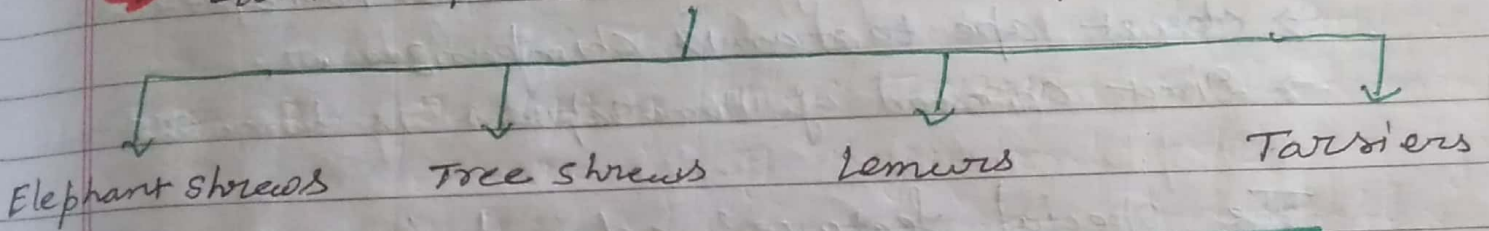


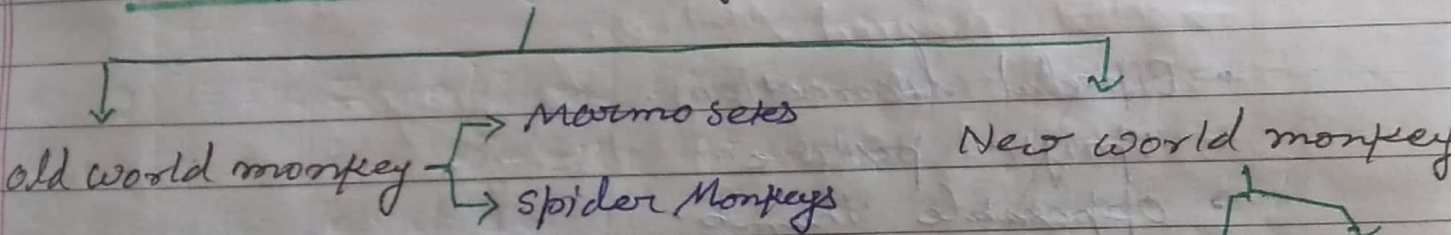
EVOLUTION OF MAN

- More precisely originated in central Asia.
- Primates started evolving in Eocene or Tertiary period b/w 75 to 60 million years ago.
- Evolution of man and ape started together 20-30 million years ago.
- Humanization i.e. achievement of human organization started about 5 million years ago.

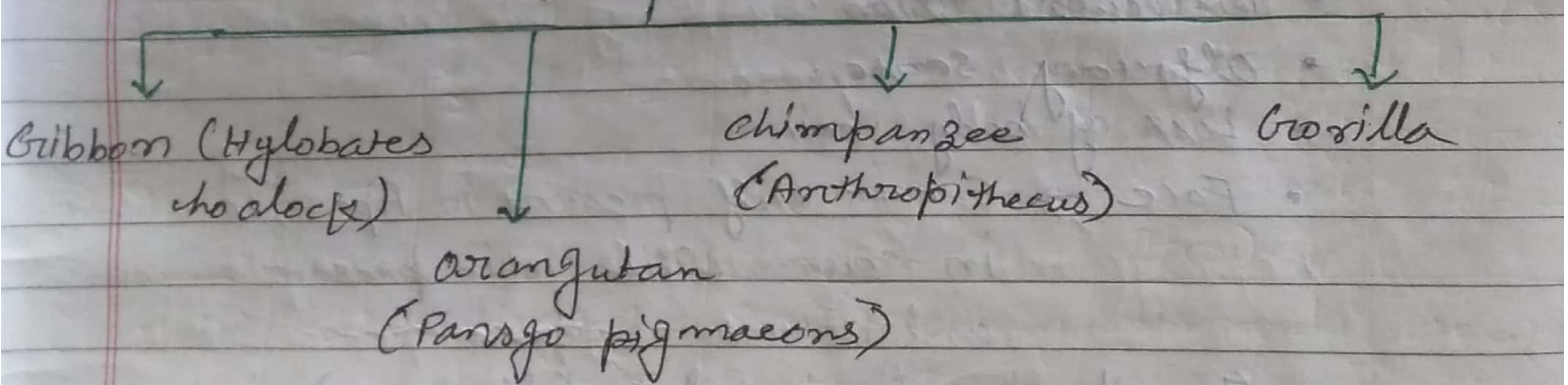
→ Earliest prosimian ancestors of man



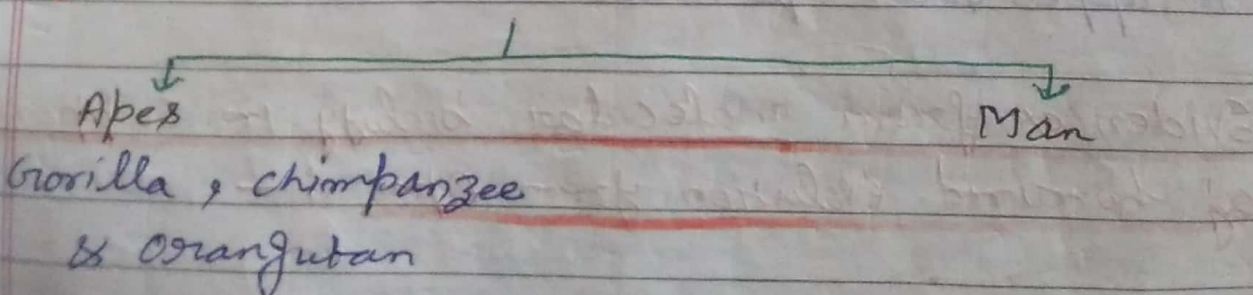
→ Anthropoid ancestors of man



→ Modern day Apes (Hominoidea apes)



→ Homonoid



- Humans are placed in family Hominidae.
- Term hominoids is used for both apes and human as well as their ancestors.
- Epoch of human civilization is Holocene.
- In apes foramen magnum is posterior where as in man foramen magnum is ventral.
- Common ancestor of apes and man is Dryopithecus.
- Earliest man like primate was Ramapithecus.
- Closest ape to man is chimpanzee.
- Direct ancestor of Hominids is Homo erectus.

The special features achieved through humanization are mentioned below: —

- Bipedal locomotion.
- Upright posture.
- Opposable thumb.
- Brain and Cranial capacity.
- Binocular vision.
- Olfactory sense.
- Loss of body hair.
- Face → Simian shelf present in Apes and is absent in man while chin present in man and absent in apes.
- In apes a simian gap (diastema) is present in upper jaws b/w incisor and canine.

Evidences from molecular biology in support of hominid evolution from Apes: —

⇒ Out of 2817 amino acids in ~~the~~ Hb, only

2 amino acids are different b/w Hb of man and chimpanzee and 12 are diff. b/w man and monkey.

- α -chain - 141
- β chain - 146

→ cytochrome C of Man and chimpanzee is same.

→ The somatic cells of man have 23 pair of chromosomes but chimpanzee have 25 pair which indicate that man have evolved from an ancestor having 48 chromosomes by the centromeric fusion of two chromosomes.

→ The 3rd and 6th chromosomal band of man and chimpanzee respectively are very much similar.

→ DNA - DNA hybridization similarity in nucleotide sequence b/w DNA of two sp. is known. A difference of 2.5% is exists b/w man and chimpanzee.

→ Proconsuls and Dryopithecus are recognized as ancestors of man and Apes.

→ Theory of evolution indicate that man evolved from monkey like ancestors.

→ Old world monkeys are nearest to man in comparison to new world monkey.

• Ramapithecus :-

→ Fossils found in shivalik hills of India.

→ Earliest man like primate.

→ oldest man ancestor.

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• Australopithecus :- (4.5 - 1.5 mya)

- 1st erect man.
- Man with Apex brain.
- 1st Apex man.

• Homo habilis (habilis - tool maker) (2.5 to 1.5 mya)

- 1st tool maker.
- Developed Stone tools.
- Began hunting for food.
- Showed sexual division of labour.
- Communicated with visual signals and simple audible sounds.

• Homo erectus (Java & Peking man) (1.8 to 300,000 yrs ago)

- Had reduced Molars.
- Used rudimentary language.
- Showed sign of clothing.

• Java man (Homo erectus erectus)

- Fossils found on bank of Solo river in Java.
- They was omnivorous.
- Discovered fire.

• Peking man (Sinantropus pekinensis / Homo erectus ~~pekinensis~~ pekinensis)

- Fossils found in caves near Peking.
- Used fire for cooking.
- Used clothing.
- Was omnivorous.
- Made tools of Stone, bones and quartz.
- Used some kind of rudimentary language.

• Homo sapiens (Late Pleistocene Man)

- Neanderthal man (150,000 - 30,000 year ago)
- Cranial capacity near to man (1450 to 1500cc)
- Advancement of hunting (hunting was in groups and in an organized way).
- Developed speech centre.
- Had concept of life and death, followed rituals and buried dead bodies.
- Was 1st to built huts.

• Cromagnon (Homo sapiens fossilis)

- Highest Cranial capacity (1600 to 1700cc)
- Recent ancestor of man.
- Fossil 1st found in Cromagnon rocks in France.
- Left cave paintings.
- Was religious and cultural.
- Followed Ceremonial burial of dead bodies.
- Believed in immortality of soul.
- Made ornaments from ivory and decorated their bodies.
- 1st domesticated dog.

• Homo sapiens - Sapiens (45,000 - 35,000 year ago)

- Cranial capacity 1350 - 1750cc.
- Fossils obtained from Caspian and Mediterranean sea.

- NOTE :-
- The brain size in Hominid lineage from Australopithecus to Homo increased dramatically from about 500 to 1350cc.
 - Agriculture started about 11,000 years ago.