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Q:- Write notes on LAMARCKISM?

Ans:- Lamarckism or Lamarckian inheritance, also known as "Neo-Lamarckism", is the notion that an organism can pass on to its offspring physical characteristics that the parent organism acquired through use or disuse during its lifetime.

Lamarckism, or Lamarckian inheritance, also known as "Neo-Lamarckism", is the notion that an organism can pass on to its offspring physical characteristics that the parent organism acquired through use or disuse during its lifetime. This idea is also called the inheritance of acquired characteristics or soft inheritance. It is inaccurately named after the

French biologist Jean Baptiste Lamarck (1744-1829), who incorporated the action of soft inheritance into his evolutionary theories as a supplement to his concept of orthogenesis, a drive toward complexity. The theory is cited in textbooks to contrast with Darwinism. This paints a false picture of the history of biology, as Lamarck did not originate the idea of soft inheritance, which was known from the classical era onwards, and it was not the primary focus of Lamarck's theory of evolution. Further, in *On the Origin of Species* (1859), Charles Darwin supported the idea of "use and disuse inheritance", though rejecting other aspects of Lamarck's theory. Darwin's own concept of pangenesis implied soft inheritance.

Many researchers from the 1860s onwards attempted to find evidence for Lamarckian inheritance, but these have all been explained away, either by other mechanisms such as genetic contamination or as fraud. On the other hand, August Weismann's experiment is now considered to have failed to disprove Lamarckism as it did not address use and disuse. Later Mendelian genetics supplanted the notion of inheritance of acquired traits, eventually leading to the development of the modern synthesis, and the general abandonment of Lamarckism in biology. Despite this, interest in Lamarckism has continued.

Early history :-

Origins

The inheritance of acquired characteristics was proposed in ancient times, and

remained a current idea for many centuries. The historian of science Conway Zirkle wrote in 1935 that

Lamarck was neither the first nor the most distinguished biologist to believe in the inheritance of acquired characters.

He merely endorsed a belief which had been generally accepted for at least 2,200 years before his time and used it to explain how evolution could have taken place. The inheritance of acquired characters had been accepted previously by Hippocrates, Aristotle, Galen, Roger Bacon, Jerome Cardan, Levinus Lemnius, John Ray, Michael Adamson, Jo. Fried. Blumenbach and Erasmus Darwin among others.

Zirkle noted that Hippocrates described pangenesis, the theory that

What is inherited derives from the whole body of the parent, whereas Aristotle thought it impossible; but that all the same, Aristotle implicitly agreed to the inheritance of acquired characteristics, giving the example of the inheritance of a scar, or of blindness, though nothing that children do not always resemble their parents. Zirkle recorded that Pliny the Elder thought much the same. Zirkle also pointed out that stories involving the idea of inheritance of acquired characteristics appear numerous times in ancient mythology and the Bible, and persisted through to Rudyard Kipling's Just So stories. Erasmus Darwin's *Zoonomia* (c. 1795) suggested that warm-blooded animals develop from "one living filament... with the power of acquiring new parts" in response to stimuli, with each round of "improvements being inherited by successive generations."