

Design Principles - Scale and Proportion

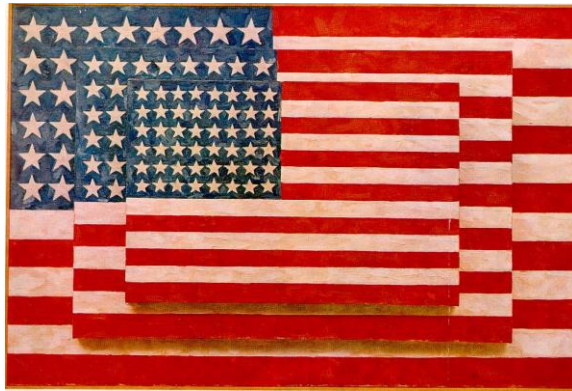
I. Terms: Scale & Proportion

II. Definition of the terms: Scale and Proportion are related concepts.

- *Scale* is the size of an object compared to other objects.
- *Proportion* is the size of a part of an object compared to the rest of the object.

III. Examples of the terms:

SCALE: We usually judge scale by the dimensions or amount of space occupied.



(Jasper Johns *Three Flags* 1958)

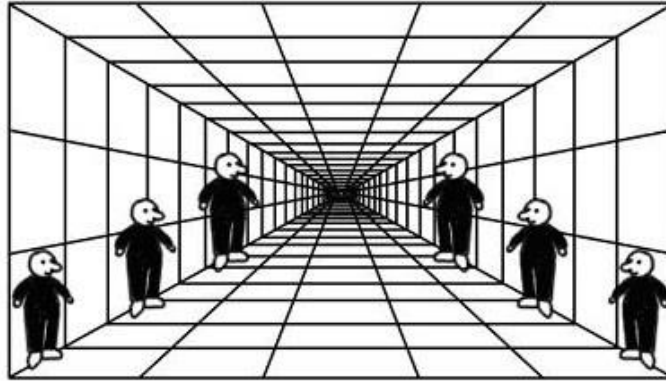
- The title of this work is *Three Flags*. The scale of each flag is different while the proportions within each flag stay the same.

DIMINISHING SCALE: The relative sizes of things can be adjusted to create the illusion of spatial depth. Figures/objects appear farther away if they are smaller in *scale* while their *proportions* remain the same. Higher placement on the picture plane and overlapping add to this visual effect.



(Edvard Munch *The Dance of Life* 1899-1900)

- The woman in the red dress and her dancing partner seem closer. They are lower on the picture plane and their heads are still near the top of the composition. They are over twice the height of the dancers in the background.



- We are very accustomed to observing diminishing scale in association with spatial depth.
- In fact, when figures of the same *scale* are placed higher on the picture plane in combination with linear perspective, it creates the strange optical effect that the figures are different sizes.

HIERARCHICAL SCALE: Scale can be used to demonstrate the relative importance of figures.



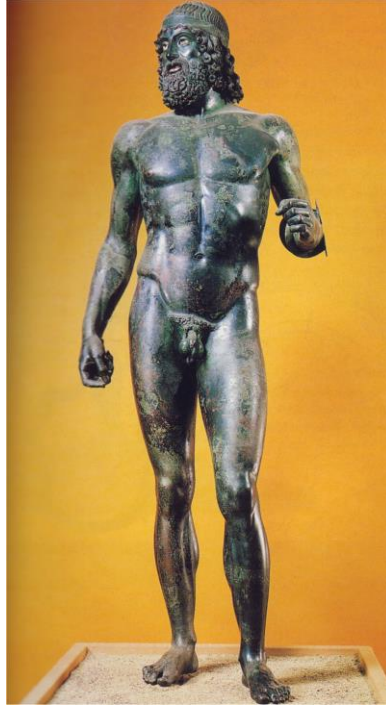
(detail from *Palette of Narmer* c. 3000 BCE)

- The most important person shown here is Narmer because he united upper and lower Egypt. So he is the largest in size. The guys who helped him are smaller because they are less important. The other figures continue to decrease in size and relative importance.

PROPORTION: Proportion refers to the size relationships of parts to a whole.

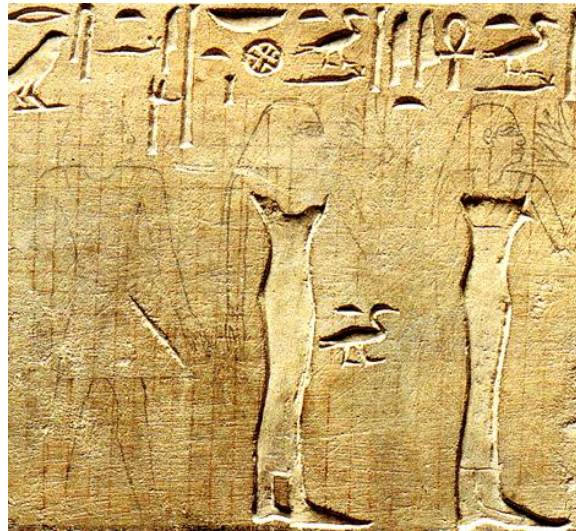
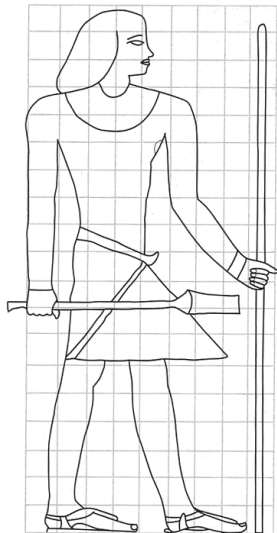
The human body is a familiar example of this concept.

Since ancient times human beings have held beliefs about the ideal human proportions (the relationship of body parts to the whole body).

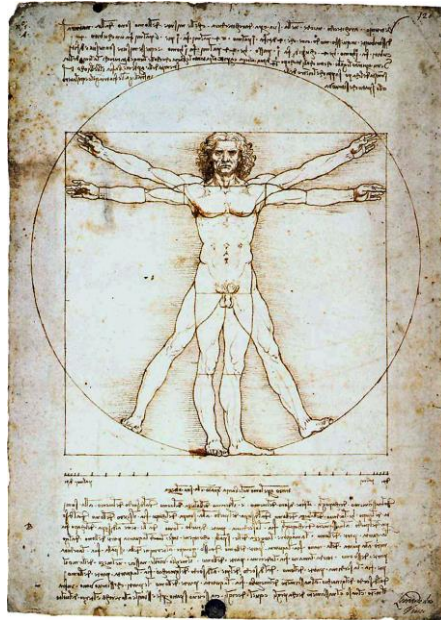


(Warrior A 460-450 BCE)

- This sculpture represents ideal physical proportions according to ancient Greeks.

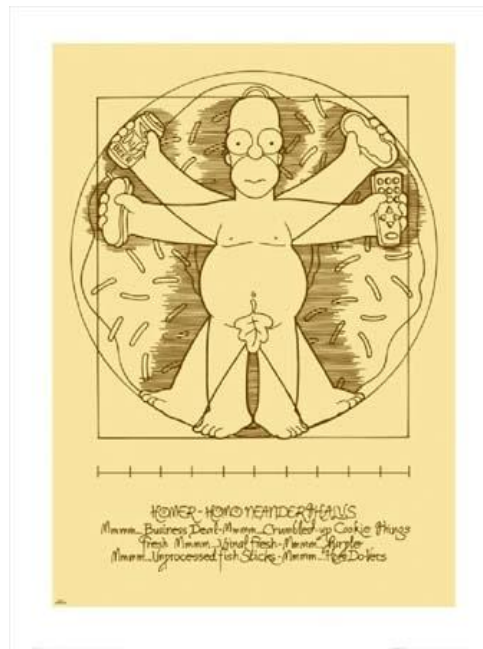


- The Ancient Egyptians used a grid to represent their figures with ideal proportions.
- Each square of the grid was based on the size of the figure's fist.



(Leonardo da Vinci *Vitruvian Man* c. 1492)

- This famous drawing was done by Leonardo da Vinci using the mathematical formula invented by the ancient Greeks to calculate ideal human proportions.



- If you laughed (or even smiled) when you saw this image, you also have a concept of ideal physical proportions!