MEMORY

KEY DEBATES
- NATURE (biological) vs. NURTURE (influenced by environment)
- REDUCTIONISM (MSM & theory of reconstructive memory)
- LAB EXPERIMENTS (Braun) vs. CASE STUDIES (Wilson)

THE MULTI-STORE MODEL OF MEMORY

SEPARATE & DISTINCT STORES
Memory has three separate memory stores; the sensory store, short-term memory (STM) and long-term memory (LTM).

SENSORY STORE
Information from our environment is detected by our senses (i.e. smells, sounds, images, tastes and touch), these will briefly enter our sensory memory for a **few seconds,** this store also has **limited capacity.** If we don't pay attention to it, the information **decays (fades until forgotten).**

SHORT TERM MEMORY STORE

Limited **capacity (7+/-2) & duration (30 seconds).** Info. goes from sensory store to STM if attention is paid to it. If more information enters and the store is full, info. becomes **displaced (pushed out)**. If not rehearsed it will **decay.**

LONG-TERM MEMORY STORE
Unlimited capacity & duration. When information in STM that goes through **maintenance rehearsal** (repeating information over & over), or **elaborative rehearsal** (giving meaning to information) it **transfers** into LTM. Encoding is mainly semantic (we think about the meaning of information) but can also be visual and auditory. **Retrieval failure & decay** can occur if information is not recalled regularly.

LIMITATIONS
- Over emphasises the importance of rehearsal. Attaching meaning just as effective
- The model is reductionist in its explanation of memory.
- Isn't supported by neuropsychological evidence - LTM more than one store

THEORY OF RECONSTRUCTIVE MEMORY

Memory is influenced by our prior experiences & schemas (mental representation of an object or situation). We fill in the gaps to make memories.

SCHEMAS
people construct their memories based on prior experiences, but we don't tend to recall them in chronological order. Our beliefs can influence the memory.

PRIOR EXPERIENCES
Our memories are influence by prior experiences so are never entirely accurate. E.g. camping trip at 4 years old influence memory of camping at 10.

EXPECTATIONS
Our knowledge & beliefs can influence schemas & distort memories. E.g. if we expect to see a zebra at a zoo we might mistakenly remember a horse as a zebra.

LEADING QUESTIONS
Can be particularly effective in manipulating people's memories through suggestion.

CONFABULATION
Making up details to fill in the blanks in a memory - 'honest lying'.

LIMITATIONS
- Too reductionist - there are many complex factors that may affect memory recall,
- It doesn't account for other factors that contribute to recall such as anxiety, age.
- It doesn't explain how memories are processed.

KEY CONCEPTS

INFORMATION PROCESSING
Brain works like a computer: input (through senses) -> encoding (changed into format easier to understand) -> storage (held in memory) -> retrieval (recall of memory) -> output (use recalled info.)

HIPPOCAMPUS (part of limbic system)
Involved in making new memories - must pass through here before entering long-term storage. Important for semantic memories of facts/ autobiographical memories.

CEREBELLUM
Responsible for learning movements and procedural memory (motor skills).

AMNESIA
Caused by brain injury, illness, some medications.
Anterograde amnesia: unable to form new memories. Caused by damage to *hippocampus*
Retrograde amnesia: unable to recall existing memories. Caused by damage to *frontal lobe.*

APPLICATIONS OF RESEARCH

TECHNIQUES USED FOR RECALL IN ADVERTISING
(a) Cues- create context or feeling linked to product so when consumer is in this context/ emotional state it will trigger a memory of the product.
(b) Repetition – build familiarity with brand by repeating them frequently (prevents decay & encourages positive feelings).
(c) Avoiding overload – if there is too much information, some is displaced out of STM; reducing information to essential point should avoid overload.
(d) Use of autobiographical advertising – used to connect emotionally by reminding people of a time in their life (e.g. using Disney ads in Braun's study).

USE OF NEUROPSYCHOLOGY FOR MEASURING MEMORY
Welchsler memory scale evaluates the extent of brain damage in patients who may have had brain injury or suffer from illness like dementia. It produces results on 5 different aspect of memory; auditory, visual, visual working, immediate and delayed memory. **Why?** By determining the extent of the patients damage, they can offer them the best and most appropriate treatment.

NATURE

WILSON ET AL. (2008) - CLIVE WEARING STUDY

AIM
To report on the case of Clive Wearing who suffered from a severe case of amnesia.

SAMPLE
One male - Clive Wearing

RESEARCH METHOD
Longitudinal case study using interviews, MRI scans IQ tests.

PROCEDURE
- In March 1985. Clive developed HSVE which destroyed large parts of his brain.
- Over 21 years researchers conducted interviews with & observations on Clive, he had neurological tests (verbal reasoning/ IQ tests) & MRI scans.

FINDINGS & CONCLUSION
- Brain scans showed significant abnormalities incl. significant damage to the hippocampus.
- Clive suffered from retrograde & anterograde amnesia.
- Clive could still talk, read, write, play the piano etc. So his procedural memory remained in tact.

Brain damage can affect memory and result in both anterograde & retrograde amnesia.

LIMITATIONS OF STUDY
- Study can't be generalised as sample was one person (sample too small & gender biased).
- Study was unethical as Clive was repeatedly tested over 21 years (could cause distress).

NURTURE

BRAUN ET AL. (2002) STUDY INTO ADVERTS & MEMORY

AIM
To see whether an advert could affect childhood autobiographical memories.

SAMPLE
Experiment 1: 107 USA undergrads
Experiment 2: 167 USA undergrads

RESEARCH METHOD/ DESIGN
Lab experiment

PROCEDURE
Experiment 1: (1) Participants completed a Life Events Inventory (LEI) measuring confidence shaking hands with a character & their memory of Disney. (2) Then watched a *Disney advert* or a *control advert.* (3) Did LEI again.

Investigation 2: (1) Did LEI as above. (2) Watched 1 of 3 adverts (shaking hands with Bugs Bunny; or Ariel; or Disney ride info ad). (3) Did LEI again.

FINDINGS & CONCLUSION
Exp 1: Significantly more in Disney condition increased their 'hand shaking' confidence scores from before & after the advert.
Exp 2: More significant in Bugs Bunny as (78%) & Ariel ad (76%) compared to control (62%).

Autobiographical advertising can affect how people remember the past..

LIMITATIONS OF STUDY
- Sample age & culturally biased (unrepresentative & can't be generalised).
- Lab experiment lacks ecological validity (not reflect real life).

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