Directed variation by jean baptiste lamarck

By comparing current species with fossil forms, Lamarck could see what appeared to be several lines of descent, each chronological series of older to younger fossils leading to modern species. On the ground floor were microscopic organisms, which Lamarck believed were continually generated spontaneously from inanimate material. At the top of evolutionary escalators were the most complex forms (plants and animals).

Evolution was driven by innate tendency toward greater and greater complexity, which Lamarck seemed to equate with perfection. As organisms attained perfection, they became better and better adapted to their environments. Thus Lamarck believed that evolution responded to organisms' sentiments interieurs, or " felt needs. "(Lamarck 1803). Lamarck is remembered most for the mechanism he proposed to explain how specific adaptations evolve. It entailed two principles.

First is the use and disuse, the idea that those organs of the body used more frequently and extensively to cope with theenvironmentbecome larger and stronger, while those organs that are not used deteriorate. Among the examples that Lamarck cited were the blacksmith developing a bigger bicep in the arm that works the hammer and a giraffe stretching its neck to new lengths in pursuit of leaves to eat (Lamarck 1803). Lamarck's second principle of adaptation is the inheritance of acquired characteristics.

Lamarck believed that the modifications an organism acquires during its lifetime can be passed along to its offspring. The long neck of the giraffe, Lamarck reasoned, evolved gradually as a cumulative product of a great many generations of ancestors stretching higher and higher. There's however no evidence that acquired characteristics can be inherited.

Blacksmith may increase strength and stamina by a life time of pounding with a heavy hammer, but these acquired traits do not change genes transmitted by gametes to offspring (Lamarck 1803).

The Lamarckian theory of variation is ridiculed by some today because of its erroneous assumption that acquired characteristics are inherited; but in Lamarck's era, the concept of inheritance was generally accepted. T o most of Lamarck's contemporaries, however, the mechanism of evolution was an irrelevant issue. In the creationist- essentialist view that still prevailed, species were fixed and no theory of evolution could be taken seriously. Lamarck was vilified especially by Cuvier, who would have no part of evolution.

In retrospect Lamarck deserves credit for his unorthodox theory which was quite visionary in many respects: in its claim evolution is the best explanation for both the fossil record and current diversity of life; in its emphasis on the great age of the earth; and itsstresson adaptation to the environment as a primary product of evolution, (Lamarck 1803). Conclusion The major aspects of the Lamarkianism are founded on the fact that environment contributes much to the development of new traits in population.

Ignoring the basic principles of biology that acquired traits are never transmitted to the next generation, these biologists believe in the contrary and that eventually these acquired traits form part of the genome (Lamarck 1803). I have written on Lamarck because his evolutionary argument one of the toughest criticism. Therefore, reading on Lamarck can only help one revisit the biological knowledge on evolution withrespectto the general

knowledge in biology. In short, it was quite interesting reading about Lamarck.