Psych January 23rd Notes

Pages 91-103

- Neural Plasticity: How and When the Brain Changes
    - Plasticity- The nervous system's ability to change.
    - Our brain is most capable of changing during early development, when much of our nervous system has yet to be set in place.
    - The network of neurons in the brain changes over the course of development in four primary ways:
        - Growth of dendrites and axons
        - Synaptogenesis- The formation of synapses
        - Pruning- Death of certain neurons and the retraction of axons to remove connections that aren't useful
        - Myelination- The insulation of axons with a myelin sheath
    - Potentiation- When synapses imply perform better and show stronger and more prolonged excitatory responses.
    - Stem Cells- Cels that have the potential to become a wide variety of specialized cells.
    - NOTES ENDED

Pages 106-110

Mapping the Mind: The Brain in Action

- A Tour of Brain-Mapping Methods
    - Phrenology- Assessing various bumps on the head and attributing various personality and intellectual characteristics. WRONG
    - Brain Damage- Understanding how the brain works by seeing how it doesn't.
    - Electrical stimulation and recording of nervous system activity.
        - Electroencephalograph- A device that measures electrical activity generated by the brain.
    - Brain Scans- - Enable us to peer inside the brain's structure, it's function and sometimes both.
        - CT Scans and MRI Images- Allow us to visualize he brain's structure.
            - CT- A three-dimensional reconstruction of multiple X-rays taken through a part of the body.
            - MRI- Measures the release of water in biological tissues following exposure to a magnetic field; more detailed.
        - PET- Measures changes in the brain's activity in response to stimuli. Scanner measures where in the brain most glucose-like molecules are consumed to discover which brain regions are most active during a task.

- fMRI – Measures the change in blood oxygen level.
- Magnetic stimulation and recoding (TMS, transcranial magnetic stimulation)- Applies strong and quickly changing magnetic fields to the skull to create electric fields in the brain. TMS can either enhance or interrupt brain function in a specific region, indicating what is going on there.
- Magnetoencephalography (MEG) – Detects electrical activity in the brain by measuring tiny magnetic fields.