



Salahaddin University- Erbil
College of Engineering
Department of Architecture

Architecture design III

Lecture: Dr. Roza Maarooof

Design process:

1. Architectural Drawing: The definition of plan, section, elevation, and site plan.
2. Modern architecture and greatest modernist architects: researching the principles of modern architecture and modern houses of architects.
3. House type: studying types of houses such as; detached houses, semi detached, row house, court yard house.
4. Space requirements: name and size of each space as required.
5. Concept phase studies for architectural design.
6. Site analyses: Study site variables, such as (topography, orientation, main roads, paths, Water storm, sewerage, electric...).
7. Sketch drawing: designing a house considering all above requirements.
8. Presentation drawings: final house design.

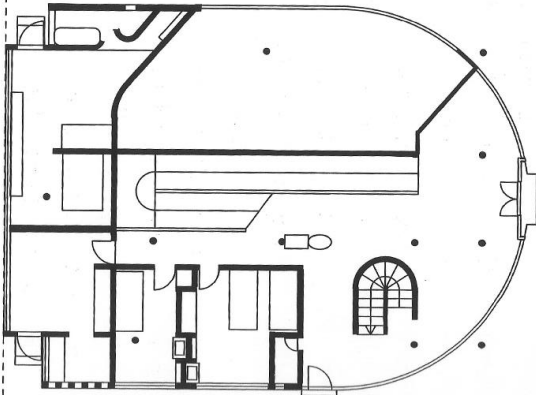
Modern architecture and greatest modernist architects

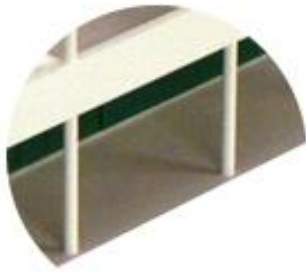
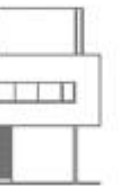
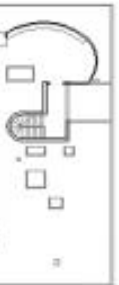
Le-Corbusier: Iconic House (Villa Savoy)

The five points of the building:

- 1- The use of Pilots
- 2- Free-open plan
- 3- Free design of the facade
- 4- Horizontal Windows

5- Roof Garden





Stilt structure

Elevates the building from earth and allows an extended continuity of the garden beneath.



Open Floor Plan

support system carries the intermediate ceilings and rises up to the roof

elimination of walls
absolute freedom in designing the ground-plan

an enormous strength and stability

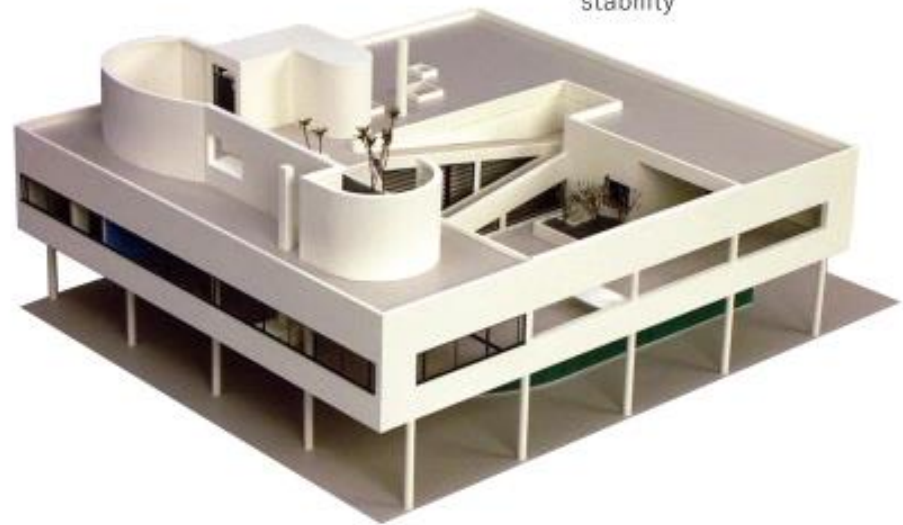


Roof Terrace

more potential on the utilization of areas

protection against changing temperatures

brakes the box-like shape



The horizontal row of windows

to dissolve the boxed volume of the building

usage of daylight in the most efficient way

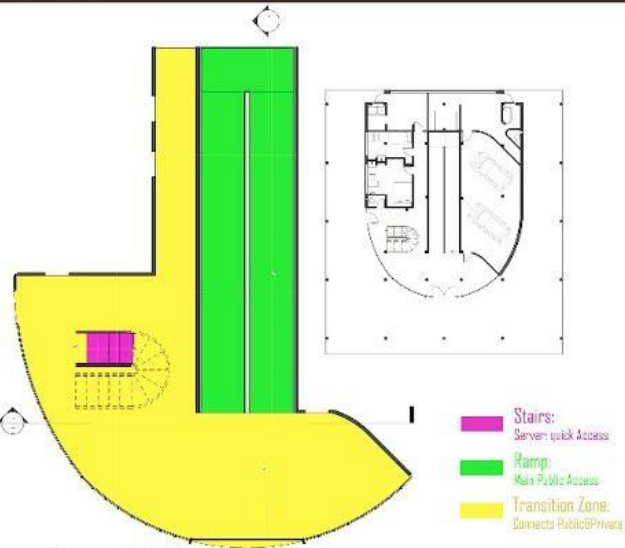


Free designed facade

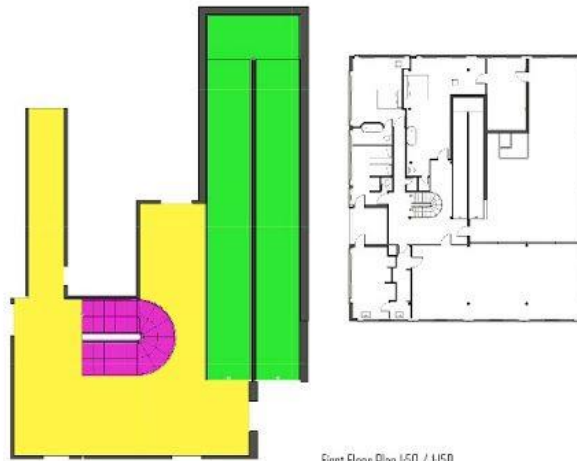
By taking the columns inside the continuity of the facade is succeeded with no limitation and disturbance.

No need to maintain strength on facade.

Circulation - Part of the Whole



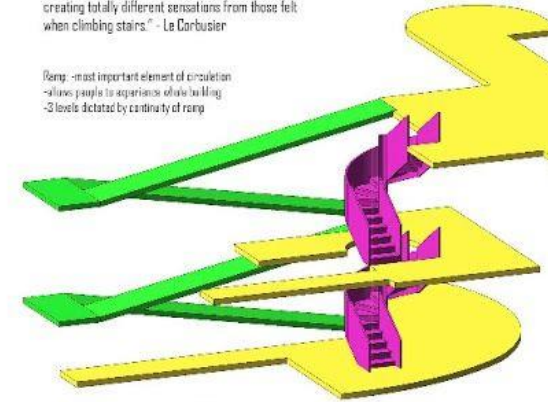
Ground floor Plan 1:50 / 1:150



First Floor Plan 1:50 / 1:150

"The ramp provides a gradual ascent from pilotis, creating totally different sensations from those felt when climbing stairs." - Le Corbusier

Ramp - most important element of circulation
 - allows people to experience whole building
 - 3 levels dictated by continuity of ramp



Axonometric of Circulation 1:50

Circulation: Ground Floor

- Sense of dynamism: route curves along half circular entry block
- central entrance: main axis, columns emphasize main entry direction
- ramp exerts strong directional pull (upwards slope)

First Floor:

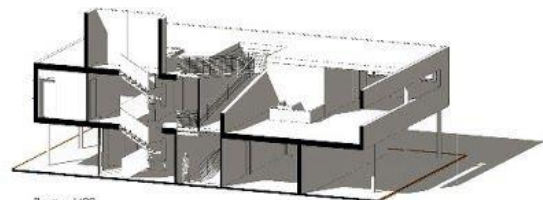
- ramp separator between private (open) & private (enclosed)
- ramp as daylight strategy
- rectilinear spaces (Walls) create enclosed hallway

Roof:

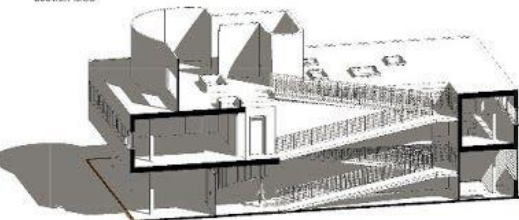
- Movement ends at roof level
- enclosed by roof walls but coming up from ramp
- blocking at opening -> sense of continuity

Conclusion:

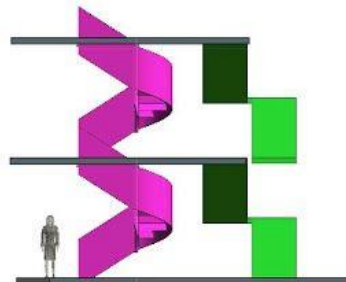
Route of Circulation is a linear element with 8 curvature which contrasts with the static of the box-shaped Villa Savoye. The Circulation is dictated by the sequence of movement.



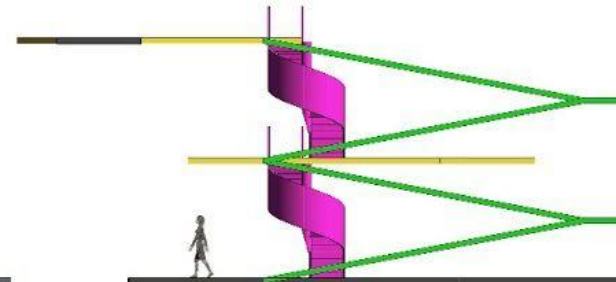
Section 1:100



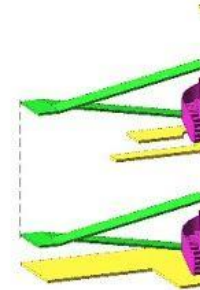
Longitudinal Section 1:100



Isolated Section 1:50



Isolated Longitudinal Section 1:50



Exploded Axonometric Circulation 1:100



South-East Elevation 1:100



North-East Elevation 1:100



North-West Elevation 1:100

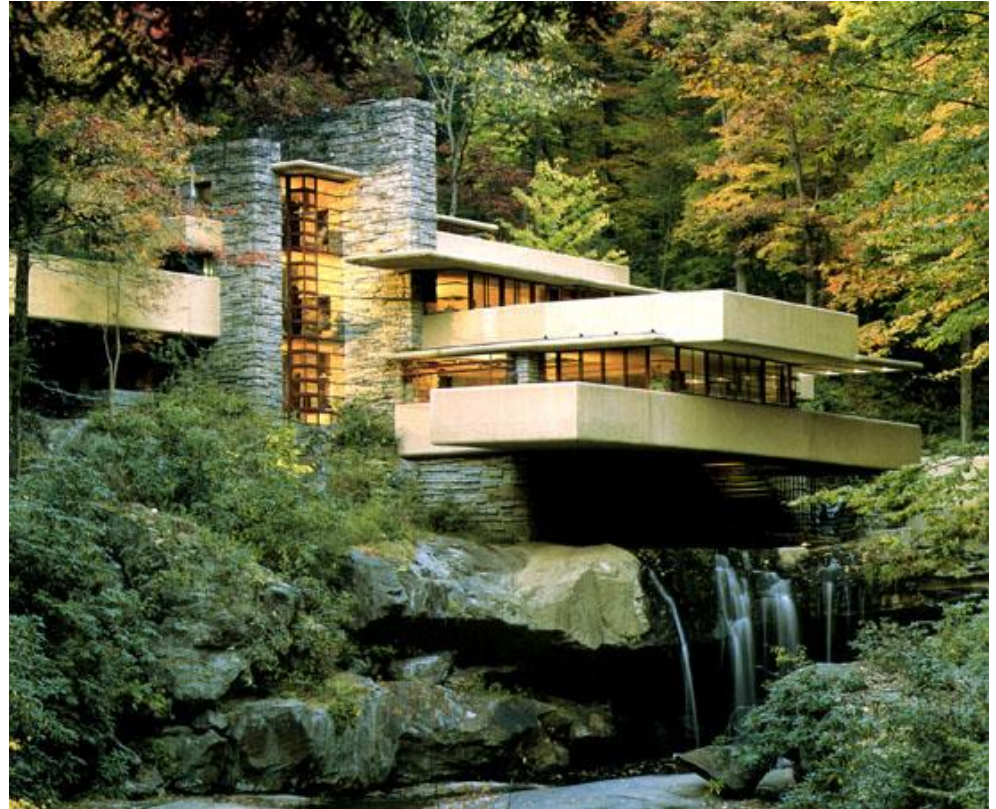


South-West Elevation 1:100

Frank Lloyd Wright: Falling Water house

The principles of the Building:

- 1- Organic colors
- 2- Simple geometrical shape
- 3- Integration the building with the nature
- 4- Strong horizontal lines
- 5- Hidden Entries





FALLINGWATER



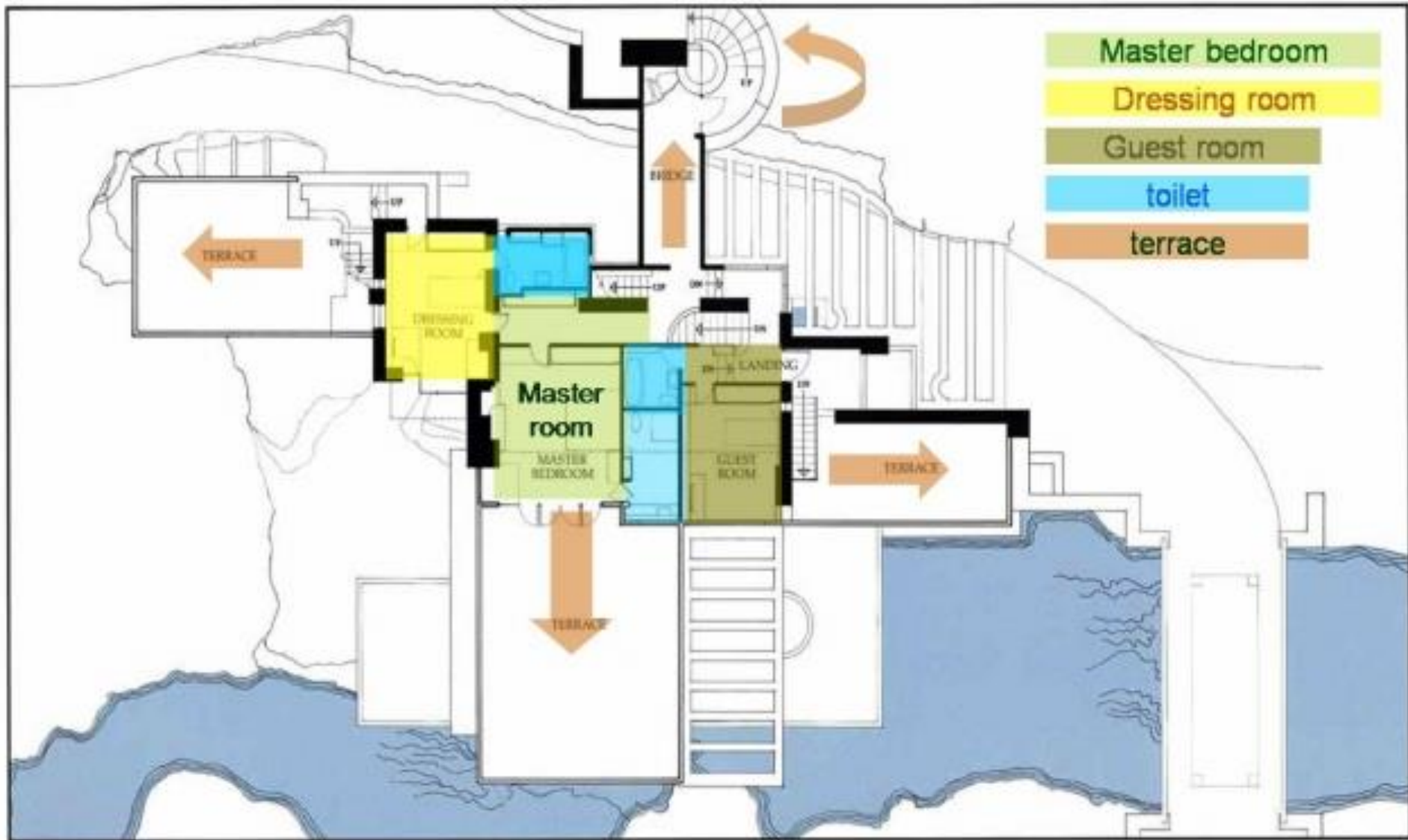
MAIN FLOOR PLAN

Most of the house's floor space is devoted to the stone-paved living area with its various activity spaces. A high proportion of the living space is outdoors in the form of terraces, loggia and plunge pool below the living room..

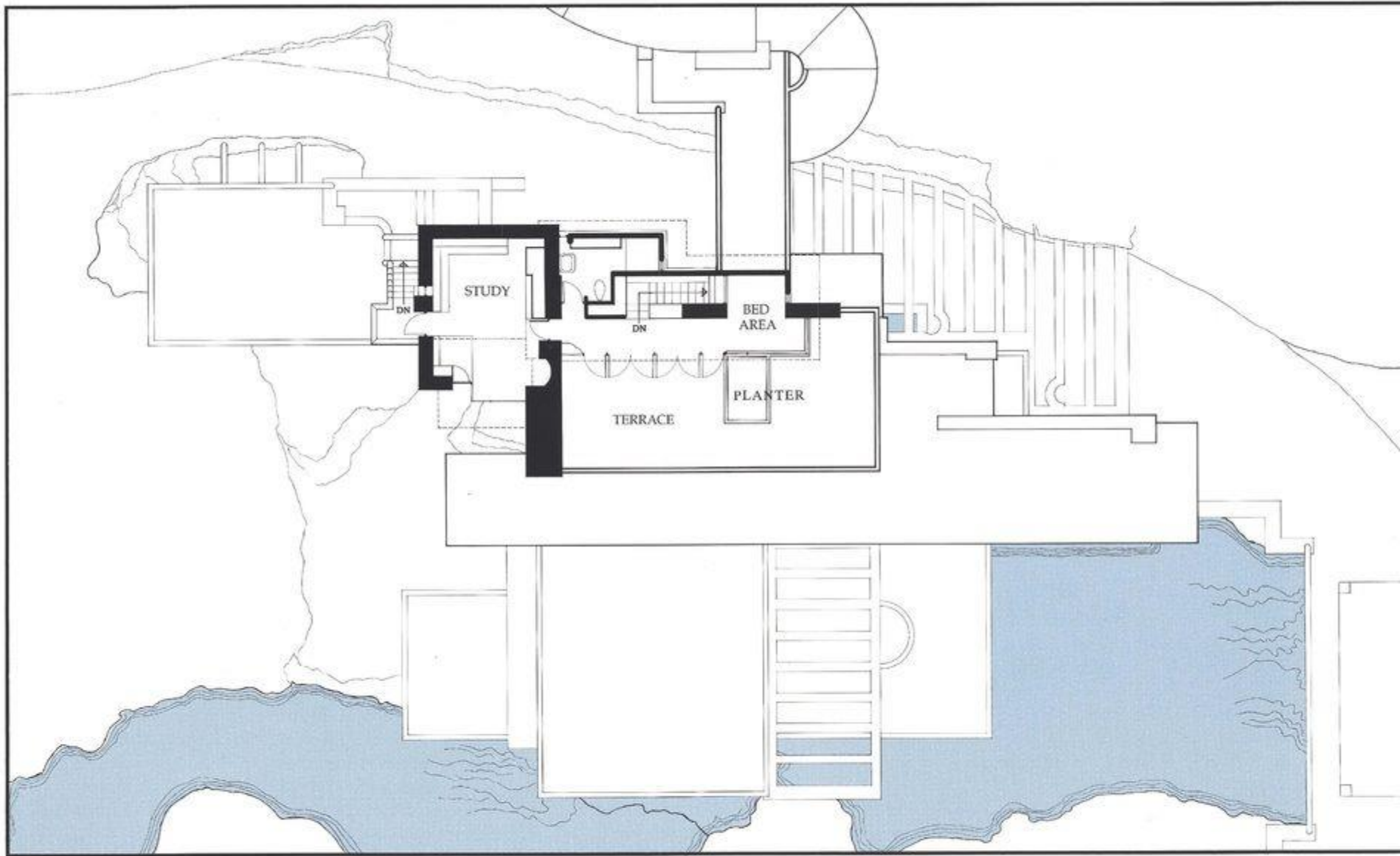


FALLINGWATER

MAIN FLOOR PLAN

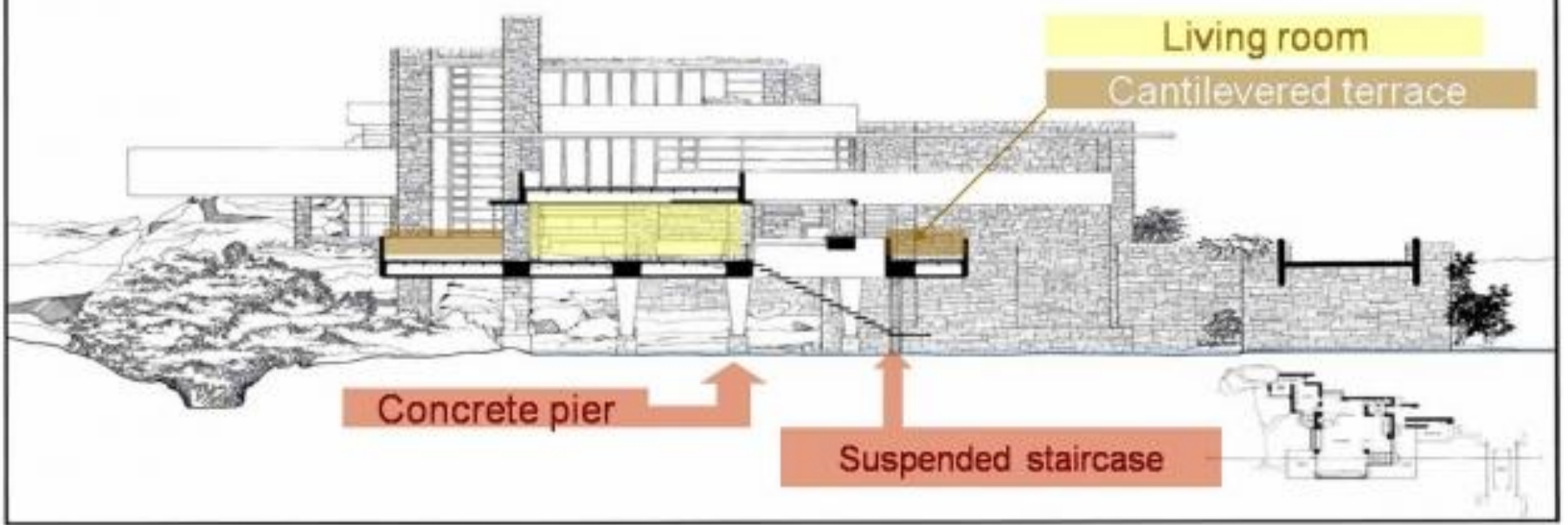


- Master bedroom
- Dressing room
- Guest room
- toilet
- terrace



FALLINGWATER

THIRD FLO



FALLINGWATER

Art gallery

EAST/WEST SECTION



FALLINGWATER

NORTH/SOUTH SECTION

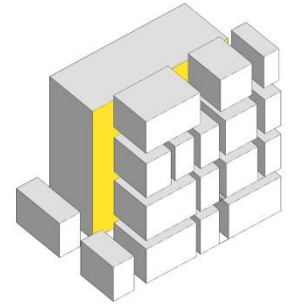
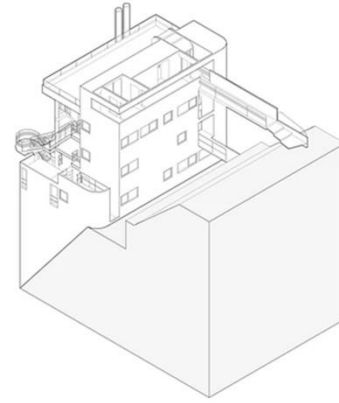
Richard Meier: Douglas house

The main characters of the house

1. in terms of Form:
2. in terms of Colors:
3. in terms of Materials:
4. in terms of Lighting:



Using basic form & shape

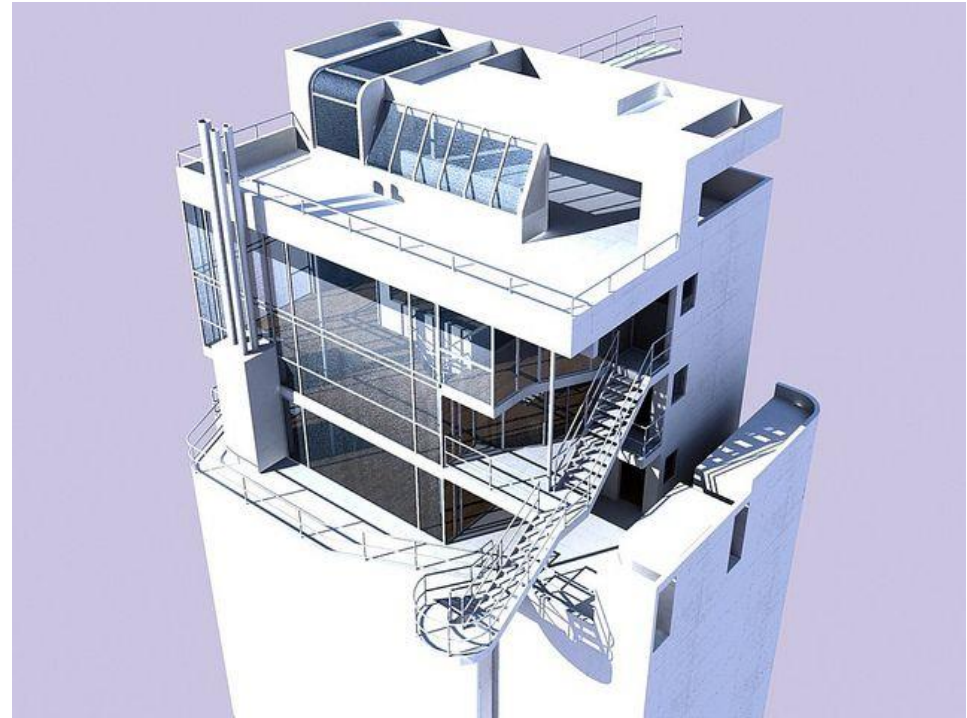


FRAGMENTATION

Using grid visually & physically



Using mostly white Colors in external& internal



Natural lighting

materials : White alucobond with glass



Concept phase studies for architectural design

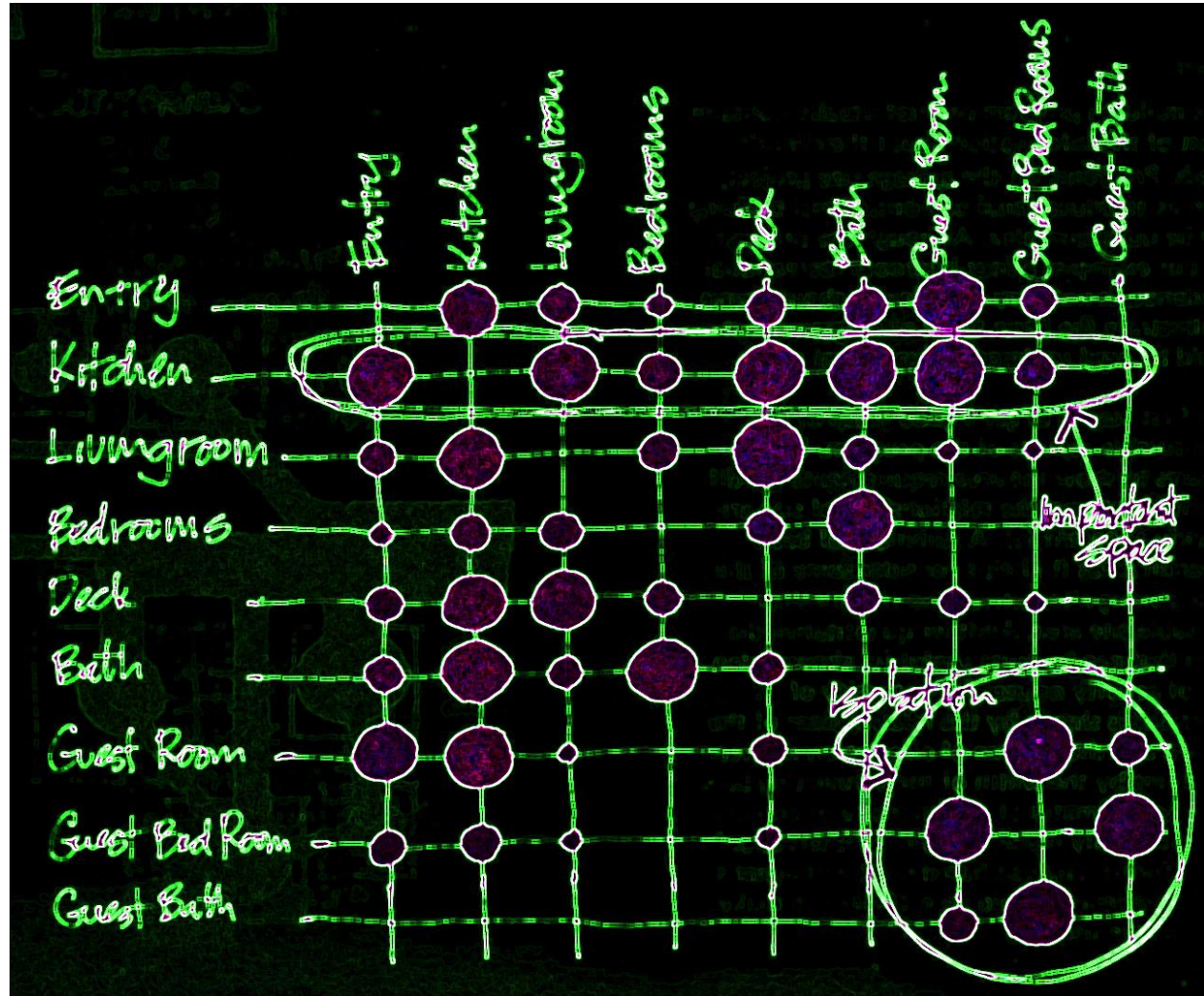
Design tools

The design process begins after the architectural program. The design process goes into a linear progression of steps in which each step elaborates upon previous decisions. The four steps in the architectural design sequence are:

- 1- Relationships Matrix
- 2- Bubble Diagram
- 3- Zoning Diagram
- 4- Site Analysis
- 5- Concept Plans

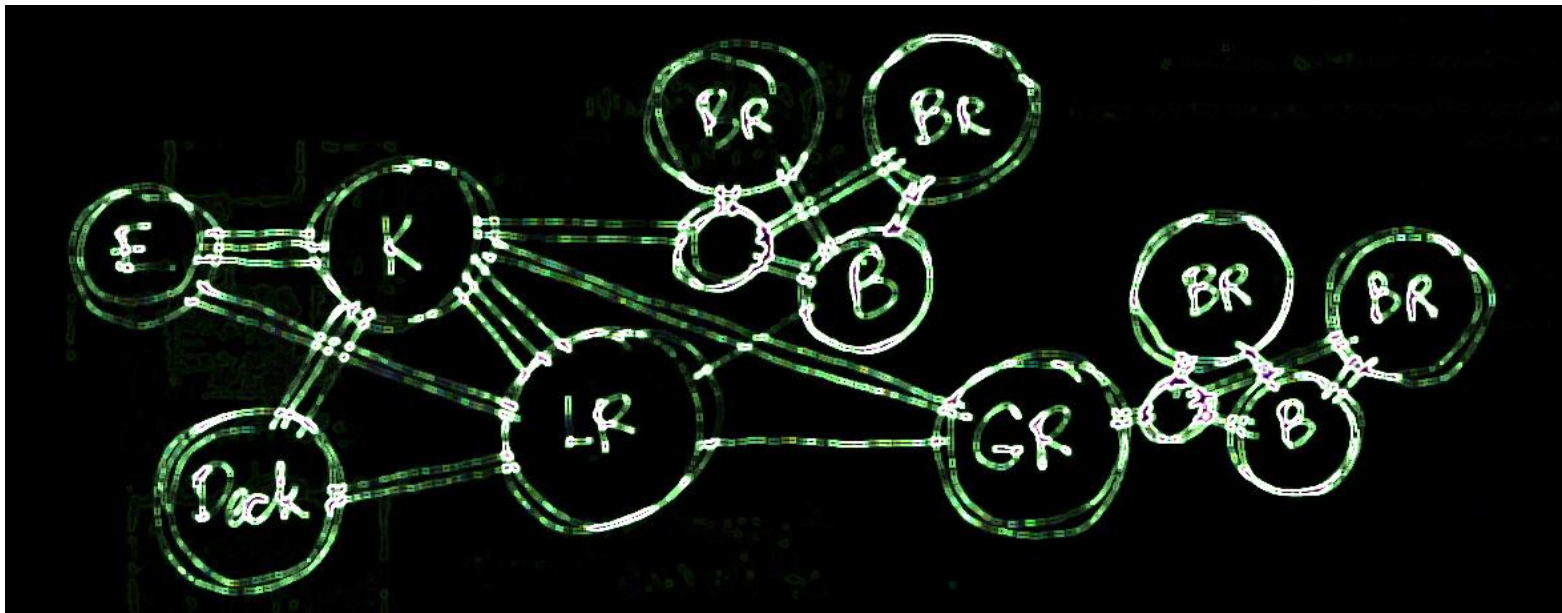
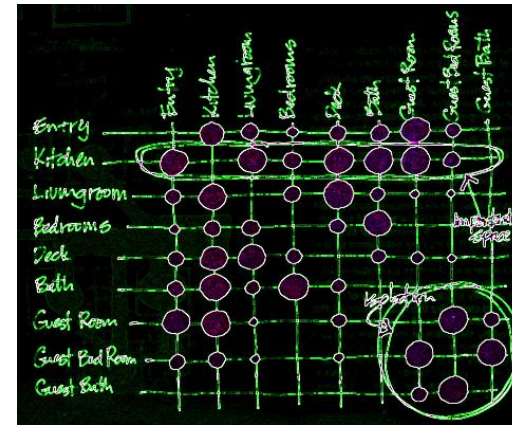
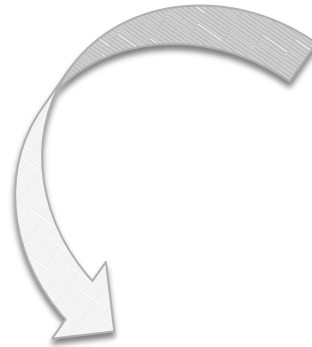
Relationships Matrix

The Relationship Matrix is a design tool that abstracts the building program to conveniently summarize for activities to be housed and their required relationships.



Bubble Diagram

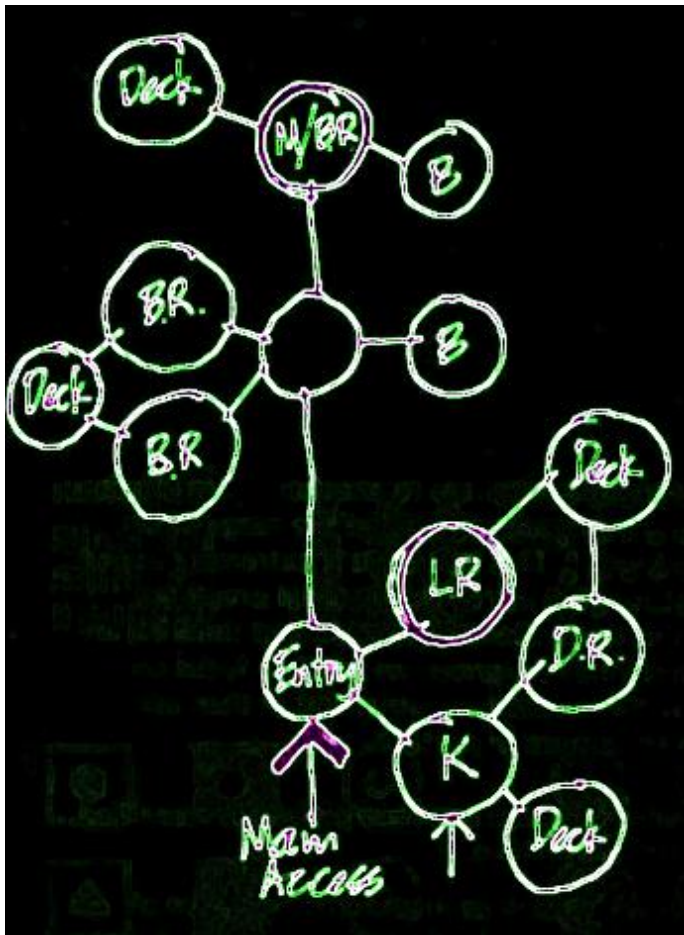
The Bubble Diagram is a tool for the designer to move from the design program to the building design. The Bubble Diagram transforms the program into a visual graphic.



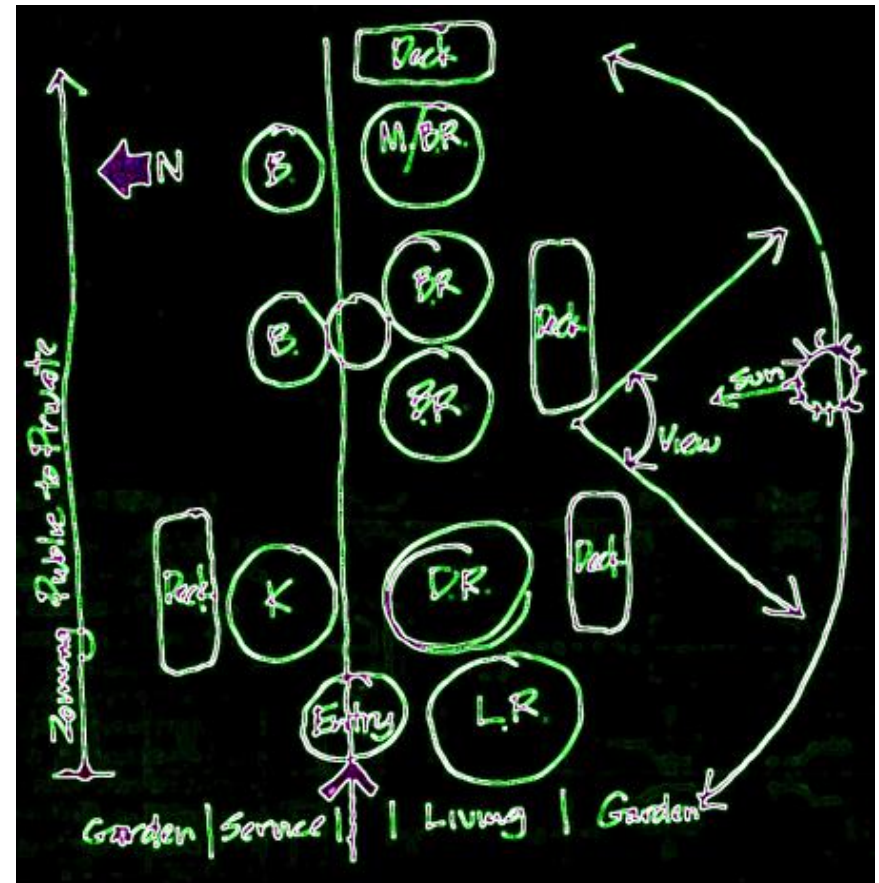
Zoning Diagram

The Zoning Diagram is an abstraction for an early design. The Zoning Diagram corresponds to the site and climate establishing position and orientation of functions with respect to each other and the natural site. Natural light and heat, views, building access, and zoning of functions are also considered.

1



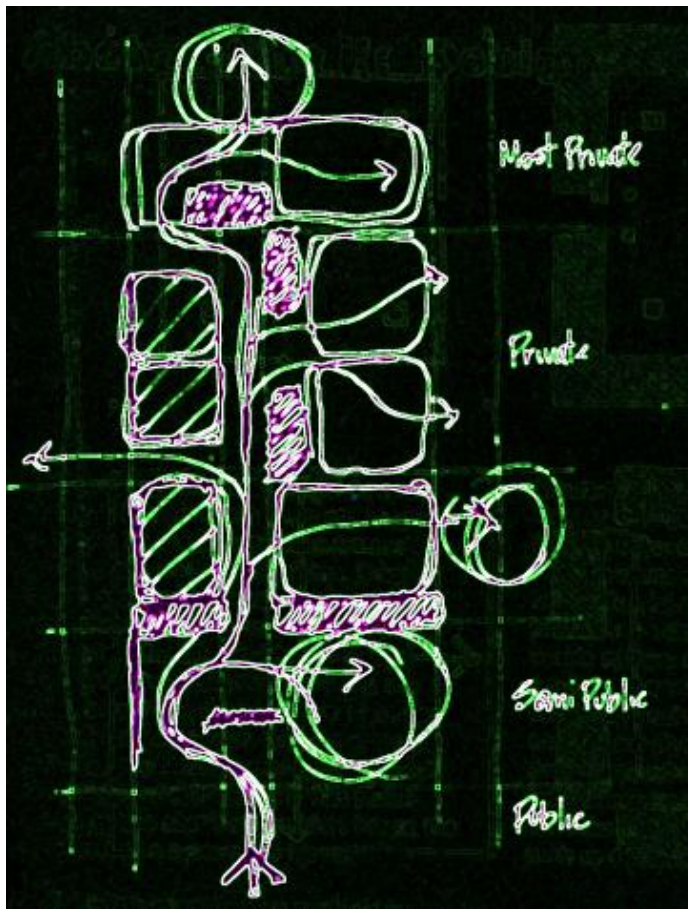
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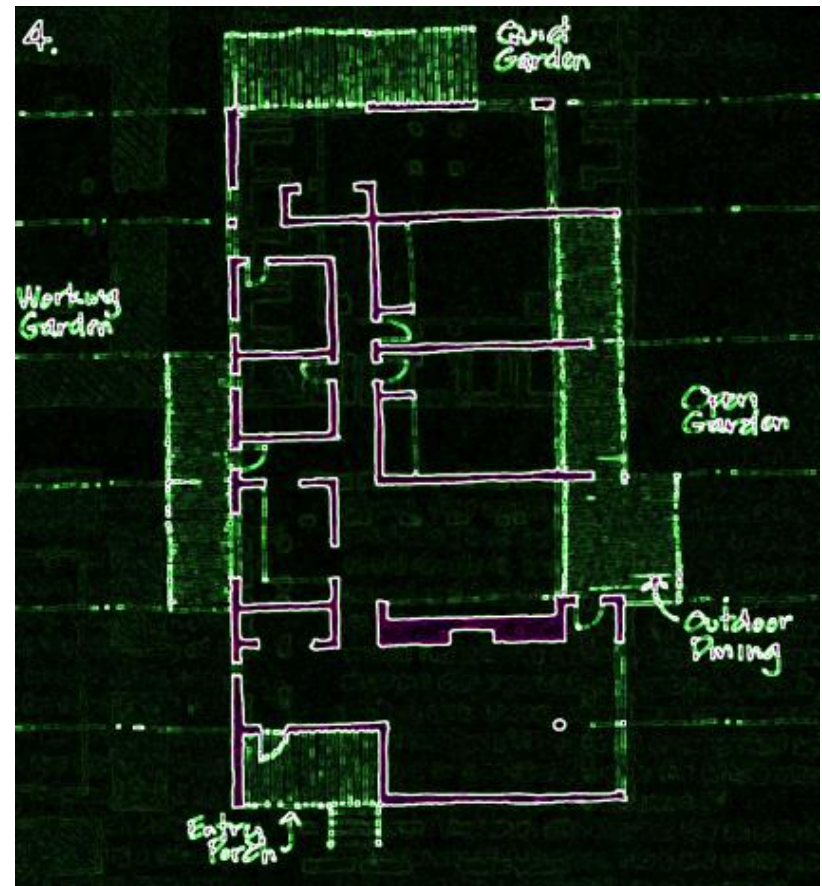
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3



4



THANK YOU!

