

**ARCHITECTURE DEPARTMENT**

**CHINESE UNIVERSITY OF HONG KONG**

MASTER OF ARCHITECTURE PROGRAMME

2003-2004

DESIGN REPORT



**“LIGHT + SPACE” –  
INFORMATION CENTRE OF WALKS, TRAILS +  
COUNTRY PARKS IN HONG KONG**

LAM Lai Ling Charis

April 2004



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"LIGHT + SPACE" -

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+ COUNTRY PARKS IN HONG KONG

BY LAM LAI LING CHARIS  
MAY 2004

MASTER OF ARCHITECTURE  
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DEPARTMENT OF ARCHITECTURE  
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**DESIGN REPORT BY CHARIS LAM  
M. ARCH. II 2003 - 2004 TECTONICS STUDIO  
DEPARTMENT OF ARCHITECTURE, CUHK**

**ADVISED BY ASSOCIATE PROFESSOR, VITO BERTIN**

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- Rafael Moneo
- Le Corbusier
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- Steven Holl
- Alberto Campo Baeza
- Carlos Ferrater Lambarri
- James Turrell
- Keith Sonnier

Law Court

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- Core-type
- Courtyard-type
- Distinct-type

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Site selection  
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## **ACKNOWLEDGMENTS**

I would like to thank my honourable advisor, Professor Vito Bertin, for his kindness and patient in this year; show me many many great examples and let me open my eyes to those simple but fascinating architecture.

Professor Gu Daqing, thank you for his humor and precise advice. I would also like to extend my sincere thanks and appreciation to all professors at the Department of Architecture, CUHK and my colleagues : Sam Cheung, Kenneth Yau, Jacky Choi, Karen Mok and Donald Leung. This is my honour to work with you all in the tectonics studio, a wonderful time in my life to study architecture.

Last but not lease, to my family and my love, K. siu.

## INTRODUCTION

In my thesis, I am interested on '*light + space*' as the prior design consideration in different buildings. From the precedents' studies, I categorize the principles of light entering space. With the study of some abstract models, I try to imitate the design of those lighting effect physically.

The initial observation is based on the shopping mall in Shum Shui Po and Mong Kok. In response to the topic, I start to outline the building program for my thesis: from shopping mall to law court, then finally, from the observation and inspiration at the site, I would like to design an Information Centre of Walks, Trails + Country Parks in Hong Kong, with the emphasis of '*light + space*'. By introducing an '*oasis*' right in the urban area, it provides specific information of particular country parks and special areas, as well as education and promotion of nature conservation .



- LIGHT + SHADOW



- SOURCE OF LIGHT



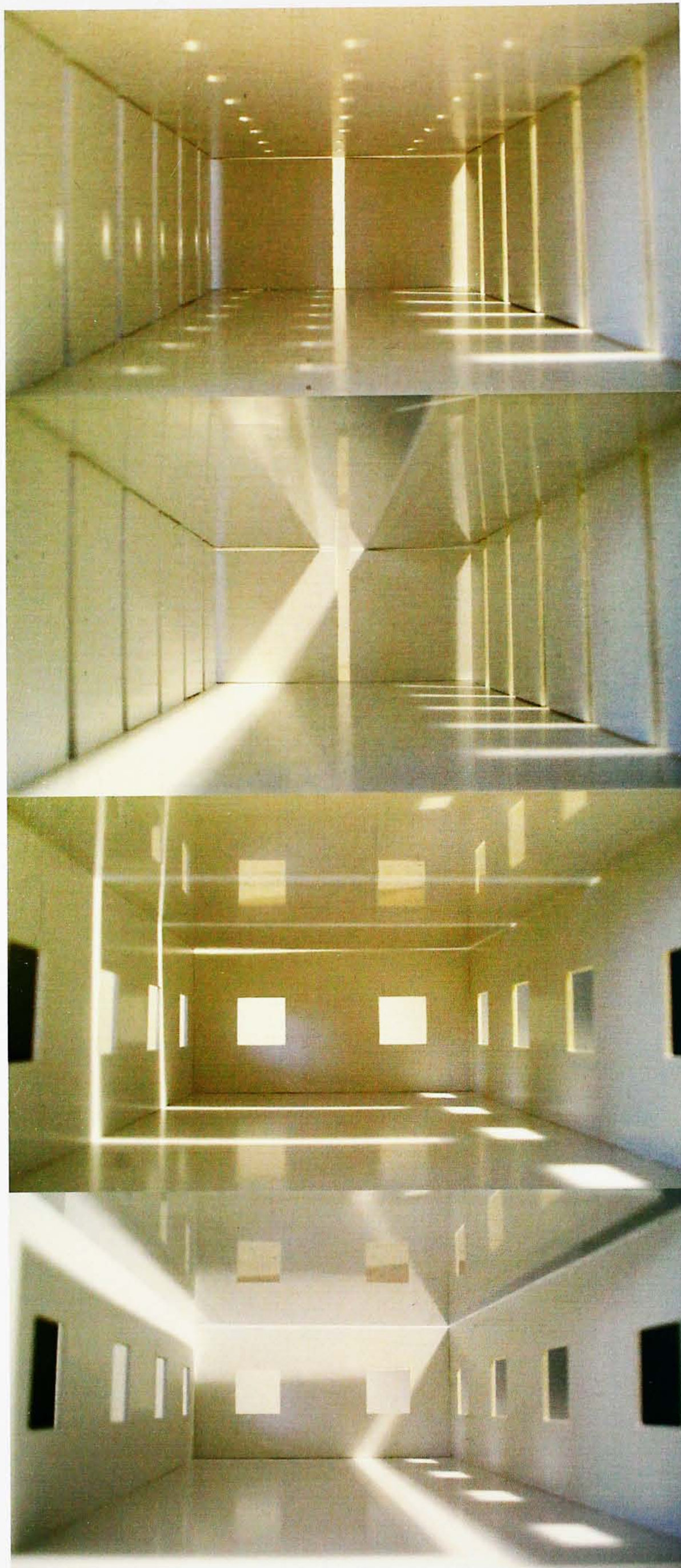


- FILTERING OF LIGHT



- BUILDING MATERIALS

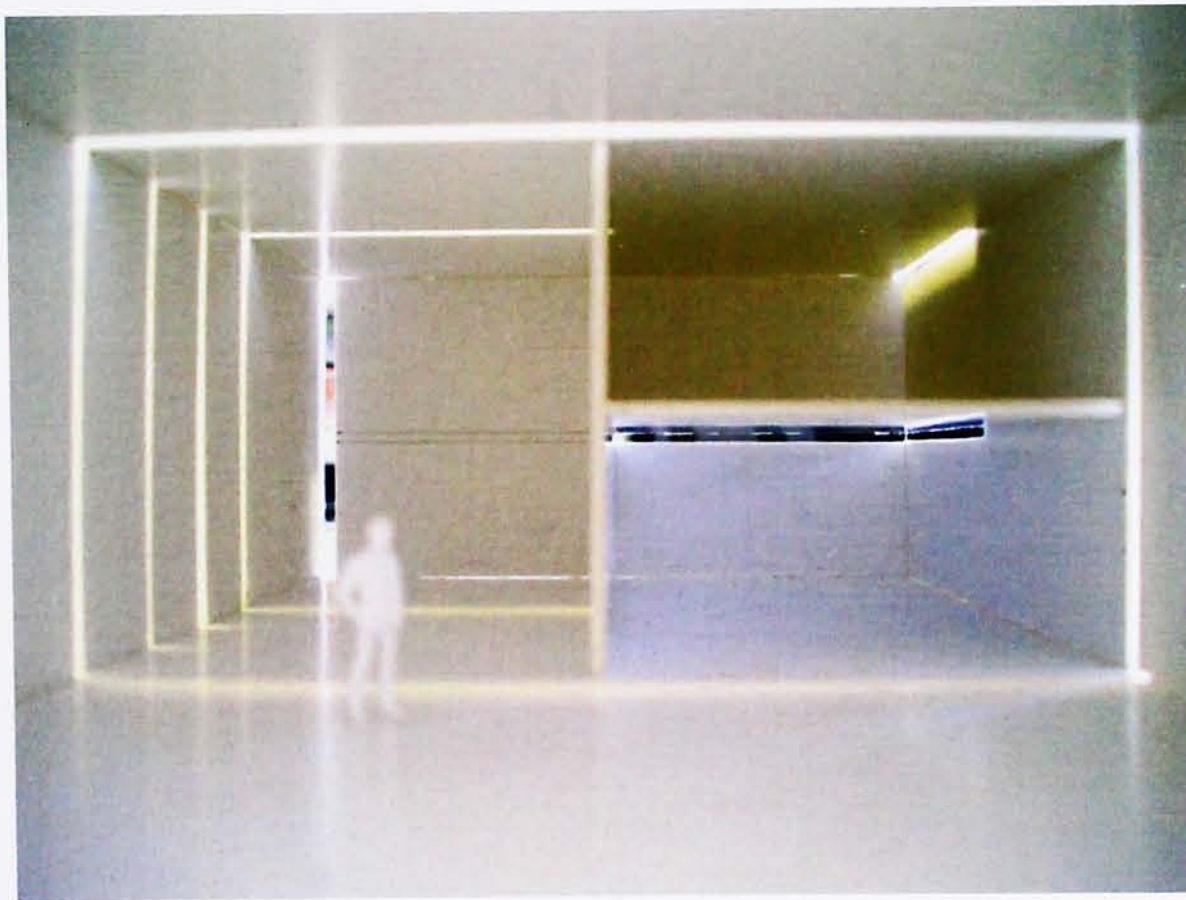
RESEARCH STUDY - OBSERVATIONS



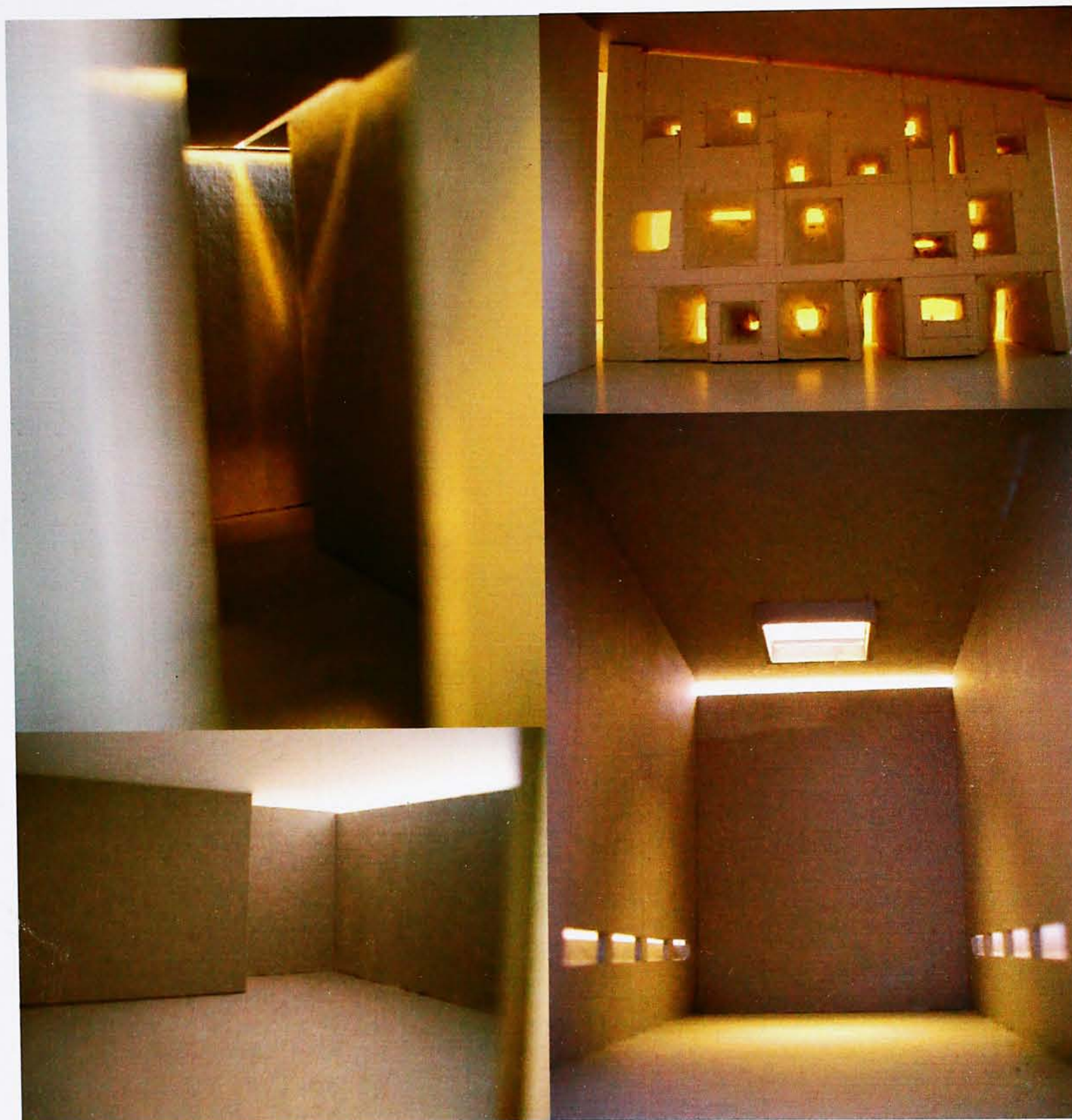
## EXPLORATION

Model :

- Different configuration of opening on roof and wall
- Composition of different type of opening: slot, point and plane
- Study the characteristic of those type of opening







## PRECEDENT STUDIES

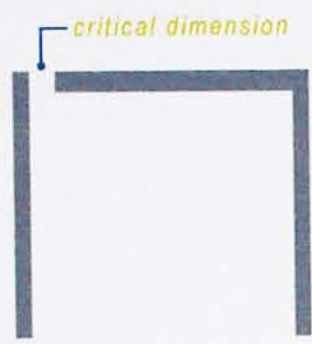
Mass with light :

- By sketching the design of the opening and the use of material, in order to analysis the lighting effect and the phenomena at each of the space
- Abstract models to imitate the lighting effect of the space at Thermal Bath and Art Museum in Bregenz by Peter Zumthor; Chapel at Ronchamp and Monastery at Tourette by Le Corbusier

In this part, I would like to study the buildings with the implementation of natural lighting as the prior design consideration. In the first section, I would categorize the principles of natural light entering the space: light enters along surface, light enters through surface and light enters through mass. The size and location of the opening for light are very critical for classifying the ways of light entering space. The slight difference in the configuration of the opening and its juxtaposition to the wall or ceiling will totally change the lighting effect into the space as shown in different illustrations. In the second section, I would study the precedents in two aspects: the way of manipulating natural light in the design and the result of light revealing in architecture, as in form and space. Moreover, I would also study some of the precedents with abstract models, so to imitate those lighting effect physically.

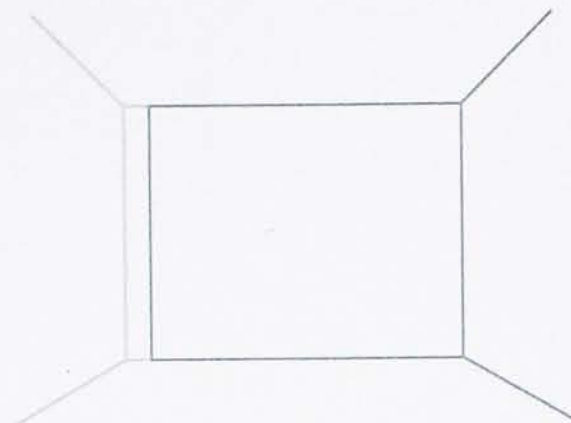
In the last section, I would study the works done by some of the great artists, like James Turrell and Keith Sonnier, their artistic and scientific installation in response to light.

### Allocation of wall with opening and wall to be lit



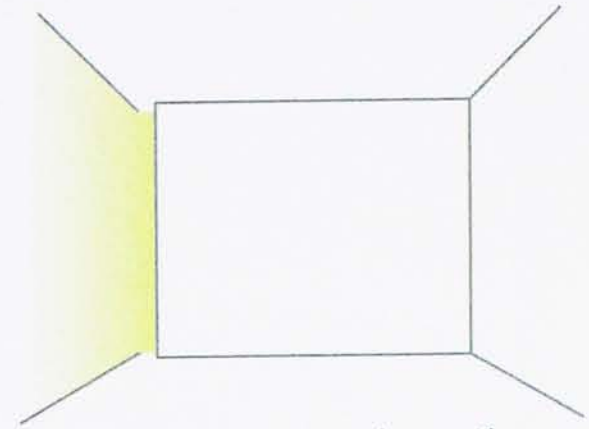
Perpendicular

### Spatial condition

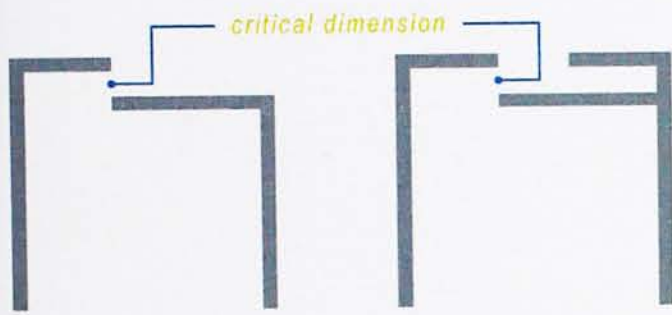


Slot opening on edge of wall

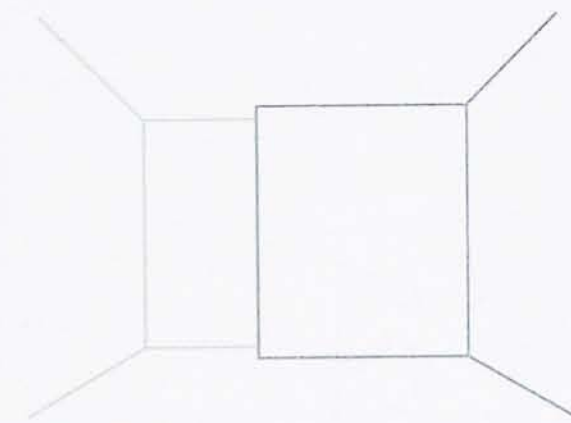
### Lighting effect



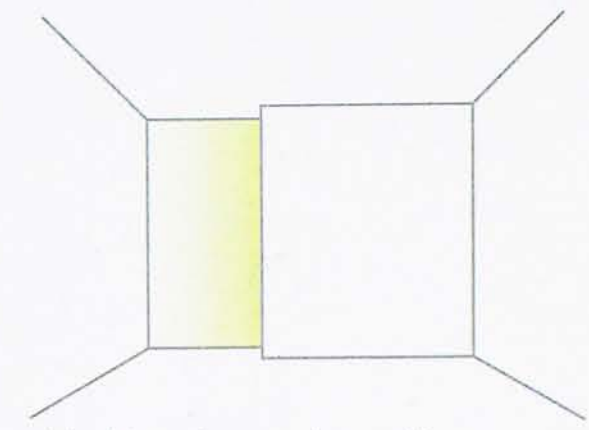
Light enters along the side wall



Parallel



Wall in front of the opening as the reflector



Light enters along the same wall with the opening

## LIGHT ENTERS ALONG SURFACE

### ALLOCATION OF WALL WITH OPENING AND WALL TO BE LIT

#### Perpendicular

- ~ Light enters through the slot at the edge of a wall and washes along the adjacent wall

#### Parallel

- ~ Light enters through the wall opening and interreflects between the baffle and the wall, which forces the light to diffuse on the same wall surface

### VARIATION IN ORIENTATION OF OPENING

#### Top of the wall

- ~ Light enters through the slot on top of the wall and washes along the ceiling

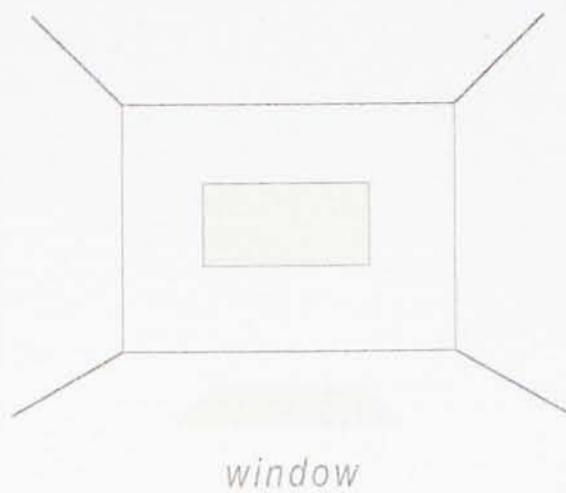
#### Edge of the ceiling

- ~ Light enters through the slot on edge of the ceiling and washes along the adjoining wall

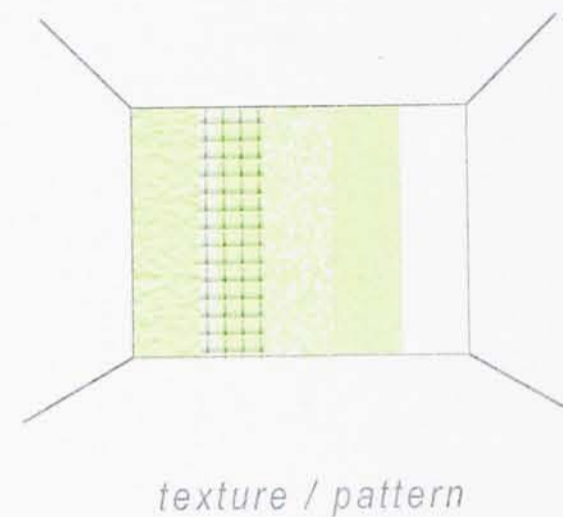
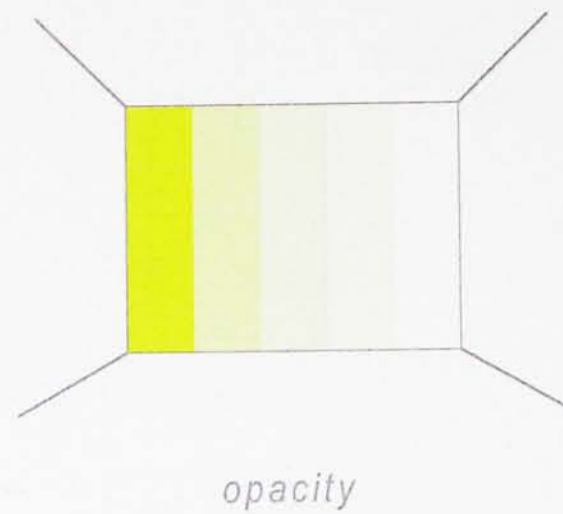
#### Reflector under skylight

- ~ Light enters through the skylight and interreflects with the reflector, then washes along the ceiling surface

### Variation on location of opening



### Variation on material of opening



## LIGHT ENTERS THROUGH SURFACE

### ORIENTATION OF OPENING

#### Wall

~ Window opening on wall, where its shape and fenestration can create shade pattern inside the space

#### Ceiling

~ Skylight on ceiling, where its size, shape and angle, also changes the lighting effects to the space

### MATERIAL

#### Opacity

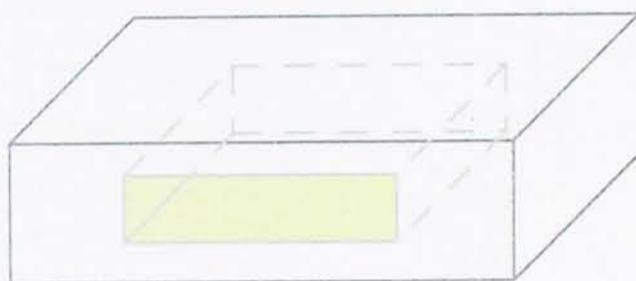
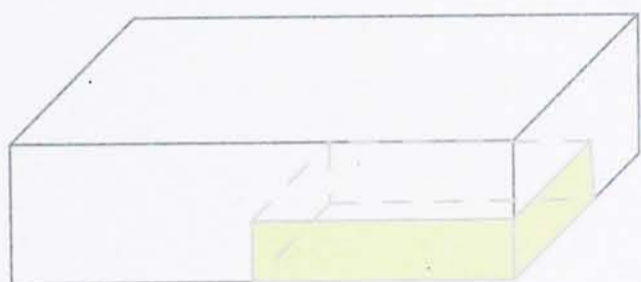
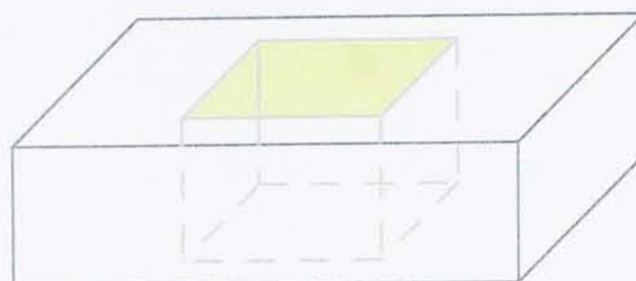
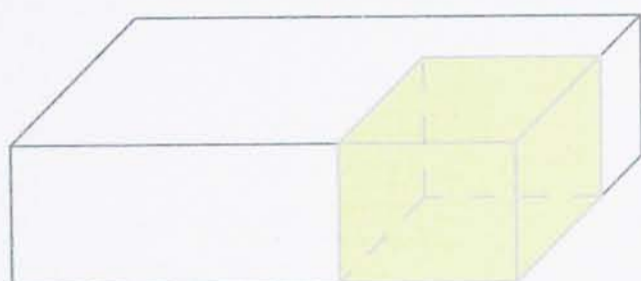
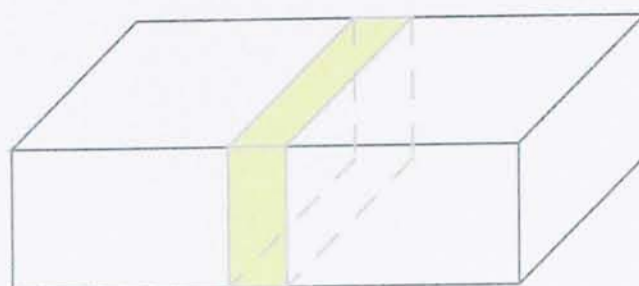
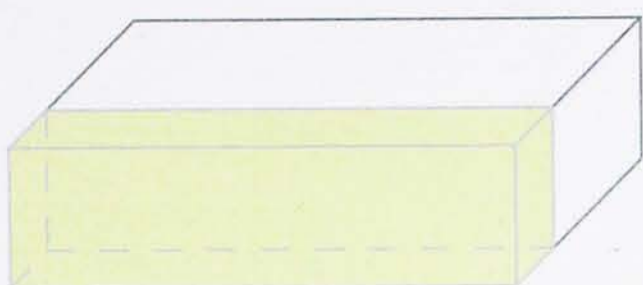
~ Transparent, translucent and opaque materials control the diffusion of light to the space

#### Texture / Pattern

~ Pattern of materials, such as perforated panel, not only create shade pattern to space inside, but also control the view to one another



## Profile of Lighting Mass



### LIGHT ENTERS THROUGH MASS

#### SURFACE WITH DEPTH

##### Unified surfaces

- ~ Light enters space through the deep opening that classified as mass, which should associate with the use of material, in order to give a unified surface for the 'lighting mass'.
- ~ The solid mass and the lighting mass can be divided through the operation of slice, punch or carve as shown in the diagram.



## THERMAL BATHS AT VALS PETER ZUMTHOR

### DESIGN INTENT

"The idea of hollowing out a huge monolith and providing it with caves, sunken areas and slots for a variety of uses also helped to define a strategy for cutting up the stone mass towards the top of the building, to bring in light."

### STUDIES

#### Principles of Manipulating Natural Light

##### *Light enters along Surface*

- ~ Light enters from the fissure in the ceiling and washes on the wall surface

##### *Light enters through Surface*

- ~ Light enters from the small rectangular skylight over the indoor bath

##### *Light enters through Mass*

- ~ Light enters from the carved out opening of the east wall and conveys a volume of light into the upper level of baths between the stone blocks of space

# HEAT THERMAL BATHS AT VALS

PETER ZUMTHOR

## PRECEDENT STUDIES

### Light Revealing Form

#### *Light & Form ~ emphasizing form*

- ~ The building is divided into several blocks, each define with a fissure in the ceiling that's bring in light
- ~ The hollowing out on the facade also show a strong geometry and massive feeling of the building

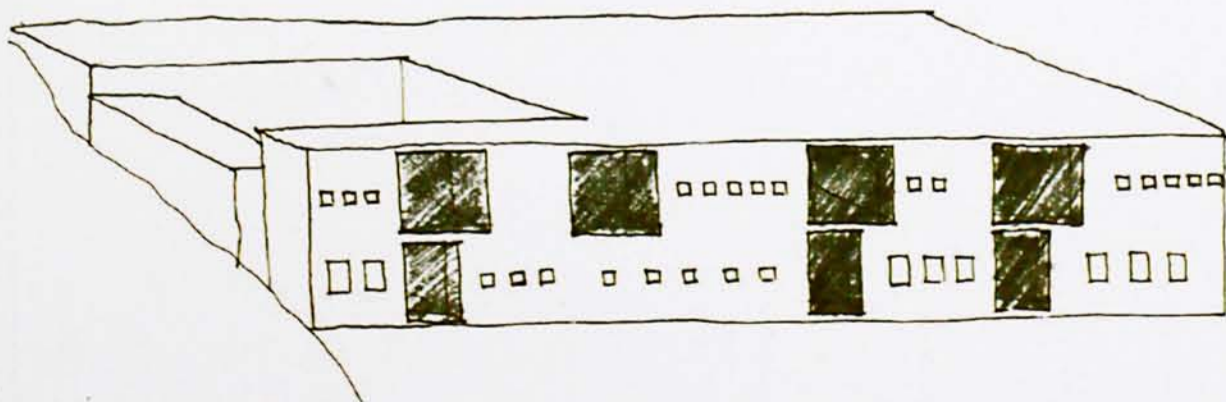
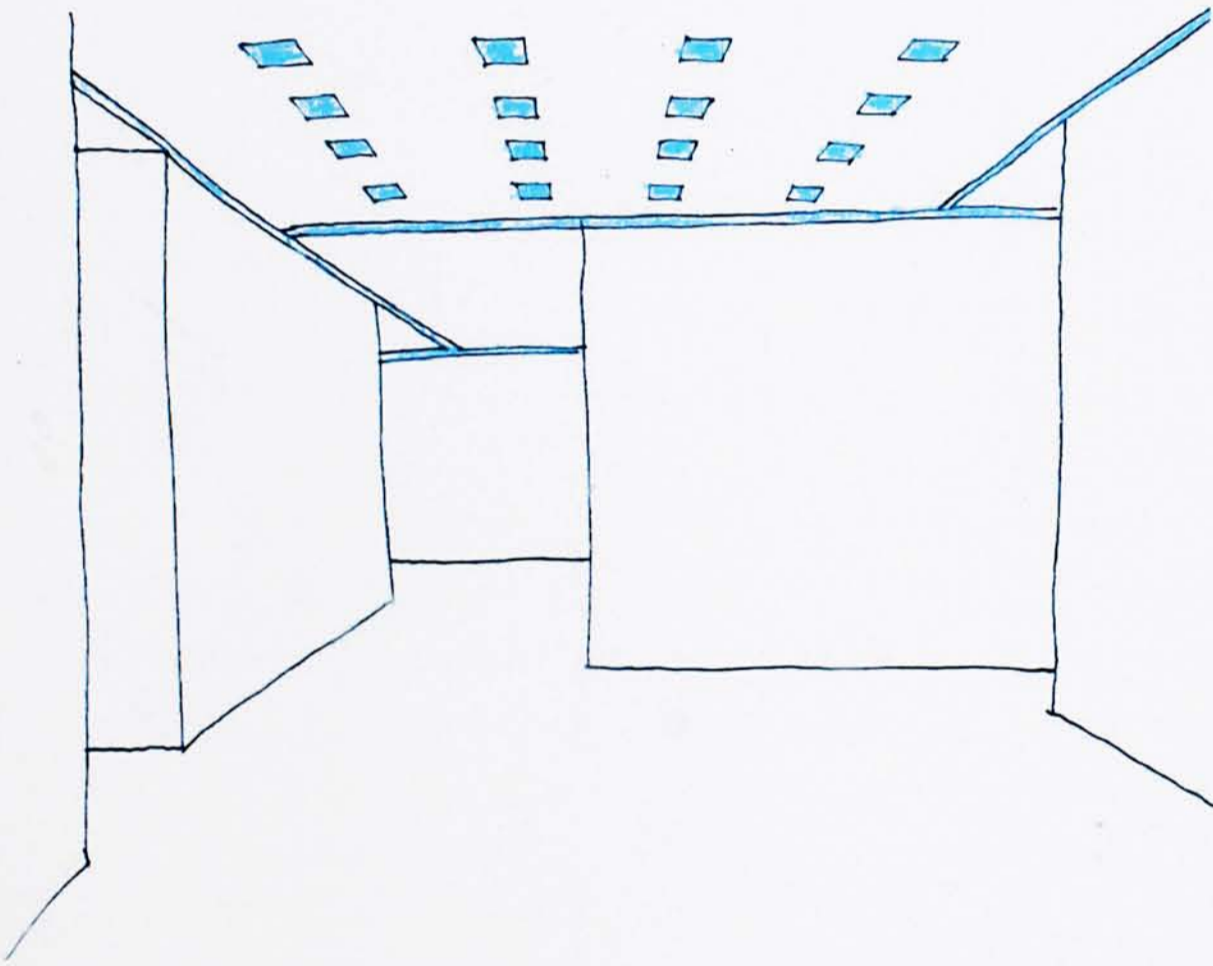
#### *Light & Materials ~ emphasizing material*

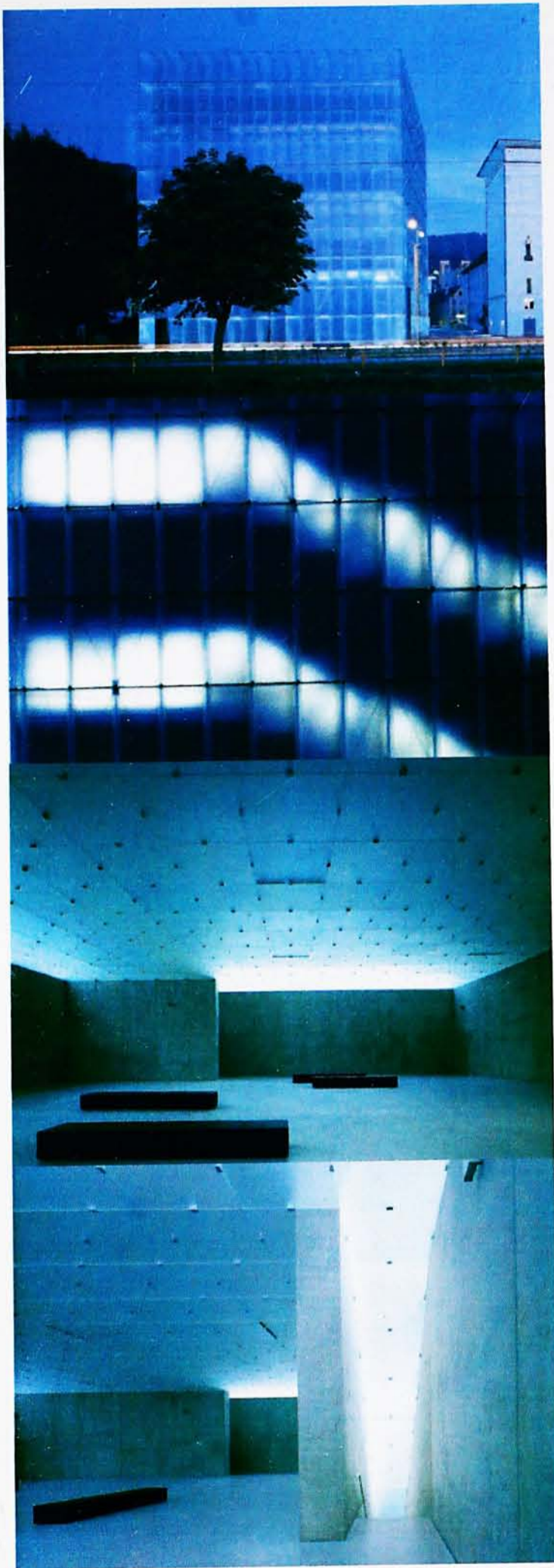
- ~ The fissure in the ceiling that's brings in light, washes on the wall, highlights the texture of the stone finish on the wall

### Light Revealing Space

#### *Light that Directs ~ develop a hierarchy and movement*

- ~ The idea of meandering through the continuous internal space is enhanced by the size and layout of blocks, as well as the daylight penetrating from the small gap on top and then the front large openings





## ART MUSEUM IN BREGENZ PETER ZUMTHOR

### DESIGN INTENT

"It is made of glass and steel and a cast concrete stone mass which endows the interior of the building with texture and spatial composition. From the outside, the building resembles a lamp. It absorbs the changing light of the sky, the haze of the lake; it reflects light and color and gives an intimation of its inner life according to the angle of vision, the daylight and the weather."

### STUDIES

#### Principle of Manipulating Natural Light

##### *Light enters along Surface*

- ~ Light enters through the man-high cavity above the glass ceiling from all sides of the building and fills up the whole building with light

##### *Light enters through Surface*

- ~ Light enters through the etched glass on the facade

##### *Light enters through Mass*

- ~ The glass façade envelope the building as a lighting mass

# ART MUSEUM IN BREGENZ

PETER ZUMTHOR

## STUDIES

### Light Revealing Form

#### *Light & Form ~ emphasizing form*

- ~ The three loading-bearing, which shield the vertical access around the perimeter of the building, allowing the heavy forms of the interior dimly appeared on the façade

#### *Light & Structure ~ revealing structure*

- ~ The steel structure of the self-bearing façade and the man-high ceiling void allow maximum daylight penetrated into the building

#### *Light & Materials ~ emphasizing materials*

- ~ The use of etched glass for the outer walls and the ceiling, which subtly shimmering surfaces and edges, distributes the daylight throughout the room, where attention is drawn to the bright surfaces of the glass

### Light Revealing Space

#### *Light & Space ~ unifying space*

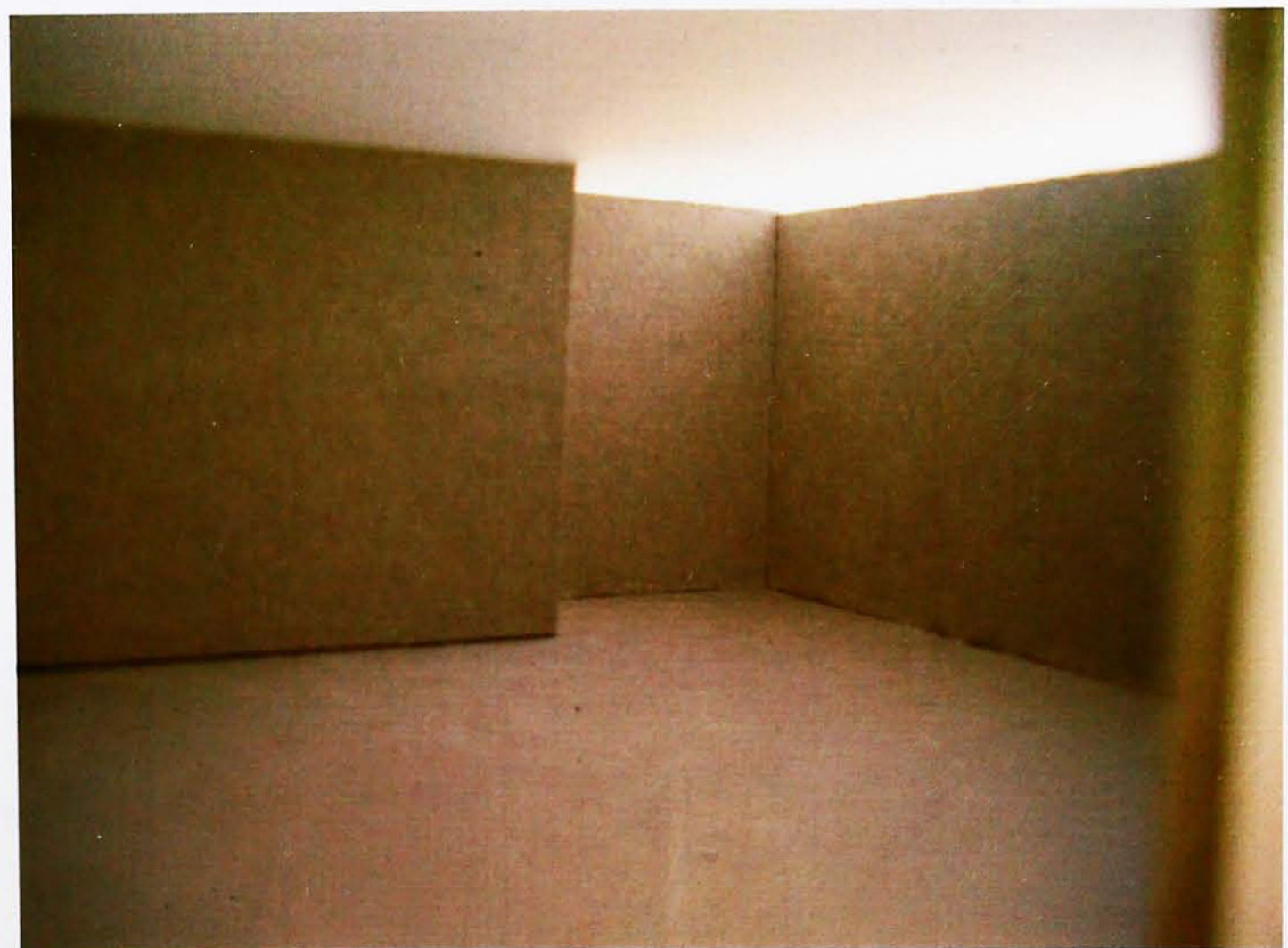
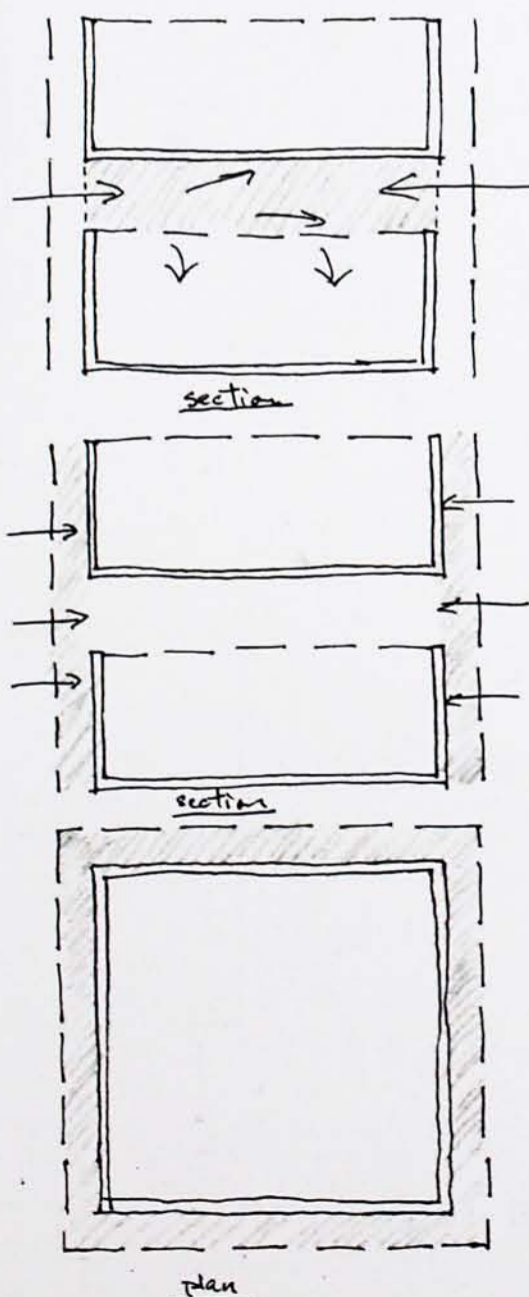
- ~ Light is evenly distributed in the exhibition space, which enhances the unity of the enclosure

#### *Light & Space ~ connecting inside spaces*

- ~ Though there is no visual contact between the outside and inside space, however, the modulation of light signal the outside environment to the heart of the building; the time, the weather and the season the changing light of the sky

#### *Light that Directs ~ movement*

- ~ The movement is encouraged through the layout of the cascade of the stairs and to the radiant daylight ceiling of the upper room





## THE KIMBELL ART MUSEUM

LOUIS I. KAHN

### DESIGN INTENT

"In designing the Kimbell Art Museum, Kahn started with a vision of the silence – the immeasurable, that would be revealed by light – the measurable. ... The Kimbell Art Museum introduces us to silence, the immeasurable, through its confluence of form, materials, space, and light."

### STUDIES

#### Principle of Manipulating Natural Light

##### *Light enters along Surface*

- ~ Light enters from the gap along the cycloid vault, which reflects by the reflector and washes on the ceiling surface
- ~ Light enters from the slit on top of the end wall

##### *Light enters through Surface*

- ~ Light enters from the full height window wall of the café and entry lobby

# THE KIMBELL ART MUSEUM

## LOUIS I. KAHN

### STUDIES

#### Light Revealing Form

##### *Light & Form ~ emphasizing form*

~ Light enters from the top of cycloid vault and the end of the wall, which reflects along the surface of the ceiling and reveals the form of the building

##### *Light & Structure ~ revealing structure*

~ Light enters from the top of cycloid vault and the end of the wall, which also reveals the structure module of the building

##### *Light & Materials ~ muting materials*

~ The use of concrete and travertine in the exhibition area, which the smooth and glossy concrete surface is complemented by the unpolished surface of travertine in respond to the light

#### Light Revealing Space

##### *Light & Space ~ connecting inside and outside*

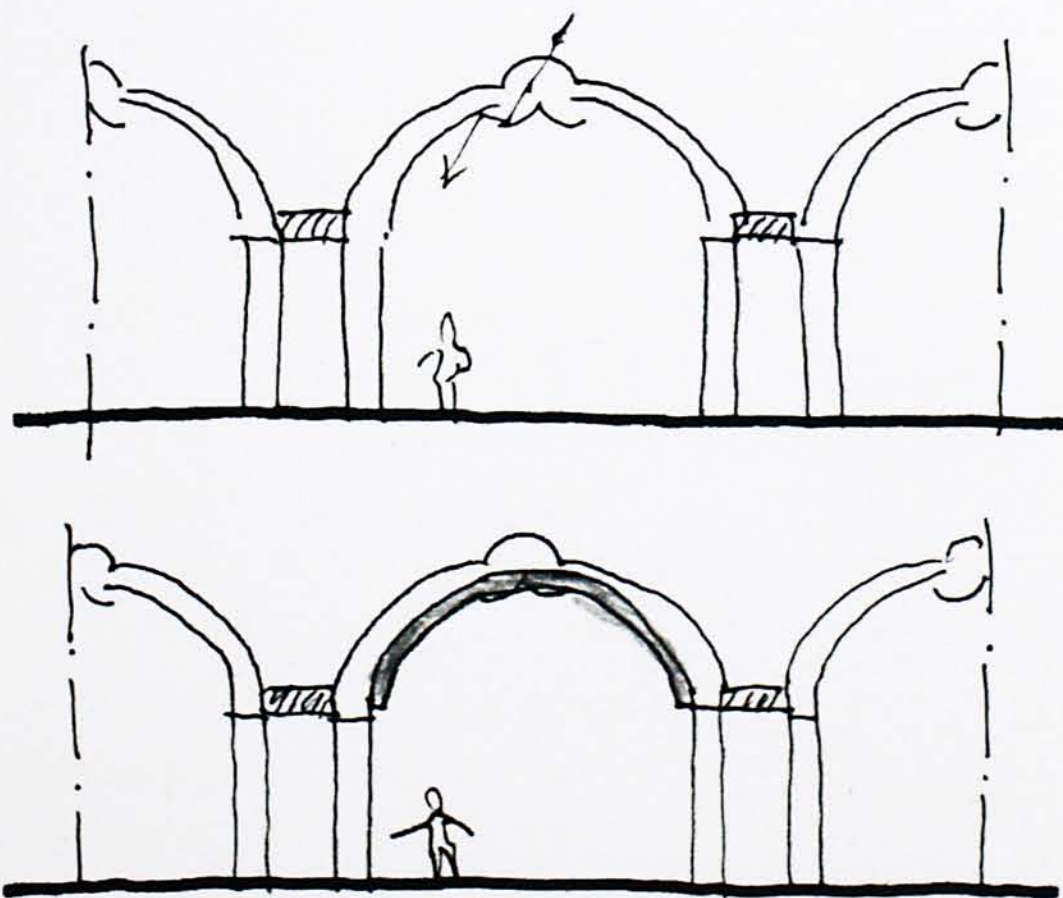
~ The inside and outside space is connected, where viewing from the entry lobby to the North Court

##### *Light & Space ~ unifying space and connecting inside spaces*

~ Though the building is composed of six parallel row of cycloid vault structure, the galleries inside are unified and connected as a whole

##### *Light that Directs ~ movement*

~ The elongated cycloid vault with even distribution of light, enhance the movement from one end to the other end





**THE YALE CENTER FOR BRITISH ART AND  
BRITISH STUDIES**  
LOUIS I. KAHN

**DESIGN INTENT**

"The building is installed sophisticated sunshades on the 58 skylight domes, which covering the entire roof, illuminate the two interior atria and the exhibition rooms on the top story with north light throughout the year."

**STUDIES**

Principle of Manipulating Natural Light

*Light enters along Surface*

~ Light enters through the modular skylight; inter-reflecting, softening and diffusing through the deep concrete skylight wells baffle, which fill the foyer with light

*Light enters through Surface*

~ Light enters through the window opening with adjusted panel to counter glare and directly incident sunlight, which redirects the light go along with the surfaces



# THE YALE CENTER FOR BRITISH ART AND BRITISH STUDIES LOUIS I. KAHN

## STUDIES

### Light Revealing Form

*Light & Form ~ emphasizing form*

~ Light is filtered through the modular skylight and projected on the wall surfaces, which reveals the rectangular form and enclosure of the building

*Light & Structure ~ revealing structure*

~ In the Yale Centre, the structure is the maker of light; light is inter-reflecting, softening and diffusing through the deep concrete skylight wells baffle, the skylight system which associated with the module of the structure and the module of the room, which form the galleries

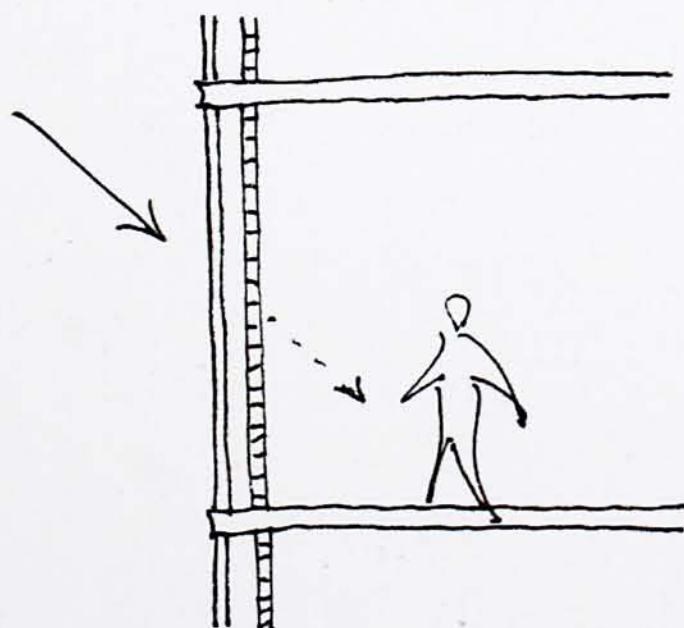
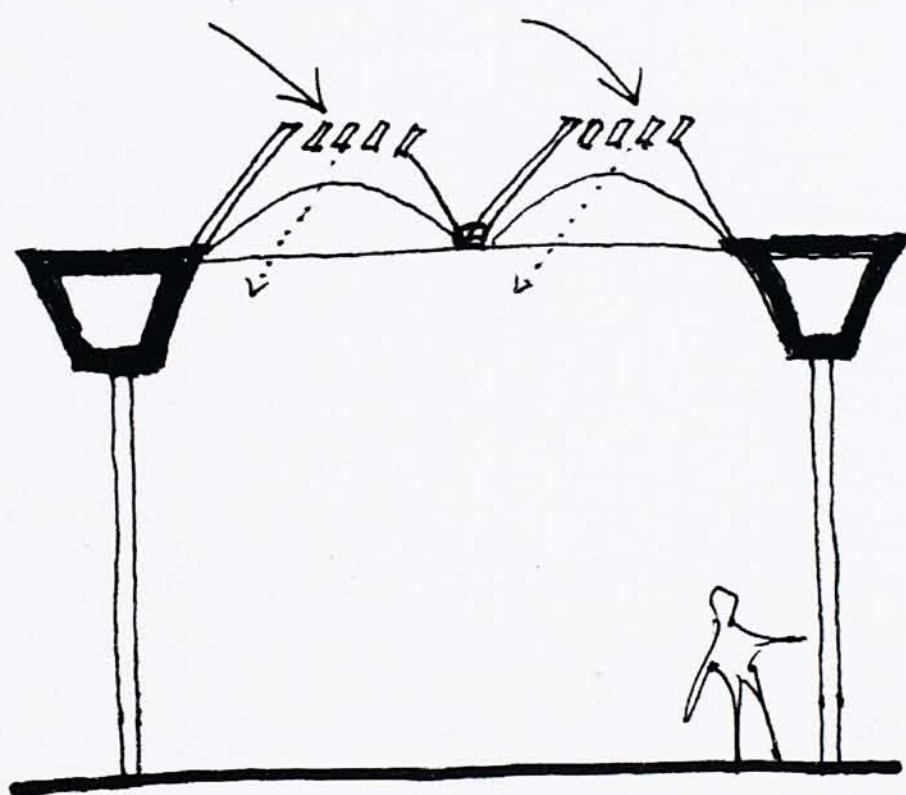
### Light Revealing Space

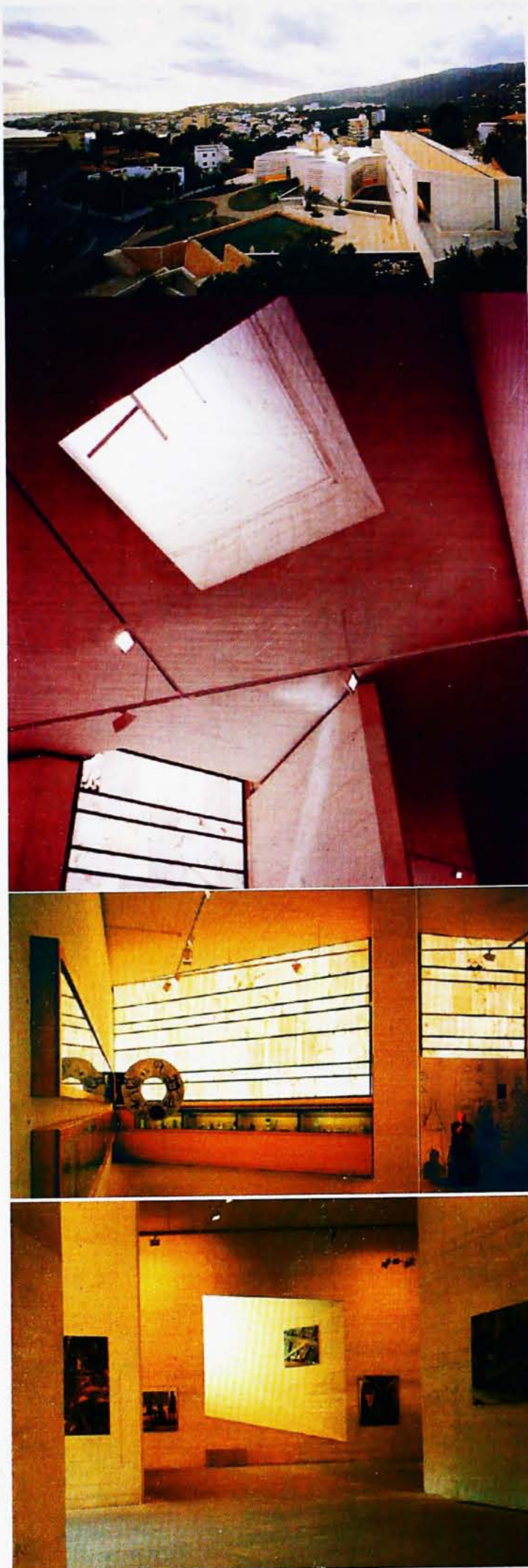
*Light at the Boundary ~ connecting inside and outside*

~ Sunlight and daylight are allowed to enter the lobby directly, the changing pattern of light and shade on the wall reveal the connection with the outside world

*Light & Space ~ separating inside spaces*

~ The level of illumination in the upper floor gallery is lower than that in the foyer to which it opens, and the quality of the light is softer, more diffuse, and less active





## THE FOUNDATION OF PILAR & JOAN MIRO RAFAEL MONEO

### DESIGN INTENT

"The Foundation, a living institution, where has the lecture hall, the library and an exhibition space; attentive to current developments, will be able to keep abreast of the most recent artistic manifestations. Apart from that, the garden is an element of fundamental importance in mediating between the deliberate confrontation established between the Foundation and the existing buildings."

### STUDIES

#### Principle of Manipulating Natural Light

##### *Light enters along Surface*

- ~ Light enters from the deep wall, which either with a large surface of splays or design as a concrete louvers
- ~ Light also enters from the 'shaft' of skylight

##### *Light enters through Surface*

- ~ Light enters from the lower window and also the upper window wall with alabaster membrane, which filters into the space

# THE FOUNDATION OF PILAR & JOAN MIRO

## RAFAEL MONEO

### STUDIES

#### Light Revealing Form

##### *Light & Materials ~ emphasizing material*

- ~ The alabaster membrane filters the light of the windows, which transformed into gigantic and unexpected lamps, luminating the whole surface and space

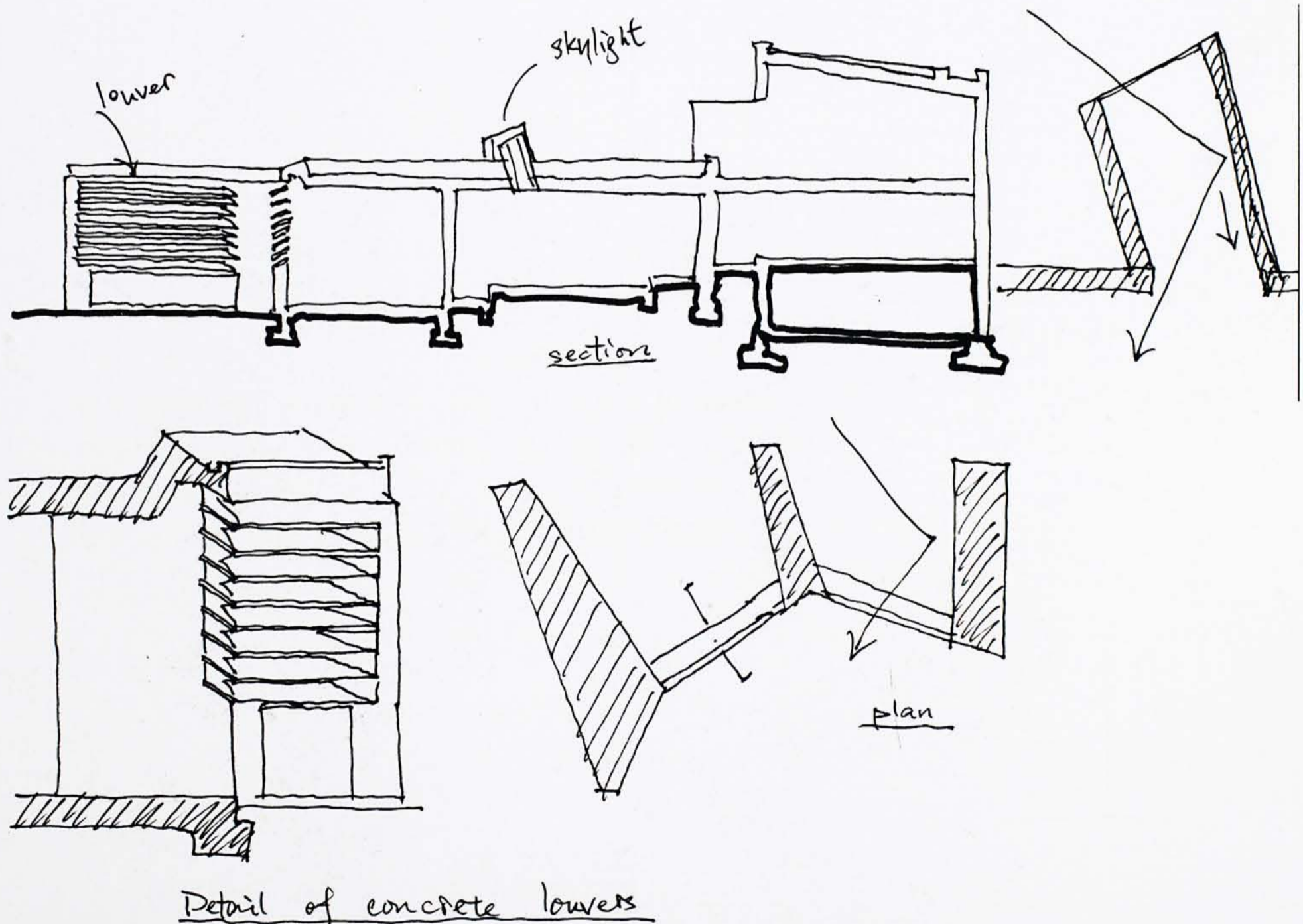
#### Light Revealing Space

##### *Light at the Boundary ~ connecting inside and outside*

- ~ The reflection of the water in the pools filter through the lower windows contributing to the sensation evoked in the gallery space of being in the ocean depths: the water winks at Miro and animates the texture of the walls on which the paintings are.

##### *Light that Directs ~ movement*

- ~ The idea of meandering through the continuous exhibition space is enhance by the daylight penetrating from the window on different part and direction to the space





**THE CHAPEL AT RONCHAMP  
LE CORBUSIER**

**DESIGN INTENT**

"The Promenade Architecture, which forms bathed in light."

**STUDIES**

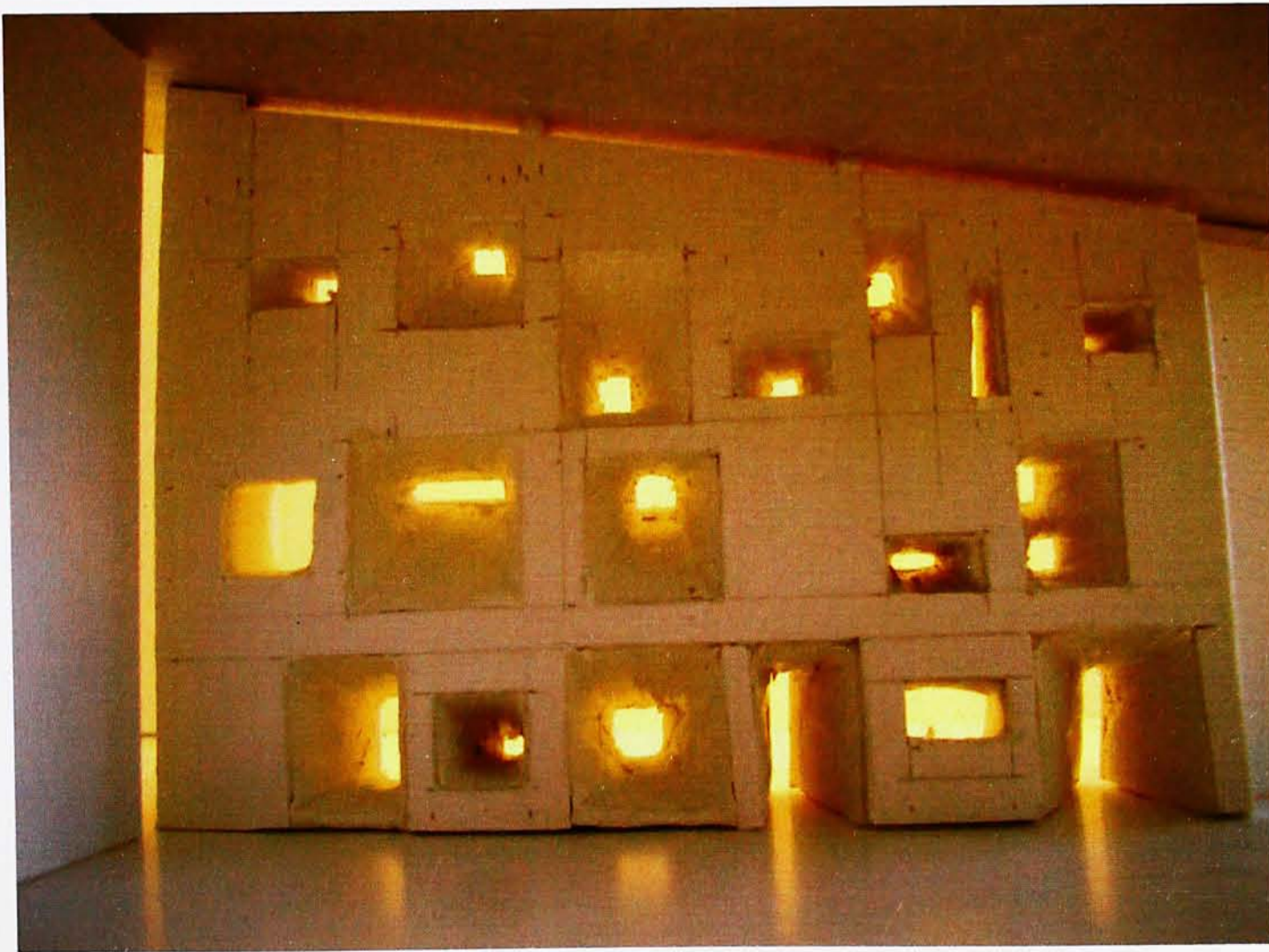
**Principle of Manipulating Natural Light**

*Light enters along Surface*

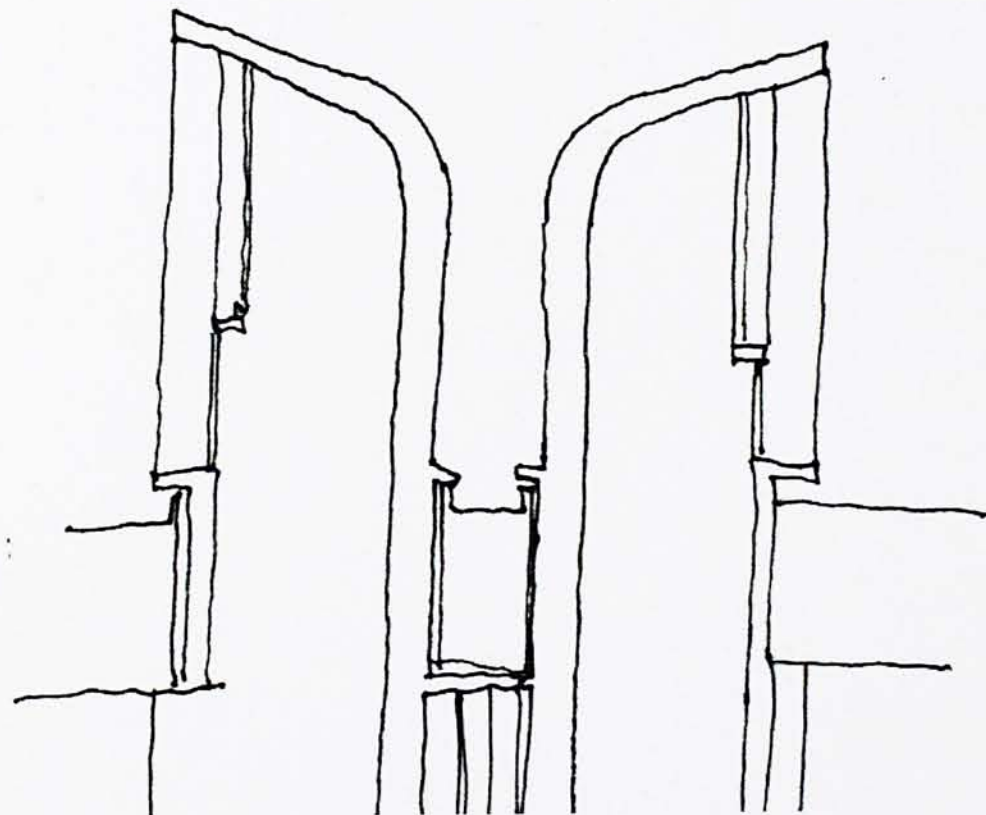
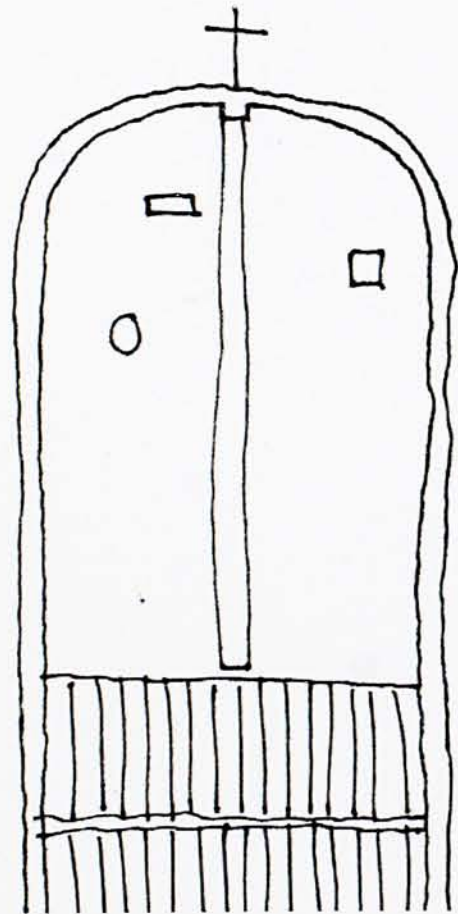
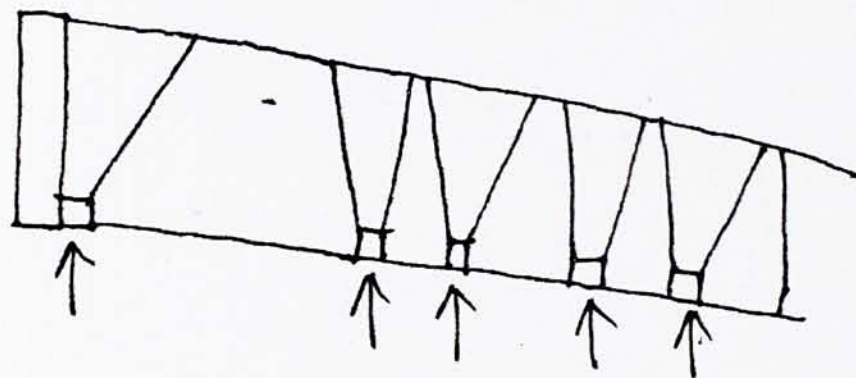
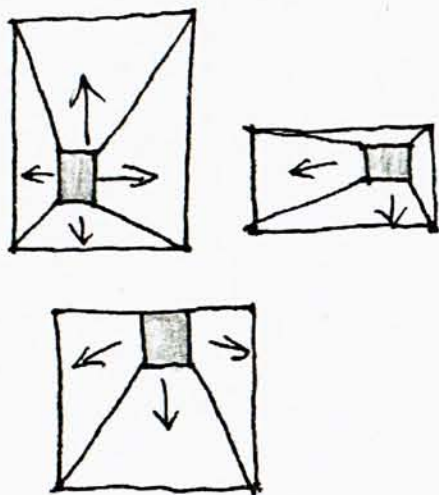
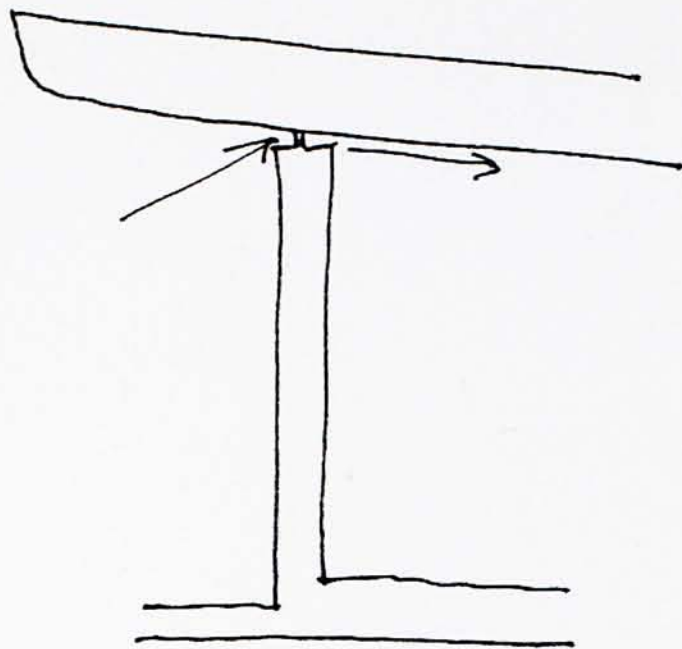
- ~ Light enters from the narrow slit on top of the wall and diffuse on the ceiling surface into the space.
- ~ Light enters through the periscope-shaped shaft, light goes along the surfaces and penetrates into the chapel
- ~ Light enters from the opening of the south wall, reflects on the spray of windows, which result in a surface of light

*Light enters through Surface*

- ~ Light enters from the opening of the south wall, gets into the space without any diffusion on the spray of windows



PRECEDENT STUDIES - MASS WITH LIGHT



## THE CHAPEL AT RONCHAMP

LE CORBUSIER

### STUDIES

#### Light Revealing Form

##### *Light & Form ~ emphasizing form*

- ~ Light enters from the narrow slit along the top of the thick wall and through the periscope-shaped shaft, emphasizes the volume of the space and the dynamic form of the roof, as well as the roundness form of the chapel

##### *Light & Form ~ dematerializing form*

- ~ The fall of light on the sprays of the south wall openings conveying a great contrast between the daylight and the dim interior, that the edges of the splayed openings are veiled, the tones from light to dark blurring so as to conceal the exact form at certain time of a day

##### *Light & Structure ~ concealing structure*

- ~ Along the top of the thick masonry walls, a slit allows daylight to enter, which creates consternation on the structure of supporting the heavy roof

##### *Light & Materials ~ emphasizing materials*

- ~ Light enters from the shaft and projects onto the grainy surface of the wall, clearly reveals the roughness of the surface

#### Light Revealing Space

##### *Light at the Boundary ~ separating inside and outside*

- ~ Light is diffused with different color on the south wall, from the shaft and the narrow slit on top of the thick wall, where there is no visual connection between the dim interior and the exterior except the entrance door

##### *Light & Space ~ differentiating space*

- ~ Light is gathered in different ways to contribute the richness of the spatial composition, which light plays with the forms and the materials and animates the space by creating a different mood at different times of day and in different seasons

##### *Light that Directs ~ create a focus*

- ~ The light is regulated to draw attention to the altar side of the building and the choir wall, where light is admitted through the narrow slit on top of the wall and the opening pierced in the eastern wall



## MONASTERY OF SAINTE MARIE DE LA TOURETTE LE CORBUSIER

### DESIGN INTENT

"A broad range of forms manipulating light are employed to express this dialectic – to express the Dominican conflict between working in this world and yet not being connected to this world."

### STUDIES

#### Principle of Manipulating Natural Light

##### *Light enters along Surface*

- ~ Light enters through the narrow slit on top of the west end wall and the edge of the east end wall, which diffuses on the ceiling surface and the side wall into the space
- ~ Light enters through the angled slot on south and north wall, as well as the light funnel over the side altar

##### *Light enters through Surface*

- ~ Light enters from the ceiling to the church, with pattern of light shimmering on the wall surface in different angle throughout the day



# MONASTERY OF SAINTE MARIE DE LA TOURETTE

LE CORBUSIER

## STUDIES

### Light Revealing Space

#### *Light at the Boundary ~ separating inside and outside*

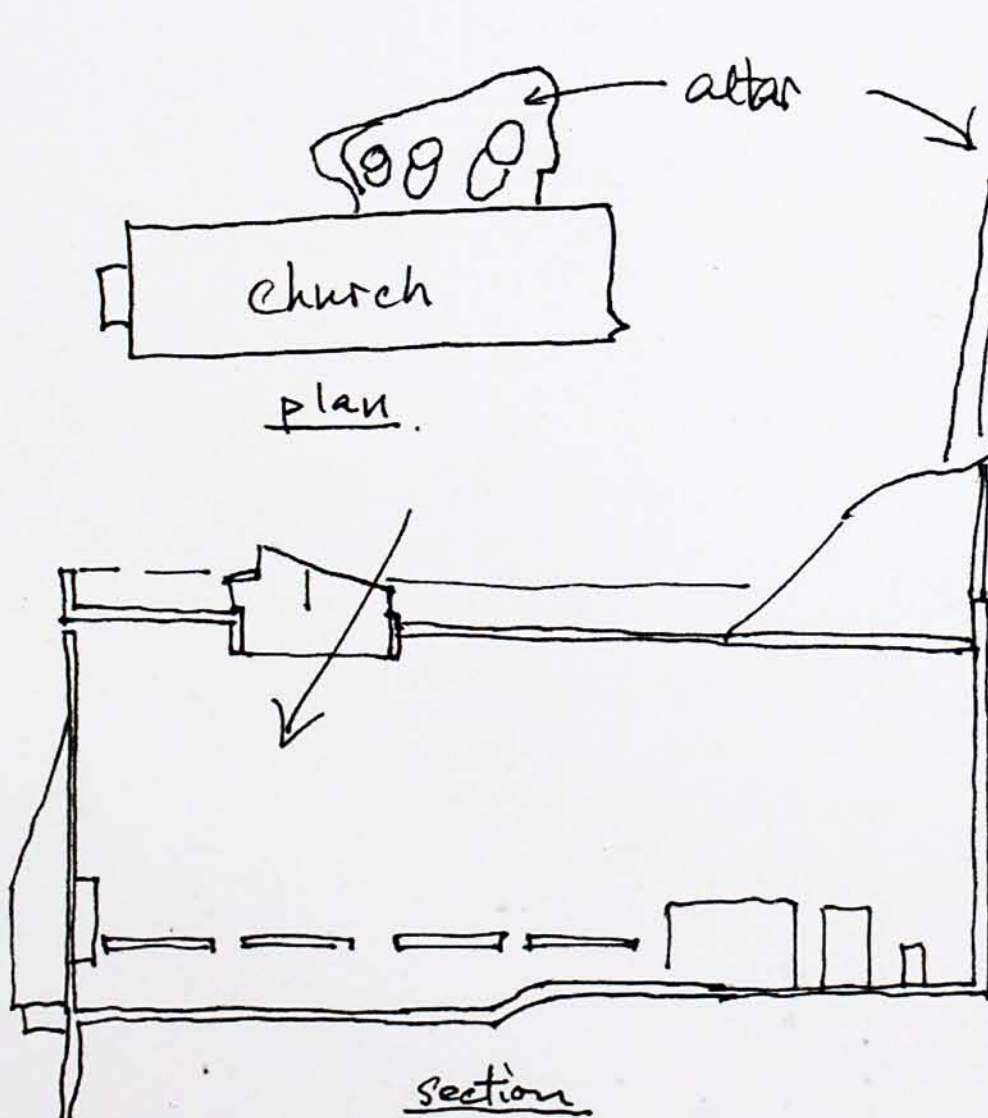
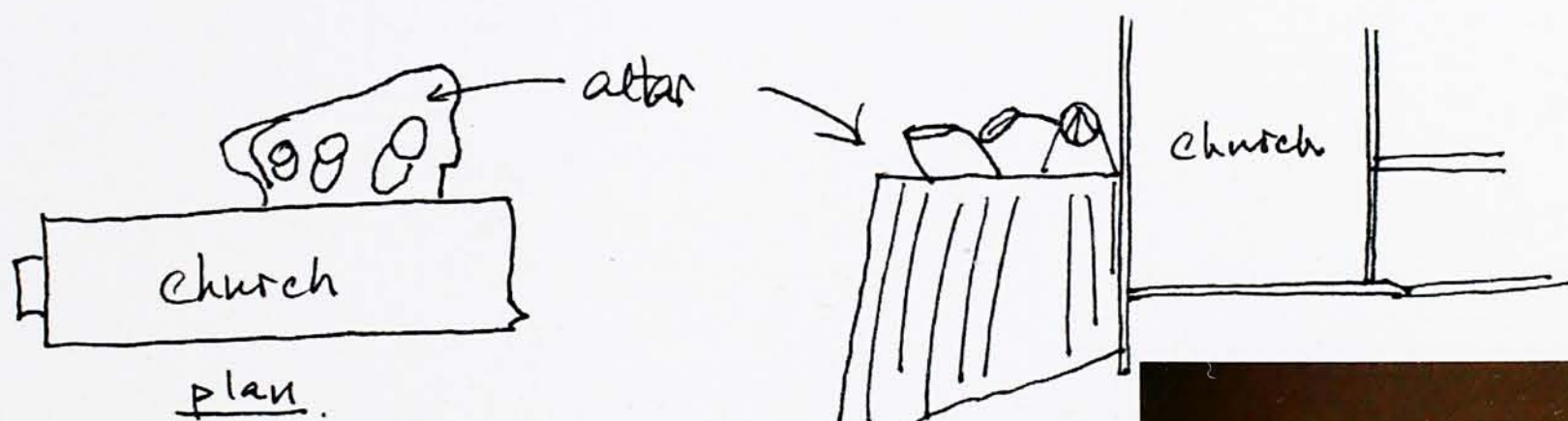
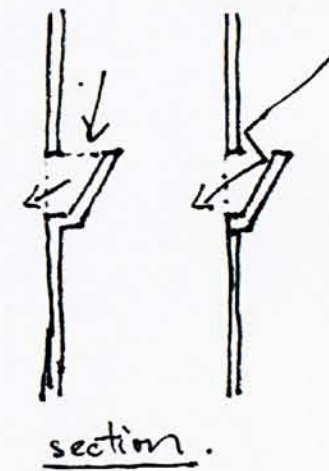
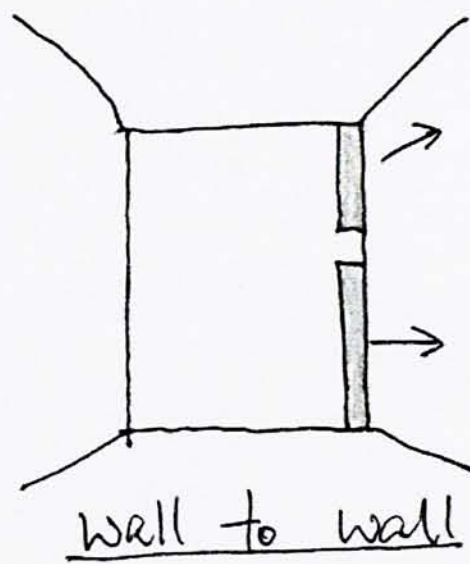
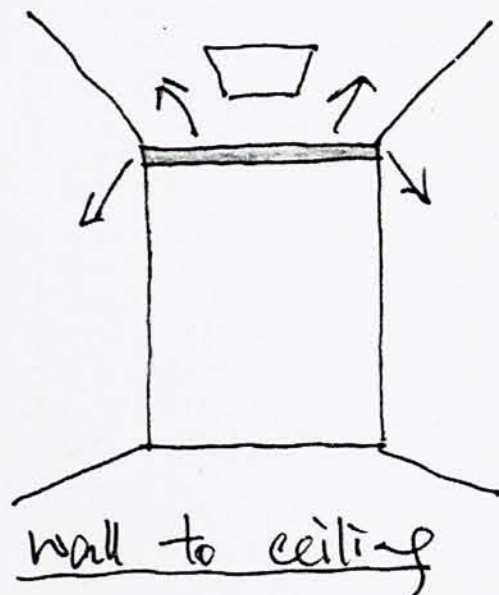
~ Entering from outside, the church seems a stark cavern. It is shrouded in darkness, which stops the visitors' tracks, to adjust to the low light levels and to try to understand and comprehend the space. The contrast of the outer world and the inner world is pronounced

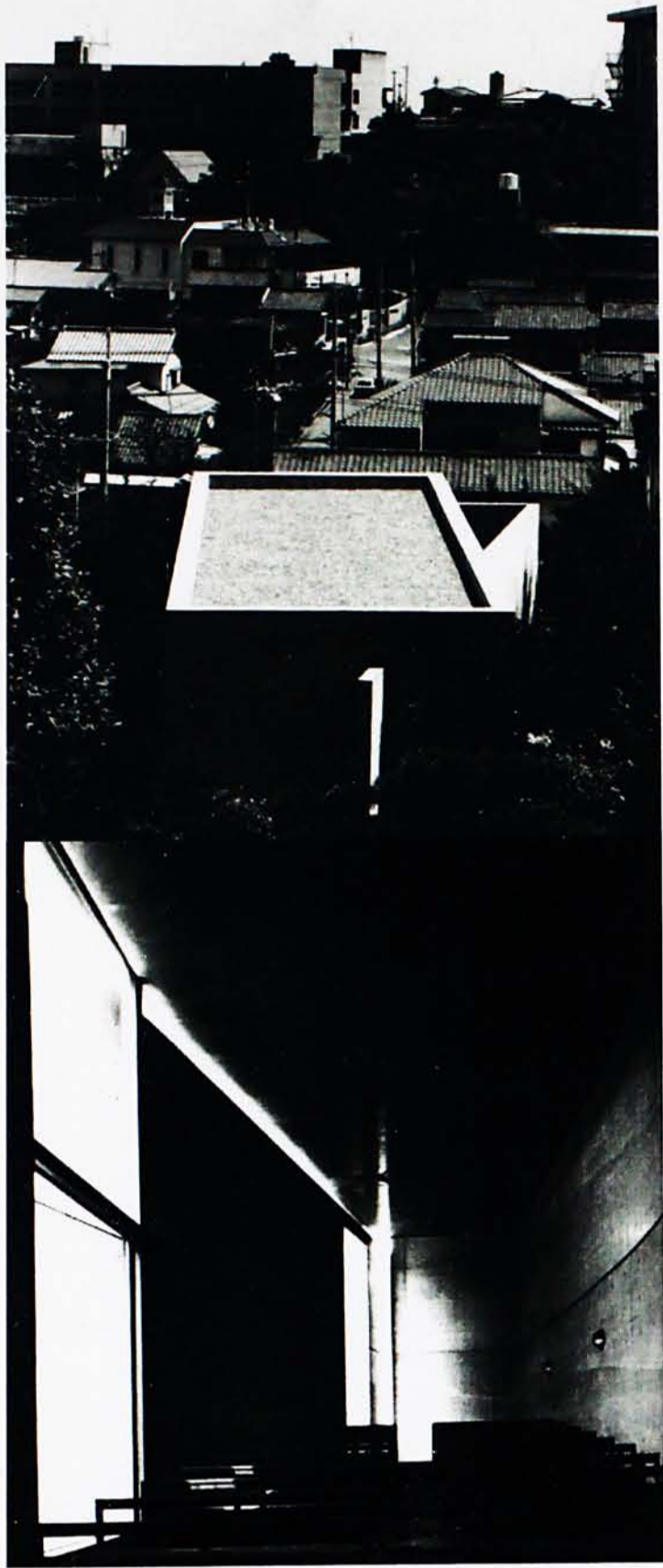
#### *Light & Space ~ connecting inside spaces*

~ In the refectory, the wide glass panels along both sides allow light free to enter across the space and reveal the sky and the view outside  
 ~ The Student-Brothers' Common Room with glazed wall toward the courtyard, where the sense of available space is expanded from the perimeter area, the stair, to the whole room

#### *Light that Directs ~ create a focus*

~ The main altar in the middle is highlighted by its white surfaces of stone that stand out against the dark surrounding





## CHURCH OF THE LIGHT TADAO ANDO

### DESIGN INTENT

"In a quiet residential suburb of Osaka, this chapel is positioned in accordance with the direction of the sun and the location of an adjacent church building. The church consists of a rectangular volume (a triple cube) bisected at a 15-degree angle by a freestanding wall, which defines the chapel and its triangular entrance space."

### STUDIES

#### Principle of Manipulating Natural Light

##### *Light enters along Surface*

~ Light enters from the slit on top of the wall and washes on the ceiling surface

##### *Light enters through Surface*

~ Light enters from the opening of the cross aperture and the full height window on one side of the church

# CHURCH OF THE LIGHT

TADA0 ANDO

## STUDIES

### Light Revealing Form

#### *Light & Form ~ emphasizing form*

~ Light enters from different way and direction, which balance of the overall illuminance of the church and defines the enclosure, as well as the angled wall

#### *Light & Materials ~ emphasizing and muting materials*

~ The slit on top of the wall allows light to wash on the ceiling surface which highlights the smooth concrete finish

~ The surface of the wall is muted by the bright light, which enters through the wall with the horizontal and vertical openings forming a crucifix

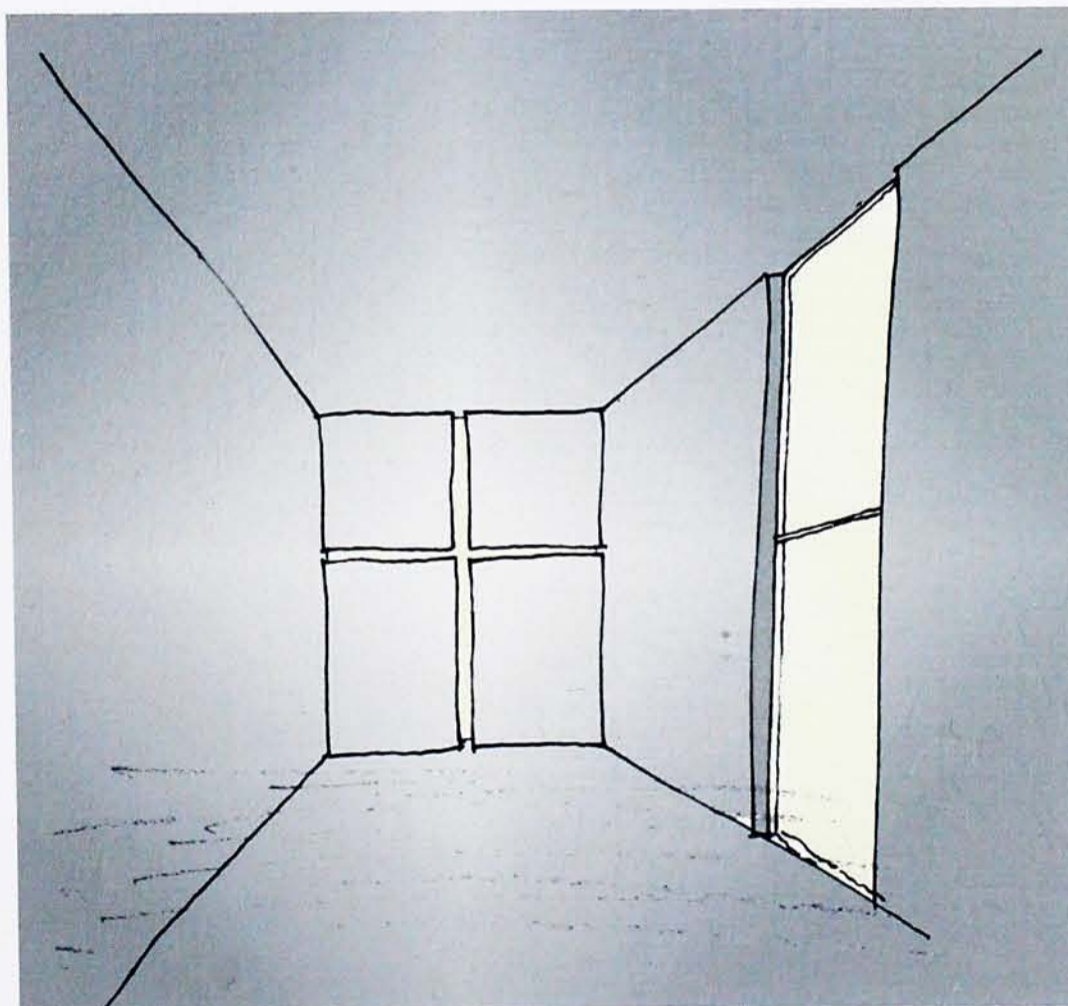
### Light Revealing Space

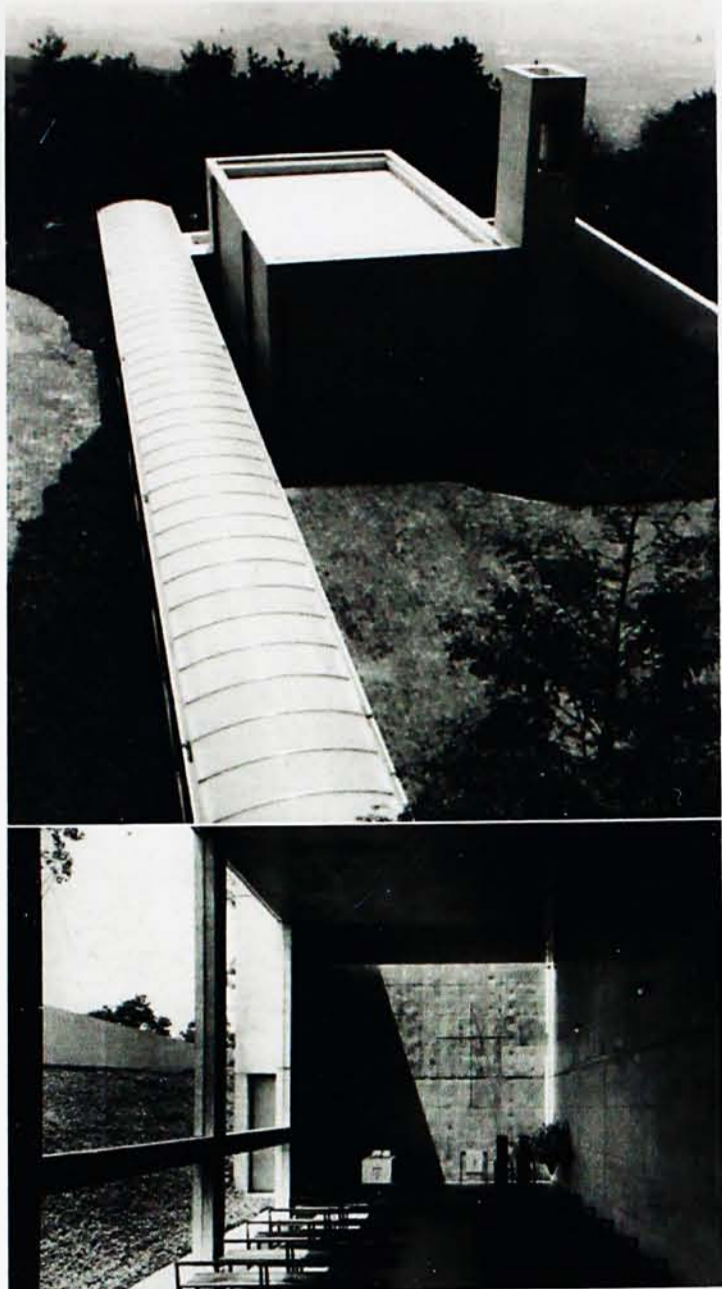
#### *Light & Space ~ separating inside and outside*

~ The inside and outside space is separated without any visual contact, while the light is introduced to emphasize only on the simplicity of the inside space

#### *Light that Directs ~ create a focus*

~ The cross aperture flooding with light, shimmering as a focus behind the altar of the church





## CHAPEL ON MT. ROKKO TADAO ANDO

### DESIGN INTENT

"The building is composed of the church and a bell tower, a connecting colonnade, and a freestanding wall enclosing the surrounding greenery. ... The chapel is a concrete mass, and the colonnade is an extended glass box. ... The theme of this design is a directionality leading from light to shadow, the contrast between light and darkness."

### STUDIES

#### Principle of Manipulating Natural Light

##### *Light enters along Surface*

~ Light enters through the slit on the edge of the ceiling to the surface of the walls at both end, except to the entrance and from one end of the wall to the surface perpendicular to the gap

##### *Light enters through Surface*

~ Light enters through the large window on one side

**CHAPEL ON MT. ROKKO**

TADA0 ANDO

**STUDIES****Light Revealing Form****Light & Form ~ emphasizing form**

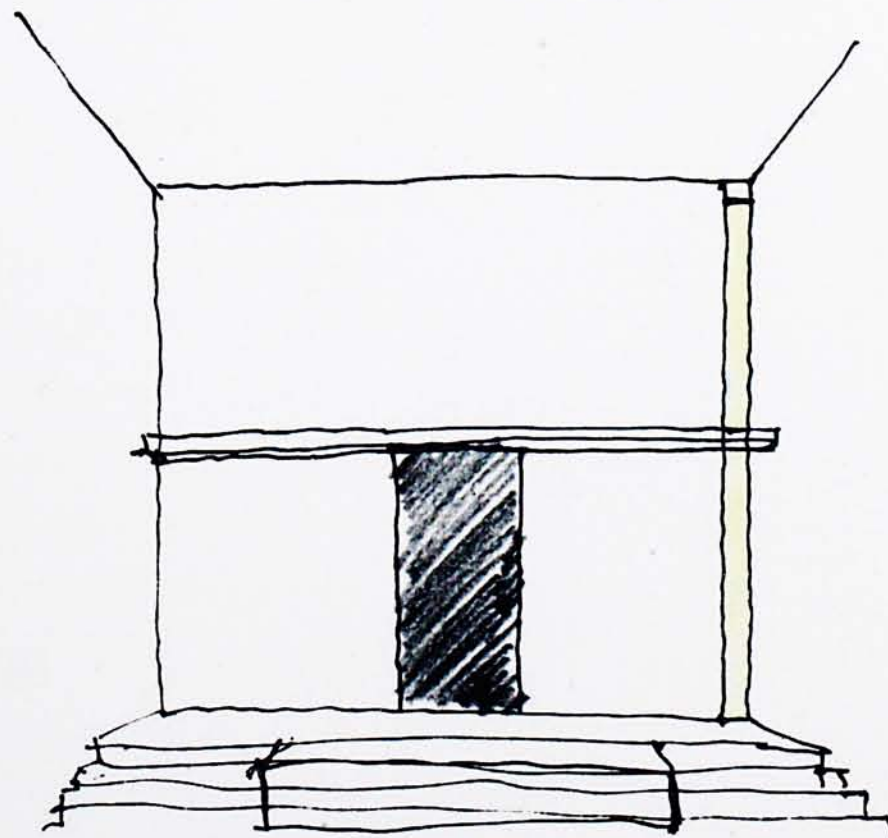
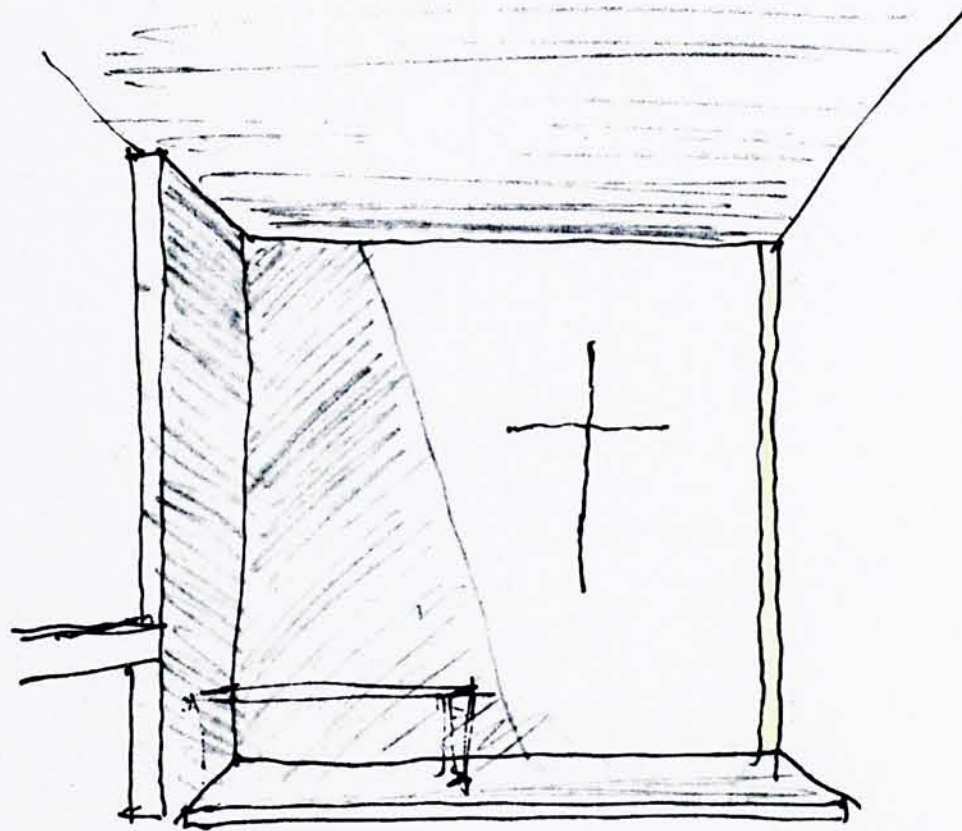
~ The form of the building is clearly revealed, the concrete mass of the chapel and the glass box of colonnade.

**Light & Materials ~ emphasizing materials**

~ The concrete wall is highlighted under the light washing down from the slit at the edge of the ceiling on both end of the chapel

**Light Revealing Space****Light at the Boundary ~ connecting inside and outside**

~ The large opening on one side of the chapel, with a distinct cross-shaped post and beam, which creates a cruciform shadow to the inside and also allows view to the landscape outside





## SARPHATISTRAAT OFFICES IN AMSTERDAM STEVEN HOLL

### DESIGN INTENT

"The concept 'Patterns in a Chromatic Field' inscribed in a rectangular 'sponge' establishes a series of perspective overlapping interior spaces animated by 'phenomenal screens of color'. The multiple layers of porous materials allowing light to bounce between the building layers, forming a mutable 'chromatic space' between the inner and outer layer."

### STUDIES

Principle of Manipulating Natural Light

*Light enters through Surface*

~ Light enter through the perforated aluminium screen and windows opening

## SARPHATISTRAAT OFFICES IN AMSTERDAM STEVEN HOLL

### STUDIES

#### Light Revealing Form

##### *Light & Form ~ emphasizing form*

~ The hollowing out on the facade show a strong geometry and massive feeling of the building

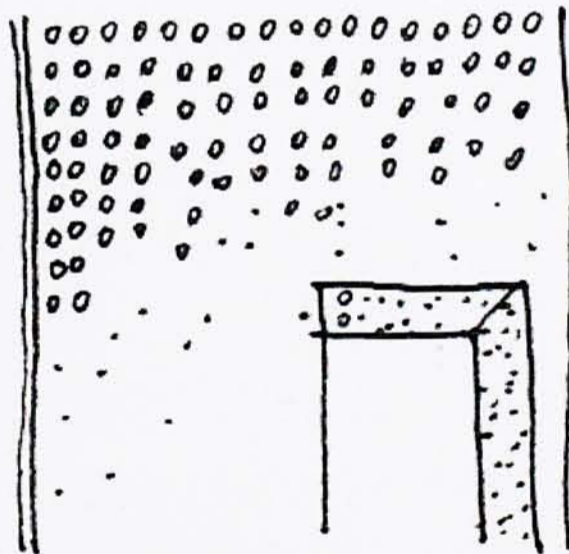
##### *Light & Materials ~ emphasizing materials*

~ The perforated aluminium screen allow light to enter through the hole of the panel, which highlights the feature of the material

#### Light Revealing Space

##### *Light at the Boundary ~ separating inside and outside*

~ Light is screened by the perforated aluminium panel, where at the same time, screening the view from inside to outside





## **SIMMONS HALL AT MIT STEVEN HOLL**

### **DESIGN INTENT**

"Focused on a 'porous building morphology', it called for a row of permeable rather than barrier buildings, interspersed with pocket parks. .... Listing the ideal qualities for Simmons Hall, he supplemented transparency, porosity, and permeability with 'screen, net aperture, passageway, sieve, unrestricted, honeycomb, riddle, sponge, opening, hole, cribriformity, pervious."

### **STUDIES**

#### **Principle of Manipulating Natural Light**

##### ***Light enters along Surface***

- ~ Light enters from the skylights and washes on the sculptural surface of walls around, then fills up the lounge and study spaces

##### ***Light enters through Surface***

- ~ Light enters through the clear glass of the standard windows, as well as the perforated aluminium panels



# SIMMONS HALL AT MIT

## STEVEN HOLL

### STUDIES

#### *Light Revealing Form*

##### *Light & Form ~ emphasizing form*

~ The 'porous' building allow light to seep through all of the space in the building with a strong geometry, form and massive feeling as a whole

##### *Light & Form ~ dematerializing form*

~ The irregular form of the common area, such as terrace, sculptural lounge and study spaces in the building, enhance the spatial dynamism, but the actual form is dematerialized under the changing pattern of light

##### *Light & Structure ~ revealing structure*

~ The rigidity of the building façade reveals the heavy structural system of the building

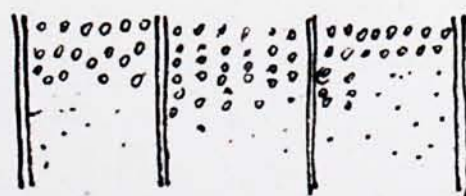
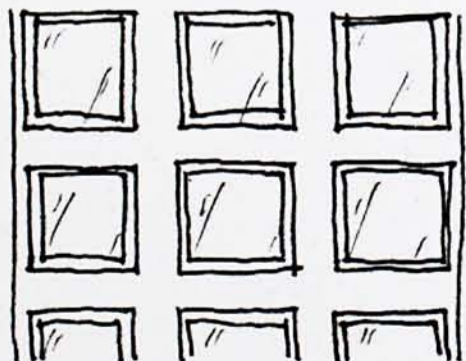
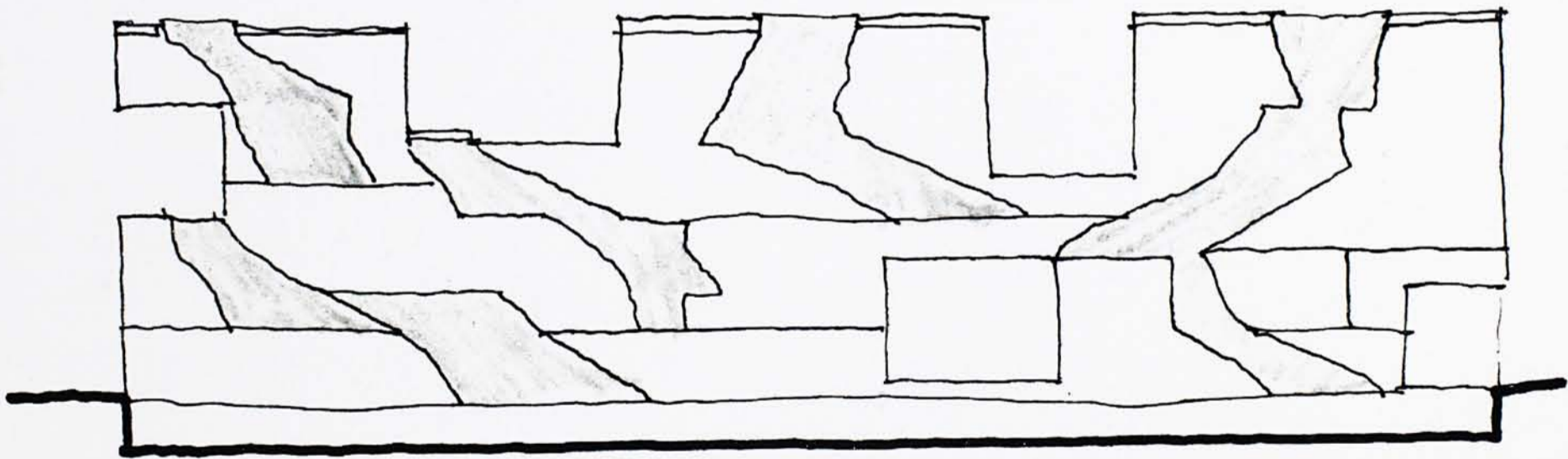
##### *Light & Materials ~ emphasizing materials*

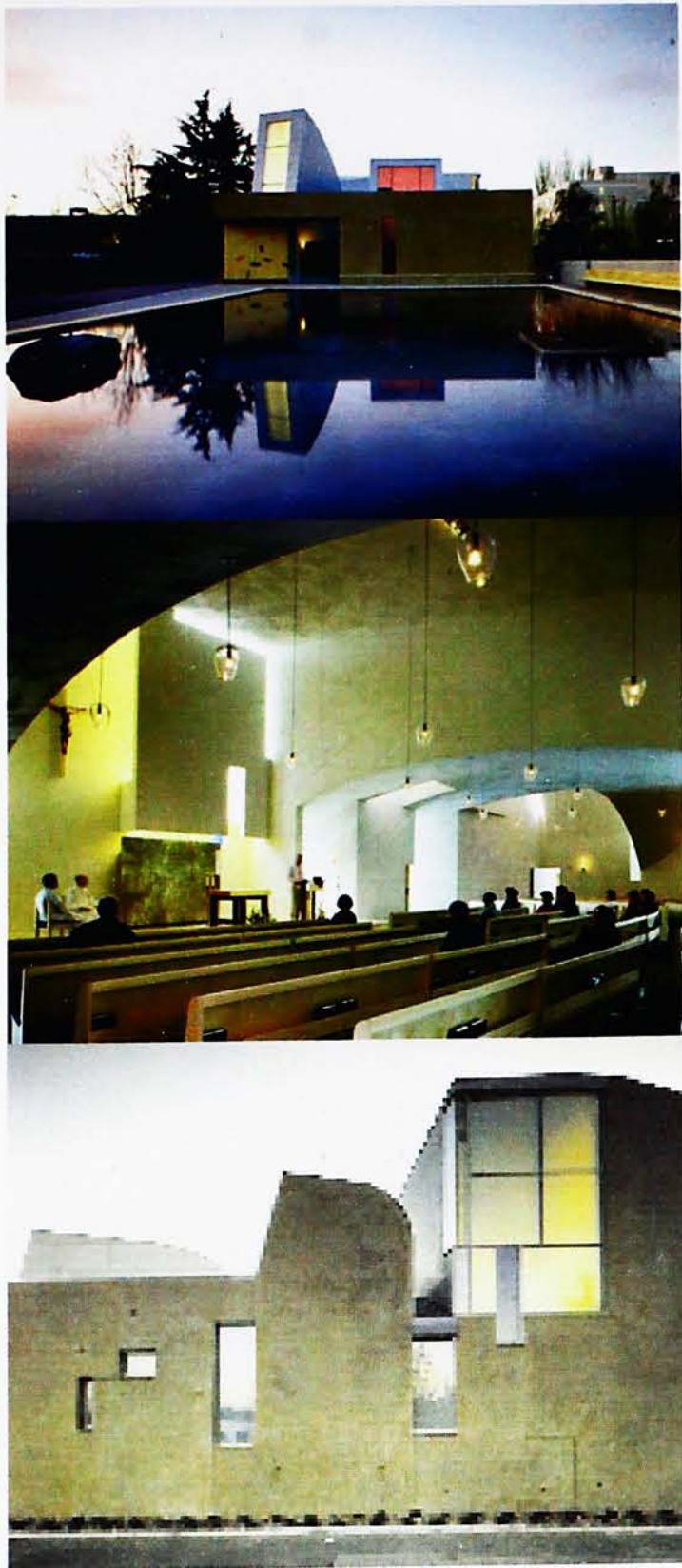
~ The perforated metal rail and the textured concrete wall finish in the lobby are highlighted by the modulation of light and shadow, entering through the heavy grid of window

#### Light Revealing Space

##### *Light & Space ~ unifying space & connecting inside spaces*

~ Light enters from the standard window and throughout the dormitory, from individual room to the communal spaces, both horizontally and vertically





## CHAPEL OF ST. IGNATIUS STEVEN HOLL

### DESIGN INTENT

"In the Jesuits 'spiritual exercises', no single method is prescribed – 'different methods helped different people...' –, here a unity of differences gathered into one. The light is sculpted by a number of different volumes emerging from the roof. Each of these irregularities aims at different qualities of light. ... The concept of Different Lights is further developed in the dialectic combination of a pure colored lens and a field of reflected color within each light volume."

### STUDIES

#### Principle of Manipulating Natural Light

##### *Light enters along Surface*

- ~ Light enters from the opening on walls and the skylight, which then reflects on the colored 'baffle' wall and diffuses on the white surface

**CHAPEL OF ST. IGNATIUS**

STEVEN HOLL

**STUDIES**

## Light Revealing Space

*Light at the Boundary ~ separating inside and outside*

~ The inside and outside space is separated without any visual contact, while the light is also transformed in color to create the spiritual mood whenever the time of the day and season, as well as the weather of the outside world

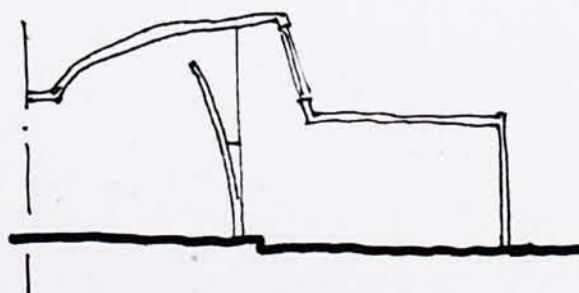
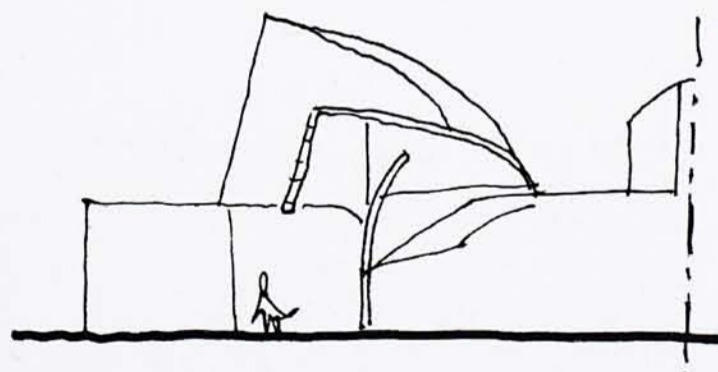
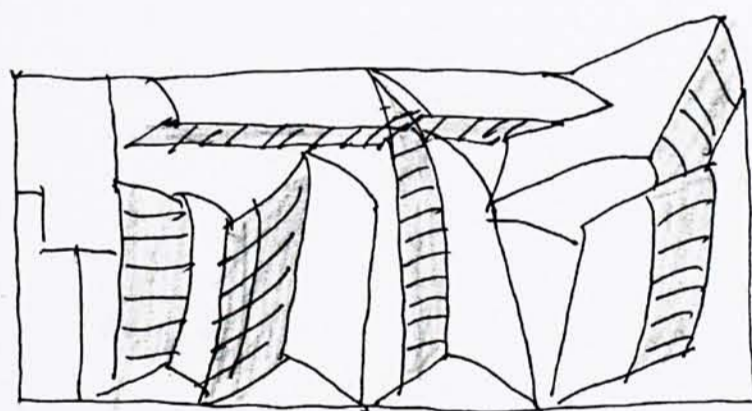
*Light & Space ~ differentiating space*

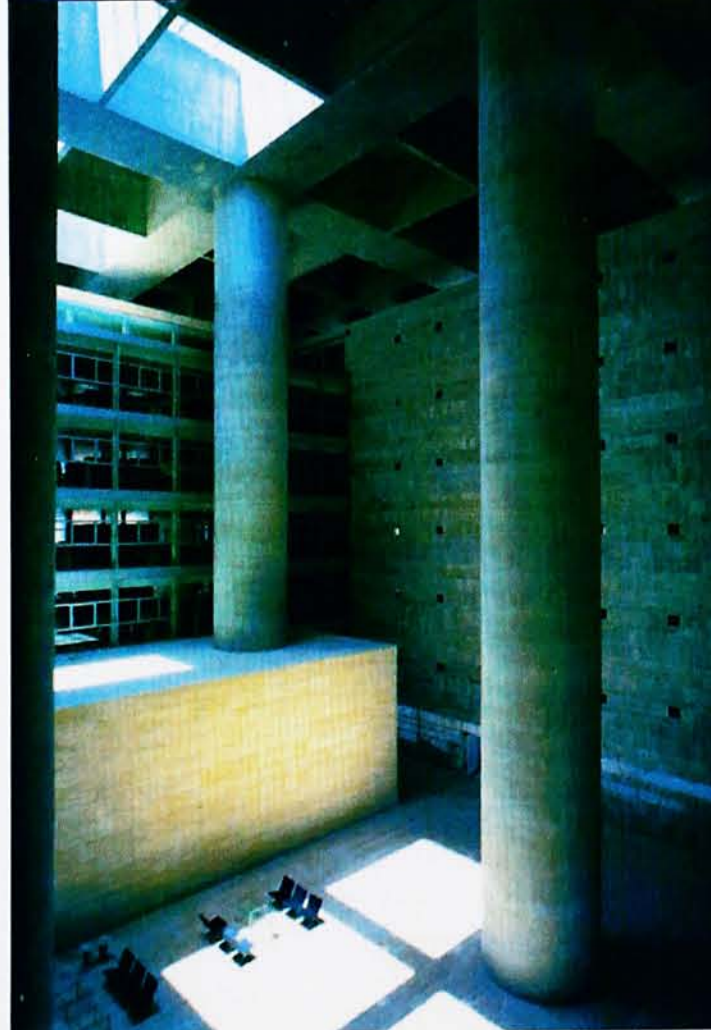
~ The concept of 'Seven Bottles of Light in a Stone Box' is gathering different light into the spaces, the spaces inside are defined with the differentiation of various diffusion of lighting color

I.	Procession	Natural sunlight
II.	Narthex	Natural sunlight
III.	Nave	Yellow field with blue lens on east side Blue field with yellow lens on west side
IV.	Blessed Sacrament	Orange field with purple lens
V.	Choir	Green field with red lens
VI.	Reconciliation Chapel	Purple field with orange lens
VII.	Bell Tower and Pond	Projecting, reflecting night light

*Light that Directs ~ create a focus*

~ The cross and altar become a focus with gloomy light diffusing from the gap of the wall





## BANK IN GRANADA ALBERTO CAMPO BAEZA

### DESIGN INTENT

"Viewed from the orbital motorway, the Caja establishes its immediate presence as a concrete anchor in a sea of suburbanization, an autonomous object but one alluding to both the Alhambra and Granada's sixteenth-century cathedral. From the exterior, the Caja is perceived as a dense cube perforated to the south like an orthogonal honeycomb; a consistent brisesoleil, 3m deep wall to the south-east and south-west; a pale grid in which flush horizontal strips of glass and travertine create sheer eight-sotrey-high surfaces to the north."

### STUDIES

#### Principle of Manipulating Natural Light

##### *Light enters along Surface*

~ Light enters from the deep-shaft of skylight and flood into the atrium concourse

##### *Light enters through Surface*

~ Light enters through the alabaster panel on the north-east and north-west internal wall, identify the internal corridor at the office and meeting area

##### *Light enters through Mass*

~ Light enters as lighting mass from the deep wall on south-east and south-west wall to the office

**BANK IN GRANADA**

ALBERTO CAMPO BAEZA

**STUDIES****Light Revealing Form****Light & Form ~ emphasizing form**

~ The monolithic form of building and the void space is emphasized through the skylight and volumes of light from the deep wall

**Light & Materials ~ emphasizing materials**

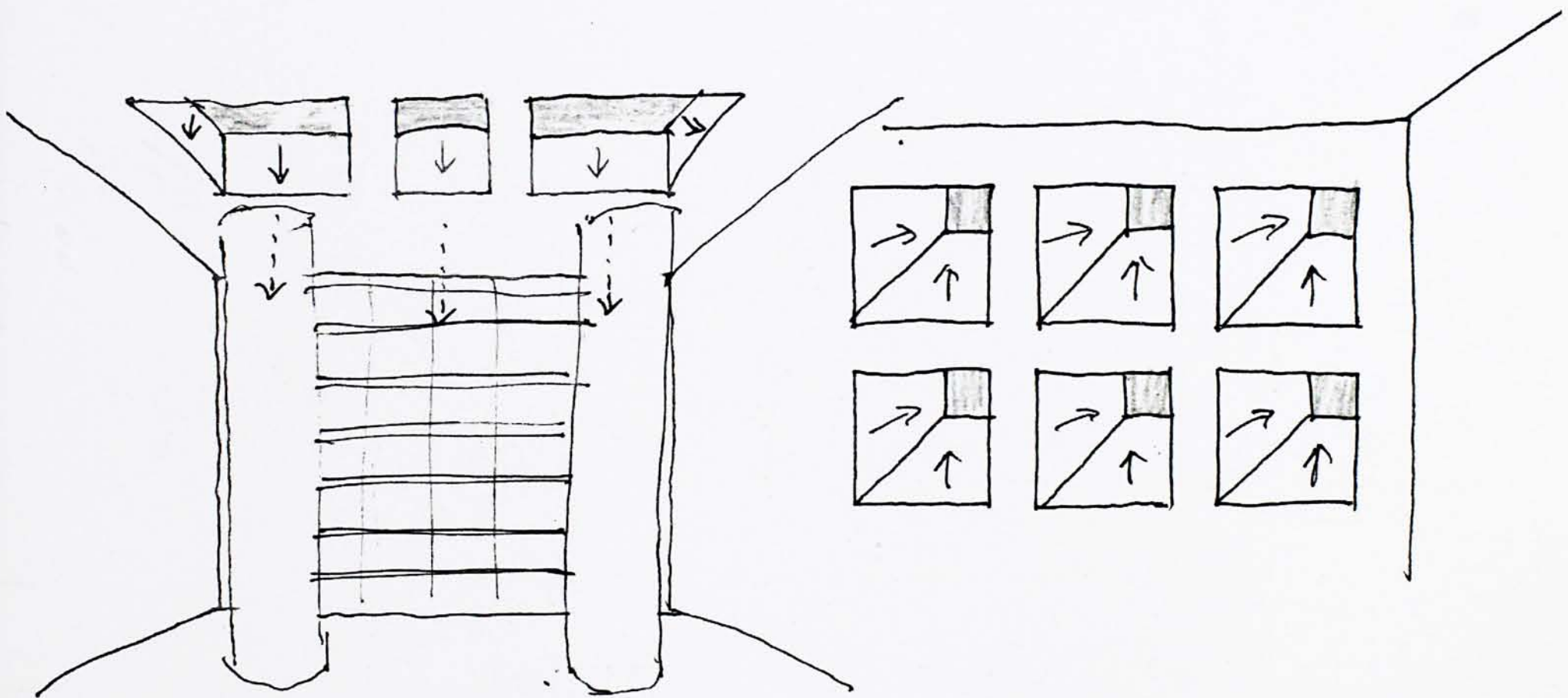
~ The use of alabaster, with its lightly-veined and translucent character, is clearly revealed and emphasized through the design

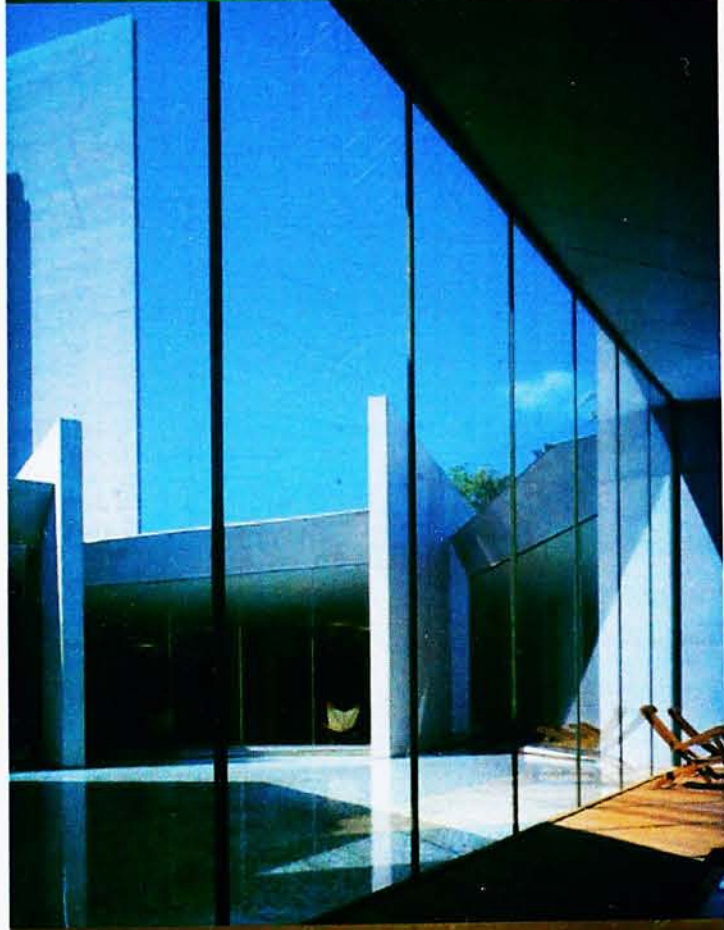
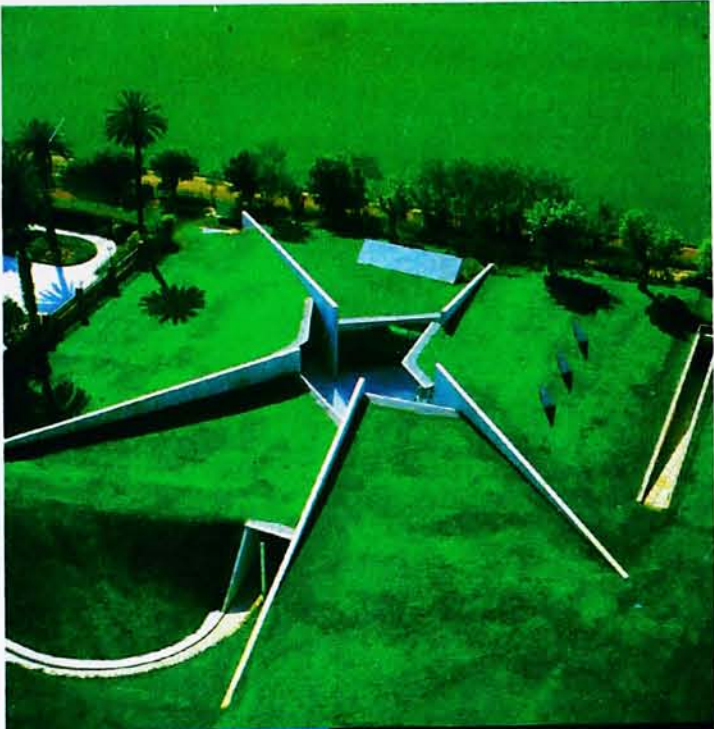
**Light Revealing Space****Light & Space ~ connecting inside and outside**

~ The inside and outside space is connected, where the atmosphere of the atrium concourse is changing with the light coming throughout the time of day, season and weather

**Light & Space ~ unifying space and connecting inside spaces**

~ In the alabaster walls, one small square opening in the middle of each 3m module allows a view from the office corridors into the 'impluvium of light'





**THE FITNESS CENTER IN BARCELONA**  
**CARLOS FERRATER LAMBARRI**

**DESIGN INTENT**

"The building consists of a sports and health centre located on the dunes east of Hotel Rey Juan Carlos I. A large underground concrete box houses the program and a series of white concrete walls, defining different spaces which are interconnected radially by a sunken central star, used to provide daylight to the whole complex."

**STUDIES**

Principle of Manipulating Natural Light

*Light enters along Surface*

~ Light enters from the angled slot on top of the wall in the swimming pool area

*Light enters through Mass*

~ Light enters as lighting mass to the courtyard right in the centre of the building

# THE FITNESS CENTER IN BARCELONA

CARLOS FERRATER LAMBARRI

## STUDIES

### Light Revealing Form

*Light & Form ~ emphasizing form and structure*

- ~ The star-shape building and the five structural wall are emphasized by the void space in the centre

### Light Revealing Space

*Light & Space ~ connecting inside and outside*

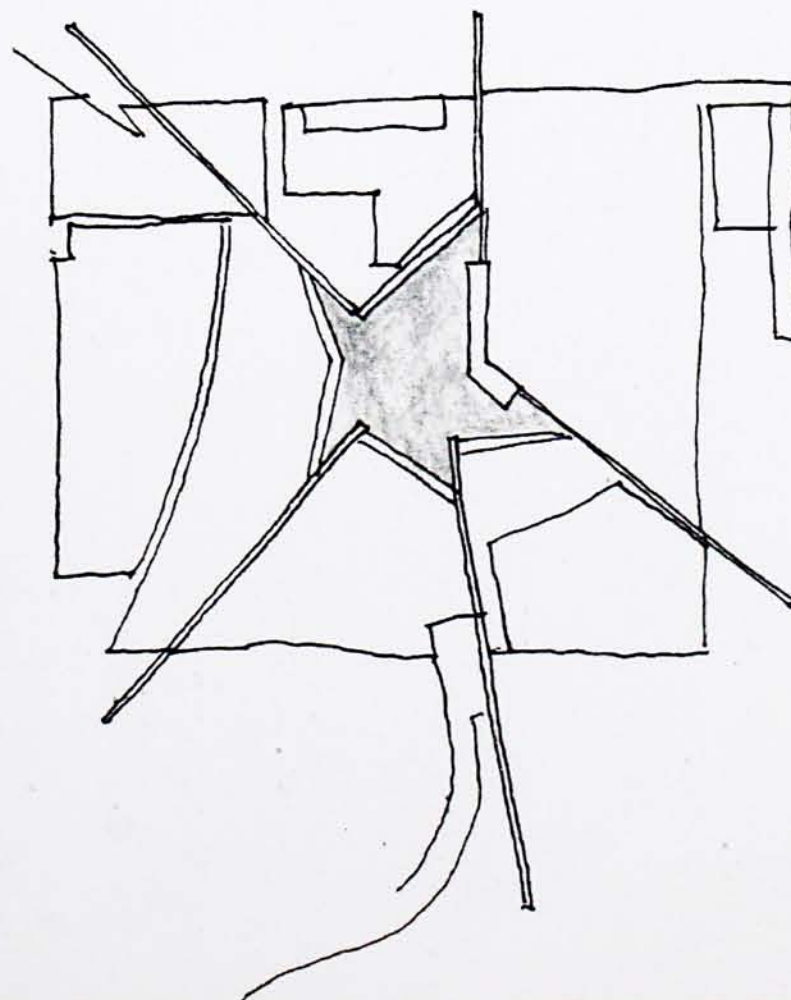
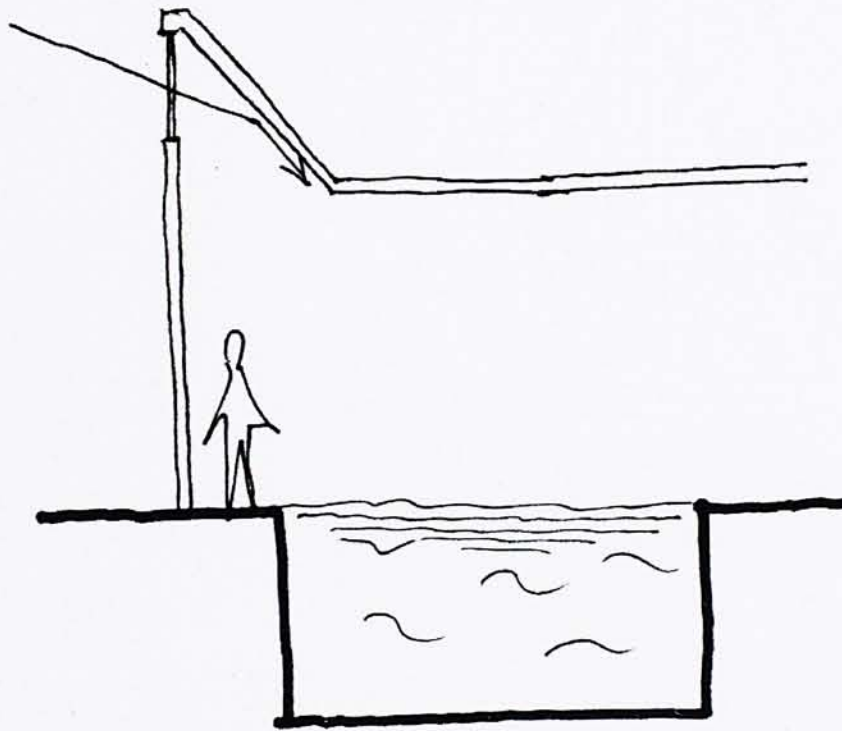
- ~ The inside and outside space is connected, where all the rooms are facing to the pond in the centre of the building, the atmosphere is ever-changing with the light coming throughout the time of day, season and weather

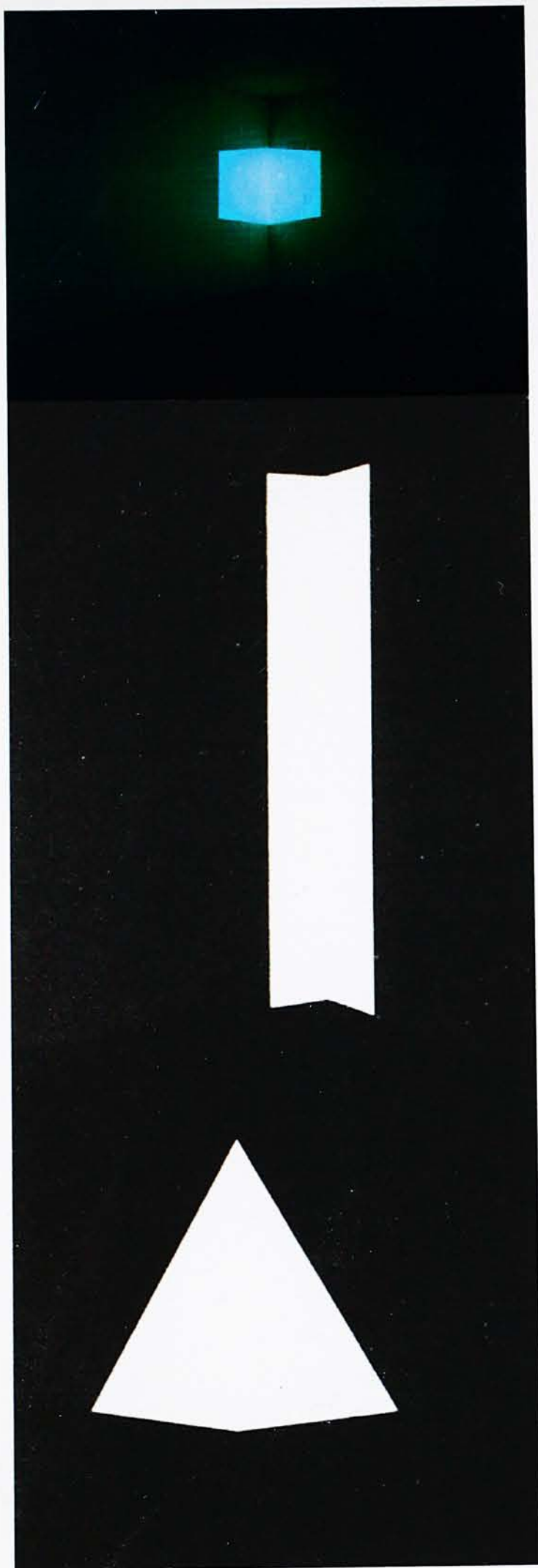
*Light & Space ~ connecting inside spaces*

- ~ The visual connection through the 'light' space in the centre is reinforced

*Light that Directs ~ create a focus*

- ~ The 'light' space in the centre become the focal of the building to both inside and outside





## THE ART OF LIGHT AND SPACE JAMES TURRELL

### DESIGN INTENT

"My works don't illustrate scientific principles, but I want them to express a certain consciousness, a certain knowing. My spaces must be sensitive to events outside themselves. They must bring external events into themselves. I think of my works as being important in terms of what they have to do with us and our relationship to the universe, but not necessarily in scientific terms. I'm concerned with what my spaces direct their seeing to and hence what they direct our seeing to."

### STUDIES

#### Mendota Studio

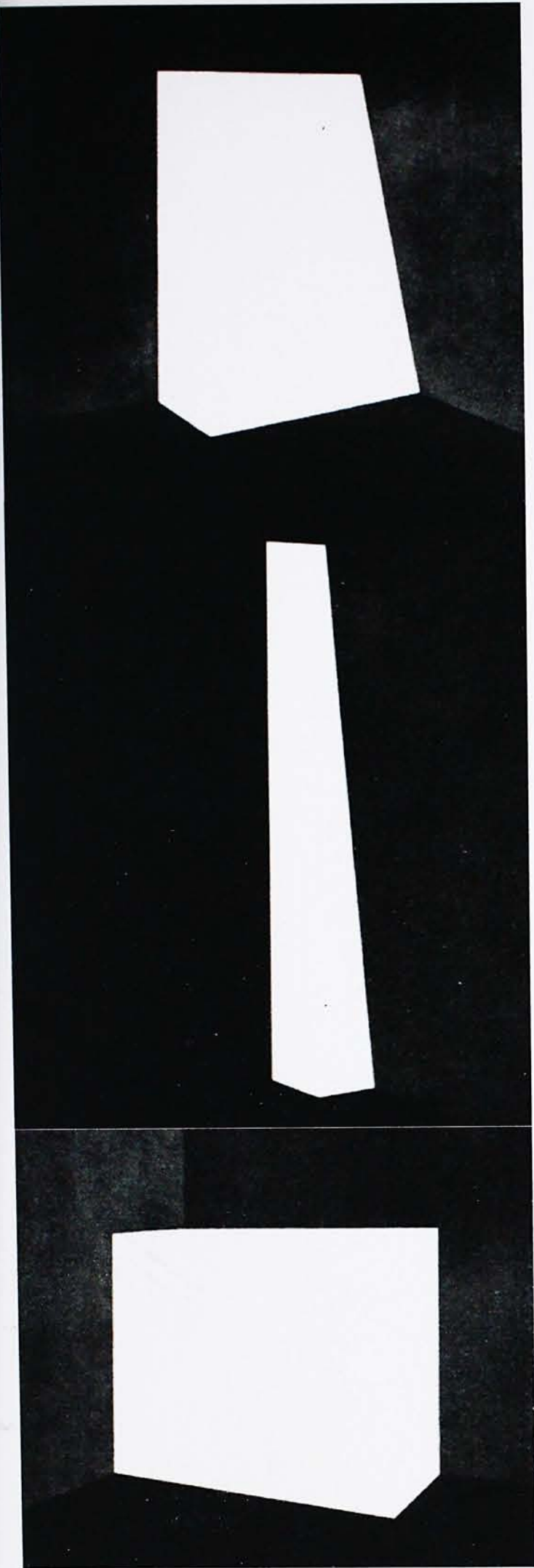
*A pure white box is created by constructing walls directly in front of existing windows and finished with smooth white plaster on all the interior surfaces*

#### *Cross-Corner Projections :*

~ By cutting out different shape at the corner of the middle of two walls and light enters from the back, which give a perception of a hanging light in the space

Projection Pieces - *Afrum-Proto, Joecar, Raethro*





**THE ART OF LIGHT AND SPACE**  
**JAMES TURRELL**

**STUDIES**

Mendota Studio

*Single-Wall Projections :*

- ~ By cutting out at the corner of the two walls and in relation to the floor, the 'lighting' objects appear in the space either seemed to float in front of the wall, attached to the wall, or penetrate the wall

Projection Pieces - *Juke and Enzu, Carn*

## THE ART OF LIGHT AND SPACE JAMES TURRELL

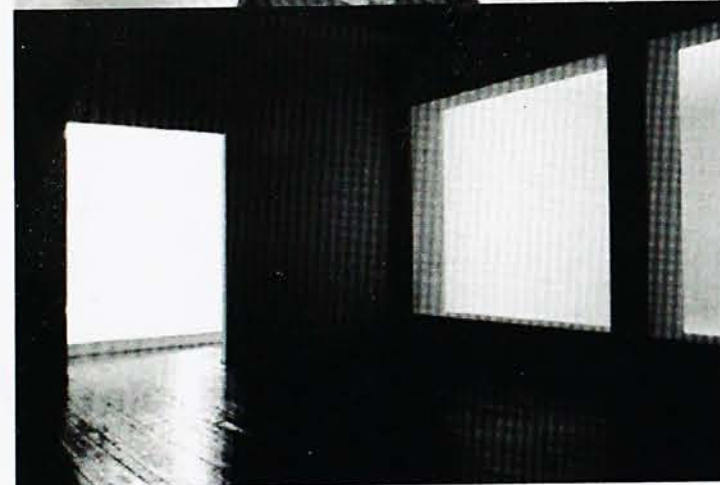
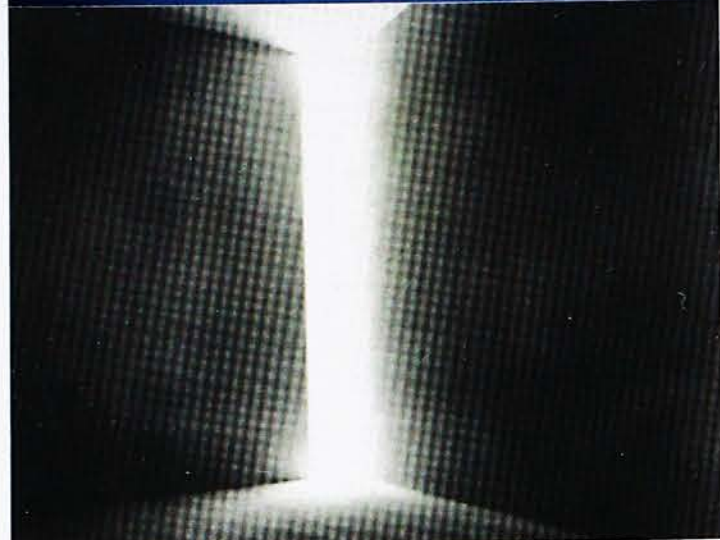
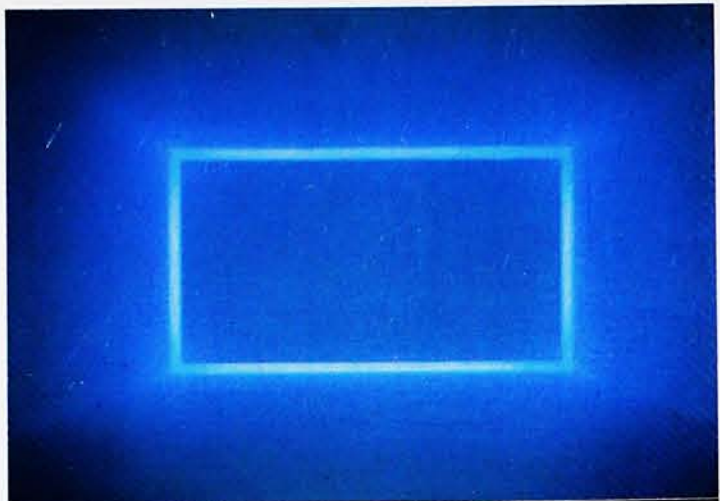
### STUDIES

#### Mendota Studio

##### *Shallow Space Constructions :*

~ To construct a secondary wall in front of an existing wall at the far end of a room, so to allow light to fill the slits at one or more of the edges of the partition

Projection Piece - *Raemar, Ronin, Rondo and Rayzor*



### STUDIES

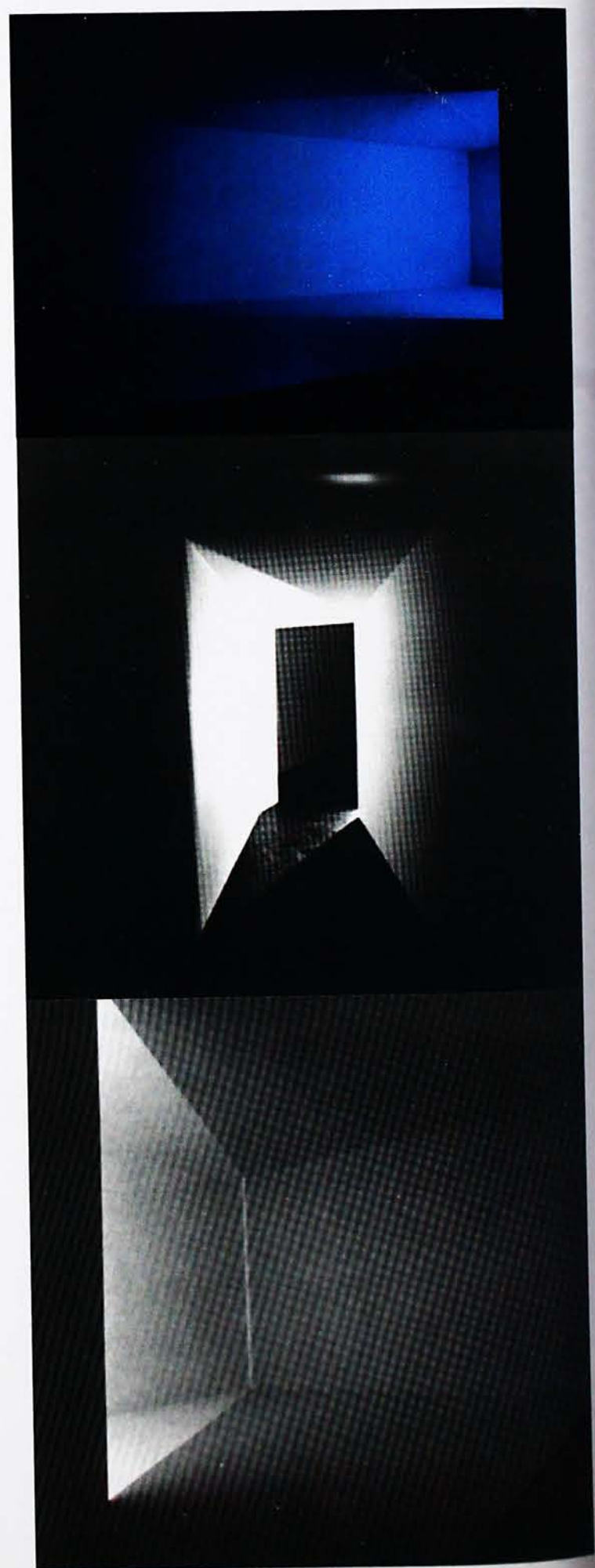
#### Mendota Stoppages

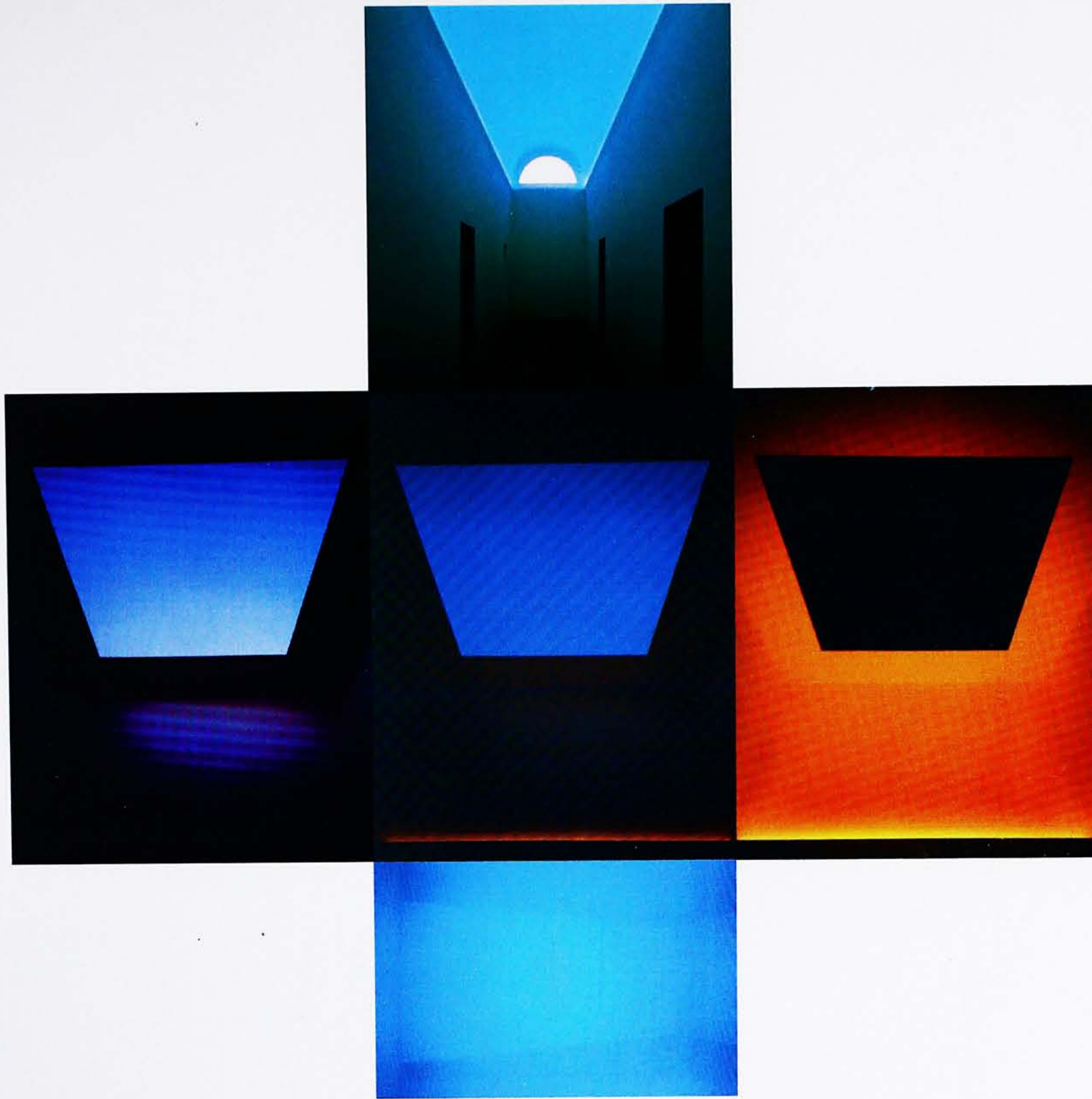
*The experiments are categorized into two major aspect: Night and Day, which aimed to establish direct relationships between inside and outside spaces, by conceptualized in terms of one space 'sensing' the light quality present in another and*

##### *Day Aspect : Wedgeworks I, II & III*

~ To allow light fall across the rooms that divide the interior space along crisp diagonal planes

Others: *Hallwedge, Mikvah*





## THE ART OF LIGHT AND SPACE

### JAMES TURRELL

#### STUDIES

##### Structural Cuts

*By removing a portion of wall or roof of the room in the Mendota Hotel, to experiment light at the immaterial interface between the two different volumes of space - one inside and the other outside the building*

##### Skyspaces :

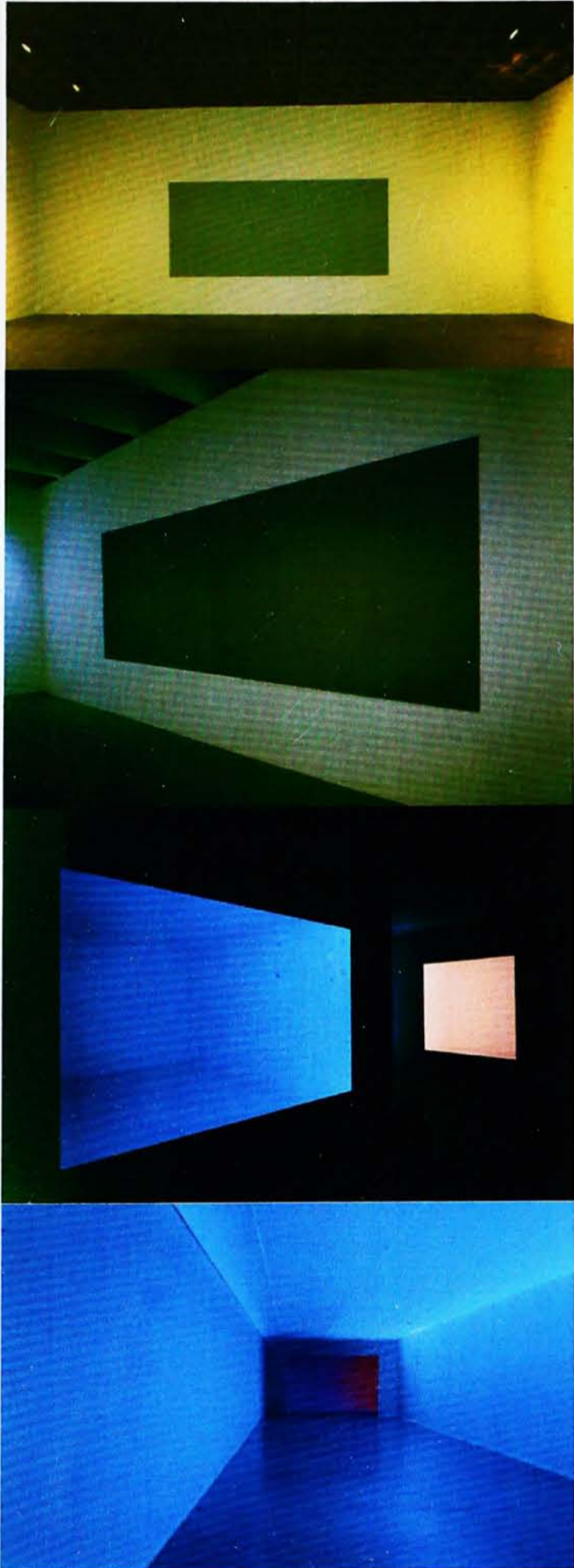
~ The quality of illumination in the sky varies through time and depends on such factors as weather, atmospheric conditions, season, and the position of the sun. By framing an area of sky on the roof or wall, the homogeneous visual field of the empty sky becomes difficult to specify in terms of the distance and location

Installaton: *Lunette, Meeting*

##### Ganzfeld :

~ To create total visual fields inside enclosed studio and gallery spaces without the sky

Installaton: *City of Arbirrit*



## THE ART OF LIGHT AND SPACE JAMES TURRELL

### STUDIES

#### Structural Cuts

##### *Space-Division Pieces :*

- ~ To cut out a rectangular opening on the wall, by placing different qualities of light, so to create a preception of a flat panel hanging on the wall, but as the viewers approach closer, it can be revealed as an opening into a space filling with a mist of light inside

Installation: *Laar & Itar*

##### *Phaedo Series :*

- ~ To generate the space with a combination of ambient light coming from the viewing rooms and direct light from sources hidden inside the sensing spaces; the direct light is either artificial or natural, or a combination of both

Installation: *Orca & Kono, Site-specificity - Blue Walk*



## THE ART OF LIGHT AND SPACE JAMES TURRELL

### STUDIES

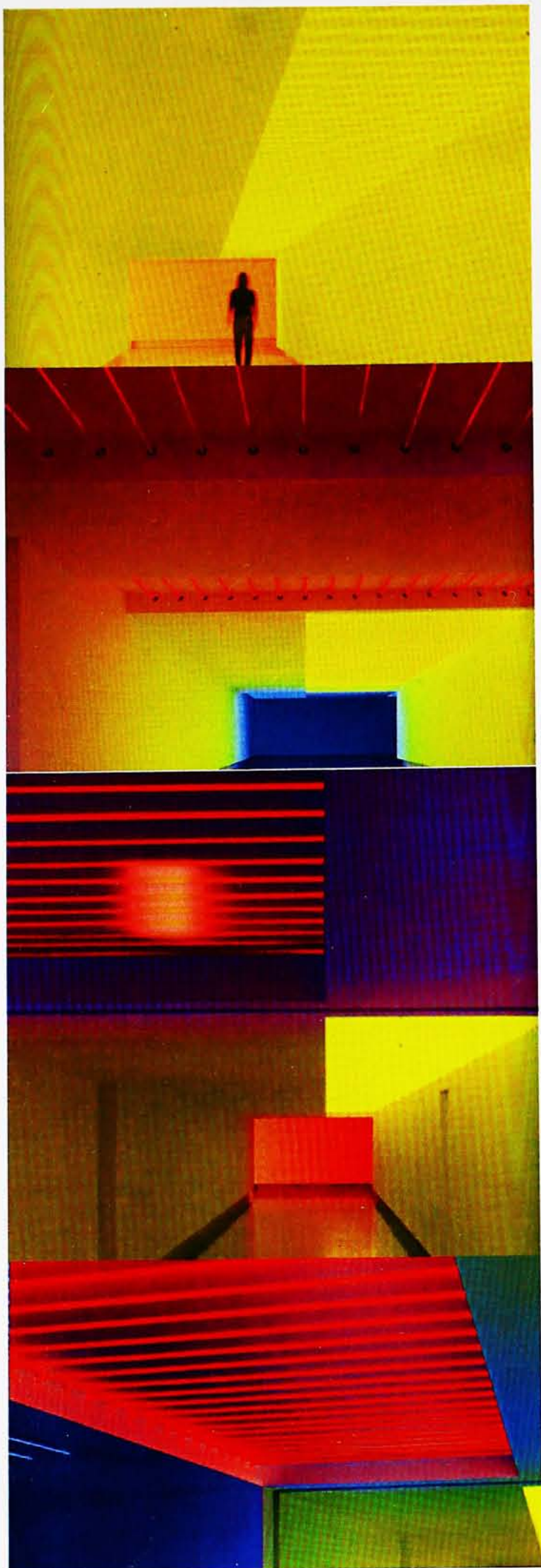
#### Exhibition

##### *Performing Lightworks:*

- ~ Kunsthaus Bregenz, 1997: The Bregenz building by Peter Zumthor, a cube covered with a uniform glass facade, was temporarily illuminated by Turrell with sequences of changing colored light. Light from lamps mounted in the space between the facade and what was actually the inner building was dispersed evenly to the outside through the translucent glass panes, so that the entire surface of the cube radiated with light

##### *The Inner Way:*

- ~ Light installation in an underground passageway of Munich Re, 1999: When walking through, the visitor passes through zones of red, blue and yellow light. Slim frames of colored light, created by fiber optical cables, shape the passage into rooms that seem to be leading into different spheres. Within the passageway, one encounters two domed rotundas and one of them is a *Skyspace*



## REDBLUEYELLOW CORRIDOR

### KEITH SONNIER

#### DESIGN INTENT

"The work was commissioned by Munich Re, the world's largest reinsurance company, as part of its ongoing program of permanent, site-specific art pieces for a 740-meter-long network of underground passageways linking its 10 office building in Munich-Schwabung. The tunnel installations is a symbiosis between art and architecture using light as the medium, which included pieces done by Jame Turrell, Mauricio Nannucci, Rolf Waltz, and four others the subterranean corridors are accessible to company employees on a daily basis and to visitors during special viewings."

#### STUDIES

##### Configuration of the passageway

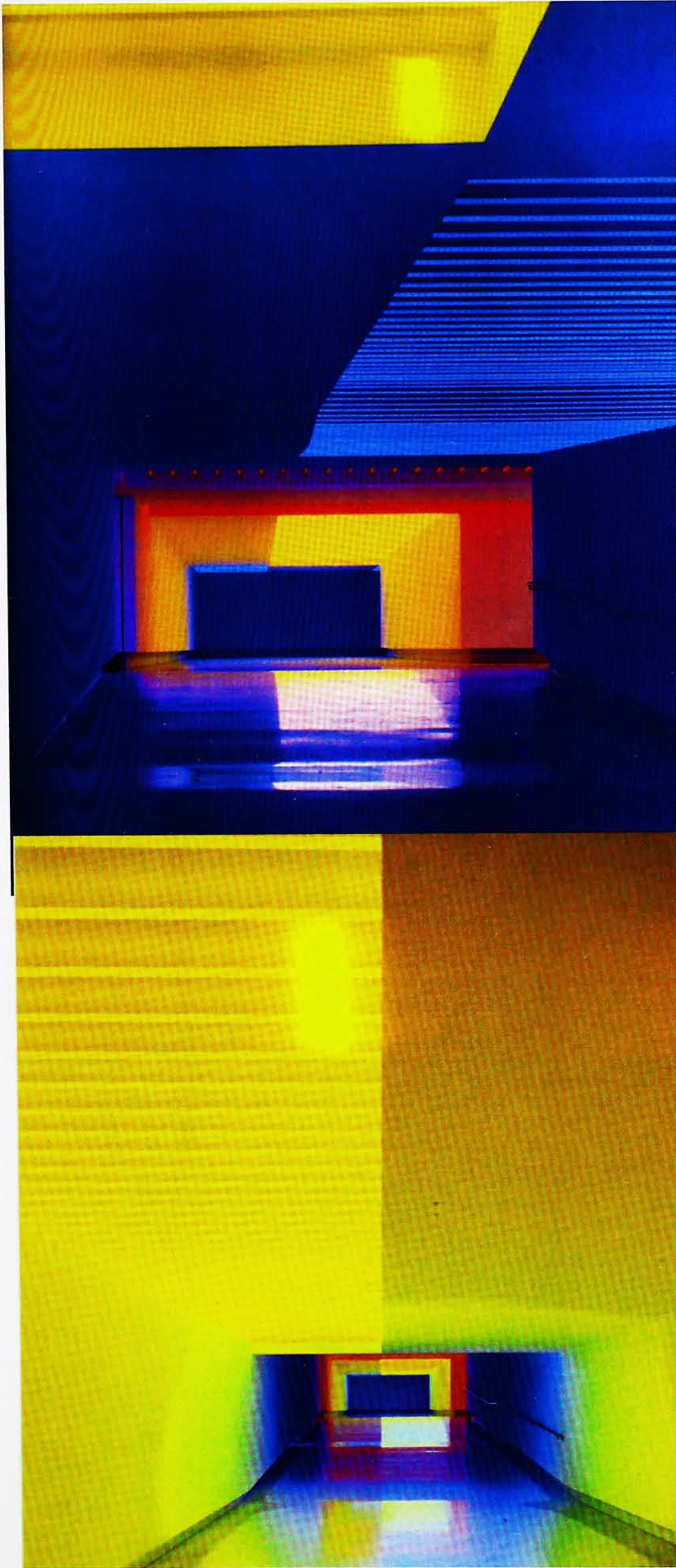
##### *No straight-shot corridor:*

- ~ The configuration of the tunnel is designed with the artist's intention, in lieu of a 'straight-shot' approach, but a more challenging sequence of the passageways, varying in width from 2 to more than 6 meters and punctuated by ramps, multiple turning points and access to elevators and exit stairs
- ~ The series of corridors are constructed as smooth and free of obstruction as possible, to enable the artist to recess the light sources in the ceiling

##### Installation

##### *The Passageway:*

- ~ Parallel light tubes of colored gas are installed perpendicularly overhead the path, evenly spaced that enhance the perspectival convergence and a sense of momentum with the parallel lines, to approach the infinity
- ~ Light spills from one zone to another, blending to form purple where red meets blue, or green where blue diffuses into yellow and so on



PRECEDENT STUDIES - MASS WITH LIGHT






## PRECEDENT STUDIES

### Law Court :

- To study the design of planning the law court, especially, those building with the consideration on lighting desing
- Abstract model to demonstrate the mass of the space and the mass of light




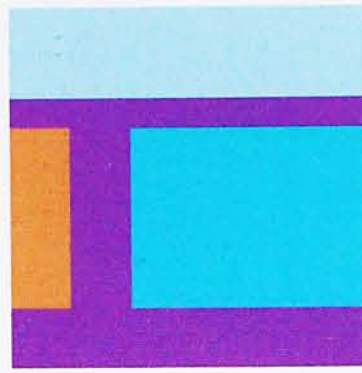
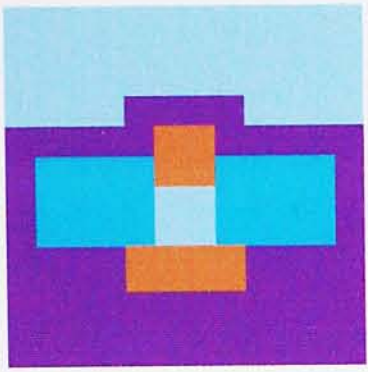
In this part, I would like to study the design of law courts in modern time, in particular on the design of building layout in both functional and spatial organization. In terms of the functional organization, I would categorize the examples into four types: sandwich-type, core-type, courtyard-type and distinct-type; and in each type, there would be an example studying with the spatial organization more specifically in relation to my topic in the thesis proposal, which is 'mass with light'. The abstract models, using with MDF board and wax, which illustrate the relationship between the solid mass and the lighting mass.

 Supportive area  
- office, judges' chamber, etc.

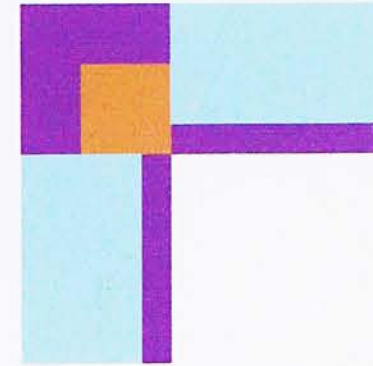
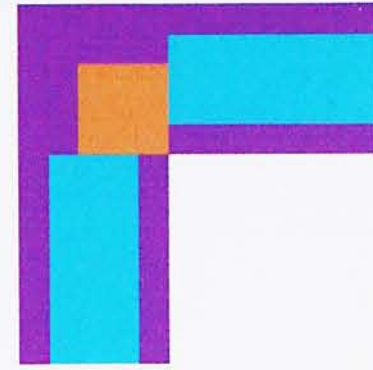
 Courtrooms

 Vertical Circulation

 Horizontal Circulation



*Sandwich-type*



## SANDWICH-TYPE

*Layering of the building is either divided in vertically or horizontally, or even comprises of both dimension*

### Horizontally

#### Front layer

~ This include the public area: lobby, public corridor, waiting hall and/or galleres, which normally have view to the outside and sufficient natural lighting provided

#### Heart

~ Courtrooms are located at the middle layer, with the supportive office on the back and seperate lift for the visitors, litigants, staff members and judges

#### Rear layer

~ Supportive area are located on the rear layer with controlled access to the front layer

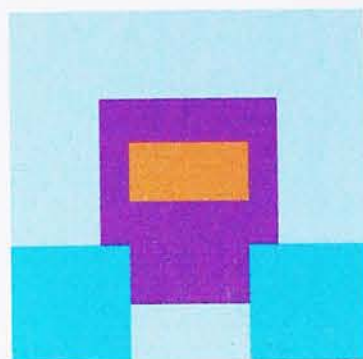
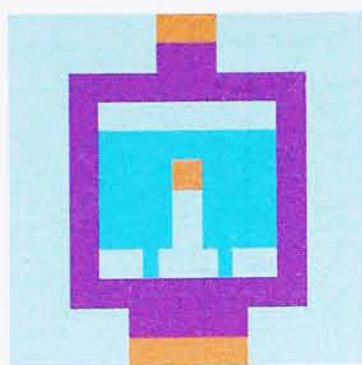
#### Focal

~ There may has courtyard as the focal point, where the building is in a L-shape with natural light came from the two sides

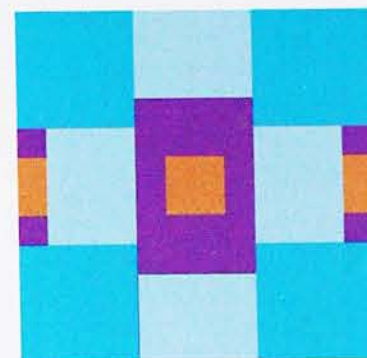
### Vertically

#### Core

~ The vertical circulation are located at the centre of the two wings for the L-shaped layout, or located at one end, which normally divide the front and back circulation for the visitors and the staffs / judges separately



Core-type



## CORE-TYPE

*The core of the building is either the vertical core, the lobby or the courtroom*

### Outer layer

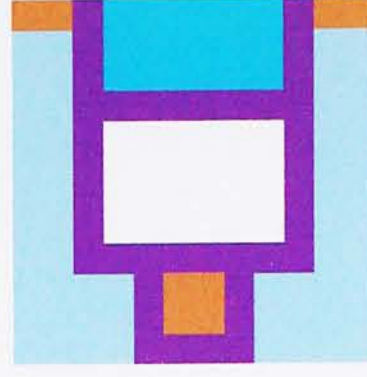
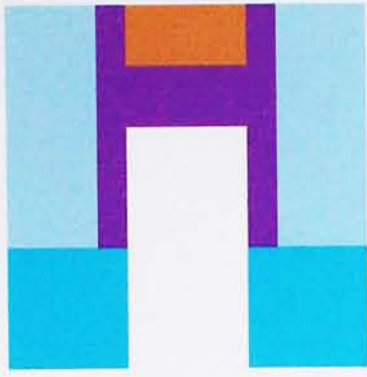
- ~ Supportive area, the offices and judges' chambers are located at the outer layer with separated lifts core for them; the courtrooms are either located on the outer layer as well, while the vertical circulation may located on the centre; or the courtrooms are located at the centre and the circulation are located along the periphery

### Heart

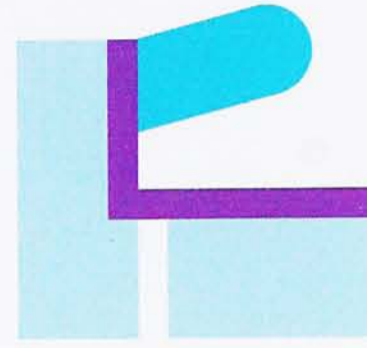
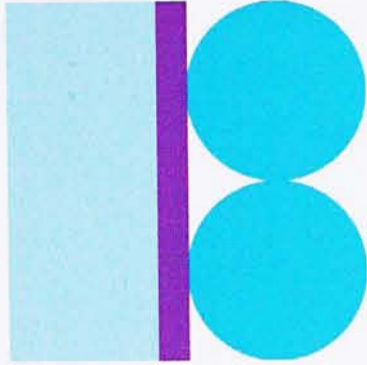
- ~ When the courtrooms are located at the centre of the building, they are isolated from the outside without natural light and there may have separated lift for the prisoners
- ~ When the lobby or vertical circulation became the core of the building, it supports the whole building in a shorter distance and hence increase the efficiency. Moreover, the core at the centre may design with the vault above, where natural light is penetrated to the whole space and the space may become a focal of the building that also imitate the design of meeting hall at the ancient buildings

### Accessibility to security

- ~ Compare of the three type, more vertical circulations may have to provide to separate the access from different users based on the complexity of the law courts required



*Courtyard-type*



*Distinct-type*

## COURTYARD-TYPE

*The courtyard is either 'internal' that enclosed by the building or 'external' that open to the public*

### Focal

- ~ Courtyard become the focal point of the building, where the building is either in a U-shape or an enclosed space with natural light came from around and the centre
- ~ The building layout is similar to the Core-type, but replacing the solid mass at the centre with the void mass; therefore, replacing the courtroom, lobby or lift core with the courtyard

## DISTINCT-TYPE

*The building complex is distinct from each other, so to emphasize in terms of its function*

### Spread-out

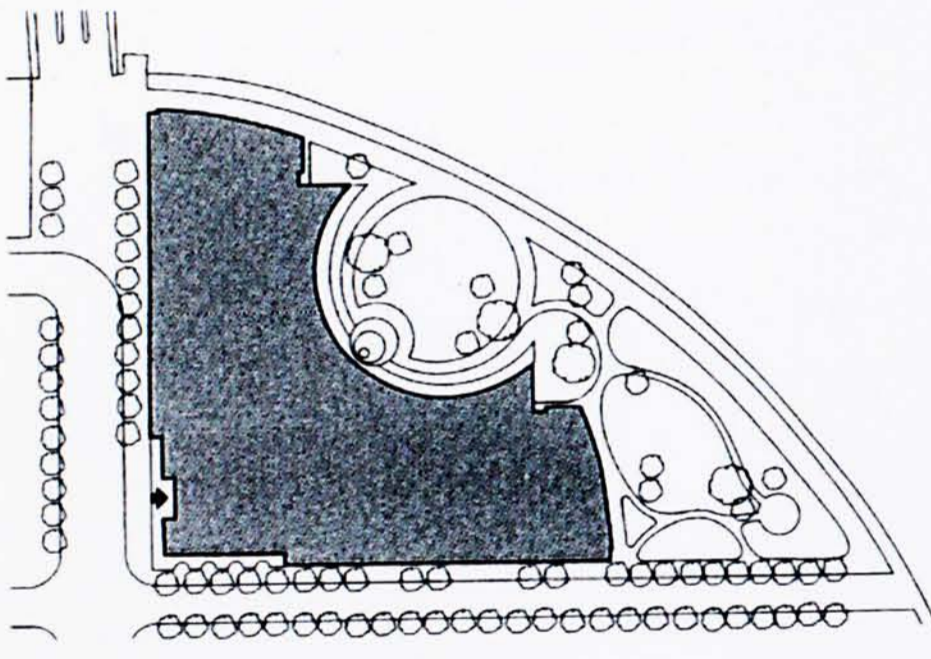
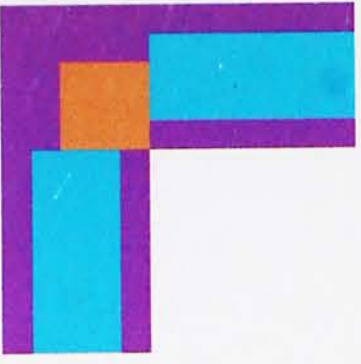
- ~ With more site area, the building complex can be spreaded out with fewer storey, where the supportive area, library, judges' chambers and courtrooms can be separated into several volume

### Courtrooms

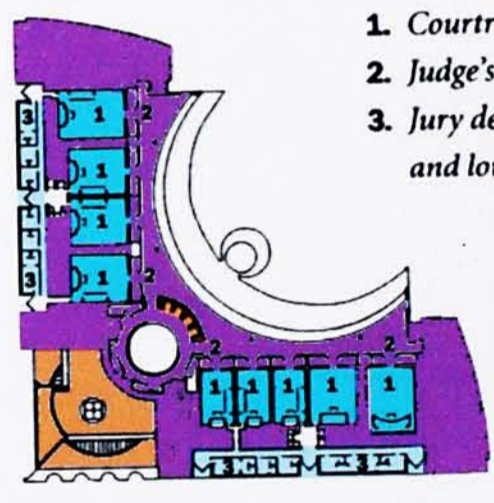
- ~ Courtrooms are designed in special form or placed in different orientation, which easily distinguish from the rest of the building complex

### Focal

- ~ The focal of the building may be an unique form of building block or a courtyard, which located between different volume, as the transitional area of different parts

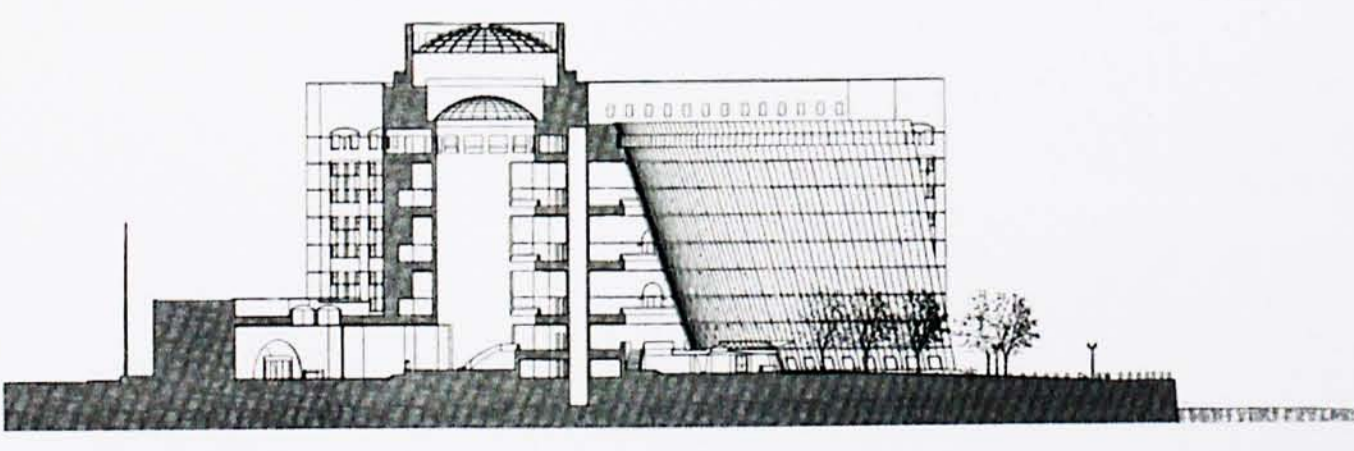


Site plan



- 1. Courtroom
- 2. Judge's chambers
- 3. Jury deliberation and lounge area

7th floor plan



Section

## UNITED STATES COURTHOUSE IN BOSTON

### PEI COBB FREED & PARTNERS ARCHITECTS

#### DESIGN INTENT

"The new Boston courthouse is intended to inspire a new generation of courthouses that will renew enthusiasm for public architecture, and the City of Boston hopes it will spark the redevelopment of a derelict stretch of waterfront. So the United States Courthouse in Boston is simultaneously formal and welcoming, dense and transparent, detached and connected - a three-dimensional representation of the law, as well as being the gateway and focal point of the city."

#### STUDIES

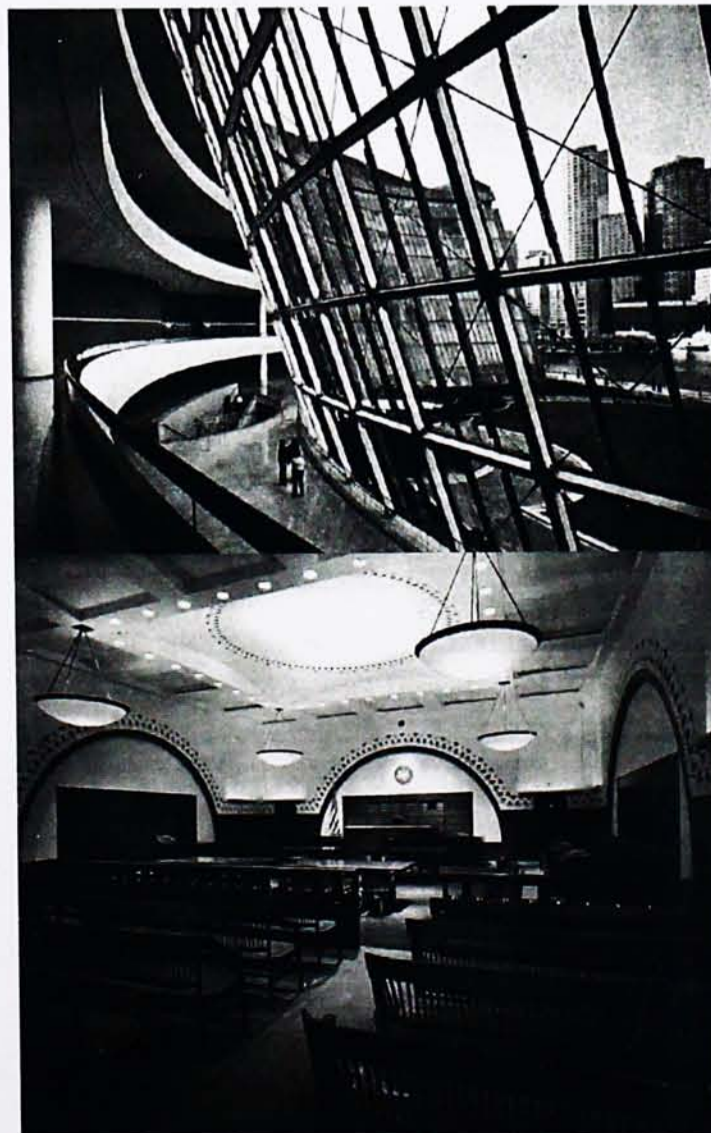
##### Functional Organization

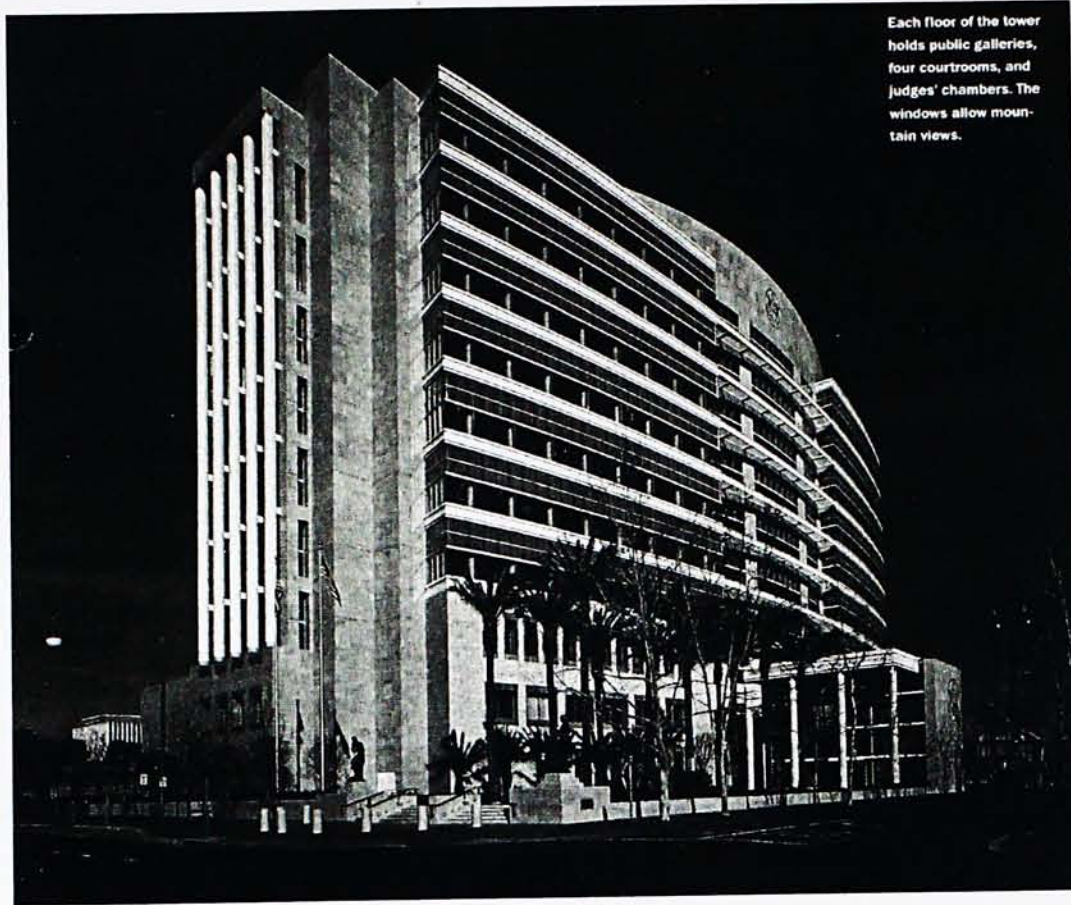
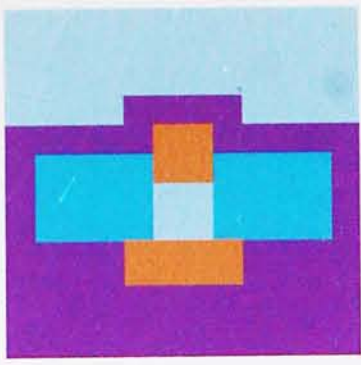
- ~ 27 courtrooms are placed along three semicircular galleries, with two floors of offices for every floor of courts. This arrangement allowed the courtrooms to be large but made the offices and judges' chambers modest
- ~ The main entrance is a collage of round arches and flat planes leading to a dramatic nine-storey rotunda in the center of the building
- ~ The Courthouse is in a L-shape form located on the harbour side, overview to a public park and the waterfront through the conoid window frame, where the public foyer used as the galleries on the lower floors and the judges' chambers on the upper floors

##### Spatial Organization

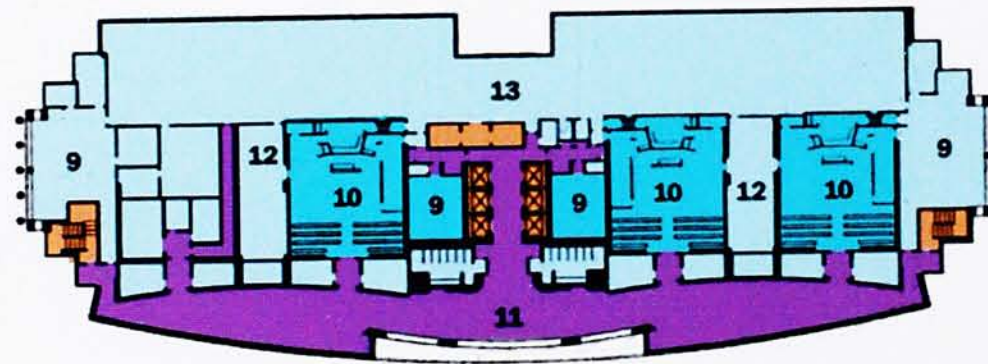
##### *Courtrooms*

- ~ The courtroom are spacious and comfortable that the judge, jury, defendants and spectators are all framed by identical round arches on the wall, signifying that in a court of law no one person is more important than another
- ~ The building seems more intimate in the form and the design of the conoid window, which frame the view of the harbour and the shape of the waterfront park
- ~ The rotunda is designed with the lift core in front, which connects the two wings of the building





Each floor of the lower holds public galleries, four courtrooms, and judges' chambers. The windows allow mountain views.



NINTH FLOOR

- |                         |                     |                       |
|-------------------------|---------------------|-----------------------|
| 1. Lobby                | 6. Conference       | 10. Courtroom         |
| 2. Jury assembly        | 7. Press area       | 11. Public gallery    |
| 3. Jury orientation     | 8. GSA field office | 12. U.S. marshal area |
| 4. Jury waiting area    | 9. Jury room        | 13. Judge's chamber   |
| 5. District court clerk |                     |                       |



## RONALD REAGAN FEDERAL BUILDING & UNITED STATES COURTHOUSE IN CALIFORNIA

ZIMMER GUNSUL FRASCA PARTNERSHIP

### DESIGN INTENT

"The Courthouse building is tried to give a symbols of the past in a modern setting, which straddles two distinct urban area: the old downtown, which features early-1900s low rise retail buildings and a civic centre complex built in the 1960s. The building gestures at classicism, which the row of columns flanking the entry pavilion are a symbolic detail and the pair of bronze nudes on the plaza honor the custom of allegorical civic sculpture."

### STUDIES

#### Functional Organization

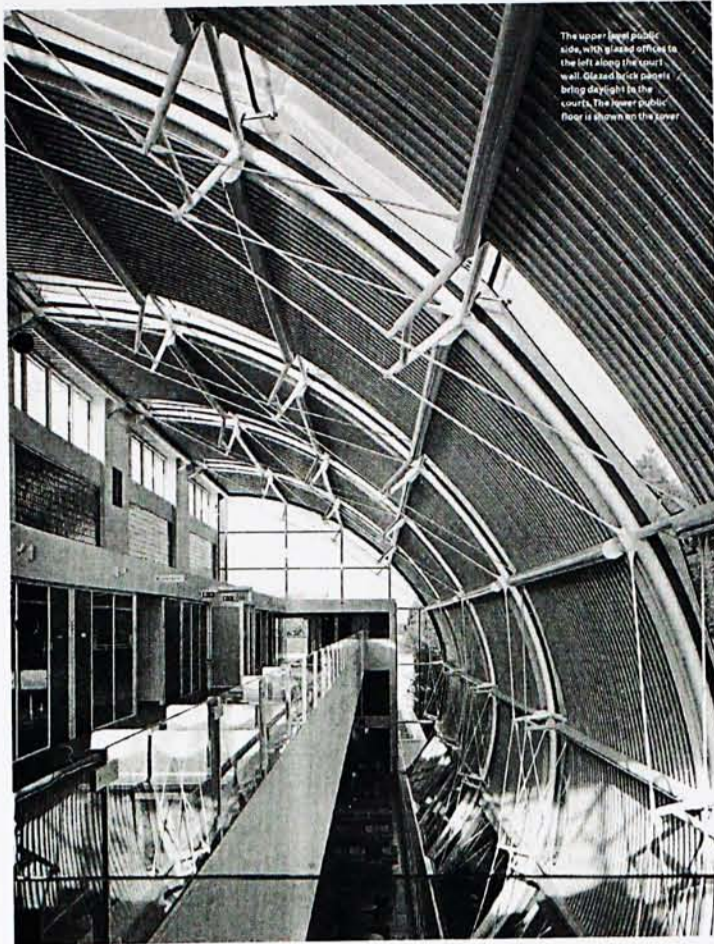
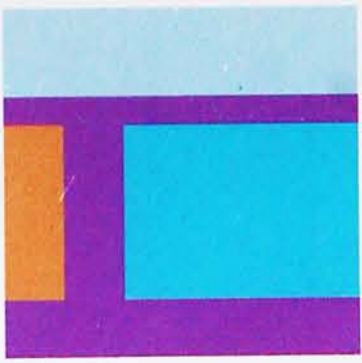
- ~ The tower houses four courtrooms, a public gallery and judges' chambers on each floor
- ~ The building centralizes federal operations in the county, with six courtrooms each for district and bankruptcy courts, two for federal magistrates, and one appeals court
- ~ The building is composed of three vertical layers: public galleries facing south, courtrooms at the center, and judges' chambers to the north

#### Spatial Organization

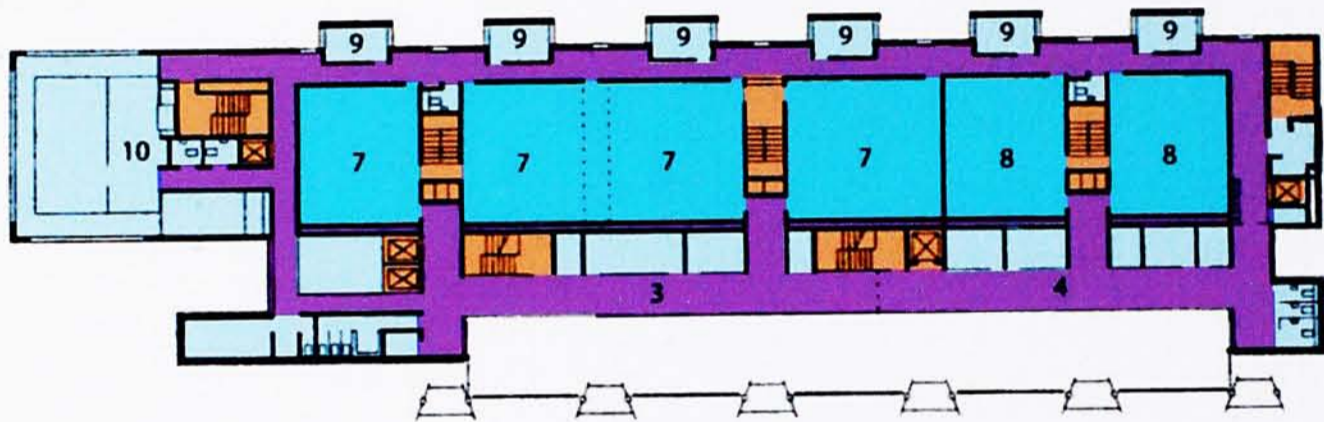
##### *Building block*

- ~ The courtrooms are located at the middle layer, which isolated from the outside, without any visual connection to the exterior
- ~ The south face of the tower is a horizontal grid of green glass and aluminum sunscreens, which allow a beautiful view to the mountain from the galleries and lobby area

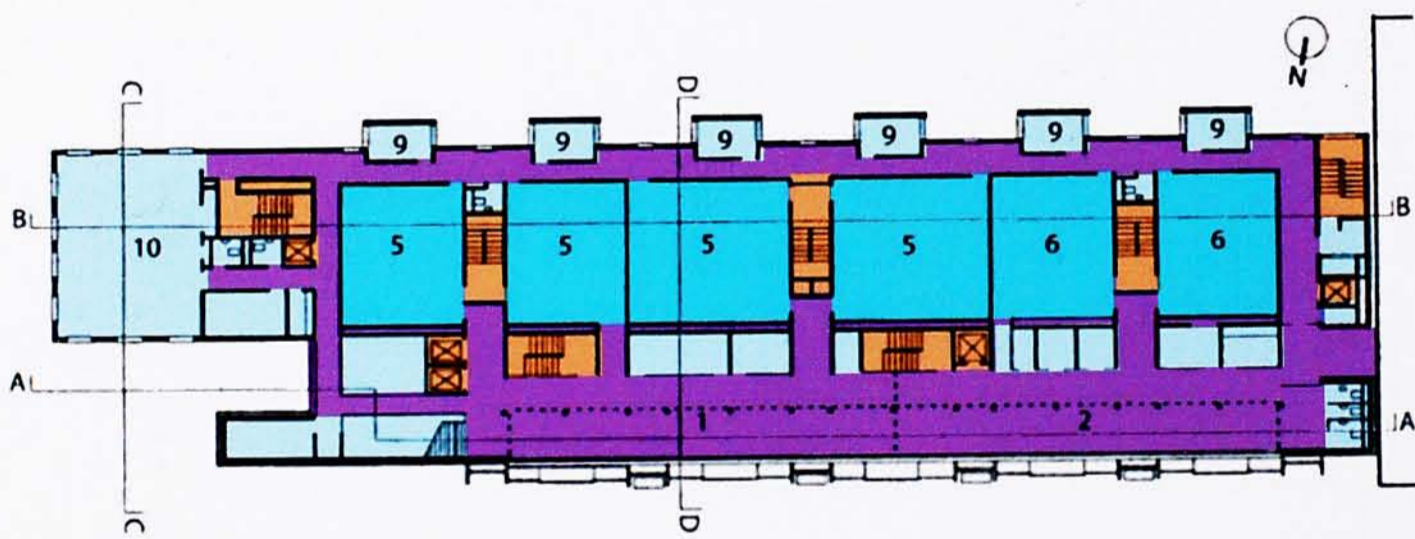




The upper level provides a view of the building to the left along the court wall. Glazed brick panels bring daylight in the court. The lower public floor is shown in the lower

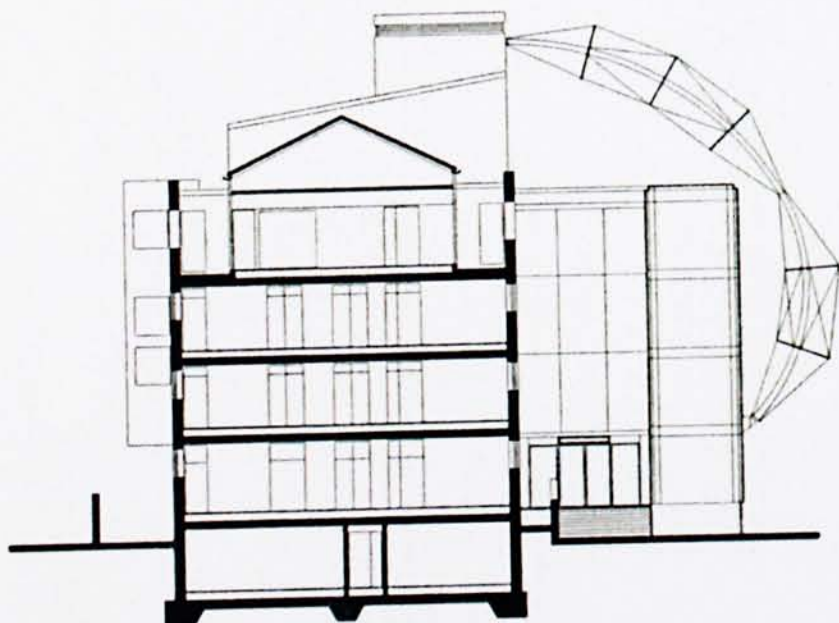


second floor plan



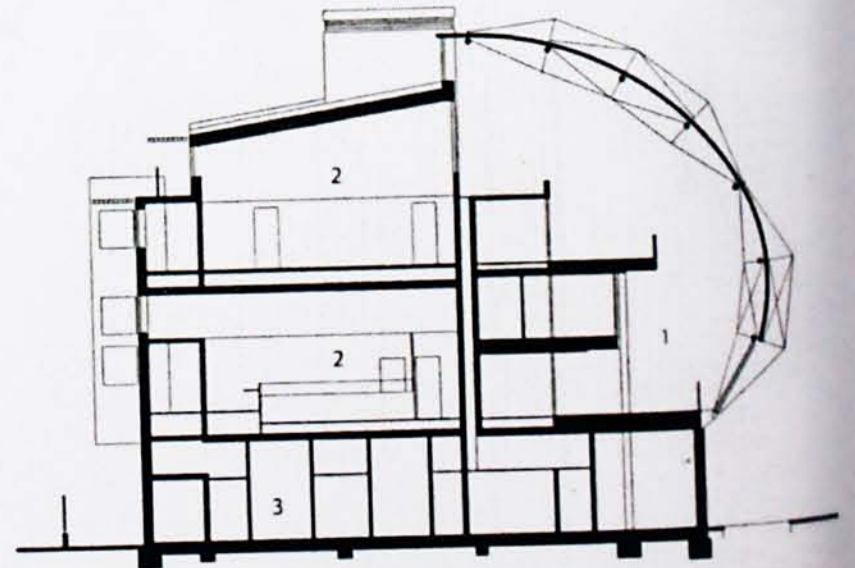
upper ground floor plan

0 20m



section cc

KEY  
1 courthall  
2 courtroom  
3 custody



section dd

0 10m

## SOUTHAMPTON MAGISTRATES COURTS IN HAMPSHIRE

### HAMPSHIRE COUNTY COUNCIL ARCHITECTURE & DESIGN SERVICES

#### DESIGN INTENT

"The courthouse provides an approachable openness, a building that can be enjoyed with the quality of the public atrium space, which open to gardens on one side."

#### STUDIES

##### Functional Organization

- ~ On the ground floor, there are the custody area
- ~ 12 courtrooms with double-storey height are located on the upper ground floor and the second floor
- ~ There are three entrances to the building: one is the public entrance and the other is the backstage entrance for the court officials and magistrates; the defendants in custody come up from the lowest floor via separate stairs set between pairs of courts
- ~ The courthouse is a linear-shape of building, which divides into three vertical parts - the west block is the offices and the east block is divided as the court side on the north and the public side on the south - the latter wrapped in a north-facing curved atrium that sweeps down as roof and wall
- ~ The public side is a two open-sided floors within the atrium, along with two levels of courts and there are numbers of vertical circulations to support the 12 courtrooms

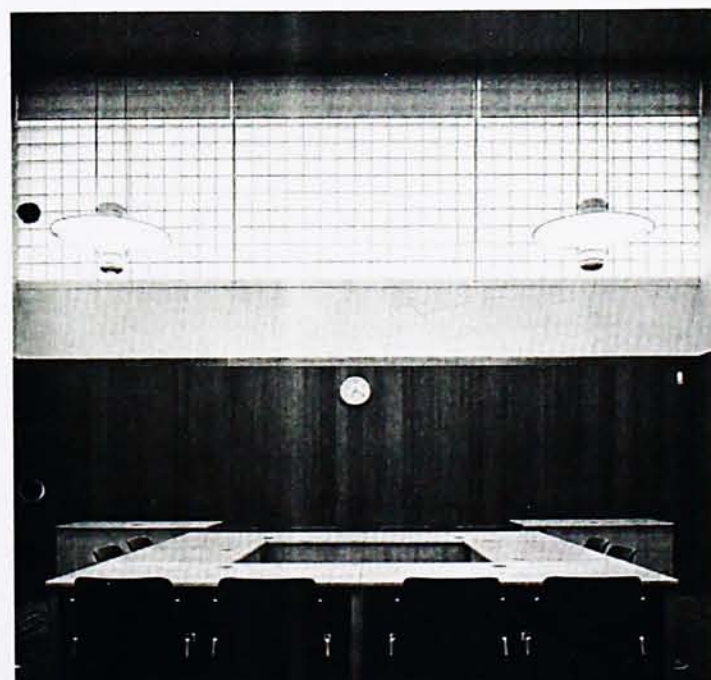
##### Spatial Organization

###### *Offices and Courtrooms*

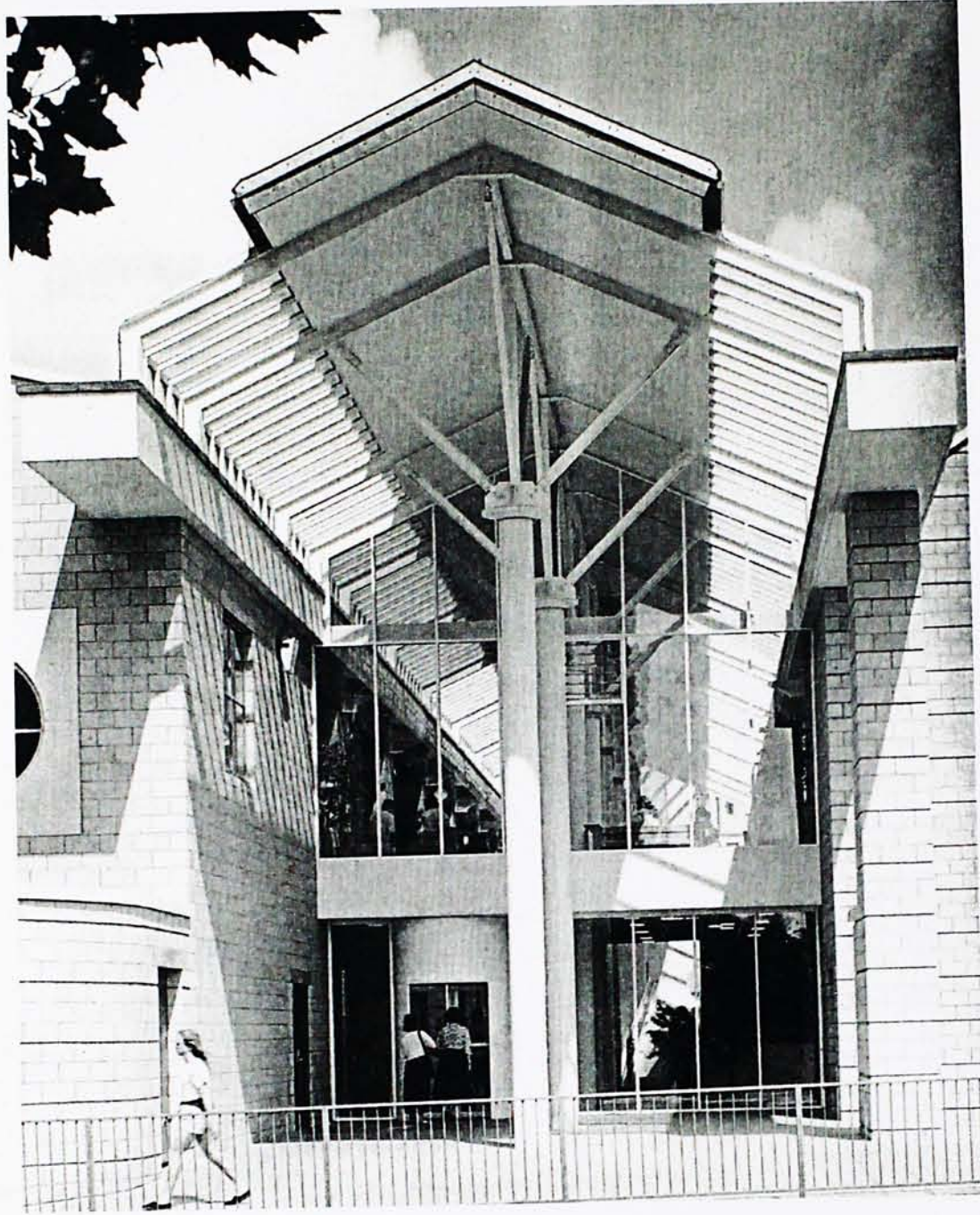
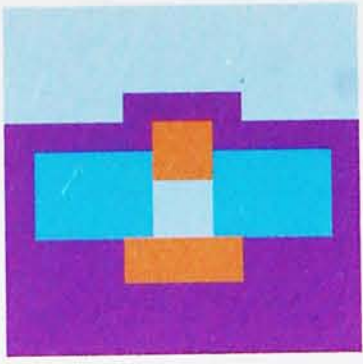
- ~ On the two public floors, the walls adjacent to the courts are faced with small offices such as interview rooms, which borrow light from the atrium
- ~ On the court side of the building, the courts themselves are largely enclosed boxes. This arrangement allows welcoming broad and daylight corridors with frequent opening windows on the south, used by magistrates and court staff



*One of the lower level, more formal courts with daylight ducted from south wall entering to the left*



*One of the upper level, less formal courts with glazed block panel onto the atrium to the north*



First floor plan

## COURT OF APPEAL IN NORTHAMPTON

### KIT ALLSOPP ARCHITECTS

#### DESIGN INTENT

"The courthouse located on a triangular site with the elongated, low-pitched roof sheds, and the glazed central 'street' with a line of tree-like columns and roof supports, which binding inside to outside, and announcing the entrance with vigour. The principal strategy is to meet the parallel objectives of 'gravity and accessibility' by two major components. First, the generosity of floor area and sense of openness with daylight, devoted to the public domain and circulation; second, a universally applied small range of modest materials, which deliberately creates an ascetic aesthetic."

#### STUDIES

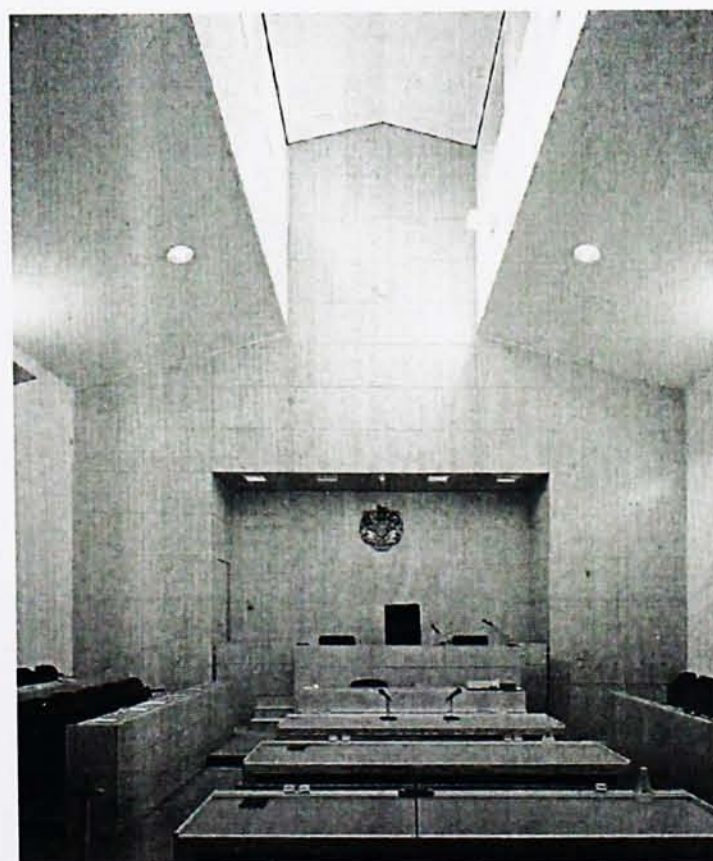
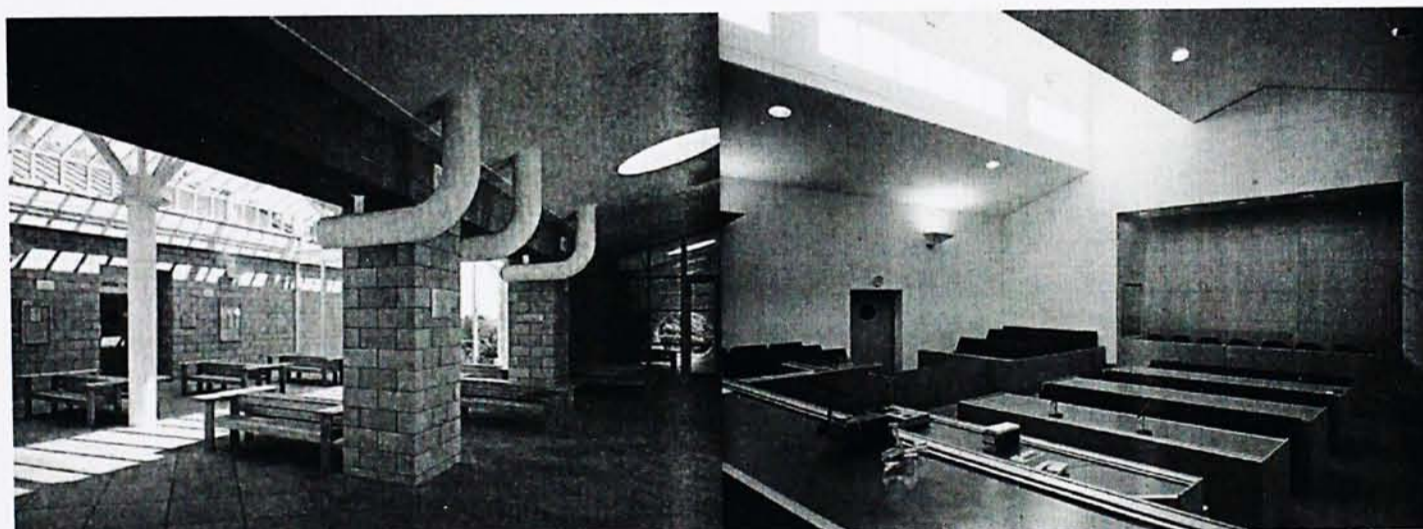
##### Functional Organization

- ~ The six courtrooms are located on the first floor with the dedicated corridor for the judges on the west side and the public concourse on the centre, which linked the administration office on the east and the ground floor

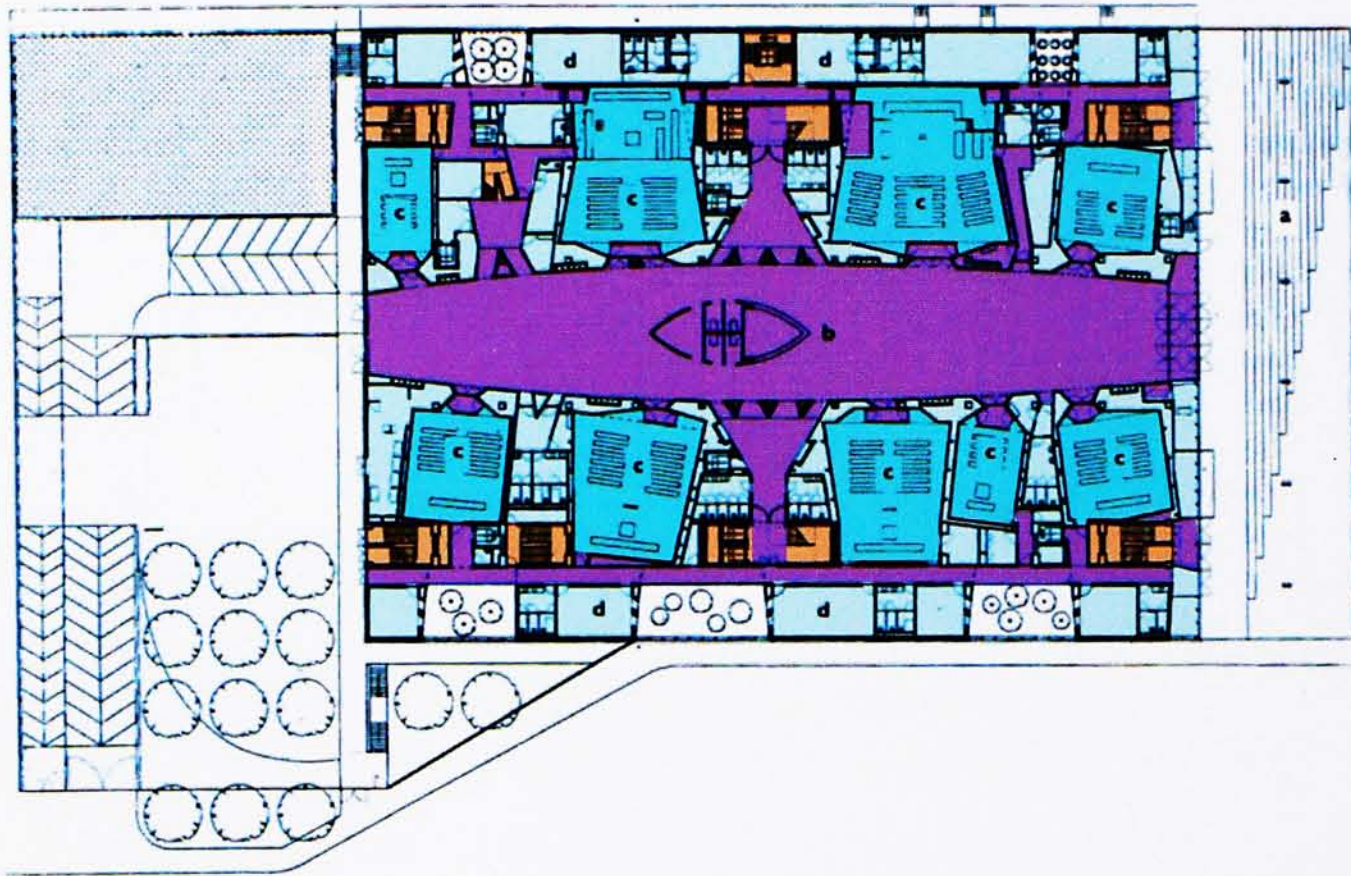
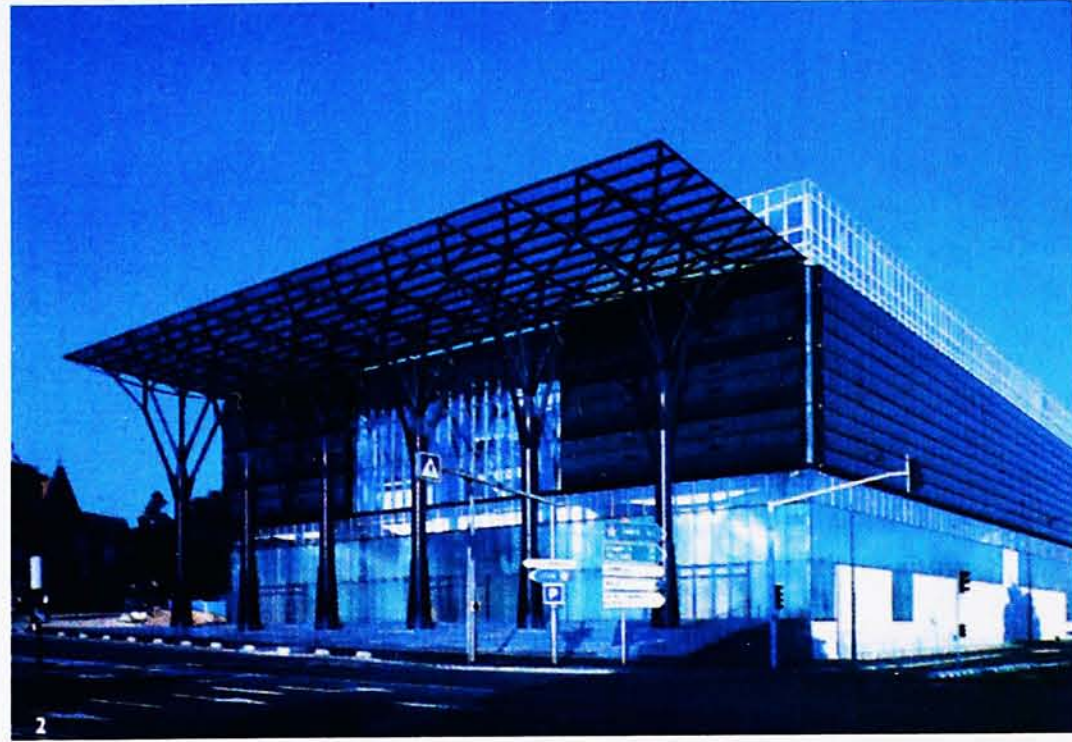
##### Spatial Organization

##### *Courtroom*

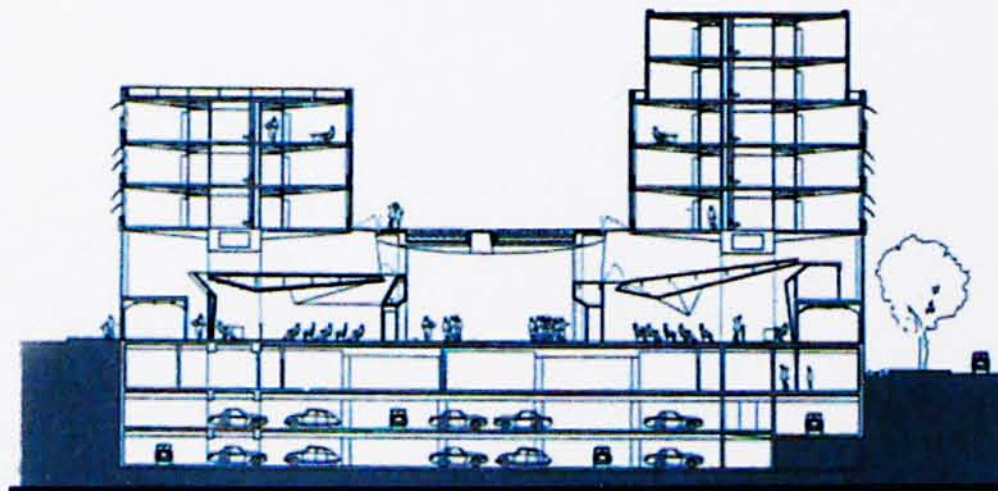
- ~ The courtrooms, either have clerestory windows along the central axis or shifted on one side, which allow people inside to connect with the outside 'real world'



*Courtroom with strict axial layout is flooded with skylight from the clerestory windows along two side of the raised pitch roof*



Ground floor plan



Cross section

## LAW COURTS IN MELUN JOURDA & PERRAUDIN

### DESIGN INTENT

"The site lies next to a railway line, in a relatively underdeveloped part of the city. The building is a crisp, cuboid mass with its entrance marked by a full-height canopy at the east end."

### STUDIES

#### Functional Organization

- ~ There is nine courtrooms in varied size and configuration, arranged around the concourse
- ~ Judges' rooms and ancillary facilities are placed behind the courts
- ~ On the north wing, there is 3 floors of offices 2 additional floors for a documentation centre

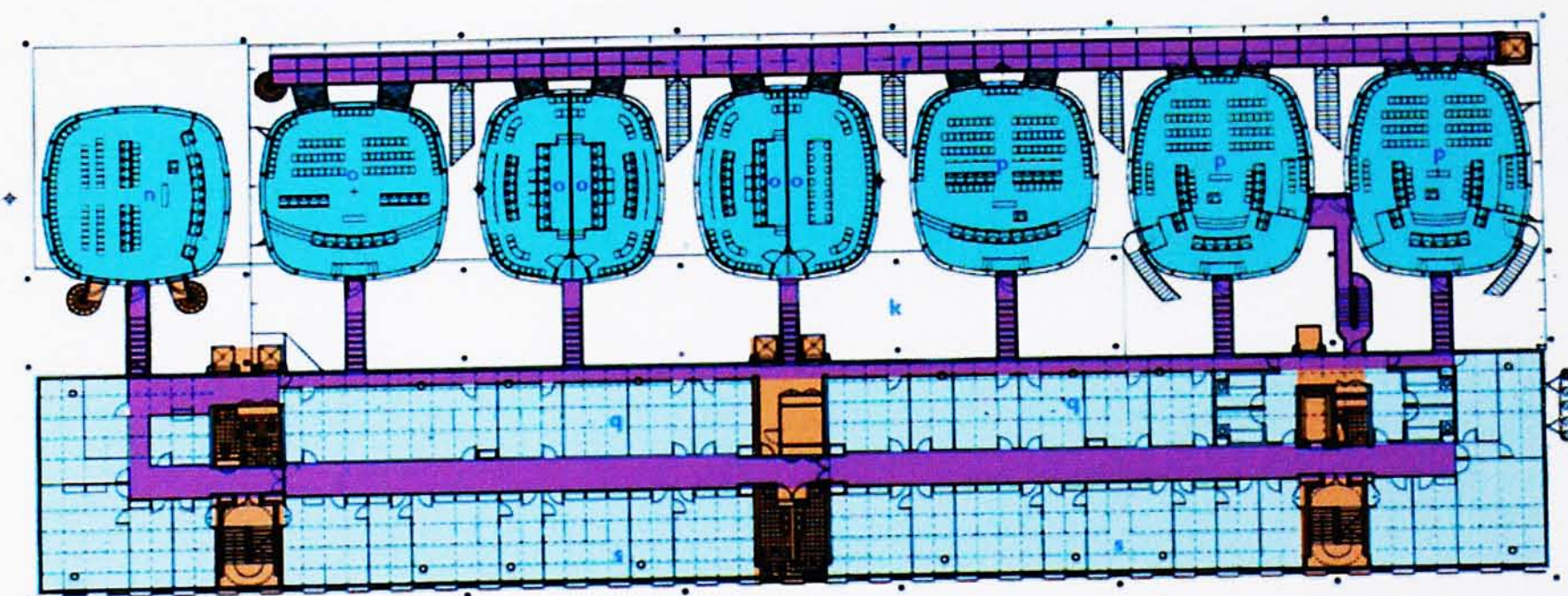
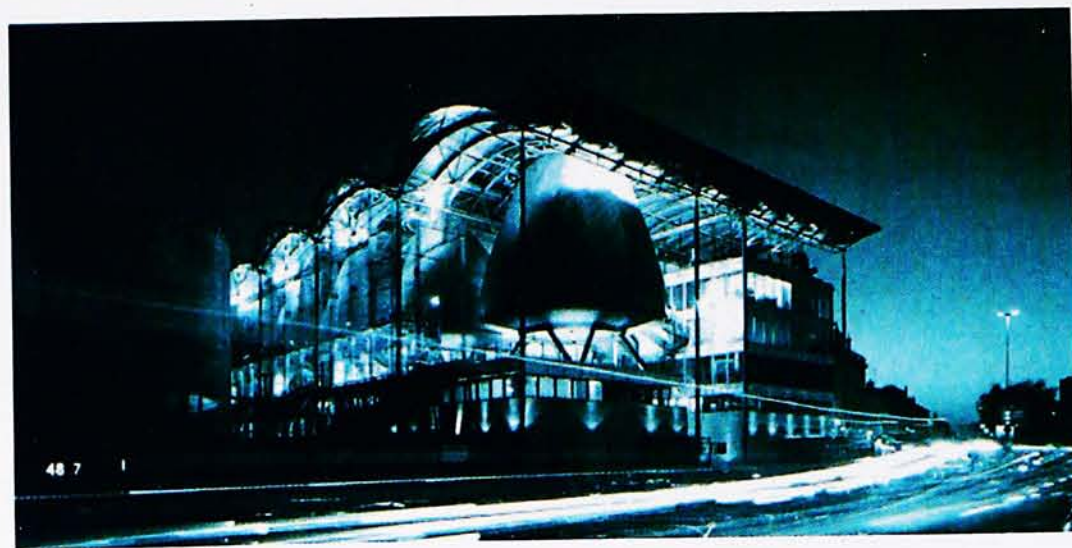
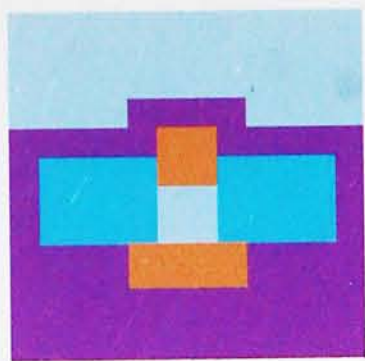
#### Spatial Organization

##### *Public concourse, office and roof courtyard*

- ~ The public concourse at the ground level is the core of the building, which connects the two long, rectangular layer of courtroom and the offices' layer on the outer edge; featured aperture is created on the roof that allows light to penetrate into the dark space
- ~ The upper office level are pulled clear of the courtroom volumes, creating an interstitial space, through which daylight is funnelled and channelled into the internalized boxes of the courtrooms
- ~ A calm courtyard garden is created on the roof of the public concourse, which can be overlooked from the two upper block of offices

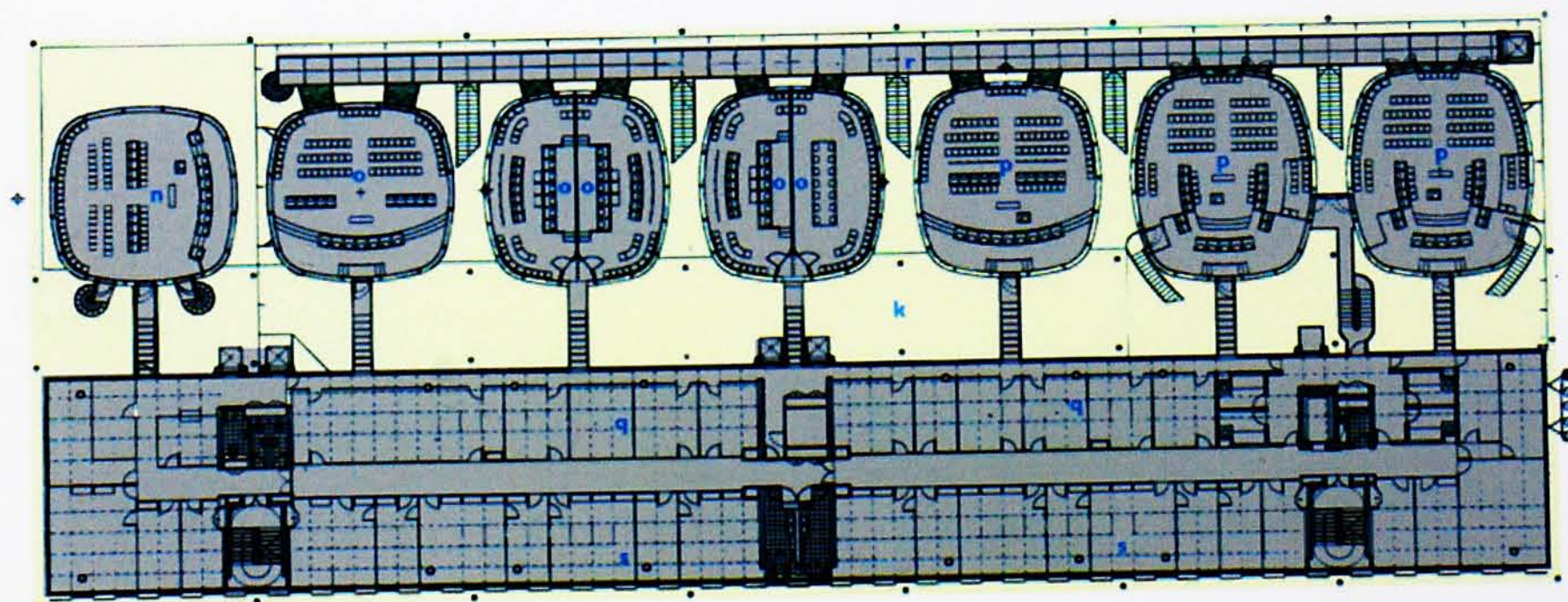


*The long, luminous volume of the public concourse with the courtrooms around; Daylight filters down through an interstitial space between the courts and the upper office floors, flood into the courtroom*



courtroom level plan

*Courtroom level plan*



courtroom level plan

*Courtroom level diagram*

- |   |  |  |                        |   |               |
|---|--|--|------------------------|---|---------------|
|  | Supportive area<br>- office, judges' chamber, etc. |  | Vertical Circulation   |  | Lighting Mass |
|  | Courtrooms   |  | Horizontal Circulation |  | Solid Mass    |



## LAW COURTS IN BORDEAUX

### RICHARD ROGERS PARTNERSHIP

#### DESIGN INTENT

"The building is located on a complex inner-city site, which inherited fragments of the medieval Fort du Ha including two robust towers, an awe-inspiring Classicist courthouse from the early nineteenth century, and a curving School of Magistrature. The new courthouse completes the block's western flank, creates a circulation route from the nineteenth-century hallway and bridges across to the 1970s school to house a restaurant."

#### STUDIES

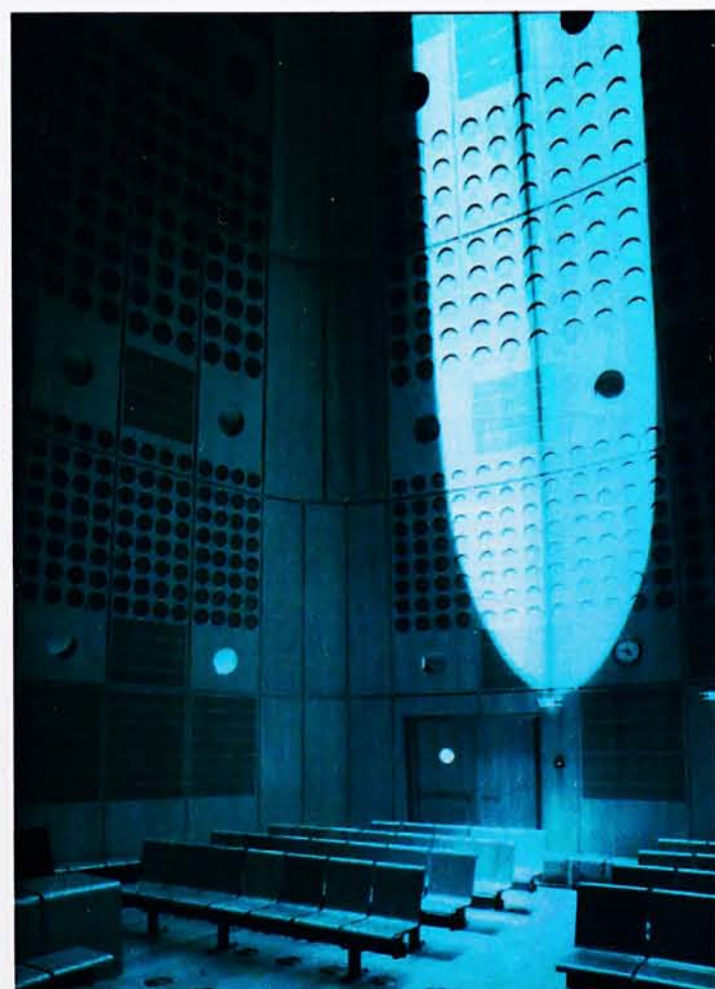
##### Functional Organization

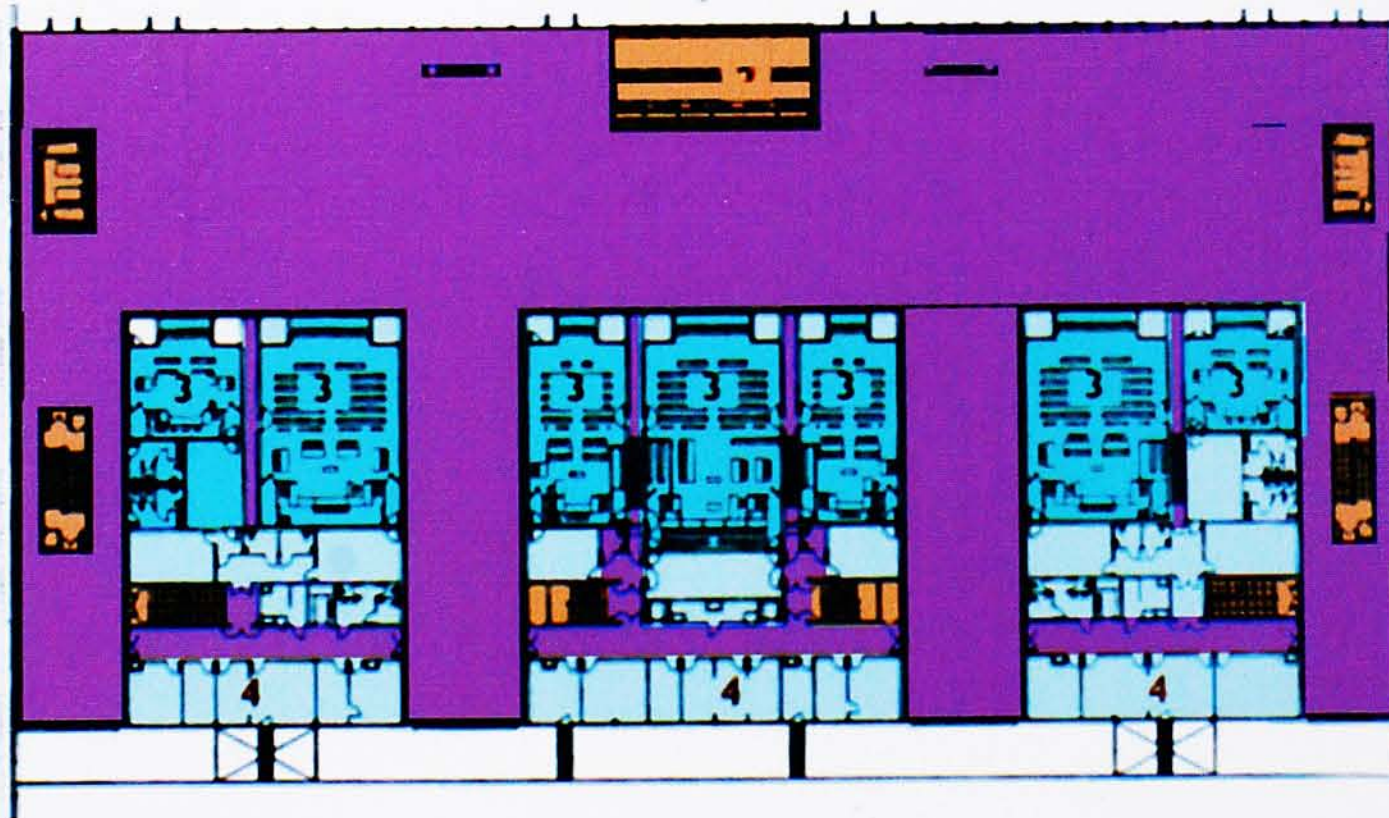
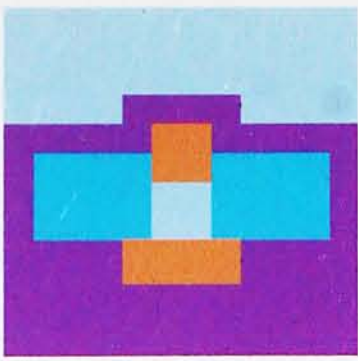
- ~ The building is designed into three rows: the long, western block of this judicial compound is the offices for judges and administrative staff, stacking in a five-storey linear block over four storeys of basement carpark
- ~ A delicate copper roof floats above the western block is extended to the eastern blocks, where the courtrooms are isolated in seven vat-like forms aligned and clearly visible behind a taut curtain of glass
- ~ Each courtroom has its own stairway to the glass-floored catwalk along the east side of the building, which connects all the chambers one floor above
- ~ The courtrooms are also connected with delicate walkways and bridges and steps, so that the privacy of legal procedures inside is maintained

##### Spatial Organization

##### *Courtrooms*

- ~ The bulbous volumes of the courts are held within a transparent enclosing structure, while at night, the parti of courts and offices separated by an internal street becomes especially clear
- ~ The exaggeratedly tall volumes of the courtrooms are washed by zenithal light, with rotund shape that made of flush pale plywood panels





Ground floor plan

## LAW COURTS IN NANTES

JEAN NOUVEL

### DESIGN INTENT

"The building is a consequence of a review of the French justice system, begun over 10 years ago, and the latest in an ambitious programme to build regional law courts in over 20 departments throughout France. The new courthouse stands on an island, where the Loire splits in two, looking across the river to the centre of Nantes. Around it are decaying factories and warehouses, detritus of a thriving industrial and maritime past that fed the prosperity of this solid bourgeois town."

### STUDIES

#### Functional Organization

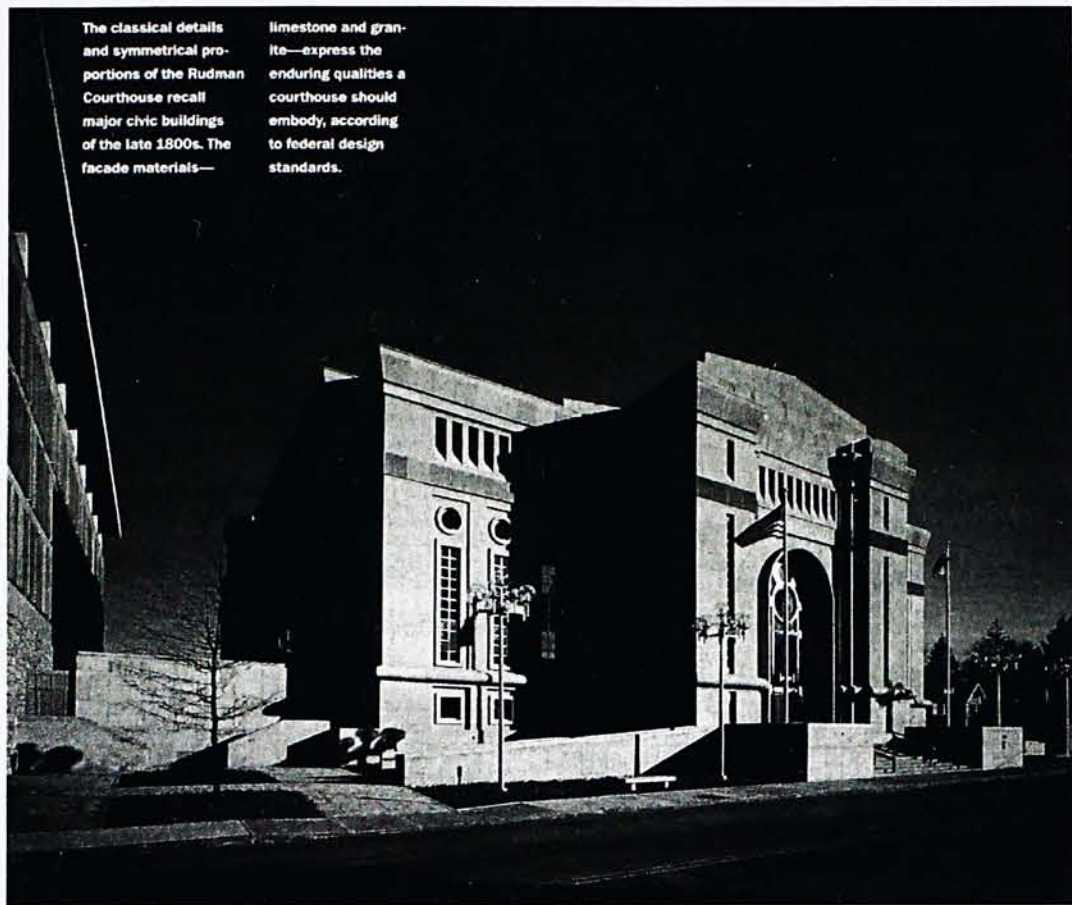
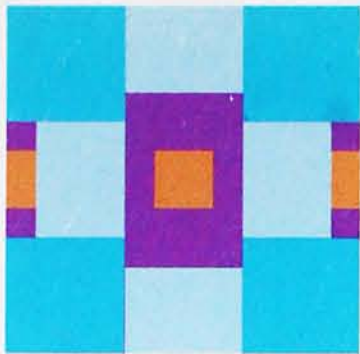
- ~ The building is designed with an 8x8m grid, 4 storey high with 7 courtrooms and the ancillary offices
- ~ Three enormous boxes containing the courtrooms have the outer surfaces that look like chiselled cliff faces, composed of projecting and indented black wooden blocks
- ~ The courtrooms are grouped into three boxes and allocate on the middle layer, where the lobby is on the north, with a portico of slender steel columns that bound the immense lobby running the width of the building behind and the offices are located on the south

#### Spatial Organization

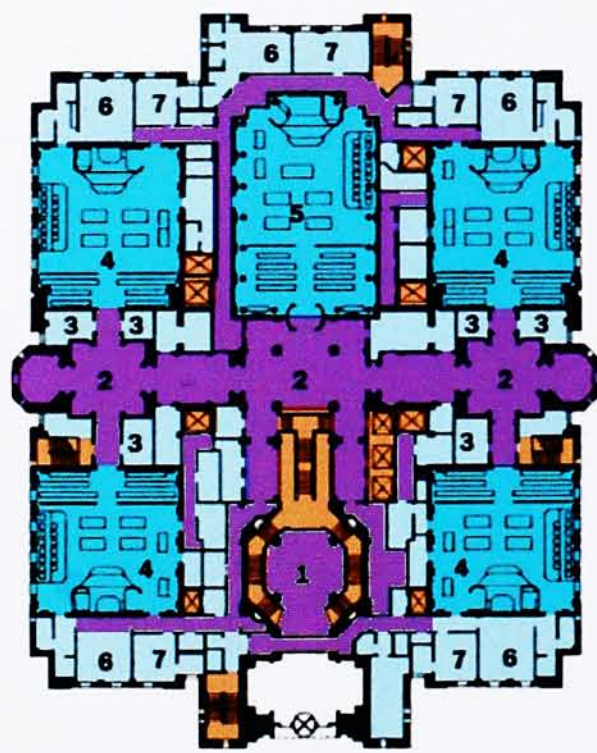
##### *Courtrooms*

- ~ Inside the courtrooms, they lined and furnished in the same wood, and illuminated by oblique shafts of light in bloody color



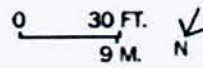


The classical details and symmetrical proportions of the Rudman Courthouse recall major civic buildings of the late 1800s. The facade materials—limestone and granite—express the enduring qualities a courthouse should embody, according to federal design standards.



- 1. Stair hall
- 2. Lobby
- 3. Conference
- 4. Courtroom
- 5. Special proceedings courtroom
- 6. Jury room
- 7. Robing room
- 8. Clerk of courts offices
- 9. Jury assembly

MAIN COURT LEVEL



## WARREN B. RUDMAN UNITED STATES COURTHOUSE IN NEW HAMPSHIRE SHEPLEY BULFINCH RICHARDSON & ABBOTT ARCHITECTS

### DESIGN INTENT

"The new courthouse was constructed on a tight site, three blocks south of the granite-clad state capital complex and three blocks west of the city's central business district. The courthouse sits adjacent to the Federal Building, a 1960's structure that houses the federal courts, along with postal service facilities."

### STUDIES

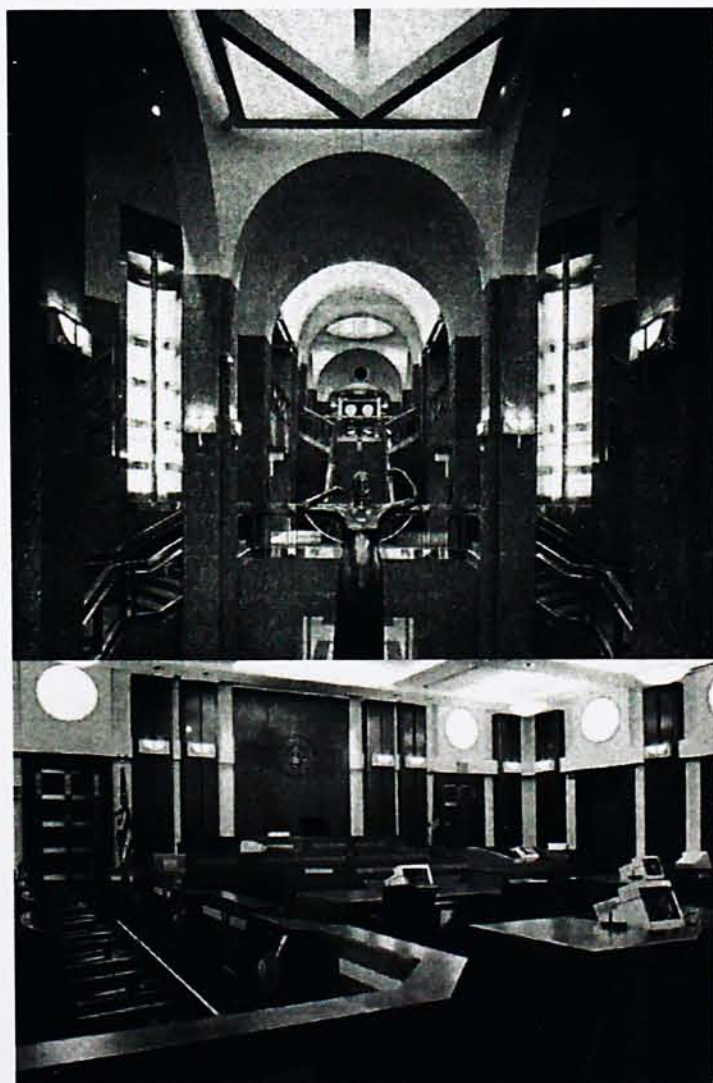
#### Functional Organization

- ~ The courthouse is formal and symmetrical within, from the geometric stone flooring to the regularly spaced skylights
- ~ A hallway at ground level connects the new courthouse with the Federal Building and serves as a single entry point to the two-building complex
- ~ The main level includes a lobby, courtrooms, jury-assembly space, and the office for clerk of the court, where scheduling and planning for the entire operation take place. The second level is a secure floor closed to the public and largely occupied by facilities for the U.S. marshals and a holding block for prisoners. The third level is occupied by the eight courtrooms, which is accessible by the staircase that rises from the main lobby. The fourth floor consists of the judges' chambers and the court library

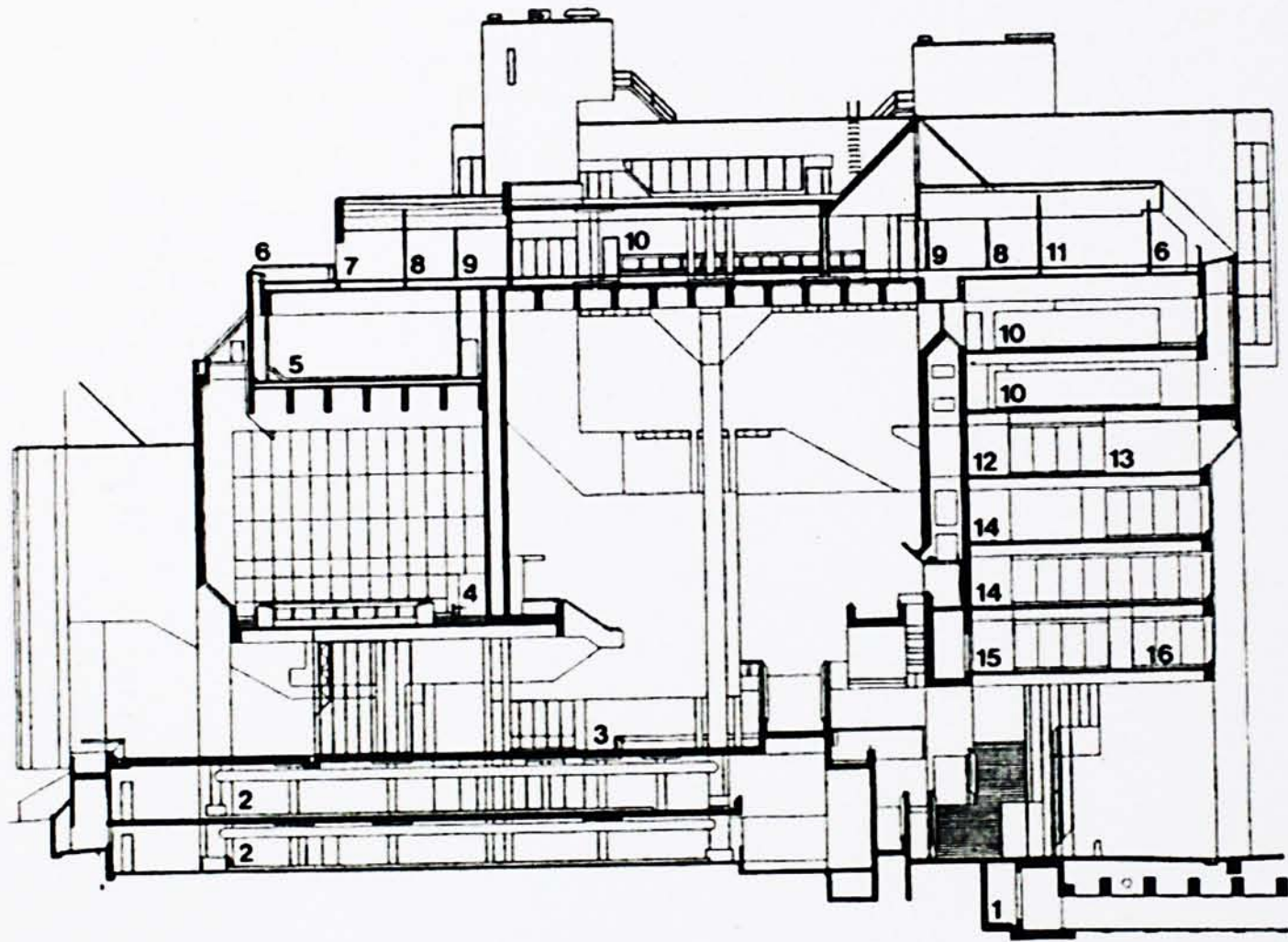
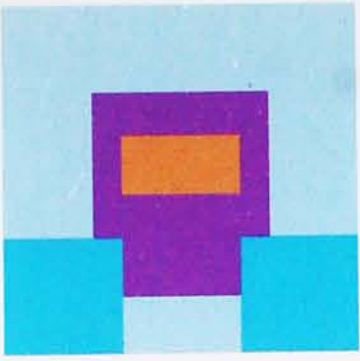
#### Spatial Organization

##### Lobby

- ~ The courthouse with a stair-hall leading to the central-core of lobby, where all the courtrooms and office allocated around. The lobby is presided over by a stainless-steel sculpture of Justice and connects to the small lobbies of the courtrooms on the two sides, where daylight from skylights and window permeates the space and keeps visitors connected to "the real world"



*The courtrooms is using classically inspired vertical and round windows*



cross section

## HIGH COURT OF AUSTRALIA IN CANBERRA

### EDWARDS MADIGAN & TORZILLO BRIGGS

#### DESIGN INTENT

"The High Court building is a cube of white off-form concrete and glass, though the glass is deeply recessed, reinforcing the impression that the cube has been cut into or away; while on the west there are substantial projections, which give the impression of having been extruded from within, in response to some inner demand of the plan."

#### STUDIES

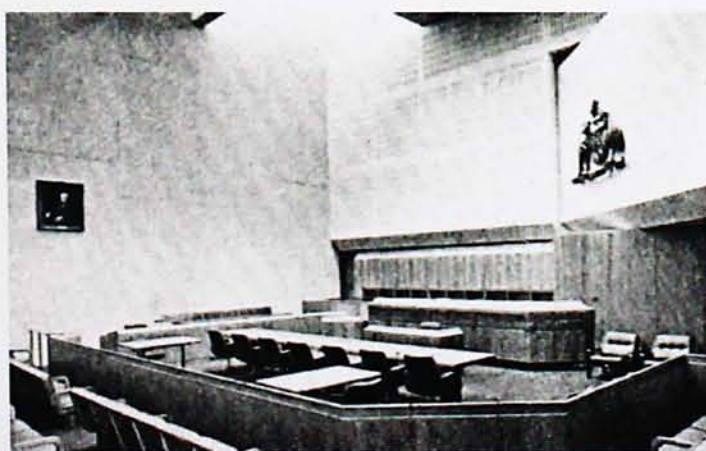
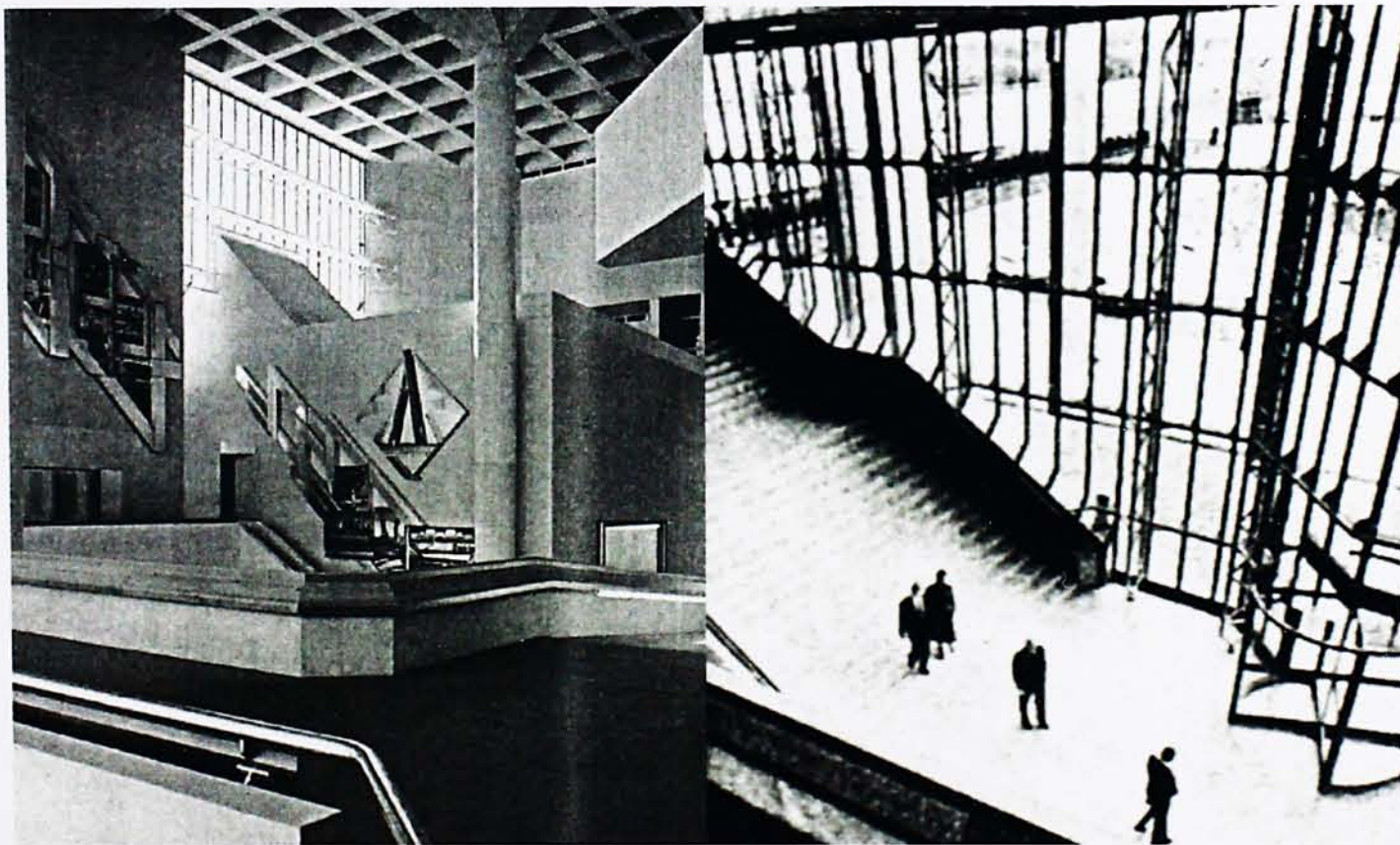
##### Functional Organization

- ~ There are two entrances, the tourist entrance at the lowest level to the east and the ceremonial entrance on the south. There are 3 courtrooms located on different floor: the Court Room One is the ceremonial court, which located at the north corner of level 2; the Court Room Two is second in size, which is accessible on level 3; the Court Room Three is the smallest, which is the only court for criminal appeals, with a jury box and retiring room, which located at the south-west corner of level 4
- ~ On level 6 to 8, there are the library and office spaces serving the courts

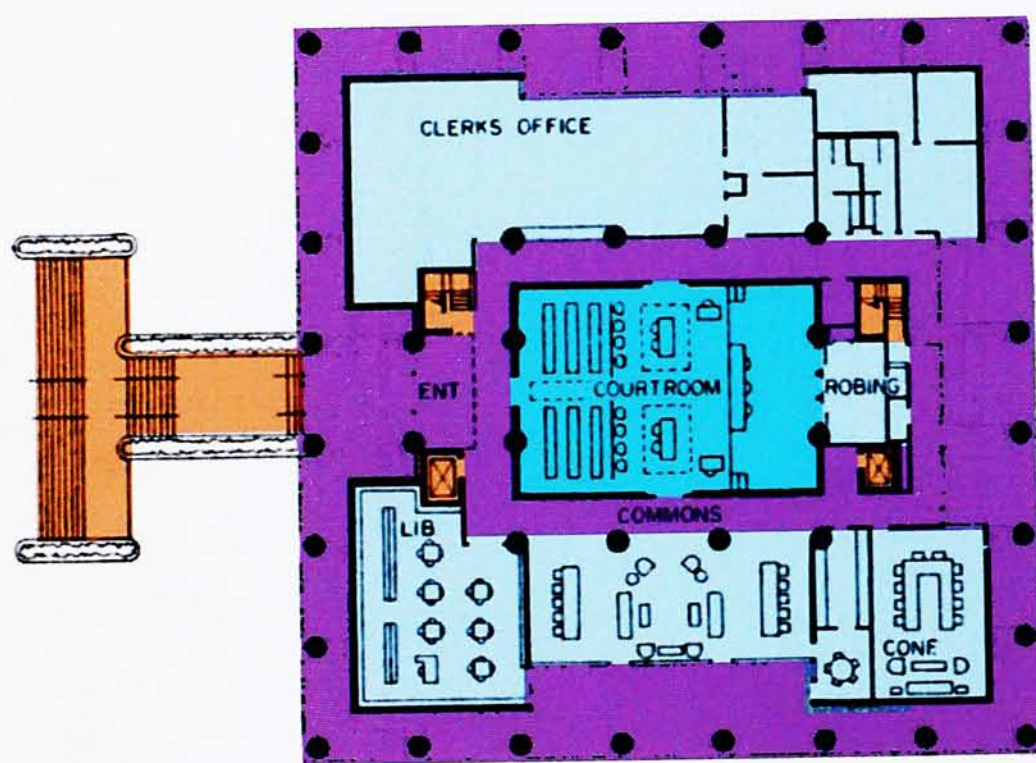
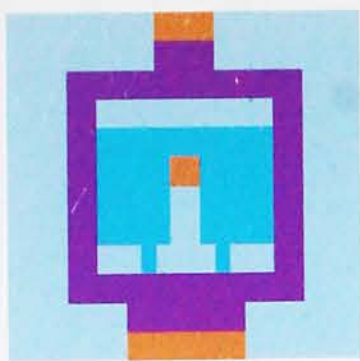
##### Spatial Organization

###### *Public hall*

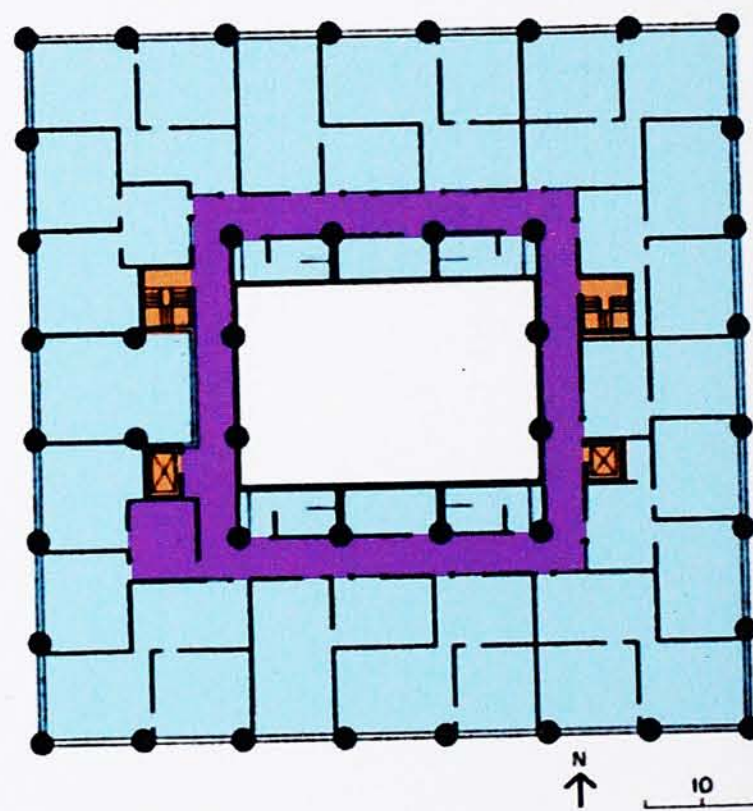
- ~ The High Court is a eight-storey building, which continues up from the main entrance level either by a monumental stair, or by a ramp through three floors; with the idea of 'promenade architecture' in the great public hall, it forms the core of the building and occupies a large part of its volume through six storey



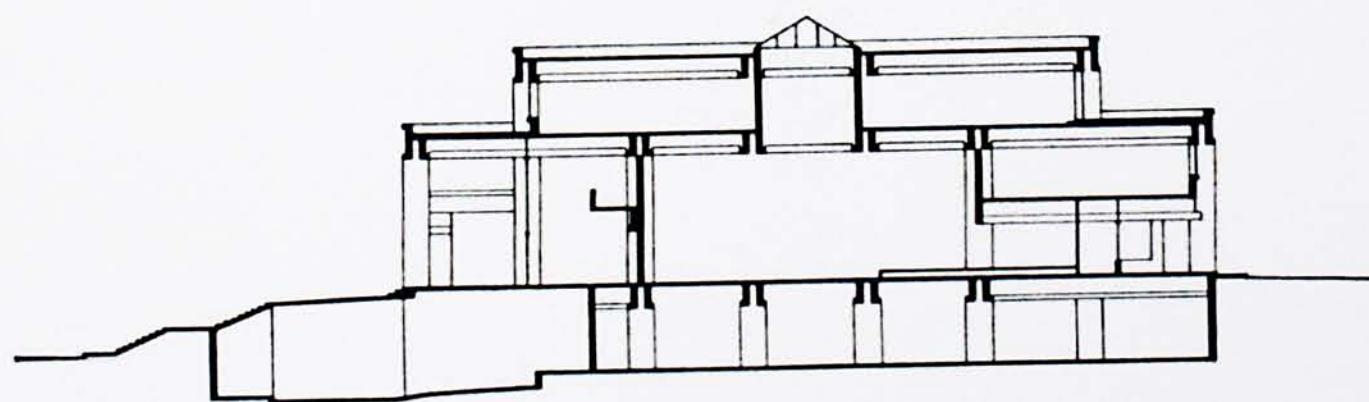
*Light is thrown on the wall behind the bench from a concealed slit window and the wall is washed with light from a clerestory into the courtroom*



Main level



First level



Section



## DISTRICT COURT OF APPEAL IN FLORIDA WILLIAM MORGAN ARCHITECTS

### DESIGN INTENT

"The architect believe that a serene Classic colonnade is equal to courthouse in the iconography of the American south. The building is to satisfies the express desire of one of the appellate judges, who asked the facility 'to look like a courthouse'. So the inspiration is from a county courthouse in the nearby town, a symmetrical columned building set precisely in downtown square."

### STUDIES

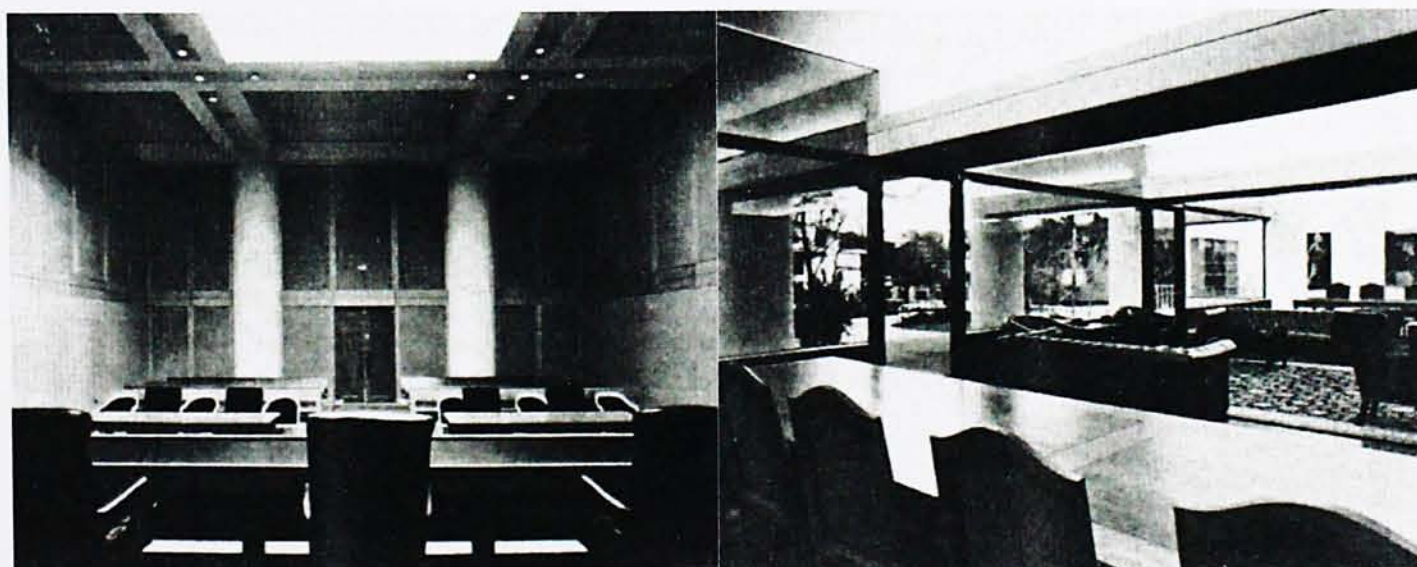
#### Functional Organization

- ~ There are three-storey: the only courtroom located on the centre of ground floor with double-storey height, and the public area around, where the offices for the staff members and judges are located on the first floor and a penthouse surrounded by a rooftop terrace on the second floor

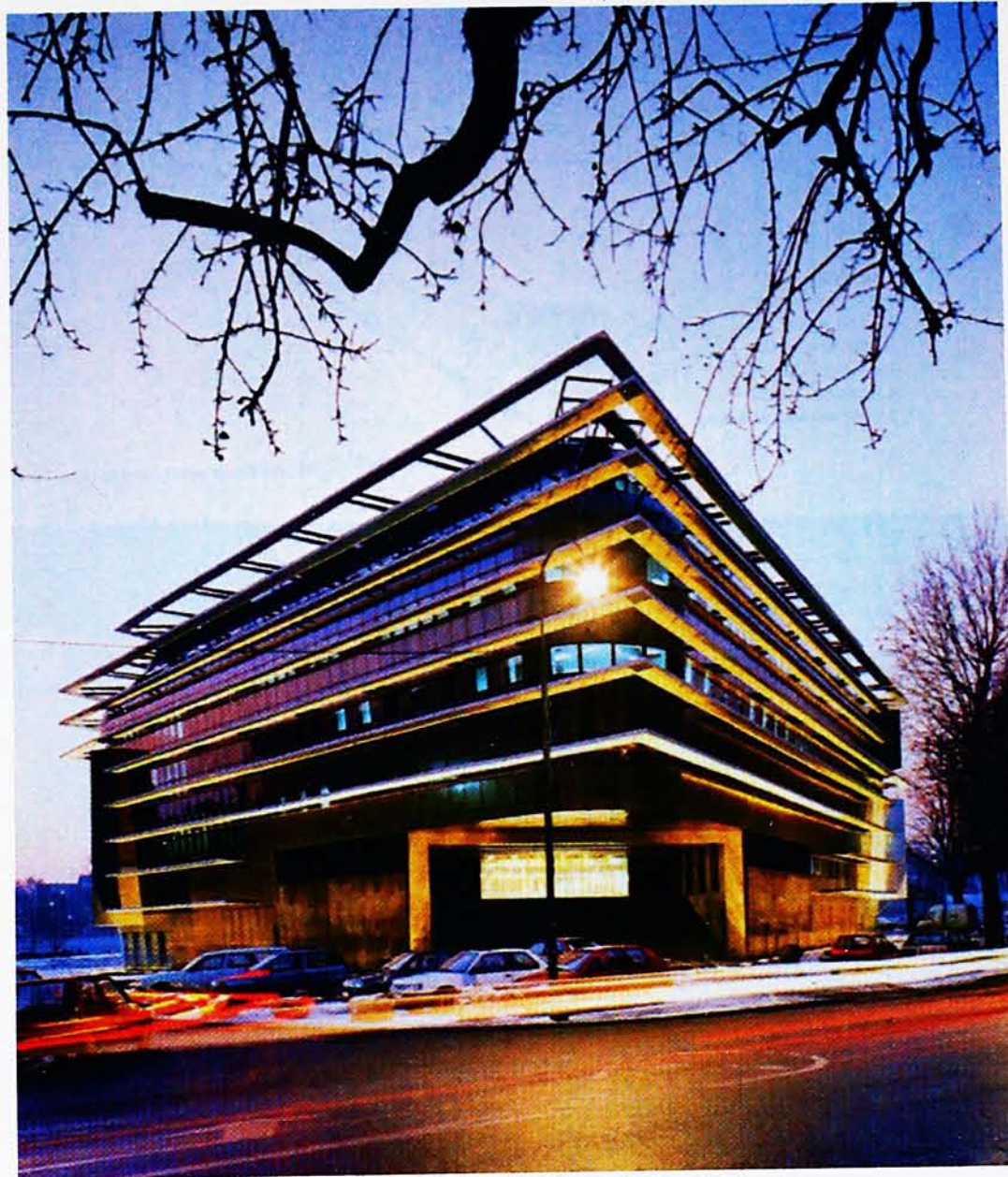
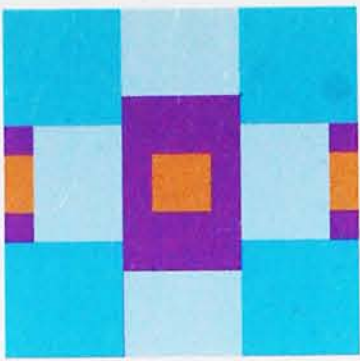
#### Spatial Organization

##### *Courtroom*

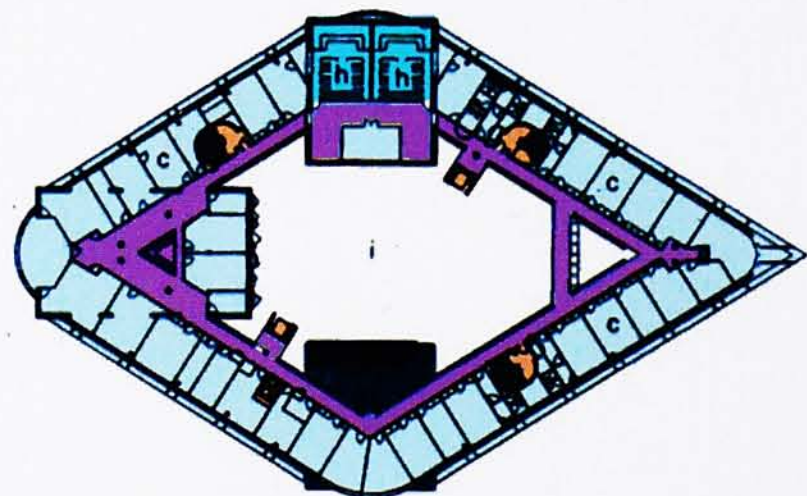
- ~ The courtroom at the center, which sits beneath a skylight that penetrates the roof to describe a vertical axis through the building
- ~ On the first and second floor, the centre is a void for the skylight to the courtroom at the main level; therefore, the circulation at the upper floor is a loop around the void area with the rooms along the periphery



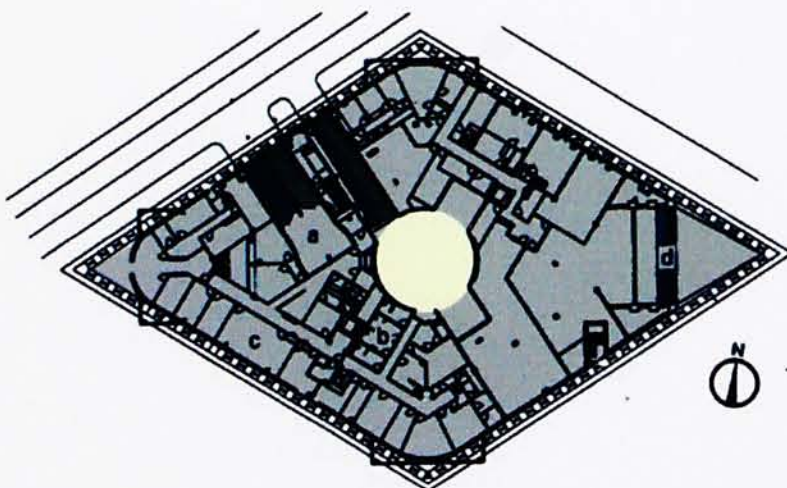
*At the center of the courthouse, the courtroom sits beneath a skylight that penetrates the roof to describe a vertical axis through the building*



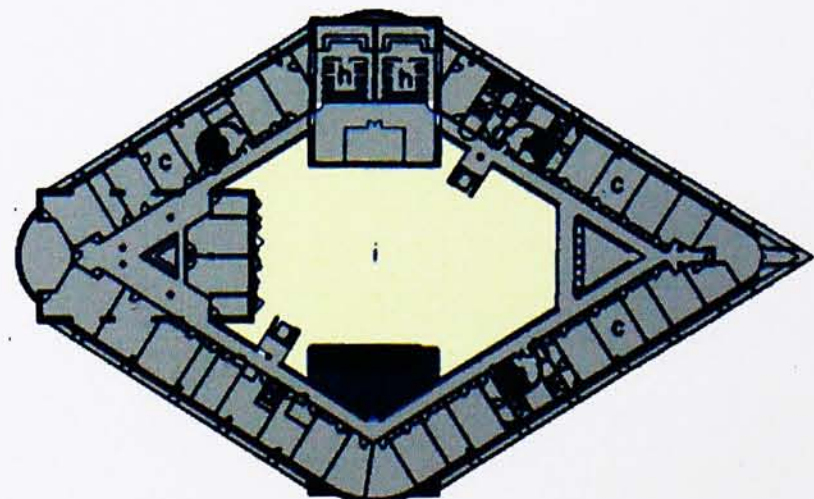
Ground floor plan









Fourth floor plan



Ground floor diagram



Fourth floor diagram

- |   |  |   |                        |   |               |
|---|--|---|------------------------|---|---------------|
|  | Supportive area<br>- office, judges' chamber, etc. |  | Vertical Circulation   |  | Lighting Mass |
|  | Courtrooms   |  | Horizontal Circulation |  | Solid Mass    |

## LAW COURTS IN CAEN ARCHITECTURE STUDIO

### DESIGN INTENT

"The Caen's new law courts, are a product of a wide-ranging review of the French justice system, which has an unorthodox appearance, a pivotal element that located in a new city quarter near Caen's institutional heart. The imposing corner entrance is a modern abstraction of a traditional portico, with the orthogonal volumes of the courtrooms extrude through the building's sinuous bulk."

### STUDIES

#### Functional Organization

- ~ The new building contains a court of appeal, an assize court and two smaller tribunal courts, together with offices and ancillary facilities, the six-storey building is organised around a rhomboidal plan with 5 storeys high concourse that flooded with natural light
- ~ The monumental staircase leads up from ground floor entrance to the public concourse at first floor level

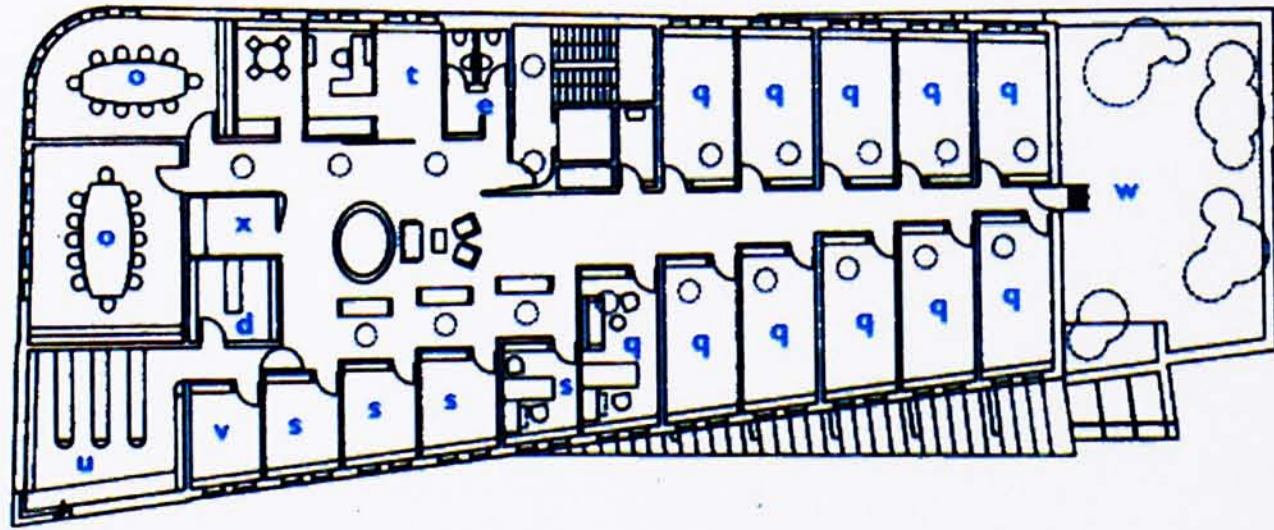
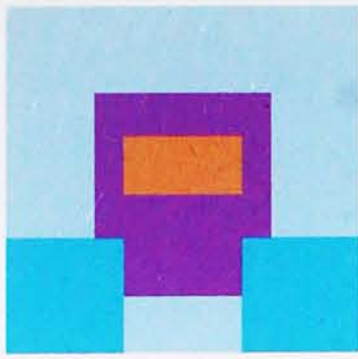
#### Spatial Organization

##### Courtrooms

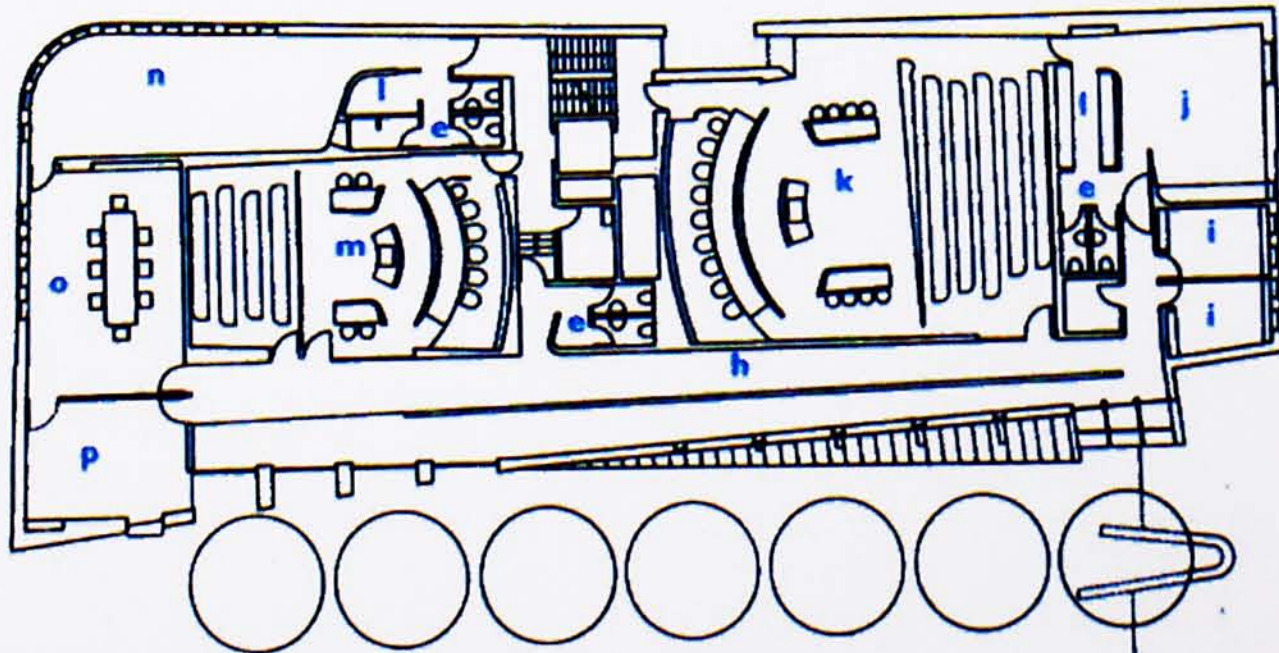
- ~ The courtrooms are placed at each corner of the concourse with different materials: the largest, the court of appeal, positioned on axis with the entrance is clad in finely honed wood panels; the assize court on the south corner is clad in vertical strips of burnished copper and the tribunal court on the north corner is covered with a lightweight and blue metal mesh



*Natural light from clerestory windows is diffused around curved ceilings in the courtroom*



Second floor plan



First floor plan

## THE SUPREME COURT IN REYKJAVIK

### STUDIO GRANDA

#### DESIGN INTENT

"The Supreme Court located on a hill in the centre of Reykjavik, the site faces west over a windswept embankment, dominated by a monumental statue of the first Icелander; the site is hemmed in by an accretion of major public and government buildings, the Art Deco National Theatre to the east, the state ministries building on the north and the National Library on the south."

#### STUDIES

##### Functional Organization

- ~ Internal organization is governed by the imperative separation of public and judiciary, where the public areas are arrayed along a long ramp that winds with slow ceremony up from the double-height reception area to the courtrooms at the first floor level
- ~ The building abstracts the geology and colours of the surrounding landscape, through a contrasting palette of blacks and greens
- ~ Judges occupy the topmost floor with perimeter cellular offices for judiciary and support staff wrapped around a toplit gallery
- ~ Judges enter each courtroom from the vertical circulation in the center of the building that connects to the upper floor and the public enter from the ramp along the south facade

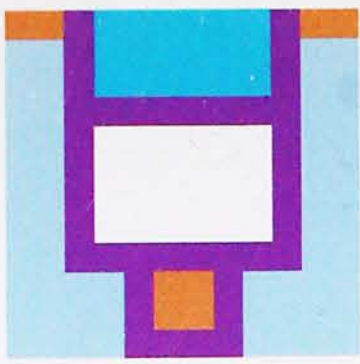
##### Spatial Organization

##### *Courtrooms*

- ~ The two courtrooms in the centre: one with the belly-like ceiling subtly dissolves the orthogonal lines of the room; the other is embedded deep in the heart of the building, with light from the shaft and falls onto the speaker's podium



*Light is admitted through an elliptical shaft directly above the speaker's podium of one of the courtrooms*



# THE FEDERAL LABOR COURT IN ERFURT

## WEINMILLER ARCHITEKTEN

### DESIGN INTENT

"The law court was designing with the gardens, which are the main feature of the building. The size of the 2 courtyards are limited by the building, but also related to the building. The aim is to harmonize naturally to its urban surroundings with the intertwining city garden. The form of the building is like a monolithic block, which do not have many openings in the facade. The changing positions of the window openings from floor to floor, the misalignment of the concrete shells and the varied positions of the sun blinds; the building is given a subtle, and a rhythmic momentum and liveliness to the surrounding."

### STUDIES

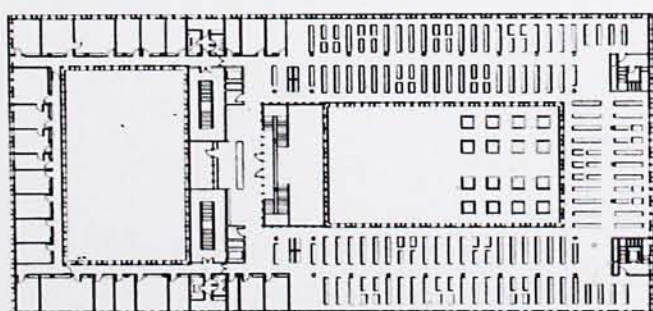
#### Functional Organization

- ~ 4 storey building with 5 courtrooms at the ground floor, the library at the first floor, the office and judges' chambers at the second and third floor
- ~ 2 internal courtyards: one near the main entrance, which should be passed through after entering the main gate; the second one located on the first floor, which was surrounded by the library and looked more private
- ~ There are separated lifts core and staircase, which designated for the visitors / litigants and for the staffs / officers and judges. The visitors / litigants can access the courtrooms from the main entrance and then go straightly to the waiting; while the staffs and judges can come into the building from the other end without crossing the public passages
- ~ The corridor is in a loop, which is simple and straight forward to the other part of the building

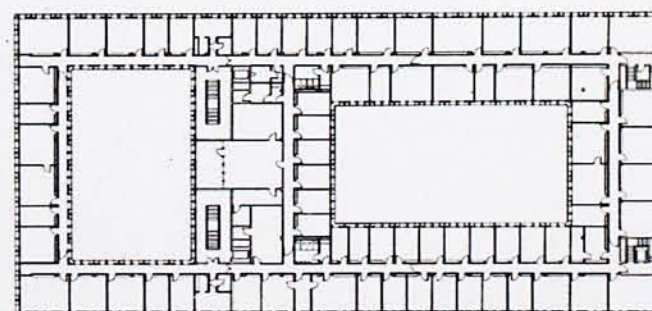
#### Spatial Organization

##### Courtyards

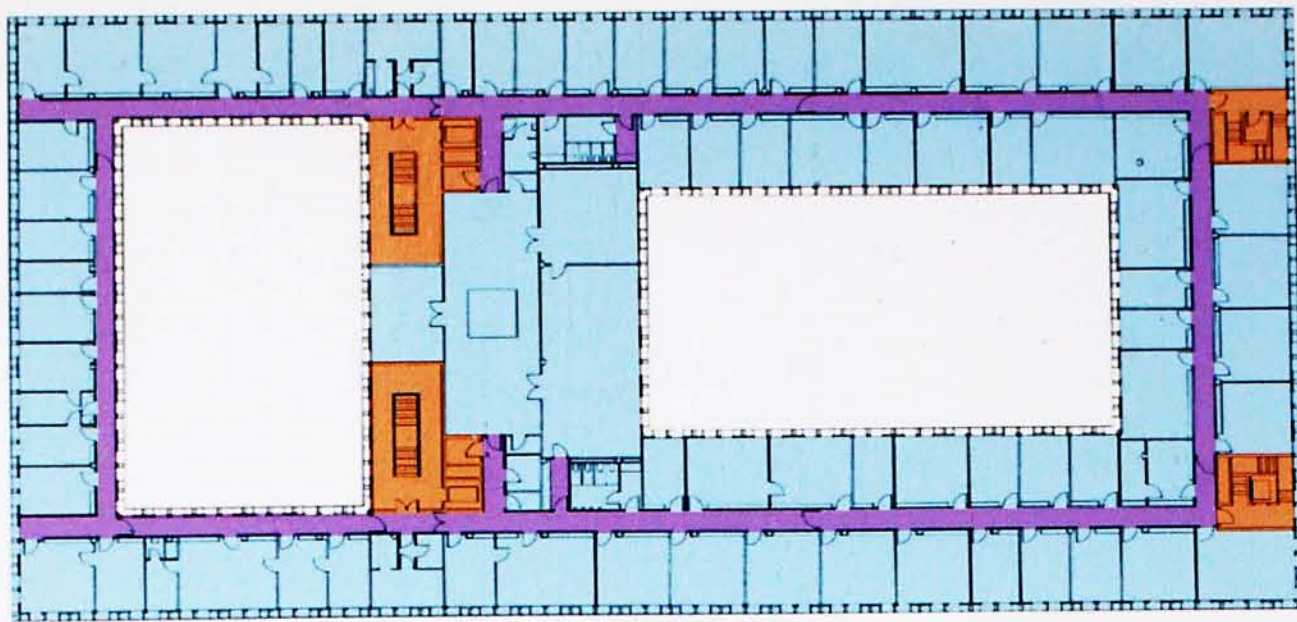
- ~ The 2 courtyards are the focal of the building, where the one in front of the main entrance is probably more public, which are punching through the building from top to ground; the other one at the first floor of the building seems to be more private, which are craving out from the building
- ~ The 2 courtyards are in the same size, but oriented in a different direction. Both of them are perceived as lighting mass to the solid monolithic building, which provide large volume of light. The enormous natural light penetrated into the building through a 500mm thick of wall, the intelligient of screen wall is able to filter the light in an intended way
- ~ The task of illuminating every part of the building by natural light are control individually, which create different interior atmosphere through the designed lighting effects. The waiting hall under the garden is also illuminated by the skylight above, except the core and the office on the centre rows do not have natural light provided



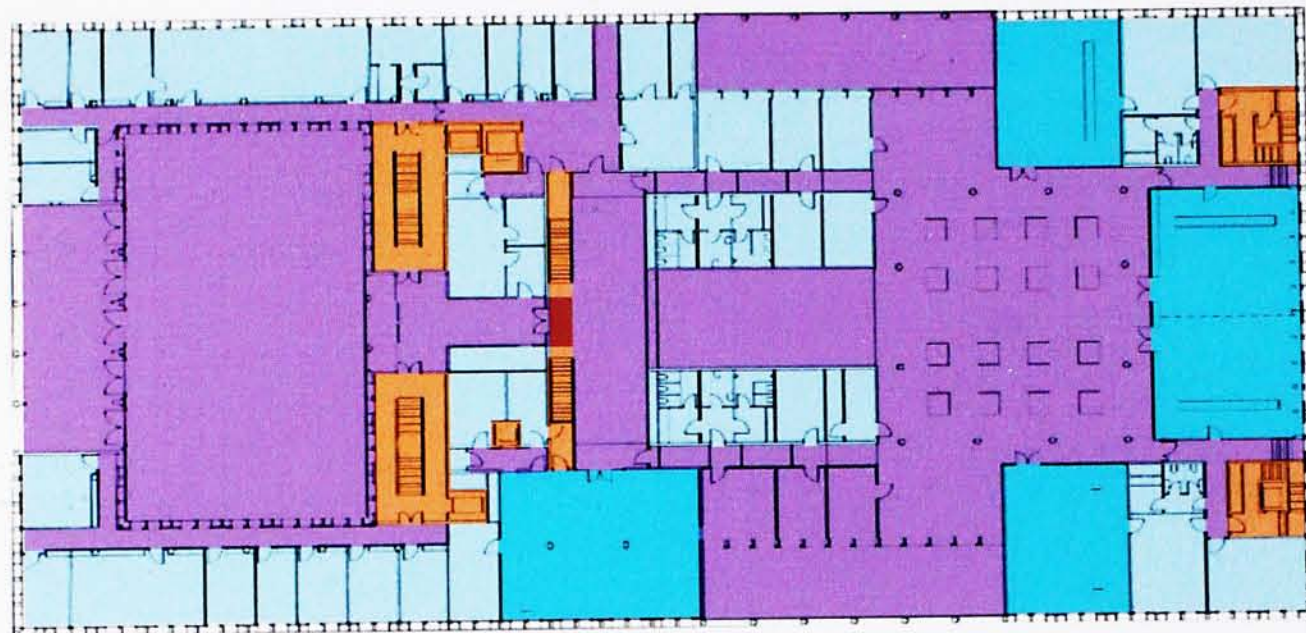
1st floor



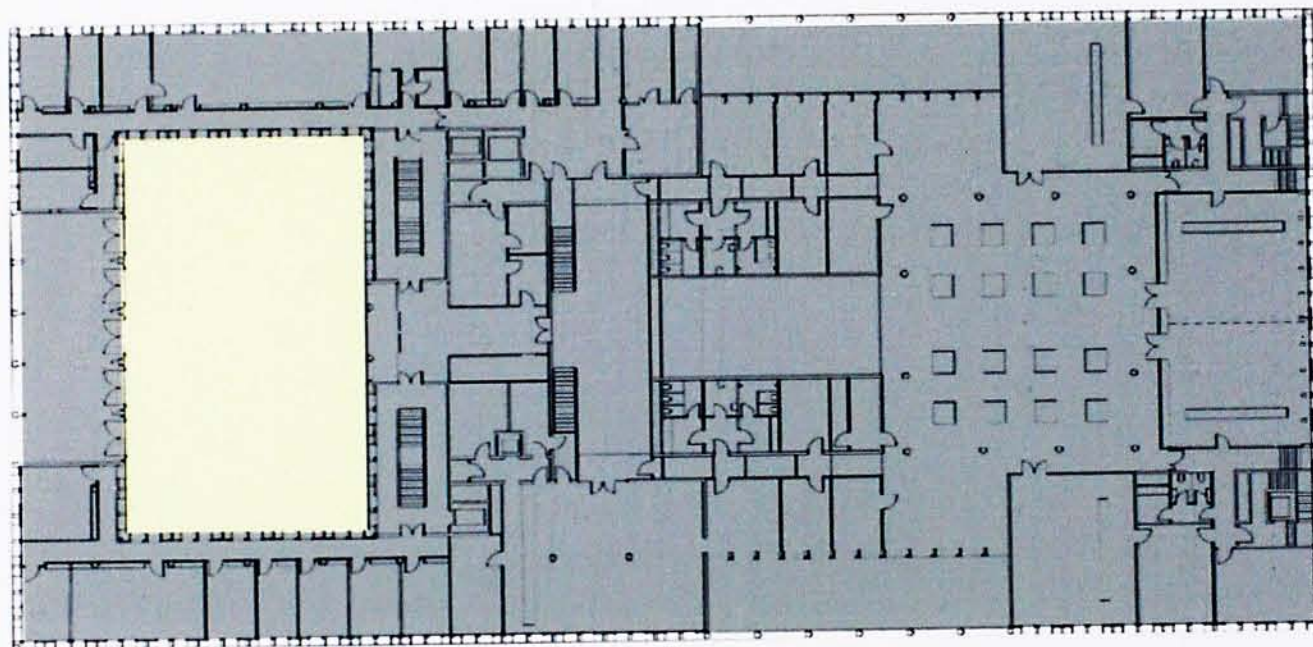
2nd floor



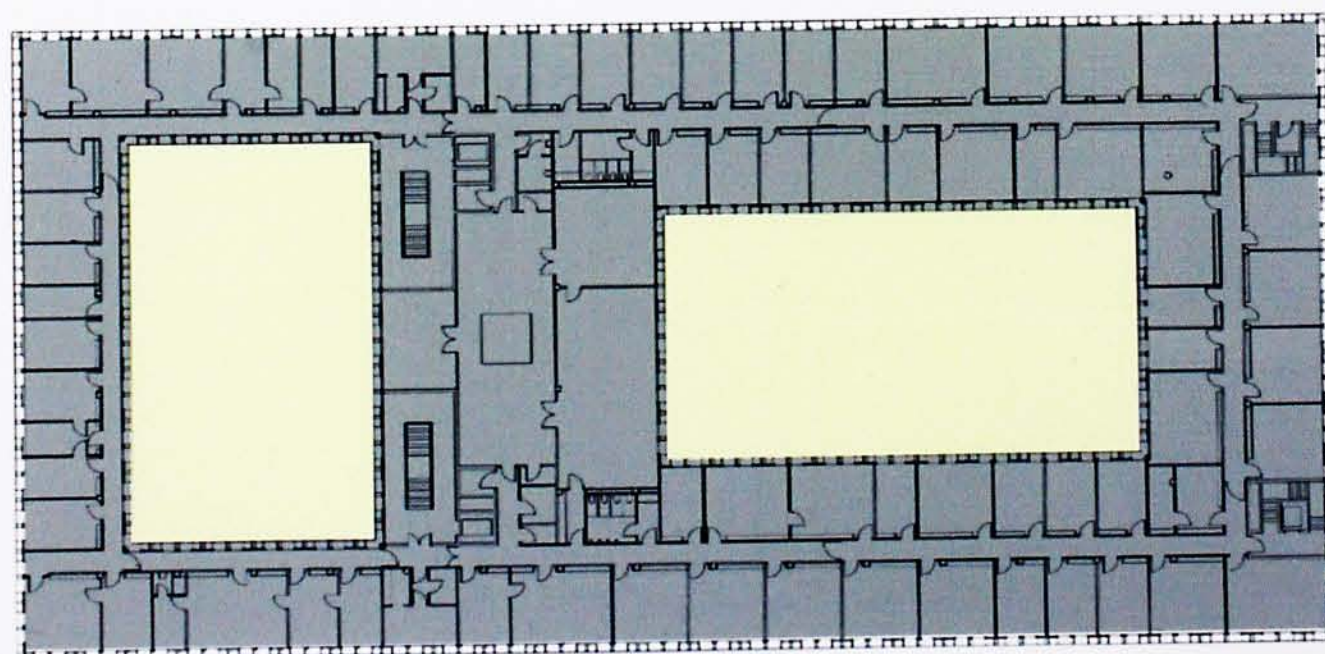
3rd floor plan









Ground floor plan



Ground floor plan - diagram



3rd floor plan - diagram

- |   |  |   |                        |   |               |
|---|--|---|------------------------|---|---------------|
|  | Supportive area<br>- office, judges' chamber, etc. |  | Vertical Circulation   |  | Lighting Mass |
|  | Courtyards   |  | Horizontal Circulation |  | Solid Mass    |



# THE FEDERAL LABOR COURT IN ERFURT

## WEINMILLER ARCHITEKTEN

### STUDIES

#### Spatial Organization

##### *Entrance lobby & waiting hall*

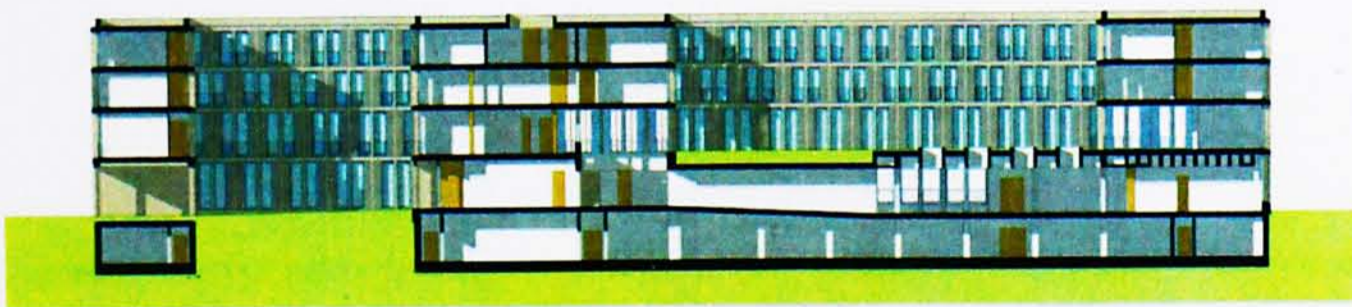
- ~ The entrance leads into a double-storey lobby, which can access to the cafe and library at the first floor
- ~ The rectangular lighting fittings are hanged from the ceiling on the main lobby, where the waiting hall in front of the courtrooms have the skylight provided with the fluorescent tray-light in the same grid

##### *Courtrooms*

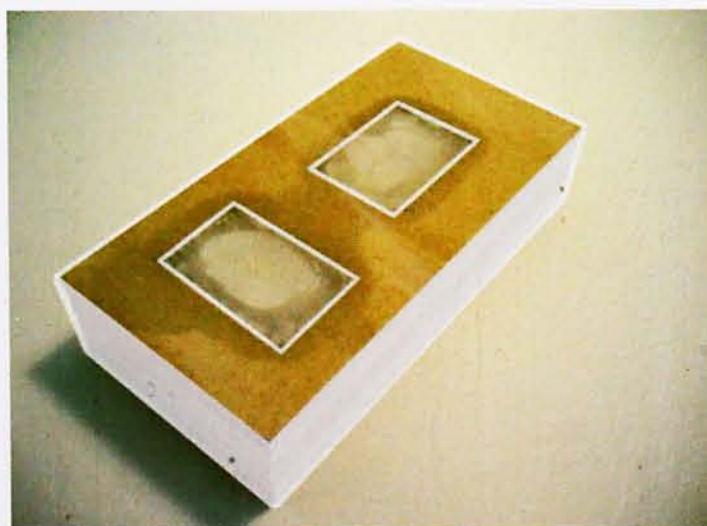
- ~ The courtrooms are decorated with series of artistic drawings along the wall, opposite to the windows, which the artist considered "...as develops a quality as a place independent of the location of the support, and of the architecture, serving neither as an illusion that may open a window to another world, nor discussing the painted surface as the only discernible thing"
- ~ Fluorescent tray-light are also designed in a same size of grid, which imitate the skylight openings at the waiting hall

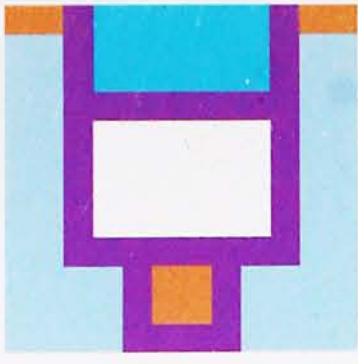


*Cross Section*



*Longitudinal Section*





## HIGH COURT AT 'S-HERTOGENBOSCH

### CHARLES VANDENHOVE

#### DESIGN INTENT

"The high court is named 'the Palace of Justice', which is orientated along the longitudinal and is constructed in strict symmetry. The complex is made up of blocks of unequal height, arranged according to the plan of a traditional palace, with a long outer facades and inner courtyard, which create a closed and disciplined impression. The theatrical and monumental central axis runs perpendicular to the street, where the inner courtyard do not percolate through to the outside world."

#### STUDIES

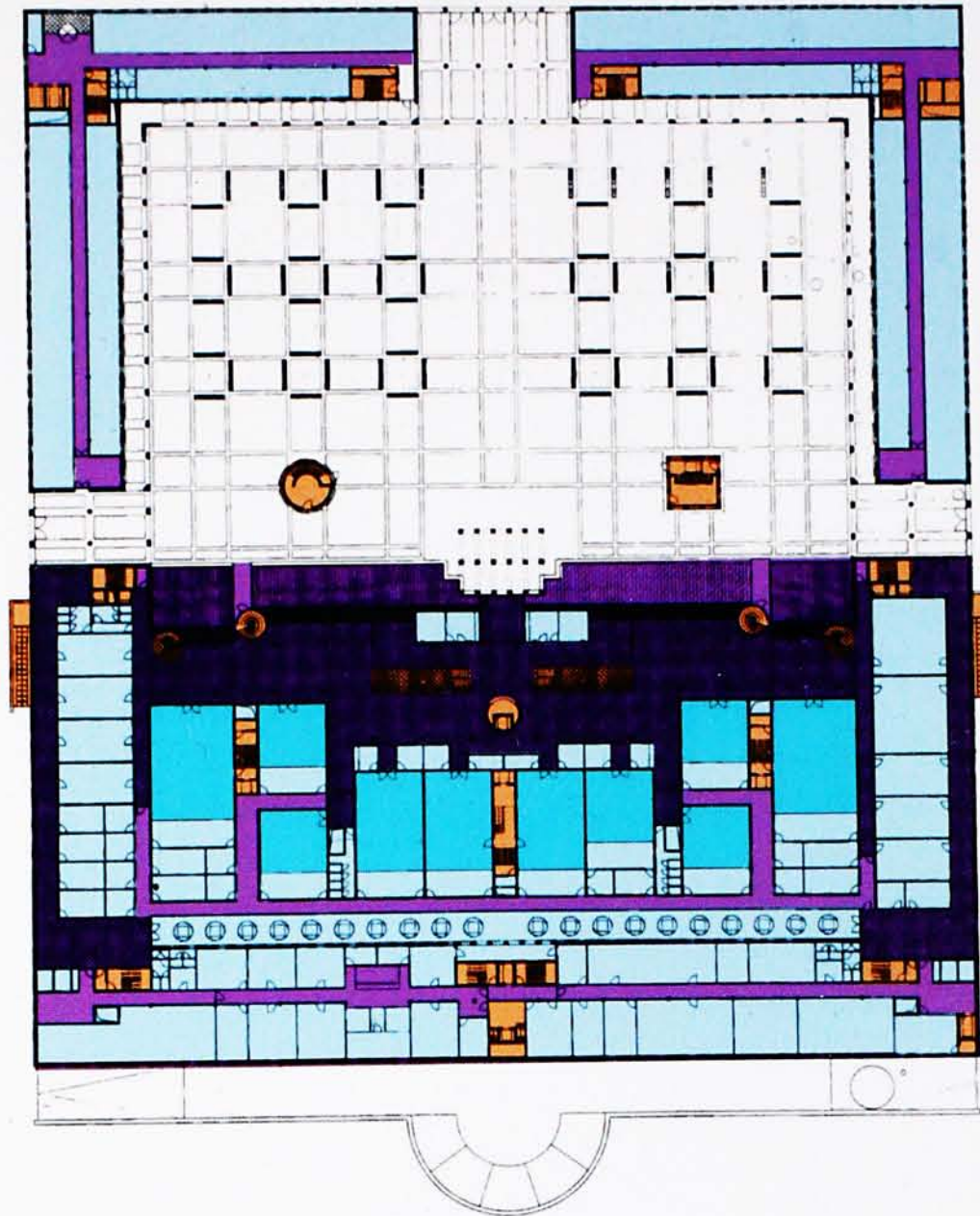
##### Functional Organization

- ~ Numbers of blocks formed the whole building complex, with a 2-storey building particularly for the courtrooms, which accomodated 10 no. of courtrooms on the gorund floor and 6 on the first floor
- ~ All the administrative and service rooms are localized in a palatial block of brick-built sections, which dominates the surroundings
- ~ The courtrooms are separate from the offices and situated in a lower block of light concrete, steel and glass, islated from the brick sections. The building for courtroom is designed to be surrounded by the office blocks, where corresponded to the inner courtyard in front
- ~ There are separated lifts and staircase for the visitors / litigants and the staffs / officers and judges respectively. The staffs / officers and judges can access the courtrooms without crossing the public passages
- ~ The building for the office is a double-loaded corridor, which is simple and straight forward throughout the building

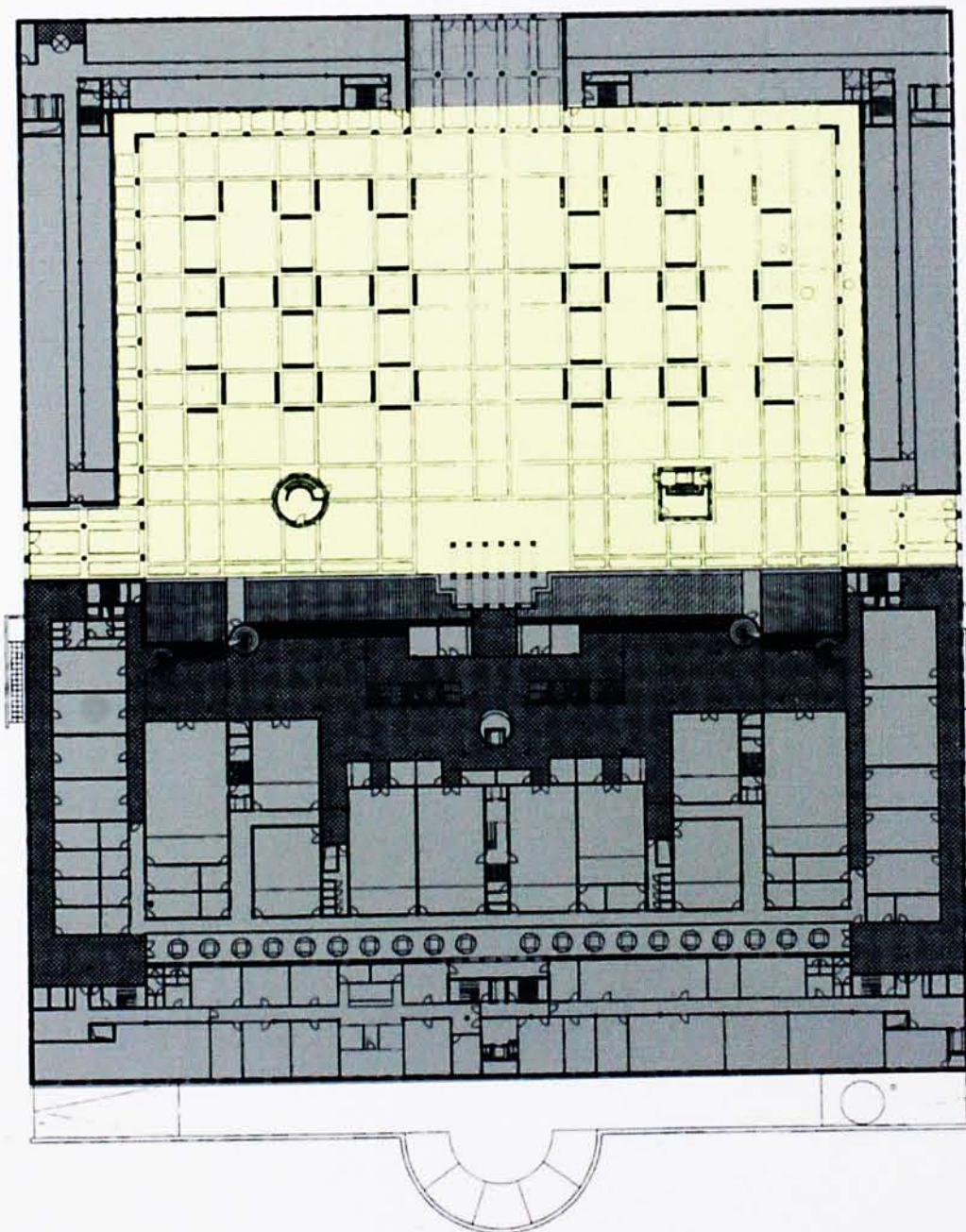
##### Spatial Organization

###### *Courtyard*






- ~ The open aspect of the courtyard is reinforced at ground level by a colonnade in rustica, which surrounds the courtyard, lightening the low sections of the side wings and attempted to give the courtyard something of the atmosphere of a Roman forum or Greek agora
- ~ The courtyard is served by two low porticos in the wings, which contain the service entrances
- ~ The inner courtyard is probably the focal of the building complex, which can be seen from all wings of the office block
- ~ The inner courtyard is preceived as an lighting mass, provide a volume of light, inserting into the solid building mass



Typical floor plan



Typical floor plan - diagram

- |   |  |  |                        |   |               |
|---|--|--|------------------------|---|---------------|
|  | Supportive area<br>- office, judges' chamber, etc. |  | Vertical Circulation   |  | Lighting Mass |
|  | Courtrooms   |  | Horizontal Circulation |  | Solid Mass    |

# HIGH COURT AT 'S-HERTOGENBOSCH

CHARLES VANDENHOVE

## STUDIES

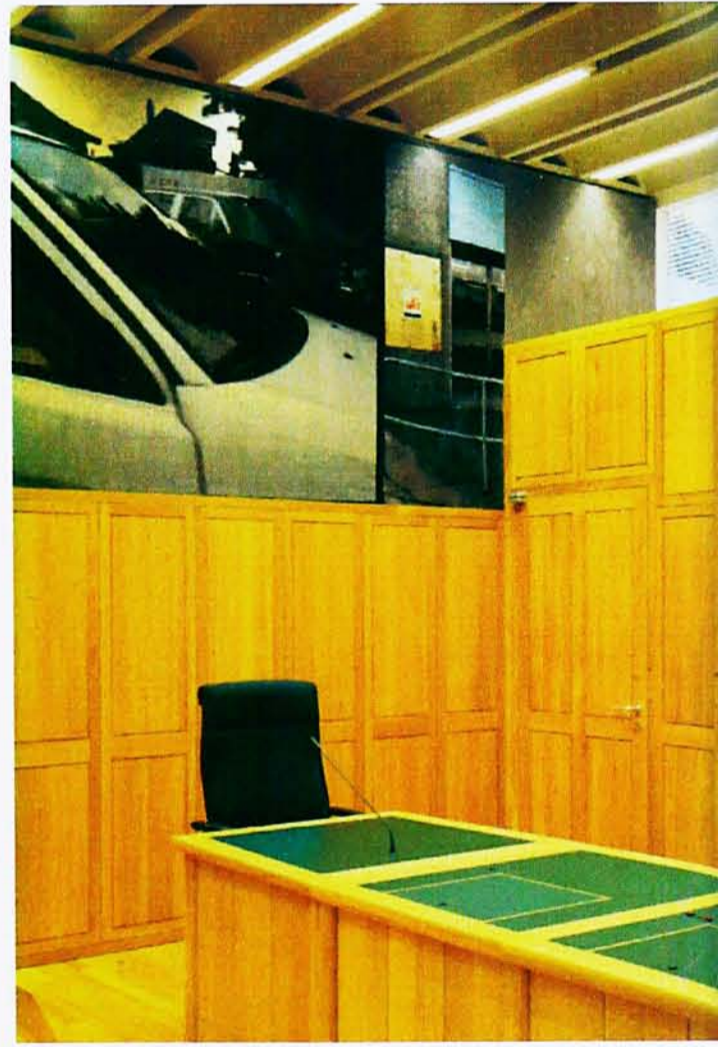
### Spatial Organization

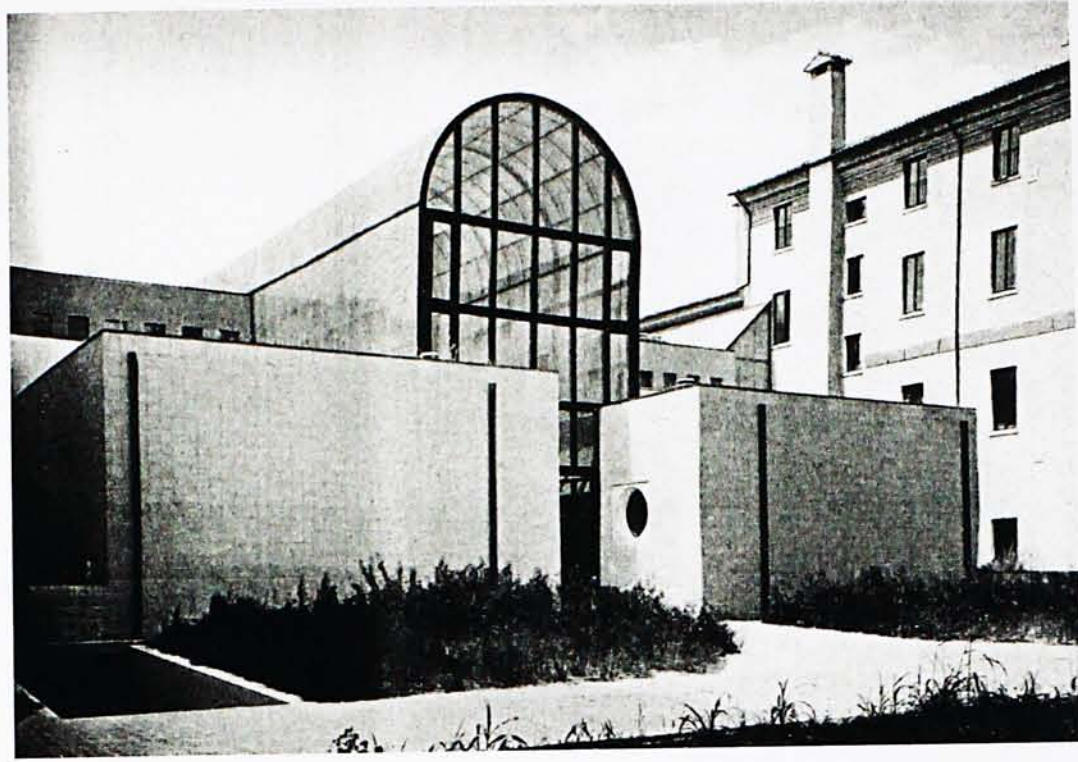
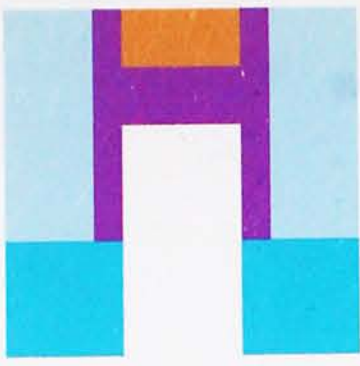
#### *Main Complex*

- ~ The main section of the complex is truly high and dominant. In the centre is a vertical stripe four window wide, incorporating loggias with solid blank walls.

#### *Courtrooms*

- ~ The courtroom complex comprises five monumental round concrete sections, which curve upwards and are set off in the hall with alternating recessed glass alcoves. The natural light is allowed to flood into the hall indirectly that no view of the sky or the facades around the courtyard can be taken
- ~ The courtroom complex is clear-cut to the office blocks, where a broad hall with a circulation perpendicular to the Palace, connects ten symmetrically-arranged courtrooms on the ground floor; two staircases are wide open to the great hall that provide access to a further six courtrooms





Ground floor plan

## COURTHOUSE IN FERRARA

ALBERTO TORTI

### DESIGN INTENT

"The idea of the project is to insert a modern architectural fragment, a new building that will instantly declare its foreignness to the context, but which at the same time, in substituting new for old, can integrate and consolidate the physiognomy and spatial characteristics of the existing and remaining buildings."

### STUDIES

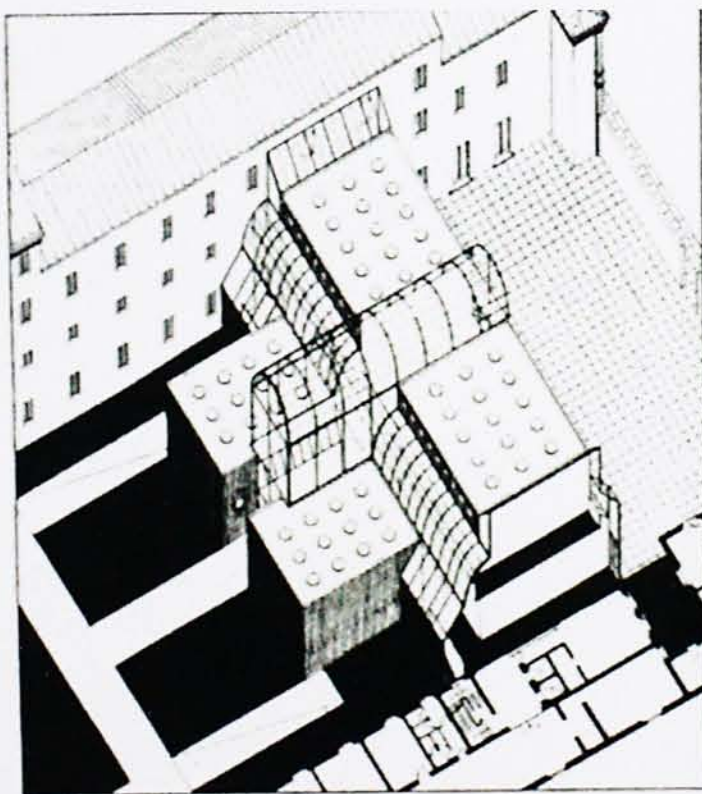
#### Functional Organization

- ~ A semi-arched suspended gallery, linking the four distinct court rooms, and emphasising the transverse axis, intersects the great glass gallery
- ~ On the ground floor are the four court rooms and related service spaces, on the first floor more chambers on the entrance and street side and on the semi-basement level are the security vaults with the judicial chambers and archives

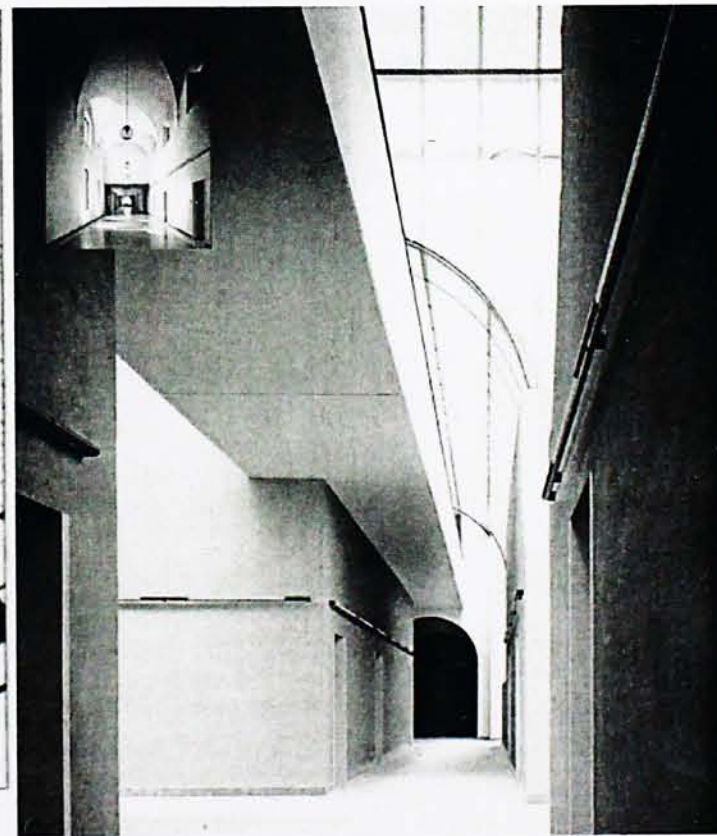
#### Spatial Organization

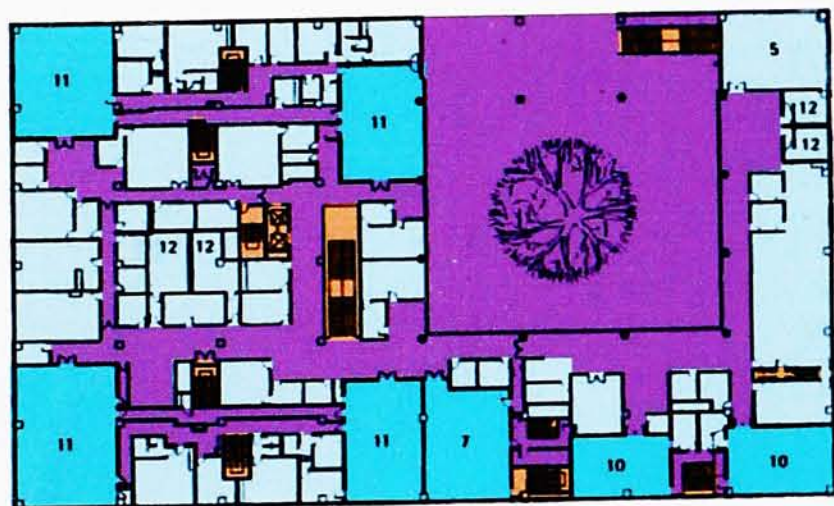
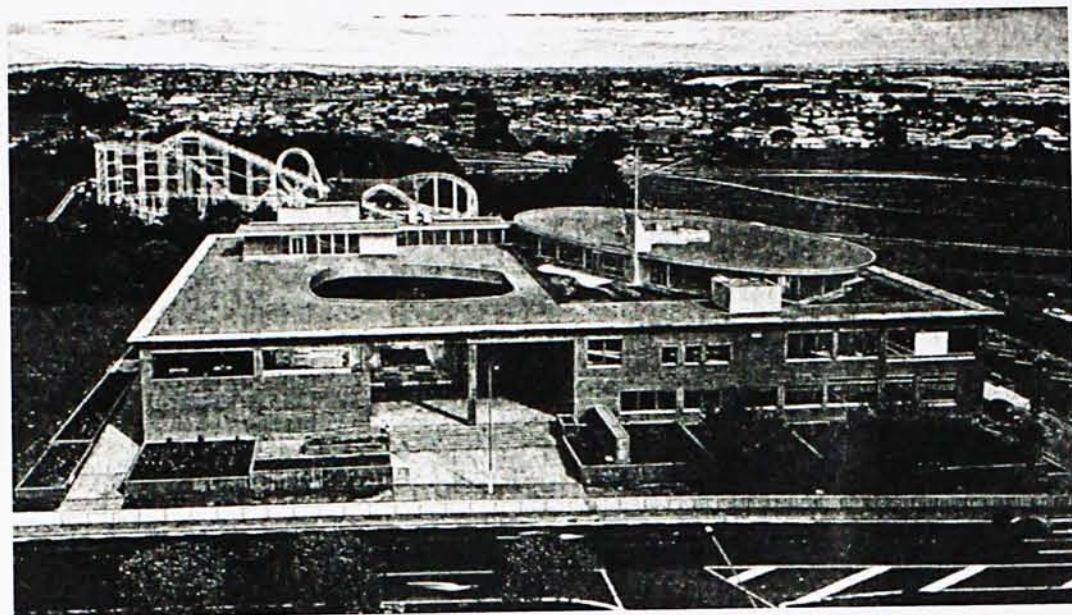
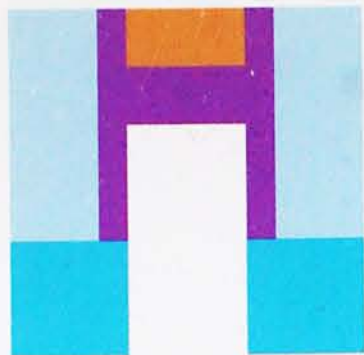
##### *Courtyard*

- ~ The gallery, which begins at the main entrance, faces across the internal courtyard to the clock tower on the centre of the porticoed wing
- ~ The courtyard goes with the central axis, that works as the transitional area of the building complex

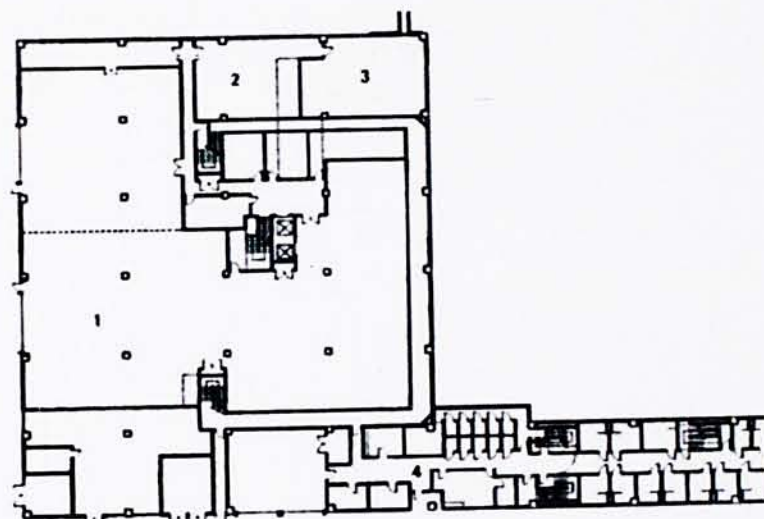


Assonometria/Axonometric.





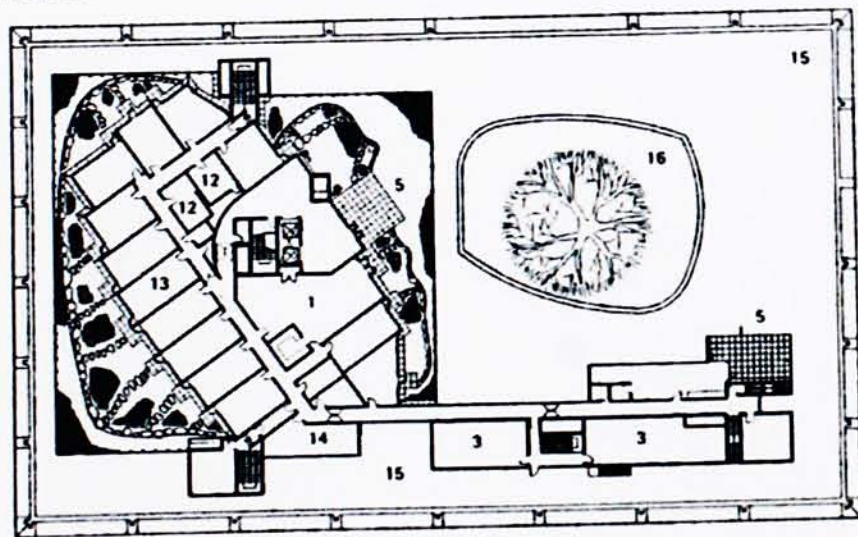
FIRST FLOOR PLAN



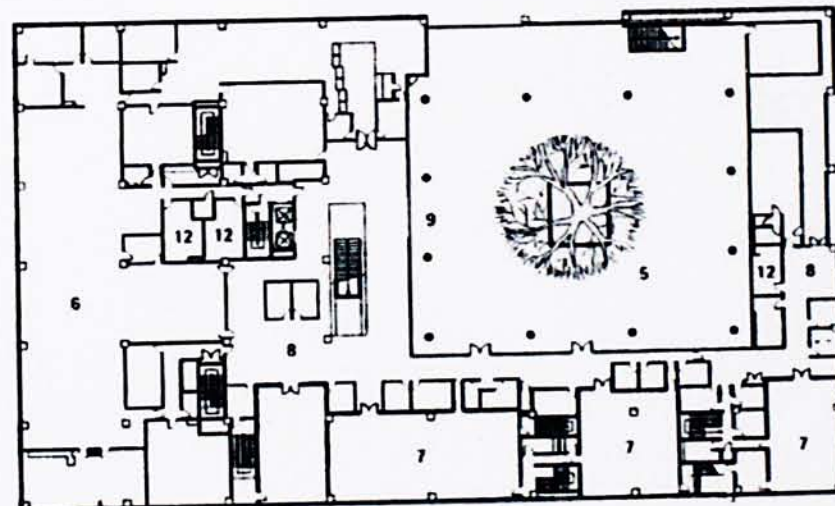
BASEMENT FLOOR PLAN

LEGEND

- 1 Parking
- 2 Store
- 3 Plant
- 4 Custodial area
- 5 Courtyard
- 6 Office
- 7 Courtroom
- 8 Waiting
- 9 Main entry
- 10 Family court
- 11 Jury court
- 12 Toilets
- 13 Judicial chambers
- 14 Library
- 15 Roof
- 16 Void above courtyard
- 17 Roof over chambers



SECOND FLOOR PLAN



GROUND FLOOR PLAN



## DISTRICT COURT IN MANUKAU

NOEL LANE ARCHITECTS

### DESIGN INTENT

"A crossover between the architecture and the art is introduced to the new courthouse in Manukau; with a pohutakawa stands in the centre of the ocular aperture. The earliest English textual reference to the holding of a district court is to 'Trees of Justice', the actual place of disputation being under the spreading branches of a prominent tree (the tree referred to the distinction between good and evil, air and earth)."

### STUDIES

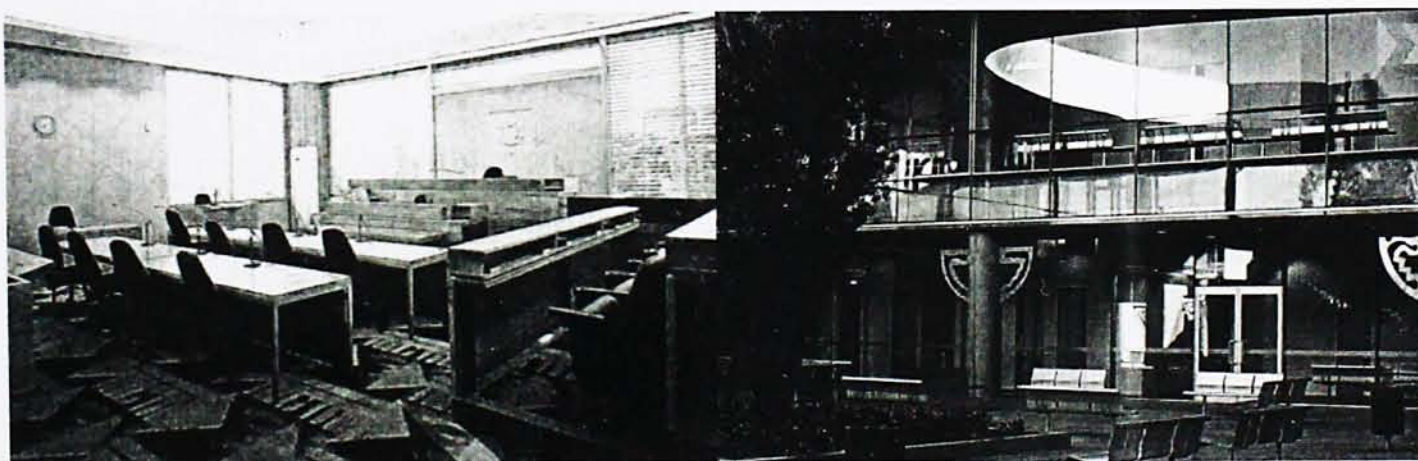
#### Functional Organization

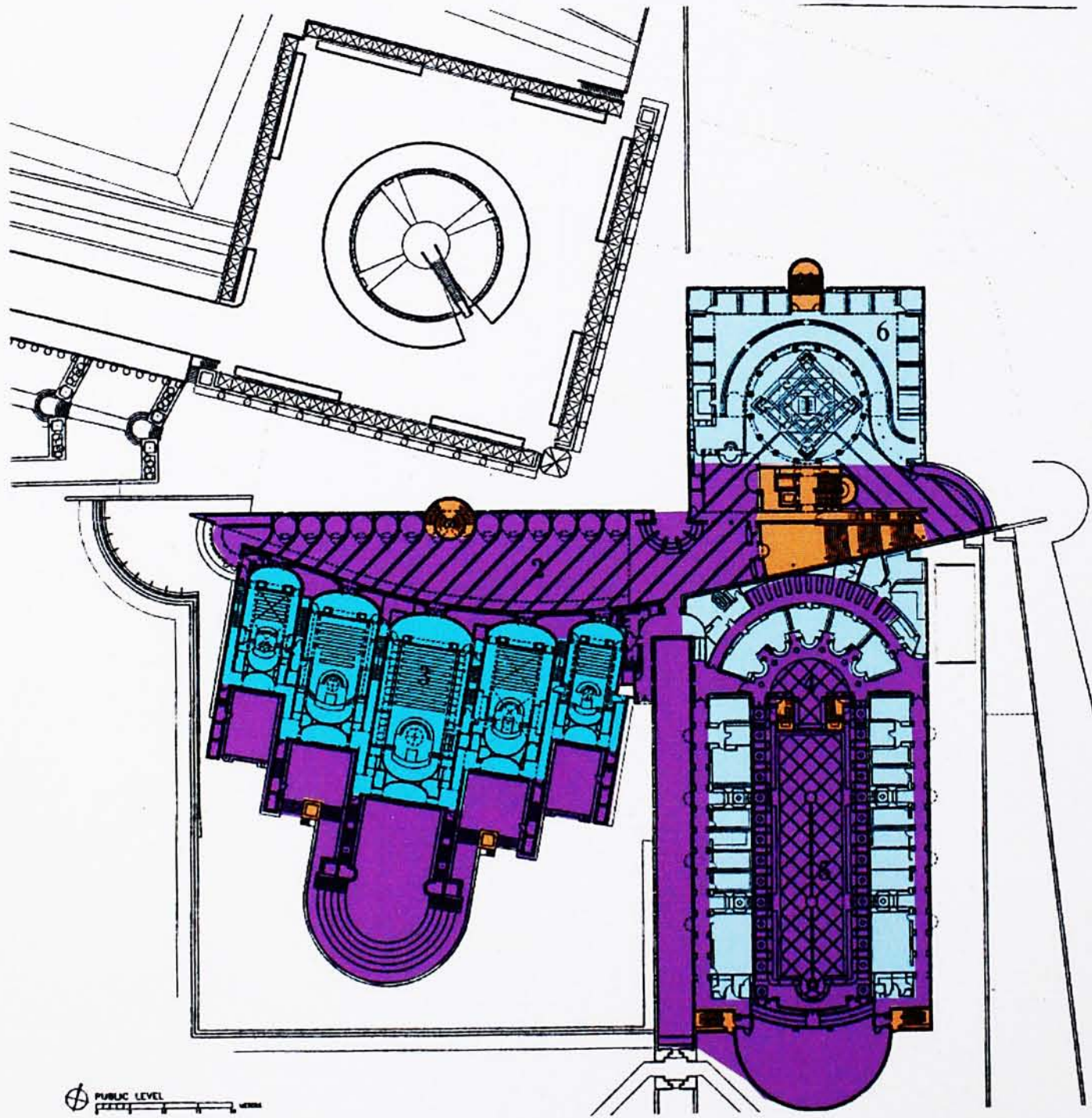
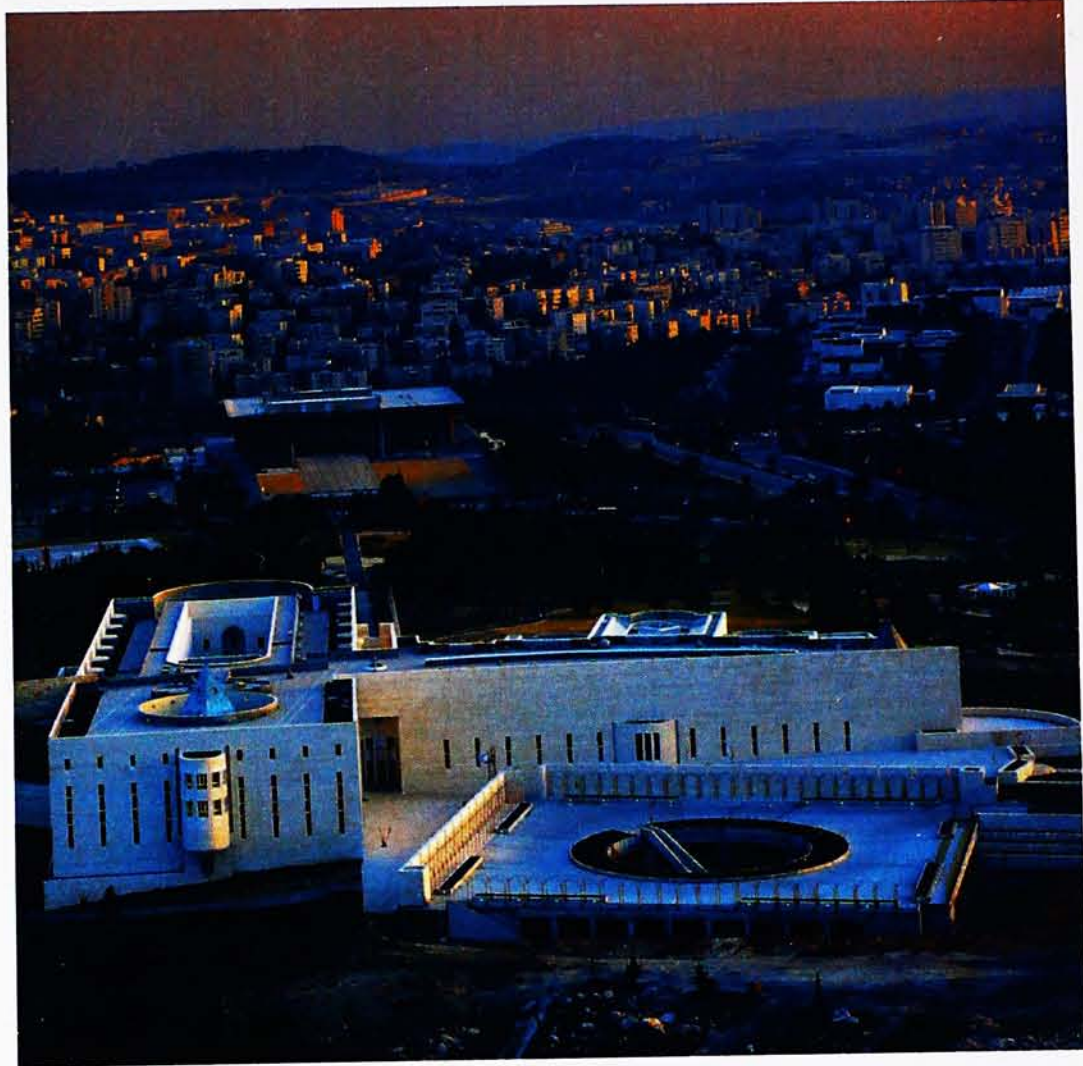
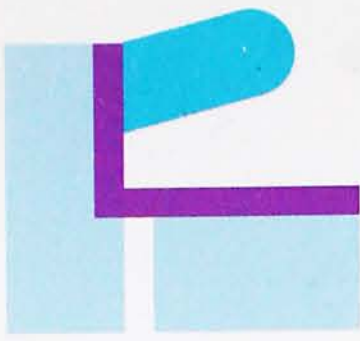
- ~ 11 courtrooms are located at the ground and first floor, with the ancillary offices in between and the judges' chambers and library are occupied the penthouse at top floor, overlooking to the roof terrace in front
- ~ A dedicated circulation systems are stipulated for the segregated parties' access to the courtrooms

#### Spatial Organization

##### *Courtyard*

- ~ The open-air courtyard is the main organising space, with an ocular opening to the sun and warmth, this is an enclosure and shelter from cold southerlies, rain and sun





First floor plan

## THE SUPREME COURT IN JERUSALEM

KARMI ARCHITECTS

### DESIGN INTENT

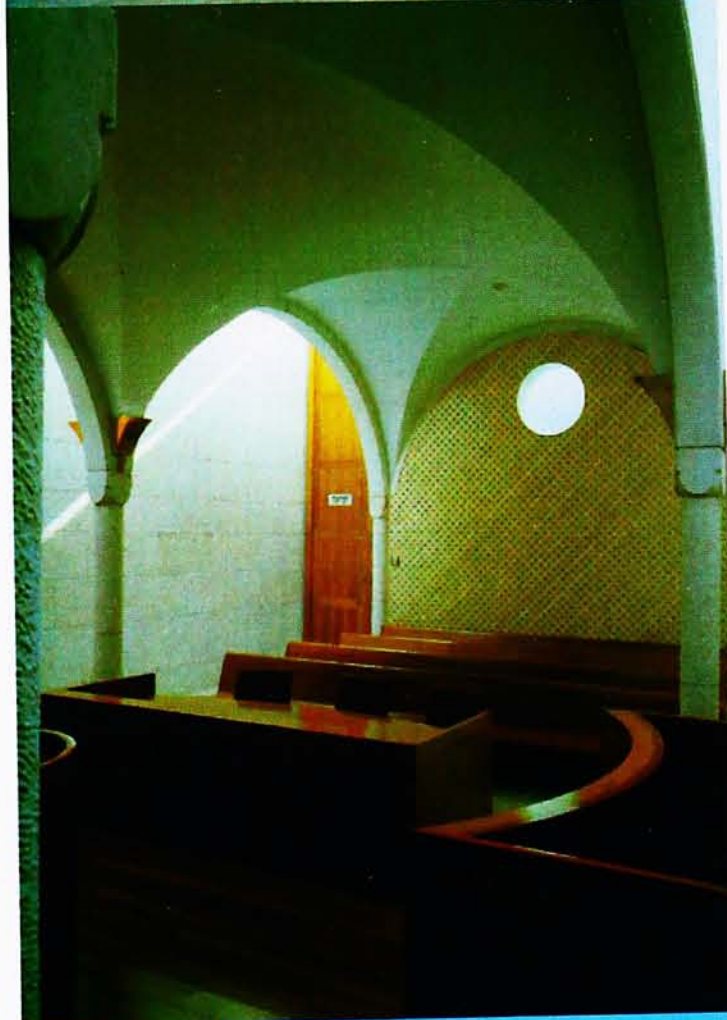
"The discipline of the building is based on two orthogonal axis: one derived from the topography of Jerusalem, the other from the ceremonial route across the bleak hilltop that constitutes Israel's government campus. The Supreme Court building, situated on the highest part of the government campus, where in the heart of the modern city, is clad with the same local Jerusalem stone."

### STUDIES

#### Functional Organization

- ~ The building complex, comprise of the courtroom building, the administration building with the library and the sunken carpark
- ~ 5 no. of courtrooms on a single storey building with various height and size
- ~ The public colonnade between the administration block and the courtroom building, led visitors to the main lobby and the courtroom foyer, where the sequence of spaces accompany the major routes through the building
- ~ There are separated entrance to the courtrooms, where the visitors / litigants are entering through the courtroom foyer and the staffs / officers and judges are entering from the internal corridors without crossing the public passages
- ~ To fulfil the alignment of the two axis, the buildings for the courtrooms and the administration are juxtaposed in a acute angle, with distinct building form, facade and separated entrance
- ~ An internal courtyard for the judges is enclosed by the administration building
- ~ The sunken carpark building is designed in another distinct form and structure from the two major buildings
- ~ The 2 conical roof features highlighting the library and the west end of the courtroom foyer





# THE SUPREME COURT IN JERUSALEM

## KARMI ARCHITECTS

### STUDIES

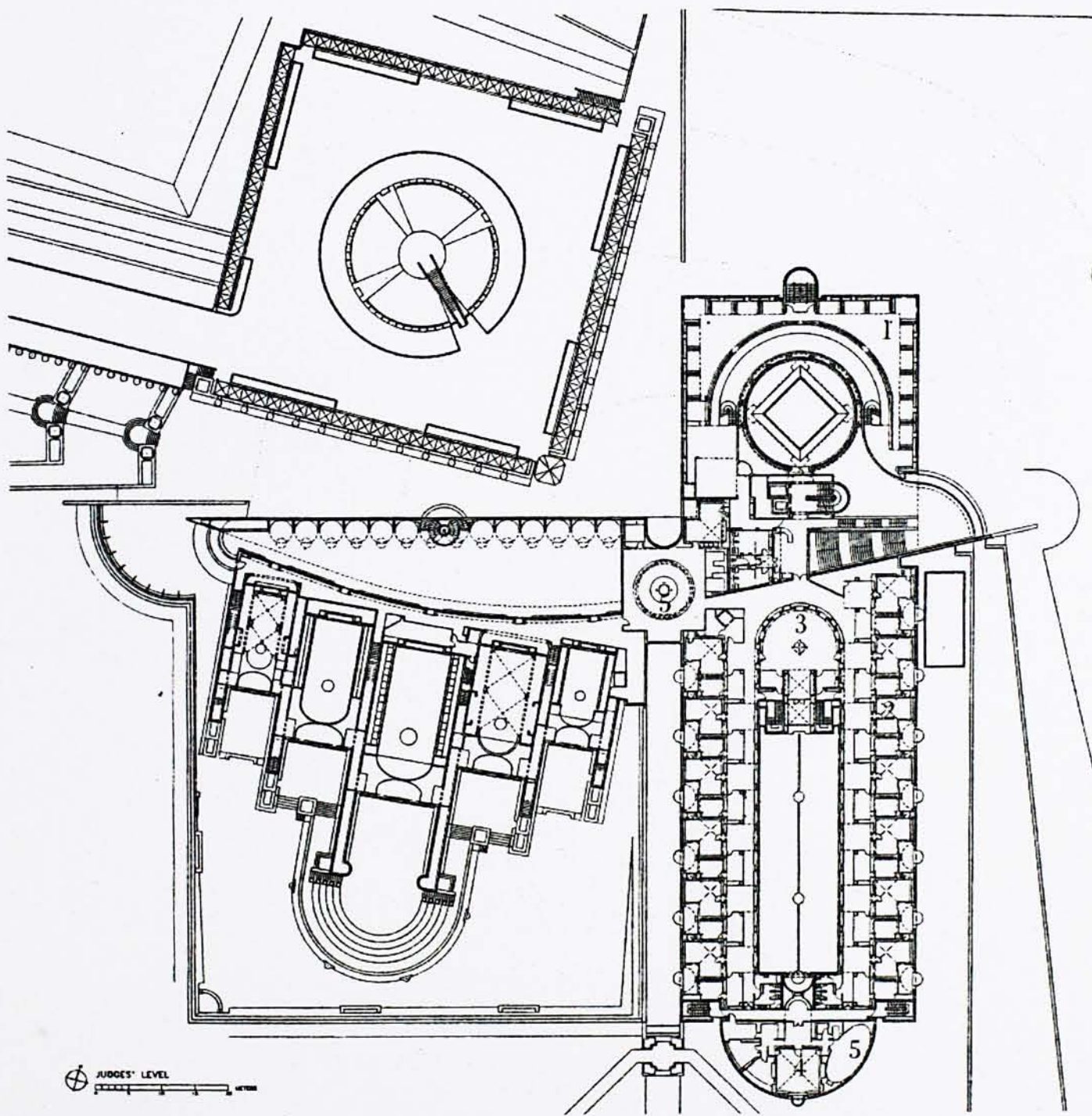
#### Spatial Organization

##### *Courtroom foyer*

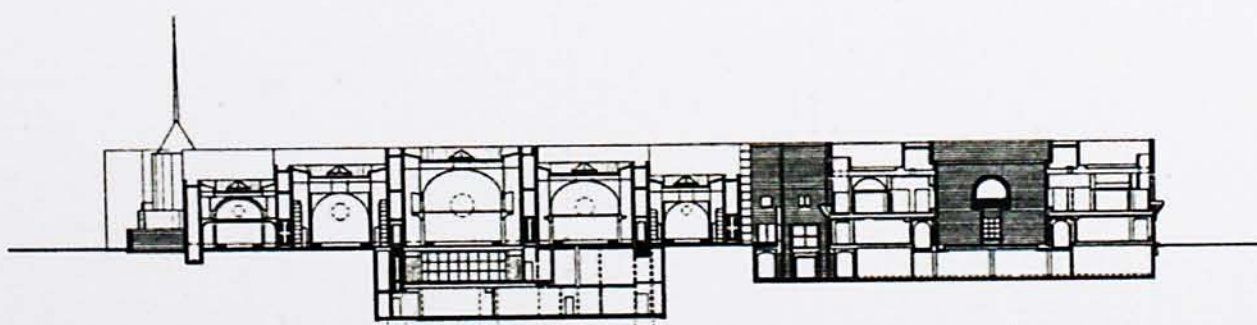
- ~ The long and curved north-facing wall, built from bush-hammered stone, projects the ceremony that takes place in the courtroom behind it. A soft neutral light from a hidden opening above continuously glows over this wall throughout the day.
- ~ The opposite wall is made of white plaster, which composed of a series of 'light wells' that magnify its volume, creating intimate waiting areas for the public

##### *Courtrooms*

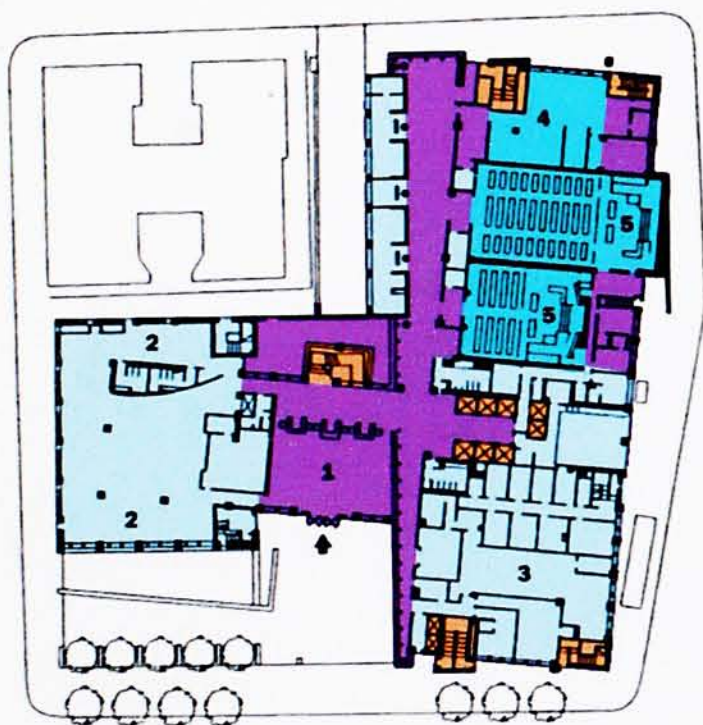
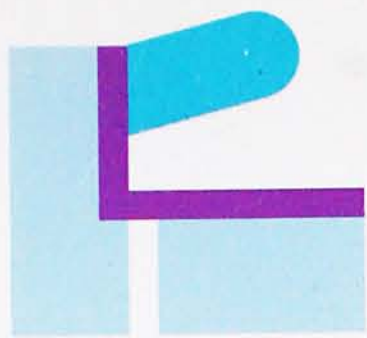
- ~ There are standard circular shape of skylight for each of the courtrooms, while the light washing along the side wall are designed in different ways
- ~ The five courtrooms are in different size and height; the center one with the highest headroom and floor area, which descending in scale to the courtrooms on the two sides



Second floor plan



Section through courts & administration wings



FIRST FLOOR



- |                          |                         |
|--------------------------|-------------------------|
| 1. Lobby                 | 5. Courtroom            |
| 2. Jury area             | 6. Small claims office  |
| 3. Court clerk's office  | 7. Judge's area         |
| 4. Landlord/tenant court | 8. Judgment and appeals |



SECOND FLOOR



THIRD FLOOR

# QUEENS CIVIL COURTHOUSE IN NEW YORK

## PERKINS EASTMAN ARCHITECTS

### DESIGN INTENT

"To integrate the courthouse with its diverse neighbours - including houses, apartment buildings and low-rise retail business - the rectangular block of courtrooms located at the north end of the site, which aligned with the adjacent side street. The jury portion of the building was aligned with the Supreme Court building on the south, which built during the 1930s. The resulting setback allowed the architects to extend the public plaza in front of the Supreme Court across to the entrance of the new courthouse."

### STUDIES

#### Functional Organization

- ~ The building complex, comprise of the two buildings with distinct function: a four-storey cube for jury selection and waiting facilities; a five-storey rectangular wing for courtrooms, court clerks' offices, and judges' chambers
- ~ 20 no. of courtrooms grouped together on four floors in one wing and served by a central public elevator core
- ~ The fifth floor is devoted exclusively to the judges' chambers, conference rooms, and a law library.
- ~ Small robing rooms and jury deliberation rooms are located behind individual courtrooms to accommodate private meetings
- ~ A departure behind individual courtrooms, which allows for a more efficient separation of public and private functions
- ~ The jury and courtroom blocks intersect at the south edge of the building lobby in a glass-enclosed, wedge-shaped atrium, which contains multistorey corridor as a public waiting area and also provide public access to courtrooms and offices

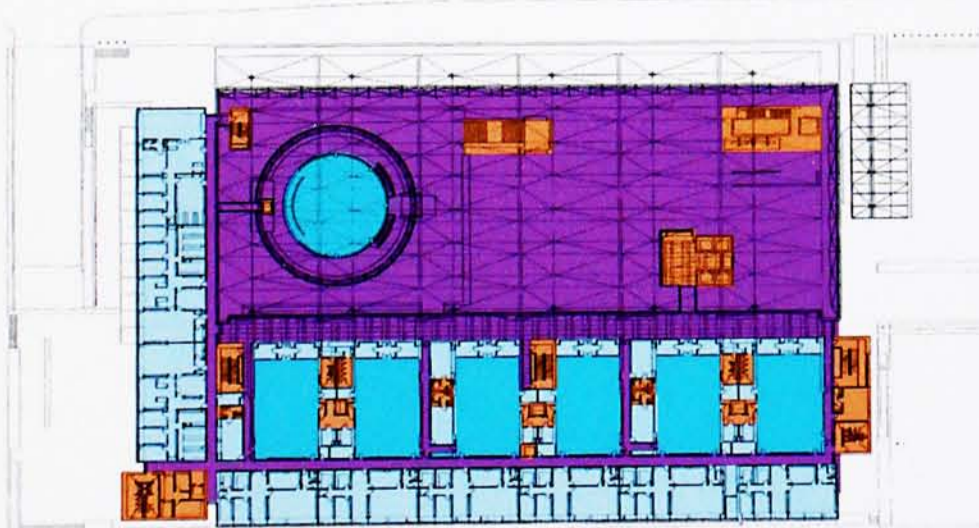
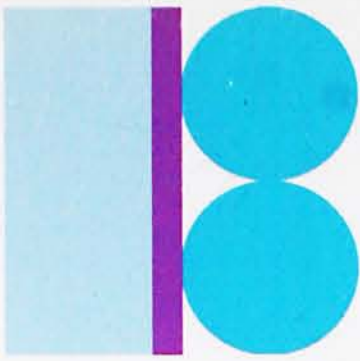
#### Spatial Organization

##### *Jury and Courtroom Blocks*

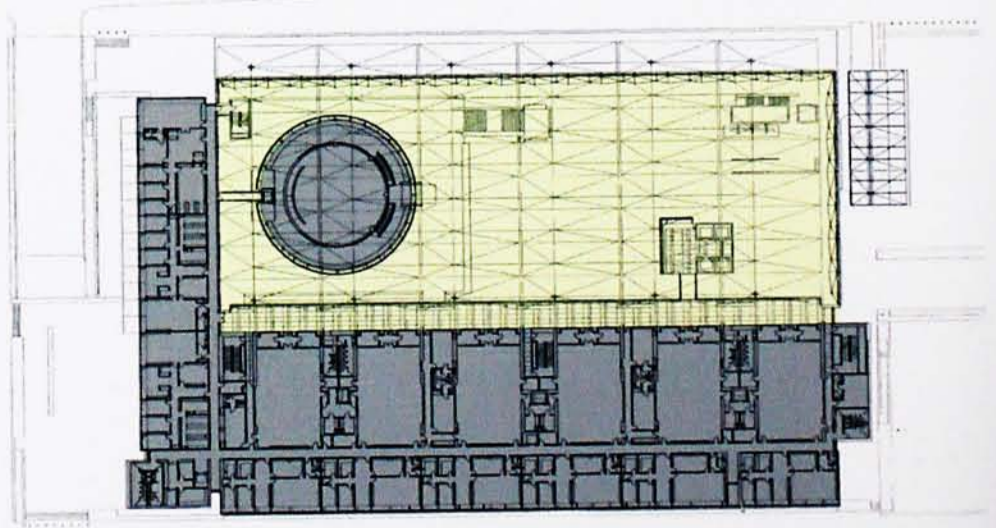
- ~ The cube and the rectangle are linked by a glass-walled atrium lobby that provides a transparent entrance for the building
- ~ The entire front of the jury assembly room is also built of glass and overlooks a public plaza, giving the jurors a sense of connection with the outside community, where maximizing daylight was a priority in desinging the building









*The largest courtroom is flooded with natural light from the skylight along the south wall*



Fifth floor plan



Fifth floor diagram

- |   |  |  |                        |   |               |
|---|--|--|------------------------|---|---------------|
|  | Supportive area<br>- office, judges' chamber, etc. |  | Vertical Circulation   |  | Lighting Mass |
|  | Courtrooms   |  | Horizontal Circulation |  | Solid Mass    |



# FEDERAL BUILDING & UNITED STATES COURTHOUSE IN ARIZONA

RICHARD MEIER & PARTNERS

## DESIGN INTENT

"The building as a great civic room, which located downtown of Arizona, is contained within an enormous glass box in a desert, where summer temperatures can reach 50°C. The design priority of the building is the climate control and a sophisticated use of ventilation and daylight demonstrate a keen sensitivity to the desert, where each facade is designed specifically for its orientation."

## STUDIES

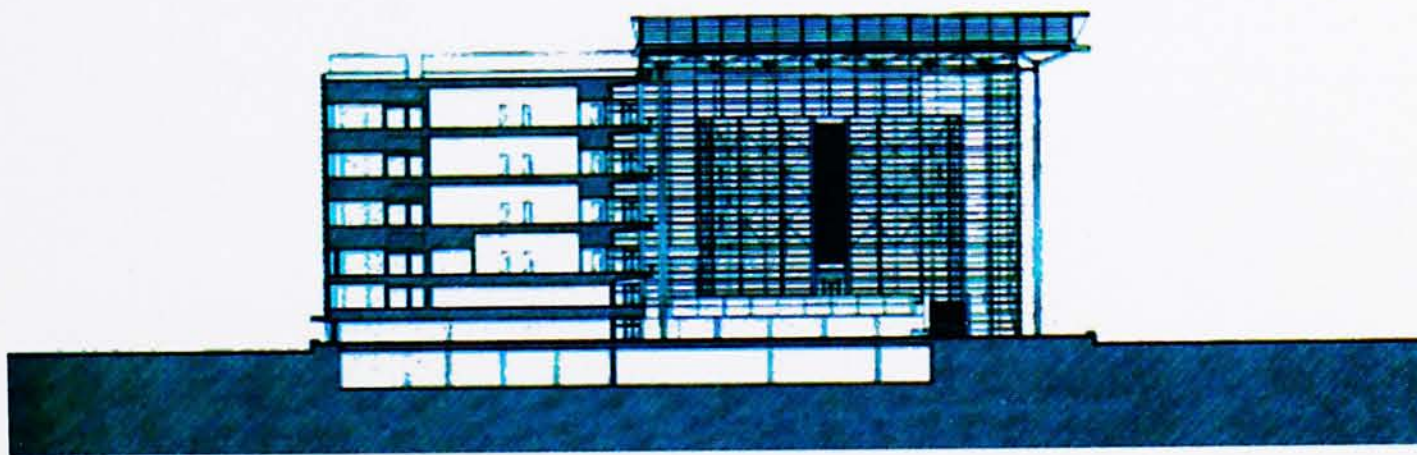
### Functional Organization

- ~ The six-storey building in central Phoenix occupies two blocks between the city's government and business districts; which has an immense, full-height, rectangular glass atrium
- ~ The transparency of the building is intended to change perception of the judicial process with the grand civic space
- ~ A two-storey glass cylinder containing the special proceedings courtroom in the centre of the building, with the 18 courtrooms are distributed round the rest of the building and the public galleries looking back into the atrium

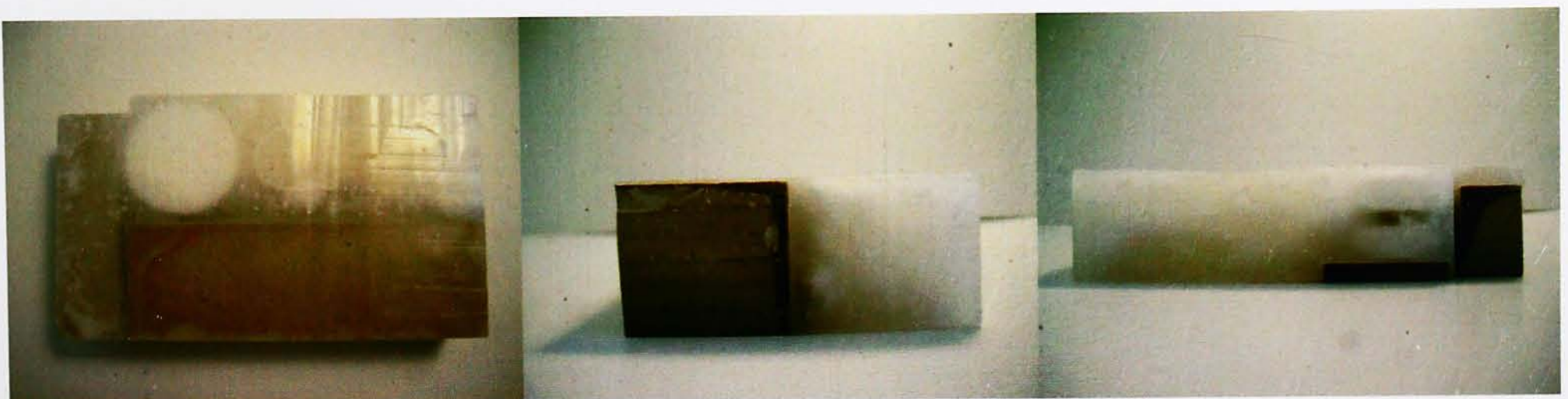
### Spatial Organization

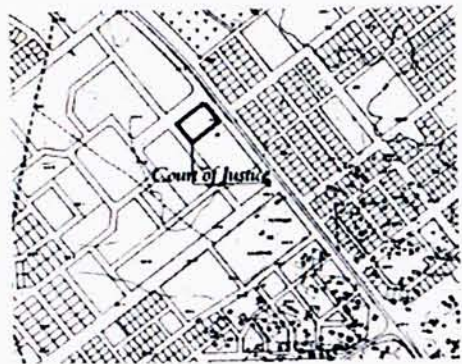
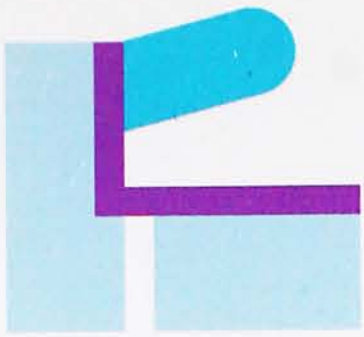
#### *Courtroom, office and atrium*

- ~ The courthouse is a single building, which unify more as a whole in the building form as compare to the other distinct-type of building, but the distinction can still be reflected on the building organization: the 'solid' part of the building on the south and west side, which are the office and the courtroom; the 'void' part of the building across the north and east side, which is the atrium
- ~ Within the 'void' volume is the glass cylinder containing the special proceedings courtrooms, which distinct from the general courtrooms on the south wing

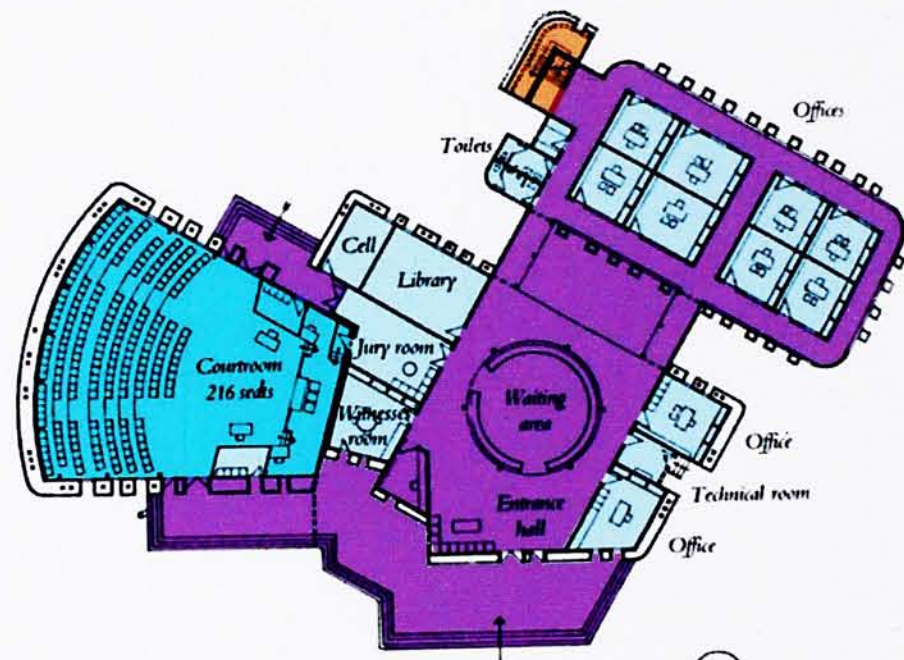
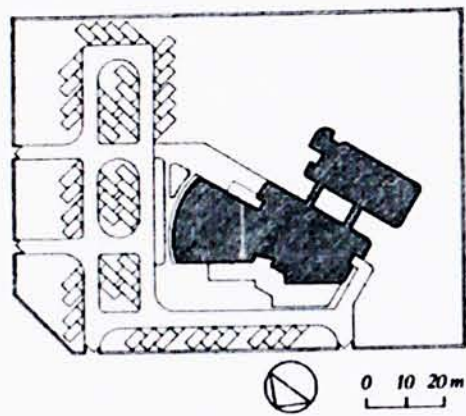


Section

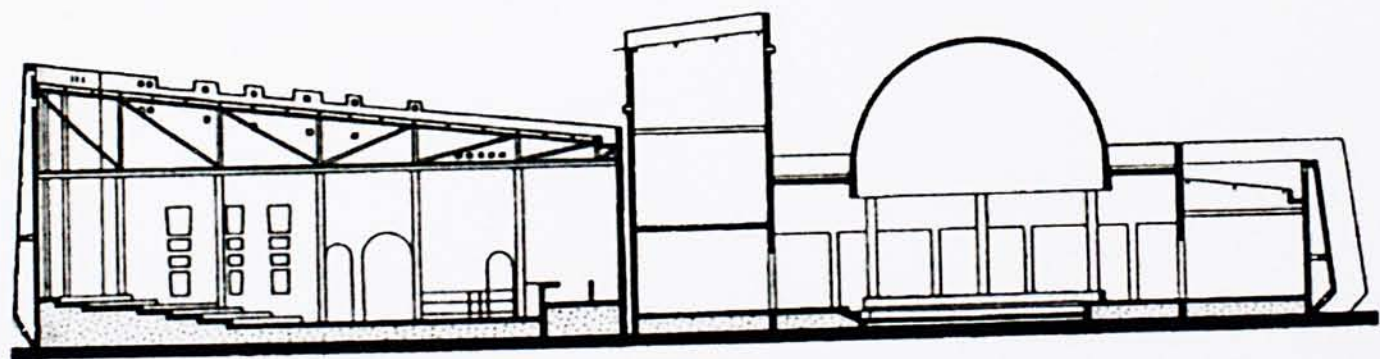




Left: Site plan of the Court showing the urban fabric of Niamey.  
 Left, below: Plan of building volumes and site development.



Ground floor plan of the Justice complex in Niamey.



Section of the courtroom and entry

## COURT OF JUSTICE IN NIGER

### LASZLO MESTER DE PARAJD

#### DESIGN INTENT

"The Justice Courts typify the major concerns in design: the adaptation of the building to the rigorous climatic conditions in Niger and an attempt to integrate it successfully with local architectural traditions, in terms of composition of the three distinct parts of the complex."

#### STUDIES

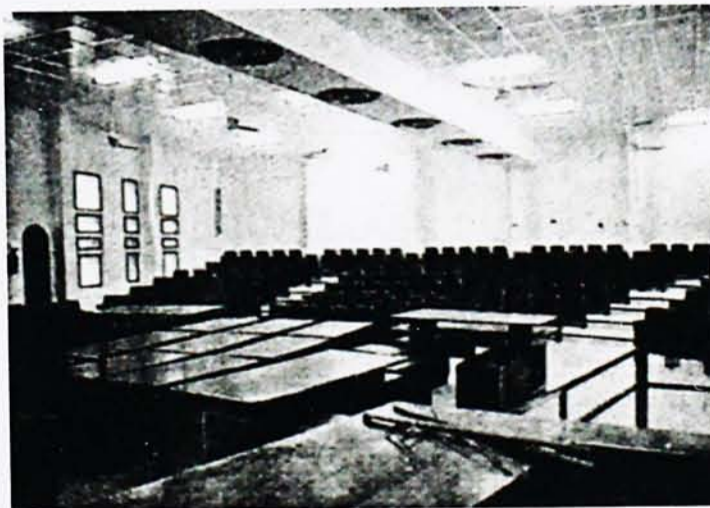
##### Functional Organization

- ~ The building comprises 3 distinct blocks: a block containing entrance hall, reception, judges' chambers and all other ancillary rooms; a courtroom with 216 seats; a two-storey block for offices which are reached by galleries protected by sun-screens

##### Spatial Organization

###### *Courtroom*

- ~ The courtroom is a fan-shape with radial row of seats, which distinct from the rest of the building complex; and small windows on the two side walls, that minimum the heat gain from outside but still keep a visual contact with it
- ~ The main entrance hall and waiting area is emphasized with the dome roof, which can be easily recognized by the visitors

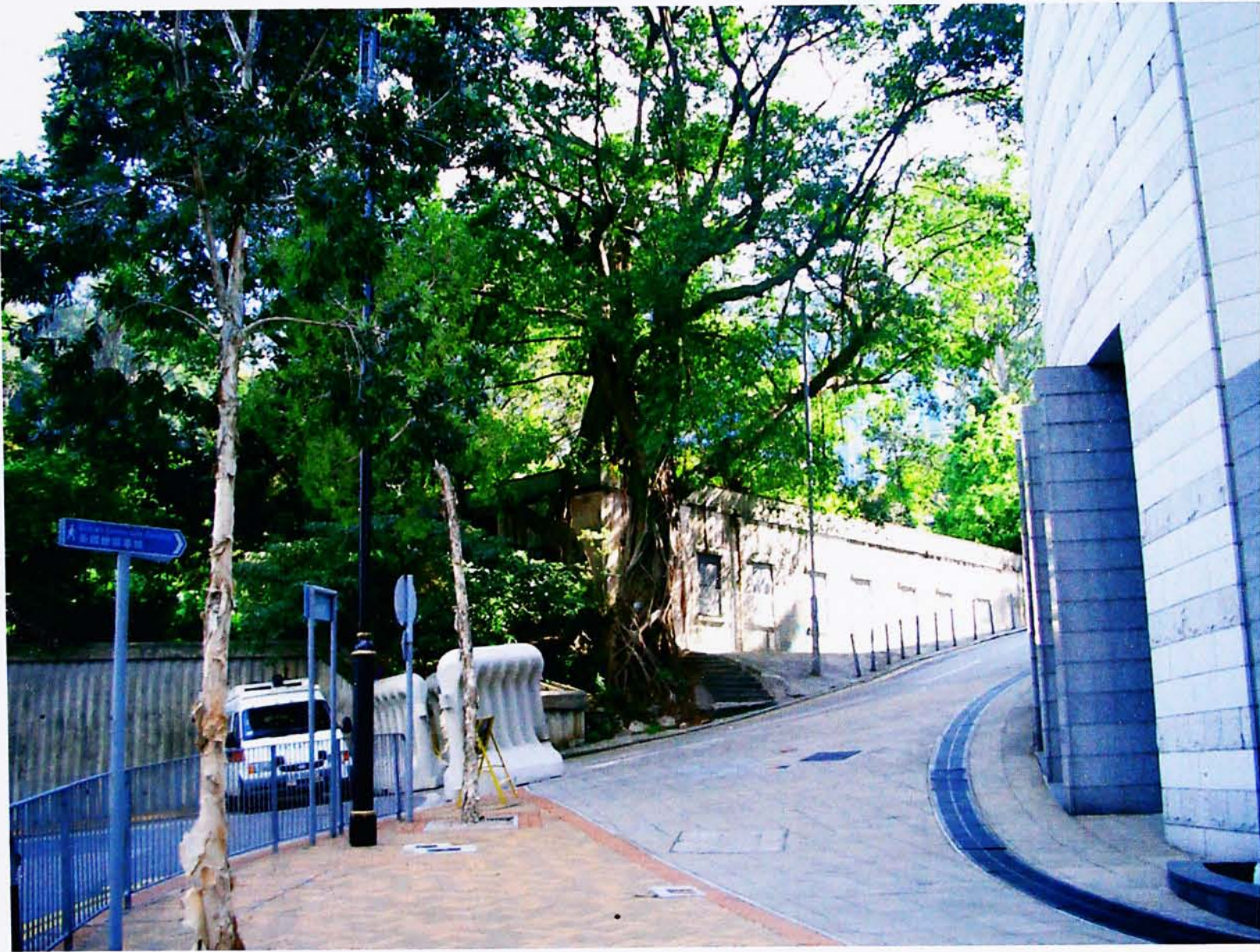


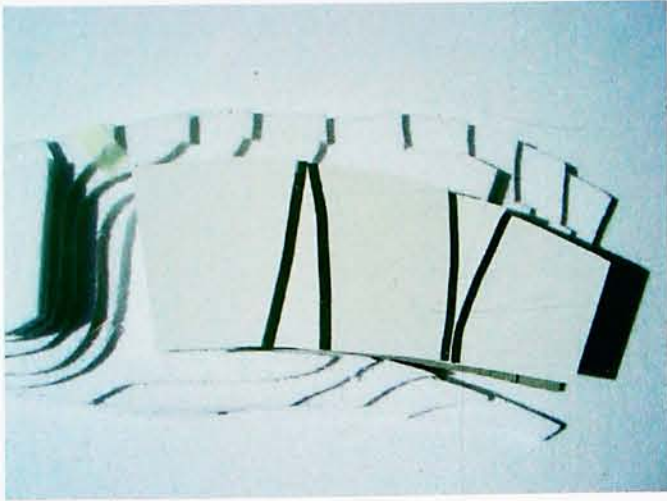
## SITE SELECTION

From the very beginning, I chose this site for another building program - the coroner court, one of the law court in Hong Kong. The site is occupied by an abandoned building, with a single storey, which own by the government. It is located on a hillside, with a canal and valley on one side, right behind the Cornad Hotel at the Pacific Place in Admiralty, which is also adjacent to the British Consulate, and just a short distance to the Hong Kong Park.

After a couple visit of the site, I found its potential and clarity; the beauty of the natural landscape and people walking through the site for hiking. I think it would be more suitable and convincing to have the program of designing an Information Centre of Walks, Trails + Country Parks in Hong Kong, with the emphasis of '*light + space*'.

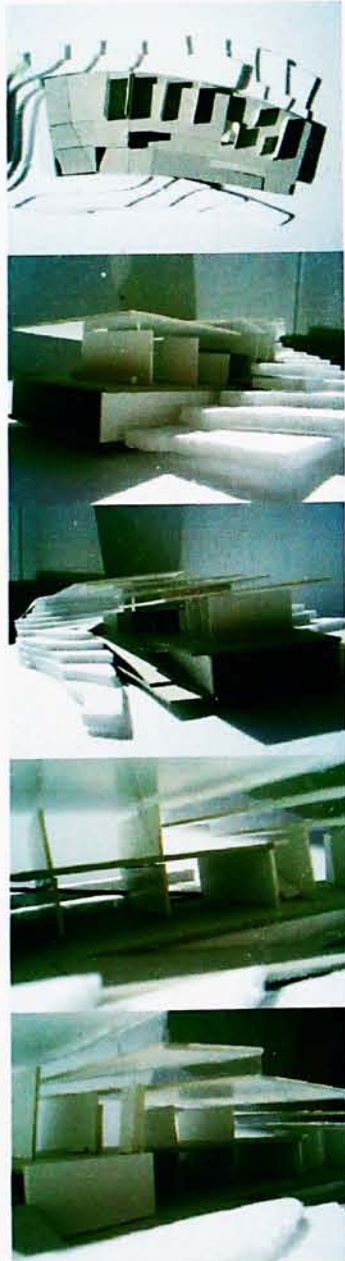
In general, this kind of information and visitor centres are located far away from the city and right in the country parks. Visitors can only obtain the relevant information inside those centres. As mentioned before, in my design, I would like to introduce an '*oasis*' right in the urban area, so to provide specific information of particular country parks and special areas, as well as education and promotion of nature conservation.



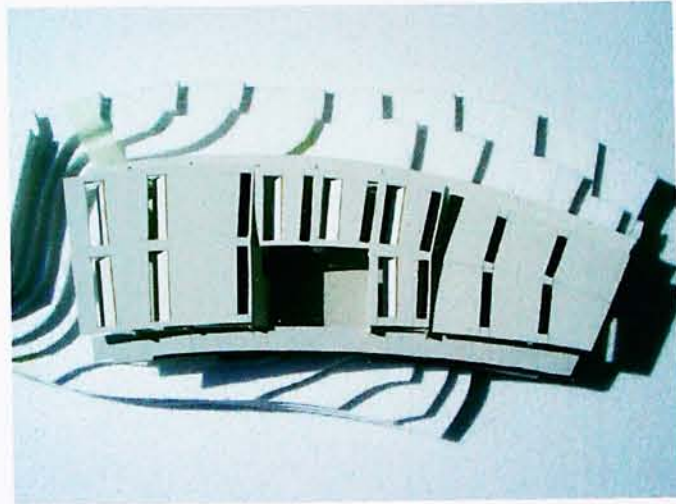


**Design Keywords :**

- Follow with the topography
- Continue the "edge" of the site
- View through the building to the landscape
- Promenade along the outer layer on two sides
- Roof slab defining the change on the floor level



**DESIGN 01**



**Design Keywords :**

- One-piece of roof slab with slot of openings and reflection panel to control light to different space
- Internal courtyard space encourage view to the landscape



**DESIGN 02**

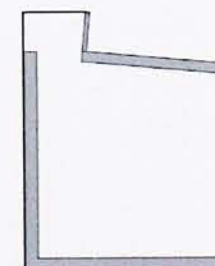
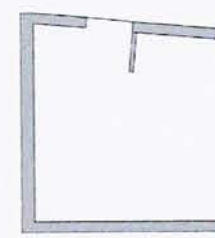
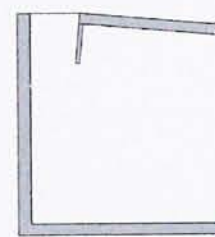
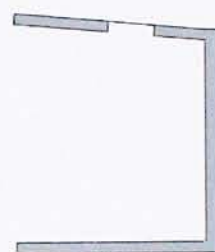
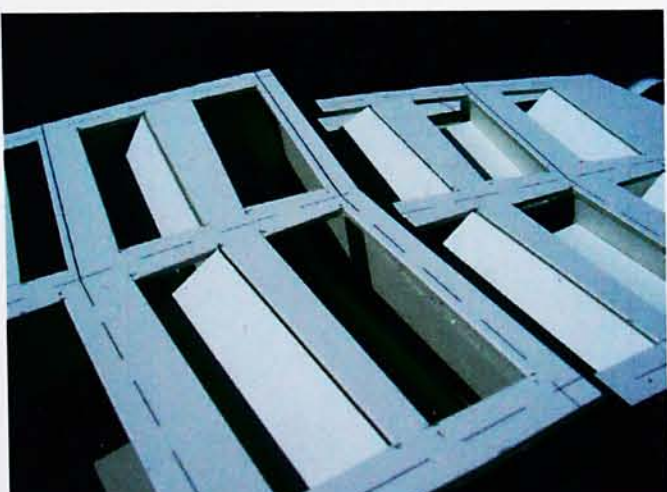
### Exploration of Skylight :

- Two-type of skylight design in respond to the high-latitude of sunlight into the space
- i. Direct light to enter along the wall surface
- ii. Re-direct light from the reflection panel to the wall + ceiling surface



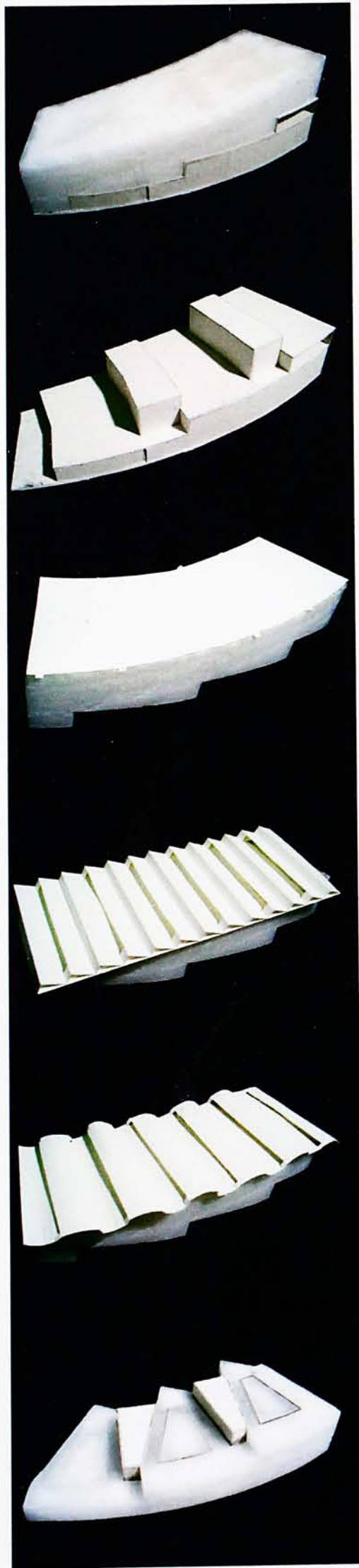
1 : 100 model

- partial model: experiment different configuration of roof openings and juxtaposition of the reflection panels, resulting in various effect into the space

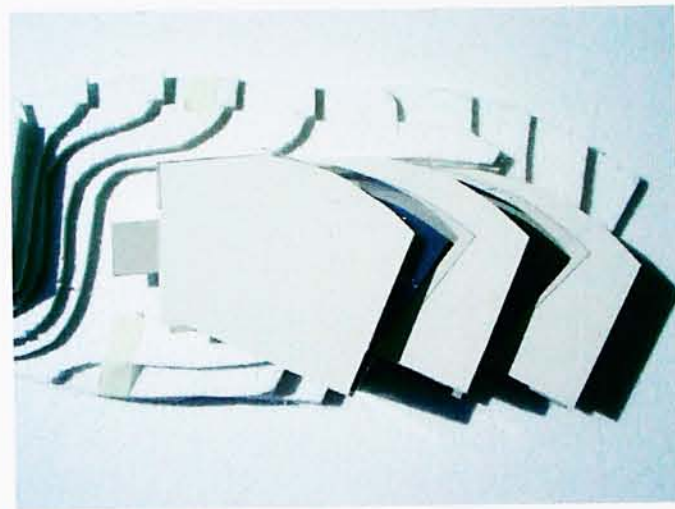


**Design Keywords :**

- Use wax to show the mass of light, with the solid ground
- Layering of ground and roof slab

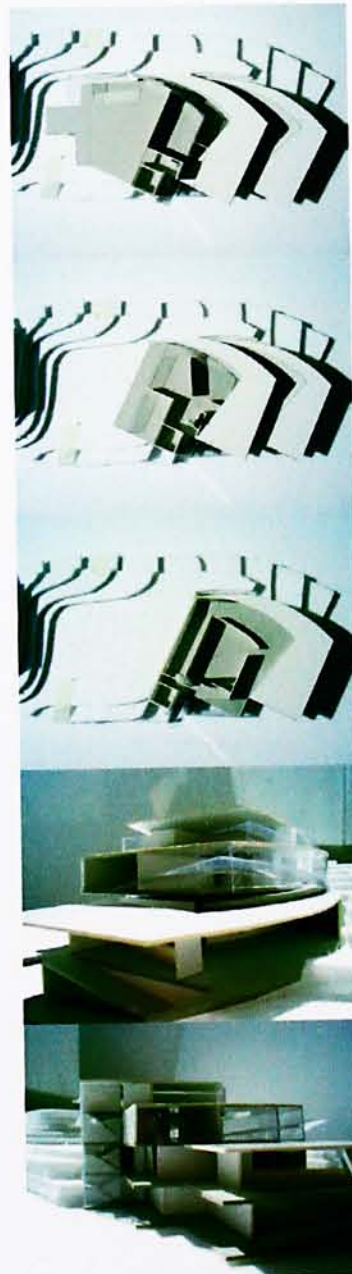


**CONCEPTUAL MODEL**



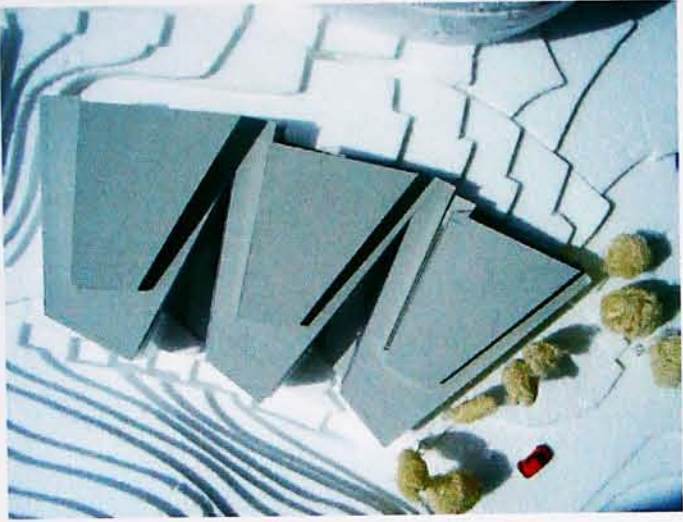
**Design Keywords :**

- Imitate the adjacent building footprint and with the repetition of the same form
- Enjoy the view from the building to the landscape
- Reflected light into the building from the stacking roof surface



**DESIGN 03**



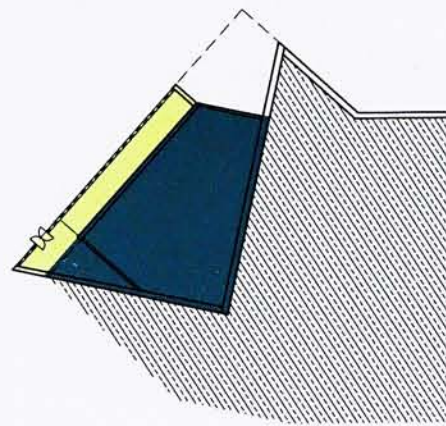


**Design Keywords :**

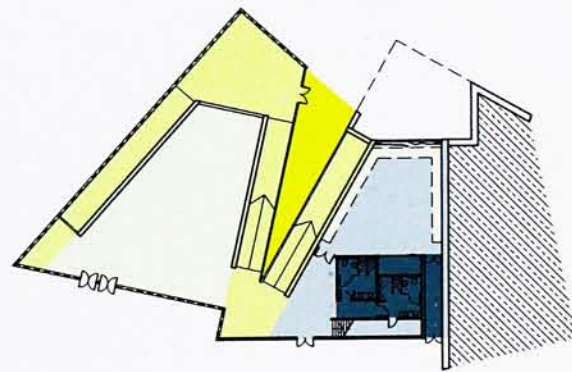
- Zigzag path to bring people from the lower level to the upper of the site
- Modular space for exhibition hall, bookshop and cafe with the function room, office and washroom on the lower layer
- The block of space interlock with the courtyard, that connect the space of inside and outside
- Lighting strategy: side light along the wall surface of the path and high-level light to each of the space, vice versa at night-time



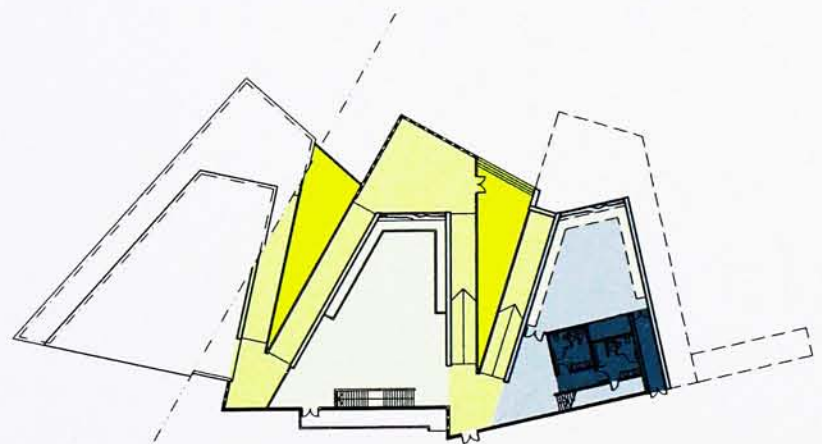
**DESIGN 04**



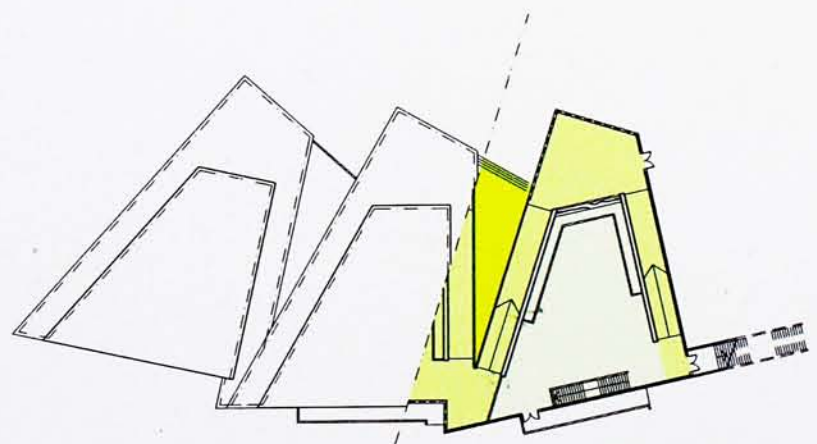
**LOWER GROUND FLOOR PLAN**  
1:300



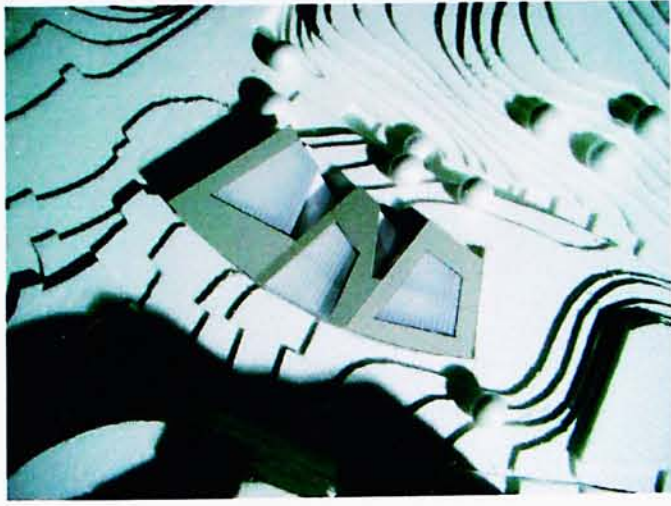
**GROUND FLOOR PLAN**  
1:300



**UPPER GROUND FLOOR PLAN**  
1:300



**FIRST FLOOR PLAN**  
1:300



### Design Keywords :

- Zigzag path to bring people from the lower level to the upper of the site
- Different block of space for exhibition hall, bookshop and cafe with the function room, office and washroom
- The block of space interlock with the courtyard, that connect the space of inside and outside
- Lighting strategy: side light along the wall surface of the path and high-level light to each of the space, vice versa at night-time



### Design Keywords :

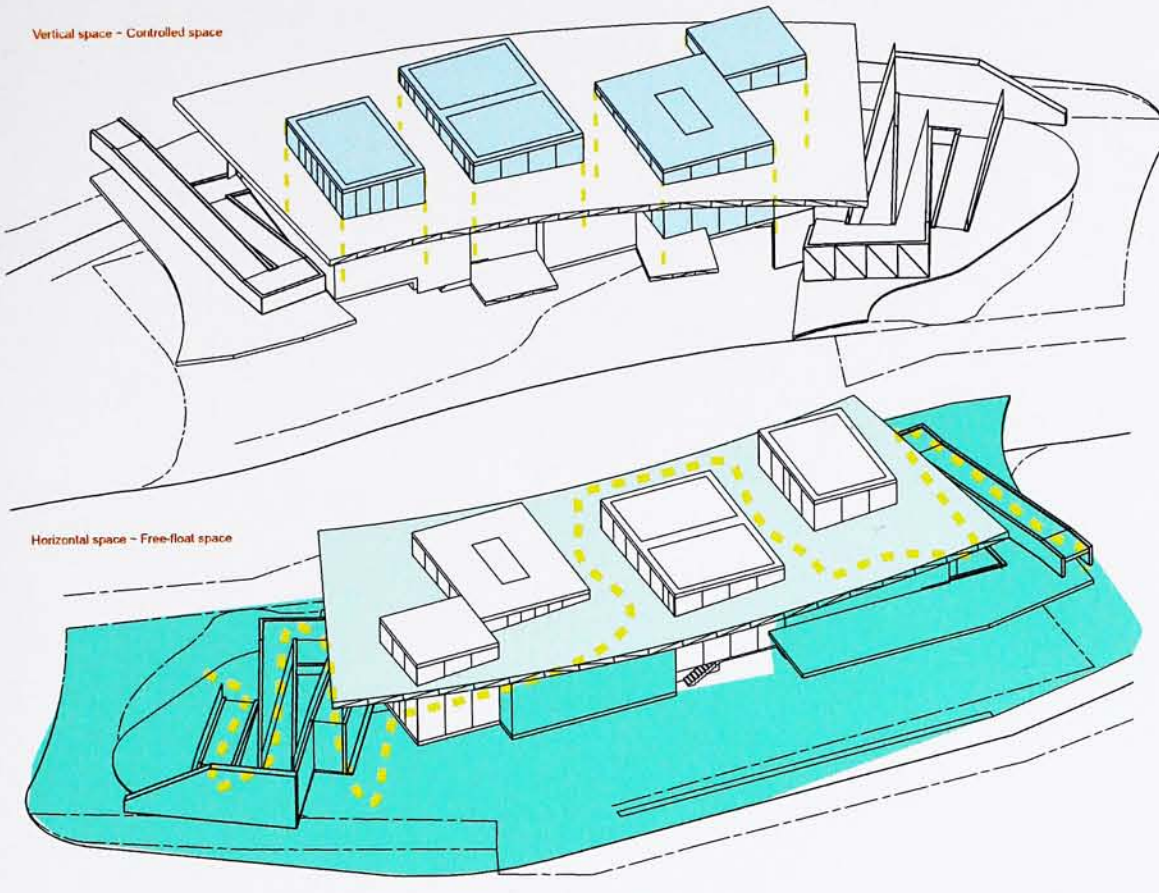
- Materialize each block of space, correspond to the lighting strategy
- Extent of the roof slab



**DESIGN 05**



**DESIGN 06**

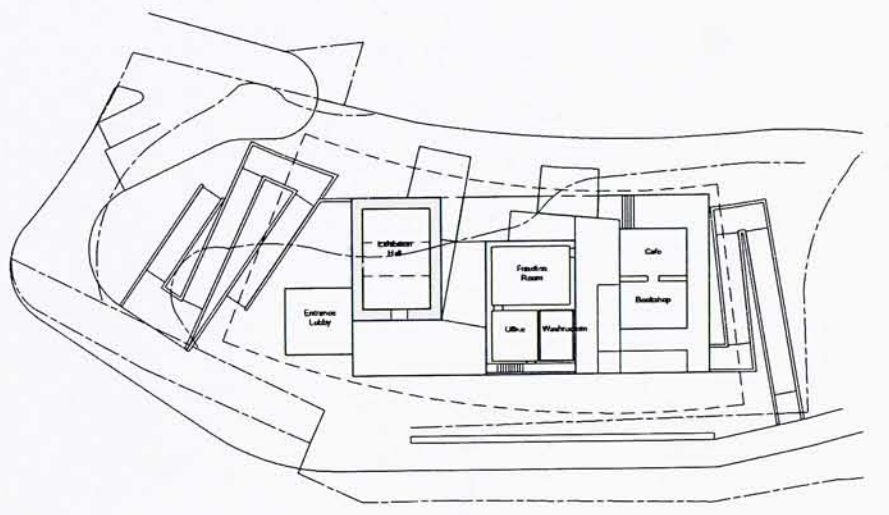


**Design Keywords :**

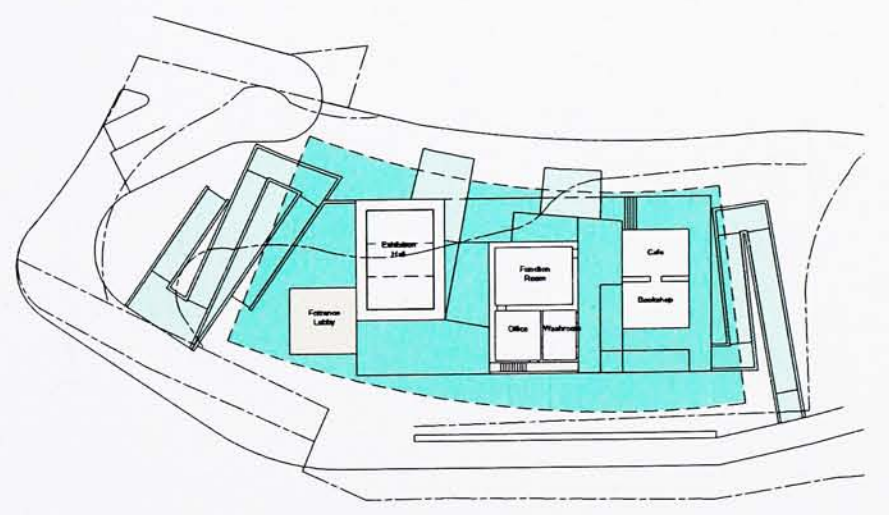
- Zigzag path
- Spatial design of each block
- Relationship between the ground, blocks, and roof



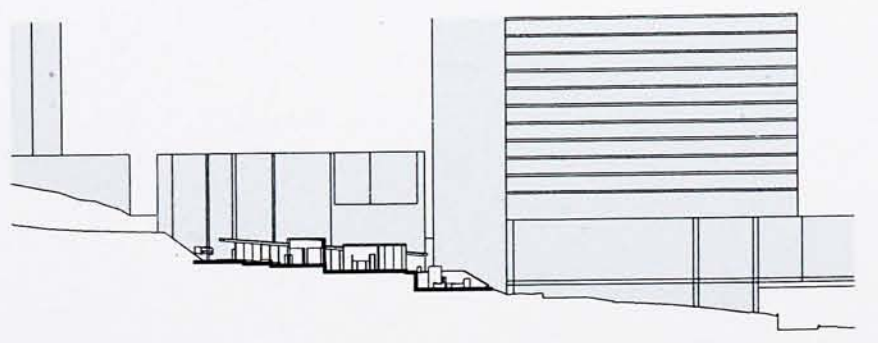
**DESIGN 07**



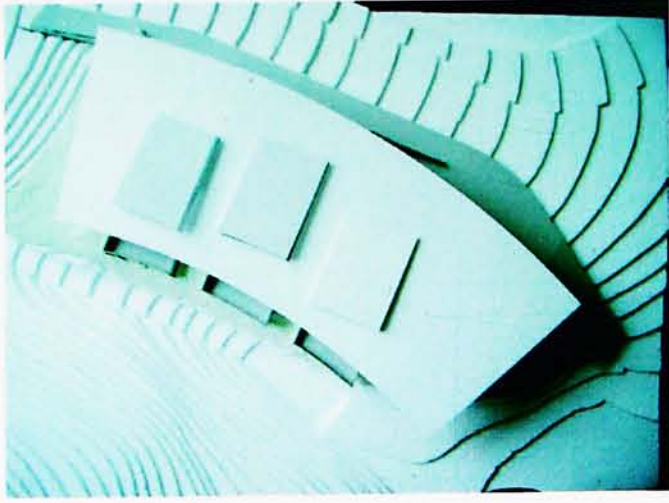
Plan - Insertion of vertical space  
1:200



Plan - Horizontal space  
1:200

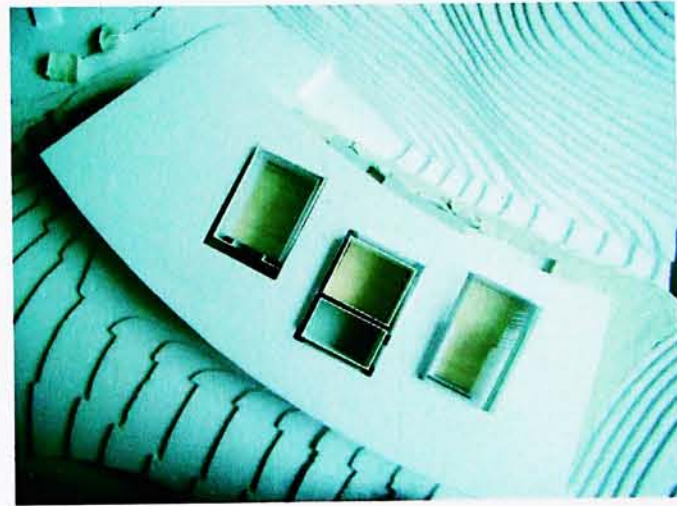


Section Y - Y  
1:500



### Design Keywords :

- Horizontal layer : Ground + roof
- Vertical layer : Block of space ( with the use of opaque, translucent + transparent layer of wall) for exhibition hall, bookshop and cafe, function room, washroom and plant room
- Lighting strategy for block of space : to be controlled by the filters on the roof



### Design Keywords :

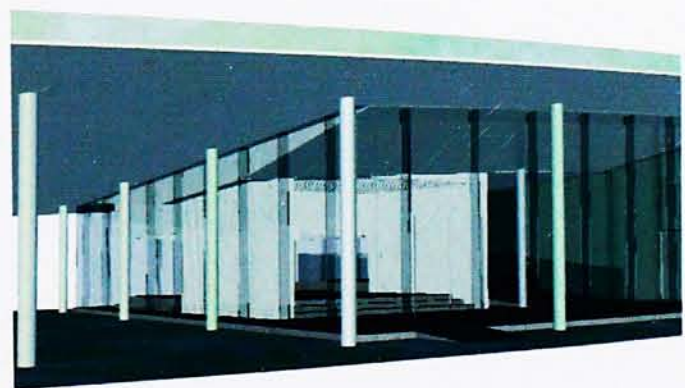
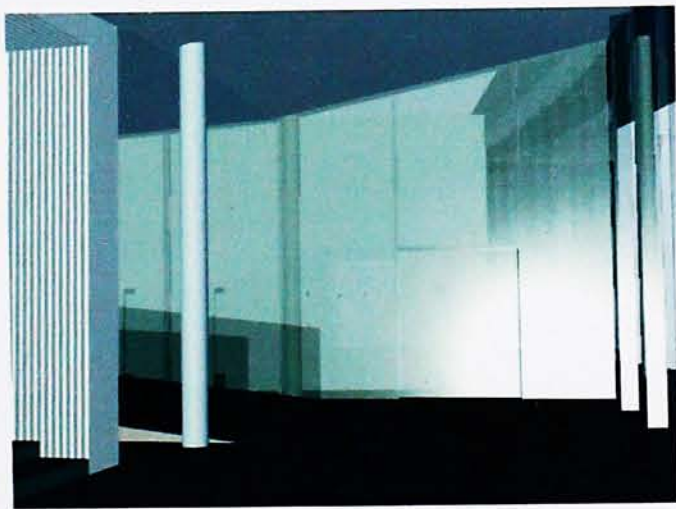
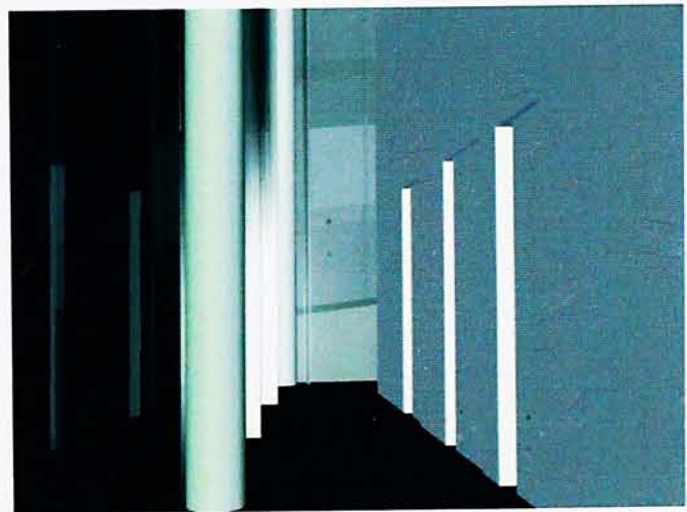
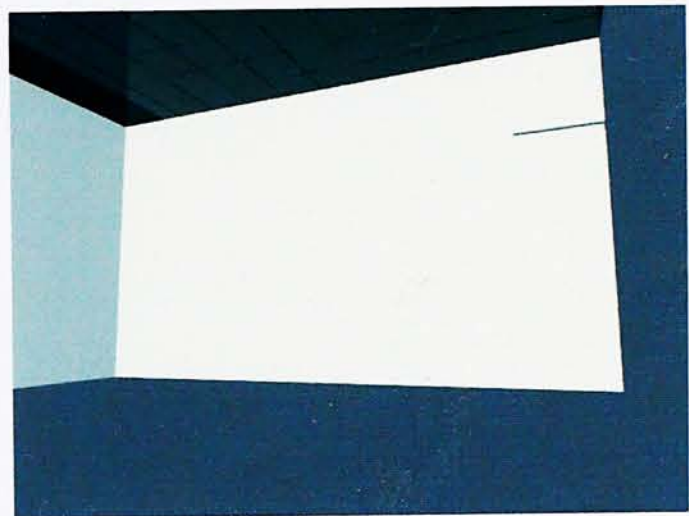
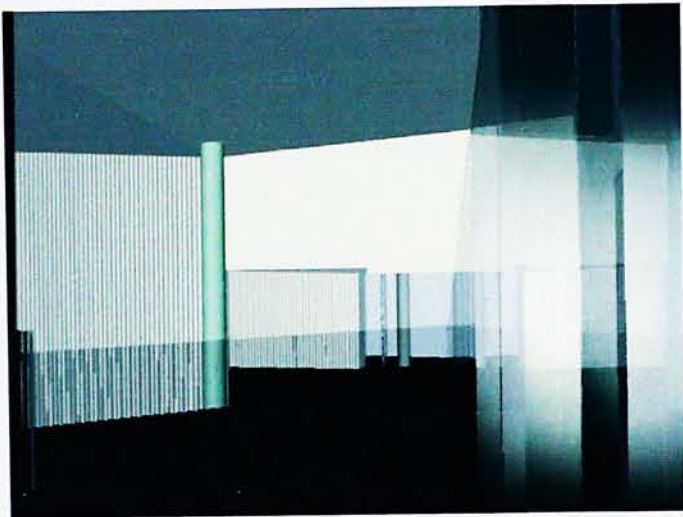
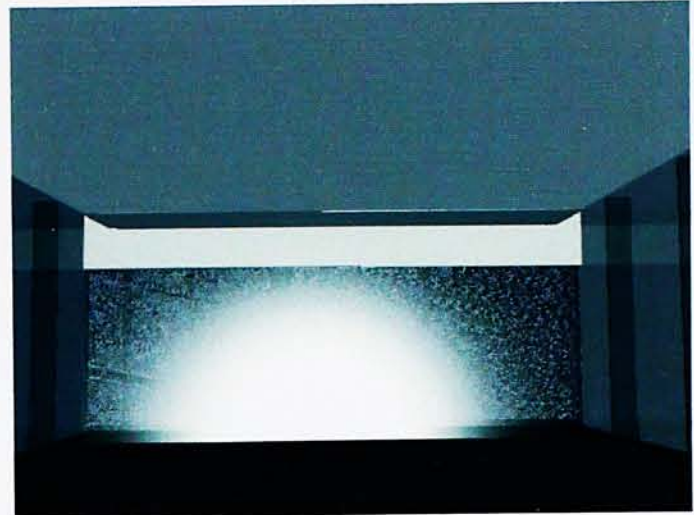
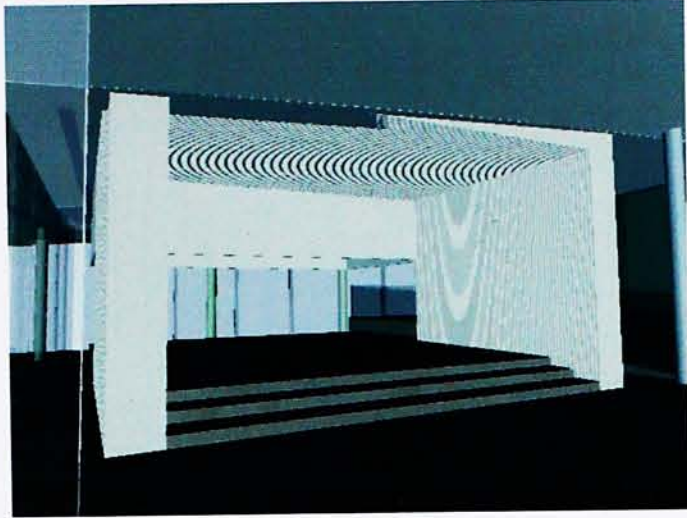
- Materialize of different block of space
- Composition of the layer of ground, inserted block of space and the roof slab



**DESIGN 08**



**DESIGN 09**

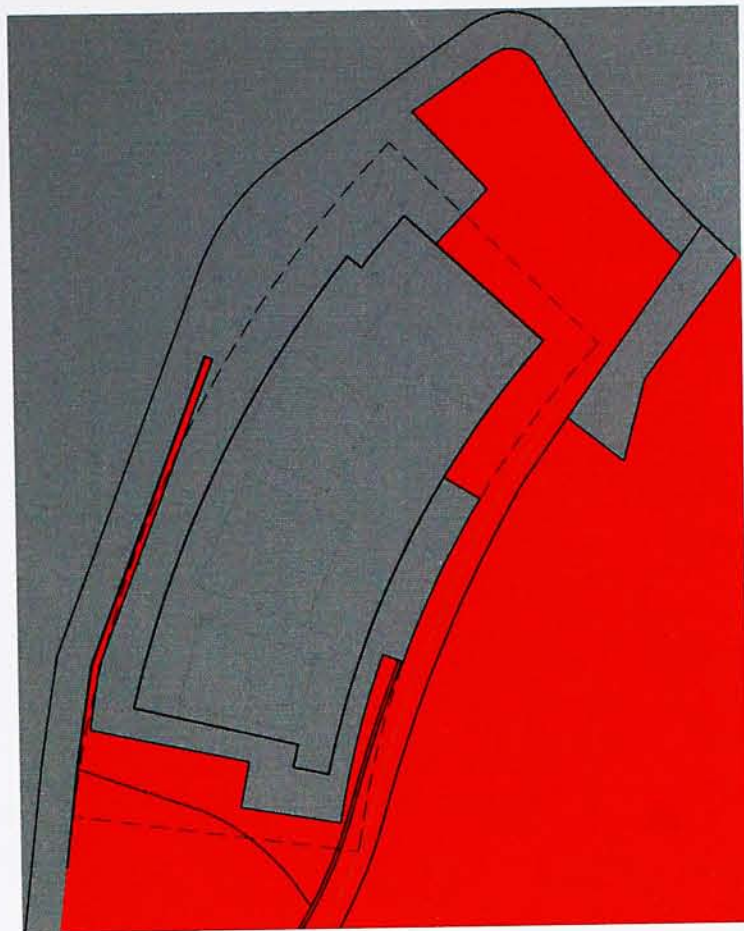




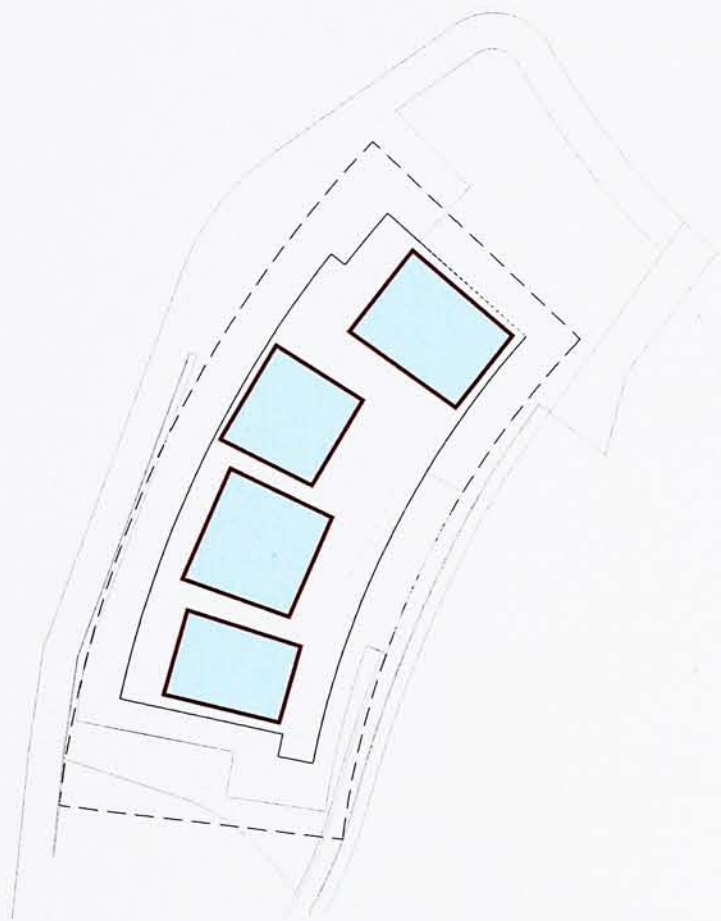
LOCATION PLAN



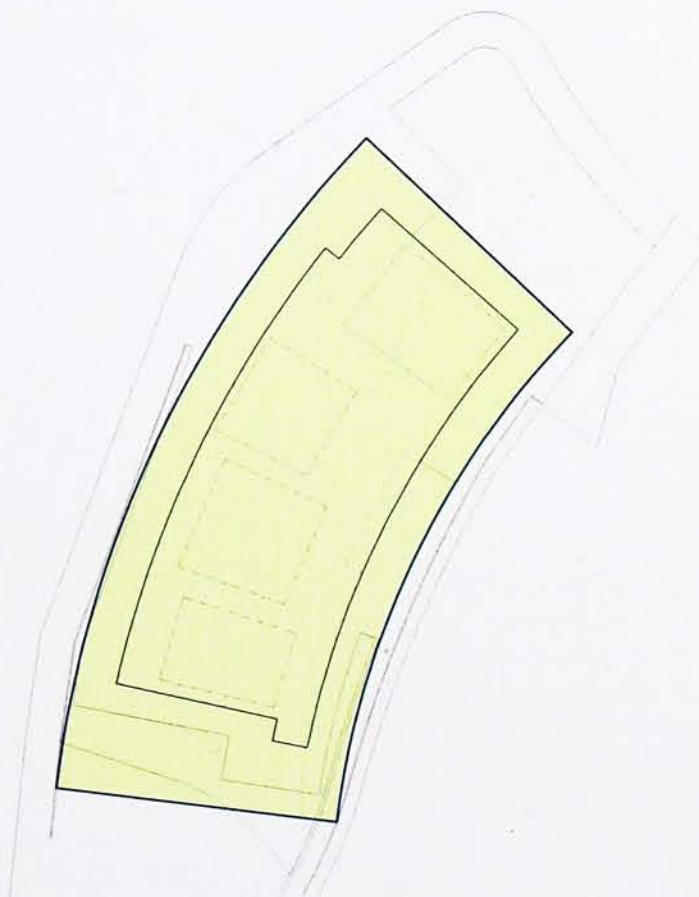
SITE PLAN



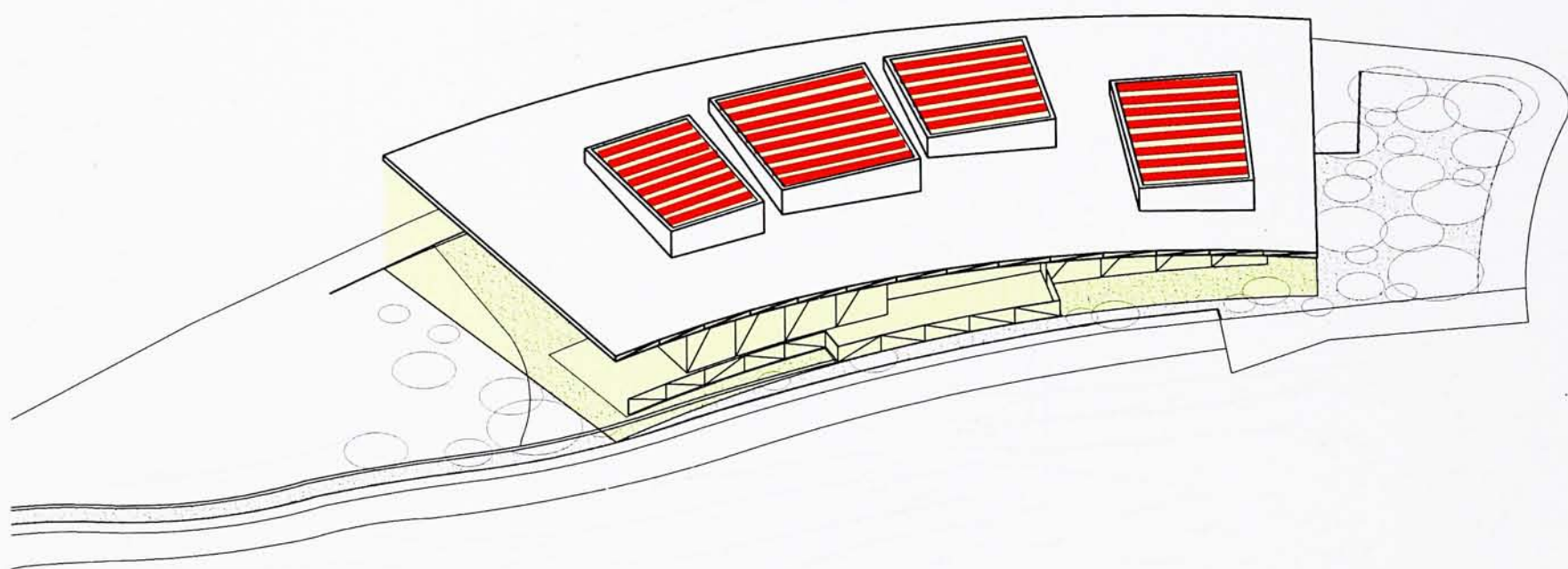
LAYER OF GROUND - HARD + SOFT



INSERTED BLOCK OF SPACE

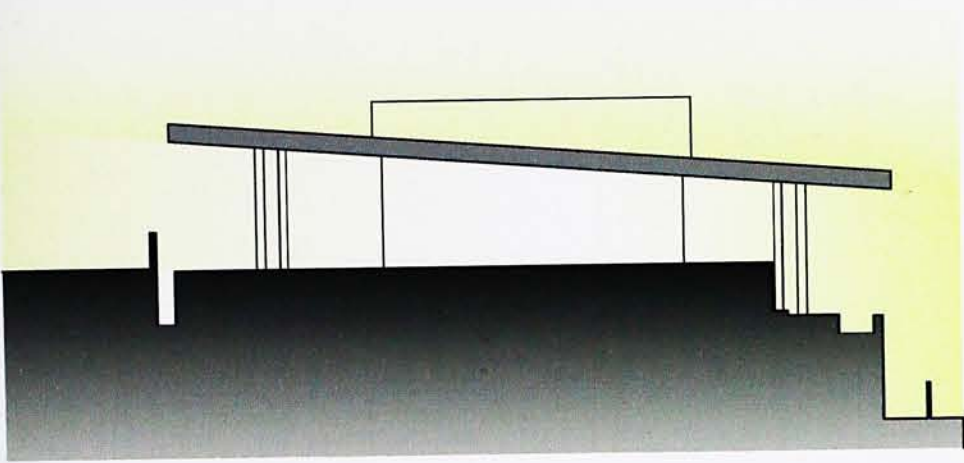


ROOF SLAB

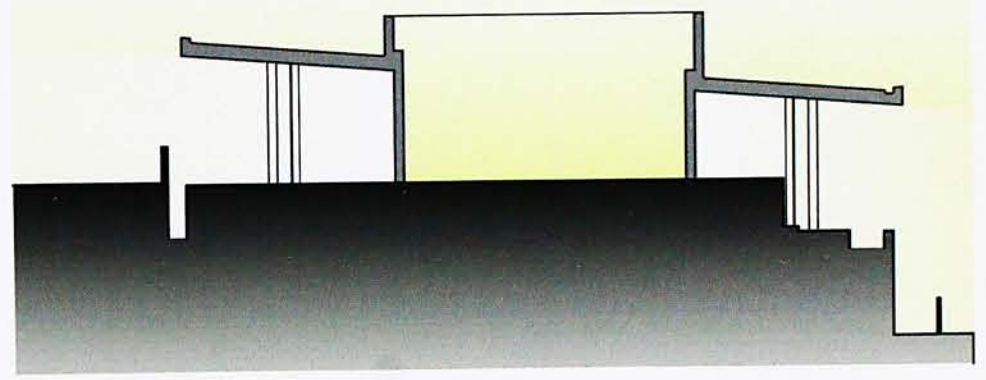


LIGHTING STRATEGY

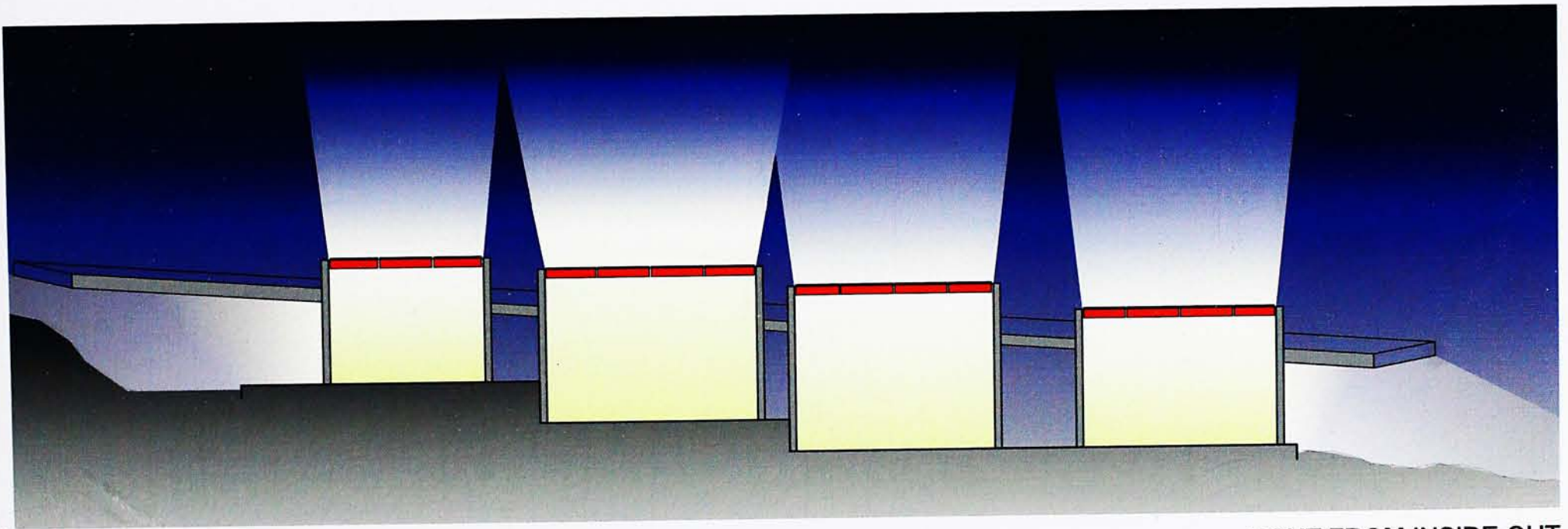




LIGHT FROM SIDE



LIGHT FROM ABOVE

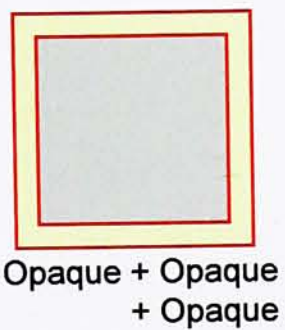


LIGHT FROM INSIDE OUT

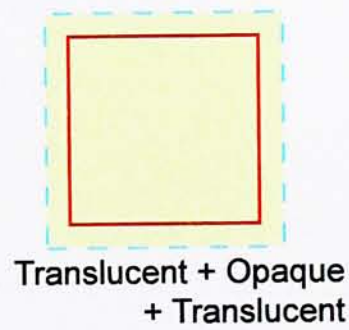
WALL + ROOF



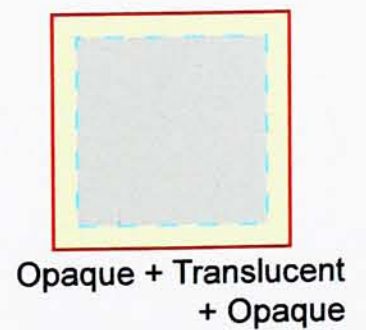
Craved-out from mass + Translucent



Opaque + Opaque + Opaque



Translucent + Opaque + Translucent

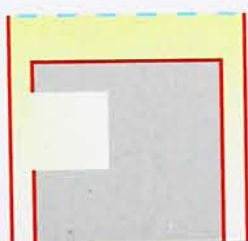


Opaque + Translucent + Opaque

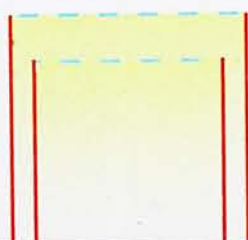
LIGHT ENTERS THROUGH



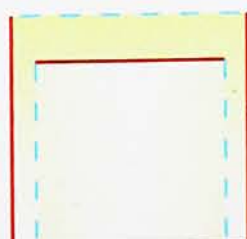
Translucent roof



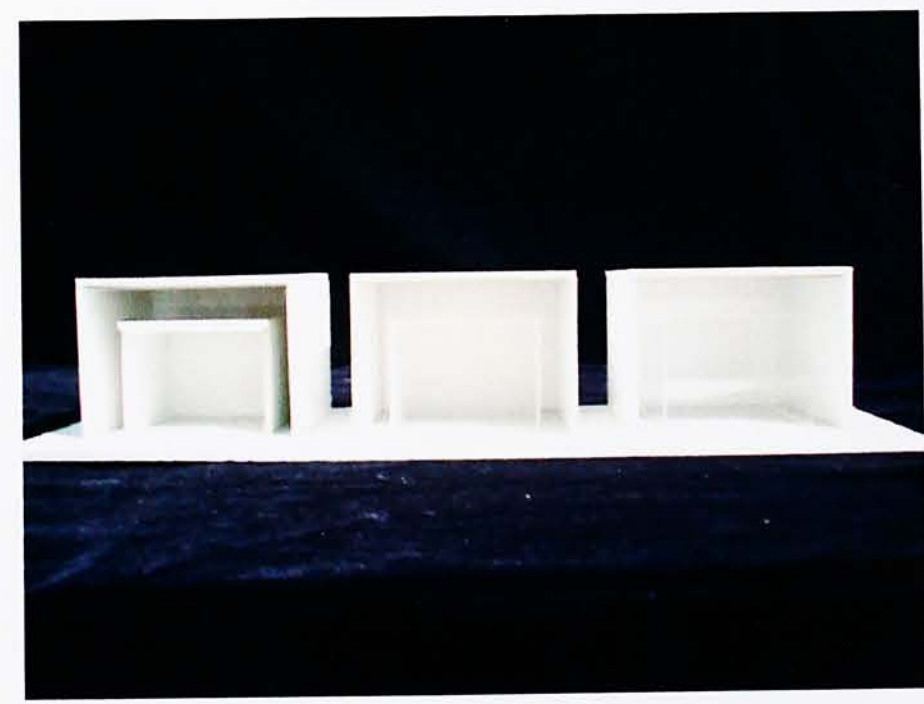
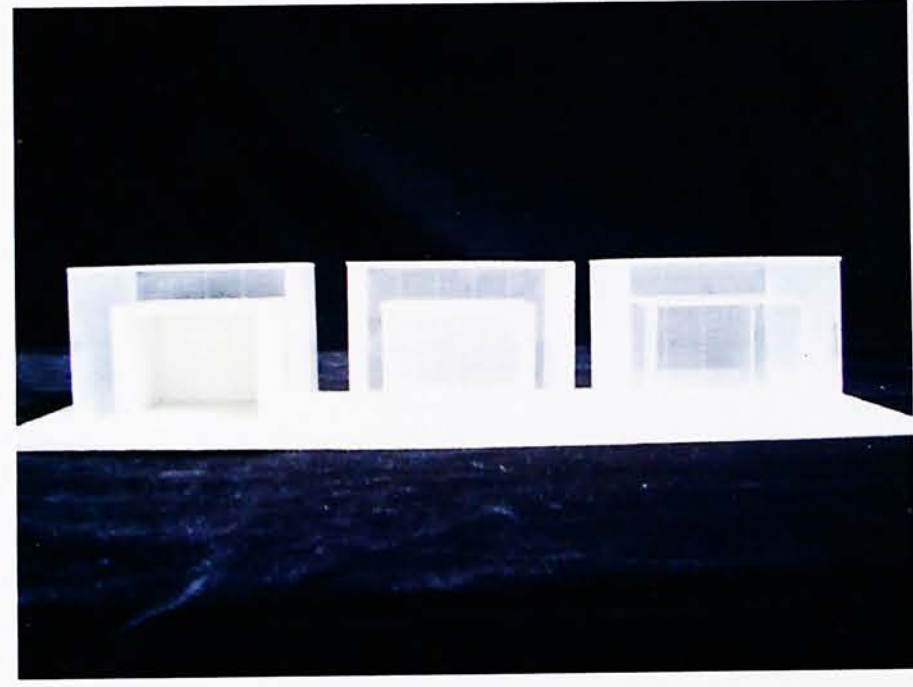
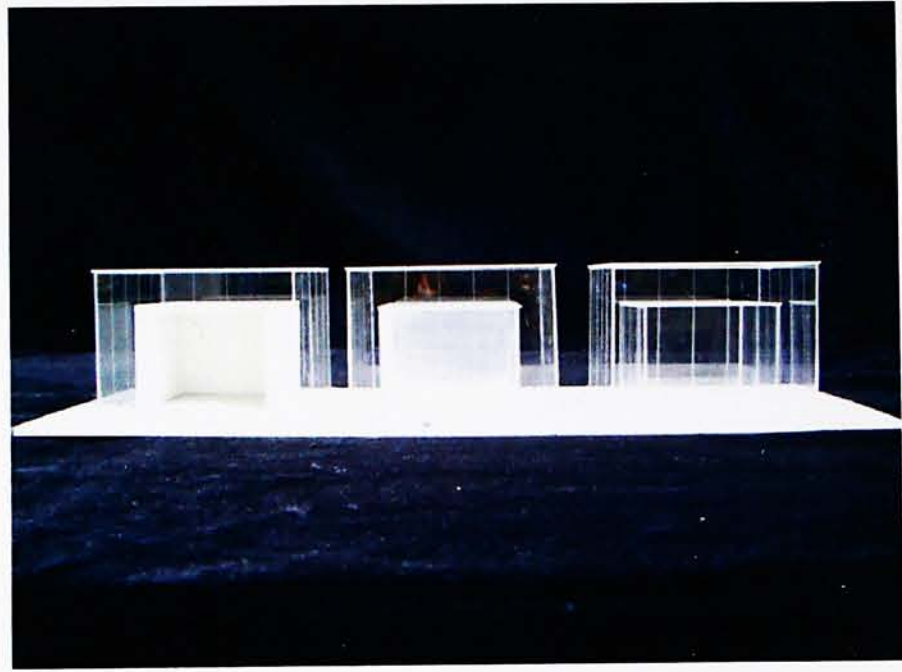
Opening on wall

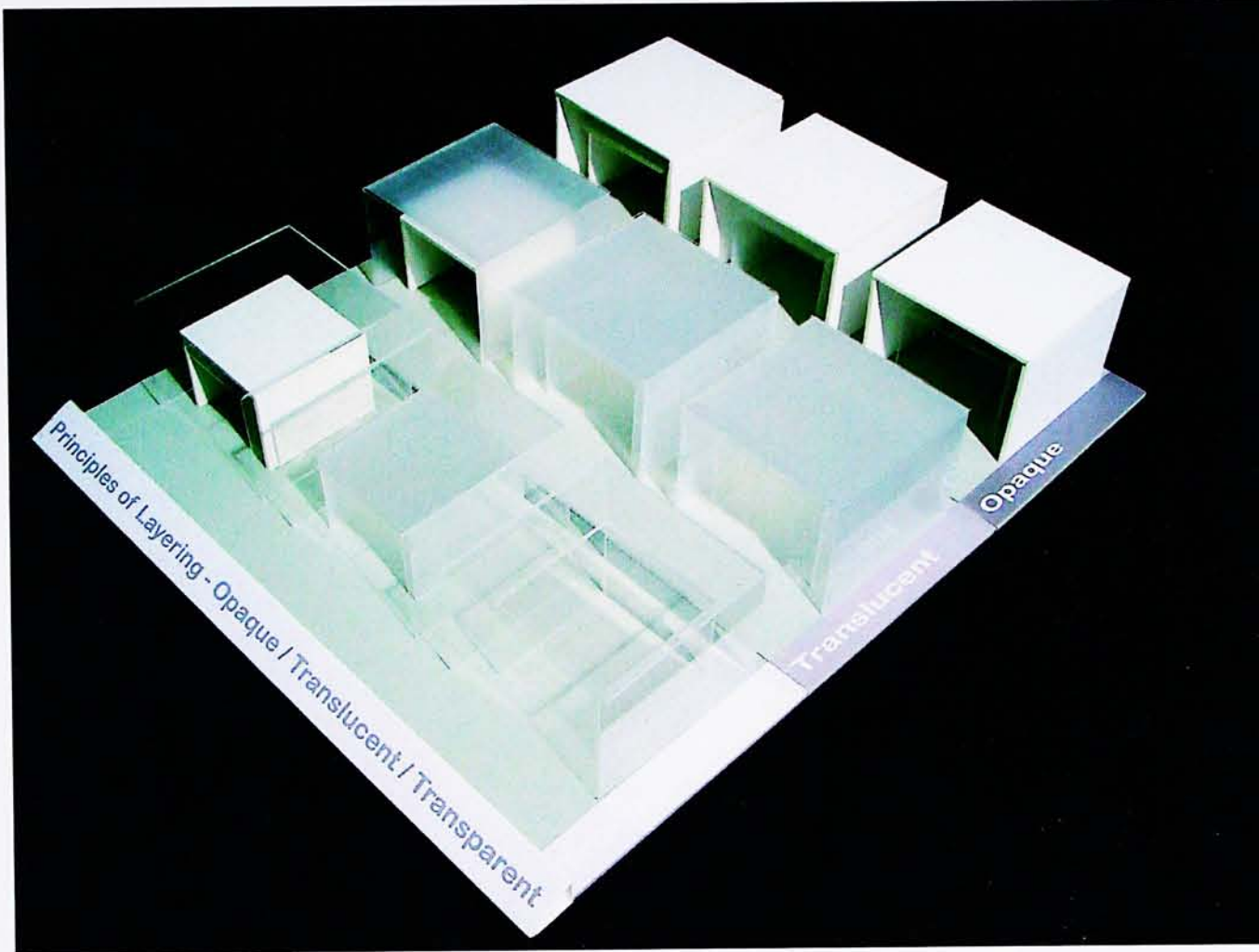


Translucent roof

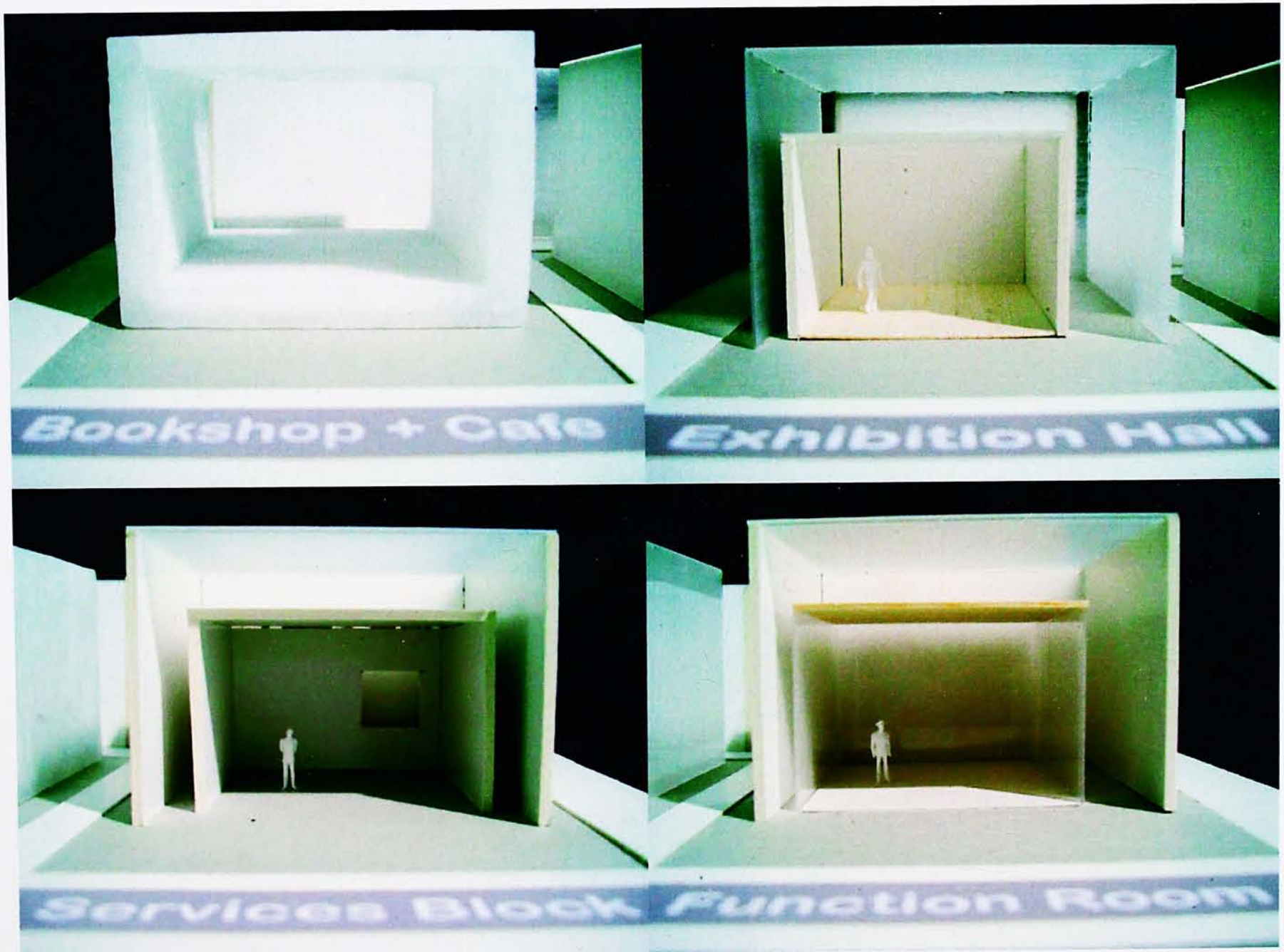


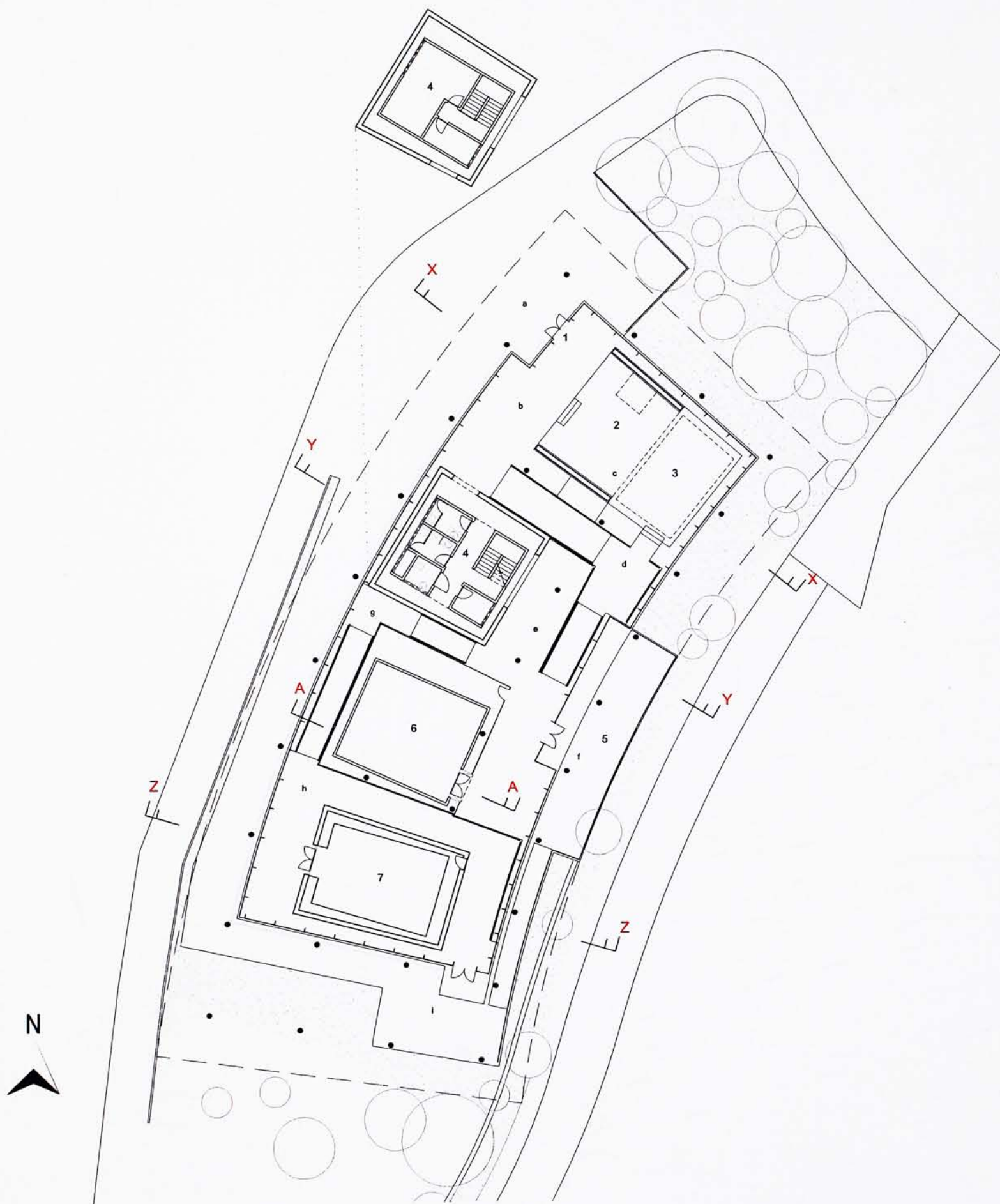
Translucent wall





PRINCIPLES OF LAYERING





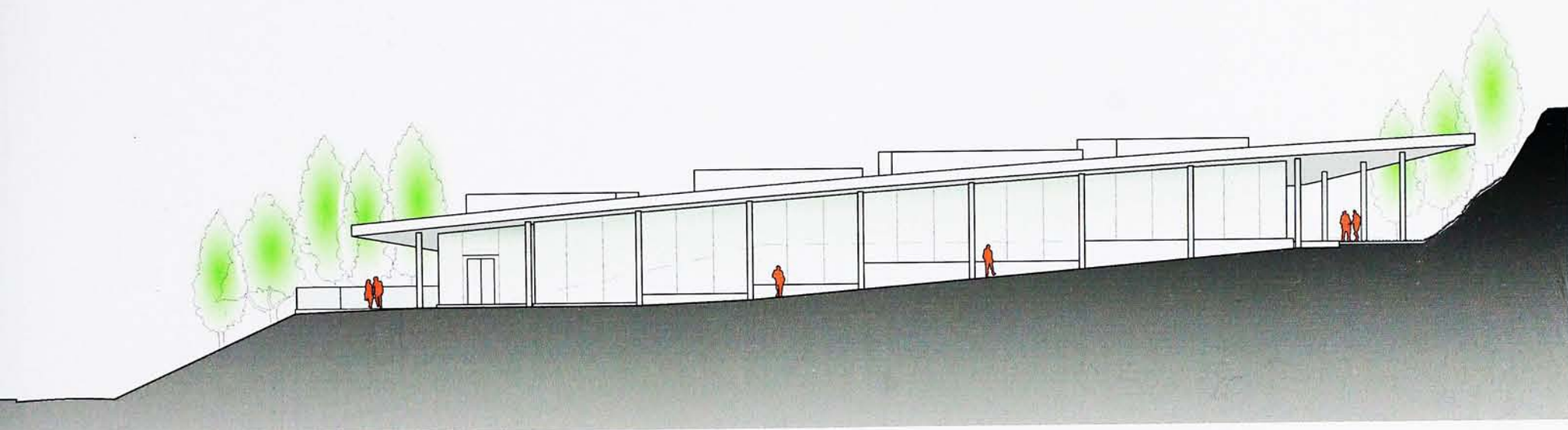
Legend

- 1 Main Entrance
- 2 Reception + Bookshop
- 3 Cafe Lounge
- 4 B.O.H.
- 5 Terrace
- 6 Exhibition Hall
- 7 Function Room

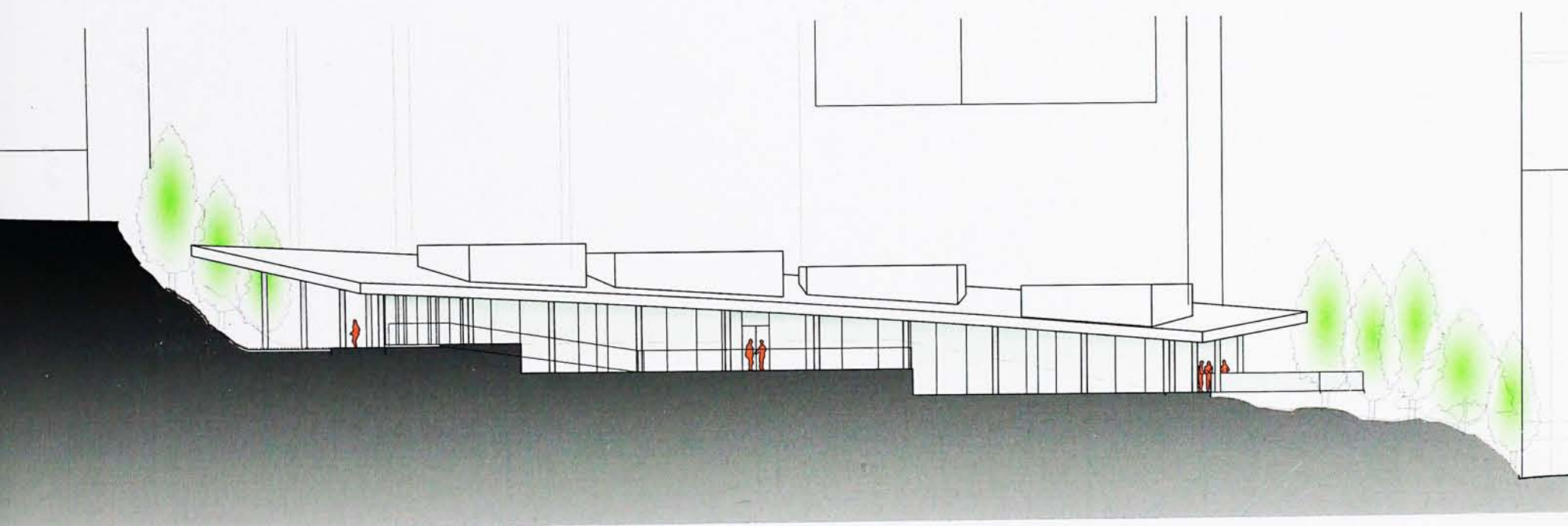
Level

- a +36.25
- b +36.40
- c +36.85
- d +37.36
- e +37.80
- f +37.96
- g +38.44
- h +39.50
- i +39.35

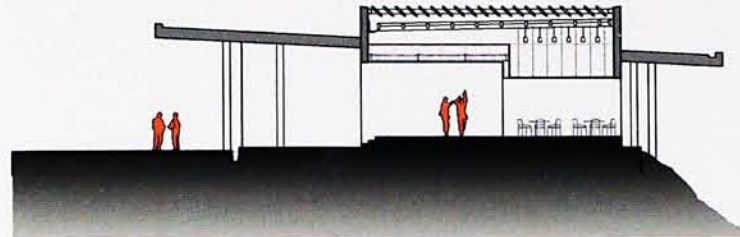
FLOOR PLAN



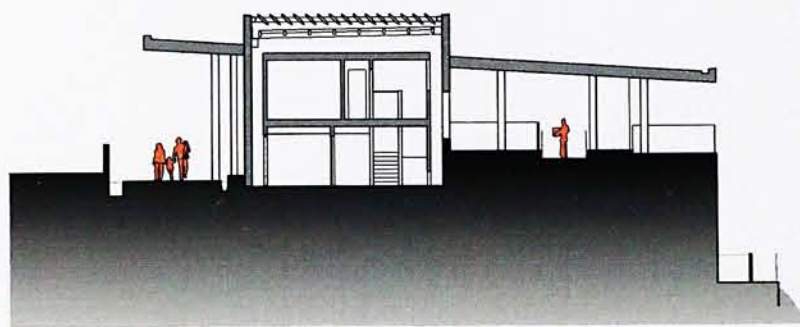
WEST ELEVATION



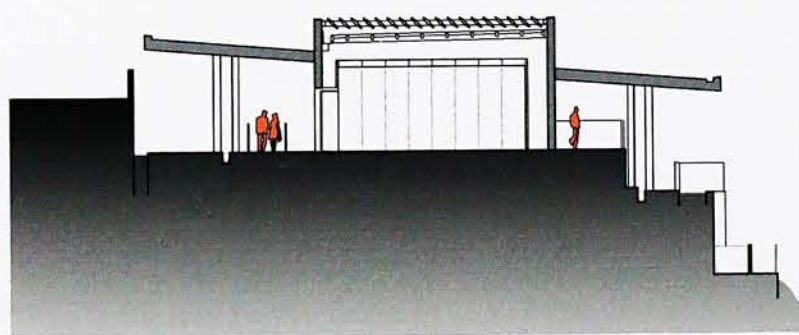
EAST ELEVATION



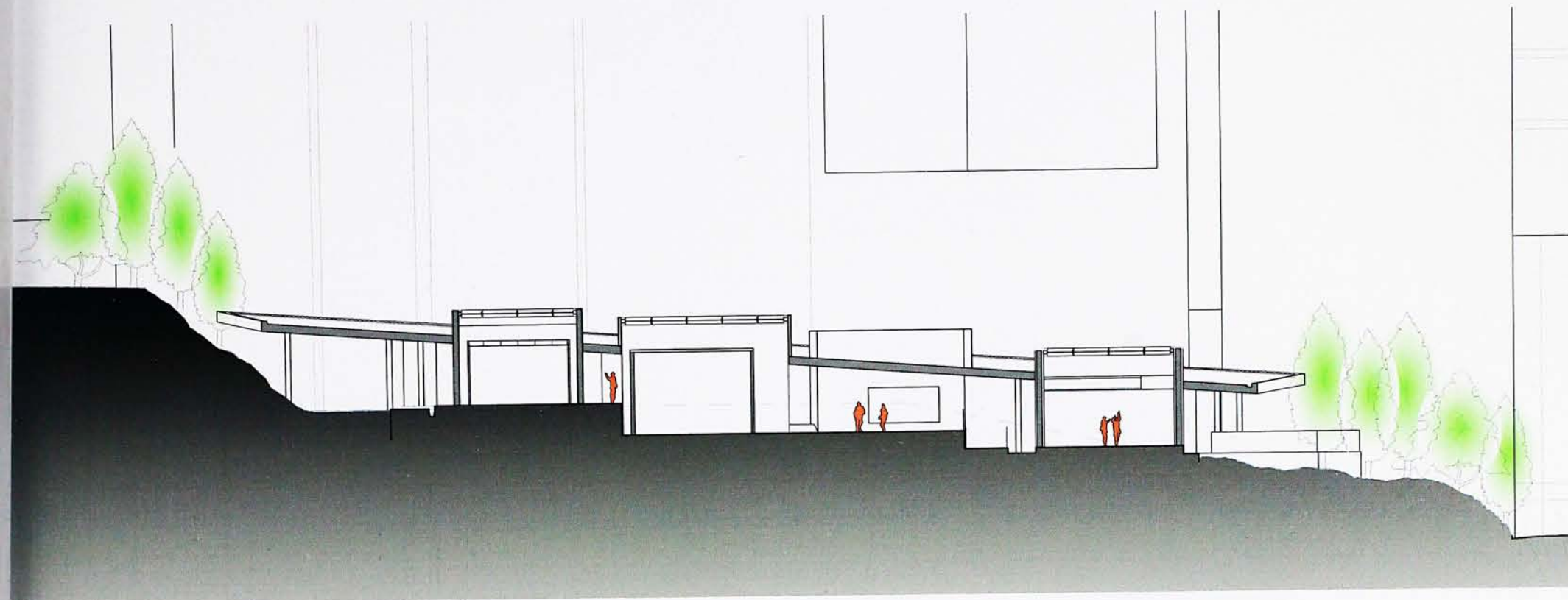
SECTION - BOOKSHOP + CAFE



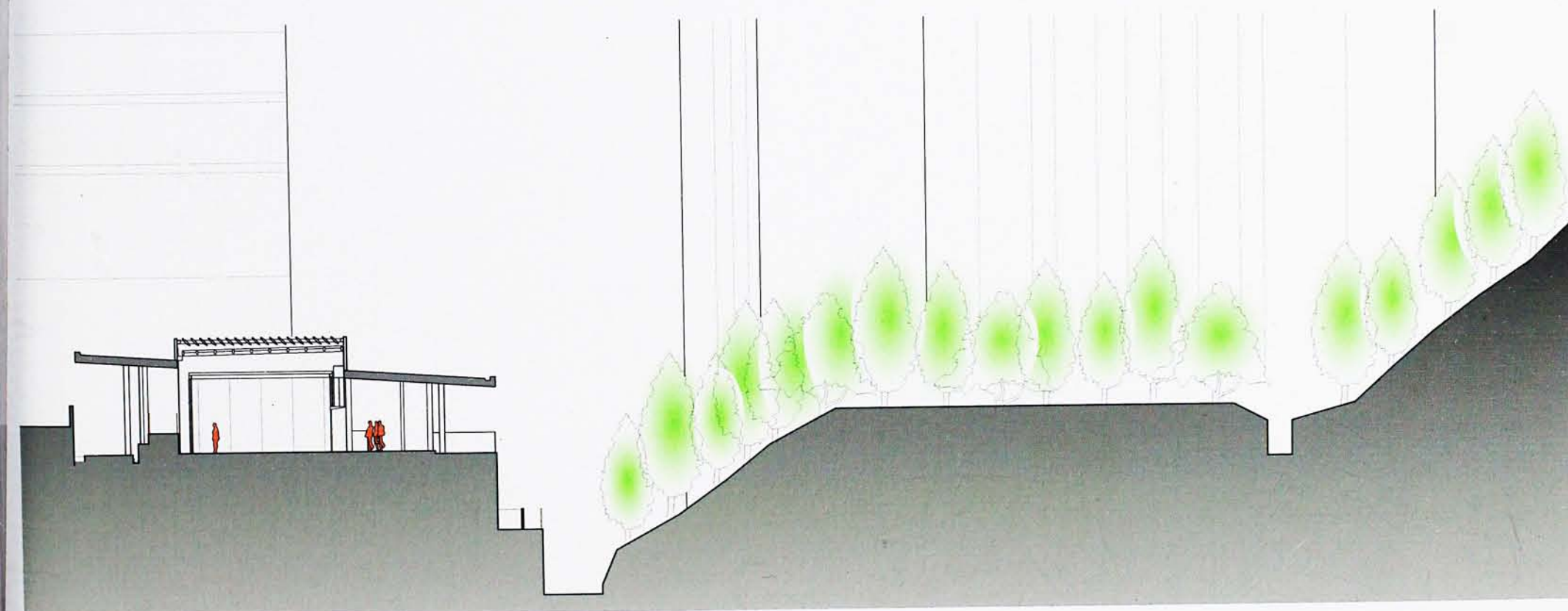
SECTION - SERVICE BLOCK



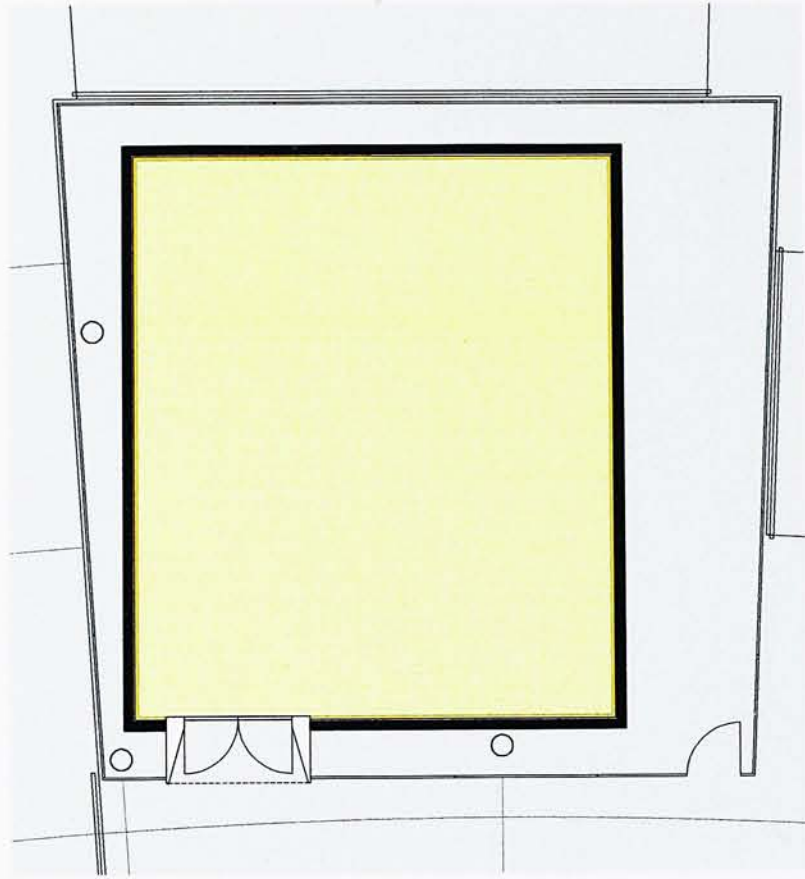
SECTION - FUNCTION ROOM



SITE SECTION - NORTH TO SOUTH

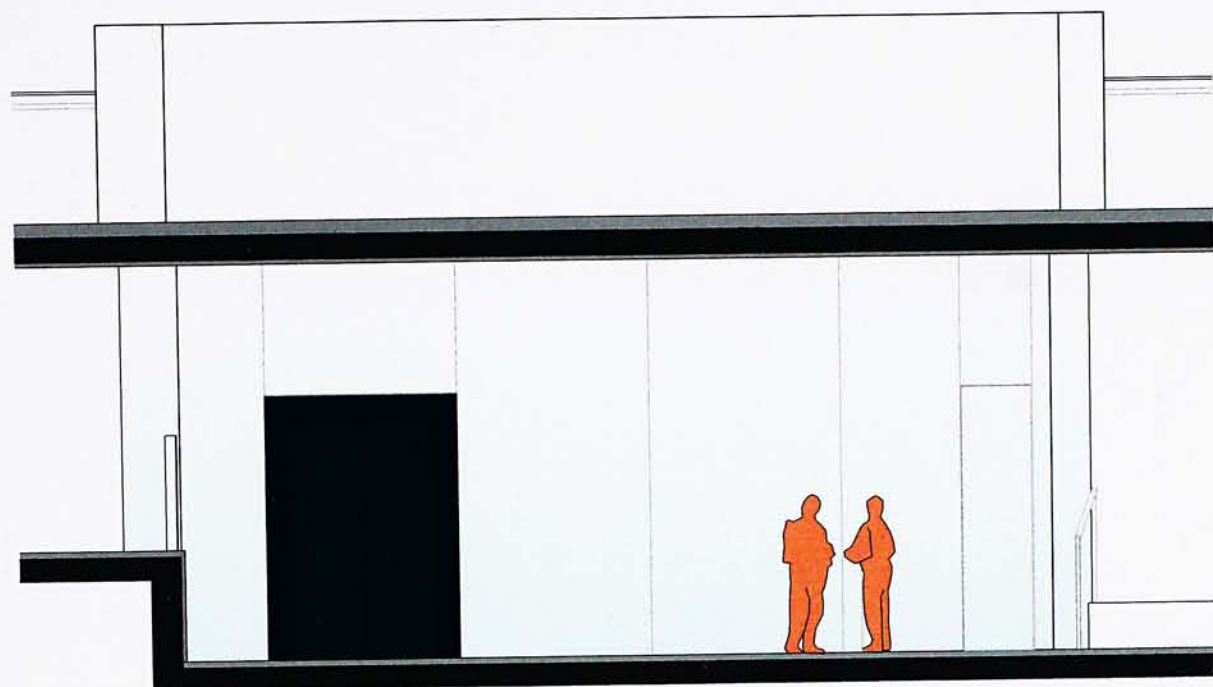


SITE SECTION - WEST TO EAST

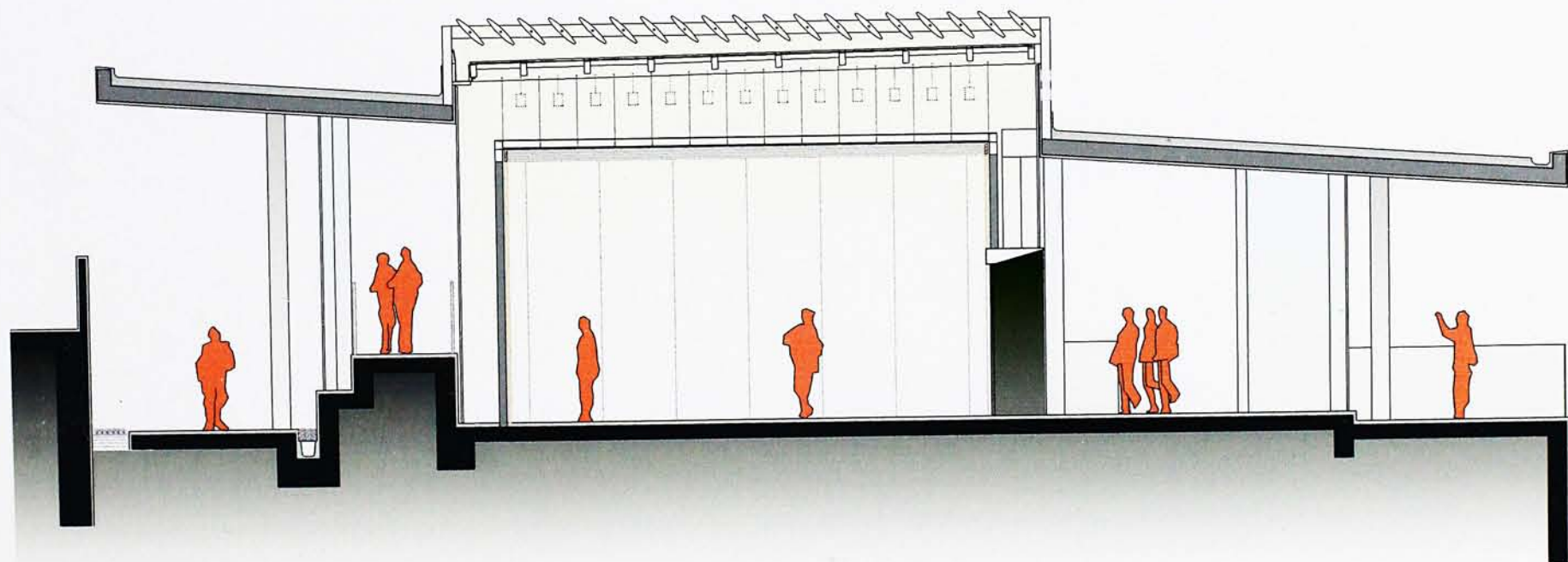


PARTIAL PLAN - EXHIBITION HALL

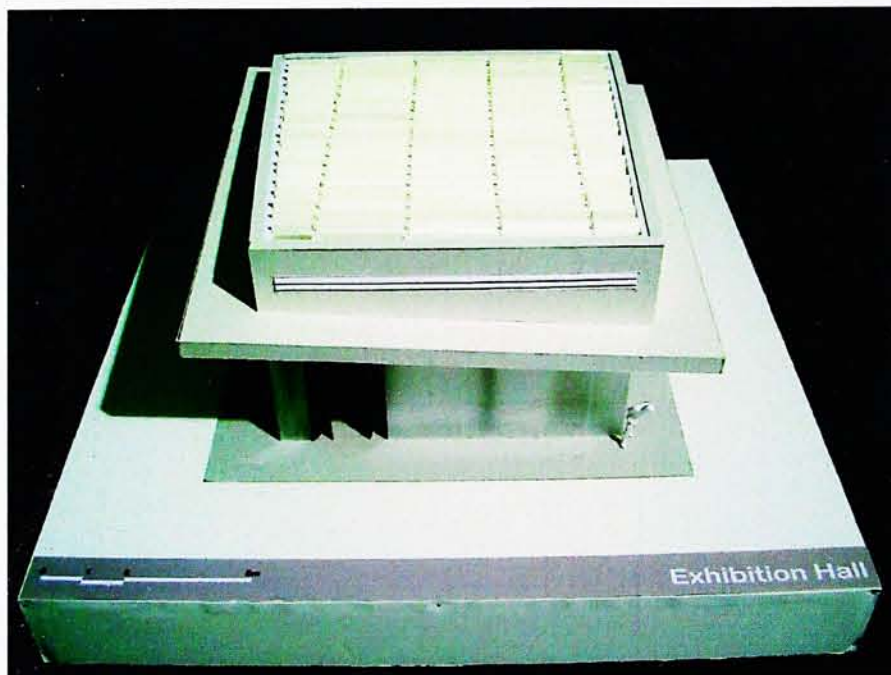


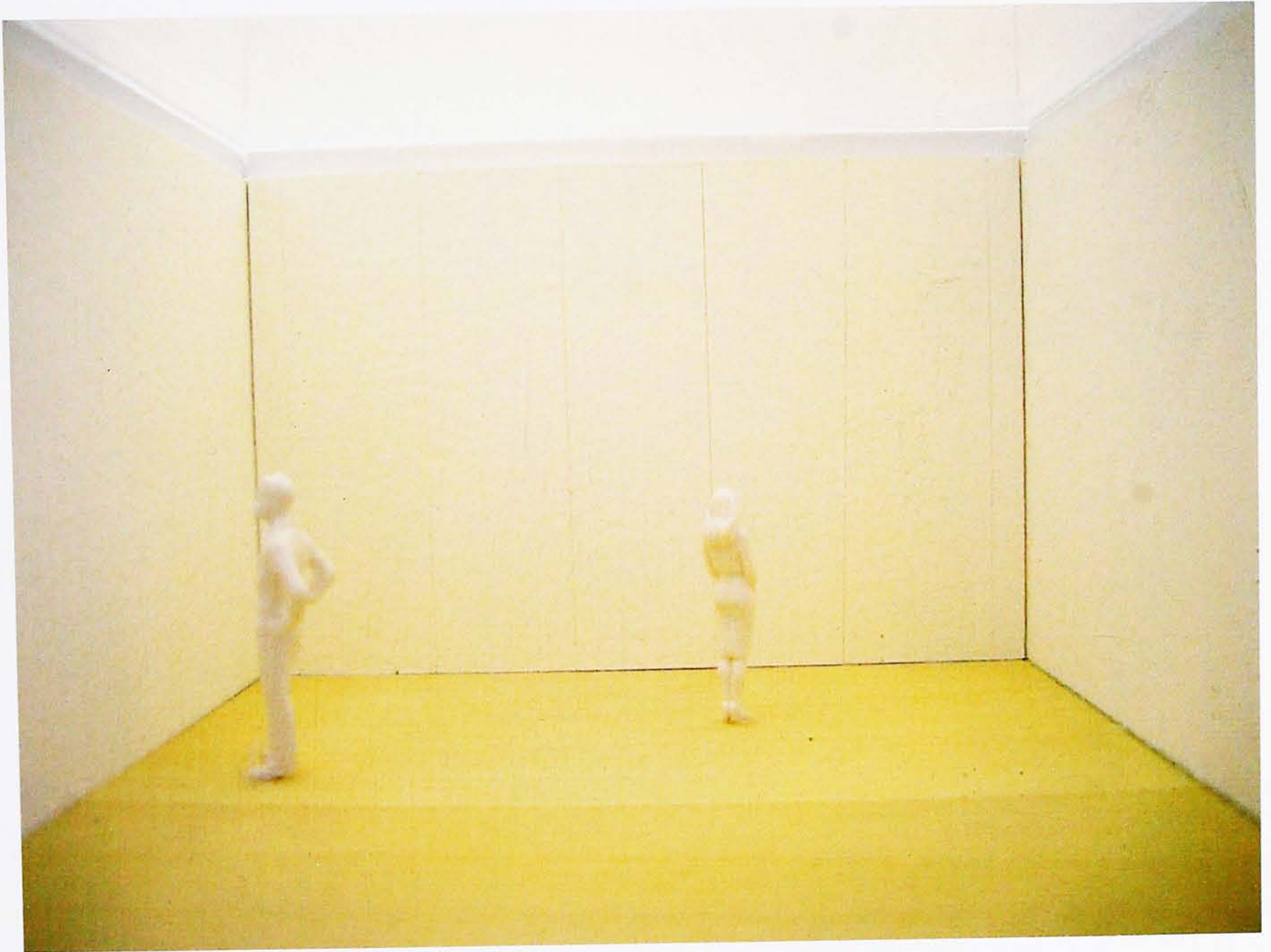


PARTIAL ELEVATION - EXHIBITION HALL



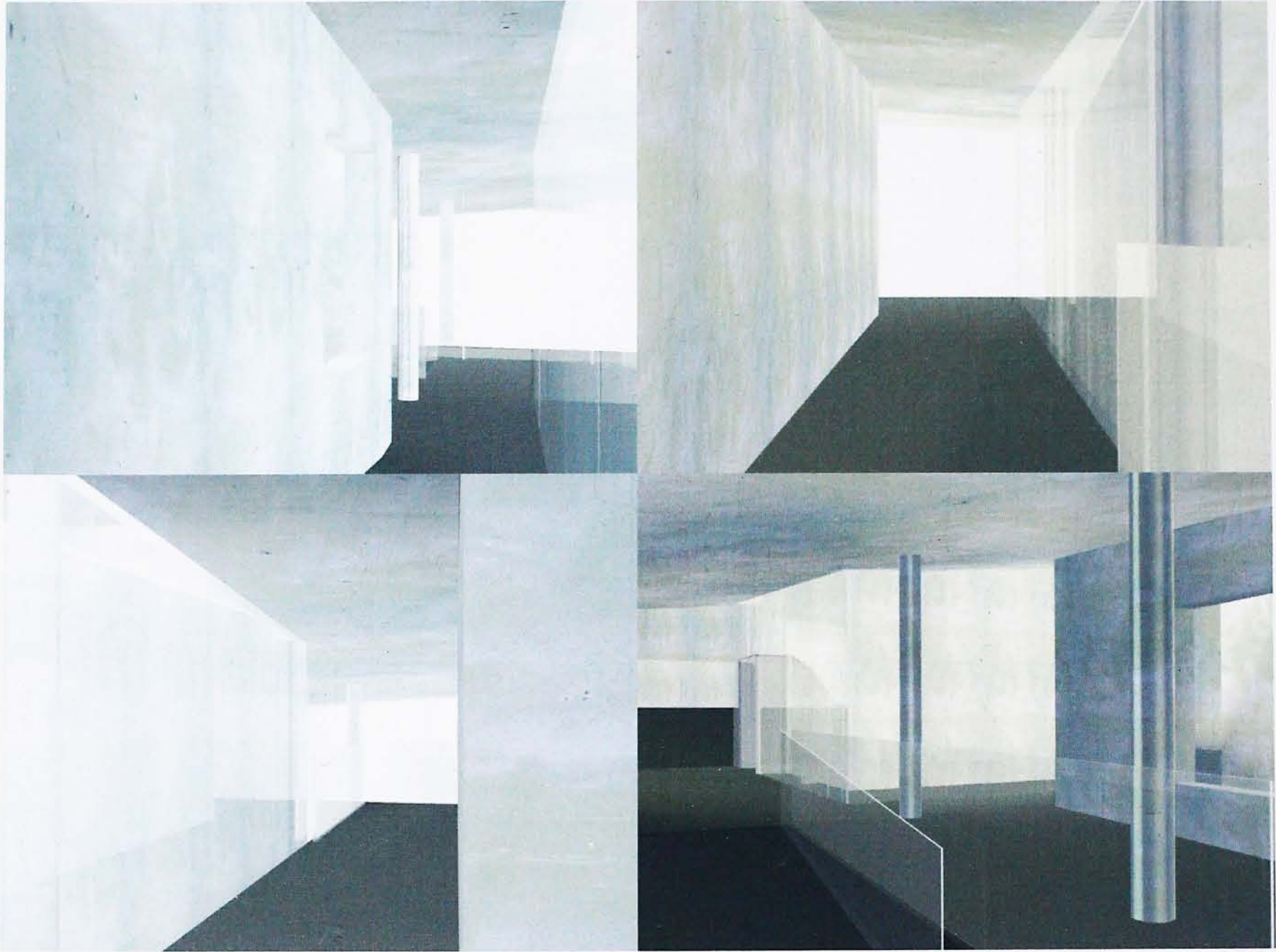
PARTIAL SECTION - EXHIBITION HALL

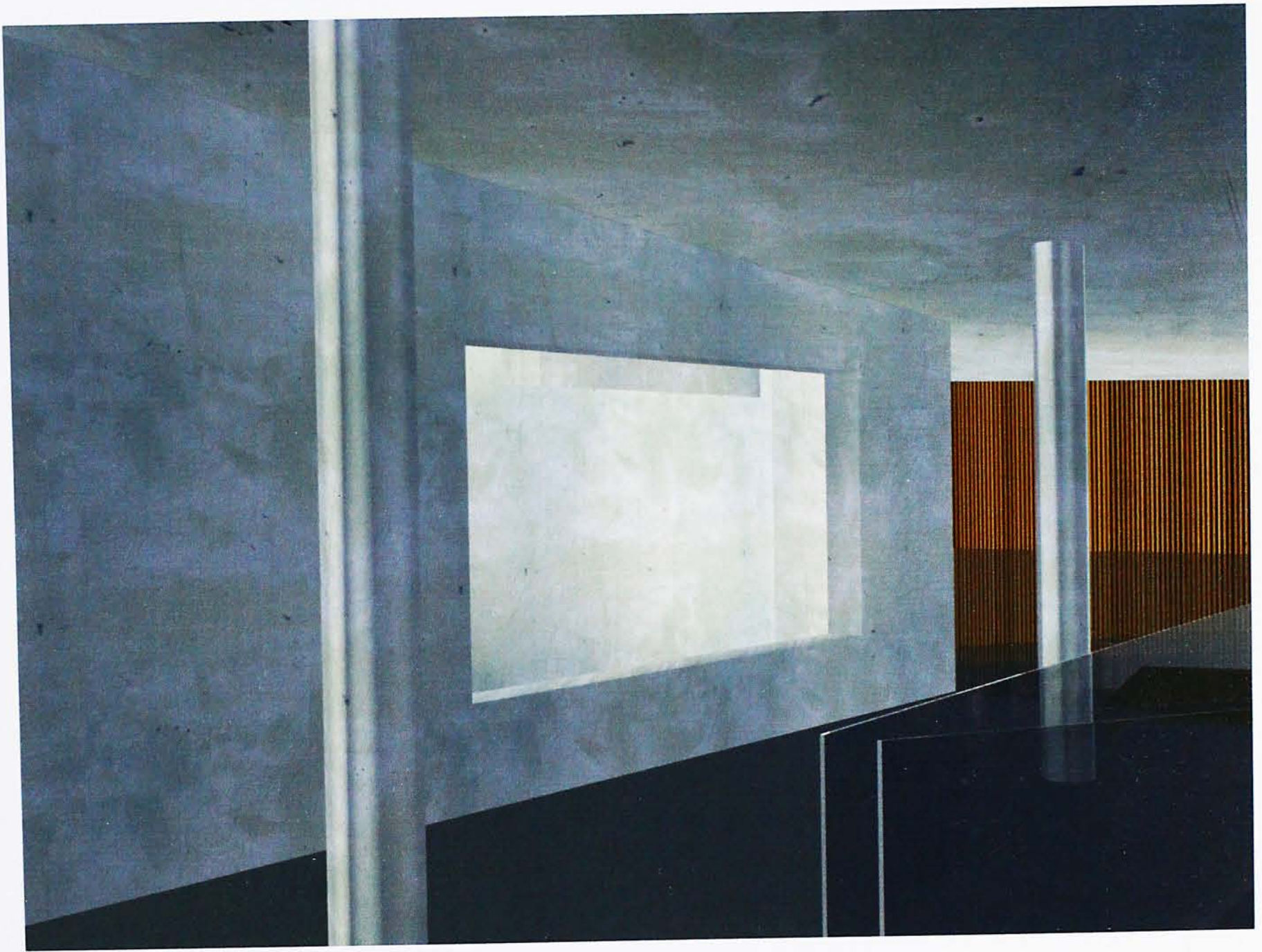


















## SELECTED BIBLIOGRAPHY

- *Light Revealing Architecture*, Marietta S. Millet, Van Nostrand Reinhold 1996
- *Poetics of light*, Henry Plummer, Tokyo: A + U Pub. Co., 1987
- *Perception and lighting as formgivers for architecture*, William M.C. Lam, New York 1977
- *Lighting: lighting design in architecture*, Torquil Barker, London : B.T. Batsford, 1997
- *The secret of the shadow : light and shadow in architecture*, E. Wasmuth ; New York 2002
- *Lighting in architecture : light and color as stereoplastic elements*, Walter Kohler, New York : Reinhold Pub. Corp. 1959
- *Light : the shape of space : designing with space and light*, Lou Michel, New York : John Wiley & Sons 1996
- *Lighting and its design*, Leslie Larson, New York : Whitney Library of Design 1964
- Tokyo: A+U Pub. Co. c1998 February, Extra Edition: Peter Zumthor
- *Louis I. Kahn : light and space*, Basel ; Boston : Birkhauser Verlag 1993
- *Louis I. Kahn, Romaldo Giurgola, Jaimini Mehta*
- *Documentos De Arquitectura 34: Fundacion Pilar y Joan Miro, Rafael Moneo*, 1996
- *Le Corbusier : the chapel at Ronchamp*, Daniele Pauly, Boston : Birkhauser Verlag, 1997
- *Le Corbusier : the Monastery of Sainte Marie de La Tourette*, Philippe Potie, Basel Boston : Birkhauser, c2001
- *Poetics of light*, Henry Plummer, Tokyo: A + U Pub. Co., 1987
- *Church on the Water, Church of the Light*, Philip Drew, London Phaidon c1996
- *Tadao Ando: Complete Works*, Phaidon Press Limited 1995
- *Parallax*, Steven Holl, New York : Princeton Architectural Press 2000
- *Architectural Record*, May 2003, p.204 - 215
- *The Chapel of St. Ignatius*, Steven Holl, New York: Princeton Architectural Press 1999
- *Website: <http://www.stevenholl.com>*
- *The Architectural Review*, August 2002, p.34 - 39
- *Carlos Ferrater : works and projects*, Massimo Preziosi, Electa Architecture, 2002
- *James Turrell: The Art of Light and Space*, Craig Adcock, University of California Press 1990
- *James Turrell: Lighting A Planet*, Reihe Cantz, Hatje Cantz Verlag und Autoren 2000
- *James Turrell: Spirit and Light*, Contemporary Arts Museum, Houston 1998
- *James Turrell*, Deborah Menaker Rothschild, Williams College Museum of Art 1991
- *Architectural Record*, September 2002, p. 111 - 115
- *Robert Irwin, Russell Ferguson, The Museum of Contemporary Art*, Los Angeles & Rizzoli International Publications, New York 1993
- *Chapter 4 : 'Courthouse Facilities' Building Type Basics for Justice Facilities*, by Todd S. Phillips & Michael A. Griebel, John Wiley & Son 2003
- *Chapter 2 : 'The Court as a Whole', The American Courthouse: Planning and Design for the Judicial Process*, by The American Bar Association 1973
- *Chapter 2 : 'Courthouses, Police Stations', Institutional Buildings: Architecture of the Controlled Environment*, by Louis G. Redstone, FAIA, McGraw-Hill 1980
- *Chapter 1 : 'The Notion of Civic Space', The Social Meaning of Civic Space: Studying Political Authority through Architecture*, by Charles T. Goodsell, University Press of Kansas 1988

## SELECTED BIBLIOGRAPHY

- *Architectural Record*, March 1999, p.108 - 113
- *Architectural Record*, March 1999, p.118 - 121
- *The Architects' Journal*, 7 November 2002, p.26 - 37
- *The Architects' Journal*, 4 September 1991, p.30 - 47
- *The Architectural Review*, August 1998, p.65 - 67
- *The Architectural Review*, July 1999, p.48 - 55
- *The Architectural Review*, November 2000, p.71 - 75
- *Architectural Record*, March 1999, p.122 - 125
- *Architecture Australia*, July 1980, p.41 - 51
- *Architectural Record*, January 1983, p.116 - 121
- *The Architectural Review*, September 1997, p.55 - 57
- *The Architectural Review*, August 1998, p.54 - 59
- *Das Bundesarbeitsgericht in Erfurt*, by Richter Verlag, Gesine Weinmiller, Klaus Kinold & Autoren und Künstler, 2002
- *The Court of Justice, 's-Hertogenbosch*, by Patrick Spijkerman, 1998
- *Domus 654*, March 1984, p.2 - 9
- *Architecture New Zealand*, March-April 2001, p.30 - 38
- *A+U*, November 1993, p.60 - 87
- *Architectural Review*, March 1993, p.60 - 65
- *Architectural Record*, March 1999, p.112 - 117
- *Richard Meier Architect*, p.262 - 267, The Monacelli Press 1999
- *Mimar*, September 1987, p.71 - 75
- *A + U*, July 2003, "Architecture in Spain"
- *Kazuyo Sejima + Ryue Nishizawa 1995 - 2000*, ELcroquis
- *Herzog & de Meuron 1998 - 2002*, ELcroquis
- *Architectural Record*, June 2003, p.130 - 147



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