ARCH 121 – INTRODUCTION TO ARCHITECTURE I

WEEK 4: Form: Perceptual Laws of Visual Organization (Gestalt Theory) and Compositional Principles (Part 2)

From: Roth, L., Understanding Architecture: Its Elements, History and Meaning

4. Order and Composition

Composition is the organization of the elements of design into a unified whole. "It is the organization of the whole out of its parts - the conception of single elements, the interrelating of these elements, and the relating of them to the total form. It means 'putting together', and can apply to any work of art, from music to writing to architecture, that is arranged or put together using conscious thought." [1]

It basically refers to the placement or arrangement of conceptual elements (point, line, plane, volume, form, shape, space) and visual elements (color, texture, size and shape) in a work of art according to some (consciously or unconsciously used) compositional principles. "In the visual arts, composition is often used interchangeably with various terms such as design, form, visual ordering, or formal structure, depending on the context." [2]
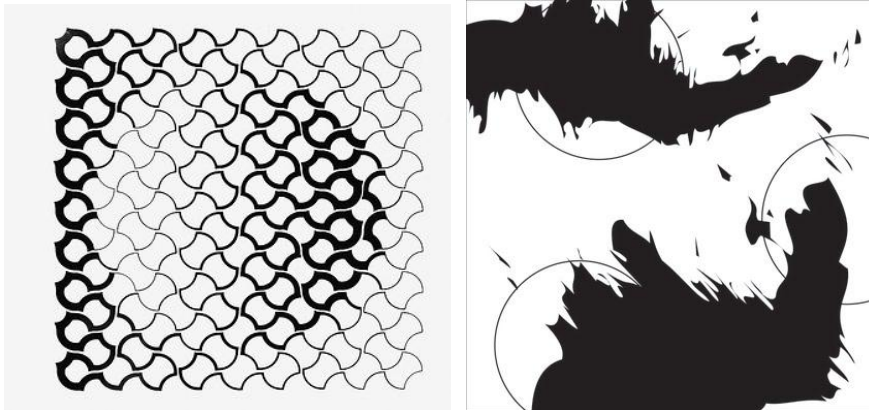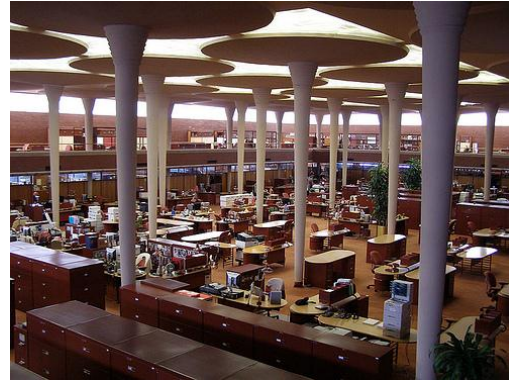

In architectural design, the architect creates an ordered expression through the process of composition by using the raw materials of architectural form, which are basically the mass and the space.[3] In this process, the material forms (masses) and spaces are arranged into the final composition, of the definitive design. At this stage each element ends up in its proper place according to the principles of composition. Without this ordering process the result would be chaos. The method of ordering and the concept employed ultimately dictate the character, appearance and style of a design."[4]

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[1] http://www.britannica.com/EBchecked/topic/32876/architecture/31848/Composition
[2] http://www.britannica.com/EBchecked/topic/32876/architecture/31848/Composition
[3] http://www.britannica.com/EBchecked/topic/32876/architecture/31848/Composition
[4] Leupen et. al., Design and Analysis, o1o Publishers, Rotterdam, 1997, p. 17-19.

Frank Lloyd Wright, Johnson and Wax Building

Frank Lloyd Wright, Guggenheim Museum, NY

Some compositional principles might be used (such as unity, balance, hierarchy, scale, dominance, similarity, contrast, rhythm, repetition, symmetry) to create this order. The way the formal and spatial elements are arranged through these principles creates the order of composition in architecture.

These organizational principles of composition are like the grammar of a language. The use of these principles over the visual and conceptual elements of design is like using a visual grammar. It is like speaking and writing in the language of architectural design. Visual and conceptual elements are the materials (words) of design and the principles are the ways to work with and arrange the elements (grammar). However it is also true that there is not such a thing that these principles should be obeyed. As William Lidwell's stated in *Universal Principles of Design*,

"The best designers sometimes disregard the principles of design. When they do so, however, there is usually some compensating merit attained at the cost of the violation. Unless you are certain of doing as well, it is best to abide by the principles."

Some basic compositional principles are as follows:

a. Unity
b. Balance

  c. Hierarchy
  d. Scale
  e. Dominance
  f. Contrast (and Similarity)
  g. Rhythm
  h. Repetition

## 5. Compositional principles
a. Unity

Unity refers to the:

1. The state or quality of being one; singleness, and,
2. The state or quality of being in accord; harmony.

In design, unity is the organization of elements into a whole. A design is considered unified when all elements are in agreement. No individual part is viewed as more important than the whole design. Unity adds order to a design.

In a unified design, the elements support each other and all work together toward a common goal. The elements look like they belong together and not arbitrarily placed on the design medium. In this way, the viewer of the design first sees the whole design and then the sum of the parts making that whole. For this reason, unity could be seen as the single most important aim of any design. It aims to make the whole design more than the sum of its parts.
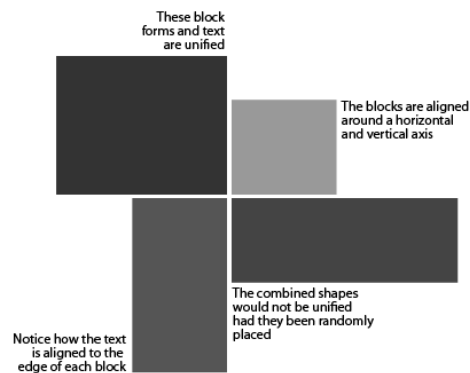

Three Heads, Superimposed from Play on Heads, Oskar Schlemmer (1888–1943) (right)
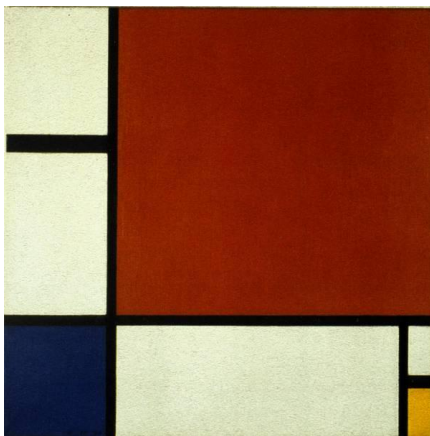
Unity could be established by using various methods such as proximity, similarity, rhythm etc. However, too much unity can be dull and lifeless. A good balance between unity and variety must be established to avoid a chaotic or a lifeless design.
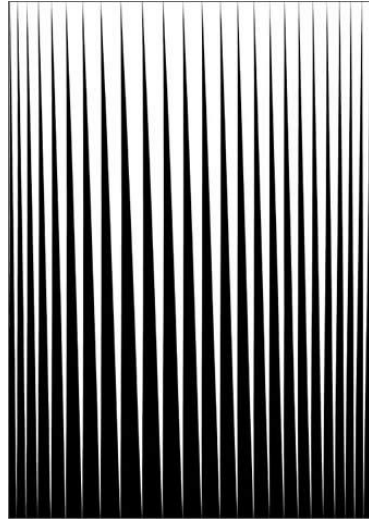
Unity by repetition (left), unity by proximity (right)
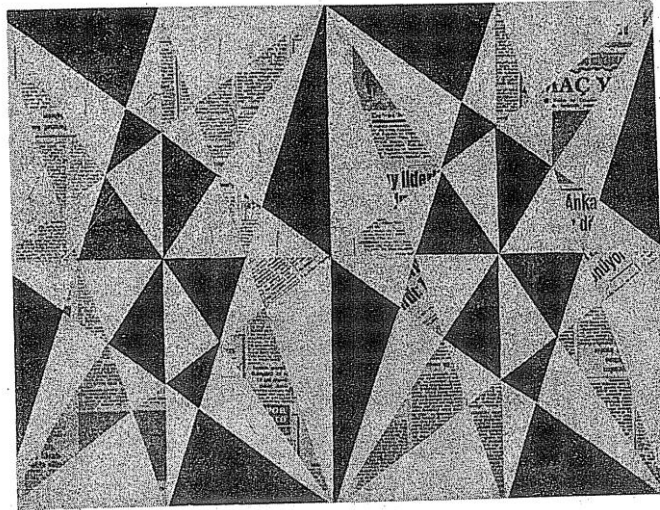
A unified, complete design: nothing more could be added and nothing more could be taken away without destroying the design.

Piet Mondrian, embracing an art of pure abstraction, Composition II in Red, Blue, and Yellow, 1930 (left), Hammer and Sickle, [Andy Warhol](American, 1928–1987) (right)

However, too much unity can be dull and lifeless. A good balance between unity and variety must be established to avoid a chaotic or a lifeless design.
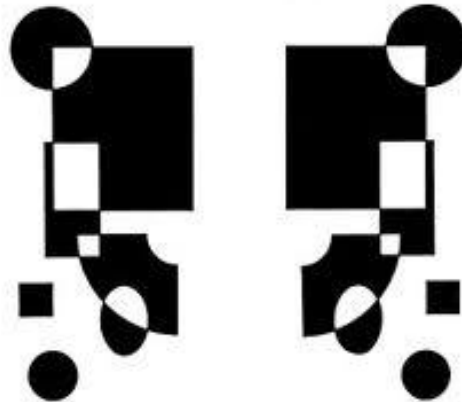
b. Balance

Balance is a state of equalized tension and equilibrium in design, which may not always be peaceful. In a balanced design, visual forces of equal strength pull in opposite directions towards the opposite sides of an axis or a central pivot. Balance is a psychological sense of equilibrium. A balanced design has a unity of composition. There are three types of balance: symmetrical, asymmetrical and radial.

b.1. Symmetrical balance:

Symmetrical balance is when the weight is equally distributed on both sides of the central axis. Symmetry is the simplest and most obvious type of balance. It creates a secure, safe feeling and a sense of solidity.

Symmetrical balance

Two equal elements in two equal sides of the central pivot.
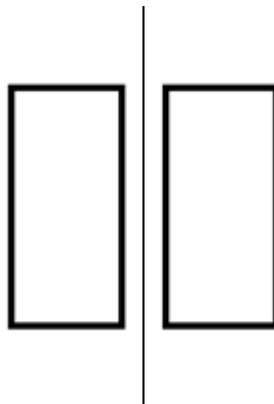
Symmetrical balance in two sides of an axis

Franz Klein, Le Gros (left)

b.2. Asymmetrical balance:

Asymmetrical balance is when both sides of the central axis are not identical, yet appear to have the same visual weight. There is a balance between a number of items of smaller size on one side and a larger one on the other. Asymmetric balance is more dynamic than symmetric balance.

Asymmetrical balance

Two unequal sized elements are in unequal distances from one another. But since the central pivot is close to the bigger one, this image creates the feeling of equilibrium in the viewer.

Asymmetrical balance

Mobile sculptures of Alexander Calder

b.3. Radial balance:

Radial balance is arranged around a central element. The elements placed in a radial balance seem to 'radiate' out from a central point in a circular fashion.
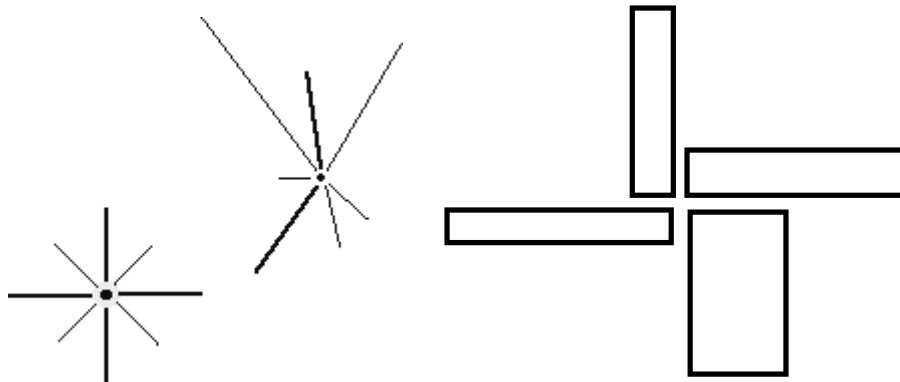
Radial Balance
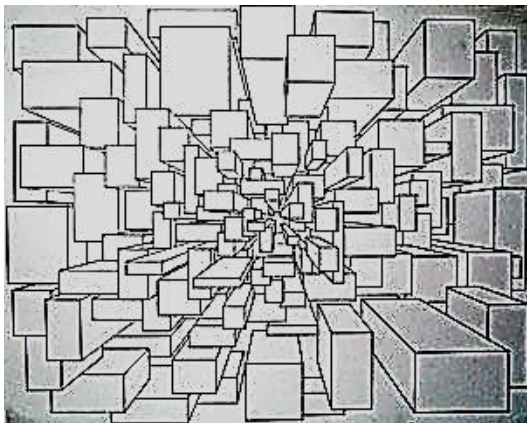
c. Hierarchy

Visual hierarchy is the organization of design elements into different levels of importance. In a hierarchical design, one element is emphasized over another so more important content looks more important. Visual hierarchy visually creates prioritization and centers of interest.
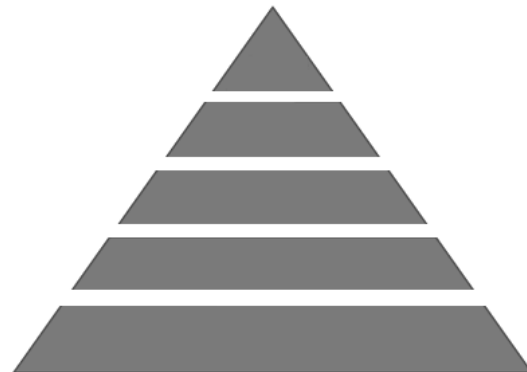
Hierarchy
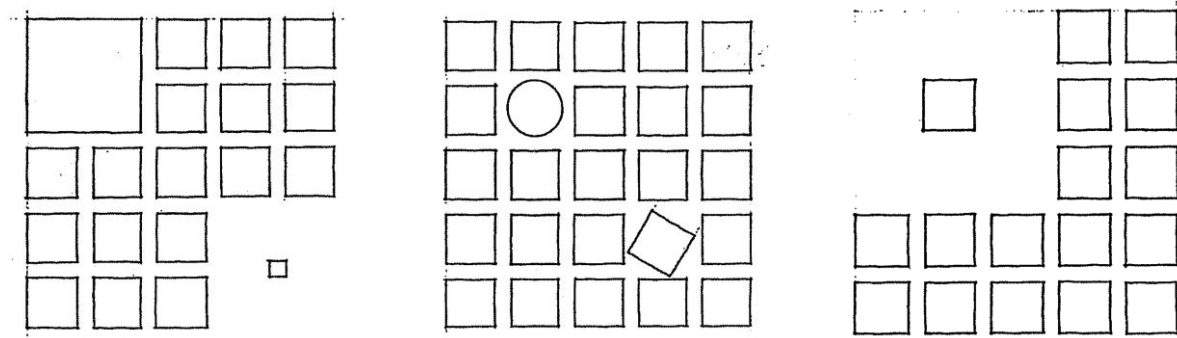
Hierarchy by size (left), by shape (middle) and by position (right)

Beat the Whites with the Red Wedge (1919) El Lissitzky (left), Mark Rothko, Red, Orange, Tan, and Purple, 1949 (right)

d. Scale

Making use of scale in a composition refers to using relative size of elements against each other. Playing with the scale of elements creates visual drama and can attract attention to a focal point.

Scale
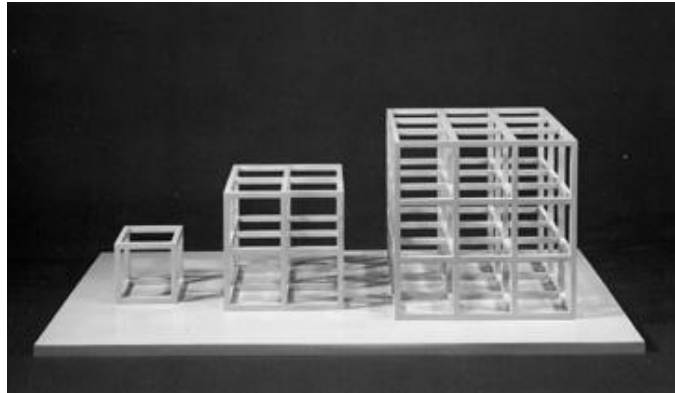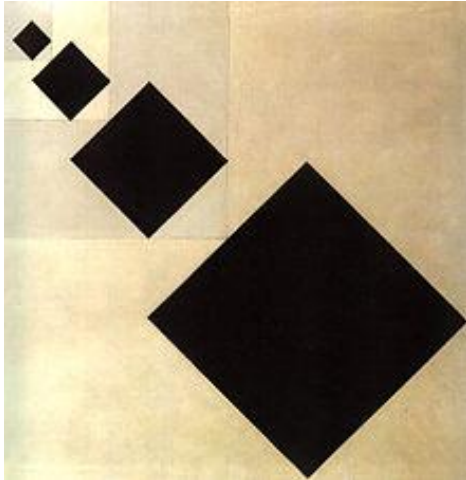
Theo van Doesburg, Concrete art: *Arithmetic Composition.* 1929-1930 (left), Sol le Witt (right)

e. Dominance

Creating visual dominance is stressing a particular area of focus rather giving every design element the same level of importance. When you create dominance in your design you are creating elements that take attention over themselves and succeed over other elements. Dominance is created by contrasting size, positioning, color, style, or shape. Identical items can't dominate each other. However, the dominant elements should not sacrifice the unity of the whole.

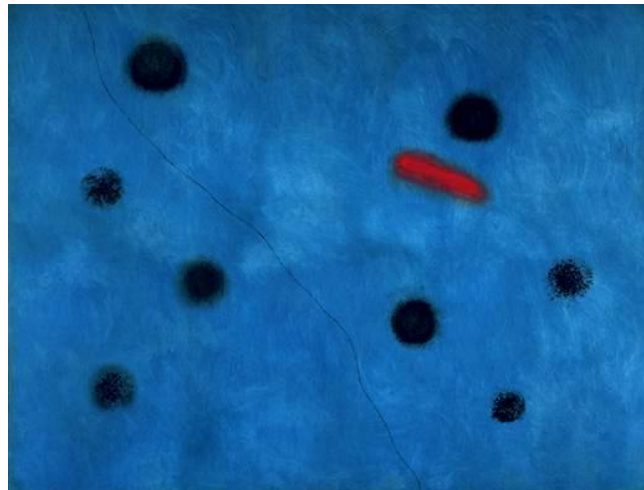Without dominance   With dominance

(Source: http://tafein2009.wordpress.com/2009/03/22/the-principles-of-design/)
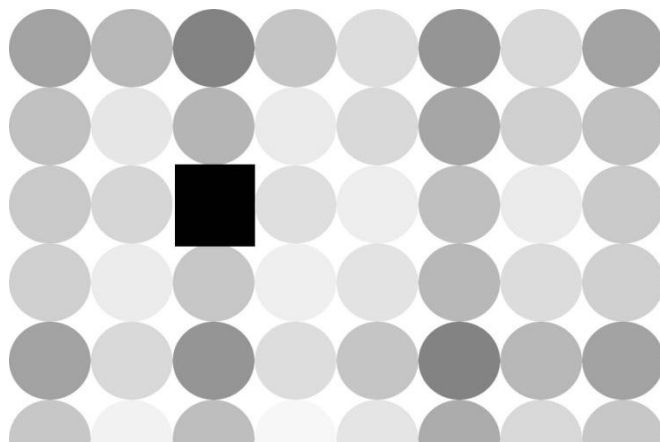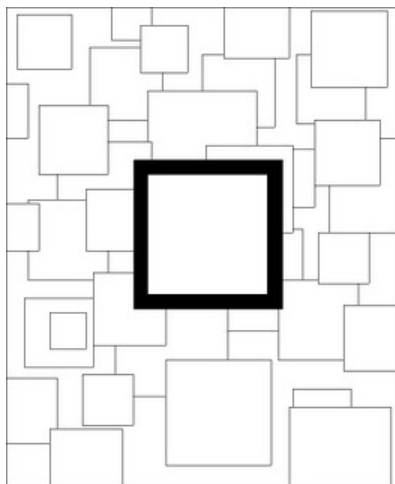
Dominance by size and color
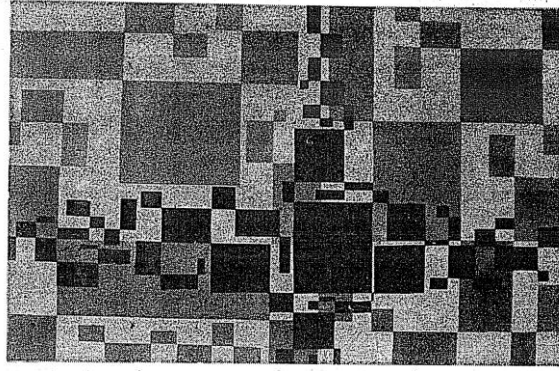
Hierarchy and dominance: there is a hierarchy among black elements from the smallest to the largest, but the black elements are dominant over the gray ones by virtue of their denseness and color.

Dominance by color and shape: Alexander Calder (left), Joan Miro (right)

f. Contrast (and Similarity)

Contrast is the visual principle in which there is distinguishable difference between objects. The differences in sizes, textures, colors, positions, shapes, orientation etc. create contrast. The presence of contrast creates the illusion of depth within a 2 or 3 dimensional composition.

If there is too much similarity between the elements of design, the design takes the risk of being boring and monotonous. Contrast adds variety and visual interest to the total design. However too much contrast can also create confusion. Therefore the aim should be to find the balance between similarity and contrast.
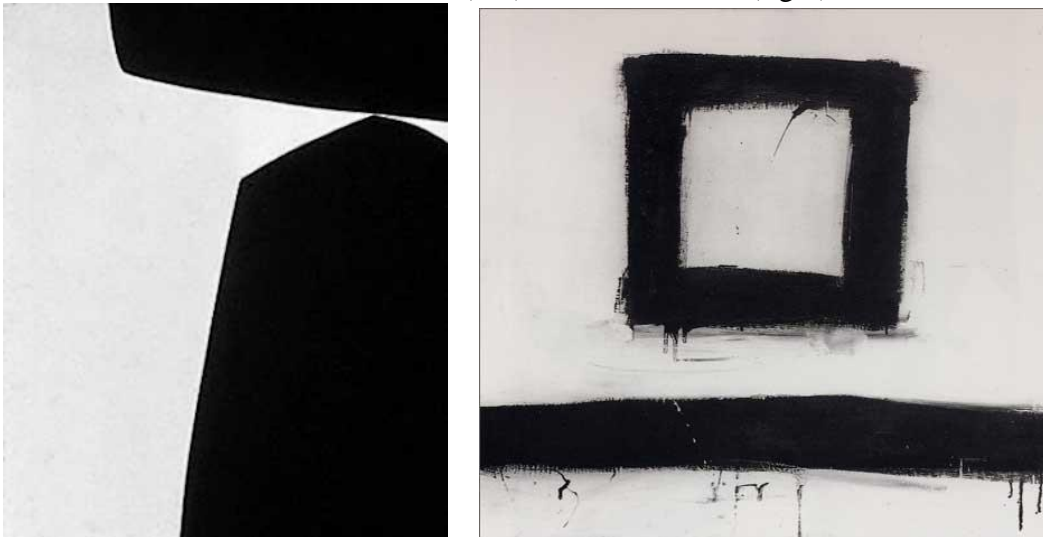

Contrast in color and shape

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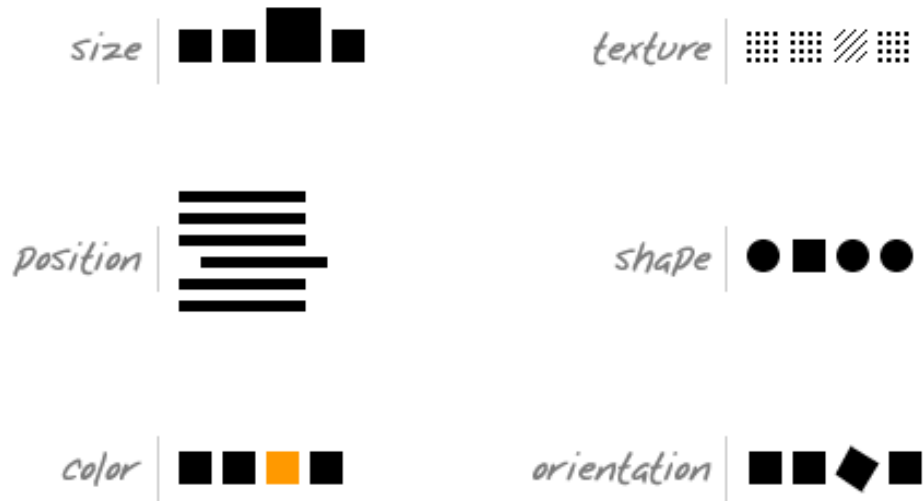
Contrast according to size, texture, position, color, shape, orientation
(Source: http://tafein2009.wordpress.com/2009/03/22/the-principles-of-design/)

Contrast in color (left), Contrast in size (right)

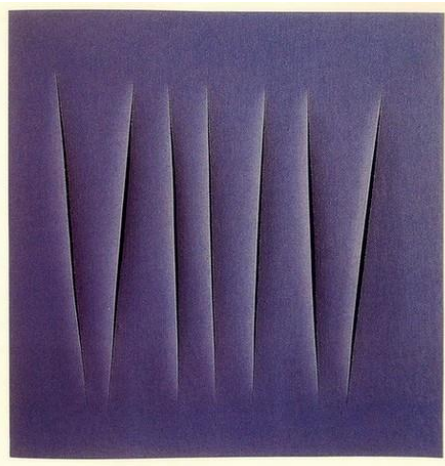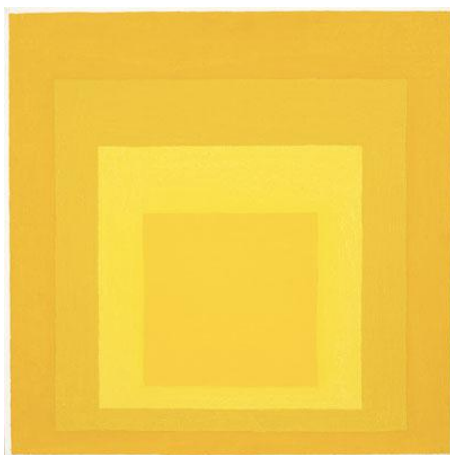Lorser Feitelson, Untitled, 1962 (left), Franz Kline, Scudera (right)

Contrast by texture and materials: Alexander Calder – Gibraltar (right)

g. Repetition

Repetition is a compositional principle where you basically repeat colors, objects, etc. throughout the design. Pattern is the repeating of an object or symbol all over the artwork.
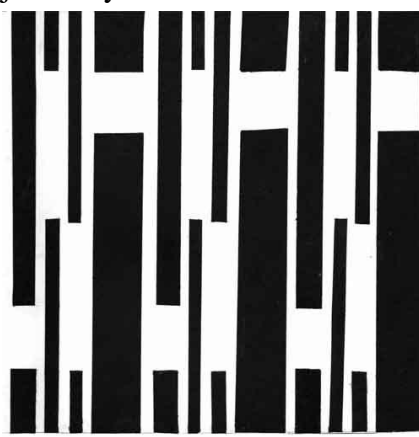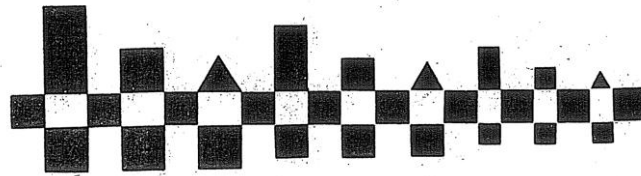

Repetition

Josef Albers, Homage to Square (left), Lucio Fontana (right)

Donald Judd

h. Rhythm

Rhythm is the compositional principle where one or more elements of design are used repeatedly to create a feeling of organized movement. What differentiates rhythm from repetition is the presence of variety in size, relationships etc.
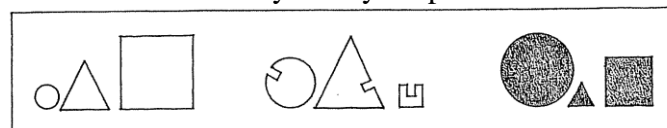

Rhythm: Repetition is softened by variety in changing the proportional sizes of the elements while the same relationships are repeated.[5]
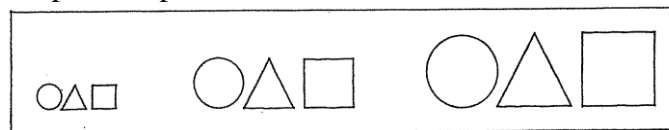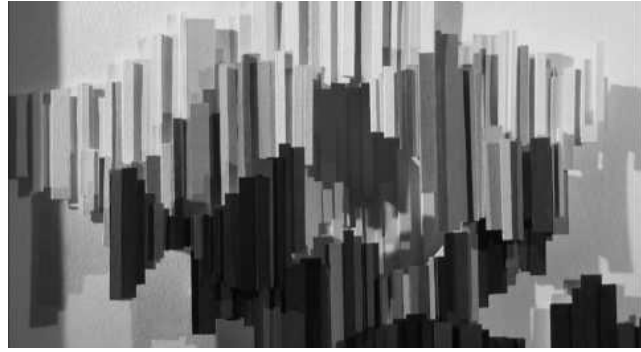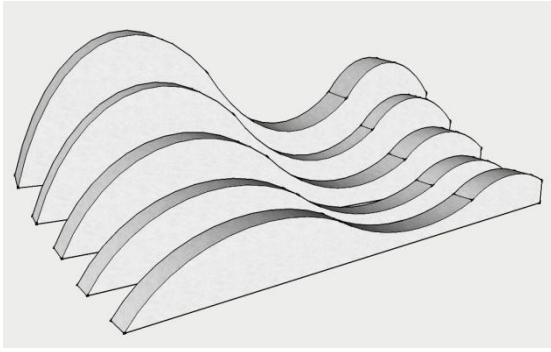

Rhythm by size
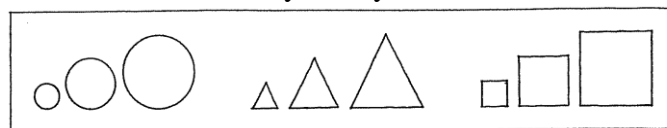
Rhythm by shape

Rhythm by detail characteristics
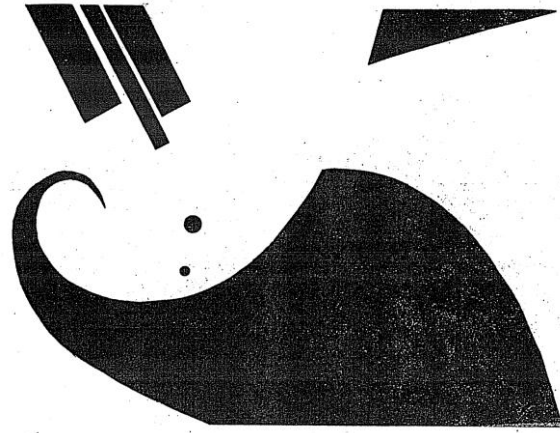
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[5] Denel, B., Basic Design

Rhythm

Rhythm

Rhythm by repetition and perspective

As it has been mentioned before, these principles could be helpful in creating a composition however there may also be designs where none of these principles are applied.

"Free: The shapes in the design are all different. Everything being different can also be a means of organization. What really holds this design together relates to the idea of hints and suggestions and some little subtleties like the triangular shape at the corner being on the same curvature as the big figure, the two little circles tending to direct the lines into the nook of the big figure. These kind of personalized designs in many ways are difficult to analyze and understand because of involvement with value judgments and not so obvious relationships." [6]

6. 2D composition and 3D composition

These principles could be used in two dimensional compositions, such as paintings, posters etc., in *reliefs*, which are between two and three dimensional compositions (high relief and low relief), and in three dimensional compositions, such as sculpture, architecture etc.
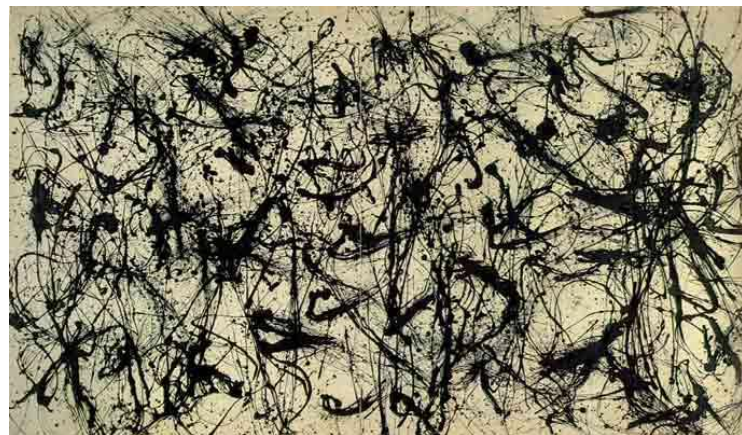

2D composition, relief and 3D composition: Piet Mondrian, Composition No III (left); Relief by Jean Arp (middle), Sculpture by Henry Moore (right)

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[6] Denel, B., Basic Design
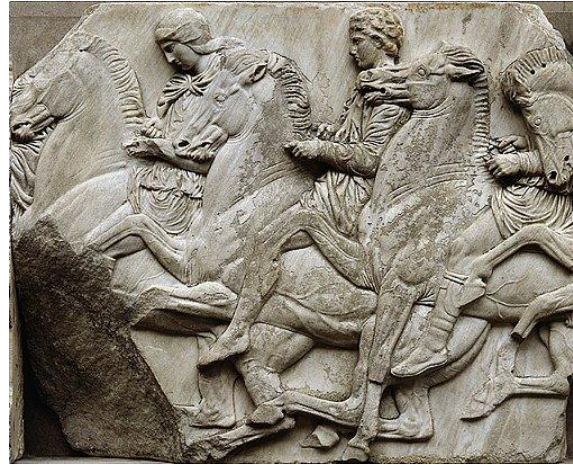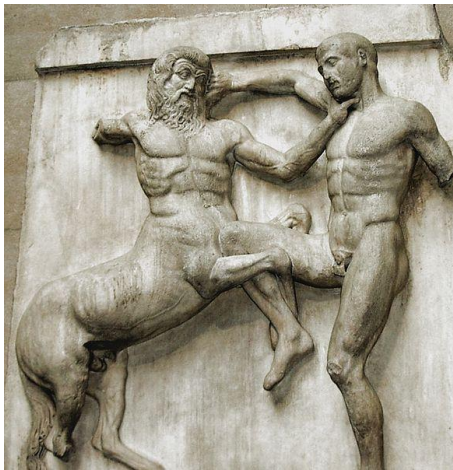
Two dimensional compositions: posters

Two dimensional compositions: paintings

Untitled - Richard Diebenkorn (American, 1922–1993) (left), Jackson Pollock (right)

Reliefs; Low Relief: A Persian low-mid-relief (mezzo-rilievo) from the Qajar era, located at Tangeh Savashi in Iran (left); Low relief frieze in the Parthenon (443 - 438 BCE), British Museum


High relief: High relief metope of Centaur and Lapith, Parthenon (443 - 438 BC), British Museum (left), High relief panel on the Municipal Center Building of the District of Columbia (right)
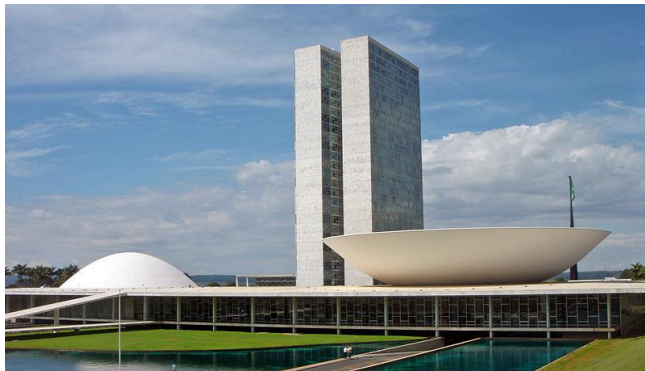

Relief, Jean (Hans) Arp (left), Painted Relief, Ben Nicholson (British, 1894–1982) (right)

Three dimensional composition: Double Oval Sculpture by Henry Moore (left); Floating Figure Sculpture by Gaston Lachaise (right)
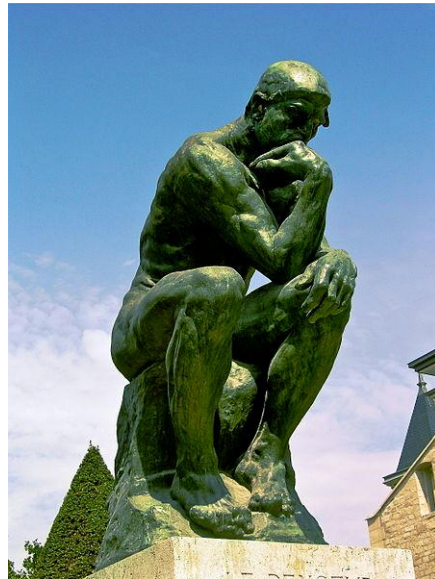
Three dimensional composition: The Thinker by Auguste Rodin (left); Crinkly avec disc rouge by Alexander Calder (right)

Three dimensional composition – Architecture: Oscar Niemeyer, Brasilia National Congress Building, Brazil (left); Richard Meier, Jubilee Church, Rome, Italy.

Three dimensional composition – Architecture: Frank Lloyd Wright, Falling Water House

Three dimensional composition – Architecture: Frank Lloyd Wright, Johnson and Wax Building