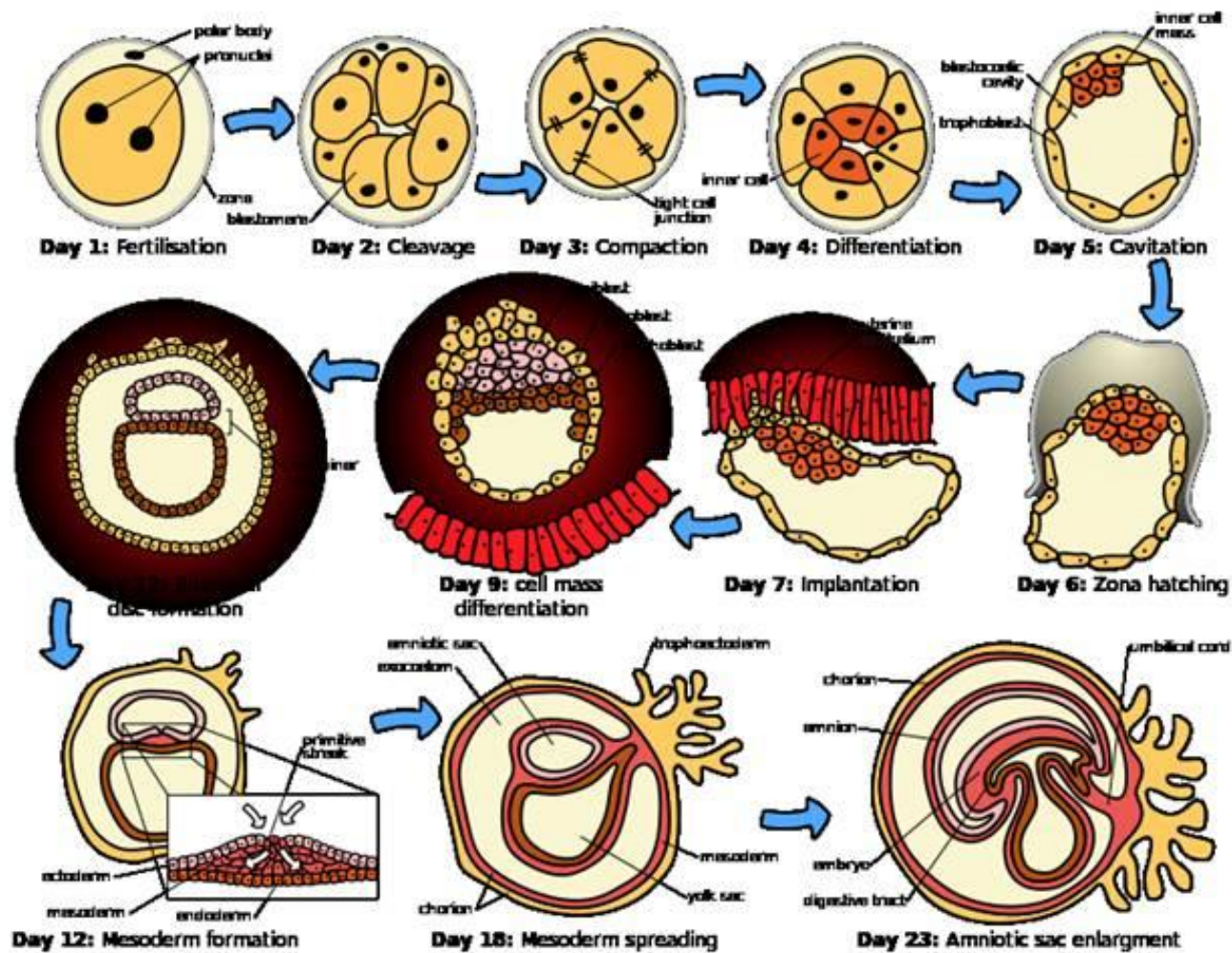




**KHUSHI  
VAISHNAV**

**GROUP NO.-192B**

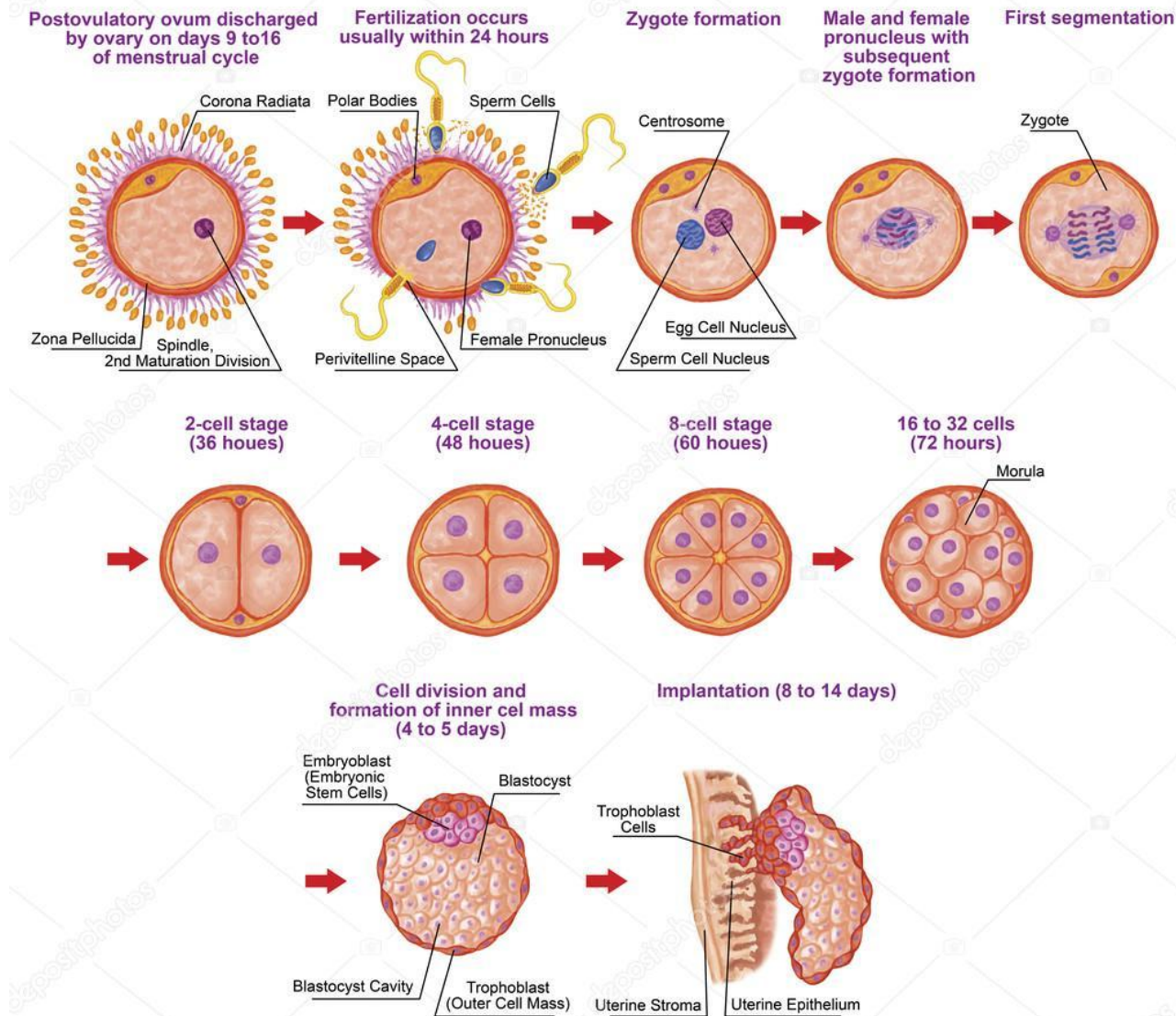
**SCIENTIFIC  
LEADER-SWETLANA  
SMIRNOVA**



## TOPIC:

THEORY OF  
PHYLOEMBRYOGENESIS –  
DEVIATION.PHYLOGENESIS OF THE  
CHORD AVIAN  
NERVOUS  
SYSTEM.DEVELOPMENTAL DISORDERS OF  
NERVOUS SYSTEM IN  
HUMANS

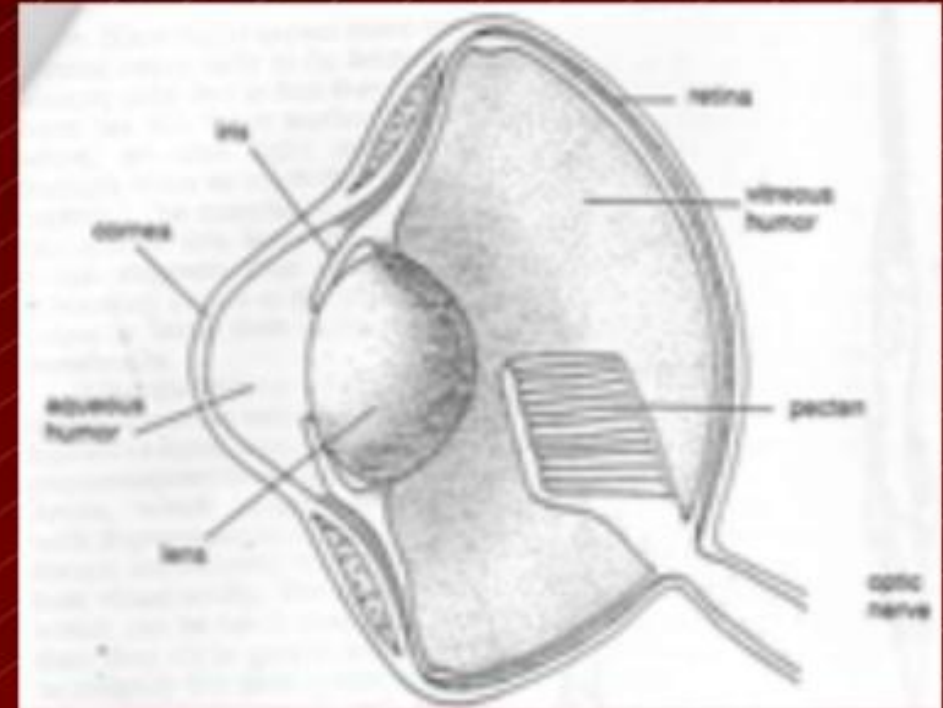




# PHYLOGENESIS

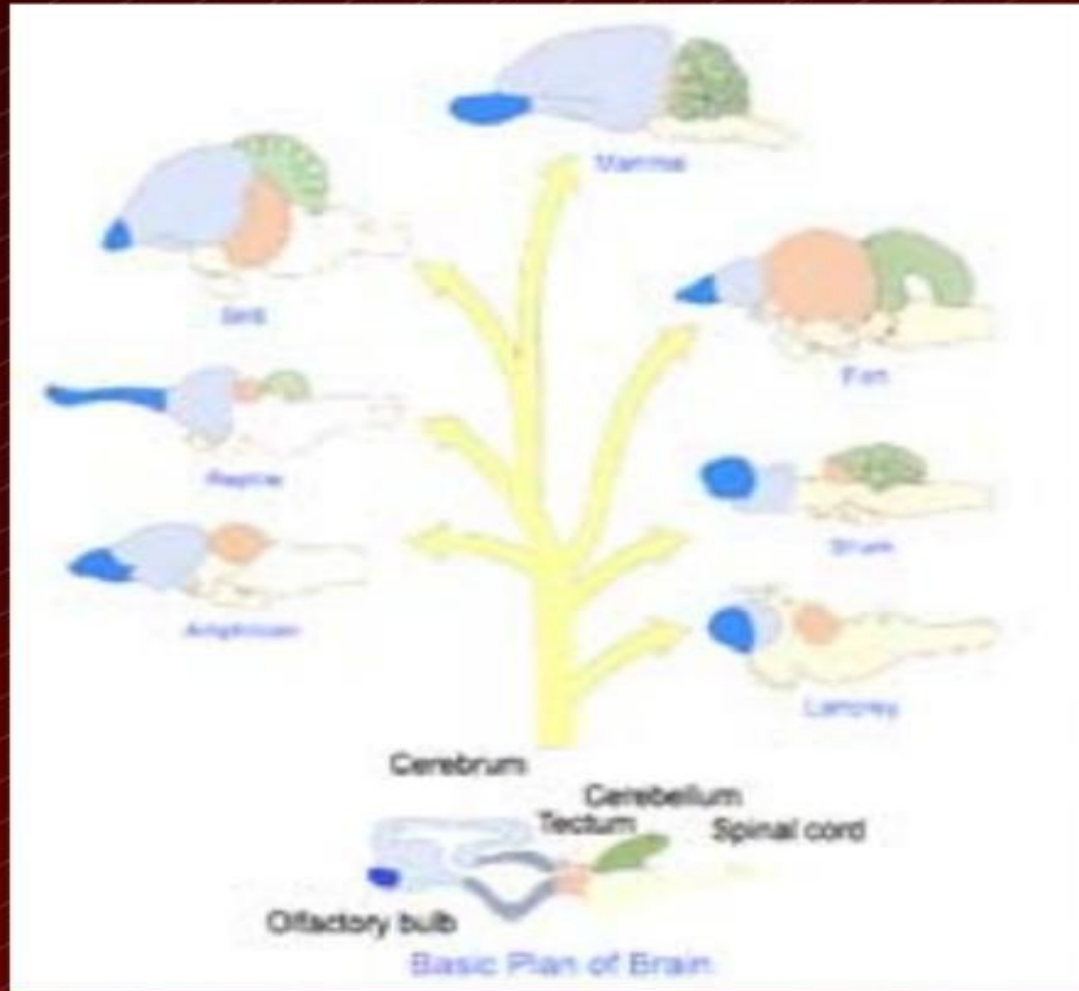
INVESTIGATIONS OF RUSSIAN SCIENTIST A.N. SEVERTSOV WAS OPENED CONNECTION BETWEEN ONTOGENESIS AND PHYLOGENESIS. ACCORDING TO HIS THEORY THE SOURCE OF PHYLOGENETIC TRANSFORMATIONS IN CHANGES ARISING ON EARLY STAGES OF ONTOGENESIS, NOT IN ADULT FORMS. EMBRYONIC CHANGES REFLECTED ON THE STRUCTURE OF ADULT FORMS AND HAVING EVOLUTIONAL IMPORTANCE ARE CALLED AS PHYLOEMBRYOGENESIS.

- Structure of Avian Brain
- Senses:
  1. Mechano-reception
  2. Olfaction
  3. Hearing
  4. Vision





# Brain Size & Structure

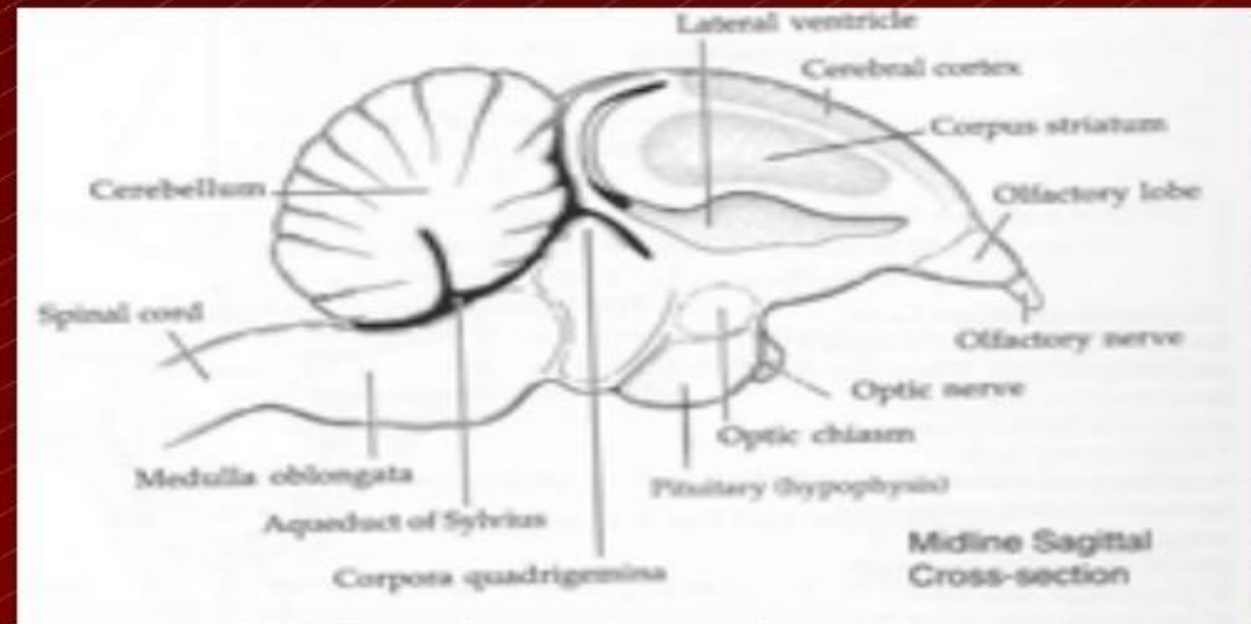
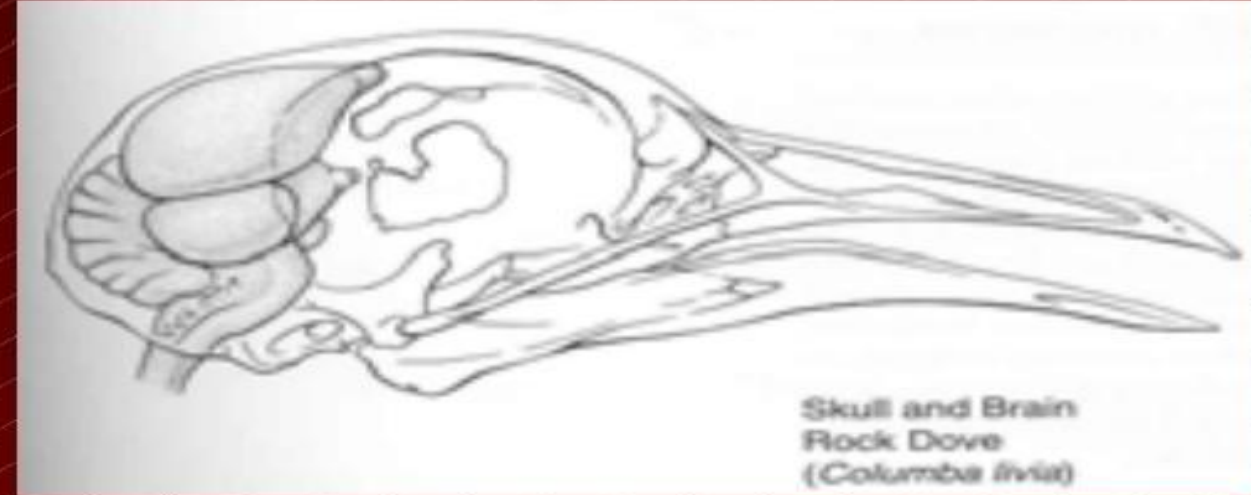


- *Organization:* more reptilian than mammalian
- *Size:*
  1. 6-11x comparable reptilian
  2. 2-9% body mass, like mammals
- *Forebrain:* complex behavior
- *Midbrain:* coordinated movement
- *Hindbrain:* relay to spinal cord & peripheral nervous system



# Avian Brains

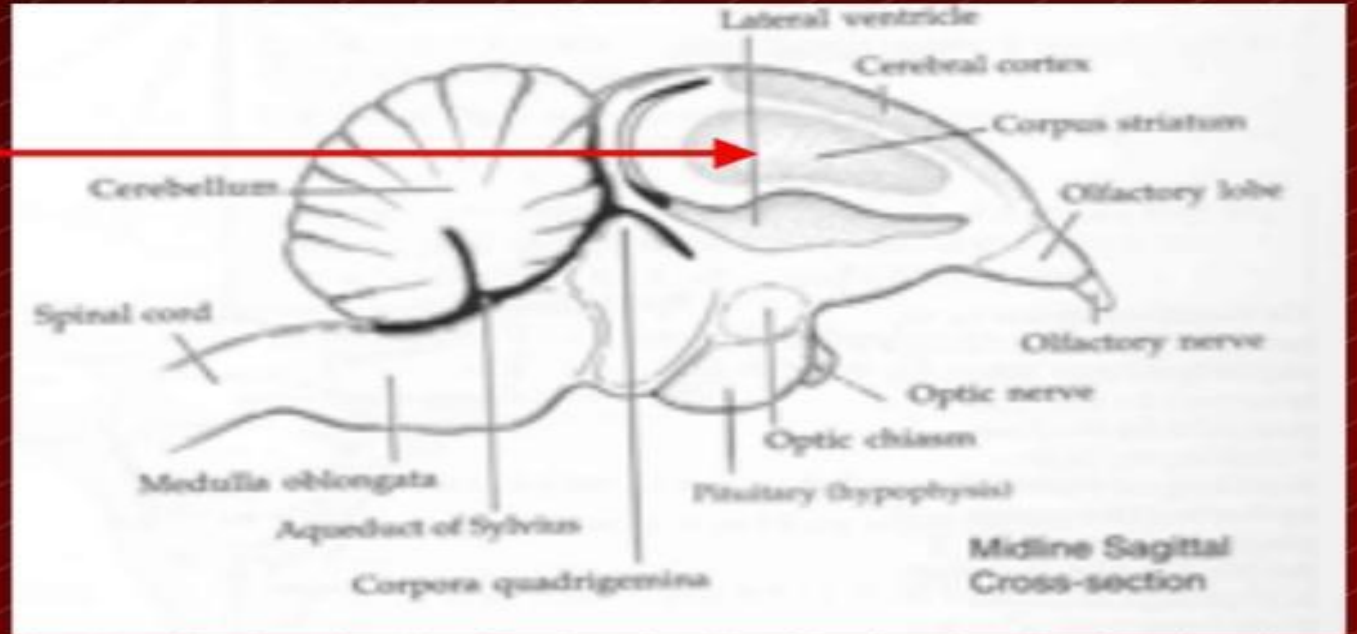
- Emphasis on sight & sound
- Shared with humans = much studied
- Brain in upright position
- Orbits occupy large volume of skull





# Avian Intelligence

- Corpus striatum
- Great range of ability
- Crows, parrots & mynahs vs. pigeons & fowl



- Birds with greater striatal development performed more accurately on tests
- Lesions in the striatal region interfere with learning



# Memory Capabilities

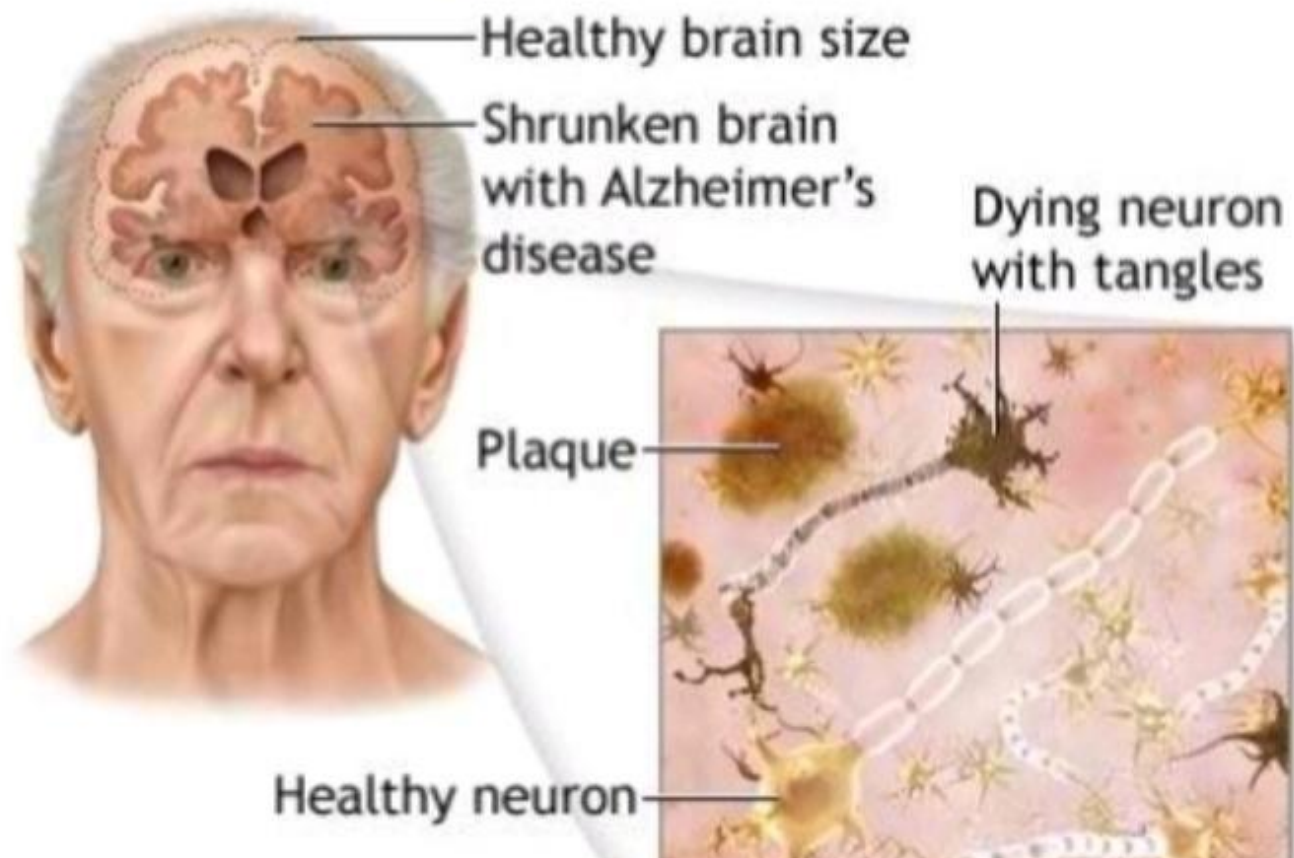
- Corvids, parids, etc.
- Caching behavior
- Must remember locations
- Hippocampus well developed; damage causes memory loss



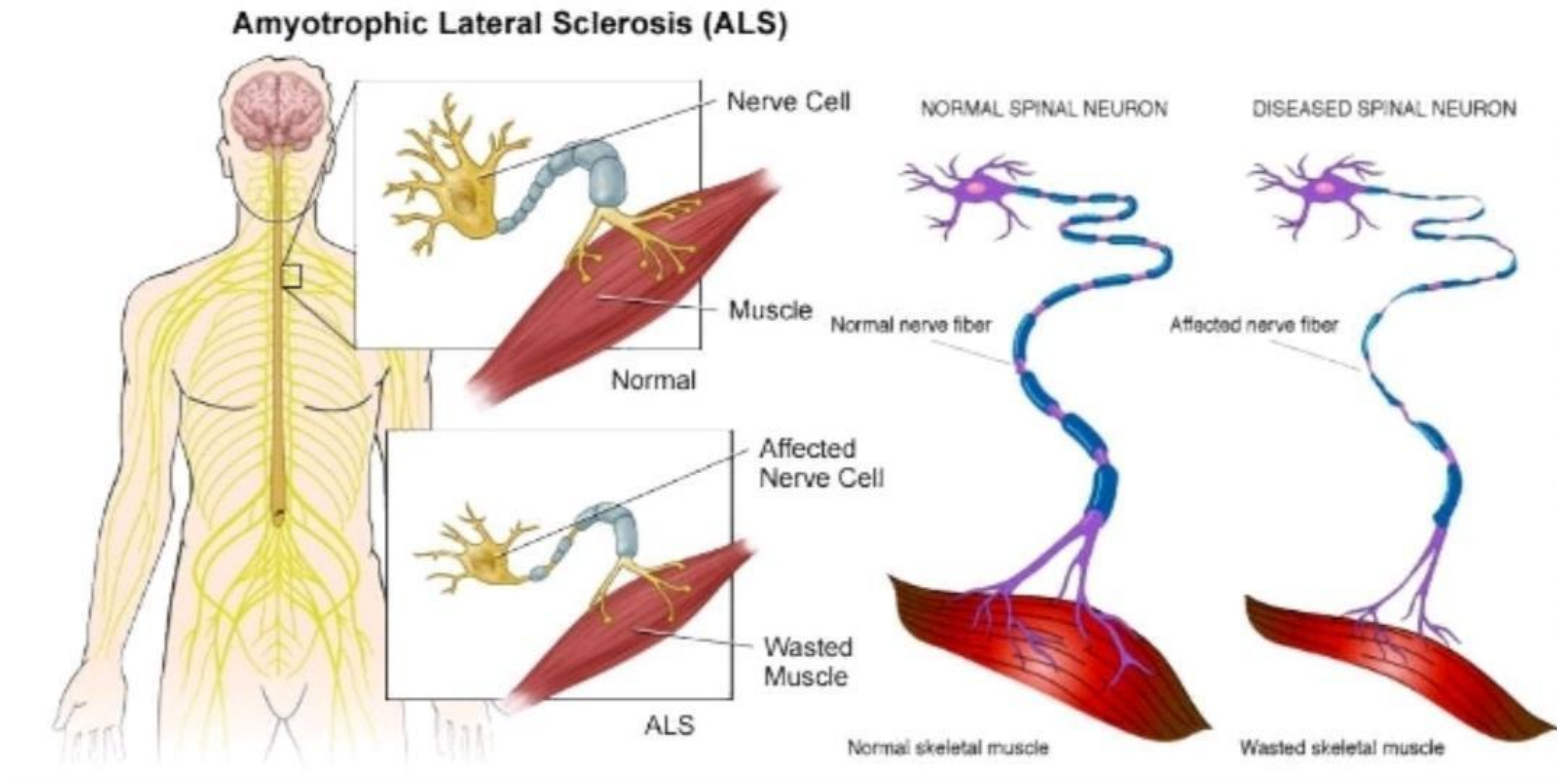
Clark's Nutcracker



***1. Alzheimer's Disease – A disease of the nerves wherein a person has a deterioration of his memory, thinking, and reasoning.***



**2. Amyotrophic Lateral Sclerosis** – also known as Lou Gehrig's Disease, a disease that breaks down motor neurons, which results to the loss of the ability to move any of the muscles in the body.

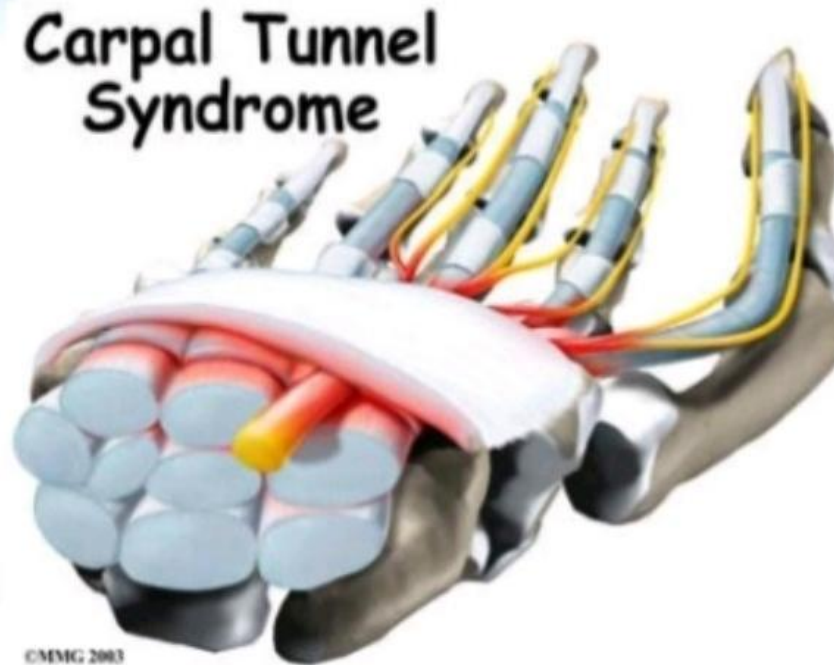




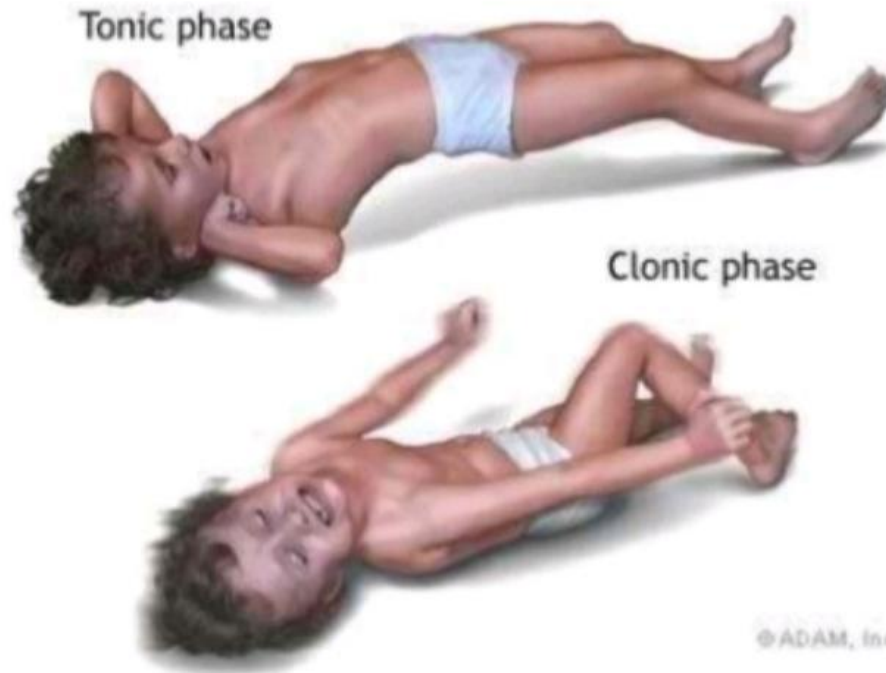
**3. Carpal Tunnel Syndrome** – Disorder caused by the compression at the wrist of the median nerve supplying the hand, causing numbness and tingling.



Carpal Tunnel Syndrome



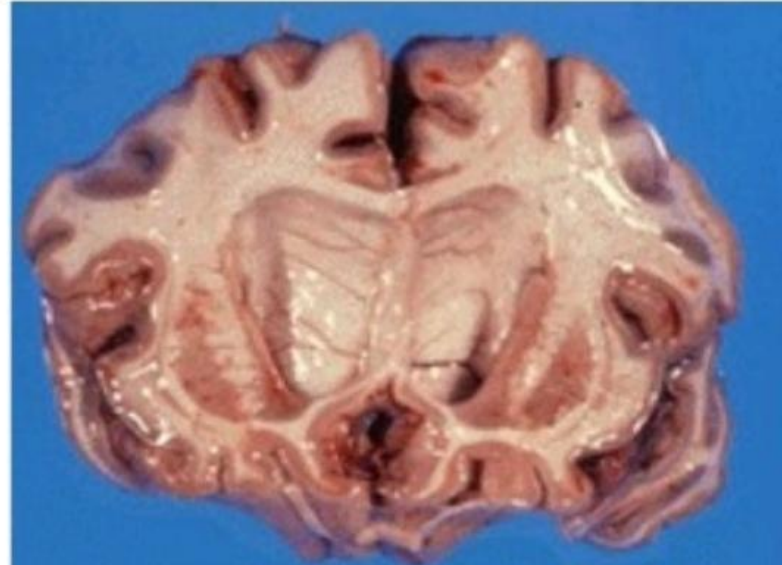
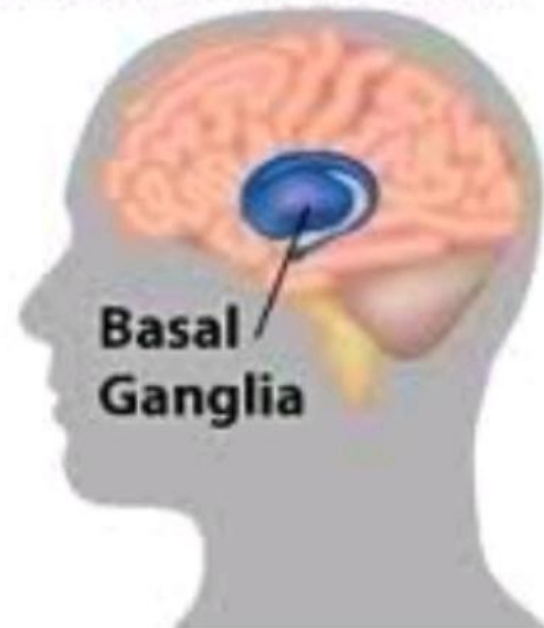
**4. Epilepsy** – Disorder of the nervous system wherein the person has seizures that often involve convulsions or the loss of consciousness.





***5. Huntington's Disease – Inherited, progressive disease causing uncontrollable physical movements and mental deterioration.***

**Huntington's Disease Affects the Brain's Basal Ganglia**



Brain section from a patient with Huntington's disease showing dilatation of ventricles and atrophy of caudate nucleus. [Image credit: Kevin Roth and Robert Schmidt, Washington University, St. Louis, MO, USA.]

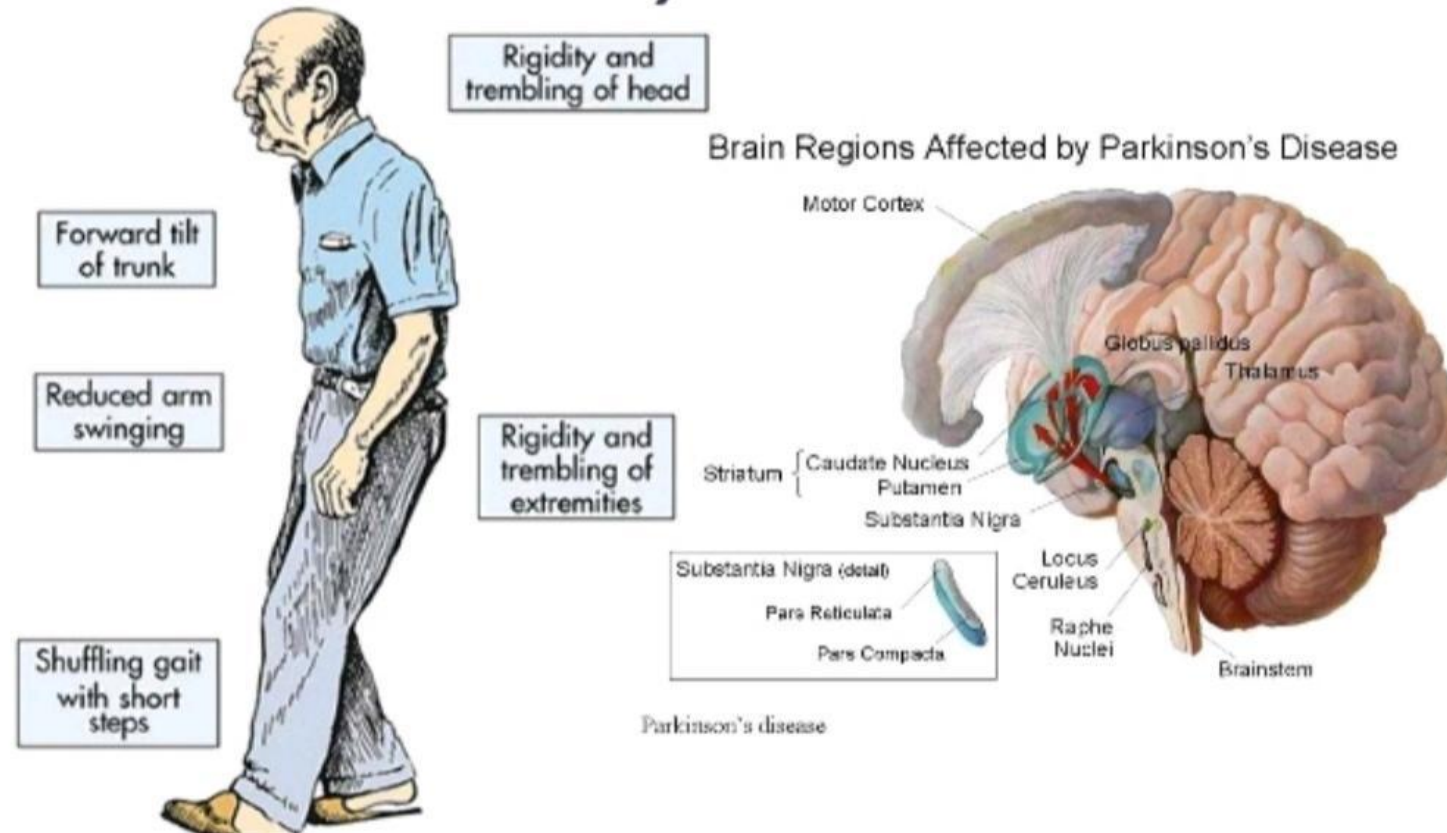
**6. Migraine** – *A particularly intense form of headache.*



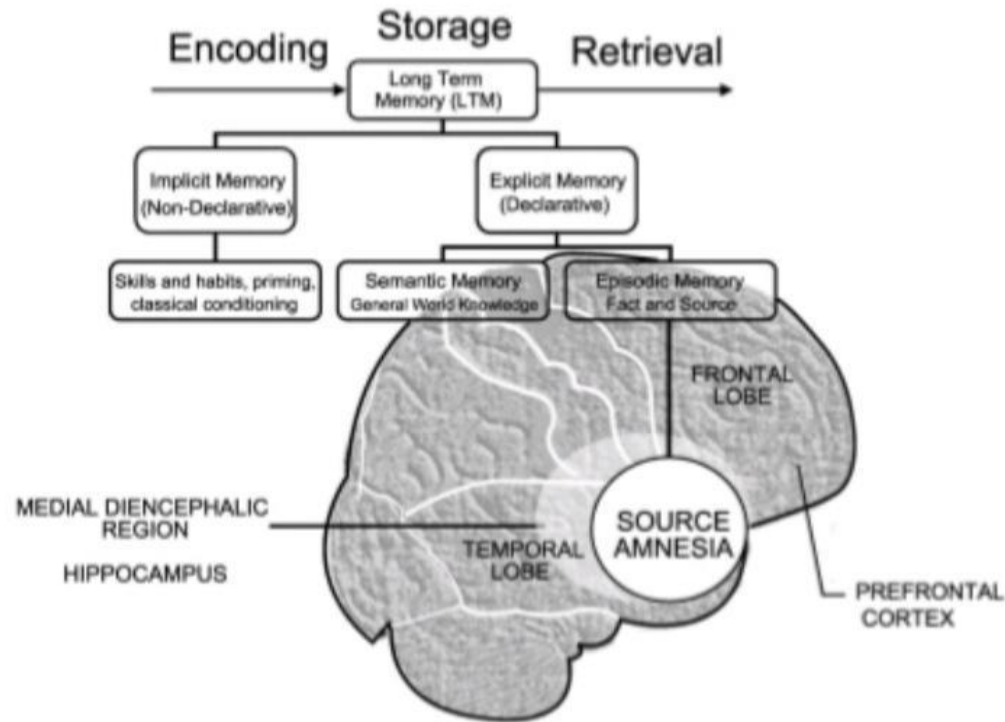
Blood vessel abnormalities are a component of vascular headaches such as migraines and cluster headaches



**7. Parkinson's Disease – Progressive disease in which cells in one of the movement control centers of the brain begin to die, resulting in a loss of control over speech and head and body movements.**



**8. Amnesia** – This kind of damage affects the memory, caused by damage in the frontal lobe. Sufferers have memory blanks when relating to past experiences in their life.

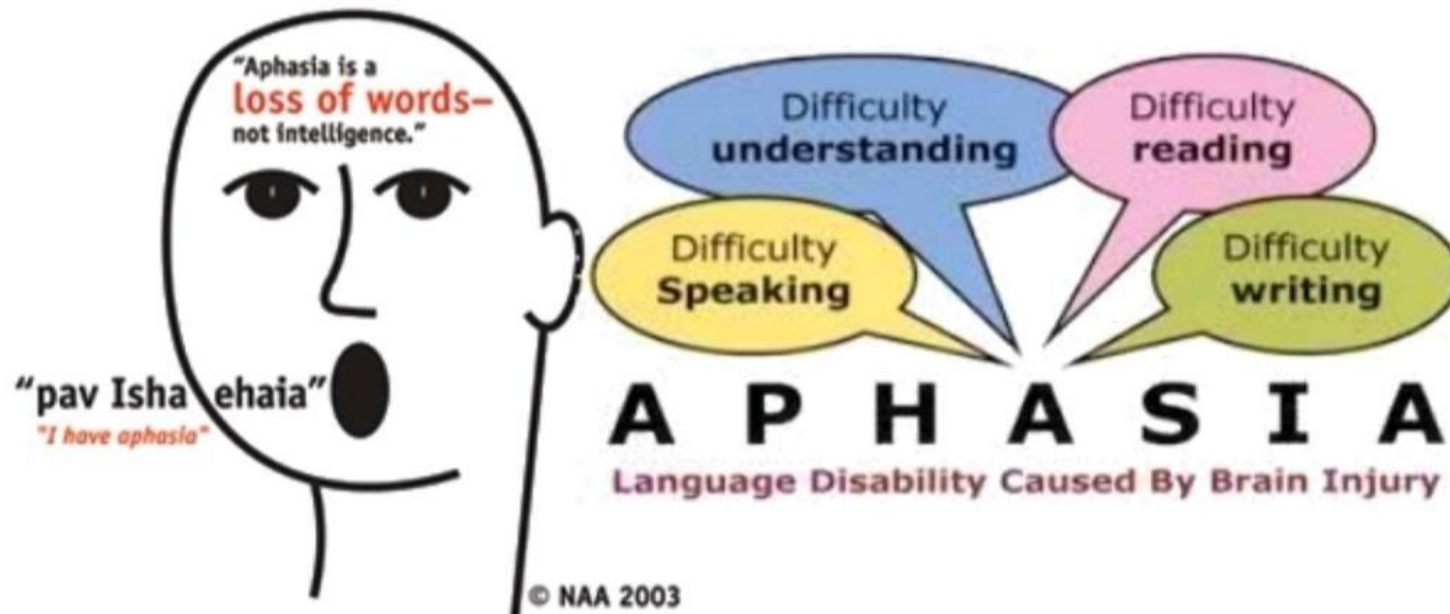




**10. Cerebral Palsy** – Lack of oxygen or injury of a newborn baby can affect the abilities of the child to use and control his muscles. The sufferer usually has problems in walking, talking, and moving his hands but has normal intelligence.

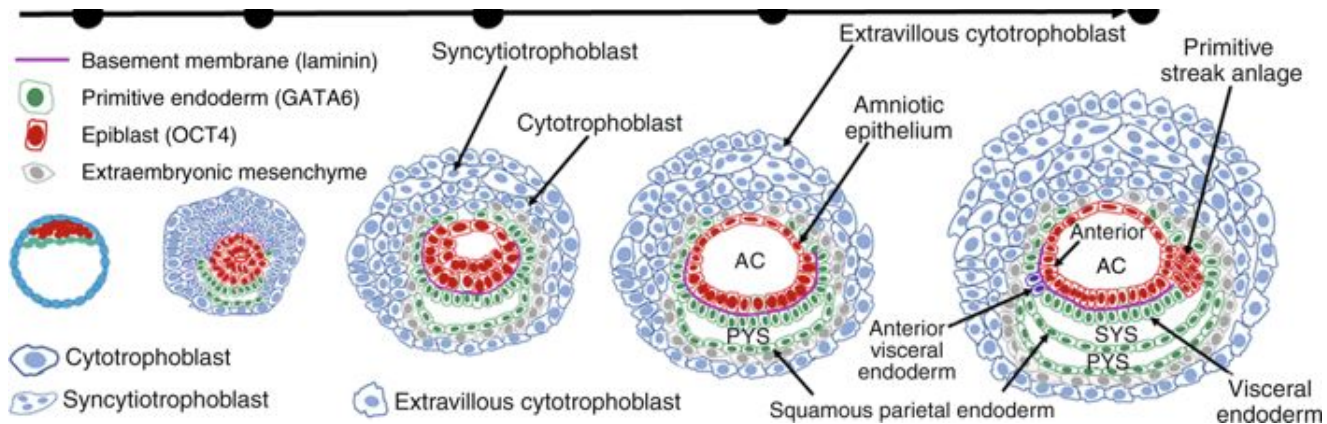


**11. Aphasia** – A type of brain damage affecting the communication abilities of a person. This can range from the inability to construct a sentence either in voice or on paper, to the inability to recognize speech itself. This happens when there is a damage on the frontal part of the brain.





**12. Visual Neglect** – This is where the information received on one half of the brain is rejected and therefore the sufferer can only operate with one eye, because the part of the brain receiving visual information from the other eye is not functioning properly. In some cases, sufferers may only be able to paint half a painting or eat one half of a plate of food as they are unaware of the information about the other half of the environment.



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THANK YOU FOR THE  
ATTENTION!

QUESTIONS?