IHS - Notes

→ Psychology: Study of Mind, Brain and Behaviours

Mind: Internal and Abstract, Measurable

Brain: Internal and Physiological, Observable and Measurable

Behaviour: External and Physiological, Observable and Measureable

→ Delusion: abnormalities of thought, fixed belief
Illusion: false perception of real external stimulus
Hallucination: sensory perception occurs in absence of external stimuli

→ Bases of Psychology: electrical and chemical

→ Brain functions:

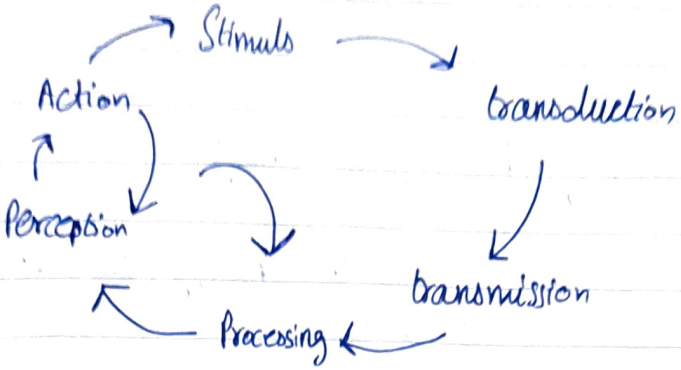
Left: complex processing and interplay b/w knowledge (top-down) and stimulus features evaluation (bottom-up)

Right: multimodal integration of visual, sound and smell to interpret and decide that coffee is being made.
↓
eg.

→ Sensation-to-Perception Process

Stimulus energy → Sensory Receptors → Neural Impulses → Brain

→ Stages of Perception - Action



→ Parts of Brain:

Occipital lobe: Sight
Cerebellum: Balance and Coordination
Brain Stem: Breathing, heart rate, temp.
Temporal lobe: hearing, learning and feelings
Frontal lobe: thinking, memory, movement
Parietal lobe: Language and touch

→ Neural pathways:

Occipital to Parietal ⇒ Dorsal visual Stream. "where is it"
Occipital to Temporal ⇒ Ventral Visual Stream. "what is it"

→ Why is mind occassionally ineffective?

- It is built for speed and efficiency, traded off with accuracy.
- Autopilot to controlled response and failure.
- Eg: haste decision making often leads to error.

→ Goals of Psychology:

to find Description, Explanation, Prediction and control of Psychological behaviours and disorders.

→ Levels of Psychological Analysis:

•) Biological: deals the Biology associated with psych.
Primary focus:
- Genes
- Biochemistry
- Brain System
- Neurological & Physiological

•) Mental/Cognitive/Behaviour/Individual: How an individual thinks, perceives and engages in behaviour
Primary Focus:
- Behaviour
- Ind. Differences
- Perception and Cognition

•) Social level: How an individual thinks, perceives and engages in behaviour
Primary Focus:
- Society's effect on mind
- Culture's effect on mind

→ How Psychology is different from other sciences:

•) Multiple Determination
•) Interdependency
•) Individual Differences
•) Cultural & Development Influence
•) Reciprocal Nature

→ Why we can't always trust our common sense:

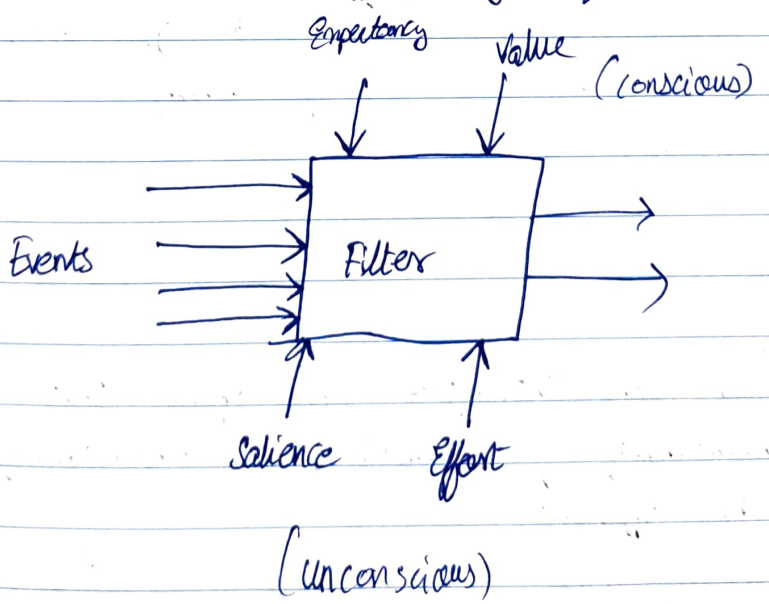
- ·) hindsight bias: Knew-it-all-along. Someone believes, after learning an outcome, that he would've foreseen it
- ·) Judgemental overconfidence: You think you know more than you do.
- ·) Tendency to perceive patterns in random events: Provide reasoning for random things

→ One must know when and when not to trust our common sense. This will help us make better real-world decisions and more informed choices.

→ Autism Signs in infants:

- ·) Unusual Visual Fixations
- ·) Abnormal repetitive behaviours
- ·) Lack of age-appropriate sound development
- ·) Delayed intentional communication
- ·) Decreased interest in interaction.

→ SEEV model describes how and where our attention is focused. It depends on the following 4 features:



Landmarks of Psychology

→ Wilhelm Wundt: one of the fathers of modern psychology

→ Introduced a systematic observational/measurement and experimental approach to Psychology.

→ Used introspection, focusing on conscious experience alongside reaction time to understand mind.

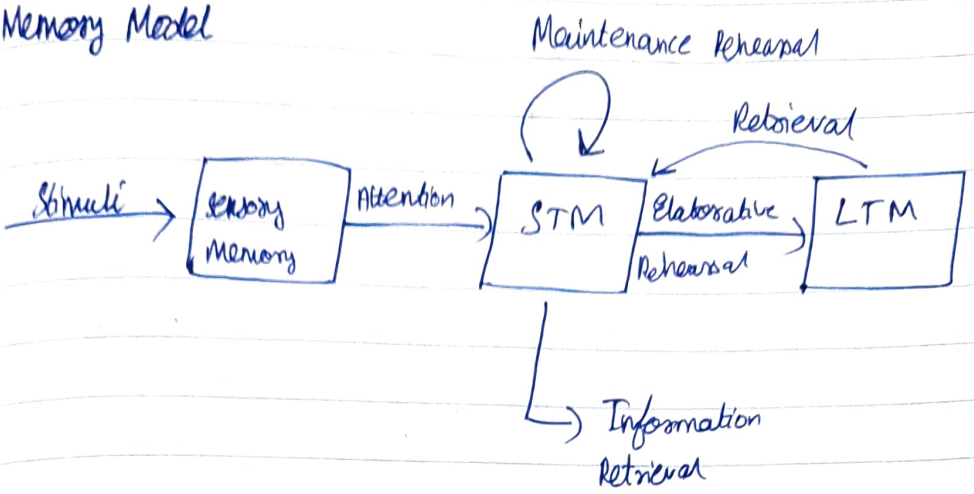
→ Behaviorists:

- Dismissed idea of subjective experience, introspection.
- Propagated observable and quantifiable research.
- Focused on understanding 'behaviour' in which the consequence of an organism's behaviour determines whether it will be repeated or not.
- B.F. Skinner: Operant conditioning – Reinforcement & Punishment
- Edward Thorndike: Rat cage experiment
  Law of effect – good effect to resp. ⇒ more likely
  bad effect to resp ⇒ less likely
- Failed to acknowledge role of 'thinking' and 'mind' in performing behaviour.

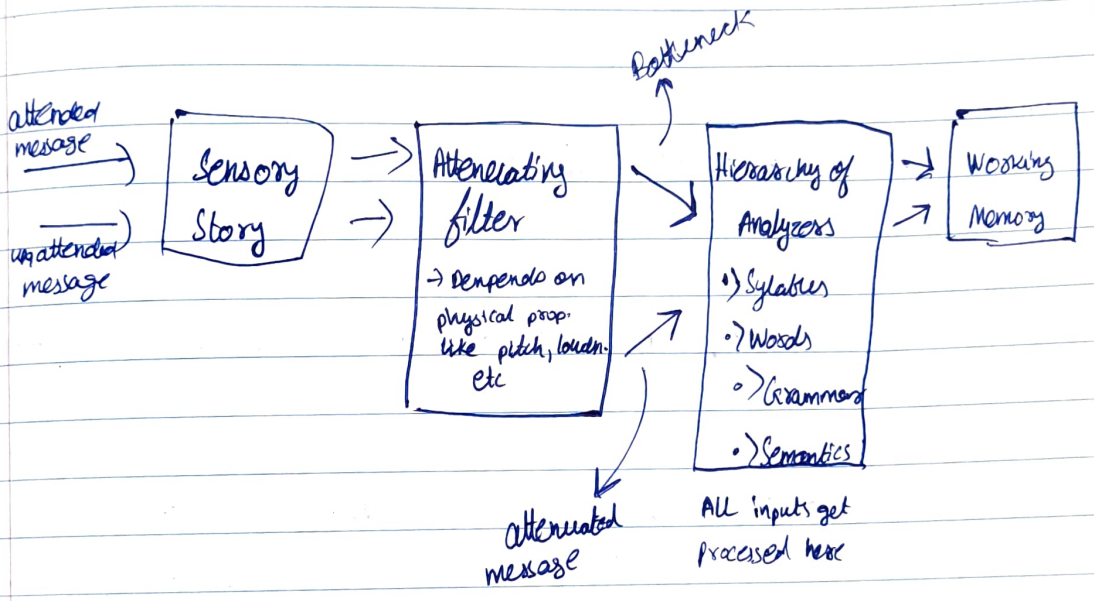
→ Cognitivism:

- focused on 'interpretation' and argued that without an understanding of evaluative process, understanding behaviour is not sufficient.
- Edward Tolman – cognitive map & latent learning
- Latent learning (as shown in rats) indicates that one can learn from experience without reinforcement/punishment and learning might not be demonstrated until there is motivation to do so.

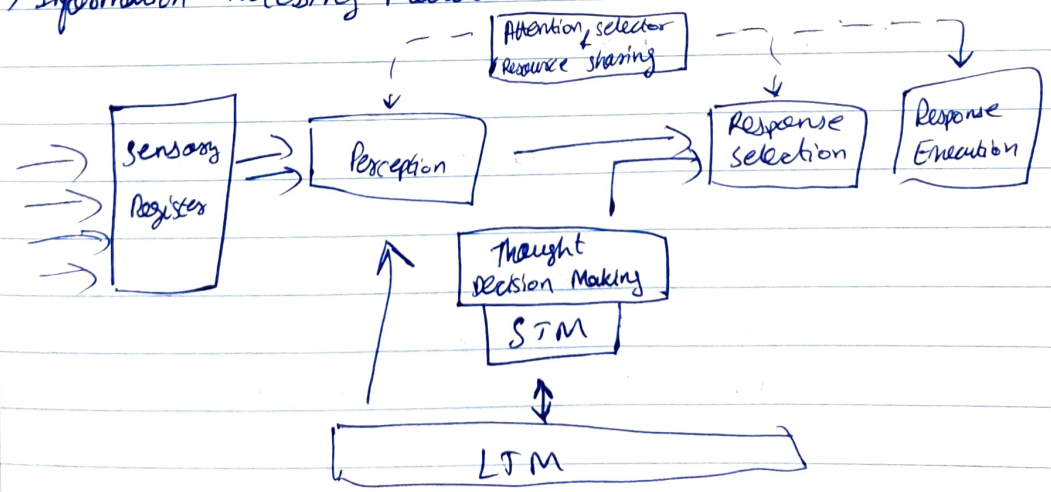
→ Memory Model



→ Triesman's Attenuation model of selection



→ Information Processing Model - S-O-R



-> Perception: organization, identification and interpretation of sensory input

-> Retinotopic mapping: from eye-to-brain

-> Attention: enable focus on relevant information selectively while ignoring irrelevant information.
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Selection & bottleneck

-> Importance of attention:

i) Influences Perception:

•> Inattention Blindness: cannot perceive objects that are not focus of attention

•> Change Blindness: failure to detect visal changes of a scene.

•) Binds information together: Binds the colour, orientation, shape, motion... of an object together.
Acts like a glue

ii) Influences Memory:

•) memory is ability to encode, store and retrieve information.

-) encoding: transf. info. into lasting mem
-) Storage: maintain. info in mem. over time
-) Retrieval: reconstructing / reactivating exp. from storage