

Topic: Evolution of Man

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arrival on the earth. They represent the latest adaptive advancements in the animal kingdom and occupy a unique position in the living world.

* History:

- Huxley 1863 made first attempt to man's origin in his book 'man's origin in Nature'.
- Charles Darwin advocated about man's evolution in his book "The Descent of Man" from Apes.
- The main contribution for the study of human evolution were Raymond Dart, 1920, Davidson Black 1927, George E. Lewis 1934, L.S.B. Leakey and Mary Leakey and their son Richard.

* Major sites of Human fossils:

- Human fossils were obtained from Africa, India, China, Algeria and Europe.
- In S. Africa, fossils of Australopithecus, Paranthropus, Homo erectus, Neanderthman were obtained.

* Place of origin of man:

- The fossils of Prothuman and ancestral human forms have been obtained from widely diverse regions of Africa, Asia and Europe, which indicates that man's centre of origin was probably in Asia and Africa.

- More precisely man has originated in central Asia.

* Time of origin of man:

- Primates are presumed to have started evolving in Eocene of Tertiary period between 75 and 60 million years ago. They were small Lemur like animal. They were primarily arboreal with a long tail and small face.

- Humanisation (achievement) of human organisation (for Ape) separated from other apes about 6 millions years ago in Pliocene in Africa.

* Evolutionary trends in Evolution of man:

- A change from an ape like form to human form required several changes which are -

i) Increase in the size and complexity of brain and increase in overall intelligence.

- Increase in skull capacity.

- Bipedal locomotion and freeing of forelimbs from the ground and from locomotion.

- Modification of forelimbs into organ of manipulation.

- Thumbs in forelimbs become longer.

- Lengthening of hindlimbs and

shortening of forelimbs.

- Erect posture by the development of lumbar curve.

- Reduction in size of incisors and canines because of omnivorous feeding habits.

- Non-functional last pair of molars due to shorter jaws.

- Loss of jaw power.

- Development of chins.
- Social organisation and cultural evolutions.

* Prehuman ancestors:

1. Brier to Ape man:

- lived in African forests
- These early ancestor includes

* In oligocene

(1) Propliopithecus

- Lived about 30-35 million years ago.

- There are two different concepts of man's oligocene ancestry

- Propliopithecus directly give rise to Ramapithecus.
- Propliopithecus gave rise to Dryopithecus, which evolved as Apes.

ii) Aegyptopithecus

iii) Limnopithecus and Pliopithecus (ancestors of gibbons and orangutans)

iv) Proconsul (walked on its 4 legs)

v) Dryopithecus

- Similarities with chimpanzees

and considered as common ancestor of man and Apes.

b) In Miocene

i) *Orangipithecus*
- It shows more resemblance with man.

ii) *Ramapithecus* and *Sivapithecus*
- It was found by Edward

Lewis in 1930 from Siwalik Hills in Northern India.

- Earlier *Ramapithecus* was considered to be earliest man like primate and oldest of man's ancestor.

- walked in 4 legs.

- *Ramapithecus* is regarded to be an Ape which was on direct line of Ape and Human evolution.

* In Late Miocene

(i) *Sahelanthropus tchadensis*

(ii) *Ardipithecus*

(iii) *Ardipithecus* Kababba

[2] Evolution of Ape man in Pleistocene

(i) *Australopithecus* (first Ape man)

- fully bipedal hominids with small brain.

ii) *Meganthropus*

- found from Java

- Bipedal and tool using human.

ii) Meganthropus:

- Found from Java.
- bipedal and tool using human.

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* Evolution of man (Genus Homo) in Pleistocene:

i) Homo habilis (Handy man) (first tool maker hominid)

- Lived in early Pleistocene about 1.75-2.00 million years ago.
- walked fully erect.
- Hands were similar to lower and used to making tools etc.
- Cranial capacity = 700-800 cc

[Homo habilis are considered as linear ancestor of Homo-erectus]

ii) Homo erectus (Fore summer of modern human)


- Its first fossil was described in 1891 by Eugene Dubois from Java. It was named Pithecanthropus erectus means ape man that walks erect.

(a) Java man - (Homo erectus erectus)

- Cranial capacity 940 cc

(b) Peeking man (*Homo-erectus pekinesis*)

- Cranial capacity 850-1200 cc.
- *Homo erectus* had skeleton much like own, but more primitive skull.
- They used stone tools for hunting.
- They have also ~~learned~~ learned the use of fire for ~~storing~~ cooking.

iii)  *Homo sapiens* (Late Pleistocene man):

- *Homo erectus* ~~has~~ was succeeded by early *Homo sapiens*.
- The fossils of Primitive man were found in Europe, Asia & Africa.

a) Heidelberg man:

- It is known only from a massive lower jaw.
- The jaw is large and heavy and lacks a chin.
- Teeth like modern man.
- Heidelberg man is regarded as ancestor of Neanderthal man.

b) Neanderthal man:

- It existed in late Pleistocene period and its fossils were found in Neanderthal in Germany.

- cranial capacity 1450 cc (nearer to modern man).
- culturally, they were more evolved.
- Stone tools were more fine made from flakes.
- They had concepts of life and death.

(c) Solo man (Homo soloensis):

- Its fossils were found on bank of Solo river in Java.
- Cranial capacity = 1300 cc
- Its means Solo man is more primitive than Neanderthal man.

d) Rhodesian man

- Fossils found in Rhodesia in the large limestone cave.
- Cranial capacity = 1300 cc.

e) Cro-magnon man:

- Cro-magnon man is considered as ancestor to modern man.

(Homo sapiens sapiens)

- They extinct about 20,000 periods ago.
- Cro-magnon were about 180 cm in height with a large skull, broad face, rounded forehead, narrow nose &

prominence chin.

- cranial capacity = 1600 cc

* Modern man

(Homo sapiens sapiens)

- modern man evolved from Cro-Magnon man. They evolved only in cultural and technical evolution.
- Advances in farming techniques.
- Domestication of cattle, Dogs, Sheep, cats.
- Establishment of towns.
- Extraction of metals from ores and use of arrows, ornaments & jewellery.
- The modern man was appeared 10-11 thousands years ago in Asia near Caspian sea.
- From here it migrated in three direction and form three distinct races—

a) white or caucasoid race:

- white race spread in west along shore of Mediterranean in Europe, South-west Asia and North Africa.

b) Black or Negroid race

- Their race developed in Africa and Malasia.

c) Monogloid race
- Their race spread in north
and east in Siberia and China.

⊗ Future of man:

- Cultural and industrial evolution
today reached that stage that man
can change his environmental condi-
tions. This way reduced the impact
of biological evolution on human race.

- Anthropologists Shapero, has
imagined that the man in future
will be tall, slim and without body
hair. Their skull will be dome
shaped and brain will be large.

- Their life span increases
and 5th digit in feet lost.

- The future race of man
is named - Homo futuralis.