

CIHAN UNIVERSITY/SULIMANIA

ARCHITECTURAL DEPT.

FIRST YEAR

2023-2024

SECOND SEMESTER

LECTURE 4



# Art & Architecture

DESIGN ELEMENTS

**Dr. Nahedh T. Al-QEMAQCHI**

# Design Elements



Point

Line

Plane Form and Shape

Volume

Texture

Value

Colour

Volume

# Volume

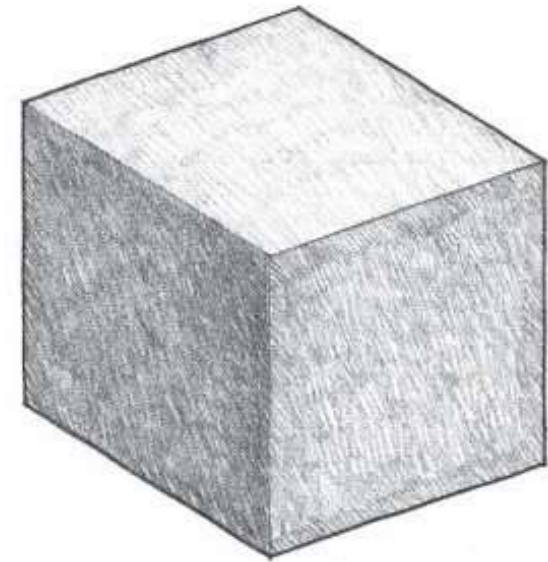
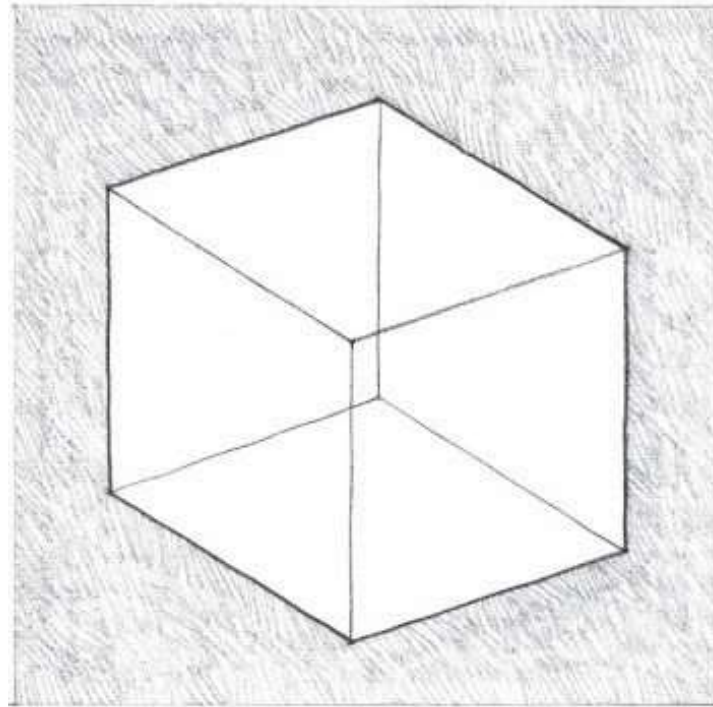
A plane extended in a direction other than its intrinsic direction becomes a volume.

Conceptually, a volume has three dimensions: length, width, and depth.

It can be either:

a solid, space displaced by mass.

or a void, space contained or enclosed by planes





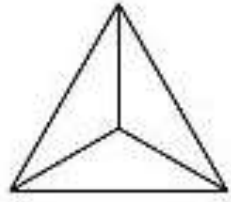
# Volume elements in artwork





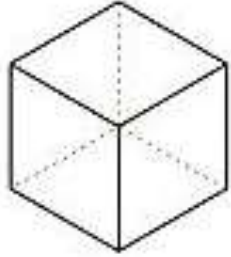
Volume  
elements in  
architecture

TETRAHEDRON



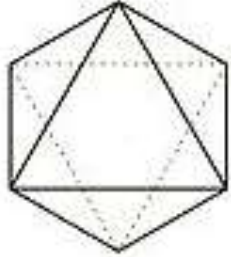
FIRE

CUBE



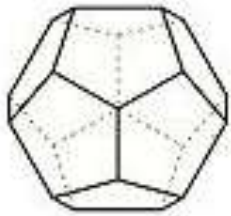
EARTH

OCTAHEDRON



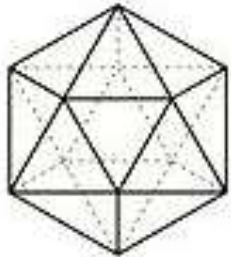
AIR

DODECAHEDRON



SPIRIT

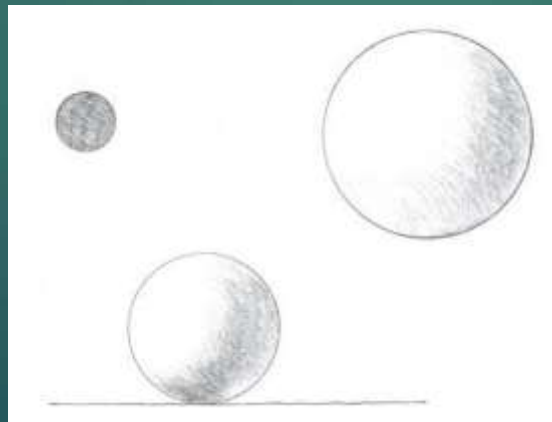
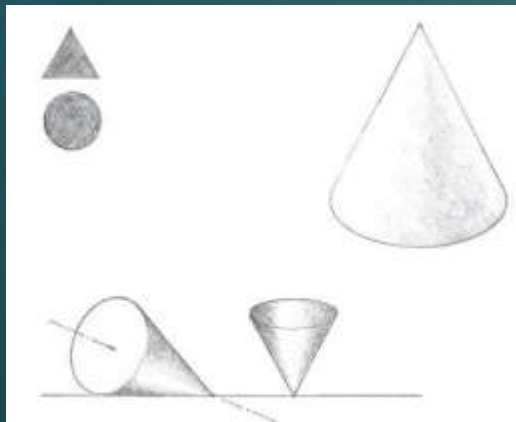
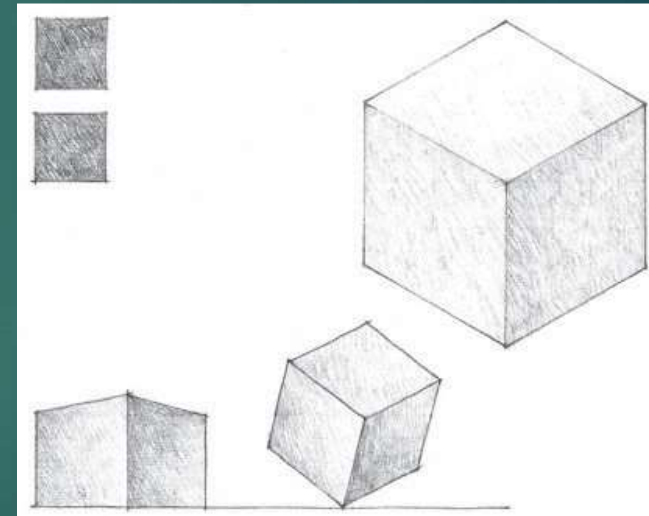
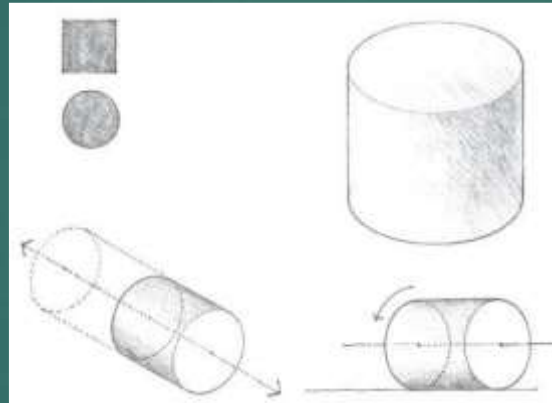
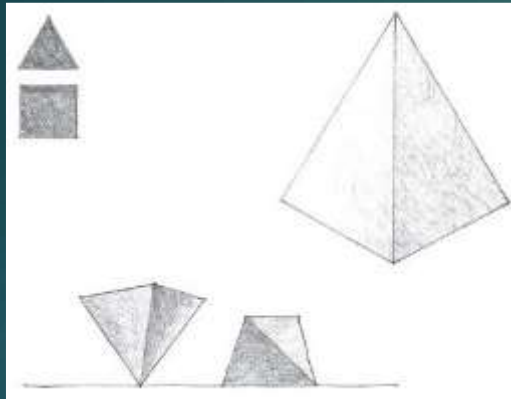
ICOSAHEDRON



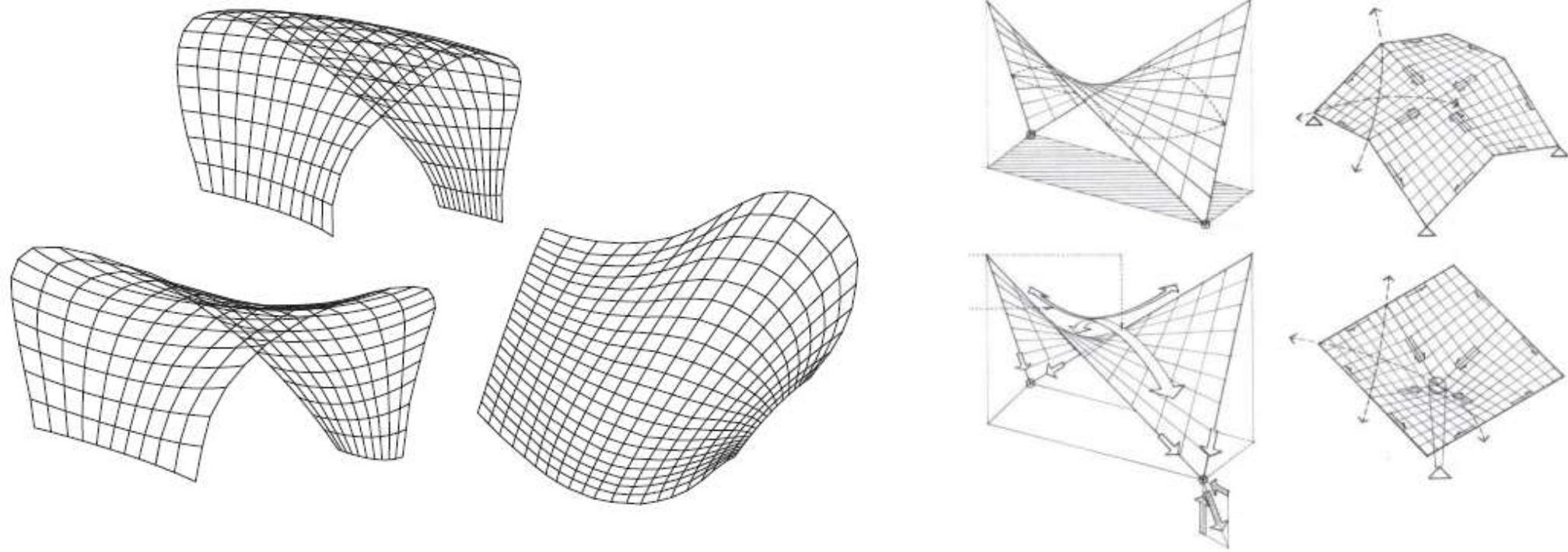
WATER

# Platonic volumes

# Geometrical solids



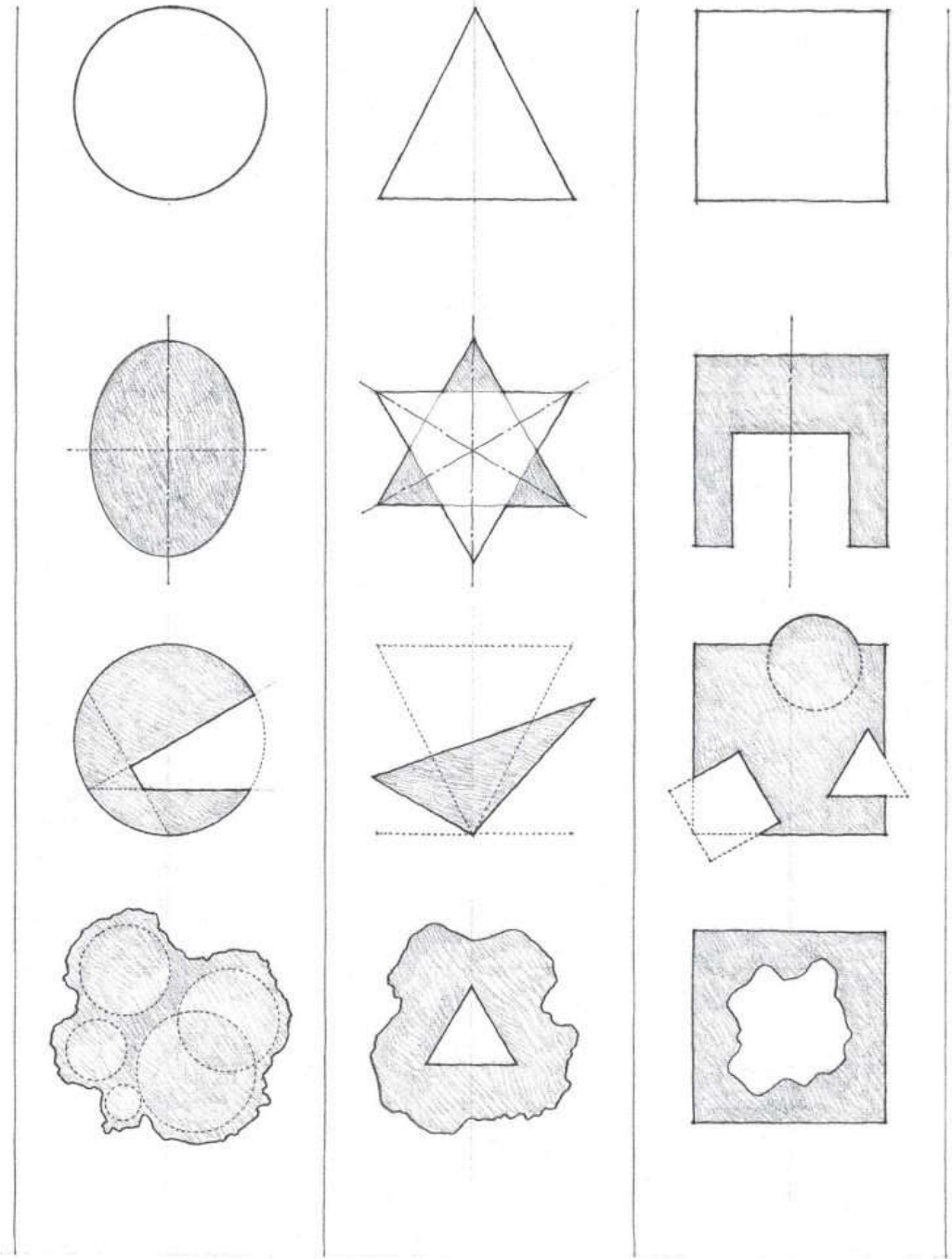




None platonic volume (surfaces)

# Volumes in architecture





# Regular and Irregular forms



# Regular and Irregular forms in Architecture

Frank Gehry

Dancing tower



# Regular and Irregular forms in Architecture

Frank Gehry

Guggenheim museum

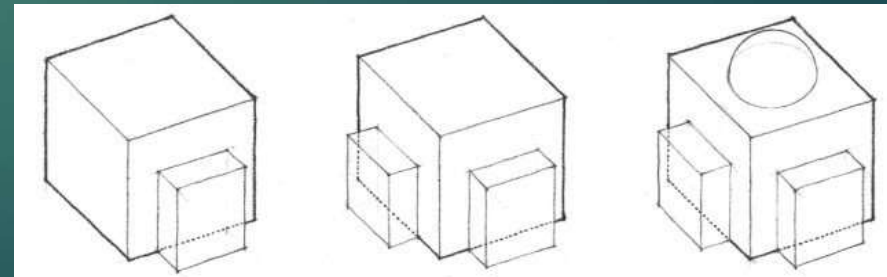
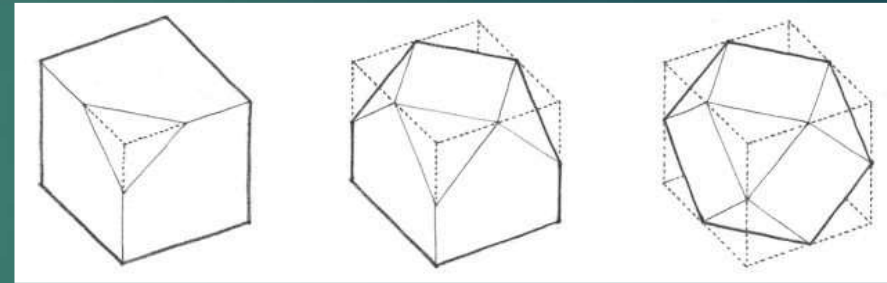
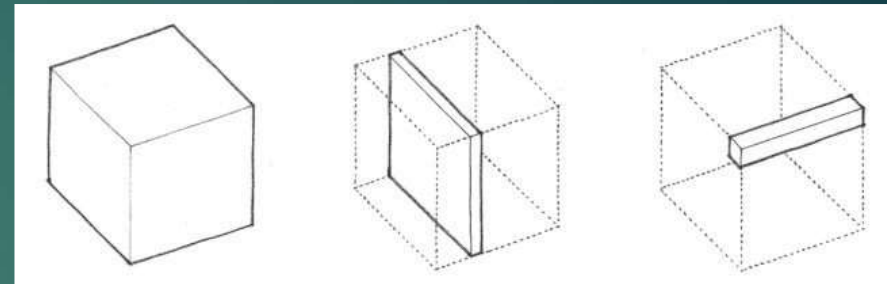




# TRANSFORMATION OF FORM



- ▶ Dimensional Transformation
- ▶ Subtractive Transformation
- ▶ Additive Transformation





# Dimensional Transformation

- ▶ Compressing (Snefru Pyramid)
- ▶ Stretching (Tensile structures)



# Subtractive Transformation

- ▶ Guangzhou circle (China)
- ▶ Concave facades buildings by Moon Hoon (Seoul)



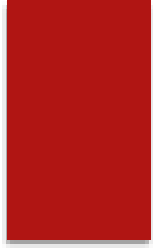
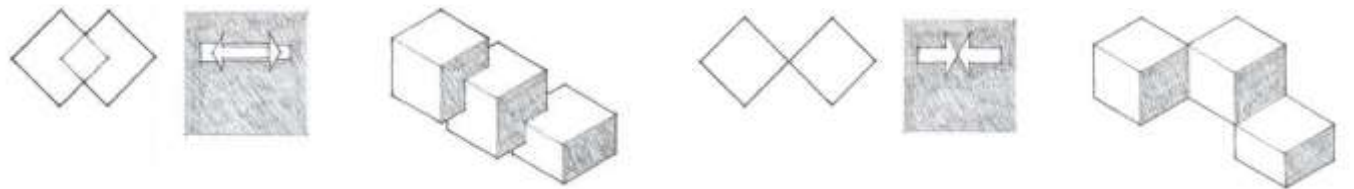
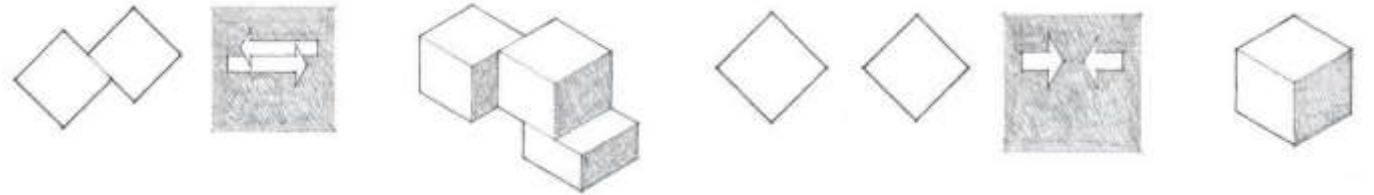
# Additive Transformation

- ▶ Organization, creating of form as a combination of several forms



# Organization

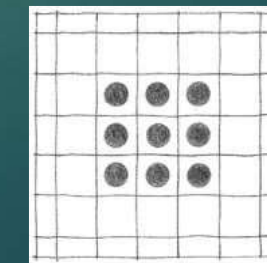
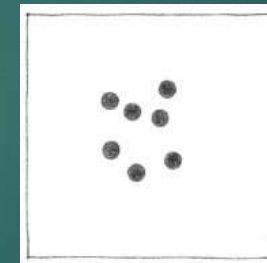
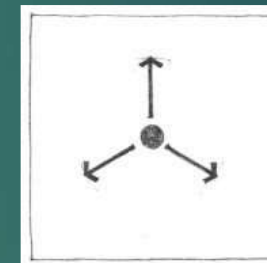
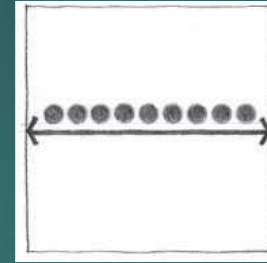
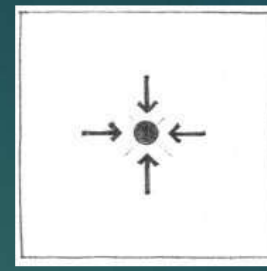
- ▶ Spatial Tension
- ▶ Edge-to-Edge Contact
- ▶ Face-to-Face Contact
- ▶ Interlocking Volumes





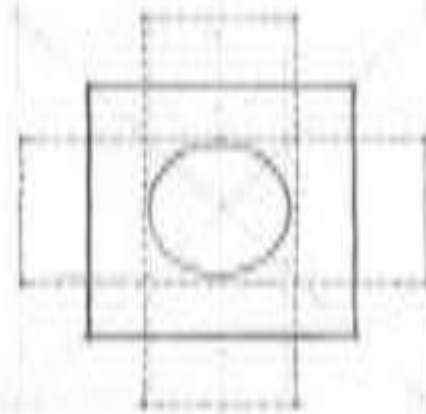
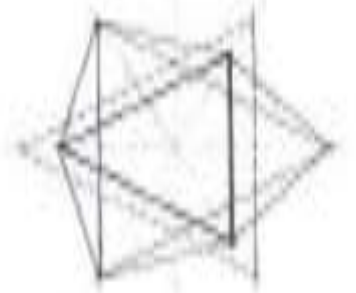
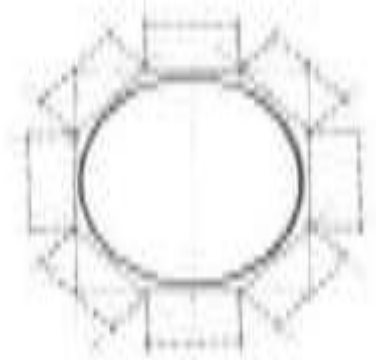
# Resulting from

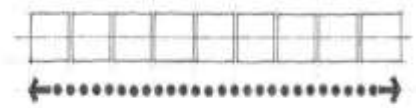
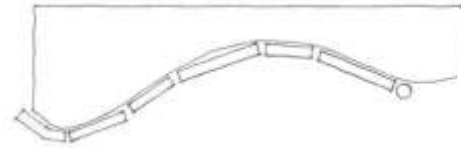
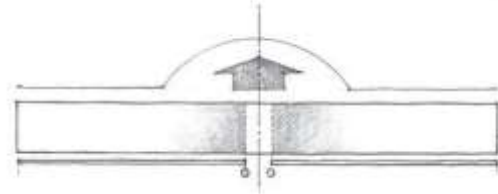
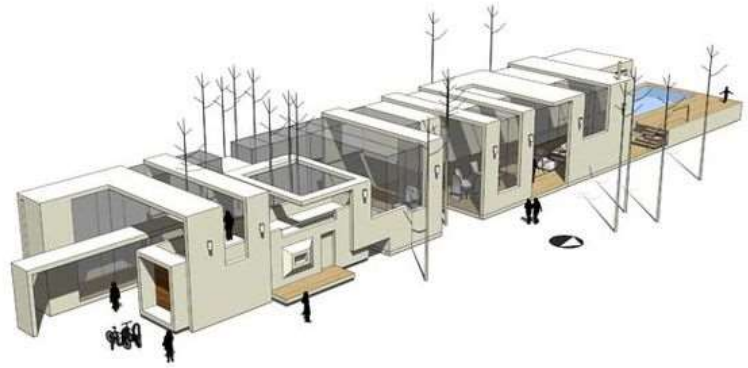
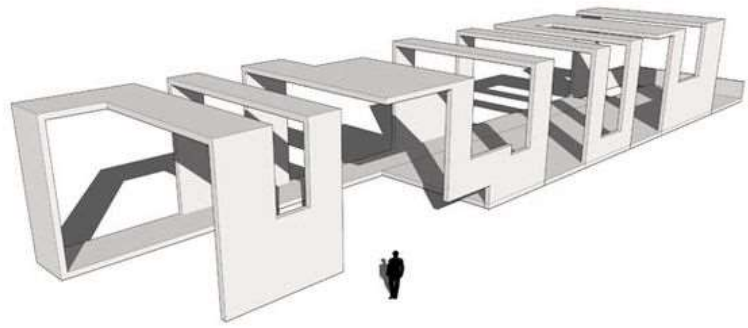
- ▶ Centralized Form
- ▶ Linear Form
- ▶ Radial Form
- ▶ Clustered Form
- ▶ Grid Form



# Centralized Form

Basilica of St Mary





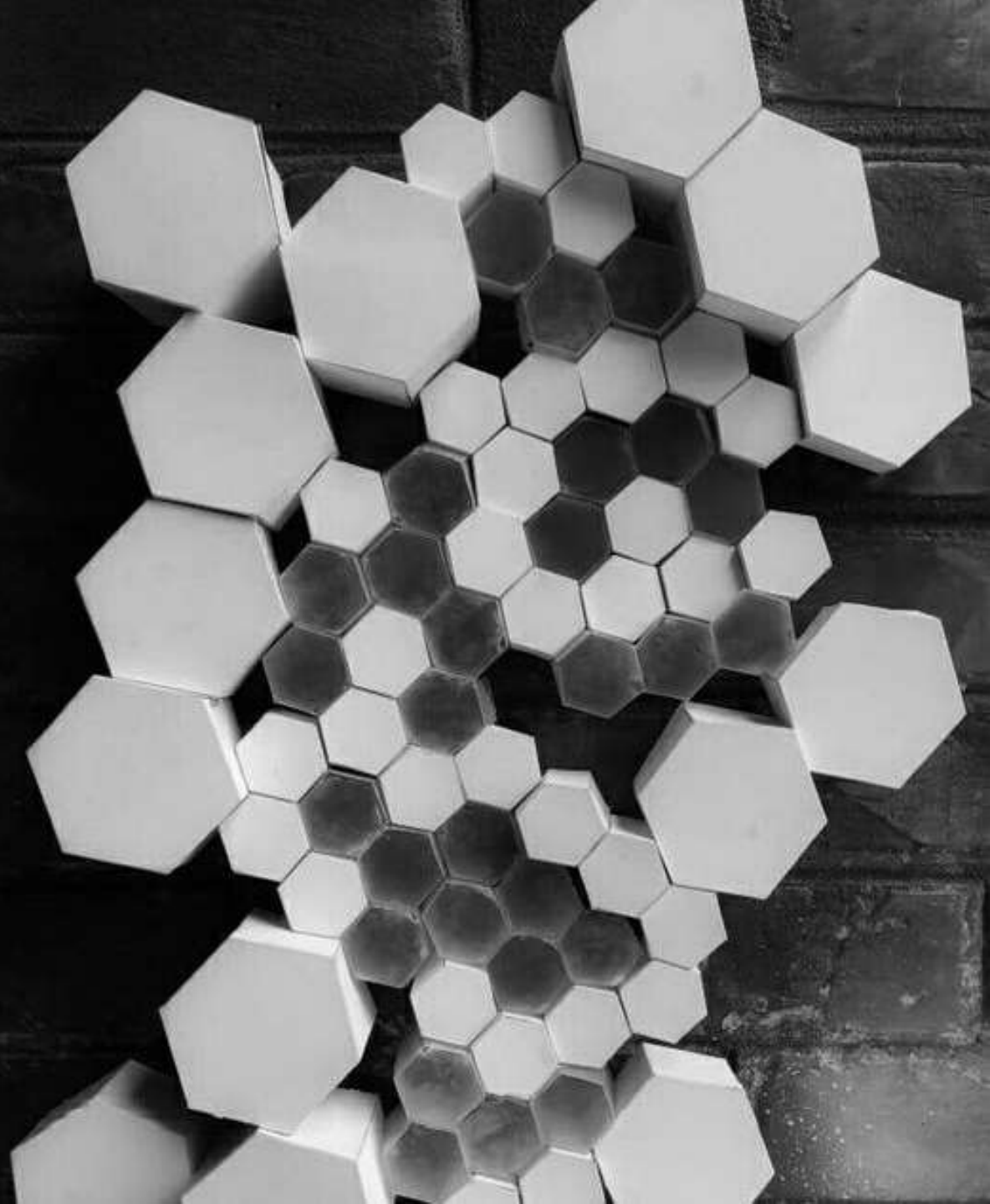
# Liner Form



# Radial Form

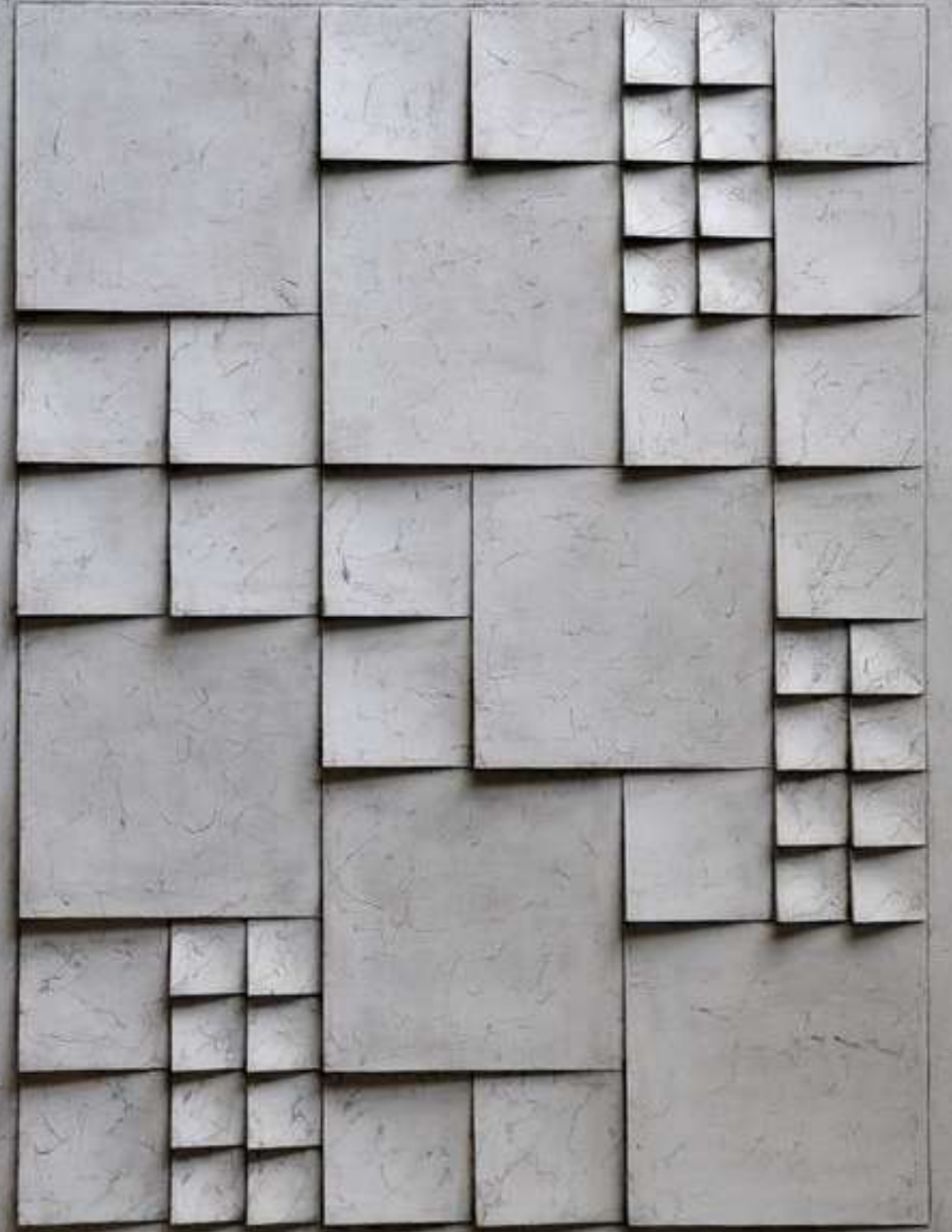


# Clustered Form





# Grid Form



# Texture



- ▶ The visual and especially perceptible quality given to a surface by the size, shape, arrangement, and proportions of the parts. Texture also determines the degree to which the surfaces of a form reflect or absorb light.





# Value



- ▶ The value means the amount of brightness and degree of the reflected colour, and it describes the colour as dark or light. The value depends on the types of light, including light, darkness, and shadows of various degrees







# Colour



- ▶ A phenomenon of light and visual perception that may be described in terms of an individual's perception of hue, saturation, and tonal value.
- ▶ Colour is the attribute that most clearly distinguishes a form from its environment. It also affects the visual weight of a form

