**Sensation and Perception**

Sensation and perception are two separate processes that are very closely related. Sensation is input about the physical world obtained by our sensory receptors, and perception is the process by which the brain selects, organizes, and interprets these sensations. In other words, senses are the physiological basis of perception. Perception of the same senses may vary from one person to another because each person’s brain interprets stimuli differently based on that individual’s learning, memory, emotions, and expectations.

All outside information comes into us through our senses

**Sensation**: The process of detecting, receiving, converting and transmitting information resulting from stimulation of sensory receptors.

**Perception** The process of selecting, identifying, organizing and interpreting sensory input into a useful and meaningful mental representations of the world in the light of relevant memories from past experiences.

**Human senses**

Vision (sense of sight)

Auditory (sense of hearing)

Olfaction (sense of smell)

Gustation (sense of taste)

Tactile (skin senses for pressure, temperature, pain)

**The Process of Sensation and Perception**

* **Information** (e.g. light, sound): activate our sense receptors in the sensory organs which receive and process sensory information from environment.
* **Transduction**: after stimuli enter sensory organs, the sense receptors will change/covert the stimulus into electrical signals called neural impulses which are sent to the brain.
* When neural impulses reach the particular area in the brain, they are changed into meaningless bits of information called **sensation** which involves the detection of sensory stimuli.
* These meaningless bits of information are then changed into meaningful and complete images called **perception**—the interpretation of sensory stimuli.

**Sensory reduction**

The process in which we filter and analyze sensory information before they are sent to the brain.

Why do we need to reduce the amount of sensory information we receive?

So that the brain is not overwhelmed with unnecessary information because it needs to be free to respond to stimuli that have meaning for survival.

**Threshold:** Itrefers to a point above which a stimulus is perceived and below which it is not perceived. It determines when we first become aware of a stimulus.

**Absolute threshold**: The smallest amount of stimulus that can be detected. When a stimulus has more energy than the absolute threshold, we can detect its presence. When a stimulus has less energy than the absolute threshold, we cannot detect its presence.

**The perceptual process**

* **Select**
* **organize**
* **interpret**

We do not perceive everything at once—we **select** certain objects to perceive while ignoring others.

**Attention** is the direction of perception toward certain selected objects.

Reality—real, concrete things are more attention-getting than hypothetical or abstract

Familiarity—people pay more attention to things that are familiar

Location/Proximity—we pay attention to things that are near than those that are far

Novelty—we pay attention to things that are new and different in contrast to what is customary

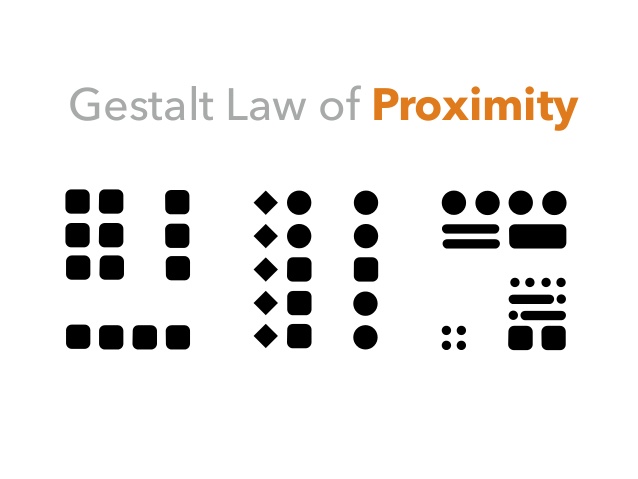
Having selected incoming information, we **organize** it into patterns and principles that will help us understand the world.

After selectively sorting through incoming sensory information and organizing it into patterns, the brain uses this information to explain and make judgments about the external world. This is the final stage of perception—**interpretation.**

**Principles of perceptual organization**

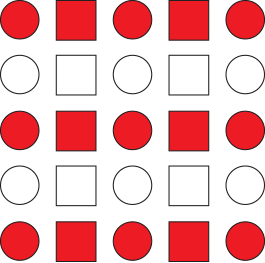
1. **Proximity rule**

In mentally organizing stimuli, objects that are physically close to one another are grouped together or seen as a unit.



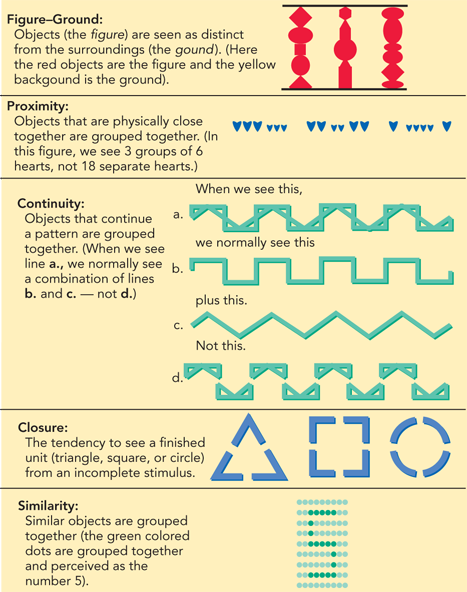
1. **Similarity rule**

In organizing stimuli, elements that appear similar in color, lightness, texture, shape, or any other quality are grouped together.



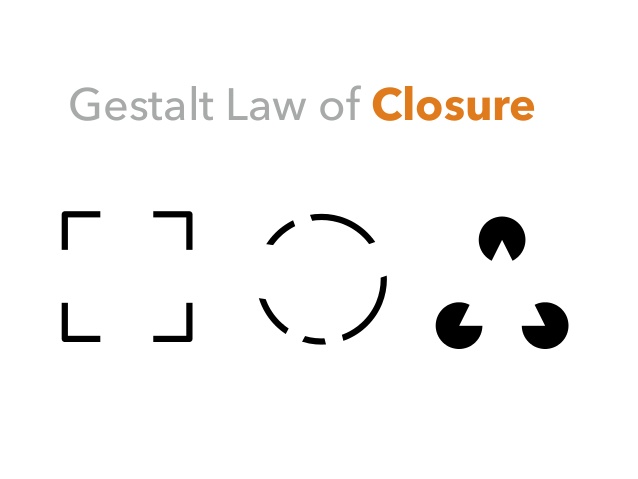
1. **Continuity rule**

The law of continuity leads us to see a line as continuing in a particular direction, rather than making an abrupt turn.



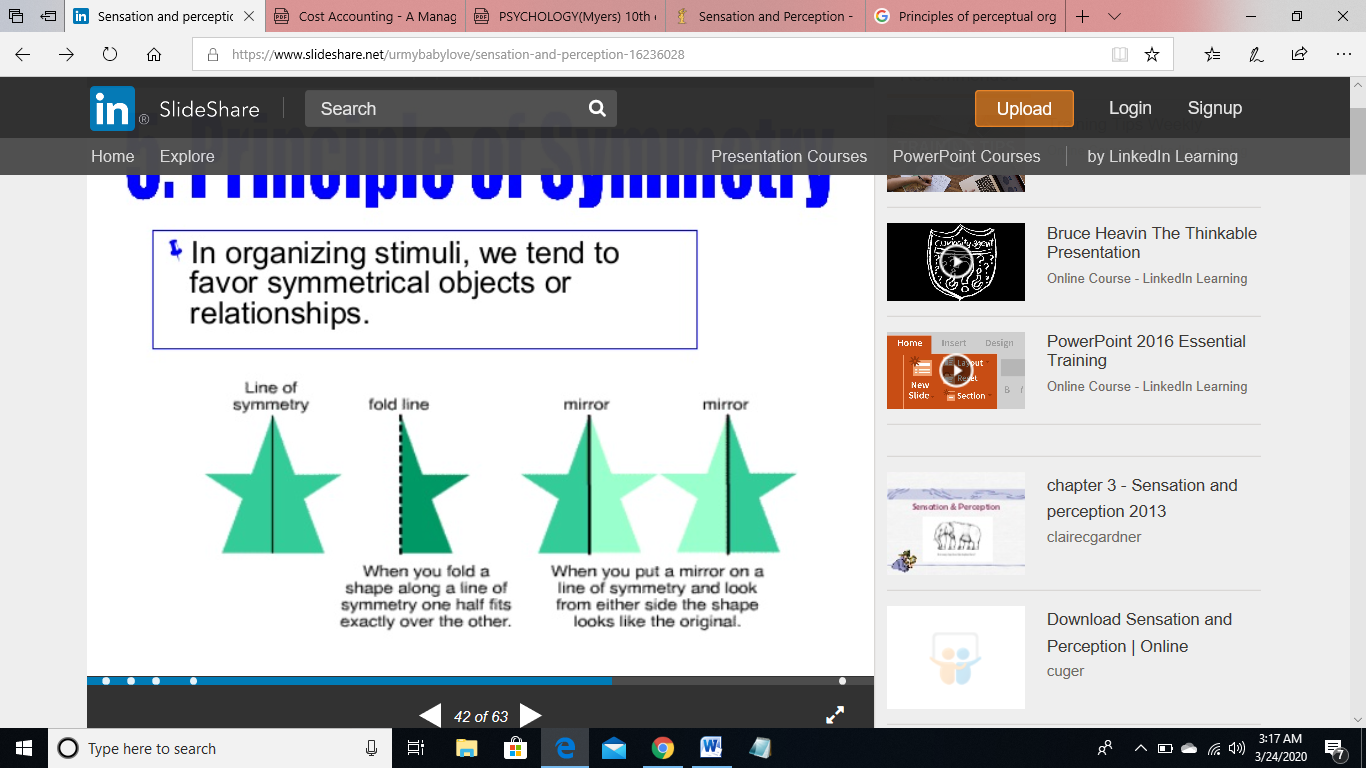
1. **Closure rule**

In organizing stimuli, we tend to fill in any missing part or incomplete figures and see them as complete figures.



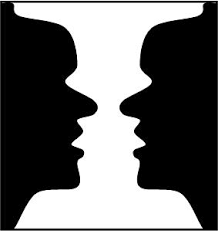
1. **Symmetry rule**

In organizing stimuli, we tend to favor symmetrical objects or relationships.



1. **Figure ground rule**

Perception does not only involve organization and grouping, it also involves distinguishing an object from its surroundings. In organizing stimuli, we tend to automatically distinguish between figures or foreground (object with more details) and a ground (has less detail).

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