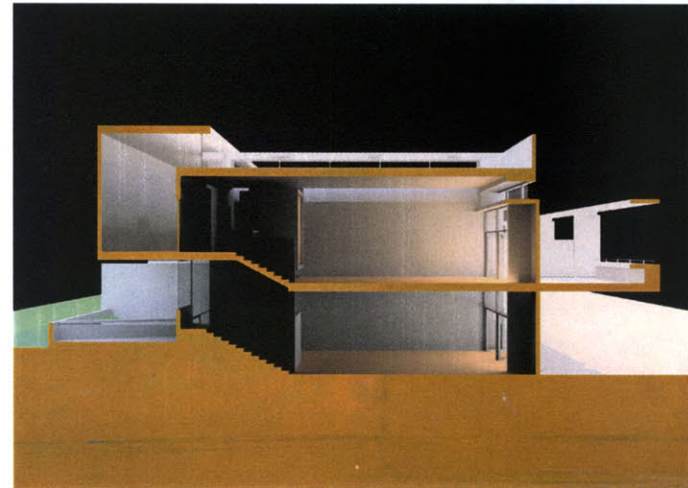


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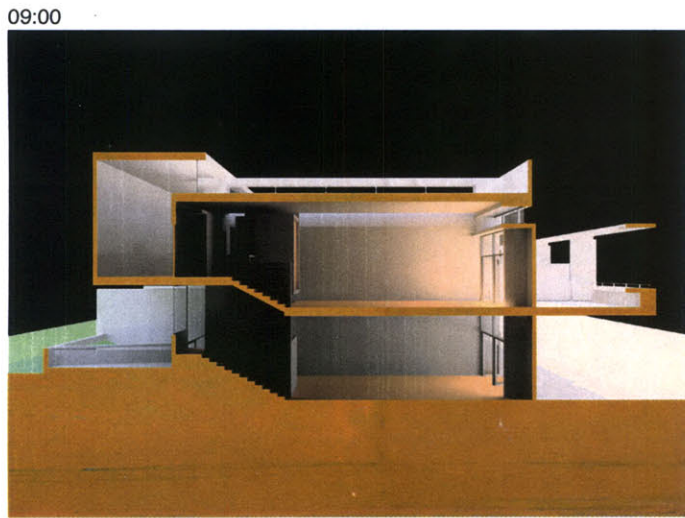
Unit Time Series: Winter Solstice Sections



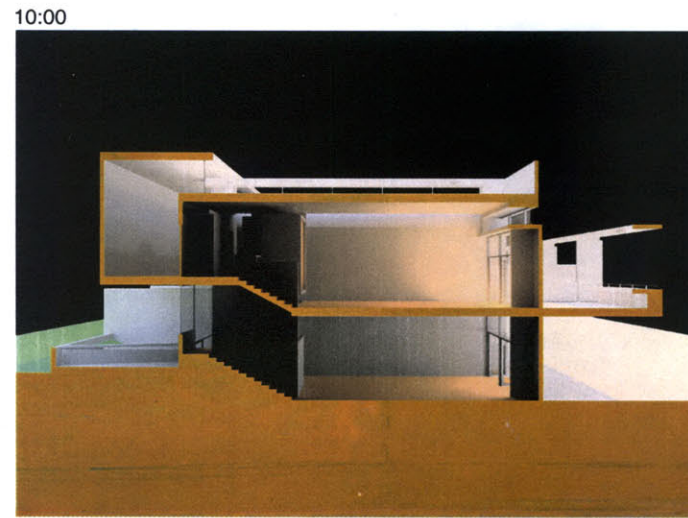
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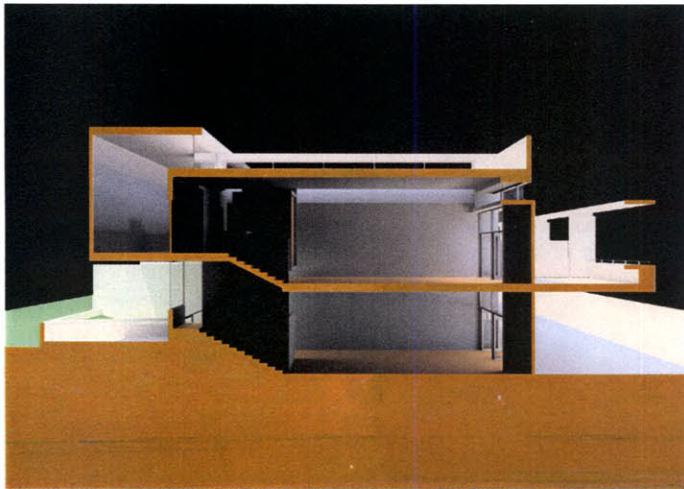
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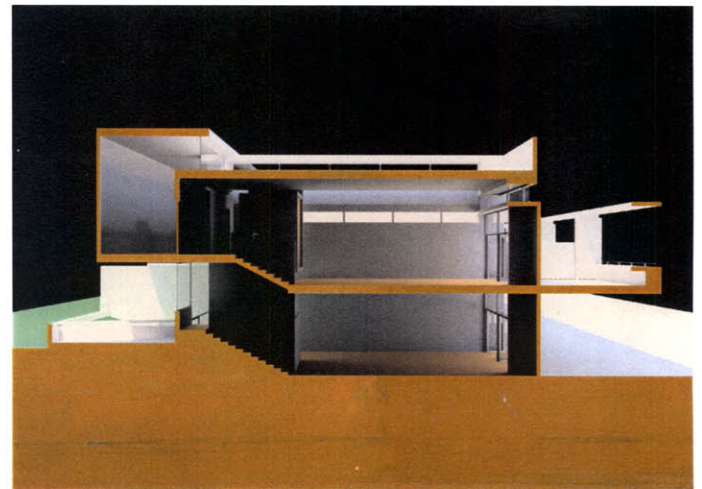
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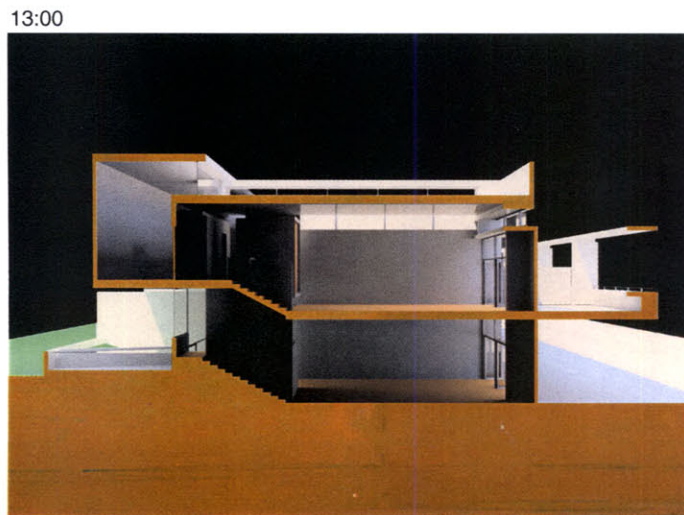
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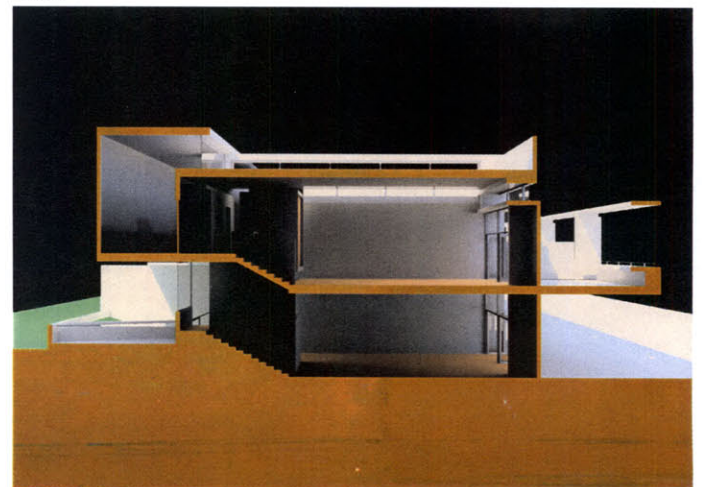
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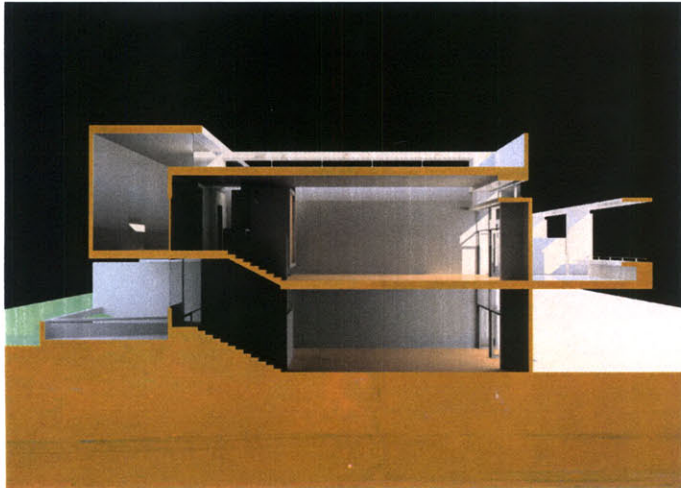
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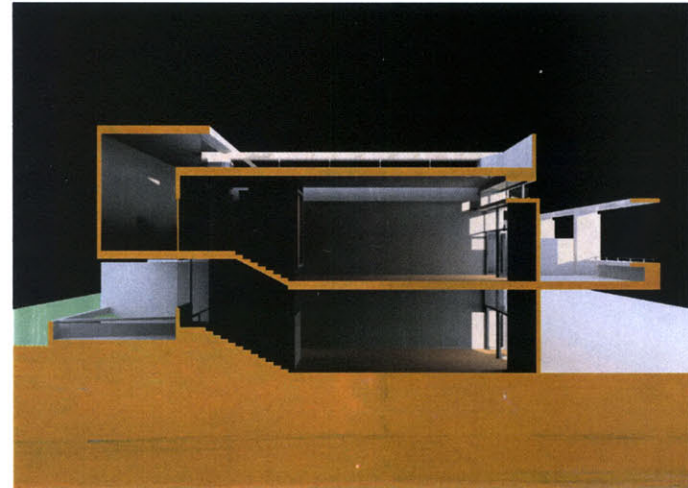
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14:00

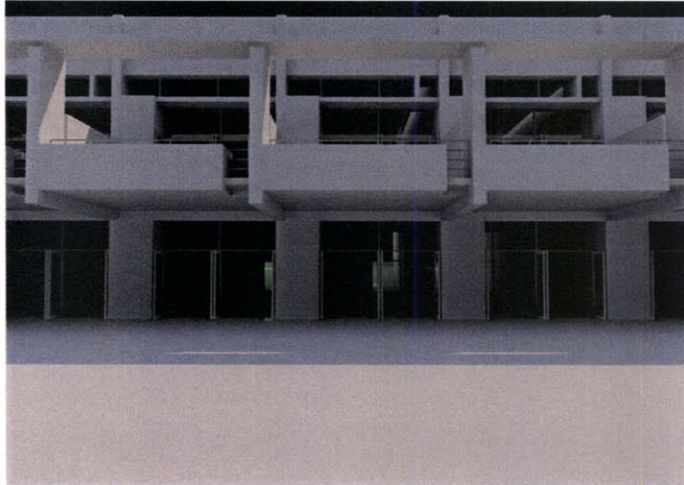


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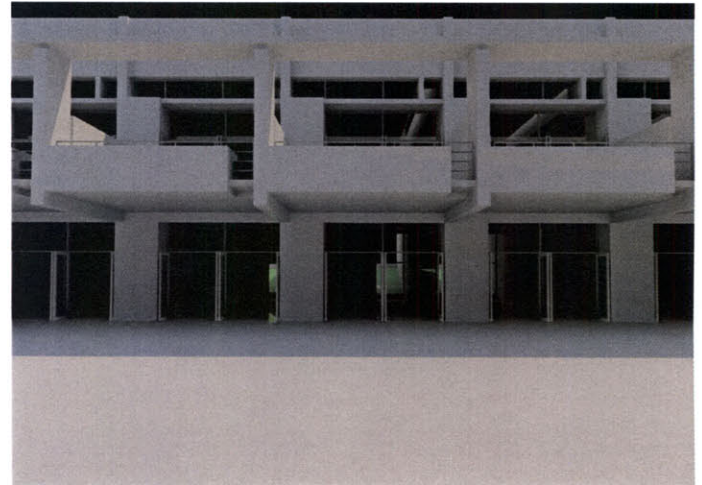


16:00

Unit Time Series: Summer Solstice Elevations

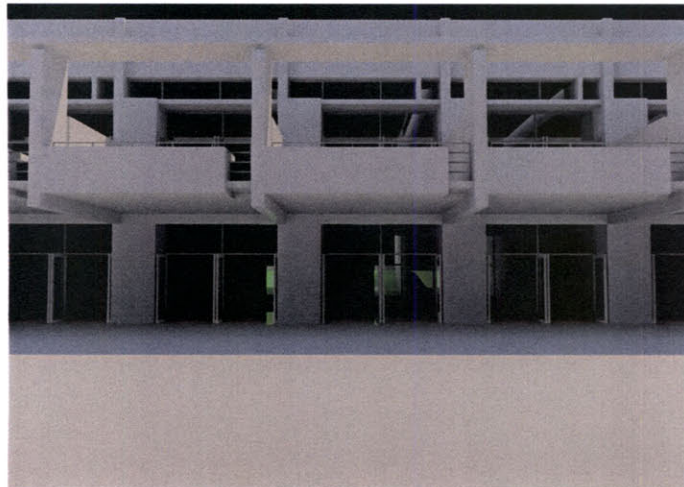


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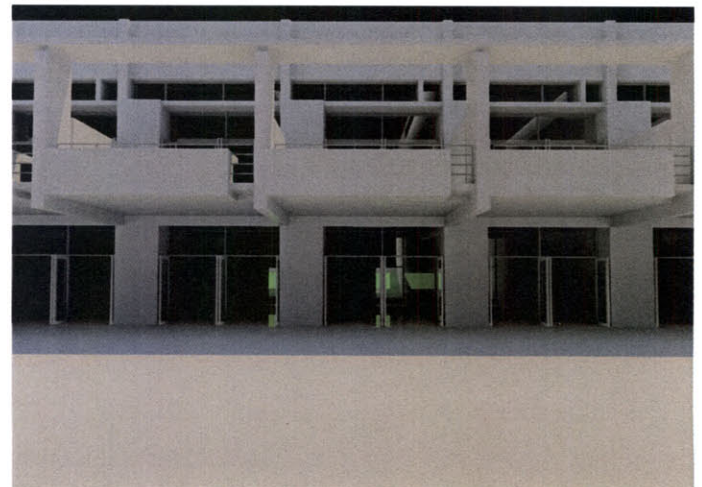


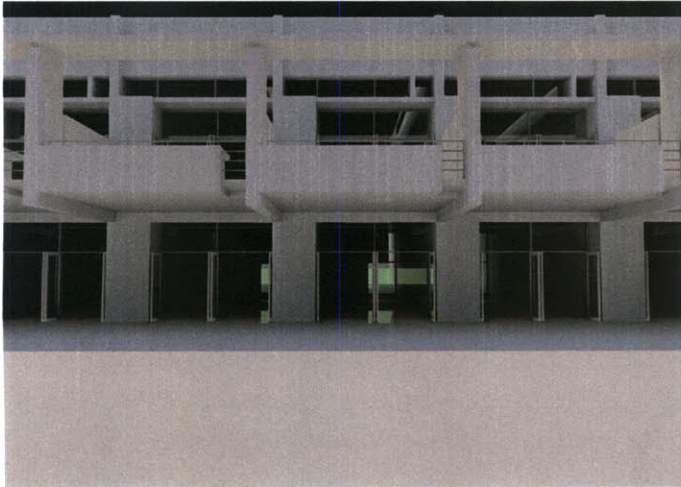
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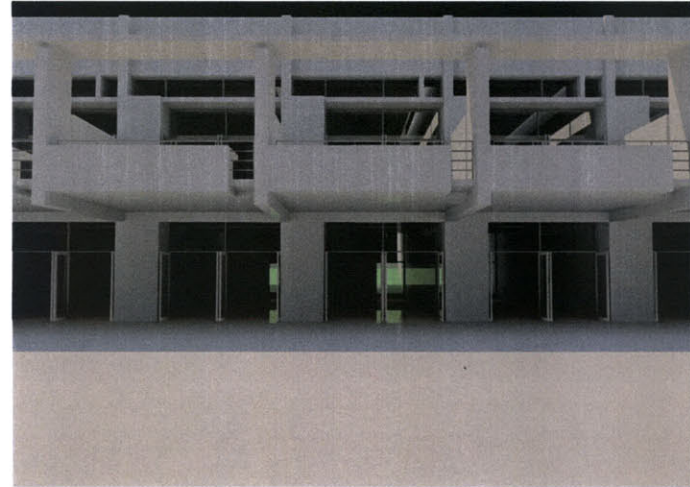


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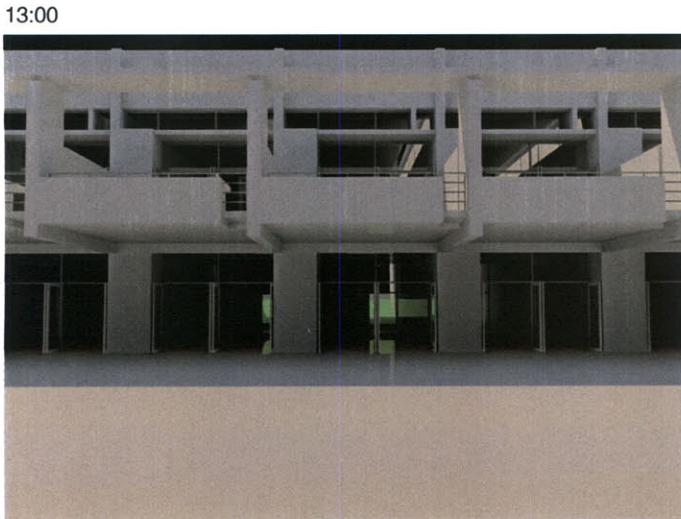




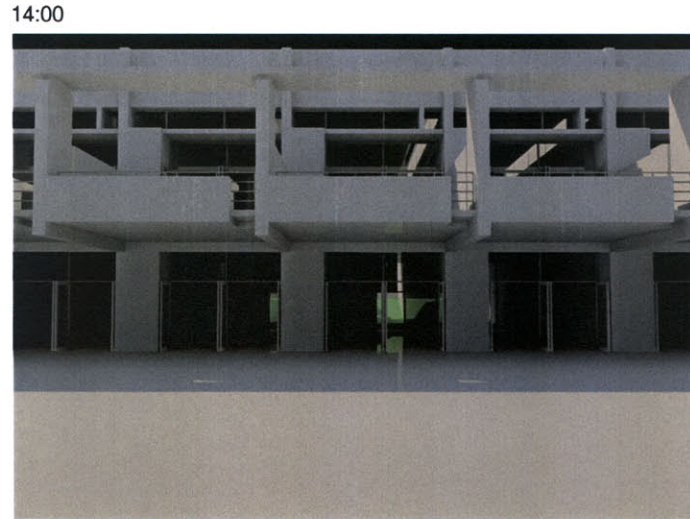
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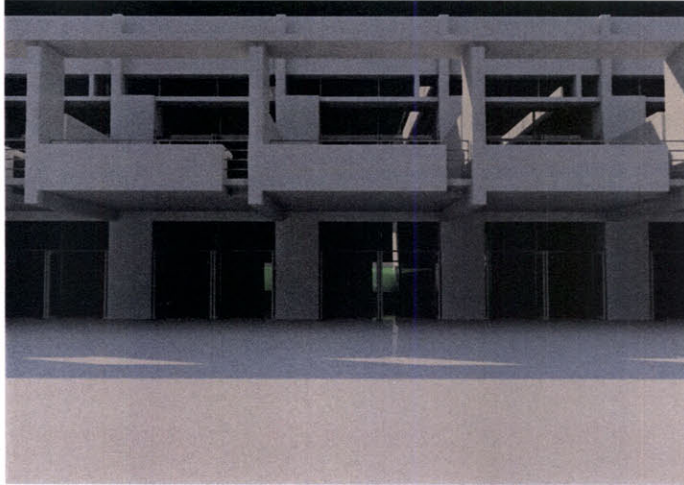
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13:00



14:00

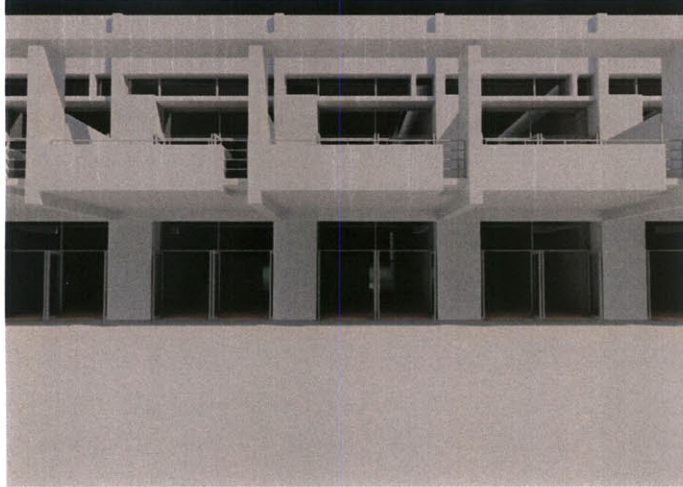


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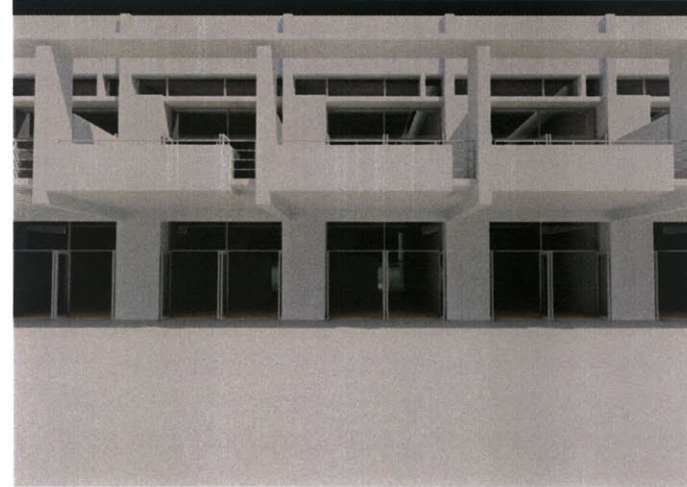


16:00

Unit Time Series: Winter Solstice Elevations

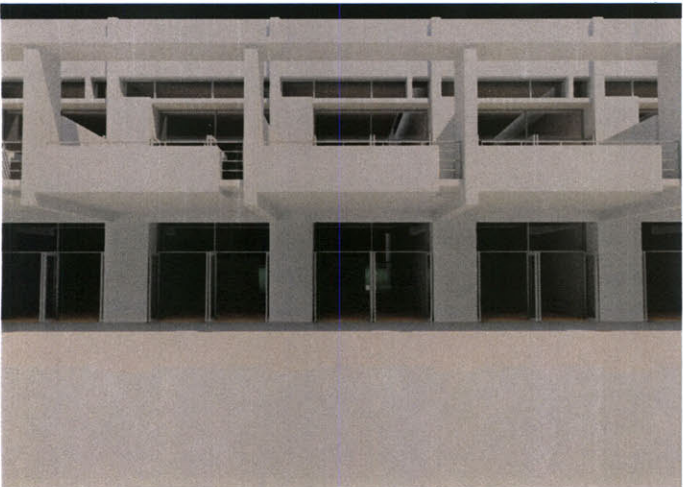


07:00

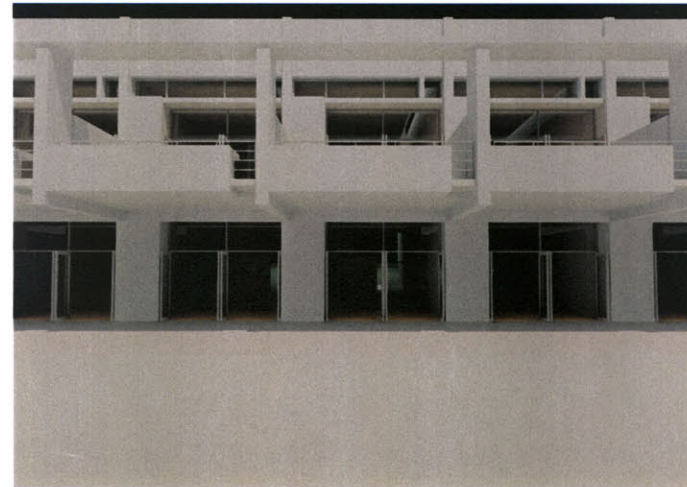


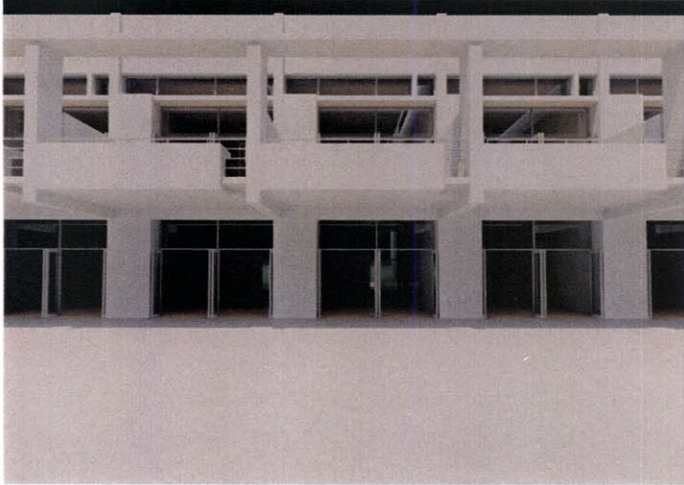
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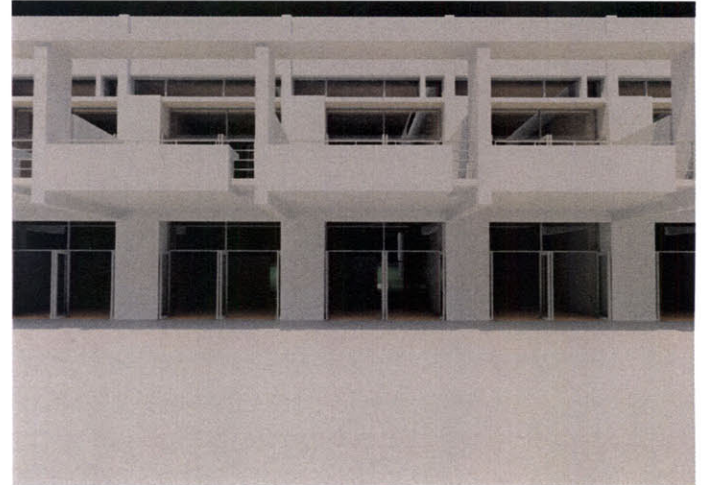


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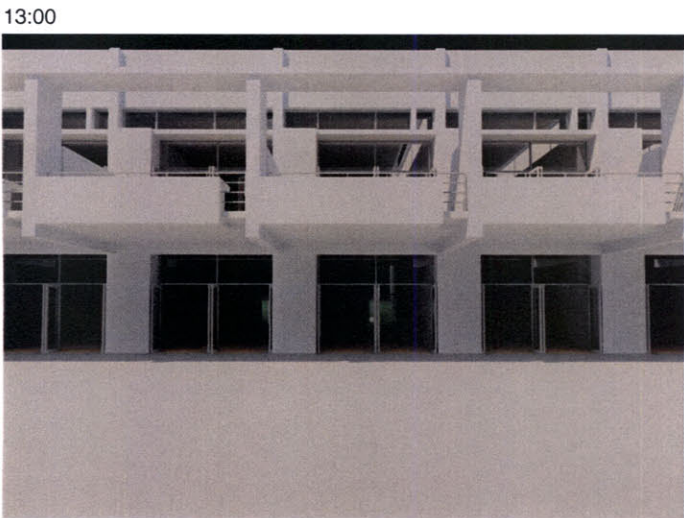




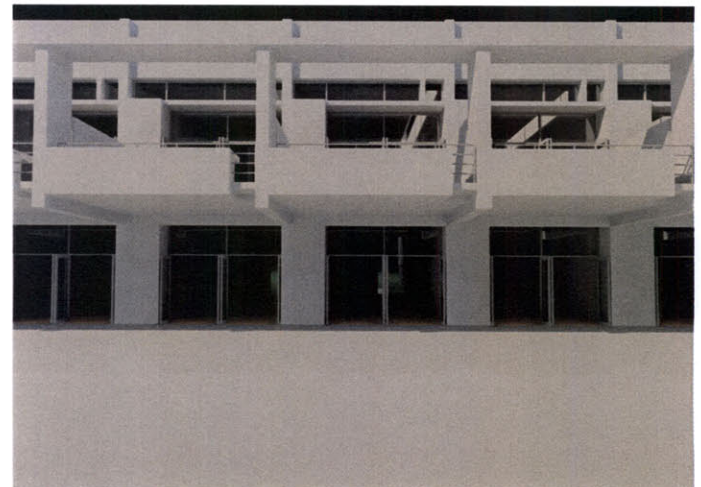
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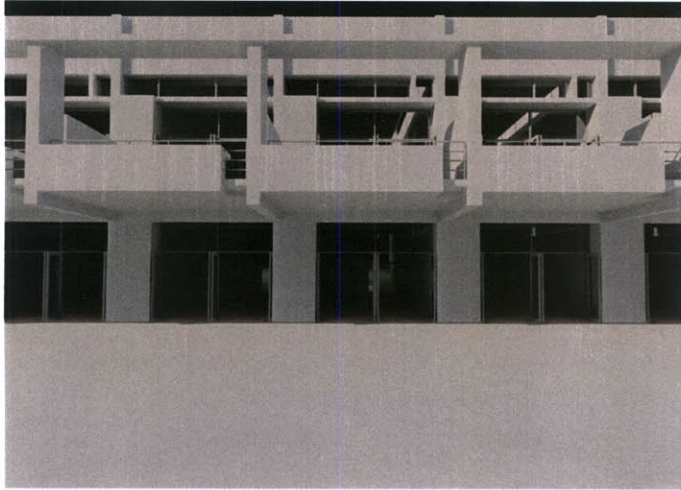
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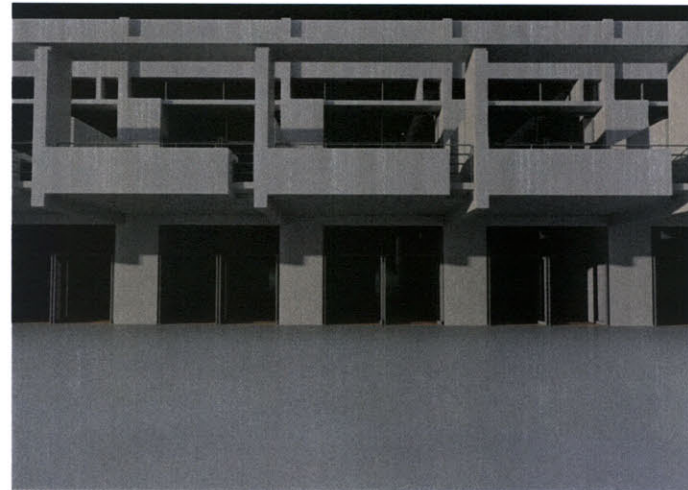
13:00



14:00



15:00



16:00



*Won't you come with me to
look around at those ruins?*

L'Avventura stills

Methodology | Discussion

The methodology used in dissecting *L'Avventura* is highly extensible to analyzing other films and designing within other programs. Any film could be diagrammed in a similar manner and the results could then be used to influence design. The methodology uses a technique that is analogous to analyzing a painting or photograph. Stills are selected and then diagrammed for certain relationships. These relationships are then interpreted within the design. In the case of this project, only the relationship between the landscape and the characters was analyzed. This methodology is flexible enough, however, to extend to other types of analysis, such as analysis of scene changes, characters' psychological state or changes in camera perspective. The same film could conceivably be diagrammed in myriad ways, creating startling difference in its interpretation. Film analysis departs from painting analysis in its allowance of time and movement to become a variable that is reflected within the design. In this project, sequenced events were the primary motivation behind the design. Movement and time elements with film could be exploited to an even greater degree by allowing the characters movement or the duration of the time from one scene to the next.

The success of using film as a source of inspiration is highly dependent on film selection. Many films were reviewed before *L'Avventura* was finally selected for its dramatic relationship between the landscape and the characters. Films that capture the spirit and exploits the theme of the final design should be sought after to ensure the ease of transition between film and design.

The diagramming of the stills revealed new levels of structure and allowed deeper understanding of the interaction between the characters and the landscape. This served as a terrific vehicle for deconstructing the film by allowing the recombination of the images within the film sequence. It should be mentioned, however, that stills are difficult to work with. Many repeat viewings of this section of the film were needed to understand the context of the stills and to maintain the continuity of both time and movement. In addition, deconstructing and recombining images is a very time consuming process. Although this may serve to aid designers in part of their design



L'Avventura stills

process, it is difficult to base the entirety of a complex project (such as a resort) from the diagrammed images. Once major themes within the film are uncovered, they can be extended to the entire design without mapping diagrams to each piece of the structure.

Film interpretation is subjective, opening infinite possibilities to designers. If another designer used the same methodology to analyze the same film for the same program and then picked the same sequenced stills, the design would most likely be different. Using film to inspire design should open new vistas for the designer, rather than enable a departure from their own good design principles and style.

This methodology suggests the use of film to inspire and not as a form generator as in Tschumi's *The Manhattan Transcripts*. Film allows the designer to look through the eyes of the director and possibly derive a new or different perspective that subsequently inspires design. The methodology proposed here is antithetical to Tschumi's coding of design. This methodology presupposes that the success of the design depends on the designer's ability and not on the film. The onus is on the designer to make the architecture work.

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