Why Evolution is true?

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Date

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Abstract

This is a term rough draft paper. In this paper, I will reflect and talk about what I have learned from Why Evolution Is True written by Jerry A. Coyne. I will talk about my understanding of what evolution truly is and make reflections that demonstrate my understanding of the subject. This particular book is an effective source of information to critically understand different concepts related to the evolution theory.

Why Evolution is true?

Being born and raised in Chicago, I was never taught much about evolution. We were taught the basics topics of natural selection and what not, but never really went into depth about the subject. Before enrolling into a science course at Saint Leo University, I did not think the subject was very interesting. Now that I am around six weeks into the course, I realize that evolution is one of the most important subjects to learn about. In this science course, one of the books we read was titled Why Evolution Is True written by Jerry A. Coyne. Now I can truly say that it has enhanced the beauty of life.

Darwin. Charles Darwin is one of the most respected naturalists whose theory of evolution became one of the most learned theories to this day. Coyne (2009) describes Darwin’s theory of evolution by writing:

“Evolution can be summarized in a single (albeit slightly long) sentence: Life on earth evolved gradually beginning with one primitive species-perhaps a self-replicating molecule- that lived more than 3.5 billion years ago; it then branched out over time, throwing off many new and diverse species; and the mechanism for most (but not all) of evolutionary change is natural selection.” (Coyne, 2009).

In this quote, Coyne has taken the six components of Darwin’s theory of evolution and crammed it into one sentence. These six components consist of evolution, gradualism, speciation, common ancestry, natural selection, and nonselective mechanisms of evolutionary change (Coyne, 2009).

Identification of the issue identifies by the author further enhance my interest to learn about the specific concept of evolution. It is one motivating prospect for me to learn about the entire process of evolution and figure out how it influences the lives of human in a different manner. It is critical to explore why evolution is true and what particular features help to determine this certain argument. Undoubtedly, the explanation of evolution illustrated by Coyne develop my understanding of the actual perspective associated with the idea of evolution. The book, “why evolution is true” by Coyne is one clear and easy piece of knowledge to figure out the evidence and paradigms that plays a critical role in the entire procedure of evolution. The most interesting aspect of this form of explanation is that it further helps me to understand my surroundings.

Various arguments are presented by Jerry Coyne that helps to determine the phenomenon of adaptation concerning the idea of changing the environment. It reflects how the feature of DNA records determine the idea of change in the overall perspective of life. This form of knowledge also helps to determine how effectively fossils play their role in the entire process of evolutionary change. The idea of evolutions directs about the entire concept of formulation and development of life.

The most interesting aspect I found about this book is that all the chapters give a smooth transition to build a connection with the actual topic of evolution. All the sections of the books help to identify and determine the various factors to make it easy to understand the concept of evolution. It is vital to explore important aspects of each chapter to figure out about the effectiveness and the appropriateness of the entire idea of the evolution of species over the years (Haught, 2010). The main beauty of this book is that it is not loaded with heavy facts rather it gives me a feeling of relaxation and enjoyment. It helps me to identify and memorize different arguments and concepts related to the functioning of nature. Another significant prospect I found from the content of this book is that Coyne adopted the approach of scientific reasoning to make his arguments strong. This form of consideration helps its readers to identify that that why the arguments set by creationist are not significantly consistent with the actual facts and figures. Undoubtedly, the logics explored and mentioned by Coyne in this book changed my perspective to observe the reality of life. It can rightly be said that this particular piece of knowledge has the potential to change the thinking approach of the reader to a great extent. The information provided by Coyne also helps me to lead myself to some thought-provoking ideas and approaches about the world and how my existence is linked with the entire universe.

It is interesting to express the comprehensiveness of this book through the proper consideration of each chapter. Detailed understanding of each chapter ultimately helps to figure out the effectiveness of the ideas and theories presented by Coyne in the book. The first part of the book provides a general overview of the main idea of evolution. The main six factors of the evolutionary procedure are illustrated by the author to provide essential grounds about the overall domain of the evolution. The facets of ancestry and phylogeny are described by the author to find the origin of the entire debate of evolution. The first chapter about the evolution helps me that what the concept of evolution is all about and how it changes the life on earth (Neal, 2018). The understanding of the associated paradigms makes it simple to understand that evolution is the procedure that defines the evolution of life on earth over the years and started from with original species. The method of natural selection ultimately works for the idea of evolutionary change. Fundamental molecule becomes the reason for the further development of different species. The approach of evolution used in this certain book helps to identify the main features of evolution categorized in the form of evolution, gradualism, speciation, common ancestry, natural selection, and the feature of nonselective mechanisms of evolutionary change. These six basic components are used by the author to make his argument about the evolution valid and comprehensive. A proper understanding of all these tenants is essential to know how different phases of development and evolution helps humans to reach the point of modern man from the approach of a single cell organism. It is vital to indicate that all the arguments provided by the author have the strong potential to change the basic perspective about the idea of creation. It is a significant form of knowledge to identify and establish different forms of connections with other animals. It is interesting for me that how we humans share many features of genes with animals of the earth.

The entire idea of evolution theory developed by Coyne can only effectively understand by focusing on all the related domains. The first feature of concerns identified as the idea of evolution itself. This particular idea can be characterized as the basic explanation of the idea of evolution. This fundamental approach illustrates that species endures genetic change with the passage of time (Debenedictis, 2014). Different generations experienced the process evolution that becomes the reason of many different forms of changes. It is vital to indicate that the feature of DNA recognized as the basic reason for different forms of changes linked with the prospect of mutations. Gradualism is the second main idea related to the concept of evolution explored by Coyne. It reflects is the concept of evolution as the gradual process in which many generations play their role to reach the domain of evolutionary change. This form of consideration can better understand through the example of birds who faced a long phase of evolutionary development from reptiles (Coyne, 2009, p.4).

The third concept related to the evolution theory is immensely interesting for me that defined the entire idea of evolution as the prospect of speciation. It indicates that various classes of creatures that are not able to exchange their genes with one another never have the option to propagate with one another. Common ancestry is another crucial part of the entire procedure of evolution that is linked with the features of DNA or fossils. It provides the opportunity to critically evaluate the domain of the past through the elements of DNA or fossils to find out the answer to the question that ancestors are joining each other in the past. Thorough understanding of the component of natural selection also helps to deeply assess the idea of the evolution of the species. The concept of natural selection builds on the argument that creation or guidance from a supernatural entity is not the basic requirements for the entire domain of life. It is worthy to indicate that it is only natural that encourages the population to adopt the facet of evolution within the flexibility of the environment. The six perspectives associated with the theory of evolution indicates the criteria of nonselective mechanisms of evolutionary changes. It is an effective explanation of one of the crucial concepts of life on earth which refer to the natural phenomenon of change which is applied to every living creature. This form of consideration helps to determine that all the creatures naturally change over time if they do not require to evolve to survive. This certain approach occurs due to the fact that the DNA of every living being is changing over time.

The word evolution itself defines how a species changes genetically over a period. It usually takes a species a while before they change physically that refers to the gradualism component. Sometimes populations within a species evolve and end up becoming somewhat of an individual species. For example, if populations within a species are separated by a physical barrier, such as a mountain, they will have a slightly different genetic makeup since they will have had to adapt to the different sides of the mountain. This form of occurrence known as speciation. The original species that these two populations relate too would still link to a previously found DNA structure. This is known as common ancestry. Natural selection is a process of how genes that produce better adaptations become more frequent over time (Coyne, 2009, p. 117). There are three factors when it comes to natural selection: a variable starting population; gene changes within that population; and genetic effect on offspring probability (Coyne, 2009, pp. 117-118). The proportion of different alleles can change over time entirely by chance and new mutations may rise or fall in frequency (Coyne, 2009, p. 123). This refers to Darwin’s last component of evolution.

Evolution is way more complexed then it seems. Before reading all about it, I used to think evolution is basically just natural selection. It turns out evolution is not just some random theory, it is a fact that every scientist has accepted. Evolution is not something that has only occurred in the past, it is still going on as we speak. It is not primarily focused on the creation of mankind, it focuses on every species.

Later were taught about rocks, and not just any type of rocks, fossils. Fossils form once the remains of an animal sink to the bottom of the water and quickly get covered with sediments (Coyne, 2009, p. 21). Once the remains are buried with sediments, the remains are replaced by dissolved minerals and overtime, a cast of the living creature is formed through compression (Coyne, 2009, p. 22). Once the formation has taken place, it needs to survive shifting, folding, heating and crushing within the earth’s crust (Coyne, 2009, p. 22). Due to this process fossils are very hard to discover. Although, they can help us significantly learn new things. They allow us to learn how old a species is through radioactivity. If we believed a certain species was discovered around a certain date, a fossil can prove us wrong or right. Fossils can allow us to discover new species that we did not know had existed before. Fossils also let us learn more about the Earth since they go through a very intensive process. The fossilization process is a very interesting one. Before this course, I thought I knew all about them, but after learning more about them, I realized I did not even know the basics.

Fossil evidence has shown us that the wings of the ostrich are a vestigial trait. This means that the wings of the ostrich are a feature of a species that no longer performs the function for which it evolved (Coyne, 2009, p. 58). Another example of a vestigial trait is the human appendix. It was once important to our ancestors but does not have any real value to us (Coyne, 2009, p. 61). Vestigial traits are important because they show how we have evolved over time. Atavism also does this. During Atavism, an ancestral trait appears in a random generation after the trait not being seen in a long time. The book also taught us about dead genes. These are genes that once were useful but are no longer intact or expressed (Coyne, 2009).

Continental drift and molecular taxonomy can factor in our genetic makeup and evolution. If evolution happened, species living in one area should be the descendants of earlier species that lived in the same place (Coyne, 2009). Before the continent had drifted, it was easier for species to breed and mate. Most of the time, to get the strongest and best genes, males must fight for their females. This is due to investment-investment inexpensive eggs versus cheap sperm (Coyne, 2009, p. 157). The currency of selection is not really survival, but successful reproduction (Coyne, 2009). Convergent evolution would cause the species that live in similar habitats to experience similar selection pressures from their environment (Coyne, 2009, p. 94).

Remnants: Vestiges, Embryos and Bad Design is another phase of this book that further helps to identify the concept of evolution in different and crucial forms. The content of this portion of the book particularly highlight those aspects which are no longer recognized as the operational features. The author of the book ranked these domains as ineffective examples of the entire process of evolutionary design. These detailed concepts are critically and effectively explained by the author to provide a better understanding and connection between different related domains. The idea of vestiges is characterized as an adaptation in its ancestors. The functions of this prospect never actually match with the main idea of evolution. The feature of atavisms is comprised of the idea of the reappearance of a trait belongs to the ancestral characteristic. This particular concept is the better understand through the specific example which refers to the fact that it is possible that a horse is born with an extra toe or human baby with a tail. It is crucial to mention that the traits of atavism are different from vestigial characteristics because they only have chances to appear occasionally in case of every individual. (Coyne, 2009, p 64).

The idea of perfect design associated with the approach of evolution theory is also critically discussed by the author of this book. He significantly builds the argument that the approach of the perfect idea is nothing but an illusion as there is the option of bad design. This facet of bad design is established by the author as the notion which refers to the symbol of the evolution process. It is the criteria that lead to an understanding of the paradigm of evolution. The geography of life established by Coyne helps to understand the operations and a particular distribution of plants and animals on earth. It is the proper explanation of the specific field of biography. I keenly want to mention this fact that consideration of this form of content helps me to connect the actual features of diversity and distribution of life with the idea of evolution. It enhanced my understanding level that only evolution procedure is the capacity to make inferences about the various operations and the elements of diversity linked with life. Adaption and natural selection identify as the main engines of the entire process of evolution. The content of the book is the better explanation of the whole process that plays a vital role to develop a balance between the entities of organisms and their related environment. Sex is recognized as another crucial reason for the feature of evolution. This form of idea creation further enhanced my understanding of the evolution of the phenomenon of sex.

Coyne also explained the idea of speciation in a detailed manner to determine its connection with the entire form of evolution. Different ideas associated with the speciation are highlighted by the author to enhance the overall perspective referring to the domains of geographical, sympatric, the form of polypoid speciation. My interest level enhanced when the author of the book helped me to identify the evolution of humans. It is exciting for me to enhance my knowledge about the entire process of evolution faced by the entity of humans. The fossil record of human ancestry is discussed by the author.

To conclude the discussion about the critical reflection on the different themes and concepts established by Coyne in his book, it is vital to mention that it is one effective piece of knowledge that enhance my understanding scientific reasoning and rational domain. It helps to determine the key features of evolution established by Darwin through his theory. Major tenants of Darwinism successfully verified by the author of this book by providing different facts and examples. The features of observations and experiments are enough to determine the correctness of the idea of the evolution process. Modern scientific evidence is enough to endorse this claim that why the phenomenon of evolution is true. It is also worthy to mention that there are many critical aspects which require more explanations and critical considerations. It is significant to understand different related features to accept the idea of evolutionary development in its true prospect and rationally response to the controversy of evolution. Moral aspects relevant to the process of evolution are also critically observed and discussed by the author. Various elements linked with the behavior perspectives also help to reflect on the facet of evolutionary heritage. Coyne successfully developed this idea that these domains are mostly linked with the matter of choice. The extensive form of evolution further demands to explore different forms of developments.

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