

# The theory of biological evolution critical thinking

[War](#), [Intelligence](#)



Biological evolution is termed as any genetic change in a population that is passed on over successive generations. These genetic variations are not consistent as they may be large or small, prominent or not noticeable at all. To sum it up, biological evolution highlights how life has changed over time. Arguments of this theory have been advanced by Charles Darwin. His premise was of a scientific nature where he postulated biological evolution by means of Natural Selection. Charles Darwin's Natural Selection is based on three assumptions about organisms namely: survival, adaptation and reproduction. This theory, however, has received criticism from various quarters such as the award winning NOVA documentary named " Judgment Day: Intelligent Design on Trial". This documentary captured the case of Kitzmiller V. Dover Area School District which sought to answer whether or not the intelligent design could be taught in school science class. This essay will try to show how the theory of the biological evolution is thoroughly inconclusive. It will also portray how it is characterized by gaps in evidence. Starting with the Natural Selection proposed by Charles Darwin evolution is a conception of survival of the fittest. It simply implies that the fittest in a population survive and spread their characteristics and traits to their offspring. This theory however is deemed as a process that is deduced from three elements of a population (Darwin 67).

The first element of the Natural selection is that more offspring are produced than can possibly sustain their existence. This translates to rife competition for food and other resources. The competition is as a result of the environment not being able to wholly support the organisms and their offspring. The second element is the variance among the organism traits

differentiating into the preferred characteristics that enhance survival and reproduction. This paves way for the last element that states that trait variances are heritable from an organism to its offspring. Heredity is defined as the passing on of the characteristics from one organism to its offspring. These traits are mainly found in the DNA of an organism a molecule that puts into code genetic information. DNA molecules can undergo mutation which brings about different genetic sequences known as alleles. These alleles effect the trait changes that are passed on by an organism to its offspring. The second source that this essay is based on is the NOVA documentary “ Judgment Day: Intelligent Design on Trial”. This documentary as expounded earlier tried to answer the question whether intelligent design theory as a scientific theory could be introduced in the science lessons in the Dover Area. The documentary presents real interviews with those in the heart of the controversy and also reenactments of events that transpired during the trial. It all started when the school board of Dover put forward a policy which obliged all the biology teachers to assert in their classes, that evolution theory was not factual and wanting in terms of evidence. Some teachers refused, leading to the trial Kitzmiller V Dover. The validity of intelligent design comes into test as a scientific theory. It was perceived that many of the school board members were pushing creationism under the pretext of intelligent design. Scientists were incorporated in the hearing, both pro and against intelligent design. In the end, a ruling was made citing “ intelligent design as an inherently religious theory and therefore, its teaching was not allowed as part of science curriculum”.

The biological evolution as a theory has its own weaknesses and strengths .

Focusing on the weaknesses, many school of thoughts agree that Natural Selection is not everything Darwin claimed for it. Many argued that the selection working on blind, slight variations could not be the genesis of the wonderful adaptations like the hand or the eye.

Many researchers conclude that though natural selection is the major cause of evolution, most attribute varying degrees of importance to other factors. These factors include unplanned recombination of already existing genes which produce positive , negative or neutral features (neutral meaning equal survival chance or value in comparison to the parent gene structure), population fluctuations due to coincidental factors, geographical factors which cause breeding isolation, gene flow and changes in reproduction and fertility patterns. Each of the stated factors cannot conclusively account for evolution. It is right to assert that natural selection cannot be conclusively used to explain evolution process.

Another weakness put forward is the lack of time-frame to test this theory. Natural selection needs several billion years of direct observation in order to directly test this concept. The variations explained by Charles Darwin have not yet been empirically tested but rather based on assumptions. The variations in traits as per Darwin's are hard to discern in a normal time-frame in order to validate the theory conclusively.

Using the fossil record, natural selection does not hold at all and its inefficiency is pointed out. Using the case of the ape and man, no direct connection is observed using fossil or any other physical evidence. The two ancestral species after many years remain unchanged yet each of them differs considerably from its immediate predecessor.

Scientists have proved that most mutations are harmful. The mutations as postulated in the natural selection have been proved beneficial in fewer cases. The mutations occur in the DNA molecule of an organism. Scientists have carried out experiments using induced mutations to prove that mutation does not result to any beneficial structural changes in an organism. The Natural Selection theory argument on differential traits does not factually hold.

The “ Judgment Day: Intelligent Design on Trial” documentary argument about intelligent design points out inefficiencies of the biological evolution. The intelligent design dubs the natural selection as an undirected process which fails to expound conclusively the role of supernatural powers in the evolution. This concept further embraces creationism as it presents the idea of a superior force or hand behind the existence of the earth and its organisms. The proponents of the intelligent design draw comparisons between man and chimpanzee who are believed to share a common ancestor. Man has 23 pair of chromosomes while chimps have 24. If we share the same ancestor, as evolution asserts, we should be able to identify at least two of our chromosomes fused together in order to account for the missing pair.

The intelligent design challenges the biological evolution using testimonies by Michael Behe, a biochemistry professor. Behe’s challenge is known as irreducible complexity which argues that if something lacks appearance of gradual evolution, then it has not undergone evolution. This argument states “ if one can remove a part of a biological system and it no longer works, then it must have been created as it is in present form” (Dembski12).

The biological evolution as much as it has its weakness it is still viewed to have some rational strengths. The natural selection concept advanced by Charles Darwin is the most detailed explanation of the evolution process (Wells 13). It expounds authoritatively about survival of organisms citing the factors that determine and support it. The argument on population pressure holds even in these present times. Looking at the ecological balance, animals compete for resources such as food and water. Taking an example of the Zebras, which are naturally grazers, if they are numerous in numbers their pasture tends to depreciate. This will lead to the death of some of its weak members leaving the strong ones to survive.

The natural selection as a biological evolution tool achieves the desired result of explaining heredity, adaptations, and survival of organisms (Francis 11). The concept however accepted by many has gaping pores in its evidence as cited in the previous paragraphs. The concept is based on small variations that cannot be conclusively linked to natural selection alone but to also other factors. Operating on an unempirical justified time frame to base the concept on is another weakness that characterizes natural selection. The mutations and the fossil record as explained earlier are also linked to the inefficiencies of this theory.

In my opinion, the NOVA documentary dubbed “ Judgment Day: Intelligent Design on Trial” did a good job of illustrating the inefficiencies of biological evolution. However, it is worth noting that the pronouncements in the trial set the record straight on what constitutes science and what does not. It portrays the evolution as not anti-Christian and not anti-inquiry either. It offers a platform of comparing and contrasting the two theories biological

evolution and intelligent design. While intelligent design maintains that supernatural powers are behind the very existence of life, the natural selection theory tries to use evidence-based argument to progress the biological evolution.

## **Works Cited**

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