

In explaining his theory, he suggested that;-

- ❖ A change in the environment creates new needs in the organisms living in that environment.
- ❖ The changes are caused by increase in use and disuse of body parts.
 - He believed that during life time of an organism, those parts which are used tend to develop and become strong while those parts which are not used weaken and disappear.
 - He further more explained that the acquired characters as a result of constant use of organ (part) become part of heredity and hence passed from one generation to another.

He used the following points (examples) to explain his theory;-

(a) DEVELOPMENT OF LONG NECKED GIRAFFES

According to **Lamarck**, the ancestral giraffes had short necks. Then it happened a lack of food on land (environmental needs) hence they had to look for food on leaves of the trees. Due to constant strengthening of the neck muscles while eating, the giraffes developed a long and strong necks and front legs (**use and disuse theory**).

This acquired character (long necks) became part of heredity and was inherited generation to generation (**inheritance of acquired characters**).

(b) DEVELOPMENT OF WEBBED FEET IN DUCKS

Jean Baptiste Lamarck assumed that today's water birds were originally terrestrial (land) birds. Lack of food on land led the ducks to move into water for searching food, due to constant spreading of their toes whilst swimming they developed webs in their digits. This acquired character (webbed feet) was inherited generation to generation.

Strength of Lamarck's theory

- His work opened up the way for scientists to debate on the course of organic evolution.
- He emphasized the role of environment in the course of evolution.
- It is true that when the body part is used it becomes strong.

Weakness of Lamarck's theory

- Acquired characters cannot be inherited generation to generation since they are not controlled by genes.
- The disuse of the body part cannot cause it to disappear.
- He didn't distinguish inheritable from non-inheritable characters.