

2. Luigi Galvani

- Found electrical stimulation in frog's nerves caused contraction of attached muscle

3. Johannes Muller

- Forceful advocate of application of experimental techniques to physiology
- ★ Doctrine of specific nerve energies, most important contribution to the study of the physiology of behavior
- Observation that although all nerves carry the same basic message -an electrical impulse- we perceive the messages of different nerve in different ways
- Same electrical current, different channels that it travels through react differently

Ex: An electric impulse traveling through an ocular nerve will cause sight while electrical impulses traveling through an auditory nerve will cause hearing.

- Set the stage for performing experiments directly on the brain

3. Pierre Flourens

- Used method called experimental ablation to remove various parts of animals brains and observed their behavior
- Inferred function of the missing portion of the brain by seeing what the animal could no longer do

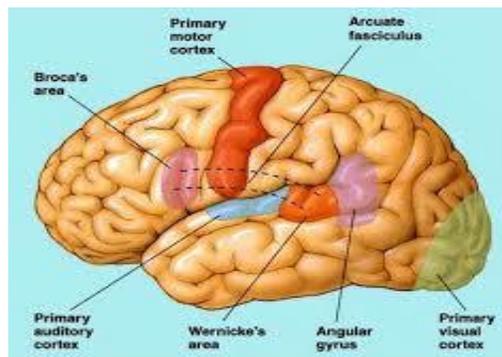
-lesioning: when you damage the tissue of the brain, unlike ablation it is not removed

4. Paula Broca

- Applied experimental ablation to the human brain
- Observed the behavior of people whose brains had been damaged by strokes
- stroke: It occurs when blood flow to an area of brain is cut off. When this happens, brain cells are deprived of oxygen and begin to die. When brain cells die during a stroke, abilities controlled by that area of the brain such as memory and muscle control are lost

- Concluded that cortex performs speech

★ Broca's



portion of the cerebral functions necessary for

Area

5. Hermann von Helmholtz

- Mathematical formulation of the law of conservation of energy
- First scientist to attempt to measure speed of conduction through nerves