

# LOST IN TRANSLATION

DRAWING BUILDINGS  
BUILDING [THE STORY THROUGH] DRAWINGS

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# WHAT IS THE RELATIONSHIP OF DRAWING TO BUILDING?

Building to drawing?  
What should it be?

# WHAT TOOLS DO YOU USE TO DRAW?

How are those tools changing the way you see architecture practice?  
Architectural creation?  
Form, space, skin, fabrication?

# DOES ARCHITECTURE START WITH A THOUGHT, AN IDEA, AN 'IDEAGRAM'?

That idea is represented through a sketch, a painting, a mass model, a computer blob...

# IS DRAWING A MEANS TO AN END?

(AS IN ZUMTHOR, MONEO, PIANO)

OR Is drawing the end in itself? (Zaha, Greg Lynn, Peter Cook)

# HOW ARE YOU USING DRAWINGS TODAY?

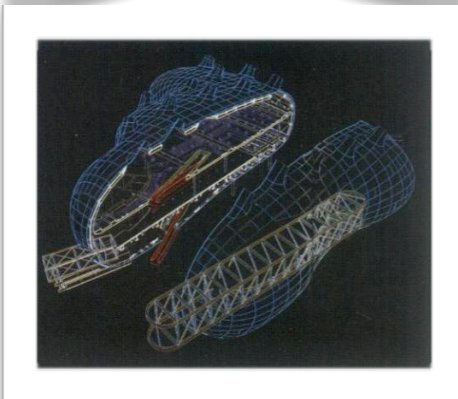
What do they tell you?  
What do they say to your clients?  
How do they help you through the process of creation?  
How much are they art?  
How much are they science?

# HOW DO DRAWINGS HELP IN THE PROCESS OF DESIGN?

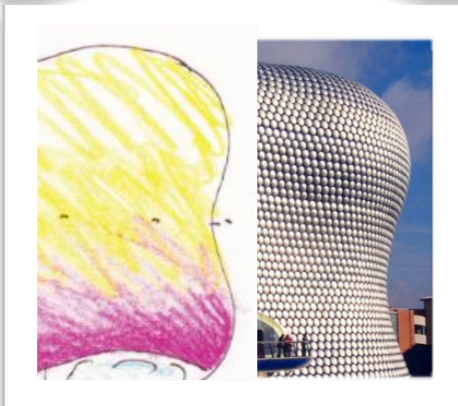
Are drawings architecture or are they pictorial representations towards the ultimate consummation which is the built piece itself?



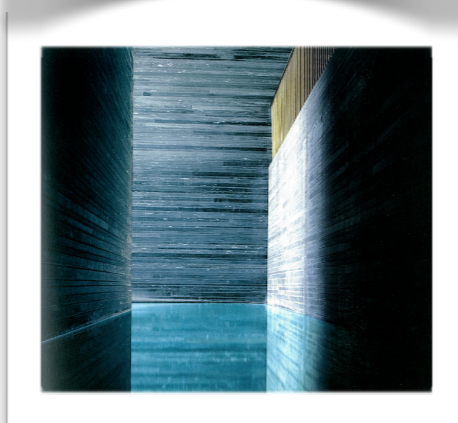
## **RELATIONSHIP BETWEEN ART AND ARCHITECTURE**



## **NEW TECHNOLOGY NEW PROCESSES**



## **EXPLORATIONS**



## **DRAWING BUILDINGS BUILDING *THE STORY* THROUGH DRAWINGS**



# RELATIONSHIP BETWEEN ART AND ARCHITECTURE



CREATING ART



MESHING ART AND REALITY



PROCESS



CONSTRUCTING REALITY

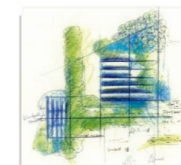


EXPRESSION

# CREATING ART

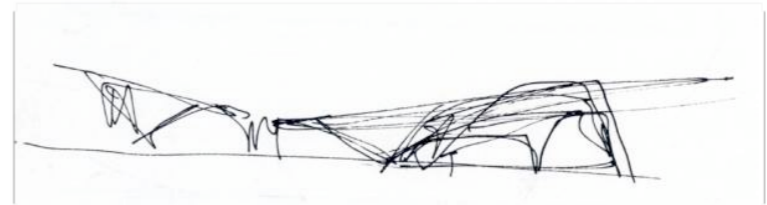
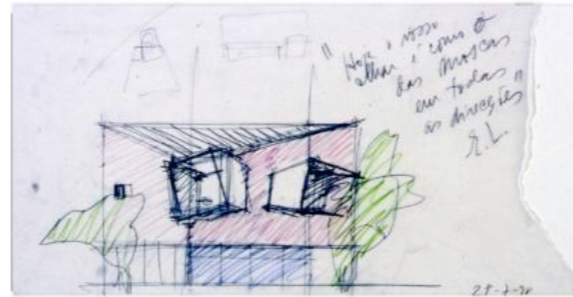
“Works or objects of art that move us are multifaceted; they have numerous and perhaps endless layers of meaning that overlap and interweave, and that change as we change our angle of observation.”

G.Leopardi

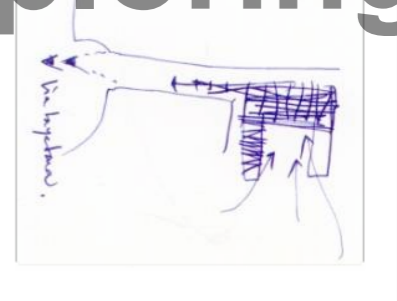
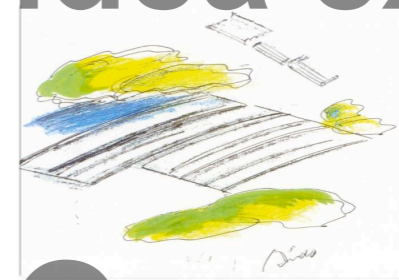
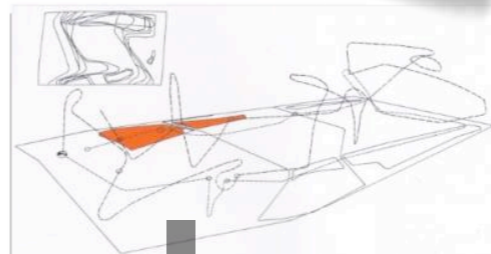
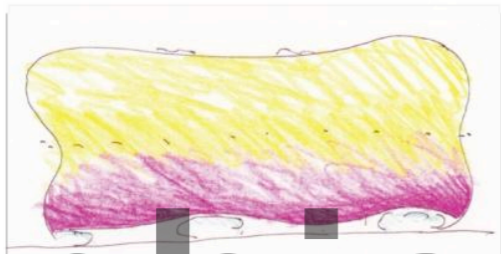
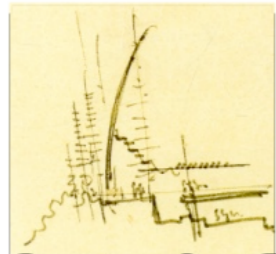


# IMPULSIVE DRAWINGS

preliminary promises



idea exploring

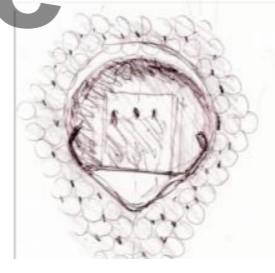


graphic loose



passionate

quick



intuitive



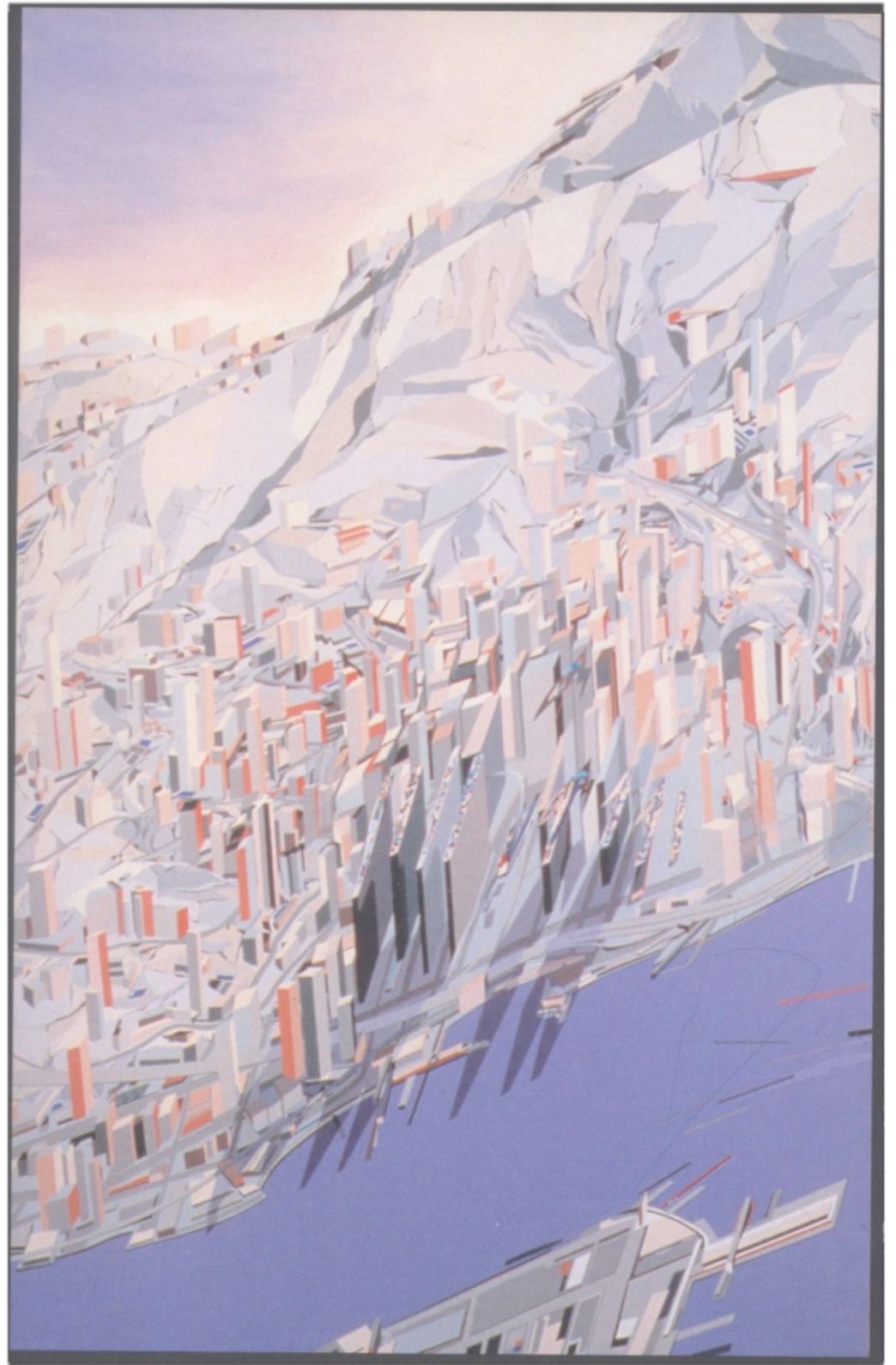
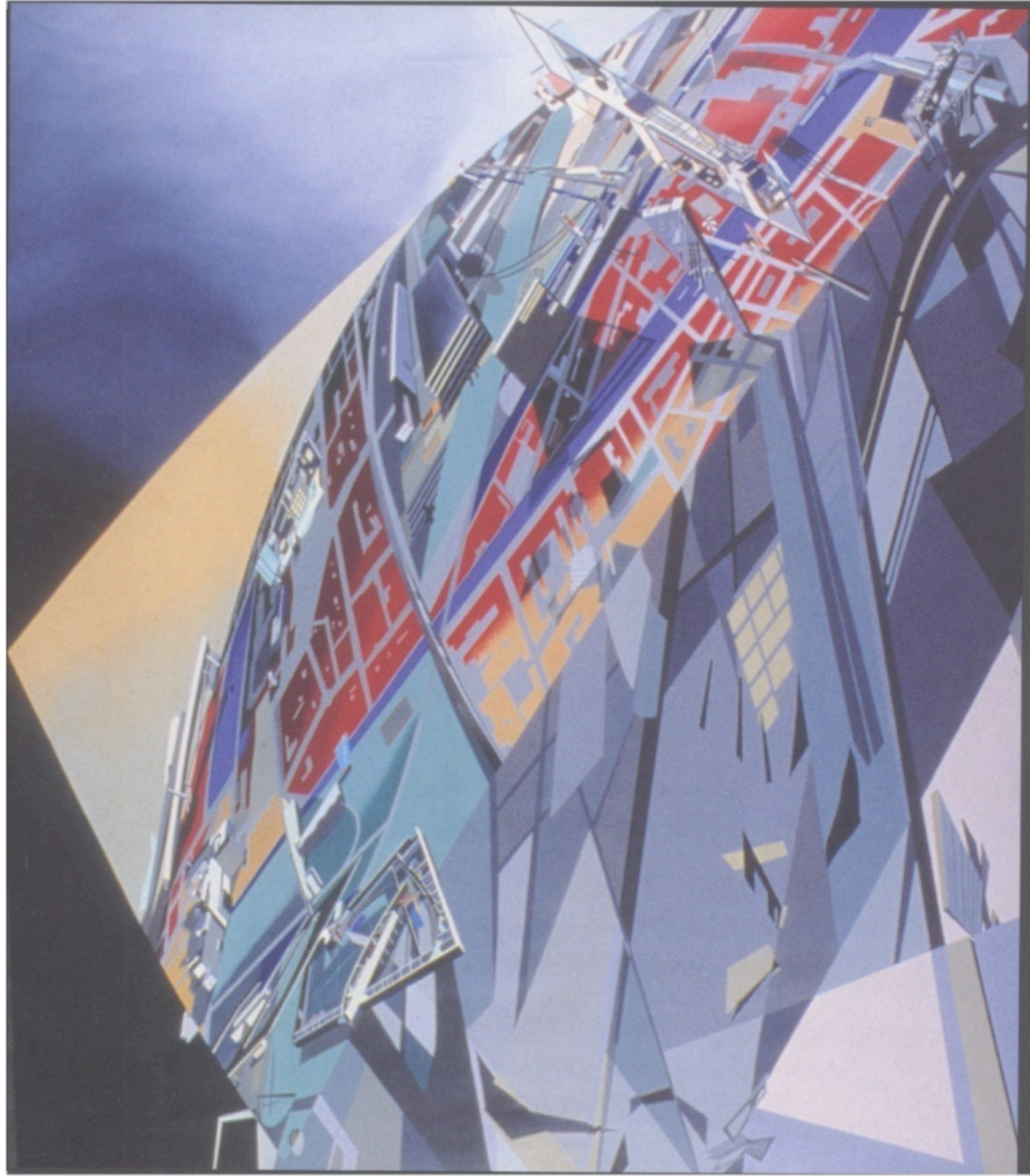
multiple media

“Which ideas came first and how did they acquire shape? Were there actually ever any unshaped abstract ideas, or did an image inevitably accompany every idea?”

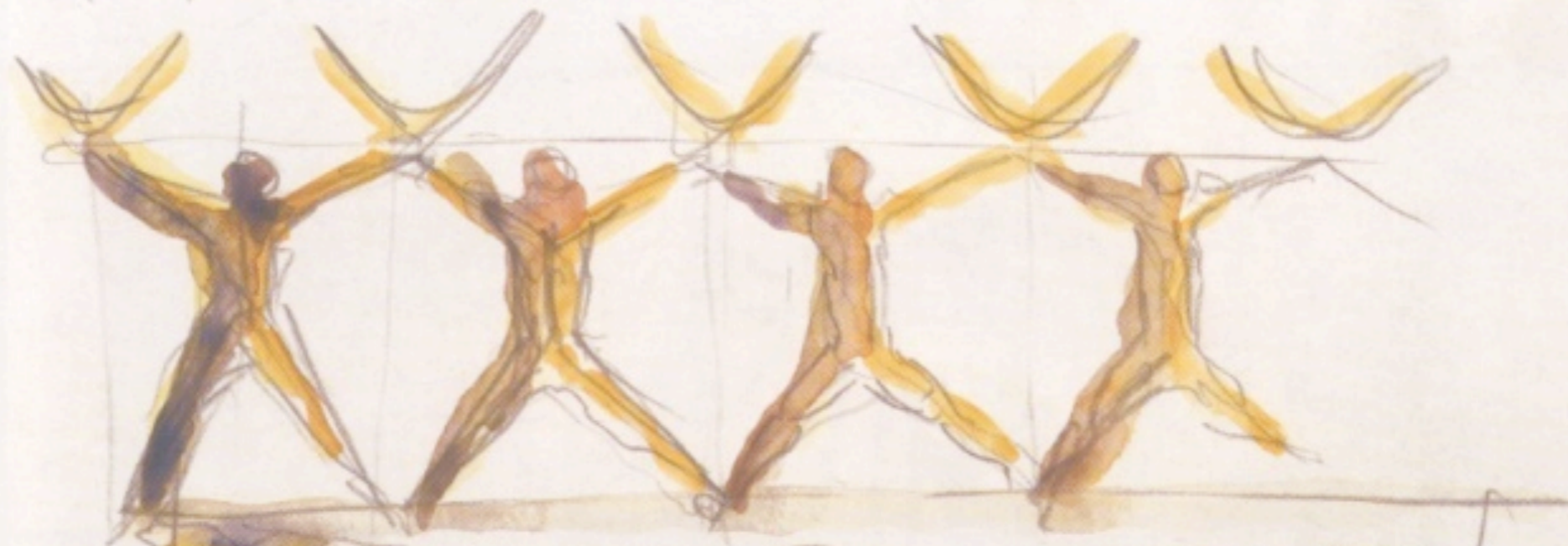
Peter Zumthor, Therme Vals, pg. 24



Architectural drawing has a social dimension. It unites physical manifestation to the architect, who makes cultural artifacts and acts as a social practitioner. **Sketches by comparison, are in most cases personal notes, references and analysis.**

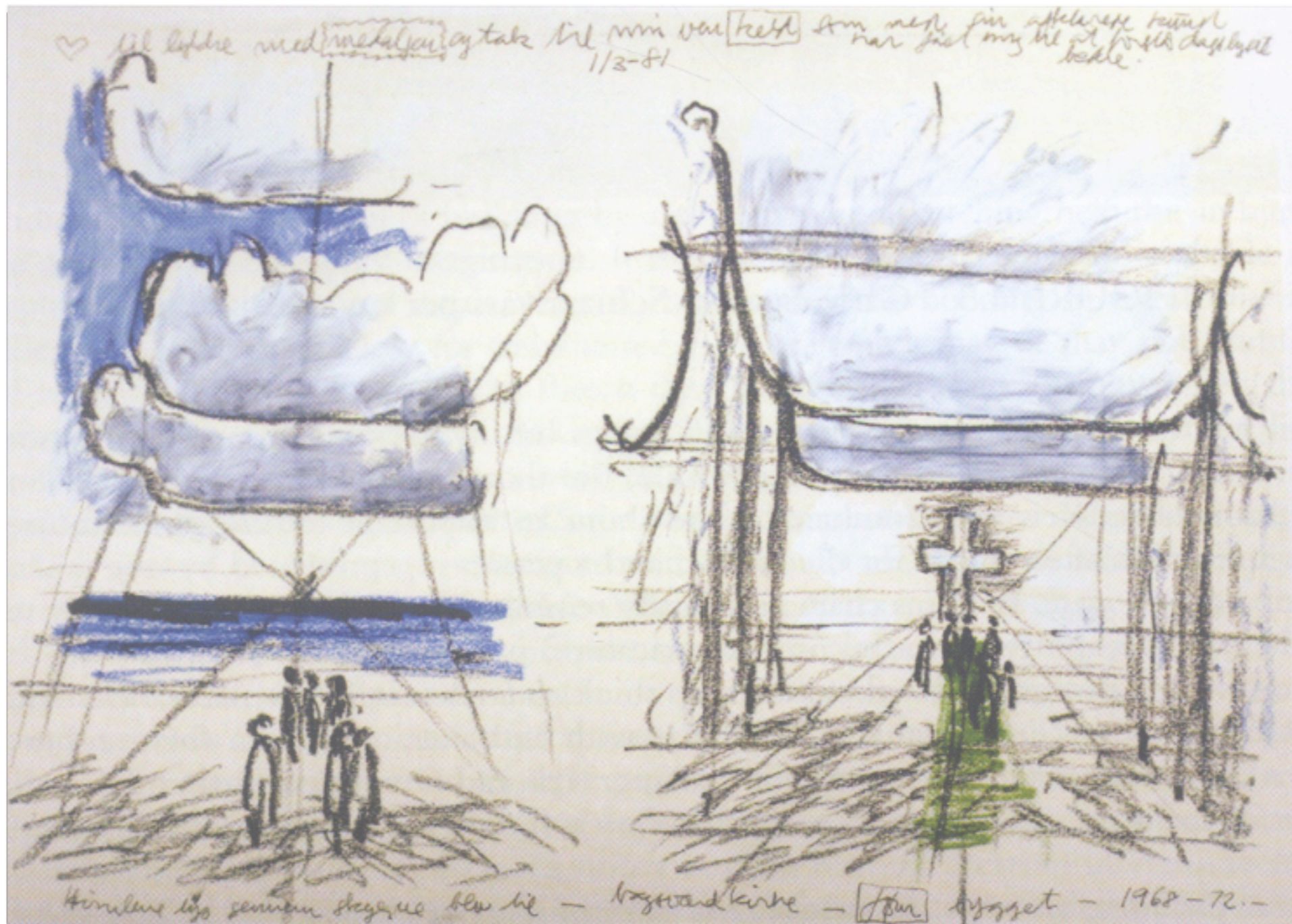


Corte longitudinal del cuerpo de la estación de  
línea aérea



La estructura de la estación  
de la línea aérea  
refleja la composición  
de la figura humana

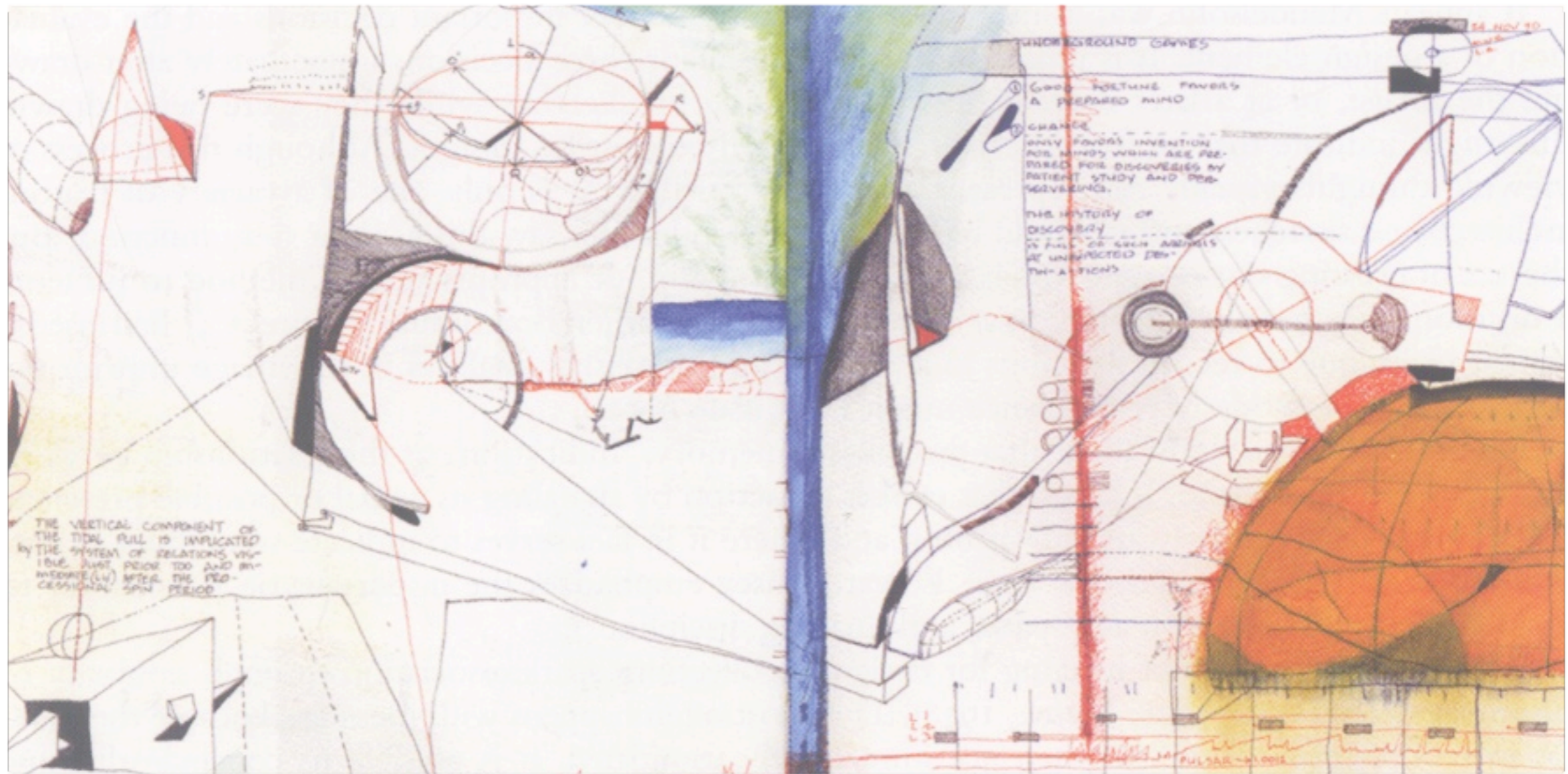
una sucesión de  
elementos vitales que se  
repiten a lo largo  
de la línea aérea  
de la figura humana  
como un todo.



Drawing is so pervasive in the field of architecture that it is sometimes difficult to get a clear view of its effects.



The culture of drawing is continuous, ongoing activity. Drawings are ubiquitous and persistent presences in the domain of architecture.



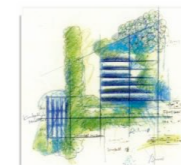
Architectural sketches are the instruments for a design dialogue. They sustain the dialogue which assist architects to make architecture.

**An idea is the force that drives the design;** a heuristic device that can be left unsaid. An idea gathers the manifold aspects of the building into a whole. Fusing with a place, it gathers the meaning of a situation.”

S. Holl *Architecture Spoken* (45)

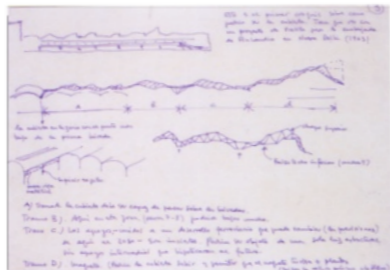
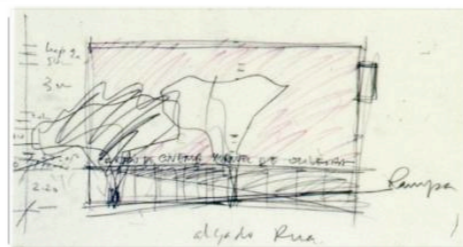
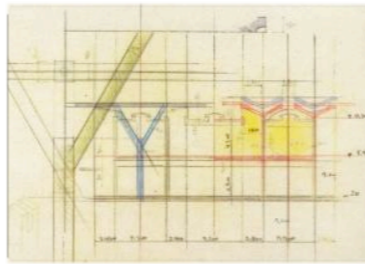
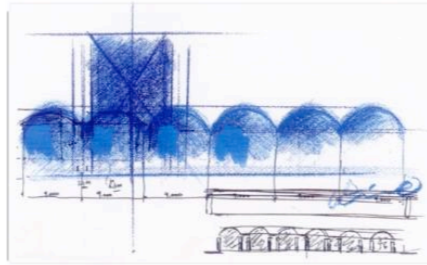
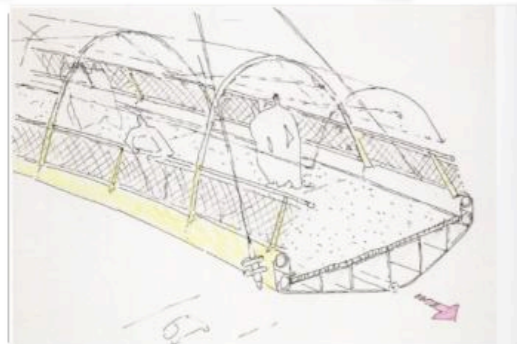
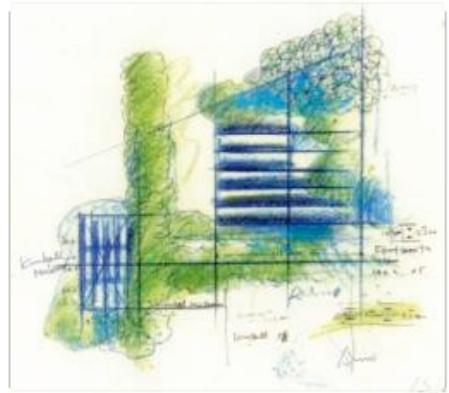
# MESHING ART AND REALITY

- Because architectural sketches are part of a thinking process and seldom as end product, they play an important role in the process of architectural design.
- Sketches may facilitate discovery and the first inspirations for conceptual beginnings.
- Sketches can be employed to evaluate decisions and suggest refinement.
- Construction is the art of making a meaningful whole out of many parts. Buildings are witnesses to the human ability to construct concrete things.

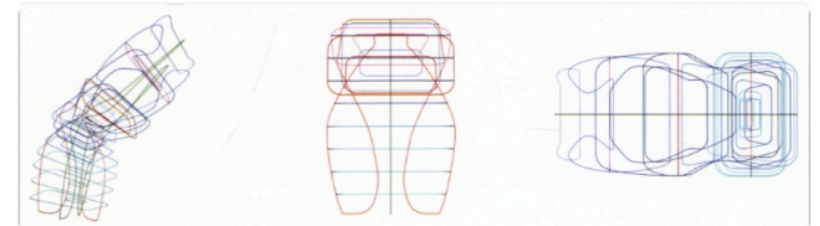
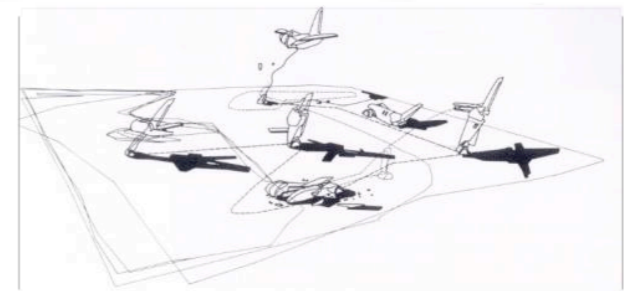
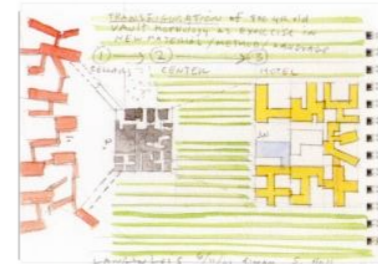


# ACKNOWLEDGE REALITY

creativity meets  
pragmatics

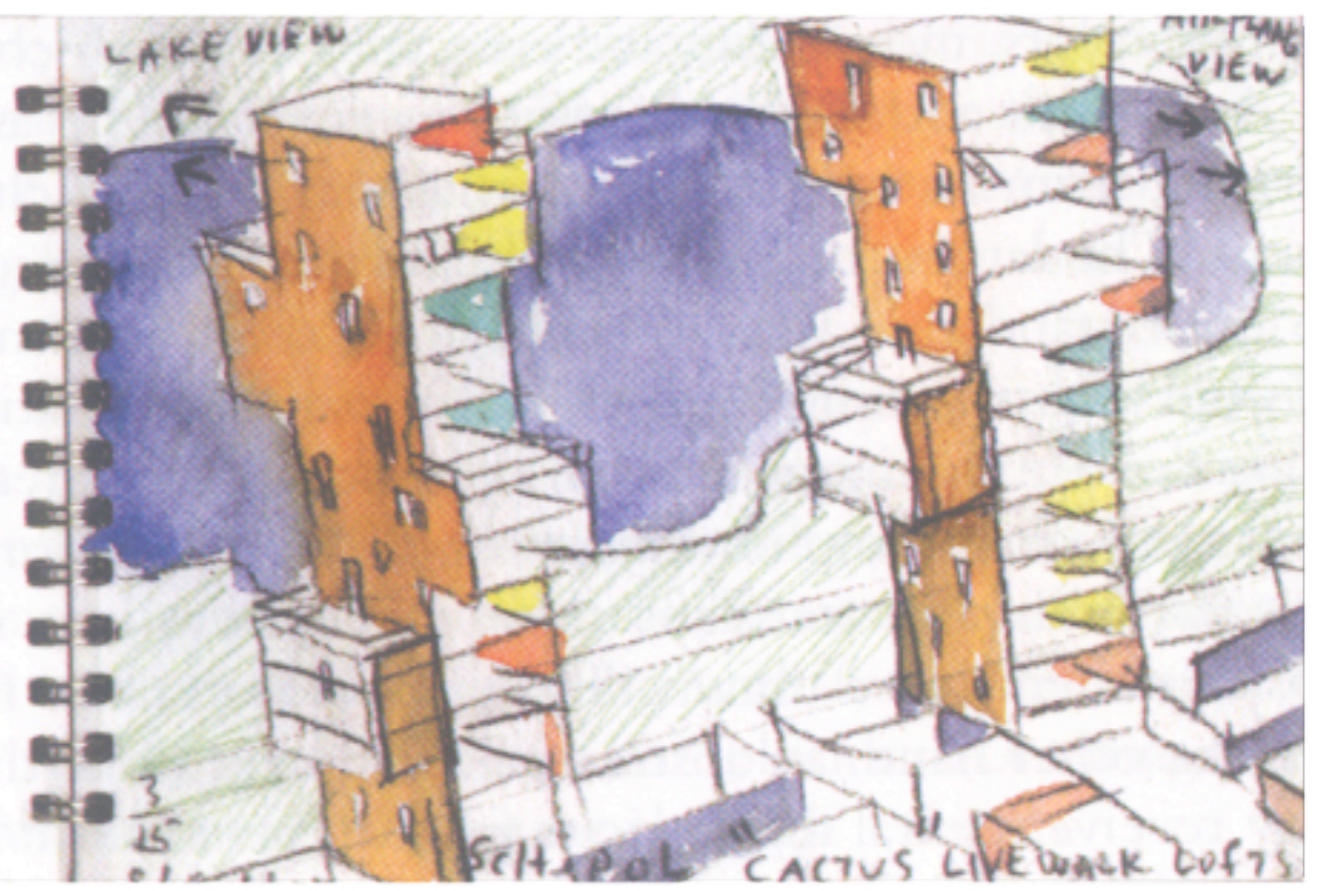
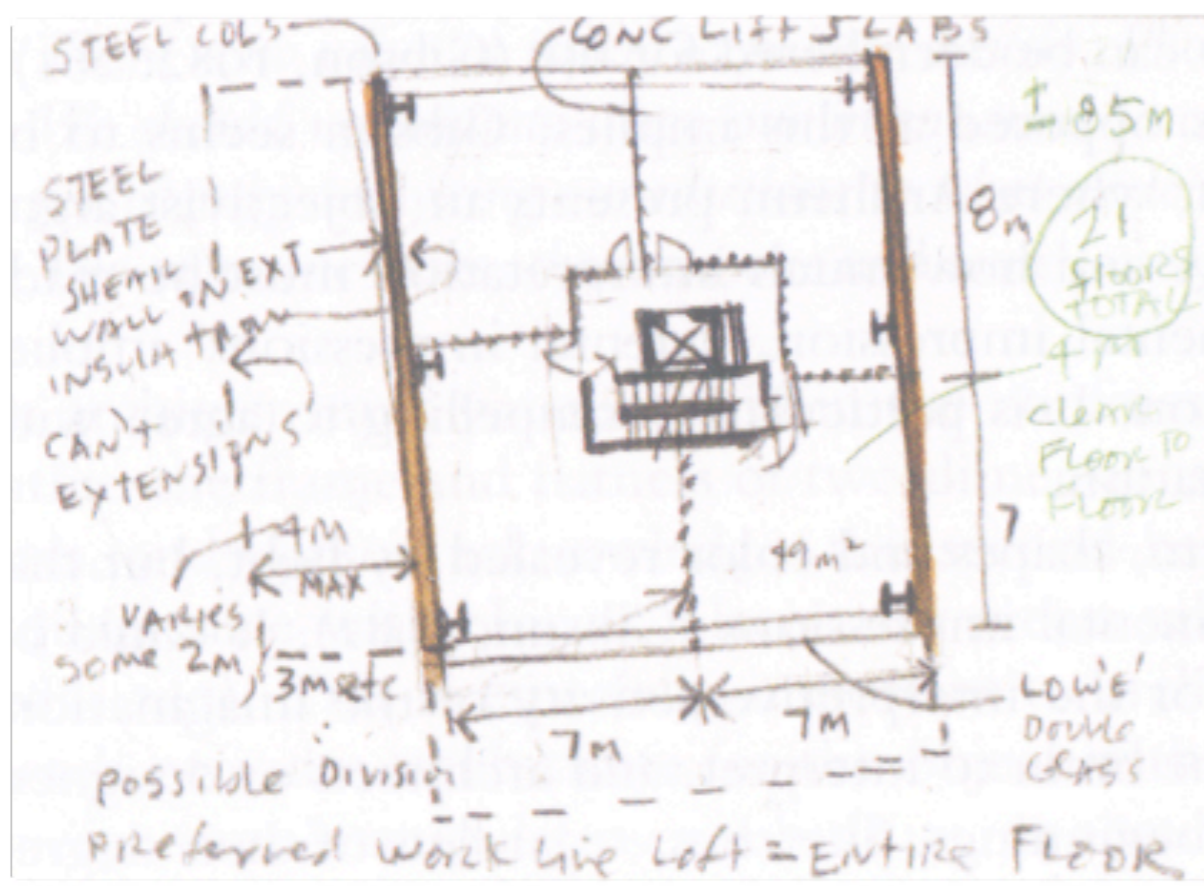


right and left  
brain start  
interacting



art and  
science  
dialogue

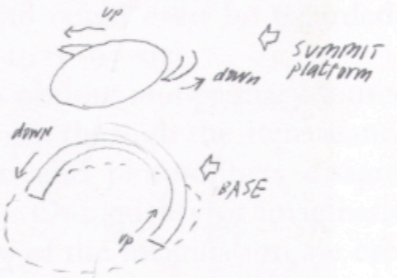
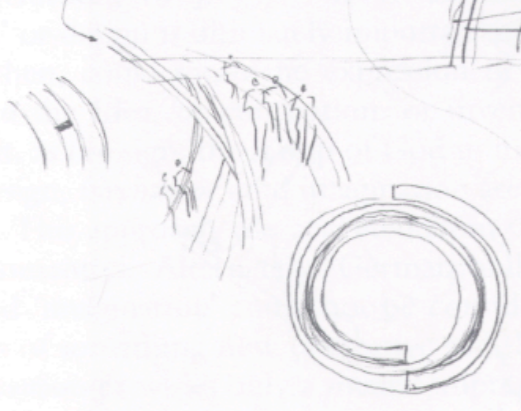
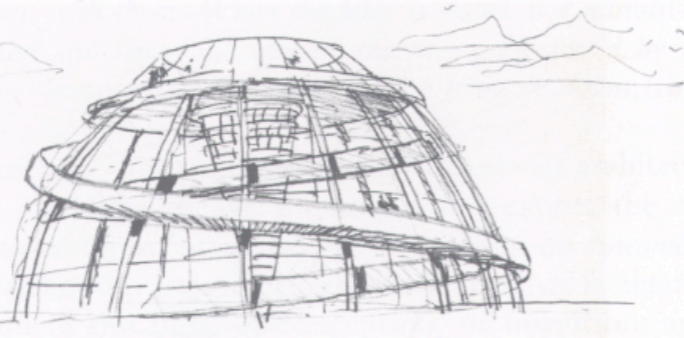
problem  
solving  
begins





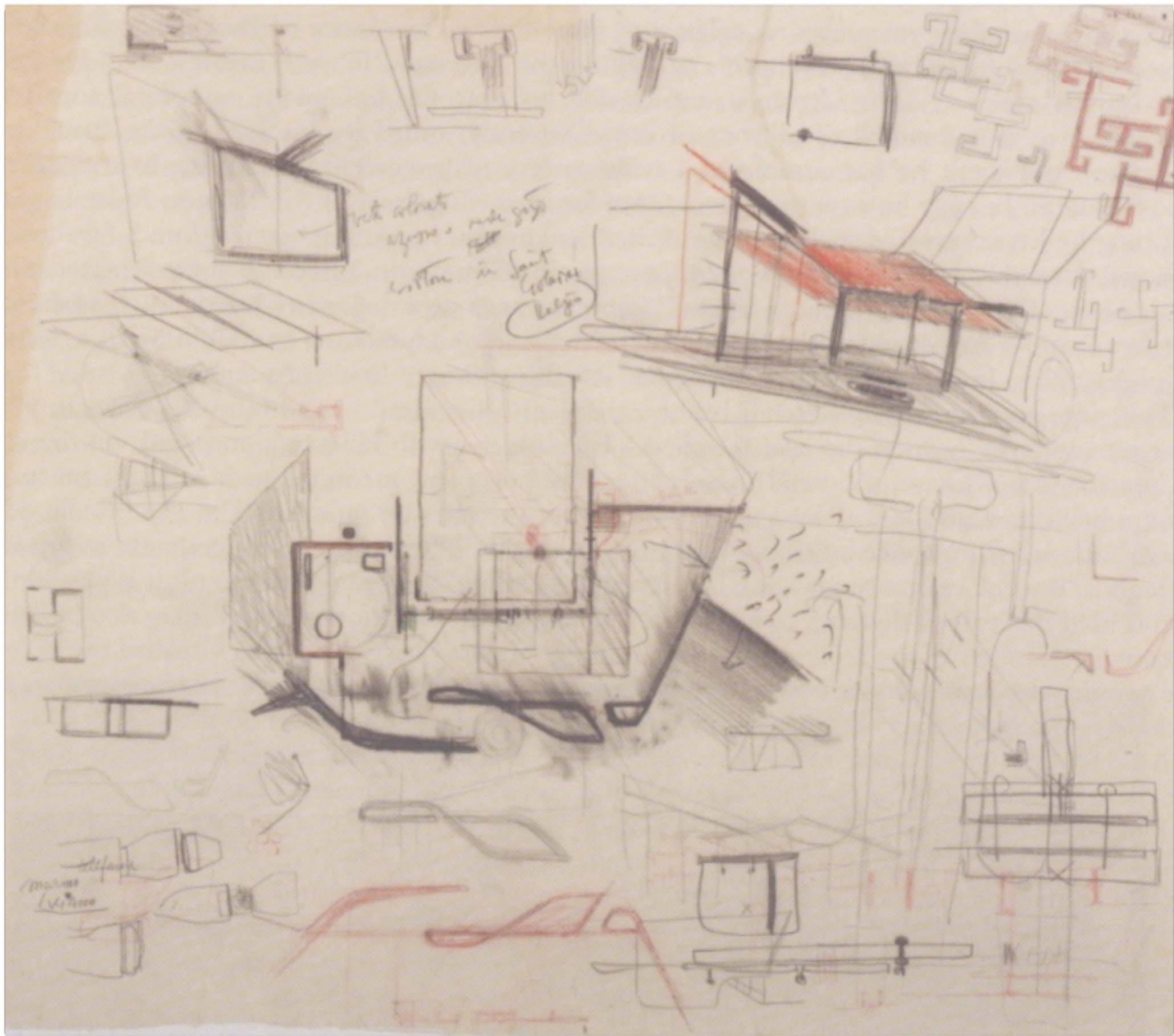


- 6. The inner one is tighter and therefore steeper
- 7. The outer one is more shallow
- 8. In between the two is the supporting structure.



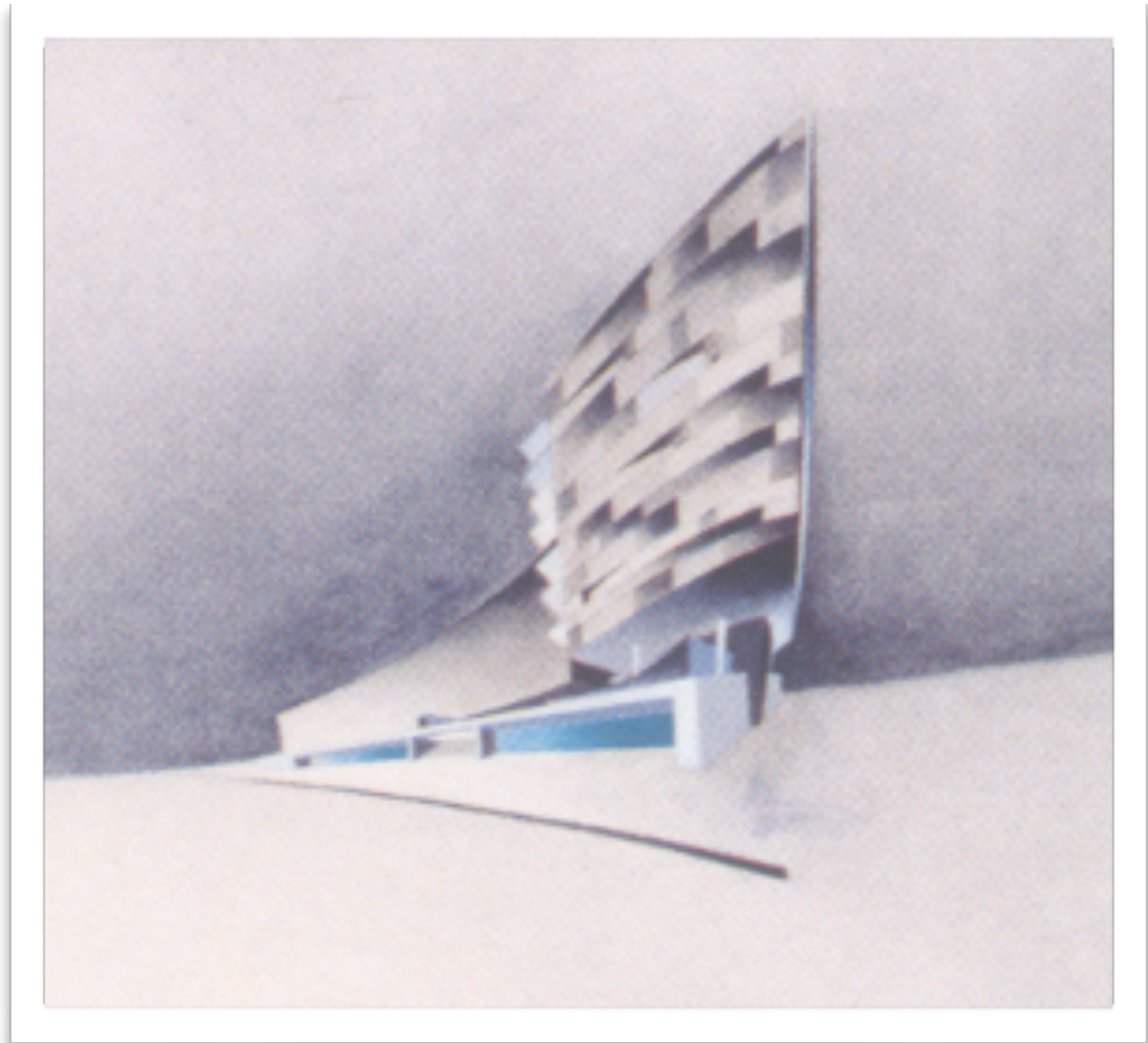
- 1 There are two ramps
- 2 an inner ramp
- 3 and an outer ramp.
- 4 One is for up movement only
- 5 The other is for down only.





with white  
stone in Saint  
Colomb  
Belgia

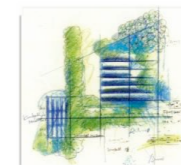
Marino  
L. 1950

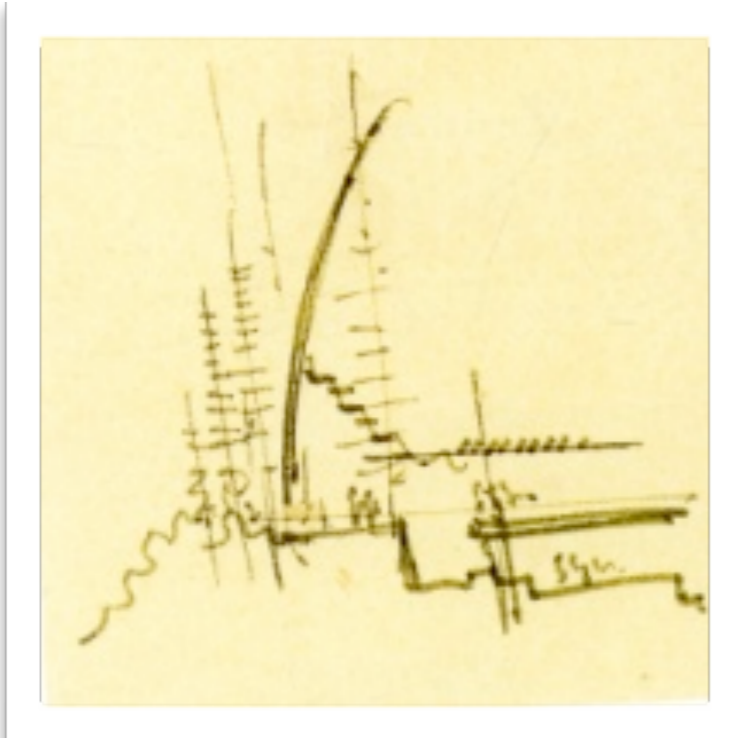


# PROCESS

**“The design Process is based on a constant interplay of feeling and reason. The feelings, preferences, longings, and desires that emerge and demand to be given a form must be controlled by critical powers of reasoning, but it is our feelings that tell us whether abstract considerations really ring true”**

Peter Zumthor, Thinking Architecture





**“Without an IDEA, Architecture would be pointless, only empty form...** An idea is capable of: serving (function), responding to a place (context), resolving itself geometrically (composition), materializing itself physically (construction)...

**Architecture is always a built IDEA.** The history of Architecture is the History of built IDEAS. Forms change, they crumble, but the IDEAS remain, they are eternal.”

Alberto Campo Baeza, p.22 in AD 110-Aspects of Minimal Architecture, 1994

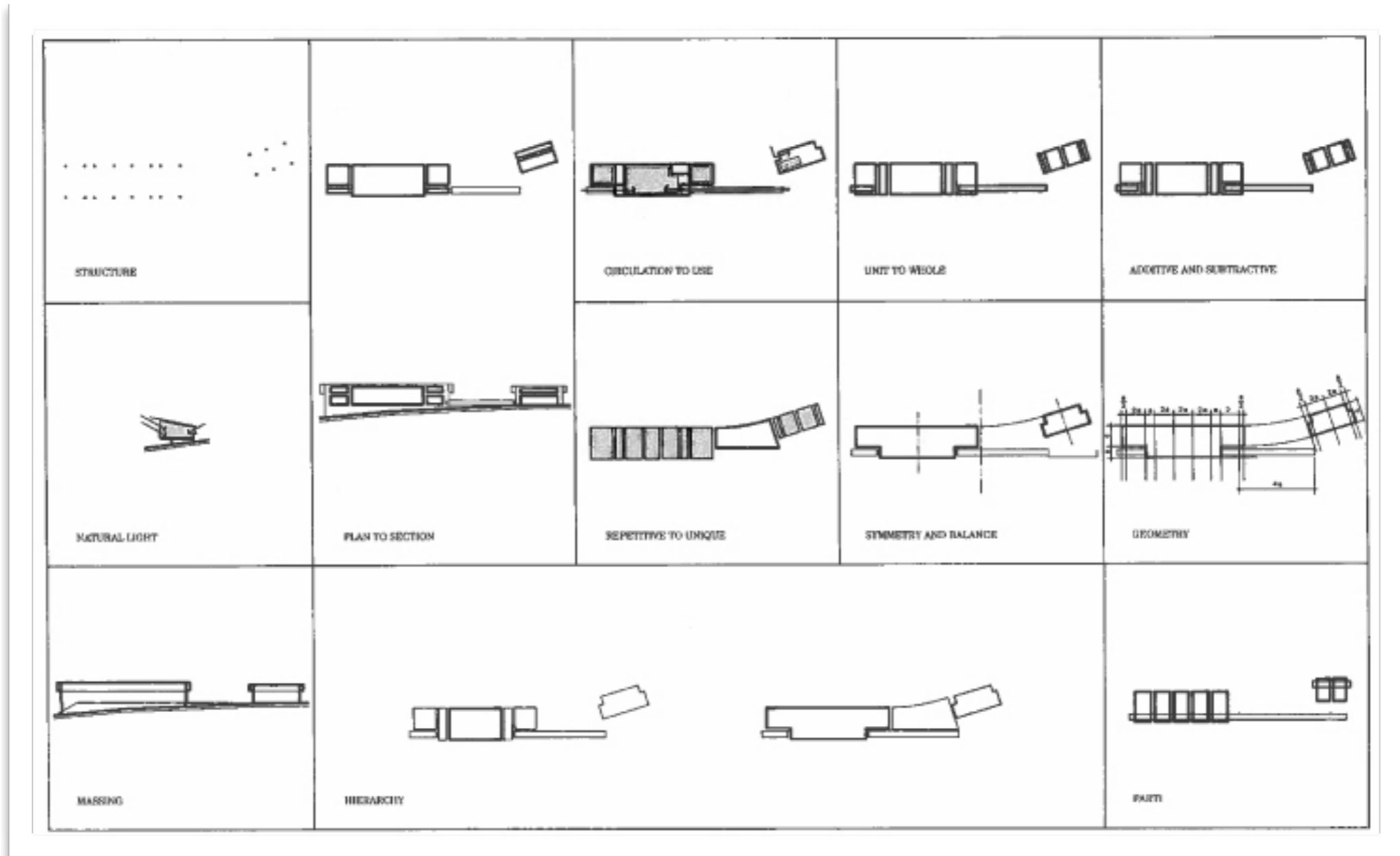
# concept



The formulation of a concept during a design project is the most essential component of process development. **The concept drives the direction of a designer's work.** It is a faithful, unwavering voice that guides the design process through confusion or hesitation when faced with 'where to go' or 'what to do next'. The concept also makes the designer accountable to every design decision made in fulfilling a project's objective.

Rafael Moneo

# diagrams



**Diagrams are those drawings which engage in a self-conscious reductive process,** attempting to make clear a specific interpretation through the exclusion of that information which the authors deem irrelevant.

diagrams

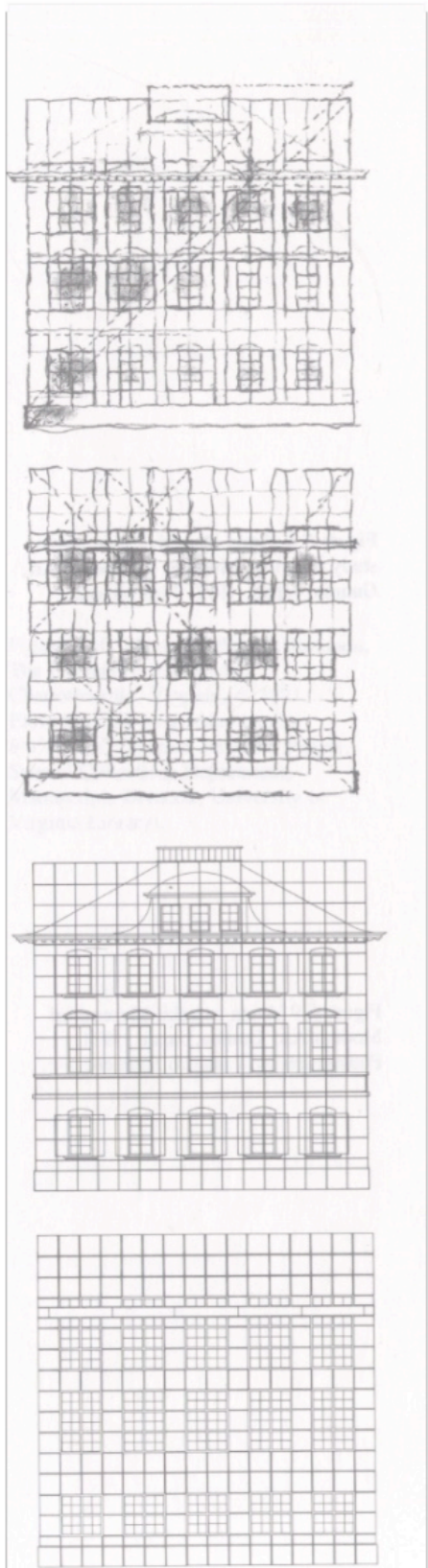
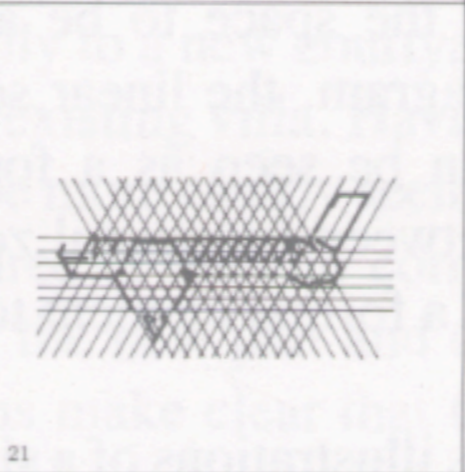
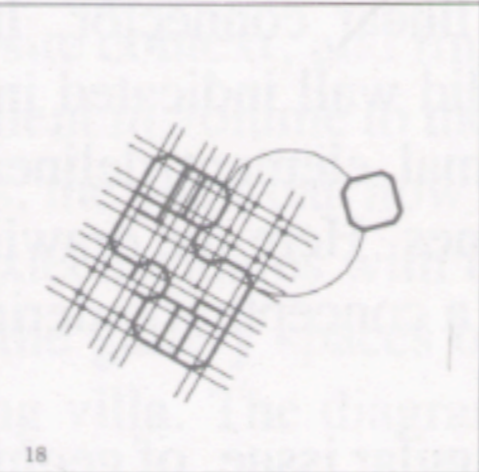
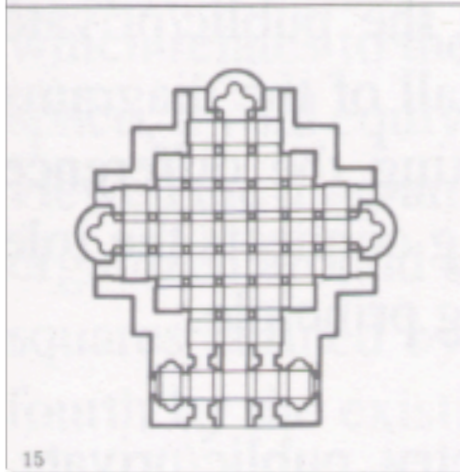
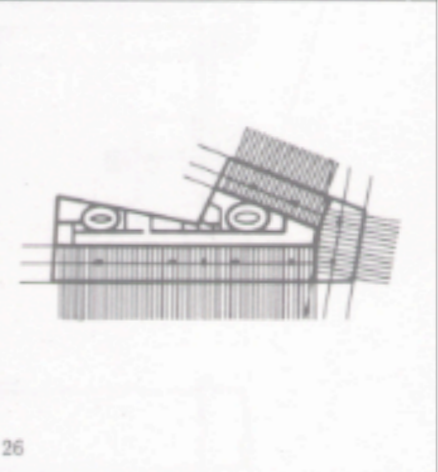
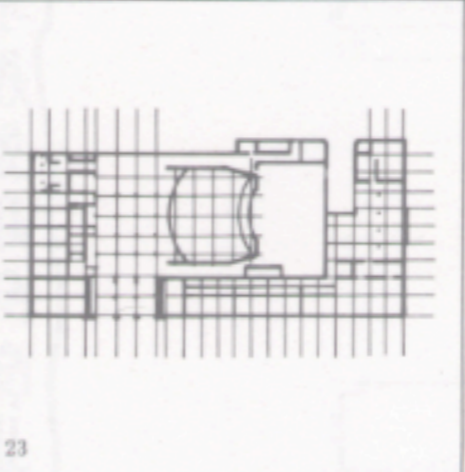
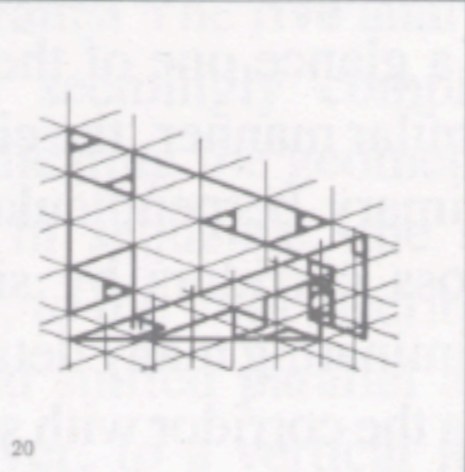
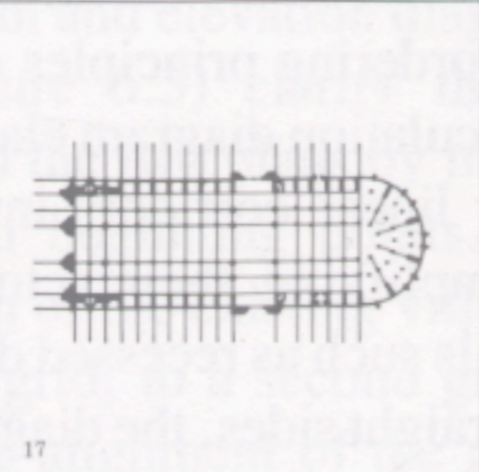
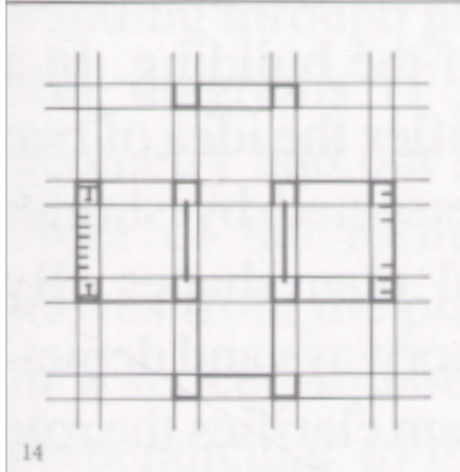
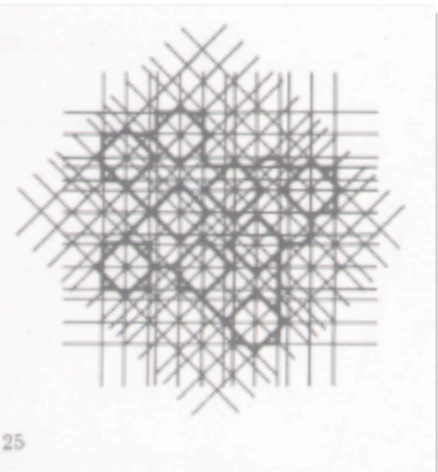
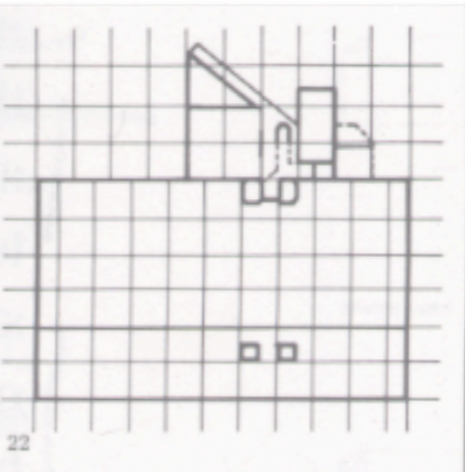
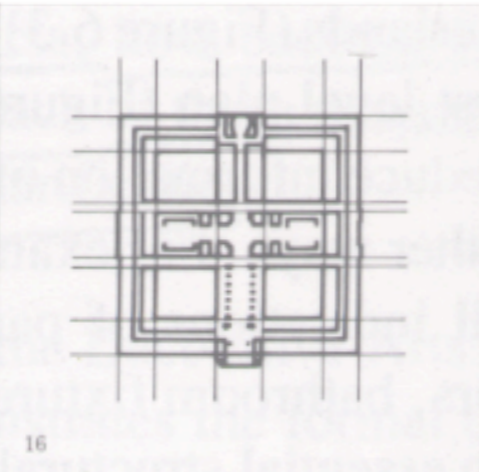
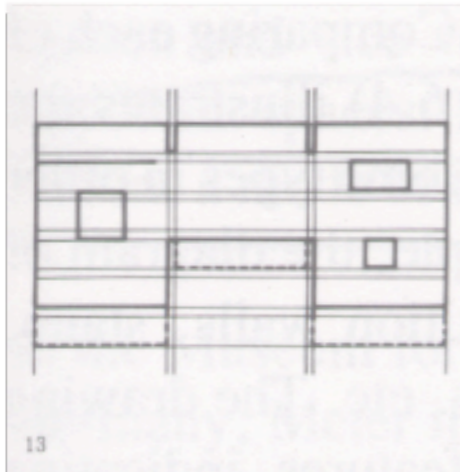


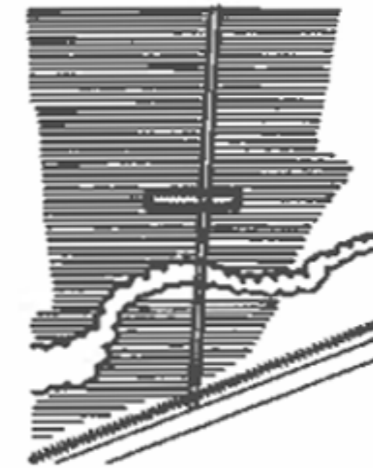
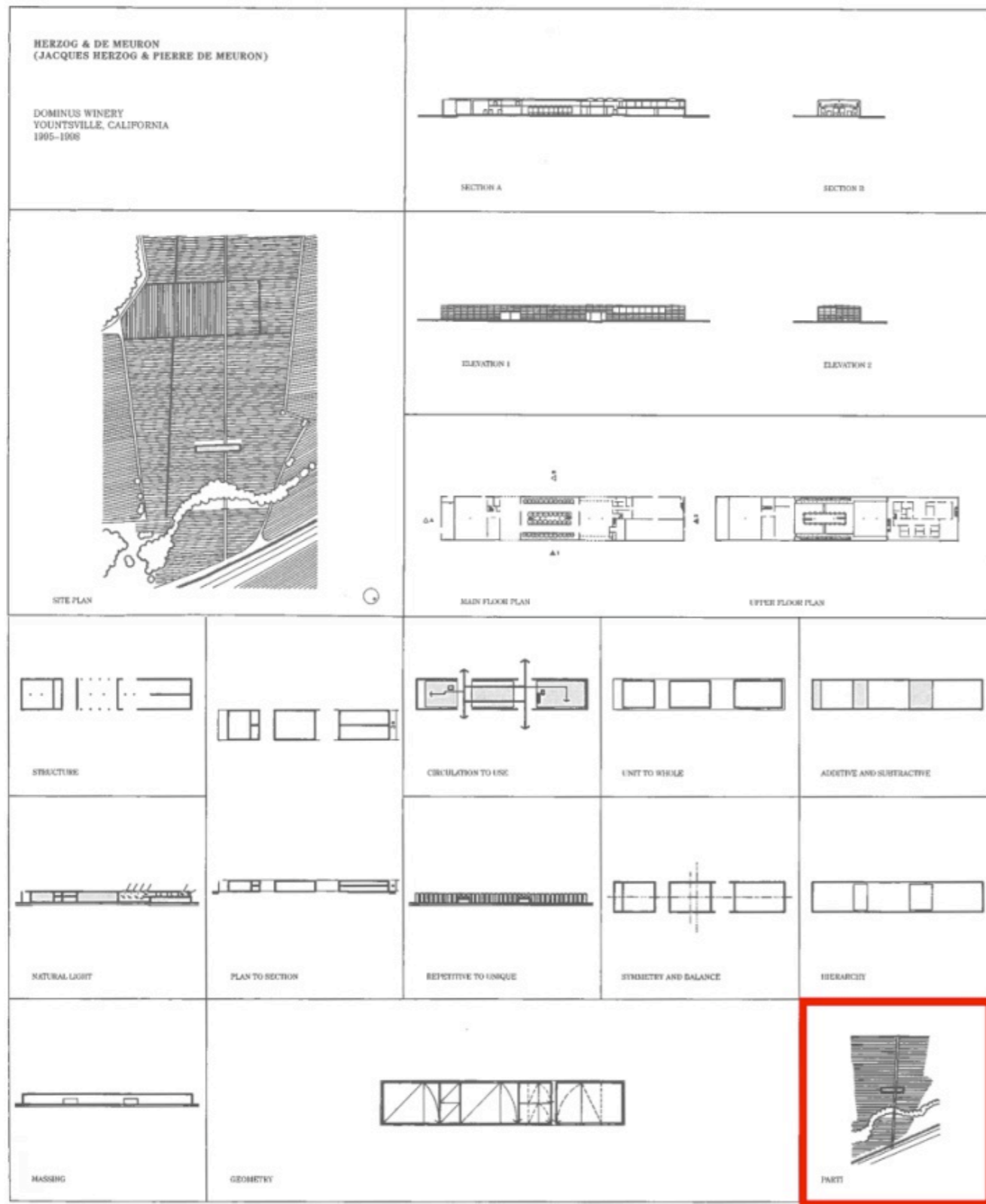
Figure 6.6 Richard Meier & Partners,



diagrams



parti



PARTI

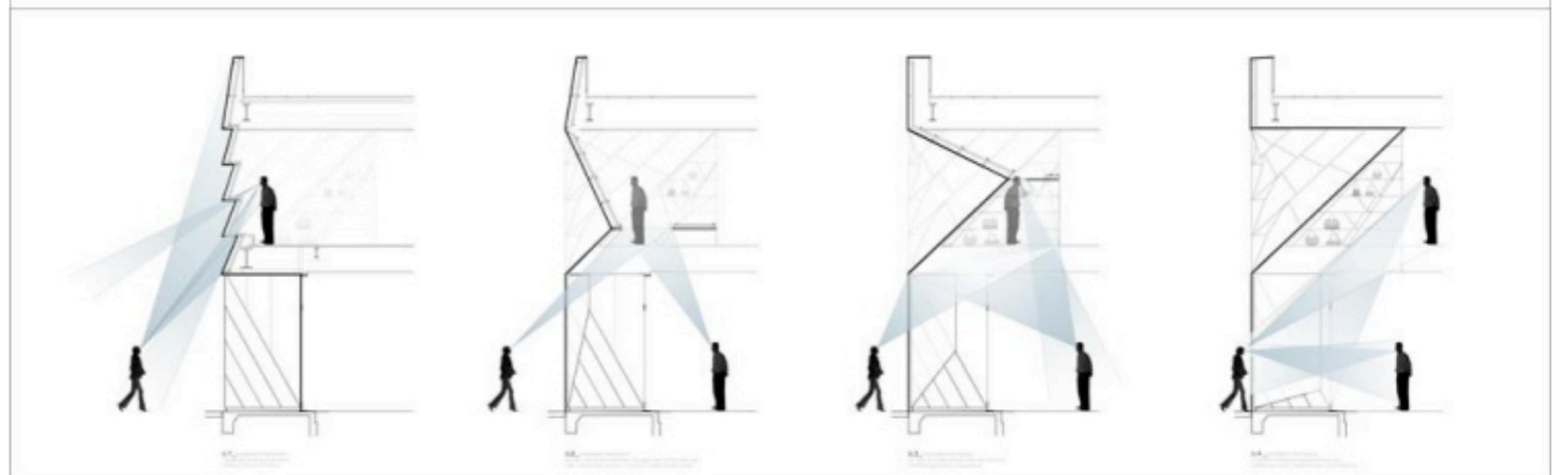
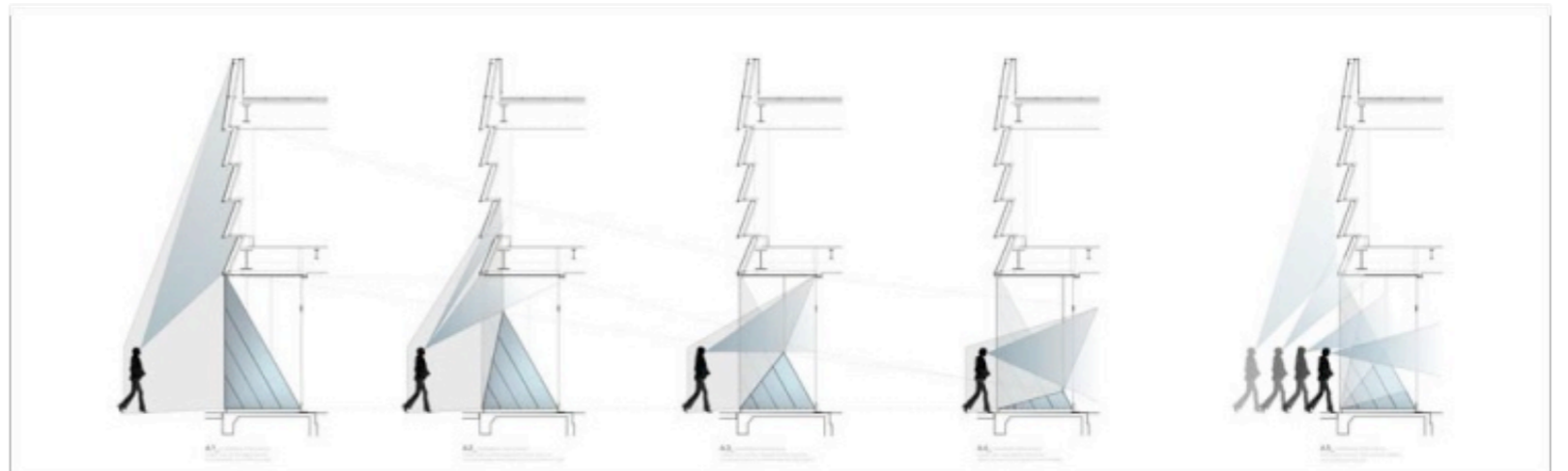
**A parti is the most basic organizational principle that expresses an architectural design.** It is the scheme, main concept, or idea that explains better than anything else the character and appearance of a design.

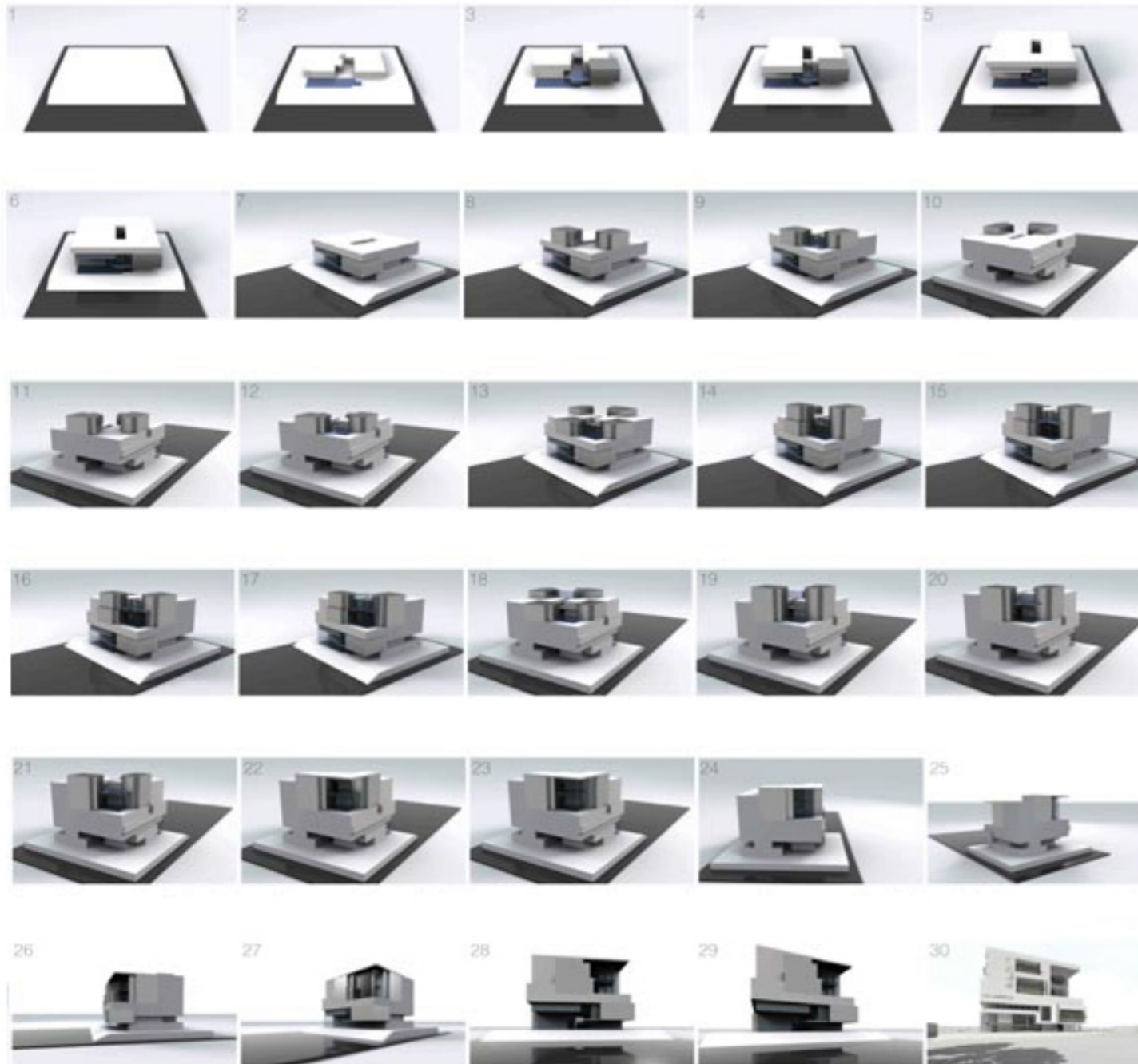
# TRANSVERSE THROUGH NEW GROUND

Iterative

Development

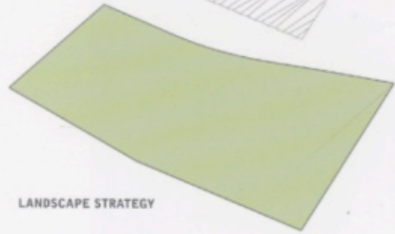
Further resolution of  
form, relationships,  
space, skin,...





1 plinth    2 1st level tenant space, public entry lobby    3 special proceedings courtroom    4 2nd level tenant space  
 5 3rd level tenant space    6 4th level tenant space    7 rotation    8 two 5th level courtrooms    9 5th level backup  
 10 rotation    11 two 6th level courtrooms    12 6th level backup    13 rotation    14 two 7th level courtrooms  
 15 7th level backup    16 5th level public courtroom lobby    17 7th level public courtroom lobby    18 rotation  
 19 two 8th level courtrooms    20 8th level backup    21 6th level public courtroom lobby    22 roofs  
 23 8th level public courtroom lobby    24-29 rotation    30 finished elevation





LANDSCAPE STRATEGY



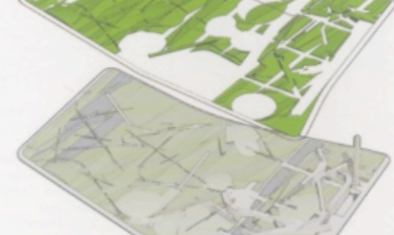
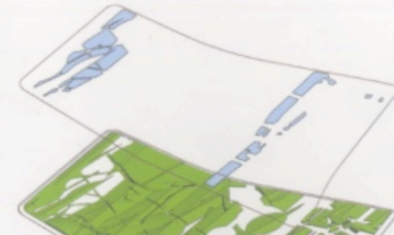
URBAN PLAZAS



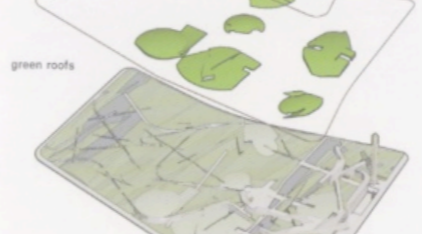
PEDESTRIAN STRATEGY



MOUNDS



WATER

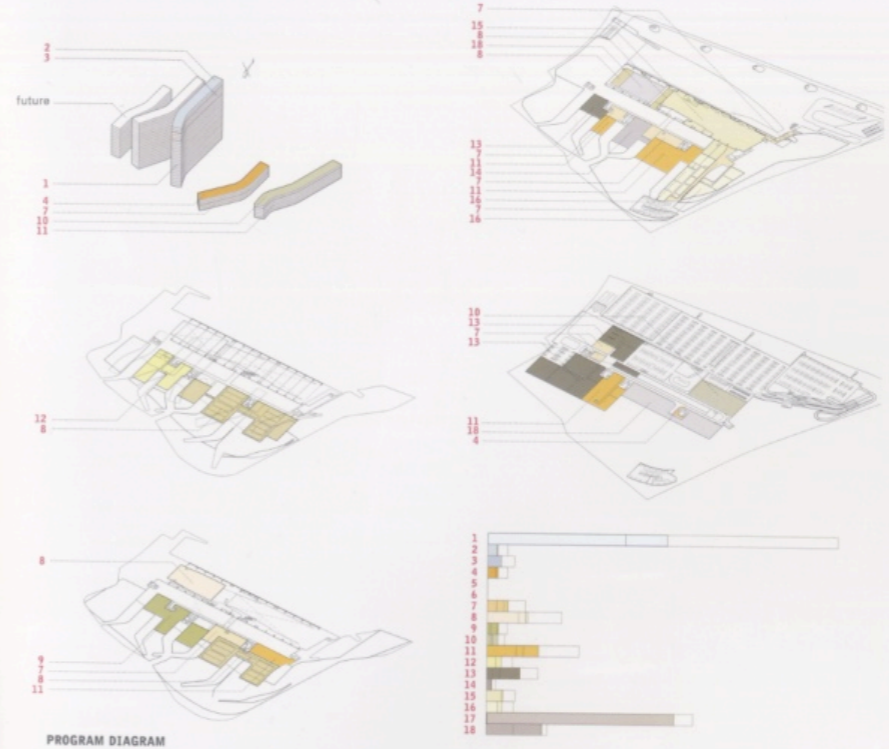
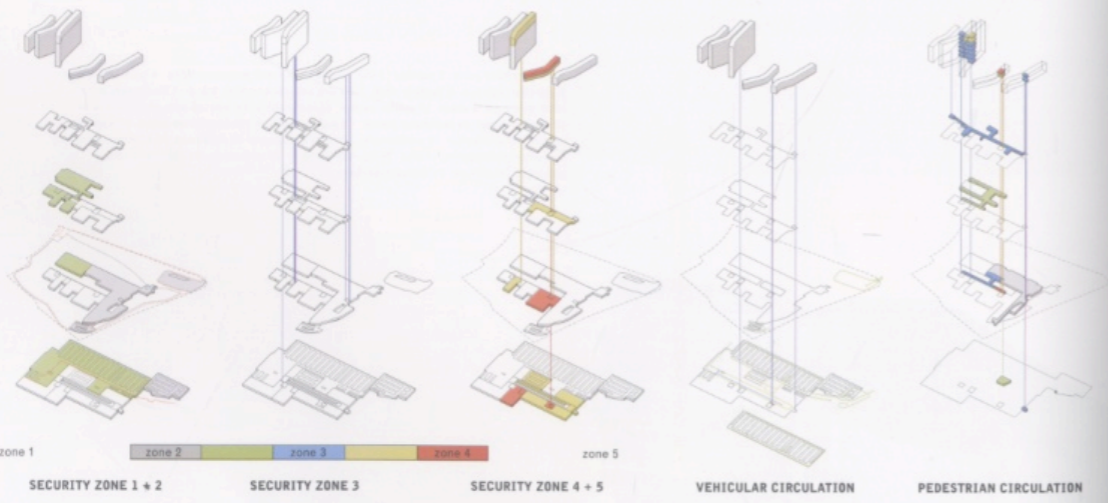
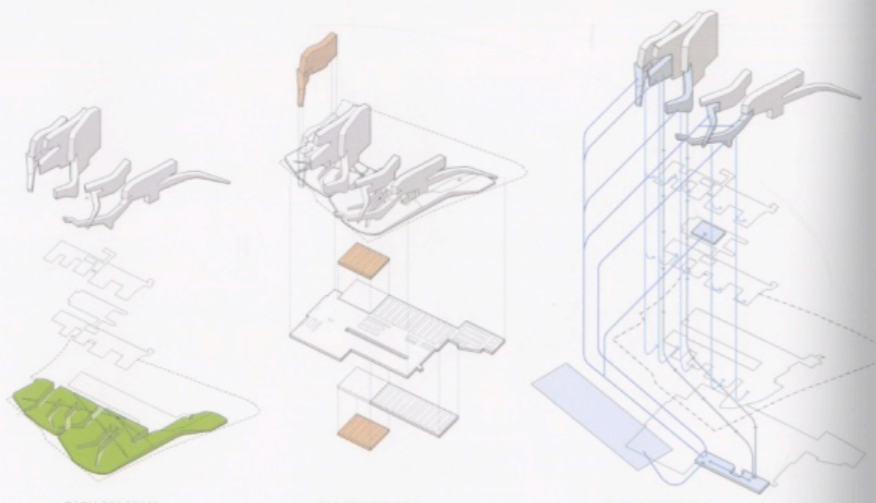


buildings

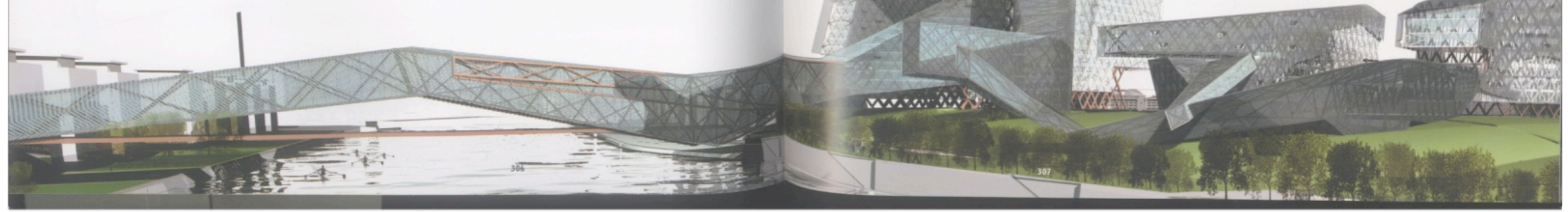
green roofs

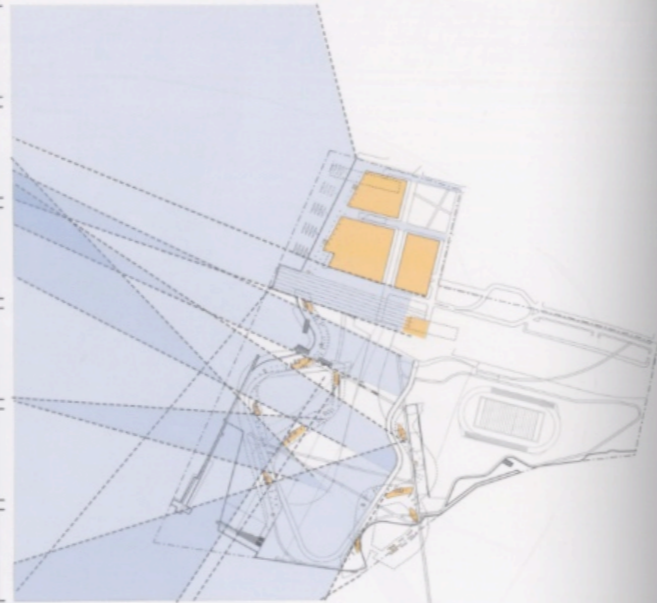
BUILDING STRUCTURE

SECTION THROUGH CINEMA



1 office areas 2 decision-making bodies 3 decision-making bodies 2 4 secured office area 5 operations 6 payment systems 7 security and transportation set 8 conference and press 9 library 10 archives 11 IT services 12 restaurant services 13 logistics and FM services 14 central services 15 entrance, reception, visitor area 16 social/sports facilities 17 parking facilities 18 technical plant





VIEW CORRIDOR DIAGRAM



HUNTER'S POINT  
43 acres



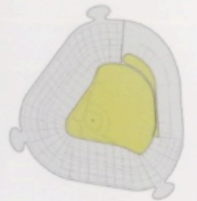
BATTERY PARK  
23 acres



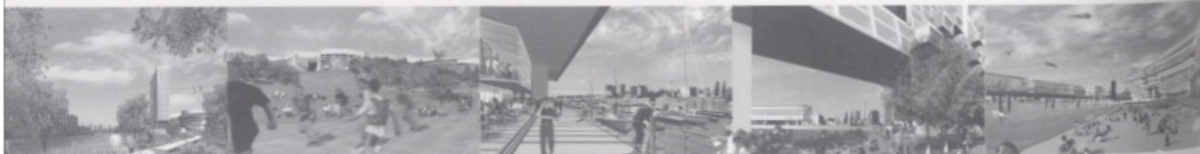
RIVERBANK PARK  
28 acres



WASHINGTON SQUARE PARK  
10 acres



YANKEE STADIUM  
4 acres



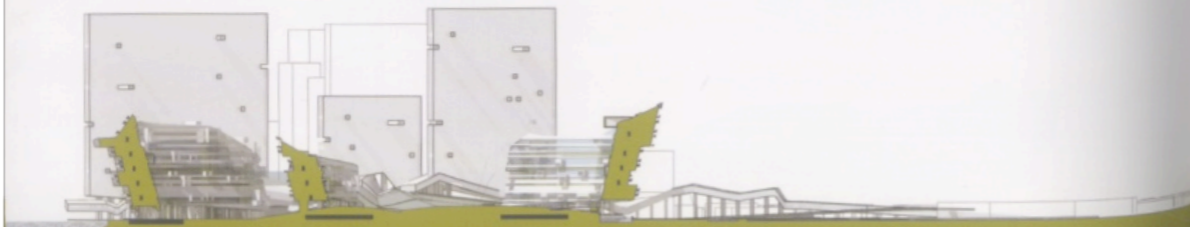
WETLANDS

ACTIVE PARK

MARINA

ESPLANADE

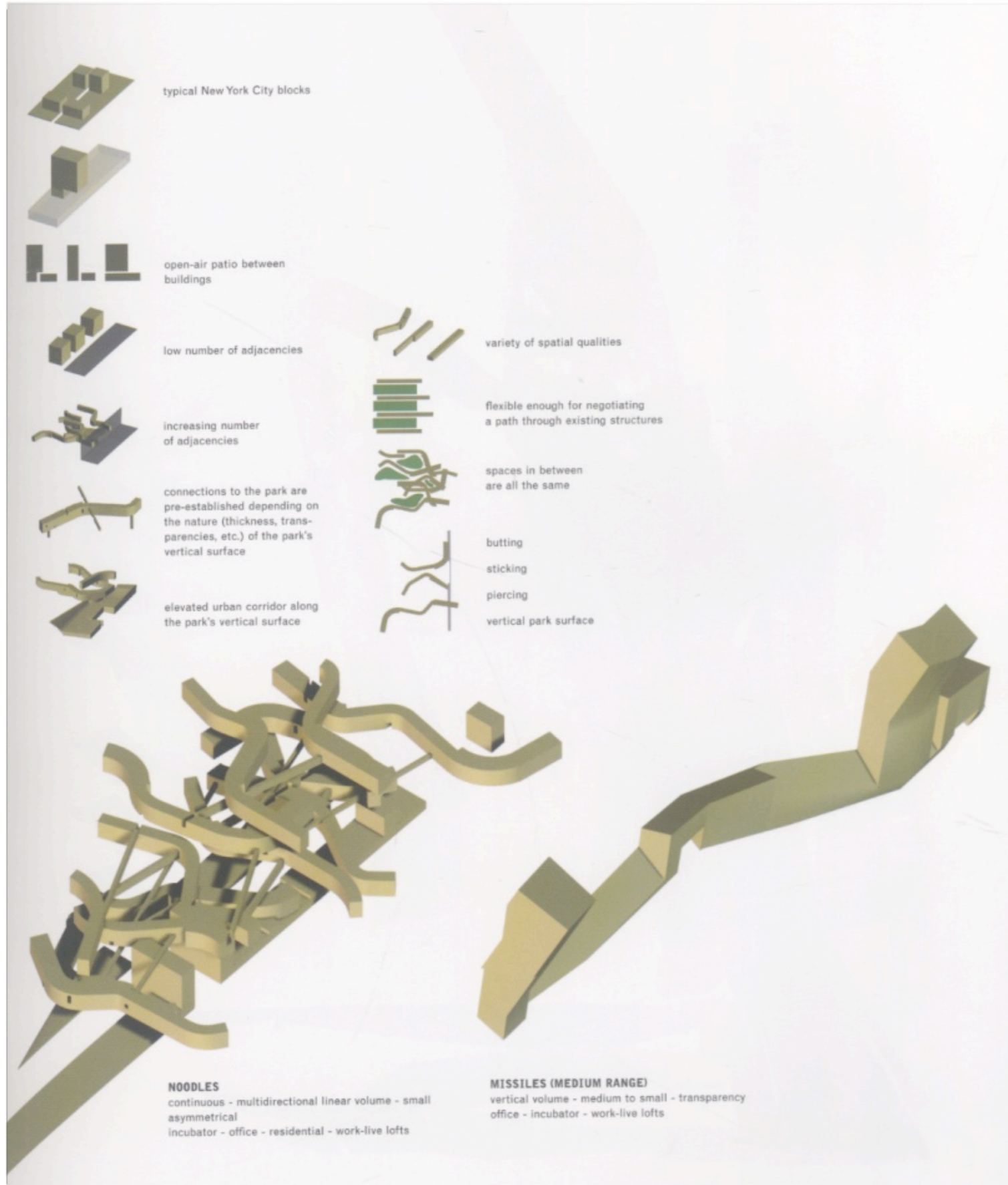
BEACH



SECTION THROUGH PARK AND RIBBONS LOOKING NORTH



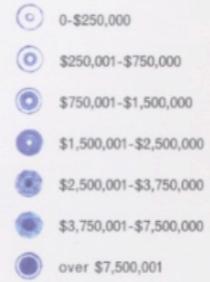
SECTION THROUGH PARK AND RIBBONS LOOKING SOUTH



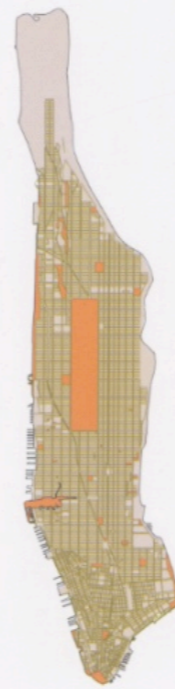
The computer, with little concern for gravity and structural integrity, may subscribe to a strategy rather than a reality.



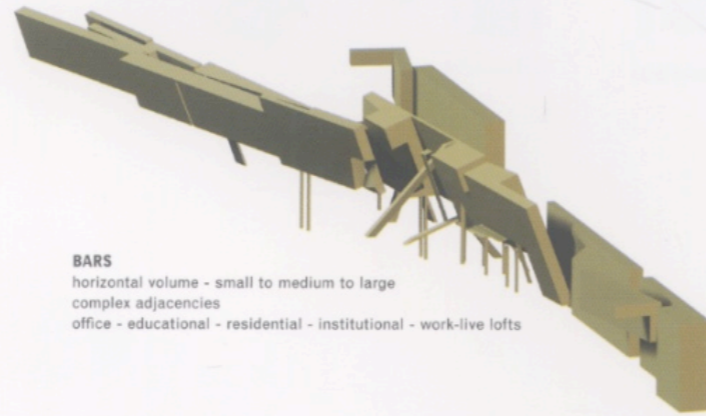
PERSONAL INCOME



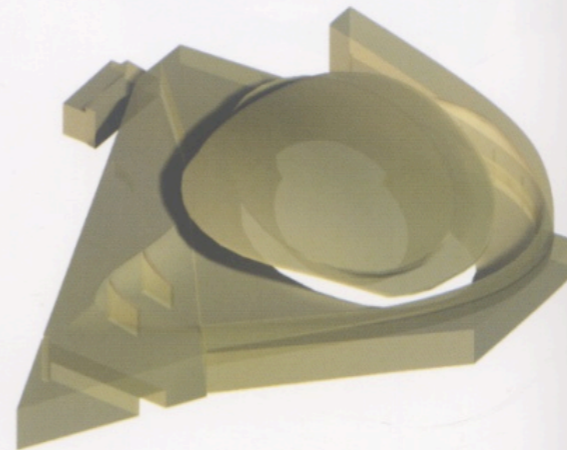
POPULATION DENSITY



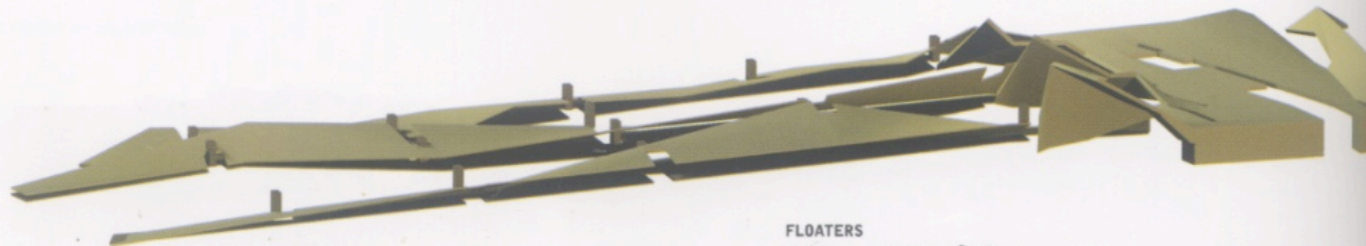
EXISTING PUBLIC PARKS  
IN MANHATTAN



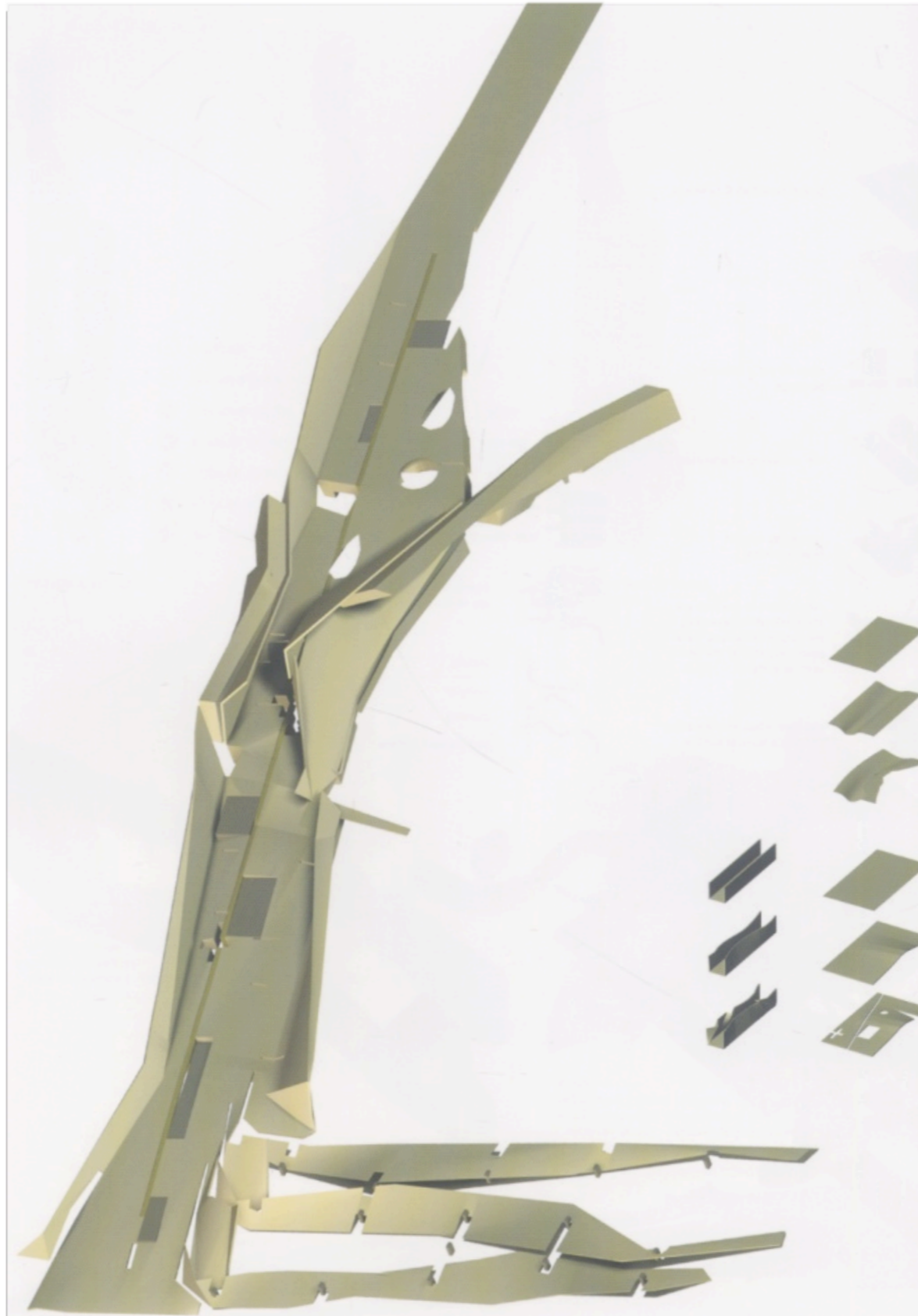
**BARS**  
horizontal volume - small to medium to large  
complex adjacencies  
office - educational - residential - institutional - work-live lofts



**PUGS**  
unique form - strong attractors  
ecolarium (ecology + aquarium) of the Hudson River system - boathouse  
- botanical garden - Madison Square Garden - Penn Station - beach hockey  
and ice skating



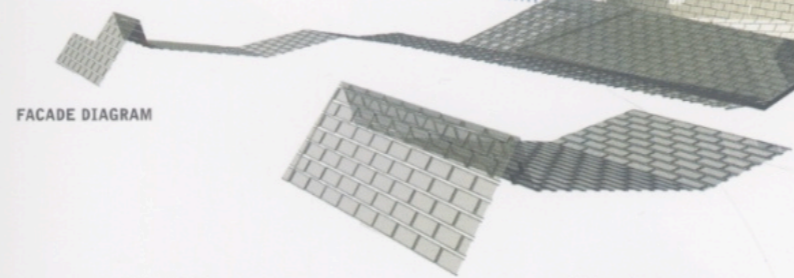
**FLOATERS**  
structures on water - reflections  
ecolarium - beach - boathouse - swimming - shops -  
restaurants and night clubs - cafes - tidal energy turbines



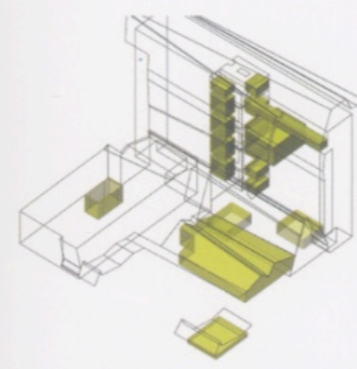
**WARP**  
variable plane - surface  
continuity (landscapes of intersection, a place of intersection between public and private  
and the exploitation of the vertical dimension as a public realm)  
cultural - institutional - open space and greenery - recreation - service - commercial



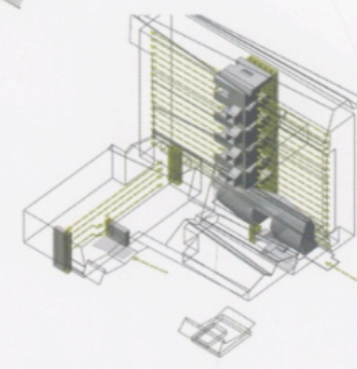
AIRFLOW DIAGRAM



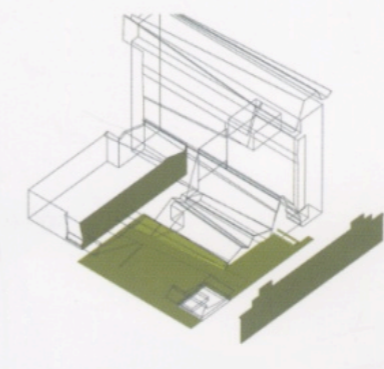
FACADE DIAGRAM



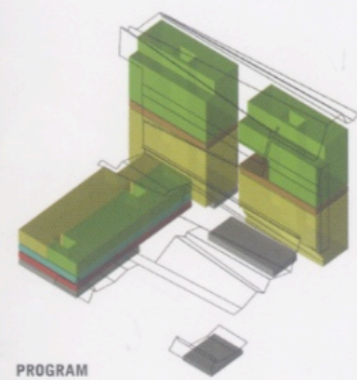
PUBLIC USE SPACES



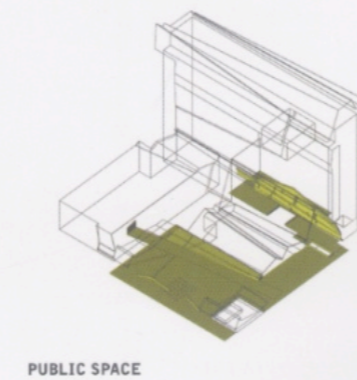
BUILDING CIRCULATION



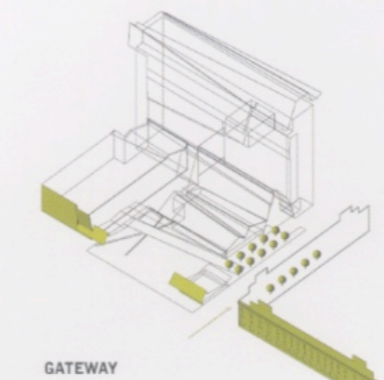
CIVIC SPACE



PROGRAM



PUBLIC SPACE

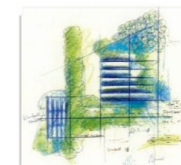


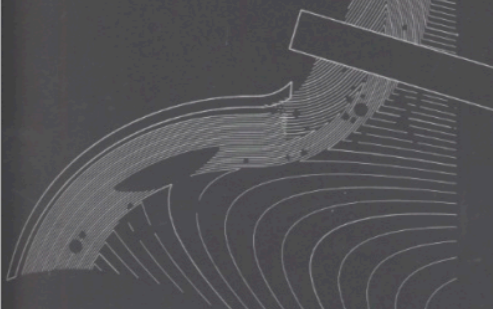
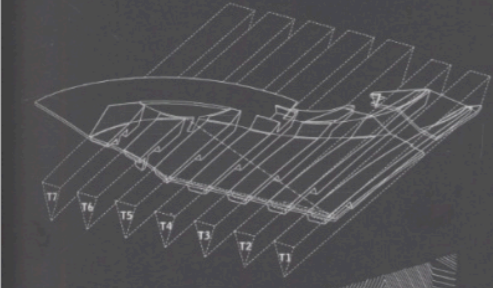
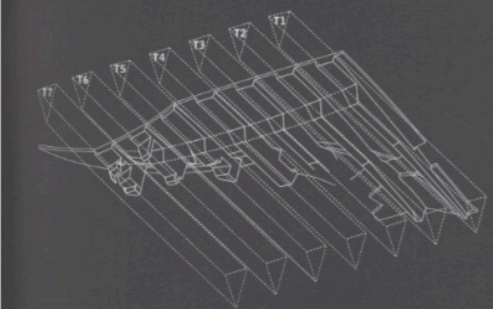
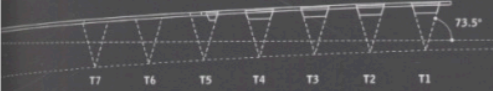
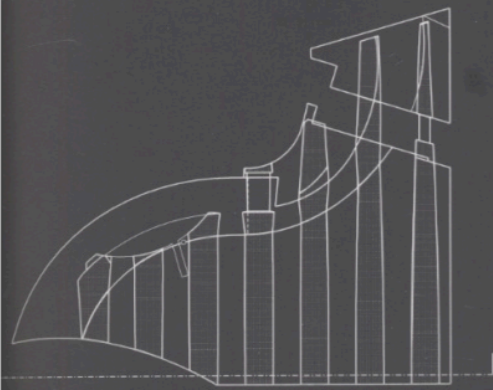
GATEWAY

# CONSTRUCTING REALITY

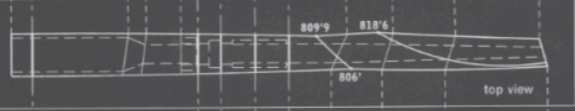
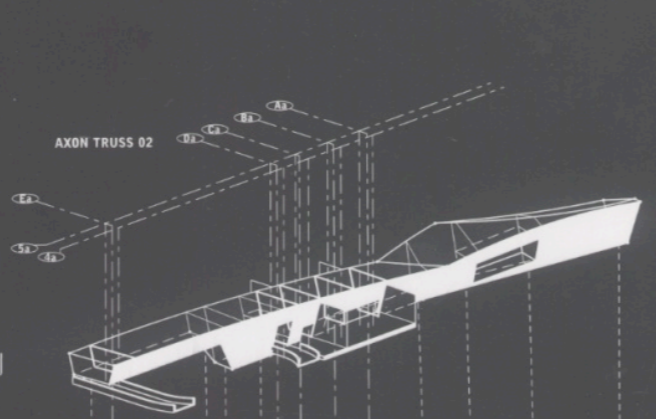
**“...the analogue concept sketch begins the process of a design experiment. It is a fact that we need to use all the resources that computerized architectural production may offer. However, I believe the idea of a small watercolor sketch fuses intuition with a concept and embodies hopes and desires. **This direct hand/eye/mind interaction constitutes a link between all the synapses of the mind to circumambient reality.**”**

S. Holl (Architecture Spoken 49)





ROOF TOPOGRAPHY

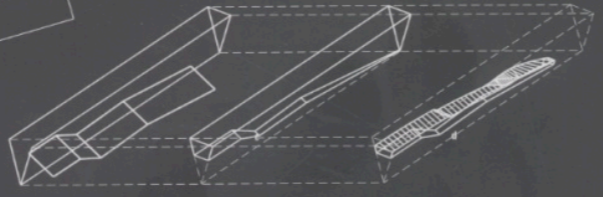


DISSECT TRUSS 02

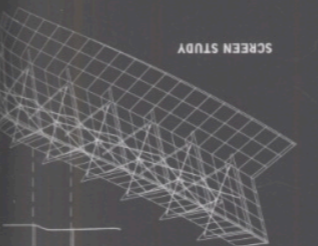
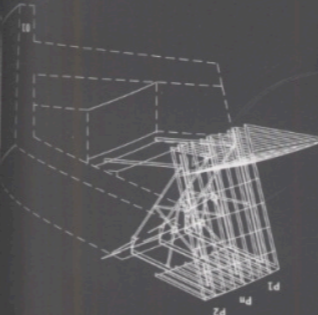
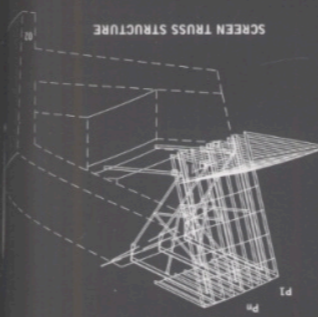


critical points

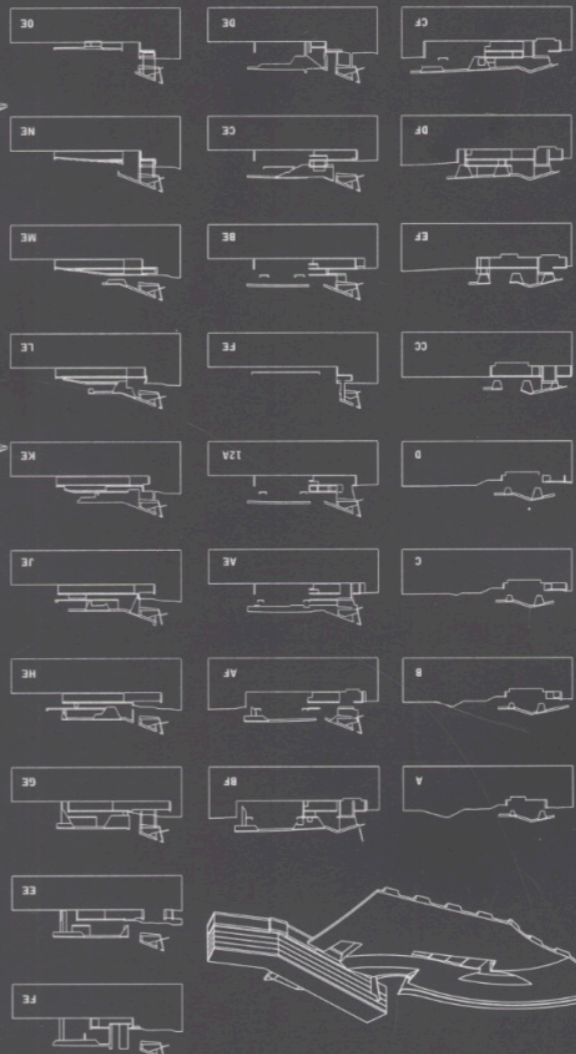
inscribed line



TRUSS STUDY  
shaping

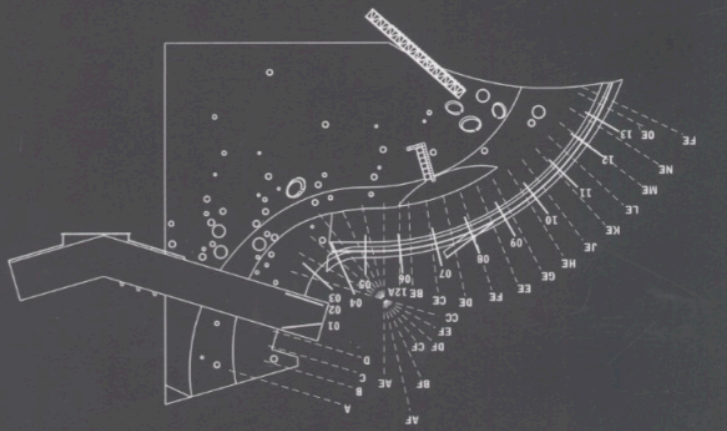
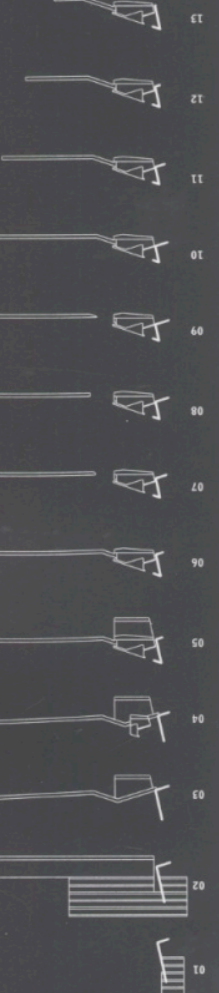


SCREEN TRUSS STRUCTURE



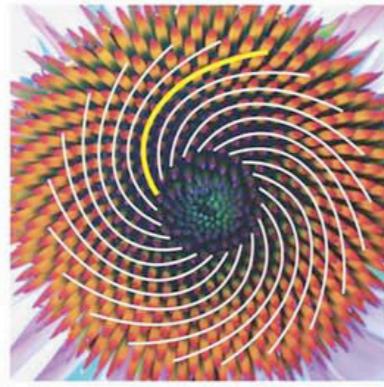
ROOF STUDY

SCREEN STUDY  
critical points and shaping

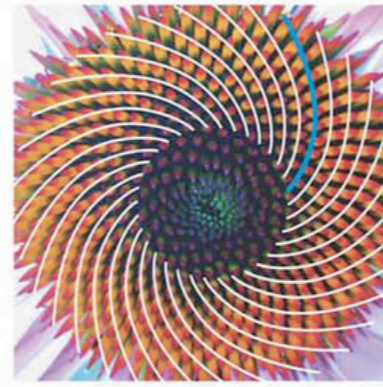


Fibonacci Sequence

0 1 1 2 3 5 8 13 21 34 55 89 144 233 377 610 987 1597 2584 4181 6765 10946...

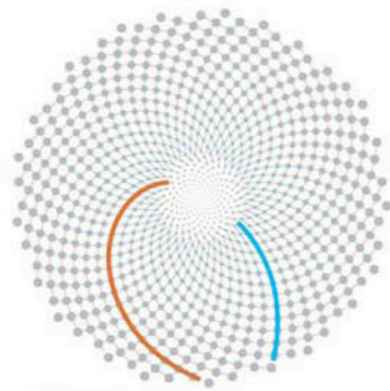


21



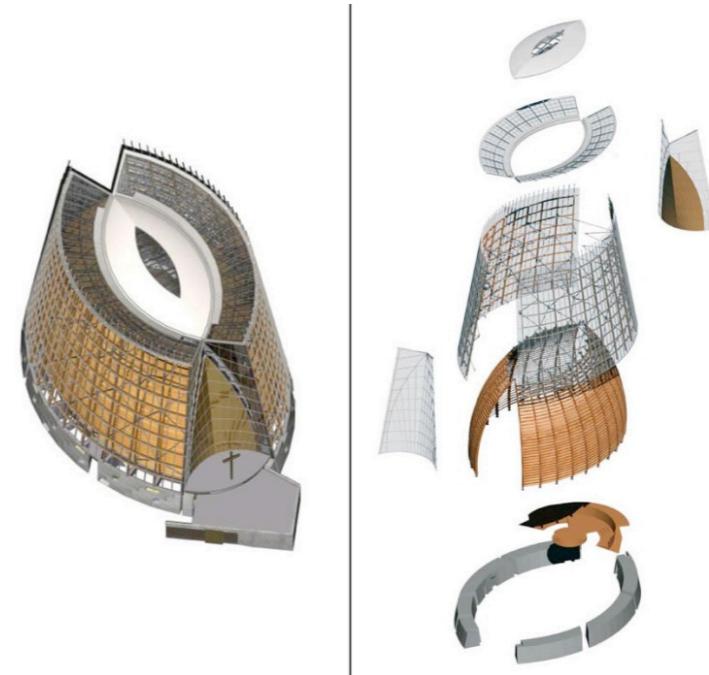
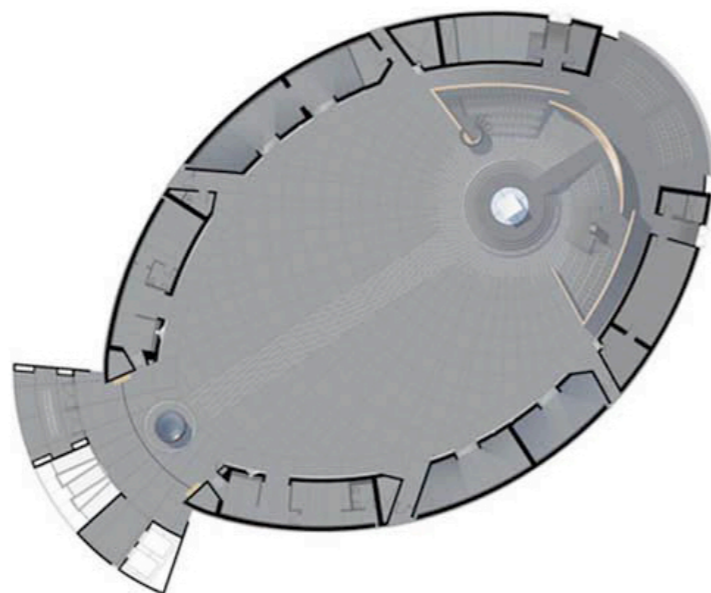
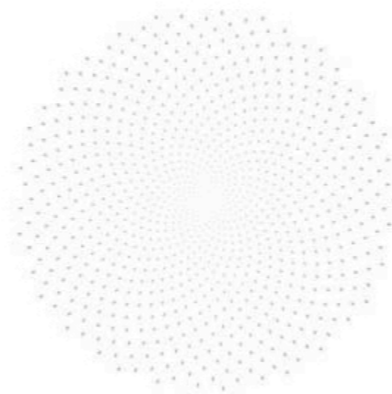
34

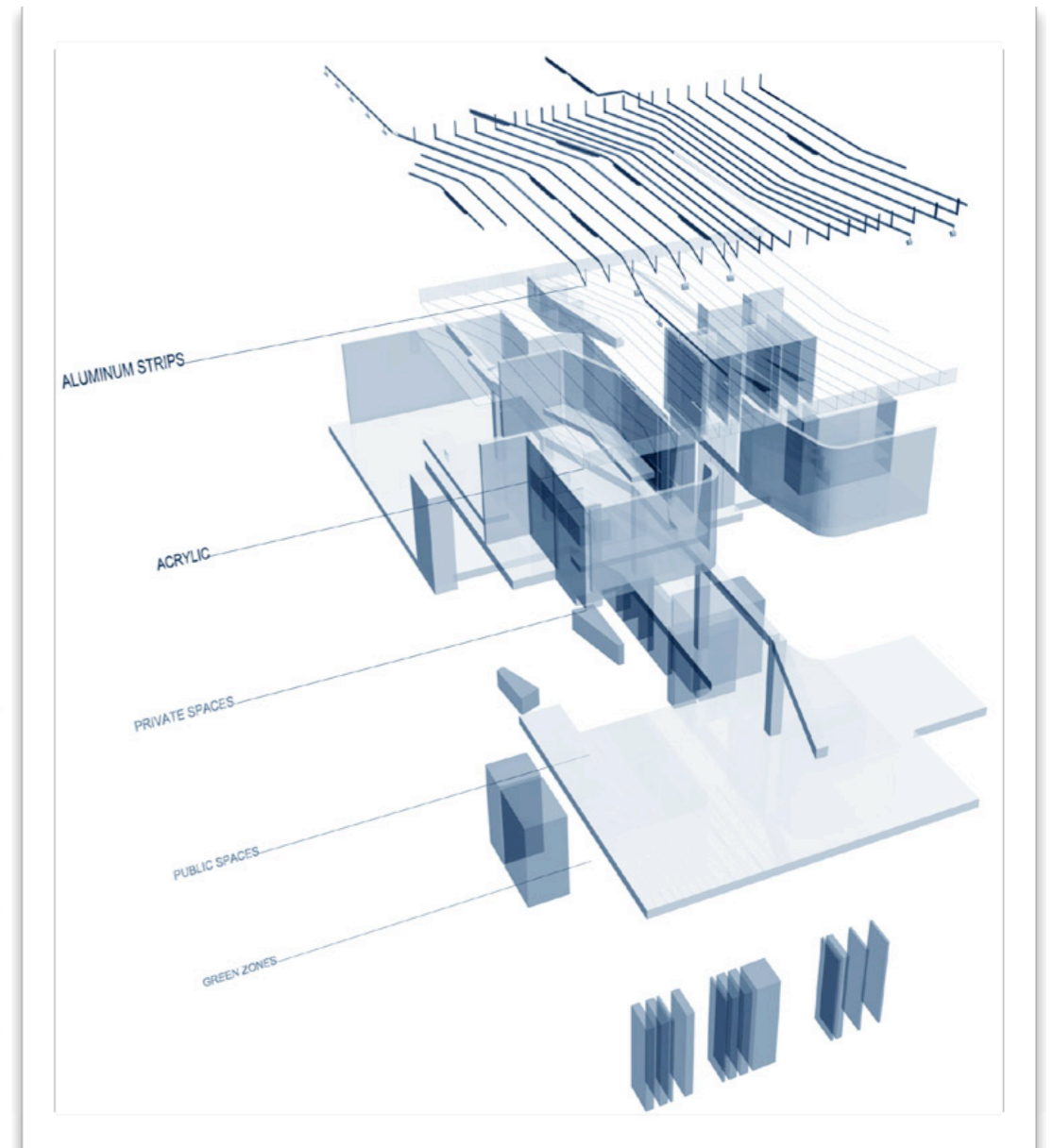
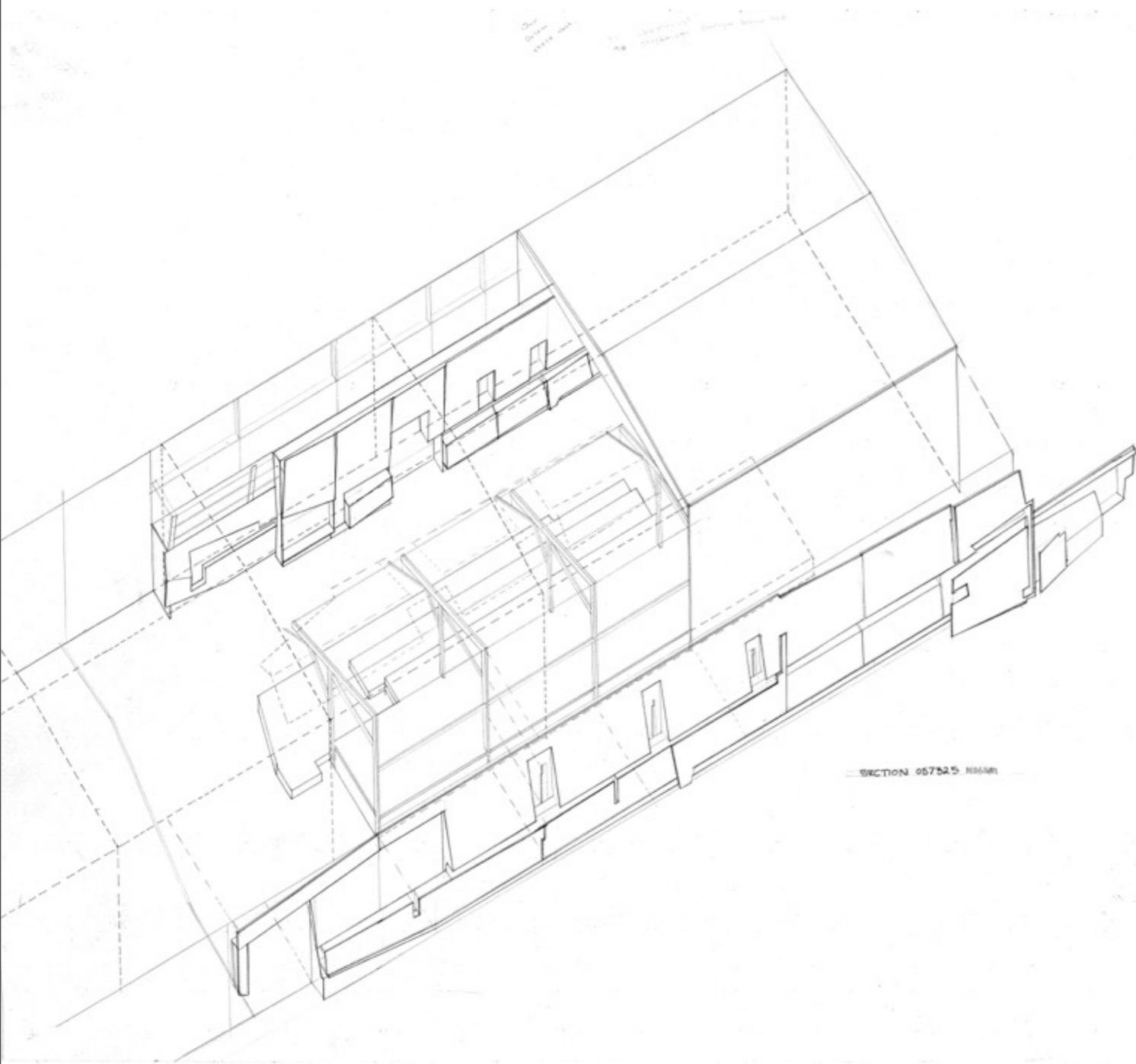
Computer algorithm designed to simulate arrangement of seeds



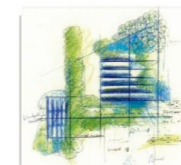
34, 55

Variables within algorithm allow us change shape of seed and spacing while adhering to the underlying Fibonacci grid.





# EXPRESSION

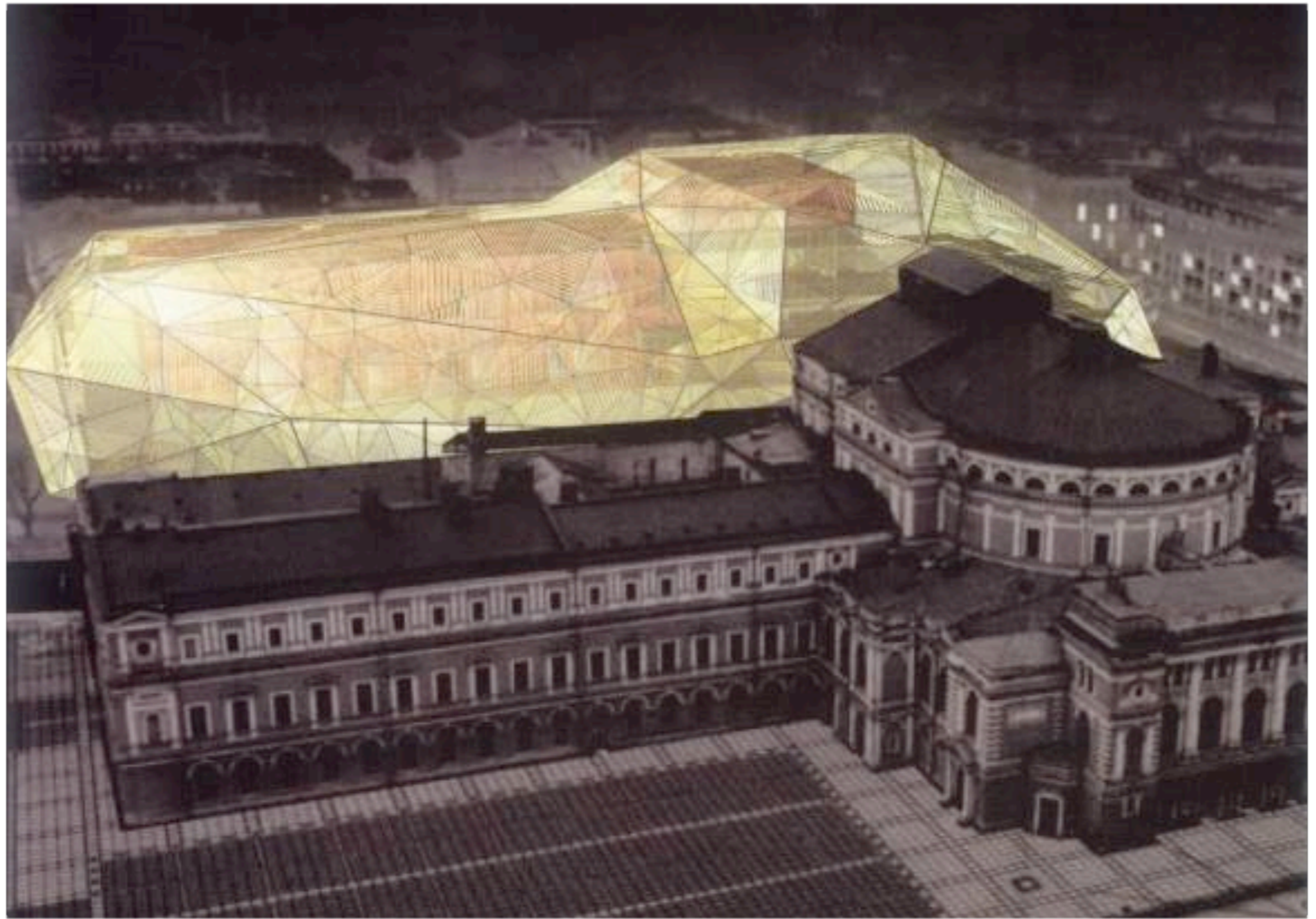


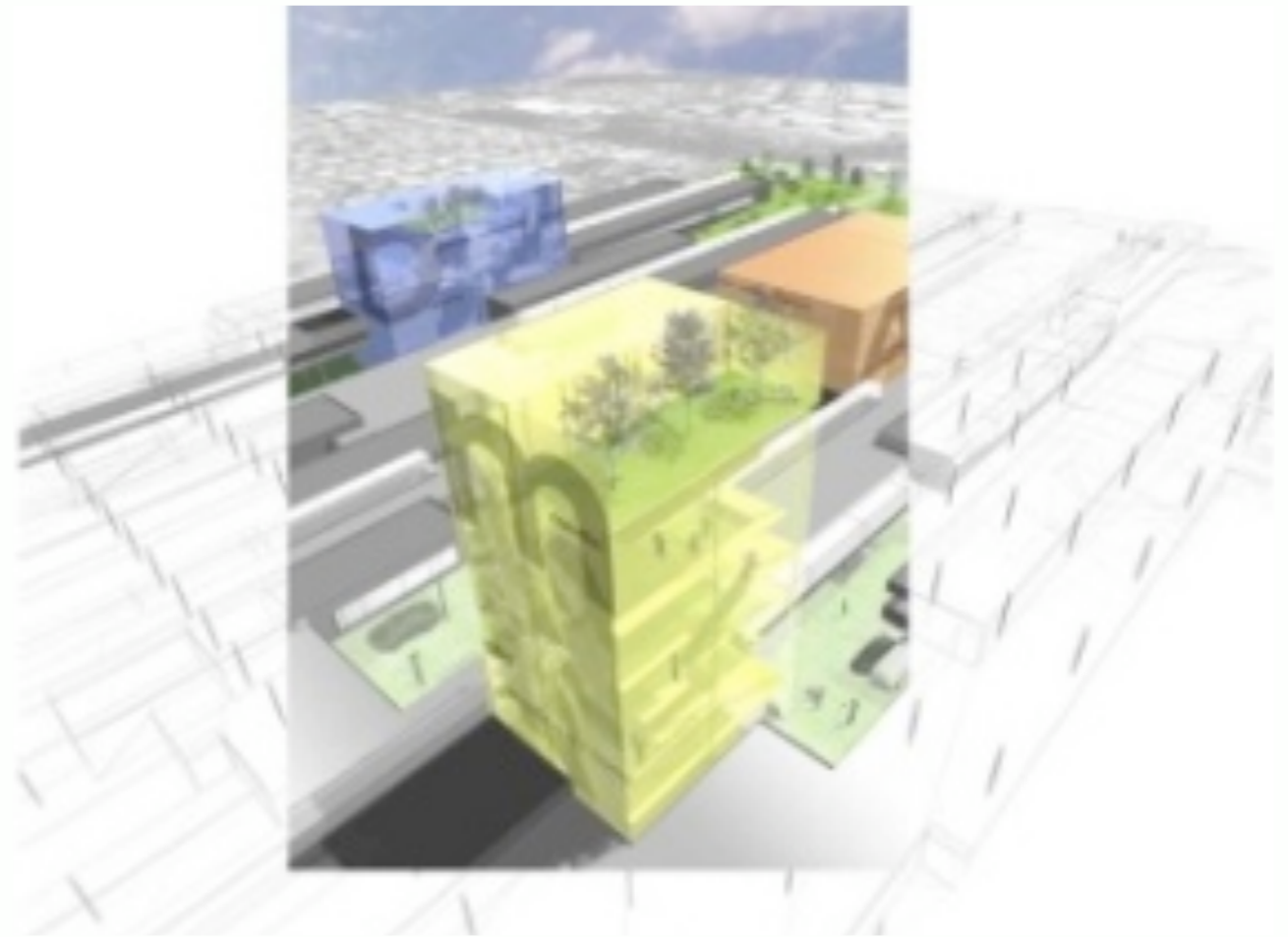
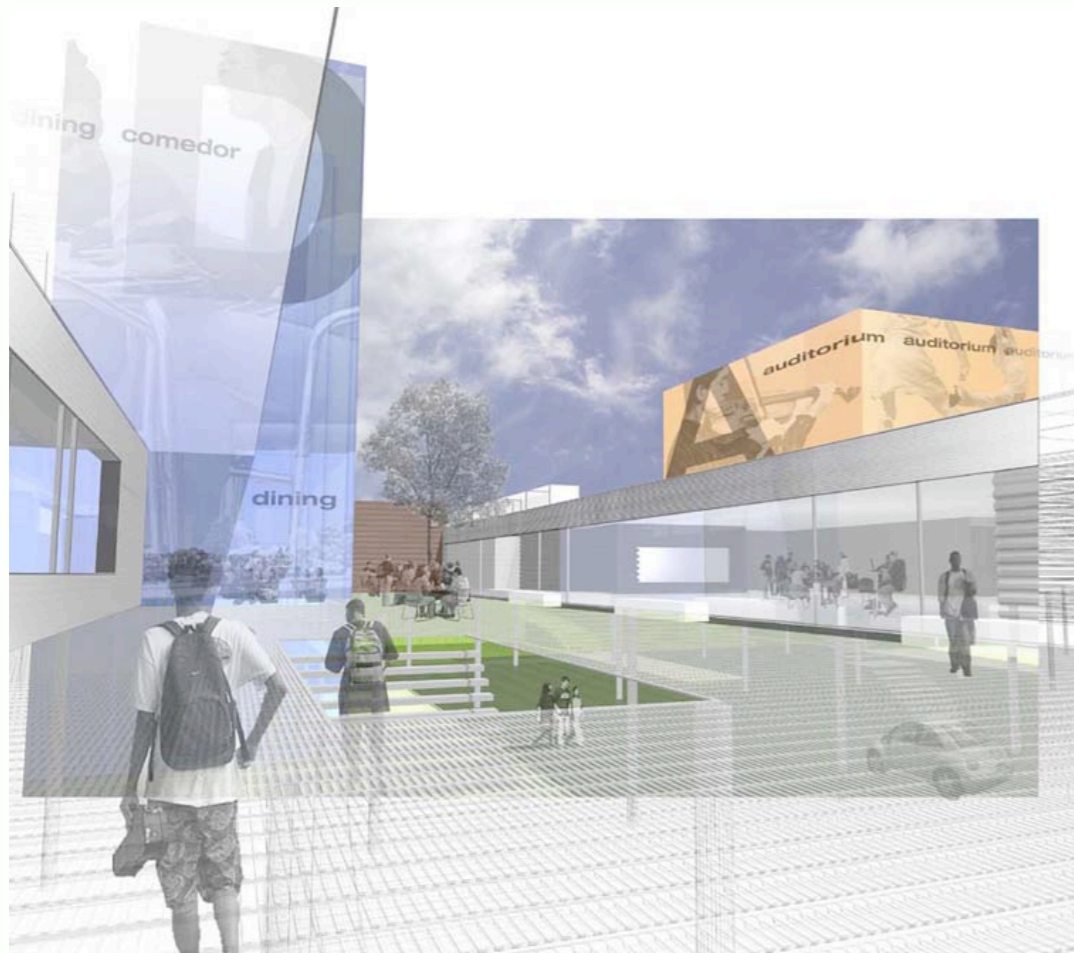
# SELLING IDEAS THROUGH TOOLS

Ambitious ideas need to be sold, architecture is inhabited art, how is art and science balanced?

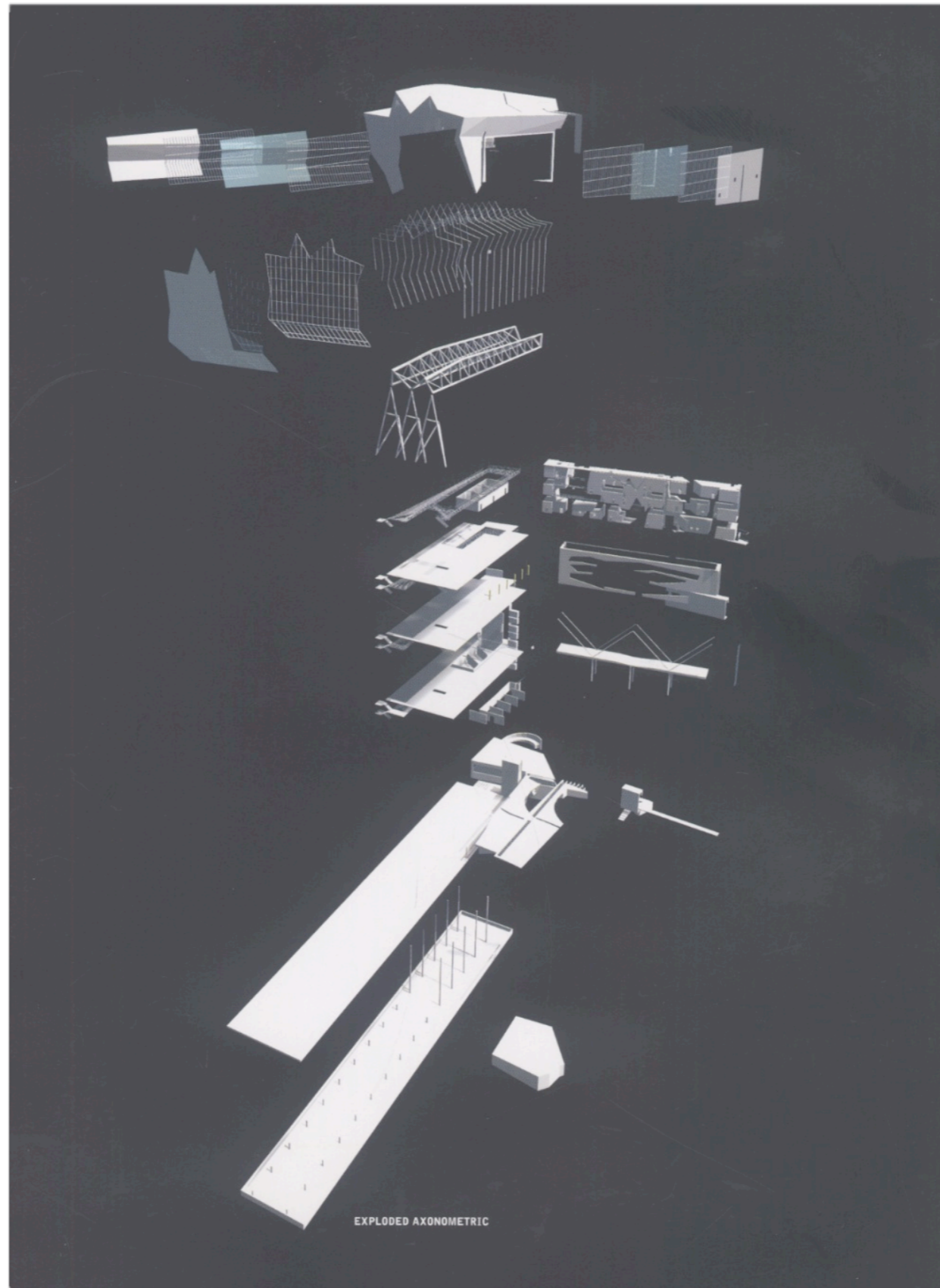
**CINEMATRICS**  
**3D RENDERINGS**  
**VISUALIZATION**  
**WALK-THROUGHS**  
**COLLAGE**



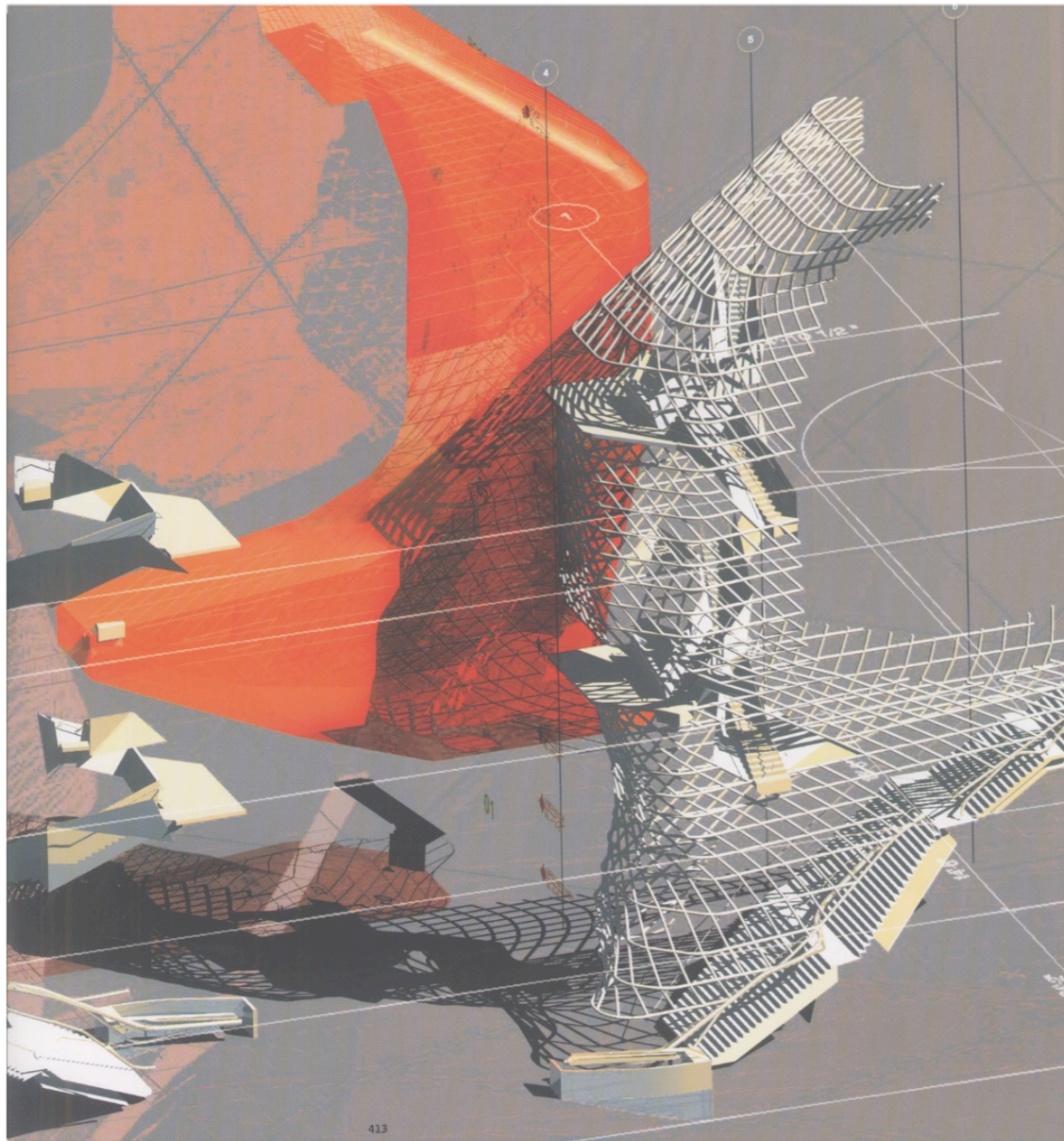




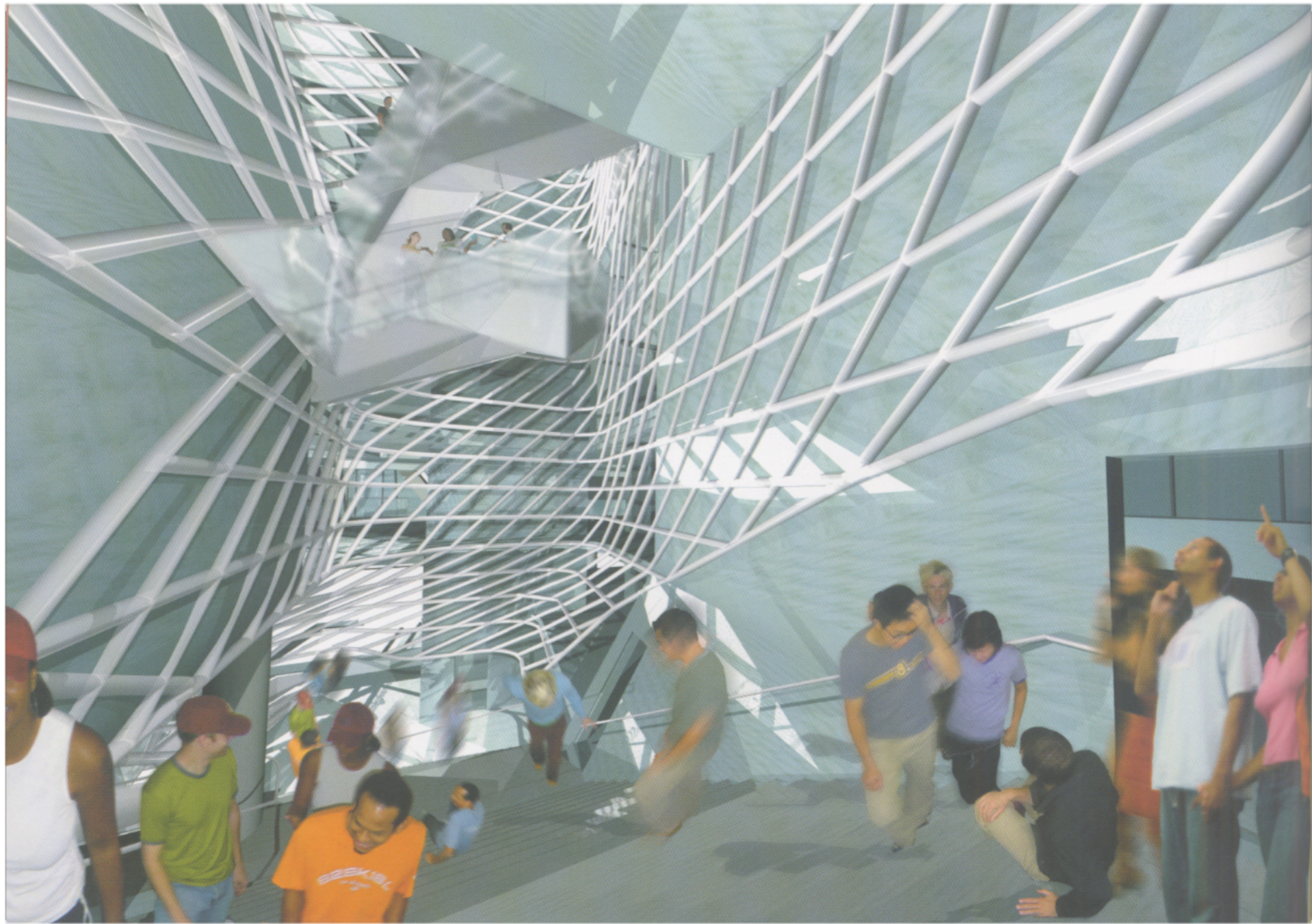
Because sketches embody knowledge and belief, they need not present a 'perfect' likeness.

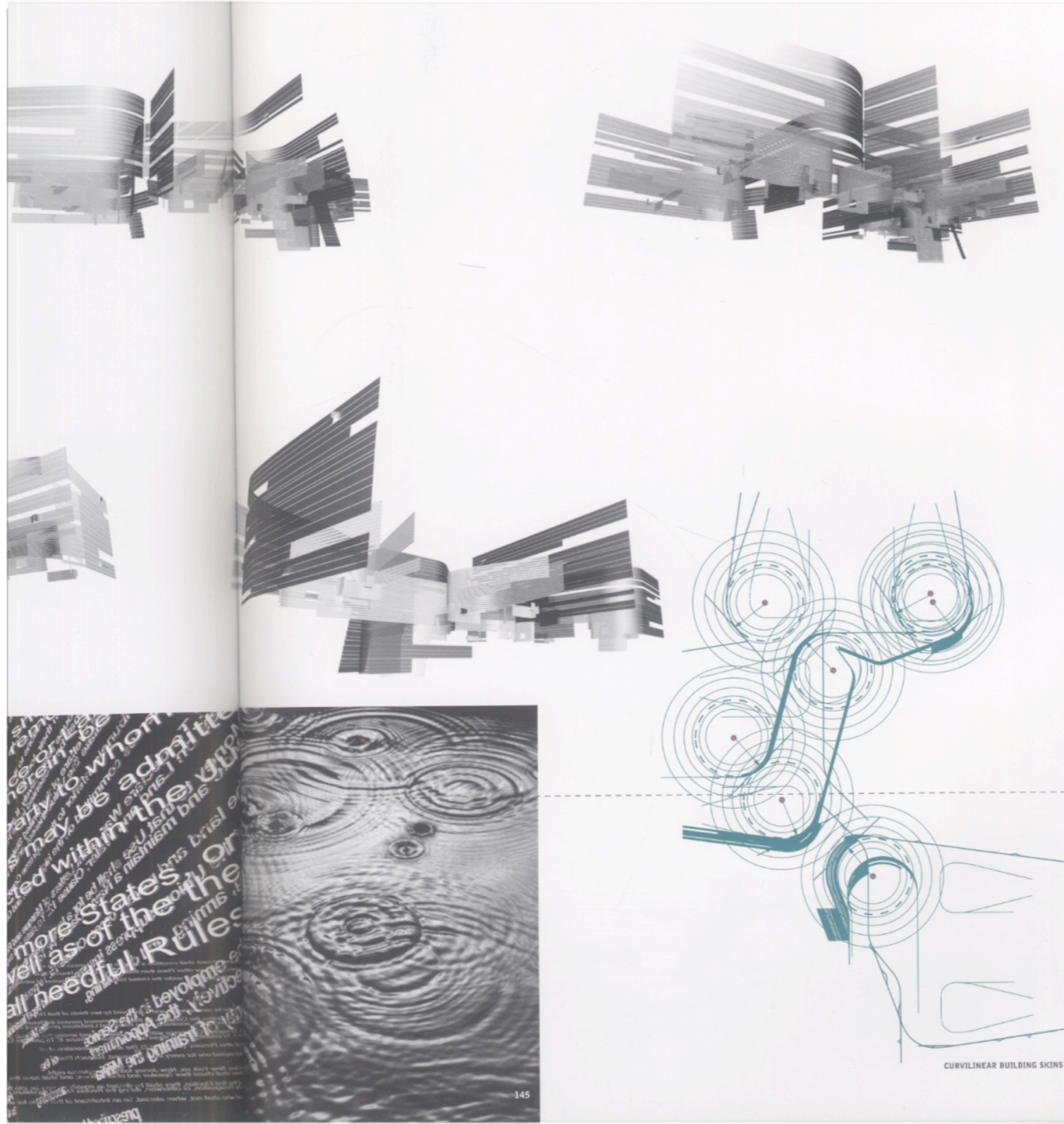


EXPLODED AXONOMETRIC



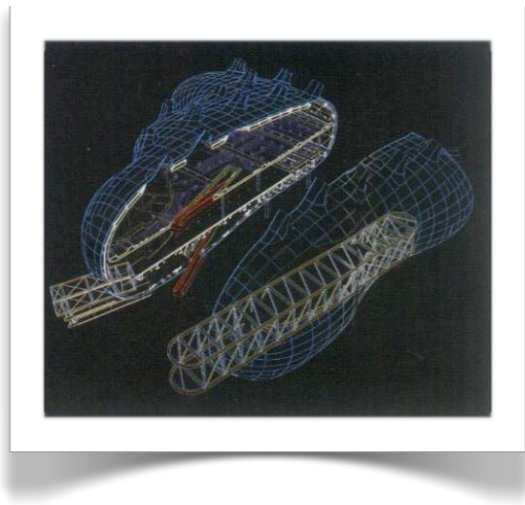
Architects, architectural educators and students have recently been utilizing digital means to question *likeness* and expand upon definitions of sketches as ‘outlines’ or as ‘preliminary or preparatory’ to something else.



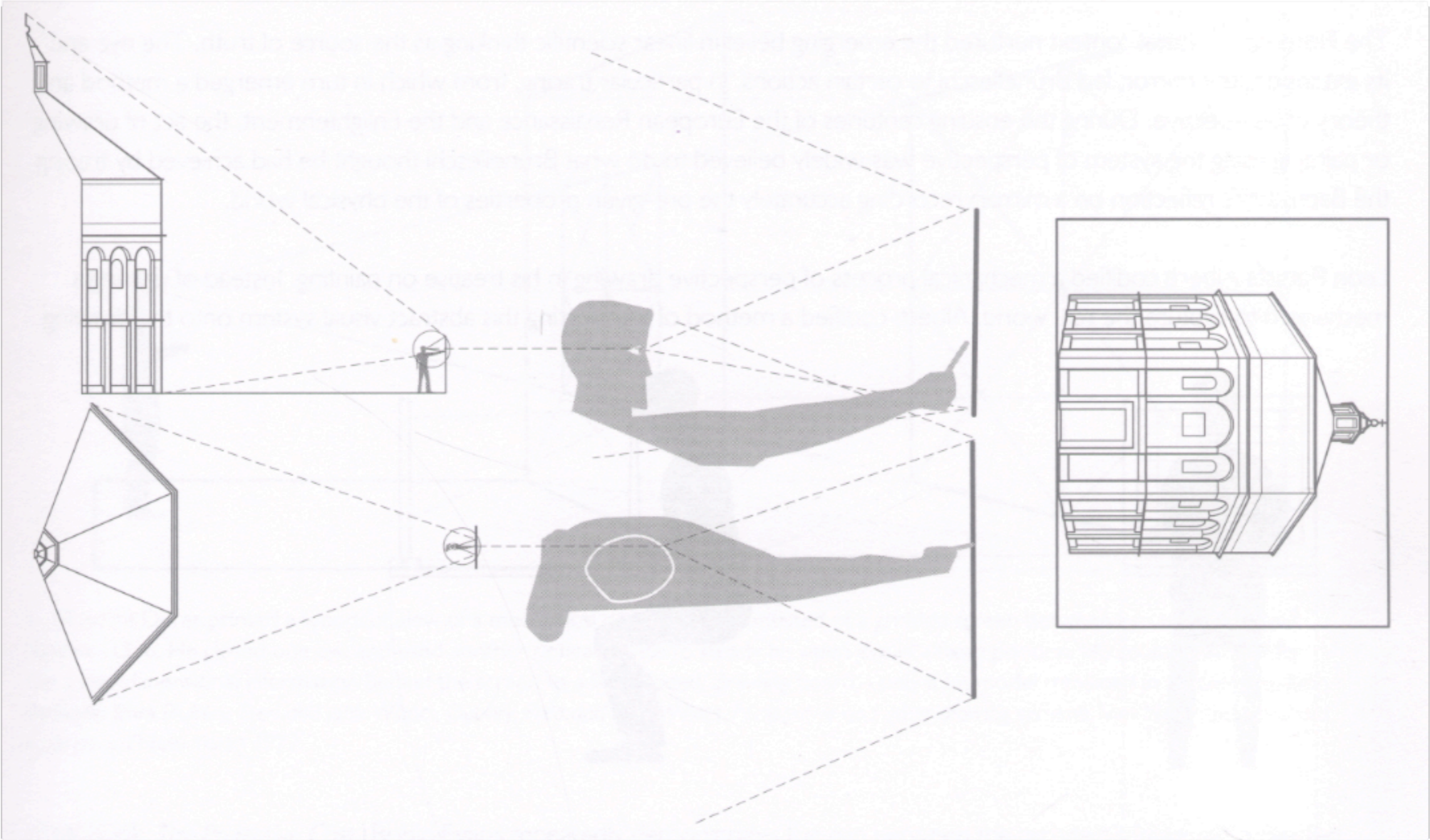


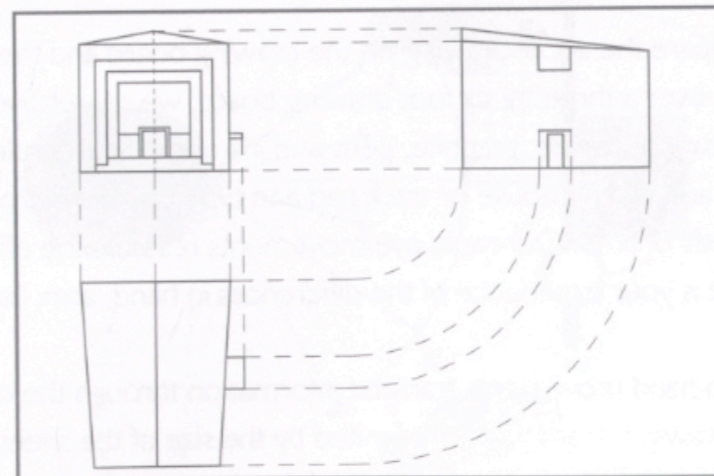
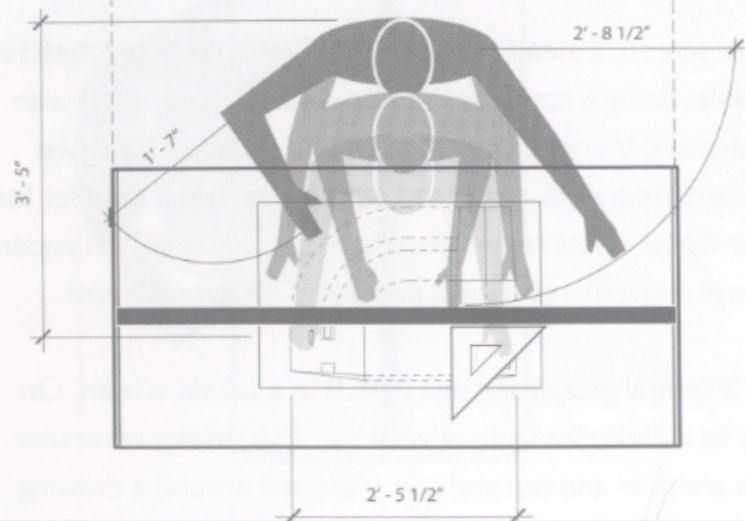
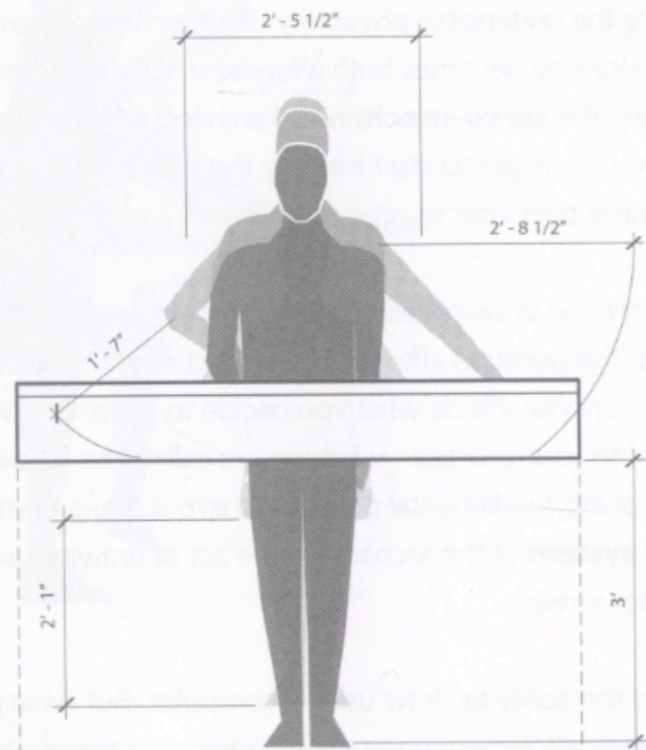
Once used primarily for presentation renderings and construction documents, **drawings constructed digitally** contain several elements that could unite them under the label 'sketches'.

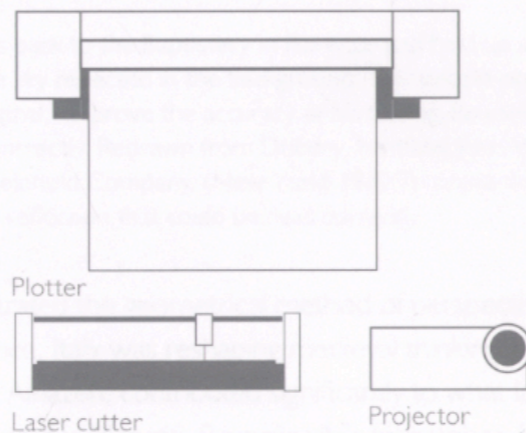
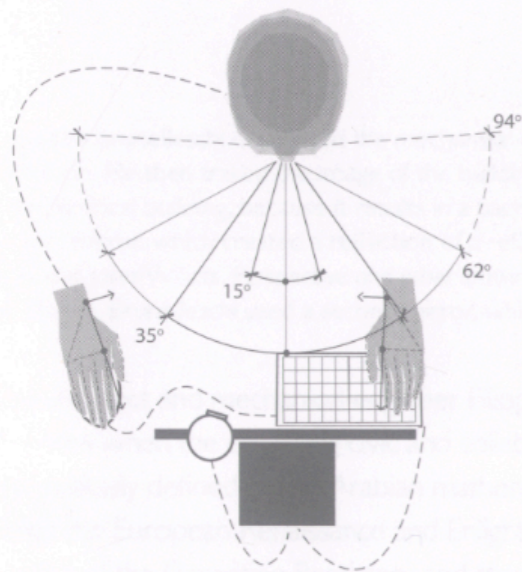
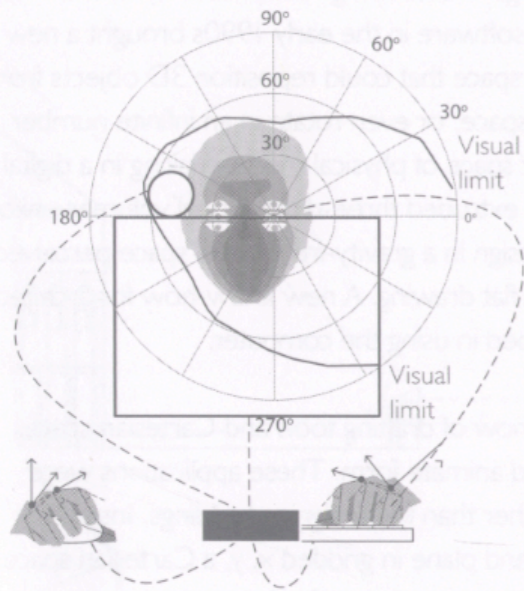




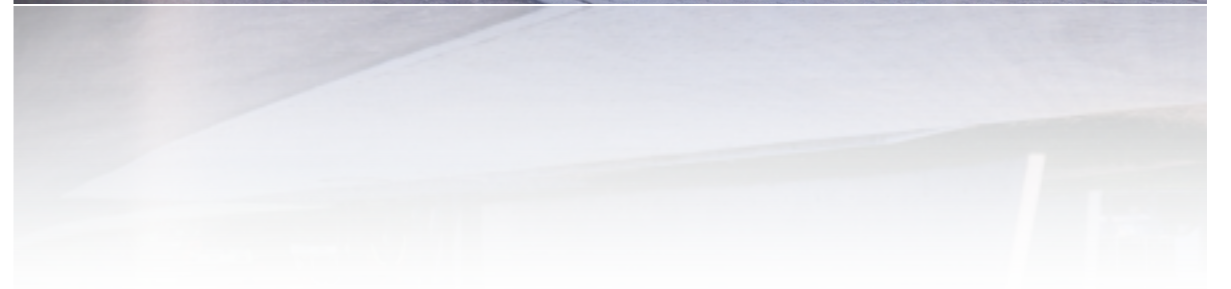
# **NEW TECHNOLOGY NEW PROCESSES**



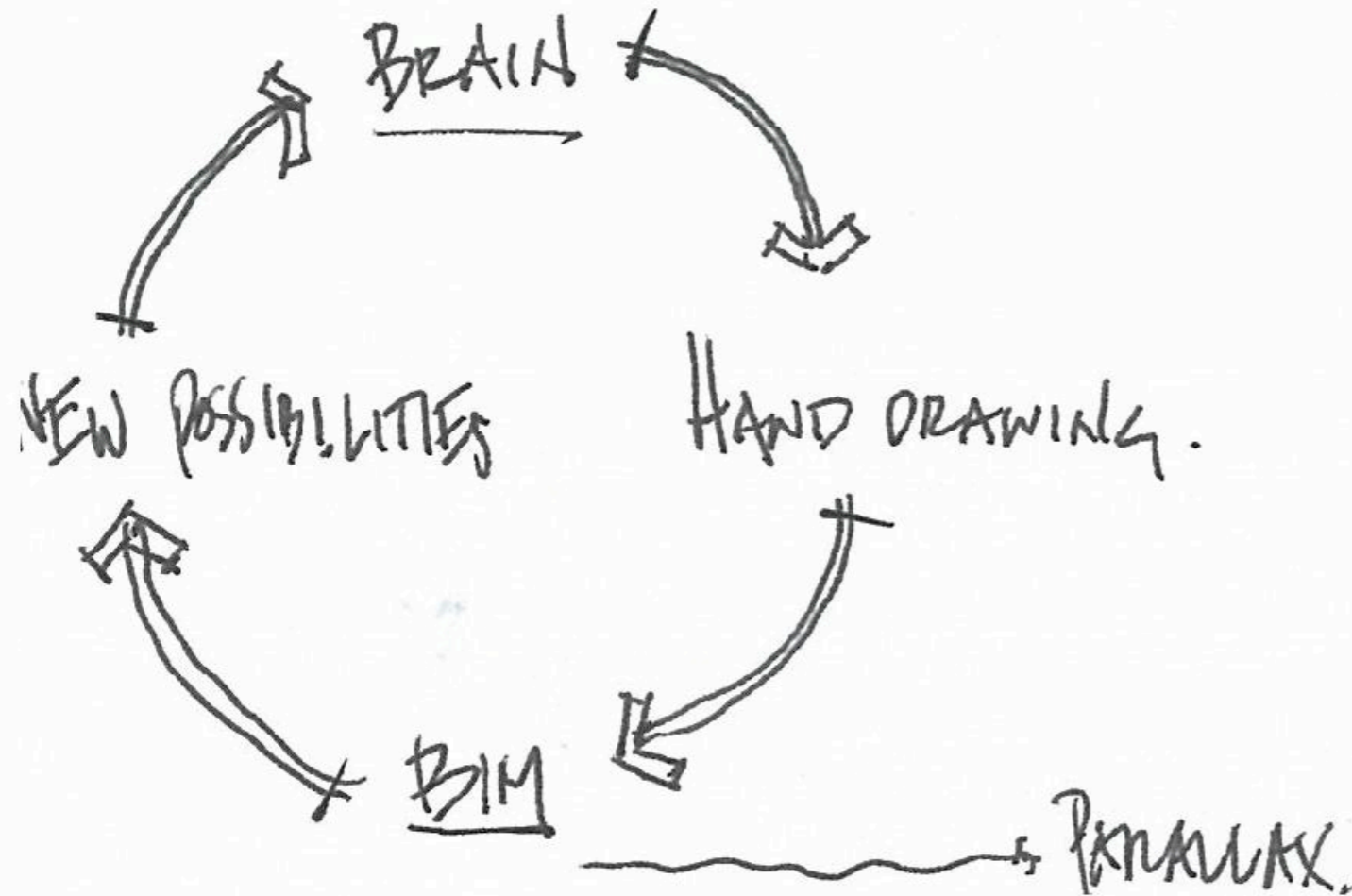




The use of the computer for architectural drawings has already influenced drawing skills and will increasingly continue to do so.



Visualization – Possibilities – Design – Create



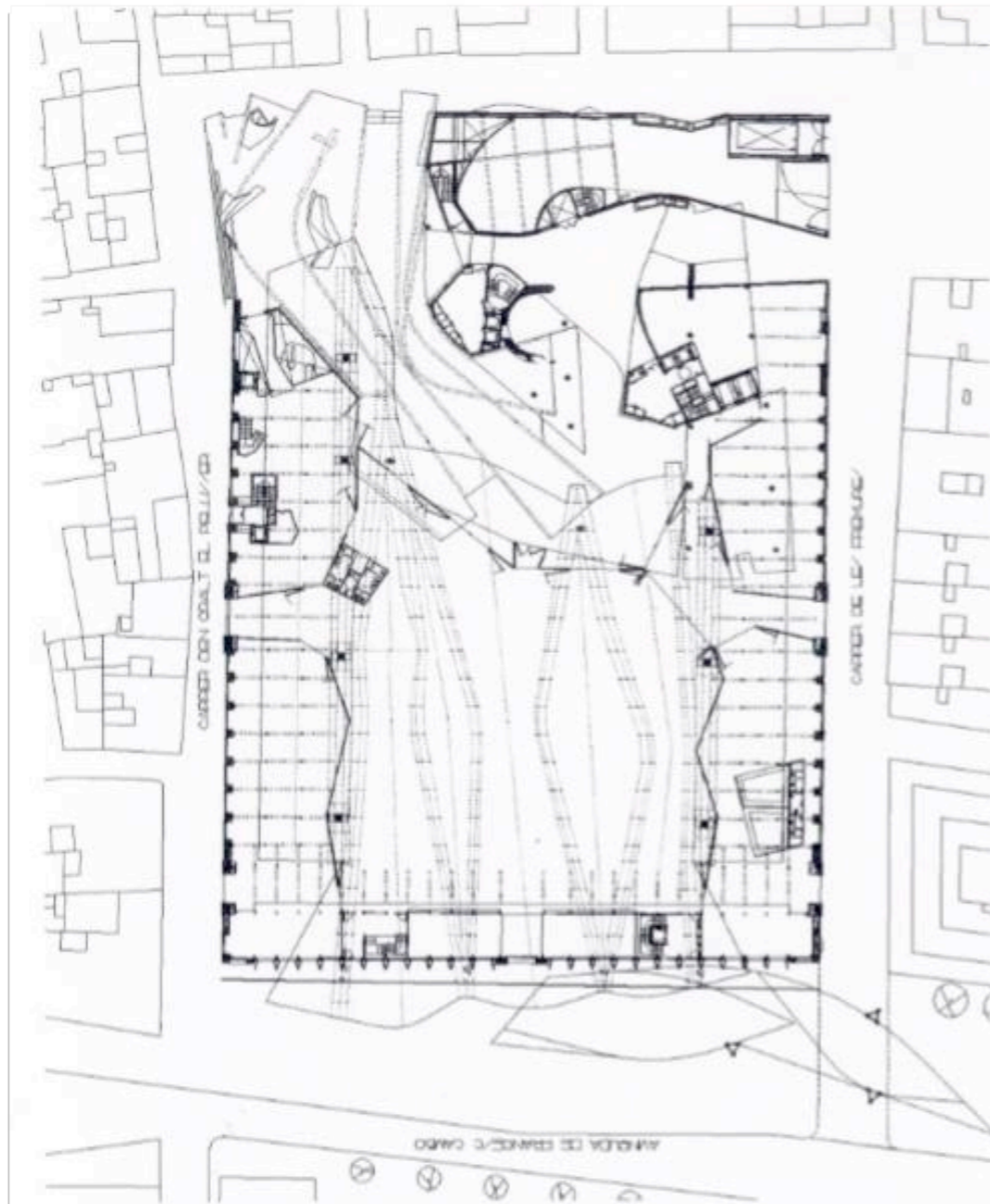
“Parallax - the change in the arrangement of surfaces that define space as a result of the change in the position of the viewer – is transformed when movement axes leave the horizontal dimension.”

S. Holl, Parallax

Simulation of buildings prior to construction. New ways of seeing designs.

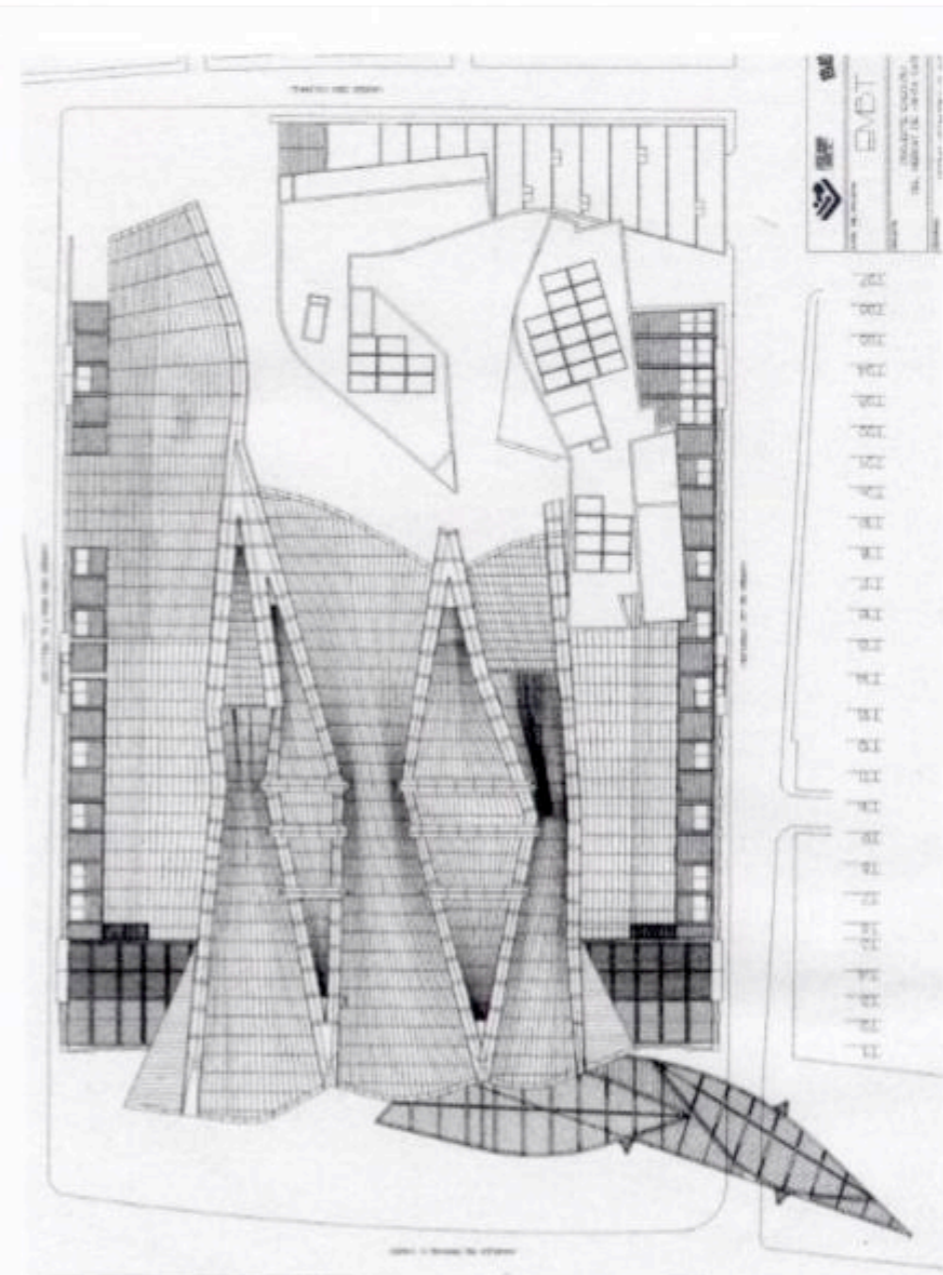
# CREATIVITY MEETS PRAGMATICS

solving challenges    respecting the parti    reinforcing the diagram

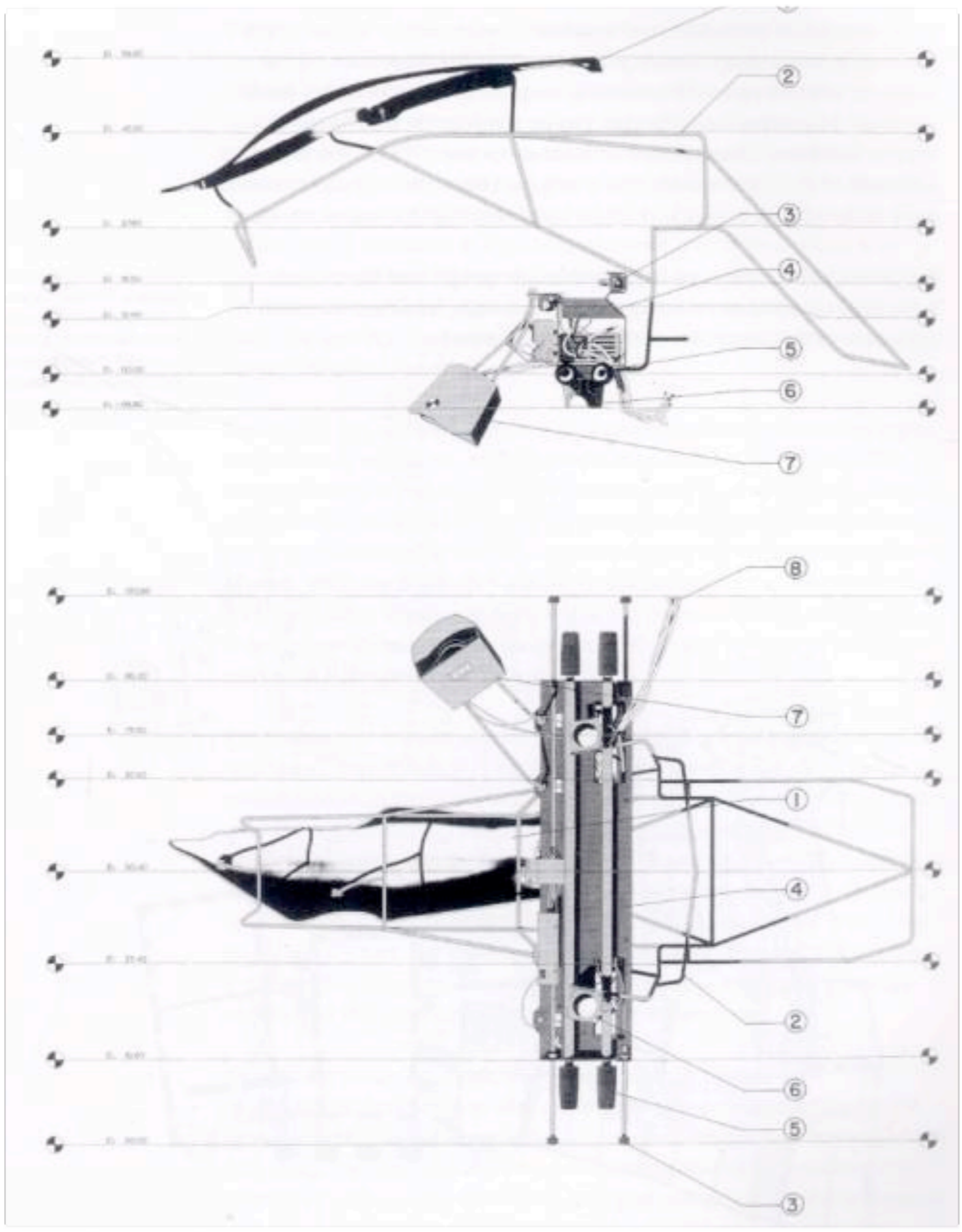


Floor plan

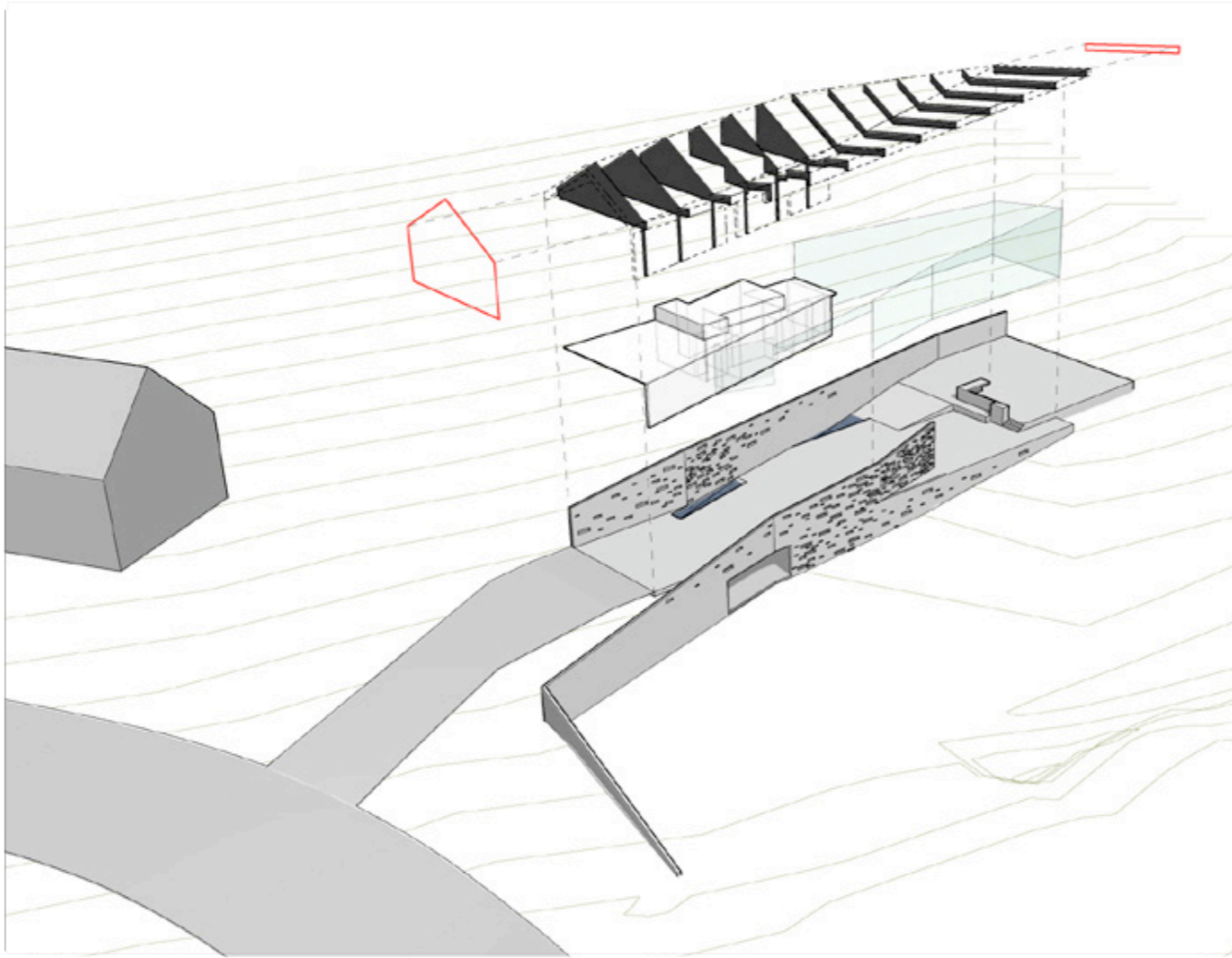
0 5 10



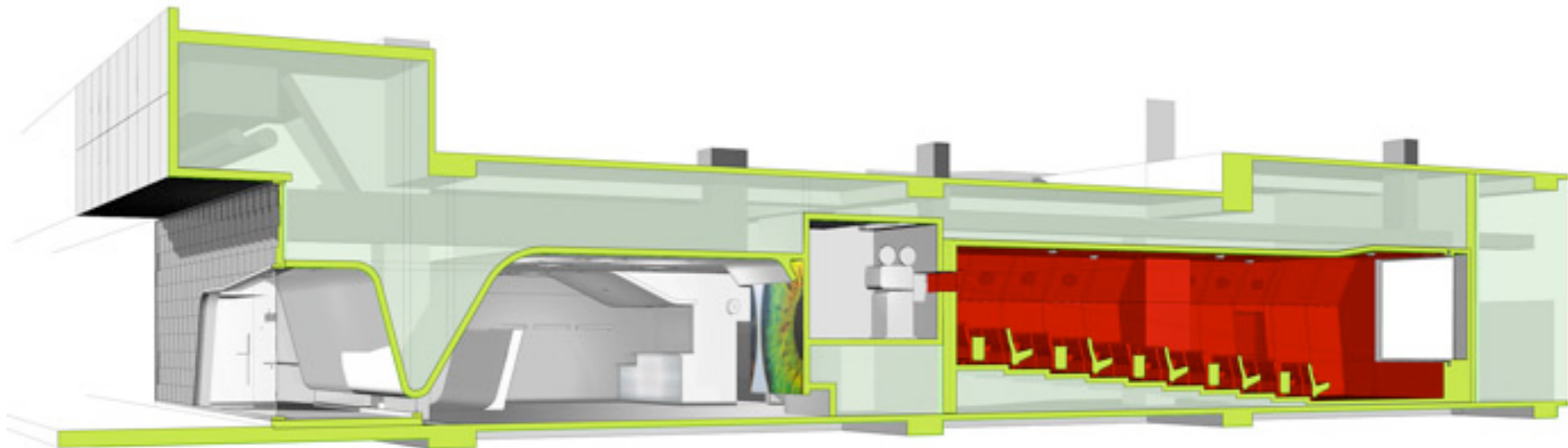
Roof plan

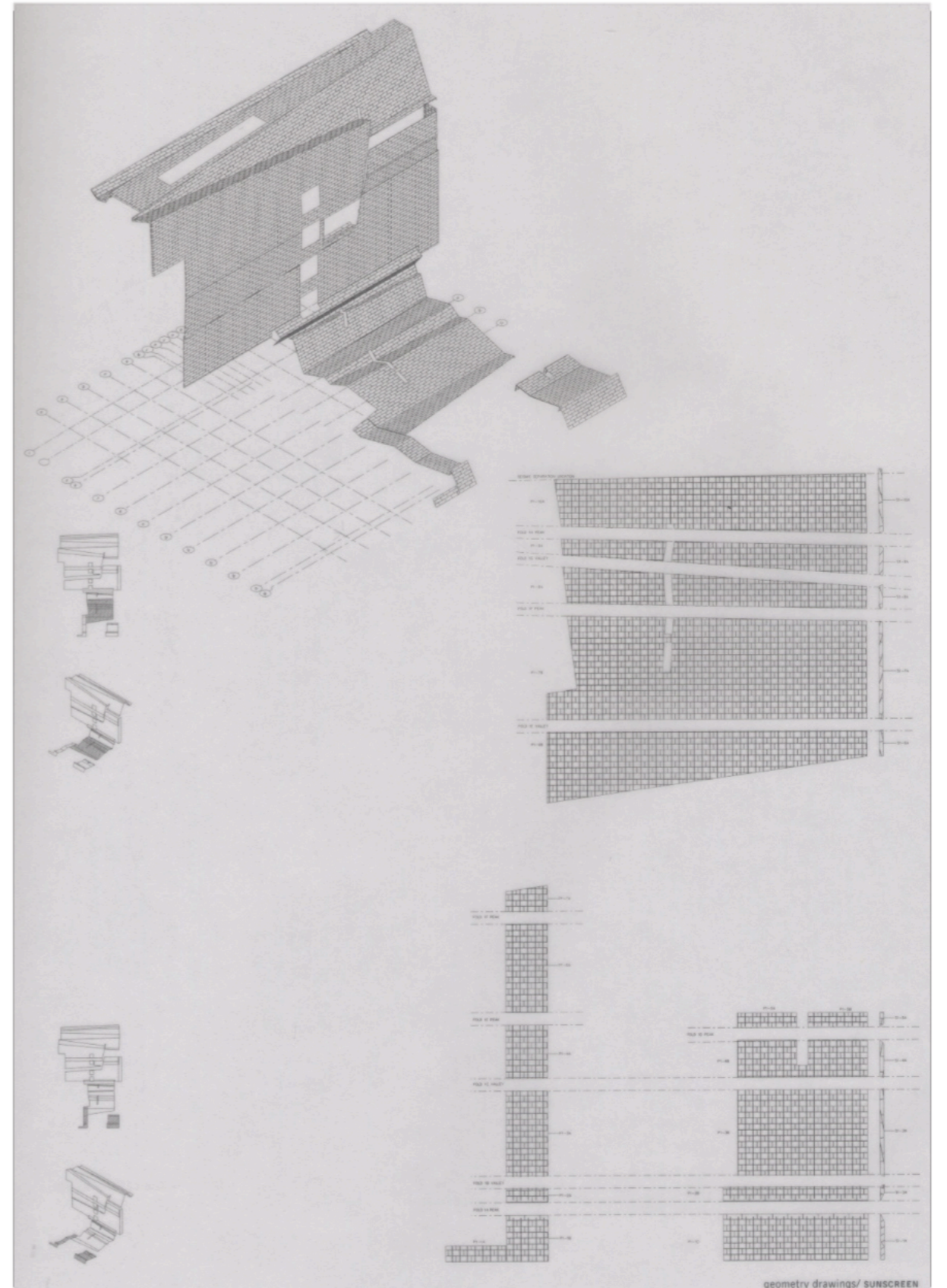
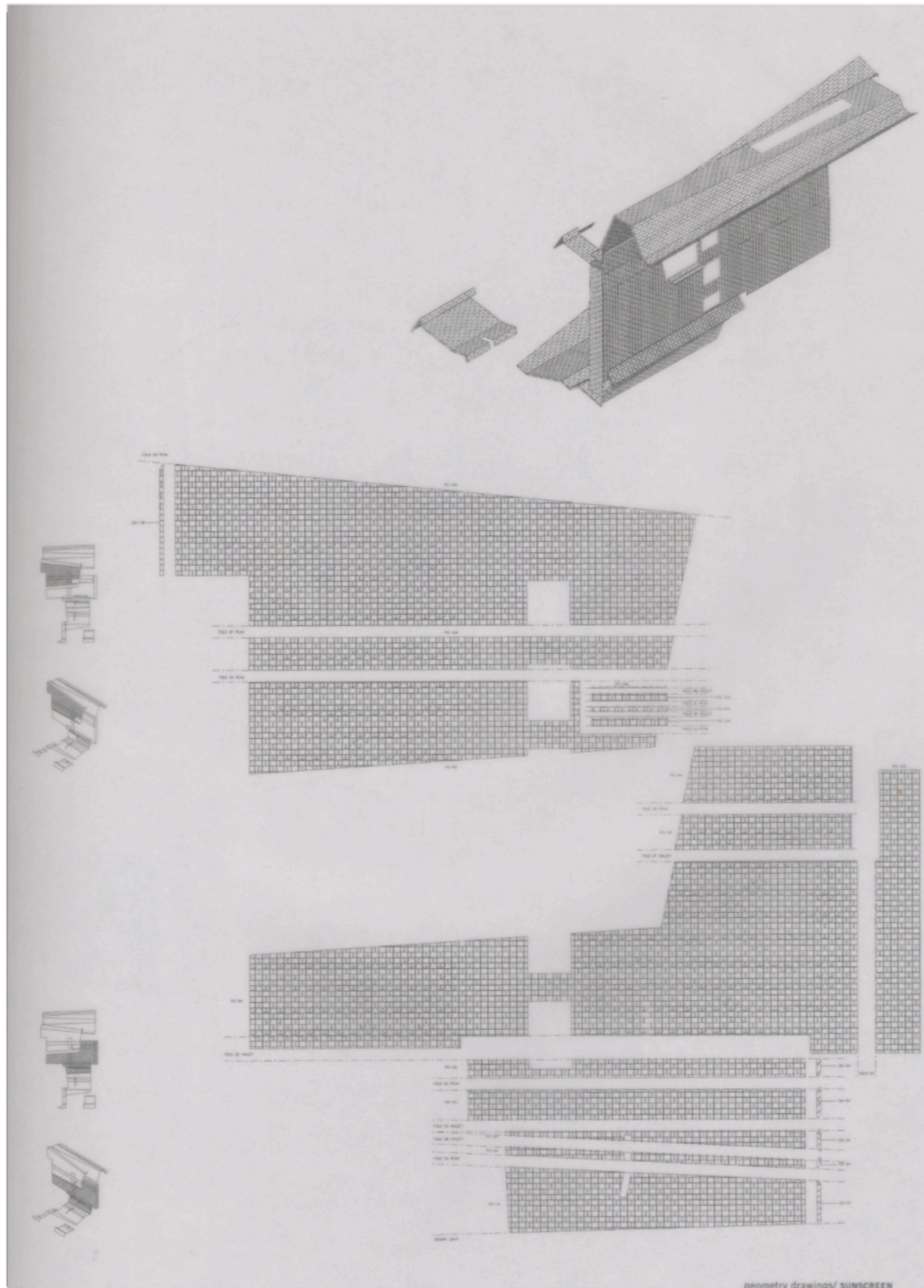


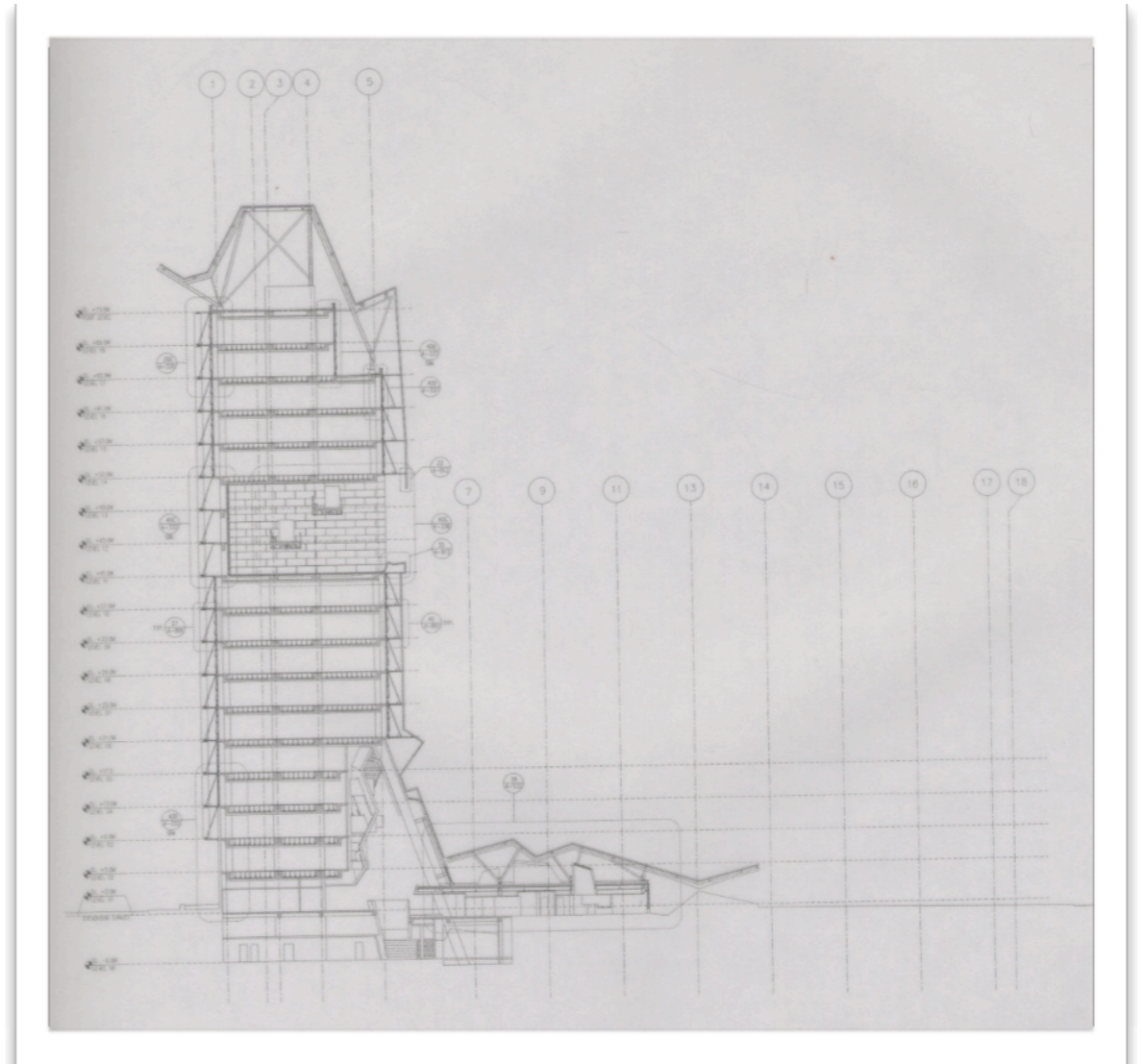
The fact that these digital musings are in a machine, and easily changed, means that their comparison to sketches becomes more evident.

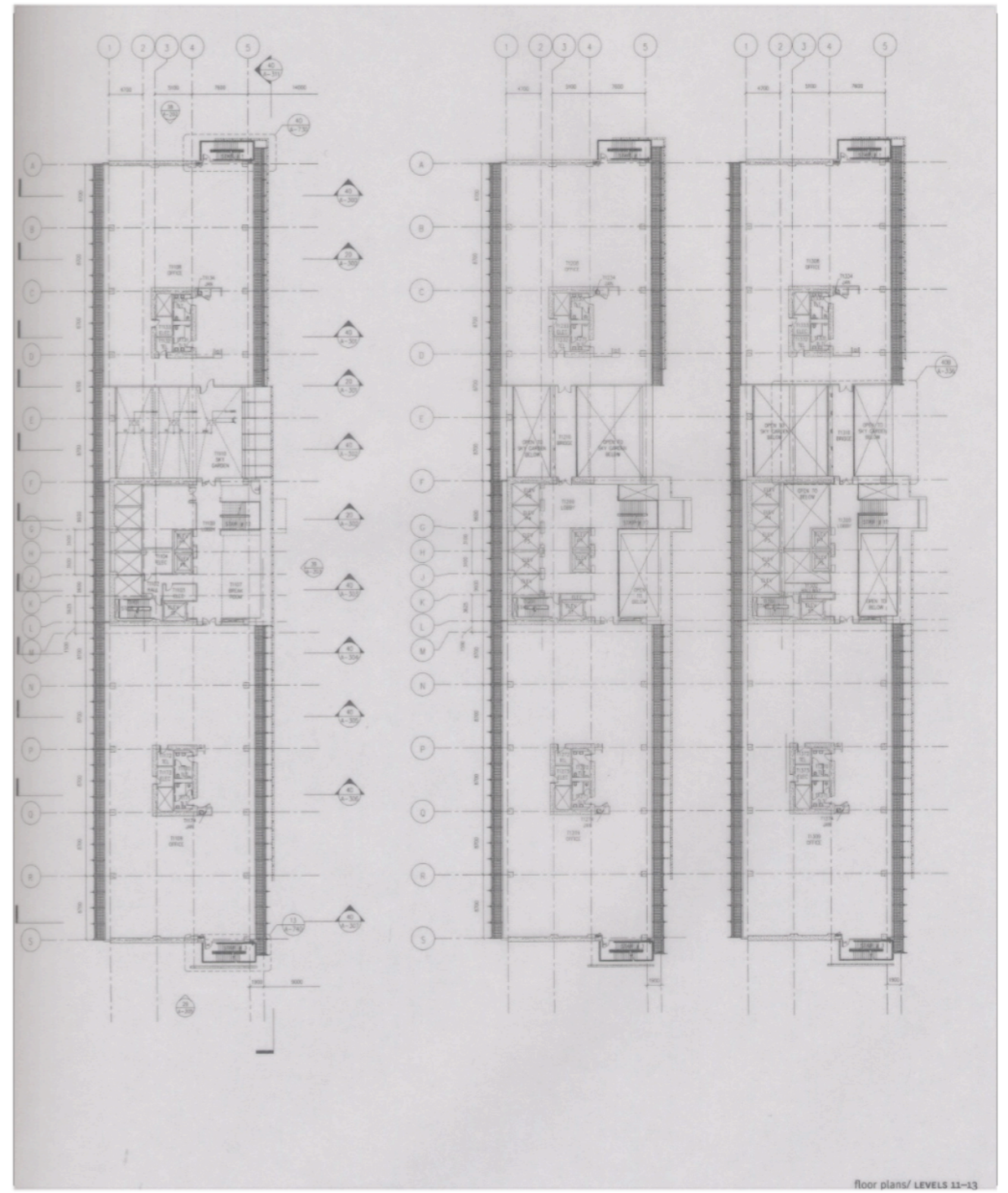
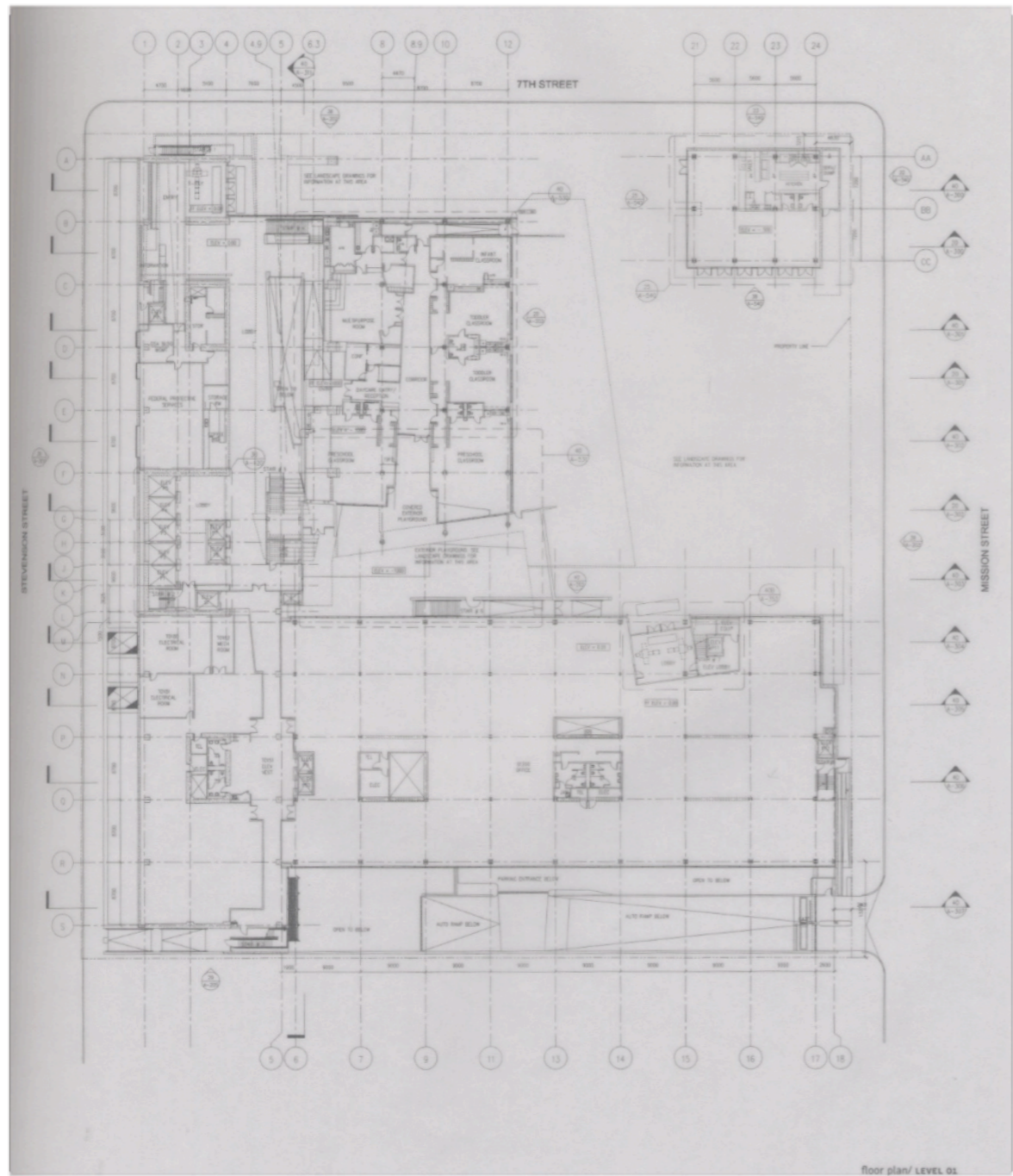


BIM is forcing us to simulate a building before it occurs, but do we know how to put a building together?

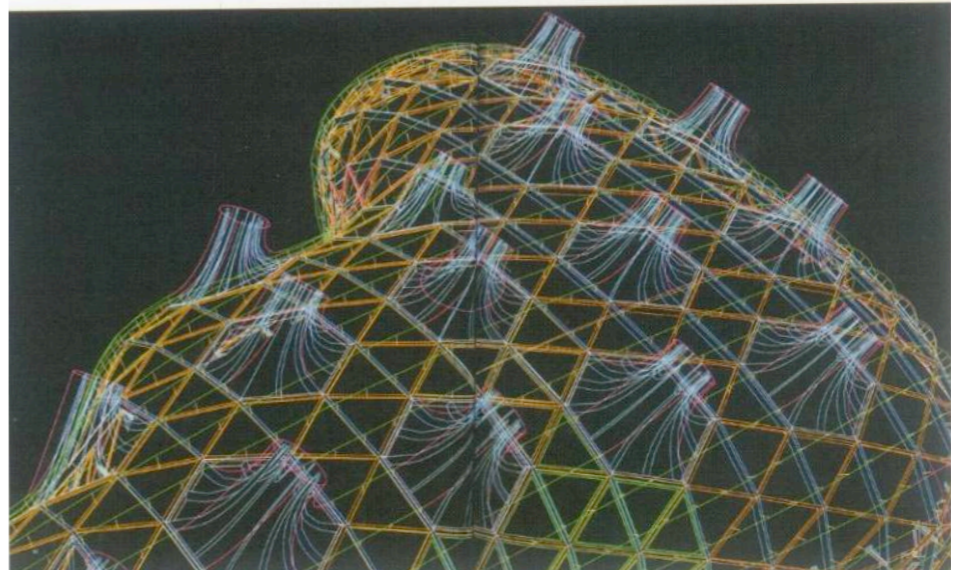
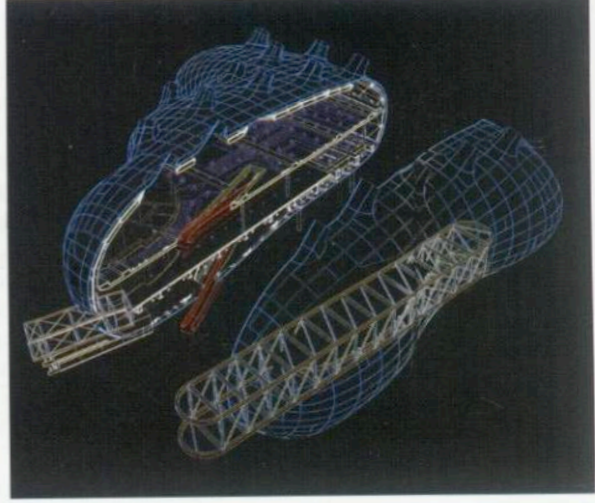
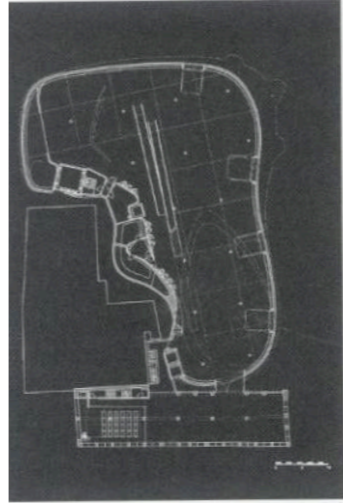
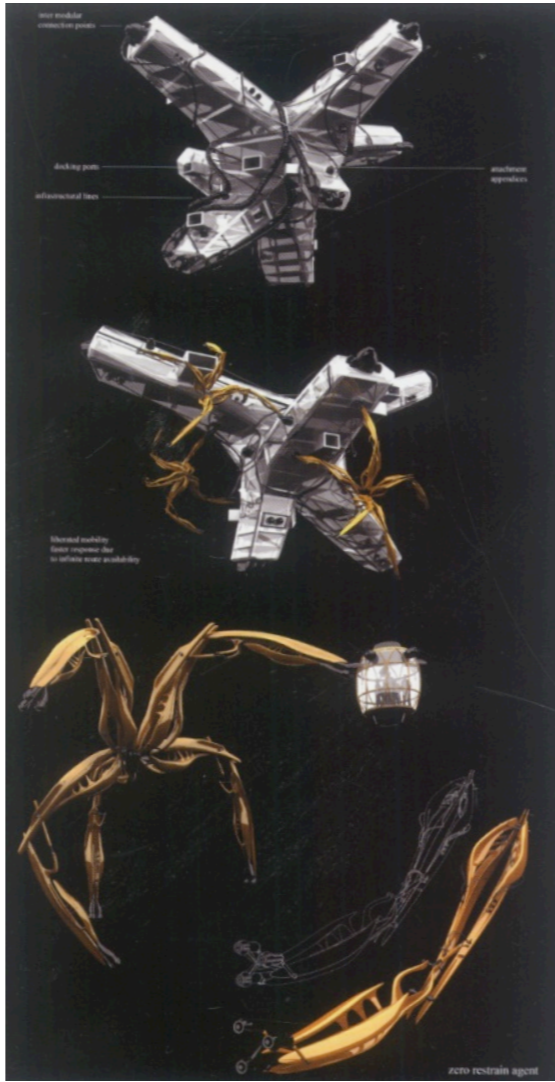
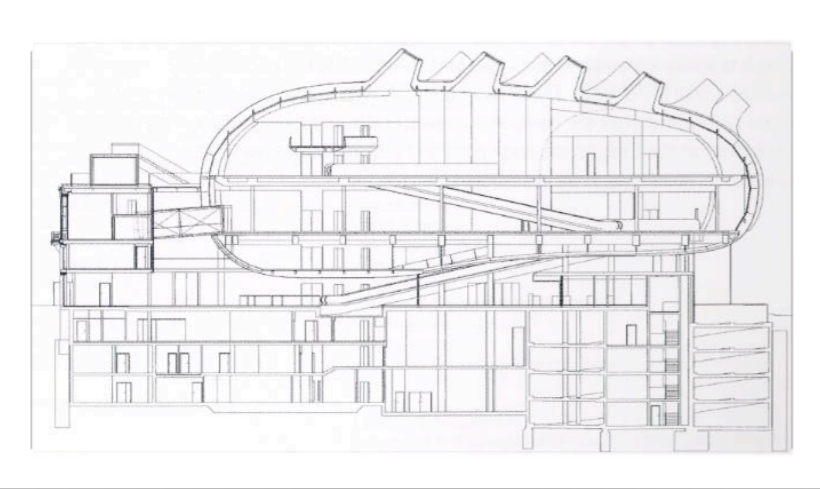
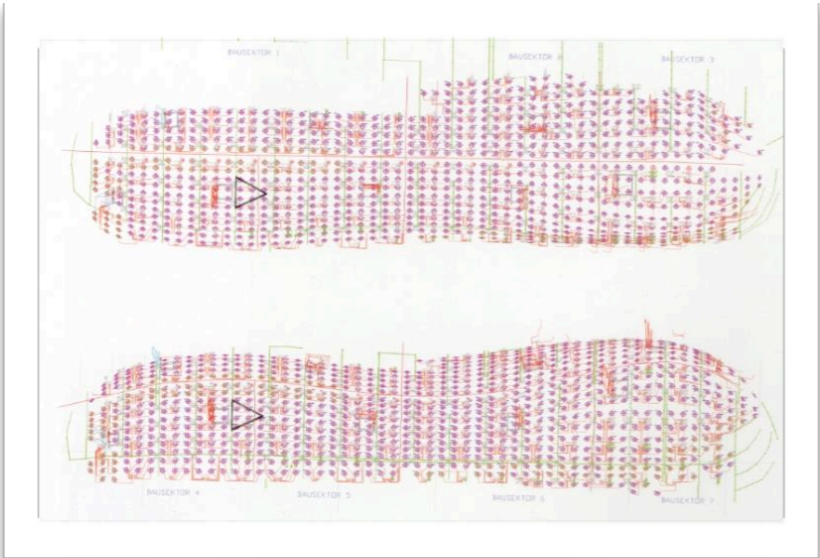
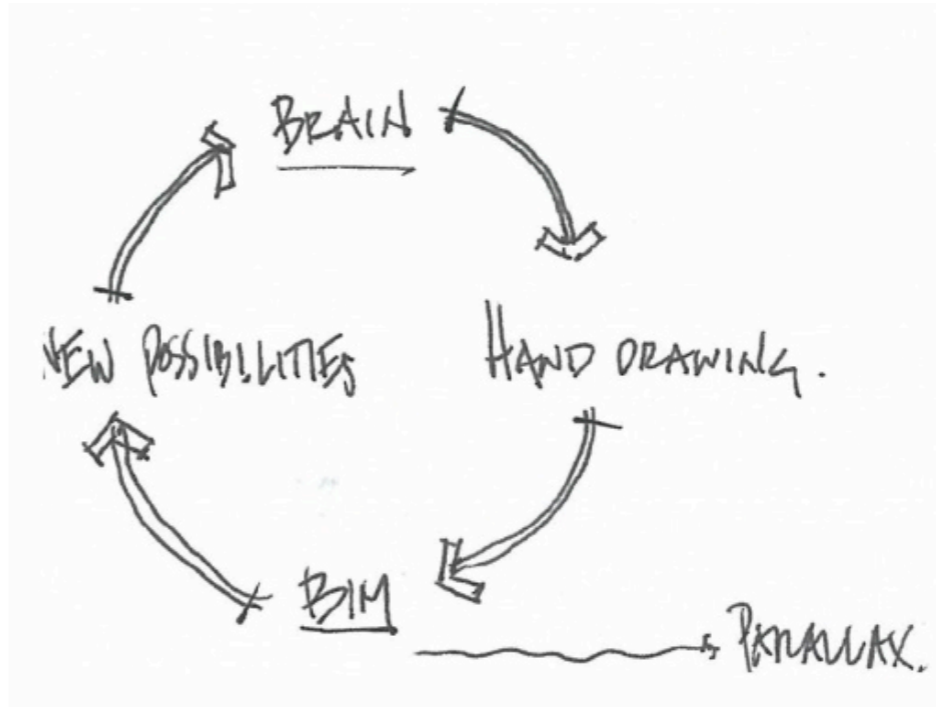


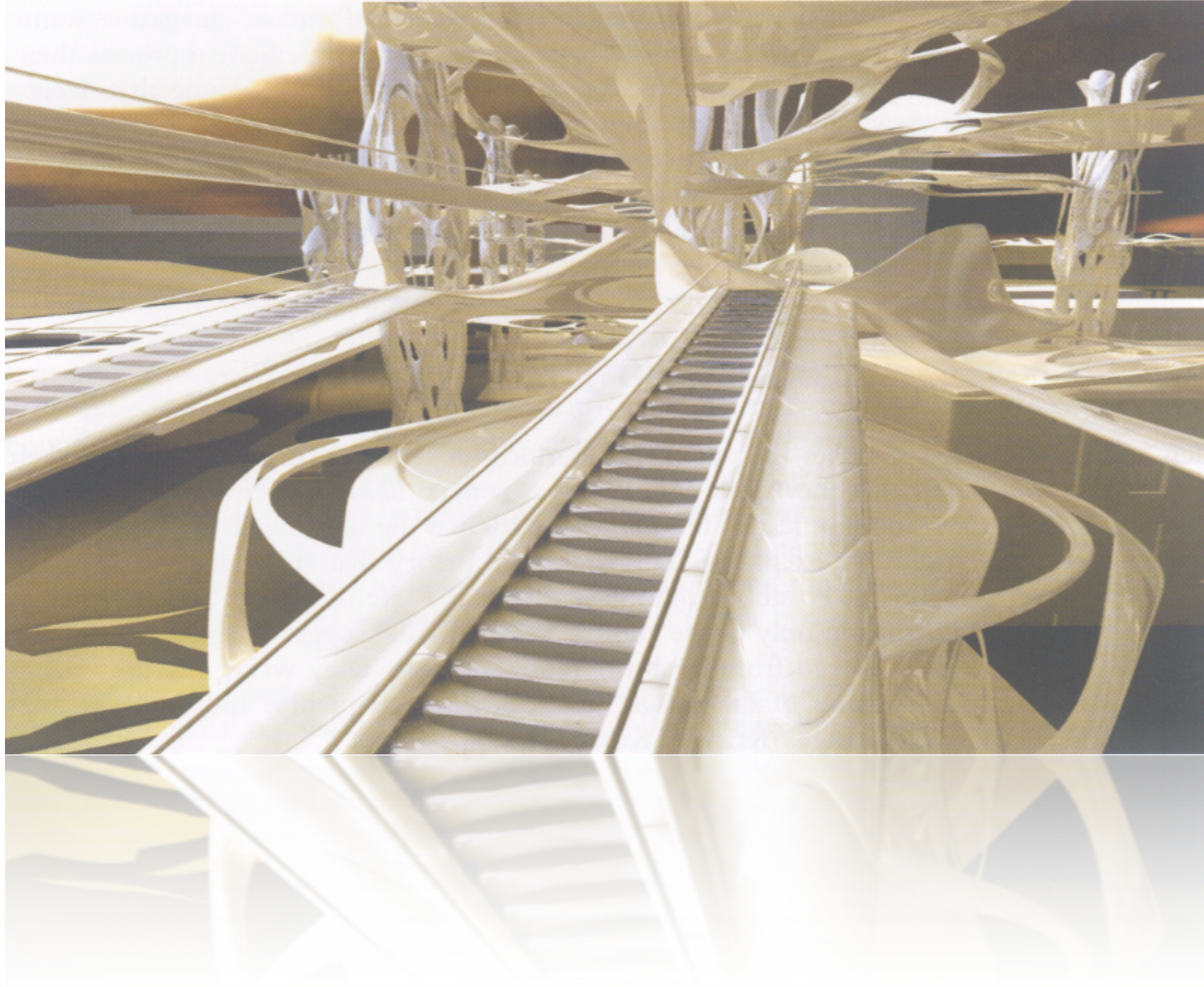




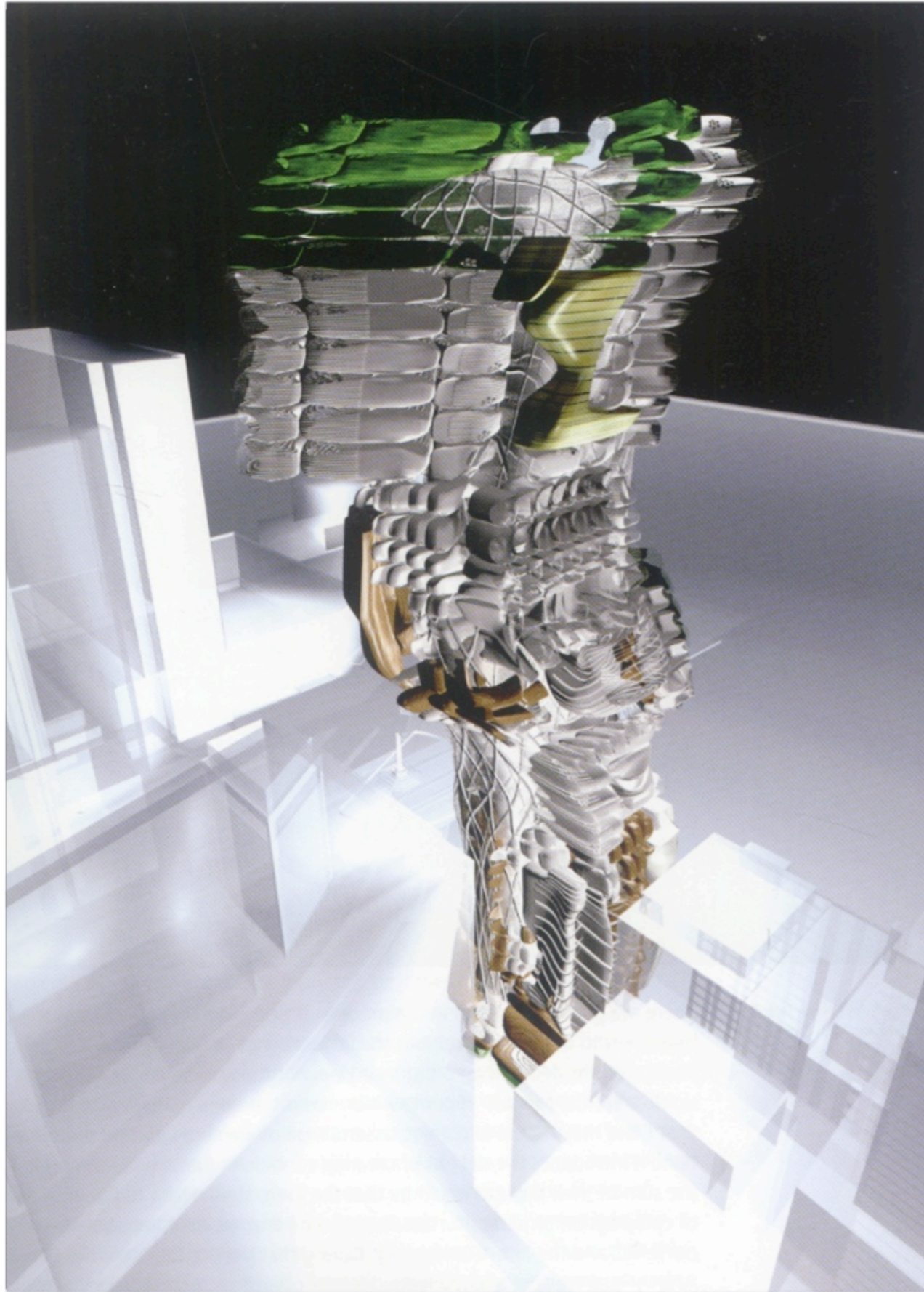


Computers are facilitating our understanding and possibilities within our 3D world, but they do not simplify our ideation process.





This image suggests a conceptual beginning with more affinity to a sketch than a floor plan. Experimenting with overlapping form does not question the connections or construction techniques but instead presents provocative suggestions about the future of architectural shape.

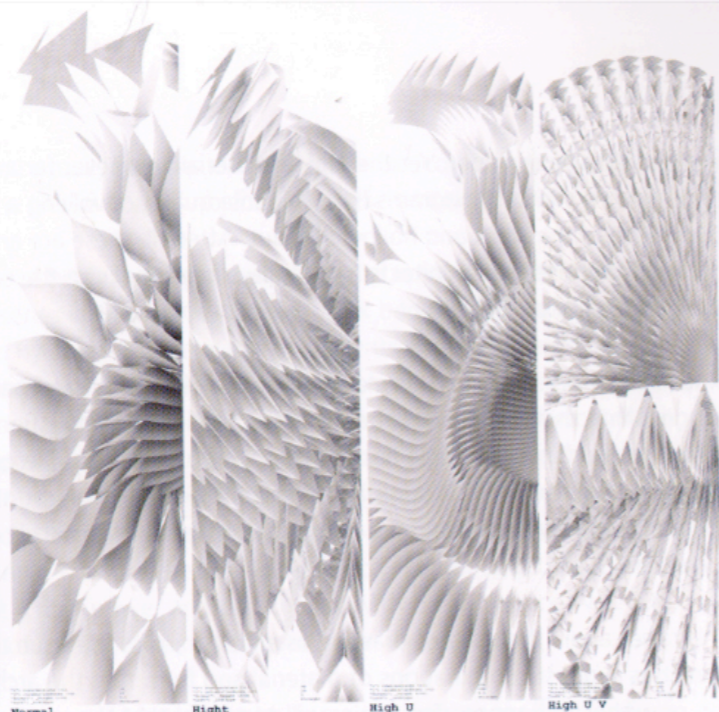


The time lapse between diagram and produced form is dwindling. The form is created before the diagram, the space before the idea.



**THEVERYMANY**  
A(n)Y\_002

More Porous & Visually Noisy & Organic Condition

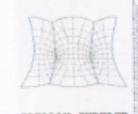
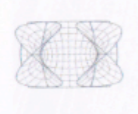


Normal Right High U High U V

**DESCRIPTION**  
The facade is a complex, layered structure composed of numerous thin, curved panels that create a porous and visually noisy condition. The structure is designed to be organic and dynamic, responding to environmental conditions. The facade is composed of a grid of panels that are interconnected and layered, creating a sense of depth and movement. The structure is designed to be porous, allowing for air circulation and natural light penetration. The facade is also visually noisy, with a complex pattern of lines and shapes that create a rich, textured appearance. The structure is designed to be organic, with a form that evolves and changes over time. The facade is a key element of the building's design, defining its character and identity.

**PARAMETERS**  
The facade is defined by a set of parameters that control its geometry and appearance. These parameters include the number of layers, the thickness of the panels, the curvature of the panels, and the spacing between the panels. The parameters are used to generate a wide range of facade configurations, each with its own unique characteristics. The parameters are also used to optimize the facade's performance, ensuring that it meets the building's requirements for energy efficiency, durability, and aesthetics.

**CONSTRUCTION**  
The facade is constructed using a combination of materials and techniques. The primary material is a lightweight, rigid material that can be curved and layered. The panels are connected using a complex system of joints and fasteners that allow for movement and adjustment. The construction process is highly detailed and requires precise coordination between the different layers and components. The facade is designed to be modular, allowing for easy installation and maintenance. The construction process is also designed to be sustainable, using recycled materials and energy-efficient manufacturing processes.



HENKBERG SURFACE

CATALAN SURFACE



**THEVERYMANY**  
A(n)Y\_001

More Porous & Visually Noisy & Organic Condition

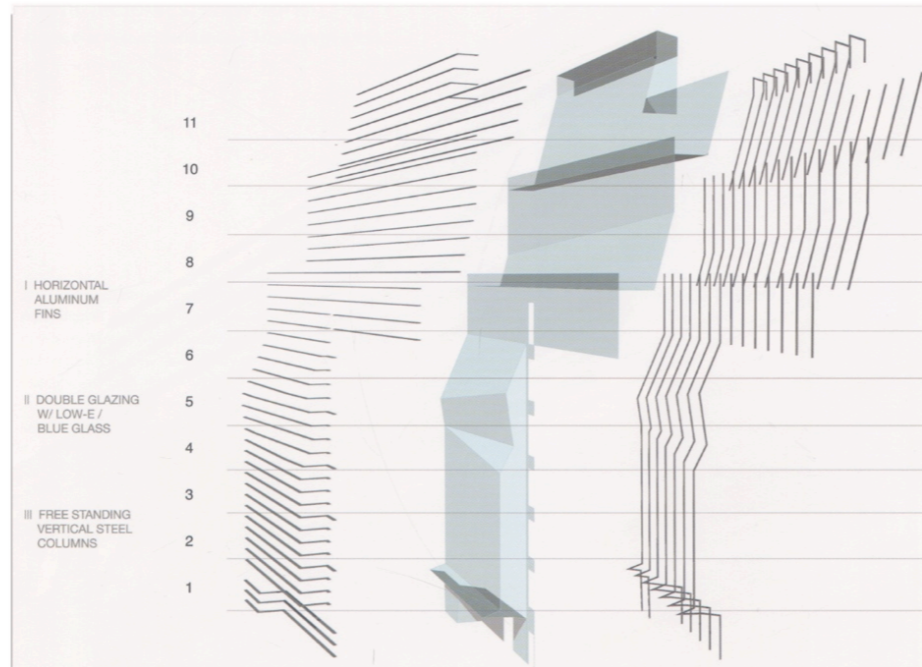
**DESCRIPTION**  
The facade is a complex, layered structure composed of numerous thin, curved panels that create a porous and visually noisy condition. The structure is designed to be organic and dynamic, responding to environmental conditions. The facade is composed of a grid of panels that are interconnected and layered, creating a sense of depth and movement. The structure is designed to be porous, allowing for air circulation and natural light penetration. The facade is also visually noisy, with a complex pattern of lines and shapes that create a rich, textured appearance. The structure is designed to be organic, with a form that evolves and changes over time. The facade is a key element of the building's design, defining its character and identity.

**PARAMETERS**  
The facade is defined by a set of parameters that control its geometry and appearance. These parameters include the number of layers, the thickness of the panels, the curvature of the panels, and the spacing between the panels. The parameters are used to generate a wide range of facade configurations, each with its own unique characteristics. The parameters are also used to optimize the facade's performance, ensuring that it meets the building's requirements for energy efficiency, durability, and aesthetics.

**CONSTRUCTION**  
The facade is constructed using a combination of materials and techniques. The primary material is a lightweight, rigid material that can be curved and layered. The panels are connected using a complex system of joints and fasteners that allow for movement and adjustment. The construction process is highly detailed and requires precise coordination between the different layers and components. The facade is designed to be modular, allowing for easy installation and maintenance. The construction process is also designed to be sustainable, using recycled materials and energy-efficient manufacturing processes.

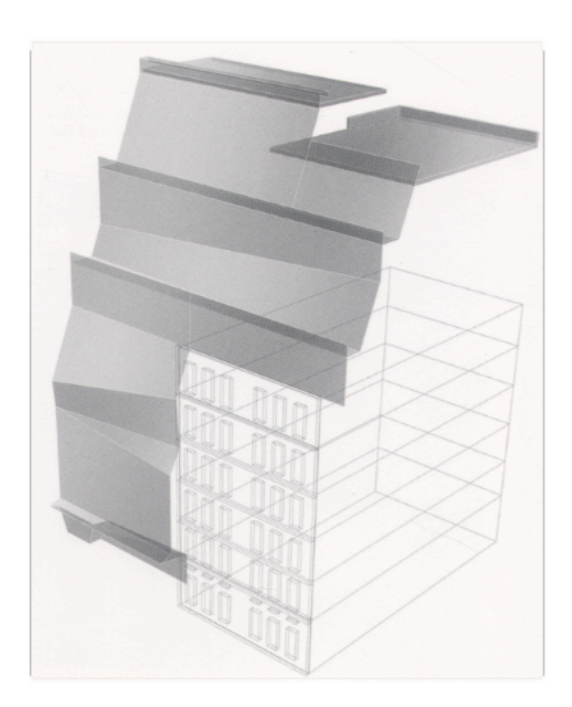
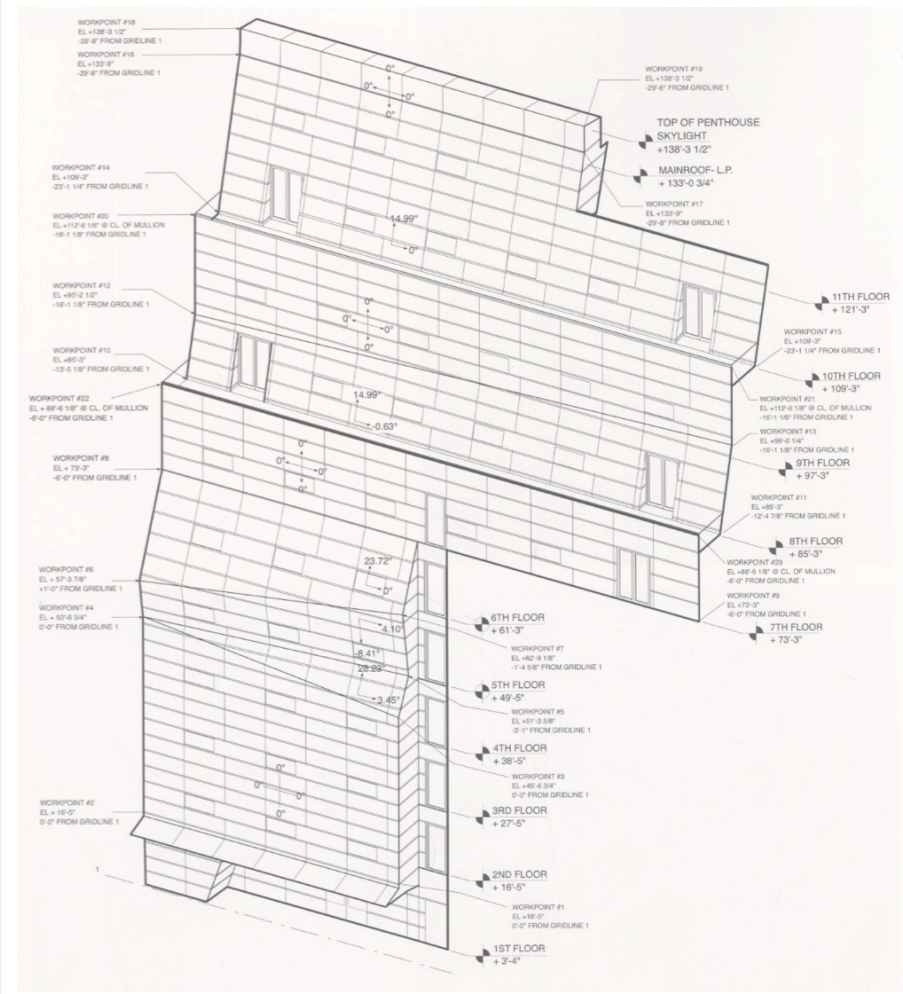
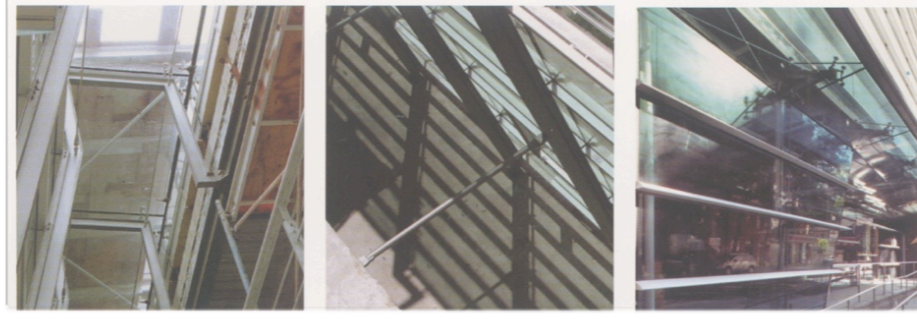


Labels for each diagram: JANSUR016/060330, JANSUR003/060330, JANSUR011/060334, JANSUR018/060328\_01, JANSUR016/060328\_02, JANSUR008/060302\_01, JANSUR008/060302\_02, JANSUR009/060303, JANSUR010/060326, JANSUR007/060323, JANSUR004/060323\_02, JANSUR004/060321\_01, JANSUR001/060320, JANSUR002/060320, JANSUR013/060328, JANSUR005E (lower3), JANSUR007E (lower3), JANSUR008E (lower3), JANSUR009E (lower3), JANSUR010E (lower3), JANSUR011E (lower3).

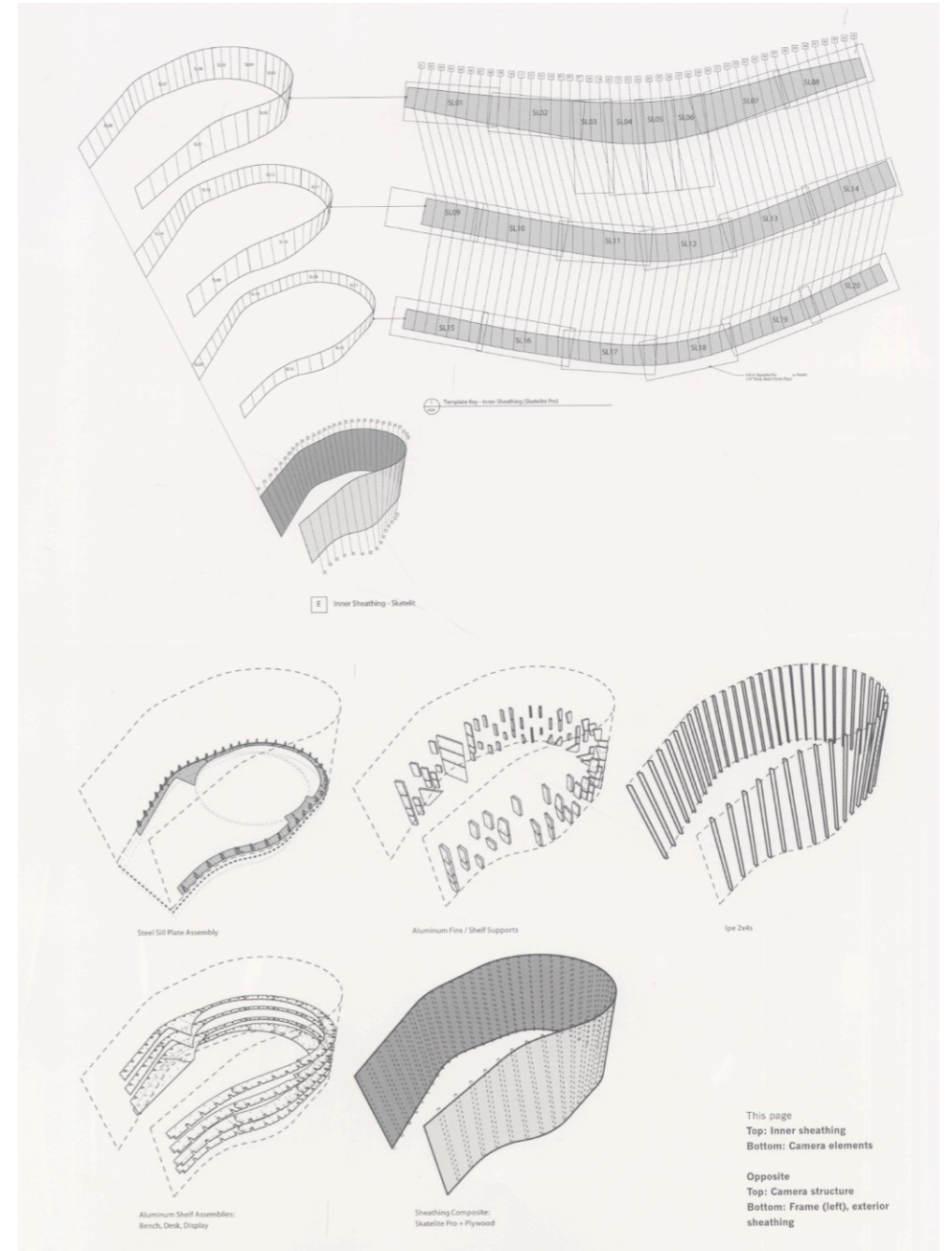
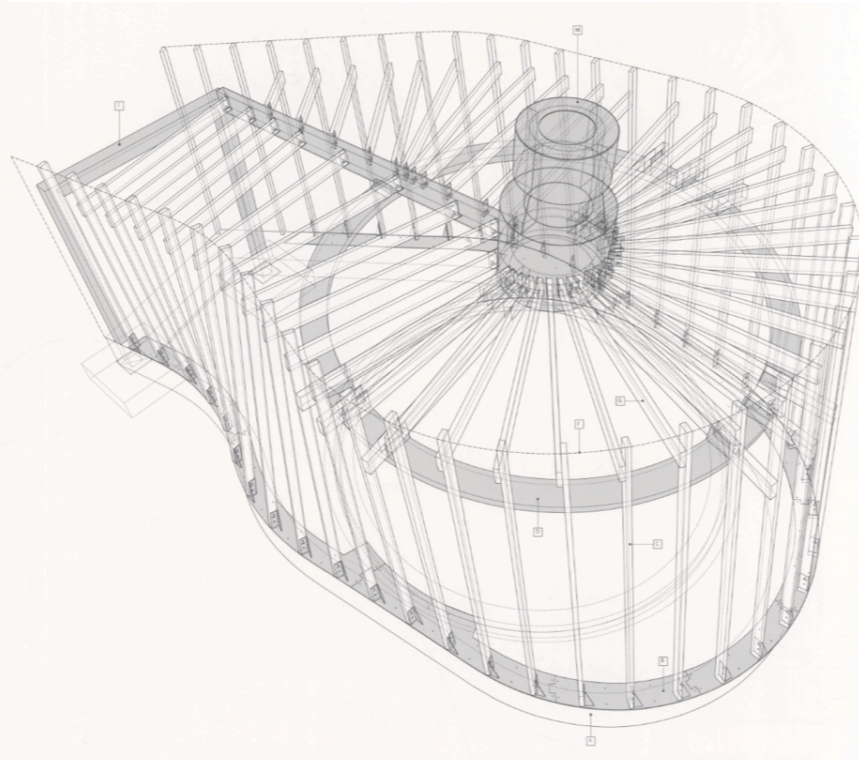
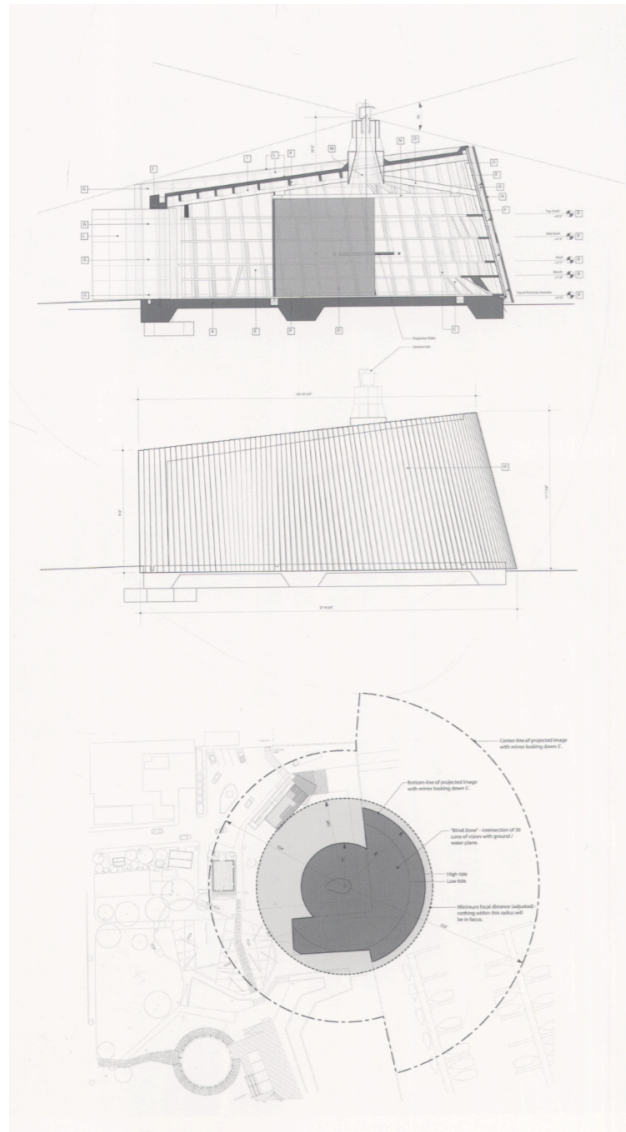


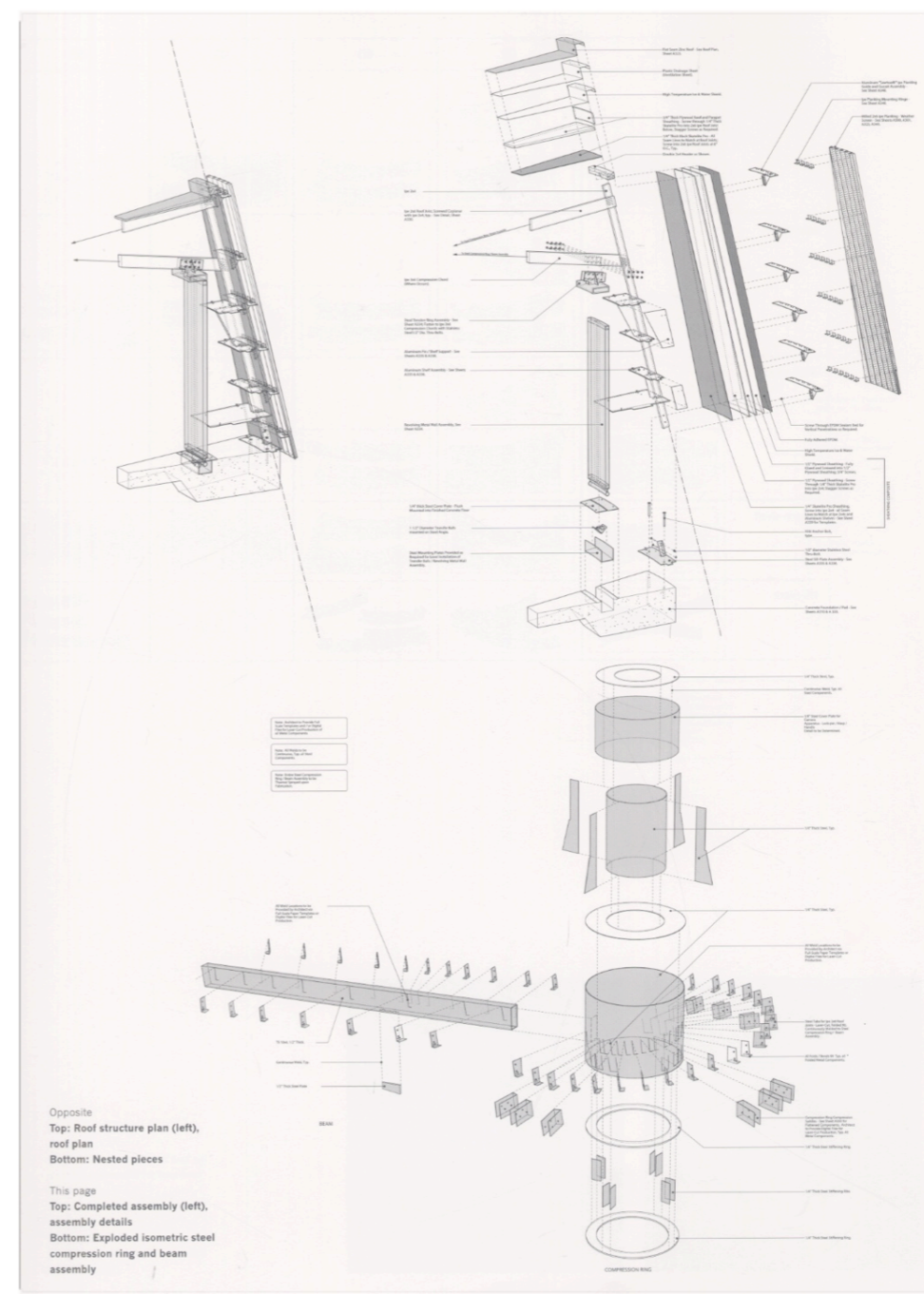
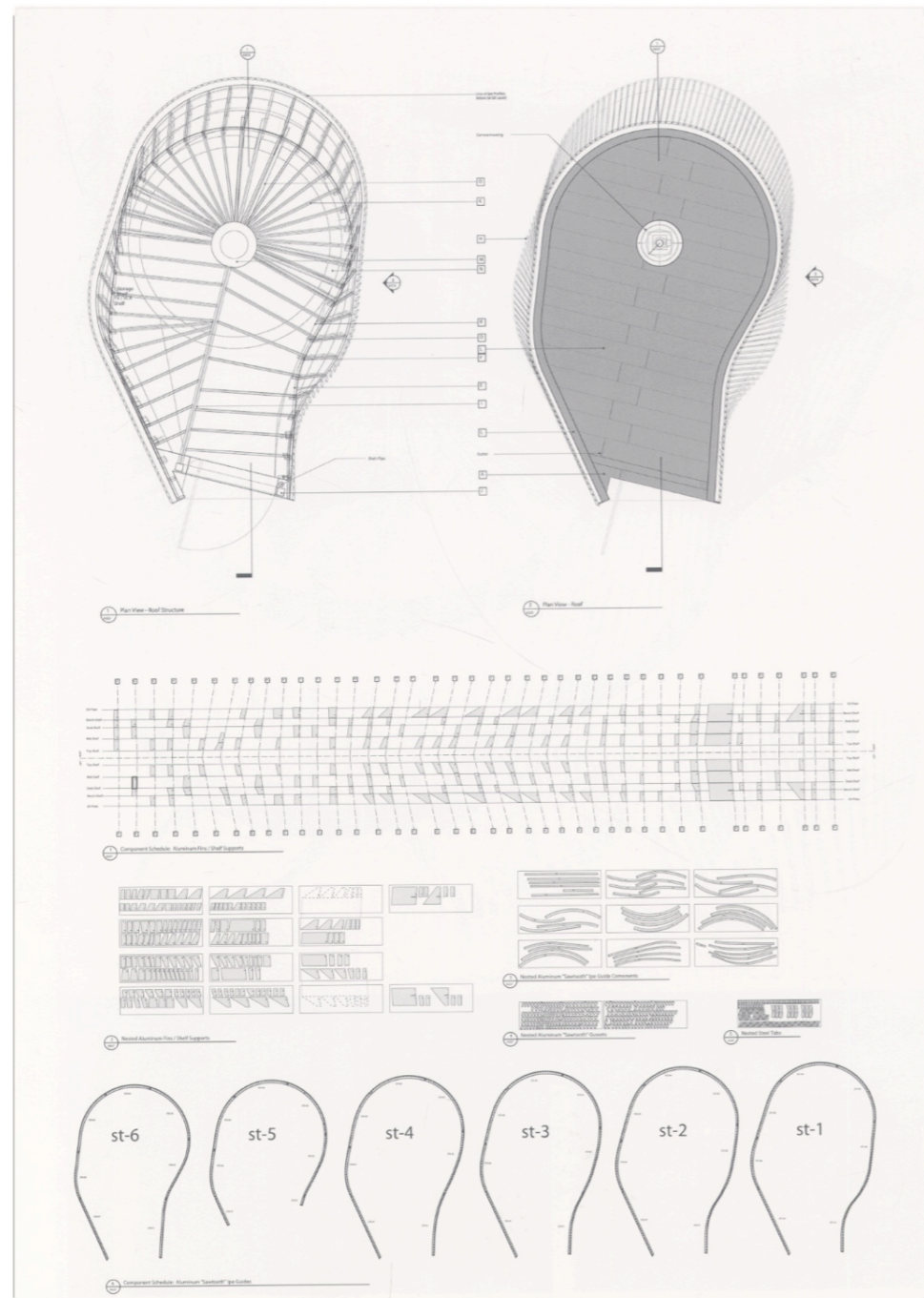
This page  
 Top: Curtain wall components  
 Bottom (left to right): Curtain wall  
 roof framing, curtain wall framing  
 detail, gallery entrance

Opposite  
 Facade axonometric



# digital fabrication





	01	02	03	04	05	06	07	08	09	10
top-shelf										
mid-shelf										
desk-shelf										
bench-shelf										
sill-plate										

Bolt / Screw / Rivet Holes - See Note, This Sheet

4' x 12' x 1/4" Thick Milled Aluminum Sheet

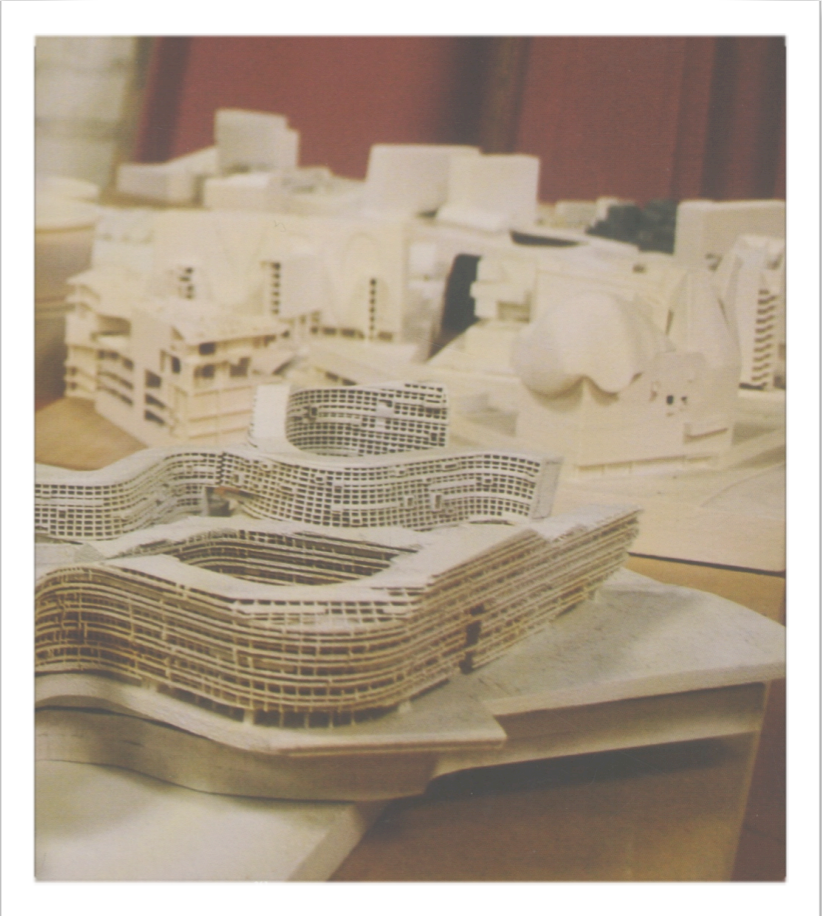
4' x 8' x 1/4" Thick Milled Aluminum Sheet

4' x 8' x 1/4" Thick Steel Sheet

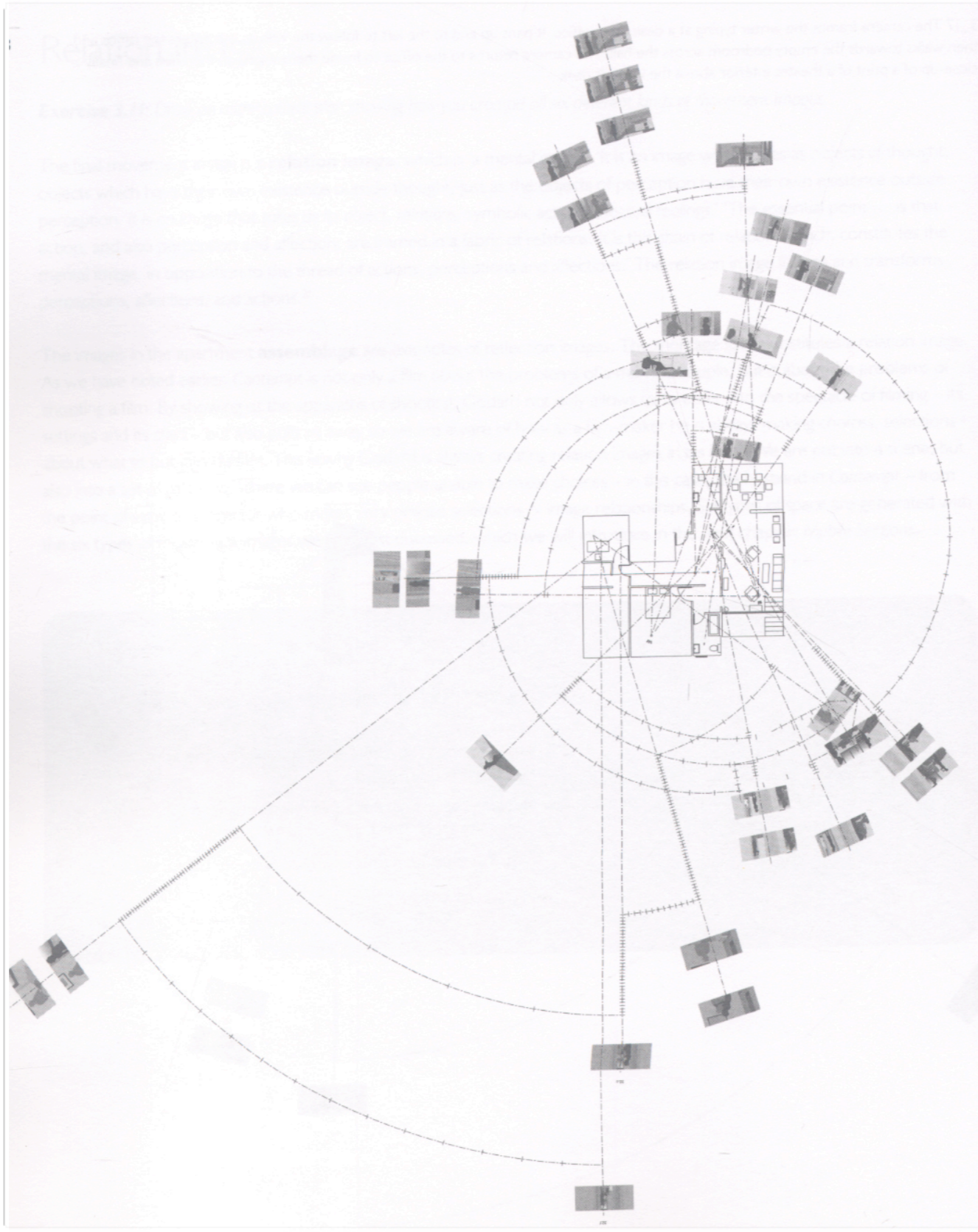
Note: All Screw, Rivet and Bolt Holes for all Steel and Aluminum Components / Assemblies to be Cut During Laser-Cut Production Process - No Manual Drilling required for Laser-Cut Steel or Aluminum On- and / or Off-Site.

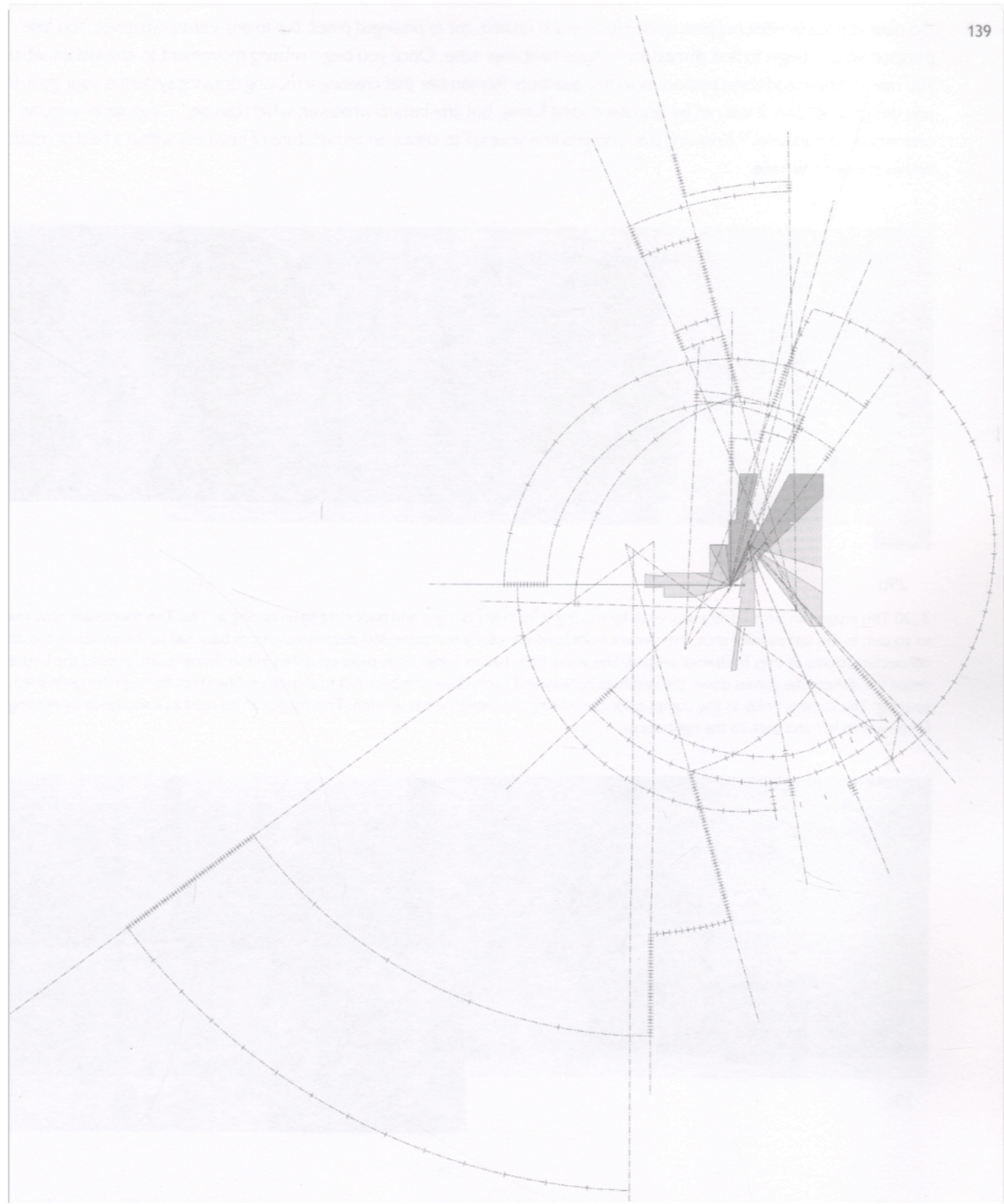


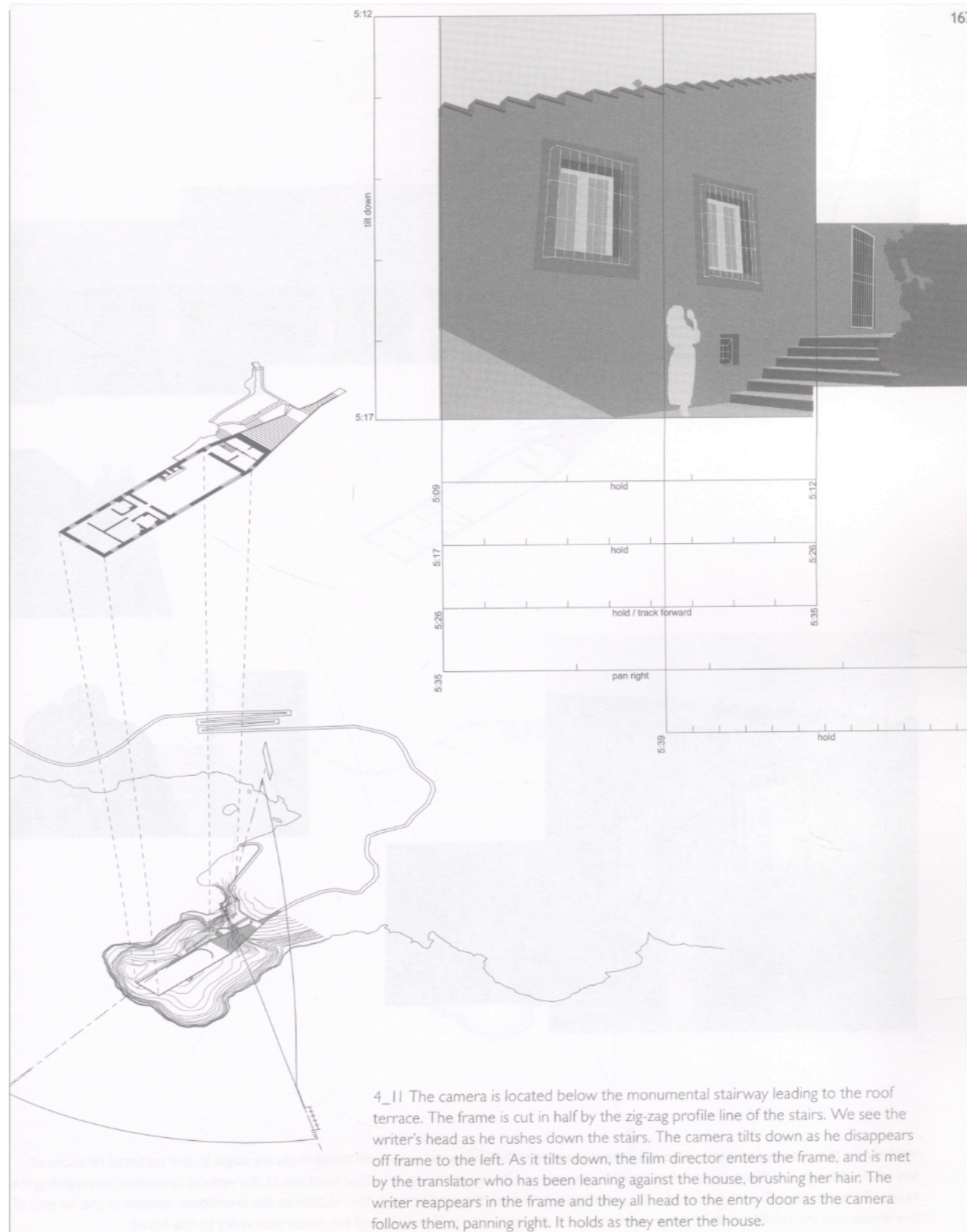
rapid prototyping



cinematics







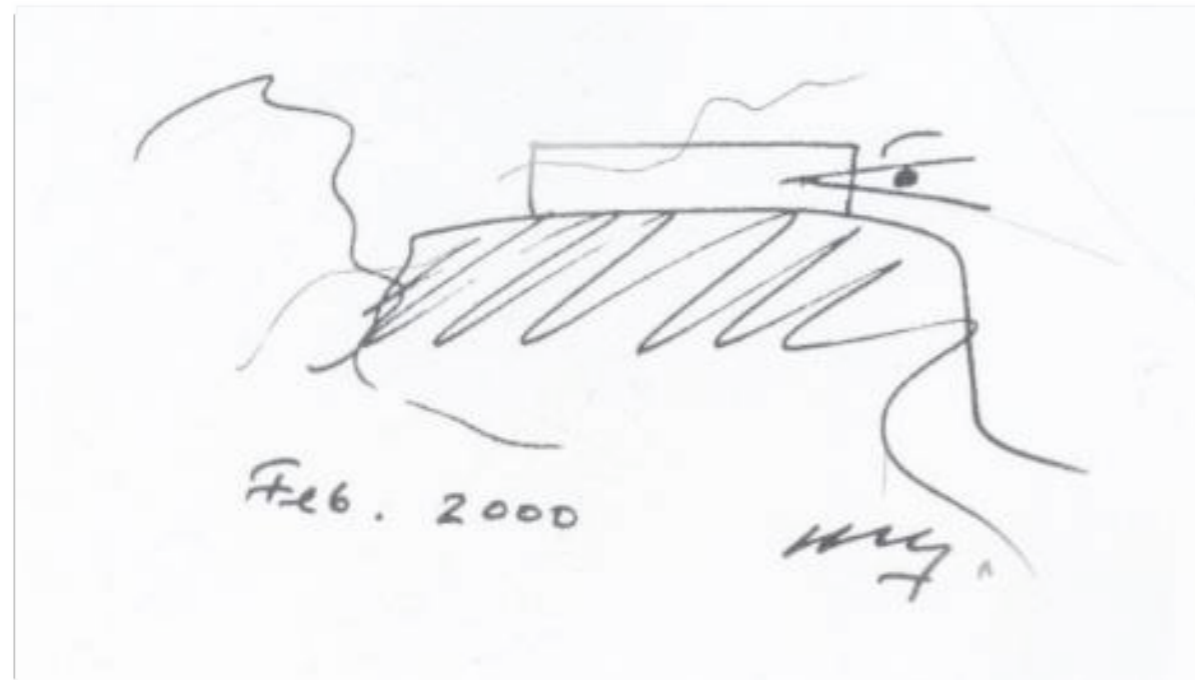


# EXPLORATIONS

# ALBERTO CAMPO BAEZA

De BLAS HOUSE

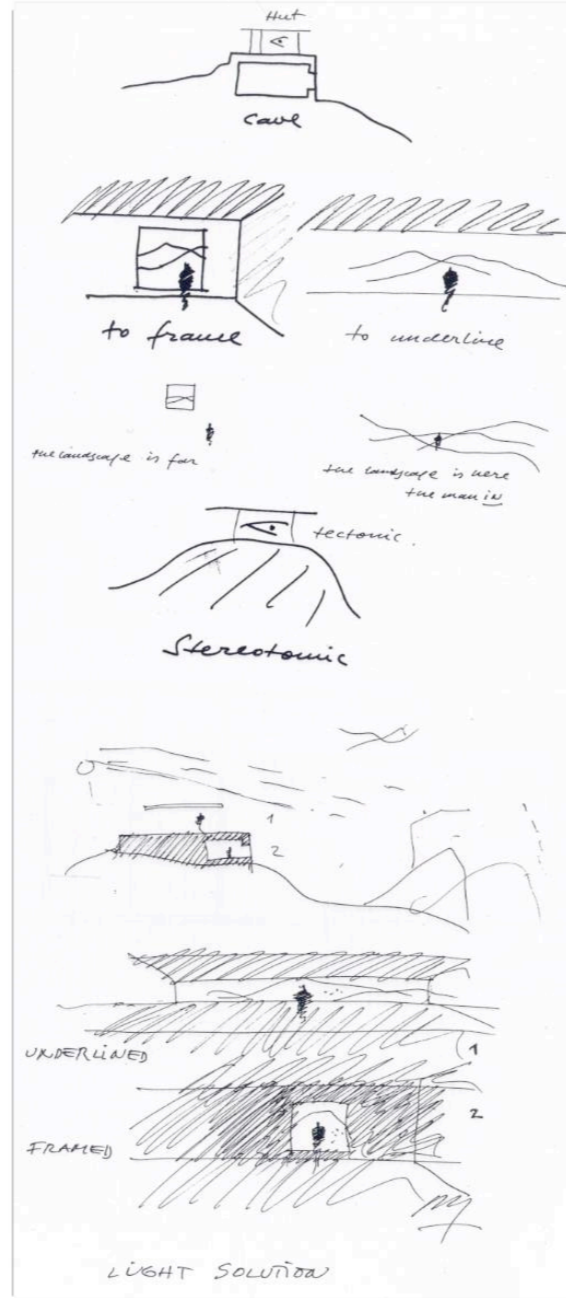
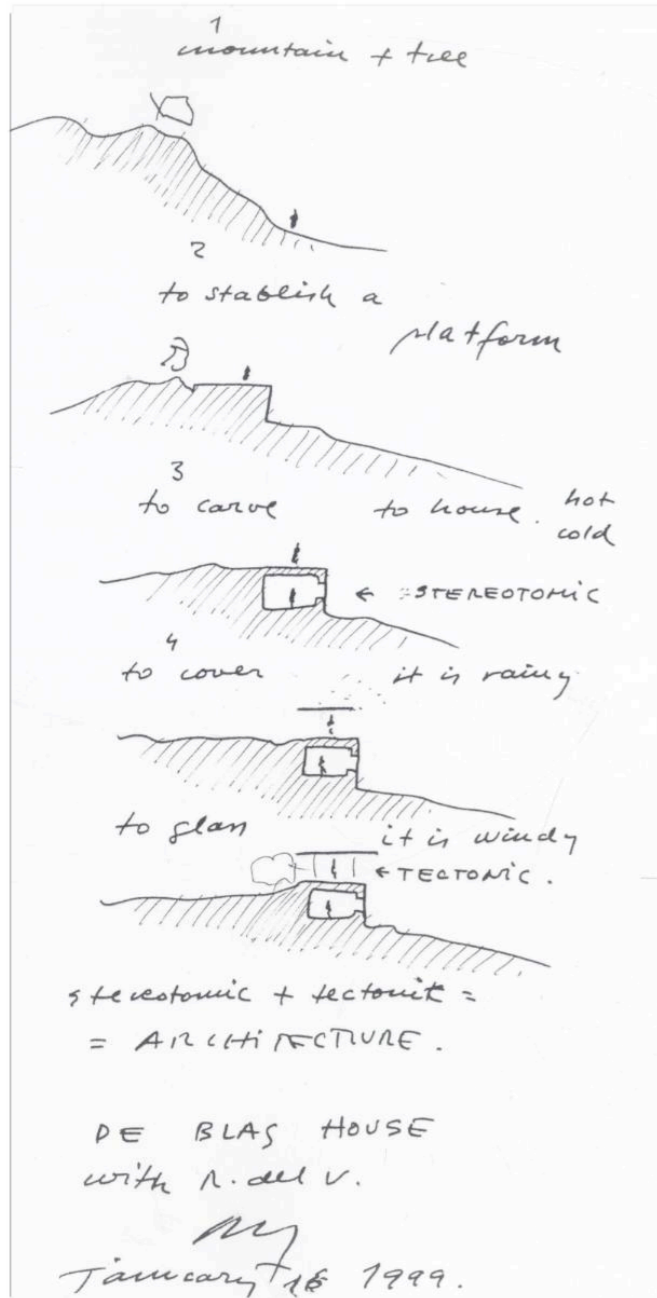
MADRID, SPAIN



“Gravity constructs space, light constructs time... The central concerns of architecture are how to control gravity and how to relate to light”

Alberto Campo Baeza





“Campo Baeza’s Architecture is about essentiality- it suggest both simplification and purification, an expression of essence. Idea expressed through form...idea in constructed form.”



11/7 - January 11 1989.

Esta casa será una casa casa. "arquitecta"

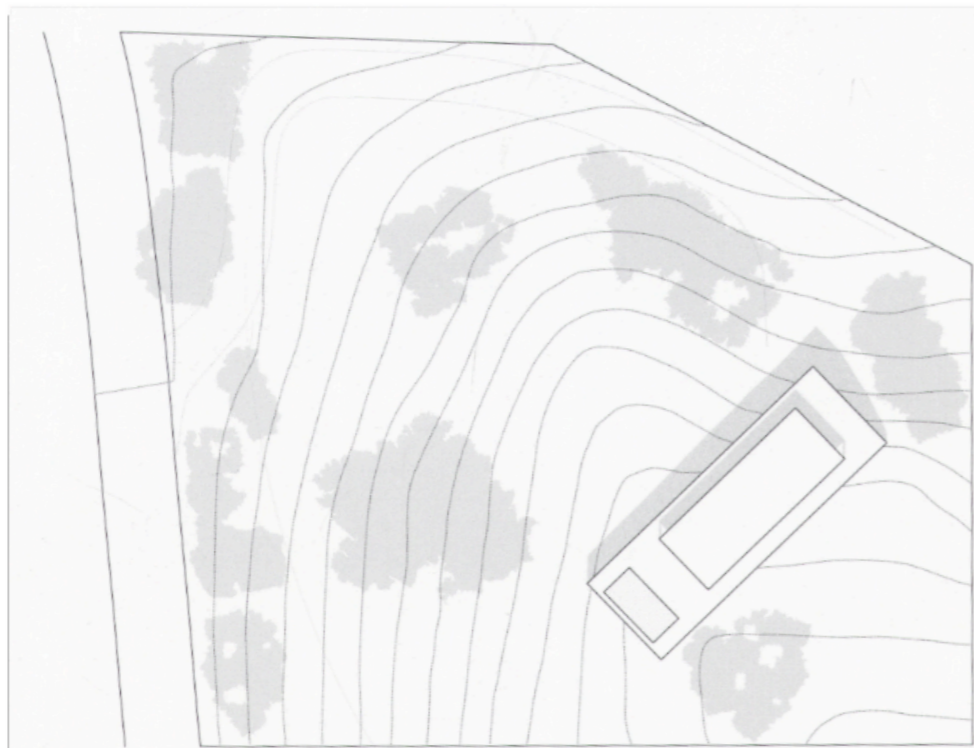
Think with  
your hand,  
construct  
with your  
head.

Alberto Campo Baeza

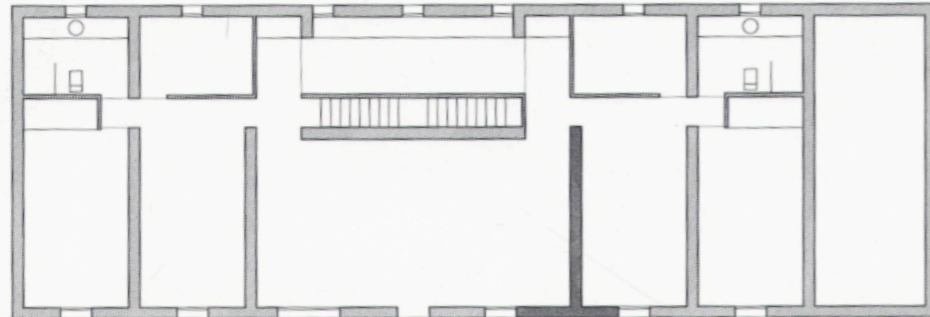


Ordinary domestic functions are grouped in a hollow, windowless base, while an upper glass volume provides a setting for the intellectual activities the house also has to accommodate.

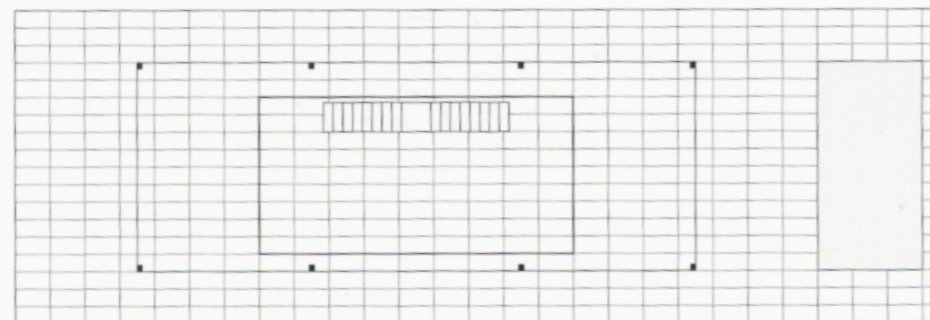
Alberto Campo Baeza



Site plan



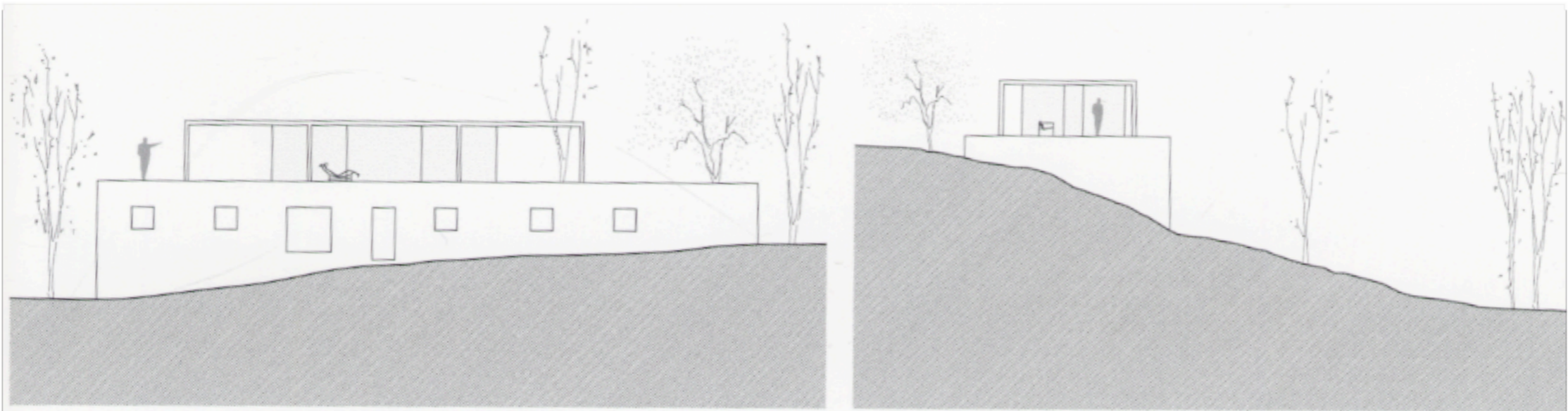
Ground floor plan



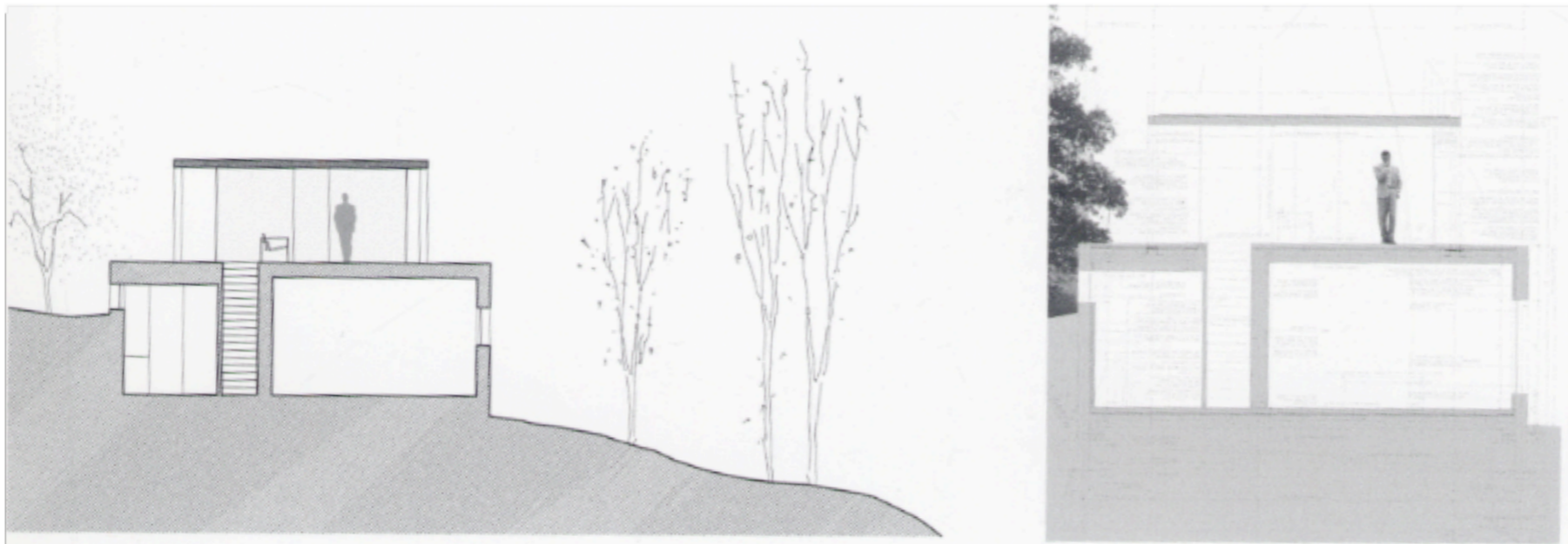
Second floor plan

0 1 2





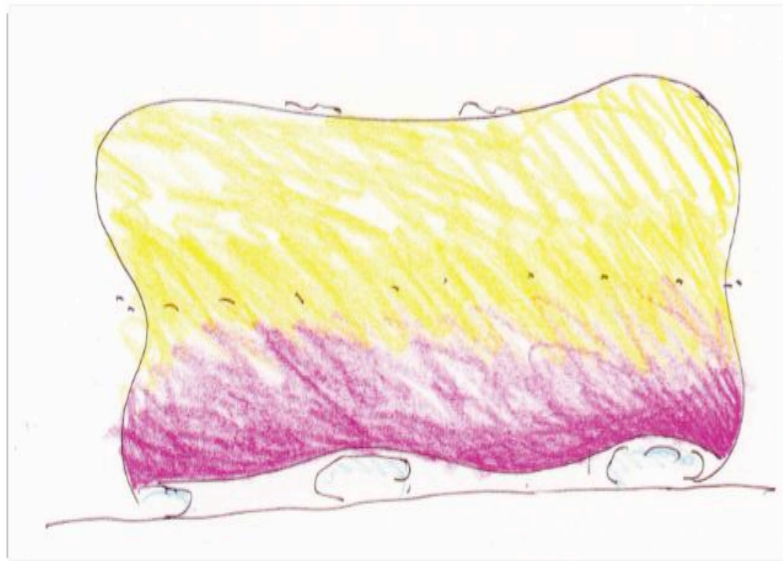
Elevations



Sections

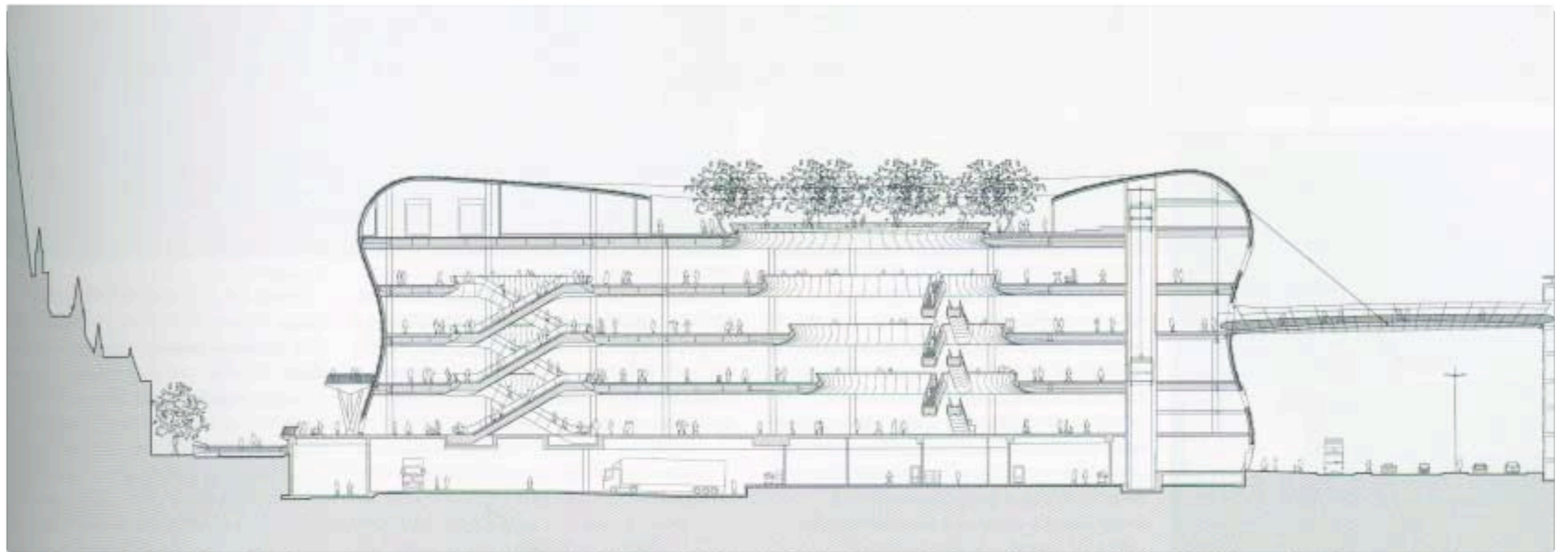
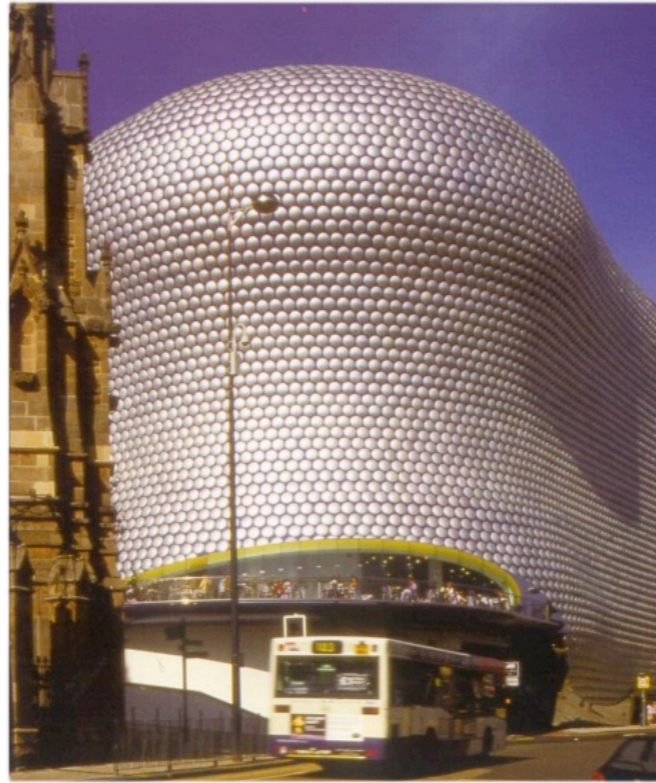
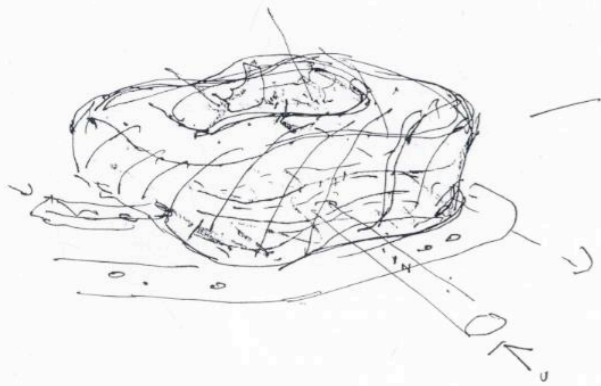
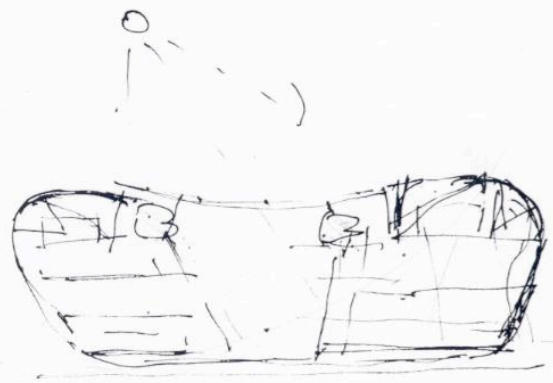
# FUTURE SYSTEMS

SELFRIDGES DEPARTMENT STORE  
BIRMINGHAM, ENGLAND

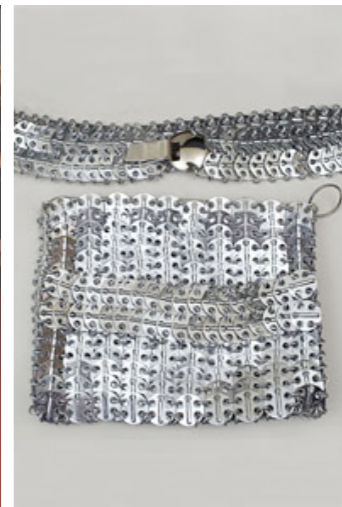
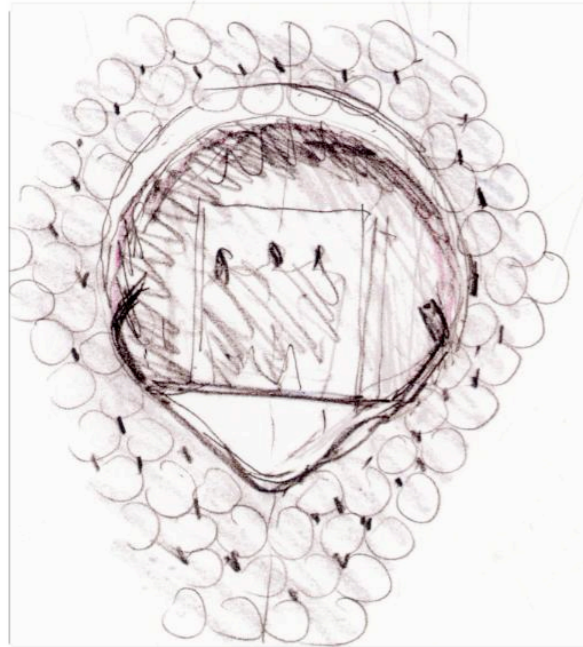


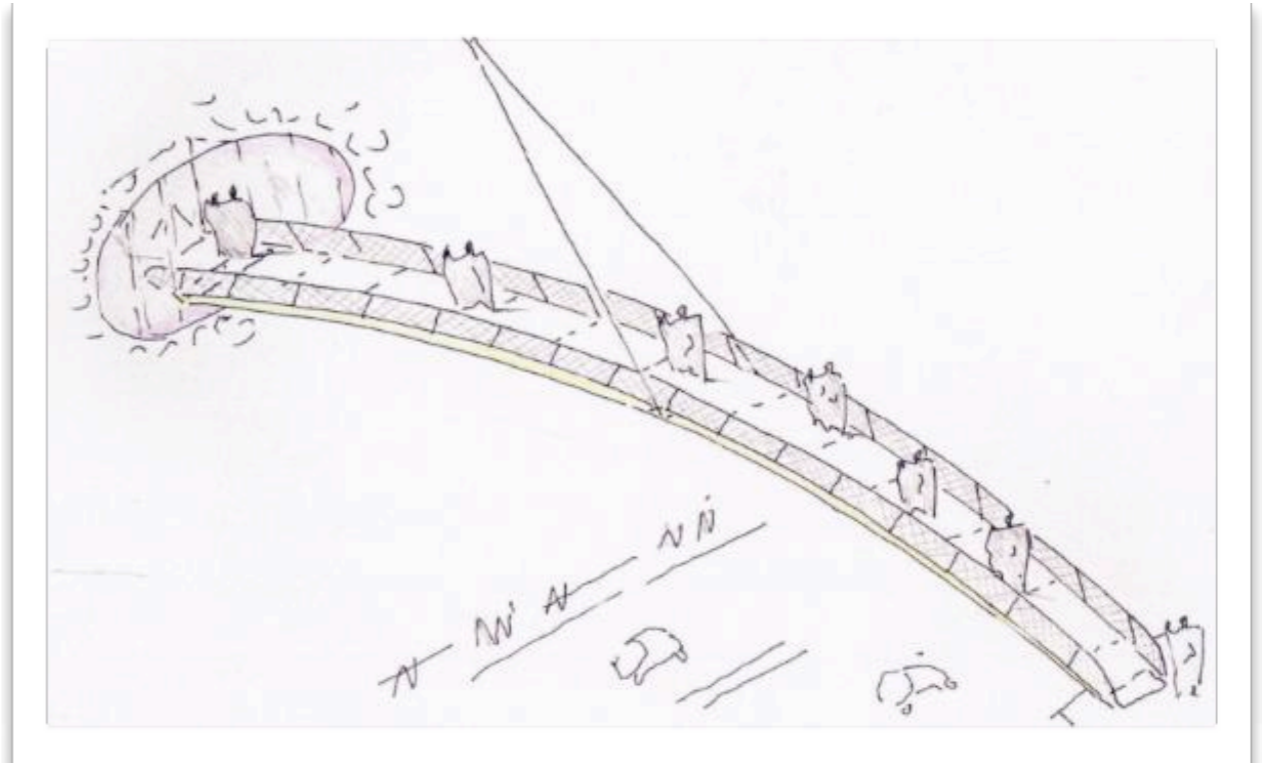
The fluidity of shape recalls the fall of fabric or the soft lines of a body, rises from the ground and gently billows outwards before being drawn in at a kind of waistline. The skin is made up of thousands of aluminium discs, creating a fine, lustrous grain like the scales of a snake or the sequins of a Paco Rabanne dress.

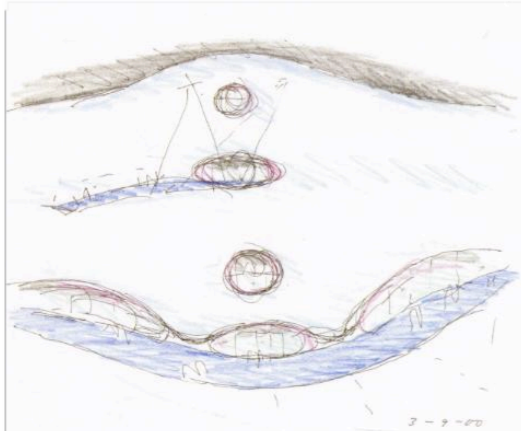




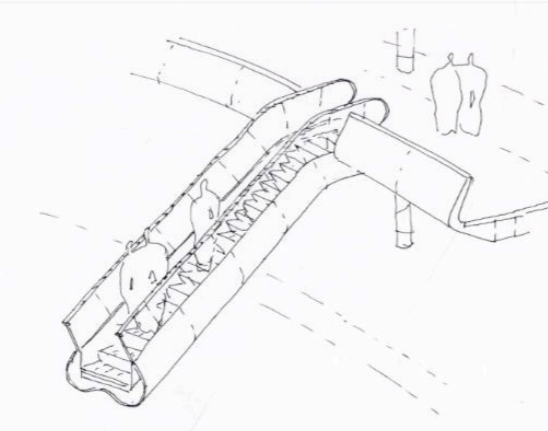
**The curvy, futuristic lines of the Selfridges store contrasts with the otherwise industrial, traditional character Birmingham.** To help create a sense of connectedness between the Selfridges flagship and the grittiness of the city, Future Systems added walkways cased in glass and large outdoor terraces -- the latter also serving as public gathering spaces.



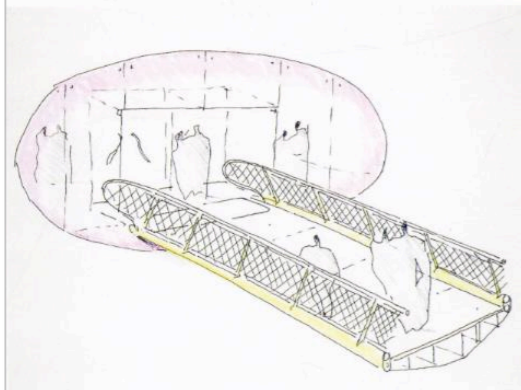




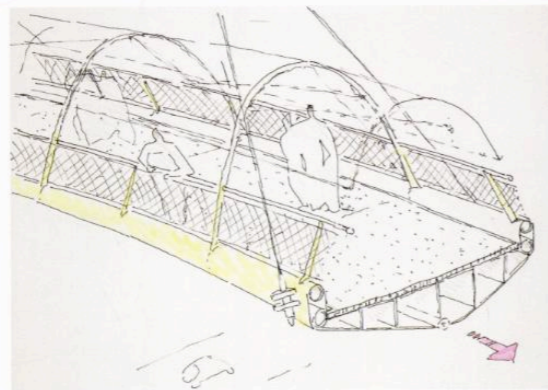
Sketch



Design development perspectives

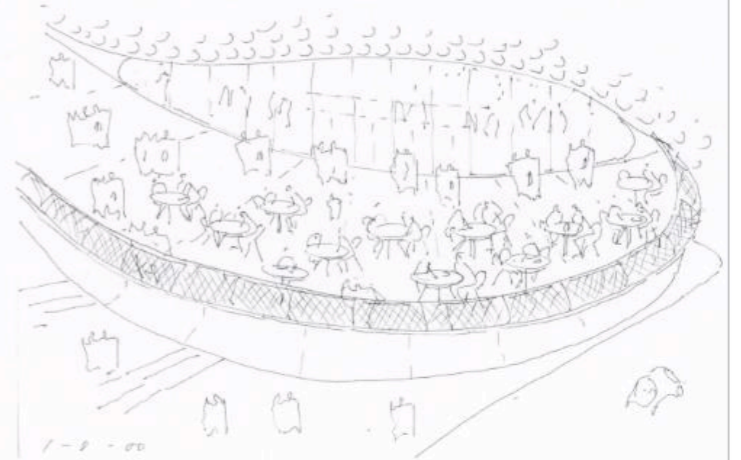
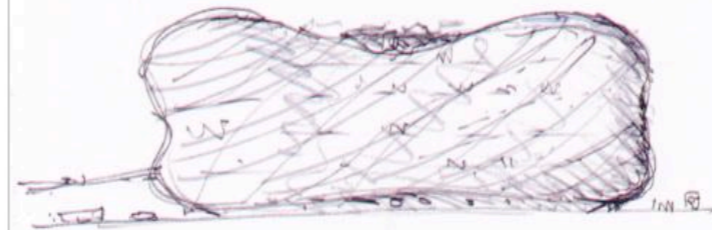
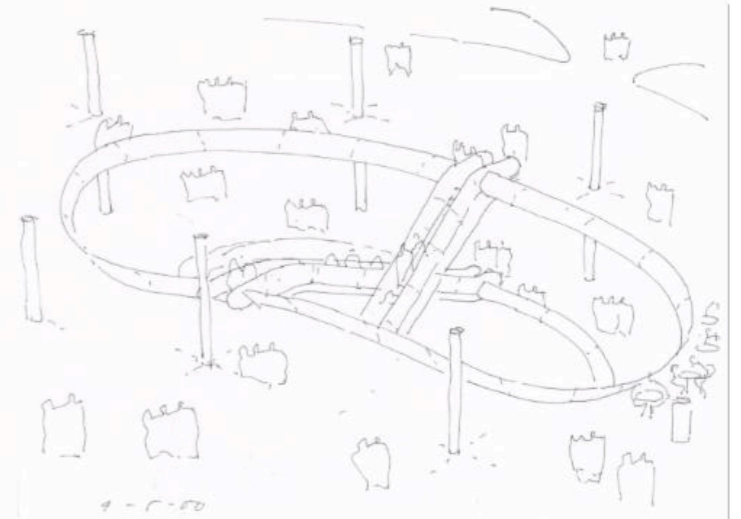
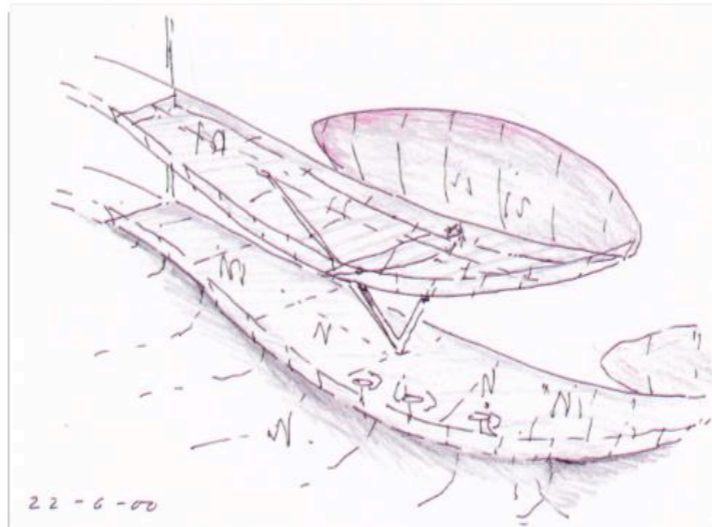
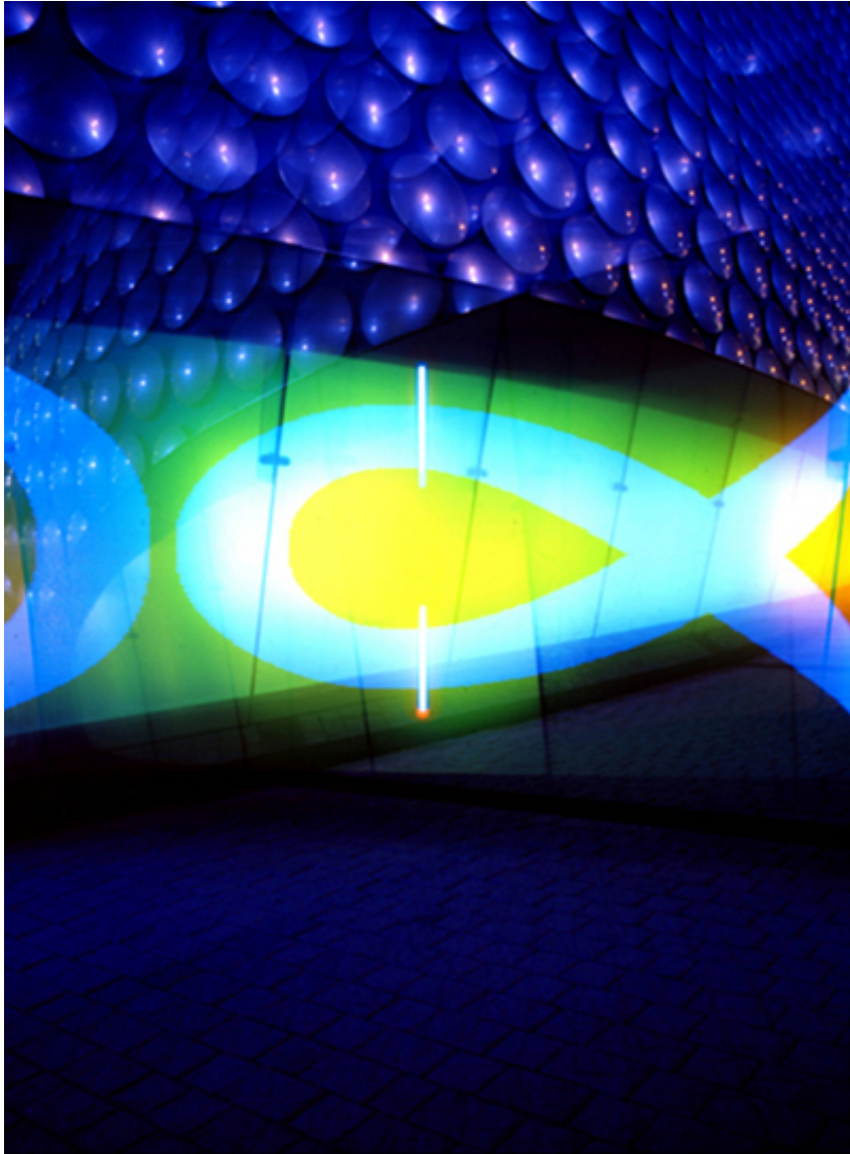


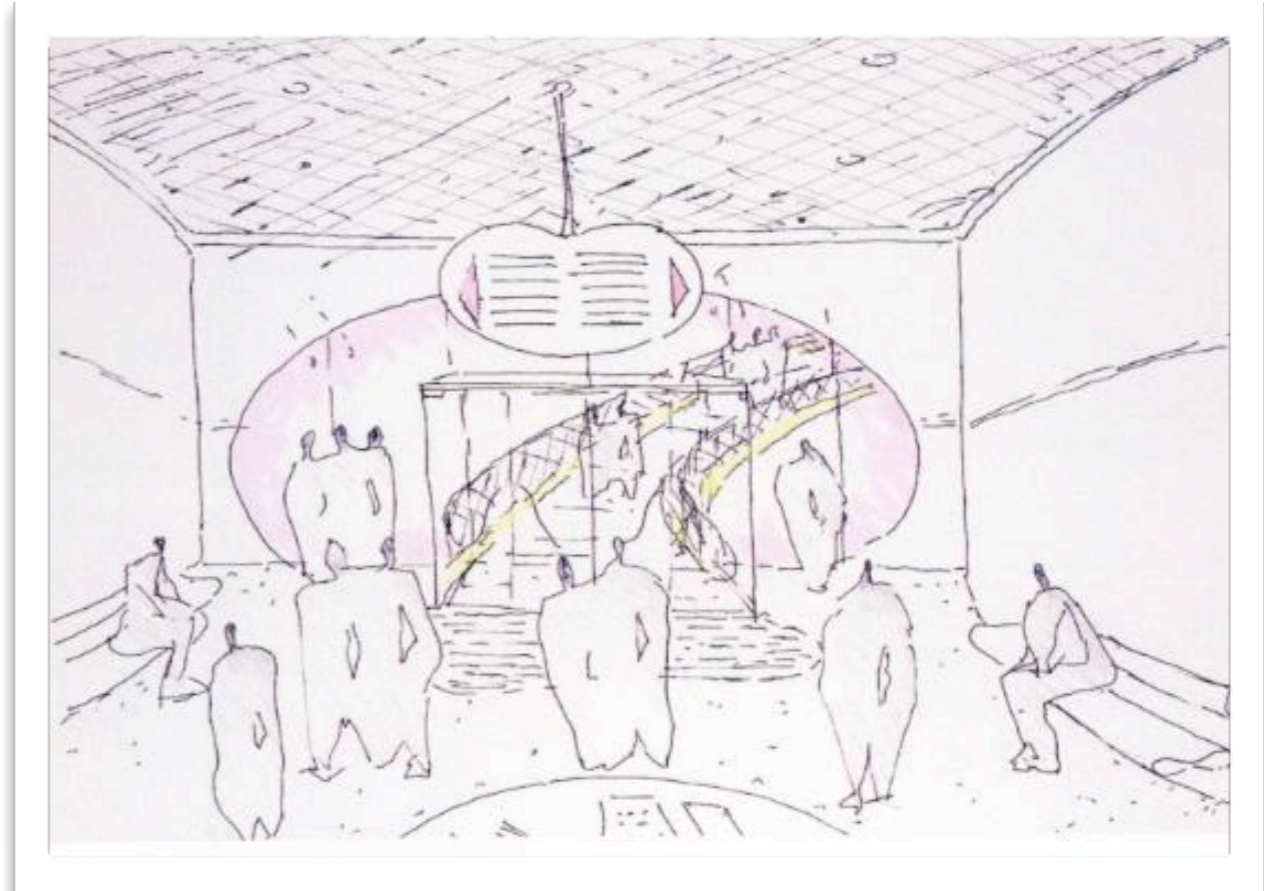
Design development perspectives



Design development perspectives



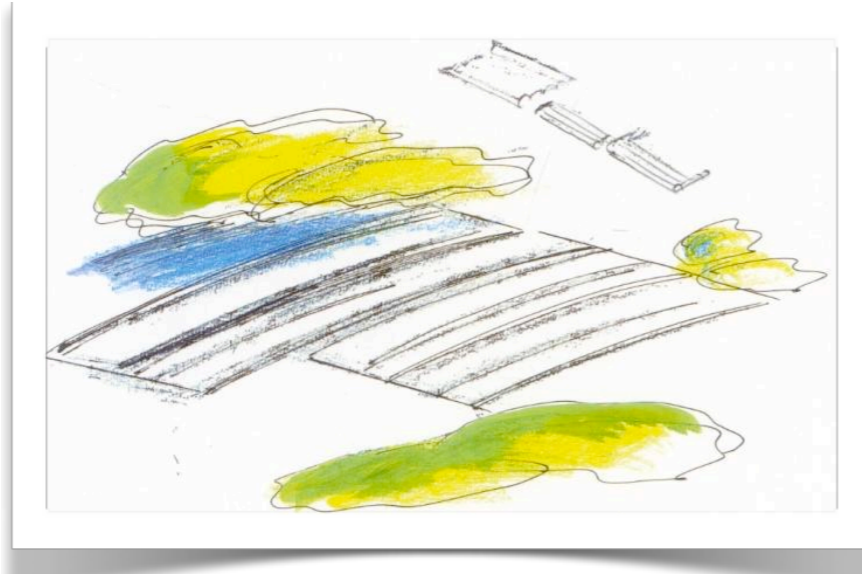




# TADAO ANDO

FT. WORTH MUSEUM OF MODERN ART

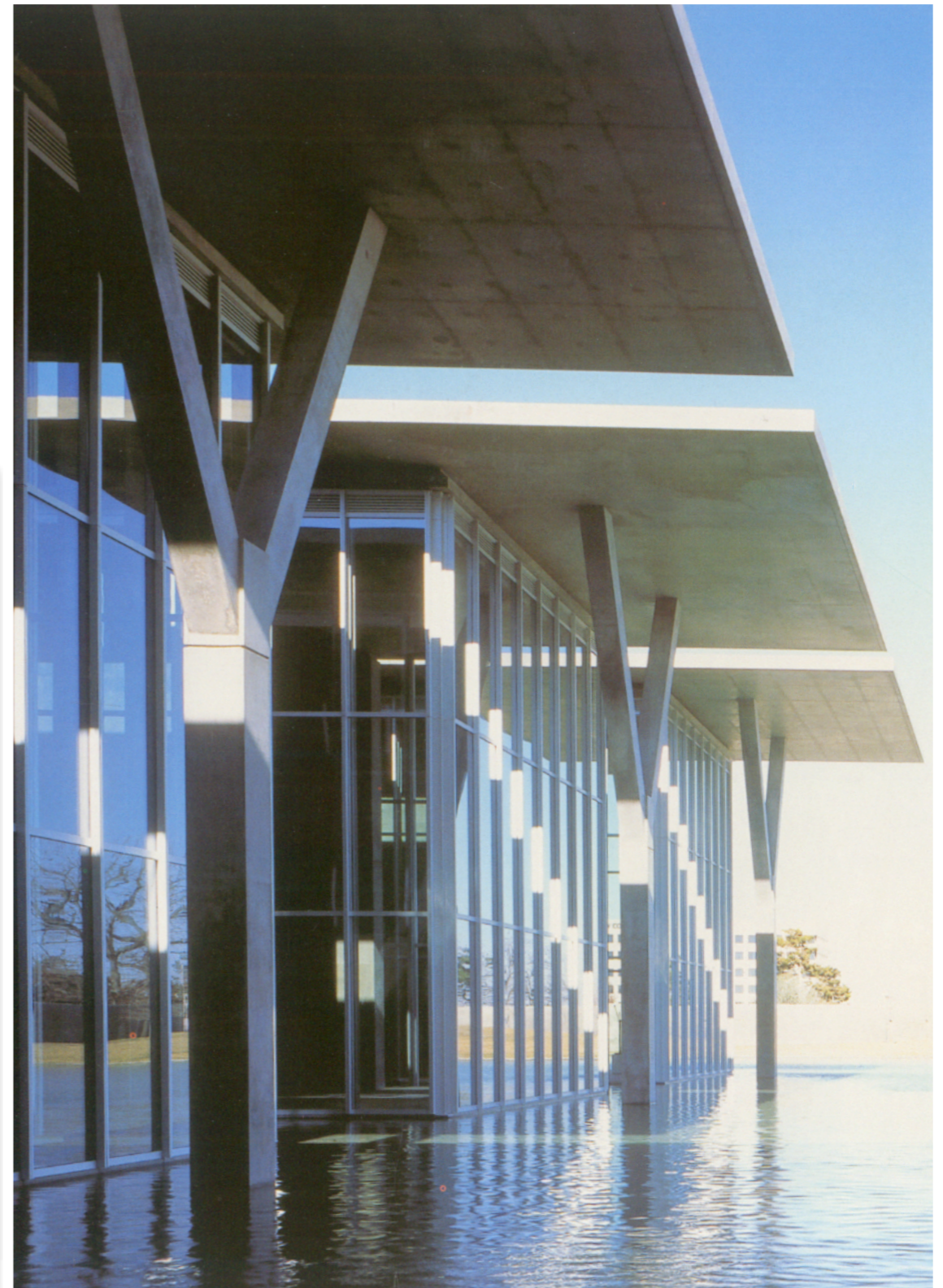
FT. WORTH, TEXAS, USA

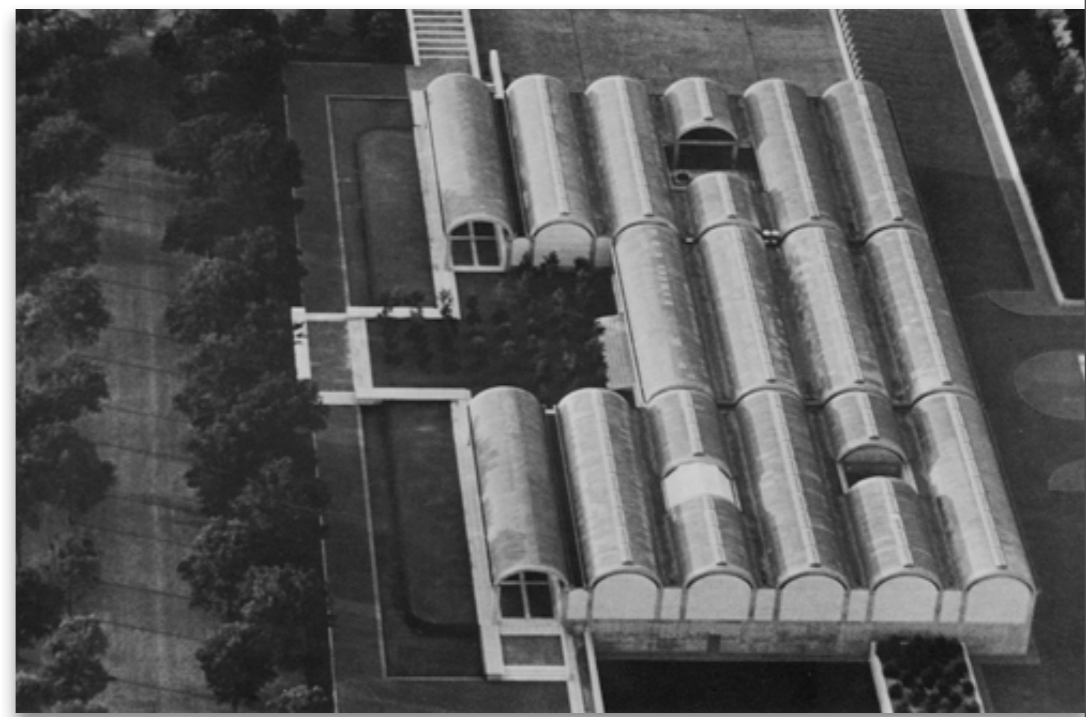
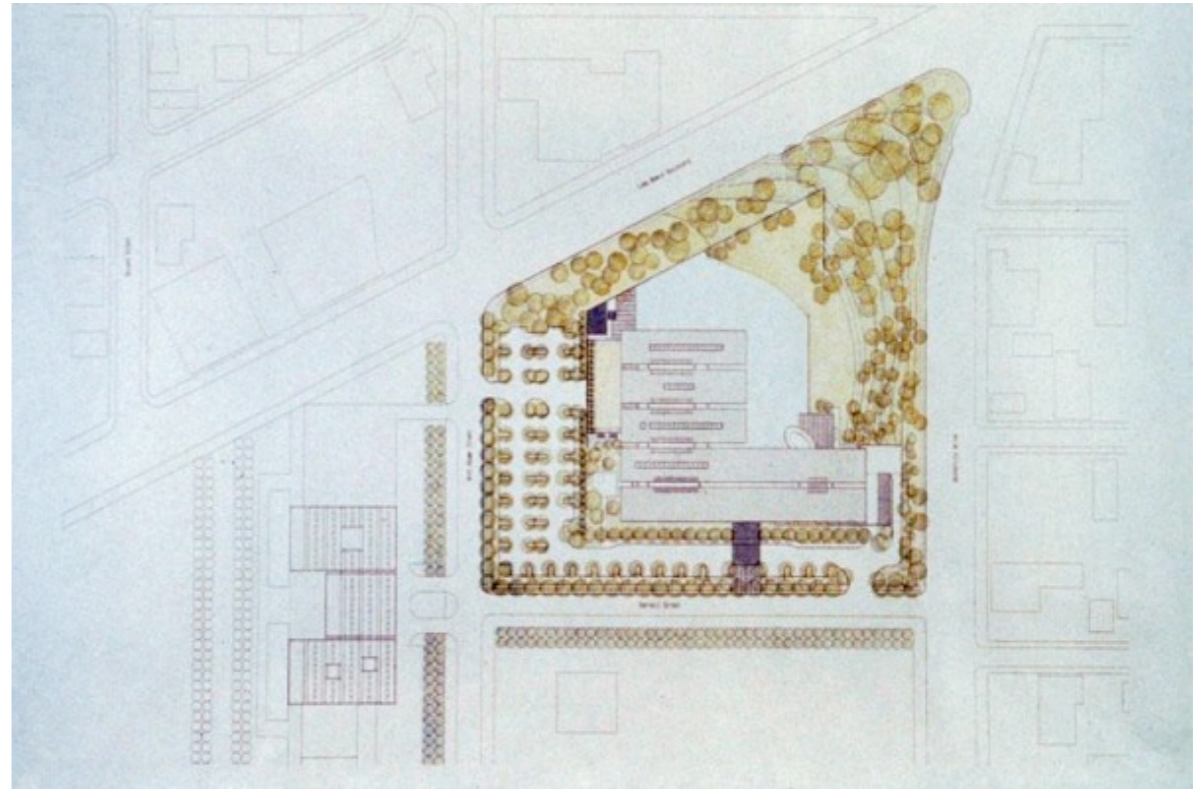
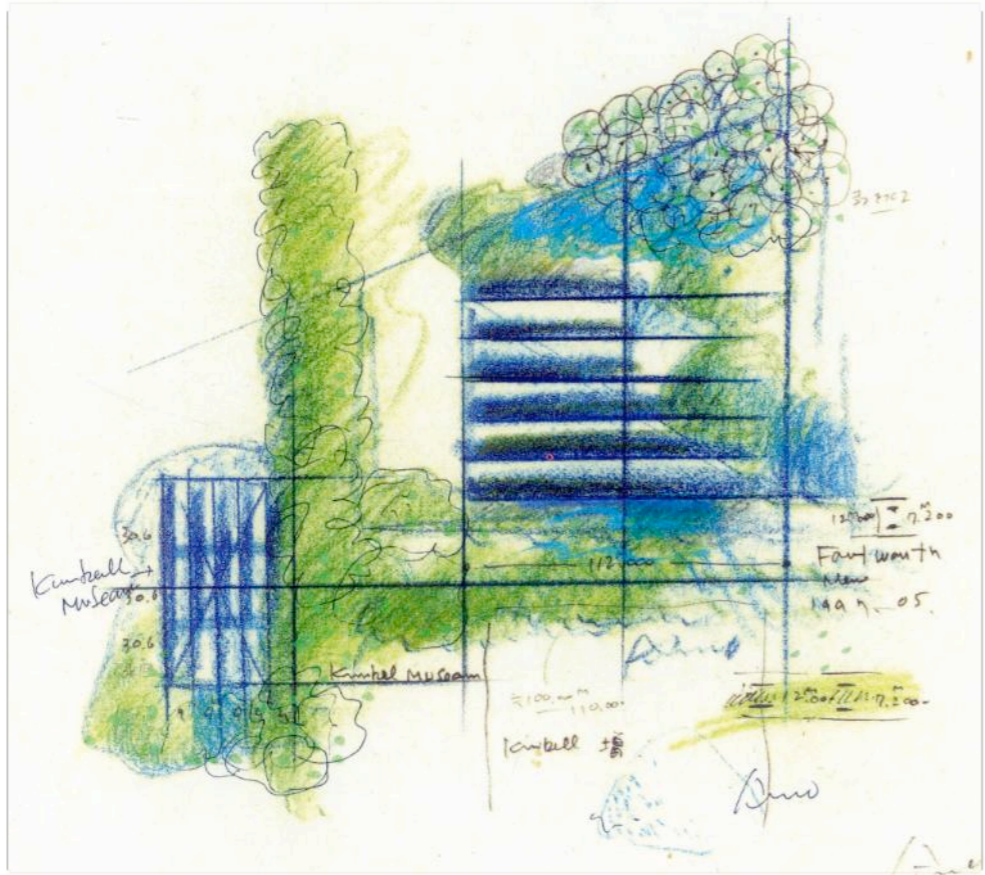


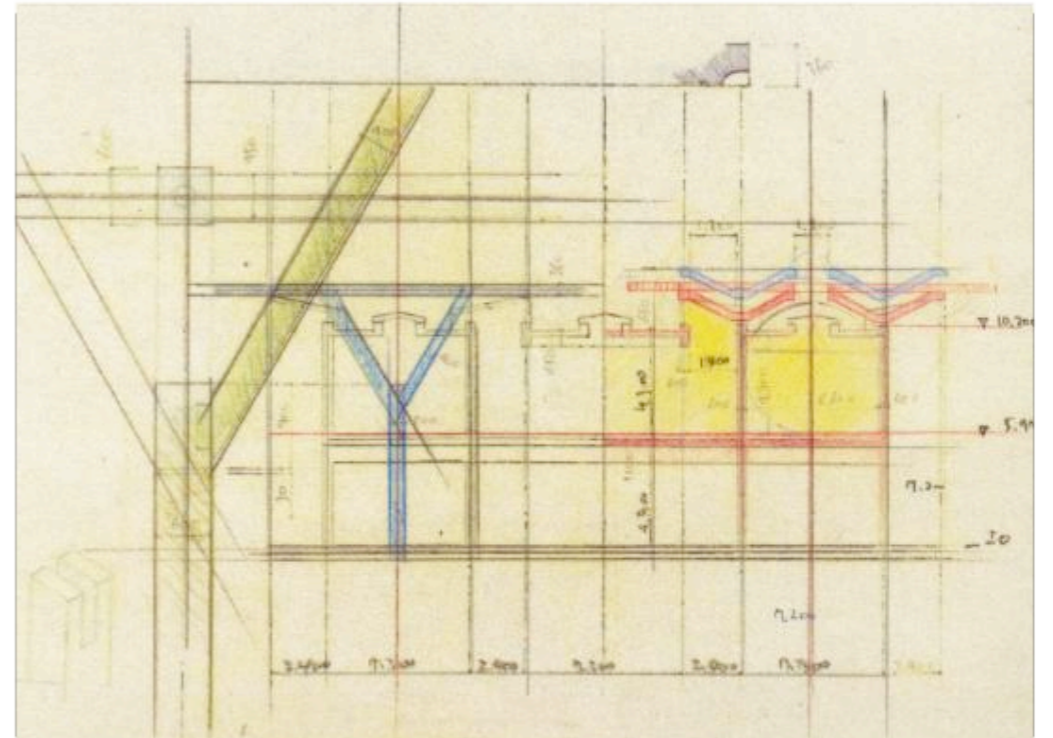
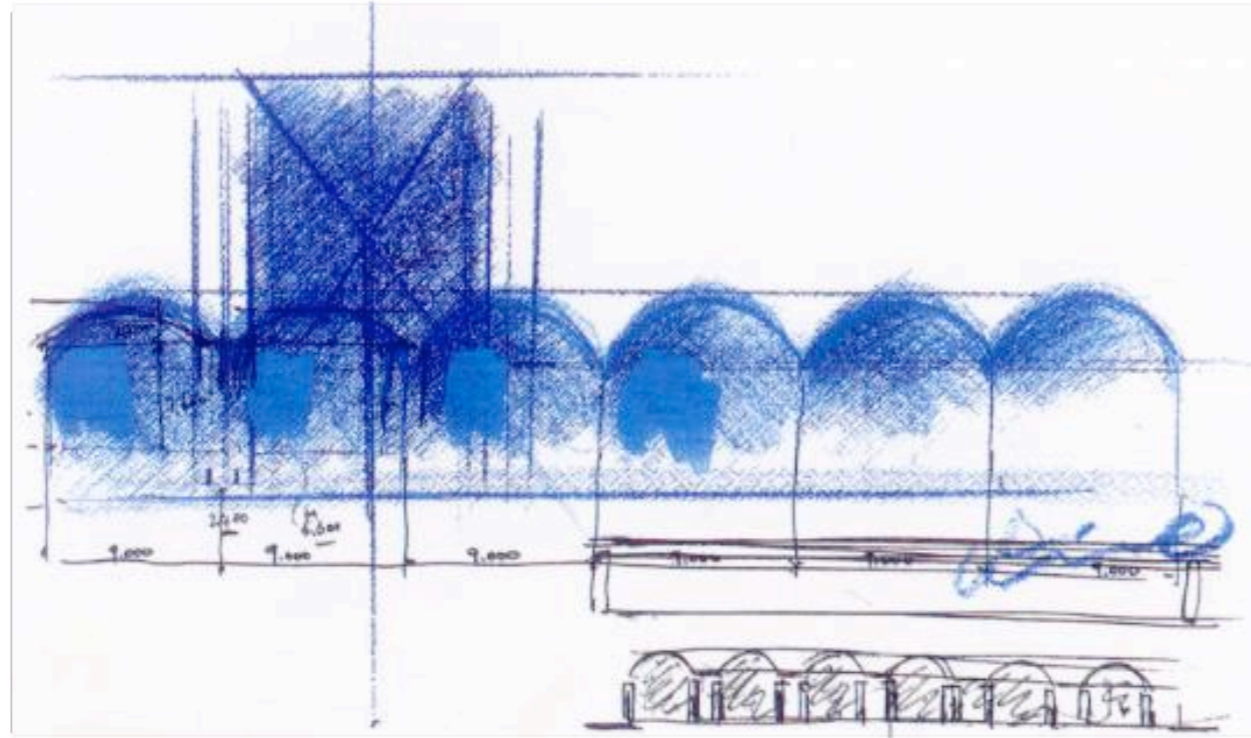
“The Kimbell is a very elegant building, but more importantly it provides a sense of order that very few architects of the twentieth century have achieved. **I think the architectural space creates consciousness, an awareness of a larger universal rhythm and balance....**

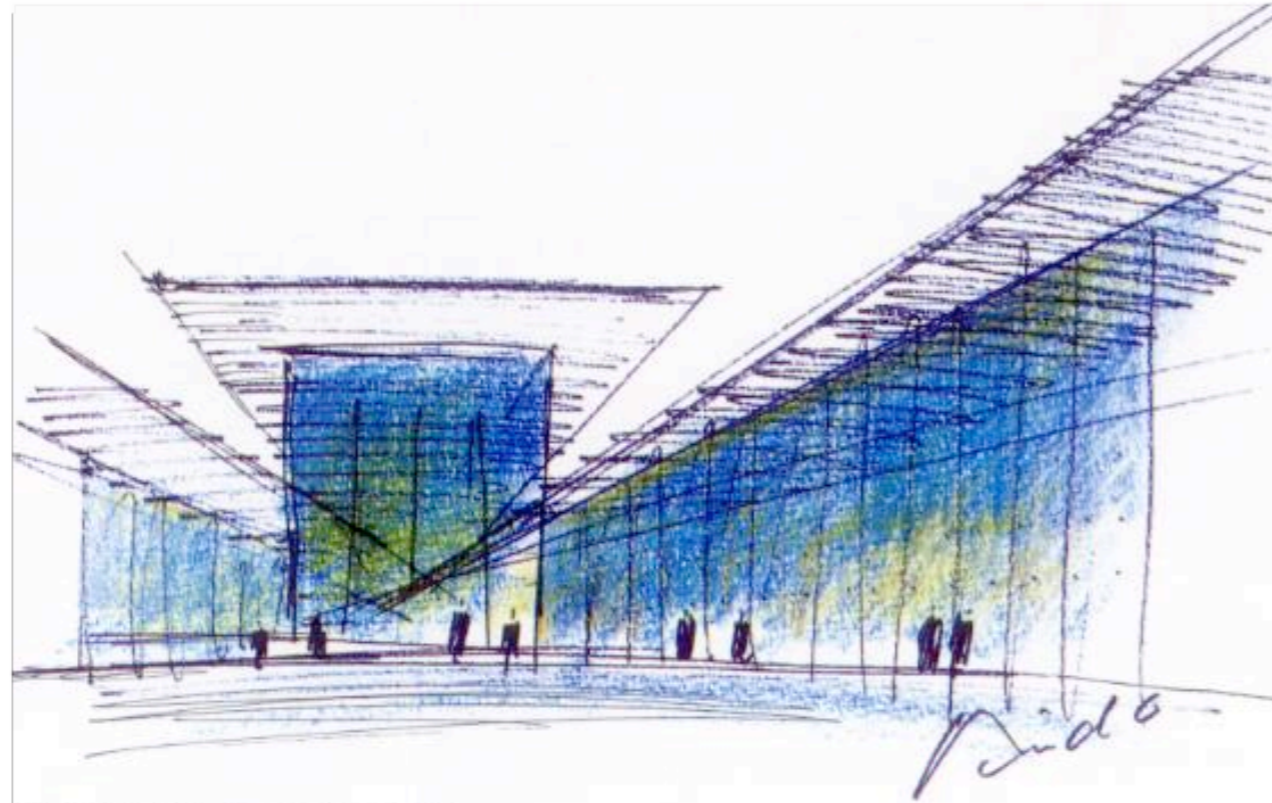
We are then allowed to measure ourselves against it, to discover our own balance, to discover our own consciousness within this larger order”

Tadao Ando, pg. 41



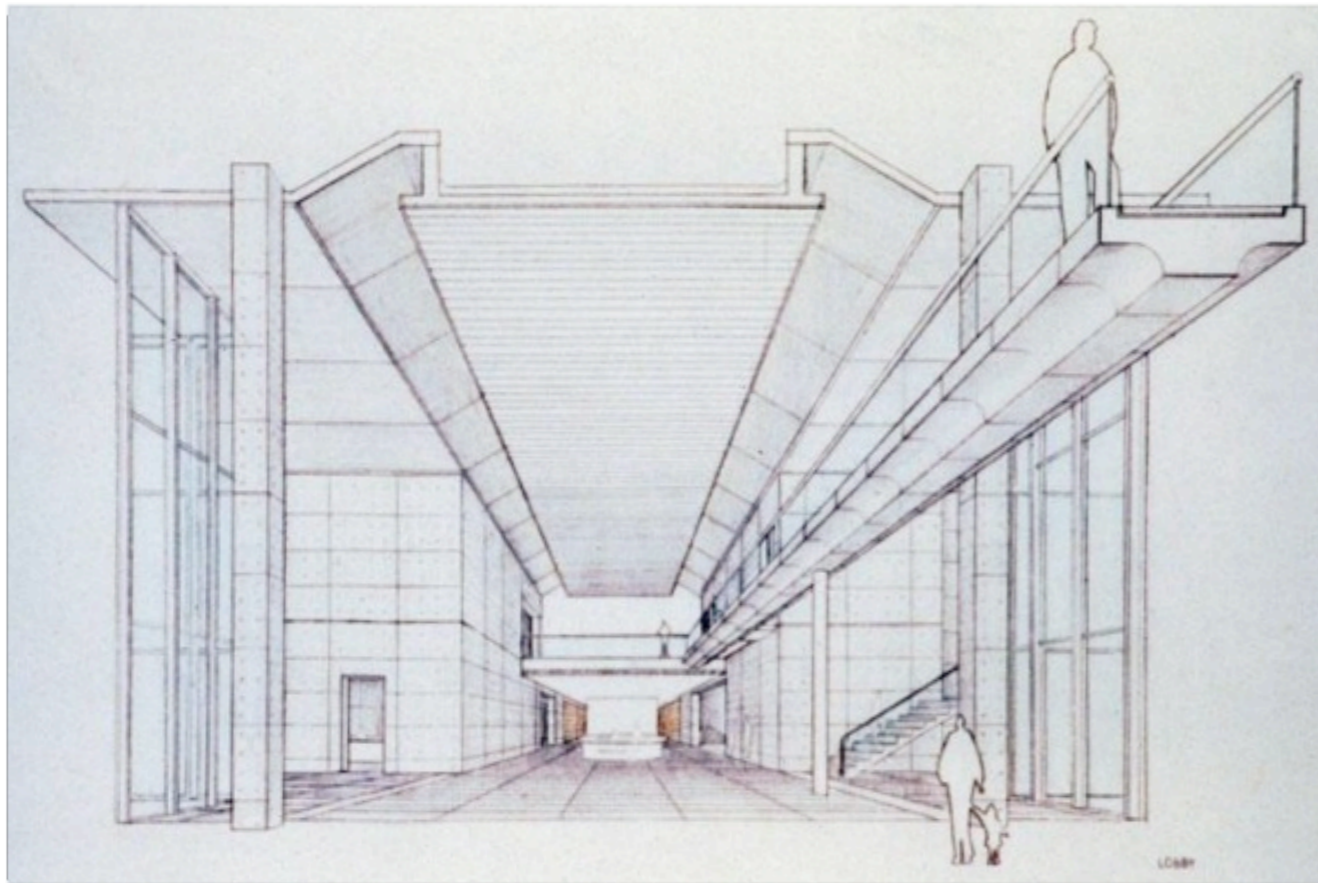






Schematic design study

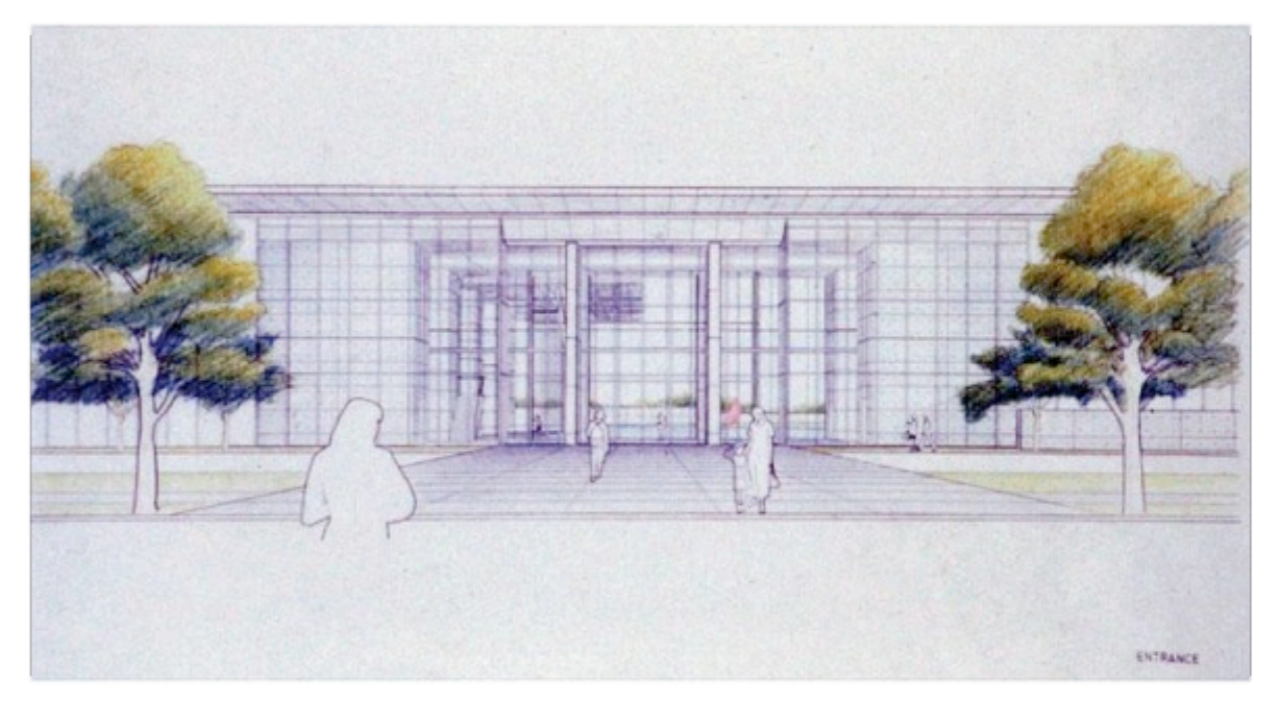
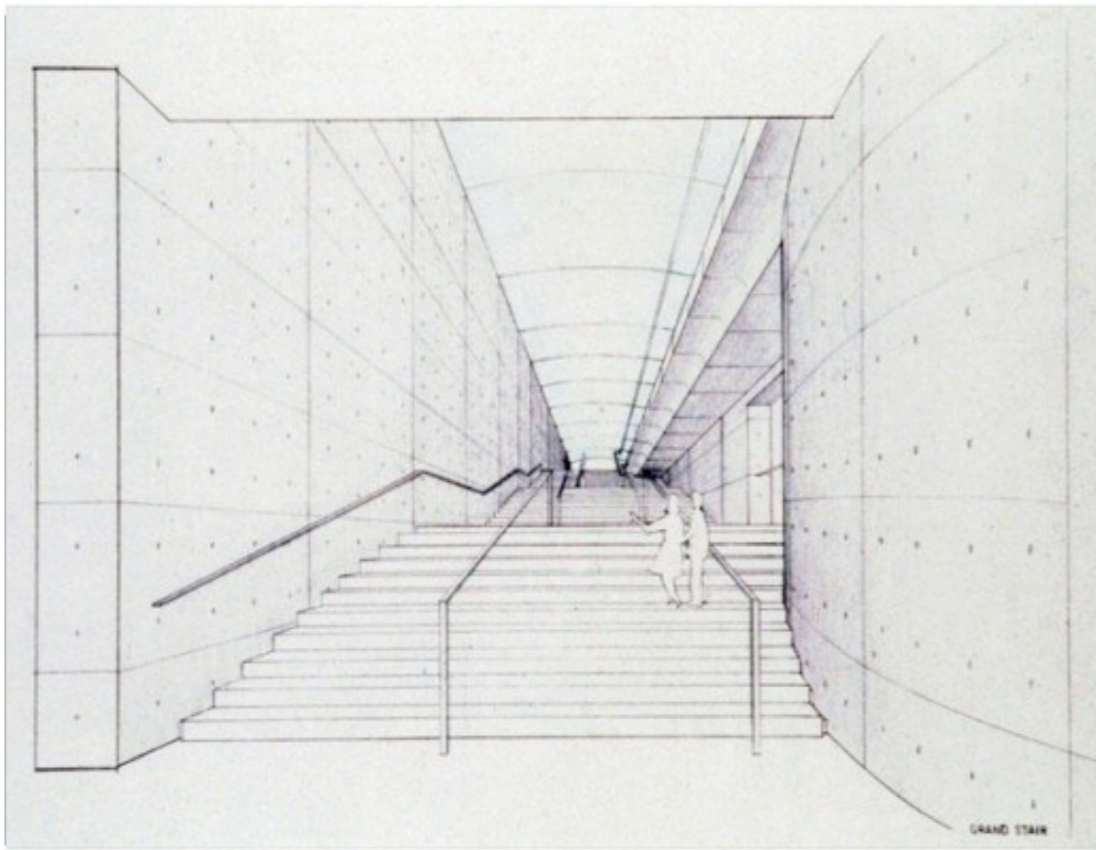




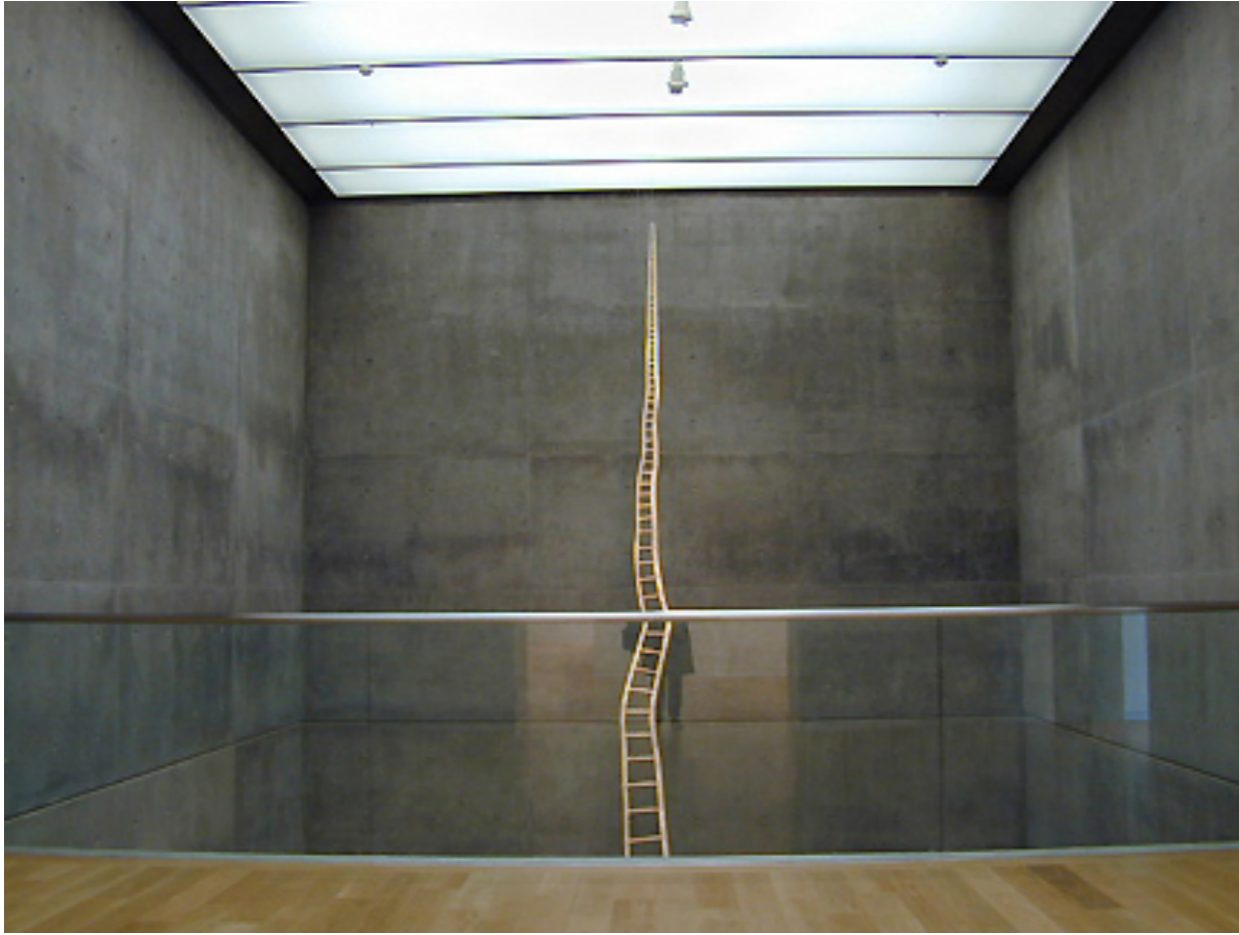
“ I would not call it homage to Kahn because these pavilions arose from my urge to create a relationship between the horizontal and the vertical, which is of course an eternal challenge....**I would like to relate to Kahn’s building subtly, without competing with it or mimicking it.** Because the buildings are across from each other and in close proximity, I think it is important that the relationship be felt intuitively and not drastically.”

Tadao Ando, pg. 44





materiality

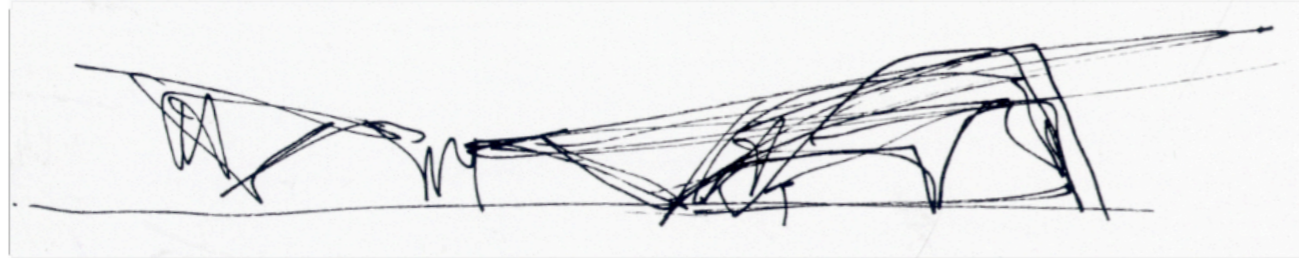


concrete  
glass  
light  
water  
gravel

# ASYMPTOTE

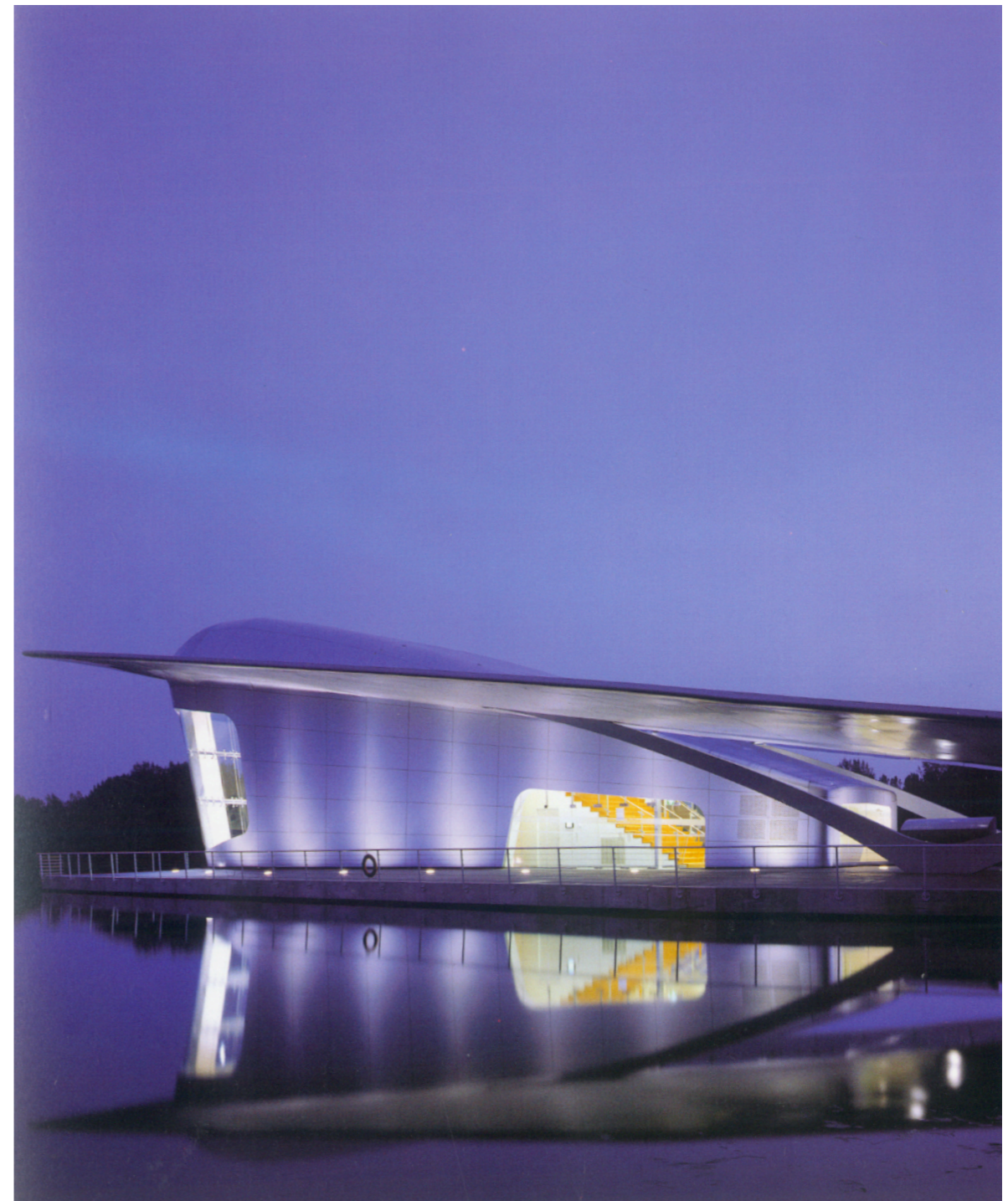
## HYDRA PIER

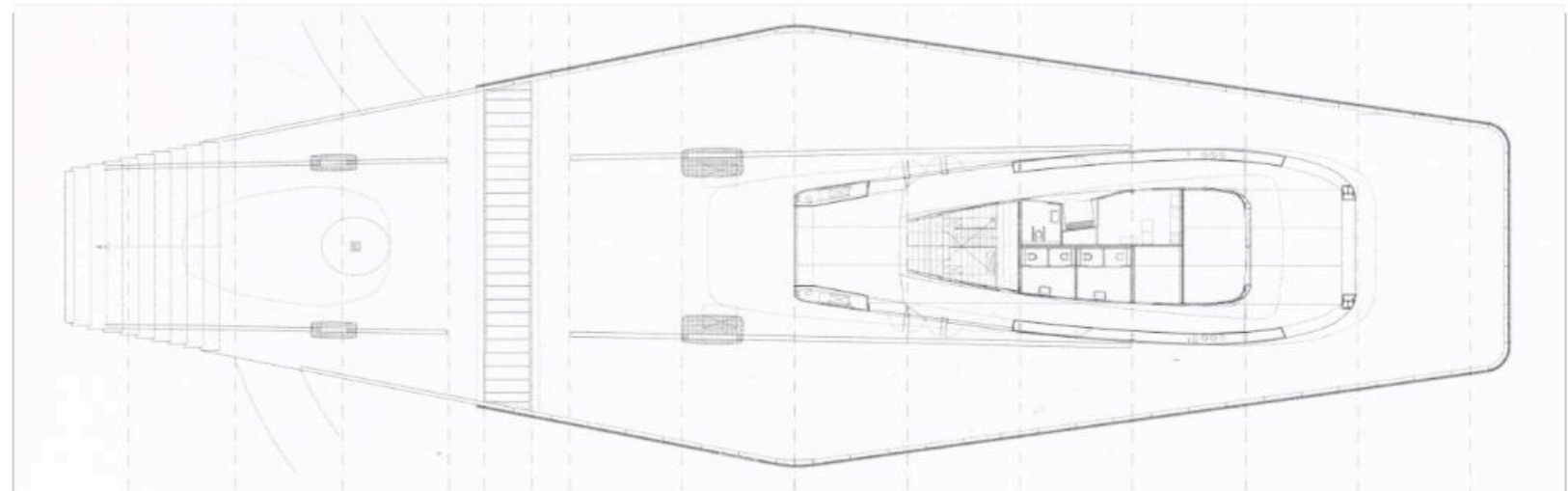
HAARLEMMERMEER, THE NETHERLANDS



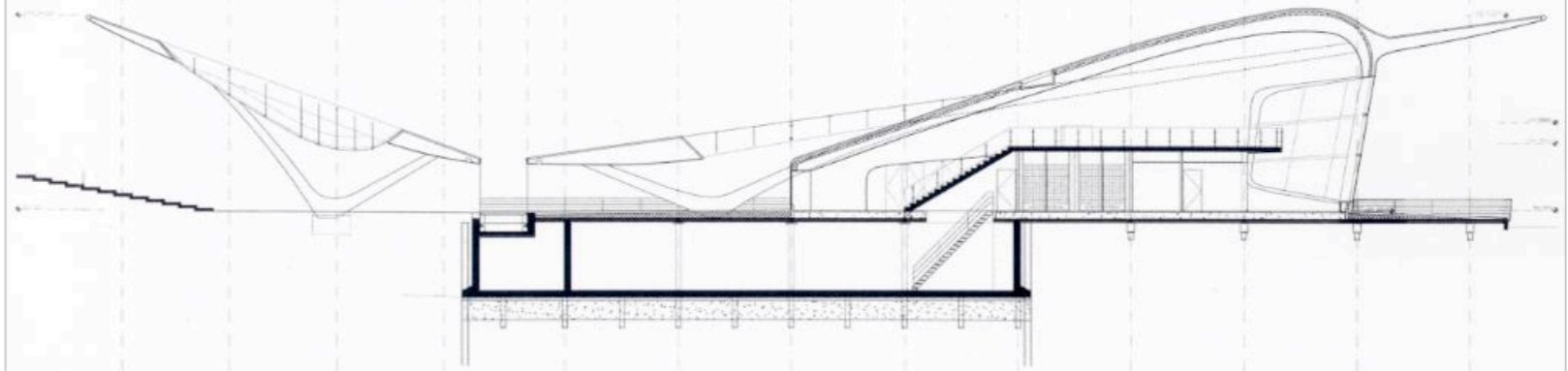
**“Hydra-Pier... attempts to appear dematerialized, computer-generated and liquid by virtue of the fact that it is realized formally and tectonically. We drew on ideas pertaining to the virtual that go back as far as seventeenth-century waterworks, spectacles and follies. In the case of the Hydra-Pier, the water running over the roof of the building is not a spectacle of the movement of water but a spectacle of the dematerialization of the building mass...”**

Asymptote

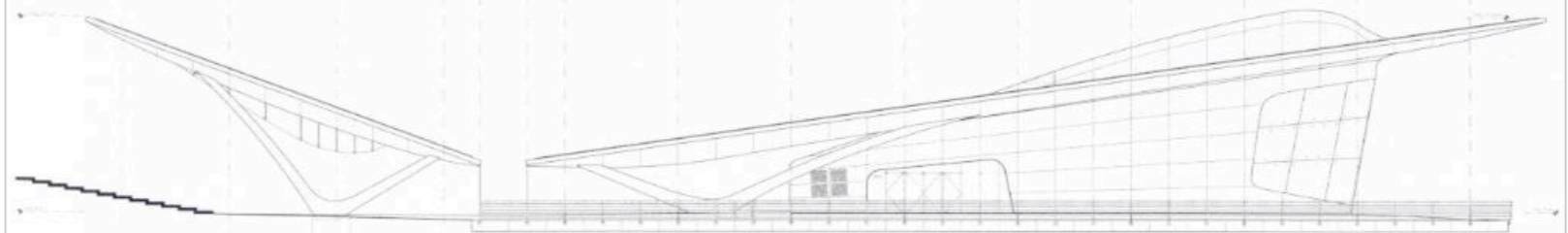




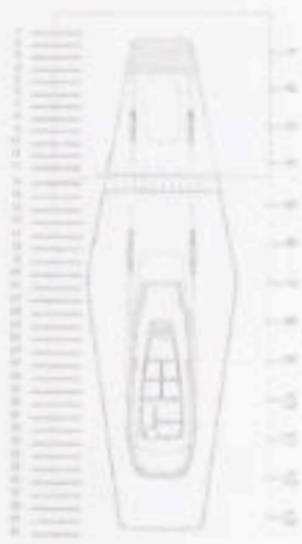
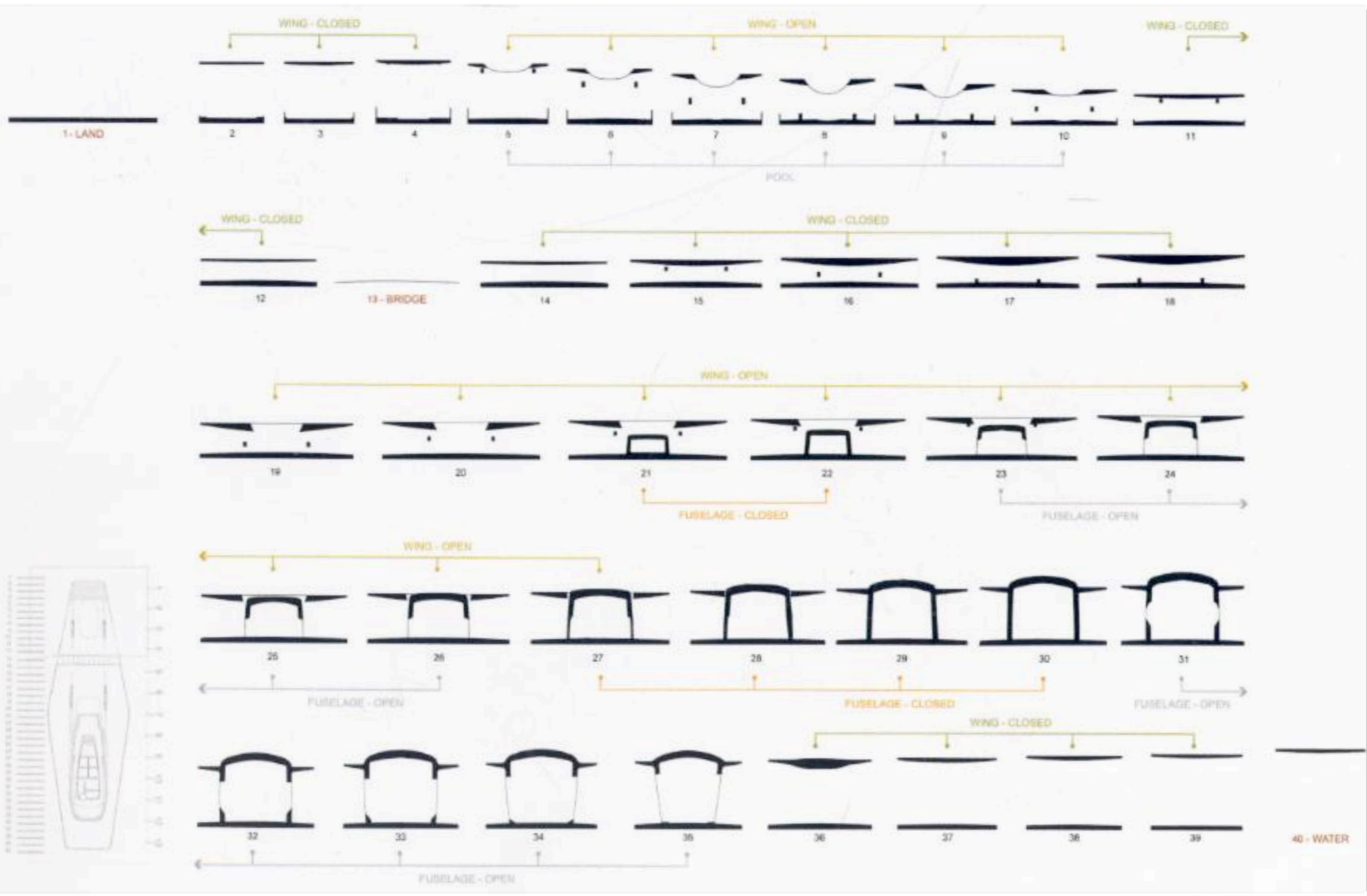
Floor plan



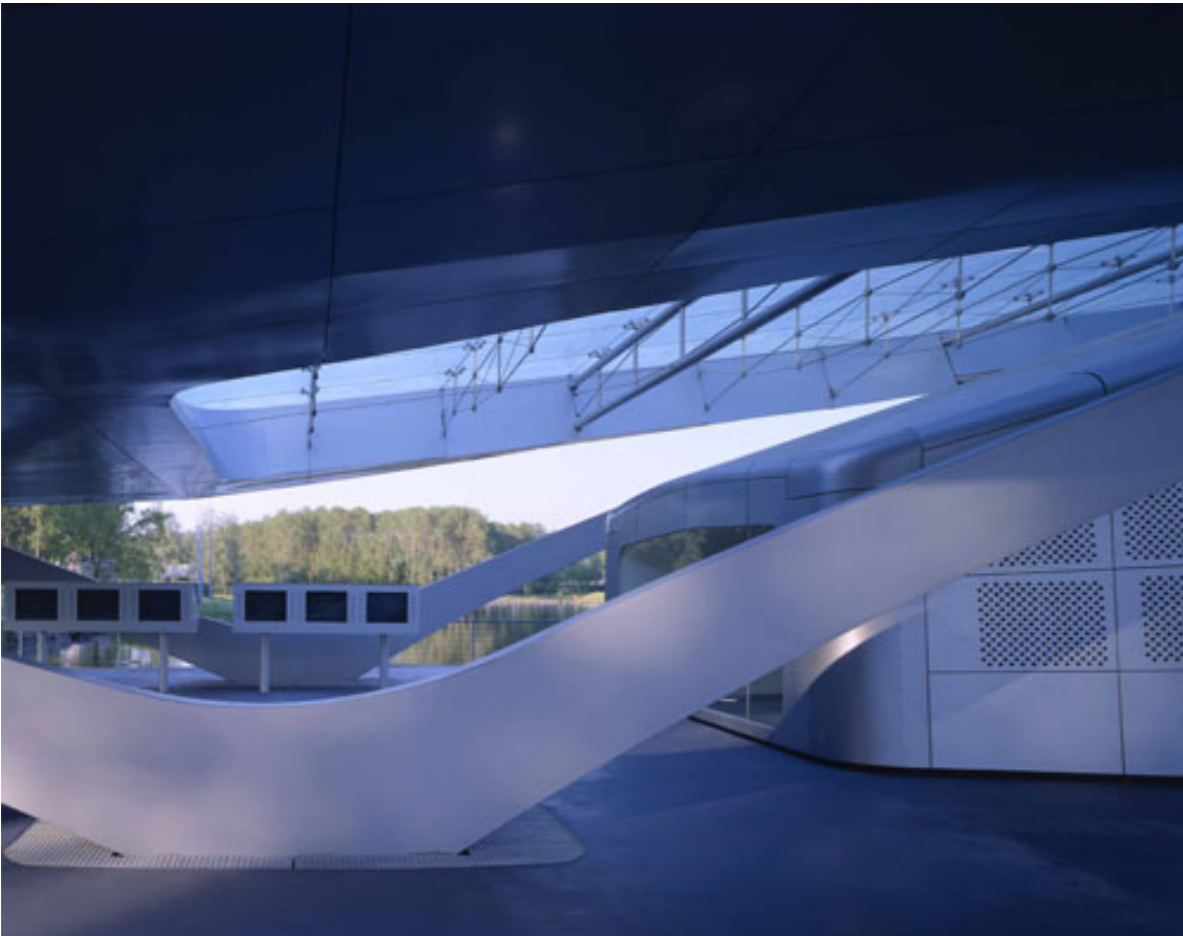
Longitudinal section



Longitudinal section







# STEVEN HOLL

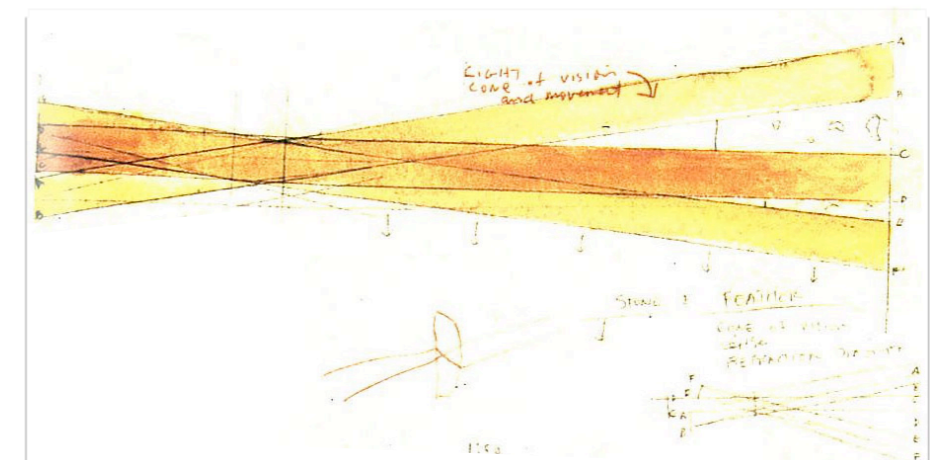
## NELSON ATKINS MUSEUM

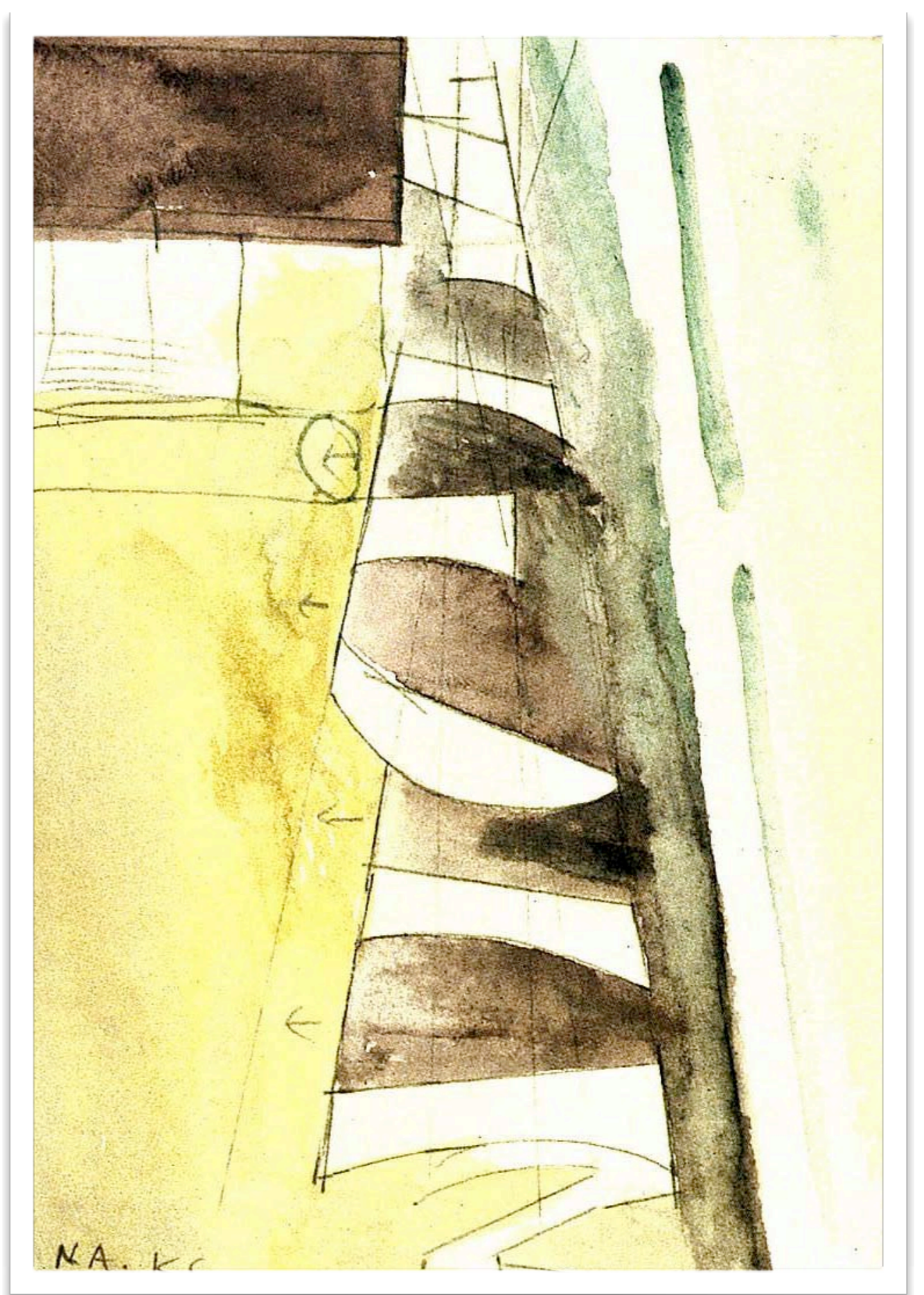
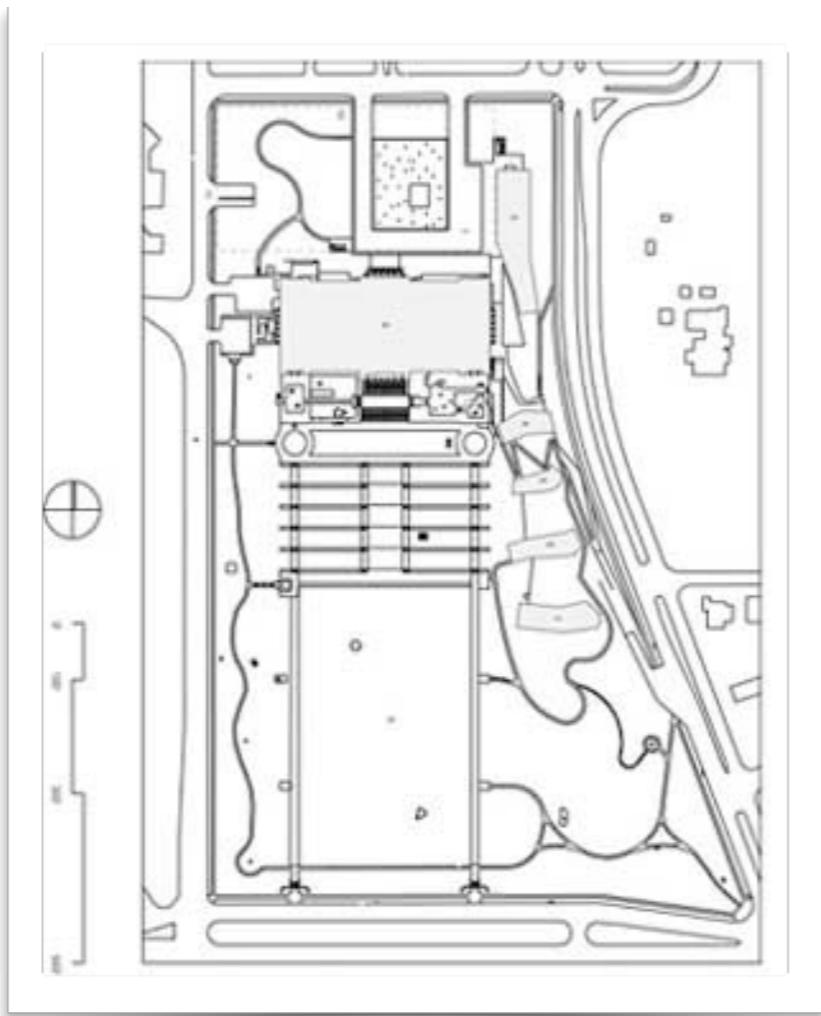
KANSAS CITY, MISSOURI, USA

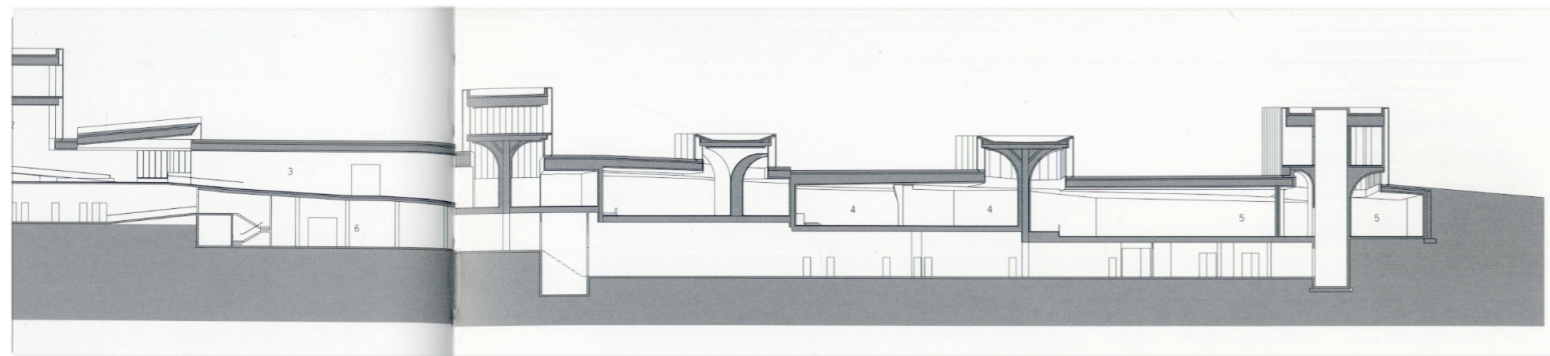
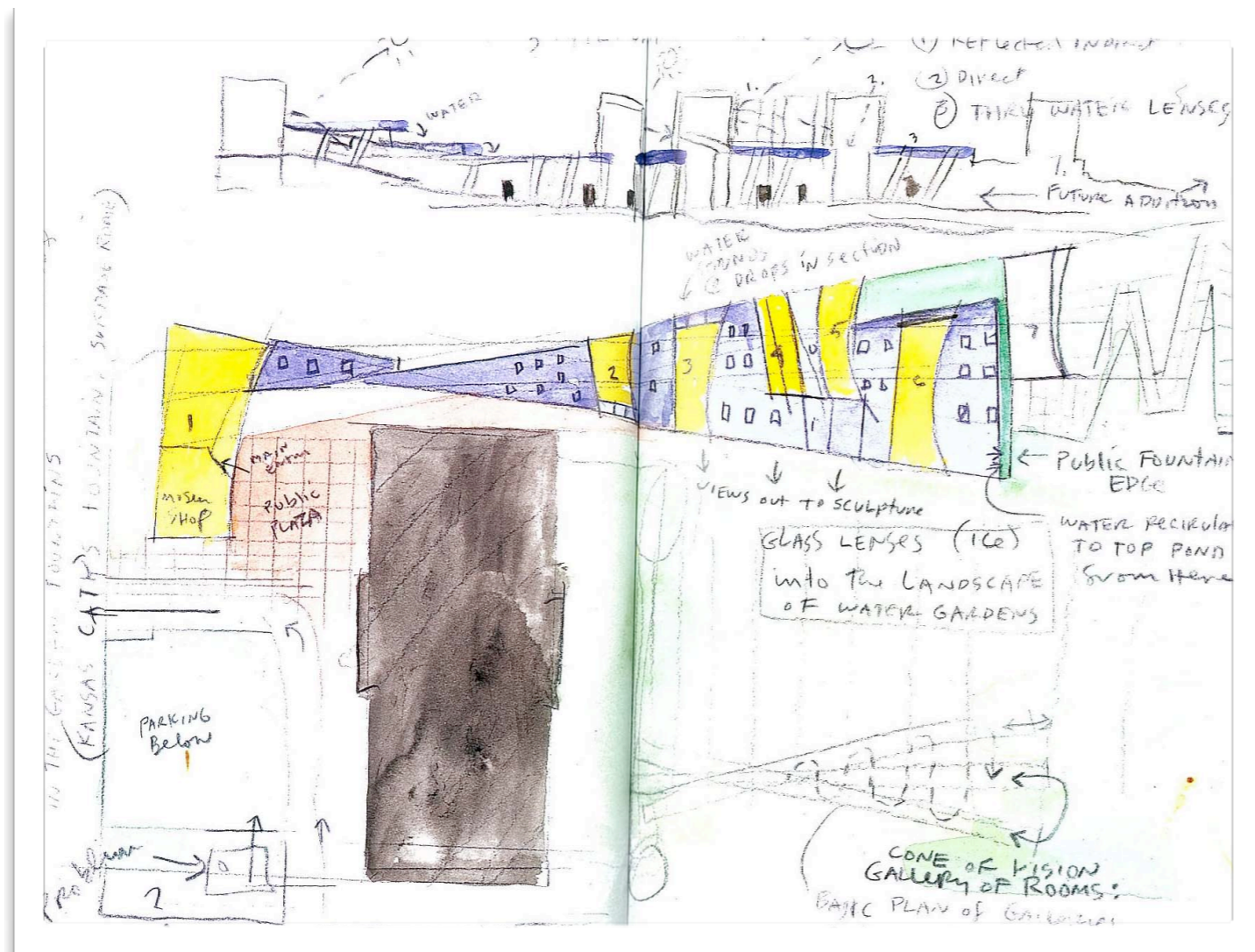


“I enjoy the fact that held in this series of lenses that apparently sit in the grass is a whole exhilarating realm that has to be experienced, and in a way it is the character of the place... I really like the muteness of the outside, when it comes with the exhilaration of the spaces inside”

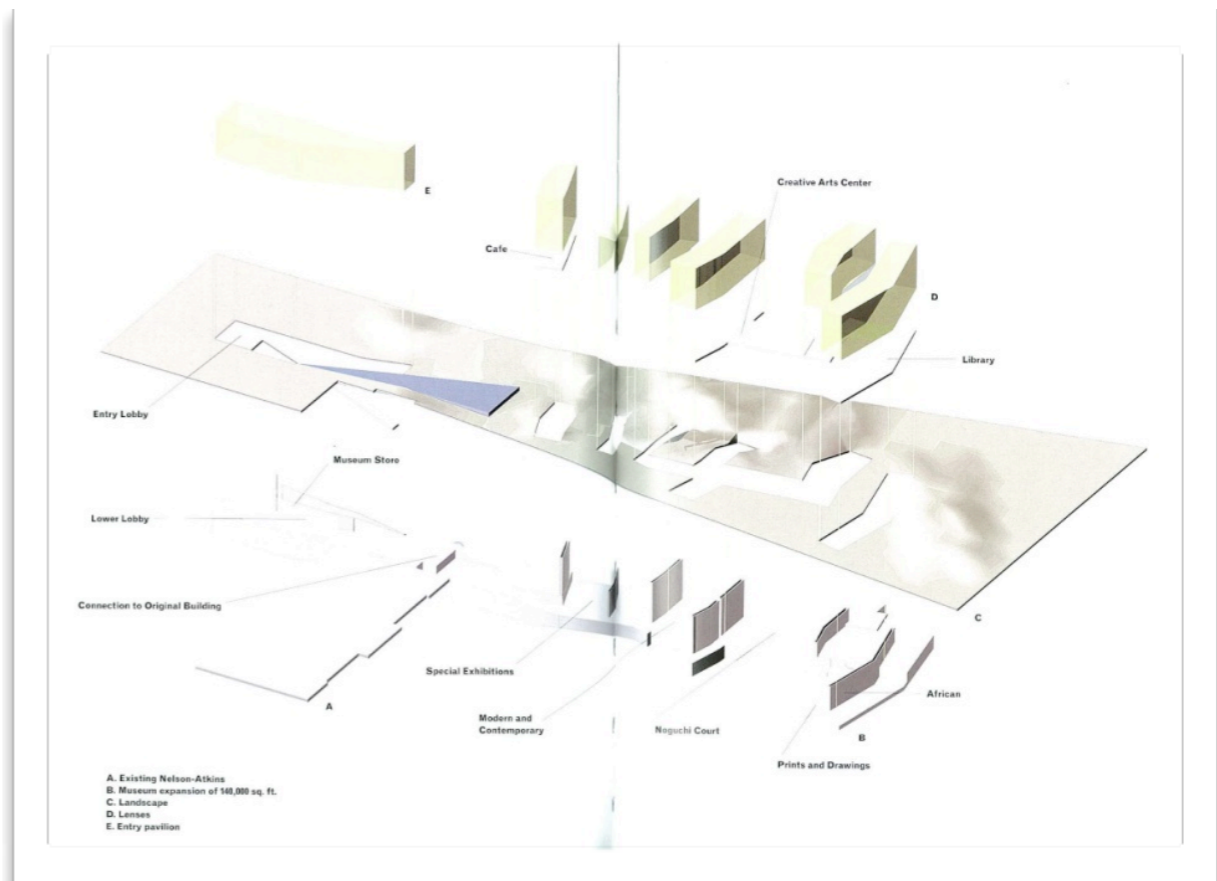
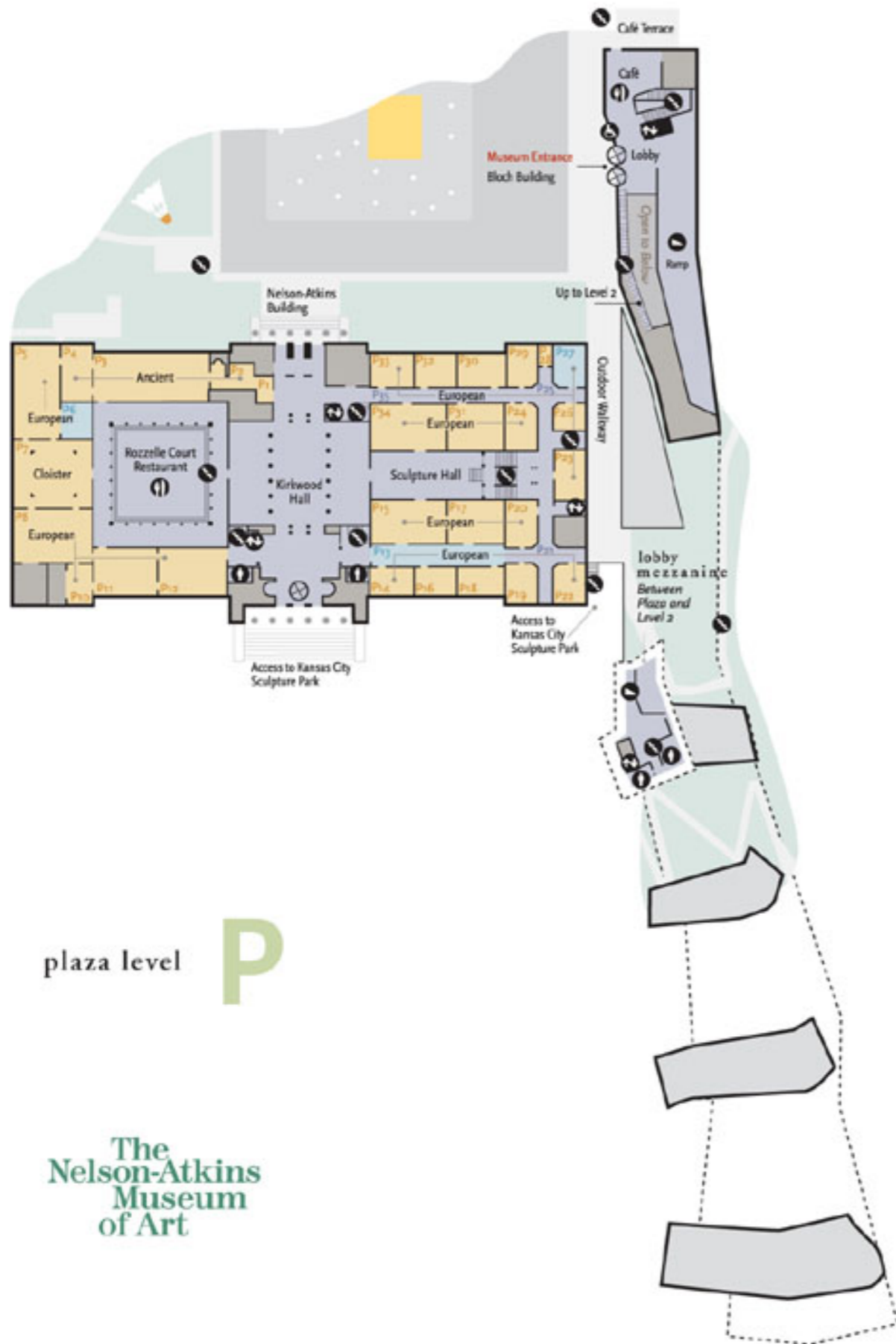
Steven Holl, Architecture Spoken p. 275

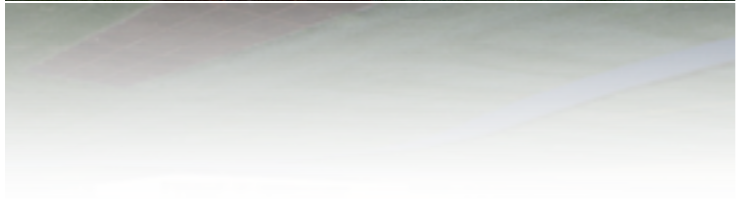
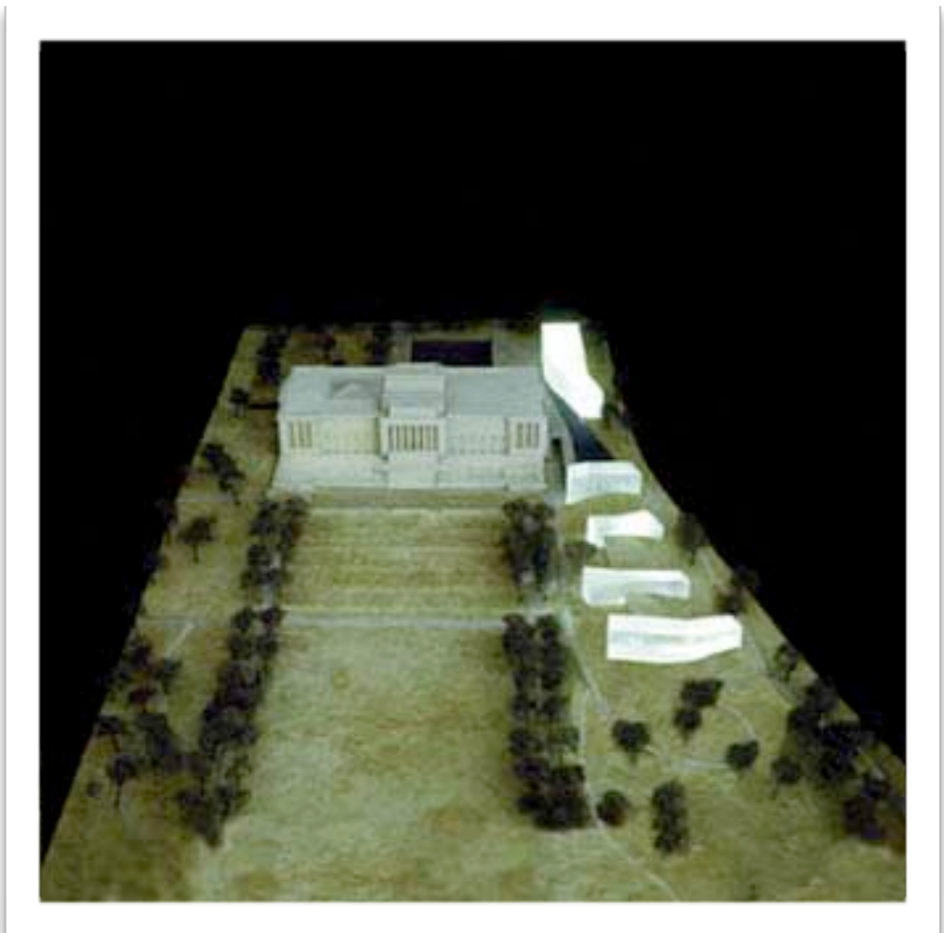
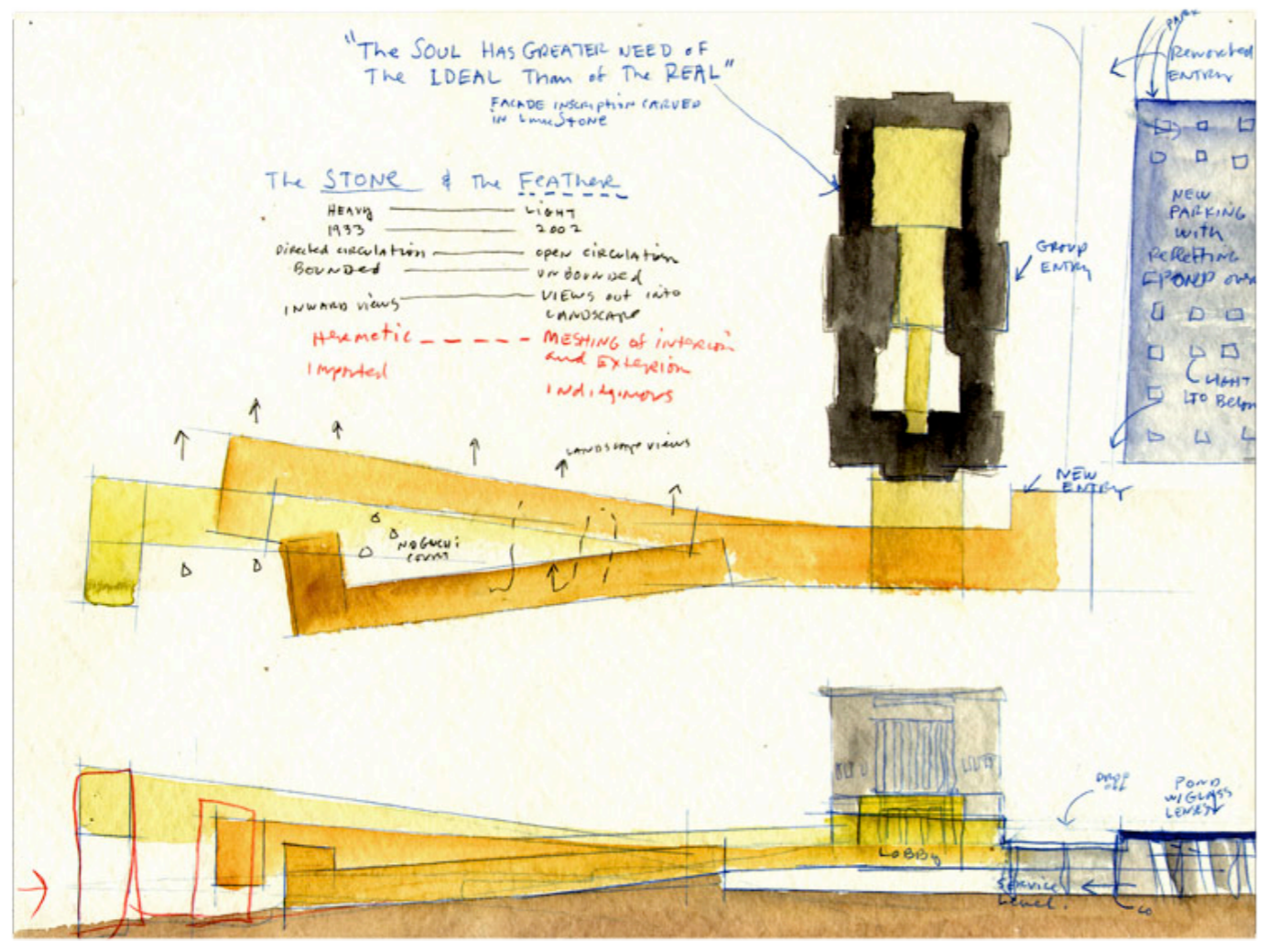


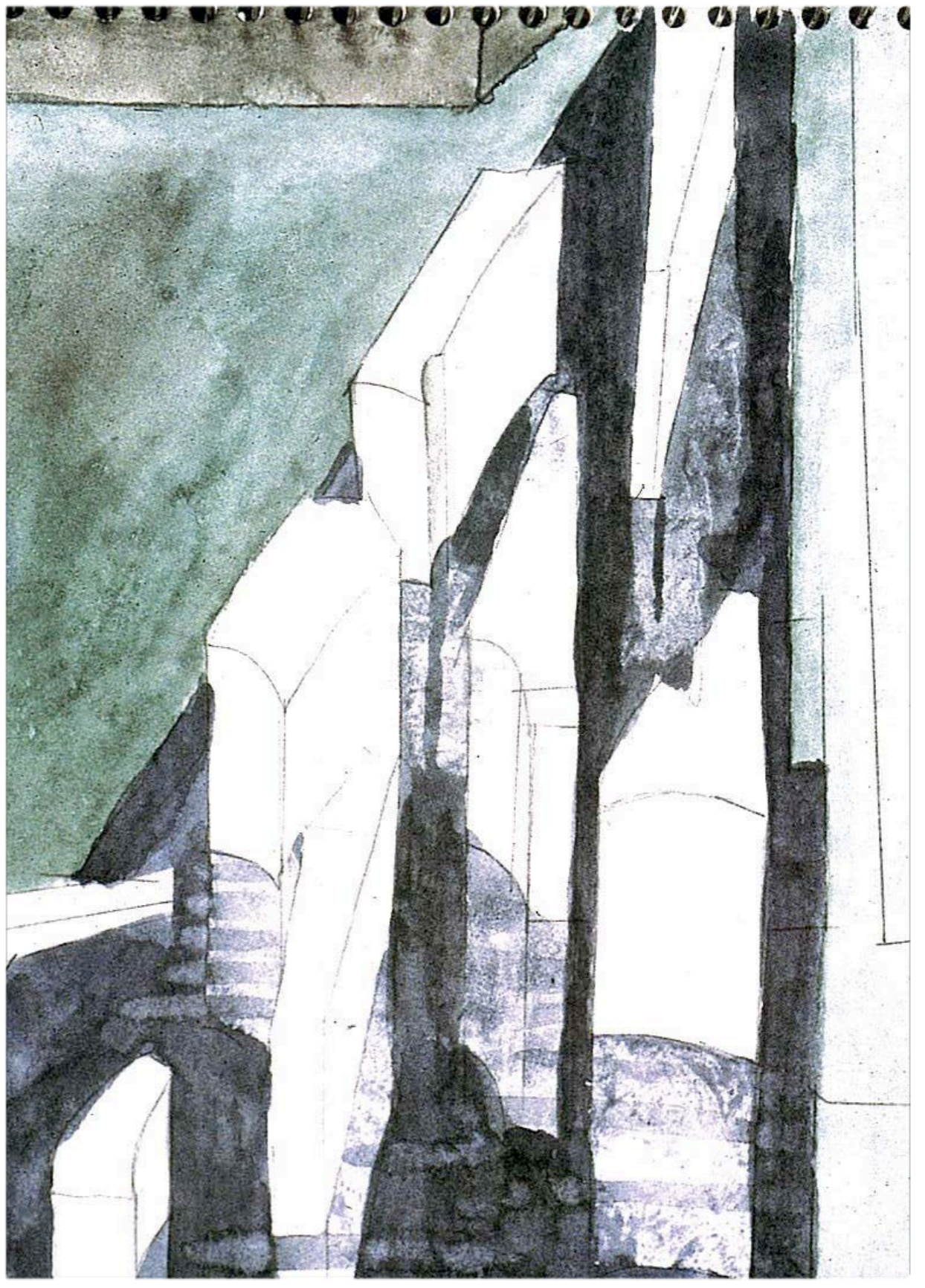
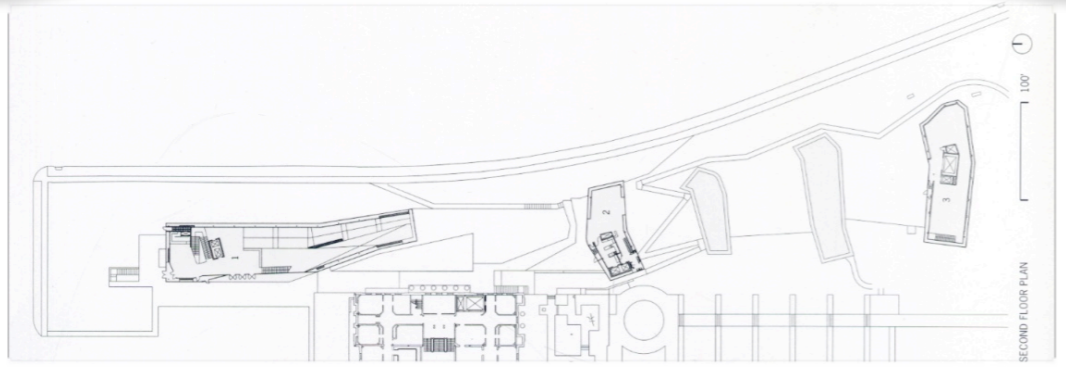
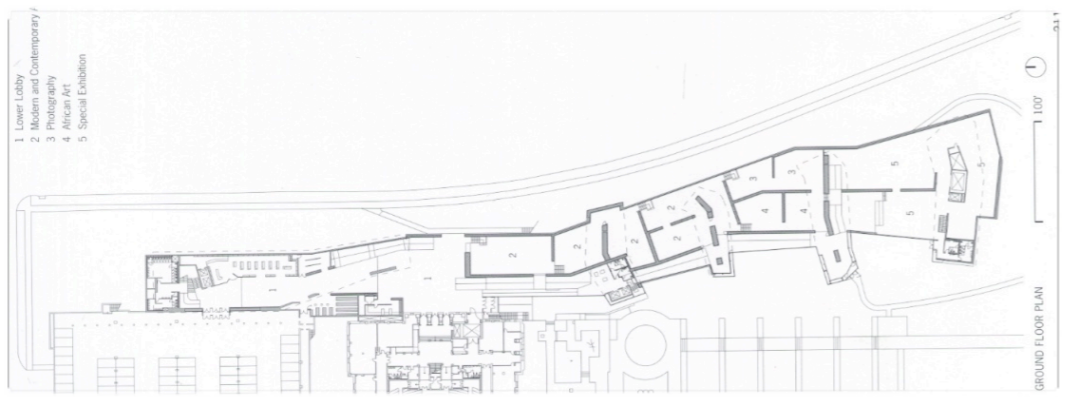


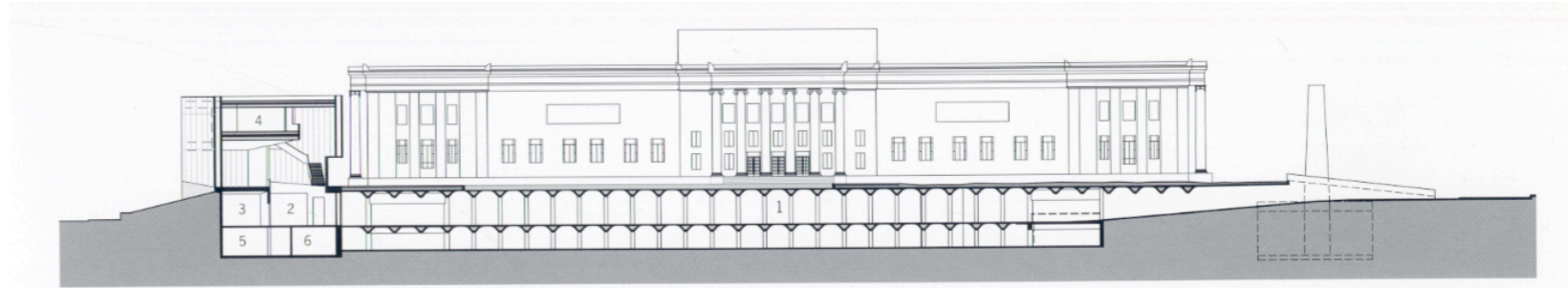


A drawing has two lives: a dialogue with the architect at the time of the actual drawing and an afterlife, during which others view and interact with it.

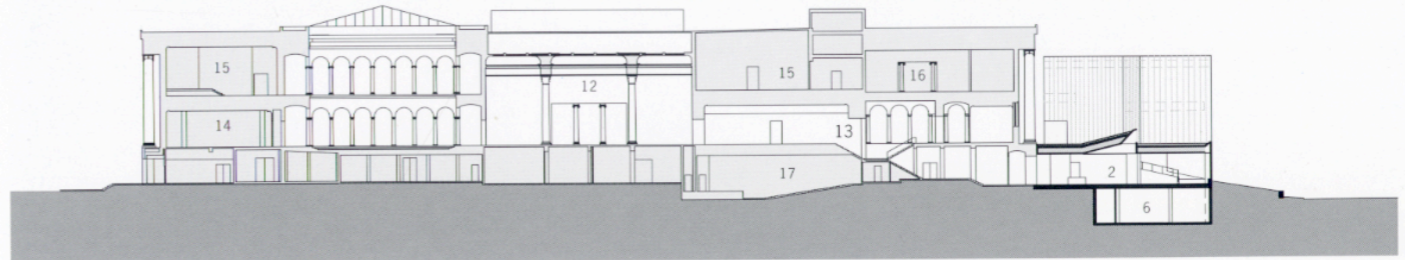




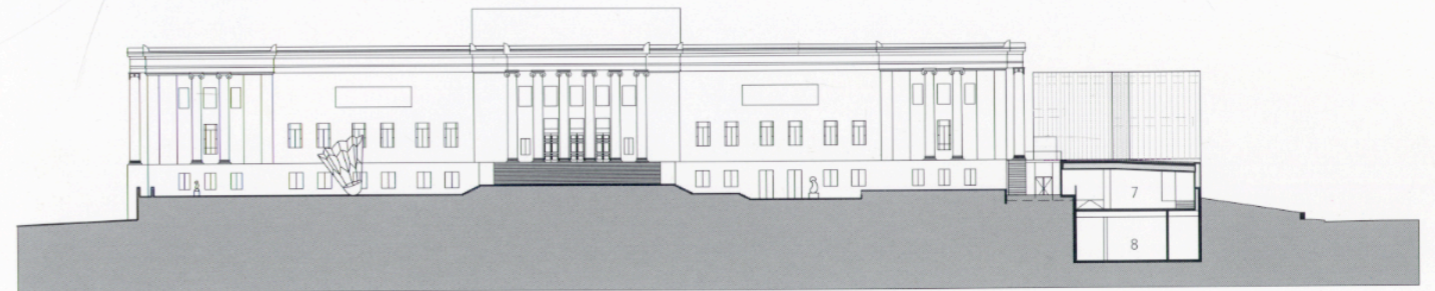




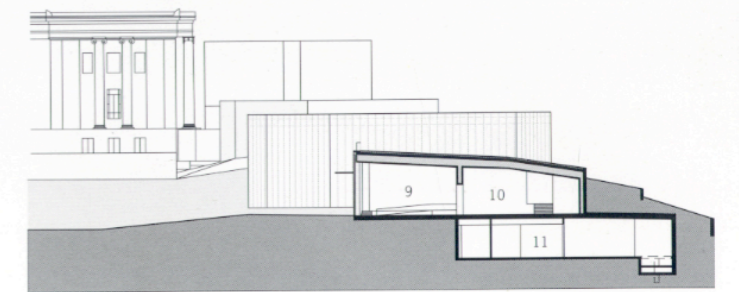
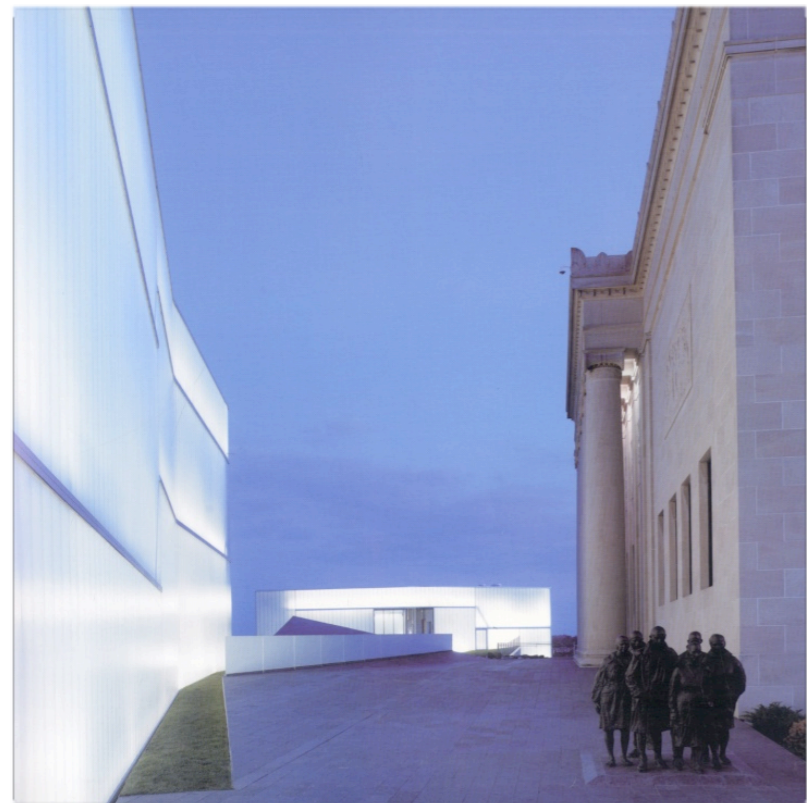
CROSS SECTION THROUGH MAIN LOBBY & GARAGE



CROSS SECTION THROUGH LOWER LOBBY & EXISTING BUILDING

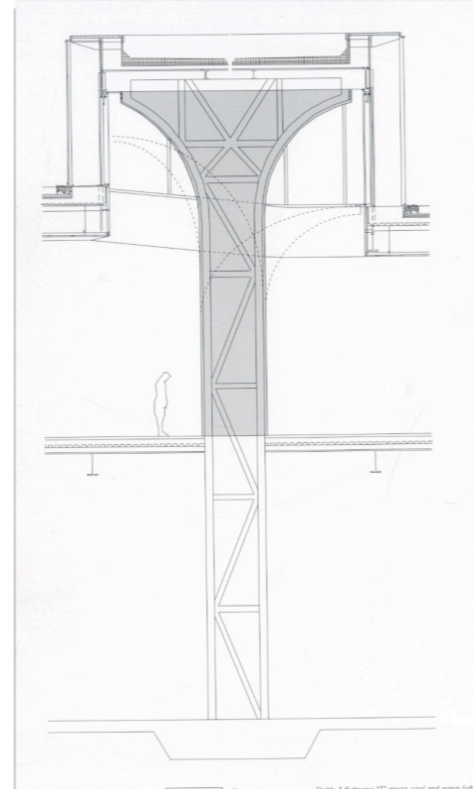
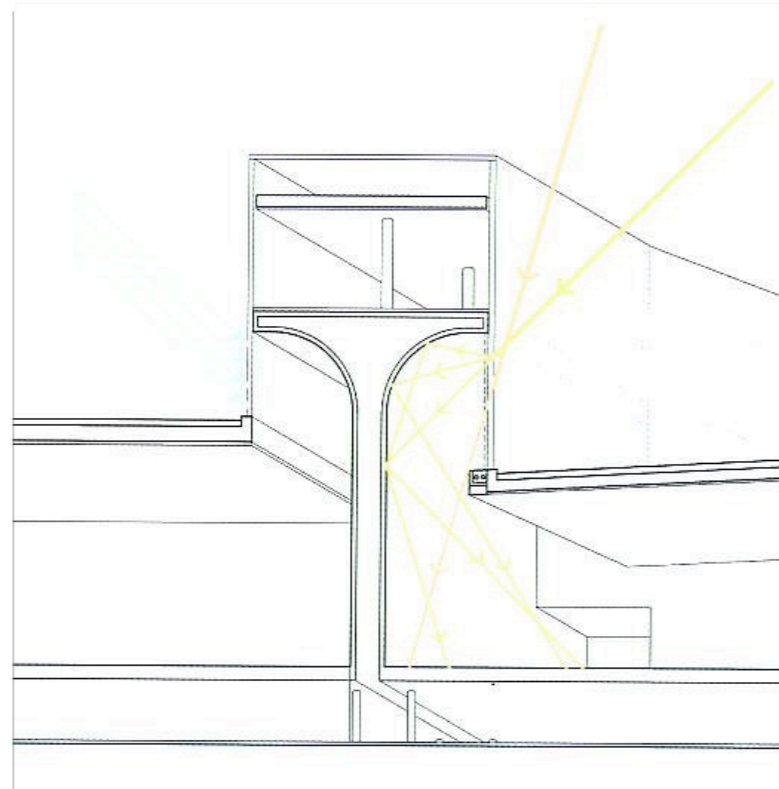
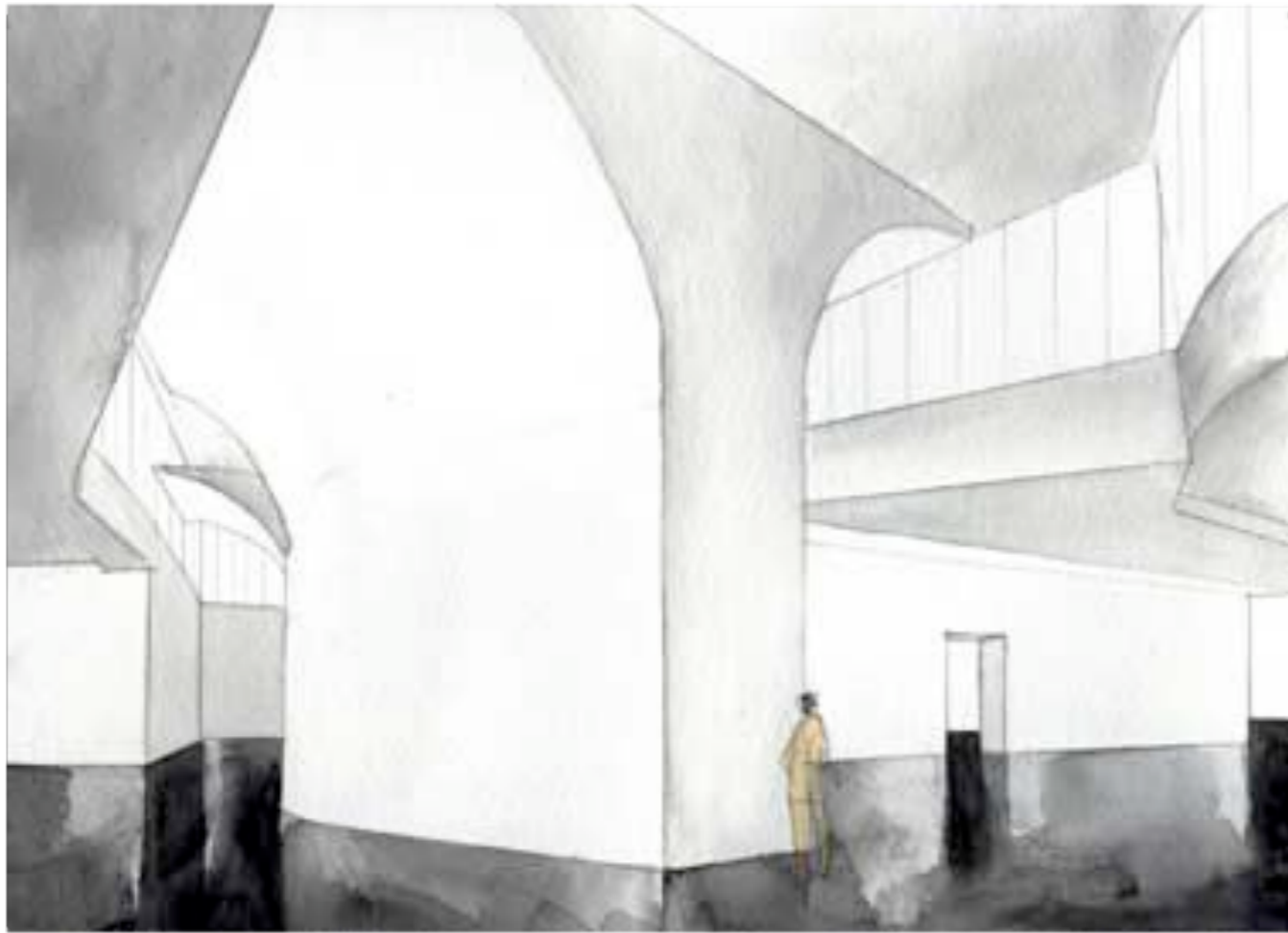


CROSS SECTION THROUGH MODERN & CONTEMPORARY GALLERIES



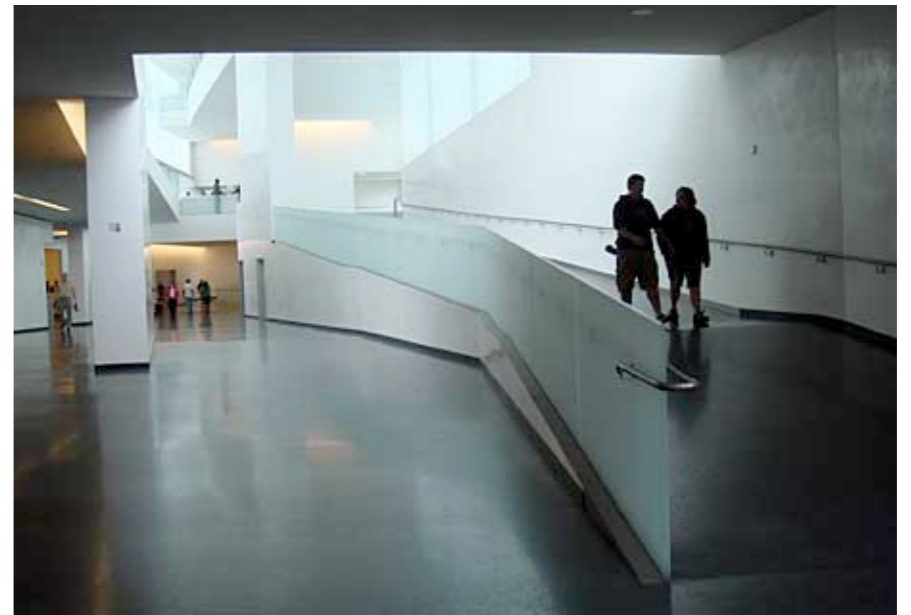
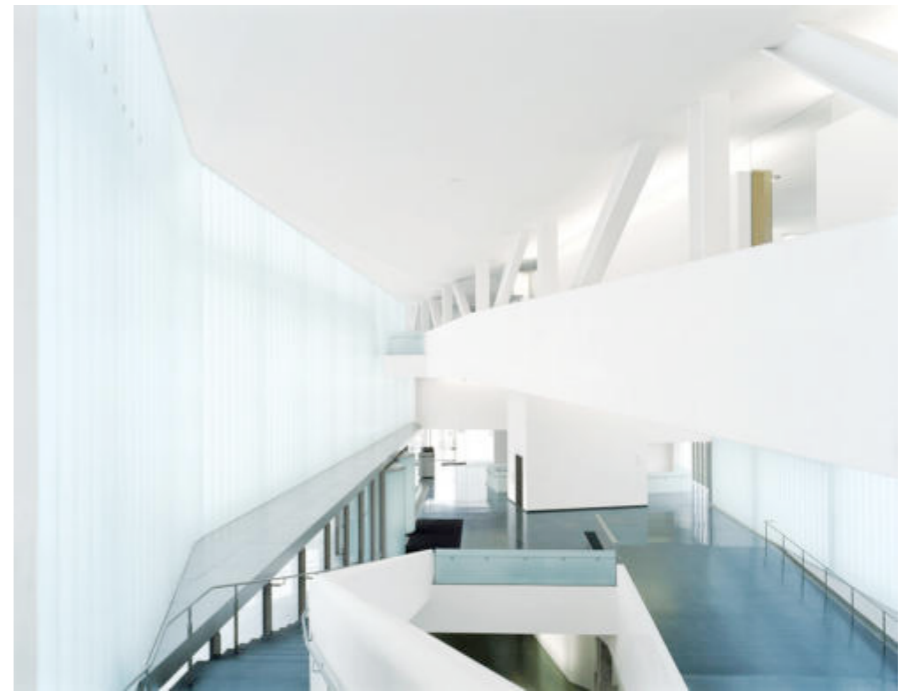
CROSS SECTION THROUGH NOGUCHI COURT & SPECIAL EXHIBITION

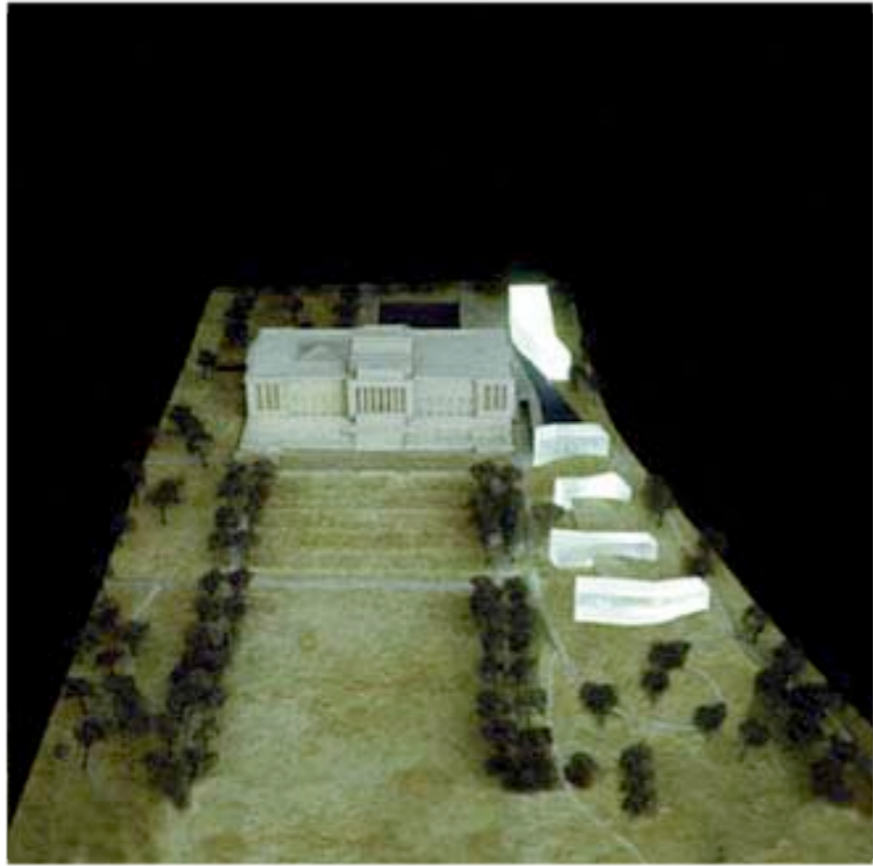
- |                             |                        |
|-----------------------------|------------------------|
| 1 Parking Garage            | 10 Special Exhibition  |
| 2 Lobby                     | 11 Art Receiving       |
| 3 Museum Store              | 12 Existing Building   |
| 4 Library                   | 13 New Opening & Stair |
| 5 Stacks                    | 14 European Art        |
| 6 Mechanical                | 15 Asian Art           |
| 7 Modern & Contemporary Art | 16 American Art        |
| 8 Collection Storage        | 17 Auditorium          |
| 9 Noguchi Court             |                        |

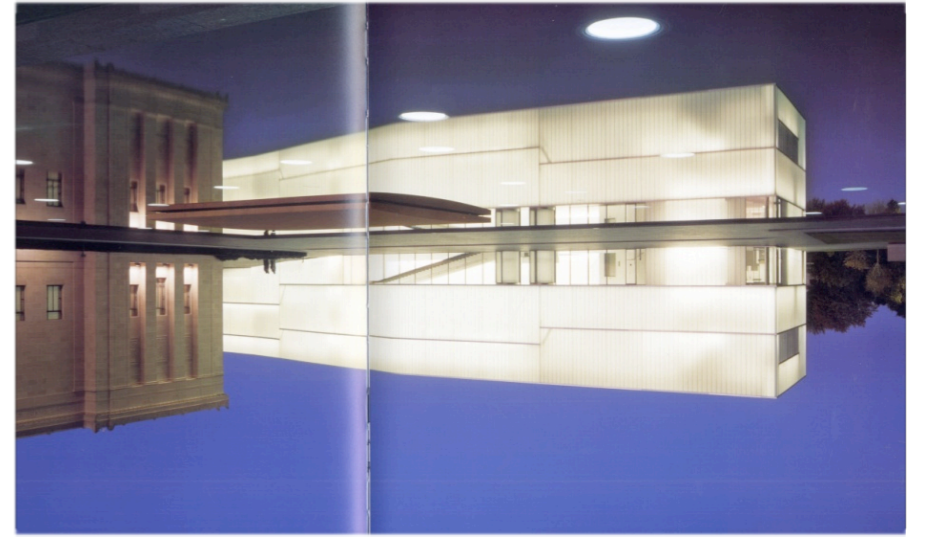


“The movement through the spaces and the way the light works are both connected and central to the feeling and the concept. When they are really working these spatial aspects are powerful, that’s the music, that’s the melody, that’s the core. You have a concept, you have a conceptual drawing – that is the seed that drives the design. Then the design is measured in the experience, and the success comes from the experiential nature.

Steven Holl, Architecture Spoken



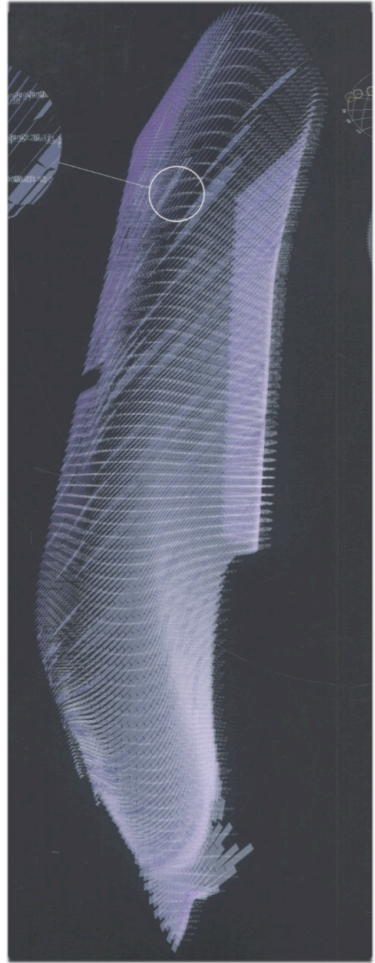


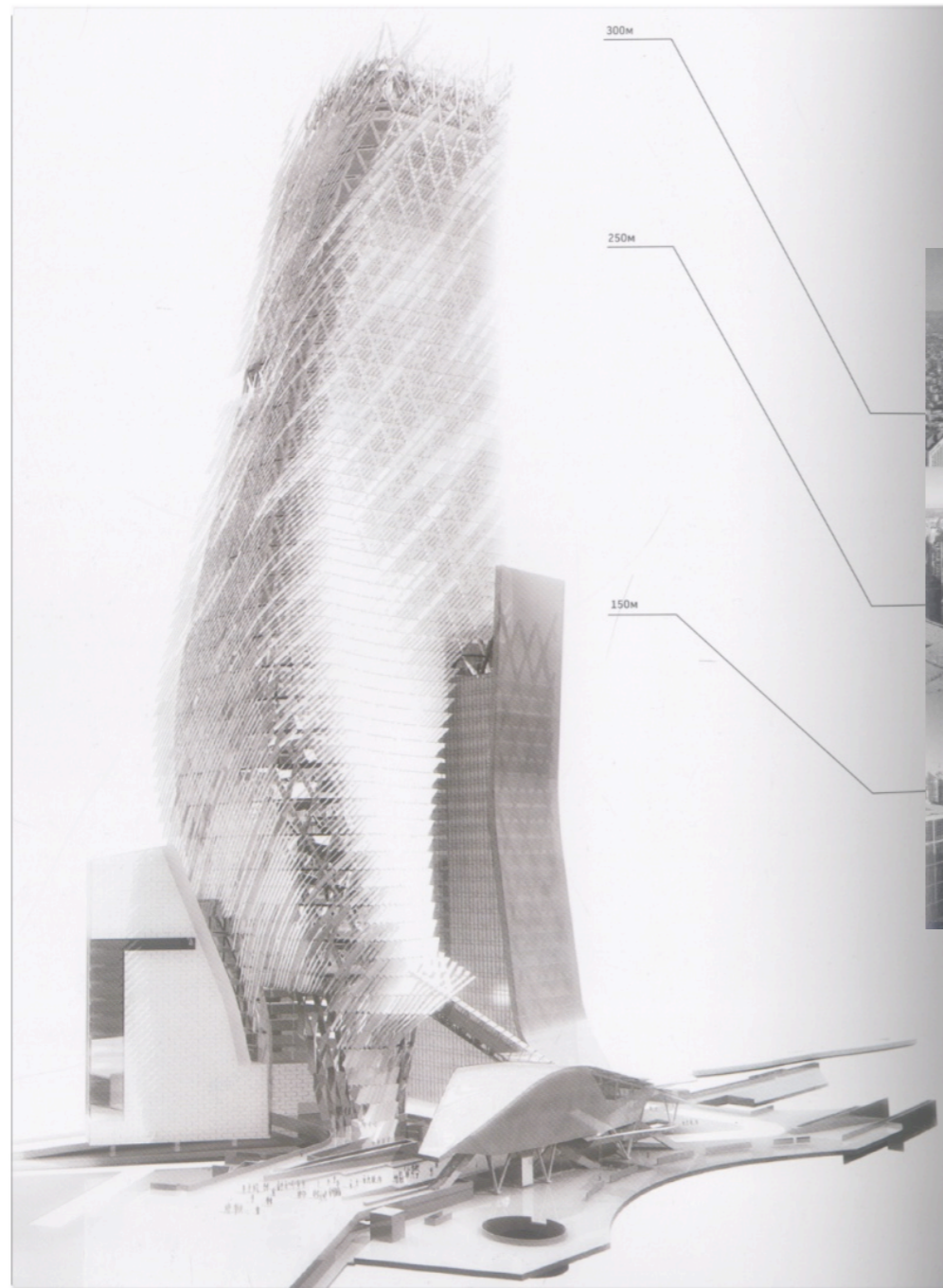


# MORPHOSIS

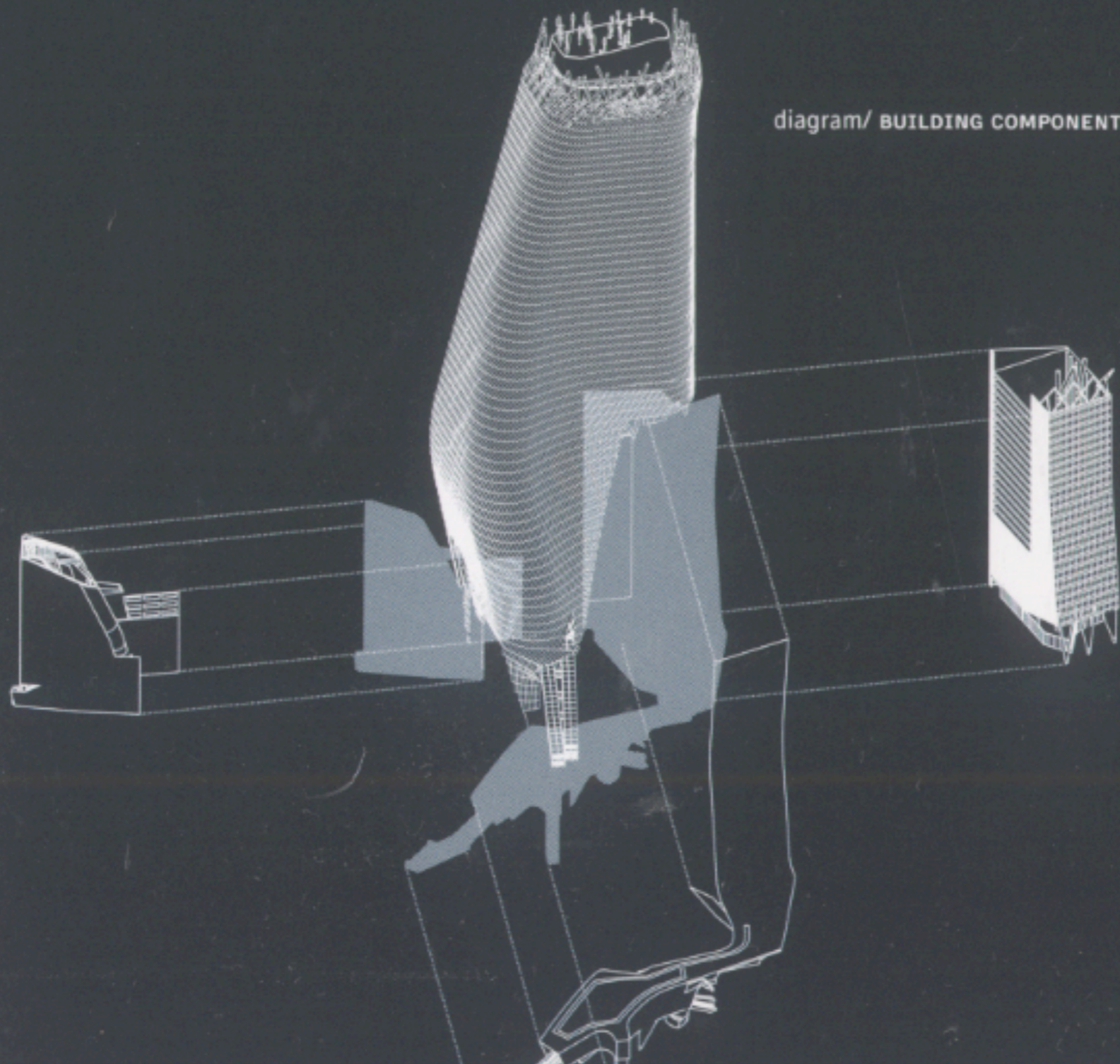
## PHARE TOWER

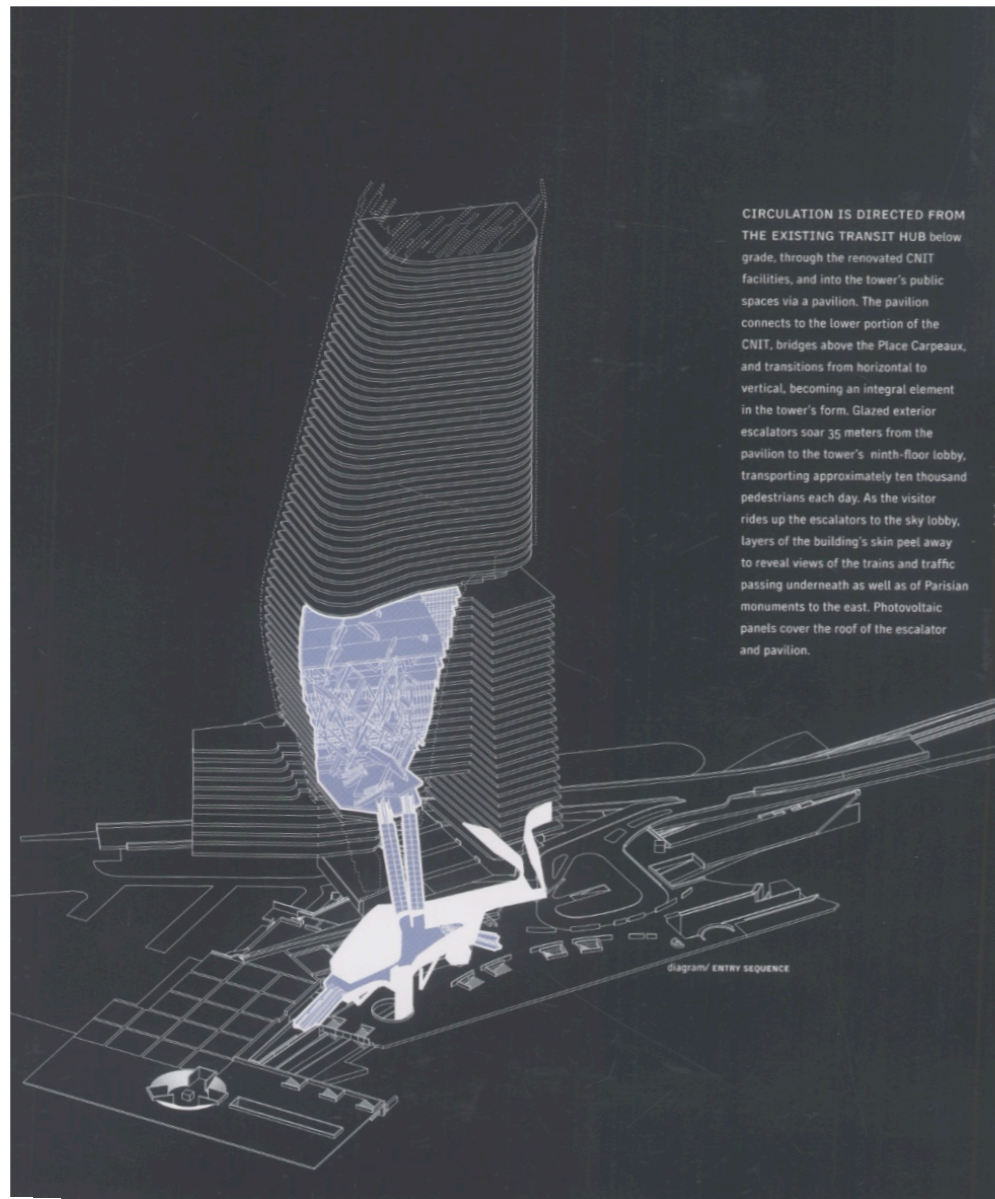
LA DEFENSE, PARIS, FRANCE



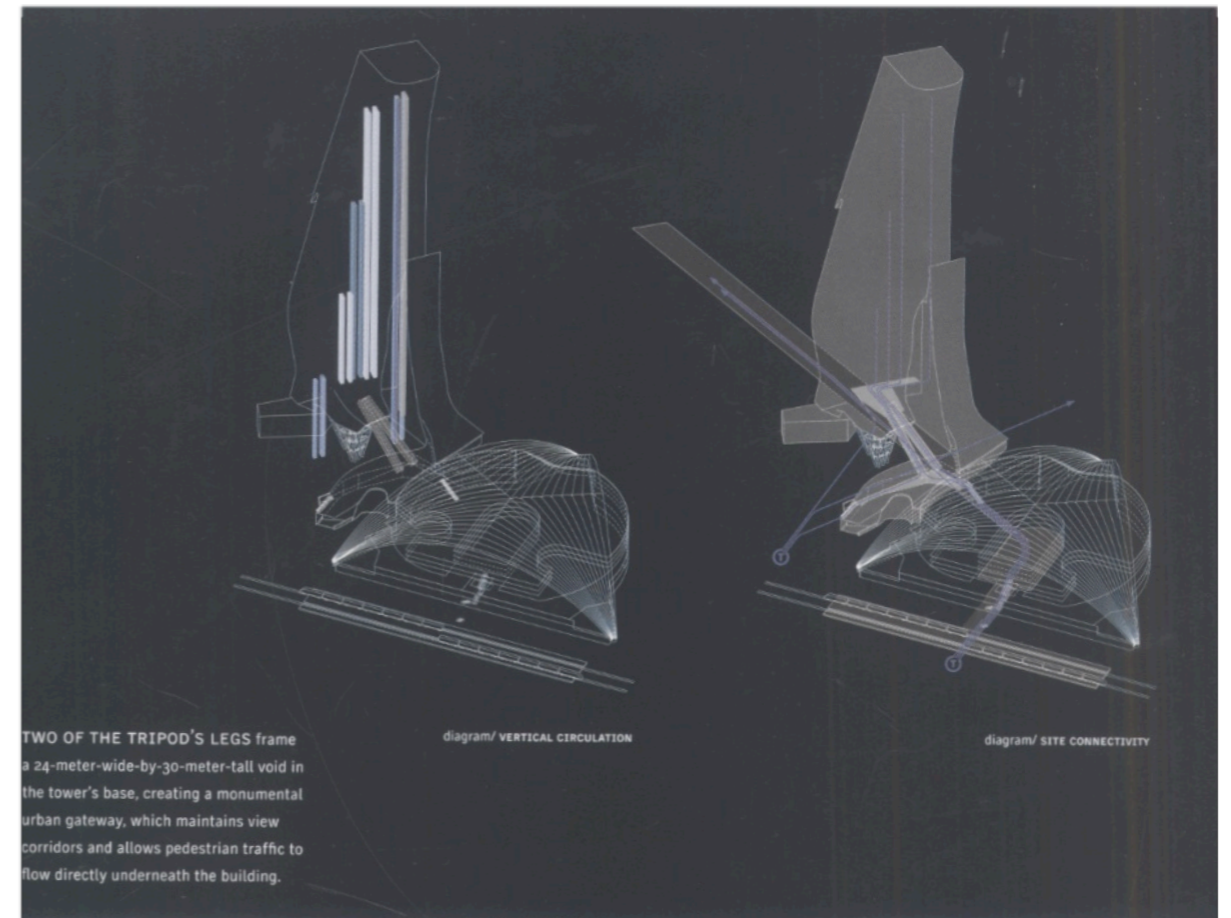


diagram/ BUILDING COMPONENTS





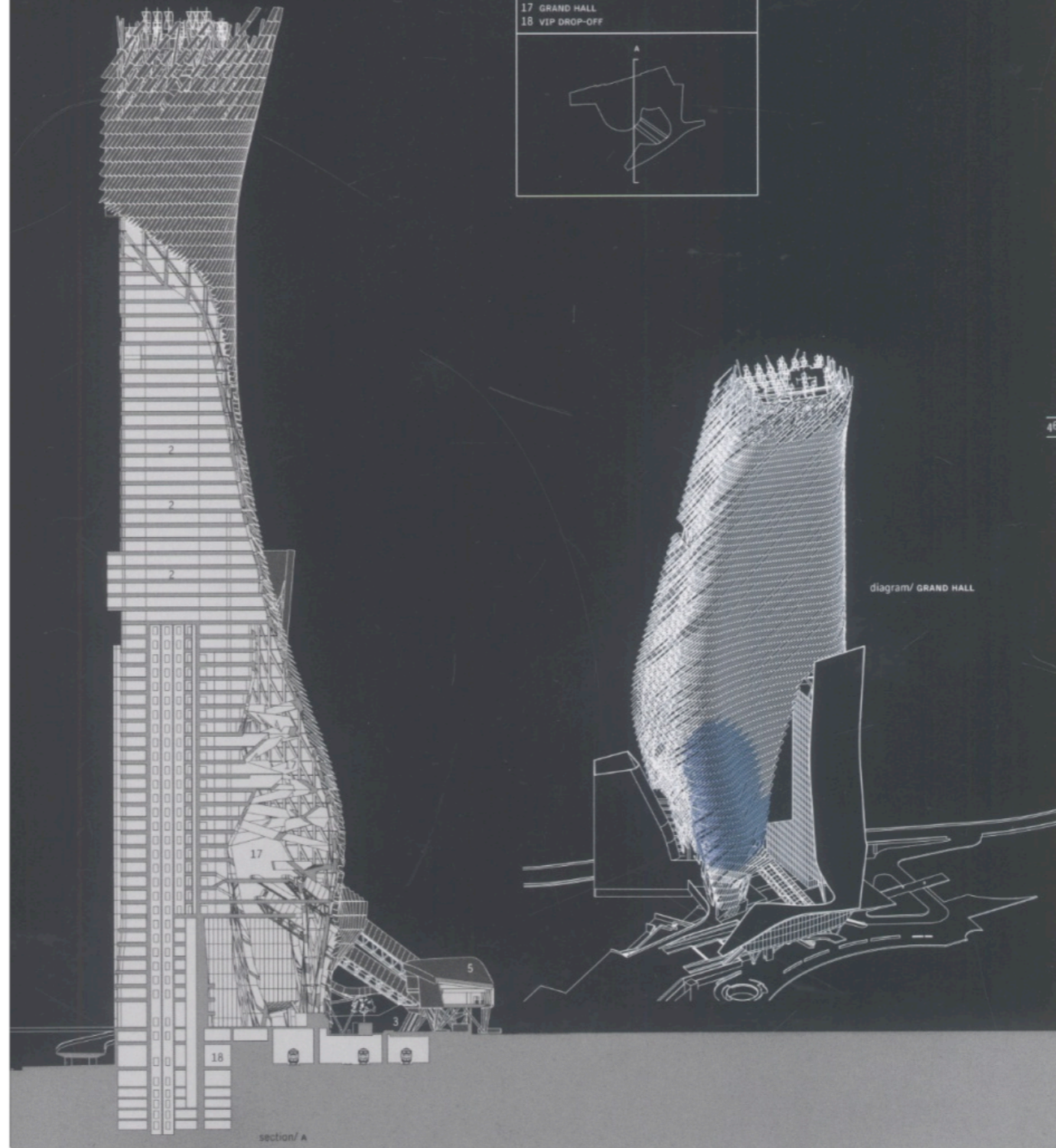
Computer generated drawings are a unique contemporary means of representation, produced by a tool with intelligence that can open new areas and possibilities.

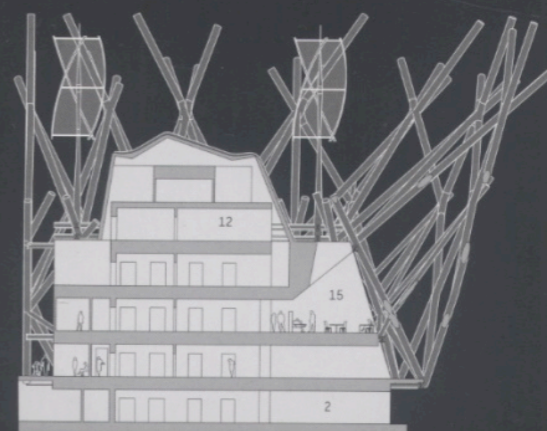
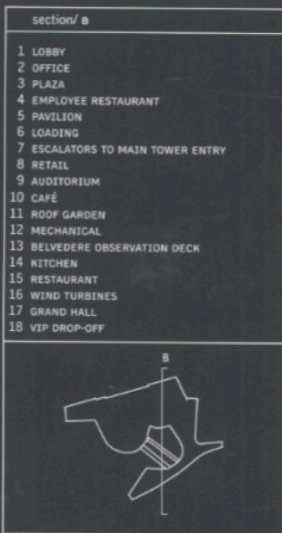
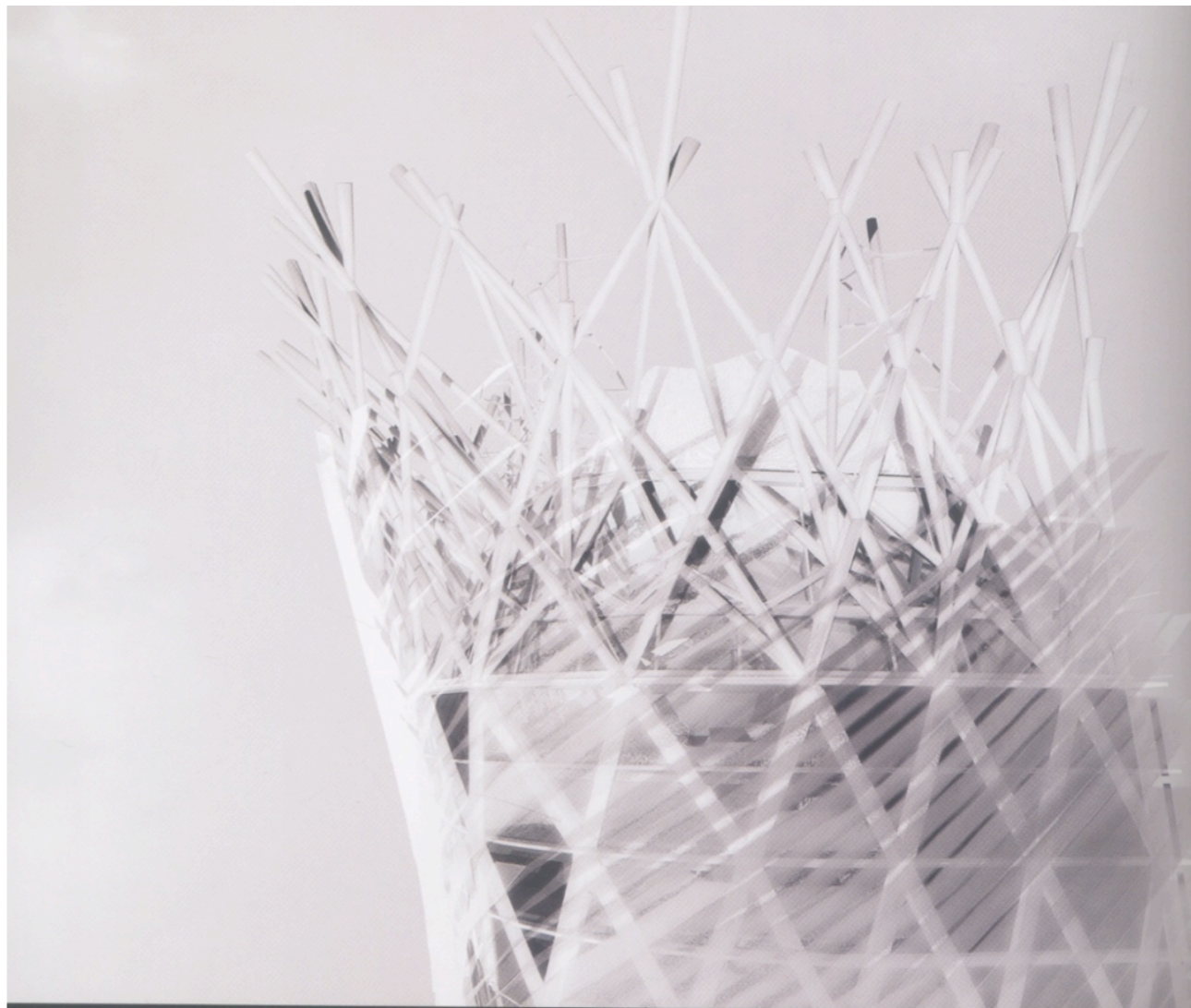
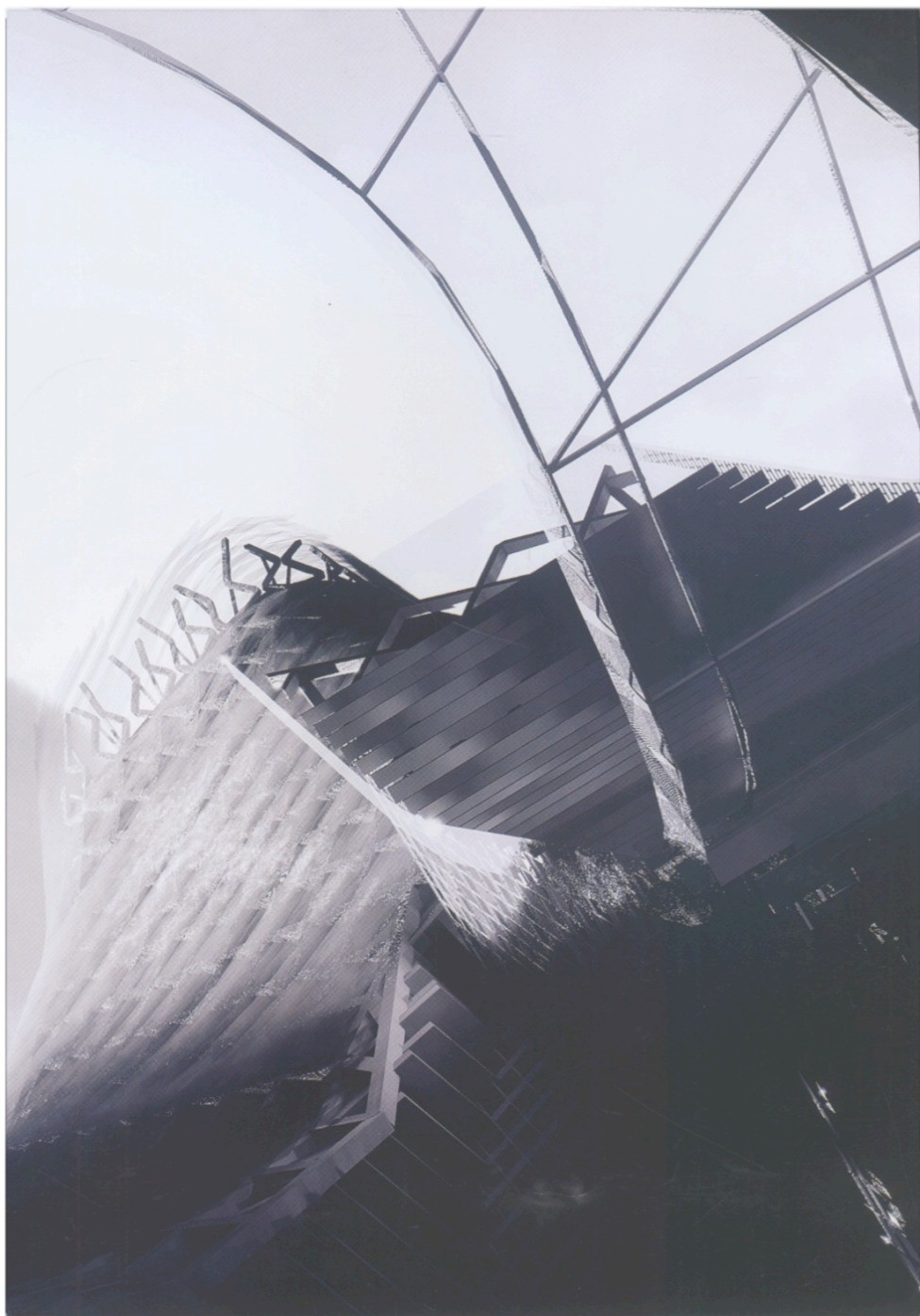




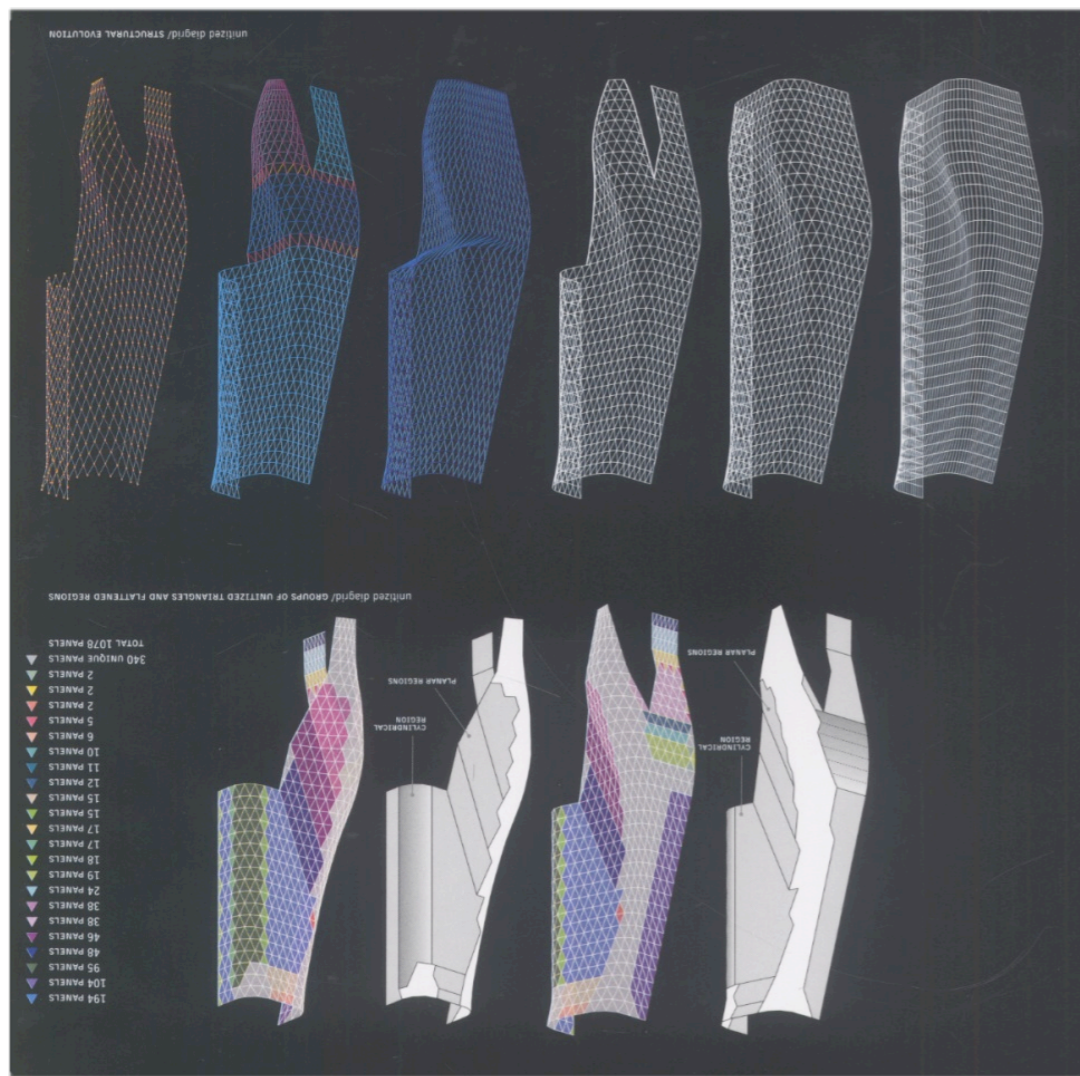
section/ A	
1	LOBBY
2	OFFICE
3	PLAZA
4	EMPLOYEE RESTAURANT
5	PAVILION
6	LOADING
7	ESCALATORS TO MAIN TOWER ENTRY
8	RETAIL
9	AUDITORIUM
10	CAFÉ
11	ROOF GARDEN
12	MECHANICAL
13	BELVEDERE OBSERVATION DECK
14	KITCHEN
15	RESTAURANT
16	WIND TURBINES
17	GRAND HALL
18	VIP DROP-OFF

AT ITS BASE, THE BUILDING'S SKIN OPENS, LIKE A SLIT SKIRT, exposing a 233-foot-high lobby, which functions as a public plaza in the air. The Grand Hall becomes the center for all vertical transportation. From the lobby's security checkpoint, people transition to banks of express elevators serving the office tower as well as the public sky restaurant and observation deck at the top of the building.

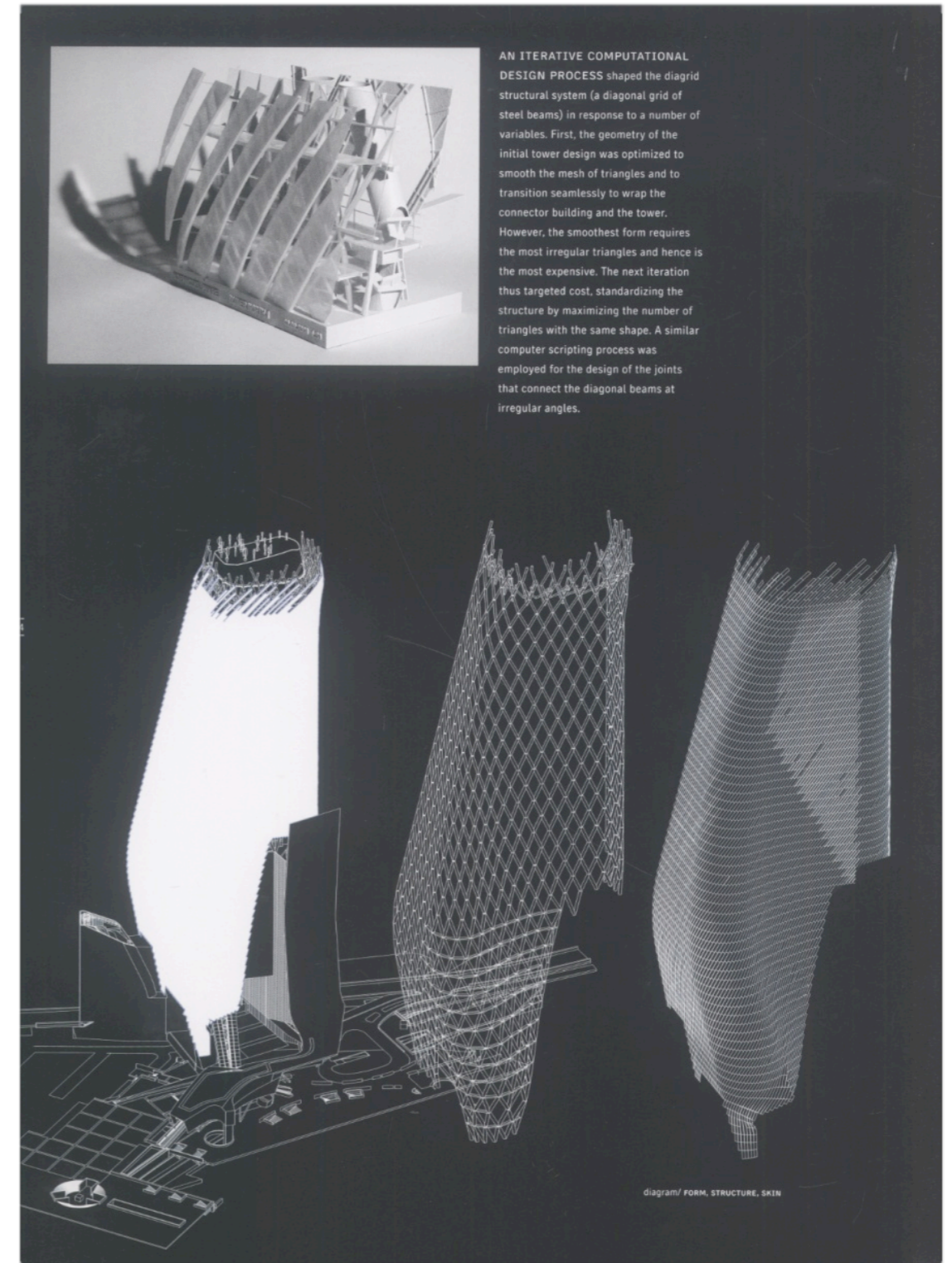


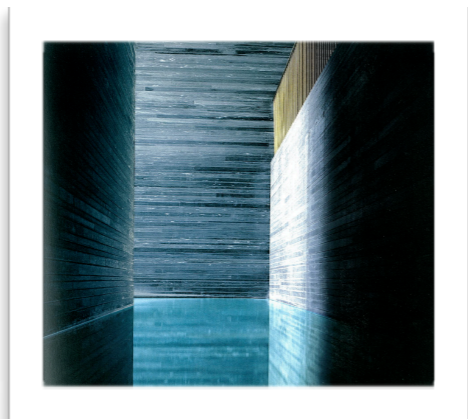


section/ a



These technologies allow for the convenient visualization of complex shapes, which are sometimes extremely difficult to construct by hand.





**DRAWING BUILDINGS  
BUILDING *THE STORY*  
THROUGH DRAWINGS**

*the full story*

# DRAWING BUILDINGS

BUILDING [THE STORY THROUGH] DRAWINGS

THE CONTEXT

THE SITE

THE INSPIRATION

THE MOOD

THE CONCEPT

THE LANDSCAPE

THE PLAN

THE SECTION

THE SPACE

THE SKIN

THE MATERIALS

THE DETAILS

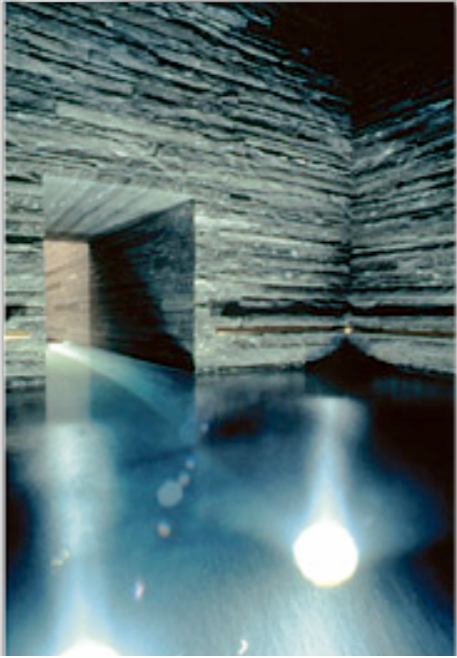
THE PROCESS

THE WHOLE

DRAWING BUILDINGS  
BUILDING [THE STORY THROUGH] DRAWINGS

# THERME VALLS

PETER ZUMTHOR



# THE CONTEXT



## DRAWING BUILDINGS BUILDING [THE STORY THROUGH] DRAWINGS

● THE CONTEXT

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THE SECTION

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THE SKIN

THE MATERIALS

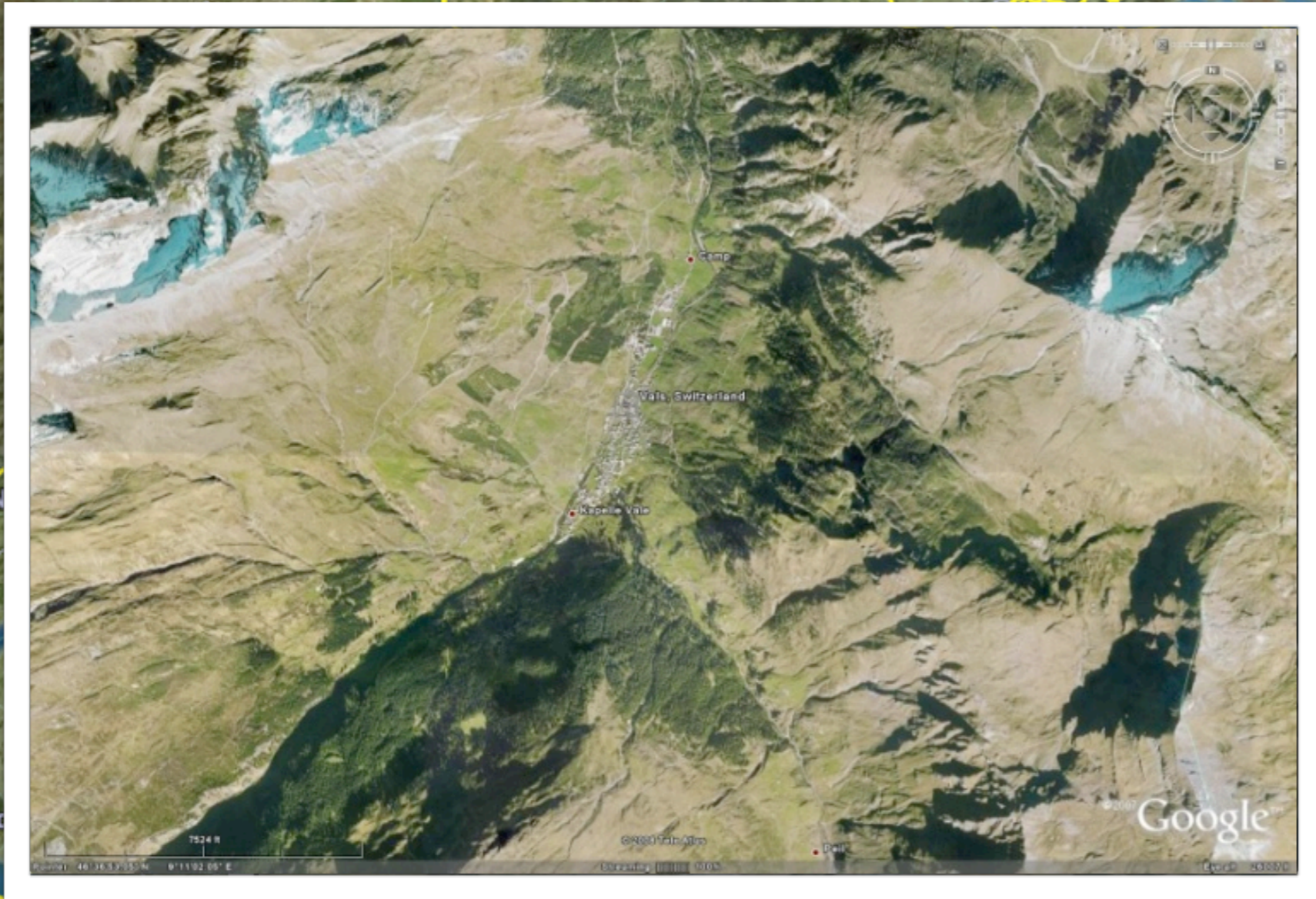
THE DETAILS

THE PROCESS

THE WHOLE

Schaffhausen

(a)





Since our feelings and understanding are rooted in the past, our sensuous connections with a building must respect the **process of remembering**.

**Images, moods, forms, words, signs, or comparisons** open up possibilities of approach.



THE SITE

mountain, rock, water

# DRAWING BUILDINGS

BUILDING [THE STORY THROUGH] DRAWINGS

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THE SPACE

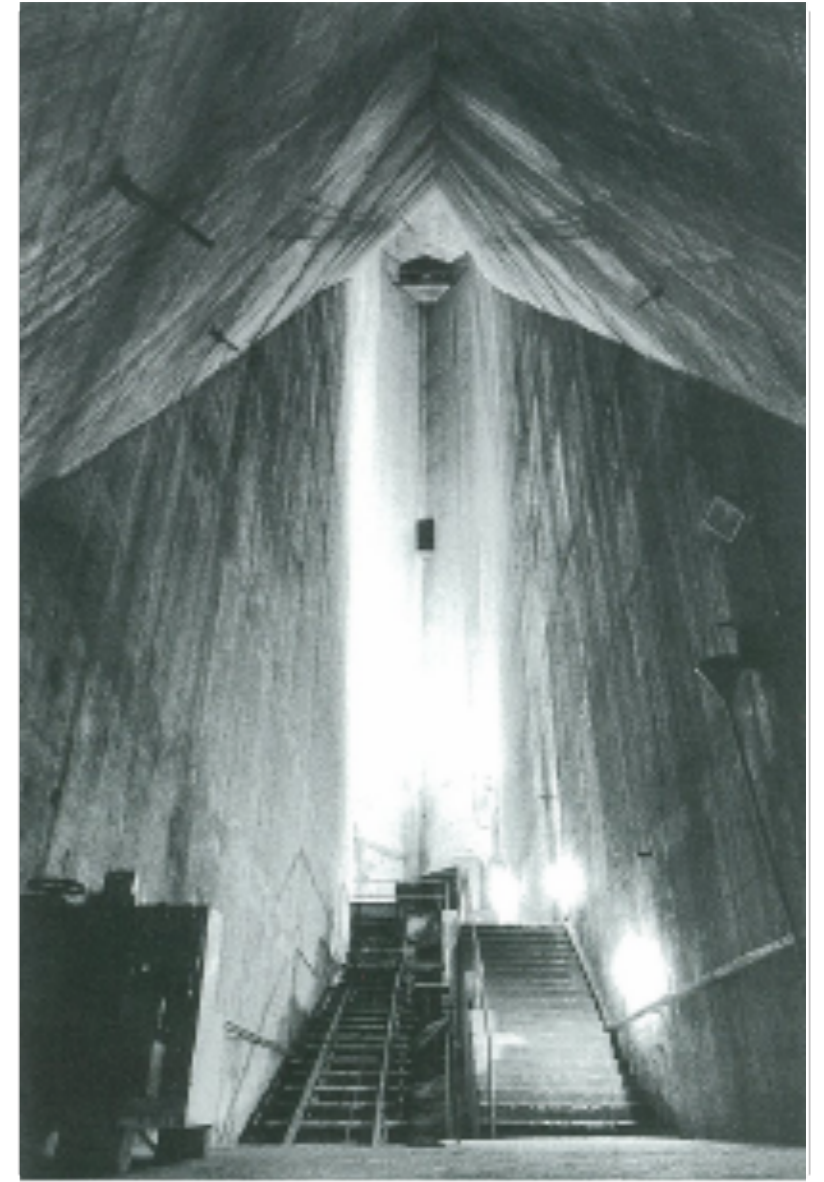
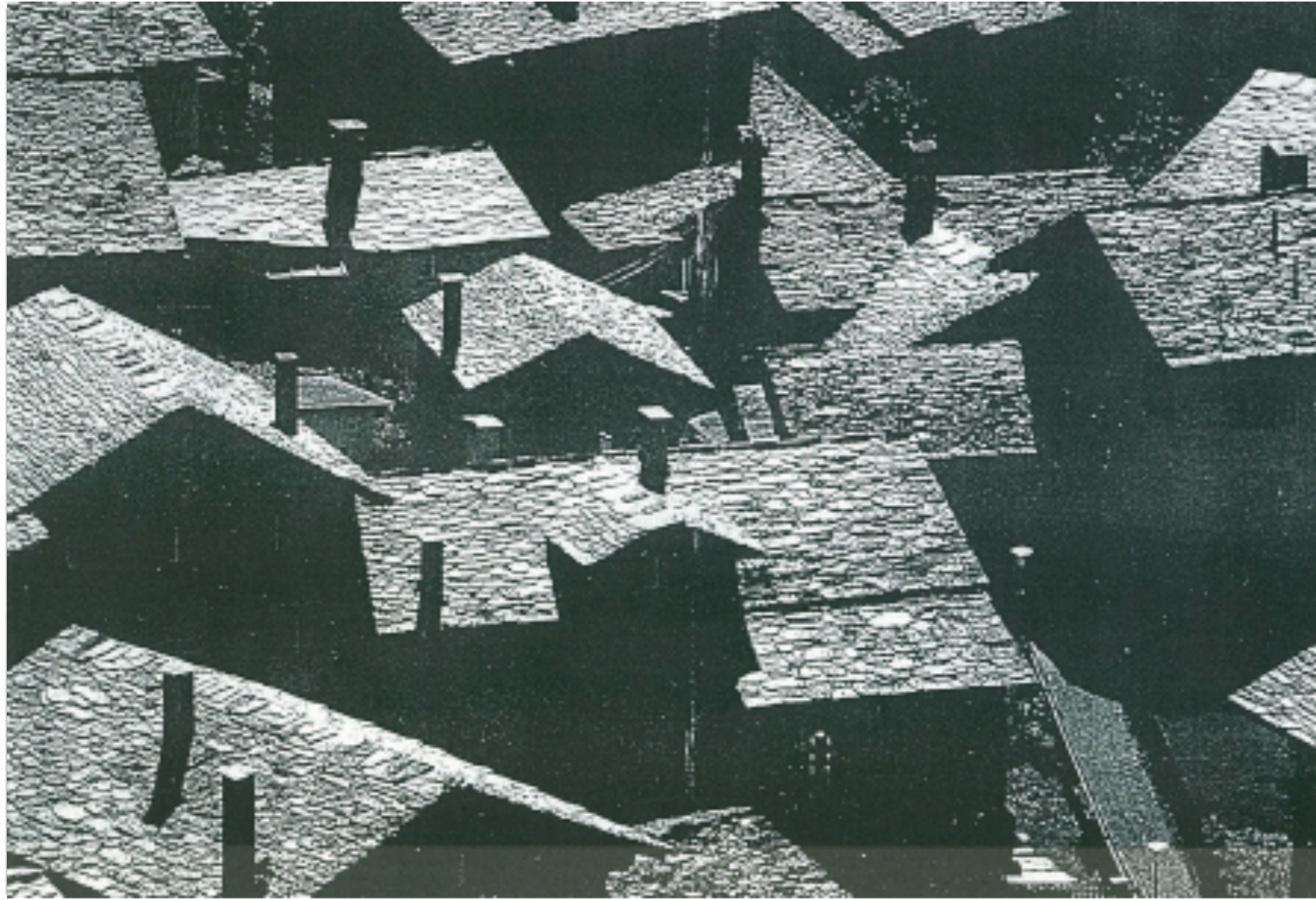
THE SKIN

THE MATERIALS

THE DETAILS

THE PROCESS

THE WHOLE



“It was only after we had succeeded in **answering, step by step, the questions posed by the site, purpose, and material** that structures and spaces emerged.”

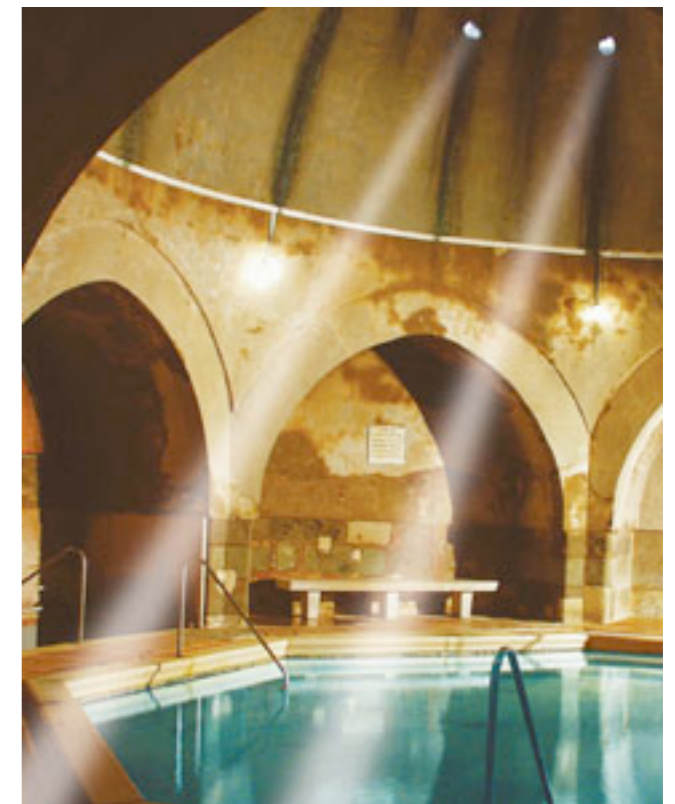


# THE INSPIRATION



The rays of light falling through the openings in the starry sky of the cupola illuminate a room that could not be more perfect for bathing.

Describing the Rudas Baths in Budapest



DRAWING BUILDINGS  
BUILDING [THE STORY THROUGH] DRAWINGS

THE CONTEXT

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THE PLAN

THE SECTION

THE SPACE

THE SKIN

THE MATERIALS

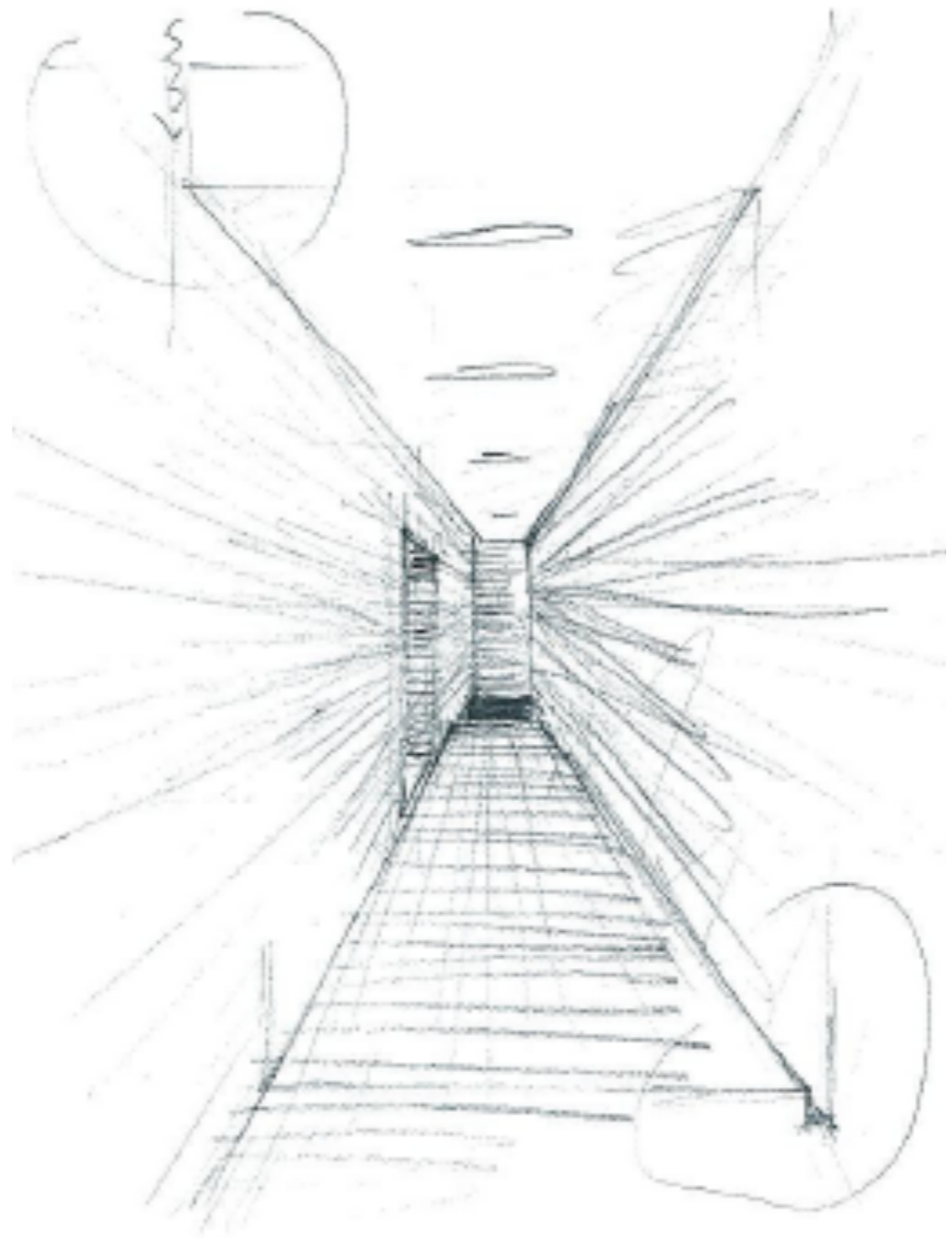
THE DETAILS

THE PROCESS

THE WHOLE

# THE MOOD

the entrance is hidden, the approach is a tunnel, low, narrow, and black, a turnstile marks the point where the hallway begins



## DRAWING BUILDINGS BUILDING [THE STORY THROUGH] DRAWINGS

THE CONTEXT  
THE SECTION

THE SITE  
THE SPACE

THE INSPIRATION  
THE SKIN

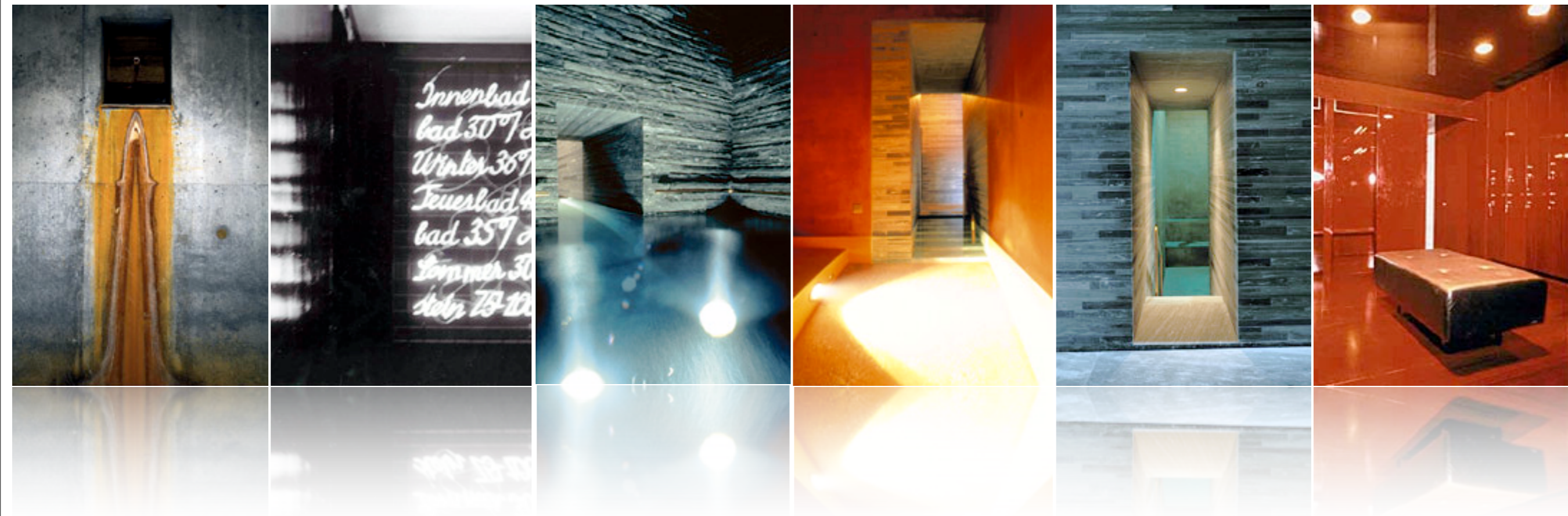
● THE MOOD  
THE MATERIALS

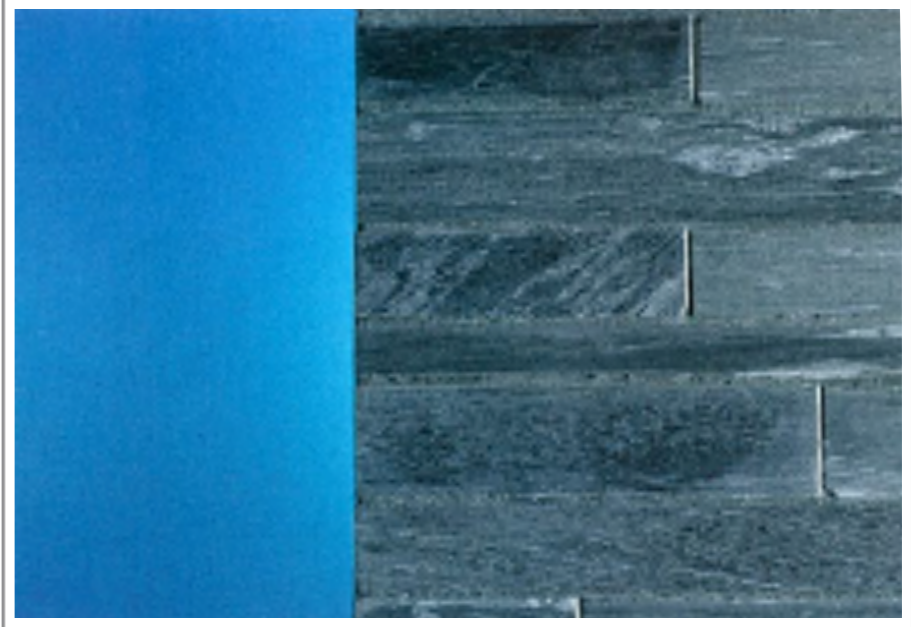
THE CONCEPT  
THE DETAILS

THE LANDSCAPE  
THE PROCESS

THE PLAN  
THE WHOLE

Every perception inside the bath seems **intensified**.





**Rock Water St Peter's Spring**

New drilling of April 28<sup>th</sup>, 1987  
Water temperature 30.1° Celsius  
pH-value 6.5

*Natural mineral water*

Contains calcium  
magnesium  
sulphate

*Suitable for low sodium  
nutrition*

**Cations (mg/l):**

Ammonium .....	<i>less than</i> .....	0.005
Lithium .....		0.02
Sodium .....		10.7
Potassium .....		2.0
Magnesium .....		54.0
Calcium .....		436.0
Strontium .....		8.8
Barium .....		0.05
Manganese .....		0.025
Zinc .....	<i>less than</i> .....	0.01
Cadmium .....	<i>less than</i> .....	0.0001
Mercury .....	<i>less than</i> .....	0.0001
Copper .....		0.001
Lead .....	<i>less than</i> .....	0.001
Aluminum .....	<i>less than</i> .....	0.01

**Anions (mg/l):**

Fluoride .....	0.63	
Chloride .....	2.5	
Bromide .....	<i>less than</i> .....	0.05
Iodide .....	0.018	
Nitrate .....	<i>less than</i> .....	0.1
Hydrogen carbonate .....	386.0	
Sulphate .....	990.0	
Hydrogen phosphate .....	<i>less than</i> .....	0.05
Hydrogen arsenate .....	0.005	

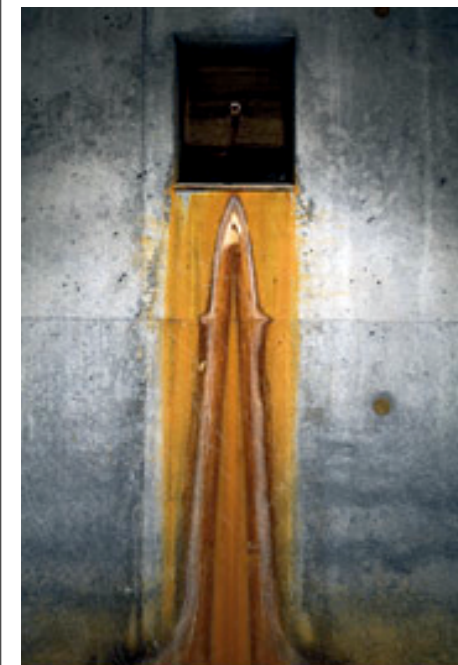
**Undissociated components (mg/l):**

m-silicic acid .....	25.0
o-boracic acid .....	0.71

*Total of dissociated  
components approx. 1,918*

**Soluted gases (mg/l):**

Oxygen .....	0.0
Hydrogen sulphide, odorless .....	0.0
Carbon dioxide .....	115.0



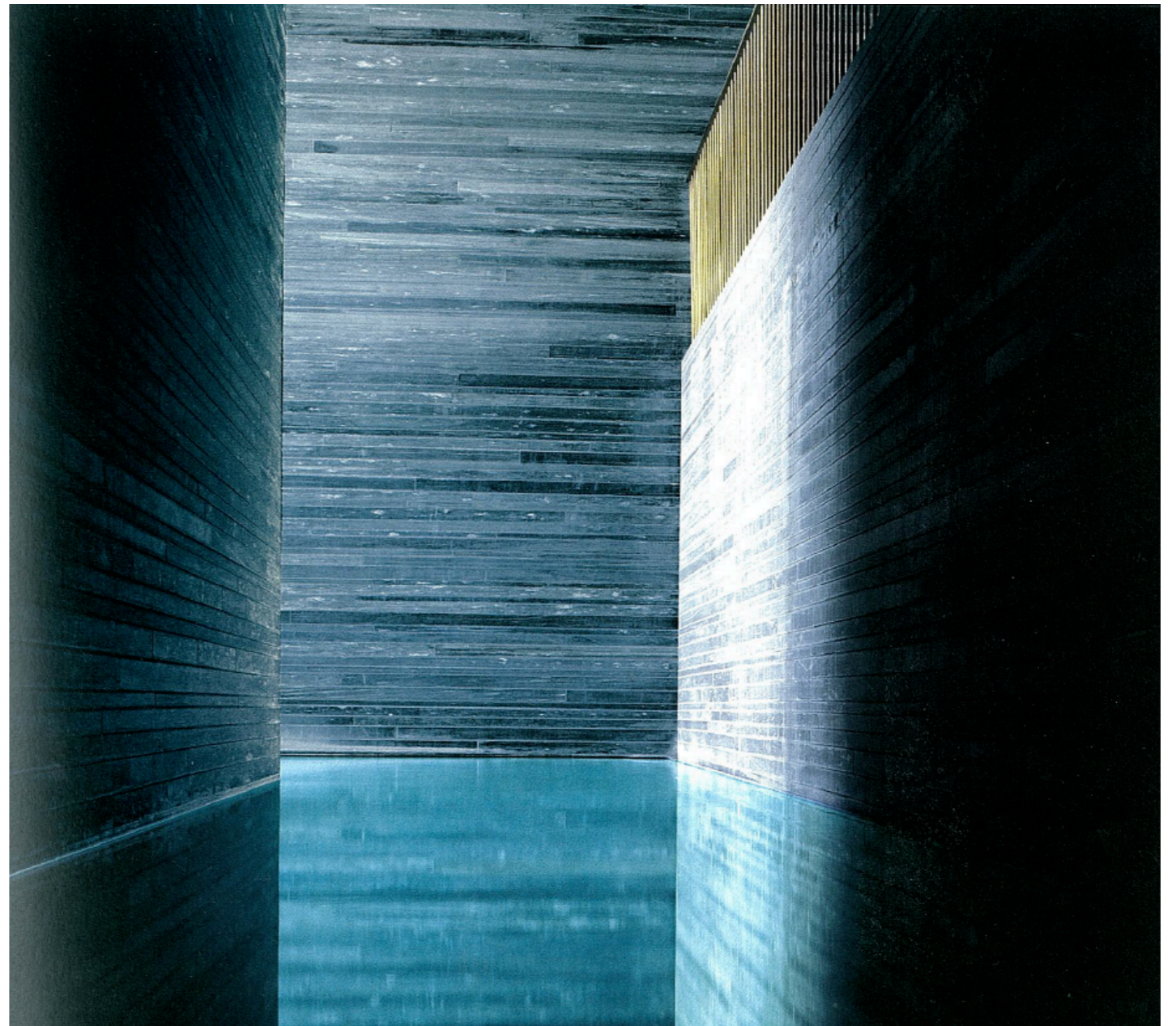


**Wet footprints:** bathers take the water with them when they leave the pool and in this way **produce temporary, unexpected patterns on the floor.**



The photos inform: about the mood, about the lighting, even about the sound. **Interiors are like large instruments,** collecting sound, amplifying it, transmitting it elsewhere.

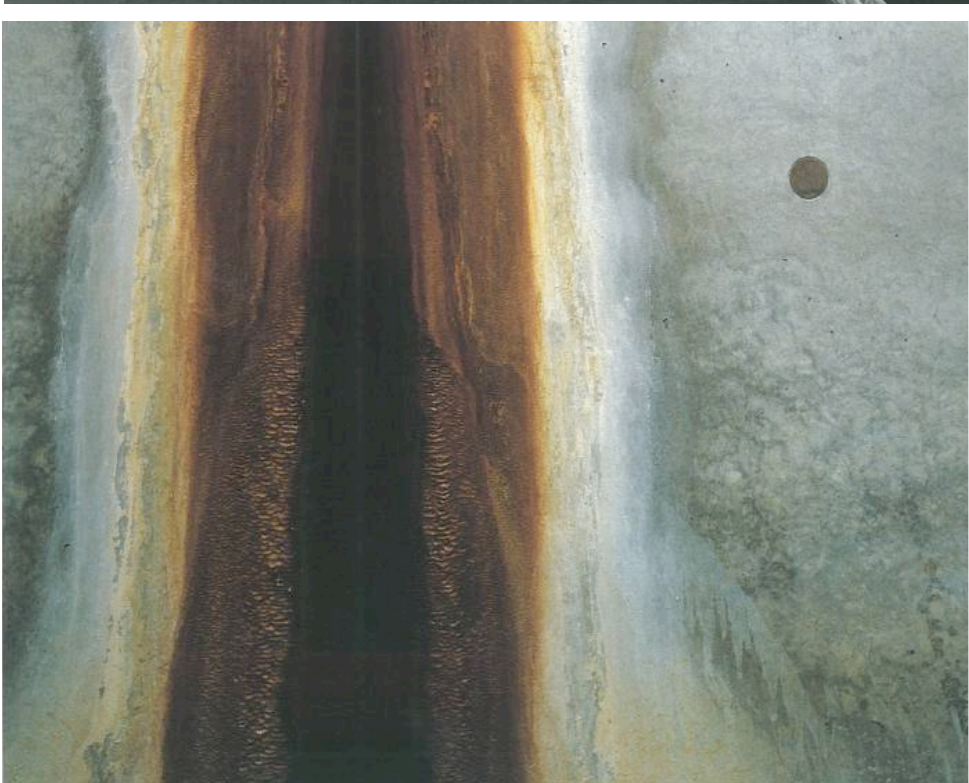
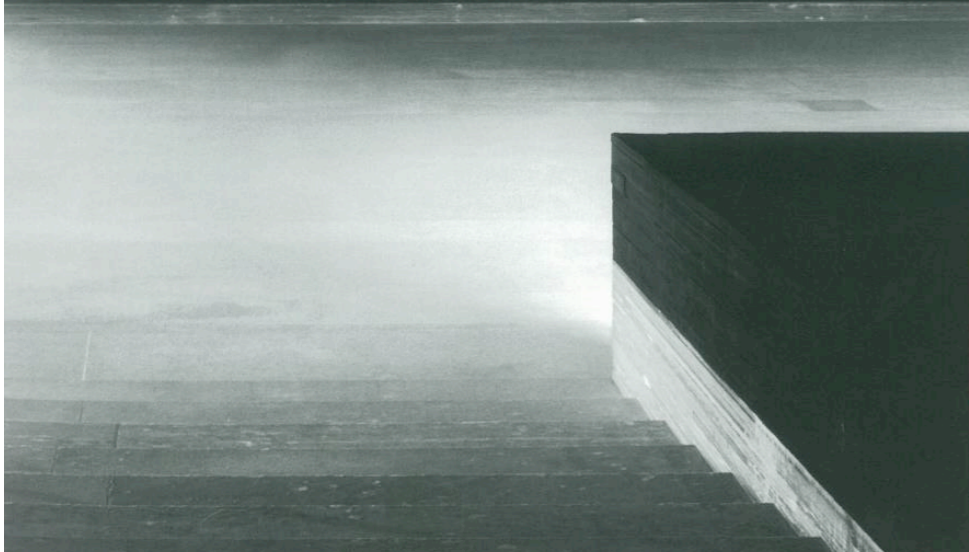
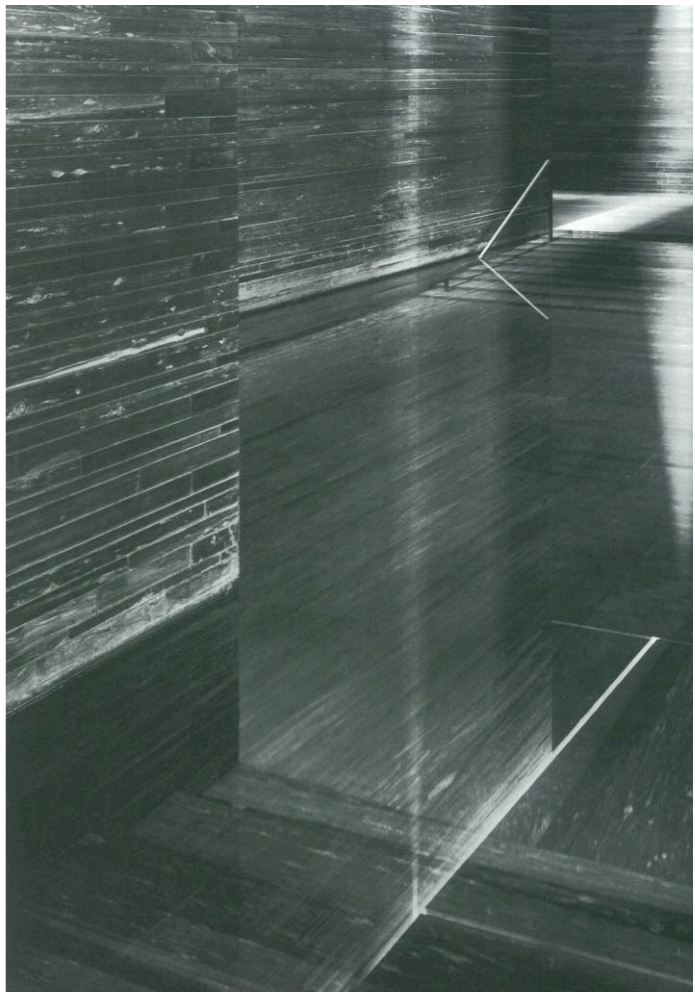
Experiencing water at  
different temperatures and  
in different spatial situations  
**with variations in the  
lighting, the colors, the  
climate, the materials, and  
the sound.**





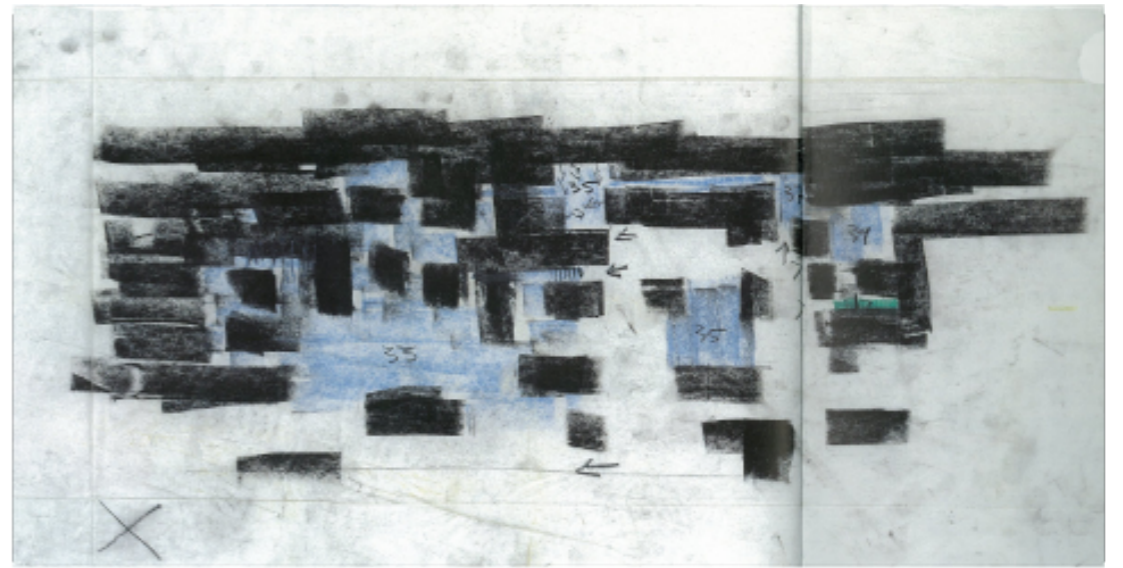
Purification. Peace.  
Serenity. No noisy  
attractions, no  
intrusive stimulation,  
**only the sensation  
of one's own body  
undergoing subtle  
change.**





# THE CONCEPT

Mass and hollow, openness and compactness, **rhythm, repetition and variation** – those were our concerns while drawing the quarry sketches. And in the process of mentally hollowing the mass, **a large in-between space emerged**, a vast, interconnected context, a spatial continuum that became more and more fascinating. Our bath, a **huge spatial continuum**, a room that I walk into and instantly **experience as a whole** even though I can never see it all at once.



## DRAWING BUILDINGS BUILDING [THE STORY THROUGH] DRAWINGS

THE CONTEXT

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THE MOOD

● THE CONCEPT

THE LANDSCAPE

THE PLAN

THE SECTION

THE SPACE

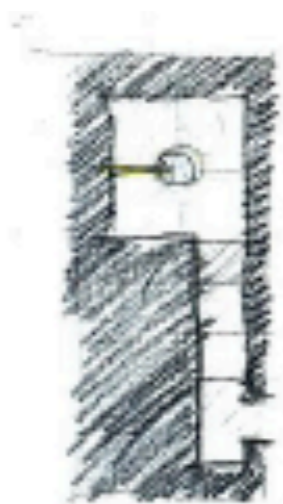
THE SKIN

THE MATERIALS

THE DETAILS

THE PROCESS

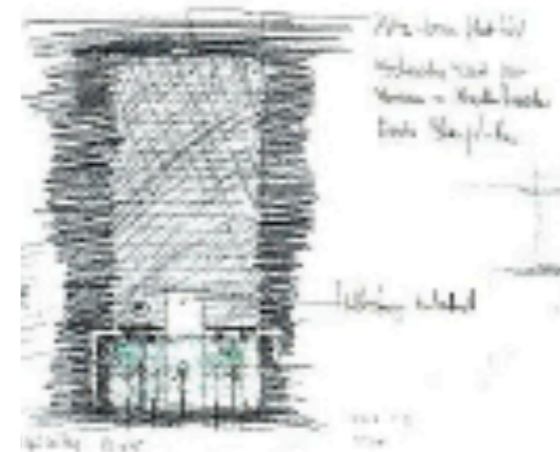
THE WHOLE



Est ce que l'intérieur 1:50 est  
Thème : in Guesse (un qui a de beaux bois)



Calbut



2000 mm  
1500 mm  
1000 mm  
500 mm



# THE LANDSCAPE

To me, the presence of certain buildings has something secret about it. They seem simply to be there. They seem to be saying: "I am as you see me and I belong here."



## DRAWING BUILDINGS BUILDING [THE STORY THROUGH] DRAWINGS

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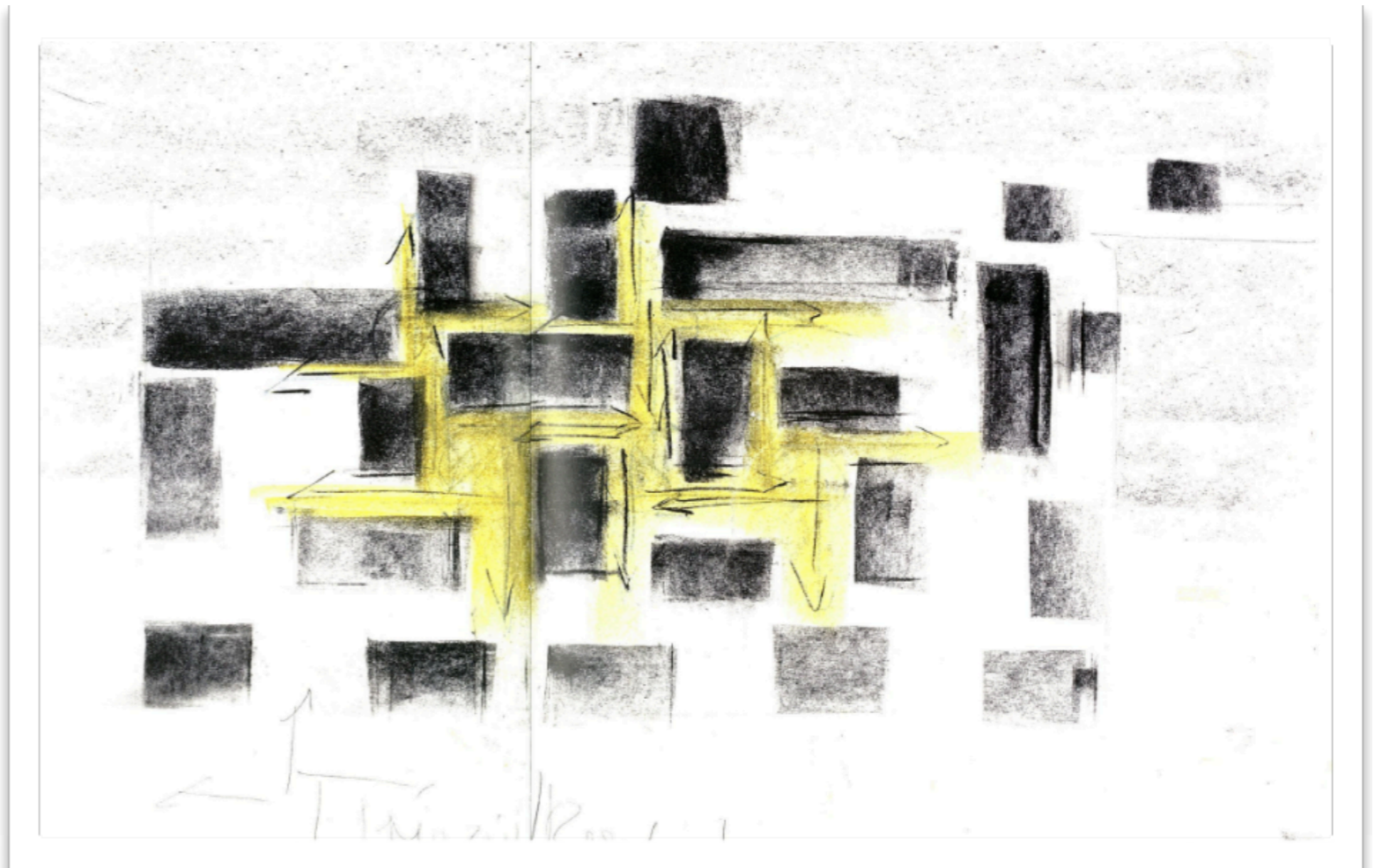
THE DETAILS

THE PROCESS

THE WHOLE

# THE PLAN

The act of drawing can be rapid and spontaneous, but residual traces are stable.



## DRAWING BUILDINGS BUILDING [THE STORY THROUGH] DRAWINGS

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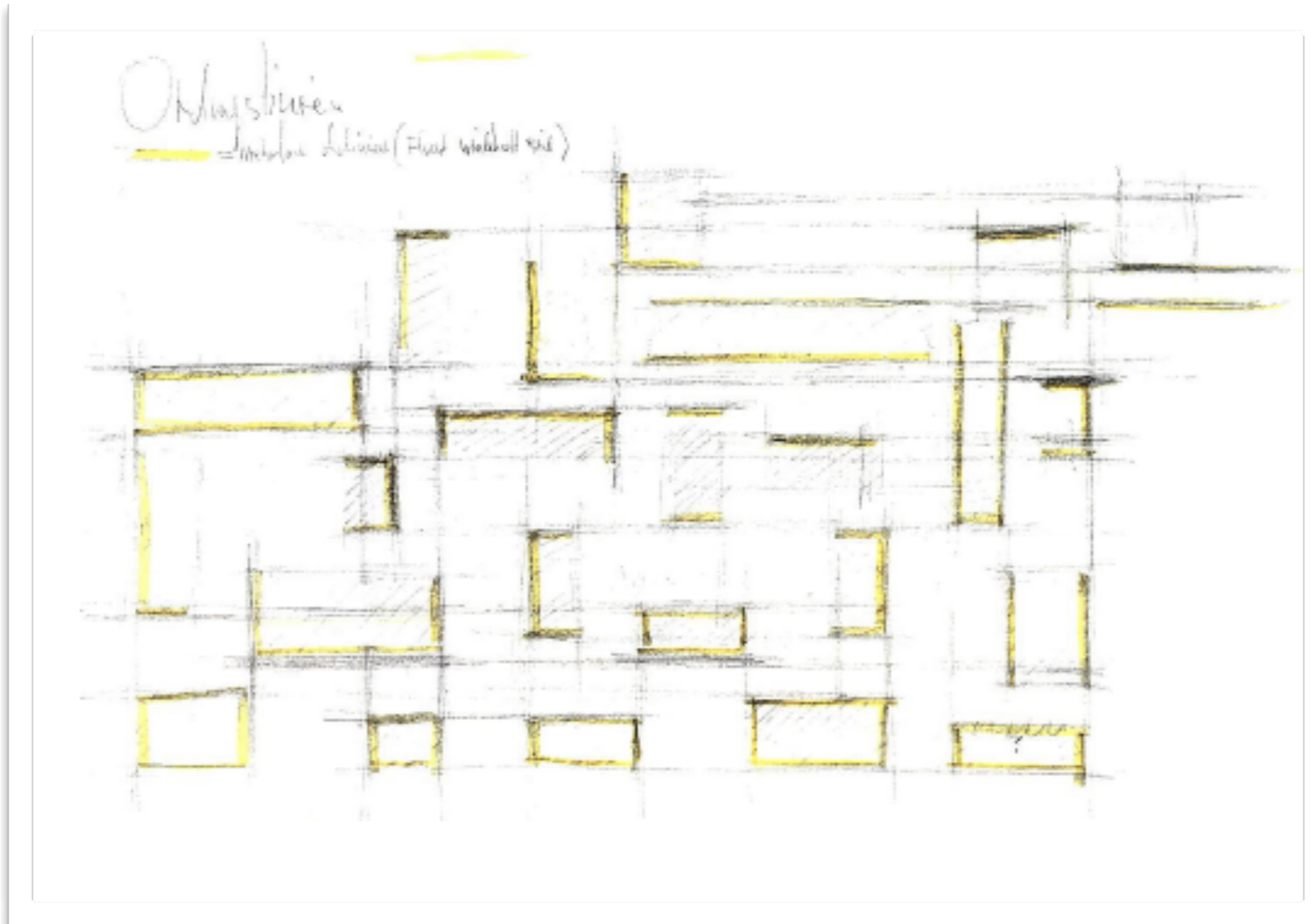
THE SKIN

THE MATERIALS

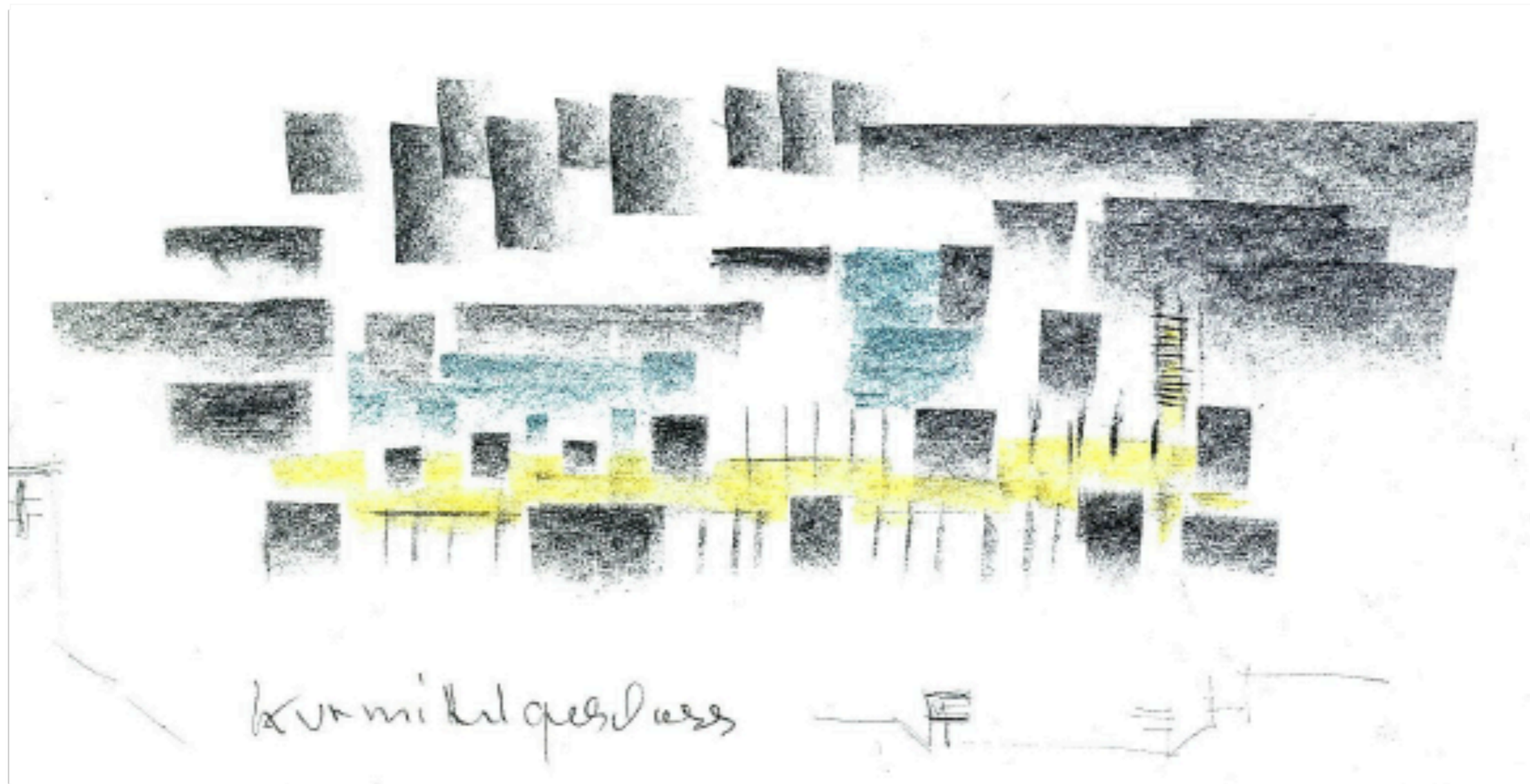
THE DETAILS

THE PROCESS

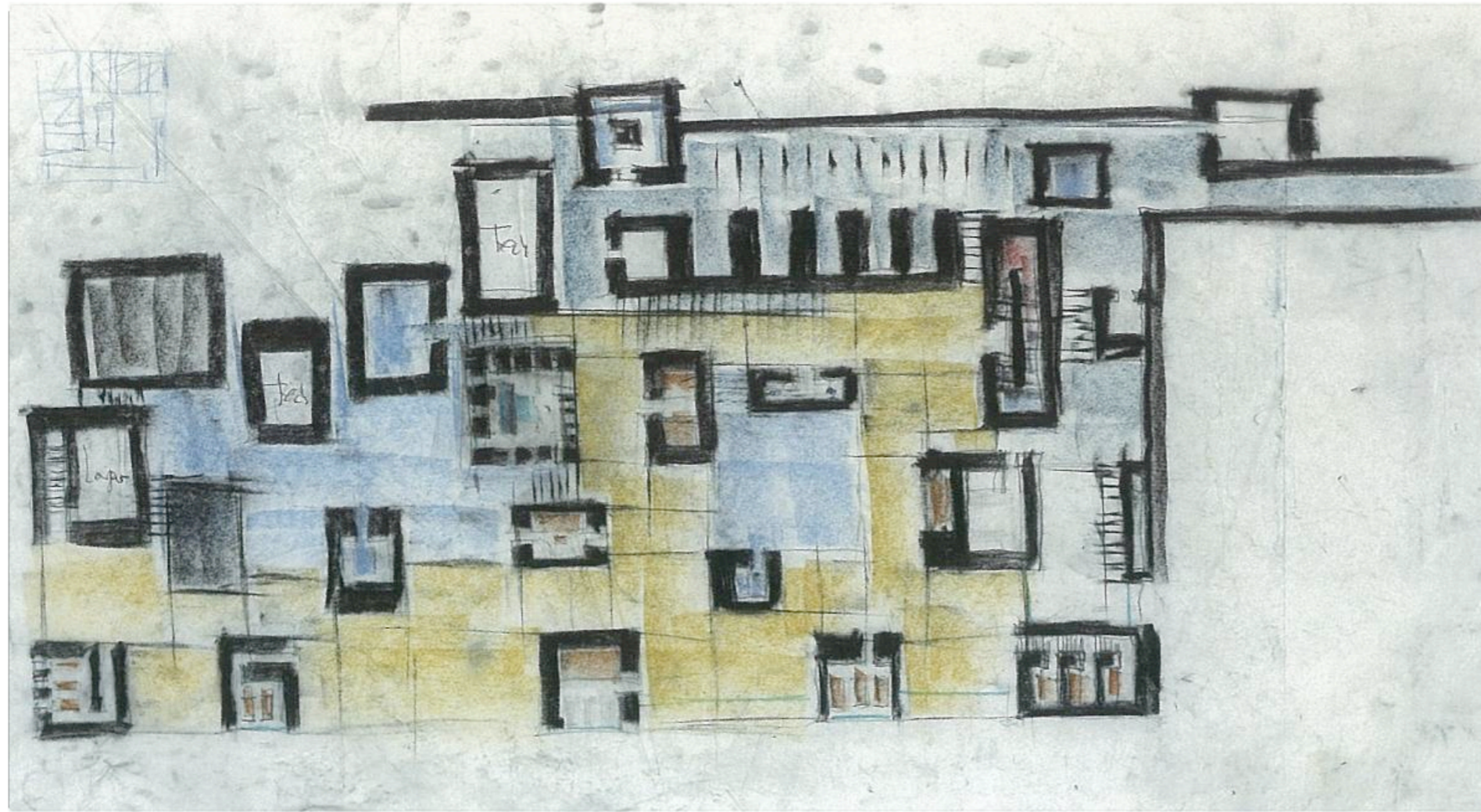
THE WHOLE



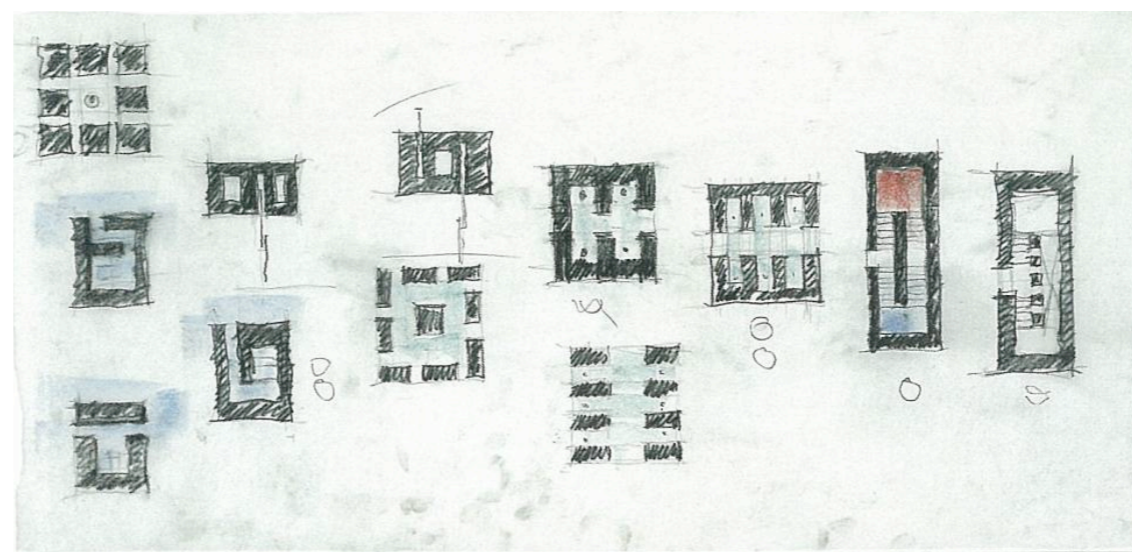
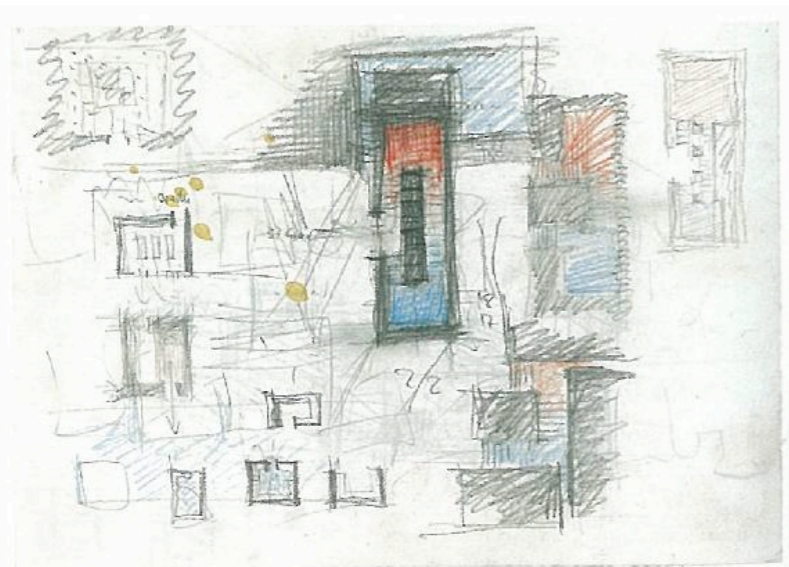
Between the blocks there is a **space that connects everything** as it flows throughout the entire building.

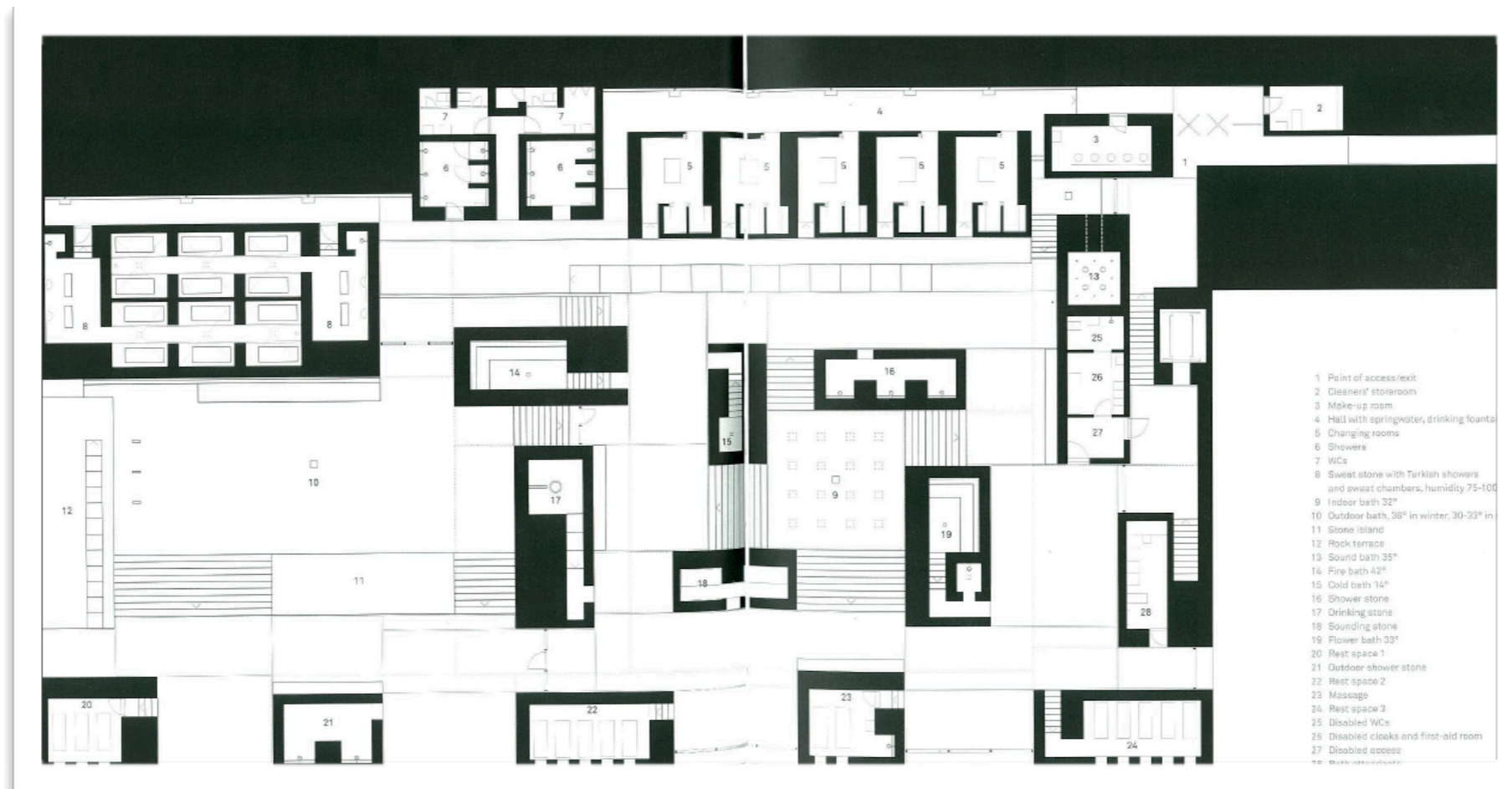


The meander, as we call it, is the **empty space between the fullness of the solid stone blocks**; it is a **designed negative space**.

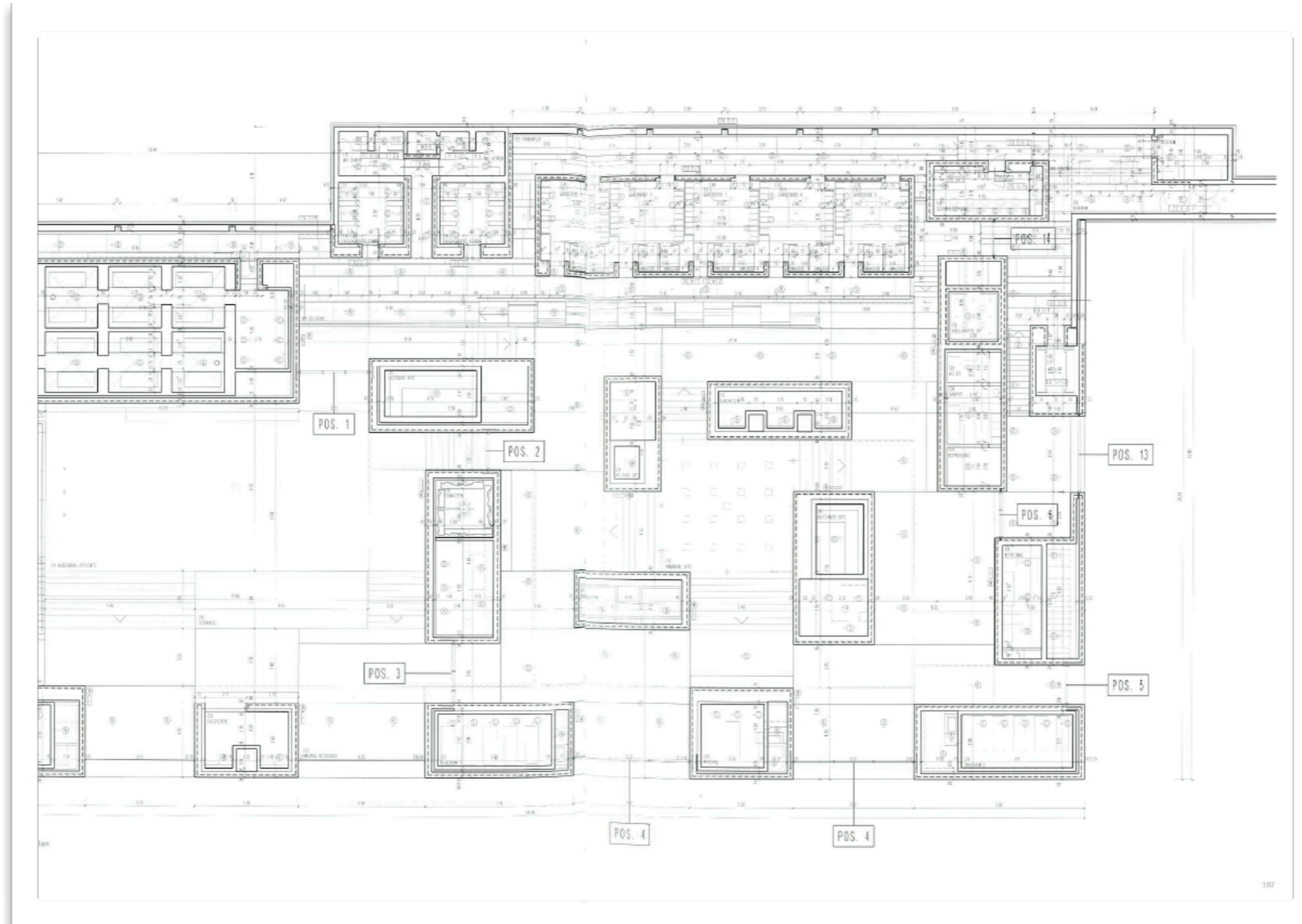


The architectural composition offers users of the baths **two types** of spaces: the meandering **interconnected space** between the blocks and the **introverted rooms** within the blocks themselves.



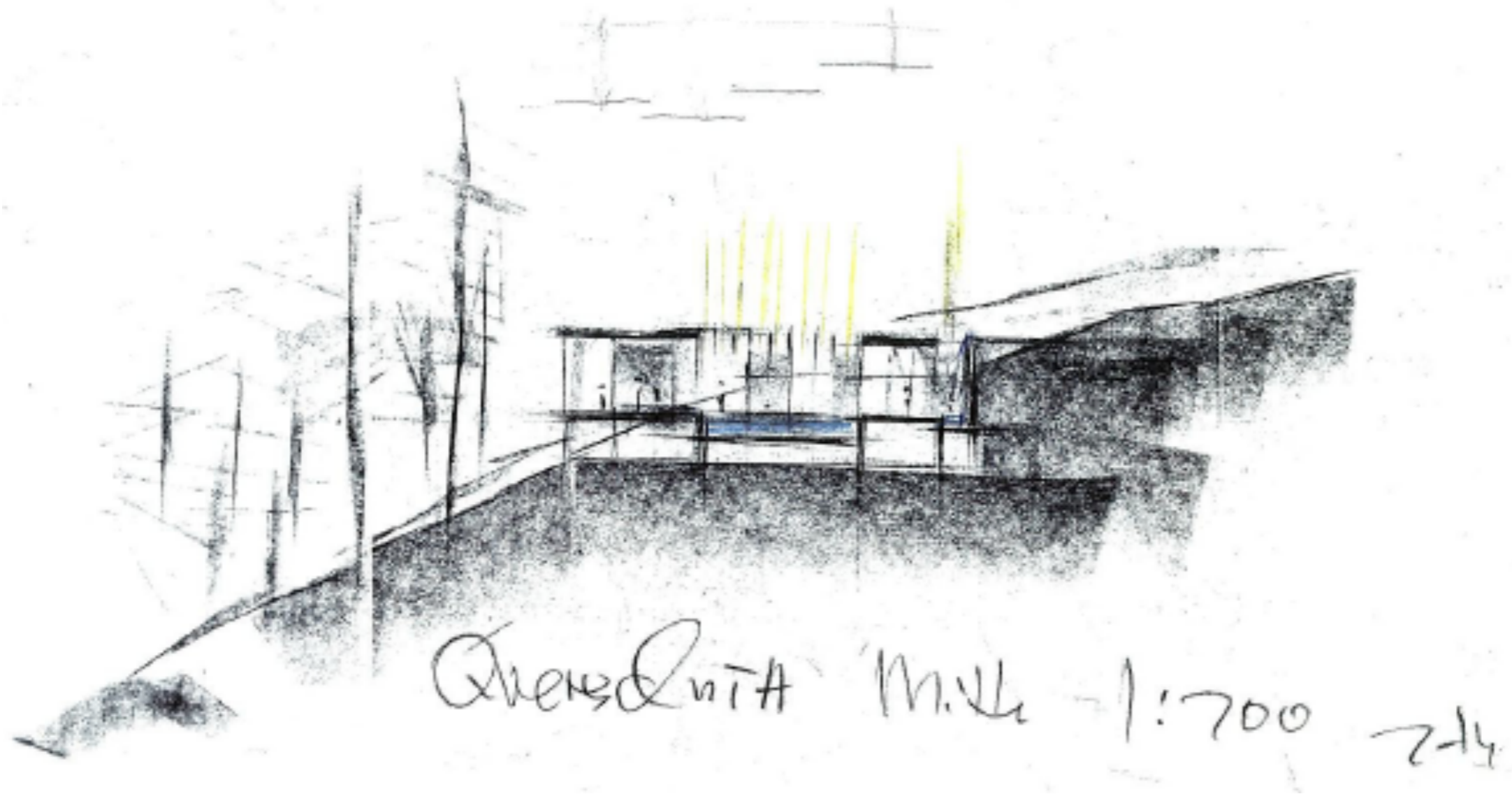


For the guests in the thermal baths the meander is a large, shared **space in which to circulate**. The structure of this space is like a fabric. The passages branch off every which way and are intertwined.



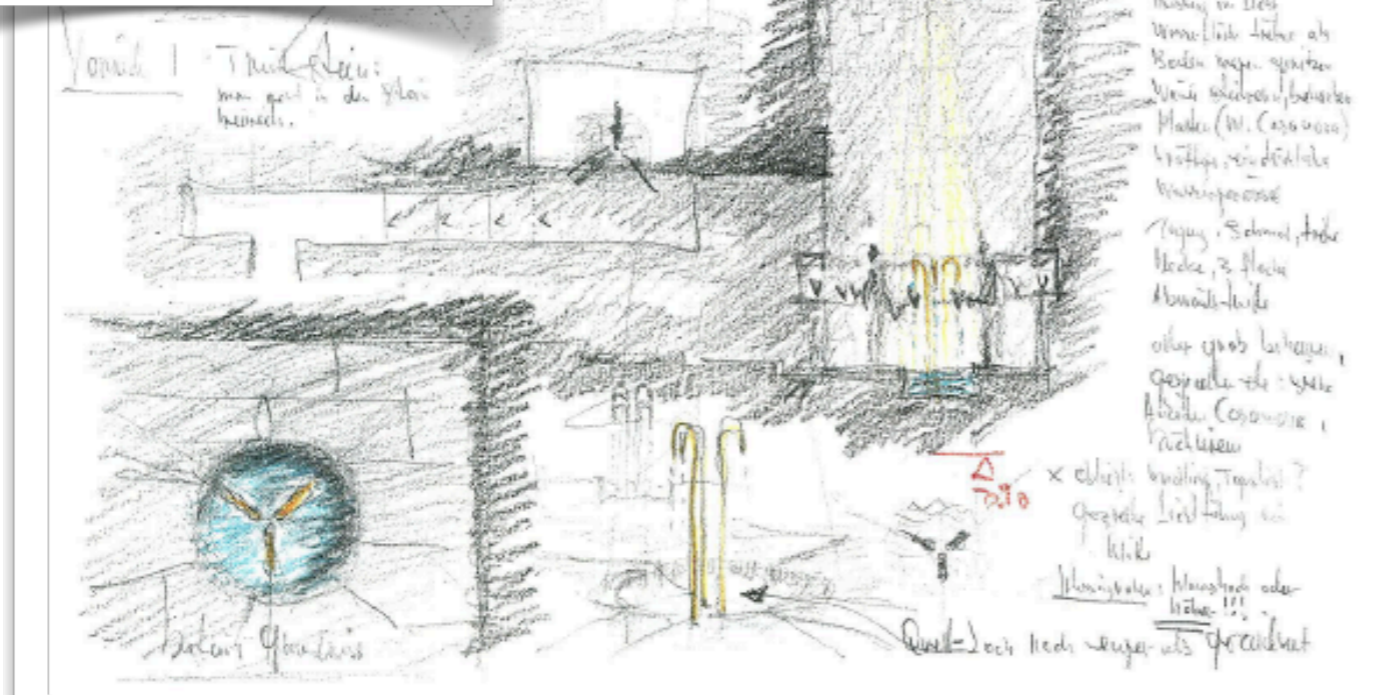
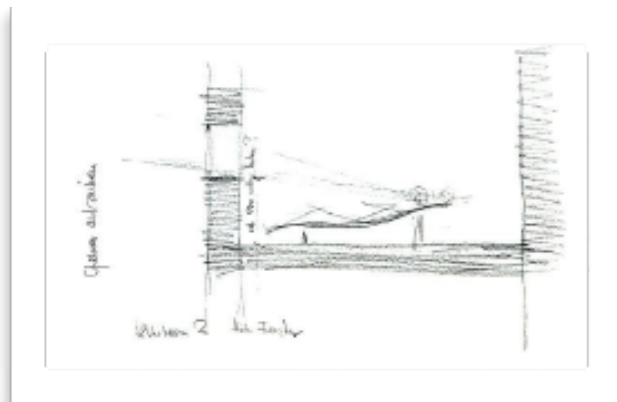
Moving around in this space means **making discoveries**. You are walking as if in the woods. Everyone there is looking for a path of her own, of his own.

# THE SECTION



## DRAWING BUILDINGS BUILDING [THE STORY THROUGH] DRAWINGS

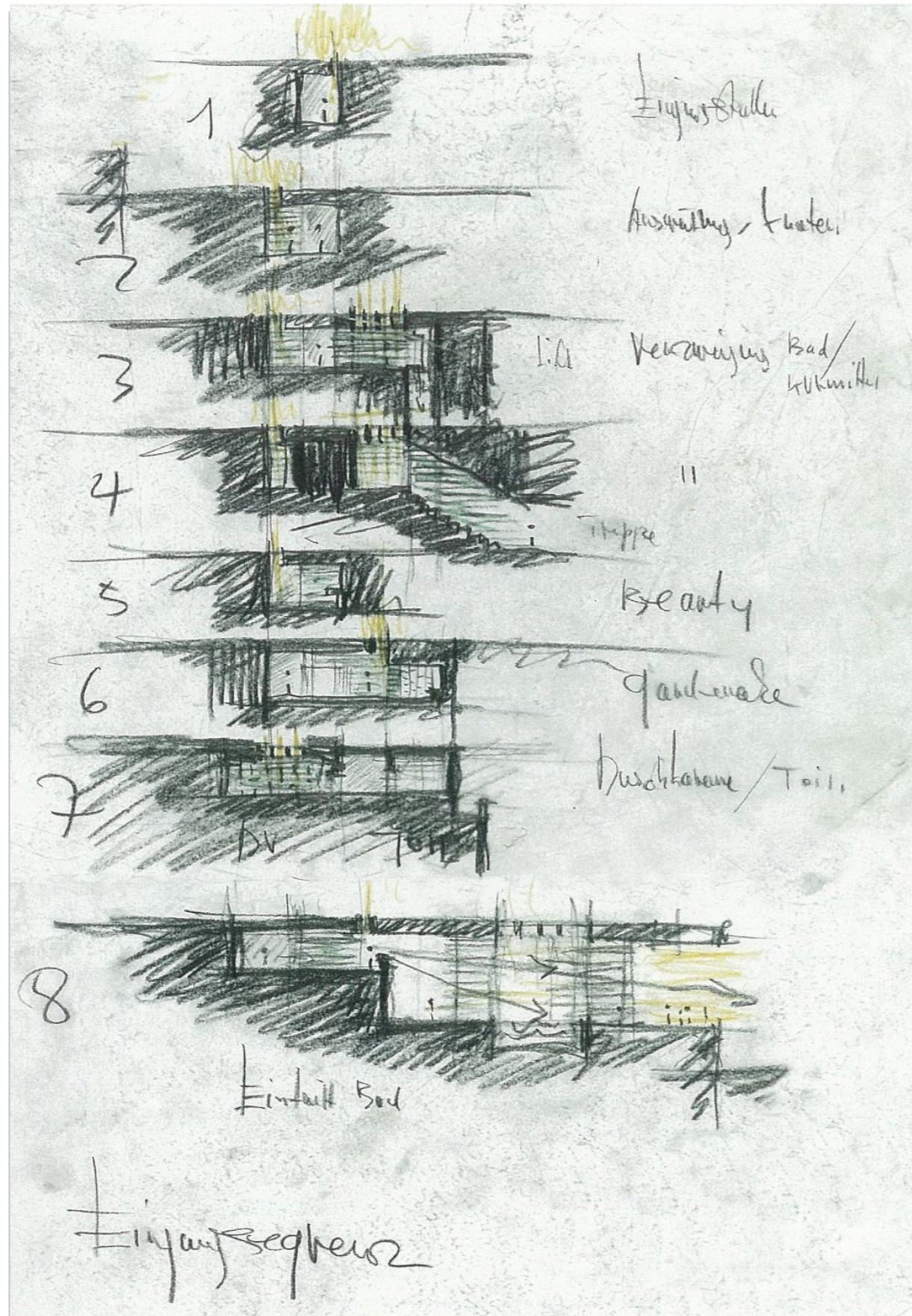
- |               |           |                 |               |             |               |           |
|---------------|-----------|-----------------|---------------|-------------|---------------|-----------|
| THE CONTEXT   | THE SITE  | THE INSPIRATION | THE MOOD      | THE CONCEPT | THE LANDSCAPE | THE PLAN  |
| ● THE SECTION | THE SPACE | THE SKIN        | THE MATERIALS | THE DETAILS | THE PROCESS   | THE WHOLE |



“Drawing is not a transparent translation of thought into form, but rather a medium which influences thought just as thought influences drawing.”

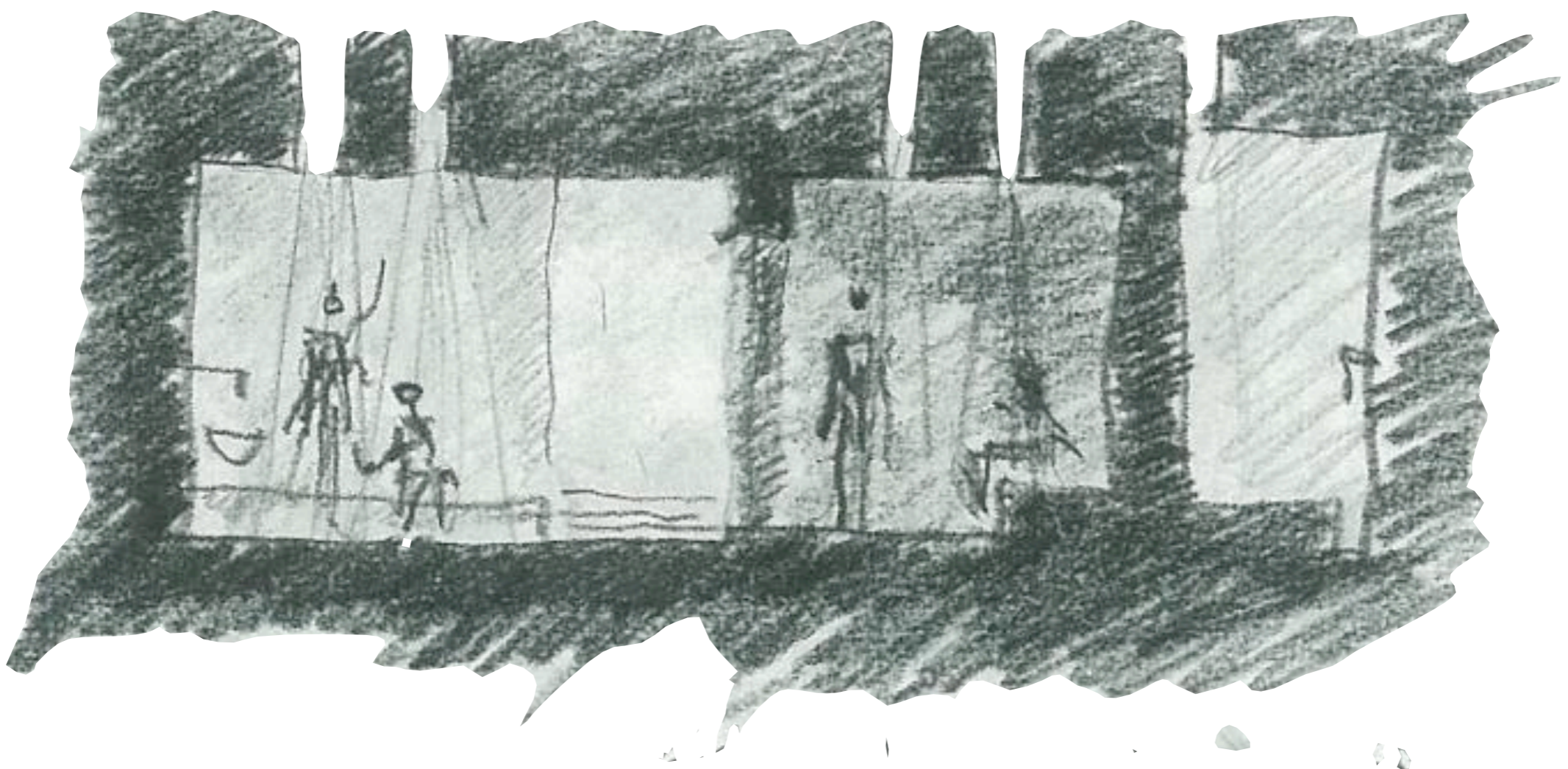
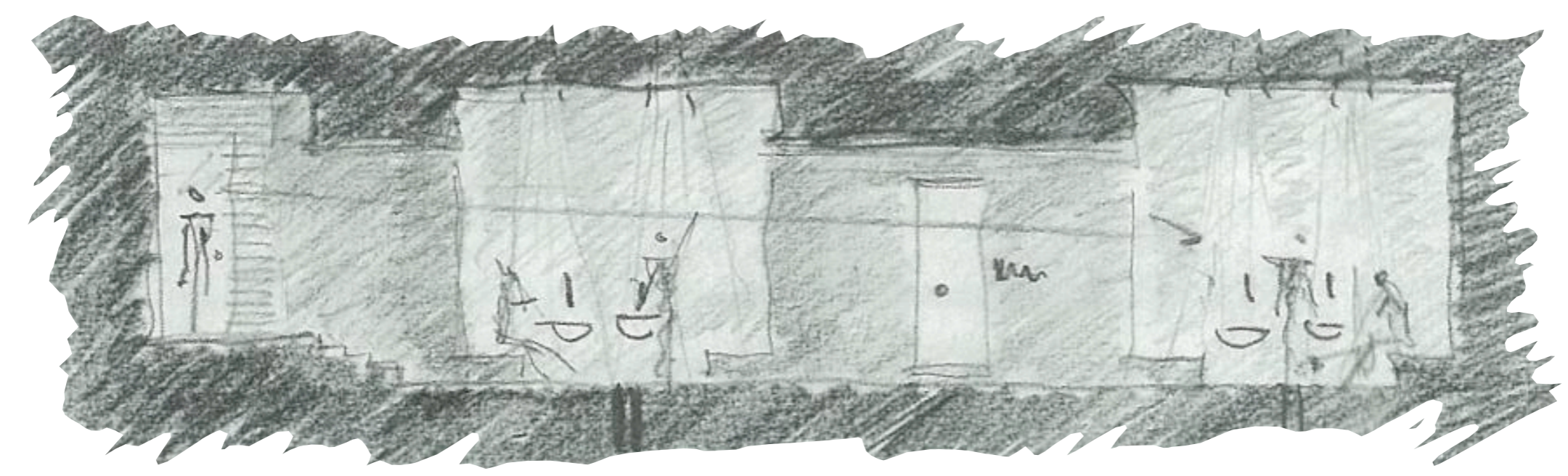
Fraser and Henmii, 1994





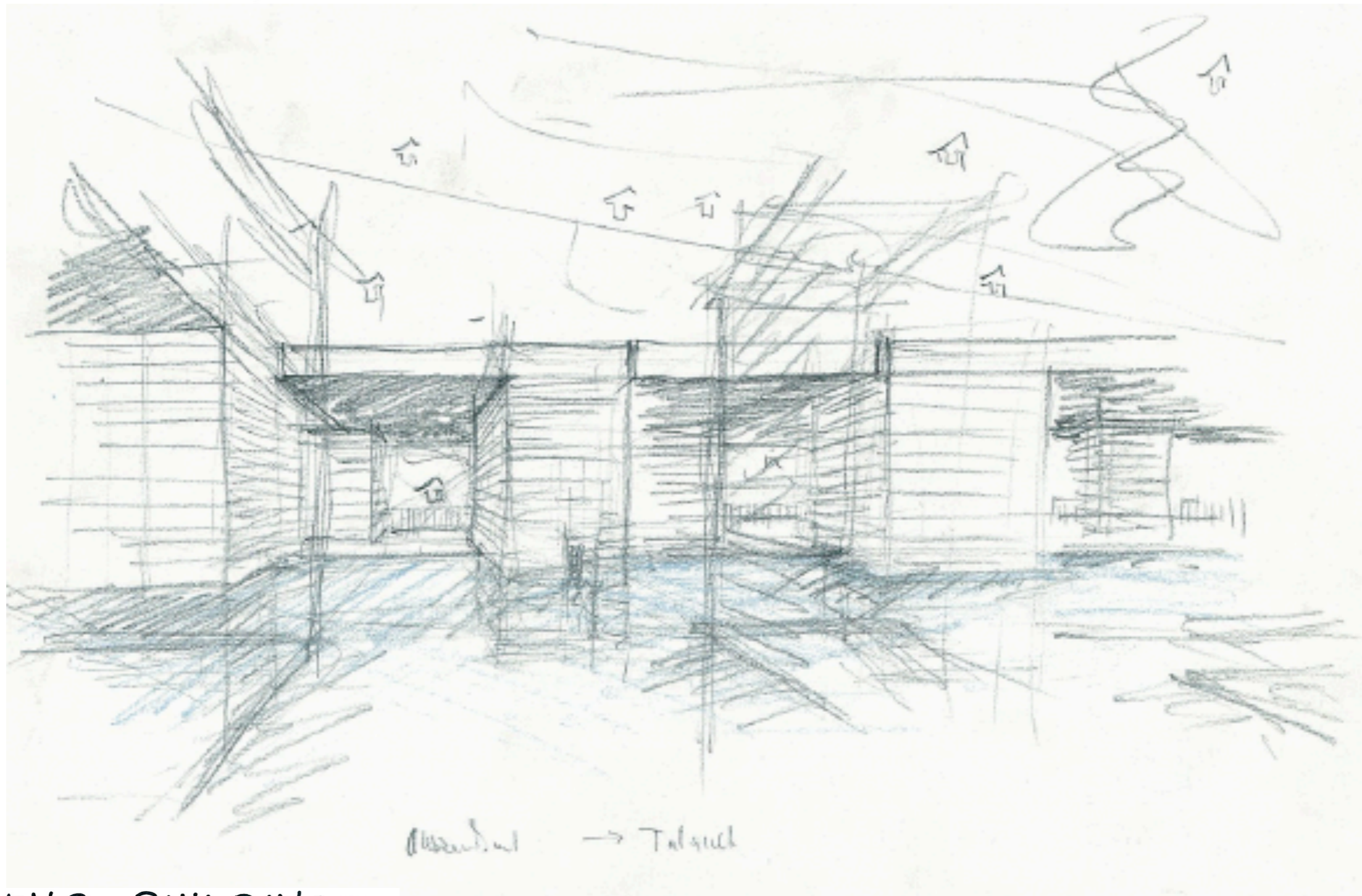
“Drawings, like sketches, have the potential to multiply thought and create a chain of associations that lead to new ways of seeing and understanding.”

Fraser and Henmii, 1994





# THE SPACE



## DRAWING BUILDINGS BUILDING [THE STORY THROUGH] DRAWINGS

THE CONTEXT

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THE MOOD

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THE SECTION

● THE SPACE

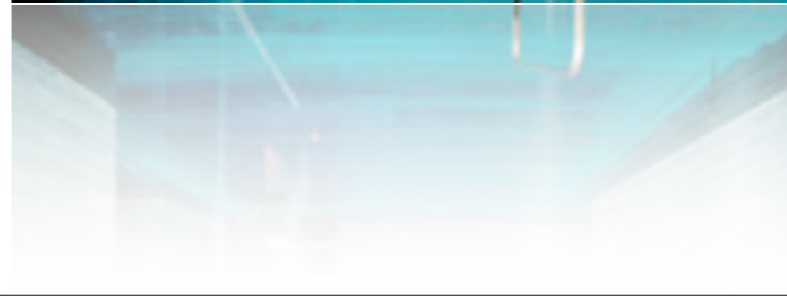
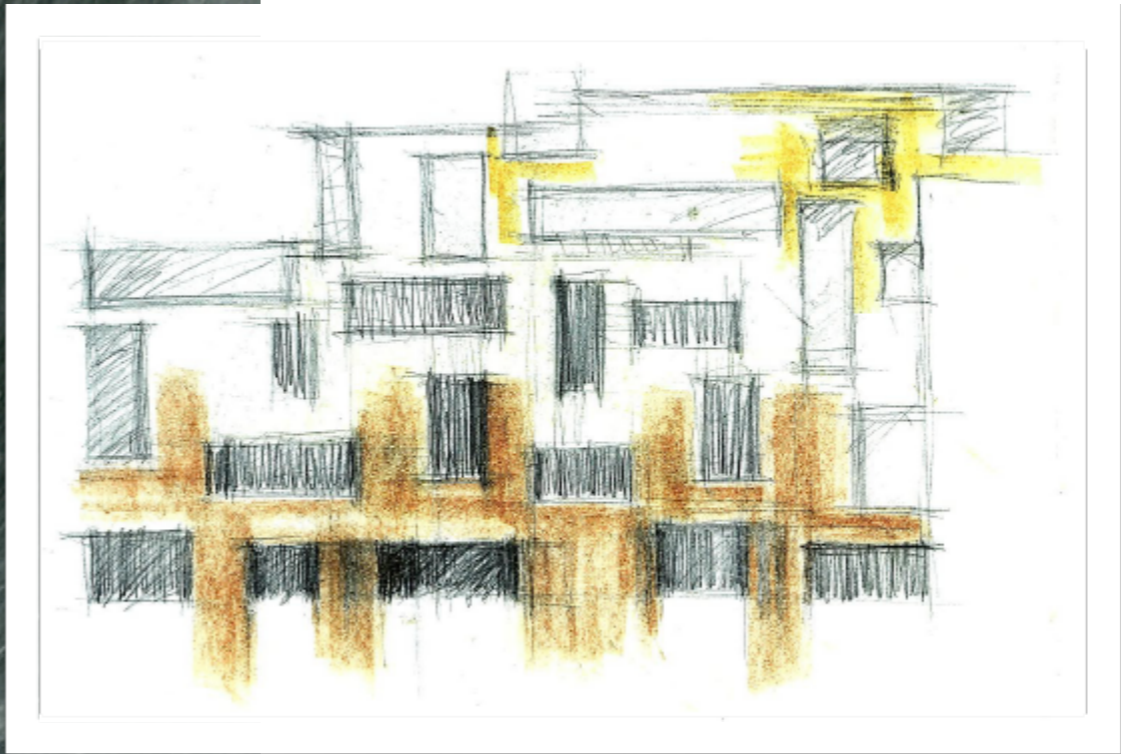
THE SKIN

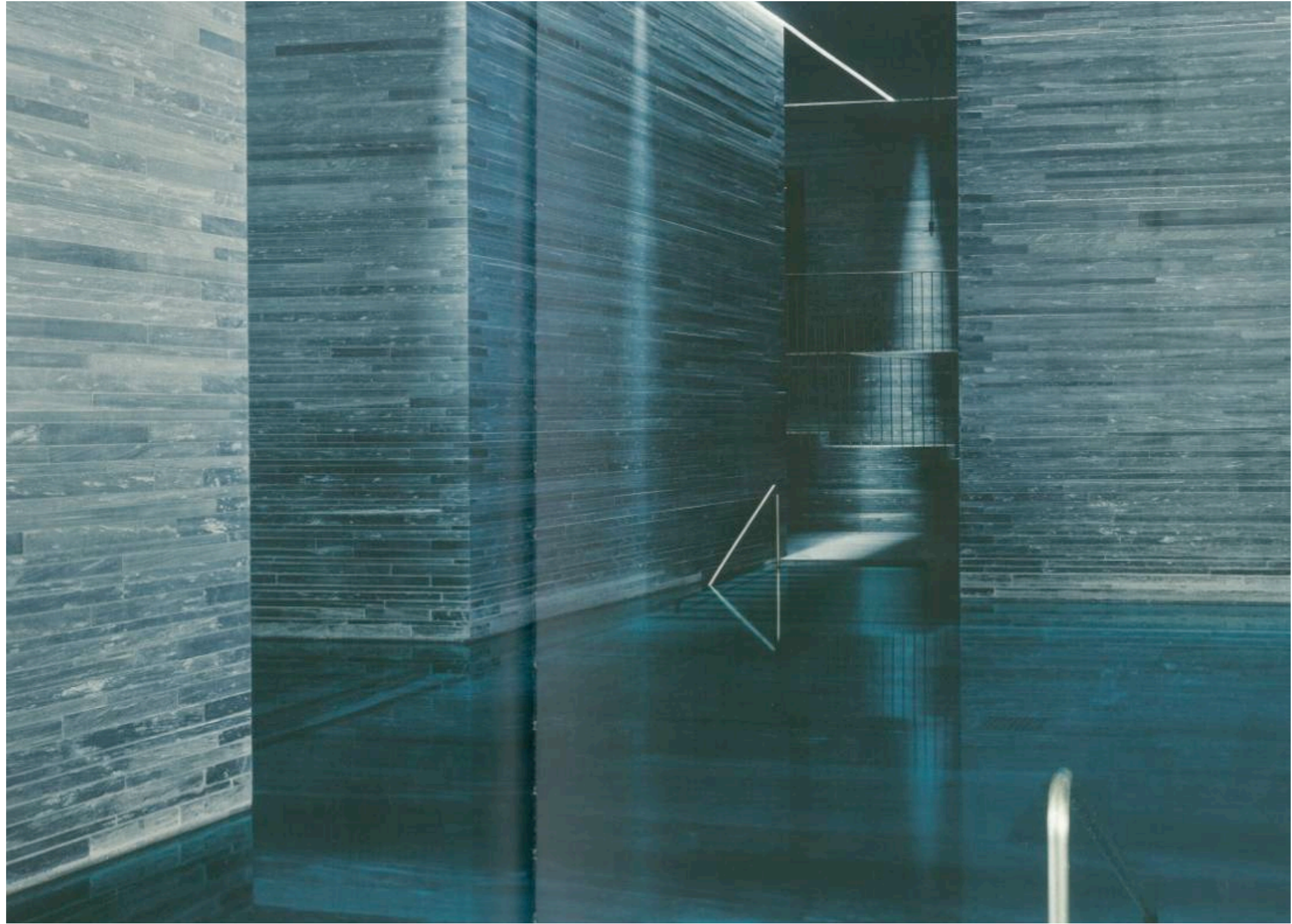
THE MATERIALS

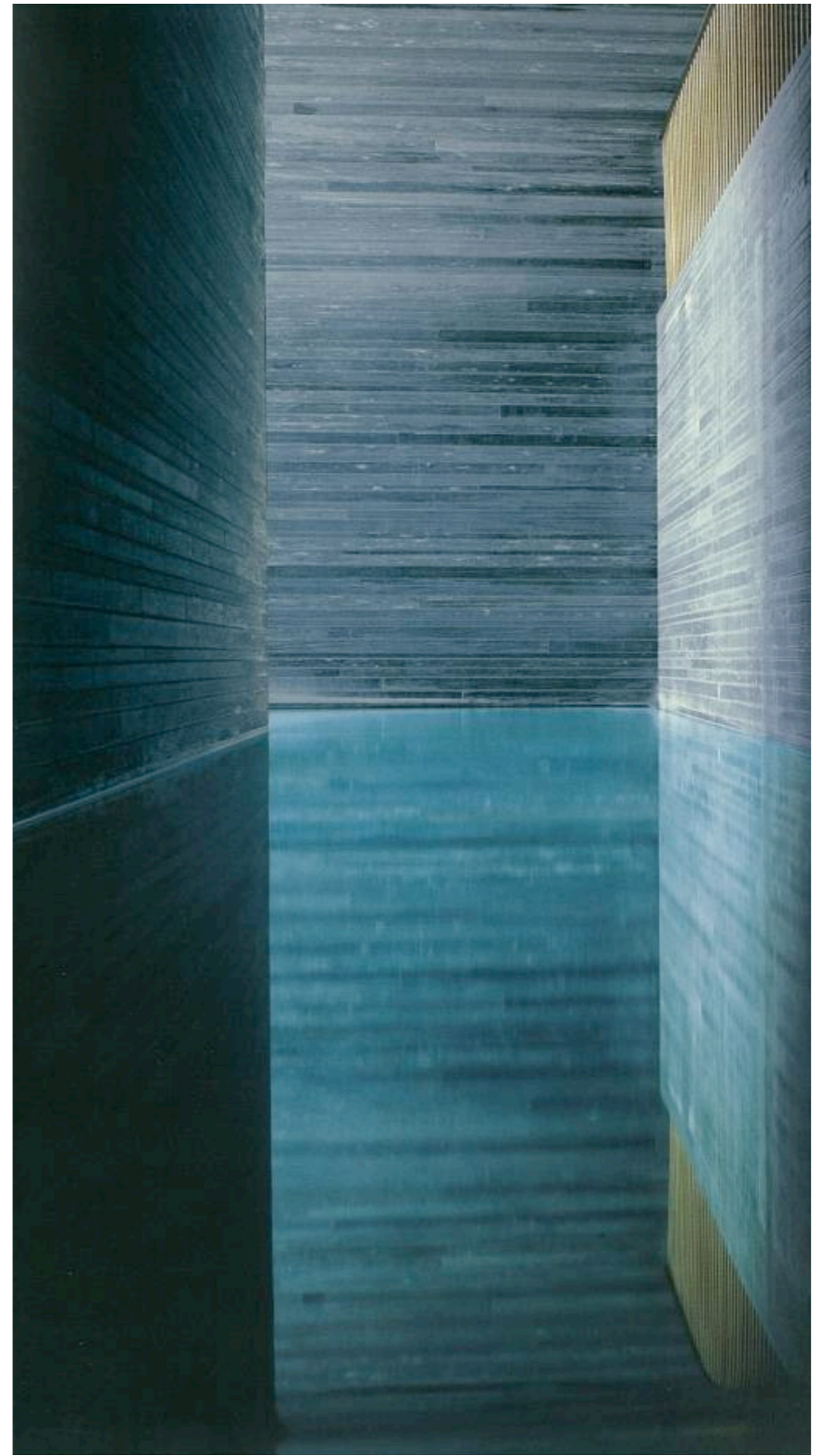
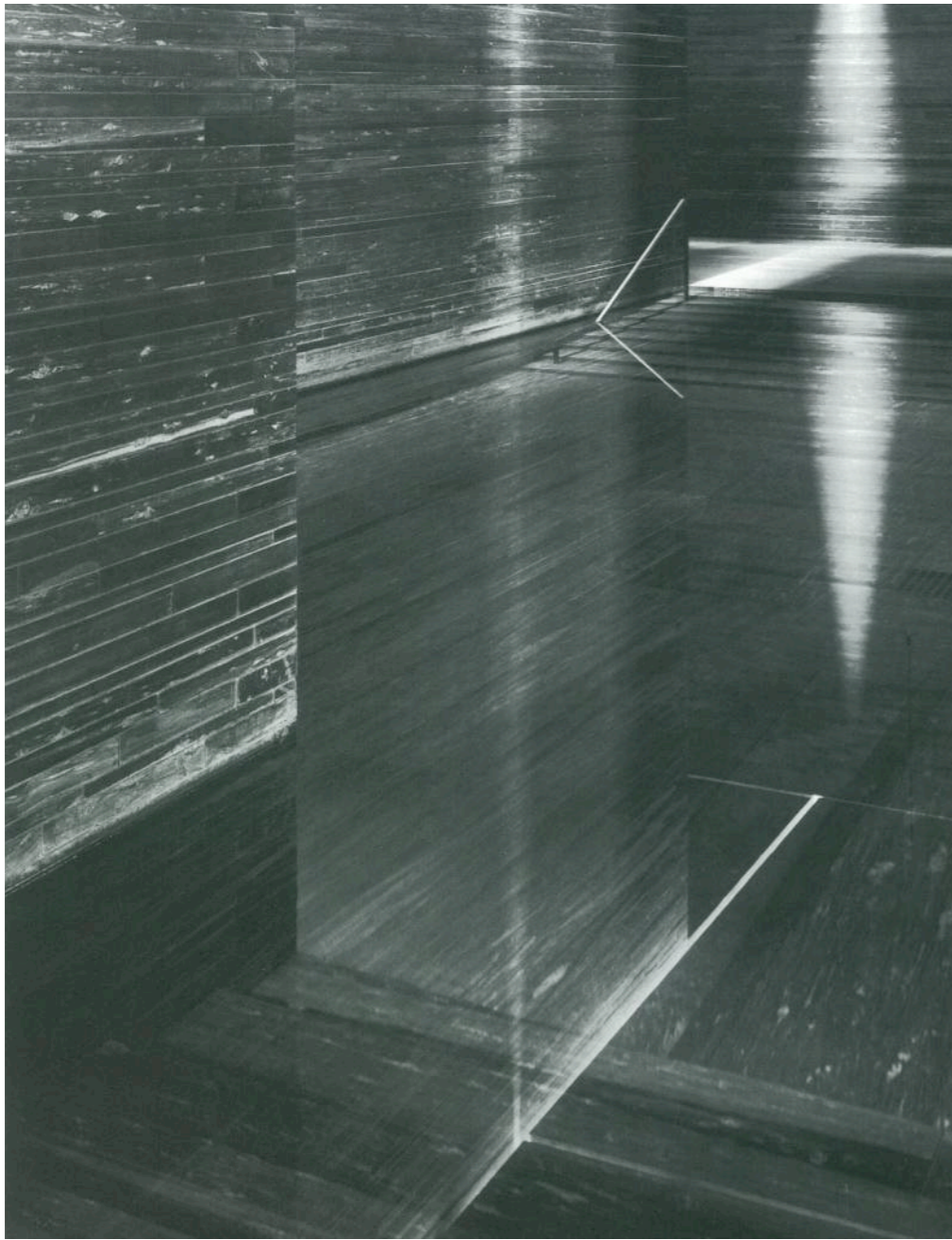
THE DETAILS

THE PROCESS

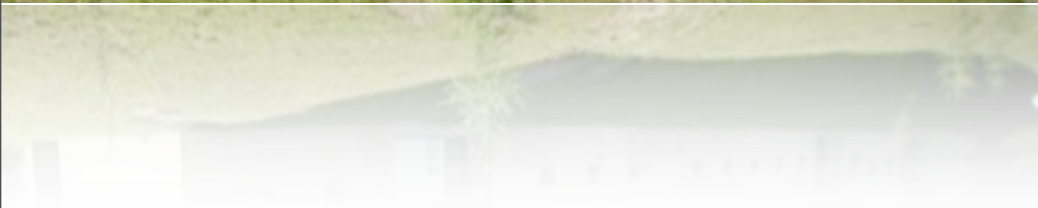
THE WHOLE







# THE SKIN



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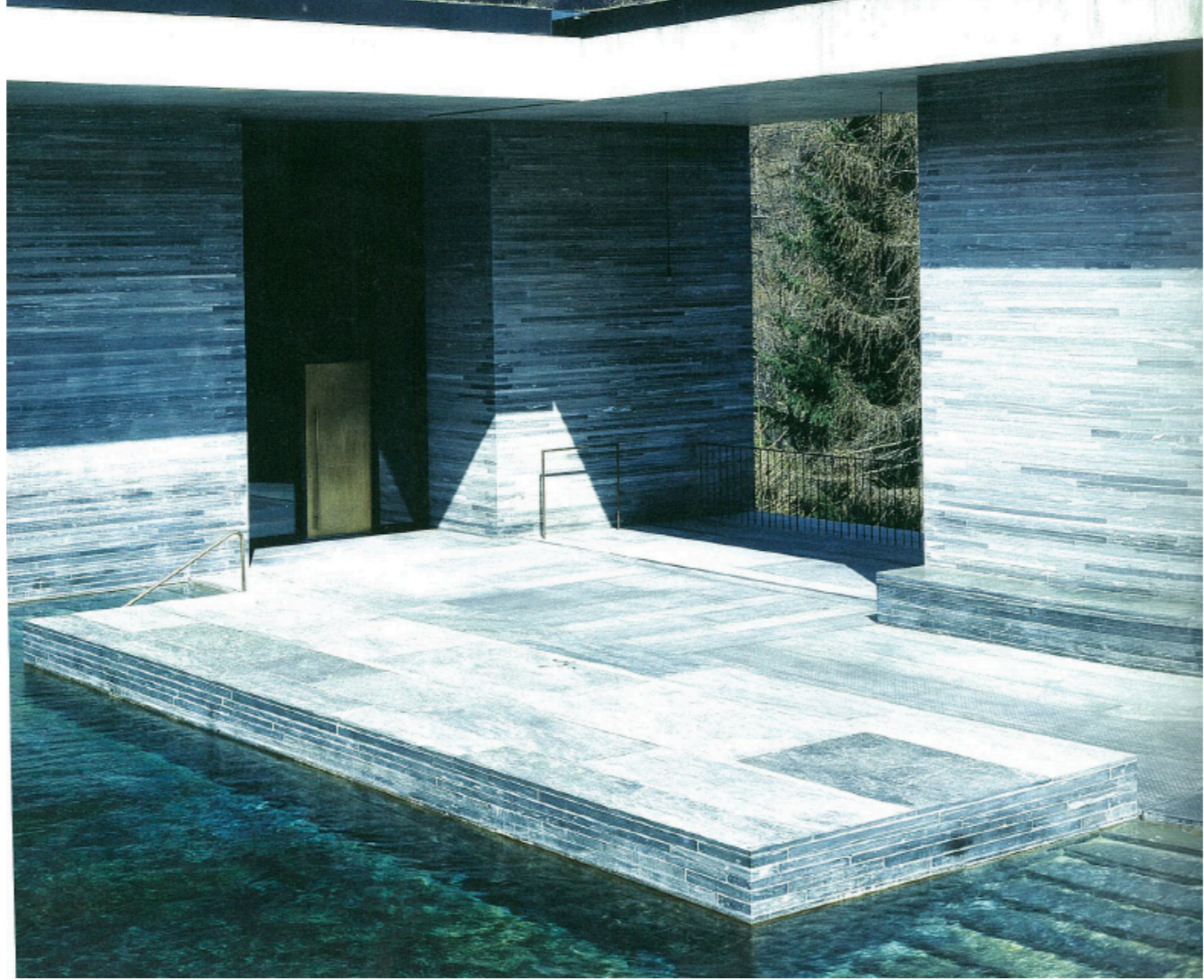
● THE SKIN

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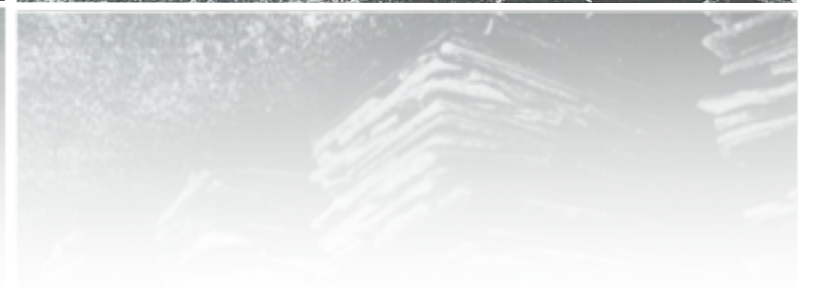
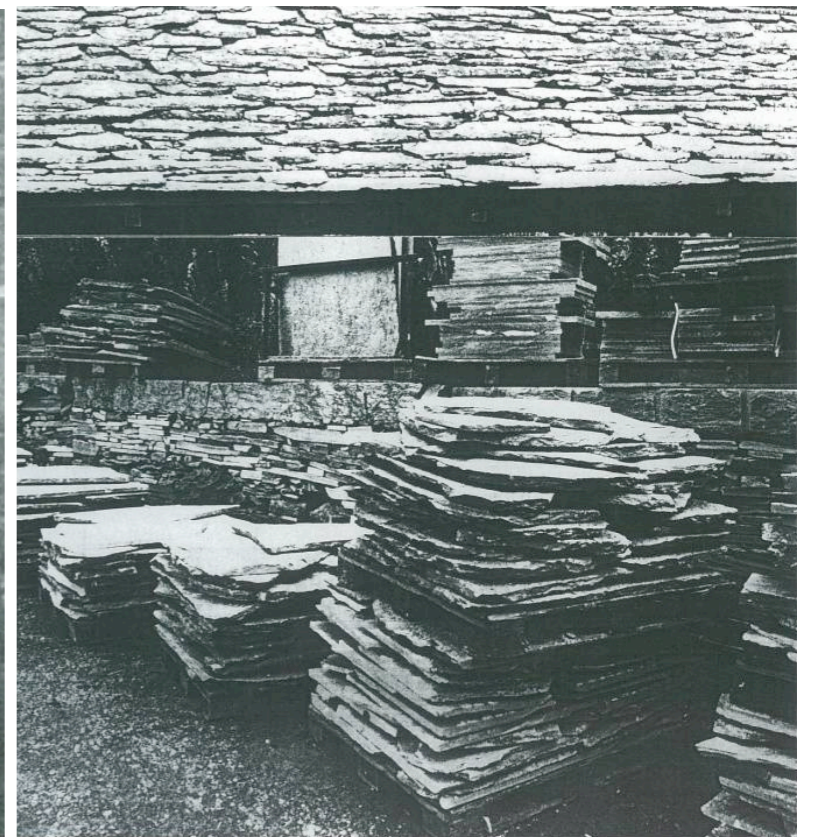
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# THE MATERIALS



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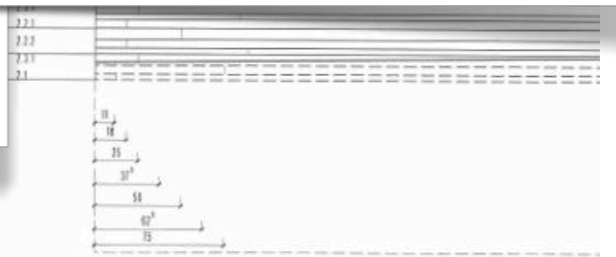
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91	STURZ-SCHACHTW. +4.00	11	222
88	FENSTERBA. FASS. NORD +4.35	12.1	21
85	STURZ LIFT/SCH. +4.20	11	221
82	STURZ EINGANGS. +4.20	12.2	21
79	STURZ SCHWITZ. +4.00	11	222
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64		12.1	221
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58		12.2	21
55		12.1	221
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46	FB LIFTBOY -2.25	12.2	21
43	TURK. BADERBE. -2.25	11	221
40	STURZ LIFT +4.00	12.1	21
37	FB FELSBAU/BOEF. +1.00	12.1	221
34		11	221
31		12.2	222
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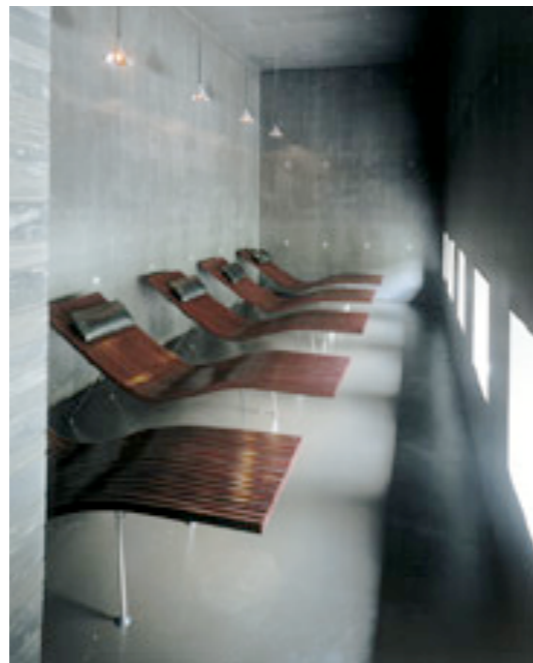
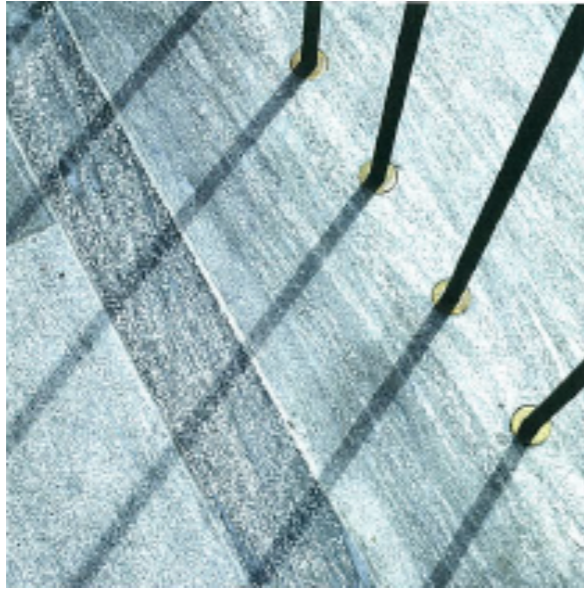
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12.2	2.1
11	2.21
12.2	2.21
11	2.22
12.2	2.21
12.2	2.1

FASSADENANSATZ +4.20	12.2	2.21
		2.1



SCHICHTENFOLGE (GANZES BAD)  
SCHICHT NR.

STEINTYPEN (IM ECKVERBAND)



# THE DETAILS

Architecture is always faced with the challenge of developing a whole out of innumerable details, out of various functions and forms, materials and dimensions. The details establish the formal rhythm, the building's finely fractionated scale.

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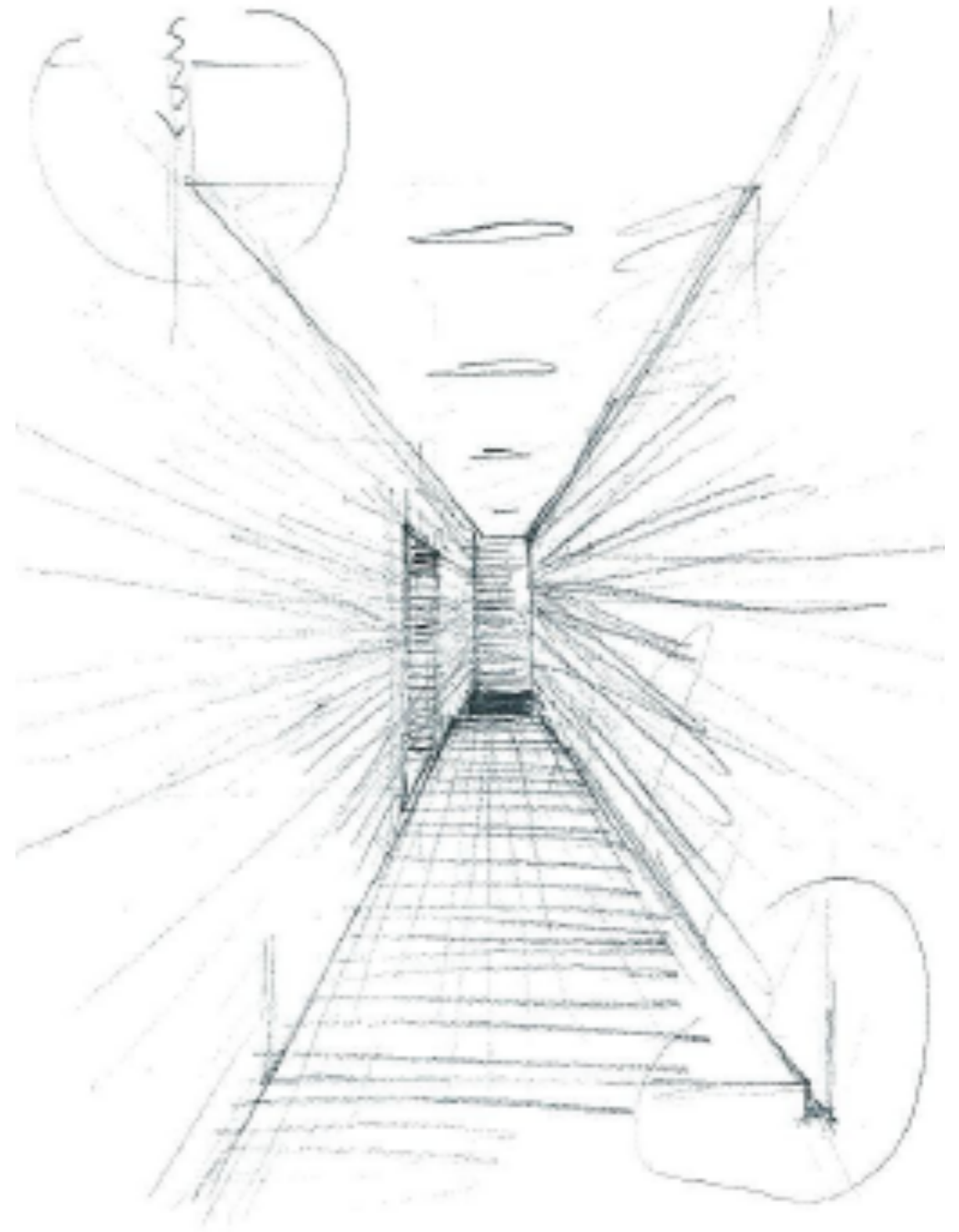
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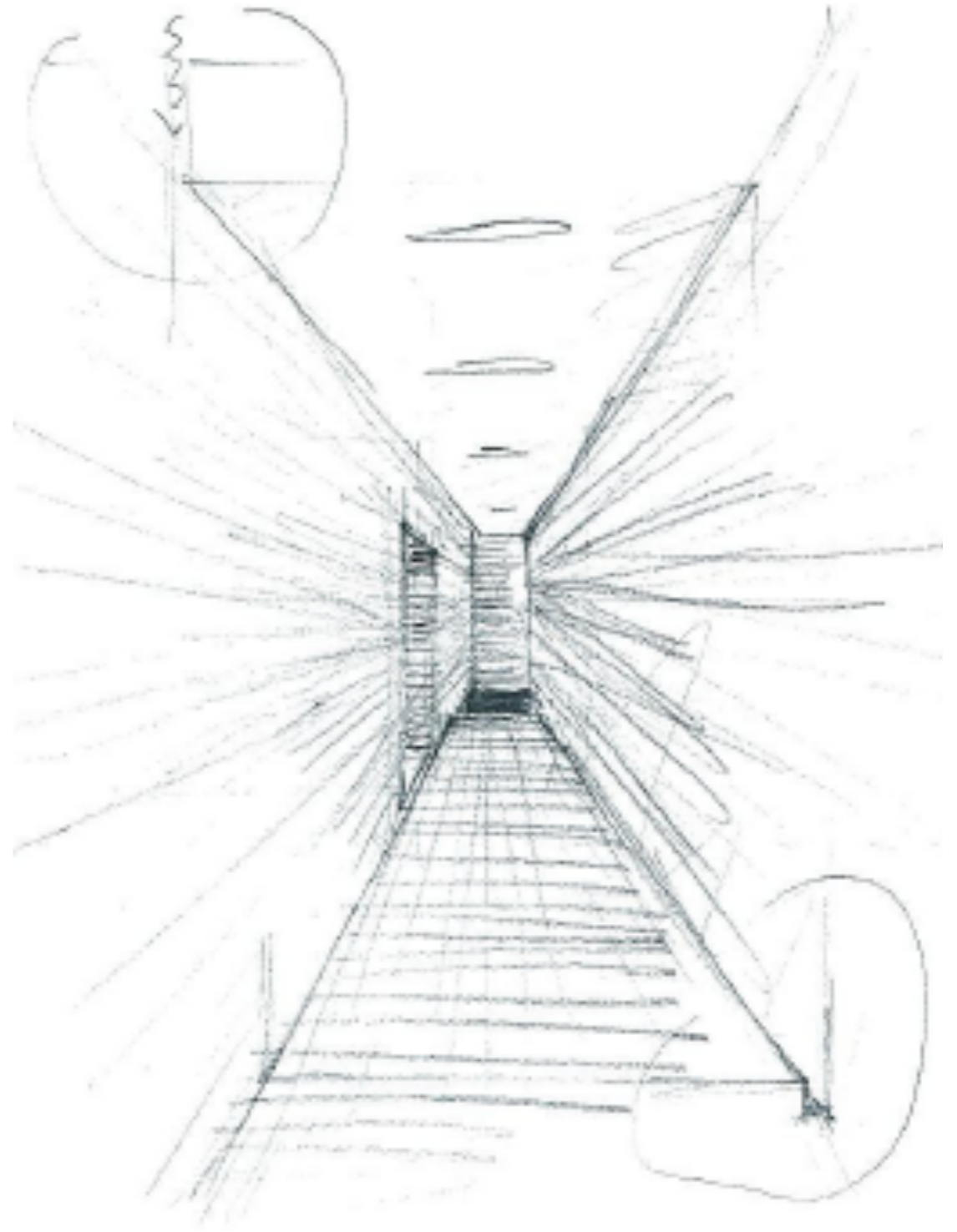
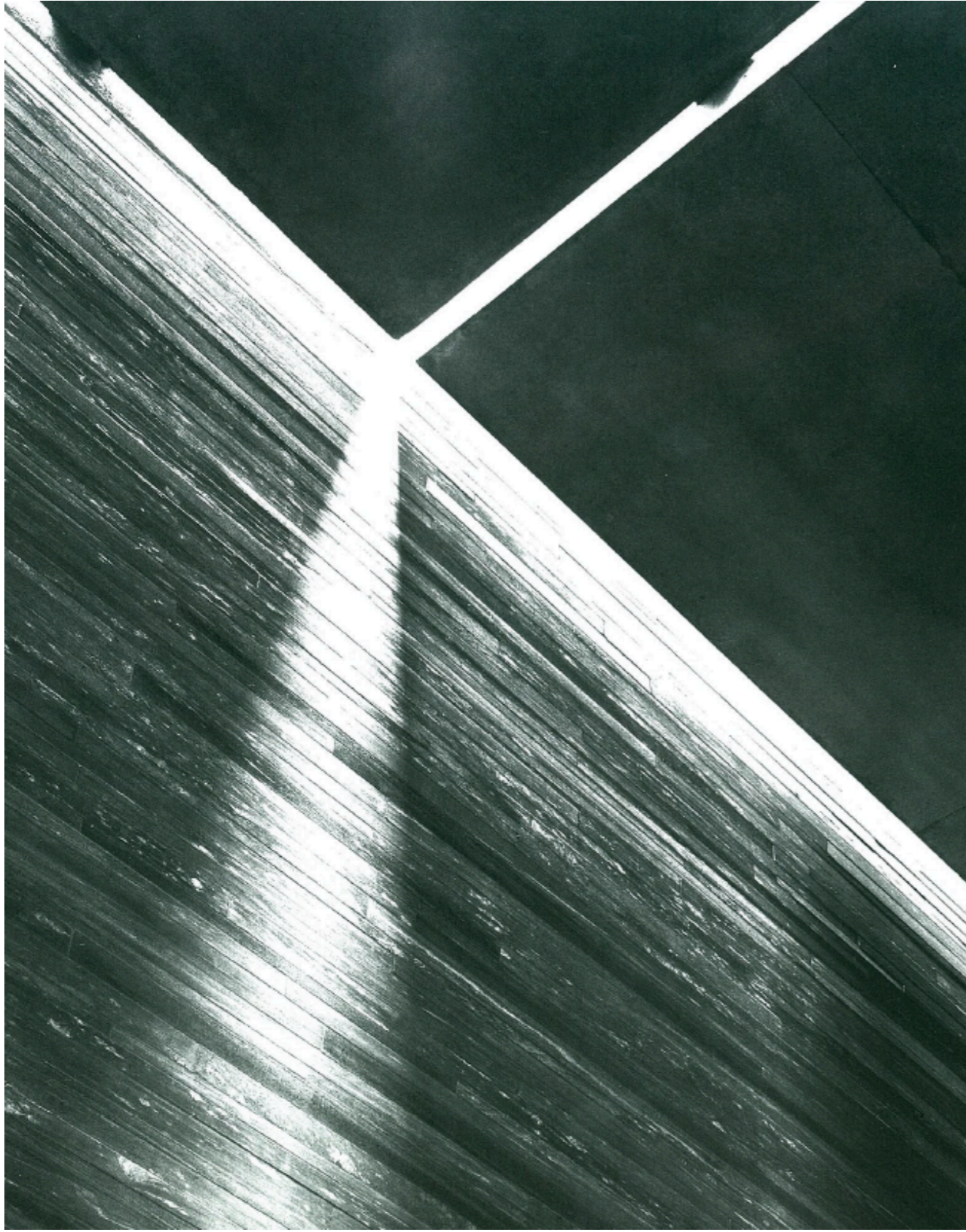
THE MATERIALS ● THE DETAILS

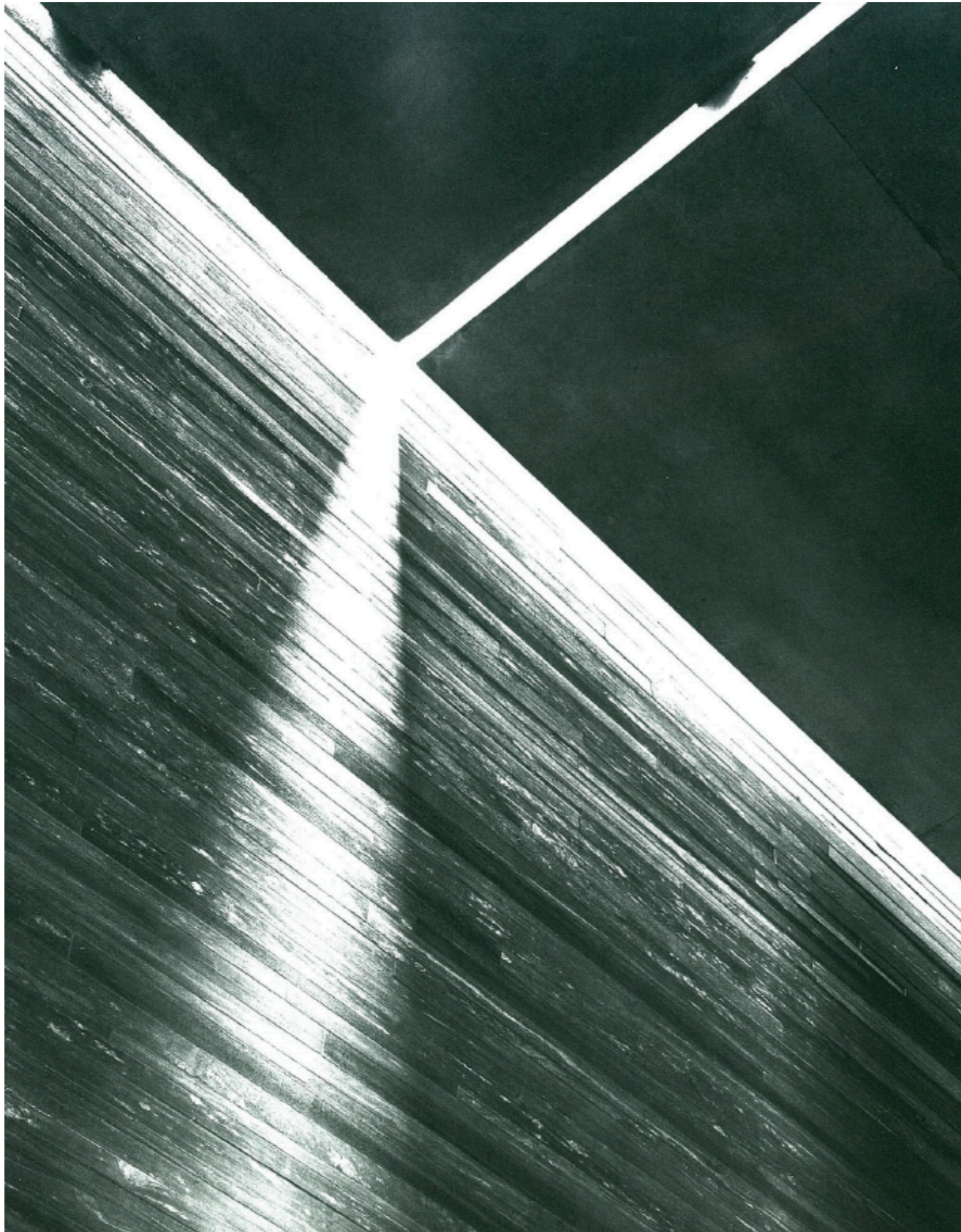
THE PROCESS

THE WHOLE

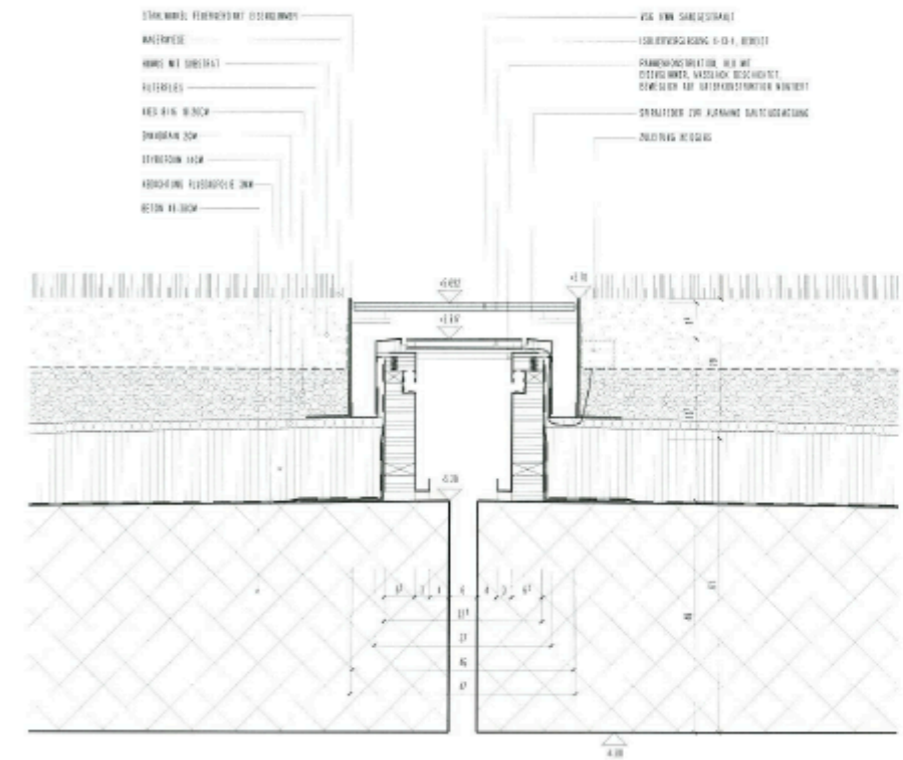
**Details**, when they are successful, are not mere decoration. They do not distract or entertain. They lead to an **understanding of the whole** of which they are an inherent part.



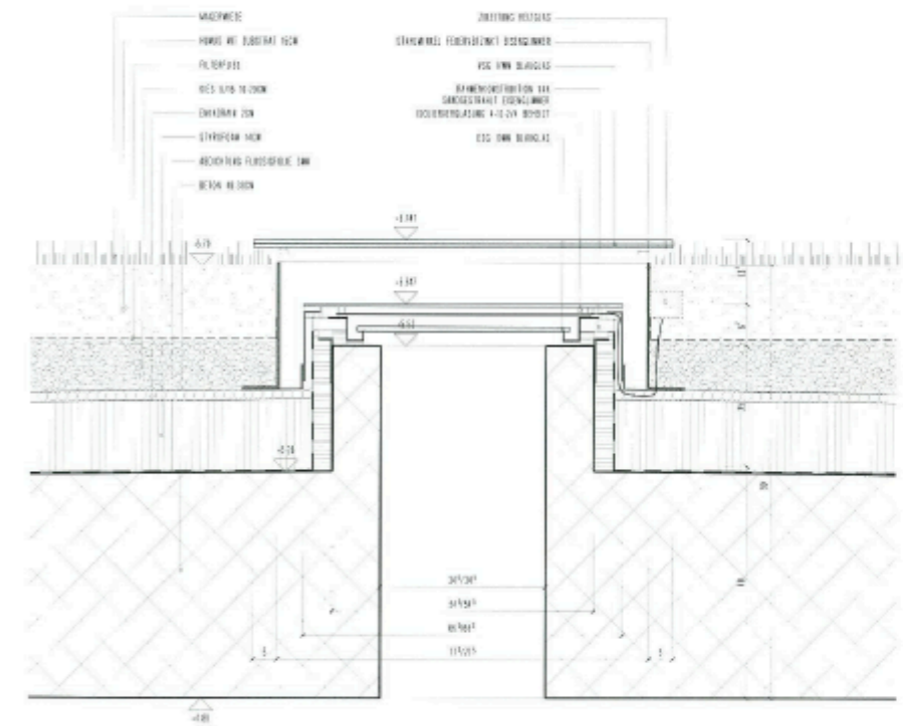


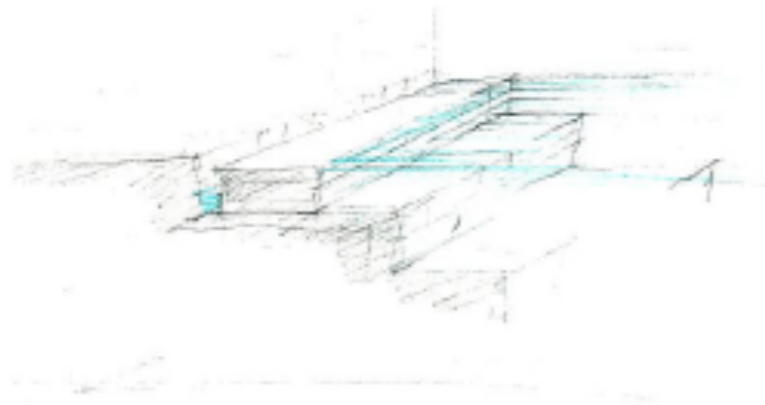
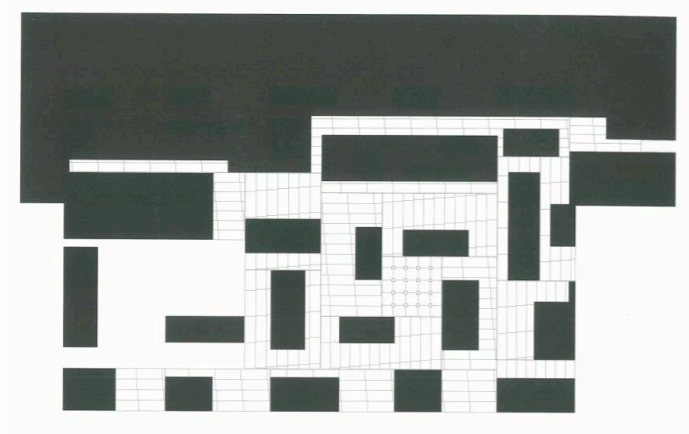
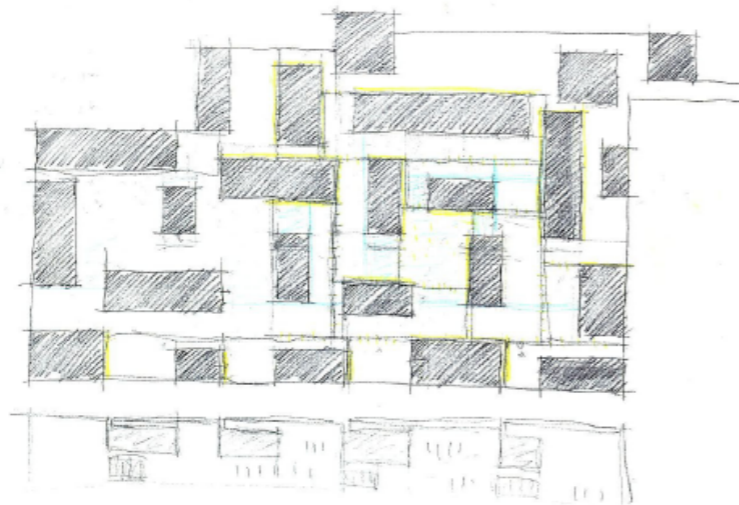
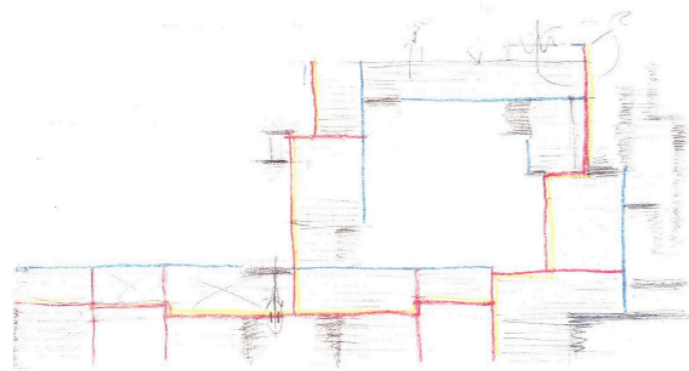


Detail plan: skylight-glazed joint



Detail plan: skylight above indoor pool





**FLOOR PATTERNS.** Each block not only has its own ceiling slab but also its own foot slab. **The “foot slab,”** as we call it, consists of a **rectangle of stone strips of varying width.** They are lying on top of the concrete floor. The pattern of these rectangles, their geometry, is not identical to that of the ceiling slabs; it is made visible on the floor by **changing the direction of the stone** and varying the patterns from field to field.

# THE PROCESS

The design process thus becomes a **transformation process**, the so-called idea continues to evolve by being transferred to different surfaces, using different materials: the sketch assumes different colors on different types of paper, the model takes on **different forms in different scales** with the help of different materials: clay, Styrofoam, plaster, cardboard, wood, stone.

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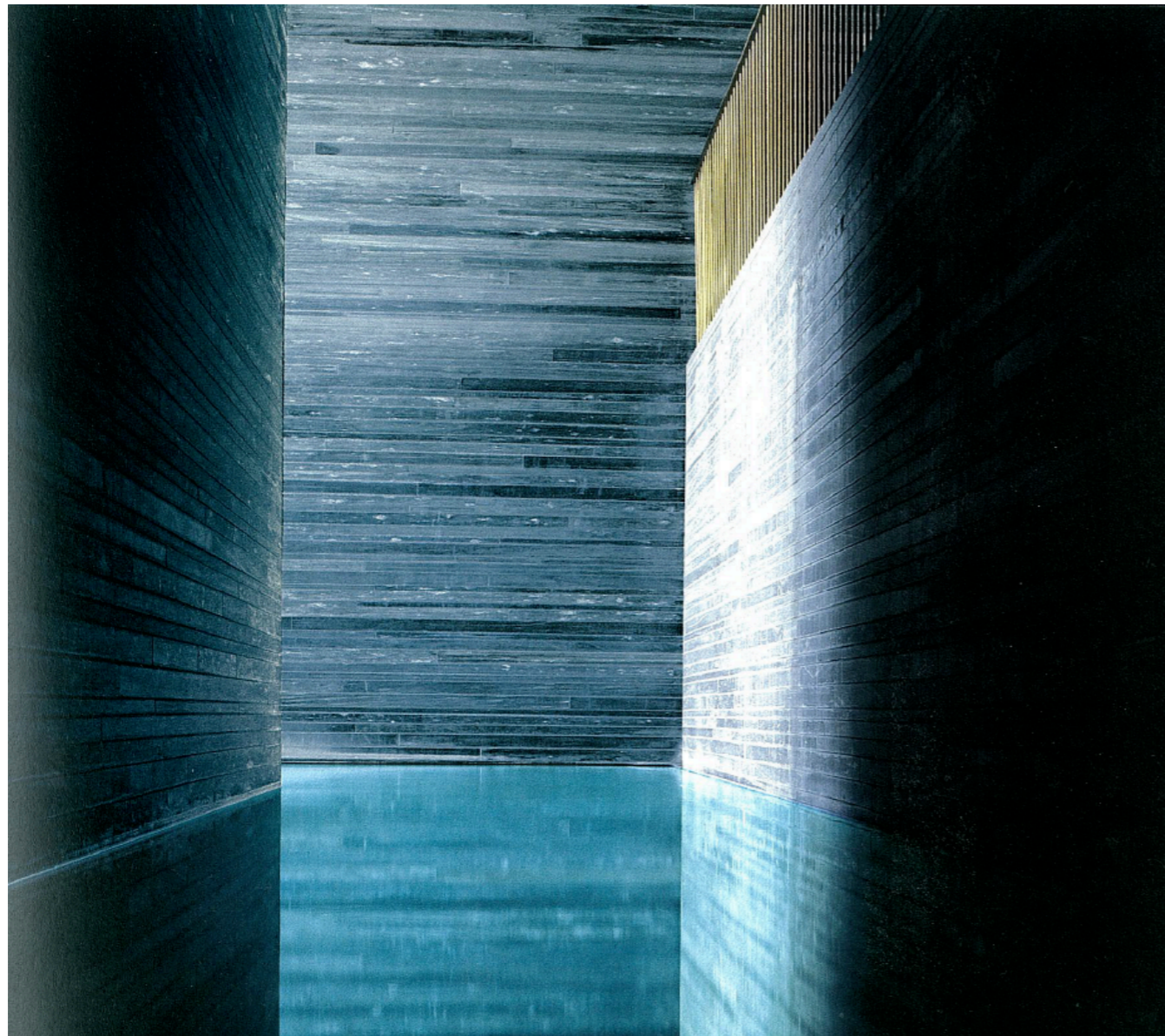
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# THE WHOLE



It is said that one of the most impressive things about the music of **Johann Sebastian Bach** is its “architecture.” Its construction seems clear and transparent. It is possible to pursue the details of the melodic, harmonic, and rhythmical elements without losing the feeling for the composition as a whole—the **whole that makes sense of the details.**

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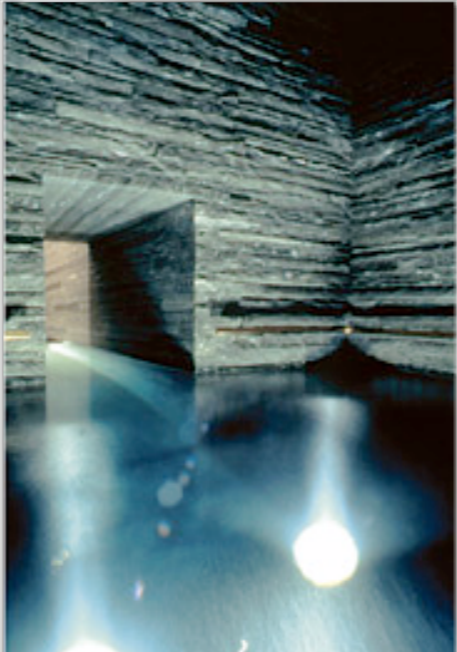
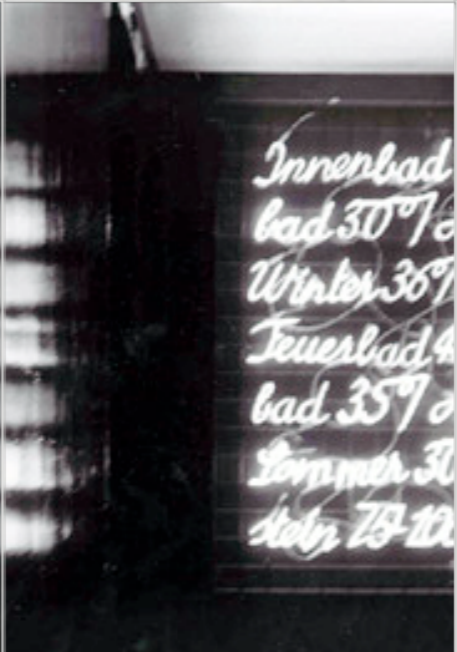
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THE DETAILS

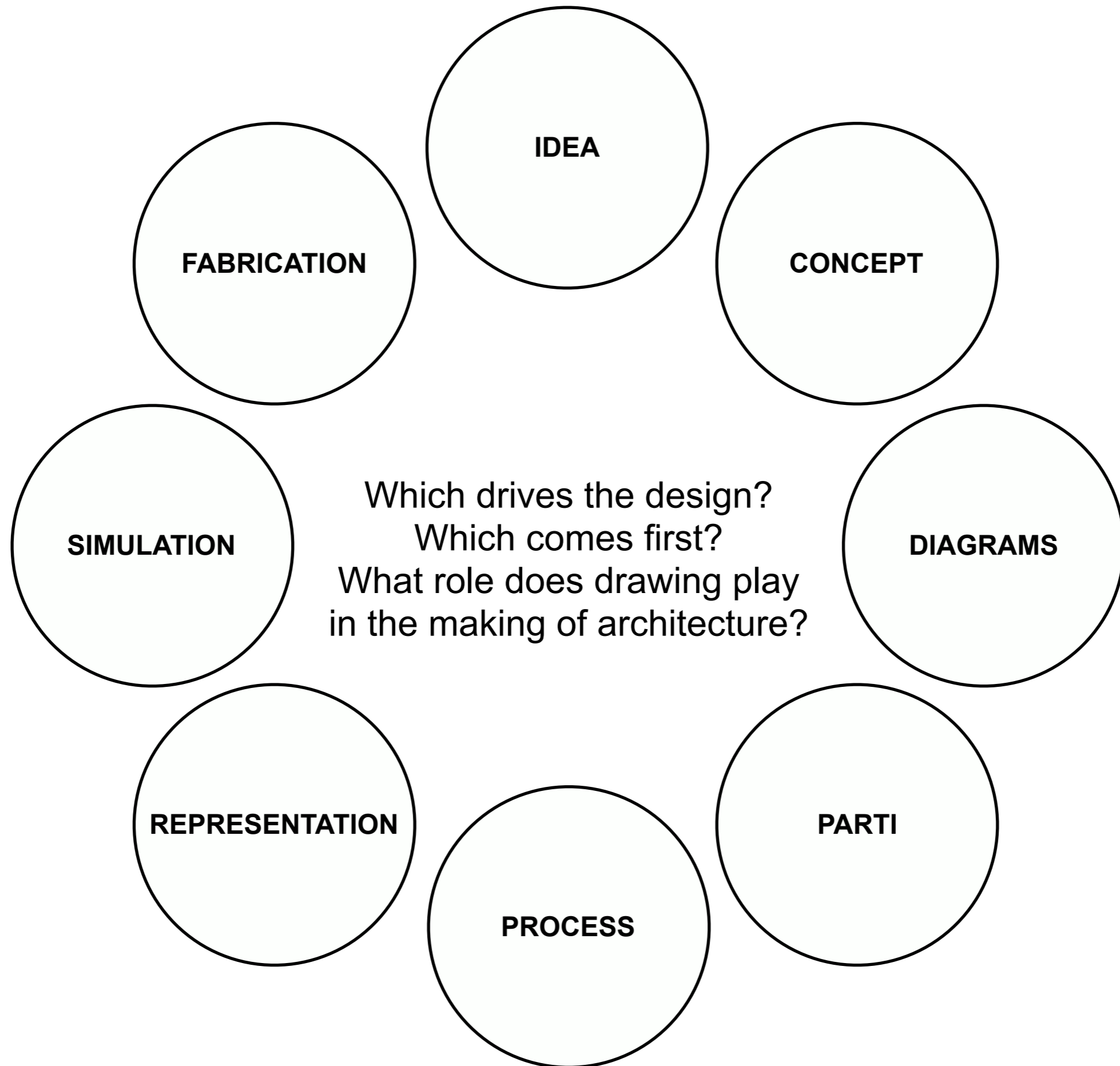
THE PROCESS

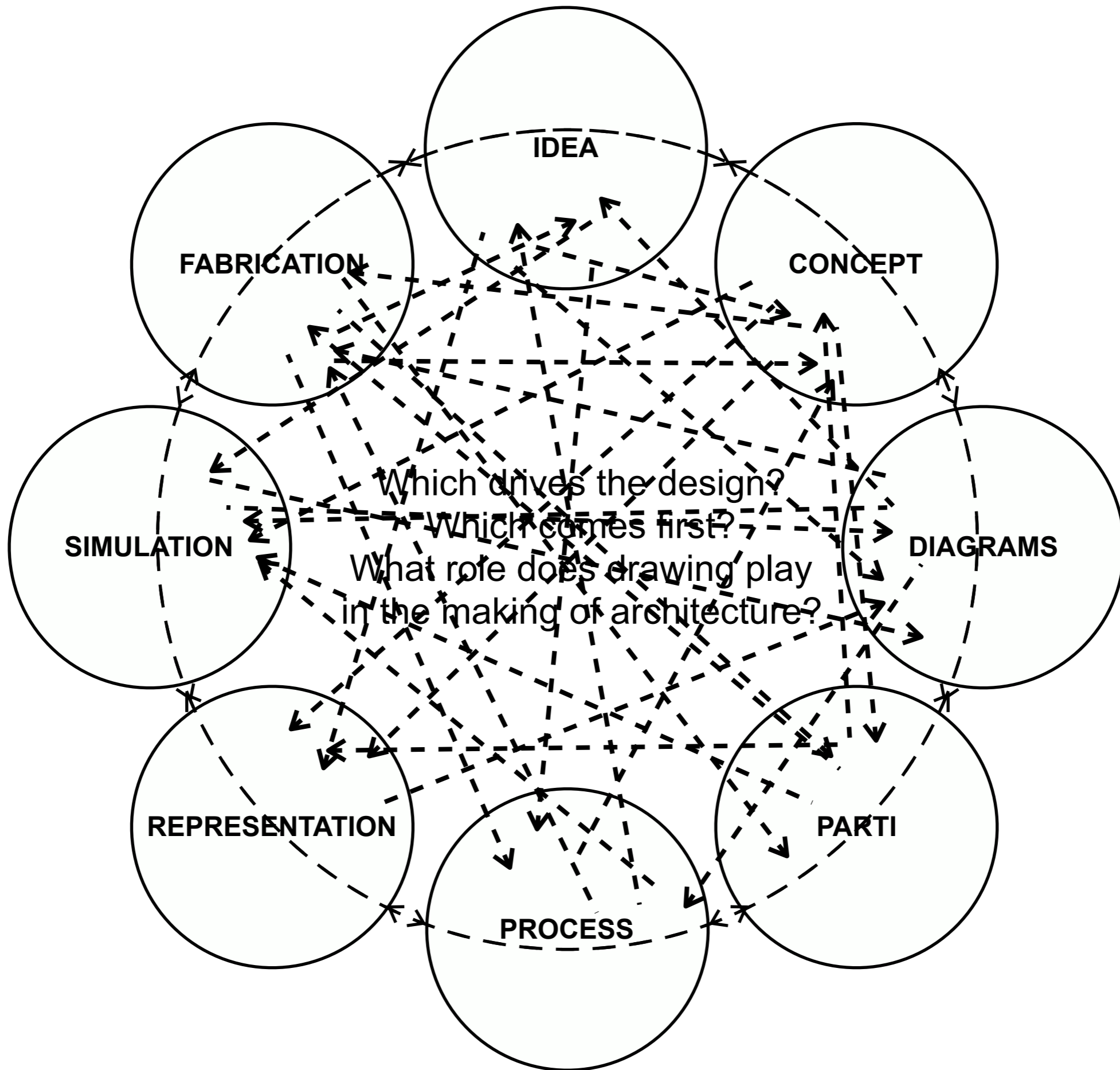
● THE WHOLE



Now we are able to simulate a design by building it in not only three dimensions, but the 4th and 5th dimension as well. We can turn our designs 360 degrees, we can see them from below, from above, we can instantly have a cut-away section view of the design, we can do sun studies, we can check for energy efficiency, modify our design, and re-check to arrive at the best sustainable solution.

When you have this viewing flexibility, you observe your design in new ways and these new views inform you of how your design can be modified, manipulated, or transformed to reinforce the original concept.





DRAWING BUILDINGS  
BUILDING [THE STORY THROUGH] DRAWINGS

**QUESTIONS?**  
THANK YOU.