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Part III (H) & Zoology
P. G. IVth semester

* Organic Evolution *

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⊕ Historical development of concepts of Evolution: (Before Darwin)

1. Theory of special creation:

- (Father Suarez 1548-1617)
- World with all its complex organism has been created by God in 6 days. From the days of creation these organism are existing unchanged.

2. Greek theories:

- Several theory of historical importance were proposed by Greek Philosophers before birth of Jesus Christ.

(a) Thales (624-548 BC)

- Theory of aquatic or marginal origin of life.

(b) Anaximander (611-547 BC):

- He proposed all living beings have arises from primordial fluid or Slime, which they ultimately return.

(c) Xenophanes (576-480 BC)

- He recognised that fossils are the remnants of organism living in past.

- According to him the existence of fossils of marine animals on dryland indicates that dryland was once under the sea and that "Life originated in Sea."

d) Empedocles (504-433 BC):

- He believed in spontaneous generation and proposed that evolution of animals was a series of attempts by nature to produce more perfect forms.

e) Aristotle (384-322 BC):

- He proposed that living things were (guiding) animated by a vital force or guiding intelligence, which operate constantly and improves the perfects the living world.

- Aristotle was "Father of Zoology."

f) Epicurus (341-271 BC)

- He gave an evolutionary explanation of origin of plants & animals

⊕ Pre-Modern Theory:

"Evolution of medieval age"

i) Francis Bacon (1561-1626):

- New species could arise from old species by degenerative process caused due to mutability in the species.

ii) Jan Swammerdam (1637-1680):

- He proposed Pre-formation theory.
- Ova contains miniature of the adult in preformed state.

iii) Demaillet (1656-1738)

- He contributed mainly about the nature and formation of fossils.

iv) wolf theory of Epigenesis:

- Acc to this theory an embryo developed by gradual differentiation of differentiated simple tissues into organs.

v) Linnaeus: Father of Taxonomy (1707-1778)

vi) Buffon (1707-1788):

- He believed in the inheritance of acquired character and direct effect of environment on the structural modification of organisms.

vii) Erasmus Darwin (1731-1802)

- He was grandfather of Charles Darwin.
He at first give statement of inheritance of acquired characters.