# Memory and Cognition

## April 24, 2013

* **Flashbulb Memories**
  + Hornstein, Brown, & Mulligan (2003) – Princess Diana
    - Nothing really changed in a year and a half later.
    - Because the memories are so vivid they seem so true, intellectually you can be confident but also know you’re wrong but you don’t want to believe that you’re wrong.
* **Cognitive Neuroscience**
  + **Contralateral Connections**
    - Cortex (Wrinkled part of brain)
    - Each hemisphere of the brain is responsible for controlling the opposite side of the body.
  + **Hemispheric Specialization**
    - Each hemisphere has dominant different specializations.
    - **Left** – Controls verbal activities, reading, writing, speaking, etc.
    - **Right** – Controls non-verbal activity, imagery, spatial tasks, recognize faces, detect emotion, etc.
    - Specialization can be reversed in about 15% of individuals.
    - After brain damage left-handed individuals tend to fair better.
  + **Methods of Investigation**
    - **Brain Damage** – Seems to destroy one ability but leaving others perfectly intact.
      * **Phineas Gage** – Had drastic changes in his personality. Before he was nice, afterwards he was just not pleasant to be around.
      * **Alcohol** – Prefrontal cortex is effected by alcohol.
    - **Experimental Lesions (Engram)** – Surgical destruction part of the brain, surgically cutting it out or by putting electrode in thru the skull and passing a high voltage current to destroy it. They did this to find the engram, it was to describe the physical site of memory. No relationship to what part of the brain they took out, and the memory impairment. Your memories are stored everywhere in your body. Hippocampus helps form new memories but not where it’s stored.
    - **Direct Stimulation** -
    - **Noninvasive Techniques** – EEG, PET, MRI, fMRI
* **Organic Disorders**
  + **Amnesia**
    - Retrograde – Forget info before trauma. It’s incredibly rare to forget all information like your name, etc.
    - Anterograde Amnesia – can’t form new memories
    - Korsakoff’s Disease
      * Confabulation