

Perception

Semester-1
Psychology (General)

- ▶ **Sensation:** The process of sensation is concerned with the initial contact between organisms and their physical environment. Input about the physical world provided by our sensory receptors.
- ▶ **Perception** is concerned with identifying the processes through which we interpret and organize this information to produce our conscious experience of objects and relationships among objects. It is the way sensory information is organized, interpreted, and consciously experienced.

Senses

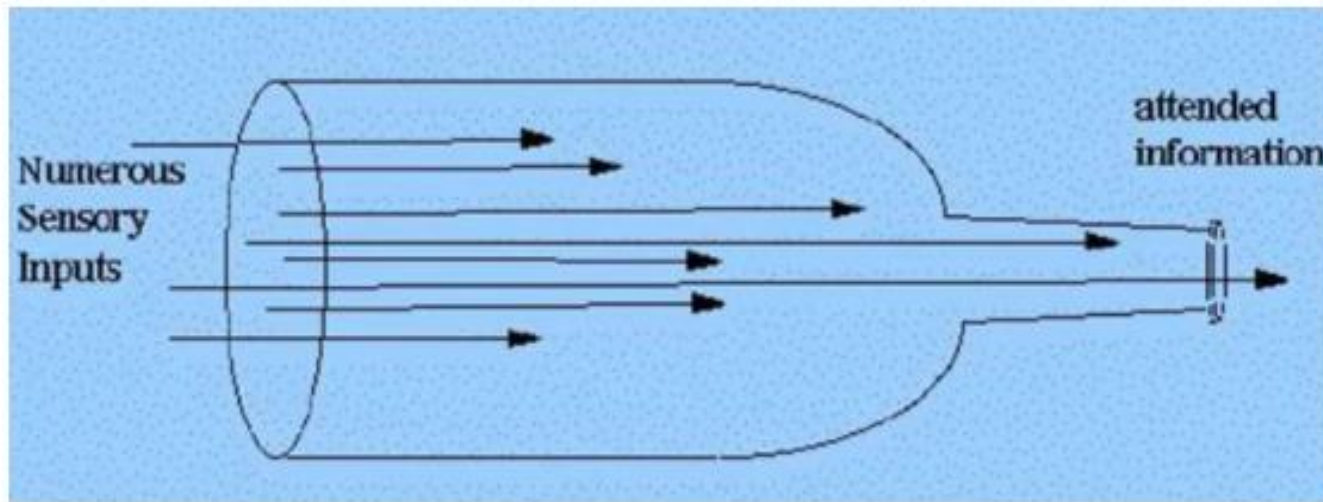
- Seeing
- Smell
- Hearing
- Taste
- Touch

- ▶ Highly specialized cells known as sensory receptors, located in our eyes, ears, nose, tongue, and elsewhere, are responsible for accomplishing this task.
- ▶ Thus, sights, sounds, and smells that we experience are actually the product of **transduction**, a process in which the physical properties of stimuli are converted into neural signals that are then transmitted to our brain via specialized sensory nerves.

Perception :

- ▶ Selectivity of perception
- ▶ Focus & Margin
- ▶ Shifting of attention
- ▶ Processing of information

Broadbent's Bottle Neck Filter Model



Broadbent (1958) proposed that physical characteristics of messages are used to select one message for further processing and that all others are lost

Each of your eyes takes in visual information that's used to judge: distance, depth, three-dimensional space

Monocular cues -Monocular depth cues are the information in the retinal image that gives us information about depth and distance but can be inferred from just a **single retina (or eye)**.

Binocular cues-the perception of depth produced by binocular retinal disparity i.e., it can be inferred from **both eye**.

Monocular cues

- ▶ **Linear perspective**-When objects of known distance subtend a smaller and smaller angle, it is interpreted as being further away. Parallel lines converge with increasing distance such as roads, railway lines, electric wires, etc.
- ▶ **Size cues**:The larger the image of an object on the retina, the larger it is judged to be; in addition, if an object is larger than other objects, it is often perceived as closer.
- ▶ **Interposition**- If one object overlaps another, it is seen as being closer than the one it covers

Monocular cues

- ▶ **Clearness**- The farther away objects are, the less distinctly they are seen
- ❖ **Atmospheric perspective**: The farther away objects are, the less distinctly they are seen—smog, dust, haze get in the way
- ▶ **Texture Gradients** -The texture of a surface appears smoother as distance increases.
- ❖ **Movement**
- ▶ *Motion parallax*- When we travel in a vehicle, objects far away appear to move in the same direction as the observer, whereas close objects move in the opposite direction. E.g., train journey

Binocular cues—depth information based on the coordinated efforts of both eyes

- ▶ **1. Convergence.** In order to see close objects, our eyes turn inward, toward one another; the greater this movement, the closer such objects appear to be.
- ▶ **2. Retinal disparity (binocular parallax).** Our two eyes observe objects from slightly different positions in space; the difference between these two images is interpreted by our brain to provide another cue to depth.

- ▶ Perception can also, provide false interpretations of sensory information. Such cases are known as **illusions**.
- ▶ **Illusions:** Instances in which perception yields false interpretations of physical reality. Eg., mirage

Perceptual Constancies

Allows perceived objects to maintain stable properties (size, shape, brightness) despite differences in distance, viewing angle, and lighting:

- ❑ **Size constancy** – The tendency to perceive a physical object as having a constant size even when the size of the image it casts on the retina changes
- ❑ **Brightness constancy** – objects seem to maintain a constant level of brightness regardless of differences in lighting conditions
- ❑ **Shape constancy** – objects are perceived as having an unchanging shape regardless of viewing angle changes that alter the retinal image

Laws of Perceptual Organization.

- ▶ **The process by which we structure the input from our sensory receptors is called perceptual organization.**
- ▶ **Gestalt school of psychology founded by Koffka, Kohler & Wertheimer**
- ▶ **Aspects of perceptual organization were first studied systematically in the early 1900s by Gestalt psychologists—German psychologists intrigued by certain innate tendencies of the human mind to impose order and structure on the physical world and to perceive sensory patterns as *well-organized wholes rather than as separate, isolated parts* (Gestalt means “whole” in German)**

- ▶ **Figure-Ground Relationship:**
- ▶ Our tendency to divide the perceptual world into two distinct parts—discrete figures and the background against which they stand out
- ▶ **Laws of Grouping: Simple** principles describing how we tend to group discrete stimuli together in the perceptual world.

Figure-Ground Relationship

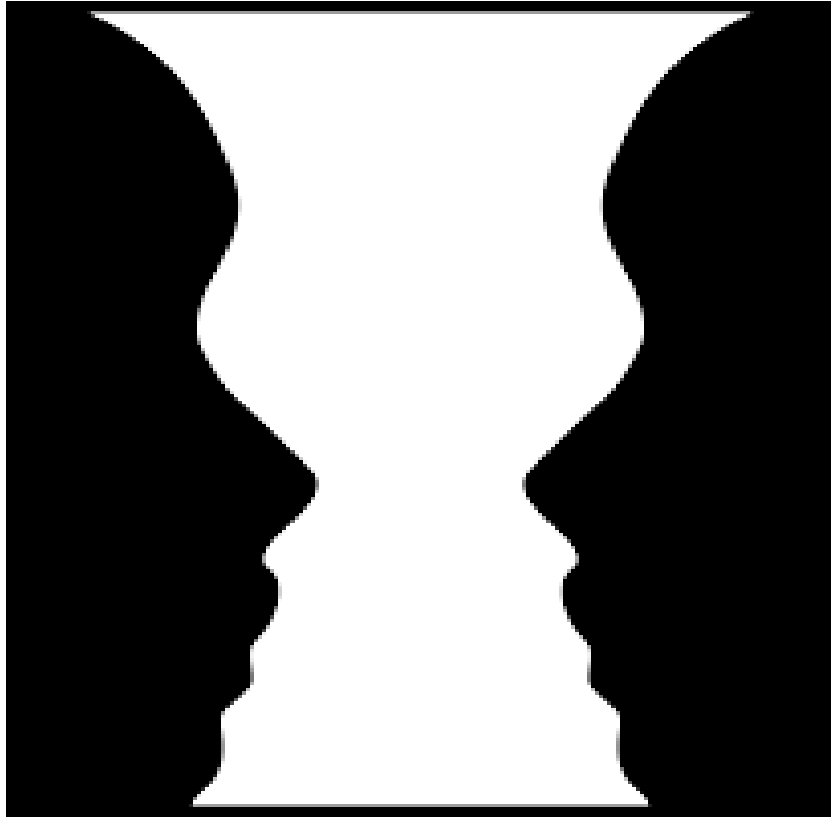


Fig A



Fig B

Gestalt Principles of Grouping

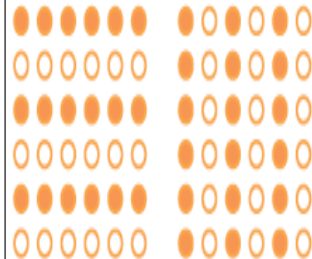
Figure-Ground

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



Examples of the Gestalt Laws



Law of Similarity



Law of Pragnanz or the
Law of Good Figure



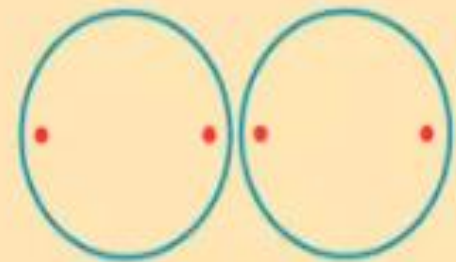
Law of Proximity



Law of Continuity



Law of Closure



The Law of Common Region

▶ **THANK YOU**