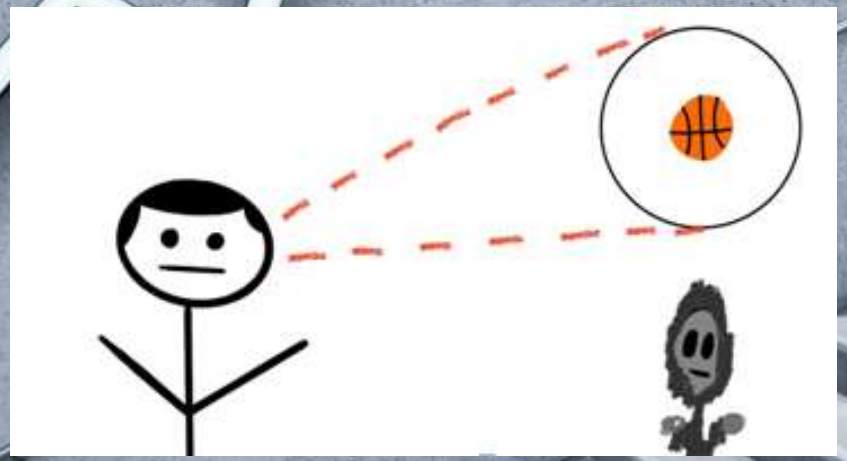

Unit – II

Lesson 3

ATTENTION, PERCEPTION AND MEMORY

ERRORS IN PERCEPTION

Perception is the process of analyzing and understanding stimuli, but errors can occur due to various factors:

- **Defective Sense Organs / Brain Functioning**
- **Prejudices and Biases**
- **Time of Perception**
- **Unfavorable Background**
- **Lack of Clarity in Stimulus**
- **Confusion and Mental Conflict**

These factors may lead to misinterpretations and incorrect perception of stimuli.

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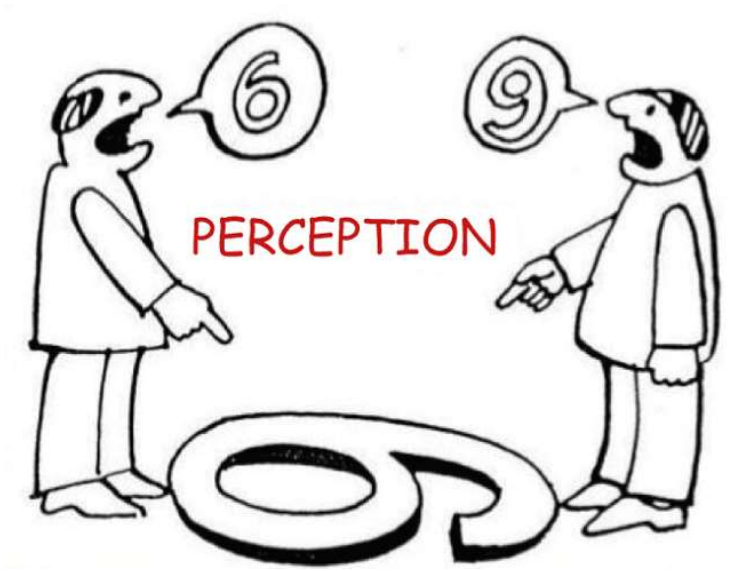
ERRORS IN PERCEPTION

There are some errors in perception

- Illusion.
- Hallucination
- "Halo Effect"
- Stereotyping
- Similarity
- Horn Effect
- Contrast.



Halo effect

When you base your opinion of someone or something on a single trait or behavior, rather than considering the whole picture.

For example, you might think that someone who is lazy is never punctual.

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ERRORS IN PERCEPTION

There are some errors in perception

Illusion

- Our perceptions are not always accurate.
- Sometimes we fail to interpret the sensory information correctly.
- This results in a mismatch between the physical stimuli and their perception.
- These misperceptions resulting from misinterpretation of information received by our sensory organs are generally known as illusions.

Meaning

- **A wrong perception is called an illusion.**
- **An illusion is a state in which errors of perception are immediately confirmed by experience.**

நமது கருத்துக்கள் எப்போதும் துல்லியமாக இருப்பதில்லை.

சில சமயங்களில் நாம் உணர்ச்சித் தகவலைச் சரியாகப் புரிந்துகொள்ளத் தவறிவிடுகிறோம்.

இது உடல் தூண்டுதல்களுக்கும் அவற்றின் கருத்துக்கும் இடையே பொருந்தாத தன்மையை ஏற்படுத்துகிறது.

நமது உணர்ச்சி உறுப்புகளால் பெறப்பட்ட தகவல்களின் தவறான விளக்கத்தின் விளைவாக ஏற்படும் இந்த தவறான கருத்துக்கள் பொதுவாக மாயைகள் என்று அழைக்கப்படுகின்றன.

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ERRORS IN PERCEPTION

Illusion

Definition

Illusion is defined as

- It has also been defined as "a discrepancy between one's awareness and some stimulus" **(Reynolds, 2008).**
- இது "ஒருவரின் விழிப்புணர்வுக்கும் சில தூண்டுதலுக்கும் இடையிலான முரண்பாடு" என்றும் வரையறுக்கப்பட்டுள்ளது (ரெனால்ட்ஸ், 2008).
- ***Common types of illusions***
- Illusion regarding distance.
- Illusion regarding the size and shape of things
- Illusions regarding colour
- Illusion regarding movement and speed.

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ERRORS IN PERCEPTION

Illusion

Types of illusion

- *Geometrical Illusions*
- In the below figure, the Muller-Lyer illusion has been shown. The Muller-Lyer illusion is a well-known optical illusion in which two lines of the same length appear to be of different lengths.
- The illusion was first created by a German psychologist named Franz Carl Muller-Lyer in 1889.

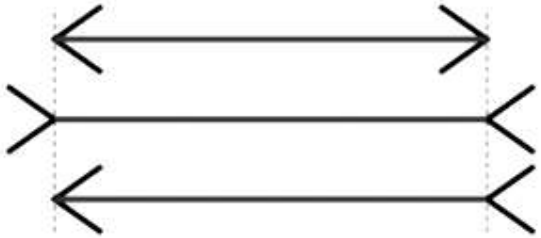

Figure 10: Muller-lyre illusion

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ERRORS IN PERCEPTION

Illusion

Types of illusion

In Fig. 2, you can see the illusion of vertical and horizontal lines. Although both the lines are equal, we perceive the vertical line as longer than the horizontal line.

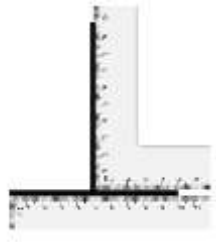

Figure : *Vertical-Horizontal Illusion*

- **Appearance of Movement Illusion**
  - This illusion is experienced when some motionless pictures are projected one after another at an appropriate rate.
  - This illusion is referred to as a "phi-phenomenon." When we see moving pictures in a movie, we are influenced by this kind of illusion.

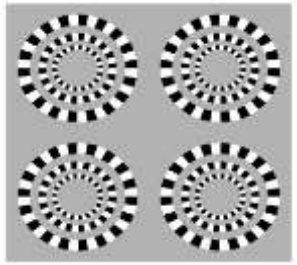

Figure : Appearance of Movement Illusion

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ERRORS IN PERCEPTION

Illusion

Types of illusion

Appearance of Movement Illusion

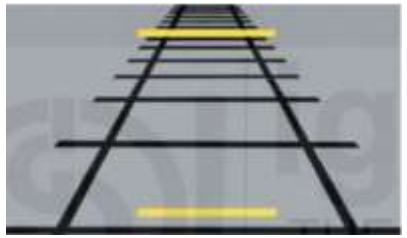

Figure : *The ponzo illusion*

- **The Ames Room Illusion**
- Named after its creator, American ophthalmologist Adelbert Ames, Jr., this optical illusion leads to the distortion of perception of relative size. To an observer, a person standing in one corner of the room is perceived as significantly larger than a person standing in the other corner.

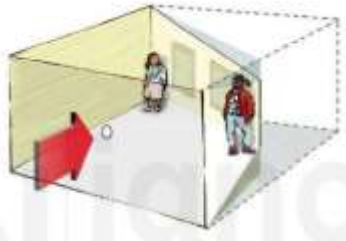

Figure : The Ames room illusion

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ERRORS IN PERCEPTION

Hallucination

- A hallucination is a false perception.
- A hallucination is a mental state in which a person begins to perceive something in spite of the absence of any external stimulus. Here, a person experiences the stimulus even in the absence of it.
- For example, at night, a person may see a ghost when there is practically no stimulus, either in the form of a human figure or anything resembling it.
- **Types of Hallucinations**

Hallucinations may affect our vision, sense of smell, taste, hearing or bodily sensations.

i) Hallucinations of Sight

Visual hallucinations involve seeing things that aren't there. The hallucinations may be of objects, visual patterns, people or lights.

For example, we might see a person who's not in the room or flashing lights that no one else can see.

Figure : *Hallucinations of Sight*

iii) Gustatory hallucinations These tastes are often strange or unpleasant.

ii) Olfactory Hallucinations

iv) Auditory hallucinations

v) Tactile hallucinations

Tactile hallucinations involve the feeling of touch or movement in our body. For example, we might feel that bugs are crawling on our skin or that our internal organs are moving around. We might also feel the imagined touch of someone's hands on our body.

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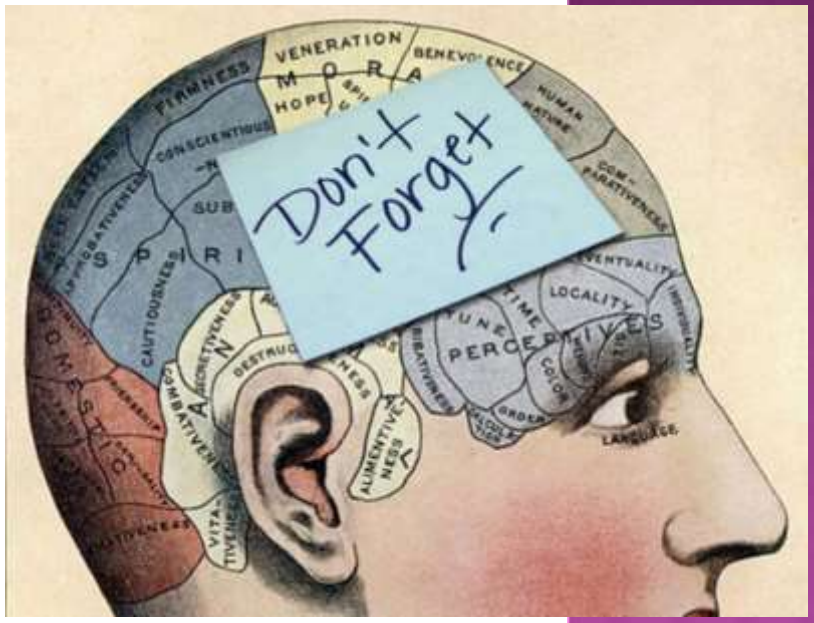
MEMORY

Introduction

- Memory is an organism's unwritten record of some past event. Remembering and forgetting are the most common experiences that function daily in our life. Some things are remembered much better and longer than others..

Definitions of Memory

- A simple one agreed on by most psychologists, was used in our definition of memory. Three distinct processes of memory have been identified. These are an **encoding process**, **a storage process**, and **a retrieval process**.
- "Memory is the retention or storage of information in any form."- **Guilford**
- "Memory consists in learning what was previously learned."- **Woodworth and Marquis**



Elements of Memory

According **to Woodworth**, four main elements of memory are:

- learning (acquisition),
- retention,
- recall and
- recognition.

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MEMORY

Main Types of Memory

SENSORY MEMORY

- **Sensory memory** is the store that briefly holds incoming stimuli from the environment until they can be processed (Neisser, 1967).
- Sensory memory is nearly unlimited in capacity, but if processing doesn't begin almost immediately, the memory trace quickly fades away.

SHORT-TERM MEMORY

- Short-term memory is a component of memory that holds a small amount of information in an active, readily available state for a brief period, typically a few seconds to a minute.
- The Short-term memory typically holds information for about 15 to 30 seconds. However, the duration can be extended through rehearsal (repeating the information)., and STM's capacity is limited, often thought to be about 7±2 items.
- It's often likened to the brain's "working space," enabling tasks like reasoning and language comprehension. Information not rehearsed or processed can quickly be forgotten.

WORKING MEMORY

- The term 'working memory' refers to a brain system that provides temporary storage and manipulation of the information necessary for such complex cognitive tasks as language comprehension, learning and reasoning.

LONG-TERM MEMORY

- **Long-term memory** is our permanent information store. It's like a library with millions of entries and a network that allows them to be retrieved for reference and **use (Schacter, 2001; Sweller, 2003).**
- Long-term memory's capacity is vast and durable; some experts suggest that information in it remains for a lifetime.

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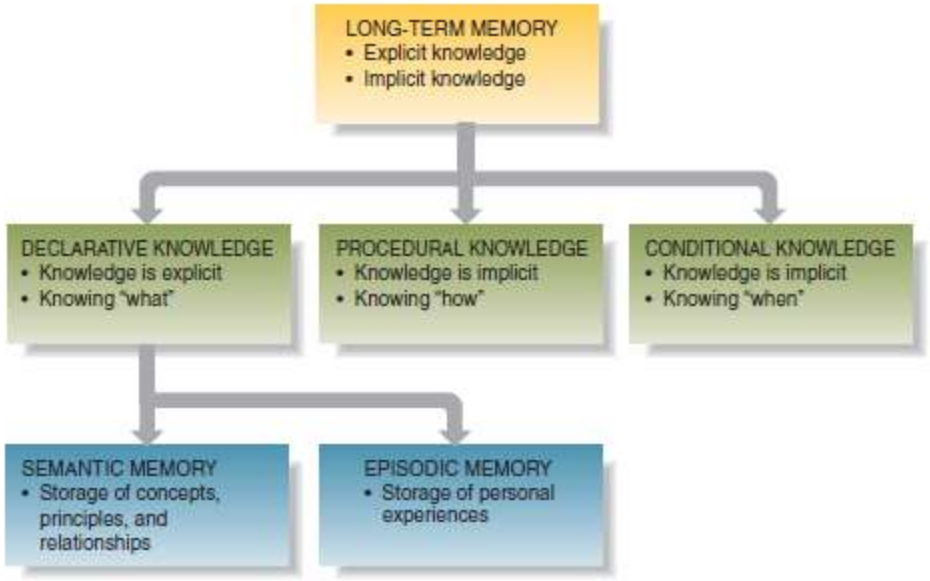
MEMORY

Long-term memory



a) Explicit memory

Explicit memory, also known as declarative memory, refers to memories involving personal experiences as well as factual information which we can consciously retrieve and intentionally articulate (Dew and Cabeza, 2011).

வெளிப்படையான நினைவகம், அறிவிப்பு நினைவகம் என்றும் அழைக்கப்படுகிறது, இது தனிப்பட்ட அனுபவங்கள் மற்றும் உண்மைத் தகவல்களை உள்ளடக்கிய நினைவுகளைக் குறிக்கிறது.

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MEMORY

Long-term memory - Explicit memory

Types of Explicit memory

1. Episodic Memory: Episodic memory, which is a part of long-term explicit memory, comprises each person's unique **recollection of specific experiences**, events and situations (Schacter, Gilbert and Wegner, 2009).

Episodic memories are associated **with autobiographical events**.

Examples of Episodic Memory

- Recalling what we did over the Diwali holidays.
- Remembering what we did and how we felt on a family holiday.

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MEMORY

Long-term memory - Explicit memory

2. Semantic Memory

Much of what is in our memory (LTM) consists of knowledge about what words mean, about the way they are related to one another and about the rules for using them in communication and thinking.

- It is this kind of memory, that makes our use of language possible.
- It involves general knowledge.

Examples of Semantic Memory

Some examples of semantic memories might include:

- Recalling that Delhi, is the city of India.
- Recalling that April 1564 is the date on which Shakespeare was born.

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STRATEGIES FOR IMPROVING MEMORYMEMORY

The tip-of-the-tongue (TOT) phenomenon

Is the failure to retrieve a word from memory, combined with the feeling that retrieval is imminent.

1. Sharp Attention:

As we saw that for information to be sent into the short-term memory from the sensory register, it was important that it be attended to properly.

2. Encode Information:

When you are exposed to information, you tend to organize it into categories. Your proper encoding of information is very important for recall.

3. Use Your Learning Mode:

The best encoding takes place through a combination of both types – audio and visual.

4. Dummy Run

Encoding is essential in the initial stages but rehearsal of the encoded information is important

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STRATEGIES FOR IMPROVING MEMORYMEMORY

The tip-of-the-tongue (TOT) phenomenon

5. Visualize:

Visualization helps us in encoding that information.

6. Write:

Though taking help of notes or other devices for remembering do no good to your memory.

7. Utilize Mnemonic Devices

A mnemonic is simply a way to remember information. For example, you might associate a term you need to remember with a common item that you are very familiar with.

8. Sleep Well:

A good night sleep reenergizes your systems, makes you healthy and wise.

9. Quit Smoking:

Smoking heightens the risk of vascular disorders that can cause strokes and constrict arteries that deliver oxygen to the brain. This less supply of oxygen to the brain will reduce its capacity to function efficiently.

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