# Memory and Cognition

## February 18, 2013

* Influence without awareness
  + Threshold = (Normally 20-30ms)
  + Subliminal Information - Information given to you so quickly or faintly to hit your threshold.
  + Supraliminal Information –
  + **Subliminal Semantic Priming** – Late-attention filter model
  + **Subliminal Mere Exposure**
    - What is the mere exposure effect? The more often you see something, the more you like it. The more you hear a song, the more you like it.
    - Flash random shapes for 1ms. They liked the images they’ve seen before, despite never of seen the images. It must of effected their behavior.
  + **Subliminal Stroop Effect**
    - If you have to identify the ink color, it is much more difficult if what you’re reading is the color not that the ink is of.
    - Flash red (20ms) -> backwards masking (400ms) -> color patch (open ended period of time).
  + **Subliminal Scents**
    - We evaluate people every day; researchers had them sniff three scents. Lemon scent, sweat, and neutral. They were presented to subjects either just below the detection level (subliminally) or just above detection levels (supraliminal). They had to look at a face and evaluate it. Are they extremely likeable or extremely unlikeable? It turns out the odors effected peoples judgment but only when the smells were presented subliminally (unaware of the smells). Those who could detect the smell were not effected.
  + **Blindsight**
    - Those who suffer are blind, yet they can locate an object and reach for it at a level greater than chance. Suffer damage to back of the head (visual cortex) you’ll lose the ability to see despite working eyes. They can still react to vision consciously, they just don’t know they can see. While the primary vision cortex is destroyed, your eyes may still be connected to other parts of the brain.
  + **Memory during Anesthesia**
    - We normally do not remember anything, that’s the point. However, memories might actually form at an implicit / unconscious level. They were under anesthesia but were told to pull your earlobe during the post operative interview. Several days later when they recovered from surgery, they were interviewed and of the group nothing 42% of them pulled their earlobe. But of the group that was suggested to do so, 82% of them pulled their earlobe. Positive statements under anesthesia helps people recover faster.
  + Subliminal Ads
    - Subliminal advertising does **not** work. Only on a very short term basis, for very simple judgments, and simple actions. Whether you like a triangle or square, it’s a very simple judgment. Can it make you buy a certain product? No. It only works in a controlled laboratory experiment.
  + Backmasking in music
    - Supposedly songs that are played backwards might have either satanic or drug messages. Supposedly listening to these songs forwards can even effect your behavior. It cannot. Top-down processing is in use. Someone would have to actively construct these lyrics.
* Short Term Memory
  + Short Term Memory capacity is smaller than Sensory Memory and LTM. It is a VERY small store.
  + We can normally hold 7 +/- 2 letters/numbers (George Miller, 1956)
  + You have to have reasonable experience in order to chunk.
  + They setup a board of chess to grandmasters (best of the best), experts, class A, and novices.
  + 93, 72, 50, 33% chance of remembering the board.
  + Are they good chess players or have good memory?
  + Randomly setting up the board, no matter what level of chess you understand everyone was on the same leveling field. The grandmasters were chunking the pieces into real moves.
  + Their ability to chunk was “domain specific” which means it was based on their knowledge of chess. They were able to chunk those pieces together in their STM.
  + Chunking can increase amount of information stored
    - S.F.
      * Took two years of practice and was able to remember up to 80 random numbers. He was able to convert that into a running time.