

Overview of Human Memory Models

Early models and measures of memory

Some of the first noted research on human memory was conducted in 1890 by **William James**. Based on his works, James assumed memory consists out of **two systems**:

- **primary memory**, which lasts for a **few seconds** and holds **in our consciousness** the perception of events in our environment, and
- **second memory**, which has **unlimited duration** and can be **brought to consciousness** if wanted.

A measure for the **capacity of short-term** (primary) memory was first introduced even a bit earlier, in 1887, by **Joseph Jacobs**, who tested the span of digits his students were able to remember. Under the criterion that at least 50% of the digits need to be remembered correctly, subjects he tested mostly remembered **about 7 digits**. What he also noticed is that this result can be improved by grouping the digits (for example in groups of three), or reading aloud.

Similar results were reported by **George Miller** in 1956 in his famous work “The **Magical Number Seven**, Plus or Minus Two: Some Limits on Our Capacity for Processing Information”¹⁾, where he suggested human short-term capacity was determined by the number of **chunks** or cognitive wholes one can remember, no matter if it is a letter, digit or word. This number on average equals **seven**, and may vary usually **between five and nine**.

This research increased interest in human memory research. **John Brown** in 1958²⁾ and **Lloyd and Margaret Peterson** in 1959³⁾ conducted research on information forgetting.

Bibliography

[Famous People and Their Contributions to the Study of Memory](#) Retrieved March 16, 2011.

[Hohenberger, A. Short-term memory, STM. Middle East Technical University Informatics Institute. Ppt presentation.](#) Retrieved March 17, 2011.

¹⁾

[Miller, G. A. The magical number seven, plus or minus two: Some limits on our capacity for processing information. Psychological Review, 63, 81-97. 1956.](#)

²⁾

[Brown, J. Some Tests of the Decay Theory of Immediate Memory. Quarterly Journal of Experimental Psychology 10, 12-21. 1958.](#)

³⁾

[Peterson, L. R., & Peterson, M. J. Short-term retention of individual verbal items. Journal of Experimental Psychology, 58, 193-198. 1959.](#)

From:
<https://learning-theories.org/> - **Learning Theories**

Permanent link:
https://learning-theories.org/doku.php?id=memory_models:overview&rev=1300712451

Last update: **2023/06/19 15:49**

