# Memory and Cognition

## March 25, 2013

* **Population Dissociations**
  + **Amnesia**
    - Procedural Memory
      * Tower of Hanoi and Mirror Tracing
        + H.M. kept redoing this game, but every day he would get faster and faster.
  + **Age – Explicit declines, implicit does not decline over time.**
    - Study: Picture Naming
      * Priming is measured by how much faster you name it the second time.
      * Old and young use their implicit memory and are primed just as much as the young subjects.
* **Experimental Dissociations**
  + **Time**
    - **Study: List of 96 words**
      * Test 1 (48 words)
        + Recognition (explicit) or word fragment completion (implicit)
      * Test 2 (48 words)
        + Recognition (explicit) or word fragment completion (implicit)
      * What happens over time with the explicit and implicit tests?
    - **Study: Read vs. Generate**
      * Hot – c\_\_\_ (Generate)
      * Hot – cold (Read)
      * Generating an item leads to better memory than reading (explicit)
      * Explicit Test (recall) read < generate
      * Implicit Test (perceptual identification) generate < read
        + Requires you to read a word that is presented under very poor conditions. It’s above your threshold of awareness, but barely.
      * Implicit Test (Word stem completion) generate < read
* **Theoretical Account**
  + **Transfer Appropriate Processing**
    - Perceptually driven processes (data-driven) vs. conceptually driven processes
    - Memory performance depends on the match between processes engaged at study and processes required by the test.

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|  | * + - * Explicit (Direct) | * + - * Implicit (Indirect) |
| * + - * Conceptual (Focus on meaning) | * + - * Recall (read < generate) | * + - * Free association, general knowledge (read < generate) |
| * + - * Perceptual (data-driven) (not focused on meaning) | * + - * Graphemic cued recall (bold) generate < read | * + - * Perceptual identification, word fragment completion       * Generate < read |

* + - The best chance you have of succeeding when the same processes are used at study and test.
    - Generating -> Conceptual -> Requires / Focuses on meaning
    - Read -> Perceptual (Data-Driven) -> Not focused on meaning
* **Implicit Memory in Everyday Life**
  + **Memory during anesthesia**
    - How many teeth do an elk have?
  + **Cryptomnesia**
    - Unintentional plagiarism
    - This normally happens when you’re distracted in encoding. Then later on you will remember the idea or joke and you assume that it is your own. In the laboratory this is studied by having people sit in a circle, generating words that are part of a specific category (sports), told not to use words previously used. A couple days later you’ll come back in the lab and recall the four words you generated plus four new items.