

INTD 25 Module 3- Order and Proportion

Based on Chapters 4, 5, 6 in Architecture: Form, Space Order

Spatial Relationships

- Space within a space
- Interlocking spaces
- Adjacent spaces
- Linked spaces

Spatial Organizations

- Centralized
- Linear
- Radial
- Clustered
- Grid

Circulation Elements

- Approach
- Entrance
- Path

Proportion

- Systems
- Scale

“...To make one plus one equal more than two, you must in doing any one thing you think is important...do something else that you think is important as well...”

Charles Moore, Gerald Allen, Donlyn Lyndon
The Place of Houses
1974 (Ching, p. 177)

Architecture: Form, Space and Order Chapter 4- Organization

Spatial Relationships

- Space within a space
- Interlocking spaces
- Adjacent spaces
- Linked spaces

Spatial Organizations

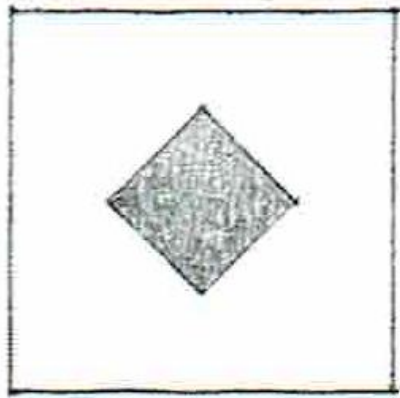
- Centralized
- Linear
- Radial
- Clustered
- Grid

ELEMENTAL, Centro Anacleto Angelini,
Santiago, Chile, 2013

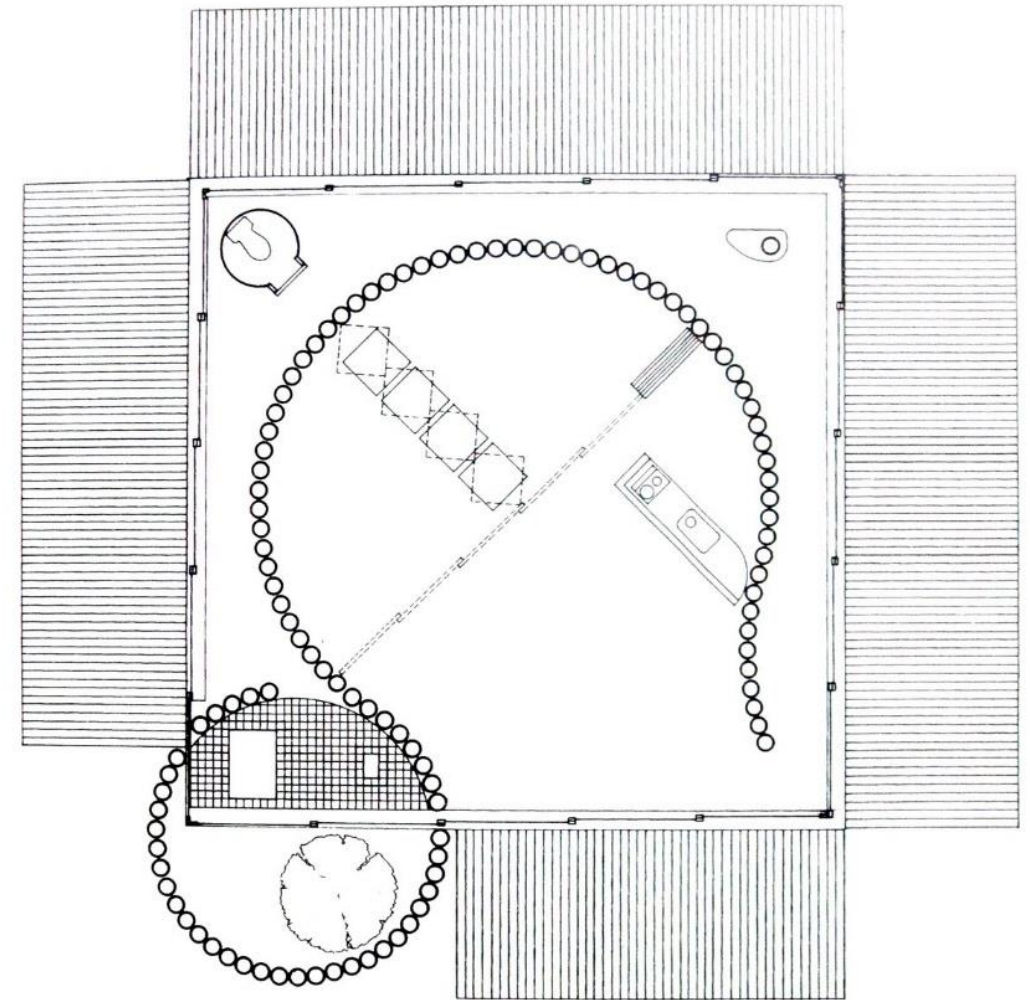
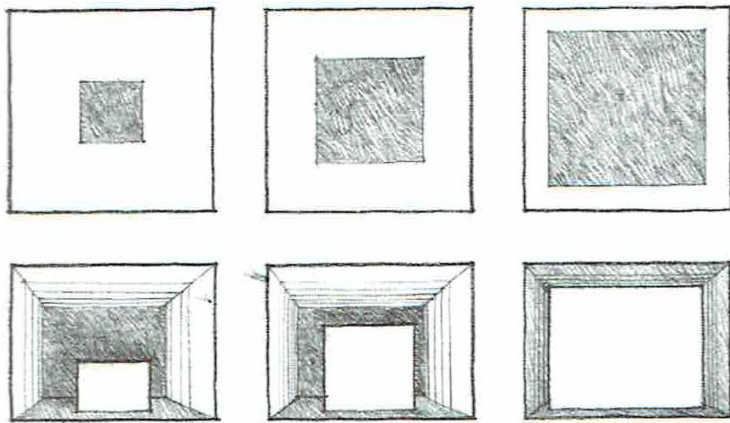


Space within a Space

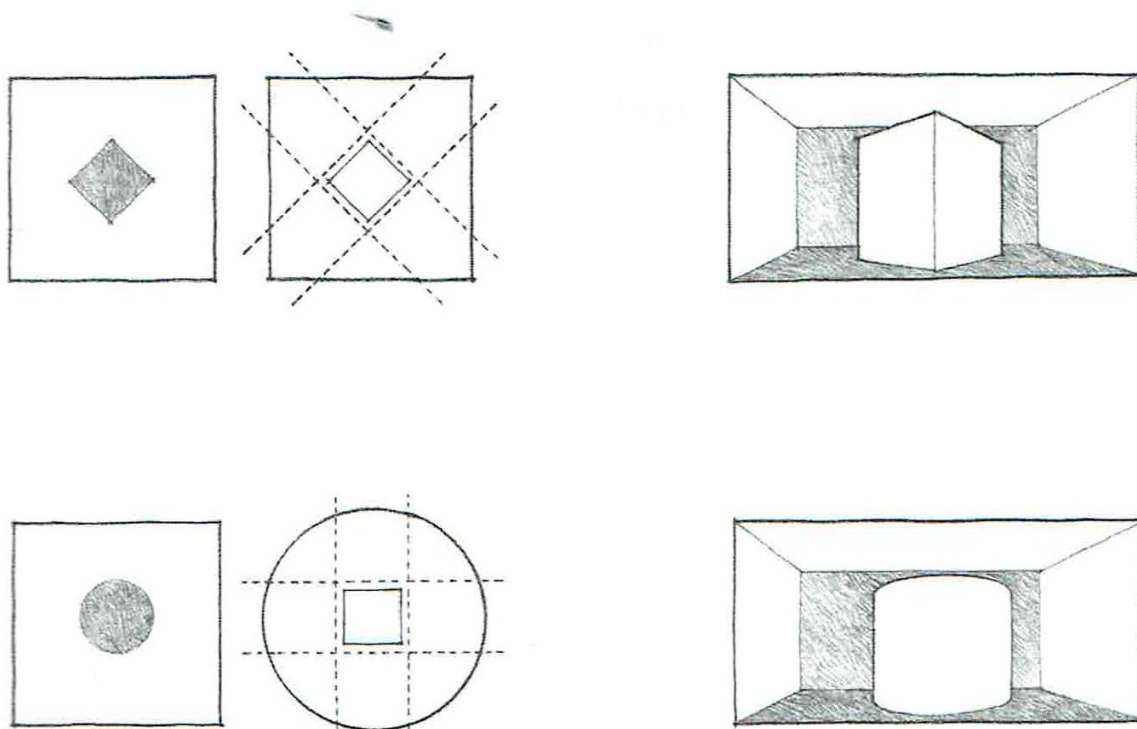
spatial relationships



The two spaces must vary in either size, or shape or orientation to be effective

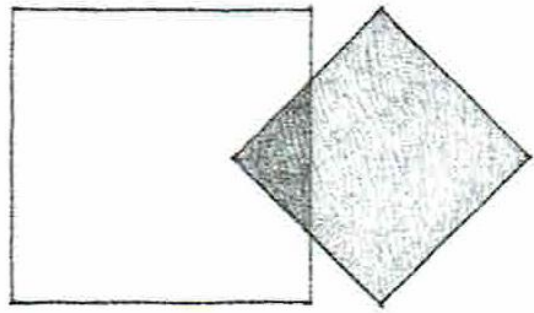


Shigeru Ban Paper House

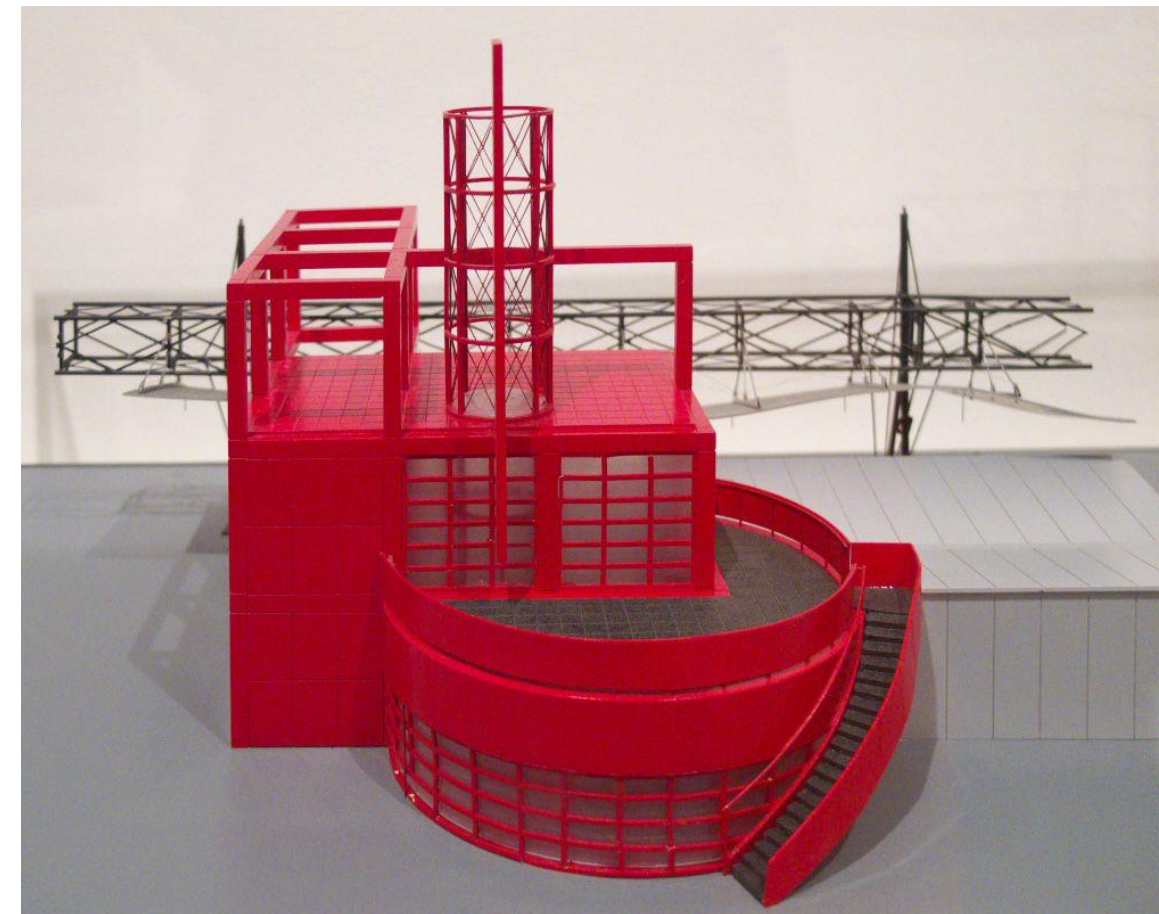
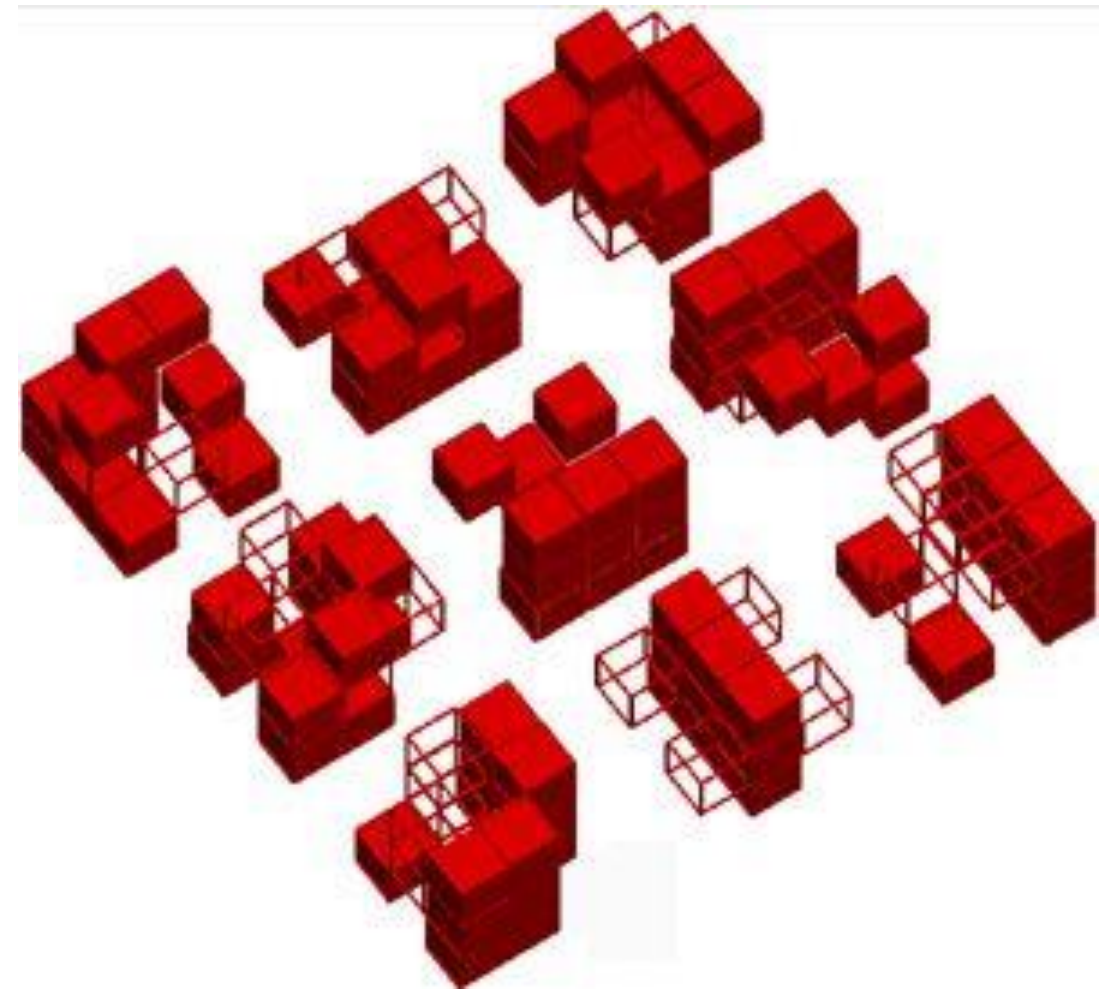
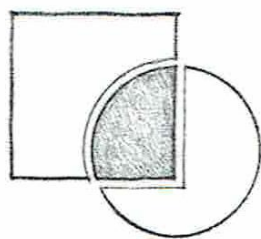
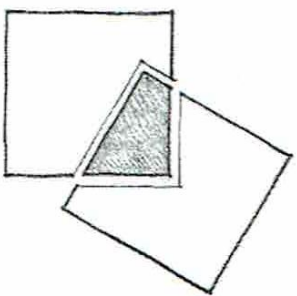
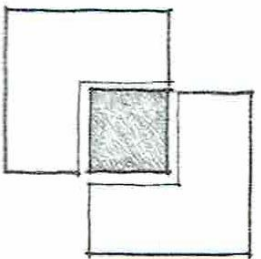
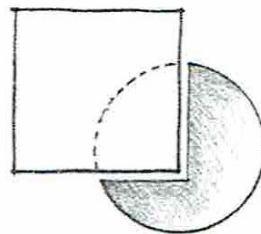
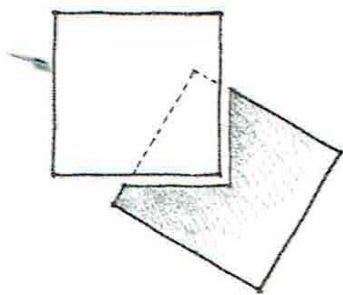
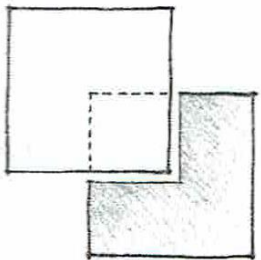
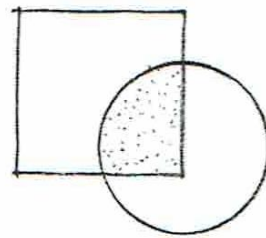
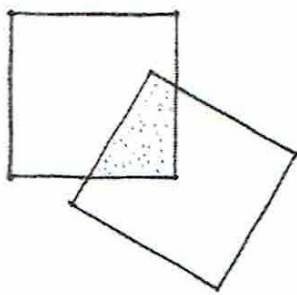
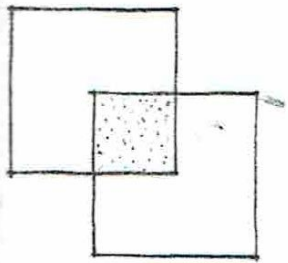


Interlocking Spaces

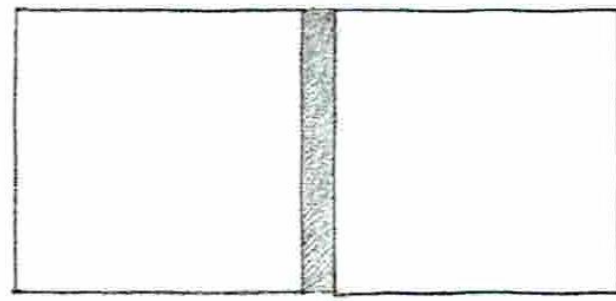
spatial relationships



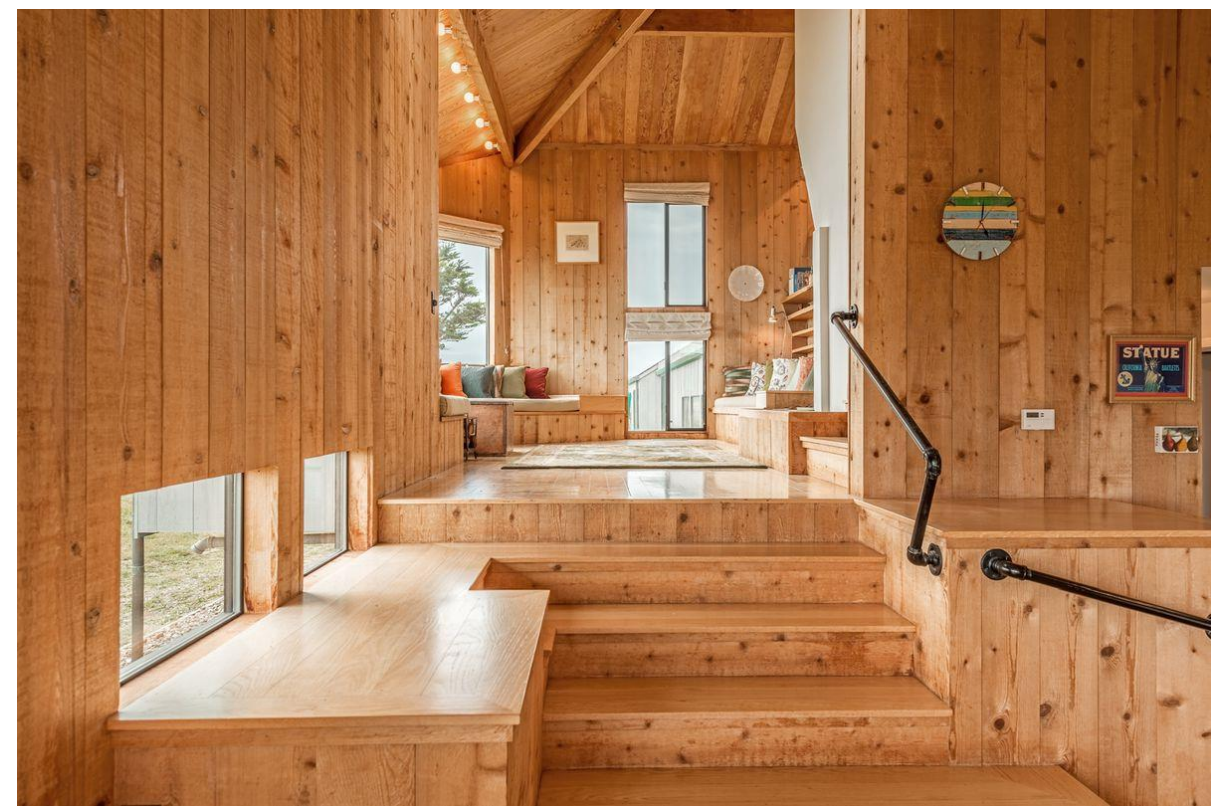
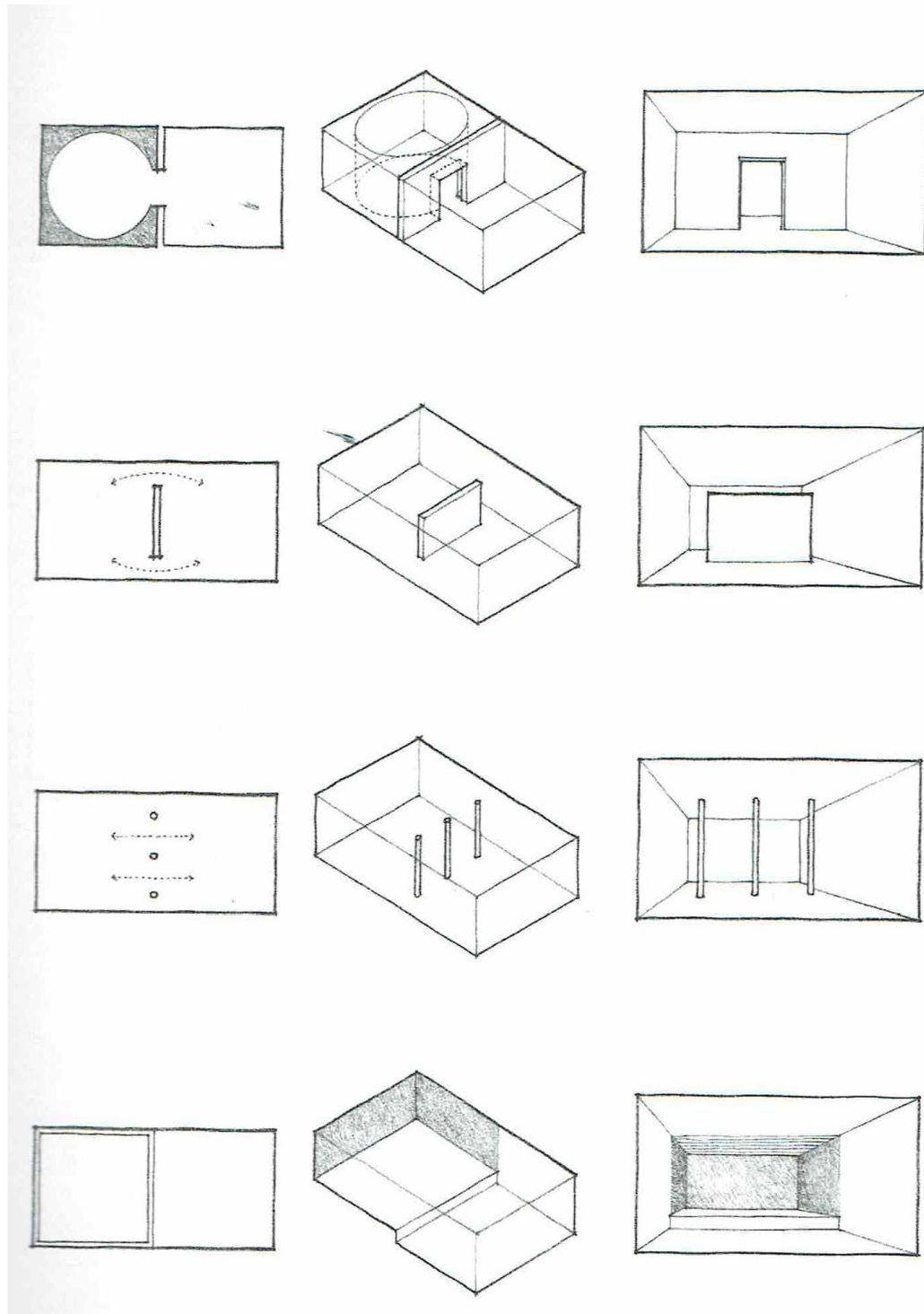
The interlocking space can be shared, cut out/merged, or develop it's own integrity



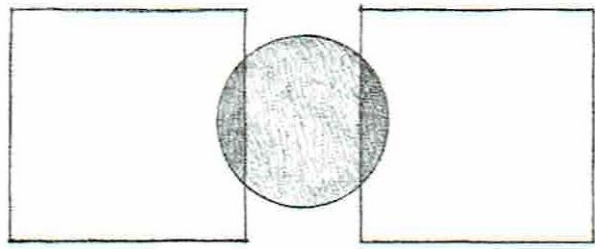
Park Villette, Paris, Bernard Tschumi



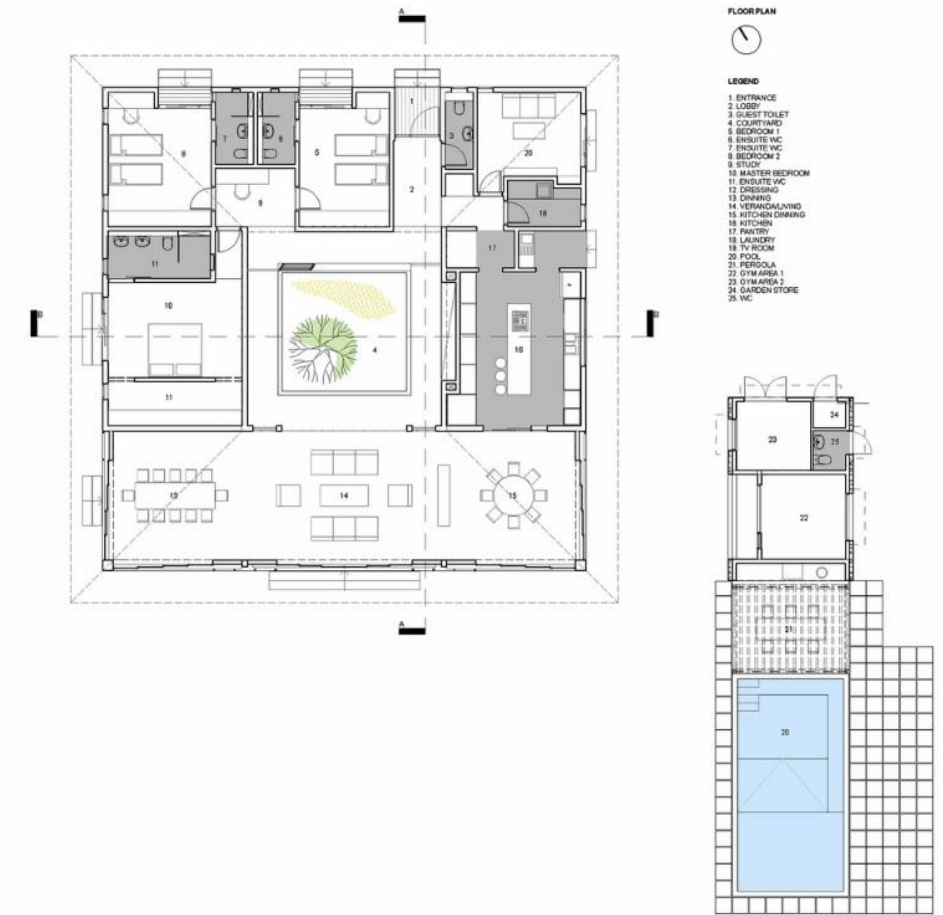
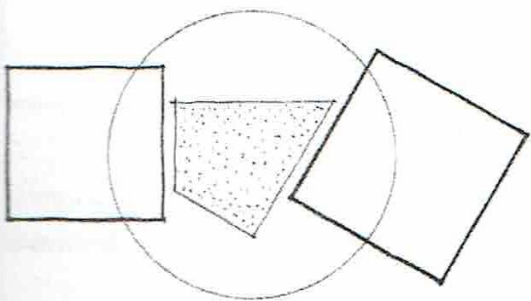
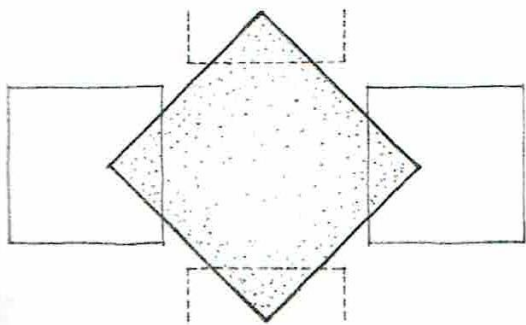
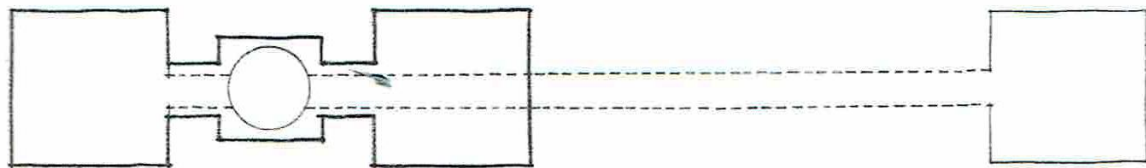
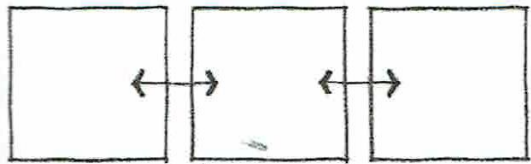
The separating plane may limit physical access, appear as a freestanding plane or row of columns, or be implied by a level change



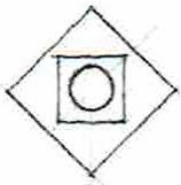
Sea Ranch, California, 1966, Moore-Turnbull/MLTW



The intermediate space can be equivalent, become linear to link far away or to join disparate items, become dominant, or become residual



"Courtyard House / Rethink Studio" 09 Oct 2015. ArchDaily. Accessed 15 Oct 2019.
<<https://www.archdaily.com/774819/courtyard-house-rethink-studio/>> ISSN 0719-8884



Centralized Organization

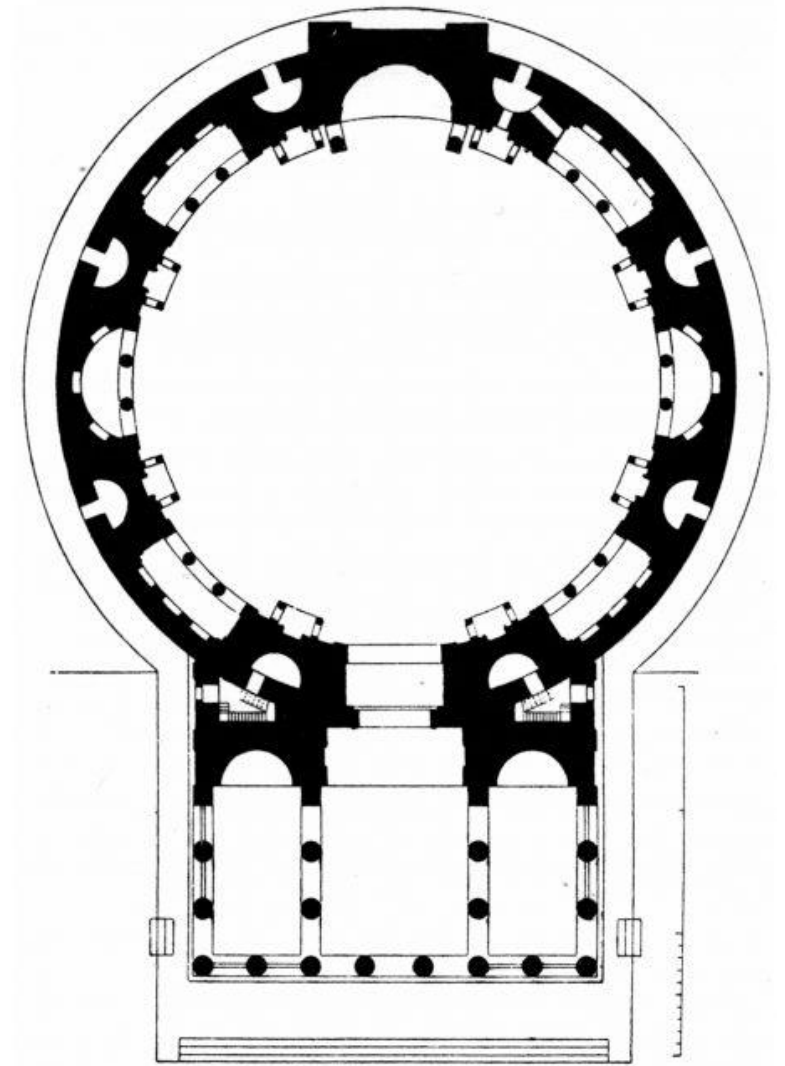
A central, dominant space about which a number of secondary spaces are grouped

Stable, concentrated composition with large regular form in the middle and secondary spaces grouped around.

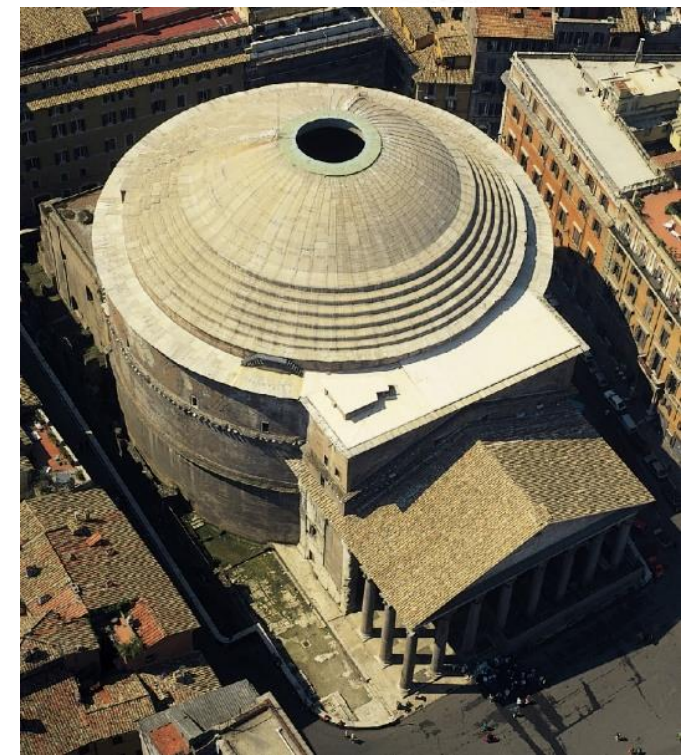
Conditions of entry will need to be articulated

Compact and geometrically regular spaces can be used to:

- Establish points or places
- Terminate an axis
- Serve as an “object” within a defined field or volume



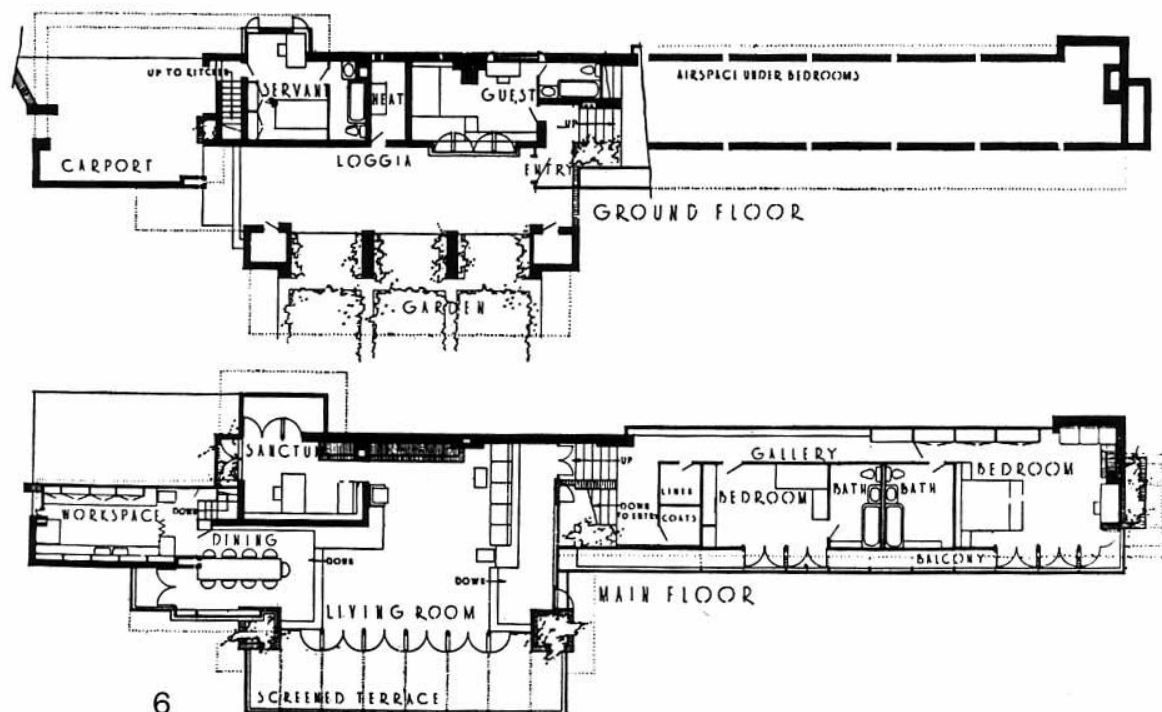
12. ROM: PANTHEON.



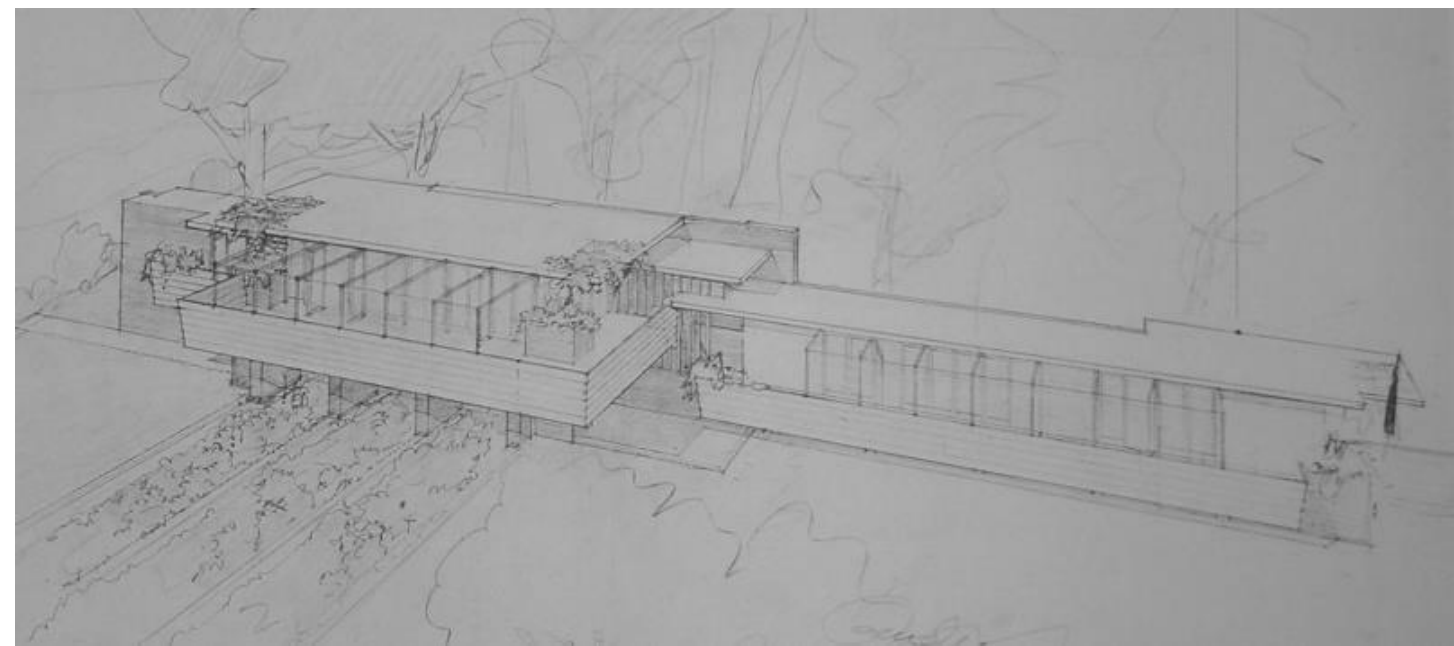


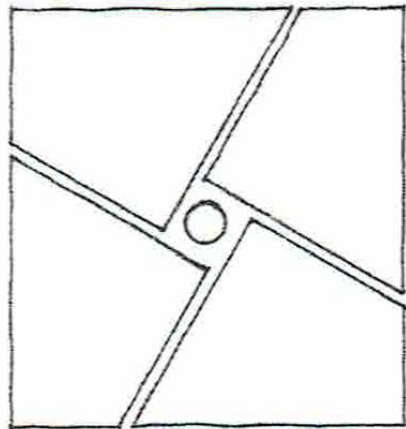
A series of repetitive spaces or a linear space. Functionally or symbolically special spaces can be articulated by difference in form or size or location.

These forms signify movement, extension and growth. Terminate with a dominant form, space, entry or topography.



Lloyd Lewis House, Libertyville, Illinois, 1940 Frank Lloyd Wright

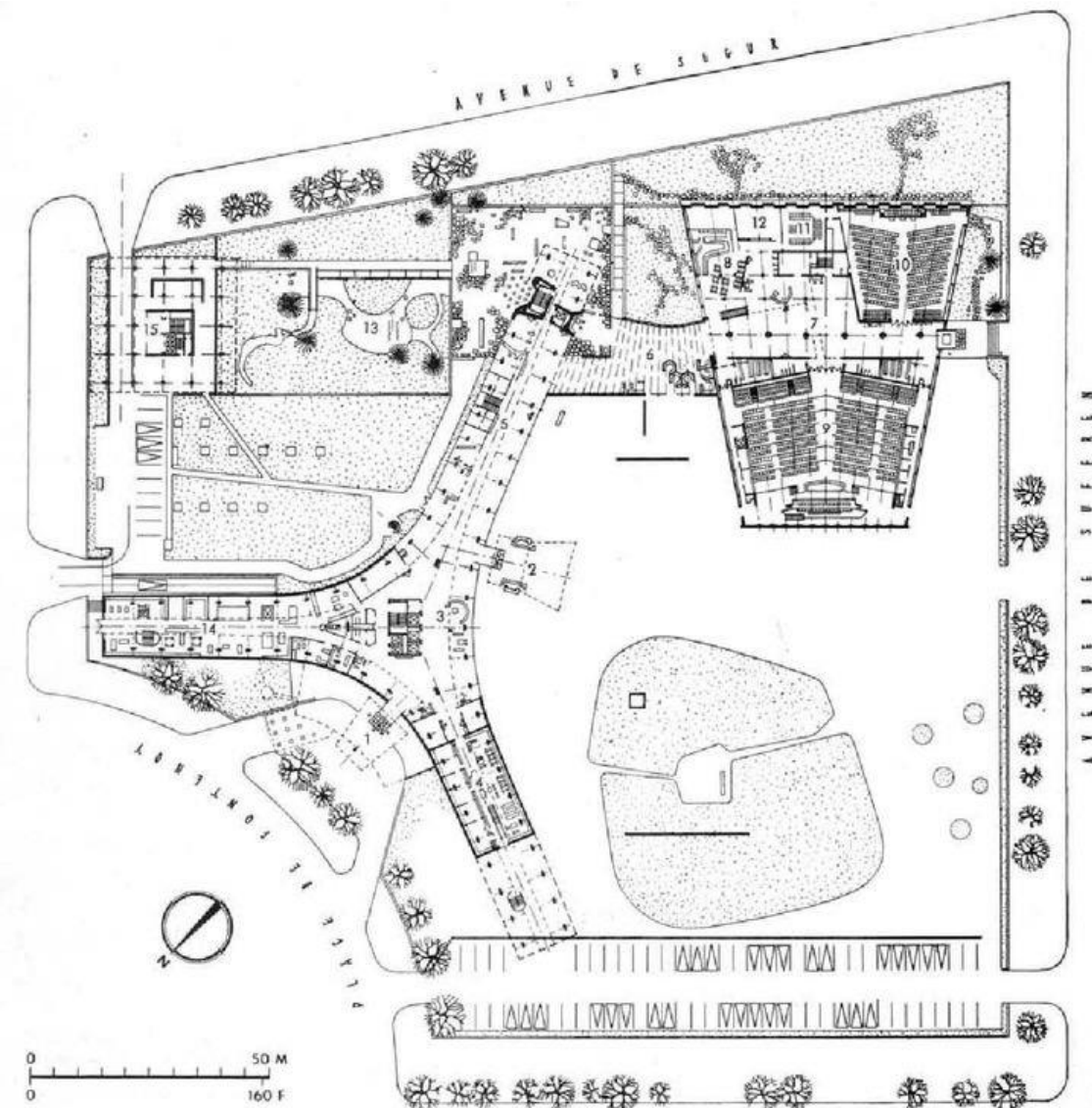
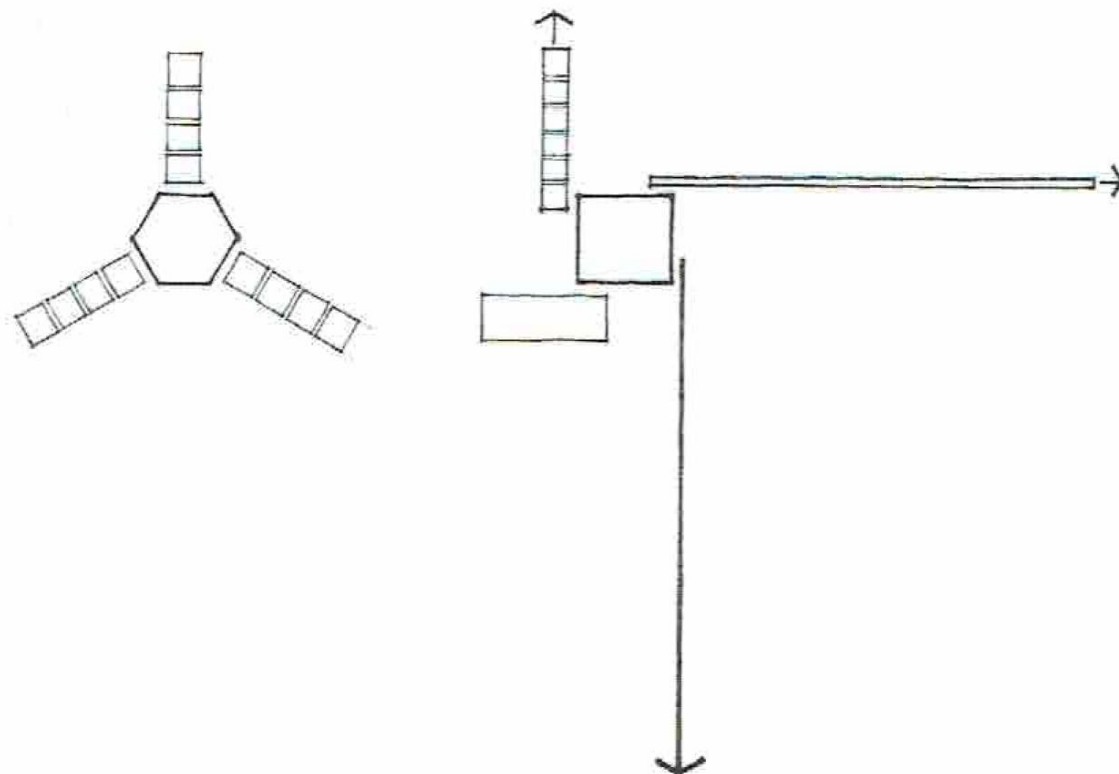
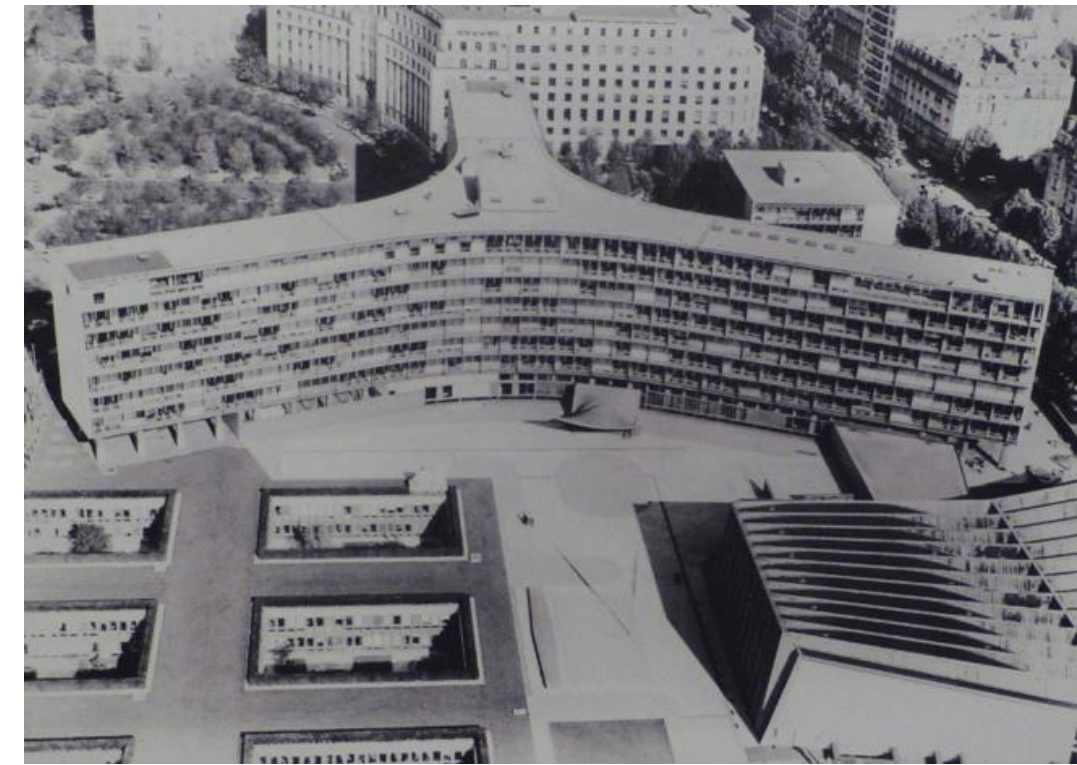


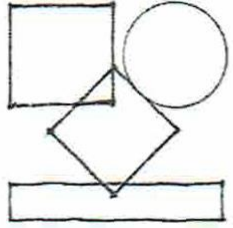


Radial Organization

A central space from which linear organizations of space extend in a radial manner

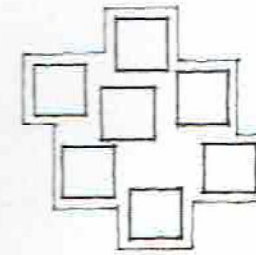
Combines elements of both centralized and linear organizations. Extroverted plan with dominant central space which is usually regular in form. Linear arms may respond to site, other structures or be pinwheel pattern which suggests dynamic rotation.



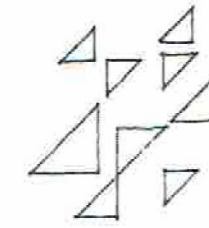


Clustered Organization

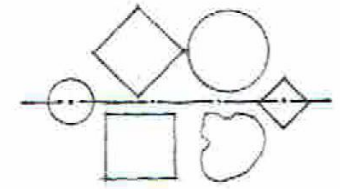
Spaces grouped by proximity or the sharing of a common visual trait or relationship



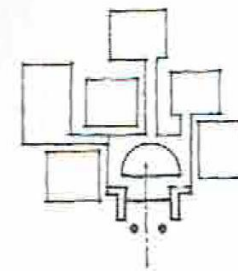
Repetitive spaces



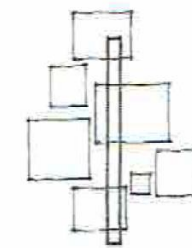
Sharing a common shape



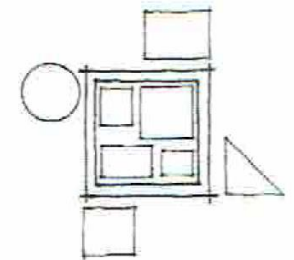
Organized by an axis



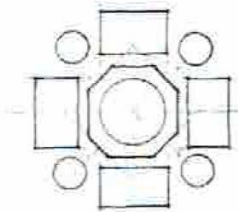
Clustered about an entry



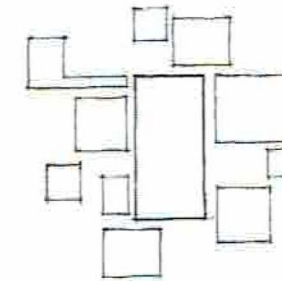
Grouped along a path



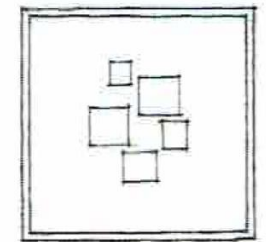
A loop path



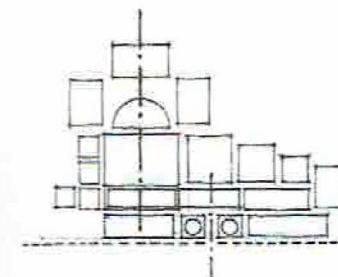
Centralized pattern



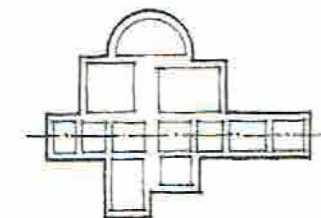
Clustered pattern



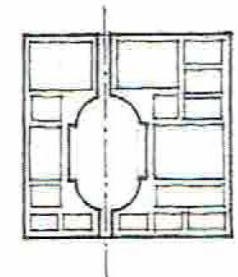
Contained within a space



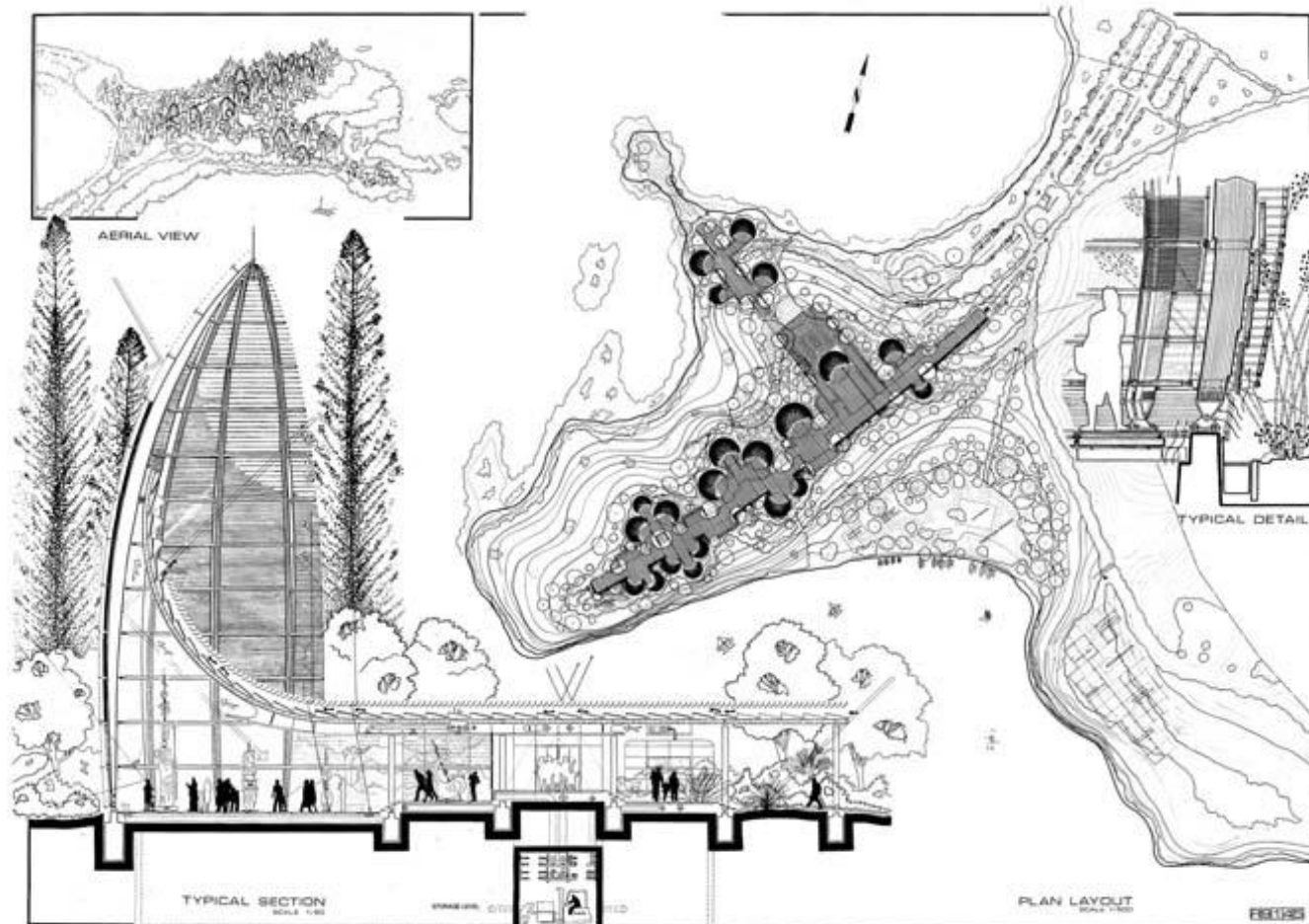
Axial conditions



Axial condition



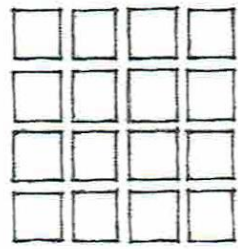
Symmetrical condition



Jean Marie Tjibao Cultural Center, Renzo Piano

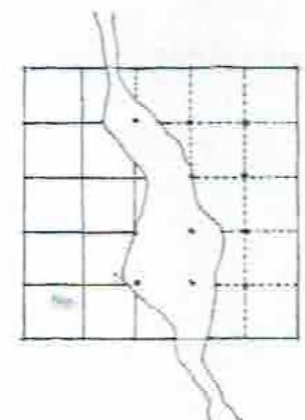
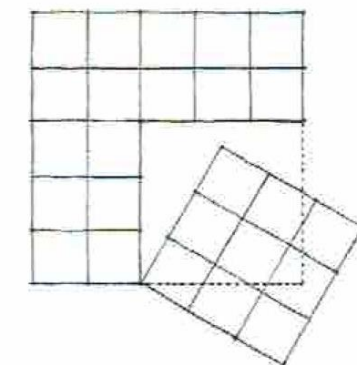
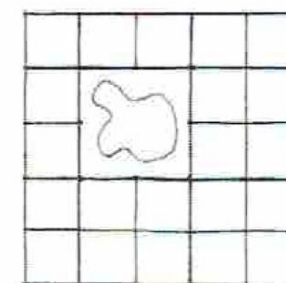
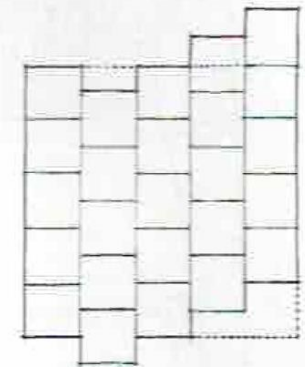
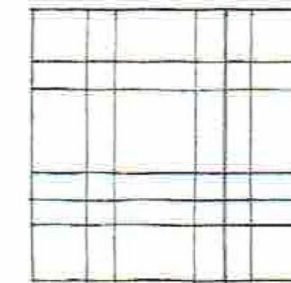
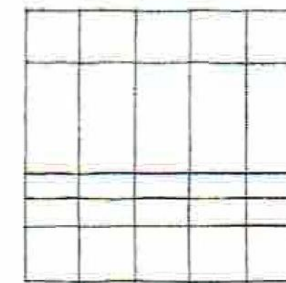
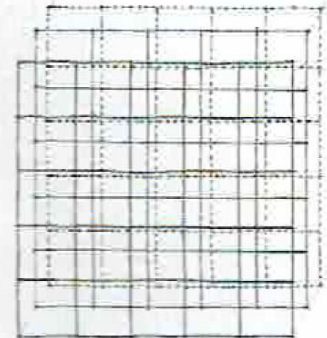
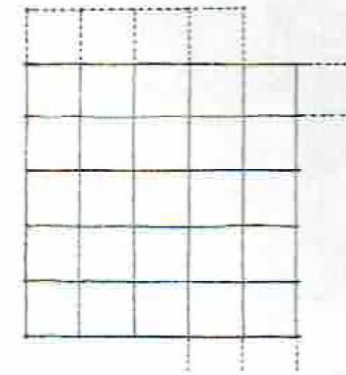
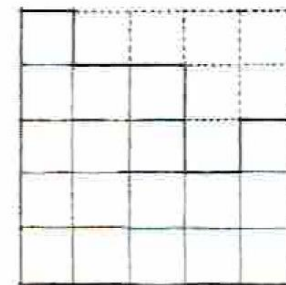
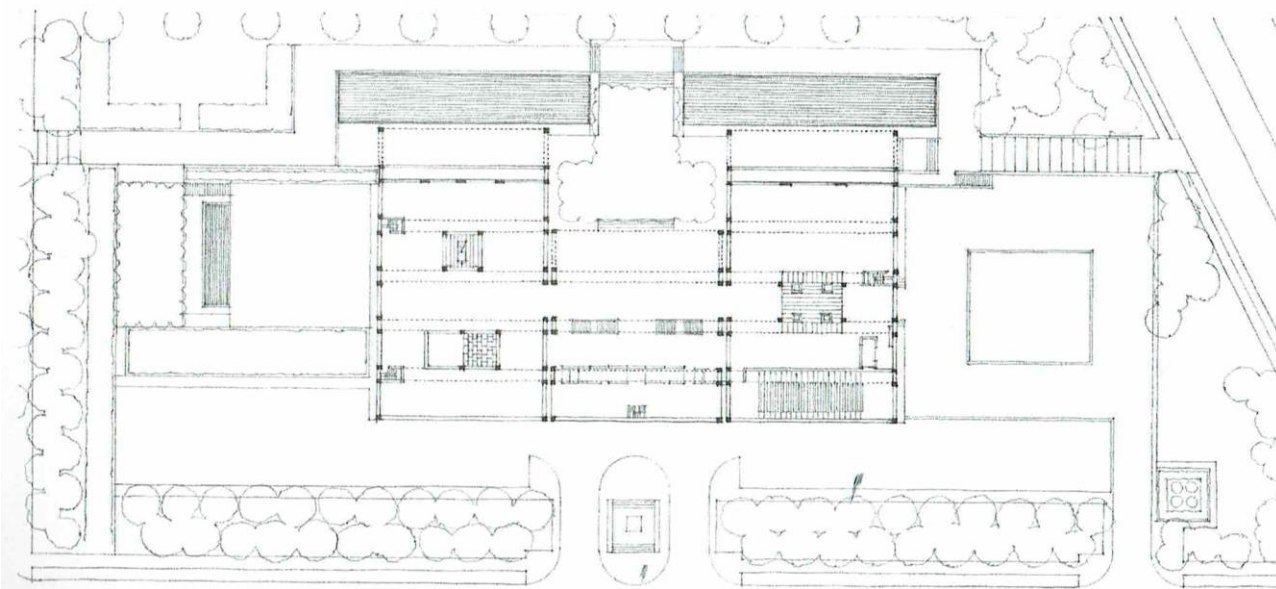
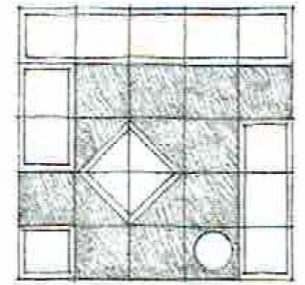
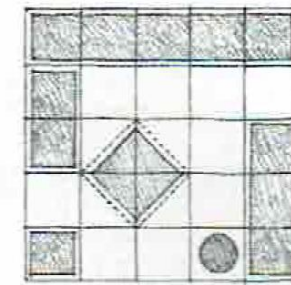
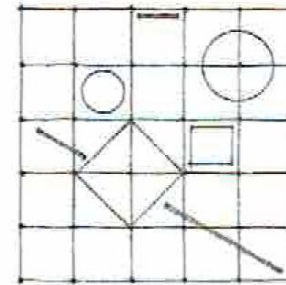
Grid

spatial organization



Grid Organization

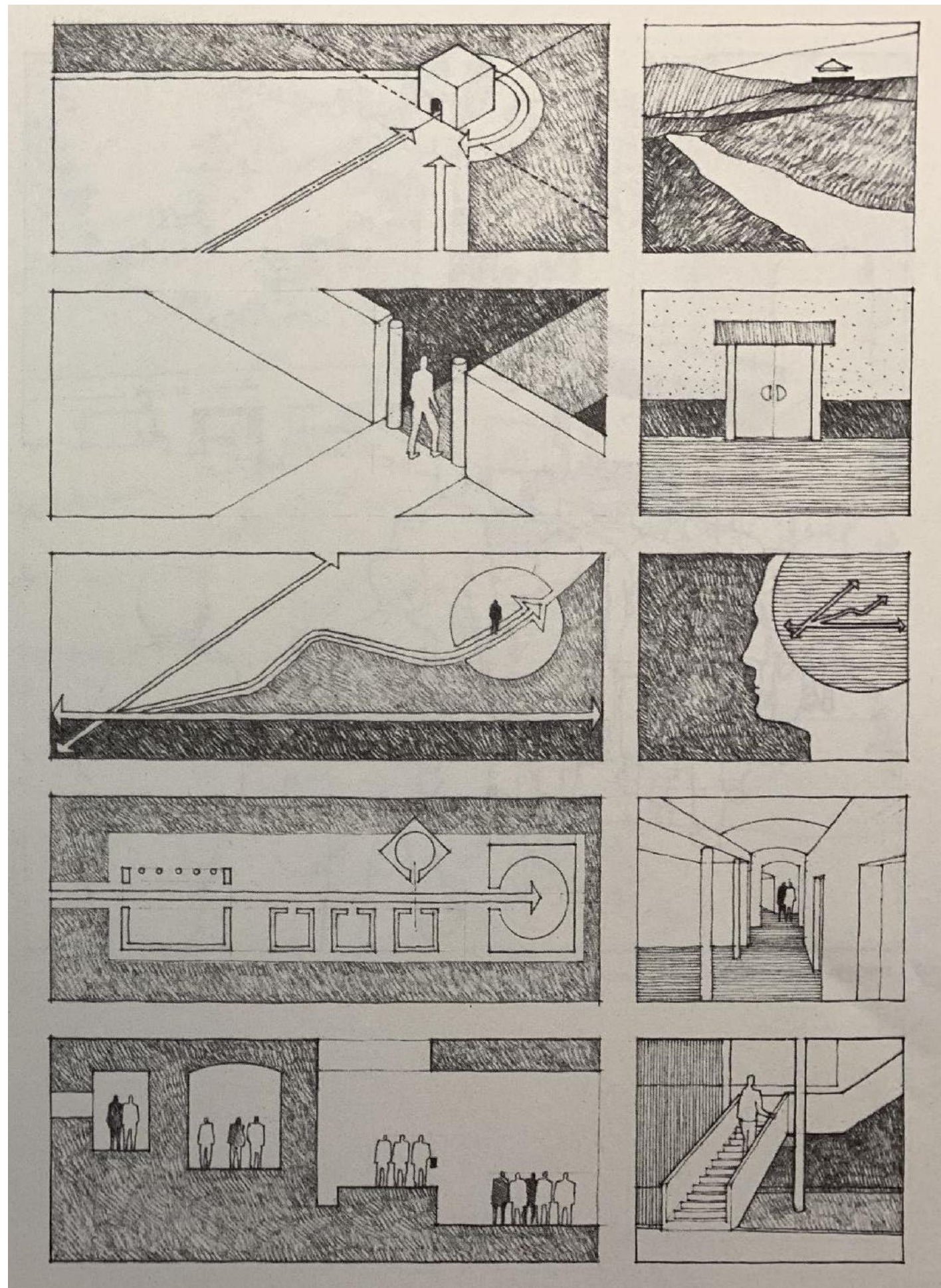
Spaces organized within the field of a structural grid or other three-dimensional framework



Kimbell Art Museum, Fort Worth, TX 1962, Louis Kahn

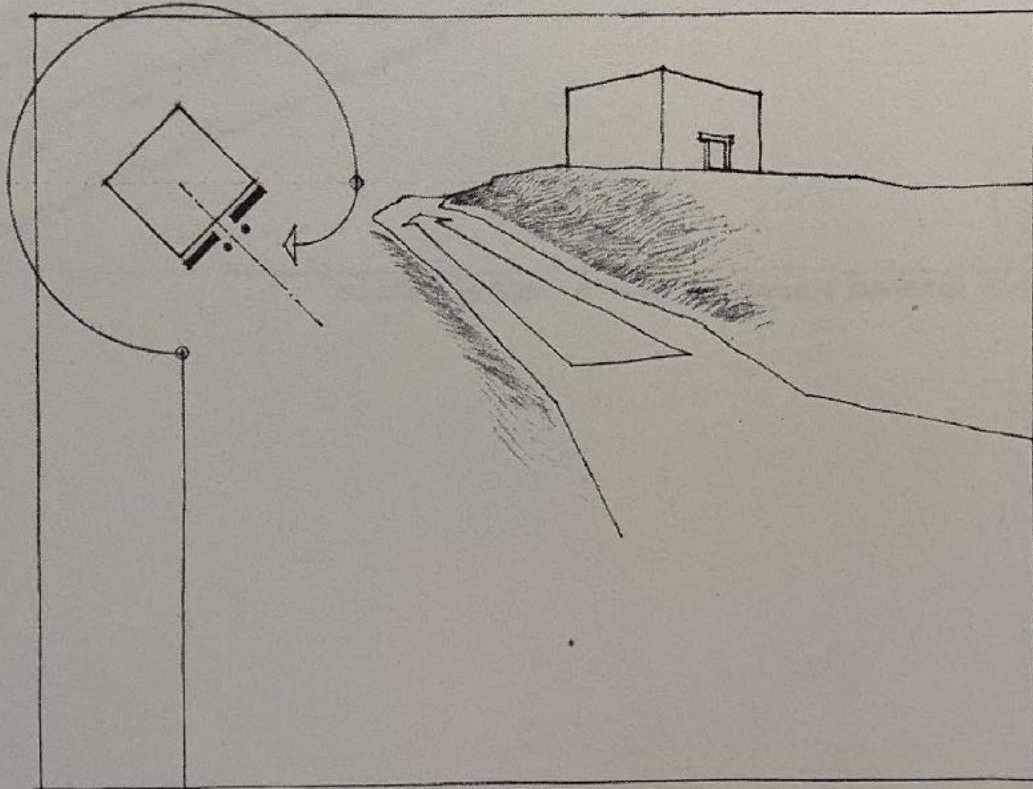
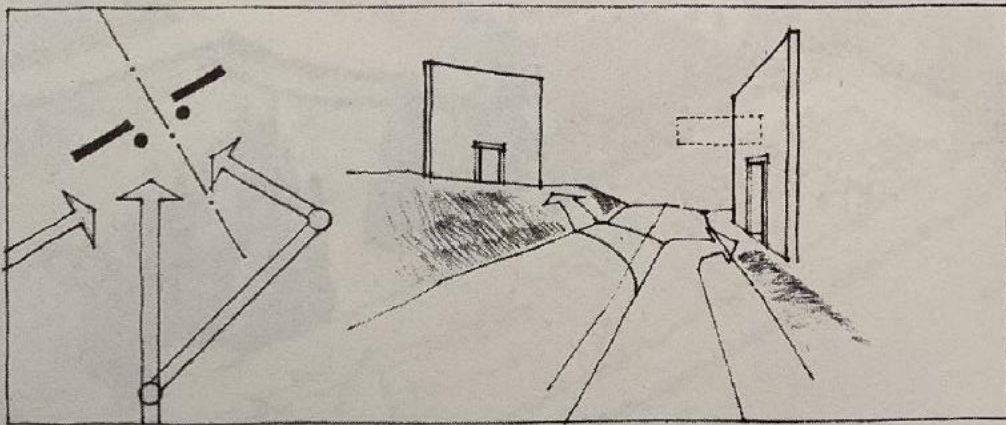
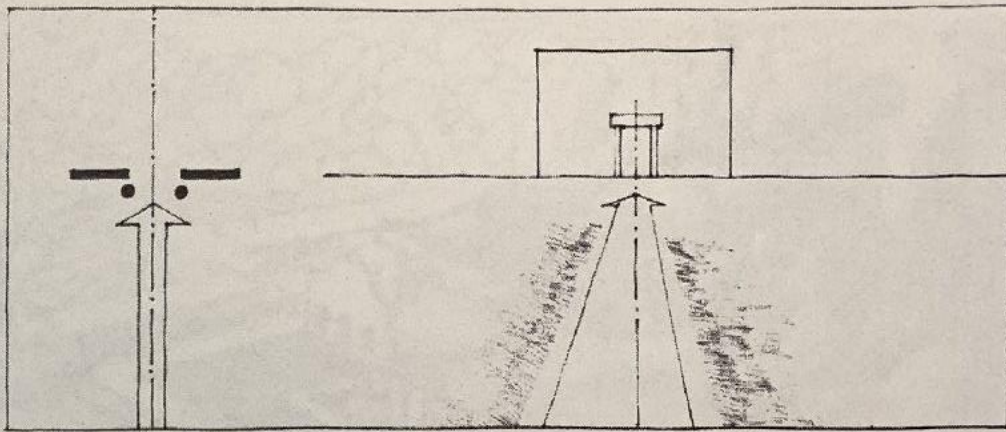
Circulation Elements

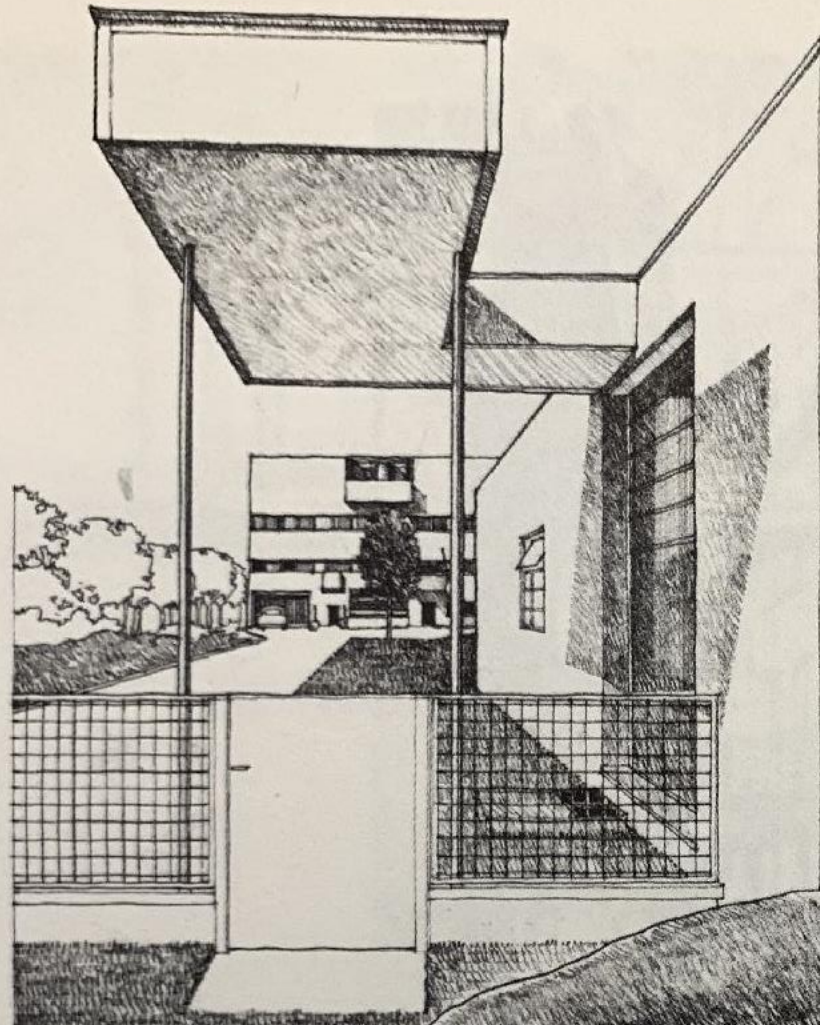
- Approach, the distant view
- Entrance, from outside to inside
- Configuration of the Path, the sequence of spaces
 - Path Space Relationships, edges, nodes and terminations
- Form of the Circulation, corridors, halls, galleries, stairs and rooms



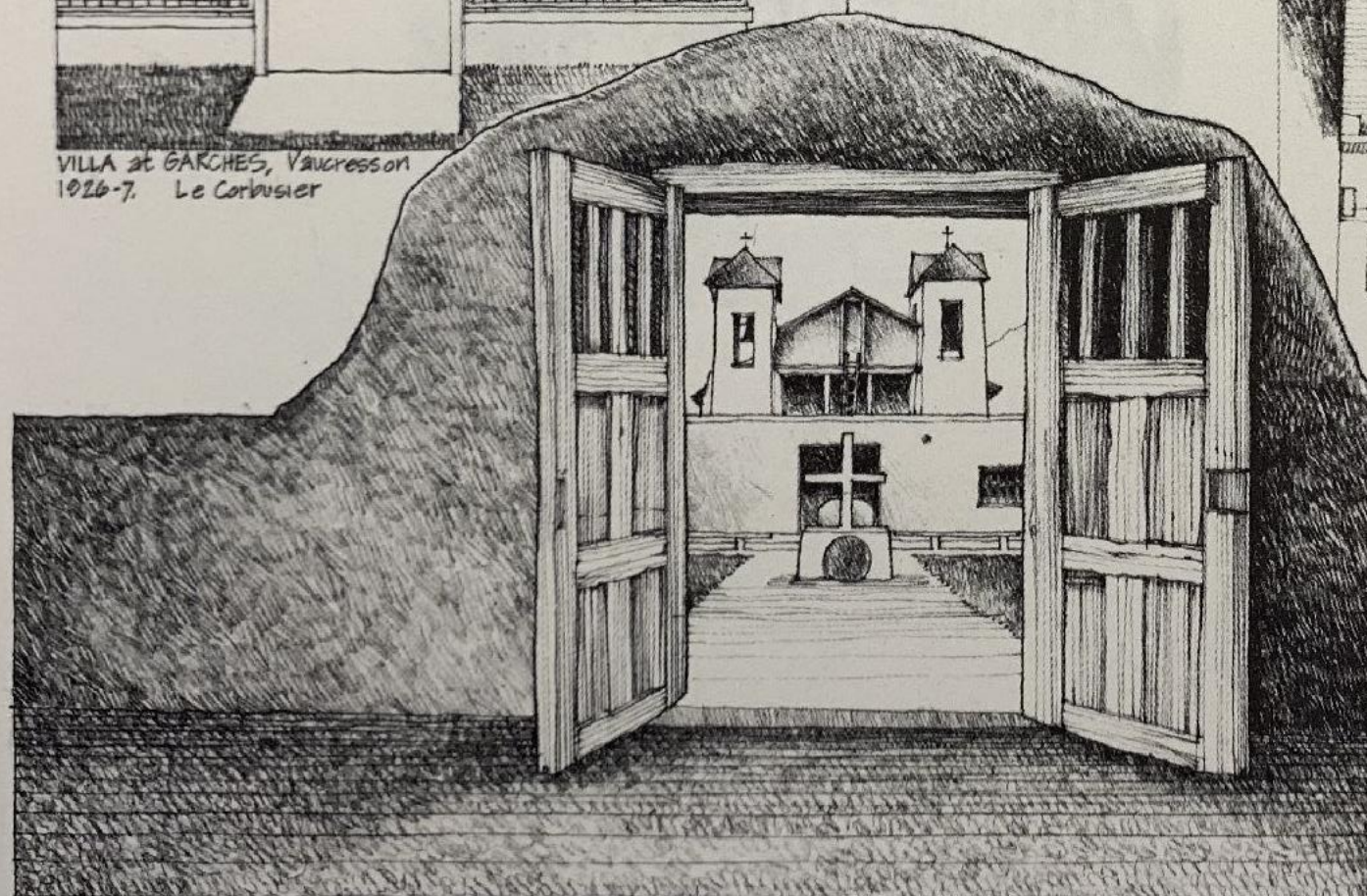
The Building Approach

- Frontal
- Oblique
- Spiral

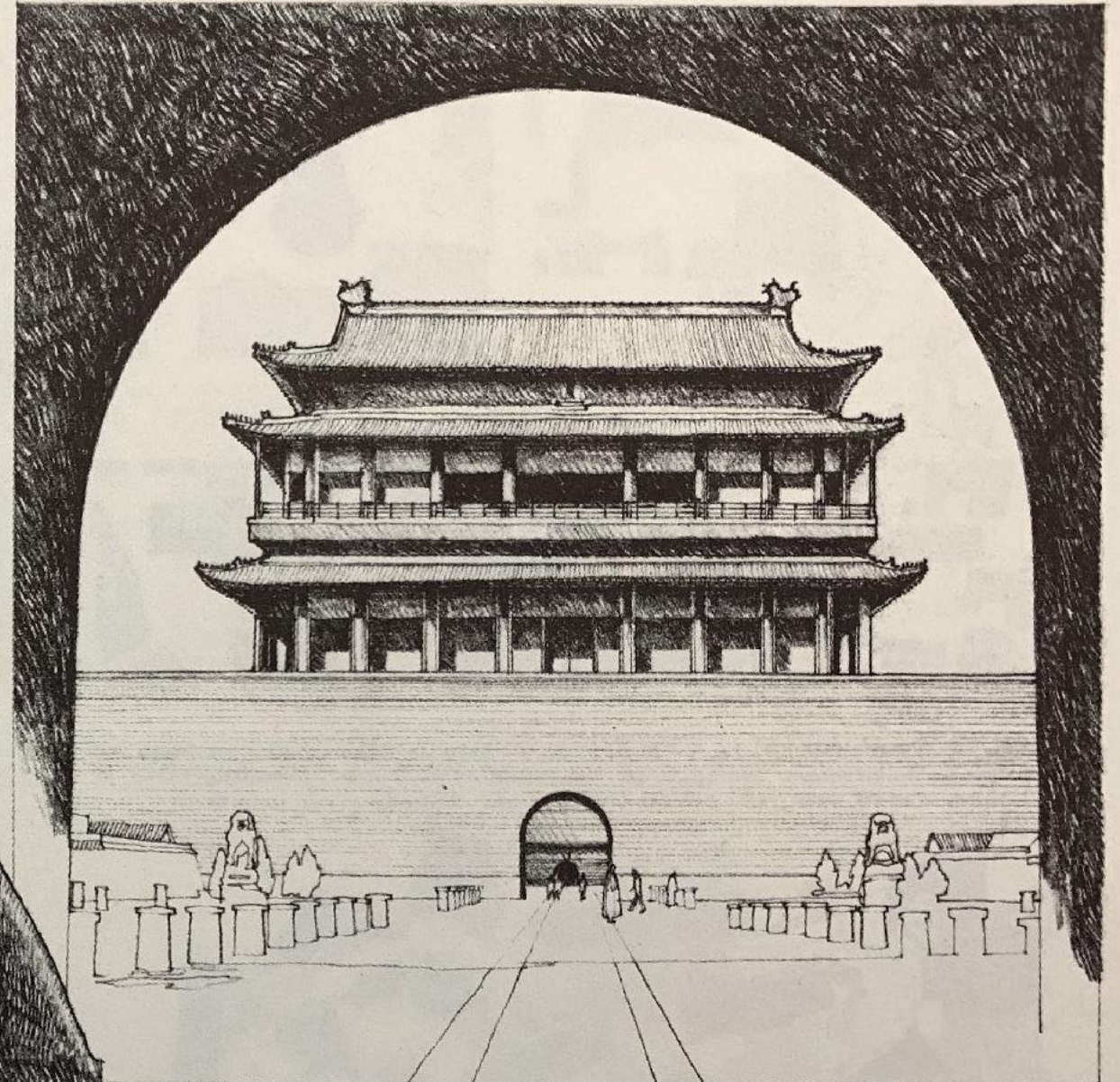




VILLA at GARCHES, Vaucresson
1926-7. Le Corbusier



CATHOLIC CHURCH: Taos, New Mexico. 17th century.

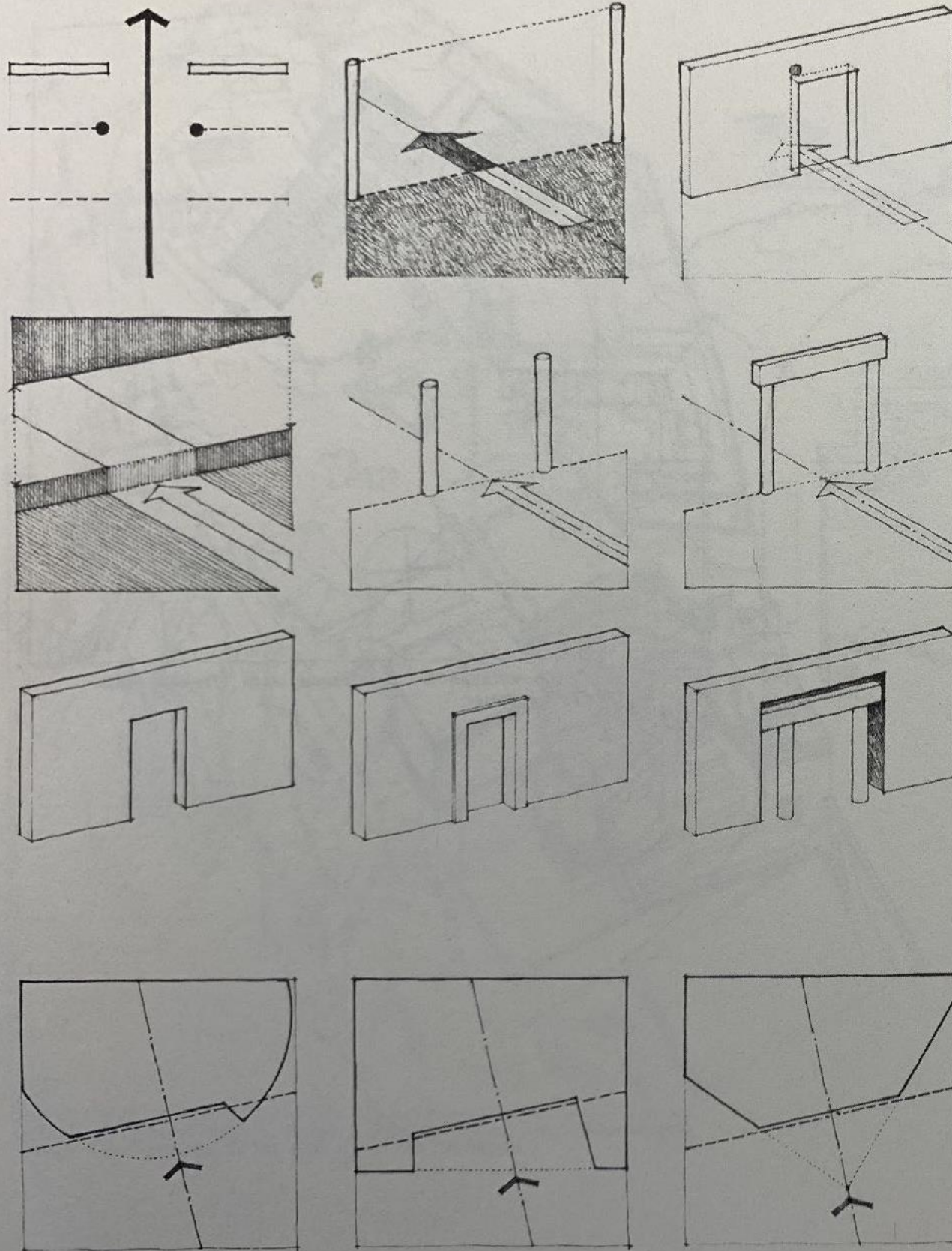


QIAN MIEN: Link between the Imperial City to the north and the Outer City to the south in Peking, China.

Approach

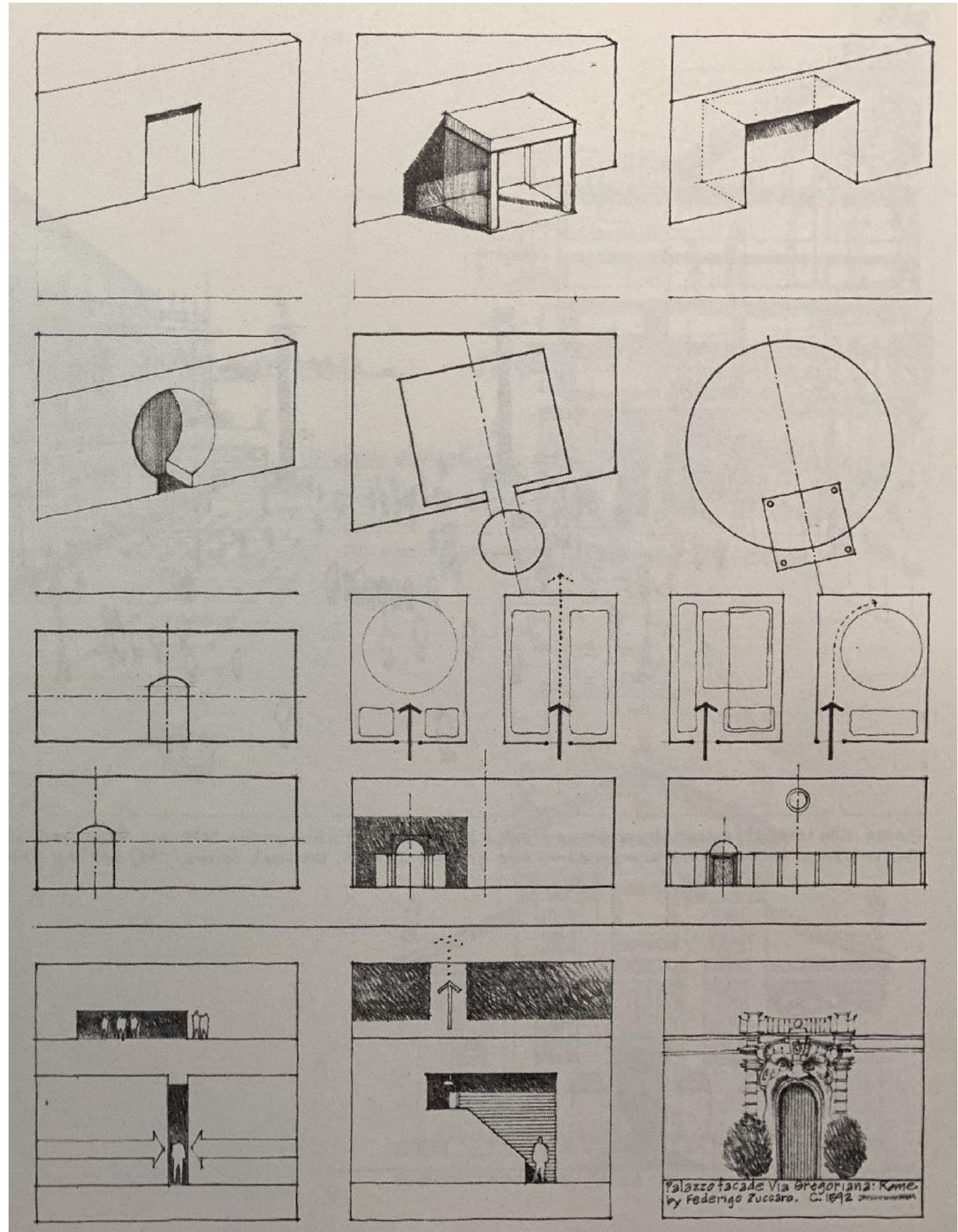
Building Entrance

- Penetrating Vertical Plane
- Passage through Implied Plane
- Simple to Articulated Opening
- Real or Implied Plane Perpendicular to the the Path of the Approach



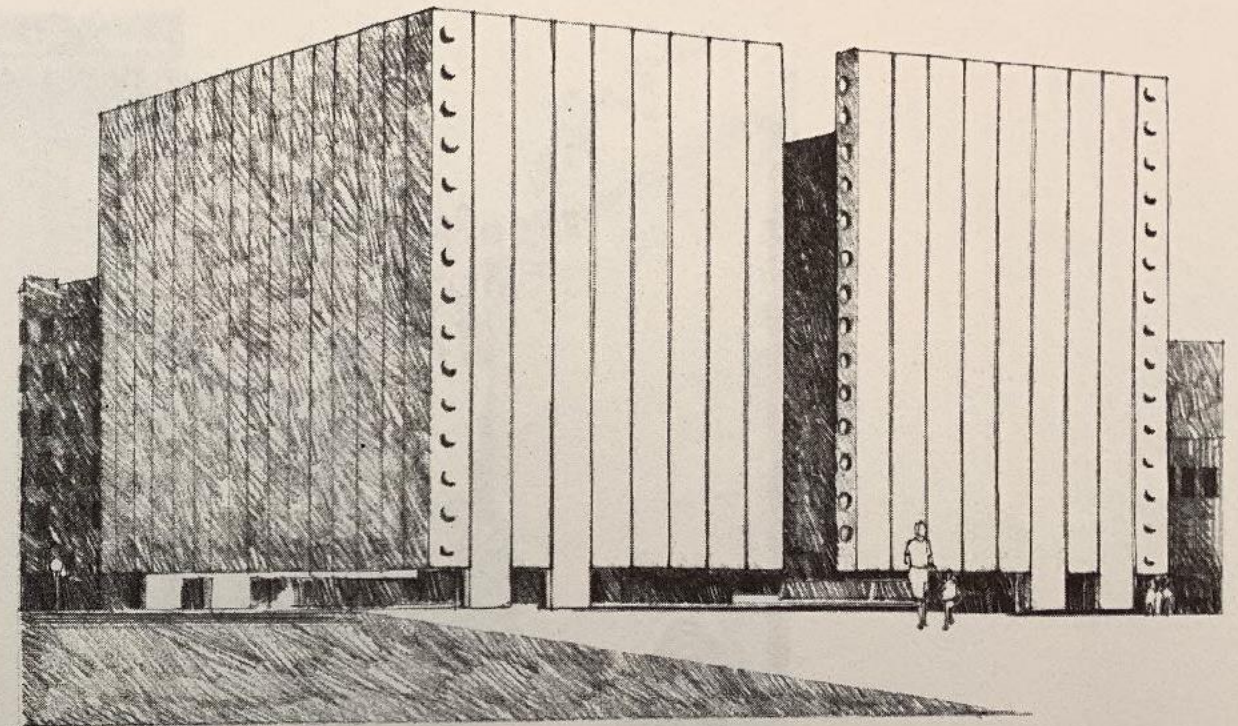
Building Entrance

- Flush, Projected or Recessed
- Form of the entrance can be similar or a preview of the space being entered or it can contrast the form
- Location can be centered or off-center
- Visually reinforce the entrance

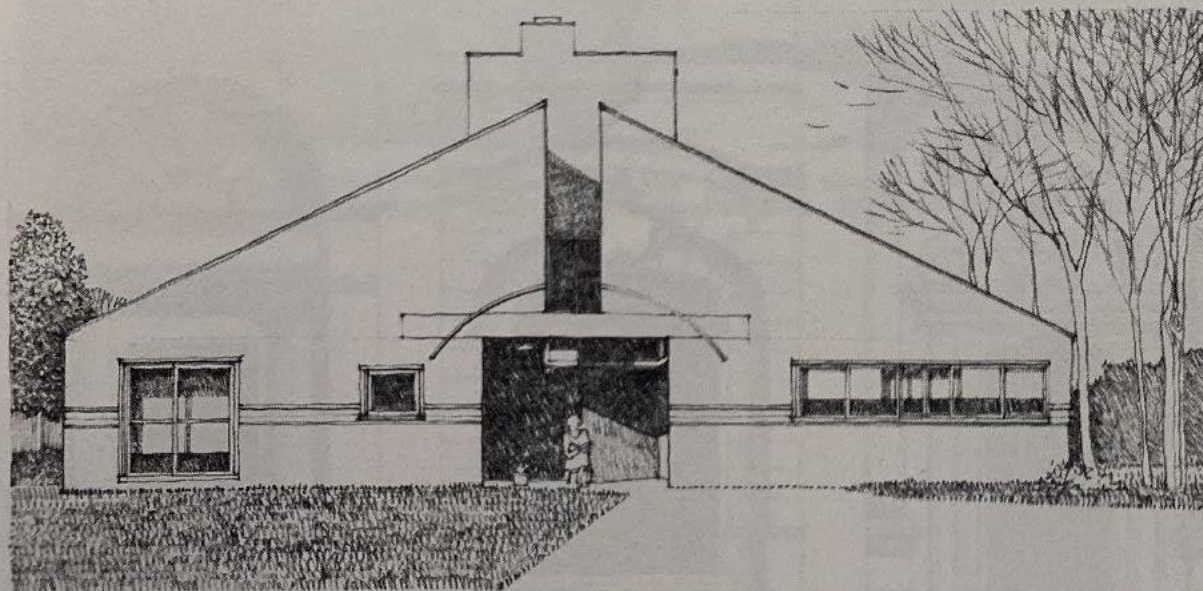




Entrance Pylons;
TEMPLE OF HORUS AT EDFU. 237-57 B.C.

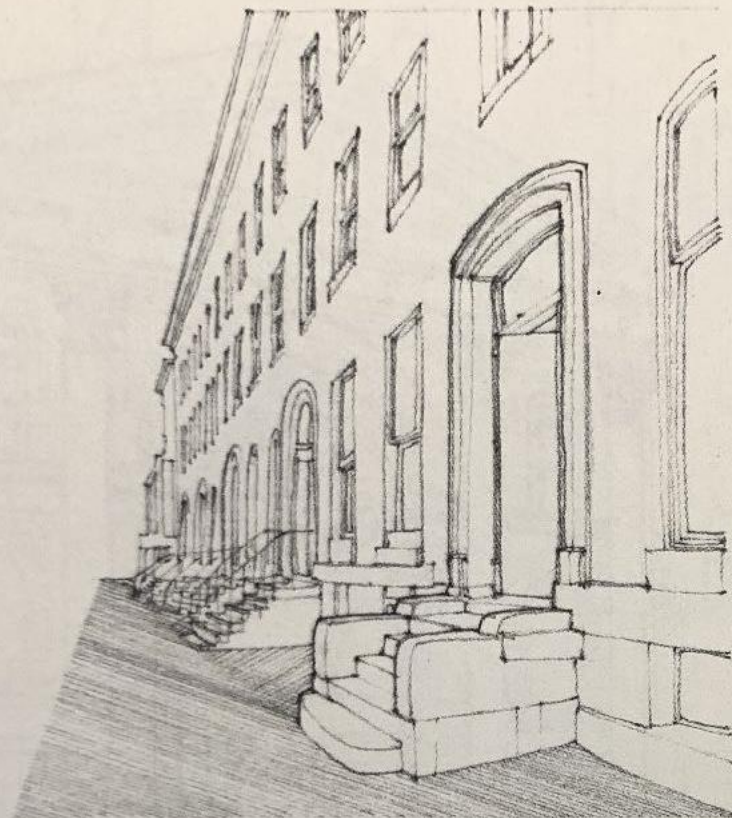


JOHN F. KENNEDY MEMORIAL, Dallas, Texas, 1970. Philip Johnson.

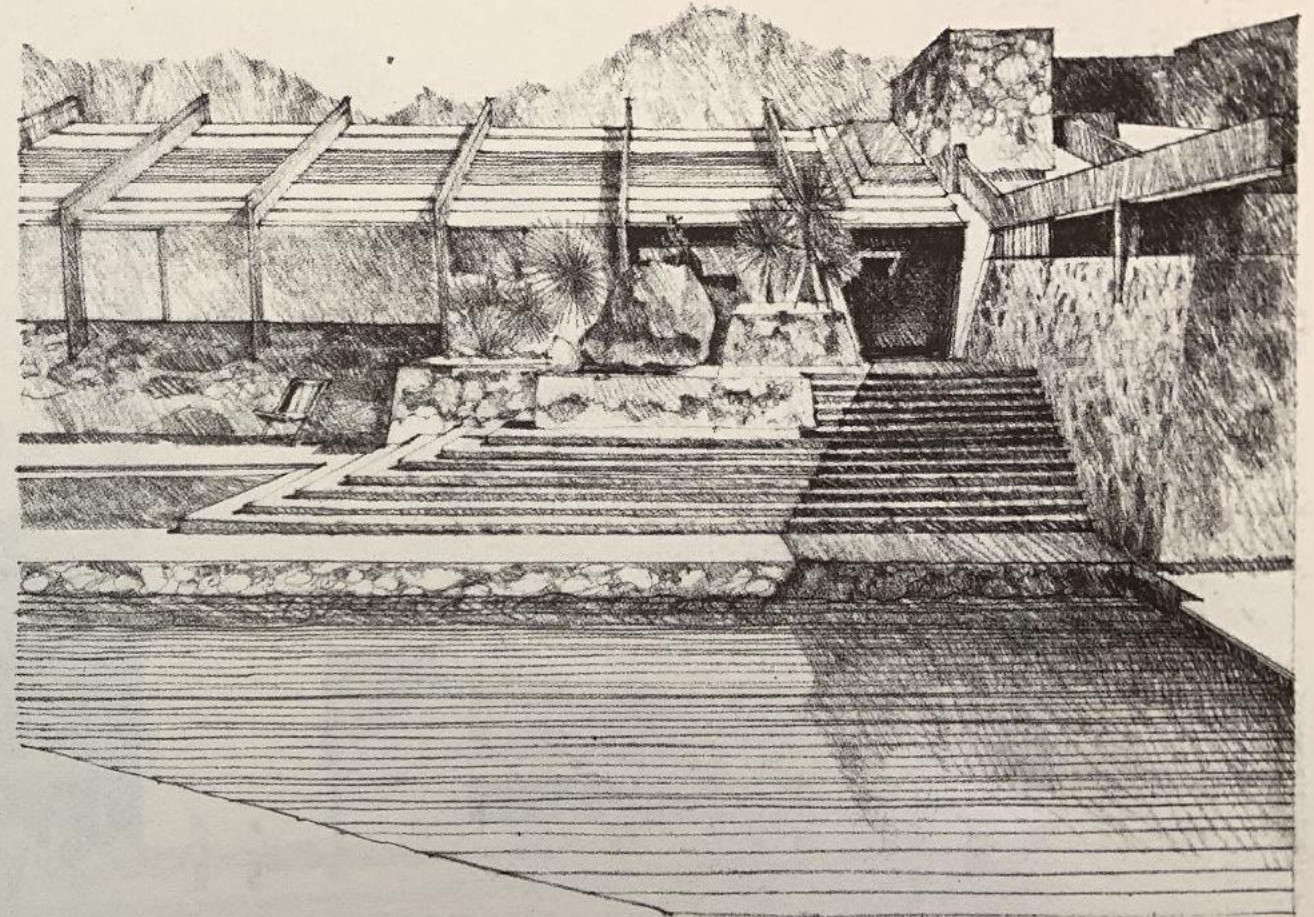


HOUSE FOR MRS. ROBERT VENTURI,
Chestnut Hill, Pennsylvania, 1962-64
Venturi and Scott.

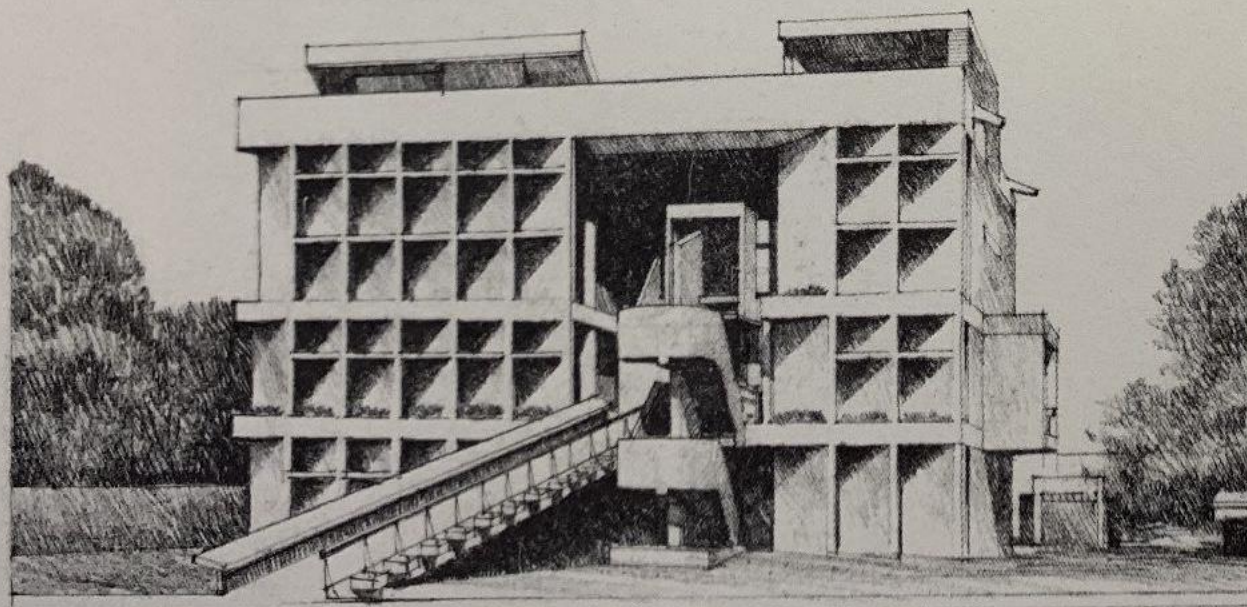
Entrance



Rowhouses in Galena, Illinois



TALIESIN WEST, near Phoenix, Arizona. 1938 - Frank Lloyd Wright.

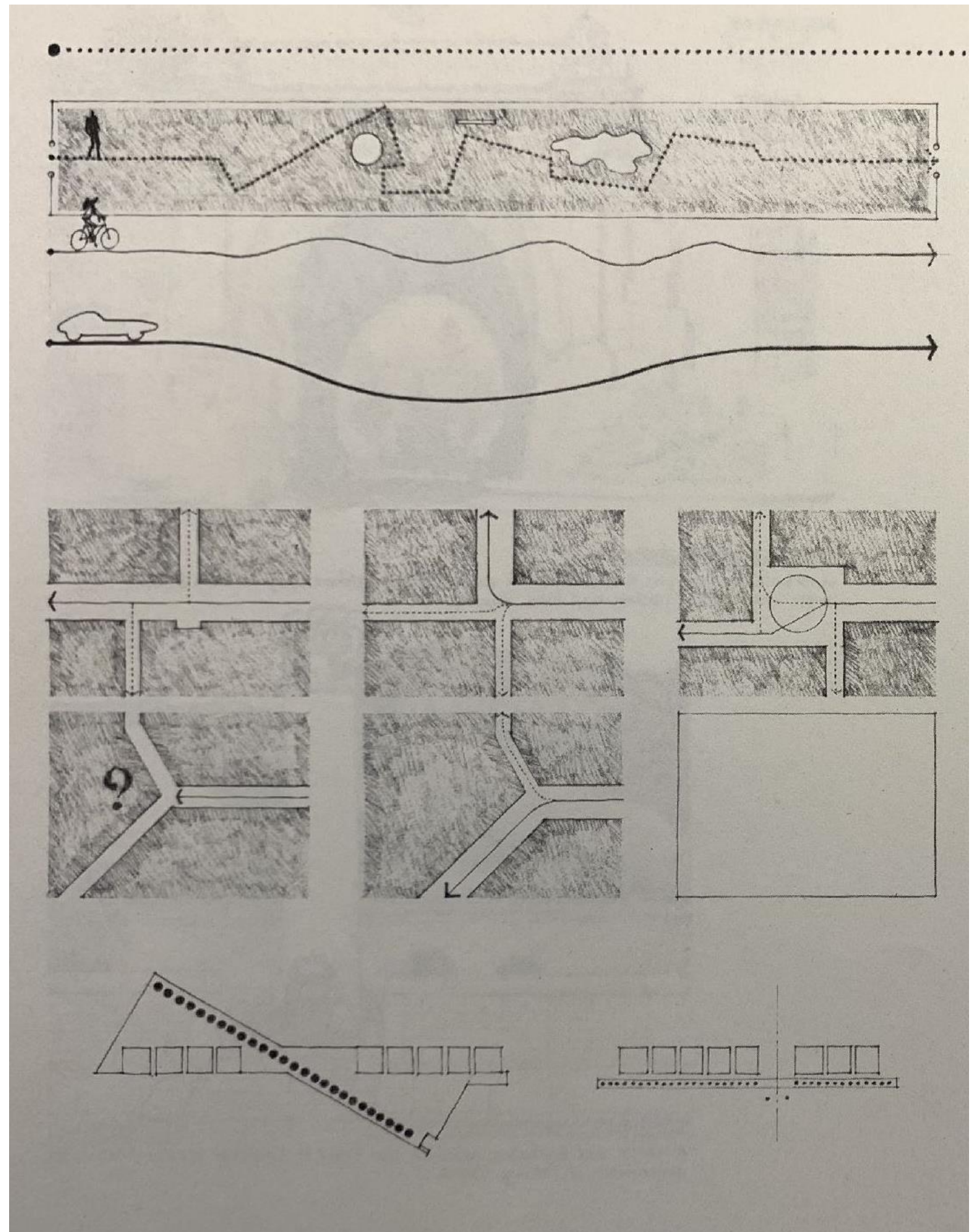


MILLOWNER'S ASSOCIATION BUILDING, Ahmedabad, India. 1954. Le Corbusier

Entrance

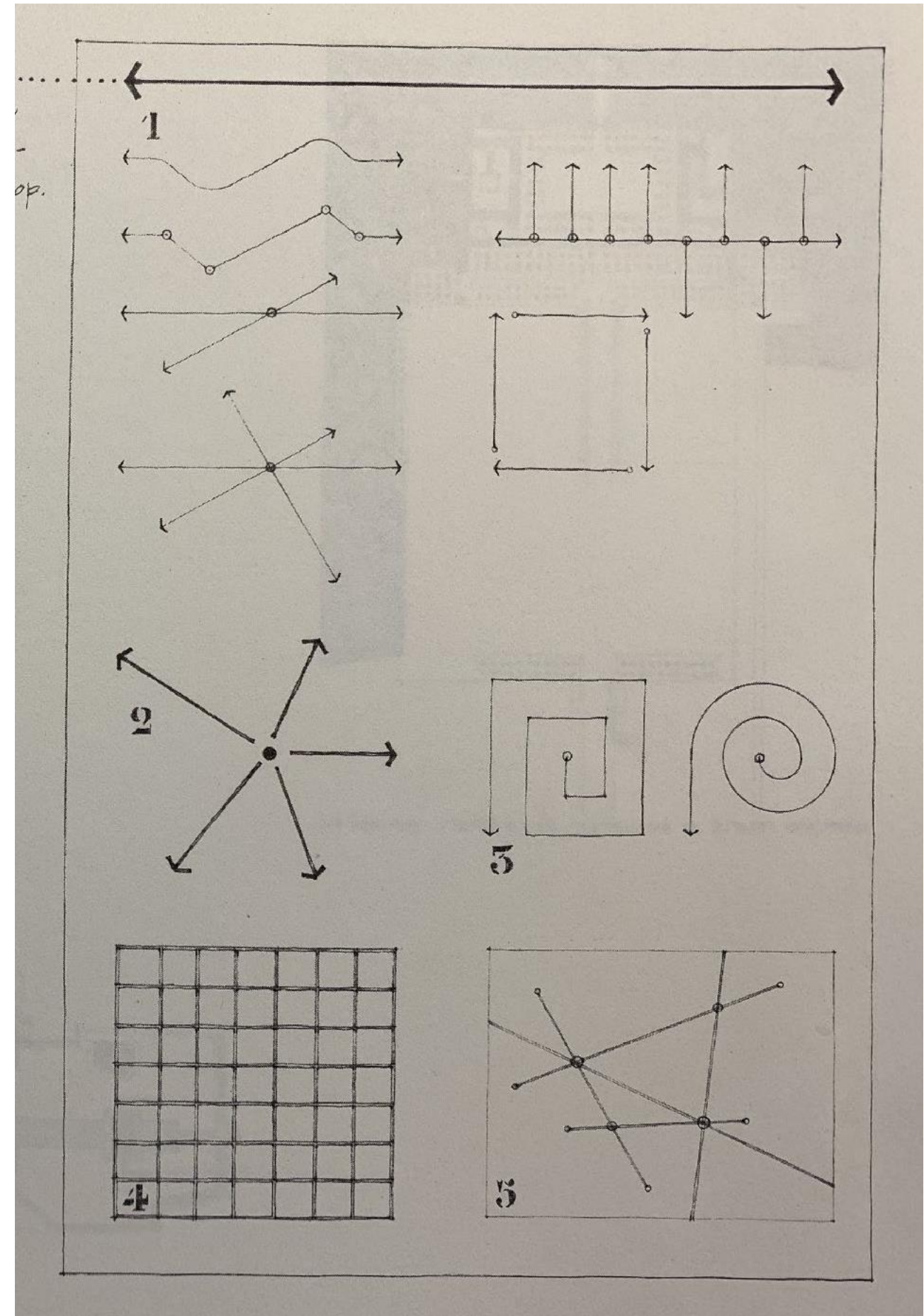
Configuration of Path

- All paths are movement
- Sequence of spaces
- Intersections or crossing paths are decision making points
- Primary and secondary paths
- Scale of the path and entrance should convey the function and symbolic distinction
- Configuration of the path may reinforce a spacial organization or serve as a visual counter point

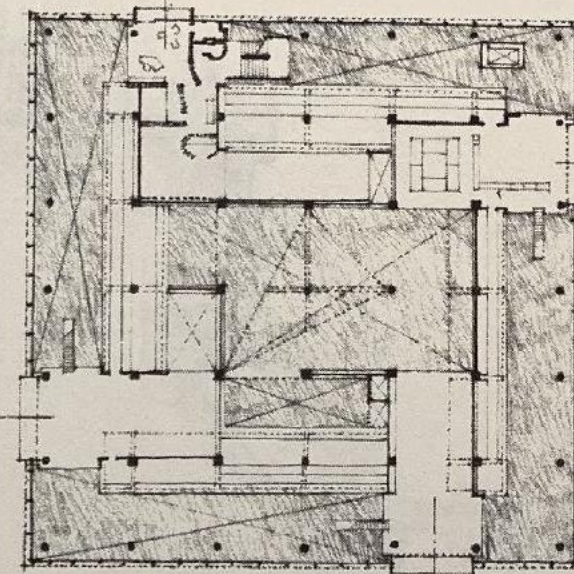
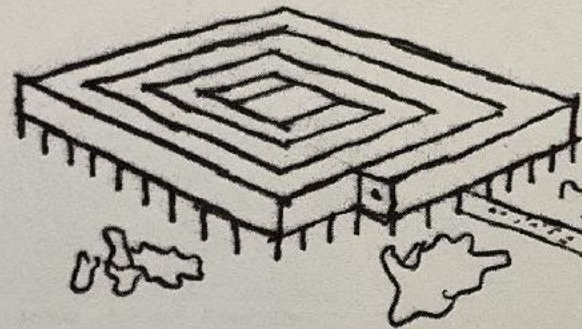
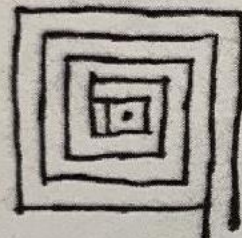
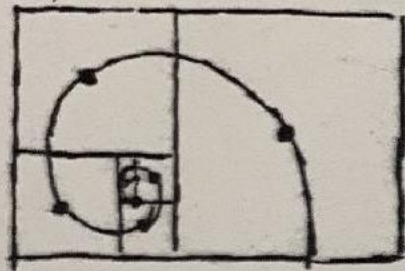


Configuration of Path

1. Linear
2. Radial
3. Spiral
4. Grid
5. Network
6. Composite

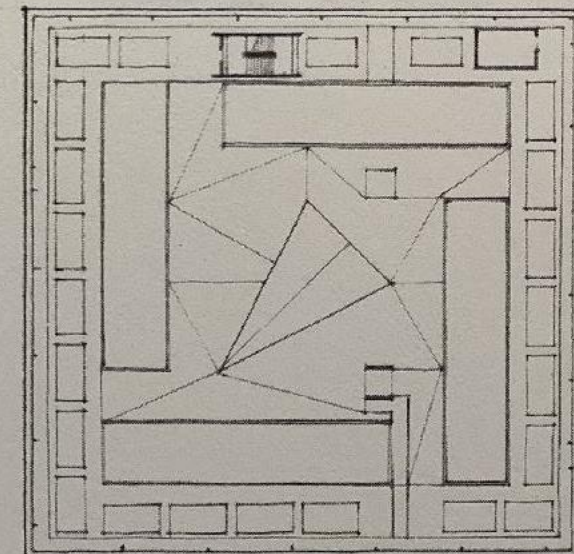


Configuration of Path

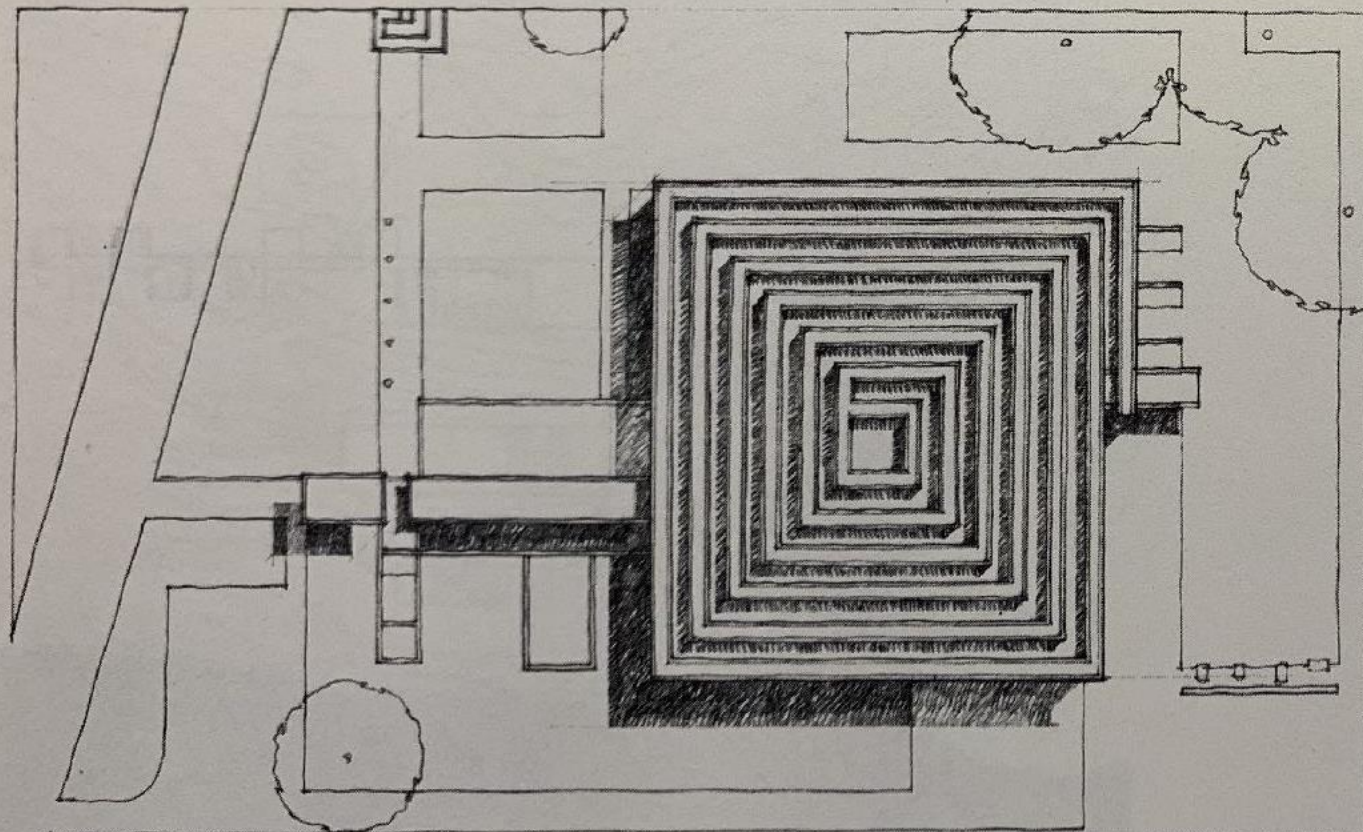


Mezzanine Plan

MUSEUM OF WESTERN ART, TOKYO. 1957-59. Le Corbusier

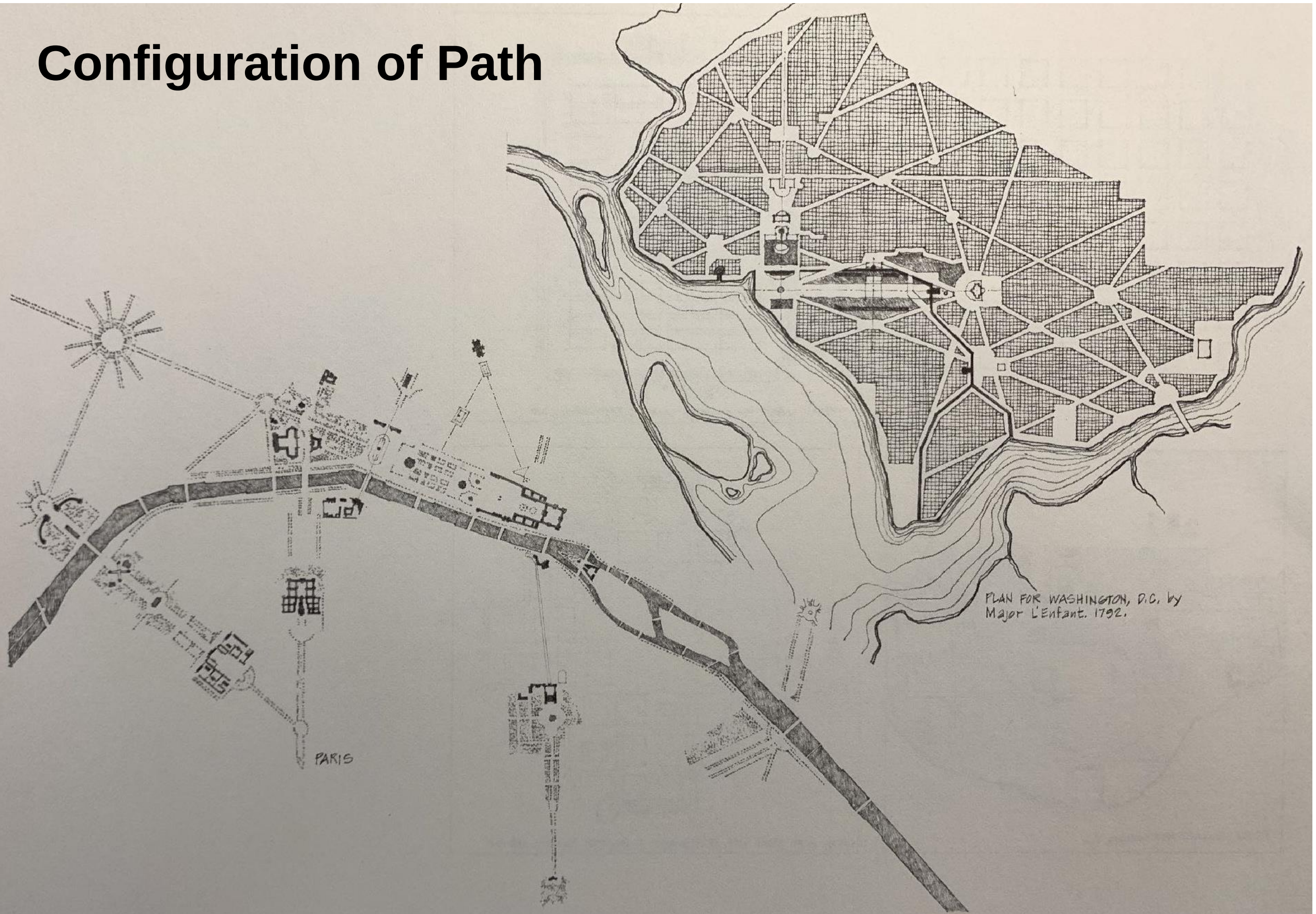


Roof Plan



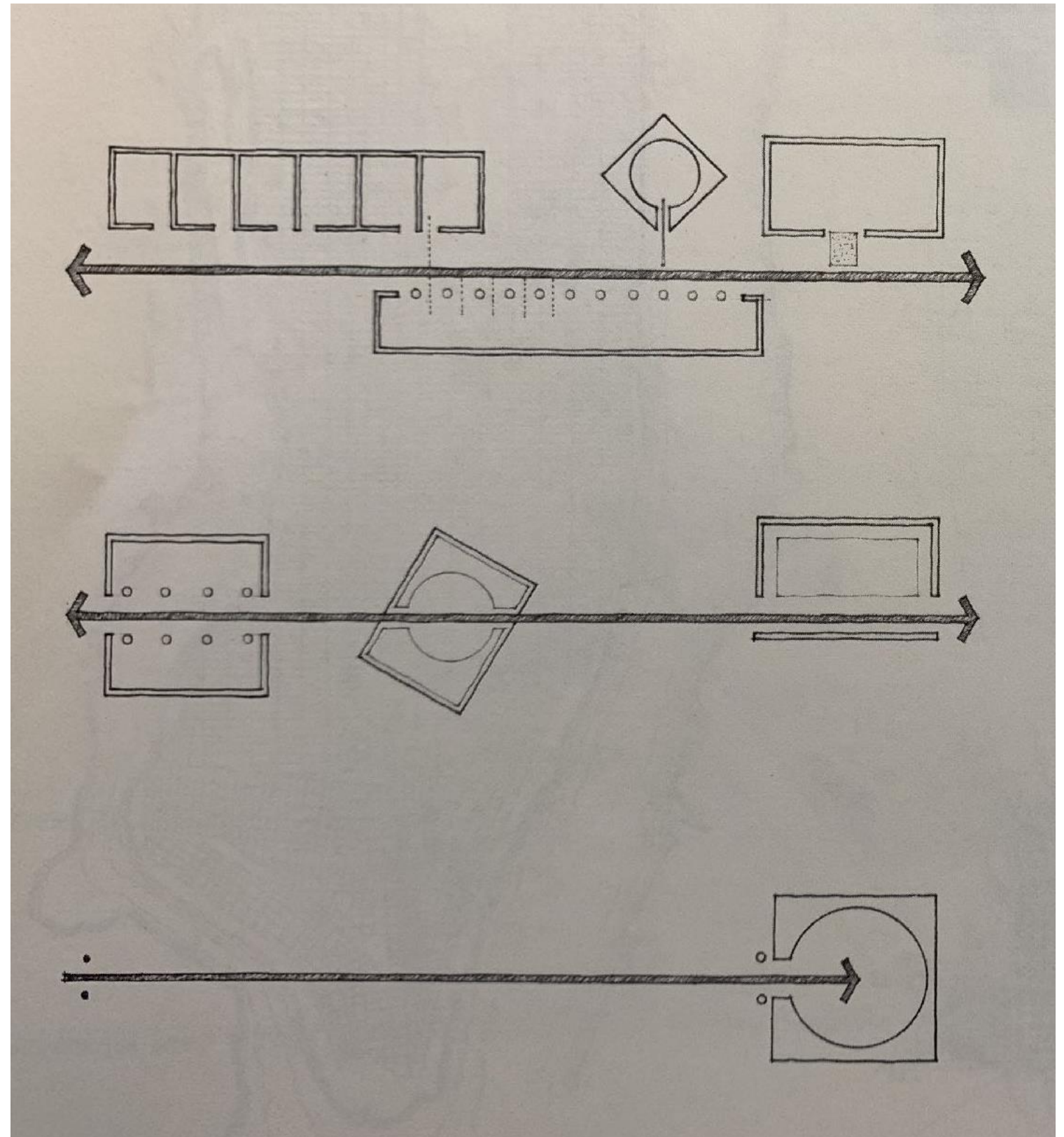
MUSEUM OF ENDLESS GROWTH, Philippeville, Algeria. (Project) 1939. Le Corbusier

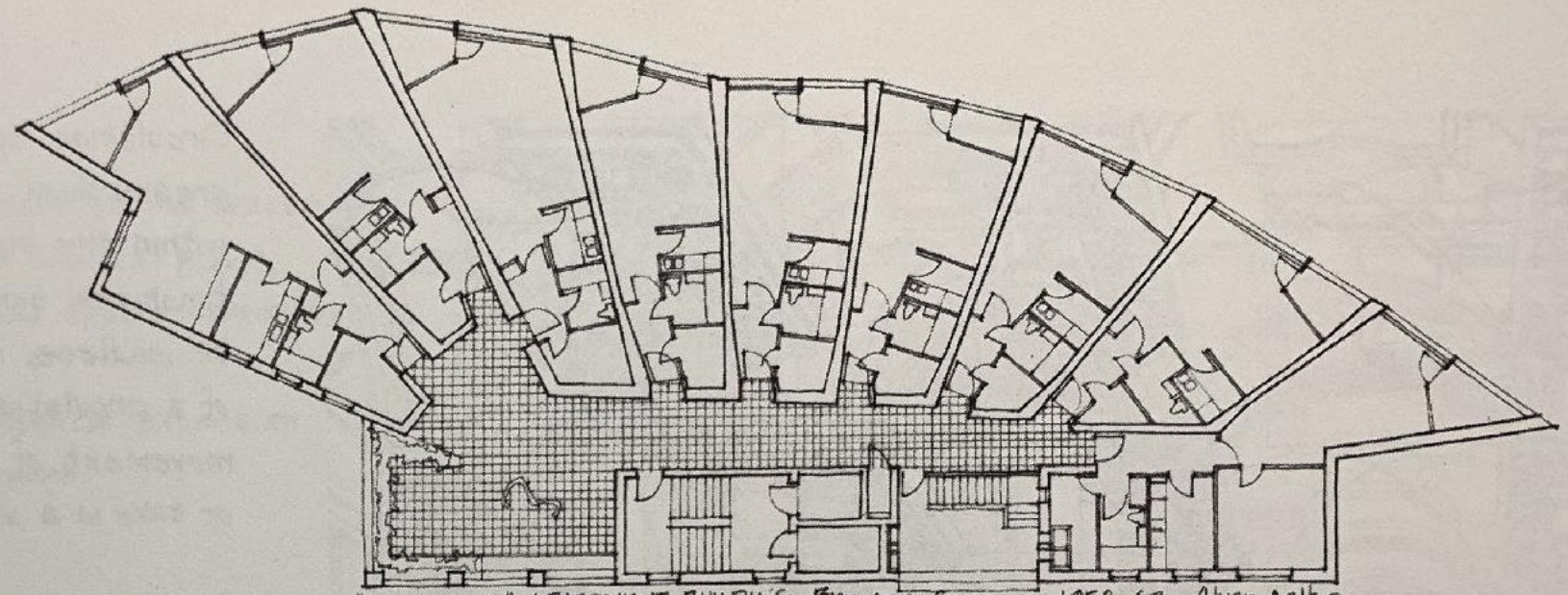
Configuration of Path



Path-Space Relationships

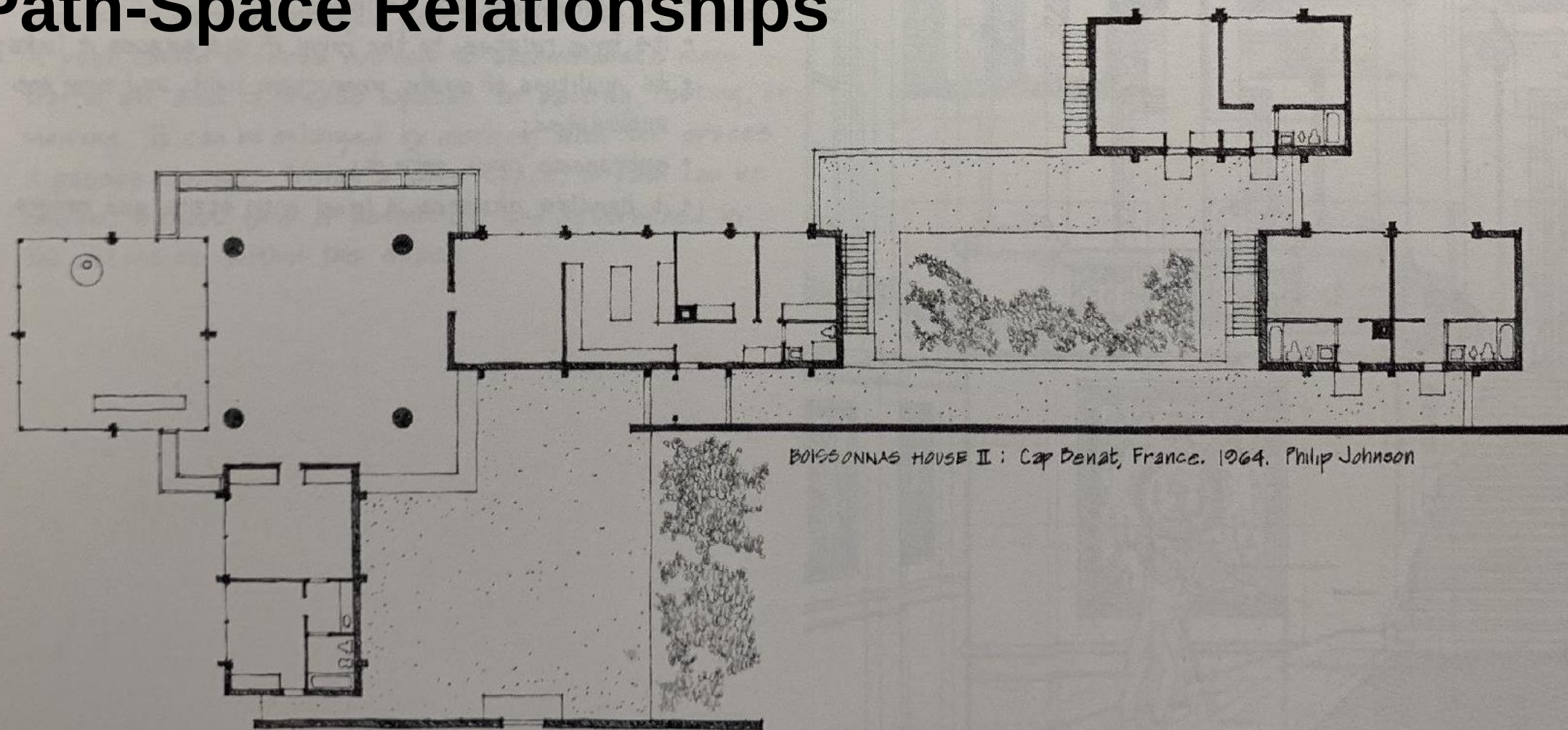
- Pass by Space
- Pass Through Spaces
- Terminate in a Space





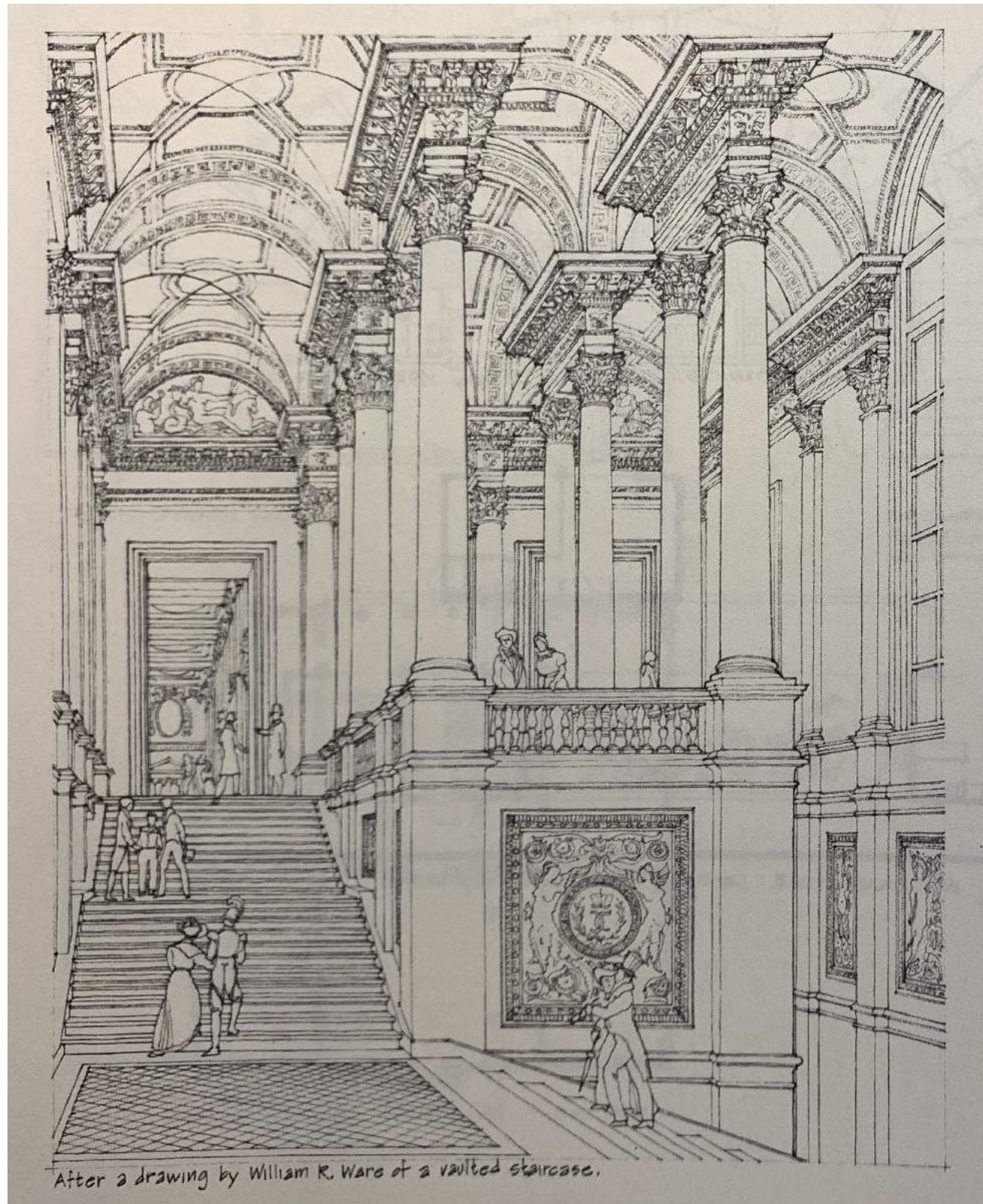
"NEUE VAHR" APARTMENT BUILDING, Bremen, Germany. 1958-62 Alvar Aalto

Path-Space Relationships



BOISSONNAS HOUSE II : Cap Benat, France. 1964. Philip Johnson

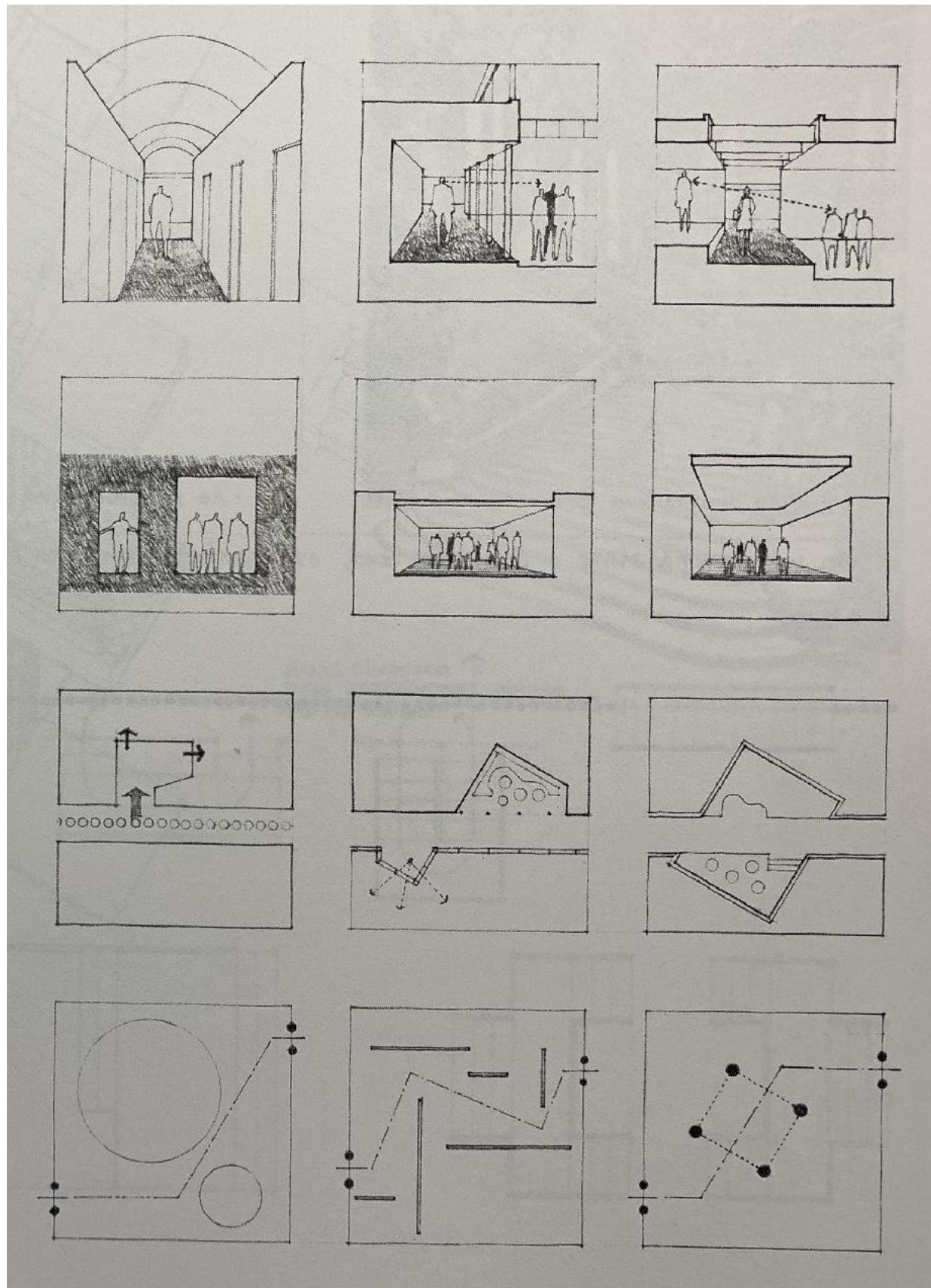
Form of the Circulation Space



There form of the circulation space varies according to how:

- Its boundaries are defined
 - Its form relates to the form of the spaces it links
 - Its qualities of scale, proportion, light and view
- Entrances open onto it
- It handles changes in level with stairs and ramps

Form of the Circulation Space



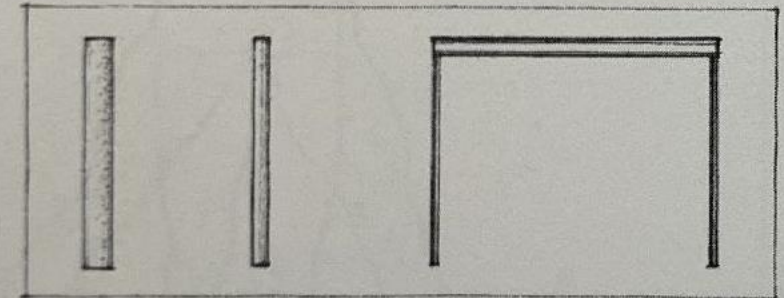
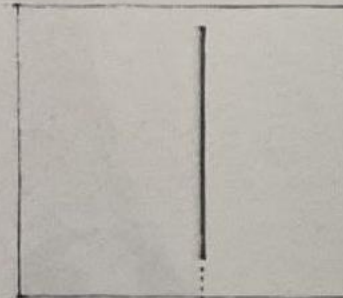
- Enclosed, open on one side, open on both sides
 - Width and height proportionate to the type amount of movement it must handle
- Narrow path encourages movement, wider path accommodates more traffic, spaces merged can create pause moments
- In a large space a path can be random, people can determine their own path

Proportion

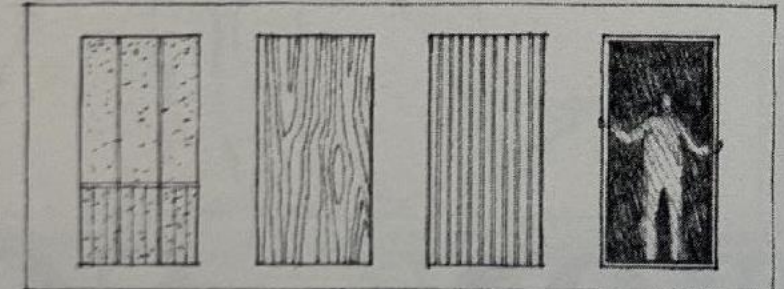
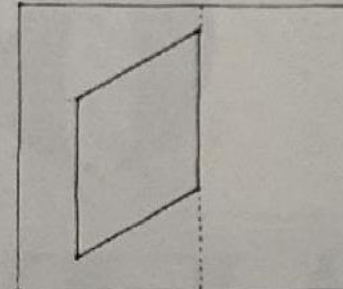
- Proportion refers to the proper harmonious relation of one part to another or to the whole
- All materials have rational proportions which are dictated by their inherent strengths and weaknesses
- Bricks are strong in compression depend on mass for strength



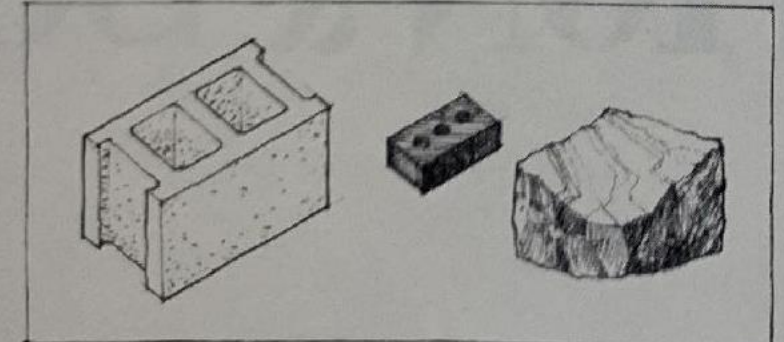
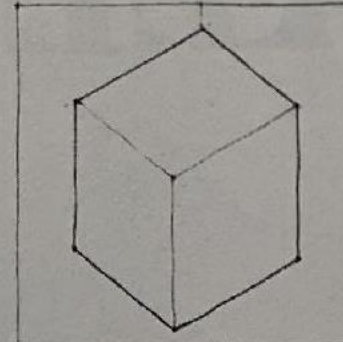
Columns



Vertical Planes

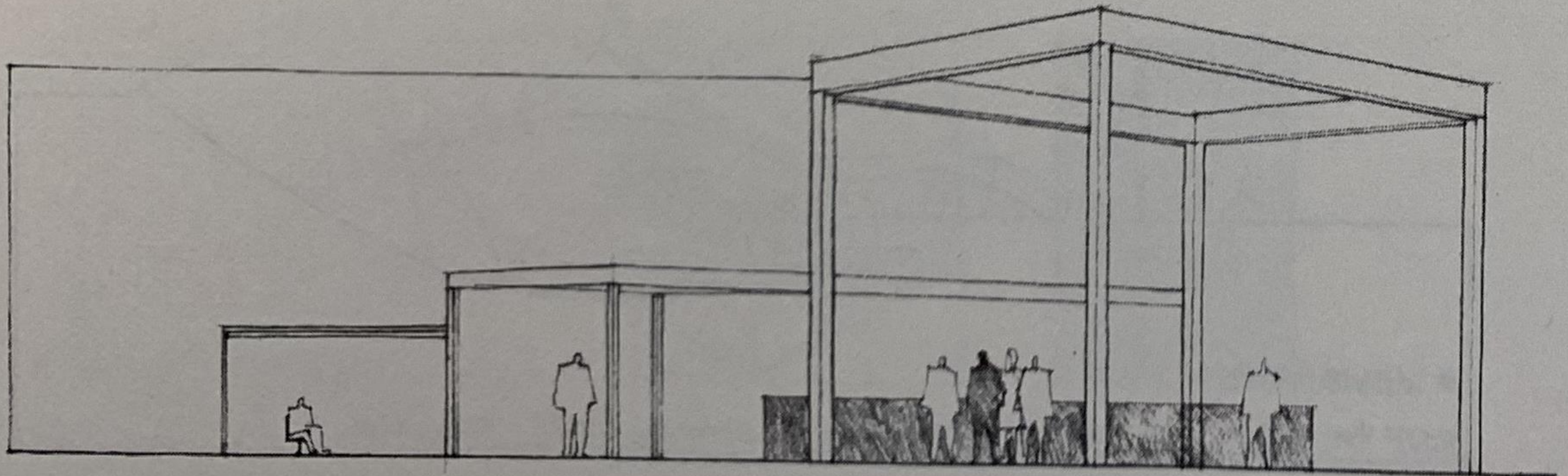


Mass



Structural Proportion

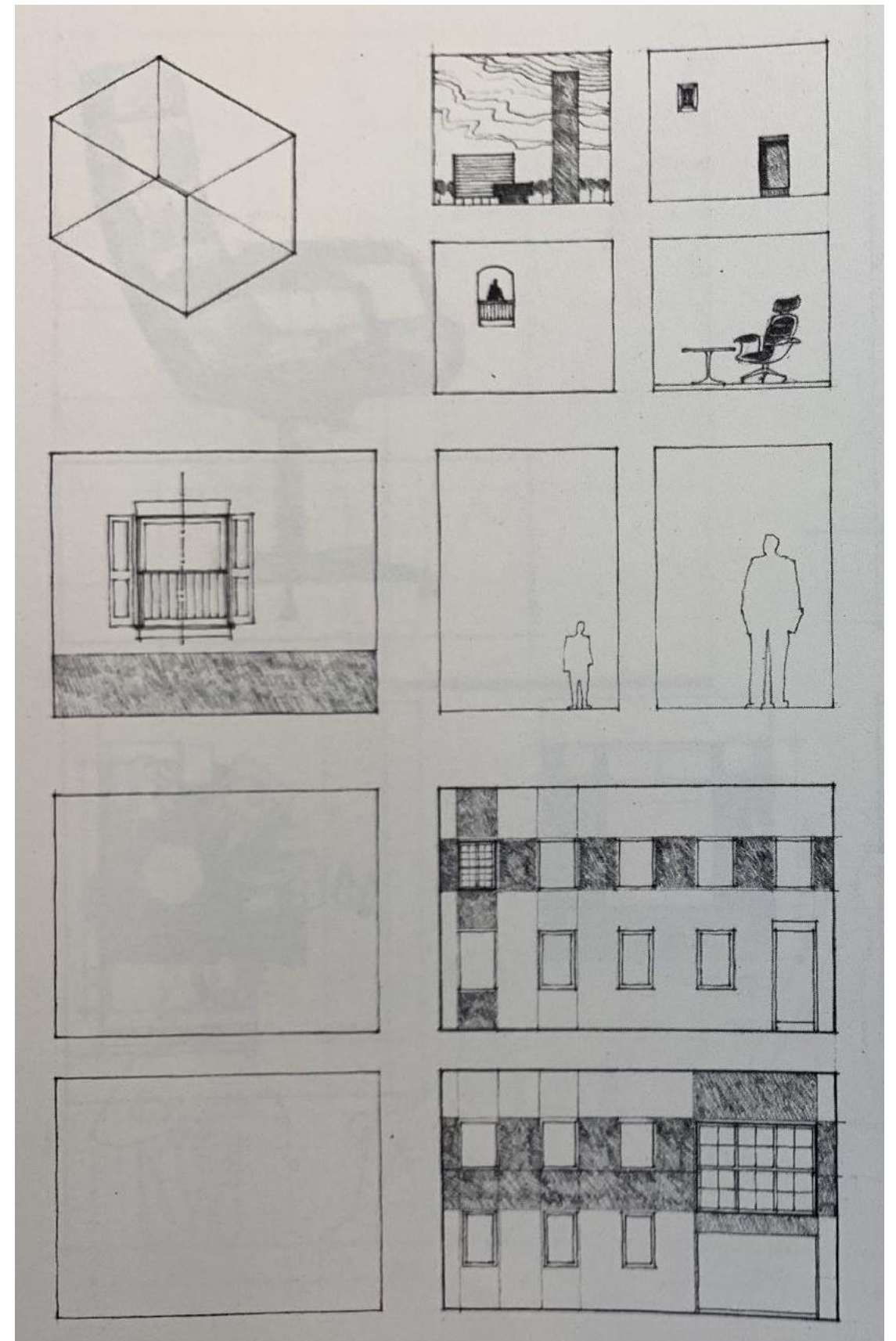
- Beams become deeper the greater the span
- Columns become thicker as their loads increase
- Rule of thumb: A beam is 1" deep for every 1'-0" of span, example: a 24 foot span = 24" deep beam



Anthropometry

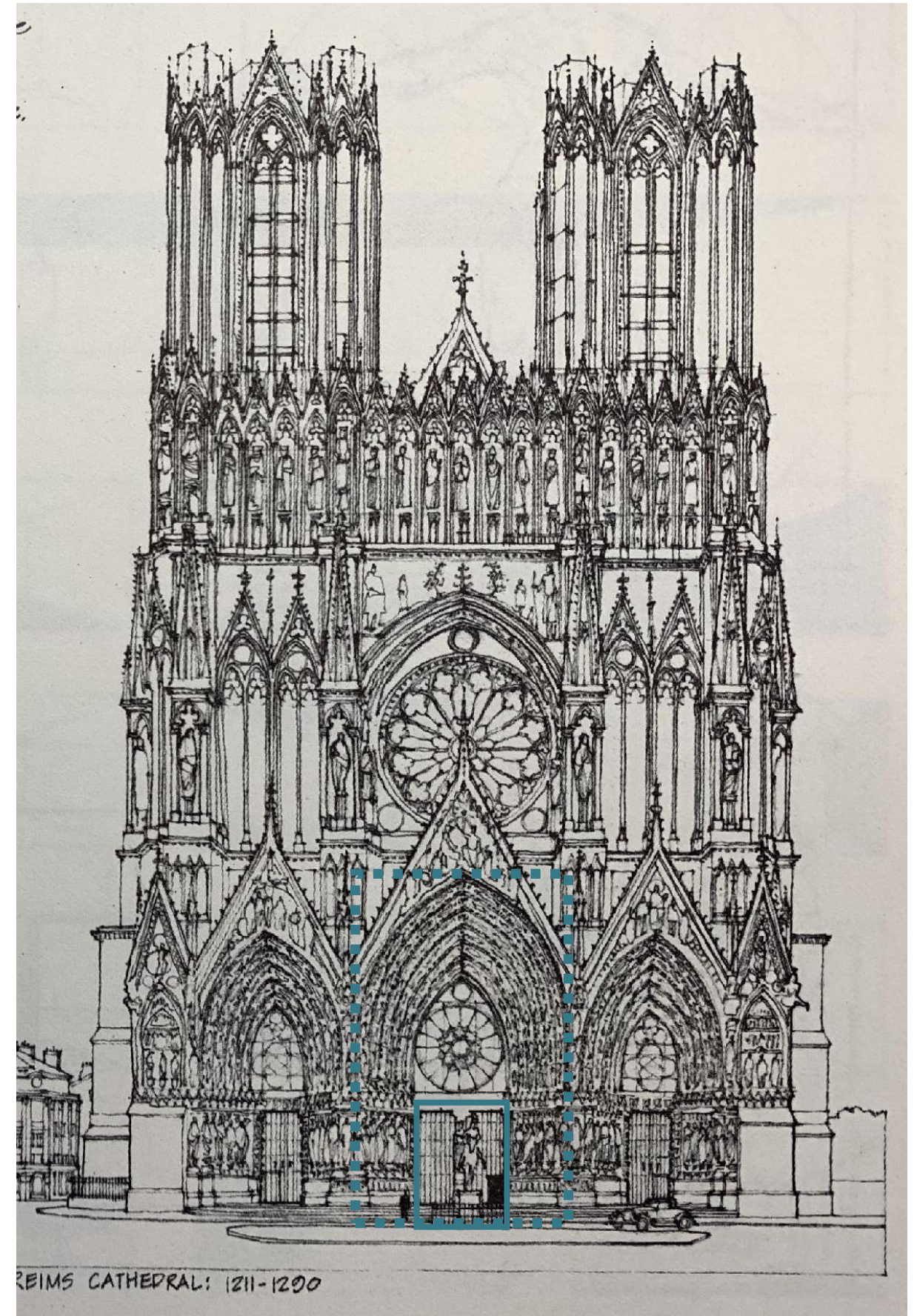
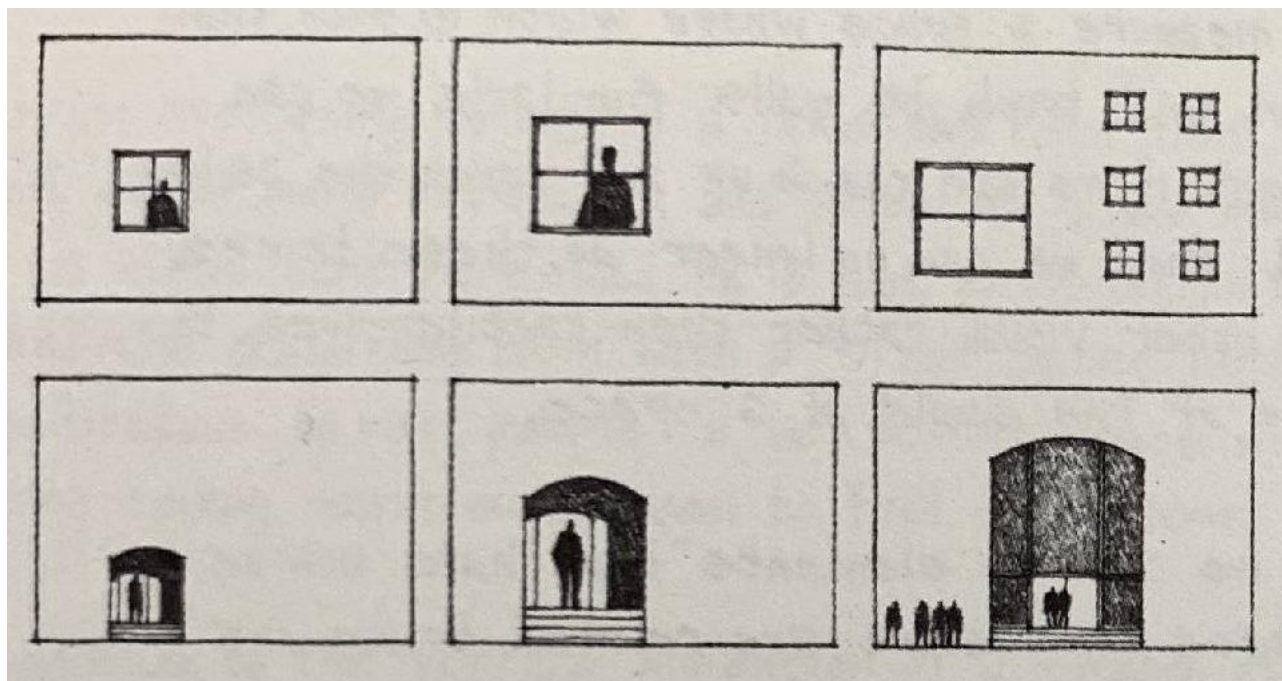
Scale

- **Visual Scale:** the size or proportion an element appears to have relative to other elements of known or assumed size
- **Human Scale:** based on the dimensions and proportions of the human body



Visual Scale

- Building elements and materials give us clues on the size of buildings
- If these elements are oversized they can be used to deliberately alter ones perception



Human Scale

- Of a rooms 3 dimensions it height has a greater effect on its scale than either its width or length
- The height of the ceiling determines its qualities of shelter and intimacy
- In addition to verticality other factors affect the scale of space:
 - Shape and color of bounding surfaces
 - Shape and position of openings
 - Nature and scale of elements in the space

