

Benefits of integrating fossil and molecular data

[Science](#), [Biology](#)



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Introduction

Over the years, the question of the origin of life forms has baffled humanity. This is because there has been missing links between the data provided by paleontologists and those by molecular biologists. In his book “ Your inner fish,” Neil Shubin explores the human body and its relationship with the previous life forms. He was able to come to important conclusions because of integration of paleontology and molecular biology during the period of research. The following are gains made from integrating fossil and molecular data.

Knowledge about human health

Integration of fossil and molecular data has helped in explaining various health issues about human beings. As explained by Neil Shubin, the occurrence of hiccups is as a result of the brain generating some electrical signals. Amphibian brains generate similar hiccups because they helped them to maintain a steady opening of their gills. Since we are products of evolution, our brains still generate similar hiccups.

Recent research indicates that the level of obesity incidences is on the rise. This is as a result of change in lifestyles and eating habits among individuals. On a closer look, Neil Shubin claims that the genes of our bodies were made to adapt to the rather active life of hunting and gathering as opposed to the relaxed modern life.

Moreover, Shubin states that the evolution of the voice box has left many people vulnerable to breathing and swallowing problems. This is an indication that cells of living organisms are not fully adapted to their

environment hence they are still evolving.

Facts about the occurrence of certain body parts

In the analysis of the molecular structures, Shubin found out that some body parts resembled those of the early life forms. For example, the fins of early amphibians showed clear resemblance to those of the human hands. Also, a fossil of a fish's back-bone indicated a resemblance to that of a human being.

Neil Shubin further explained that our body cells function like bacteria and also our heads are organized in a similar manner to those of the jawless fish. This is a clear indication that human beings actually evolved from fish.

Existence of God

Using the integration of fossil and molecular data, Shubin has been able to criticize the religious beliefs of the existence of a supreme being. Due to evolution, about 300 genes designed for smell in human beings has been rendered useless. This prompted him to question the idea of the perfection of a Supreme Being claiming that if God is in existence, why would he create about 300 useless genes? Therefore, in the book 'Your inner fish', Neil Shubin categorically states that, " We were not designed rationally, but are products of a convoluted history" (Shubin, 22).

Facts about previous life forms

The integration of fossil and molecular data has helped in deriving important facts about the previous life forms. For example, research has indicated that the jawless fish evolved mammary and sweat glands; a characteristic found in mammals. In addition, Neil was able to find " the fossil of tritheledont" which lived 200 million years ago. Using the molecular and fossil data, it was

found that the fossil had mixed traits of being reptile and mammal.

Conclusion

In conclusion, the integration of molecular and fossil data has proved to be beneficial to scientists in understanding more about the origin of life. Neil Shubin was able to show the facts about the occurrence of some body parts, human health, previous life forms and the question of the existence of God by integrating paleontology and molecular biology. Therefore, paleontologists and molecular biologists should keep working together in producing credible research about the origin of man.

Works cited

Shubin, Neil. *Your inner fish: a journey into the 3.5 billion history of the human body*. London: Vintage publishers. 2009. Print