Learning, Memory and Amnesia

Previously thought that memory was distributed throughout the brain.
Explicit theories have been created through studies of patients with brain damage.

HM
- Suffered a head injury at age 9, resulting in severe epilepsy (by 20, would suffer 10 seizures a day)
- Underwent surgery on motor cortex to remove portions destroyed due to primitive technique.
- Was once a child epileptic but suffered retrograde amnesia with impaired explicit memory but preserved implicit memory.

Amnesia

- Retrograde
  - Loss of memories before injury

- Anterograde
  - Loss of ability to create new memories

Explicit pathway; declarative
- Short-term memory
- Working memory
- Semantic memory
- Episodic memory

Implicit pathway; non-declarative
- Procedural memory
- Affected by priming
- Reflexes
- Habits
- Simple cognitive reflexes

Mirror Drawing Task
- Gray scale in mirror so drawing goes to front
- Provided evidence that this implicit memory is intact
- Learns and reproduces at task at the same rate as unimpaired individuals, despite having never seen the task before.

Rotary Error Task
- Attempt to get stylus on target
- Can score as high as mirror drawing task.