

# **UNIT-III**

## **Sensation & Perception**

## What and how?

- ✓ *Behavior as we know is our own personal experience*
- ✓ *It is through our senses that we know about the world*
- ✓ *We must appreciate the importance of the sensory processes in behavior and experience*
- ✓ *Imagine, what it would be like to be without one or more of your senses?*

*AND.....*

- ✓ *these simple experiences are called **sensations***
- ✓ *Sensation is the process through which the senses pick up the visual, auditory, and other sensory stimuli and transmit them to the brain*
- ✓ *“Sensory information that has registered in the brain but has not been interpreted is called sensation”*

- *Vision*
  - *Hearing*
  - *Taste*
  - *Smell*
  - *Touch* are the so-called five senses
- ✓ *In addition, some other senses are **warmth, cold, and pain senses***
- ✓ *When the sensory channel is stimulated, we have a sensation. For instance, eye is stimulated by light, we have a visual experience*

# From Sensory Processes to Perception

## Defining Perception

- ❖ *Perception is the process by which sensory information is actively organized and interpreted by the brain*
- ❖ *It is a process of selecting, organizing, and interpreting raw sensory data into useful mental representations of the world*

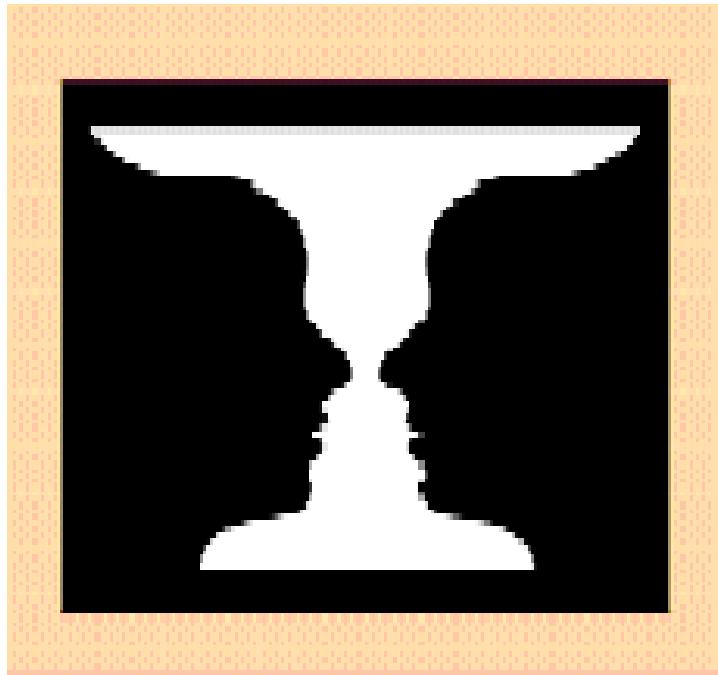
# Perception: Some Organizing Principles

- ❖ *The ability to distinguish an object from its general background is basic to form perception*
- ❖ *In other words, Gestalt psychologists suggested that “**the whole is more than the sum of its parts**”*
- ❖ *This simply means that what is perceived has its own properties, that emerge from the organization which takes place*
- ❖ *This refers to **Gestalt...** “a German word that refers to the whole form, pattern, or configuration a person perceives”*

## Figure-ground

*When viewing the world, some object (the figure) often seems to stand out from the background (the ground)*

## *Figure-Ground Images*



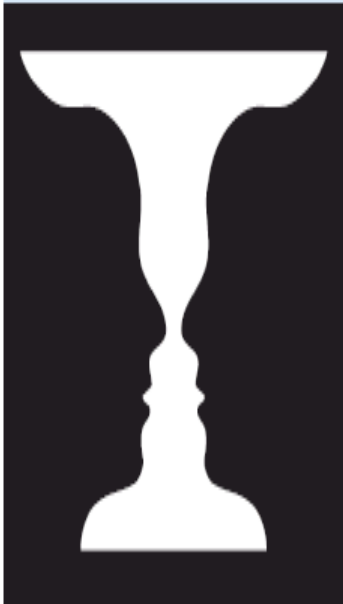
## *Figure Ground Images*



# ***Gestalt Principles of Organizing***

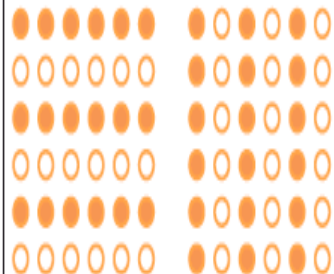
## **Figure-Ground**

One object (the figure) seems to stand out from the background (the ground)



## **Similarity**

Objects with similar characteristics are perceived as units



## **Proximity**

Objects that are close together are perceived as units



## **Continuity**

Objects that appear to form a pattern are perceived as units



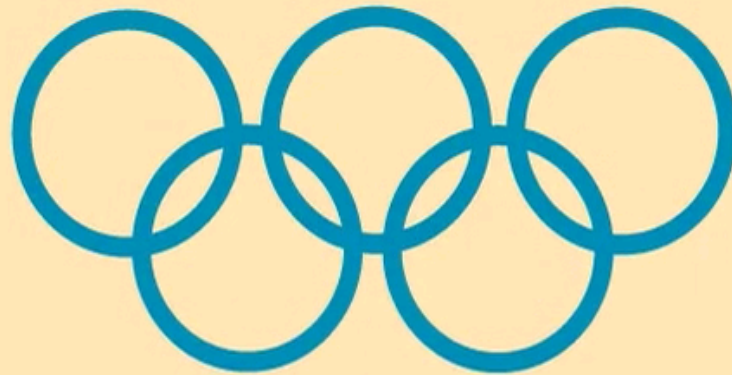
## **Closure**

Figures with missing parts are perceived as whole figures





The tendency to organize things to make a balanced or symmetrical figure that includes all the parts is known as *law of good figure or law of pragnanz*



**Law of Pragnanz or the  
Law of Good Figure**

## *When perception succeeds and fails...*

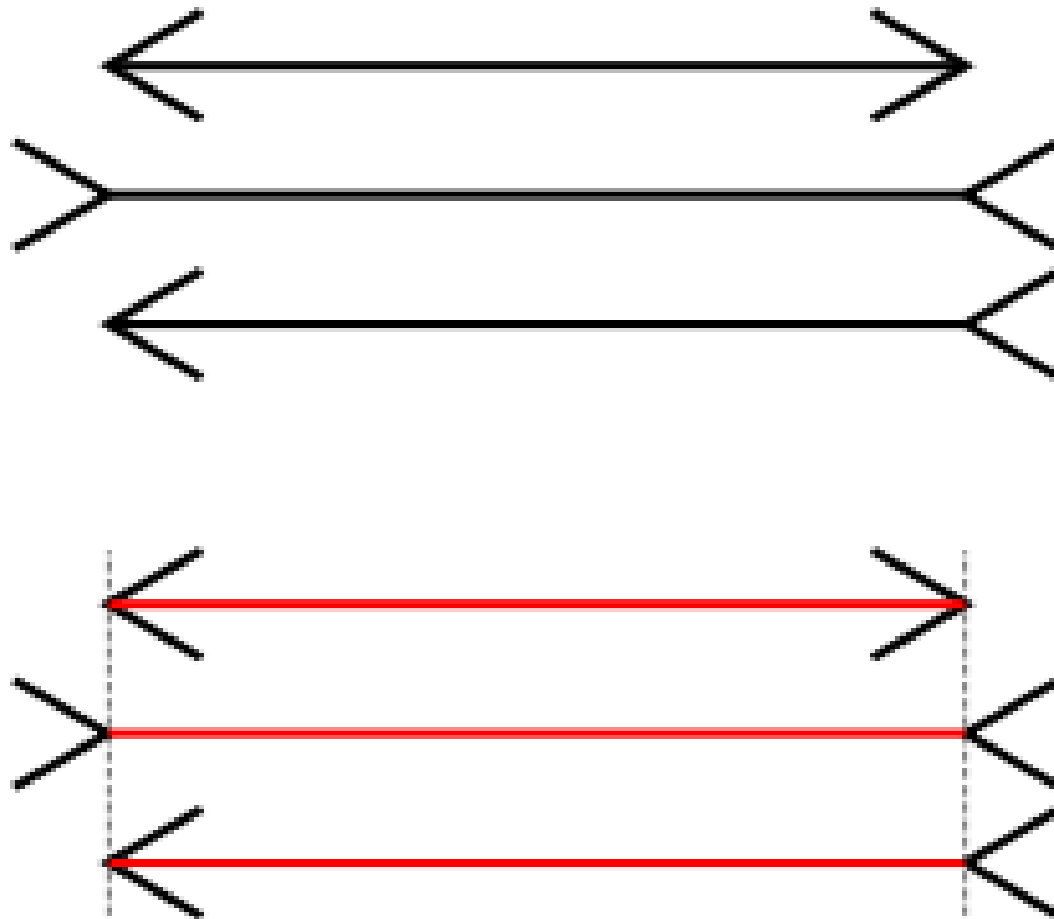
### *Perceptual Constancies: Illusion and Delusion*

- *Perception can be a double-edged sword*
- *On the one hand, perception helps to adapt to a complex and ever-changing environment*
- *On the other hand, perception sometimes leads us into error*
- *Thus, perception, sometimes, provide false interpretations of sensory information. Such cases are known as **illusions** and “**refers to false interpretations of physical reality**”*

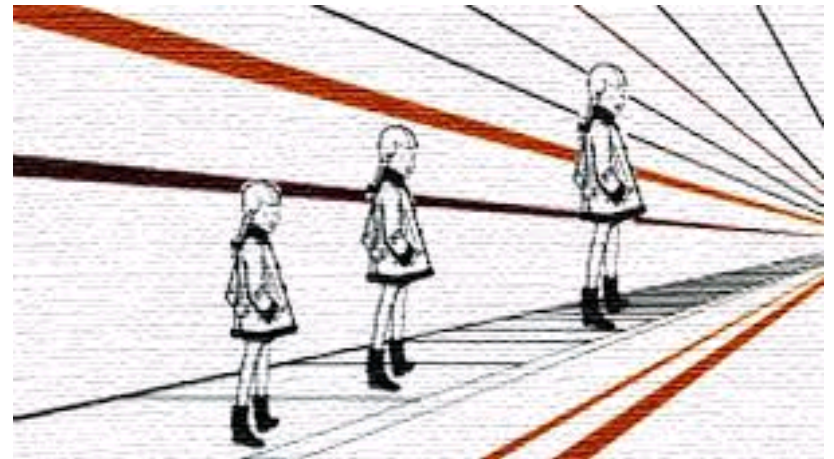
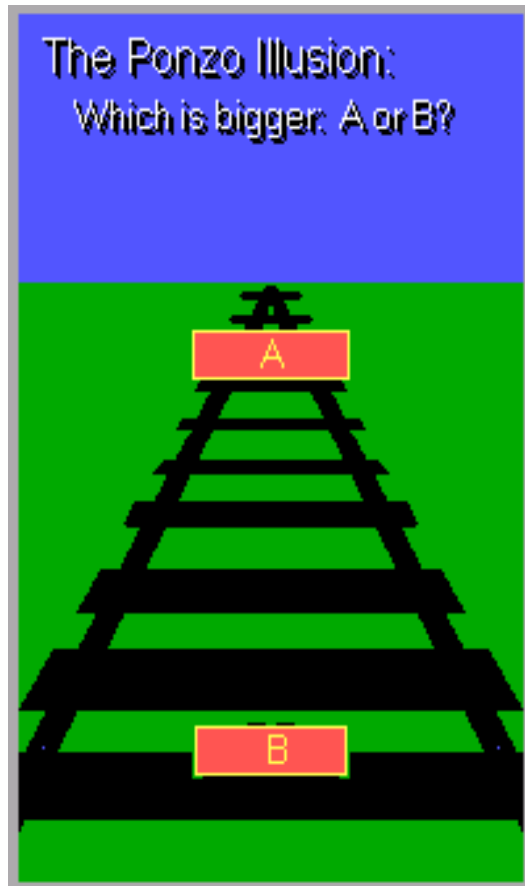
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- *Illusion is caused when we interpret that certain cues are suggesting that some parts are farther away than others;*
- *We perpetually distort the length of various lines;*
- *Or, illusion occurs because of a misapplication of size constancy scaling*

One of the most famous example of illusion is the *Muller-Lyer Illusion*, created by a German psychologist named Franz Carl Muller-Lyer in 1889.



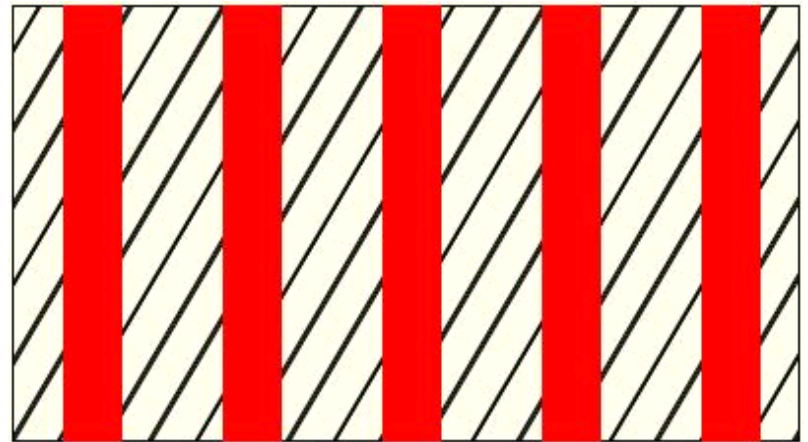
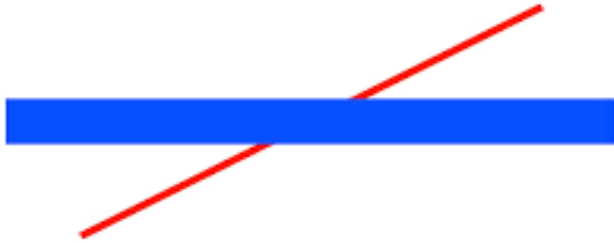
***Ponzo Illusion (size)*** demonstrated by the Italian psychologist **Mario Ponzo (1882–1960)**



***Moon illusion (shape or area)*** is an optical illusion which causes the Moon to appear larger near the horizon than it does higher up in the sky



The *Poggendorff illusion*(*shape or area*) is a geometrical-optical illusion that involves the misperception of the position of one segment of a transverse line that has been interrupted by the contour of an intervening structure



# Delusion

- *A delusion is also a misperception, but usually refers to a dangerous misperception or an idea that misleads a person into dangerous patterns of thought. It is a firmly held belief that have no basis in reality. It is a rigid system of beliefs with which a person is preoccupied and to which the person firmly holds, despite the logical absurdity of the beliefs and a lack of supporting evidence*
- *Whereas;*
- *Illusion refers to either something that is not as it appears or a misperception. Many optical illusions rely on forced perspective to trick the eye into misjudging the relative proportions of two or more objects*



*There are several different types of delusional disorders, and each captures a particular theme within a person's delusions*

- ***Erotomaniac:*** *An individual believes that a person, usually of higher social standing, is in love with him or her*
- ***Grandiose:*** *An individual believes that he or she has some great but unrecognized talent or insight, a special identity, knowledge, power, self-worth, or relationship with someone famous or with God*
- ***Jealous:*** *An individual believes that his or her partner has been unfaithful*
- ***Persecutory:*** *An individual believes that he or she is being cheated, spied on, drugged, followed, slandered, or somehow mistreated*
- ***Somatic:*** *An individual believes that he or she is experiencing physical sensations or bodily dysfunctions, such as foul odors or insects crawling on or under the skin, or is suffering from a general medical condition or defect*

## SENSORY THRESHOLDS

- ✓ *Our sensitivity to stimuli changes from moment to moment*
- ✓ *Bodily functions change constantly in order to maintain the body's internal environment at optimal levels and the state is termed as "homeostasis"*
- ✓ *Although, we do not register all the information available in the environment at any given moment to maintain the bodily functions*
- ✓ *Thus, it is not surprising that as a result of these changes, the sensitivity of our sensory organs to external stimuli also varies*
- ✓ *For this reason, psychologists have coined the term "absolute threshold" to denote our sensory threshold and defined it as, "the smallest amount of a stimulus that we can detect 50 percent of the time"*

## Signal Detection Theory

- *Sensory thresholds are not really fixed or there are no absolute thresholds for sensations. Rather, detection of stimuli depends on change in response to a variety of factors as: fatigue, lapses in attention ,or moment-to-moment fluctuations within our nervous system, or the motivational factors( reward or costs associated with the stimuli) play an important role in the process of sensory threshold*

### Difference Threshold and Just Noticeable Difference JND) and Subliminal Perception

- *The amount of change in a stimulus required for a person to detect it is the difference threshold*
- *And, the smallest amount of change in the physical stimulus necessary for an individual to notice a difference in the intensity of the stimulus is the just noticeable difference*
- *The presumed ability to perceive a stimulus that is below the threshold for conscious experience, is the subliminal perception. That is, the stimuli has to be sufficiently intense that it can be registered by the nervous system, but outside our conscious awareness*

# **SOCIAL PERCEPTION**

- ✓ *Social perception is the study of how people form impressions of and make inferences about other people as distinct personalities*
- ✓ *Social perception is an active process through which we seek to know and understand others*
- ✓ *Social perception refers to identifying and utilizing social cues to make judgments about social roles, rules, relationships, context, or the characteristics (e.g., trustworthiness) of others , norms , and schemas surrounding social situations and interactions*
- ✓ *Social perception is one of the most basic and important aspect of social life*



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**THE BRUNER'S CLASSIC COIN EXPERIMENT**