

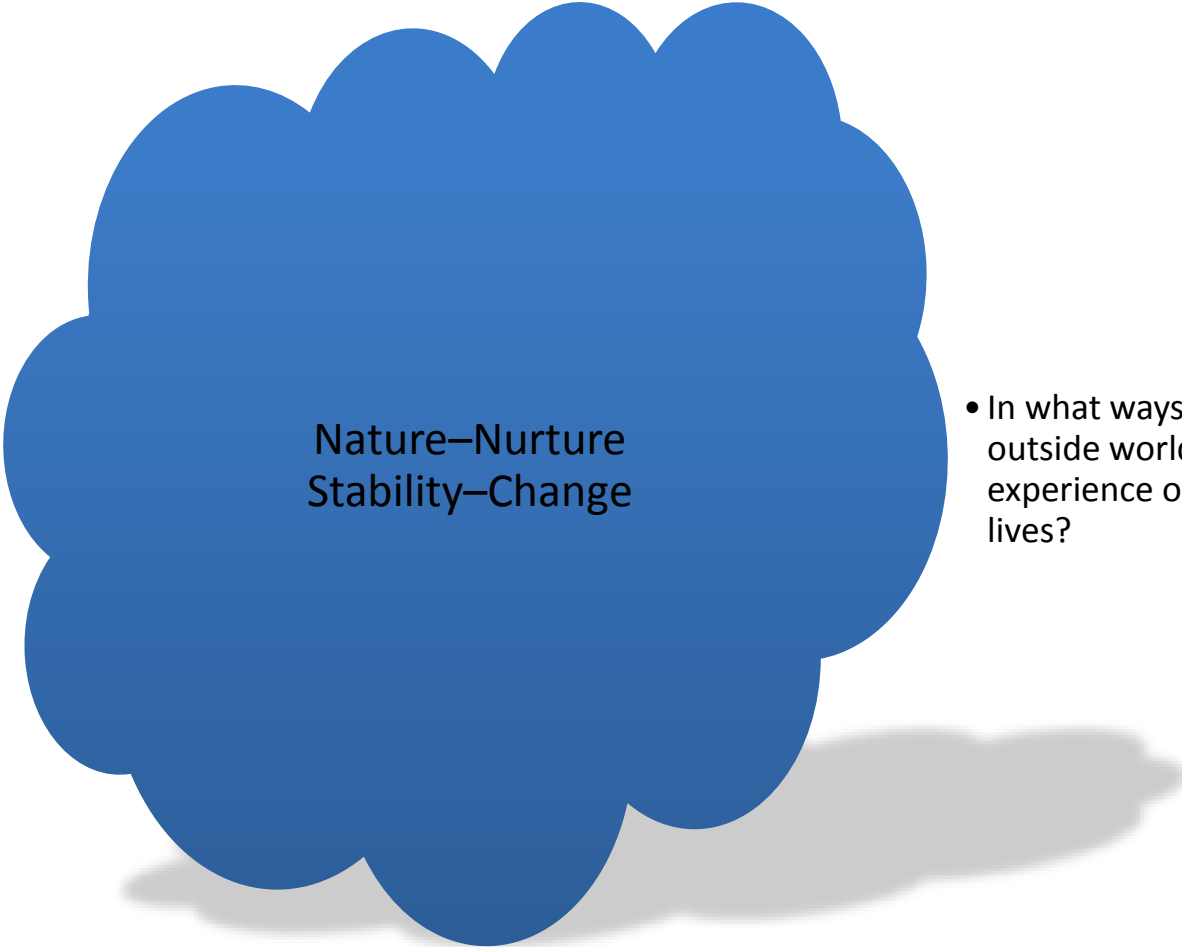
# **PERCEPTION**

# ENDURING ISSUES



- To what extent do our perceptual experiences accurately reflect what is in outside world?

# ENDURING ISSUES



Nature–Nurture  
Stability–Change

- In what ways do our experiences of outside world change as a result of experience over course of our lives?

# ENDURING ISSUES



## Diversity– Universality

- To what extent do people around world perceive events in same way?

# ENDURING ISSUES



Mind–  
Body

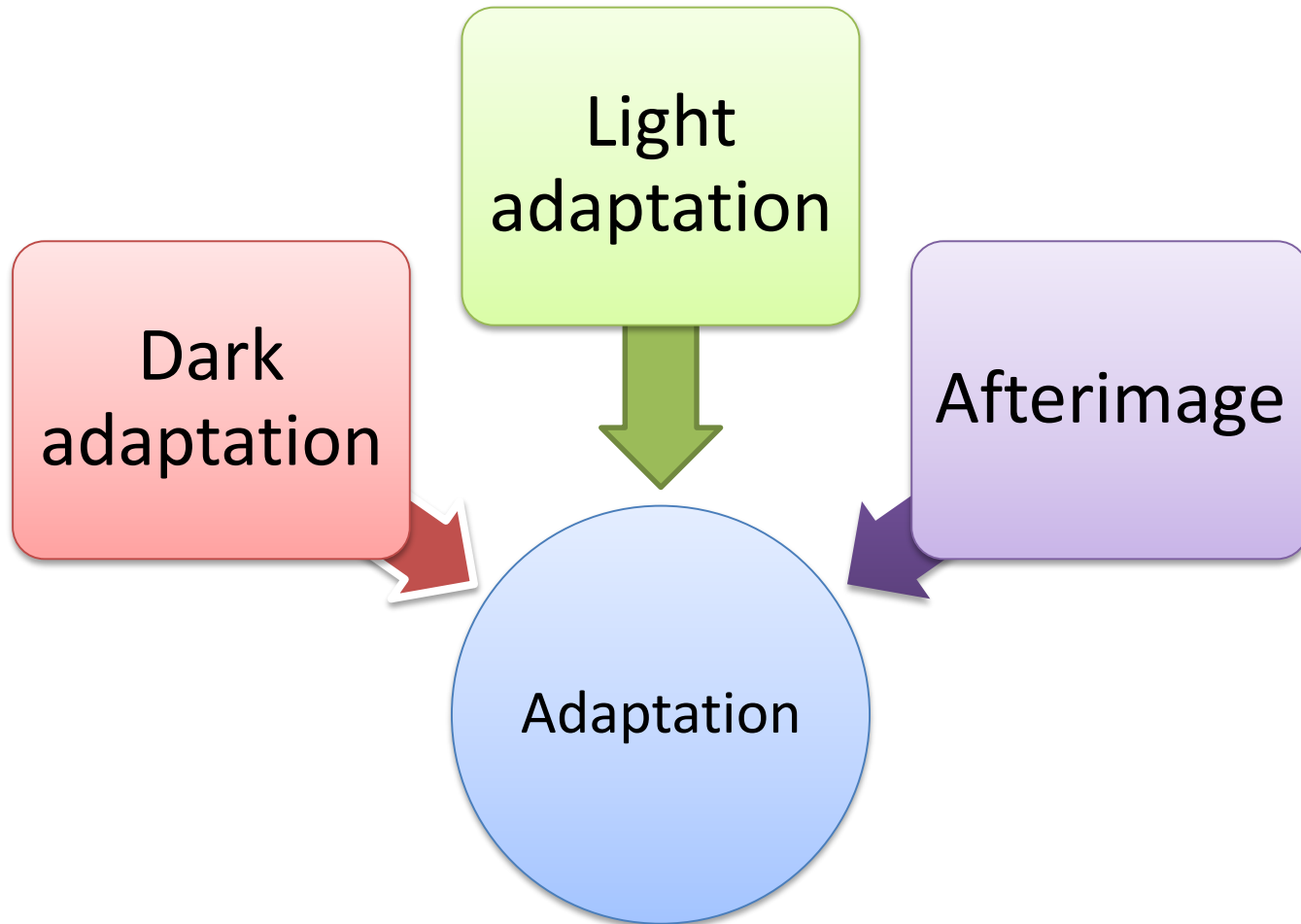
- In what ways do our experiences depend on biological processes?

# The Nature of Sensation

- Sensation occurs when energy from an external or internal source stimulates a receptor cell in one or more sense organs.
- **Sensation** - the experience of sensory stimulation
- **Receptor cell** - a specialized cell that responds to a particular type of energy
- **Transduction** - the conversion of physical energy into coded neural signals
- **Perception** - the brain's interpretation of sensory information so as to give it meaning

- In order for sensation to occur the physical energy within a receptor cell must reach a minimum level of intensity.
- **Absolute threshold** - the least amount of energy that can be detected as a stimulation 50% of the time
- **Difference threshold or just-noticeable difference (jnd)** - the smallest change in stimulation that can be detected 50% of the time
- **Adaptation** - an adjustment of the senses to the level of stimulation they are receiving
- **Weber's law** - The concept that a just-noticeable difference in a stimulus is proportional to the magnitude of the original stimulus; "Weber's law explains why you don't notice your headlights are on in the daytime"

# Adaptation





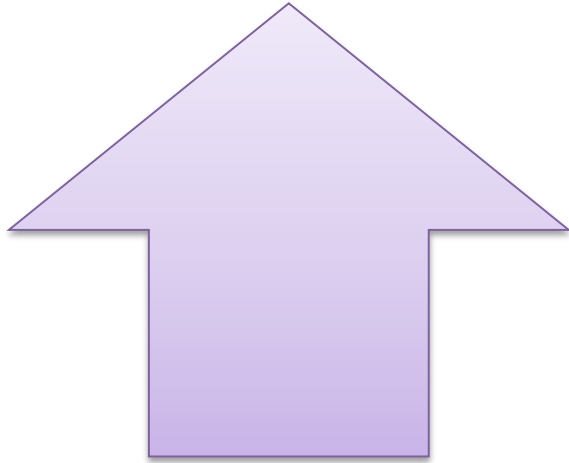
# What Is perception?

- Perception can be defined as organising, interpreting and giving meaning to the sensations received through sense organs by past experience and knowledge.
- According to Morgan Perception is to know, differentiate and give meaning to things.

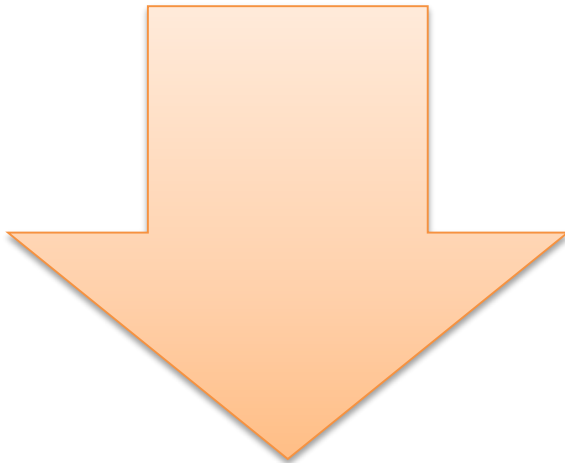
# Perception



# Perception



**Sensation** involves  
experience of brain  
receiving raw data from  
sensory receptors in  
different senses



**Perception** involves brain  
organizing and interpreting  
this raw data or giving it  
meaning

# Causes of Perception

Causes of perception are:

1. Subjective factors
2. Objective factors
3. Social factors

## **1. Subjective Factors**

- **FRESHNESS**

An individual's perceptibility gets weak during sleep or fatigue. His perceptibility sharpens when he awakes from sleep, or is fresh after taking bath.

Similarly, the hunger, thirst and sickness influence not only the physiological condition of the individual but also influence the psychological set up and perception.

## INTEREST

- Interest is the mental state which helps an individual to attend to a thing and perceive it.
  - **Natural or innate or unlearned interest** e.g. mother's interest in her child, the hungry person's interest in the bread and the thirsty person's interest in water.
  - **Learned or acquired interest** e.g. astronomer's interest in stars, botanist interest in the plants, zoologist's interest in animals.
  - **Permanent interest** continues even after the achievement of goal e.g. a student of Psychology takes interest in Psychological books, magazines and film in addition to his text book.

## 2. Objective Factors

- Objective factors are found in the physical environment known as stimuli.
- These stimuli become forceful to stimulate an individual to perceive because of the following characteristics
- **Intensity**
- Intensity means the strength of a stimulus.
- A stimulus to be perceived require a range of strength from the minimum to the maximum magnitude.

- The least magnitude of a stimulus which is perceived initially for the 50% of time is known as the **lower threshold**.
- The highest magnitude of a stimulus which is the last limit perceived 50% of the time is known as the **upper threshold**.

- **Distinct & striking**

The distinct and striking stimuli are perceived earlier than the vague stimuli.

- **Movement**

A moving object is perceived earlier than the still object.

- **Novelty**

New and novel stimuli are perceived earlier than the old and familiar objects.

- **Duration**

Any stimulus to be perceived is required to remain present before the sense organs to transmit the sensory message to brain. If a stimulus lasts for a lesser time as required for the sensory process, the perception will not occur.



- **Abrupt change**

If a stimulus is presented always in the same manner, it may lose attraction and will not be perceived due to sensory adaptation and familiarity. That's why the advertisements after an interval of time and do not repeat them too much.

### **3. Social Factors**

Social factors are related to need and interest of the group in society to which an individual belongs. Man is a social animal. He can not lead his life alone.

Due to this social heritage, the attitudes, stereotypes and suggestion are accepted. The social factors of perception are

- **Social values**

Those important thoughts and creeds inherited through forefathers.

- **Attitude**

An individual's way of opinion, likes and dislikes, and the way of responding to a thing, person or nation.

- **Stereotype**

Stereotype is the conceptual fixation about a certain group or nation achieved through his group's inheritance in the absence of his own experience. So the stereotypes create prejudices and lead an individual to prejudgment without personal experience.

- **Suggestion**

Suggestion plays an important role in the social factors.

An individual accepts the thought, plan or a suggestion given by his social, political and religious leaders without evaluation and assessment.

Consequently he perceives the world according to the likes and dislikes of his, elders, heroes or leaders.

# Types of Perceptions

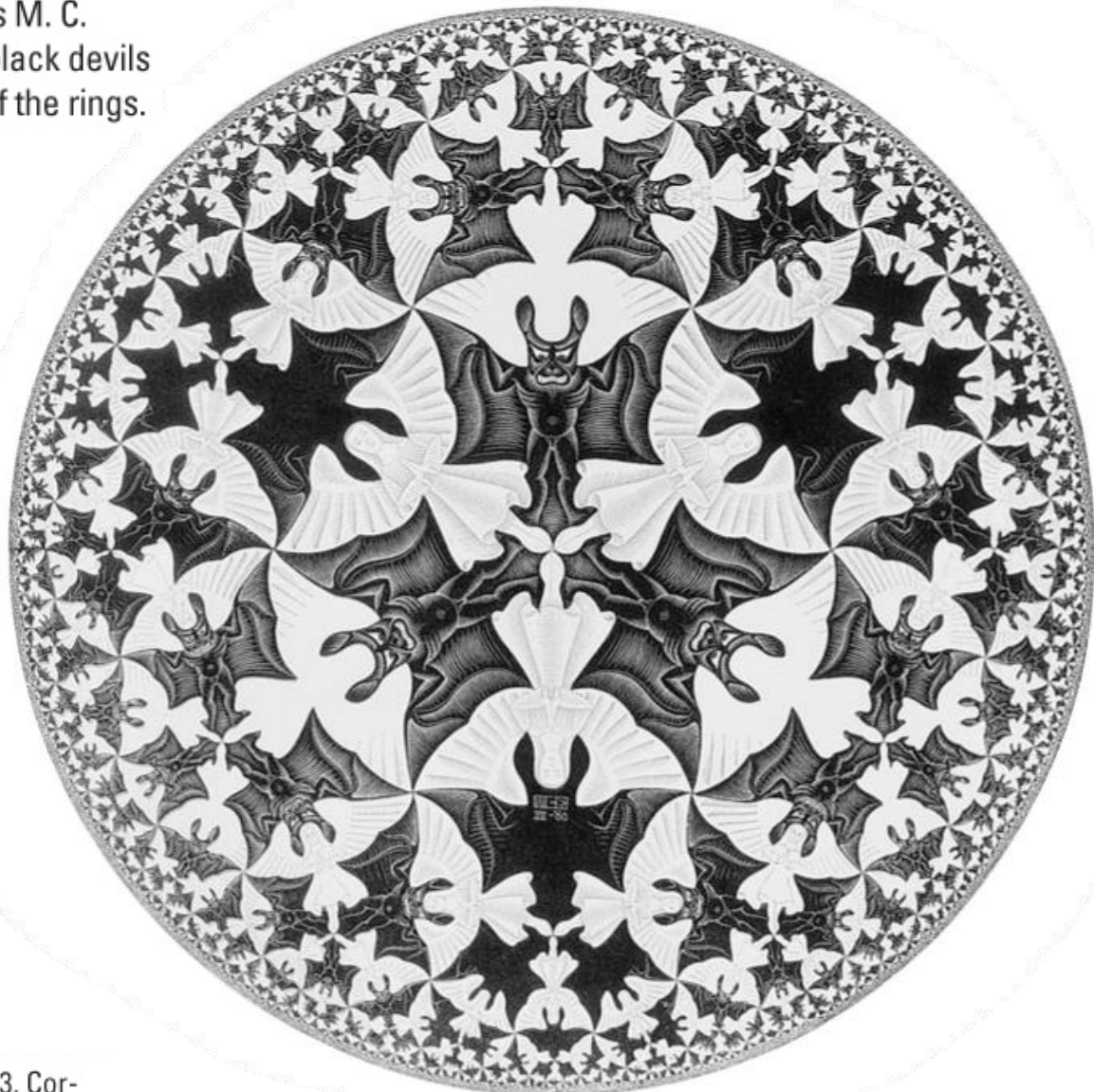
- Object / form Perception
- Depth and Space Perception
- Perception of Movement
- Perception of Sound

# Object / Form Perception

- Perception depends on sensory informations. On the base of these informations, different forms and patterns are perceived.
- An object which is selected and attracted by the individual and becomes the centre of his attention is called a ***figure***.
- The attention are found in the periphery are called ***Ground***.

**Figure 3-26**

The reversible figure and ground in this M. C. Escher woodcut cause us first to see black devils and then to see white angels in each of the rings.



*Source:* M. C. Escher's "Circle Limit IV" © 2003, Cordon Art B. V. Baarn, Holland. All rights reserved.





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# Laws of Perceptual Organization

The following laws of Perceptual organization have been formulated by Wertheimer:

- Law of Proximity or Nearness
- Law of Similarity
- Law of good form or figure.

# Depth Perception

- Depth perception is the ability to see object in three dimensions though the image formed on our retina are two dimensional.
- We transform our two dimensional images into three dimensional perceptions with the help of these cues
  - ❖ Binocular cues
  - ❖ Monocular cues

# Binocular Cues

- Retinal Disparity

It is a binocular cue for the perception of depth. The greater the disparity (difference) between the two images retina receives of an object, the closer the object is to the viewer.

- Convergence

Another binocular cue to depth is convergence, a neuromuscular cue caused by the eyes greater inward turn when they view a nearer object. The brain notes the angle of convergence, then computes whether one is focusing on a nearer object or a farthest one.

# Monocular Cues

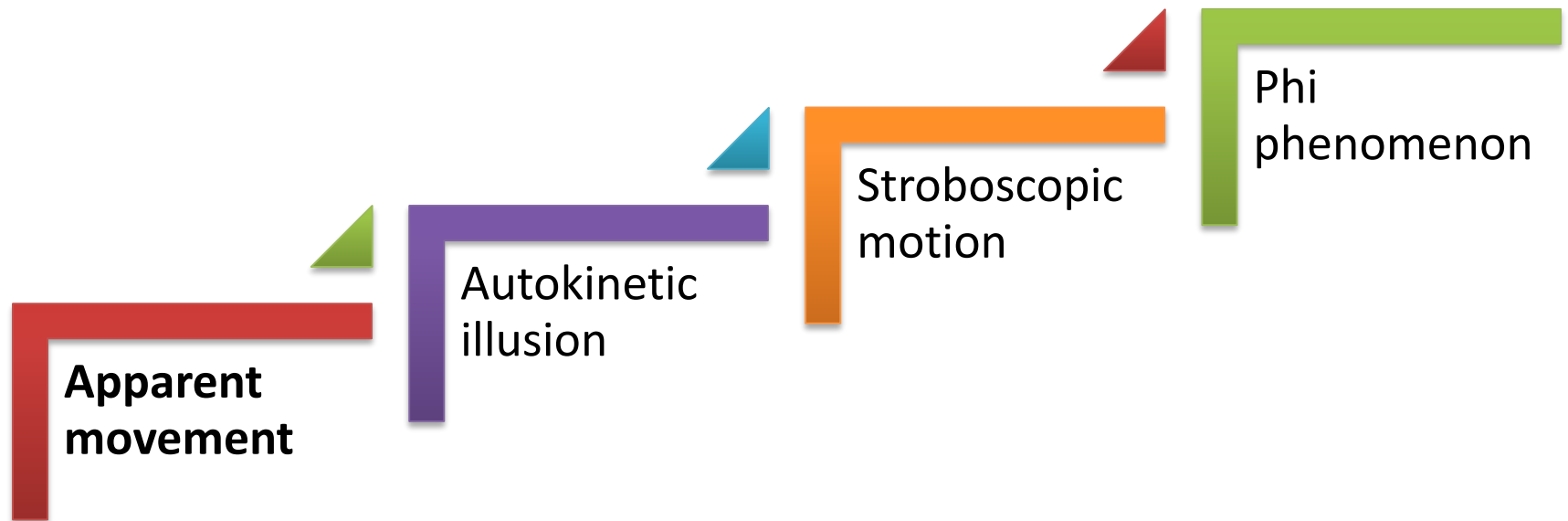
- Inter Position
- Relative Size
- Relative Clarity
- Texture Gradient
- Relative Motion
- Linear perspective

# Perception of Motion

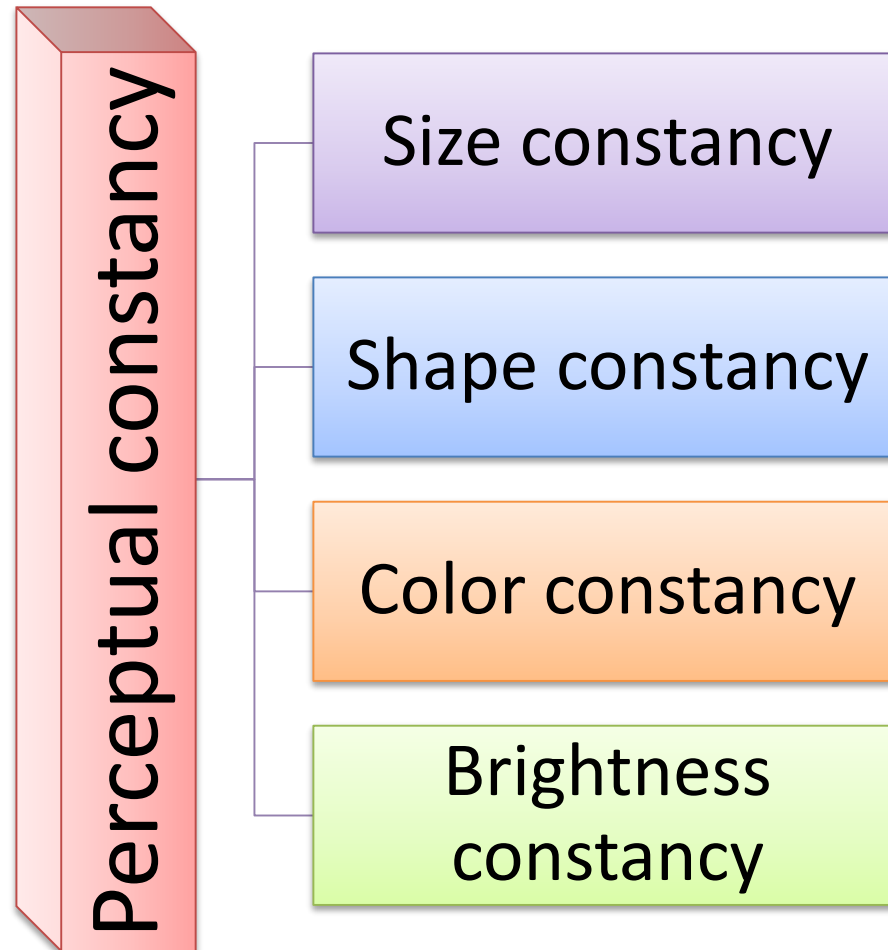
There are two types of movement

- Real movement
- Apparent Movement

# Perception of Movement



# Perceptual Constancies



# Perceptual Constancy

**Perceptual constancy** - a tendency to perceive objects as stable and unchanging despite changes in sensory stimulation

**Size constancy** - the perception of an object as the same size regardless of the distance from which it is viewed

**Brightness constancy** - the perception of brightness as the same, even though the amount of light reaching the retina changes

**Size constancy** - the perception of an object as the same size regardless of the distance from which it is viewed

**Shape constancy** - tendency to see an object as the same shape no matter what angle it is viewed from

**Color constancy** - an inclination to perceive familiar objects as retaining their color despite changes in sensory information



# Illusions And Its Types

- Illusion means to see one thing in the guise of other thing i.e. to misperceive a thing.

There are two major types of illusions

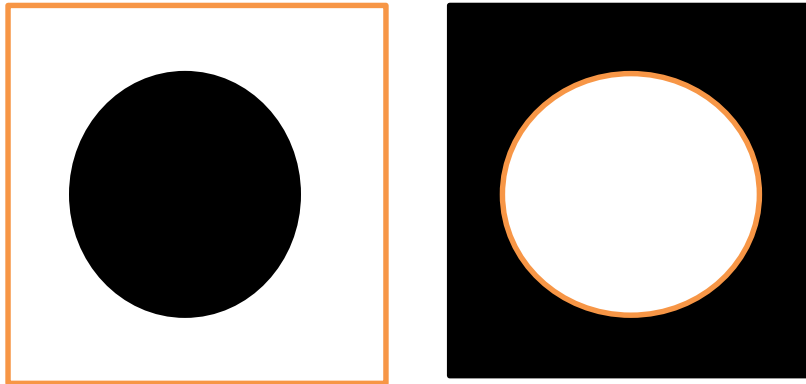
- Illusion of motion
- Illusion of form

# Illusion Of Motion

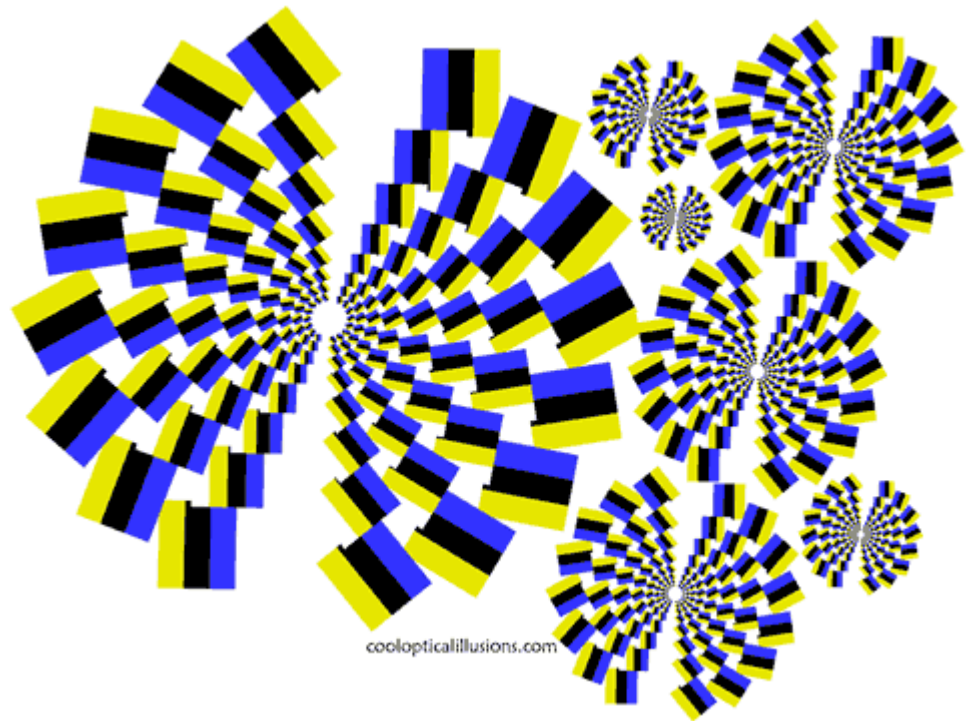
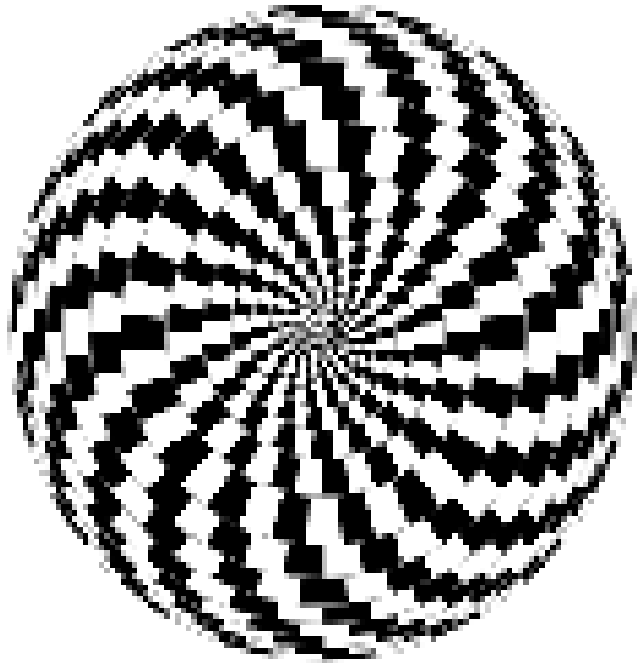
- The illusion of Phi-phenomenon
- The illusion of Stroboscope
- The illusion of Gamma phenomenon
- The illusion of Delta motion
- The illusion of Auto-kinetic
- The illusion of Induced movement

# Illusion Of Form

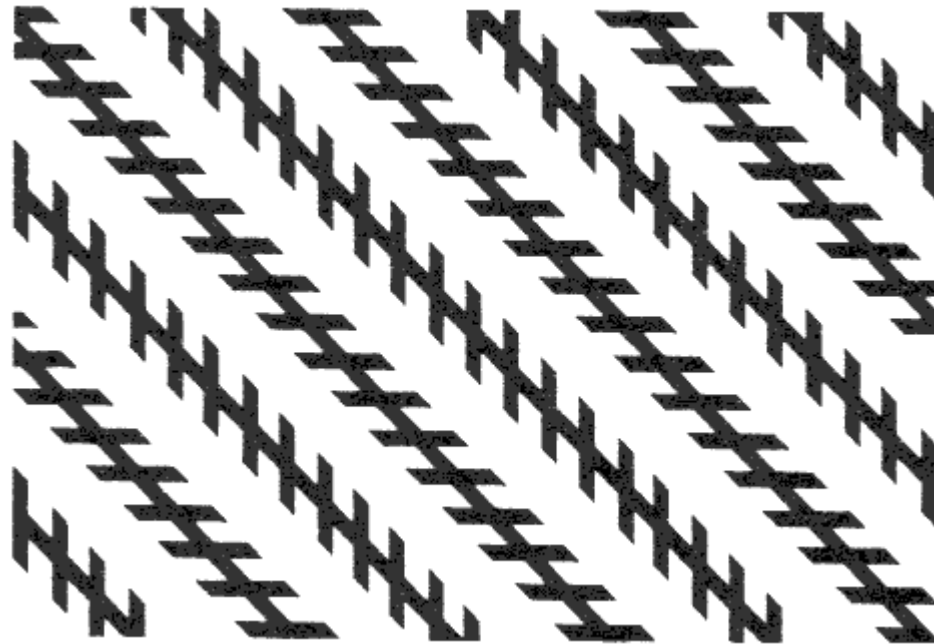
- Goeth's illusion



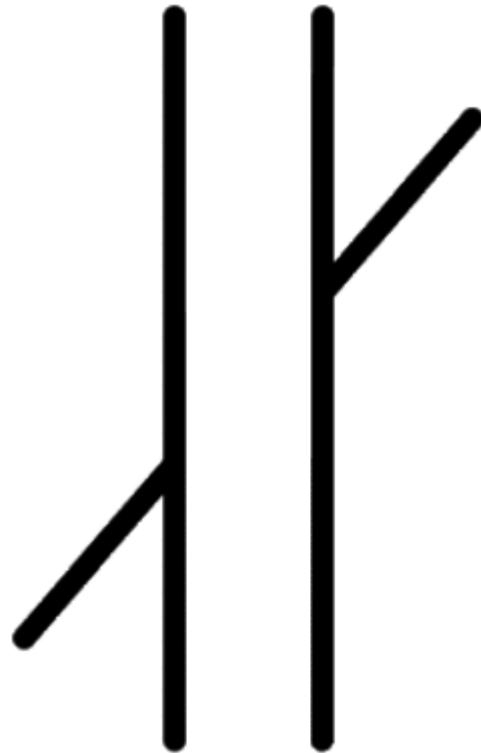
# Spiral Circle Illusion



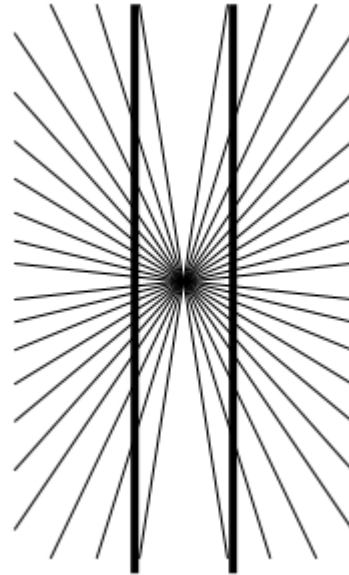
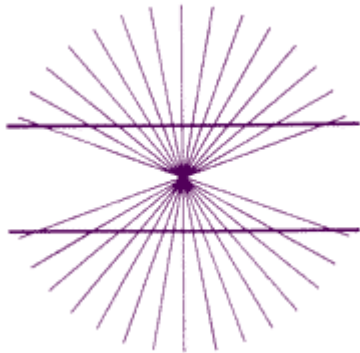
# Zollner Illusion



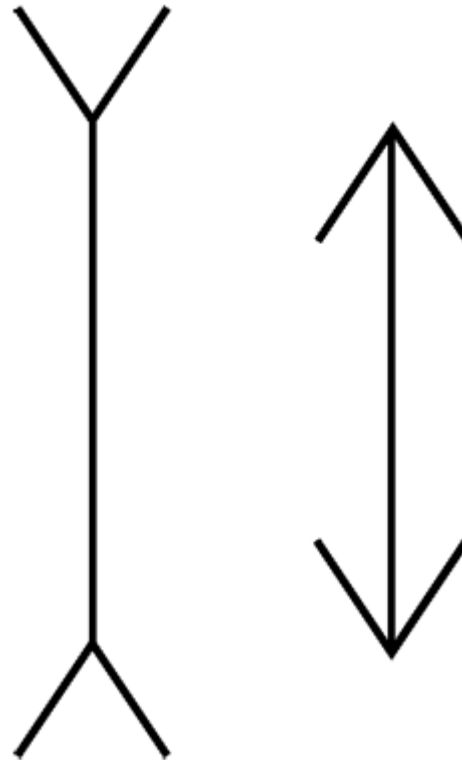
# Poggindrof's Illusion



# Herring's Illusion

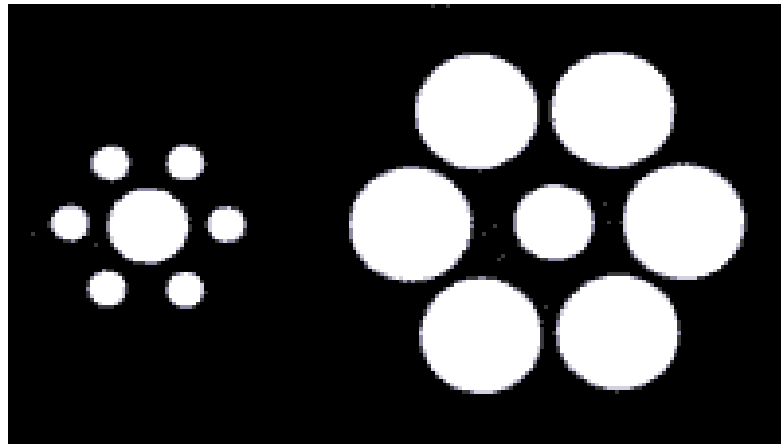


# Muller Lyer Illusion

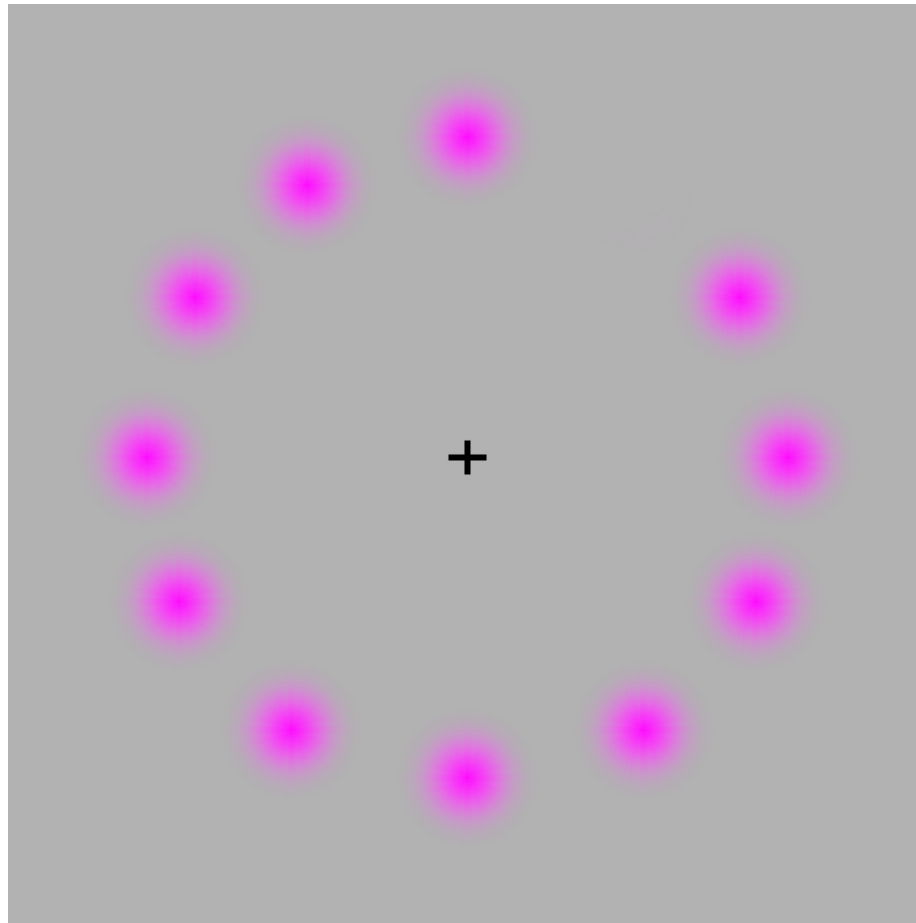




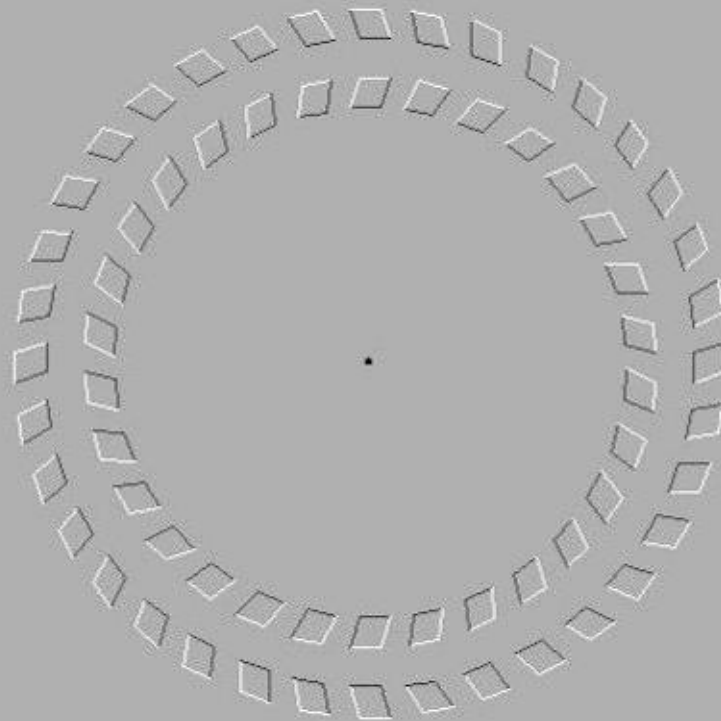
# Titchener – Ebbinghaus Illusion



# After Image Illusion

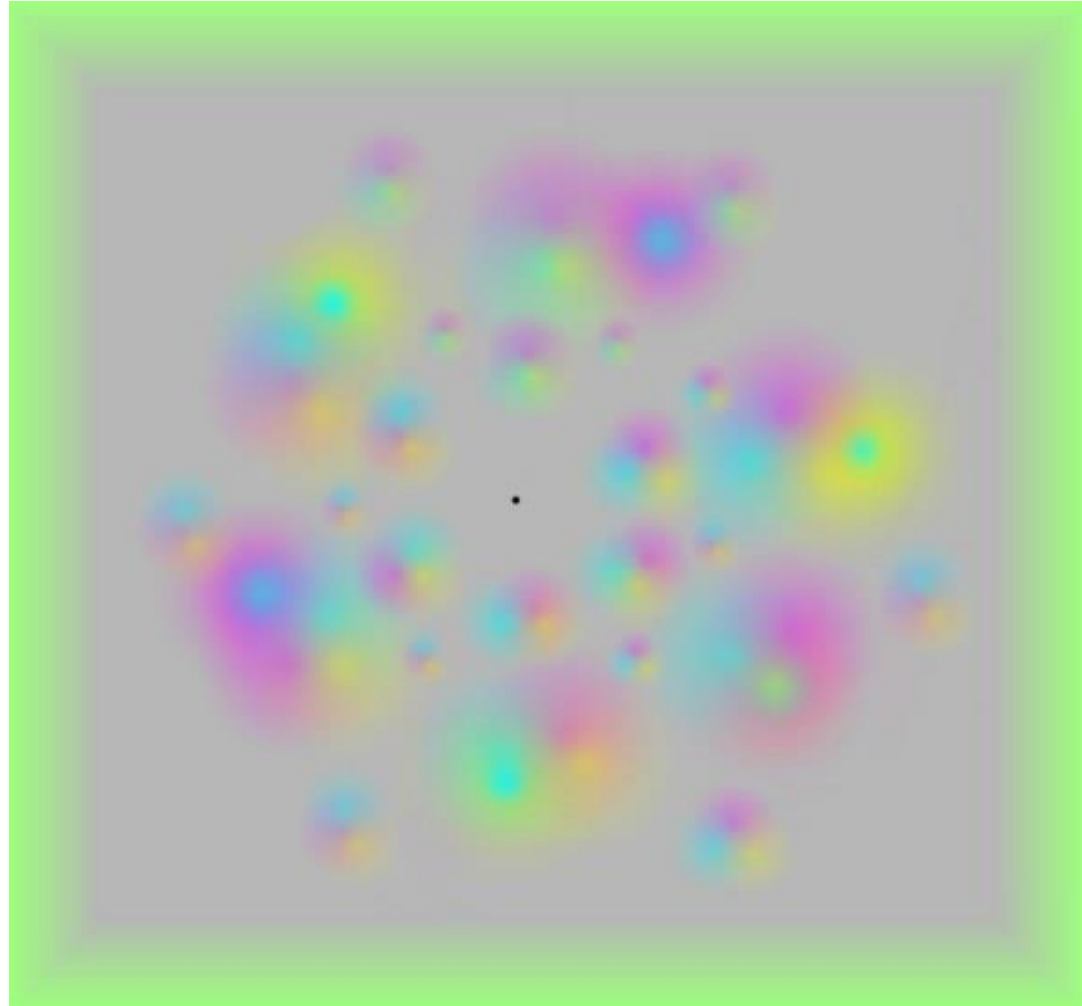


# Double Circle Movement

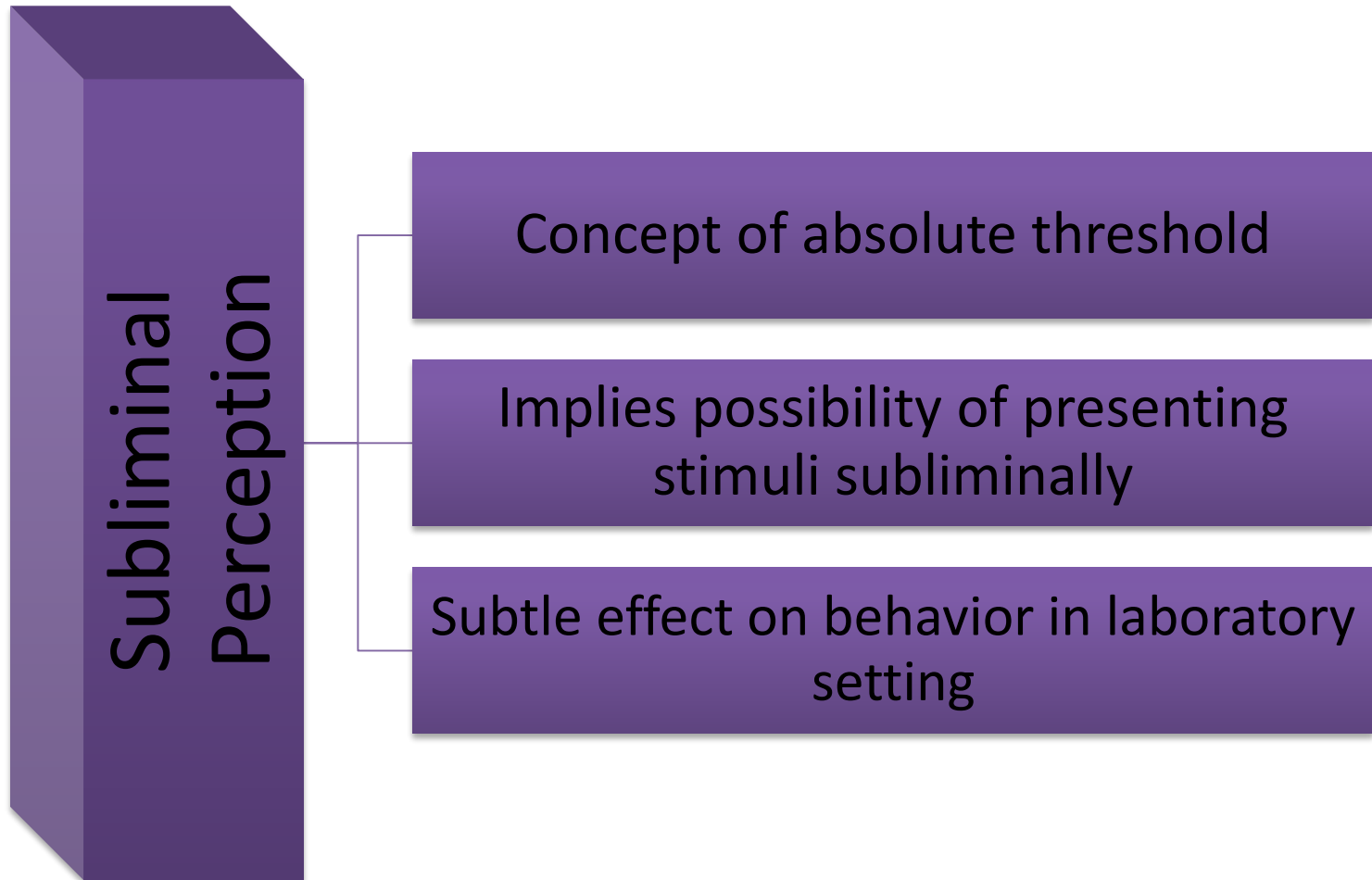


Focus on the dot in the centre and move  
your head backward and forward  
then see the MAGIC..!!!

# Disappearing Colour Illusion



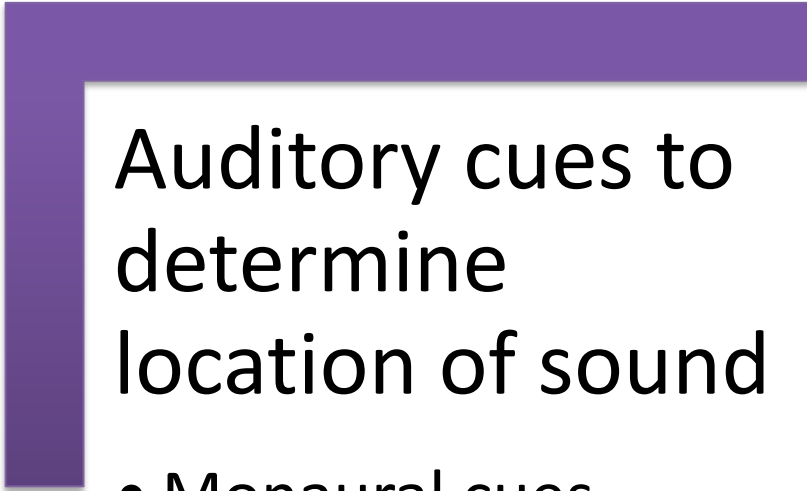
# Subliminal Perception



# Auditory Cues



Location of  
Sound



Auditory cues to  
determine  
location of sound

- Monaural cues
- Binaural cues

# Person Perception : Making Judgements About Others

- Attribution Theory

It is an attempt to determine whether an individual's behaviour is internally or externally caused.

The determination depends on three factors:

1. Distinctiveness
2. Consensus
3. Consistency

- ***Distinctiveness*** refers to whether an individual displays different behaviour in different situations.
- ***Consensus*** refers to everyone facing the same situation will behave in the same way.
- ***Consistency*** refers to a behaviour that is displayed regularly.
- **Fundamental attribution error**  
The tendency to underestimate the influence of external factors and over estimate the influence of internal factors while making judgement about others.



# Frequently used shortcuts in Judging Others

- **Selective perception:** The tendency to selectively interpret what one sees on the basis of one's interests, background, experience and attitude.
- **Halo Effect:** A tendency to draw a general impression about an individual on the basis of a single characteristic.

- **Contrast Effect:** Evaluation of a person's characteristics that are affected by comparisons with other people recently encountered who rank higher or lower on the same characteristics.
- **Self Serving Bias:** The tendency for individuals to attribute their own success to internal characteristics and put the blame for failures on external factors.

- ***Stereotyping*** is judging someone on the basis of one's perception of the group to which that person belongs.
- ***Profiling*** is a form of stereotyping in which a group of individuals is singled out typically on the basis of race or ethnicity for sensitive inquiry, scrutiny or investigation.

# Decision Making in Organizations

## **Rational decision making**

It includes 5 steps

- Defining a problem
- Identifying the decision criterion
- Allocate weights to the criteria
- Develop alternatives
- Evaluate alternatives
- Select the best alternative

- **Intuitive decision making**

An unconscious process created out of distilled experience.

- **Bounded rationality:**

A process of making decisions by constructing simplified models that extract the essential features from problems without capturing all their complexity.

# Common Errors and Biases in Decision making

***Over confidence bias*** is to be extremely sure of a solution by ignoring the alternative solutions.

***Anchoring bias*** is a tendency to fixate on initial information, from which one fails to adequately adjust for subsequent information.

- ***Conformation Bias*** is the tendency to seek out information, that reaffirms past choices and to discount information that contradicts with past judgments.
- ***Availability Bias*** is the tendency for people to base their judgements on information that is readily available to them.

- ***Escalation of commitment*** it is an increased commitment to a previous decision inspite of negative information.
- ***Randomness Error*** it is the tendency of individuals to believe that they can predict the outcome of random events.



- ***Winner's curse*** is a decision making dictum that argues that the winning participants in an auction typically pay too much of the winning item.
- ***Hindsight Bias*** is the tendency to believe falsely, after an event is actually known, that one would have accurately predicted that outcome.

Thank you

