

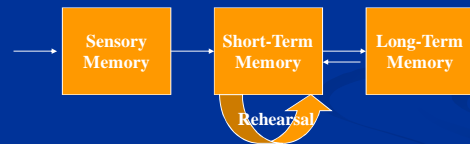
# The Stage Model of Memory

Tony Lambert

Reading:

UoA text, Chapter 8, *Memory: Living with Yesterday*  
(especially pp. 262-263)

## The Three-Stage Model of Memory



## Sensory Memory

Z R A T  
B S L D  
Q E K R

- George Sperling - partial report technique
  - High tone = Top
  - Medium tone = Middle
  - Low tone = Bottom
- Effect of delaying the tone

## Working Memory & LTM

- William James
  - primary vs. secondary memory
- George Miller
  - 'the magic number 7 plus or minus two'
- 'chunking'

## Chunking in Working Memory

- Chase
  - chunking & memory for chess positions

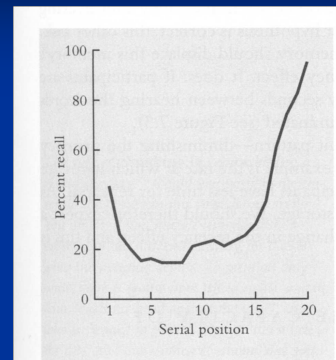
## Distinguishing WM from LTM Evidence from Amnesia

- Clive Wearing & H.M.
  - Inability to enter new info. into LTM
  - Working memory intact
- K.F.
  - Working memory deficit - v. poor digit span
  - LTM intact
- double dissociation

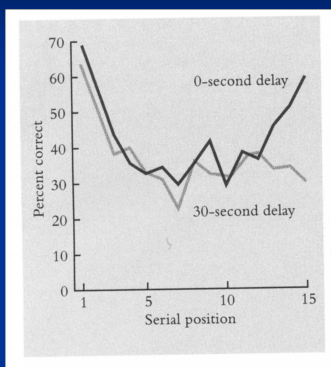
## Distinguishing WM from LTM Evidence from normal individuals

- The serial position curve
- Primacy effect
- Recency effect

## Primacy and recency effects



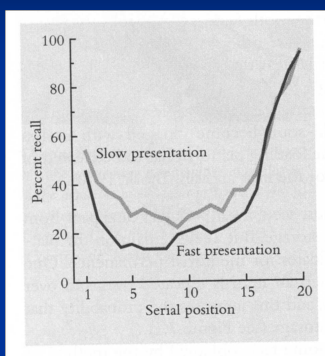
## Abolishing the recency effect



## The serial position curve

- Recency effect reflects retrieval from working memory

## LTM component of the serial position curve



## A problem with the stage theory of memory

- Rote rehearsal does not always lead to good long term memory
- Bekerian & Baddeley
  - BBC saturation advertising for a change of radio frequencies

## The Levels of Processing approach ( Craik & Lockhart)

- Emphasis on cognitive processes rather than memory structures
- deep processing - good memory
- shallow processing - poor memory
- Memory not a separate faculty -
  - *memory is a by-product of thought*

## Craik & Tulving 1975

- Physical condition
  - Is the word in capital letters ?
- Acoustic condition
  - Does the word rhyme with TRAIN ?
- Semantic condition
  - Would the word fit into the sentence:  
The girl placed the \_\_\_\_\_ on the table

## Levels of processing & the self-reference effect

- Rogers *et al.* 1977
- Semantic condition
- Self reference condition

## Depth & breadth of processing

- Elaboration
- Distinctiveness of memory traces

## Depth & breadth of processing

Maintenance (rote) rehearsal

VS.

Elaborative rehearsal

## Summing Up

- Working memory
  - relatively brief (approx. 30sec),
  - very limited in capacity ; 'chunking'
- Long term memory
  - permanent memory of all experience and knowledge ; enormous capacity
- Levels of processing approach
  - Memory as a by-product of thought