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2. Theory of Darwin

Darwin theory was also known as “Theory of Natural selection”.

Postulates of Darwin theory

1. Speciation (formation of species) - Useful variations from generation to generation gives rise to the formation of new species.
2. Struggle of the existence Due to multiplication of organisms and limited food and space, there exists competition among the organisms.
3. Survival of the fittest or Natural selection Nature selects those characteristics or organisms that are useful and are best adapted to the prevailing conditions. “**For example**: Industrial melanism observed in peppered moth in Britain”

Speciation

Origin of new species from already existing species is known as speciation. Speciation can take place through-

a. **Gene flow** can lead to speciation. It is a transfer of genetic variation from one population to another
b. Random change in allele frequency known as **genetic drift** can also leads to speciation.
c. **Natural selection** is another reason through which speciation can take place
d. Geographical barriers such as mountains, rivers can also lead to speciation. This is known as **geographical isolation**.

Evolution and Classification

Evolution and classification are linked to each other. There are different evidences of evolution was given-

- **Homologous organs** are the organs evolved from the same ancestors but they have different functions. For example, forelimb of horse and wings of bat. Flipper of whale, human hand are other examples of homologous organs.

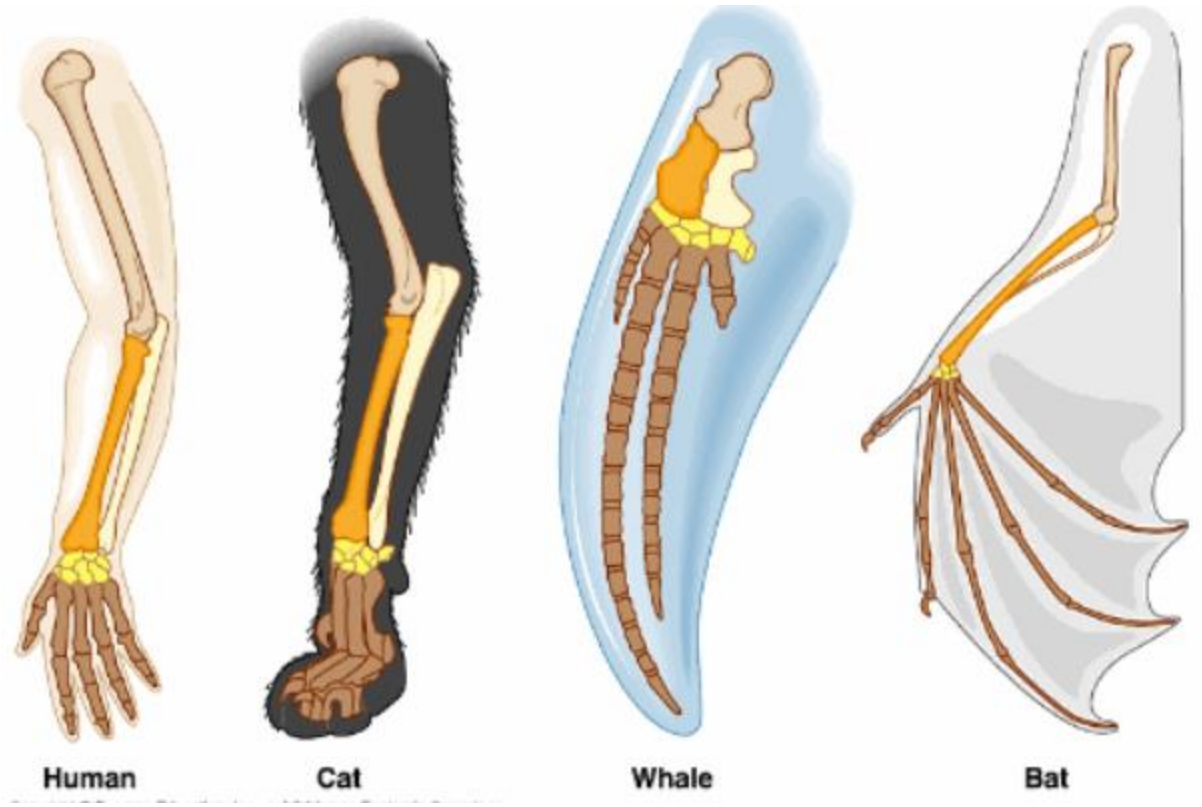

Fig.4. Examples of homologous organs

- **Analogous organs** are the organs arises from different ancestors but have same function. For example, wings of bats, wings of birds, wings of insects etc.

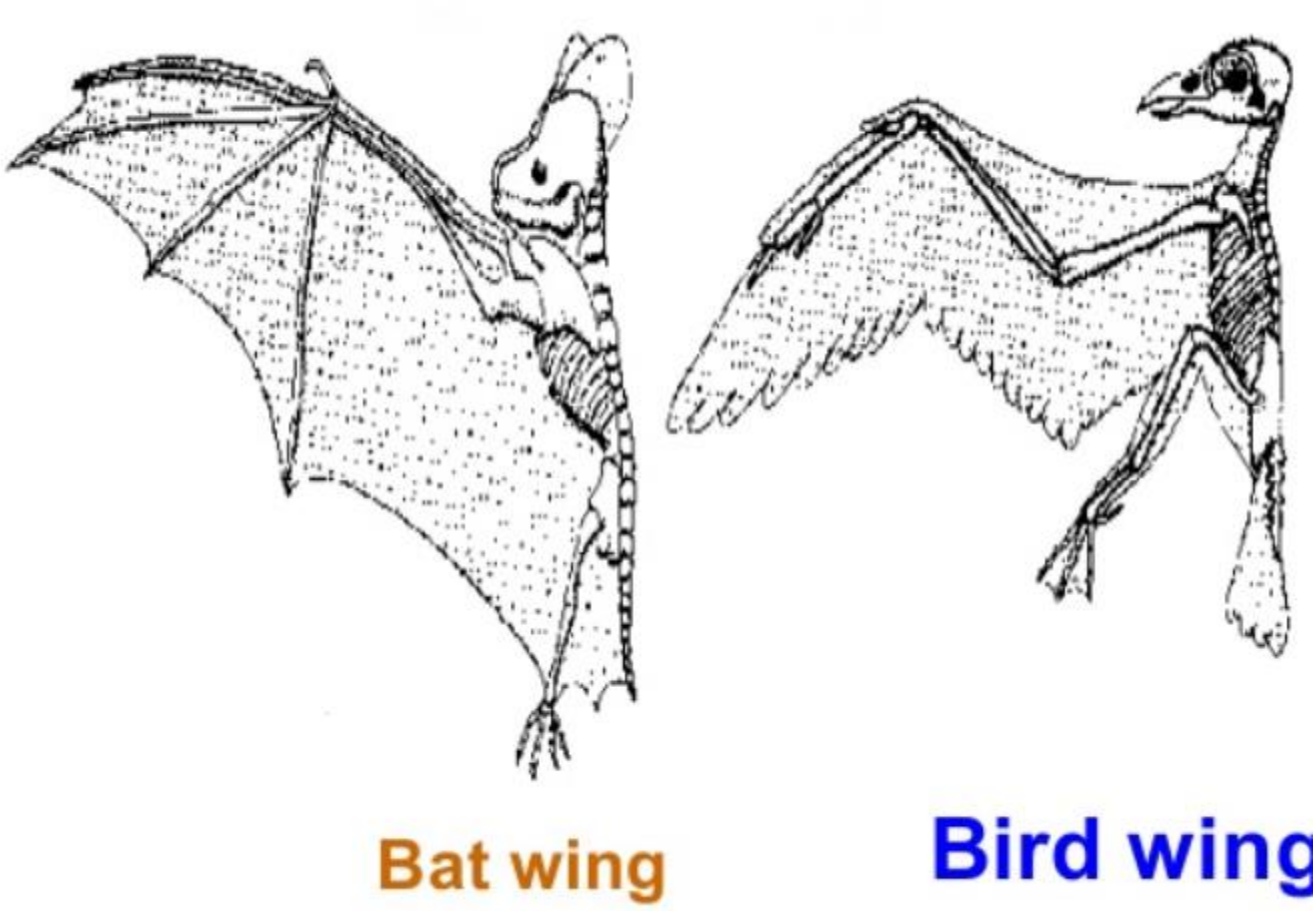

Fig.5. Examples of analogous organs