

Université Abderrahmane Mira Bejaia

Faculté de technologie

Département d'Architecture

# MODULE: THÉORIE DE PROJET 1

*COURS 02: MODES DE REPRÉSENTATIONS  
DE L'ARCHITECTE*

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ISMAHANE



# MODES DE REPRÉSENTATIONS DE L'ARCHITECTE

Cours 02

# *STRUCTURATION DU COURS*

- Course Objectives
- Introduction
- Representation methods



# *COURSE OBJECTIVES*

The objective of this course is to

- Explore the various means of representation in architecture
- Understand how they are employed in the execution of an architectural project.

Firstly, we will examine the definition of these means, and then contextualize their use in achieving communication goals for stakeholders during a design process.



# *INTRODUCTION*

What do architects represent?

# *INTRODUCTION*

Modes of representation and communication encompass a variety of tools, including :

- two-dimensional drawings,
- three-dimensional models,
  - plans,
  - diagrams,
- oral presentations,
- and written documents.

It falls upon architects to select the most appropriate modes based on their target audience and specific communication objectives.

# *INTRODUCTION*

Why Are Modes of Representation and  
Communication Important for Architects?

# *INTRODUCTION*

- Modes of representation and communication are of paramount importance for architects because they serve as vital tools in effectively conveying their concepts and designs to all stakeholders in an architectural project.
- Architects must, therefore, be capable of communicating their intentions and plans for a given project in a clear and precise manner.

# 1. REPRESENTATION METHODS



- Freehand Drawing: Sketches, Drafts, Perspectives, etc
- Instrumental Drawing: Technical Drawing, Codified Drawing
- Computer-Aided Design or Digital Modeling: CAD (Computer-Aided Design) Software, BIM (Building Information Modeling), etc.
- Physical Models: Wood, Cardboard, Plaster, etc.
- Architectural photography

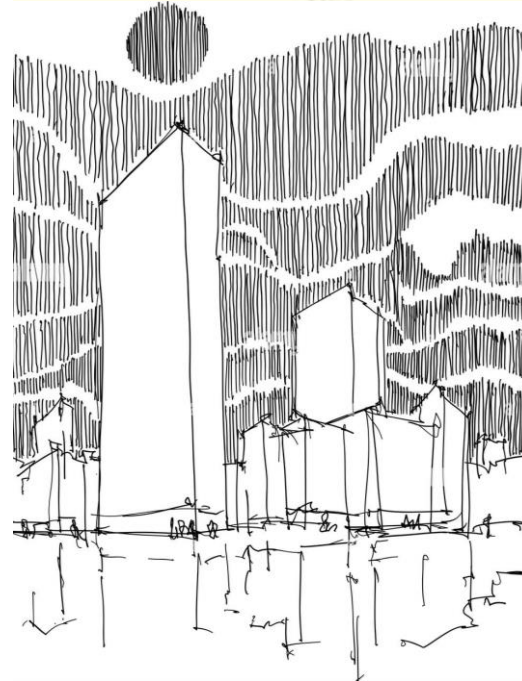
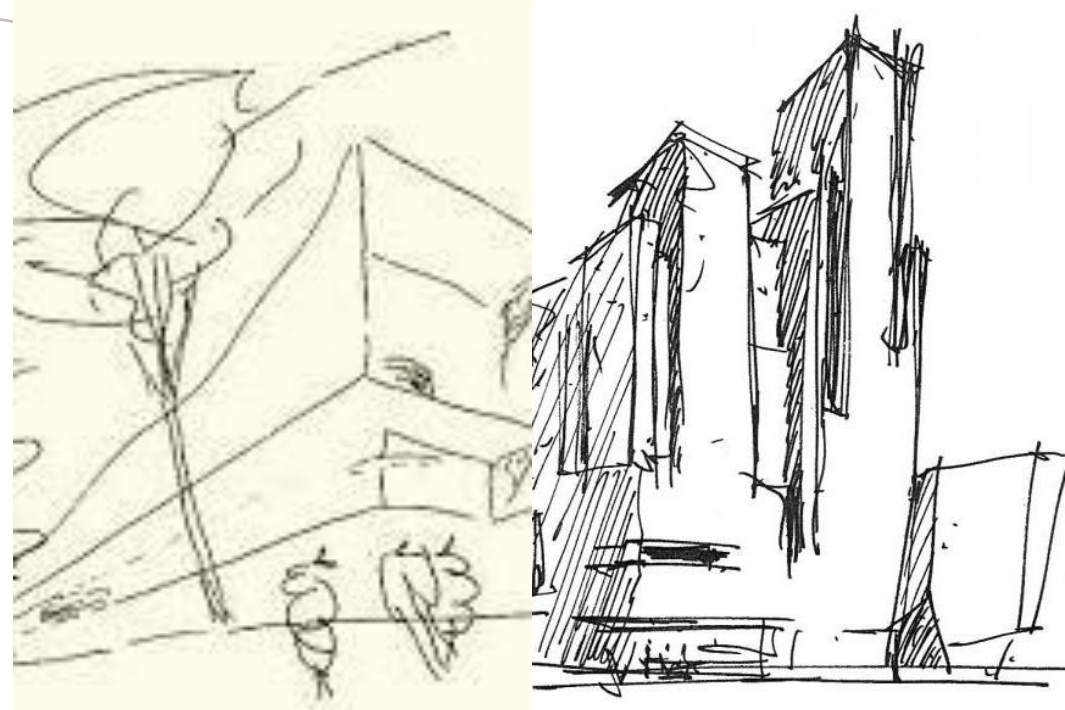


# *FREEHAND DRAWING:*

Sketches, Drafts, Perspectives

# *FREEHAND DRAWING: SKETCHES, DRAFTS, PERSPECTIVES*

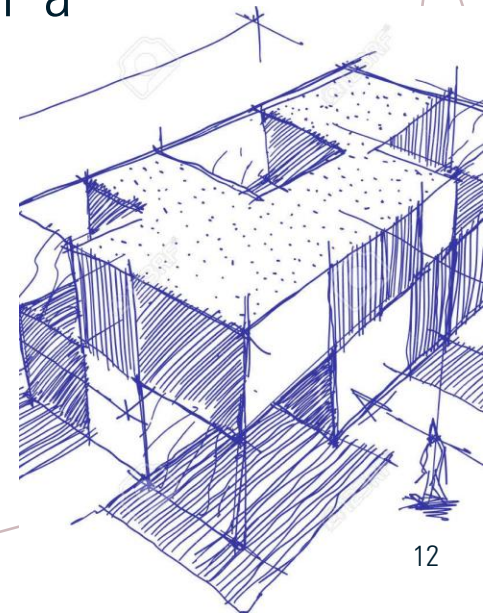
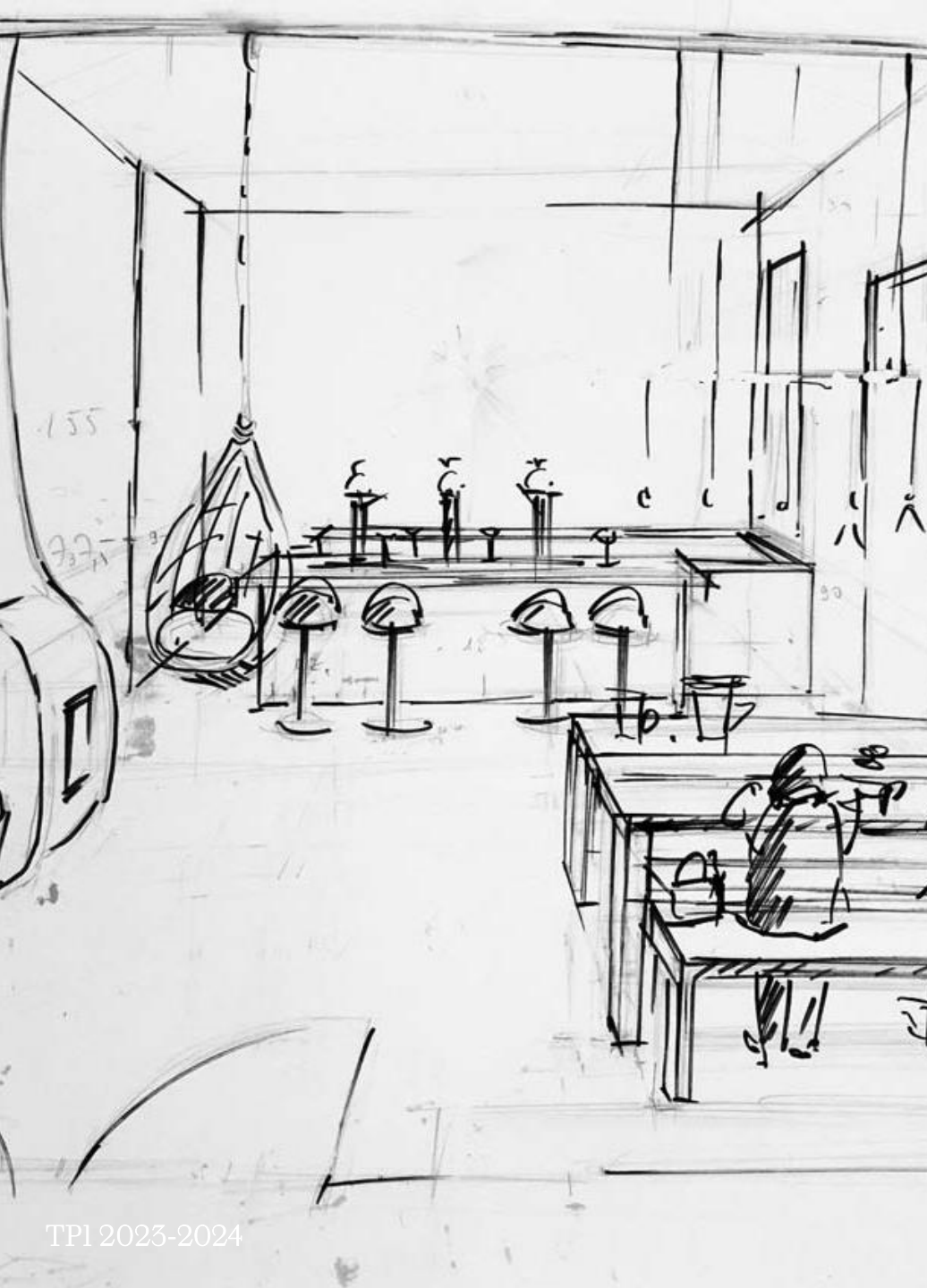
Freehand drawing is a drawing technique where the artist draws freely without using tools or measuring aids such as a ruler or compass. This means that the drawing is done freehand, without the use of physical support to steady the hand or create precise straight lines or angles.



# *FREEHAND DRAWING:*

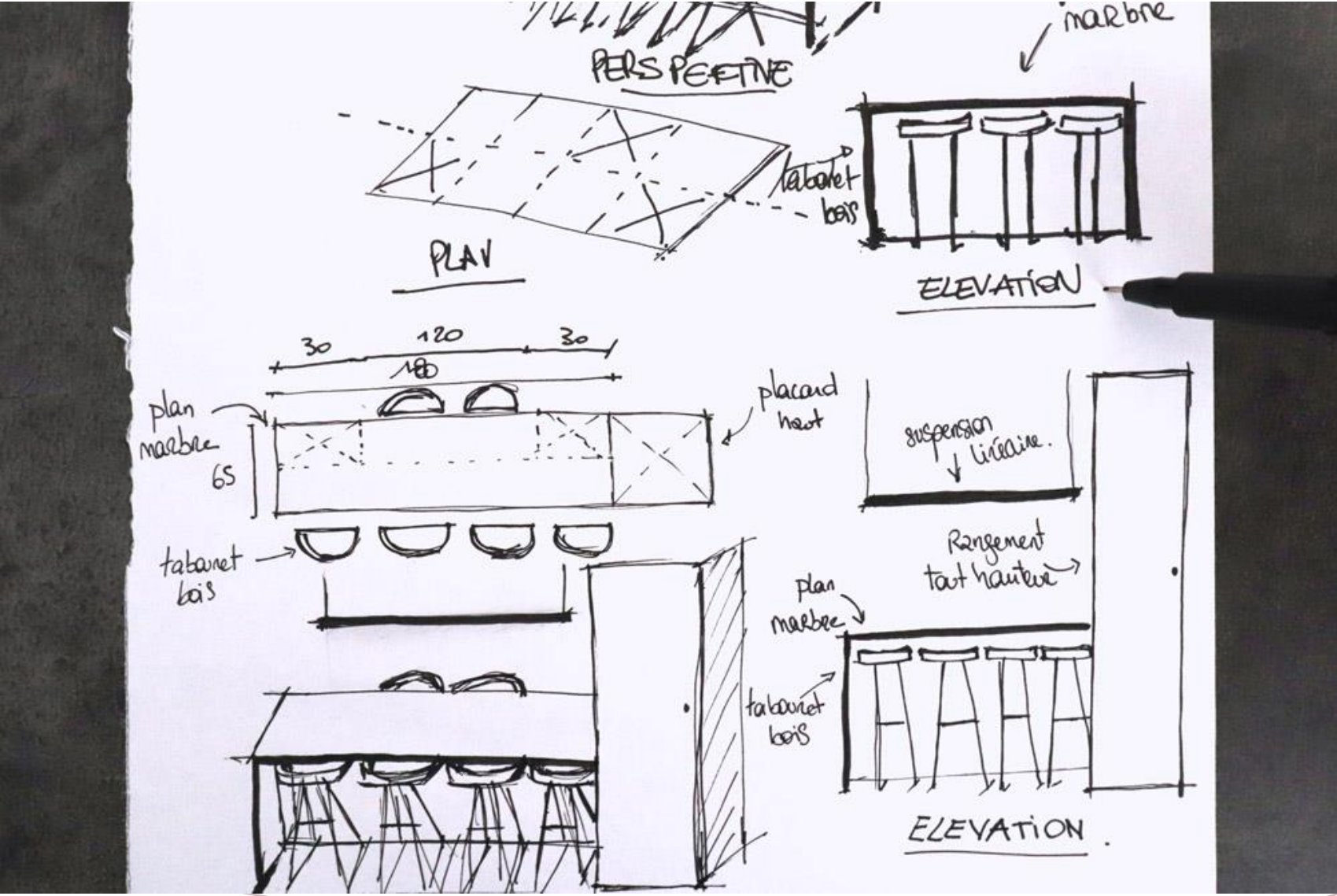
Freehand drawing can be used to create quick sketches, composition studies, preliminary sketches, illustrations, or even architectural plans.

This technique is often associated with spontaneity and expressiveness, allowing for the rapid capture of the essence of a subject or idea and the conveyance of a certain emotion or atmosphere.

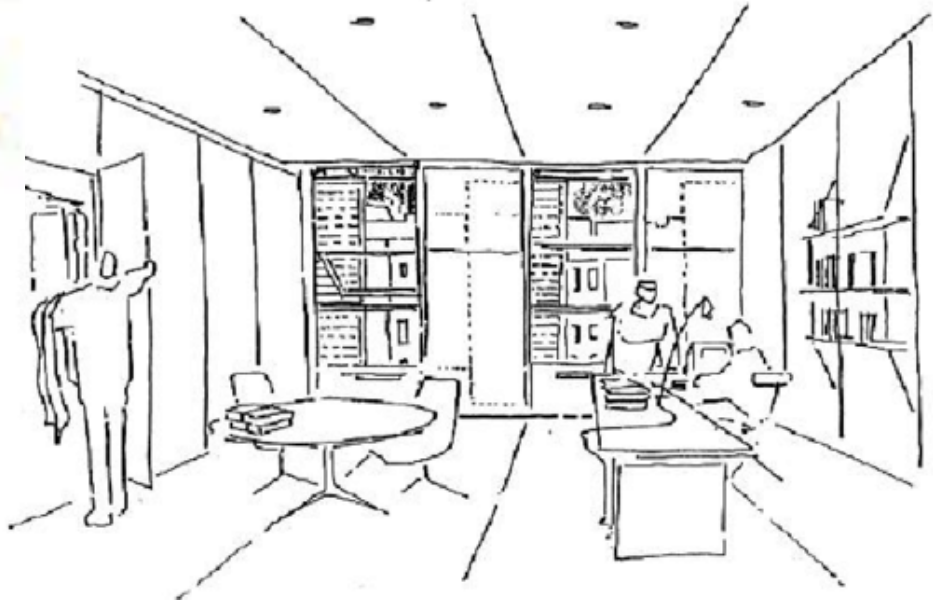
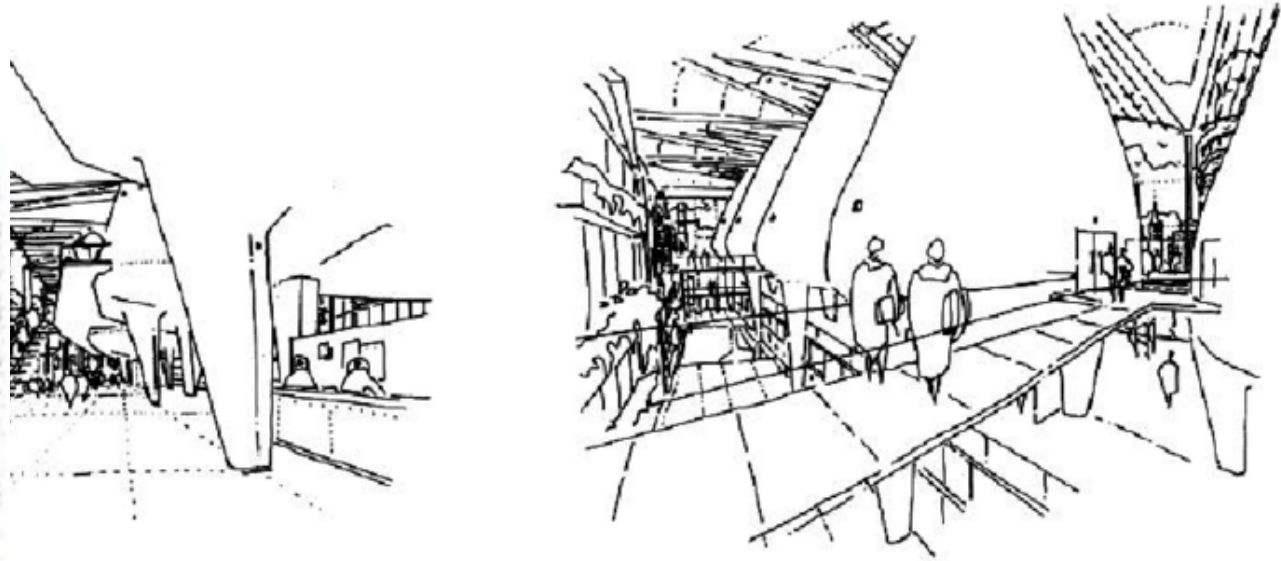




# FREEHAND DRAWING: OUTILS ET ECHELLE



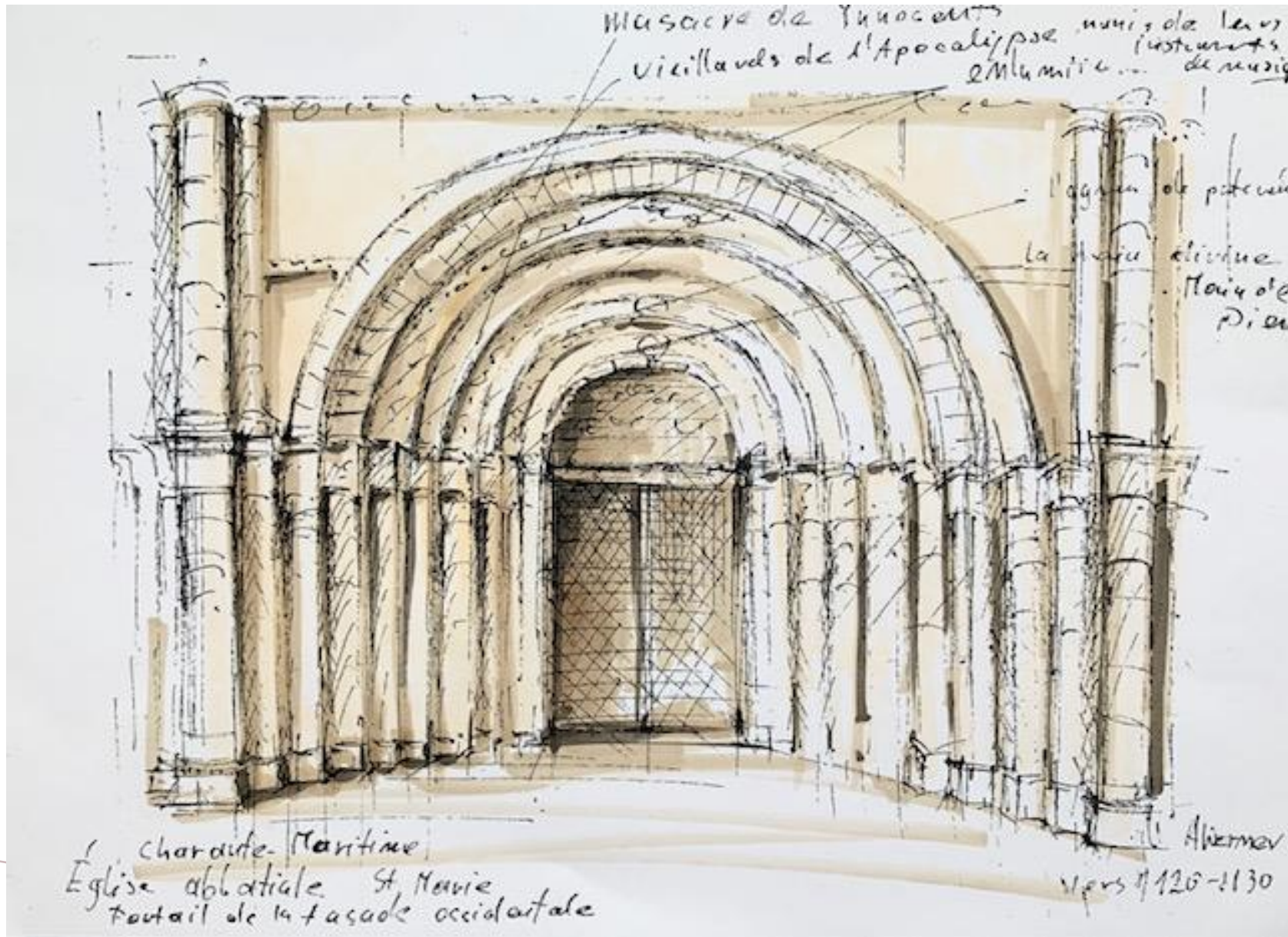
# *FREEHAND DRAWING: OUTILS ET ECHELLE*



# *FREEHAND DRAWING: OUTILS ET ECHELLE*



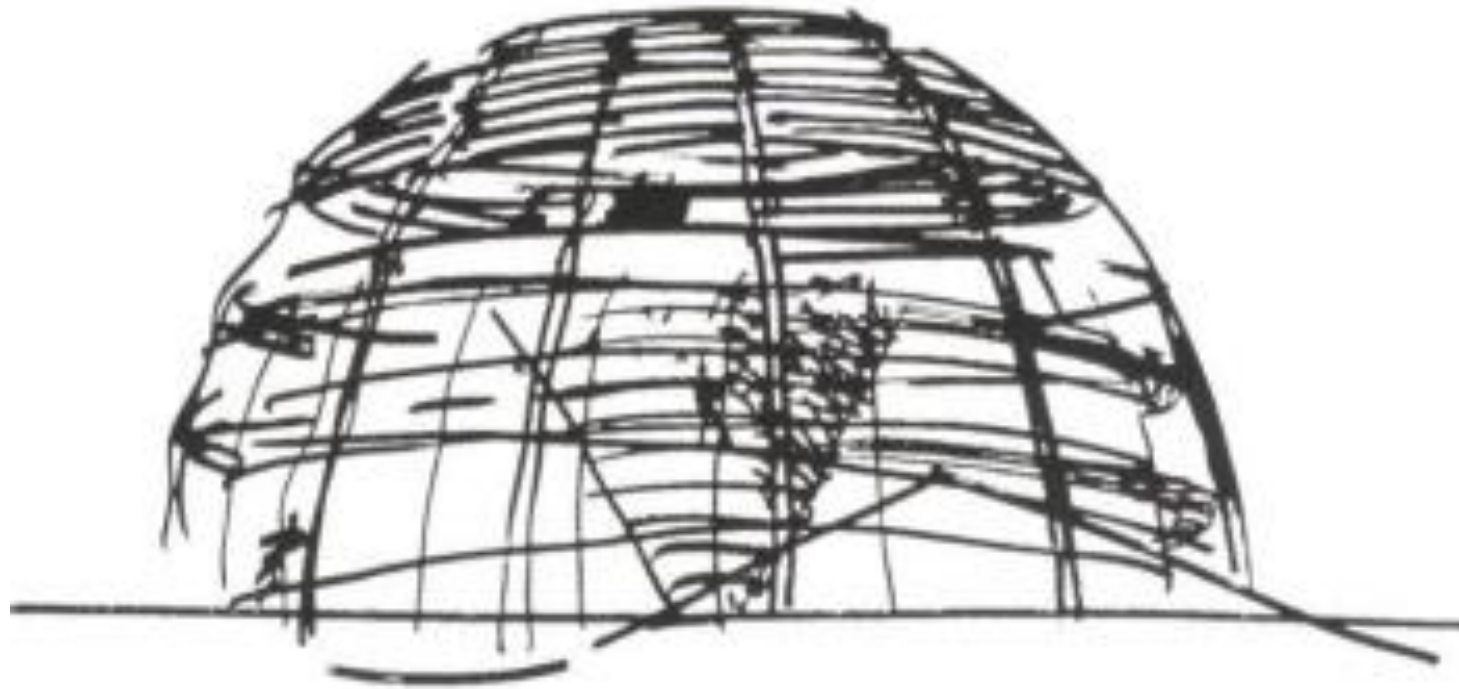
# FREEHAND DRAWING: RELEVÉ A MAIN LEVÉE





# *FREEHAND DRAWING:*

Reichstag, Berlin Allemagne, 1995-1999.





# *INSTRUMENTAL DRAWING:*

Technical Drawing, Codified Drawing

# Instrumental Drawing: Technical Drawing, Codified Drawing



# Instrumental Drawing: Technical Drawing, Codified Drawing

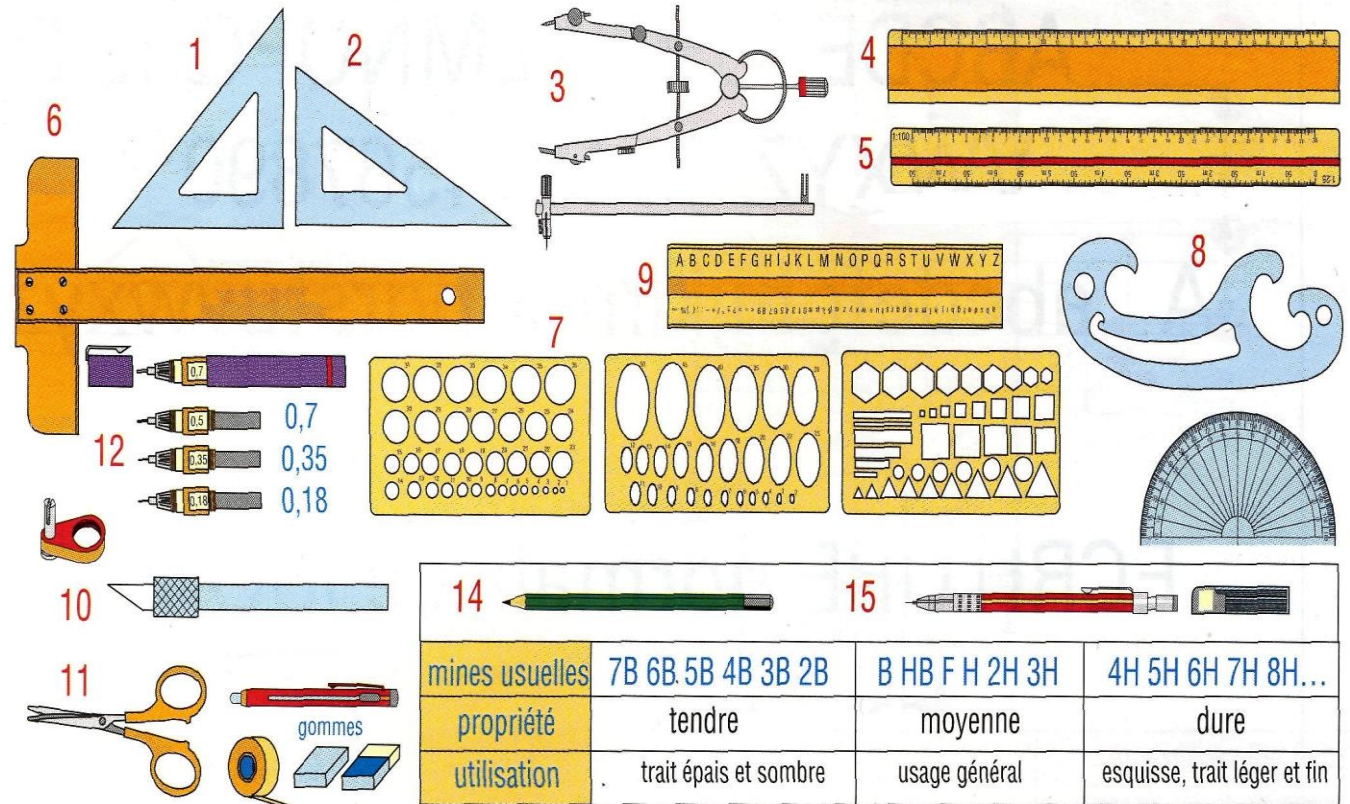


# Instrumental Drawing: Technical Drawing, Codified Drawing

Instrumental drawing is a drawing technique in architecture that involves the use of measurement and drafting tools such as:

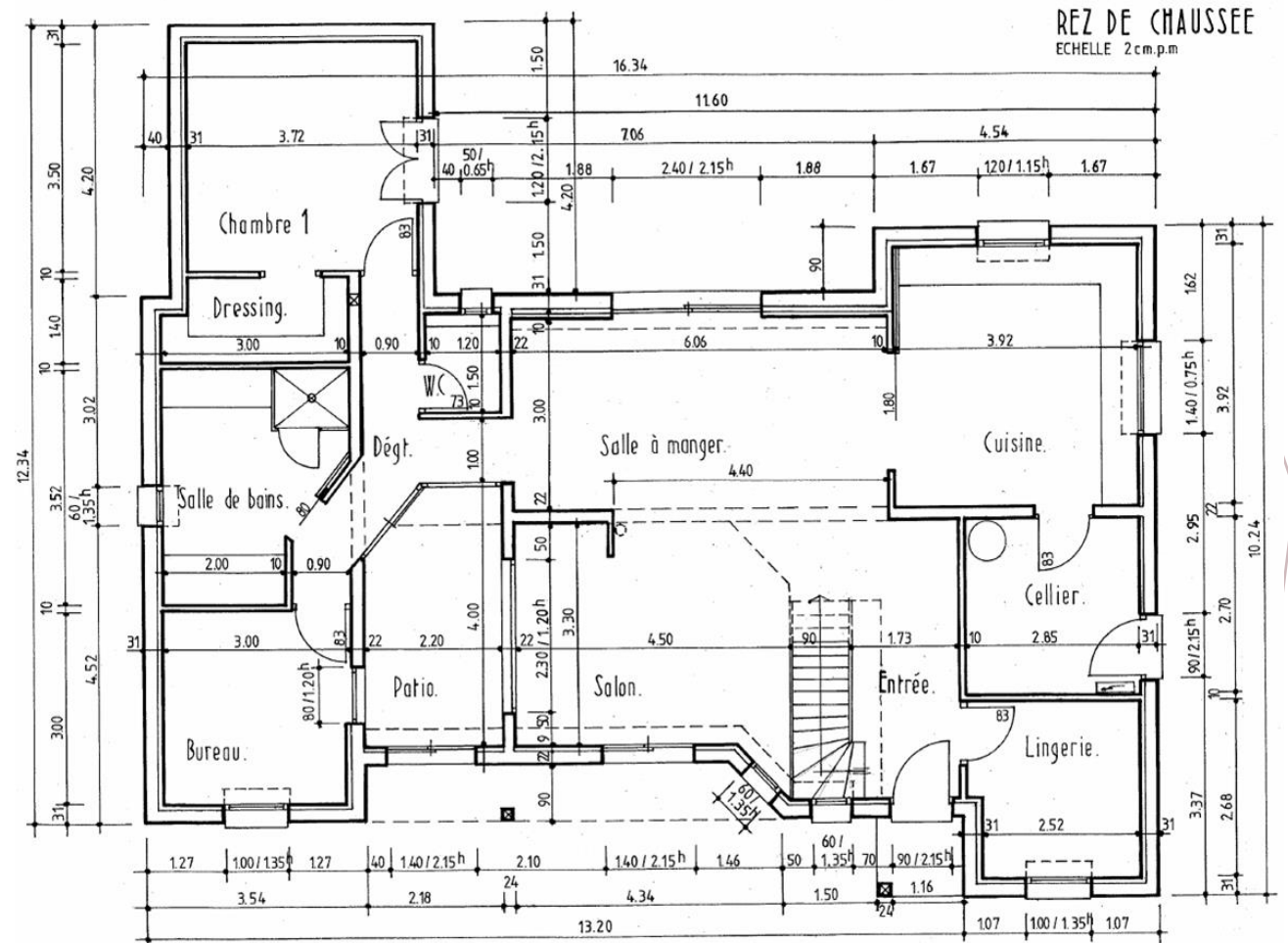
- rulers,
- compasses,
- squares,
- protractors
- Templates.

This technique allows architects to create precise and detailed drawings to communicate plans, elevations, sections, details, and other aspects of architectural design.



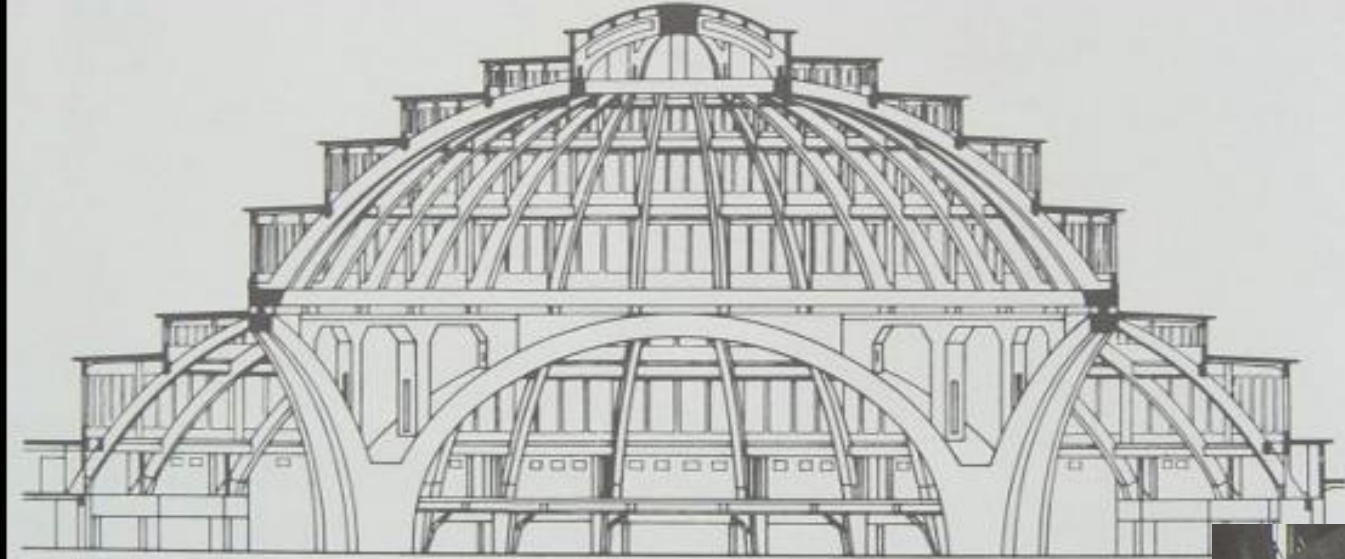
# Instrumental Drawing: Technical Drawing, Codified Drawing

Instrumental drawings are often done on specially designed drawing paper for architectural work. Drawing tools such as rulers and compasses are used to create precise straight lines and circles, while squares and protractors are used to measure angles and dimensions. Templates can also be used to trace standardized geometric shapes.



# Instrumental Drawing: Technical Drawing, Codified Drawing

jahrhunderthalle, Max Berg, Breslau Allemagne, 1911-1913





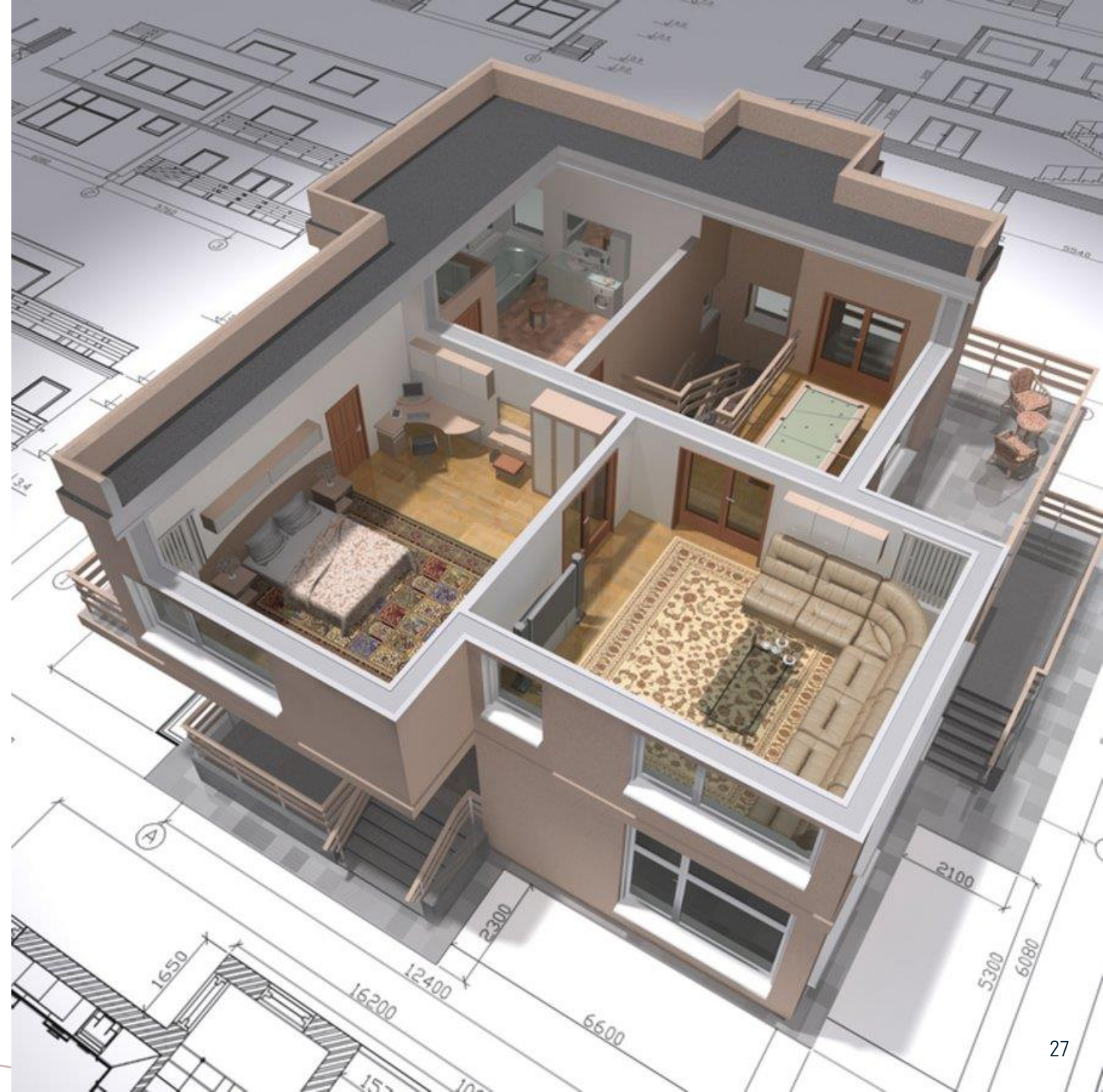
Vue en plan d'une unité d'hébergement. Source : Hôpital Mahoud Bel Azzi



Service d'hébergement de l'hôpital Mahoud Bel Azzi de Coconstruction. Source Hôpital Mahoud Bel Azzi modifications apportées par l'auteur.

*COMPUTER-AIDED  
DESIGN OR DIGITAL  
MODELING:*

*CAD (COMPUTER-AIDED  
DESIGN) SOFTWARE, BIM  
(BUILDING INFORMATION  
MODELING*



# COMPUTER-AIDED DESIGN OR DIGITAL MODELING:

Computer-Aided Design (CAD) or digital modeling in architecture is a method of design and representation that uses computer software to create two-dimensional (2D) drawings and three-dimensional (3D) models. This technique allows architects to work more efficiently, precisely, and rapidly by using digital tools to generate drawings and models that can be easily and quickly modified.



# *COMPUTER-AIDED DESIGN OR DIGITAL MODELING:*

CAD enables architects to create 2D drawings, such as plans, elevations, sections, and details, as well as 3D models that provide a more realistic visualization of buildings and spaces. CAD software also allows for simulations and calculations to evaluate aspects like energy performance, circulation flows, ventilation, natural lighting, and other architectural design considerations.



# COMPUTER-AIDED DESIGN OR DIGITAL MODELING:

PFE M2

## CO - ENCADREMENT DE PFE DE MASTER (MÉMOIRE ET PROJET)

Etudiante : Imen Chettab

Projet: tourisme de luxe

Problématique:

Jijel, ville touristique du littoral algérien est connue par son paysage attractif et par sa nature vierge. Elle Reçoit plus de 9 millions touristes chaque saison estivale et souffre d'un manque d'équipements d'accueil et d'un tourisme de masse qui évolue dans un contexte très concurrentiel avec une très grande concentration des touristes sur le littoral. Ce qui entraîne des déséquilibres, des problèmes de pollutions, de mauvaise gestion des déchets avec des activités illicites.

Comment s'imposer à ce tourisme chaotique en le remplaçant par un tourisme de qualité ? et donc durable ?



# COMPUTER-AIDED DESIGN OR DIGITAL MODELING:



PFE M2

## CO - ENCADREMENT DE PFE DE MASTER (MÉMOIRE ET PROJET)

Etudiant: Metatla Said

Projet : E-learning leisure center for kids in Zouaghi . Constantine . Algeria

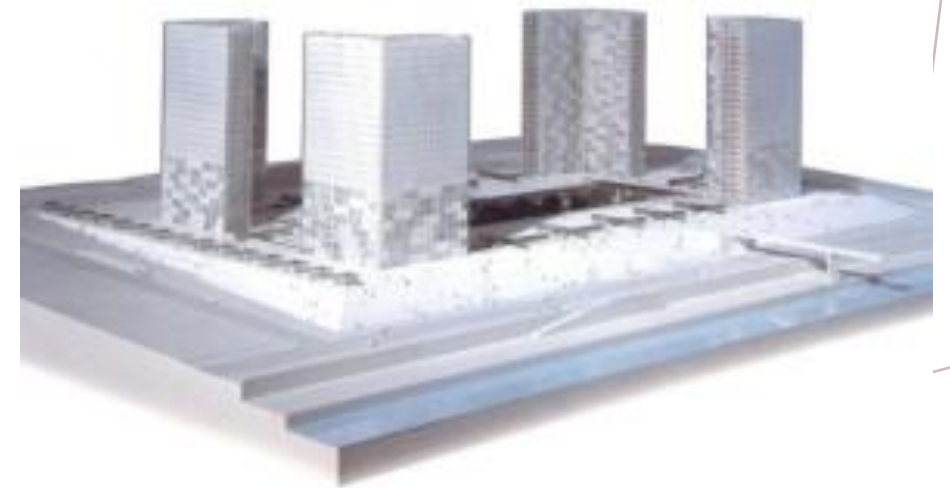
With a deconstructivist contemporary style, the idea of the design is to simulate the active psychological spirit of the children so they can feel free with the forms and the lines, and unleash their curiosity and imagination to discover the shapes so they can feel themselves in a world dedicated to them.

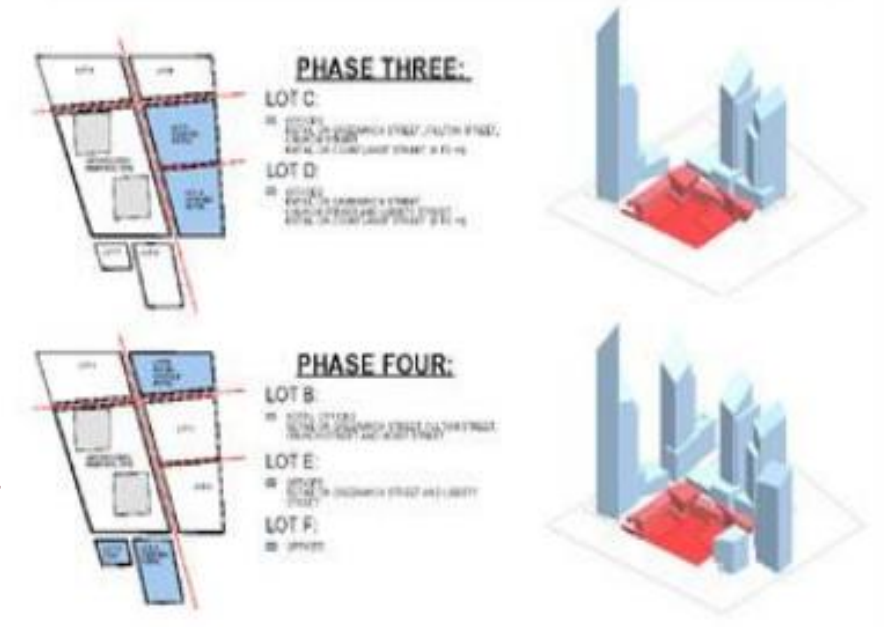
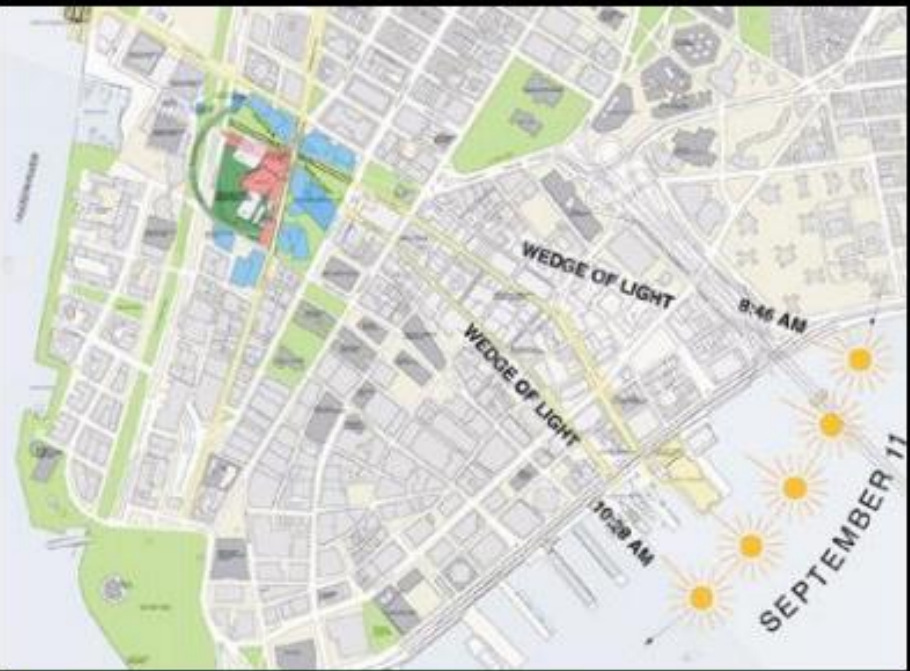
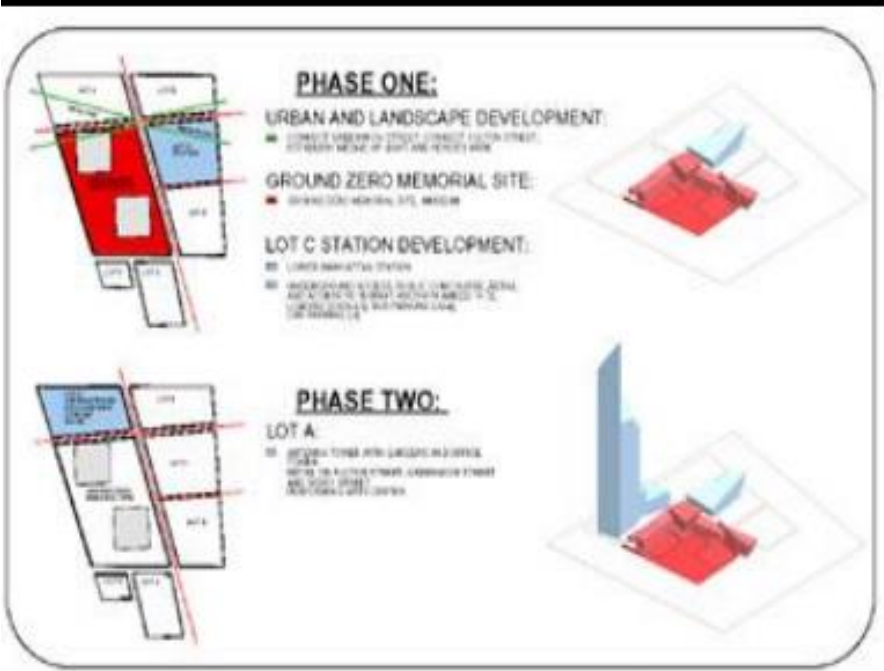
The center is for kids between 3 to 16 years old, its function is to take care of children in their freetime outside school, offering them various E-learning tools to develop their intelligence depending on their age, and to protect them from juvenile delinquency in the outside.

# *COMPUTER-AIDED DESIGN OR DIGITAL MODELING:*



*BIBLIOTHÈQUE NATIONALE DE FRANCE (BNF) FRANÇOIS MITTERAND,  
ARCHITECTE DOMINIQUE PERRAULT PARIS FRANCE, 1989-1997*



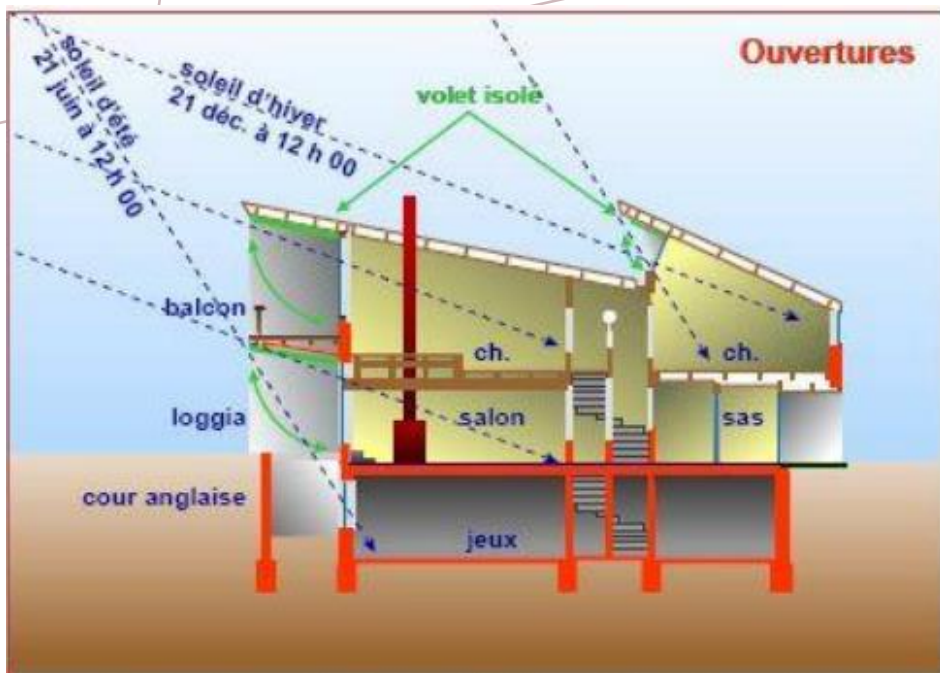




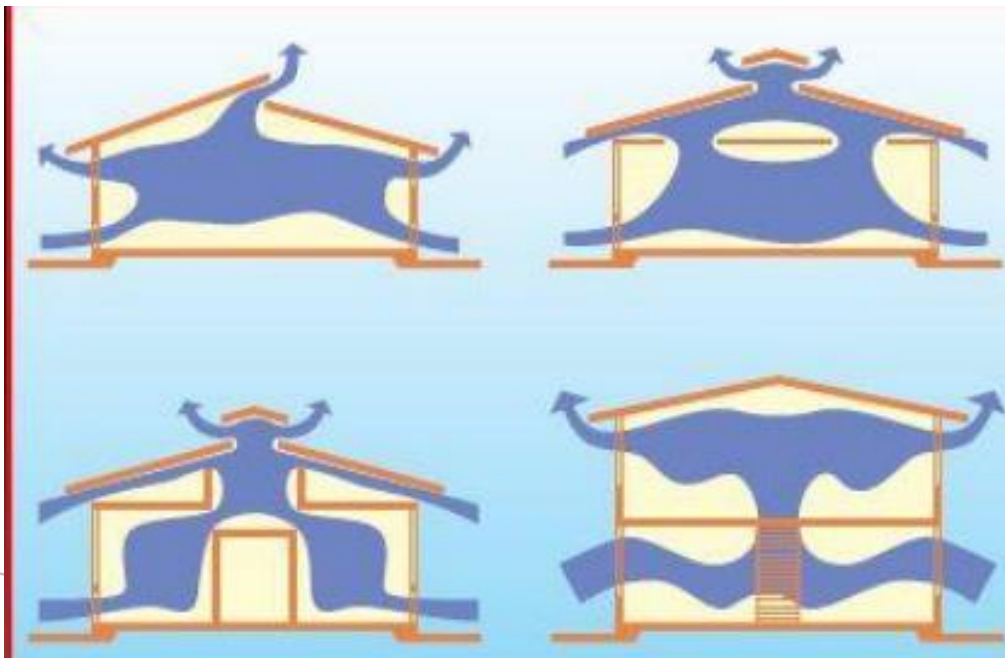
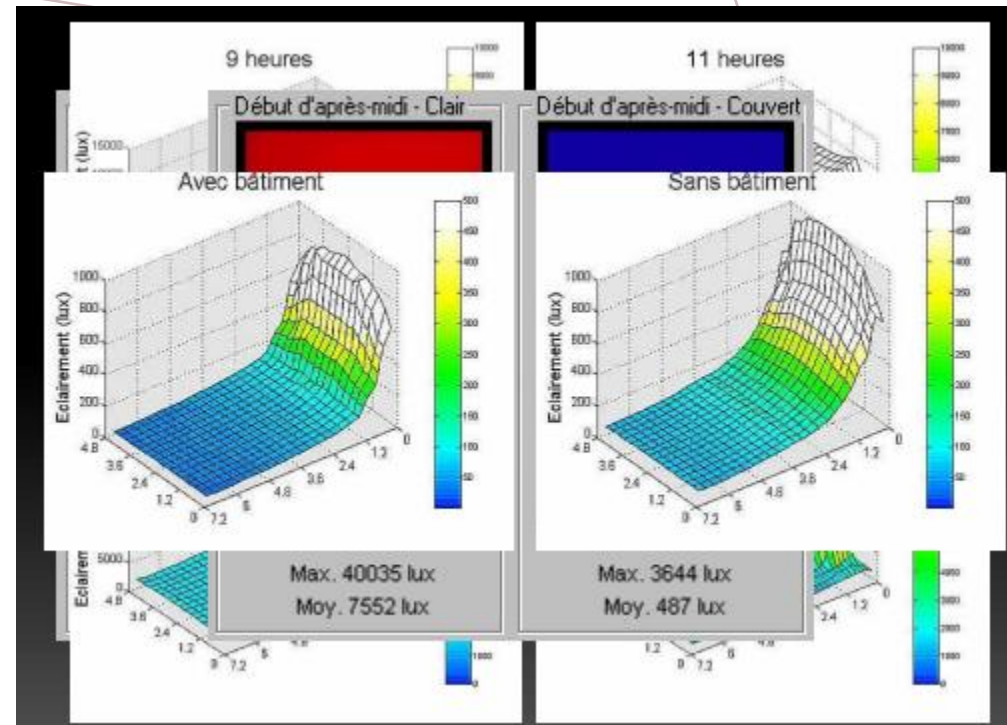
The Hotel Marqués de Riscal , (Frank O.Gehry)

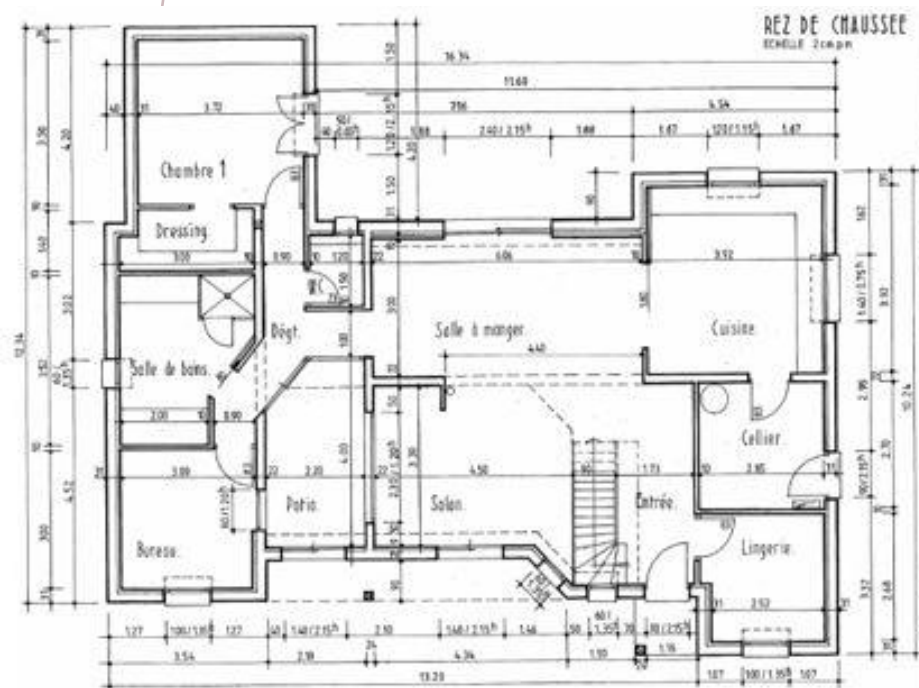


Musée Guggenheim Bilbao (Frank O.Gehry)



Le travail en coupe des ouvertures permet de déterminer l'importance et le calendrier des apports de lumière naturelle et des gains solaires (arch. H. Bolliger).

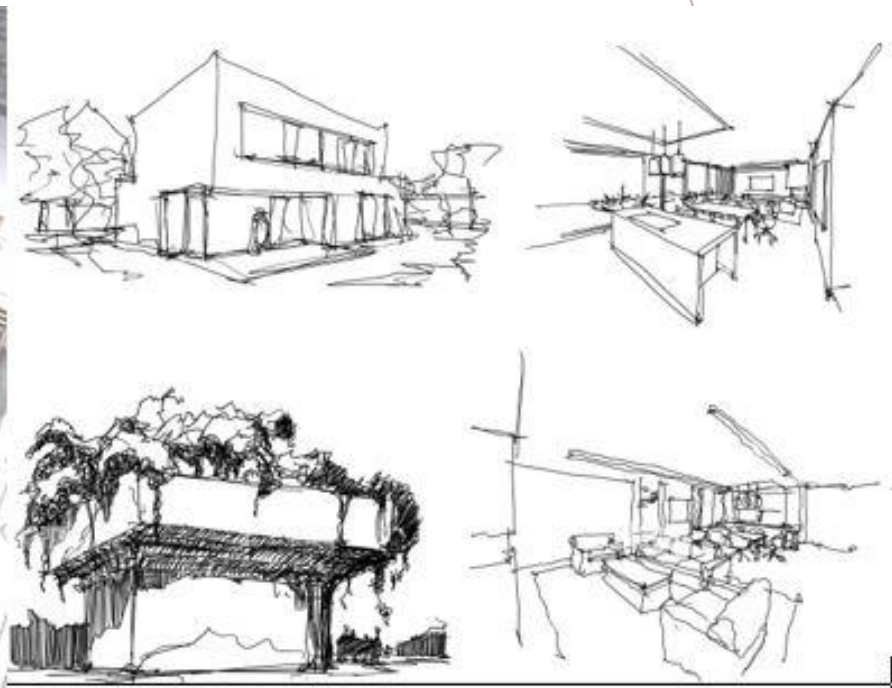




Instrumental  
Drawing



Computer-Aided Design



Freehand Drawing

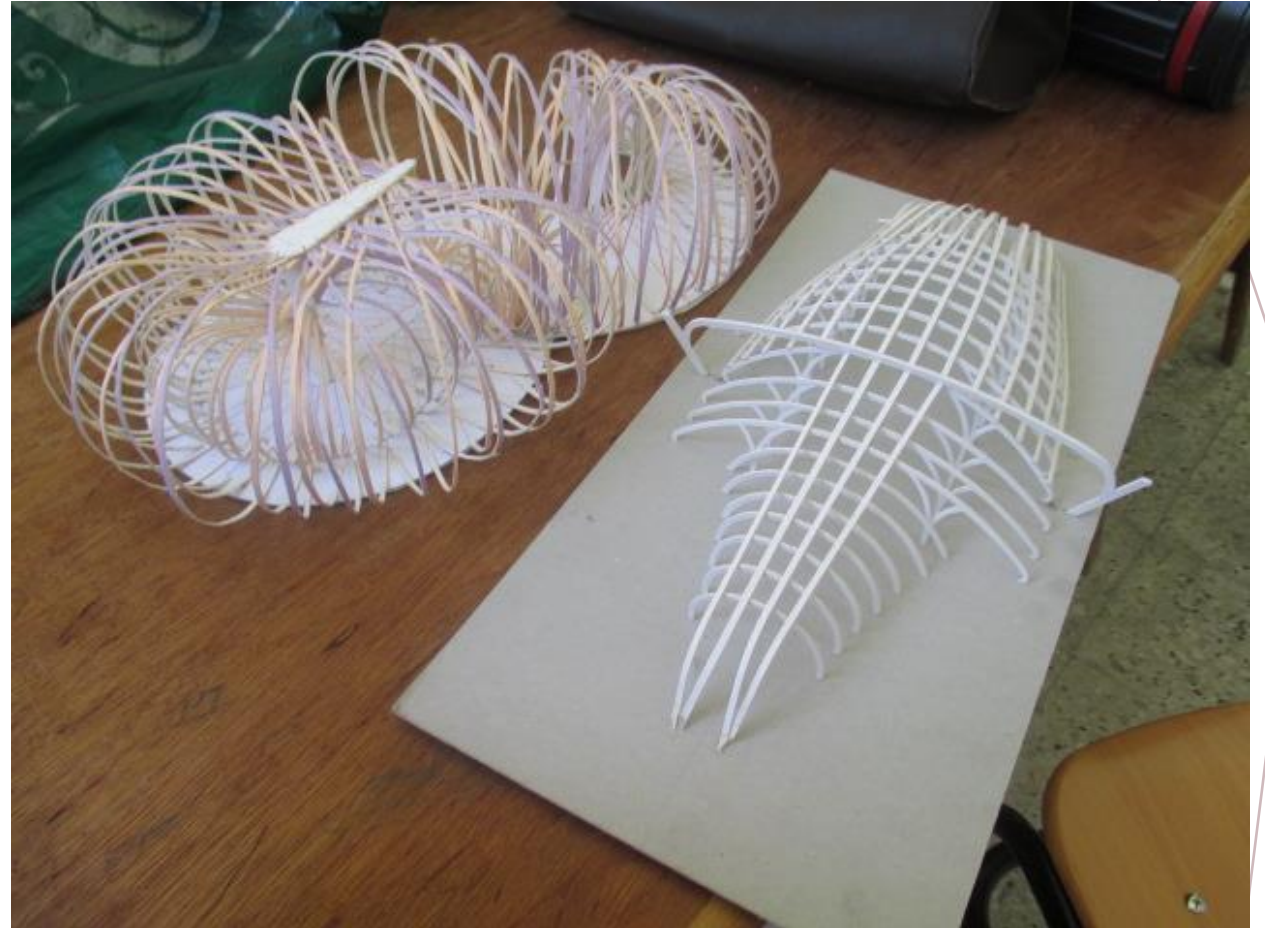


# *PHYSICAL MODELS*

Wood, Cardboard, Plaster

# *PHYSICAL MODELS*

Physical models in architecture are three-dimensional (3D) representations of buildings, structures, or urban sites on a small scale. They are constructed using materials such as wood, cardboard, plaster, resin, or any other easily malleable material.



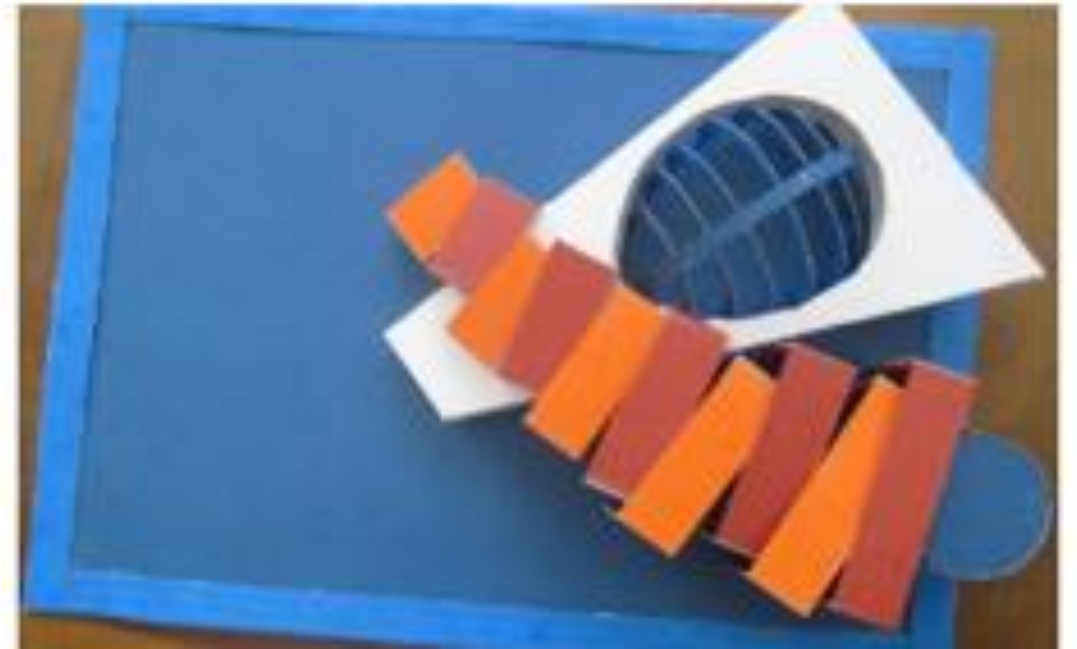
# *PHYSICAL MODELS*

Physical models are used in architecture to represent the **design of a building or site**, allowing for visualization of:

- proportions,
- dimensions,
- volumes,
- textures,
- colors.

They can be created at **various scales**, depending on the project's requirements.

Models can be employed in **all phases of design, from the initial concept to the final project presentation.**

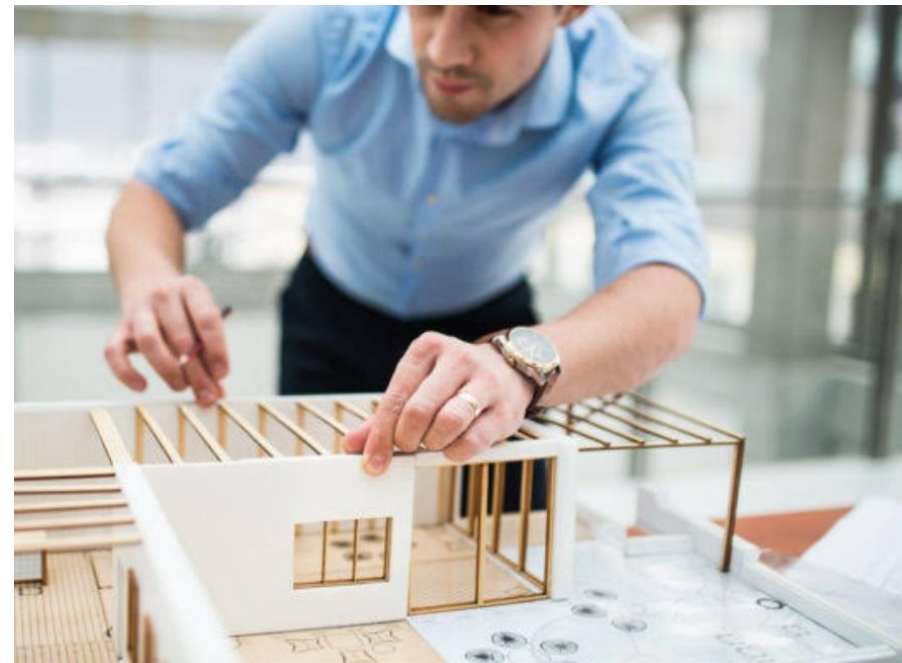
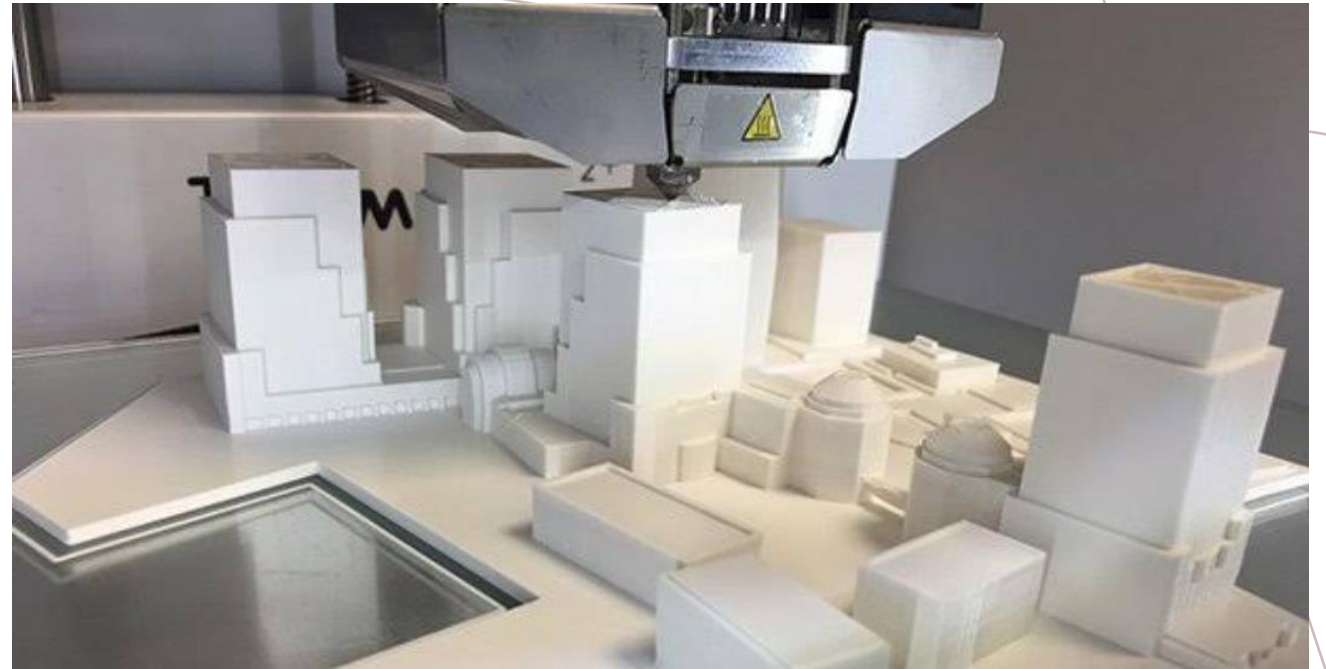


# *PHYSICAL MODELS*

Physical models are often crafted based on design plans and elevations, either by

**hand or with the assistance of digital modeling software.**

Model details may be painted, glued, or sculpted to represent design elements like windows, doors, balconies, roofs, and more.



# *PHYSICAL MODELS: SCALE*



# *PHYSICAL MODELS: SCALE*





# *ARCHITECTURAL PHOTOGRAPHY*

# *ARCHITECTURAL PHOTOGRAPHY*

Architectural photography is a visual representation technique that involves capturing images of buildings, structures, and urban spaces through a photographic lens. Architectural photography enables architects and photographers to document, present, and communicate architectural design in its context.



# *ARCHITECTURAL PHOTOGRAPHY*

Architectural photography can include images of buildings in their immediate environment.



# *ARCHITECTURAL PHOTOGRAPHY*

Architectural photography can show panoramic views of urban landscapes, construction details, interiors, textures, materials, and colors



# *ARCHITECTURAL PHOTOGRAPHY*

Photographs can be taken at different times of day or night, depending on natural or artificial lighting, to create a specific atmosphere or highlight particular architectural details.



# *ARCHITECTURAL PHOTOGRAPHY*

Architectural photography serves various purposes in architecture. It is used to:

- Document construction projects,
- Present projects to clients and project partners,
- Communicate with local authorities and regulatory agencies,
- Promote projects to the general public,
- For architectural history purposes.
- Publications such as architecture books, specialized magazines, exhibitions, and websites.

*QUESTIONS !?*





# MODES DE COMMUNICATIONS DE L'ARCHITECTE

Cours 03