

# III. Early Modernism: Expressionism & Bauhaus

*1910 - 1940's*

# Key Concepts Related to the Design of This Period

A clearly defined

“parti”

which is imperative to good design

# parti

*An architectural parti is the "central idea" of a design: it is the architectural composition being conceived as a whole, with the details being filled in later. The "parti" is the governing or organizational logic of a work of architecture.*

*“There is nothing exclusive about architectural ideas. They can be drawn on the back of an envelope. The important thing is to draw the idea clearly and see all the implications..... There is no better way to do architecture than to have a strong architectural idea and be true to it.”*

*Edward Larrabe Barnes*

# Frank Lloyd Wright



*Falling Water (Kaufman House), PA*

*1936*

*photo: FLW Foundation*

# Frank Lloyd Wright



*Falling Water (Kaufman House) PA 1936*

*Photo: FLW Foundation*

# Frank Lloyd Wright



*Guggenheim Museum,  
(Organizational parti)*

*New York City*

*1943*

*Photo: FLW Foundation*



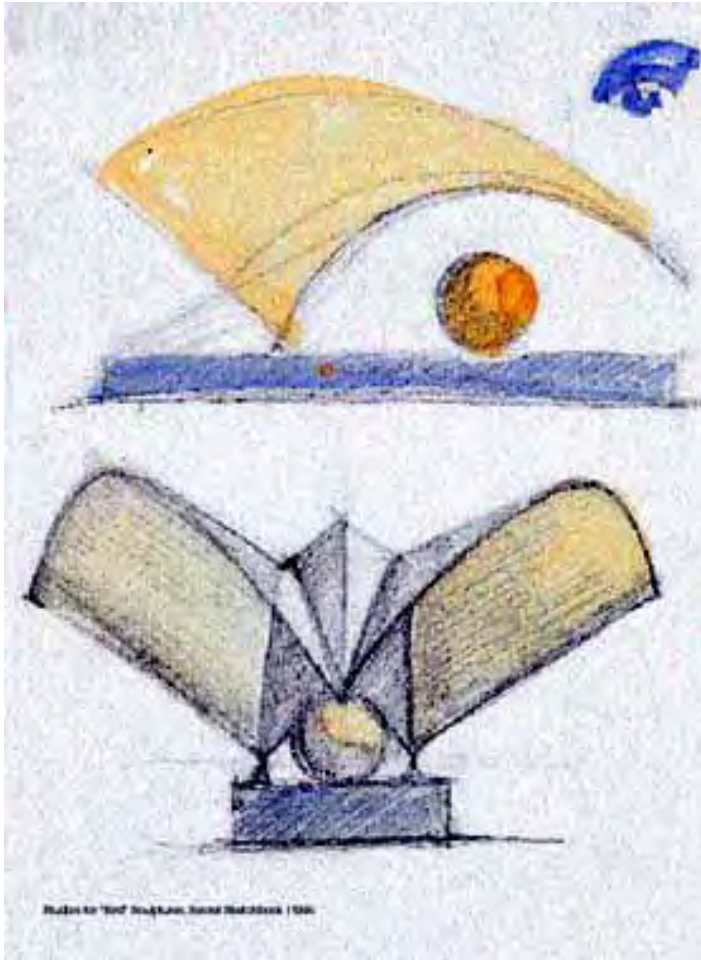
# Frank Lloyd Wright



*Guggenheim Museum, New York City 1943*

*Photo: FLW Foundation*

# Santiago Calatrava



*A celebration of structure.  
Parti: inspired by nature, particularly  
organic forms*



*TGV Station, Lyon, France*

*Photo: ()*

*1989-92*

# Santiago Calatrava



*TGV Station, Lyon, France*

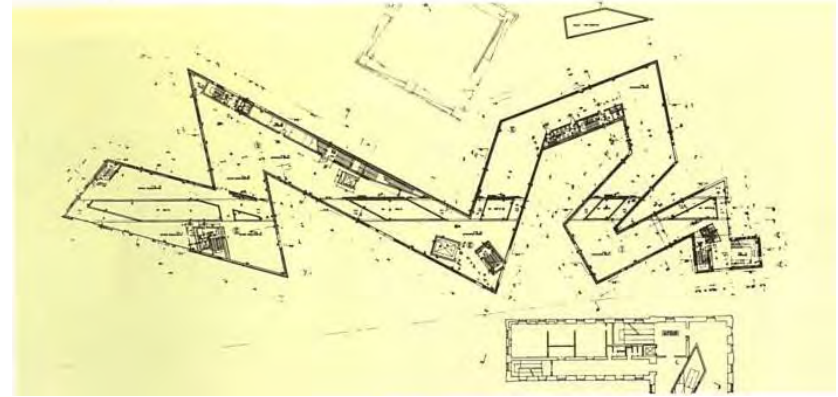
*Photo: ()*

*1989-92*

Sometimes an architect tackles a number  
of ideas at once

This is a multi-parti approach

# Daniel Libeskind



*Jewish Museum, Berlin, Germany*

*Photo credit: (Konemann)*

*Parti: a number of ideas at once:  
Organizational, intellectual,  
geographical*



*1989-98*

# Daniel Libeskind



*Jewish Museum, Berlin, Germany*

*1989-98*

*Photo credit: P Sperling*

# Sculptural form

Certain designers have rendered a functional program into a work of art



*Kandariya Mahadeva Temple, Khajuraho, India*

*Photo: A.F.Kirsting*

1025-1050



# Le Corbusier



*Ronchamp (Notre-Dame-du-Haut Chapel, France,  
Photo: P. Sperling 1950*

# Le Corbusier



*Chandigarh,*

*India*

*1950*

*Photo: O'Leary/Pannos*

# Eero Saarinen



*TWA Terminal, New York City*

*1956*

*Photo: Ezra Stoller*

Creating a building that is uniquely suited to its site is a difficult proposition.

## “Siting”

a building so that it looks like it grew out of the land should be a major consideration

# Senmut



*Tomb of Queen Hatshepsut, Egypt*

*1473 BCE*

*Photo: A. F. Kisting*

# Richard Neutra



*“ Health House” for Lovell, Los Angeles, CA 1927*

*Photo:*

# Toyo Ito (1941- )



*Shimosuwa Lake Suwa Museum, Nagano, Japan 1990*

*Photo: Ohashi*

# Antoine Predock

(1936- )



*Las Vegas Library*

*Photo: Timothy Hursley*

*1987-90*



The interplay between  
solid and void  
on a façade.

This is the careful arrangement  
of openings (including  
windows) in juxtaposition to  
areas of solid wall.

# Oswald Ungers

(1926-2007)



*Contemporary Art Wing, Hamburg, Germany 1986-96*

*Photo: Siling*

# Richard Meier

(1934- )



*Weinstein House, Old Westbury, NY*

*1969*

*Photo: Ezra Stoller*

Large buildings can be  
overwhelming, if the architect  
does not attempt to bring the  
building to

Human scale

# Richard Meier



*Museum for Kunsthandwerk, Frankfurt, Germany 1979*

*Photo: (Phaidon/Pearman)*

Sometimes it is easier to find  
examples showing

the lack of human scale

# Henri Ciriani (1936- )



*Museum of Archaeology, Arles, France*

*1984-1992*

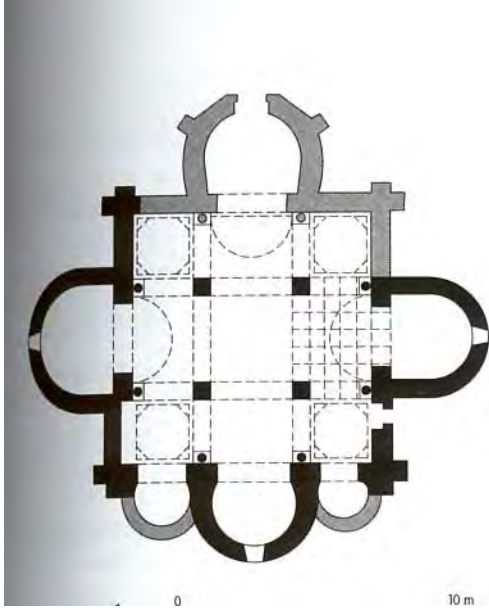
*Photo: (Phaidon/Pearman)*

# Elegance of plan

as the basis of an elegant building.

Everyone knows that a building's plan has to be functional. But architects understand that a clumsy plan will lead to an ugly building.

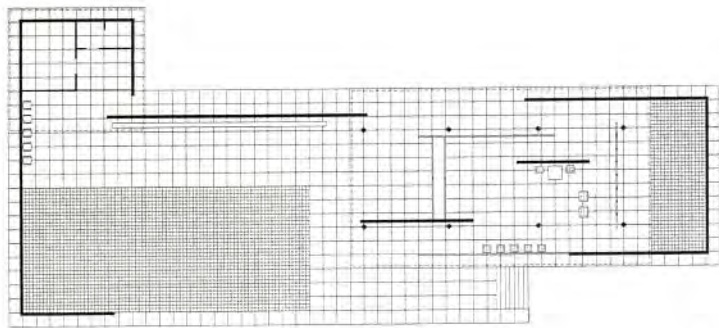




*Germigny-des-Près, France 806 A.D.*  
*Photo: Maeyaert*

# Mies van der Rohe

(1886-1969)



*Barcelona Pavilion, Spain*

*Photo: P. Sperling*

*1929*

# Mies van der Rohe



*Barcelona Pavillion, Spain*

*1929*

# Proportion

- The golden ratio: Numerical proportion considered to be an aesthetic ideal in classical design. It is the ratio of length to width or length to height and is approximately 1.6 to 1.

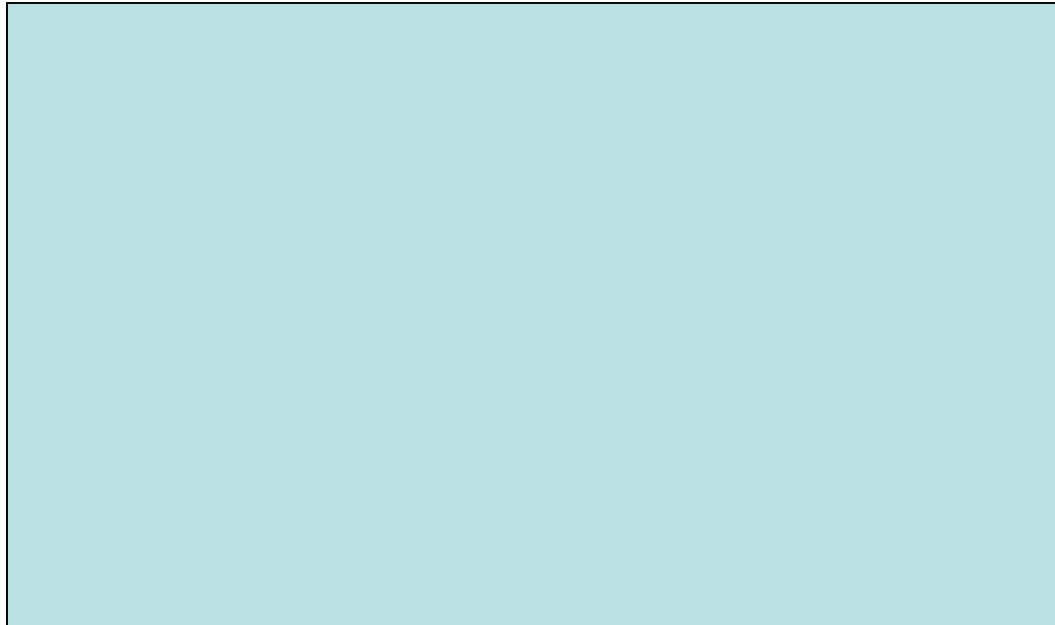
*LeCorbusier developed in the late 1930s a proportional system he called the MODULOR, based on a typical human body dimensions.*

*He was the 20<sup>th</sup> century architect that most frequently used proportional systems.*

# The golden ratio

Length: 1.6

Height: 1



*The ratio of one leg of a rectangle to the other leg.*

Designers differentiate spaces in a  
number of different ways

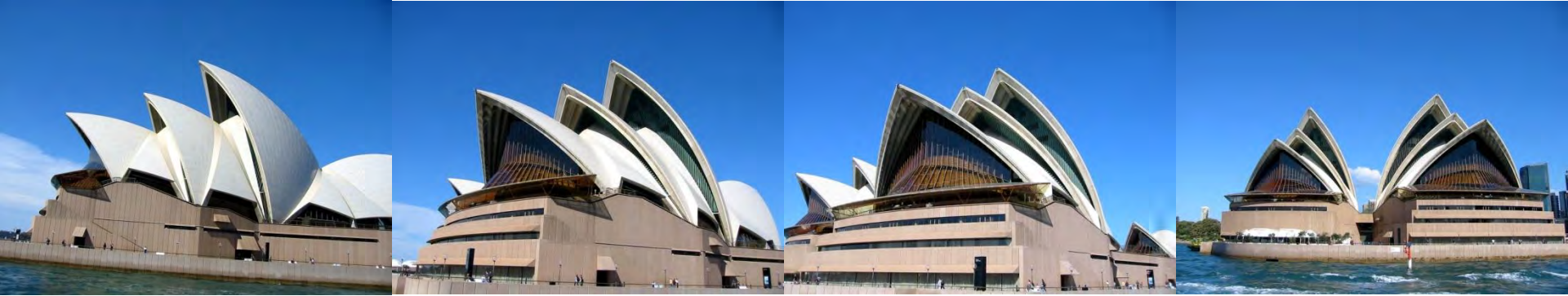
A master architect achieves the  
differentiation of spaces  
in subtle ways

Architecture is experienced by moving around a building and through its interior spaces.

Interesting or exciting experience of moving through a space or around a building is a quality of many masterpieces.

Jorn Utzon

(1918-2008)



*Sydney Opera House, Australia*

*1957-1974*

*Photo: P. Sperling*



# Christian de Portzamparc

(1944- )



*Cite de la Musique, Paris*

*Photo: Siling*

*1984-95*

# Pei, Cobb, Freed



*Rock and Roll Hall of Fame, Cleveland, Ohio 1987*

*Photo: Timothy Hursley*

# Balance and proportion

# Ahmad Lahawri, et al

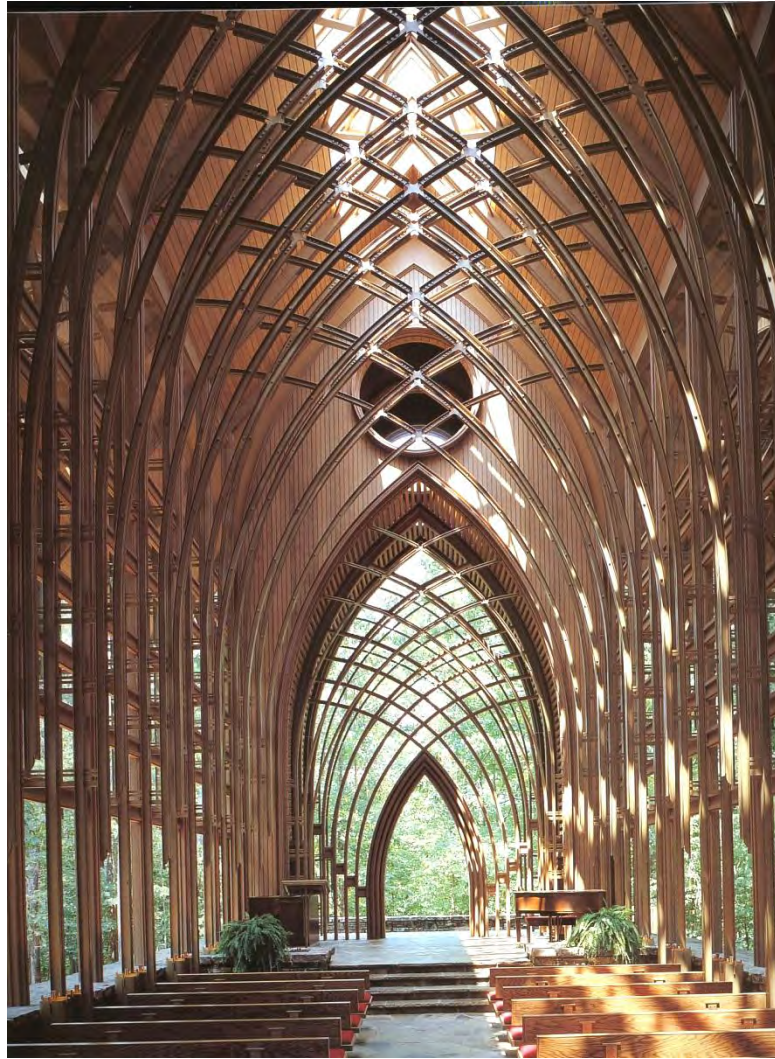


*Taj Mahal, Agra, India*

*Photo: AF Kersting*

631

# Fay Jones and Maurice Jennings



*Mildred B. Cooper Memorial Chapel, Bella Vista, Ark. 1982*

*Photo: (Phiadon/Pearman)*



*Stoa of Attalos, Athens, Greece*

*Photo: Rachel McCann*

*400 BCE*

# Renzo Piano (1937- )



*Nasher Sculpture Center, Dallas, Texas*

*2000-03*

*Photo credit: Architecture 12/03*

Some architects establish rhythmic patterns in their architecture.

## Rhythm

In architecture is similar of “modulation and repetition” but here whole patterns are repeated (and sometimes the patterns morph into other patterns.)

(The alternation between solids and voids)



# Walter Gropius (1883-1969)



*Housing*  
*Photo:*

Germany

1925

# Le Corbusier (1887-1965)



*Unite d'Habitation, Marseille, France 1945*  
*Photo: (Gossel)*

# Andre Studer

(1926-2007)



*Housing Estate in Casablanca*  
*Photo: Burkhard Verlog...Heyer Archives*

1953

# Architecture of this Period

*After a brief look at further European influences on Modernism, this chapter covers the architects (and the 'schools of architecture') that were critical to the development of Modern Architecture.*

*It follows the early careers of Frank Lloyd Wright, Walter Gropius, Mies van der Rohe, and Le Corbusier.*

# Expressionism

Developed in northern Europe during the first decades of the 20<sup>th</sup>

Century in parallel with the expressionist visual and performing Arts.

- Distortion, fragmentation or the communication of violent or overstressed emotions.
- Novel materials and unusual massing.

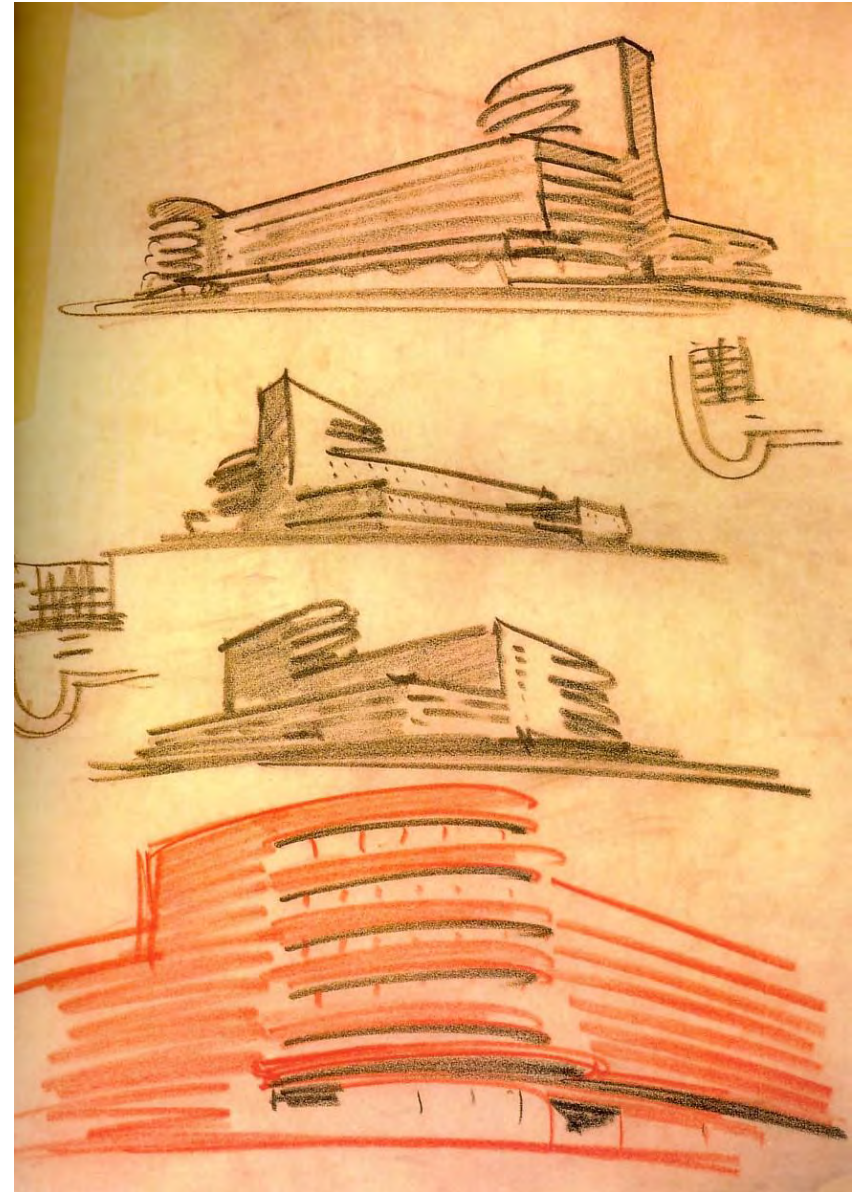
Many expressionist architects fought in WW1 and their experiences combined with the political turmoil and social upheaval resulted in a utopian outlook and romantic socialist agenda.

Economic conditions limited the number of built commissions resulting in many works remaining as paper projects.

In 1933, after the Nazi seizure of Germany, Expressionism was outlawed as degenerate art.

# Eric Mendelsohn

*Mendelsohn, a talented visionary designed this department store from sketches he drew as a soldier during World War I.*



*Schocken Department Store, Stuttgart*

1919

*Photo credit: (Taschen:Gossel)*

# Eric Mendelsohn



[www.monacellipress.com/books/EricMendelsohn/](http://www.monacellipress.com/books/EricMendelsohn/)



*Einstein Tower, Potsdam*

*Germany*

*1919*

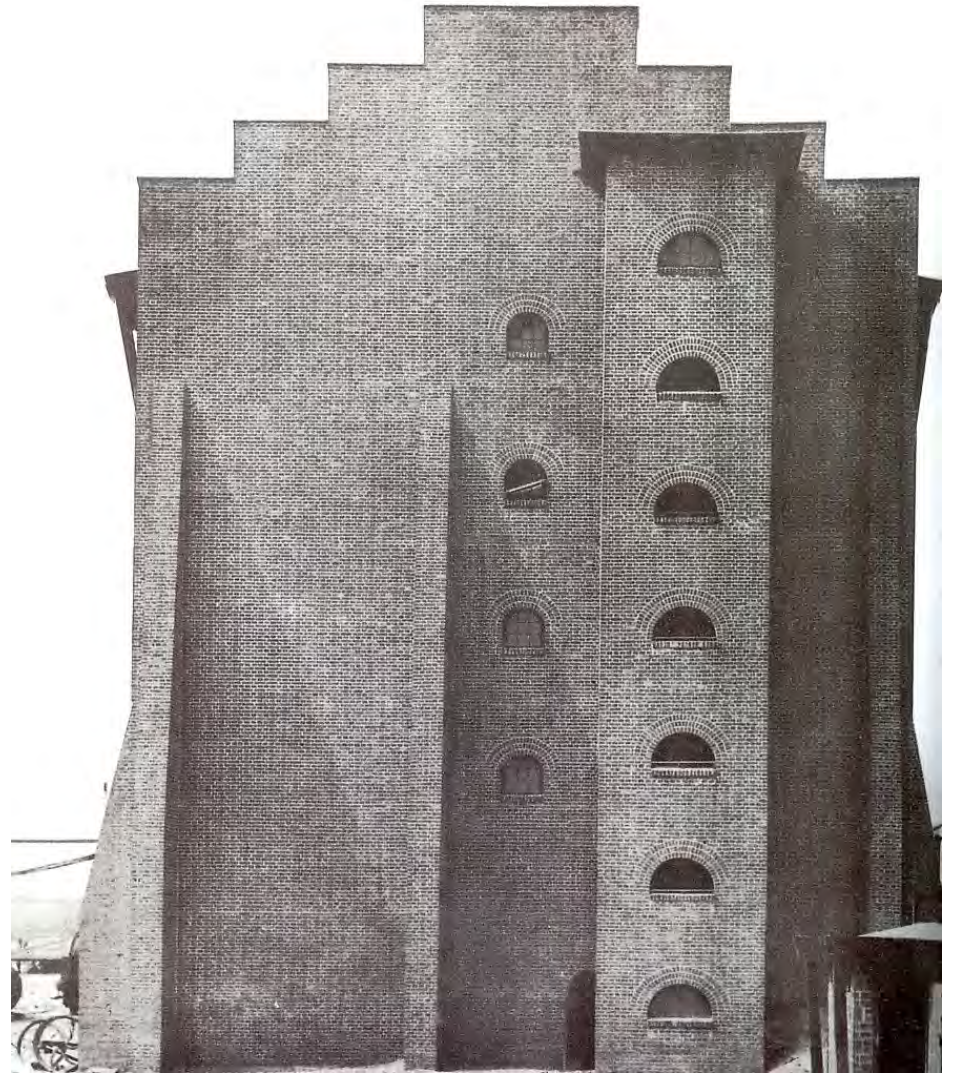
*Photo credit: (Prestel:Icons)*



# Hans Poelzig

(1869-1936)

Created the first  
Expressionist buildings in  
Europe

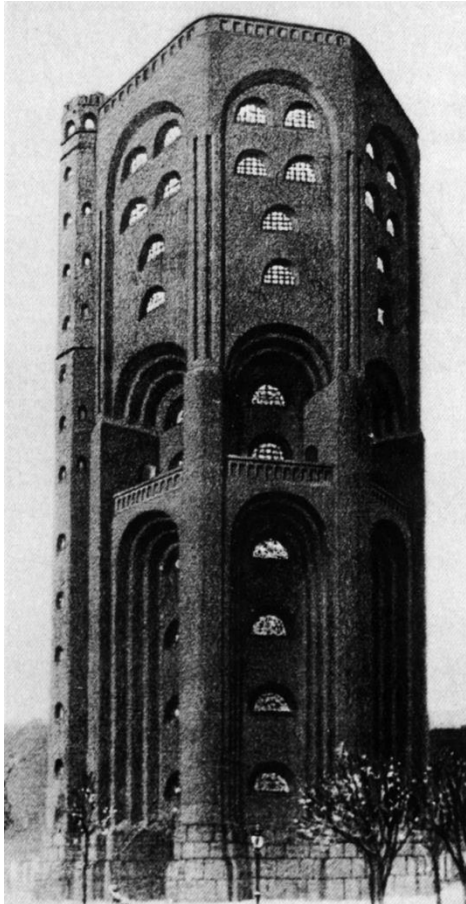


*Sulphuric Acid Factory, Luban,*

*1911*

*Photo credit: (Taschen: Gossel)*

# Hans Poelzig



At the beginning of the 20<sup>th</sup> century he was considered to be one of the most important architects in Germany. He designed a variety of buildings: industrial, offices in large cities, theaters, residential, etc. He was dedicated to art in building, in designing furniture, ceramics, etc.

# Fathers of Modernism

## *Modernist Masters and Schools:*

Peter Behrens

Frank Lloyd Wright

Walter Gropius (the Bauhaus)

Mies van der Rohe

Le Corbusier

De Stijl

# The earliest “Moderns”

*The principal idea driving modern architecture was:*

- *That a building should first and foremost meet the needs of the program. (What it looked like was only of equal or secondary importance.) ‘Adornment’ was therefore eliminated.*
- *The building should be an “honest” expression of its function.*
- *Buildings were “machines” for living, working, or schooling.*

“Form follows function”

*Louis Sullivan*

“Less is more”

*Mies van de Rohe*

# Peter Behrens



*Some of the first  
Modern buildings were  
factories, probably  
because no one cared  
whether they were  
'beautiful' or not.*

AEG Turbine Factory, Berlin, Germany,

1908

Photo credit: (internet source)

# Adolf Loos (1870-1933)



Steiner House,

Vienna

1910

# Otto Wagner (1841-1918)



Villa Wagner II,

Vienna

1912-13



# Frank Lloyd Wright

(1867 – 1958)

*“I believe in God, only I spell it Nature.”*

*“Every great architect is - necessarily - a great poet. He must be a great original interpreter of his time, his day, his age.”*

*“The physician can bury his mistakes, but the architect can only advise his client to plant vines - so they should go as far as possible from home to build their first buildings.”*

*“Form follows function: - that has been misunderstood. Form and function should be one, joined in a spiritual union.”*



# Frank Lloyd Wright



House and studio (Oak Park)

1889

Photo credit: (Turgeon-Rust)

# Frank Lloyd Wright



Heurtley House

(*Oak Park*)

1901

Photo credit: (Turgeon-Rust)

# Frank Lloyd Wright



Dining Room-Heurtley House

about 1901

Photo credit: (Turgeon-Rust)

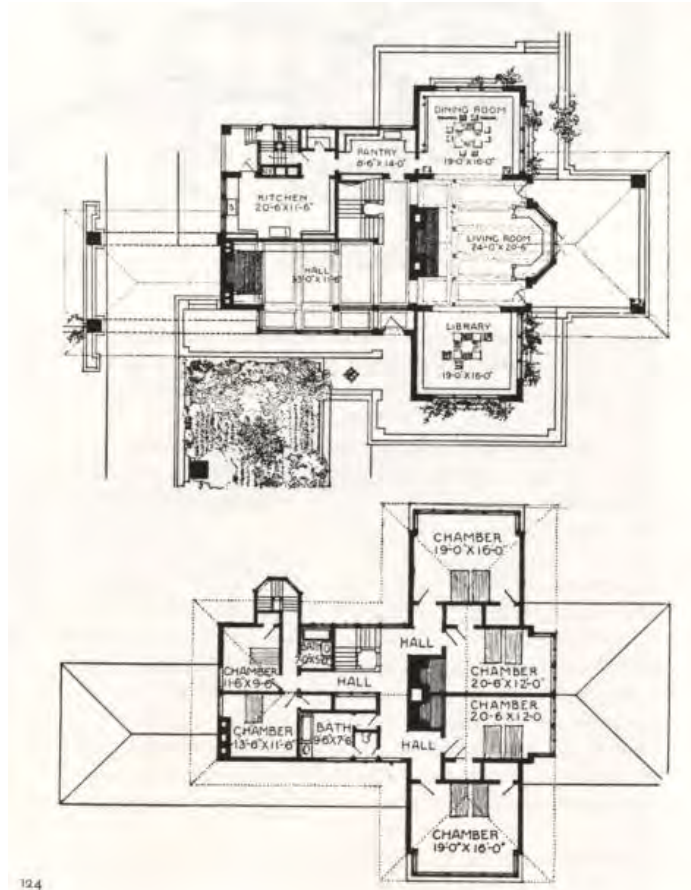
# Frank Lloyd Wright



Ward Willetts House

1902

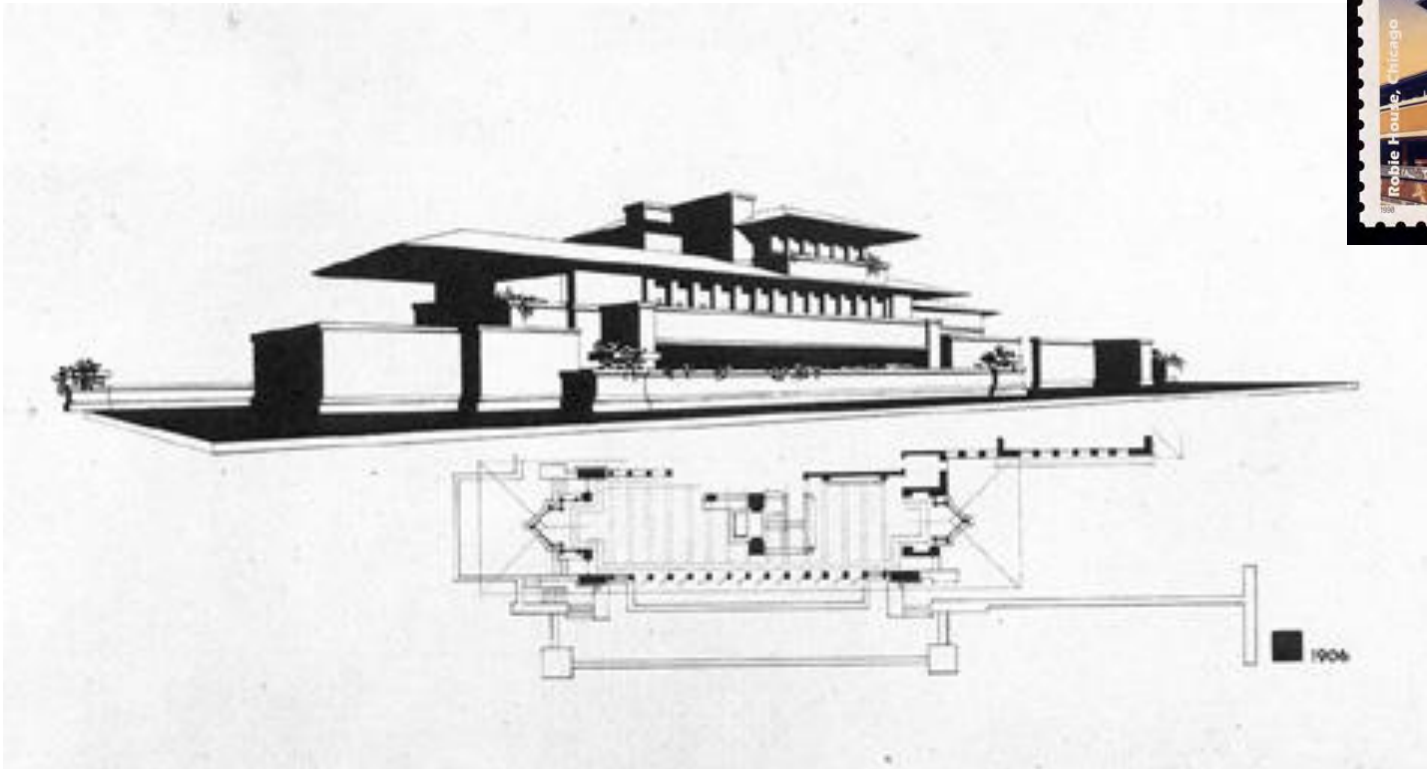
# Frank Lloyd Wright



Ward Willetts House

1902

# Frank Lloyd Wright



Robie House

(*Oak Park*)

1906 - 1909

Photo credit: FLW Foundation

# Frank Lloyd Wright



Robie House

1906 - 1909

Photo credit: [www.ou.edu/.../FirstFLW.htm](http://www.ou.edu/.../FirstFLW.htm)



# Frank Lloyd Wright

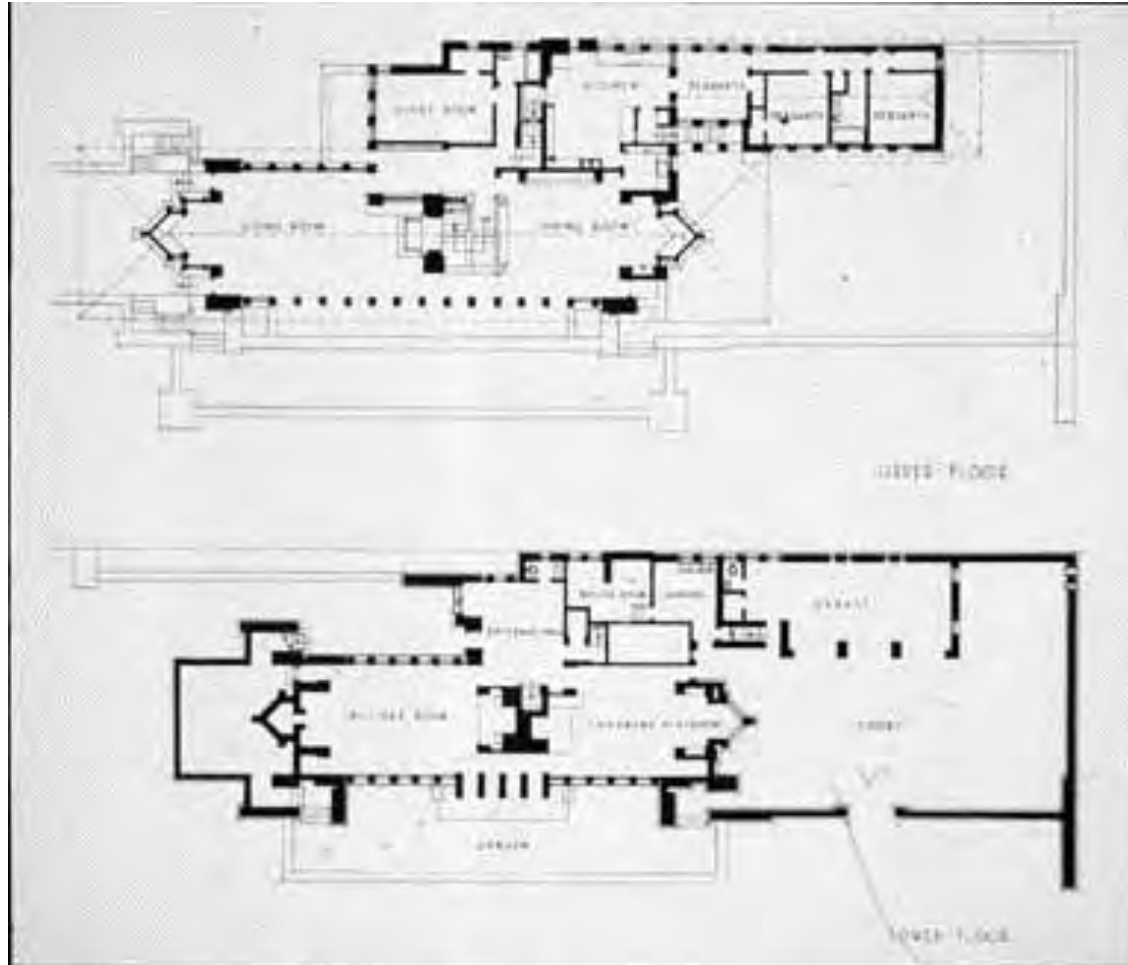


Robie House

Photo credit: FLW Foundation

1906 - 1909

# Frank Lloyd Wright



Robie House

1906 - 1909

# Frank Lloyd Wright



Taliesin (East) 1911

Spring Green, Wisconsin Photo credit: Ezra Stoller

# Walter Gropius (1883-1969)



Fagus Shoe Factory (with Adolf Meyer) Germany, 1911

Photo credit: (Brazilier: Gropius)

The **Bauhaus**, established in 1919, was an art and design school, as well as a place that produced household items in the modern idiom.



**Bauhaus**

**c  
h  
o  
o**

**1919 | 1933**

The **architects** that taught at the Bauhaus included:

Walter Gropius

Marcel Breuer

Mies van der Rohe

***Bauhaus philosophy:***

They rejected past styles, taught that “function” drives design, and searched for an “honest” architecture

# Bauhaus School

- Bauhaus loosely translated means Architecture House
- It resulted from the merger of the Weimer School of Arts and Crafts and the Weimer Academy of Fine Arts.
- The school was located in three different cities:
  - Weimar (1919-1925)
  - Dessau (1925-1932)
  - Berlin (1935-1933)
- One of the most important contributions of the Bauhaus was in the field of modern furniture design.

# Bauhaus



28. Margarete Willers, Hand-woven fabric



29. Marianne Brandt, Metal utensils.

Breuer  
Chair

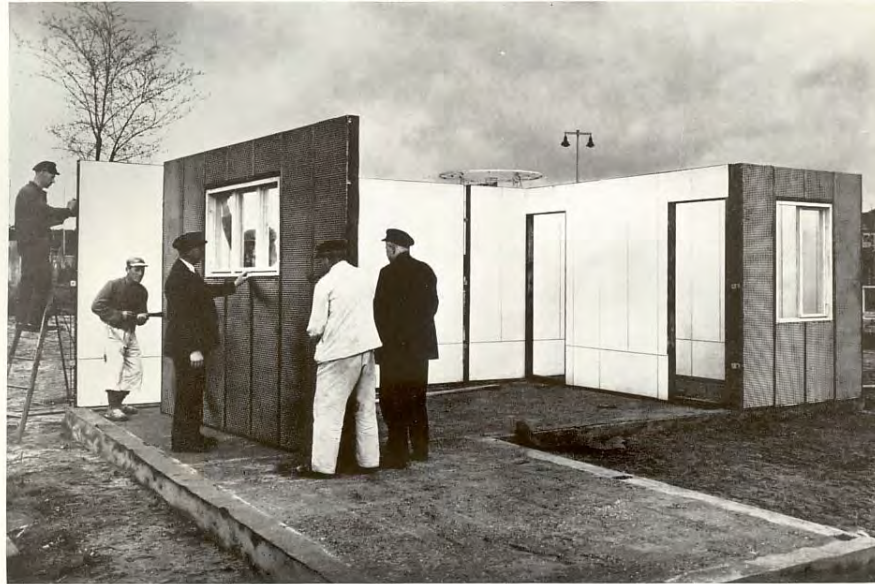


Household products,

1927

Photo credit: (Brazilier: Gropius)

# Bauhaus



74. Prefabricated Copper House. Construction, assembly of walls.

75. Prefabricated Copper House. View of terrace.



Prefabricated Copper House,

Photo credit: (Brazilier/Gropius)



# Walter Gropius

(1883-1969)



# WALTER GROPIUS

- His style in architecture and consumer goods was to be functional, cheap and consistent with mass production. According to this, the artists should be trained to work with the industry.
- He served in WW1, was wounded and almost killed.
- He was one of the pioneers of “Modern Architecture” with Le Corbusier and Mies van der Rohe.
- In 1934 he got out of Germany and went to England. In 1937 moved to the USA and settled in Cambridge, MA and with Marcel Breuer taught at Harvard. There he founded his own practice (TAC).

# Walter Gropius



Fagus Shoe Factory (with Adolf Meyer) Germany, 1911

Photo credit: (Brazilier: Gropius)

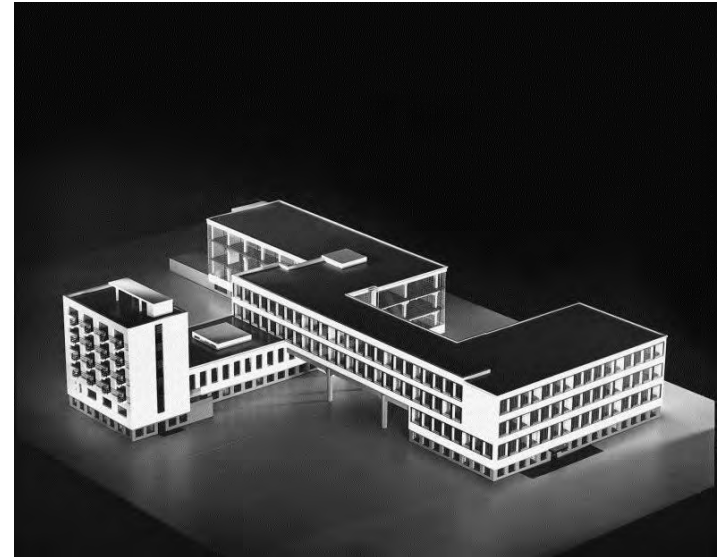
# Walter Gropius



Bauhaus School Housing, Dessau, Germany 1926

Photo credit: Edifice/Darley

# Walter Gropius



Bauhaus School, Dessau, Germany

1926

Photo credit: Edifice/Darley and [www.e-architekt.cz/index.php?PIId=582&KatId=7](http://www.e-architekt.cz/index.php?PIId=582&KatId=7)

# Walter Gropius



Bauhaus School, Dessau, Germany

1926

Photo credit: internet

# Walter Gropius



Double House, Dessau, Germany

1926

In 1922 the Chicago Tribune proposed a contest for its new headquarters. Gropius submitted a design in the Modern style with no ornamentation.

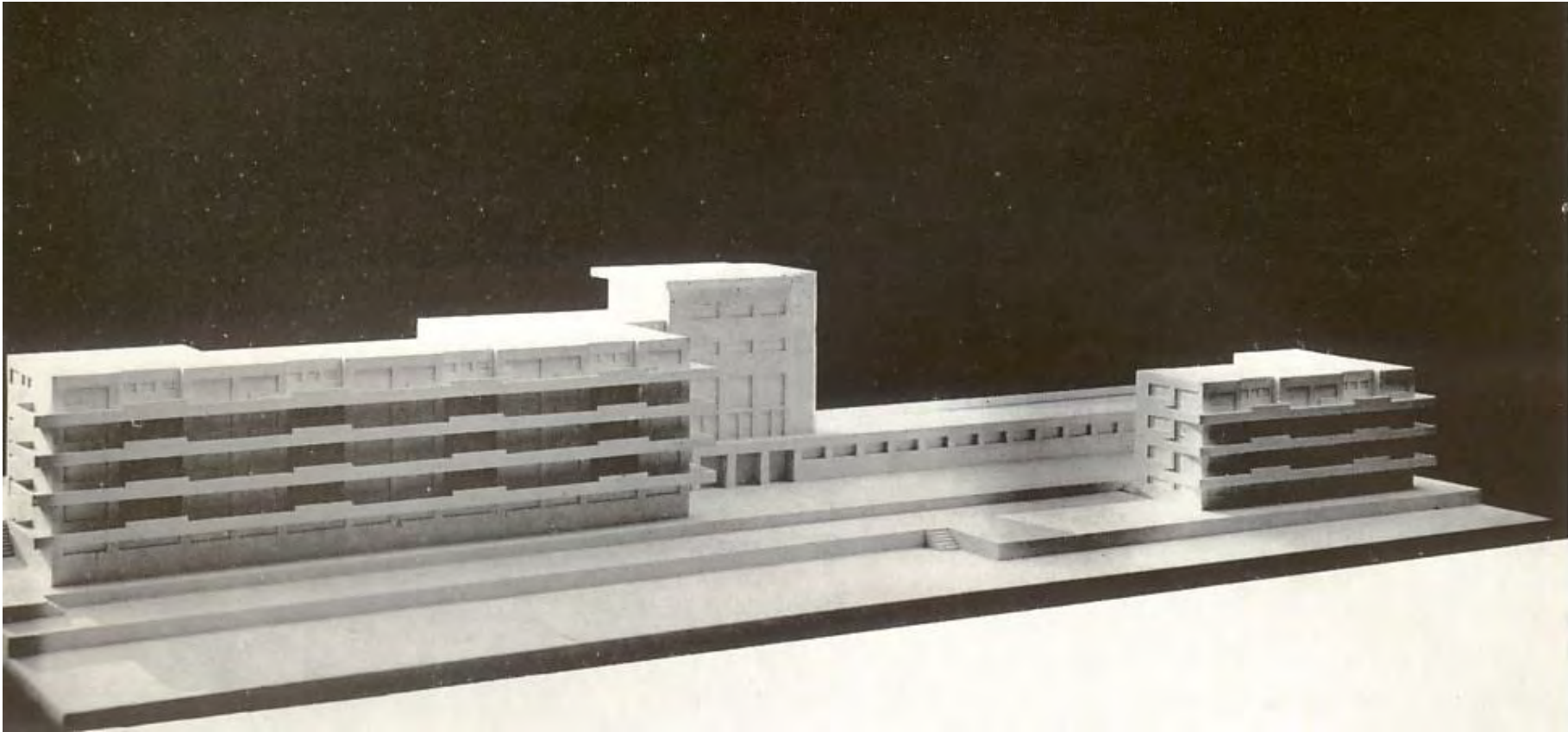
Raymond Hood, a traditionalist, won the contract. His building displays Gothic ornamentation of older cathedral designs. This contest was the epitome of modern vs. traditional architecture. Here are the two proposals side by side.

(Arnason)





# Walter Gropius

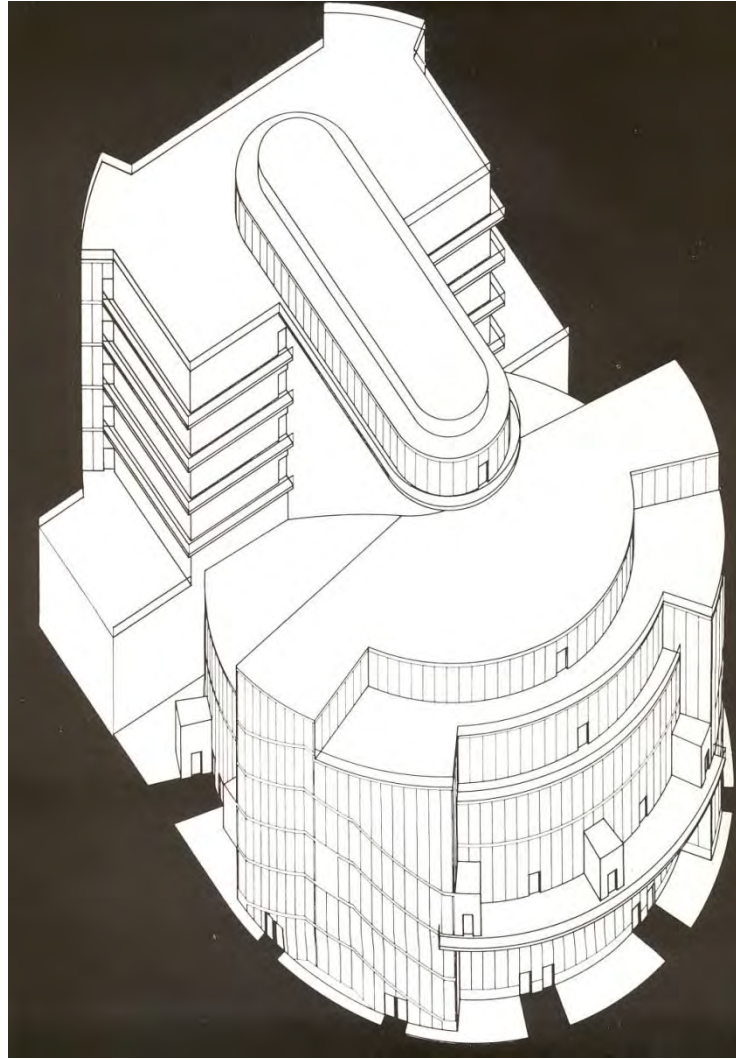


Academy of Philosophy, Erlangen

1924

Photo credit: (Brazilier: Gropius)

# Walter Gropius



Theater study, 1927

Photo credit: (Brazilier: Gropius)

# Walter Gropius



Gropius Residence, Lincoln, Mass

Photo credit: internet

1938

# Walter Gropius



Boston Back Bay Center (model)

1950's

Photo credit: (Brazilier: Gropius)

# Mies van der Rohe

1886-1969

*“God is in the details.”*

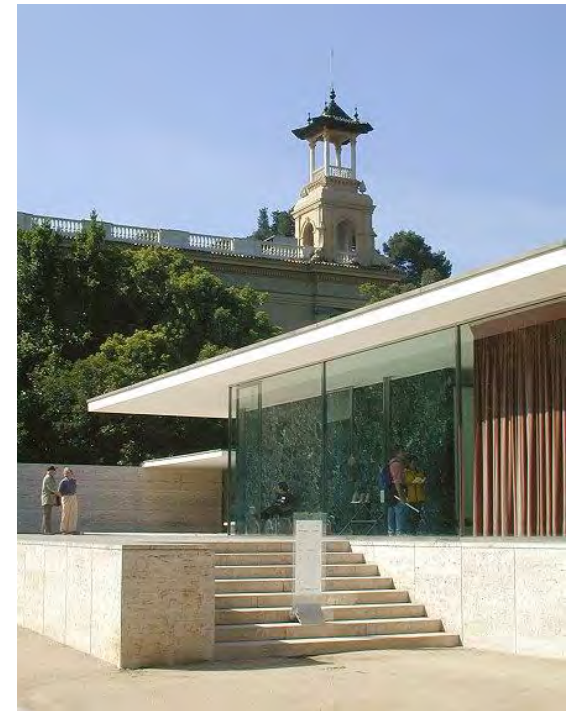
*“Less is more.”*

*“Architecture starts when you carefully put two bricks together. There it begins.”*

*“I don't want to be interesting. I want to be good.”*



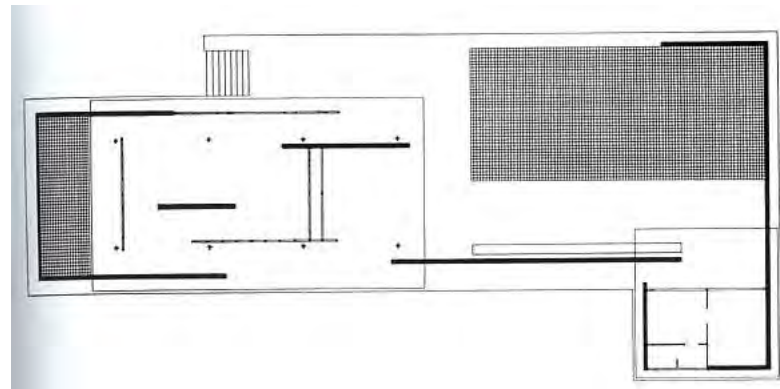
# Ludwig Mies van der Rohe



Barcelona Pavilion, Barcelona, Spain 1924

Photo credit: P. Sperling

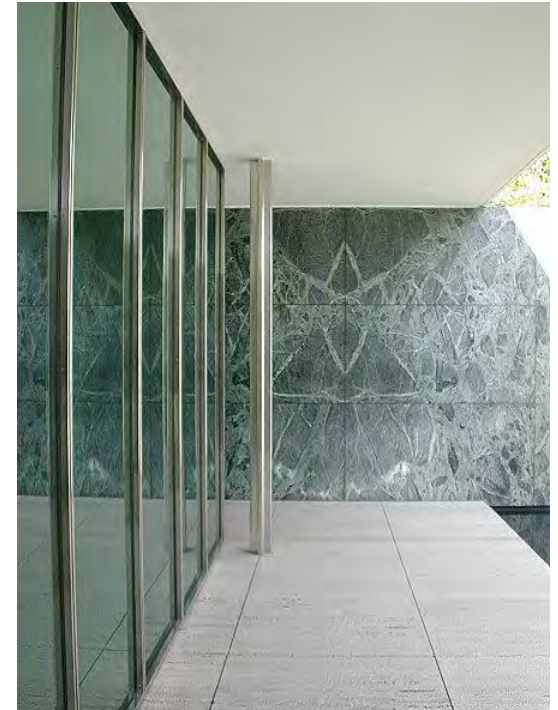
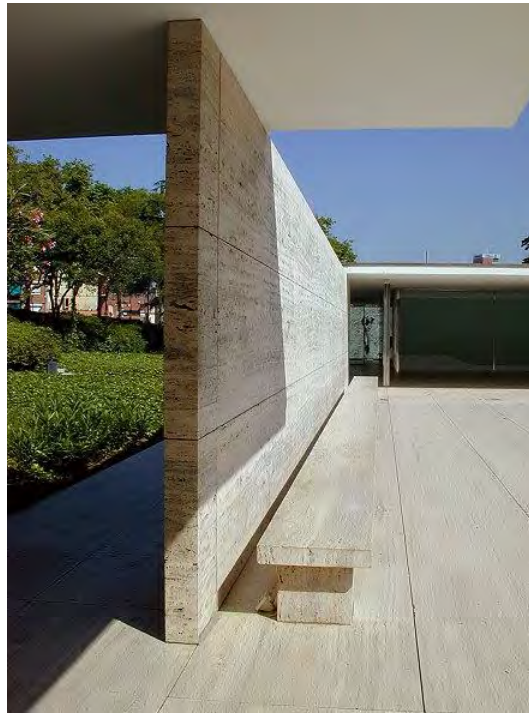
# Ludwig Mies van der Rohe



Barcelona Pavilion, Barcelona, Spain 1924

Photo credit: Liao Yusheng

# Ludwig Mies van der Rohe



Barcelona Pavilion, Barcelona, Spain 1924

Photo credit: Liao Yusheng



# Ludwig Mies van der Rohe



Wolf House, German-Polish border

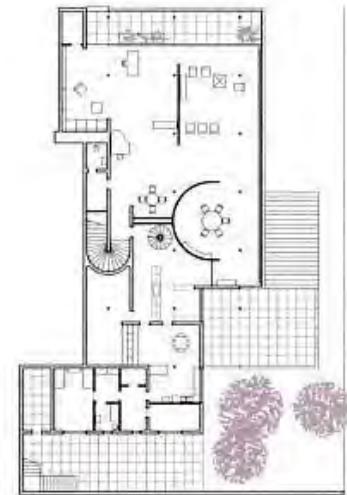
1925-1927

Photo credit: [www.e-architekt.cz/index.php?PId=582&KatId=7](http://www.e-architekt.cz/index.php?PId=582&KatId=7)

# Ludwig Mies van der Rohe



upper floor



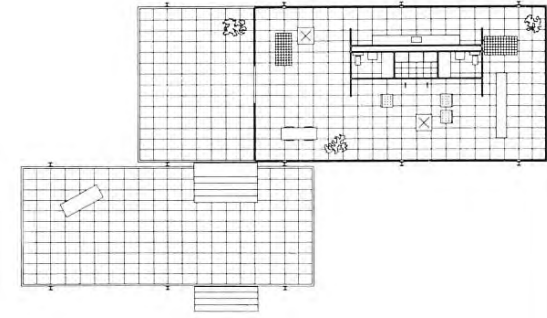
ground floor

Tugendhat House, Brno, Czechoslovakia

1928

Photo: Lynne Bryant

# Mies van der Rohe



Farnsworth House, Plano, Illinois

Photo: (Gossel)

1946

# Mies van der Rohe



Farnsworth House, Plano, Illinois

Photo: (Gossel)

1946

# Mies van der Rohe



## Furniture

Photo: assorted internet sources

# Le Corbusier on ‘inspiration’

*“Architecture is an event that suddenly emerges from the mind or soul of the architect: he may be preoccupied with making the building solid, or meeting demands for comfort, when suddenly he finds himself uplifted by a desire to do more than simply meet needs, - he wants to express lyrical forces that give us joy.”*

# LE CORBUSIER

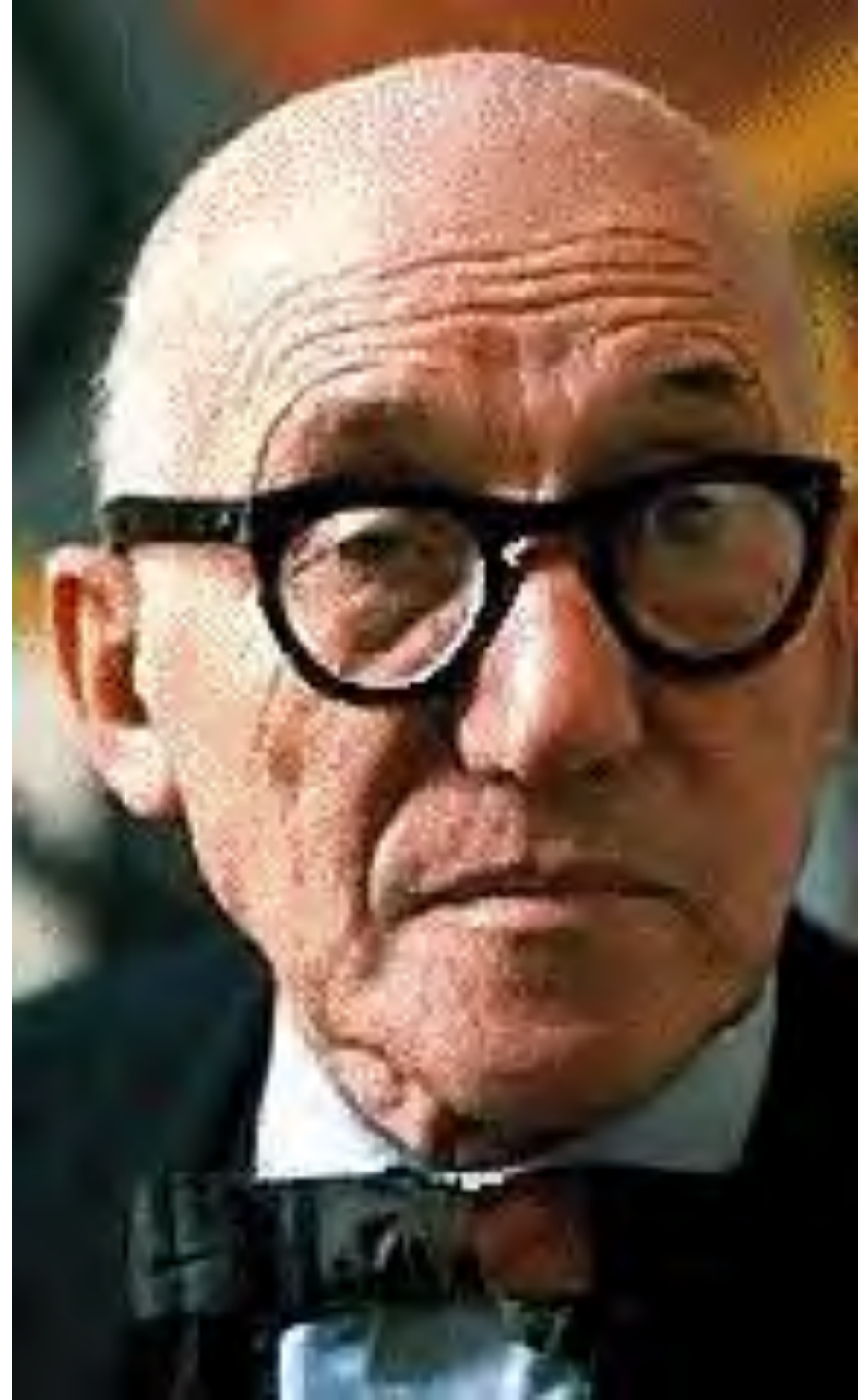
- Urban planner, painter, sculptor, writer, furniture designer.
- Worked for August Perret (reinforced concrete pioneer) and Peter Behrens, who was very influential in his career.
- Pioneer in theoretical studies of modern design. Developed a proportional system in the late 1930's that he called the Modulor. It was based on the human body dimensions.
- Central to his thinking was movement: around, into and through his buildings.
- ***He was attuned to nature and addressed the whole range of building types and the relations between them.***
- ***He was Modern Architecture's conscience and made the world aware that a new style had been born.***

*It is impossible to understand  
contemporary architecture  
without  
first coming to terms with*

# Le Corbusier.

Charles-Edouard Jeanneret Gris  
(1887-1965)

Source: William Curtis



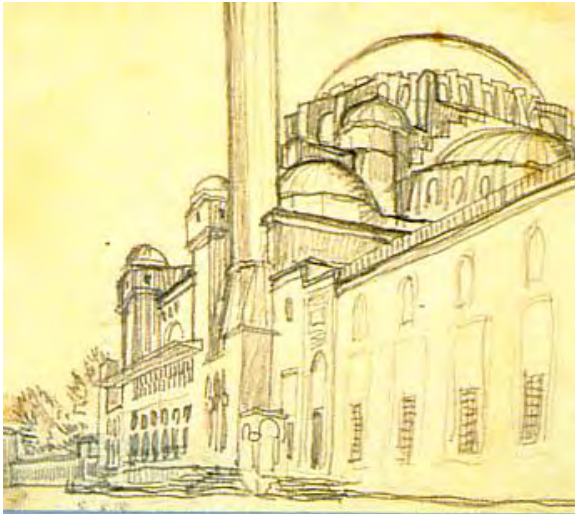


# Le Corbusier:

Early on Corbu looked at historic building, trying to extract “abstract principles from tradition” and to distill these into a formal system with its own rules.

He traveled abroad around 1911 with a knapsack on his back and a drawing pad in his hand, sketching everything that impressed him.

# Le Corbusier

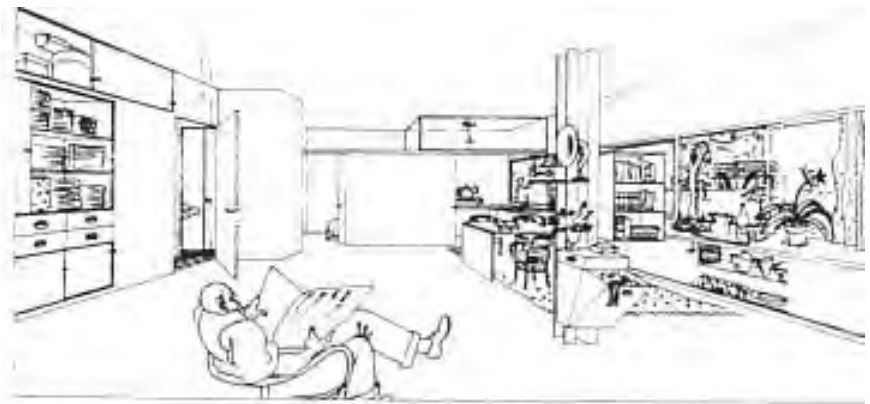


*“The reason for drawing is to interiorize something one has seen, to make it part of one’s personal history. Once things have been absorbed by means of the pencil they remain inside one for life.”*

Sketches of Istanbul

Photo: from Abrams Discoveries

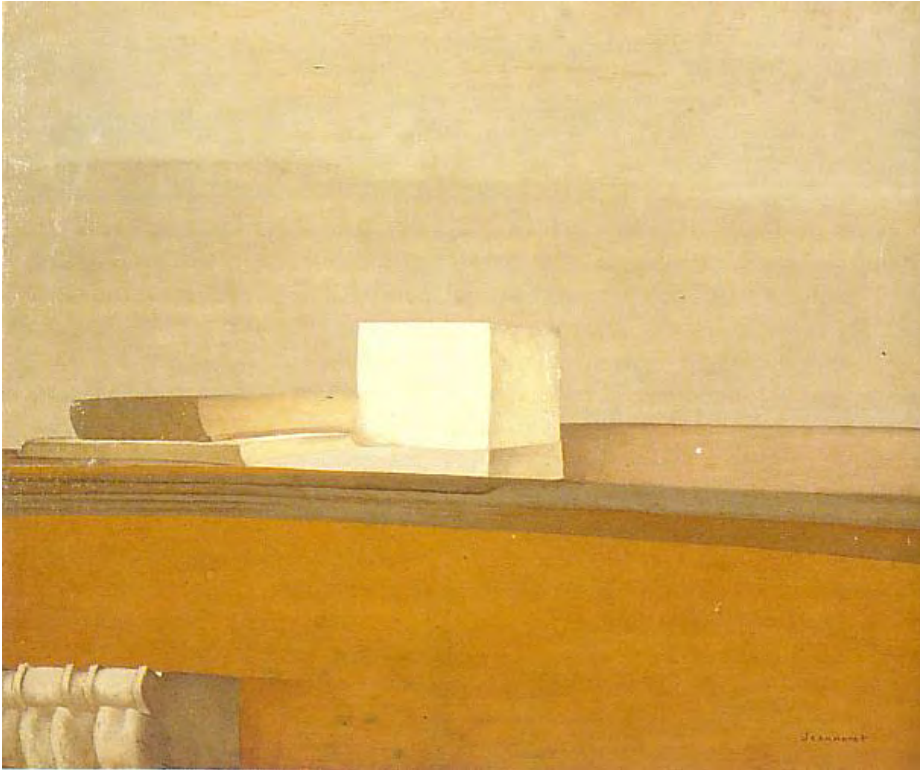
# Le Corbusier



## Sketches

Photo: from Abrams Discoveries

# Le Corbusier



1918



1929

## Paintings

Photo: from Abrams Discoveries

# Le Corbusier:

When presented with a new job Corbu was in the habit of letting the matter rest in his subconscious for a period of incubation.

His mind was well stocked with ideas, devises, and images, gleaned from tradition and his observations.

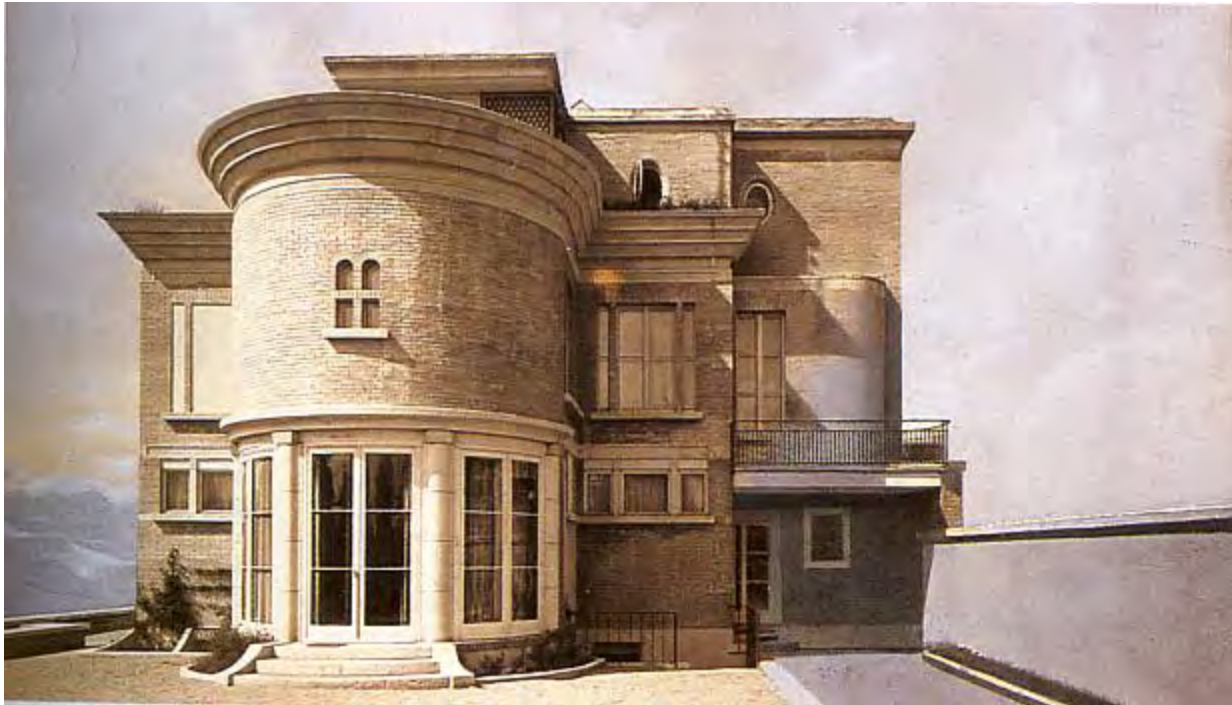
# Le Corbusier



*Corbu worked for the Perret brothers and with Peter Behrens. He was influenced by their use of reinforced concrete and their strong forms.*



# Le Corbusier



Villa Schwob, Switzerland

1912

Photo: from Abrams Discoveries

# Le Corbusier



*He spent 3 weeks studying the Acropolis in Athens.  
He found the power and the beauty of the Parthenon  
“the purest creation of the human mind.... A machine  
designed to arouse and disturb.”*



**Favre-Jacot Villa, Switzerland**

**1912**

Photo: from Abrams Discoveries



# Le Corbusier:

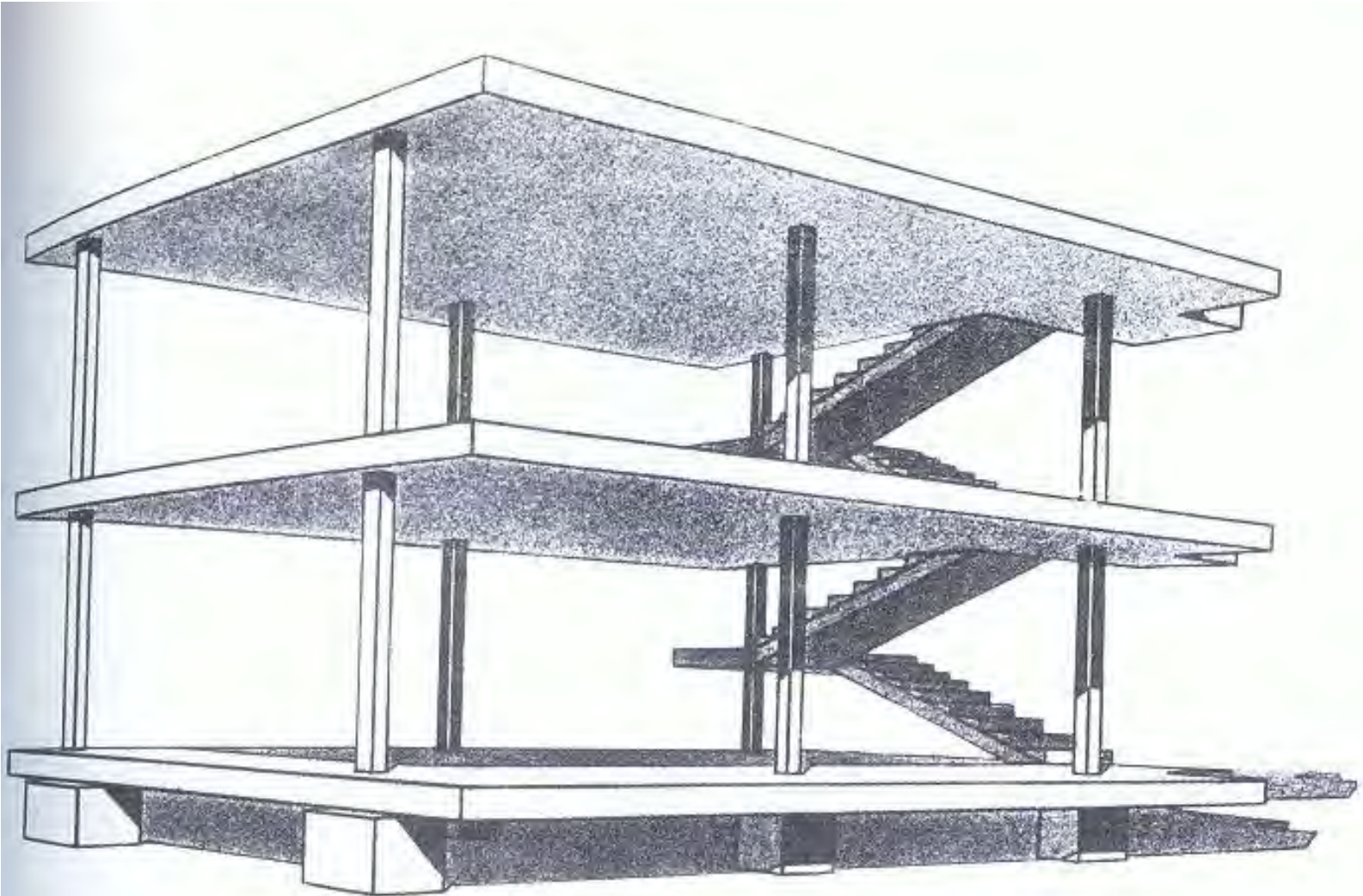
Much of Corbu's architecture derived from his social and ethical concerns as he had an almost utopian vision of how people in the machine age should live.

Much of his early architecture was a product of this social vision.

He was a utopian who looked to the future with one eye on the past.

After WW1 he rejected his earlier industrial forms and utilized vernacular materials, brute concrete and articulated structures.

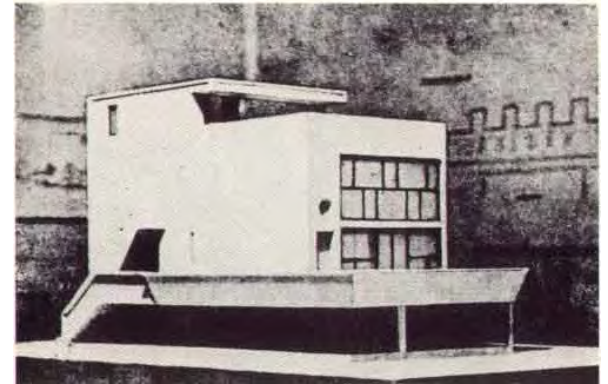
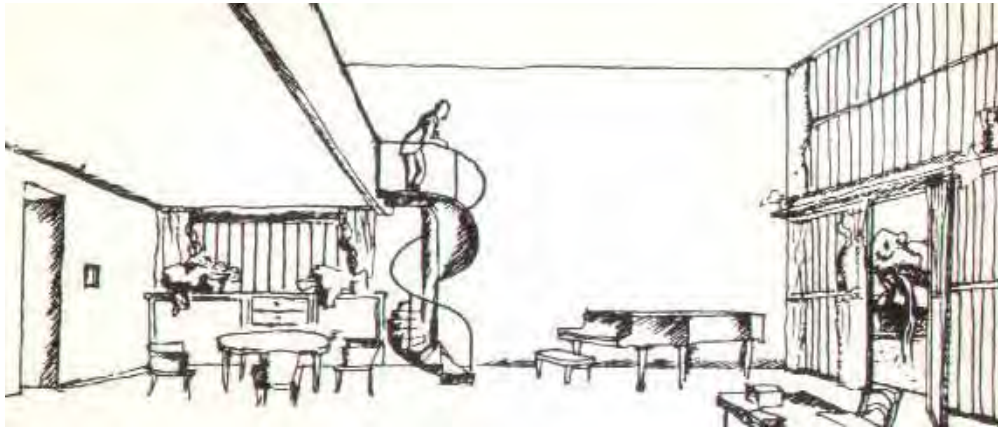
# Le Corbusier



Dom-ino House Project

1914

# Le Corbusier

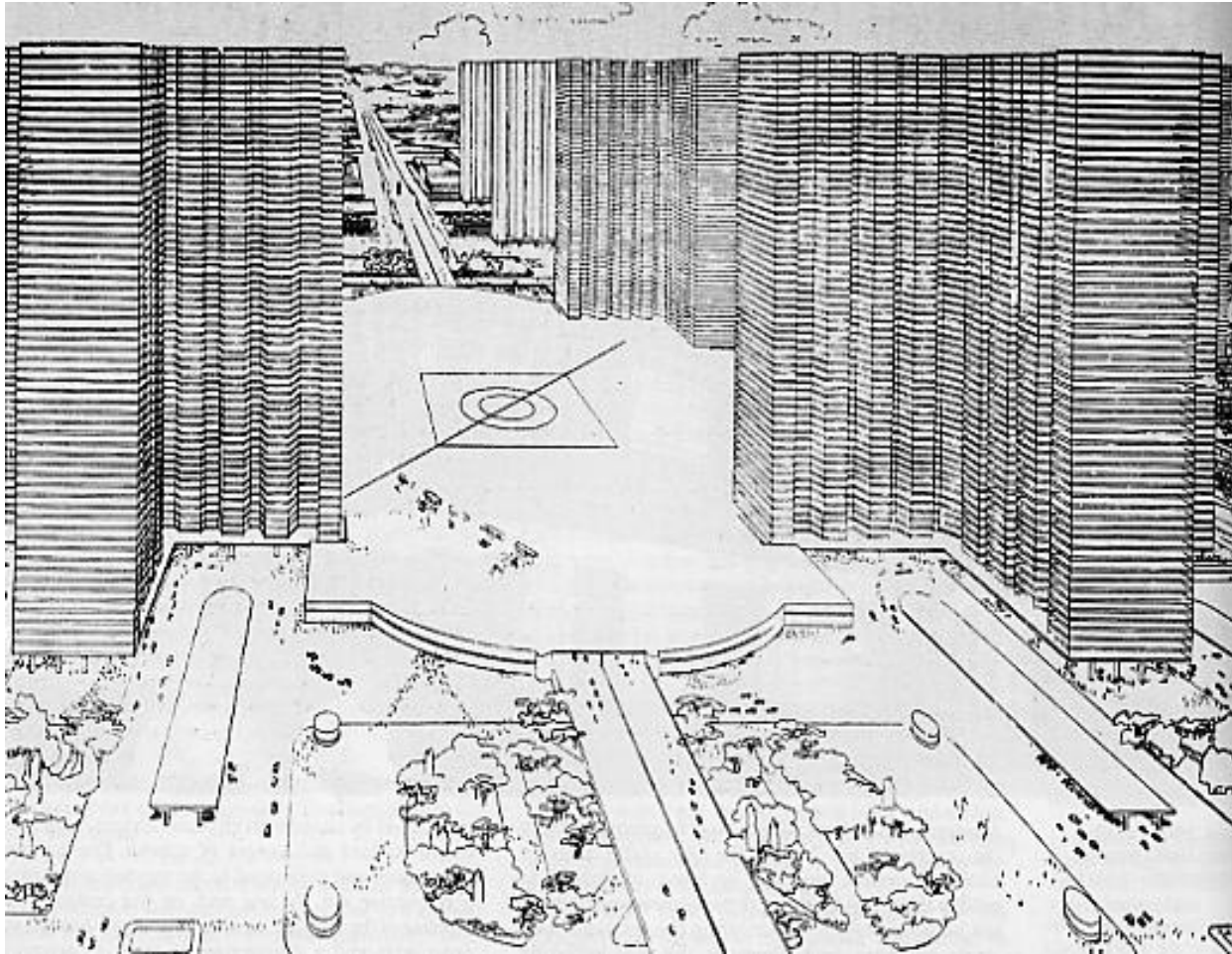


Maison Citrohan (unbuilt)

Photo: Galleria Antonio Sant' Elia

1920

# Le Corbusier



City for three million (unbuilt) [utopian project] 1925

Photo: Louis Gasson

# Le Corbusier

## L'ESPRIT NOUVEAU

*“...a new age has begun, with new social, economic and technical conditions to which the architect must respond, just as industry has responded.” He emphasized that when architecture is perceived in terms of masses and surfaces, ‘the plan generates the whole,’ the architect needs to return to primary forms, as beautiful and comprehensive as possible, increasing the accuracy of his plan by using a system of “regulating line- a guarantee against willfulness.”*

*Vers une Architecture, published in 1923*

Photo: from Abrams Discoveries

# Corbu's Five Points of Architecture

- 1. The Pilotis:** Reinforced concrete allows the house to be removed from the dark, damp earth and be lifted into the air. Gardens can run below. The pilotis also serve as elements of drama and visual isolation. The ground floor is then reserved for vegetation and moving vehicles.
- 2. The Roof Garden:** Corbu believed that exposure to sunlight was healthy.
- 3. The free plan:** The reinforced concrete frame freed the house from the need for structural partitions.
- 4. The free façade:** Corbu often positioned his structural columns a few feet inside the house, thus freeing the façade from the bulk of columns.
- 5. The elongated window:** Freeing the façade from its need to act as structure allows the windows to run continuous from corner to corner.

# Le Corbusier



Pavilion de l'Esprit Nouveau

1925

Photo: [www.e-architekt.cz/index.php?Pid=582&KatId=7](http://www.e-architekt.cz/index.php?Pid=582&KatId=7)

# Le Corbusier

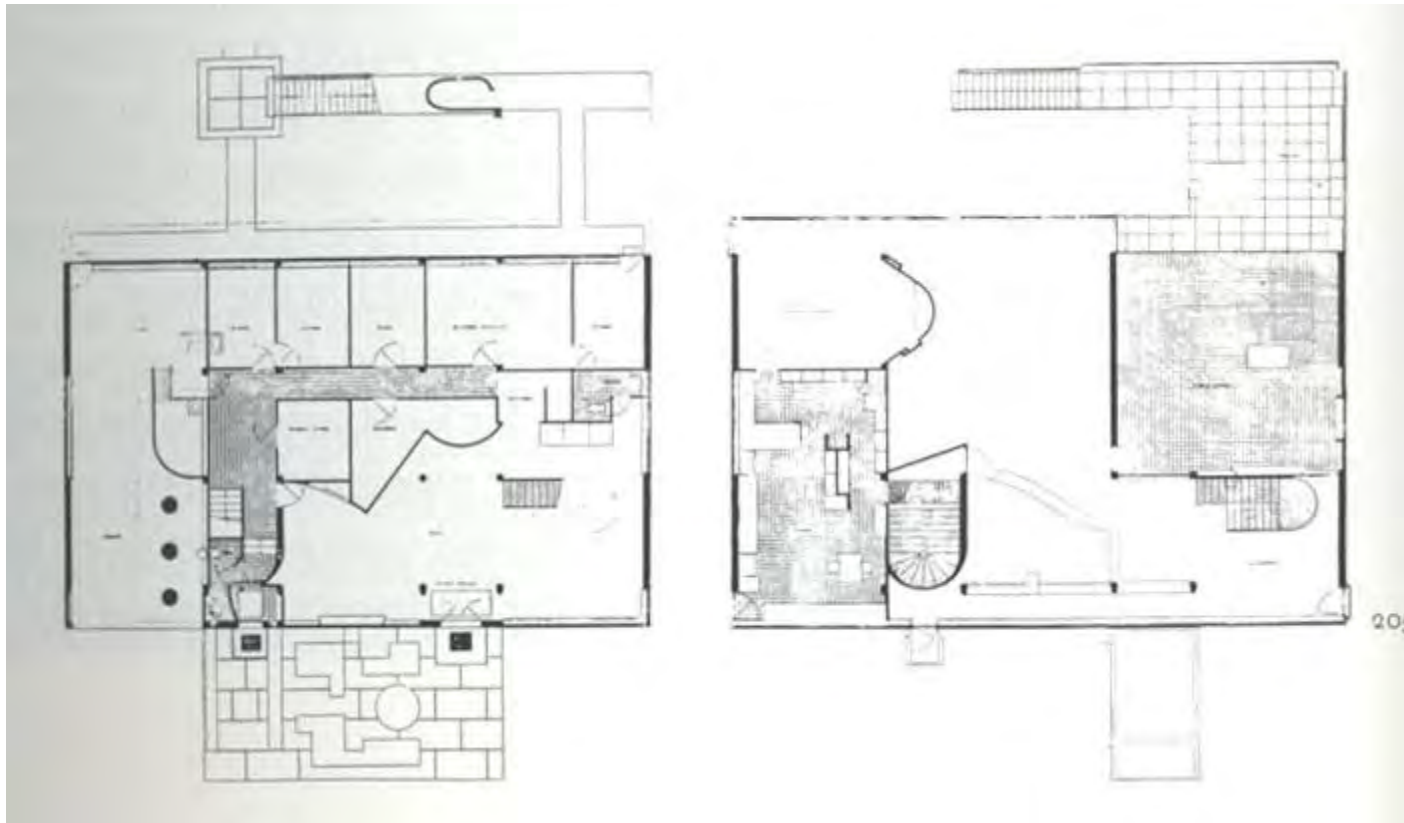


Villa Stein/de Monzie, Garches, FR

1926-28



# Le Corbusier



Villa Stein/de Monzie, Garches, FR

1926-28

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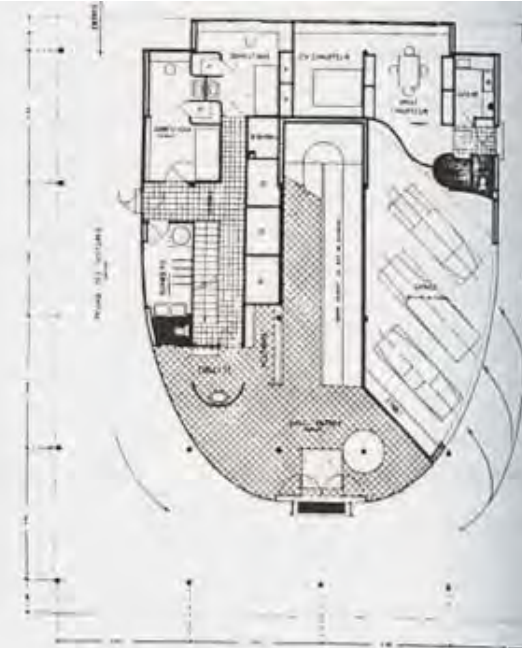
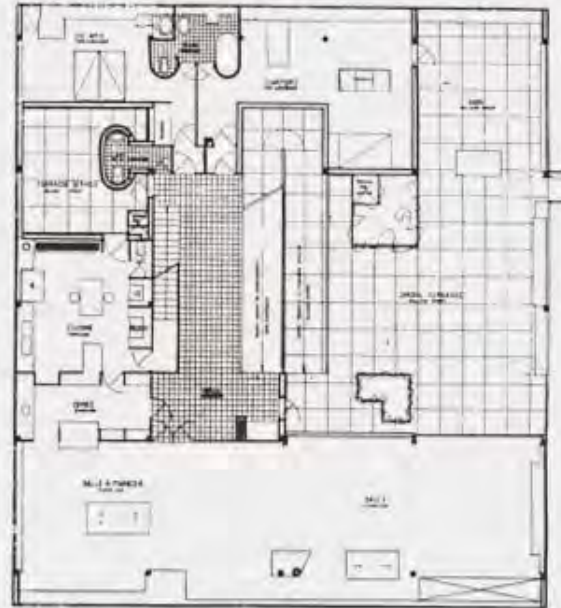
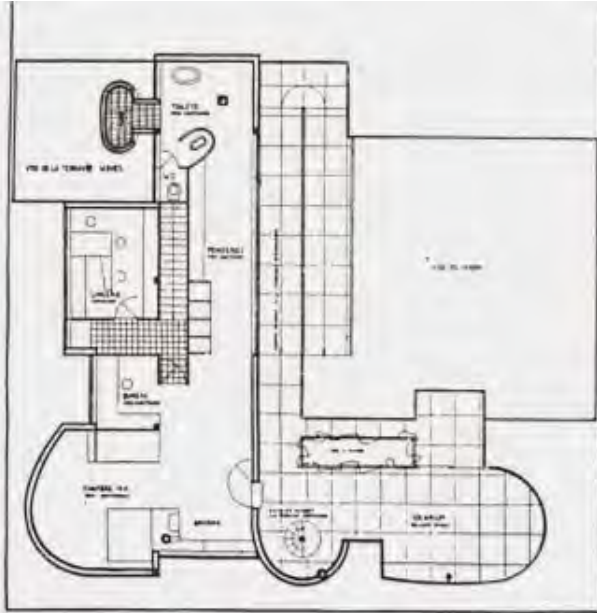
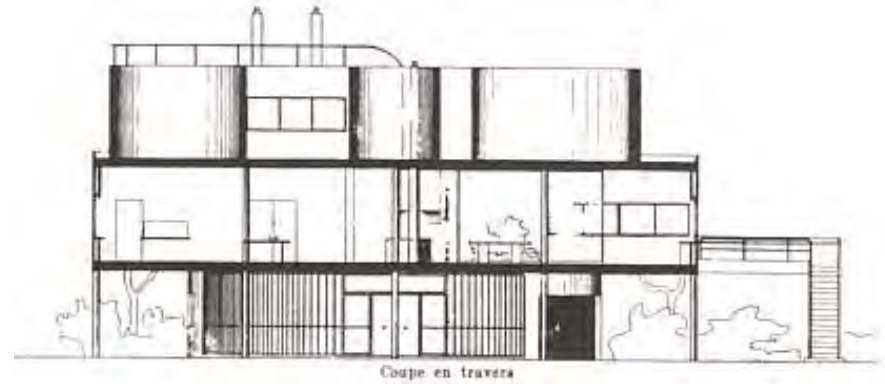


Villa Savoye, Paris

1929

Photo: Louis Gasson

# Le Corbusier



Villa Savoye, Paris

1929

Photo: Buildings Across Time

# Le Corbusier

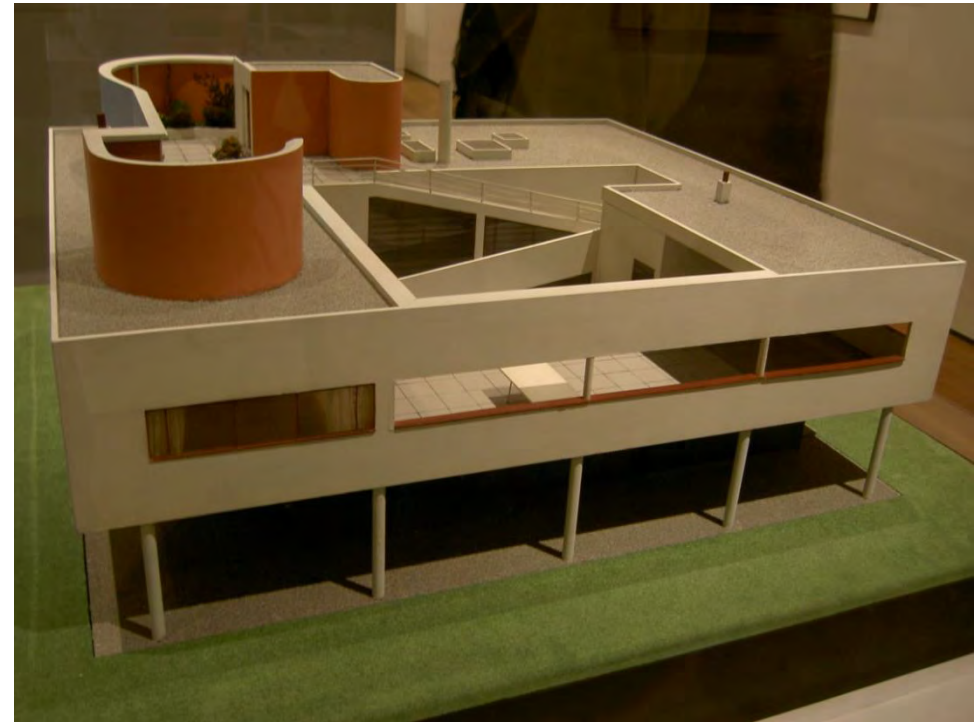


Villa Savoye, Paris

1929

Photo credit: P. Sperling (MOMA model)

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Villa Savoye, Paris

Photo credit: P. Sperling (MOMA model)

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Villa Savoye, Paris

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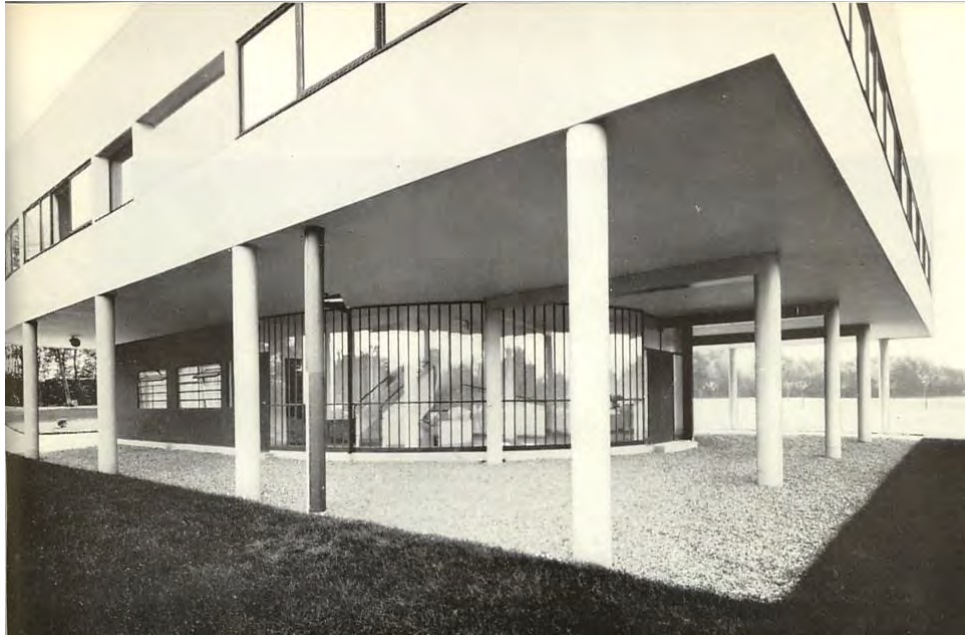


Villa Savoye, Paris

1929

Photo: Louis Gasson

# Le Corbusier



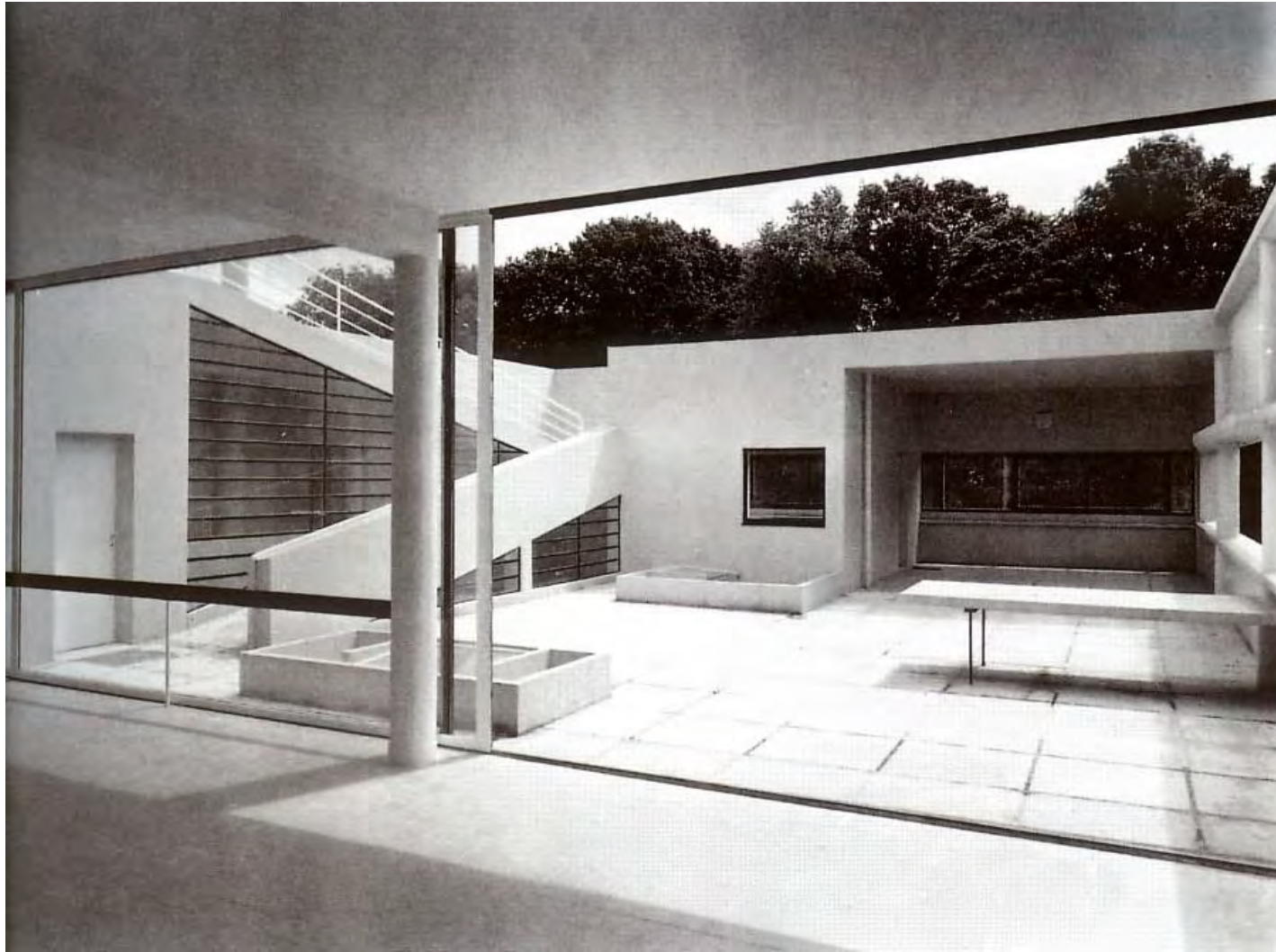
Villa Savoye, Paris

Photo: George Braziller series

1929



# Le Corbusier



Villa Savoye, Paris

1929

Photo: Louis Gasson

# Le Corbusier



Villa Savoye, Paris

Photo: Louis Gasson



1929

# Le Corbusier



Villa Savoye, Paris

1929

Photo: Louis Gasson

# Le Corbusier



*“A house is a machine for living.. It also provides surroundings where meditation can take place.”*

Villa Savoye, Paris

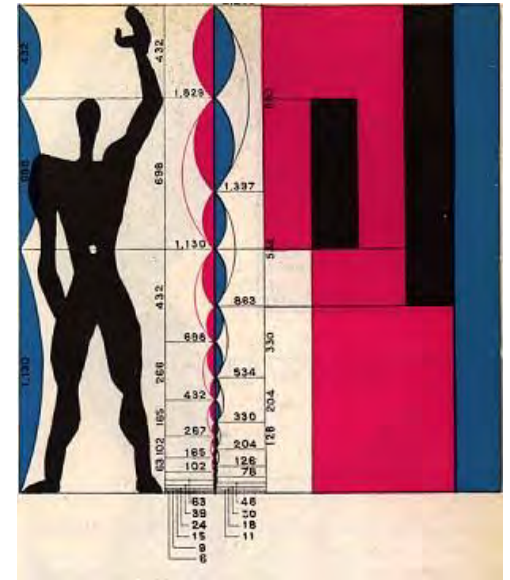
1929

Photo: Louis Gasson

# Le Corbusier

*"It is essential, therefore, to relate everything to human scale. This is the only solution.."*

## THE MODULOR



# Le Corbusier

