

Lord Kelvin

Introduction

The theory of natural selection by Charles Darwin was supported by scientists who were impressed by how he explained the existence of variation among organisms. However, natural selection was also opposed by his contemporaries even though his ideas had foundations which were already based on the findings of other scientists or biologists of his generation.¹

Lord Kelvin was one of the opponents of the evolutionary theory of natural selection. Being a believer of the theory of creationism, he said that the supporters of Darwin's theory were just influenced by religious convictions.² There was this controversy raised by Lord Kelvin when he argued about the age of the earth; that the theory of natural selection by Darwin was not reliable due to lack of scientific evidence. According to Lord Kelvin, the believers of natural selection were merely driven by anti-Christian fervor.

The paper will discuss the side of both parties, Charles Darwin and Lord Kelvin. The focus will first be on Darwin's theory and how he established the idea of natural selection. The paper will then discuss Lord Kelvin's arguments against the evolutionary theory. Finally, I will give my own stand on the issue based on my personal analysis of the argument.

Main Argument

To be able to fully understand the argument between Darwin and Kelvin's ideas, one should have a background on how both scientists came up with their respective assumptions.

Darwin proposed the evolutionary theory of natural selection based on already pre-existing

¹ See Wong (2006) to find more about the different opinions of Kelvin's contemporaries.

² See Darden (1998), Stacey (2000, p.13115-13158), Stenger (2006), and Wong (2006) for information on how Kelvin opposed natural selection.

theories. He raised his own ideas in struggle against the other competing premises. Each of the proposals offered various explanations regarding organisms' distinct variations and their adaptations in the surrounding environment; and it is Darwin's ideas about the variations present among different species of organisms that made him stand out from among the rest of his contemporaries. Darwin's theory of natural selection states that variation is arbitrary and is dependent on what the population requires of an organism when it exists within the community. A variation, when created, may be considered adaptive or non-adaptive based on the need of the organism to survive together with the rest of the members of the population where it belongs. The trait exhibiting an adaptive variation is retained and is spread in the population. On the other hand, the non-adaptive variations are eliminated by natural selection. All these ideas were, however, not supported by sensory observation and experimentation which made other scientists see it as a poor of scientific evidence.³

Arguments against Darwin's proposal of a random and undirected natural variation were raised, the main concern of which was the time frame needed for his theory to be existent. Since the variation occurring among organisms was said to be undirected towards a specific parameter; only a little segment of that variation could be assumed to be adaptive.⁴ The naturally occurring variations were comparatively inconsequential and would require a very long time to exist, be visible, and be part of the evolutionary process. Darwin, however, defended his theory by stating that the age of the earth was old enough to contain his theory of natural selection.

Darwin pleaded to his time's geological discipline that the earth was adequately old enough to hold natural selection. Though a geologist in the name of Charles Lyell supported

³ Roberts (2005) explains how the theory of natural selection lacks scientific proof.

⁴ See Bower (1990) states how natural selection is impossible based on the earth's age. specific parameter; only a little segment of that variation could be assumed to be adaptive.

Darwin's explanation; Lord Kelvin disagreed and provided an estimation of a younger age of the earth based on the earth's cooling rate. He discussed that the planet was too young to support the theory of natural selection. He also argued that its age could not contain all the variations, both simple and complex, that exist in the diverse flora and fauna through Darwin's theory. Aside from the idea that the age of the earth was not old enough for natural selection to take place; Lord Kelvin also stated religion to be a factor that made the theory unacceptable to him and other scientists. Being a supporter of creationism, Lord Kelvin discussed his points of view which include his belief that a Supreme Being or Creator was behind all the sharp, clever, and benign designs being observed in all existing organisms.

Lord Kelvin emphasized that only a powerful force could create such complex yet wonderful blueprints of organisms, which are continuously dependent on the Creator of this diversity.⁵

During the time when only chemical and gravitational energy sources were the ones established to be responsible for solar radiation, Lord Kelvin made a calculation showing that gravity generated the highest value of several ten million years for the age of the sun. Since the earth can not be older than the sun, the calculated age was way lower than Darwin's estimation. Furthermore, Lord Kelvin stated that the earth's temperature would have been too high to support life.⁶

Personal Stand

I think Darwin's theory is possible and is applicable to explain the evolution of organisms. It was not established due to anti-Christian fervor, but was based on pre-existing

⁵Morris (1982) described how Kelvin believed in creationism by discussing that the variations in organisms were the work of the Creator.

⁶Stenger (2006) described how Kelvin explained the age of the earth using temperature.

evolutionary theories. It was just that Lord Kelvin was a creationist; and so he did not support natural selection. Furthermore, the exact age of the earth was not accurately known. Even Lord Kelvin's idea about the age of the earth was as dethroned when radioactivity was discovered.⁷

Lord Kelvin, on the other hand, might have thought that the scientists who agreed with natural selection were challenging the Christian faith by opposing the theory of creationism. I disagree with this speculation. He might have failed to realize that the believers of natural selection had their own explanations and evolutionary analysis for supporting the theory. He might have had evidence to contradict Darwin's theory through geophysics, but non-agreement between his findings and Darwin's did not mean anti-Christianity on Darwin's side. This was more of an opinion and personal assumption. If, however, the believers of natural selection thought of creation as a theory without scientific evidence; then Lord Kelvin could also attack with the same idea since no experiment was done to prove Darwin's theory.

Considering both sides, I think natural selection and creationism are not exactly opposing theories. I believe that there is indeed a God behind the magnificent creation and he might have utilized the mechanisms of natural selection in the process of creation.

Conclusion

The believers of natural selection, according to Lord Kelvin, were merely driven by anti-Christian fervor. However, Darwin made the theory based on scientific analysis. It was just that Lord Kelvin was a creationist and was not in favor of natural selection. I therefore conclude that the supporters of natural selection were driven by science and not by anti-Christian fervor.

⁷ See Stacey (2000) to find out about how radioactivity dethroned Kelvin's proposed theory about the age of the earth.

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