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FRANCIS COLLINS AND THE POSSIBILITY OF THEISTIC EVOLUTION

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ABSTRACT

FRANCIS COLLINS AND THE POSSIBILITY OF THEISTIC EVOLUTION

NAGİHAN ERKILIÇ

The purpose of this thesis is to examine the philosophy of American physician and geneticist Francis Collins whose scientific and theological ideas based on the context of the harmony of these two fields. Examining the original theological ideas of Collins developing within the frame of science appears to be a pioneer in those who have the same curiosity and concern. He is one of American scientists who think evolution is a forthright way that God uses to create the whole universe and advocate science and religion to be not in a war but rather in a harmony. In this respect, BioLogos, coined by Collins, is a new term for the theological literature that refers to religious and scientific notions which can be reconciled.

In the context of this thesis, we will first investigate Collins' biography and the process of his conversion in faith. We will then examine the contextual definition of Theistic Evolution, its history and background, and the alternative perspectives. In conclusion, we will examine the arguments of Francis Collins and his notion of Theistic Evolution besides BioLogos. Our concern will be Collins' philosophy of the harmony between science and religion as it is detailed in his book, "The Language of God" the main source of our study.

Keywords: Science and Religion Relationship, Francis Collins, Theistic Evolution, BioLogos, Creationism, Intelligent Design, The Human Genome Project

ÖZ

FRANCIS COLLINS AND THE POSSIBILITY OF THEISTIC EVOLUTION

NAGİHAN ERKILIÇ

Bu çalışmanın amacı, Amerikalı genetikçi Francis Collins'in bilimsel ve teolojik fikirlerine dayanan felsefesini bu iki alanın birbiriyle olan uyumu bağlamında ele almaktır. Collins'in bilim çerçevesi içinde gelişen orijinal teolojik fikirlerini incelemek, aynı merak ve kaygıları taşıyanlar için öncü olabilecek değerde gözükmektedir. Kendisi, evrimin Tanrı'nın tüm evreni yaratmakta kullandığı basit bir yolu olduğunu düşünen, bilim ve dinin adeta bir savaşta değil bilakis bir harmoni içinde olduğunu güçlü argümanlarla savunan bilim insanlarından biridir. Bu doğrultuda, BioLogos onun dini ve bilimsel nosyonunu birleştirebileceği tezi için önerdiği teoloji literatürü için yeni bir terimdir.

Bu tez bağlamında, ilk olarak Collins'in biyografisini ve ateizmden teizme geçiş sürecini analiz edeceğiz. Ardından Teistik Evrim kavramının tanımını, tarihi arka planını ve bu fikre alternatif bakış açılarını inceleyeceğiz. Sonuç bölümünde ise, Francis Collins'in bu konudaki görüşlerini, argümanlarını ve BioLogos önerisini ele alacağız. Odak noktamız Collins'in tezimizin temel kaynağı olan "Tanrı'nın Dili" kitabında detaylandırdığı üzere bilim ve din arasındaki uyum felsefesi olacaktır.

Anahtar Kelimeler: Din ve Bilim ilişkisi, Francis Collins, Teistik Evrim, BioLogos, Yaratılışçılık, Akıllı Tasarım, İnsan Genom Projesi

PREFACE

The history of humanity has traditionally been come under question by two wide and independent perspectives, namely natural science and theology. In recent years there has been a drawing attention about the limits of these two disciplines, especially in their point of understanding on what the origin of universe based. An increasing amount of theological literature shows that mostly the Christian world is interested in the discussions of the relationship between evolution and theism. With the aim of examining the issue, we have thought that exploring this Semitic religion's perspective of the subject will be an inspiring starting point.

In this way, the confluence of our preliminary investigation about the specific interaction between theism and evolution leads us to examine the theological perspective of Francis Collins whose professional competence makes also a favorable impression on the scientific community. His conversion as a lifelong journey in the Faith besides regarding of DNA as a language of God is worthy of admiration. He is directly addressing to "the view of converge rather than conflict" between theism and evolution. In this respect, we have decided to examine his arguments of the reconciling these two fields.

I am grateful to my thesis mentor Recep Alpyağıl, who encouraged me to direct my academic studies towards investigating the relationship between science and religion by offering me such a remarkable research topic, for his excellent guidance and support during this process. Also, I would like to thank to Prof. Aydın Topaloğlu and Prof. Rahim Acar for leading me graciously.

I want to dedicate this work to my brother who has imbued me with the charm of knowledge in my early years.

ISTANBUL, 2018

NAGİHAN ERKILIÇ

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LIST OF ABBREVIATIONS

AMP	: Accelerating Medicines Partnership
ANET	: Ancient Near Eastern Texts
BRAIN	: Brain Research through Advancing Innovative Neurotechnologies
CF	: Cystic Fibrosis
cf.	: Compare
CSI	: Complex Specified Information
e.g.	: For example
EC	: Evolutionary Creationism
Ed.	: Edited by
et al.	: And others
etc.	: And so on
ICR	: Institute for Creation Research
ID	: Intelligent Design
loc.	: Location in Kindle Edition Books
n.d.	: No publishing date
n.p.	: No publishing place
NCATS	: National Center for Advancing Translational Sciences
NIH	: National Institute of Health
OEC	: Old-Earth Creationism
p./pp.	: Page/Pages
PC	: Progressive Creationism
SCNT	: Somatic Cell Nuclear Transfer

TE	: Theistic Evolution
trans.	: Translated by
TTSS	: Type III Secretory System
vd.	: See
viz.	: Namely
vs.	: As opposed to
YEC	: Young-Earth Creationism

INTRODUCTION

Research on the philosophy of religion has a long tradition. For decades, one of the most popular conceptions in the field is the relationship between science and religion. Recent theoretical developments have revealed that integration between science and religion reach its peak with the discussion of theism and evolution. A common strategy used to study evolution is to investigate scientific truths extensively. However, methods of the research on theology are full of twists and turns. This is due to the nature of metaphysical interpretation. Much the same, the concept of theism is not as clear as scientific facts. That is why there are considerable disagreements among theologians regarding the concept of divinity. Against this background, several attempts have been made to attribute scientific value to the theological breadth of thinking. A considerable amount of study has been published on the research of theism which can be aided by the evolutional process. The research forms a relatively new area which has emerged from this meeting of minds: Theistic Evolution. This approach has been influential in the field because increasing scientific development makes a strong demand for a clear understanding of the beginning of life. One question that needs to be asked, however, is whether evolution aids theism for explaining the origin of life. However, approaches to such an accompaniment carry with them various well-known limitations, for instance, the evidence for this relationship is inconclusive to some, both in theological and scientific communities. This study seeks to remedy these problems by analyzing the literature about this subject in theology. Due to the practical constraints, this study cannot give a broad comprehensive review of the relationship between science and religion. In this respect, it is the goal to which we expect to examine the possibility of reconciliation between theism and evolution and to investigate the other belief systems and the approaches of the issue in a contextual frame.

This dissertation will examine one significant research question: Is it possible to mention a relation between theism and evolution? A comprehensive approach is utilized, integrating theism, evolution, and the components of alternative perspectives to establish a deep and clear understanding of the subject. This thesis engages with other belief systems not extensively, but superficially. A full discussion of evolution

theory lies beyond the scope of this study. The reader should bear in mind that the study is based mostly on Francis Collins' viewpoint and his arguments. This approach gives a significant advantage because holding a stable perspective to evaluate the others lead us to where the tackling point is stated according to our thesis statement. Otherwise, assessing all aspects by their own frames might portray a relativeness which would take this study beyond its aim.

The overall structure of the study takes the form of three chapters, except for this introductory section expanded here. This research paper first gives personal and academic information about Collins to recognize with whom we start the way of understanding theism, evolution and theistic evolution which is the blend of the two worldviews. The reason we desire to establish our study on Collins' arguments is that he is dealing with the theistic evolutionism in the most consistent and comprehensive way. While his contributions to scientific development are already obvious, it is a striking fact that the existence of God is the ultimate peak at the end of his outstanding way of seeking the truth. Notwithstanding, the explanations and arguments that he has brought about the origin and creation of humanity, seem to be convincing according to many colleagues. The second section is concerned with the various definitions, history, and background of Theistic Evolution besides major obstacles of the aspect with an overview of related perspectives such as a spectrum between creationism and evolutionism as background information. The third section concludes all the previous perspectives with Collins' perspective which includes the theoretical dimensions of *BioLogos*. In the last chapter, it presents all the conclusions of the research, draws upon the entire thesis and discusses of the implication of the findings to research into this area in future. Finally, the conclusion summarizes and brings together the principal areas covered in the writing, which might be called "looking back" and gives a final comment and judgment on this. Our central source will be Collins' best-seller book *The Language of God* in which he gives all the details of his conversion in faith, rational basis of his belief, and objections to the other perspectives.

FIRST CHAPTER

A BIOGRAPHICAL SKETCH OF FRANCIS COLLINS

In this section, we will consider the biography of Collins, which is in a way the first and essential component of our thesis and basic reference. In this chapter, we will examine his childhood years, the turning point, education, and academic life, will help us to understand how the idea of the theistic evolution nourishes Collins' life, which is the basic component of our thesis. Collins' life will allow us to conceptualize his own arguments about this fundamental perspective more accurately. At the same time, we have planned to give place to his biography because his life and ideas were not studied academically in Turkey before. As a matter of fact, the concerns addressed and discussed in this chapter are the basis for the final part.

1.1. From a Scientific Point of View

There are many influences that have laid the base for Collins' ideas and approaches. We find it convenient to address Collins' biography in two fundamental areas within these factors. Just as he can harmonize religion and science in his studies, this harmony can also be seen in his own life and his personality. Collins, who became a committed Christian at the age of 27, has been searching for an area of interest during his years of education. It seems that he has found the satisfaction of being beneficial to people when it came to choosing a career. In fact, he listened to his inner voice and pursued his own self desire to help people in an unrequited manner which is called *altruism*. For example, he went to Nigeria and witnessed the difficulties of the circumstances in health care centers. He says, "it really helps me to remember what matters," (Kolata, 1993) about those days when he talks about the serious infections and lack of medical facilities. His attitude towards these kinds of difficulties and the subject of altruism will be examined in the last chapter.

1.1.1. Educational Background

It will be an appropriate starting point to touch on who Collins is, as we have set up our thesis on analyzing Collins' thoughts. In this section, we aim to give information on Collins' childhood years, the reasons for and results of his becoming a faithful person, his educational life, and his academic career. We believe by achieving this goal successfully, we will understand the keystone of the main idea better, because an idea, a human, and a manner are like connected rings, no matter how long the chain is, it will never be distracted easily unless the primary rings are broken in our minds. Thus, it is an appropriate time to make a start with the childhood years to get to know Collins, the first ring of our study in this way.

Collins spent his childhood in a small town, a place which did not even have running water and few other comforts. However, these things he said, were more than compensated for by the inspiring blend of practices and changes available to him in the noteworthy culture of ideas created by his parents. Meeting at graduate school at Yale in 1931, Collins' mother and father were in the community of Arthurdale in West Virginia. They worked with Eleanor Roosevelt in the Great Depression. Due to the end of funding, they moved on to academic life at Elon College in Burlington, North Carolina. Making up a significant fraction of the Library of Congress collection of American folk songs, with his recordings, Collins' father became a folksong collector. Then he went to work helping to build bombers for the war, ending up as a supervisor in an aircraft factory in Long Island throughout World War II. At the end of the war after moving to the Shenandoah Valley of Virginia, Collins' parents bought a ninety-five-acre farm, but they discovered this agricultural lifestyle's handicaps. After teaching drama at the local women's college, they founded The Oak Grove Theater in a grove of oak trees above their farmhouse (Collins, 2006: 11-12). Collins tells those years as follows:

> "I was born into this happy mix of pastoral beauty, hard farm work, summer theater, and music, and thrived in it. As the youngest of four boys, I could not get into too many scrapes that were not already familiar to my parents. I grew up with the general sense you had to be responsible for your own behavior and your choices as no one else was going to step in and take care of them for you." (p.13)

Collins was educated at home by his mother like his older brothers. He is grateful to his mother for those days. Because being "*a remarkably talented teacher*," his mother, as he thinks, knew how to teach effectively and made him love learning. While he describes her teaching style, he defines *learning* as "it was never something you did because you had to, it was something you did because you loved it" (p. 13). Besides giving him the love of learning, his family's work and city changes must also have given him the ability to adapt to the new environment that keeps his curiosity and interest alive in every innovation. In fact, faith was not an important part of his childhood, that he lived those years without giving much to the religious ideas in his daily life. He explains this situation with these words:

> "I was vaguely aware of the concept of God, but my own interactions with Him were limited to occasional childish moments of bargaining about something that I really wanted Him to do for me. For instance, I remember making a contract with God (at about age nine) that if He would prevent the rain out of a Saturday night theater performance and music party that I was particularly excited about, then I would promise never to smoke cigarettes. Sure enough, the rains held off, and I never took up the habit." (Collins, 2006: 13).

At the age of five, he went to the local Episcopal church as a member of the boys' choir. For his parents, this is the finest way to learn music, but they think theology is not so worthy to be interested in. So he focused on the beauty and grace of music and he did not pay attention to the theological side of the church at all. This attitude seems to be the most effective and gentle way of ignoring an idea. Dictating to children with religious thoughts is a problem, on the one hand, hosting them on these values is also another problem. We can see from the upbringing of Collins that he grew up without the pressure of those two extremities, then it is also observable that he could have asked questions about faith in an unbiased and curious manner.

At age fourteen was his first station when he set his life goal. He recognized his intimate interests. For example, he decided to become a chemist and put biology far behind him. Tagging the biology lessons as nonsense, he had not even a tiny idea of how much he would love biology in the future. He went on to the University of Virginia to major in chemistry and pursue a scientific career at the age of sixteen. After graduation, he went on to a Ph.D. program in physical chemistry at Yale. During this

period his position slowly turned into atheism from agnosticism. His second station for his career planning came to the fore again in these two years. He doubted his forthcoming career. At the same time, he was going to a course in biochemistry which he said, "*as finally investigating the life sciences that I had so carefully avoided in the past*" (p. 17). However, at that time, he felt different from the past when he looked at DNA fragments and thought human life is worth studying on. Later, he completed his Ph.D., and he was accepted by the University of North Carolina after applying for admission to medical school. After he was affected by a pediatrician who brought patients to the class whose diseases were caused by anomalies in their genome, he determined his actual interest and said, "*... the pediatrician... showed me my future*" (p.18).

Astonished by the charm of the human DNA code, this discipline drew him to it instantly. In the meantime, Collins found many opportunities to experience and thought over patient and physician relationships. These experiences have provided him with many professional and personal achievements. We are convinced that it is not wrong to think that the intellectual tone of his academic career is nourished from such an inspiring past.

1.1.2. Academic Life

Collins' achievements during his career are significant. We conclude enlightening of Collins' childhood, educational background, and academic career will provide us to see the consistency and rationality of his approach to the relationship between religion and science. First of all, he has many scientific studies and projects. Some examples of them are about *DNA privacy issues*, *Bioethics*, *music's influences on the mind* (Shaw, 2017), *gene-editing as a potential for treatments* (Keshavan, 2018), *gene therapy*, *personalized medicine* (Collins & Varmus, 2015).

The Human Genome Project

Collins was interested in a lot of issues within his academic life the same as in his educational period. One of his most significant achievements is discovering the genes connected with various diseases. The important part of Collins life started after

joining an organization of the human genome which soon became branded as the Human Genome Project:

> "My desire to see the human genome fully unveiled intensified considerably over the next few years. Leading a fledgling research laboratory of earnest and hardworking graduate students and postdoctoral fellows, I had decided to pursue the genetic basis of certain diseases that had so far resisted all attempts at discovery. Foremost among these was cystic fibrosis (CF), the most common potentially fatal genetic disorder of northern Europeans. The disease is usually diagnosed in an infant or young child who fails to gain weight and suffers from repeated respiratory infections… we had no real clue as to the likely function of the gene that must have gone awry." (Collins, 2006: 111).

He was determined to find the gene mentioned above which causes various diseases. However, this was a harder and longer way than had been thought. In order to find the related gene they had to search millions of segments of DNA. He outlines the difficulty of this situation with an analogy. Searching for this gene was like looking for a burnt bulb in a house's basement in the United States. The Family studies were quite a successful step because it was helping them to find the right state and the right region, but the view was far from twenty thousand feet, and this method could not be useful enough. Because it meant that searching each house and each lightbulb one by one in a long period (p. 114). However, inventing the "*chromosome jumping*" method they overcame this challenge in 1989 and found the gene which causes *cystic fibrosis disease*.

Discovering the human genome is so exciting that Collins shared his feeling in the same frequency with Bill Clinton on the announcement day of a working draft of the human genome in June 2002. Clinton said "Today, we are learning the language in which God created life. We are gaining ever more awe for the complexity, the beauty, and the wonder of God's most divine and sacred gift" (p. 2). After his speech, Collins said, "It's a happy day for the world. It is humbling for me, and awe-inspiring, to realize that we have caught the first glimpse of our own instruction book, previously known only to God" (p. 3). It may come as a surprise to many people who accept a conflicted relationship between science and religion that dedicating this excitement and admiration to God is a common sense shared by a president and a scientist. That is exactly what Collins wanted to show. According to him, God cannot have created

something contradicting science which is a tool for exploring the universe. Furthermore, the universe and biology cannot contradict God's words. His most momentous times coincide with this thesis in his life in many respects. For example, one of these points is the project of the genome we share some lines below:

> "As a believer in God, was this one of those moments where I was somehow being called to take on a larger role in a project that would have profound consequences for our understanding of ourselves? Here was a chance to read the language of God, to determine the intimate details of how humans had come to be. Could I walk away? I have always been suspicious of those who claim to perceive God's will in moments such as this, but the awesome significance of this adventure and the potential consequences for humankind's relationship with the Creator could hardly be ignored." (Collins, 2006: 118).

Collins and a variety of collaborators continued to identify other genetic discoveries including isolation of the genes for "*Huntington's disease, neurofibromatosis, and multiple endocrine neoplasia types 1*" (p. 295). Having the fruits of compelling studies always seems to be a source of motivation for Collins as he is writing a song for all those precious moments. After such an uphill struggle, he also wrote a song: "Dare to dream, dare to dream, all our brothers and sisters breathing free. Unafraid, our hearts unswayed, till the story of CF is history" (p. 116). All the other songs and details of these fascinating events are available in *The Language of God*

In later periods of his career, Collins has been appointed director of the National Institute of Health (NIH). He has been elected to the *Institute of Medicine* and the *National Academy of Sciences*. Before becoming director of the NIH, he founded and led as president of the *BioLogos Foundation*. The organization encourages dialog on the relationship between science and religion and strengthens the perspective of reconciling the belief in Christianity with the acceptance of theistic evolutionism. In the following part, we will broadly give the information about the foundation.

Besides his long list of contributions to basic genetic research and scientific community, Collins is known for his close attention to the variety of medical, ethical, and legal issues in genetics such as "*personalized medicine*"(p. 239), "*ethical problems posed by DNA testing*"(p. 240), "*stem cells and cloning*"(p. 244), "*somatic cell nuclear*

transfer"(SCNT) (p. 252) which he handled in his work (Collins, 2006). Besides all these studies, despite his position and perspective, Collins stated in an interview in *The New York Times*: "I have made it clear that I have no religious agenda for the NIH, and I think the vast majority of scientists have been reassured by that and have moved on" (Harris, 2009) soon after his nomination as NIH director.

The BioLogos Foundation

Having determinedly established his opinions about religion and science, Collins suggested a new term as an alternative to theistic evolution which we will mention in the last chapter. He seems to prefer not only to contribute a new term to literature, but also to go on walking on the path he believes is true that he has expanded his innovative thoughts by creating a platform in the virtual media. His "*modest proposal*" (viz. BioLogos) has become a well-functioning foundation.

It would not be wrong to say the history of the foundation dates to the publishing of Collins' best-seller book in which he argues that science is not in contradiction with biblical faith, but augments faith: *The Language of God: A Scientist Presents Evidence for Belief* (2006). As we make a study of his biography and the turning point in following sections of this chapter, he narrates his own transformation from atheism to Christian belief, he promotes an active and supervising God who created the lifetime through evolutionary processes in his book.

As the popularity of the book grew, the questions that came to Collins were increasing so much that a busy scientist could not have time to answer. Then he launched a website and wrote the answers to the questions frequently asked by people interested in the religion and science relationship. He and a small team of students extended these questions and requested answers to some successful and well-known scientists, theologians, and philosophers ("Our Mission", 2009).

Officially, the *BioLogos Foundation* was established in November 2007 by Collins. Karl W. Giberson and Darrel R. Falk were named as executive vice president and executive director. The BioLogos website was officially launched on April 29, 2009, with a blog post by Collins titled "*BioLoguration*". The foundation gained national prominence with the appointment of Collins and former president Obama

about to be director of the *National Institutes of Health* in August 2009. Due to their position as director of the nation's medical research agency, Giberson and Falk take the responsibility of the management of the organization.

Pastors, teachers, and students attended annual meetings in New York. Some leaders of contemporary Christian culture such as P. Yancey, O. Guinness, A. Crouch et al. joined the organization to explore the effects of science on evangelical Christian belief. The organization provides many teachers to participate in labs and field trips on contemporary biology topics and they also contribute documentaries such as *From the Dust: Conversations in Creation* (Petty, 2012) that it tells the stories of theologians, scientists, and teachers who struggle with the conflicts between the science of evolution. The project intends to draw the attention to the philosophical and theological affairs on the evolutionary creation stated by Christians. They declare their long-term mission as showing the harmony between science and biblical faith. Southern Baptist leaders and the *Reasons to Believe* organization are some that they engaged in a dialog with. On their website, they have announced their vision and mission. We will mention them briefly in the following passages.

They are certain that the Bible is the word of God and He reveals himself in the natural world and all people have sinned against God and they need salvation. They support the historical incarnation and resurrection of Jesus Christ, who they believe is both God and man entirely. God has directly engaged human life and maintains the universe by using natural laws. They have faith in God, beyond these laws, operates natural events besides supernatural occasions and miracles together as defined in Scripture. They find the methods of science as significant and consistent that they can be regarded as tools to explore and examine the universe God has created. Nevertheless, they deny philosophies like Materialism and Scientism which argue science is the unique basis for truths and reality formed by the realm of physics solitary.

They accept that God created the universe, the earth, and all life over billions of years. God continues to sustain the existence and functioning of the natural world. However, they reject ideologies such as Deism that claim the universe is self-sustaining, that God is no longer active in the natural world, or that God is not active in human history. They have confidence that the diversity and interrelation of all life

on earth are best explained by the God-ordained process of evolution with common descent. Thus, evolution is not in opposition to God, but a means by which God providentially achieves his purposes. Therefore, they reject ideologies that claim evolution is a purposeless process.

> "We embrace the historical Christian faith, upholding the authority and inspiration of the Bible. We affirm evolutionary creation, recognizing God as Creator of all life over billions of years. We seek truth, ever learning as we study the natural world and the Bible. We strive for humility and gracious dialogue with those who hold other views. We aim for excellence in all areas, from science to education to business practices ("Our Mission", 2009).

They accept as true that God created humans both in biological form together with every living thing on earth and in spiritual individuals. God instituted a special connection with humankind by awarding them with his image and calling them to a raised status inside the created sequence. Controversial subjects of science and faith "can be conducted with humility, grace, honesty, and compassion as a visible sign of the Spirit's presence in Christ's body, the Church." ("Our Mission", 2009).

Projects and Awards

We find it appropriate to mention some noteworthy projects which Collins takes part in, for instance, the *Brain Research through Advancing Innovative Neurotechnologies* (BRAIN), the *Accelerating Medicines Partnership* (AMP), the *National Center for Advancing Translational Sciences* (NCATS), and the *Alzheimer's disease research*. In addition, there are multiple non-profit organizations he involved such as the *U.S. Food and Drug Administration* and the *10 biopharmaceutical firms*.

The *Presidential Medal of Freedom*, the *National Medal of Science*, and the *American Academy of Achievement Golden Plate Award* are just a few of his awards. There are five books by Collins. Each of them is related either to science such as *Principles of Medical Genetics, 2nd Edition*, with T. D. Gelehrter and D. Ginsburg (Williams & Wilkins, 1998) and *The Language of Life: DNA and the Revolution in Personalized Medicine* (HarperCollins, 2010) or religion such as *The Language of God: A Scientist Presents Evidence for Belief* (Free Press, 2006), *Belief: Readings on*

the Reason for Faith (Harper One, 2010), and *The Language of Science and Faith: Straight Answers to Genuine Questions* with K. Giberson (IVP Books, 2011). Collins shares in his book and in many articles about how his whole life of success began and nourished. In an interview with him, he recommends the light of his own life experiences to young people:

> "I have a message for anybody who's listening to this, particularly who's in an early phase of their own career: if you feel like you haven't quite got it straight yet in terms of what your path should be, don't worry. If you do have it all figured out, you are probably wrong! Be available to opportunities you did not expect, doors that open that you did not know were there. Be flexible - if a door that you thought you were about to walk through seems to be closing, that is a chance to be creative about other options. Science offers you so many opportunities to do fascinating things. Nobody should imagine that you can just plan a linear pathway for your career and have it turn out that way because it will not. We have a chance to have a scientific life that is truly broad, truly remarkable, truly rewarding, and the chance to work with lots of other interesting people and do things for humanity that are happening at a dramatic pace. What a great time to be working in this field." (Neil, 2012: 3797).

It is noticeable that Collins' sentences above give the signals of his own career path and childhood as we mentioned previously. His inspirational projects and approaches seem to be very remarkable for the young, for instance, he "is among the few scientists who can write about releasing the publication of his work while standing next to the president of the United States." (Pollack, 2006: 1890). Thus, we have seen he has not only a stunning professional life but also a stimulating childhood and educational life in which he was not afraid to change. Indeed, we can conclude from his above-mentioned suggestion, which seems to be opposite for career planning experts, has reintroduced us to a successful scientist who is very innovative and open-minded enough to embrace two worldviews, namely science, and religion. It can be clearly seen Collins has made a very courageous and unprecedented attempt to refer the DNA chain as the book of God.

1.2. From a Theological Point of View

First and above all, Collins is a well-known geneticist in the scientific community. His theological views seem to be deepened after his conversion in faith. It would not be wrong to say it is his scientific discipline that brings him into theological issues. Because as he asserted in many conferences, he started to investigate what he did not believe for the sake of being a rational atheist. So he has started to handle several matters in the field of religion. Our inquiry and analysis show that his cautious approaches towards issues in science and religion enable him to protect the boundaries of both fields. In doing so, he can notice and reflect to us what the problems and difficulties are between these branches of knowledge. In this section we will first touch on how he has undergone a religious conversion, then we will be concerned with the problematic difficulties encountered by Collins.

1.2.1. The Turning Point: Atheism to Belief

All things considered, it seems reasonable to presume that the atmosphere that influenced Collins first years of life will provide us to see the underlying causes of his following choices with a more comprehensive vision. Such that he needed to analyze the labels which he uses to identify his belief might reinforce the idea that he was not exposed to religious doctrinal pressure in his upbringing environment. If so, he would not be on a quest for such matters because of the sets on his mind.

Collins named his religious perspective as agnosticism in a certain period of his youth. He defined his agnosticism, not as a gaining after concentrated and investigated examination of the evidence, but as an easy way to be far away from such polemics. His assertion was, with his own analysis, "*it was not I don't know but it was I don't want to know*." (Collins, 2006: 15) By citing from the scholar and writer C. S. Lewis (1898–1963), he defined it as a "*willful blindness*." (as cited in p. 16) While he portrays the revitalizing atmosphere of the dormitory years, he talks about some of the questions turning to the existence of God some nights. We can see the weeds of his future beliefs in these lines:

> "In my early teens, I had had occasional moments of the experience of longing for something outside myself, often associated with the beauty of nature or a particularly profound musical experience. Nevertheless, my sense of the spiritual was very undeveloped and easily challenged by the one or two aggressive atheists one finds in almost every college dormitory. By a few months into my college career, I became convinced that while many religious faiths had inspired interesting traditions of art and culture, they held no foundational truth" (p. 14).

If we look at Collins' self-analysis, we can see that he is between two concepts: with a clear language, the mind, and the heart. Collins clearly reflects this spot that most people live in their life and thoughts. For instance, he says he feels a longing and seeking sensation somewhere in himself, but he expresses that he needs to rationalize this situation at the same time. It seems the nature of these two entities is always different from each other. Because according to the related sections of Collins book we have examined, the spirituality that emanates from the heart has never presented evidence that can be accepted by reason. This point appears to be the main problem throughout the history of humanity. In addition, our thesis deals with the same problem in various issues under the sub-headings of some sections. We can state science and religion controversy is nourished from the same source.

However, it can be recognized that the turning points of Collins' life have been taking its foundation from some experiences which influenced him deeply through his early life which he tells us about such an event in the dialog with an older woman he met, which makes him deal with some issues more sincerely and question them earnestly. He defined his thoughts and feelings as below:

> "My most awkward moment came when an older woman, suffering daily from severe untreatable angina, asked me what I believed. It was a fair question; we had discussed many other important issues of life and death, and she had shared her own strong Christian beliefs with me. I felt my face flush as I stammered out the words "I'm not really sure." Her obvious surprise brought into sharp relief a predicament that I had been running away from for nearly all of my twenty-six years: I had never really seriously considered the evidence for and against belief…. That moment haunted me for several days. Did I not consider myself a scientist? Does a scientist draw conclusions without considering the data? Could there be a more important question in all of human existence than "Is there a God?" And yet there I found myself, with a combination of willful blindness and something that could only be properly described as arrogance, having avoided any serious consideration that God might be a real possibility. Suddenly all my arguments seemed very thin, and I had the sensation that the ice under my feet was cracking" (Collins, 2006: 20).

His question "If I could no longer rely on the robustness of my atheistic position, would I have to take responsibility for actions that I would prefer to keep unscrutinized?" (p.20) shows us how deep his amazement was. Because it seems he knew that when he scrutinized, there would be some critical results he had to deal with. At first, he was assured by the thought that a complete examination of the rational foundation for faith would reject the virtues of belief and reassert his atheism. However, he did not change his mind to look at the truth despite all the risks and fears. In this manner, he began his conversion by investigating the main religions of the world. After a while, he confused with many major possibilities and he was concerned about whether there was any rational ground for spiritual belief fortifying any of these faiths. Then, he went to visit a Methodist minister to ask his questions. This was such a visit that would affect the rest of Collins' life entirely. The minister gave him a book as a reply to his questions seeking for the sake of rationality. It was Oxford scholar C. S. Lewis' book *Mere Christianity* (1980). Collins' initial satisfaction and positive impression of Lewis may have been caused by learning that he had also been an atheist before. His arguments were the outcome of his similar path with Collins, which made him think those arguments were so persuasive and had a strong logical base.

In the olden days, by saying "*... occasional moments of the experience of longing for something outside myself...*" (Collins, 2006: 14), Collins' internal instinct perhaps implied what Lewis wrote under the title of *Book One: Right and Wrong as a Clue to the Meaning of the Universe* (1980). He defines the argument with "*the most caught my attention*" (Collins, 2006: 21) words while calling it the Moral Law argument. The details of the argument will be discussed in the last chapter, and we will examine its effect on Collins through his conversion in faith. We can predict from his notes and reflections how much he struggled to overcome the challenges. For this reason, we can empathize him as he expressed with great sincerity and admiration. Once more, we witness the intensity of such emotions in his words:

> "Encountering this argument at age twenty-six, I was stunned by its logic. Here, hiding in my own heart as familiar as anything in daily experience, but now emerging for the first time as a clarifying principle, this Moral Law shone its bright white light into the recesses of my childish atheism and demanded a serious consideration of its origin. Was this God looking back at me? And if that were so, what kind of God would this be?" (p. 29).

After his deep astonishment, he makes inferences about God's relationship with humanity. There are two portrays of God before him, the first one is a deist God, who planned mathematics and physics, then activates the mechanism, like Einstein's God. The second one is a theist God, who interests his creations in such ways and does not let them on their own, like Abraham's God (p. 28-29). He assesses the existence of God with a purer perception because he has drawn the boundaries of what he is more inclined to believe. He thinks God would be generous and full of righteousness. However, it is noticeable that the reviving rise of his vision of the plausibility of God's existence bothered him at the same time because he was getting away from his childhood comfortable and acquainted zone. He also found it on the surface that science could not be adequate to perceive God. Because methods of science are not functional to investigate the outside world of which God goes beyond. Collins underlines his feelings:

> "It seemed impossible either to go forward or to turn back. Years later, I encountered a sonnet by Sheldon Vanauken that precisely described my dilemma. For a long time, I stood trembling on the edge of this yawning gap. Finally, seeing no escape, I leaped. How can such beliefs be possible for a scientist? Aren't many claims of religion incompatible with the "Show me the data" attitude of someone devoted to the study of chemistry, physics, biology, and medicine? By opening the door of my mind to its spiritual possibilities, had I started a war of worldviews that would consume me, ultimately facing a take-no-prisoners' victory of one or the other?" (p.31).

Collins loves to express his feelings with songs and poems, just like a heritage from his family. In the subsequent sections, we will see that he also likes to crown his achievements with songs of which the lyrics and compositions belong to Collins. For now, we are quoting the poem which he thinks describes his emotional dilemma best:

"Between the probable and proved there yawns
A gap. Afraid to jump, we stand absurd,
Then see behind us sink the ground and, worse,
Our very standpoint crumbling. Desperate dawns
Our only hope: to leap into the Word
That opens up the shuttered universe" (as cited on p. 31).

In this process of conversion, Collins faces problems while going on searching and learning. He sees that these problems are barriers to new believers. That C. S. Lewis has already gone through the same roads that aids Collins more easily on his own path. Because it was important for him to look for logical ground for Collins, and Lewis' arguments and their attitude towards barriers are very logically supported. Collins' transformation process begins with a sincere questioning of what he believes. In fact, as a scientist, he has searched the evidence of "*why he did not believe in what*" excessively. During his research, he was careful not to act narrow-mindedly so he studied all the issues he had encountered meticulously. He, in a scientist's diligence, has investigated the faith in God in a rather specific framework, without reducing it to science's principle of provability. Since he avoids this reductionism, his personal thesis, BioLogos, differs from any other perspectives. He argues that faith has a spiritual dimension and science cannot prove it:

> "Science is not the only way of knowing. The spiritual worldview provides another way of finding the truth. Scientists who deny this would be well advised to consider the limits of their own tools as nicely represented in a parable told by the astronomer Arthur Eddington. He described a man who set about to study deep-sea life using a net that had a mesh size of three inches. After catching many wild and wonderful creatures from the depths, the man concluded that there are no deep-sea fish that are smaller than three inches in length! If we are using the scientific net to catch our particular version of the truth, we should not be surprised that it does not catch the evidence of spirit." (Collins, 2006: 229).

However, when he says that, he implies neither Gould's "*non-overlapping magisteria*" (Ballantine Books, 1990) nor a conflict between science and religion. We will examine his thesis and other issues detailed in the following chapters. But before, that, we want to take into account the difficulties that Collins confronts in the process of believing, each one of which can be theologically seen as a problematical issue.

1.2.2. Major Barriers of Faith for Collins

The topics that Collins confronts are essentially regarded as the chief problems in the theological context. For example, the problem of evil is one of the most fundamental issues in the philosophy of religion. The other problems that can be encountered frequently are the wrong behaviors under the name of religion, the

rationality of miracles and wish fulfillment. Collins thoroughly reviewed these obstacles in his previously mentioned book. We find it appropriate to examine his interpretations in this section because these issues provide us to conclude very important outcomes in the context of theism.

Wish Fulfillment

Increased frequency of usage shows us there is a need to be explicit about exactly what is meant by the term "*wish fulfillment*". According to Collins' explication about the atheist sight, such longings can not to be projected as signs of the supernatural being by atheists. According to them our change of those feelings of admiration into a belief in God represent to wishful thinking, by conceptualizing the idea that we desire it to be true. Actually, this notion shows a parallelism with Sigmund Freud's thoughts who argues that wishes for God are rooted in the experiences of father-child relationships. Freud's characteristic expression, "*Religious ideas are fulfillments of the oldest, strongest, and most urgent wishes of mankind*." (Freud, 1967: 30) shows us where the central core of the idea comes from. Writing a clear evaluation about the religion and philosophy of Sigmund Freud in *Freud and the Problem of God* (1990), Hans Küng gains attention for that, the problem is not based on the ground of the fact that belief in God can be psychologically explicated because it is not a question of an option for or against psychology (Collins, 2010: 291). After declaring a study which is comparing Freud's view with that C. S. Lewis, Collins says wish fulfillment argument contradicts the major religions' frame of God. He states:

> "If one allows the possibility that God is something humans might wish for, does that rule out the possibility that God is real? Absolutely not. The fact that I have wished for a loving wife does not now make her imaginary. The fact that the farmer wished for rain does not make him question the reality of the subsequent downpour." (p.37).

There are various authors' opinions against Collins' attitude in this regard. One of the leading examples is George C. Cunningham, the author of *Decoding the Language of God: Can a Scientist Really Be a Believer?* (2010). Cunningham says in the opening of his book that he once was a believer, but became an atheist after leaving the church community he was raised in, and joined the scientific community. He compared

Collins' story of the return to religion with explanations of how he had moved away from religion, faith, and the Bible. Several subjects which are stated by Collins, have been criticized in this direction and reveals the contradictions of the matters with his own arguments. For example, he counter-claims Collins' above-mentioned argument as follows:

> "We can desire, long for, wish for a variety of objects and events both real and imaginary. You can wish for a life partner who is always loving, always loyal, and always completely satisfying and supportive of your every need. Does that wish, however real, guarantee that such an individual exists? True, you may find a partner who has many of these characteristics some of the time. However, it is very unlikely, though not totally impossible, that you will find someone who meets all of the criteria all of the time." (Cunningham, 2010: 457 loc.)

Considering the argument assumes all human desires can eventually be satisfied so God must exist to please them being flawed logic, Cunningham thinks this issue can be analyzed just with naturalistic terms such as science, rationality, and reason. Otherwise, "*they do not go beyond poetry and speculation*." (loc. 464). However, then, Collins has already made a similar point a couple of times to underline that science is not sufficient in response to all the significant queries about religion. Even, he gives place to John Polkinghorne's point of view who presents the argument below cogently:

> "The poverty of an objectivistic account is made only too clear when we consider the mystery of music. From a scientific point of view, it is nothing but vibrations in the air, impinging on the eardrums and stimulating neural currents in the brain. How does it come about that this banal sequence of temporal activity has the power to speak to our hearts of an eternal beauty? The whole range of subjective experience, from perceiving a patch of pink, to being enthralled by a performance of the Mass in B Minor, and on to the mystic's encounter with the ineffable reality of the One, all these truly human experiences are at the center of our encounter with reality, and they are not to be dismissed as epiphenomenal froth on the surface of a universe whose true nature is impersonal and lifeless." (as cited in Collins, 2006: 228).

Religion and Atrocity

Whether religion has caused much violence in our life has been an inconclusive debate over the years. On logical grounds, there is no compelling reason to argue that

religion causes malicious mischief. As Collins' statement, the church (he used the term generically) often had a part in reinforcing righteousness and goodwill such as Moses' relieving Israelites to William Wilberforce's influential success in the English Parliament (Collins, 2006: 40). As well as his metaphor which shows us that it is not the pure water, but the rusty container is the reason of the matter, summarizes this subject briefly. This view is supported by an effective example of prophet Mohammad who never used violence towards his oppressors with the view of Islamic Jihad, but posterior devotees have given rise to this false impression. Listing all the religious mischiefs seems to behave in just the same way as "judging fifth-graders on the basis of a poorly rehearsed performance of Mozart's *The Magic Flute*" (p. 41).

God and Suffering

Establishing the importance of the religion for the world or society, the problem of pain is a fundamental property of a clear understanding of religious issues. This dilemma is one of the main subjects in the field of philosophy of religion and it is essential to be handled for having a true vision of religion. Collins' point of view is helpful to comprehend the subject in a well-rounded frame. He argues that it is not God that has invented bombs, arrows and other torture instruments. Then, we have some way been granted free will, and we use this ability frequently to disobey the Moral Law. He expressed that restrained of the free will in order to be prevented from evil manners would be dilemmatic.

On the other hand, "God described by most religions is all powerful and all knowing" (vd. Cunningham, 2010: 546-547 loc.) is a critical presupposition because building the argument on this ground leads us to reach wrong inferences. Firstly, being powerful of God and knowing does not mean that God causes those to happen. In doing so, it is not even a matter of discussion about free will either philosophically or theologically. Secondly, it is necessary here to clarify exactly which is implied by saying "*most religions*". Another key fact to remember, is not just being merciful is a need of fair/ divine justice. St. Augustine (354–430) writes in his *Enchiridion*: *Faith, Hope, and Love* (n.d.), "*... evil cannot exist at all without the good… when we say that evil has its source in the good, do not suppose that this denies our Lord's judgment…*"

Richard Swinburne is another philosopher who supports the thesis that free will is just meaningful in case of the existence of goodness and badness together (e.g. Topaloglu, 2004: 135).

In order to see things from a different point of view, taking into consideration the meaning of suffering, it is expressed that one of the basic tenets of logotherapy is not to gain pleasure or to avoid pain, but rather to see a meaning in life (Collins, 2010: 57). As previously expressed, there are various approaches or methods to the question of the concept of God, some positive and some negative, of which perhaps the most widely held in the latter category is the rationality of miracles. As a matter of fact, Collins mentions on the objections to the belief that cuts the relation of reason sharply for a scientist: How can miracles be reconciled to a scientific worldview? Thus, controversies about scientific evidence of the possibility of miracles have been never-ending issues for maybe over a century.

Rationality and Miracles

According to Theistic Evolution, considerable insight has been gained with regard to acceptance of the compatibility of natural progressions and divine action conceptually. The causes and effects of the rationalizing miracles have been the subject of intense debate within the scientific community. On the other hand, academic writers of the theological field are careful about the claims they make about miracles. They are not to appear certain of the issue in case some doubt may exist, and they are careful not to over-generalize the situation. Actually, as Collins states all religions contain a faith in certain miracles. For example, the Red Sea passage of the Israelites which Moses directed while Pharaoh's men accompanied them before drowning. It is an influential story, told in the book of Exodus, of God's providence in avoiding the forthcoming devastation of His people. Likewise, extended daytime for a specific battle of Joshua could only be explained as miraculous. As well, the ascension of Muhammad, which began in a cave near Mecca, is also a miraculous event, the same as, Christ's rising from the dead is the most significant miracle of all in Christianity (Collins, 2006: 48).

Nevertheless, there is a disagreement on the conception of miracles around theistic and religious circles. Some writers state them as interruptions of the natural law, whereas others argue that miracles suspend the physical laws; and still others consider that natural phenomena such as thunder, rainfall, tornadoes, erosion, and natural disasters such as, earthquakes, eruptions of volcanoes etc. may sometimes be considered as consequences of supernatural causality (as cited in Appleby, 2017: 20). Such claims seem hard to accept for one who has the assumption that supernatural occasions are impossible. It is barely tolerable claiming to be a rational modern human being while regarding miracles as possible. At this point of the issue, Collins gives wide coverage to C. S. Lewis' book *Miracle: A Preliminary Study* (1947) to provide a clear thinking on this topic:

> "Every event which might be claimed to be a miracle is, in the last resort, something presented to our senses, something seen, heard, touched, smelled, or tasted. And our senses are not infallible. If anything extraordinary seems to have happened, we can always say that we have been the victims of an illusion. If we hold a philosophy which excludes the supernatural, this is what we always shall say. What we learn from experience depends on the kind of philosophy we bring to the experience. It is therefore useless to appeal to experience before we have settled as well as we can, the philosophical question." (as cited in Collins, 2006: 48).

With this being said, Collins reinforces his position with the *Bayes' Theorem* (p. 49) which offers a formulation for the happening of an event which has two or more probable explanations with pre-given information which is called "*prior*" and some added information which is called the "*conditional*" He claims the practical advantage of this analysis is that it can be applied to the miraculous incidents in daily life. For example, with the Bayesian sense, he asks to postulate a "prior" for a miraculous cure of cancer, which is labelled to be fatal in almost every case. However, Collins states that the prior of the materialists will be zero. Therefore, an exceedingly unusual cure of cancer will not be regarded as evidence of the miraculous. However, after admitting the prior likelihood of a miracle, the believers will do their own easy Bayesian calculation to conclude that a miracle is more likely than not (p.51). On the other hand, Collins emphasizes that the claiming of miracle status for everyday events for which natural explanations are readily at hand will destroy the idea of the possibility of

miracles more rapidly than committed materialism does. Besides all these, quoting Collins thought will help us understand his point of view:

> "As a physician, I have occasionally seen circumstances where individuals recovered from illnesses that appeared not to be reversible. Yet I am loath to ascribe those events to miraculous intervention, given our incomplete understanding of illness and how it affects the human body. All too often, when claims of miraculous healing have been carefully investigated by objective observers, those claims have fallen short. Despite those misgivings, and an insistence that such claims be backed up by extensive evidence, I would not be stunned to hear that such genuine miraculous healings do occur on extremely rare occasions. My 'prior' is low, but it is not zero" (p. 52).

Collins feels that the fourth barrier which causes most scientists to reject the idea of a personal God is that they cannot reconcile miracles with science. Collins defines a miracle as "*an event that appears inexplicable by the laws of nature, and so is held to be supernatural in origin*" (p. 48). Collins defines the supernatural as occurrences beyond our understanding or perception. Many writers and thinkers discuss the supernaturality and the miracles from several outlooks. For example, Pierre Teilhard De Chardin divided the miracles into two groups, the first one is "*miracles that used to be simply*" (i.e. applied in all domain like creation, redemption, revelation, sanctification evolutively; super-arrangement of ideas and tendencies fully) and the second one is "*miracles, which used to seem a clear manifestation of a divine intervention*" such as certain occurrences of healing (Chardin, 1974: 160). It can be said this is one of the most complicated issue in the theological literature of Christianity.

For further reading, we can list some sources which we have come across during our study (vd. Appleby, 2017; Cooper, 2013; Larson, 2006; Lewis, 2001; Lloyd, 2014; Miller, 2007).

SECOND CHAPTER

THEORETICAL FRAMEWORK OF THEISTIC EVOLUTION

This chapter reviews the literature concerning the terminology as well as the history and background of the notion. It will critically discuss all other alternative perspectives on this issue. Yet we will not be able to take up the all of the views due to the scope and limitations of the thesis. We will give priority to the views that are considered basic and have a critical position. We will also try to provide resources for precise further reading.

2.1. What is Theistic Evolution?

We aim to give an extensive portrayal of the perspective in order to form a basis to the main theme of our study. Comparing the notions and contrasting the extensions of them provide us with a fair comprehension. While a variety of definitions of the term Theistic Evolution have been suggested, this paper will agree, as an ultimate comment, with the definition first suggested by Collins who sees it as the term "BioLogos", which is a relatively new name for Theistic Evolution, throughout this dissertation, the term BioLogos will be used to refer to Collins' definition. In addition, in this research paper, the acronyms/abbreviations TE, YEC, OEC, PC, EC, and ID will be used with reference to Theistic Evolution, Young-Earth Creationism, Old-Earth Creationism, Progressive Creationism, Evolutionary Creationism, and Intelligent Design Creationism.

2.1.1. Contextual Definition, History, and Background

In the literature, there seems to be no general definition of Theistic Evolution (briefly stated TE). The American botanist Asa Gray (1810-1888) was apparently the first to imply the TE in his book *Darwiniana: Essays and Reviews Pertaining to Darwinism* (1876). Darwin's theory discusses thoroughly which implication is

approved more theistic or atheistic. The book is in the Cambridge Library collection and it was first published in the last half of the 19th century.

Contextual Definition

The knowledge of the "theistic" and "evolution" words is important for an understanding of the whole comprehension of Theistic Evolution in literature. The term *theistic* originated from the Greek word *Theos*, which means "god". It is used to indicate numerous degrees of God's participation. On the one hand, it may look like a deist reference to God's primary action and consequent non-interference. On the other hand, it may accept God as the Originator, Maintainer, and "Ender" of the whole present substantiality. The term may disclose even an effort to sign to a portray of God's strategy for the universe or to regulate God's plan by the agent of obtainable scientific statistics (as cited in Terreros, 1994: 98).

As regards evolution, it embodies a multitude of concepts which Mills (1995) has listed below: (a) change throughout time to (b) interactions of organisms by descent through common ancestry to (c) a specific descriptive mechanism for the pattern and progression of (a) and (b), such as natural selection (p. 119). TE is the doctrinal conviction that while scientific proof supporting evolution is precise, these evolutionary perpetuations were purposely directed by God and not through pure chance. Having the authoritative assistance of many religious denominations such as the Roman Catholic Church and Protestantism, TE is considered as composing an accompaniment of both belief in God and support of evolution. TE is the component of a group of various belief classifications that attempt to define the related engagement of God in the natural action that gives rise to the organism of all life on Earth. Theistic evolutionism was based as a manner to approve the wide-ranging scientific unanimity regarding evolution and natural selection without rejecting a particular faith concerning God's involvement in the existence of humanity. Similar expressions to TE comprise "*Fully Gifted Creation*", "*Evolving Creation*" (Gordon, 2013) and "*BioLogos*" (Collins, 2006) "*Theology of Evolution*." (Jackelén, 2007: 163). Although the term has been defined in a spectrum as just an option of belief by Scott

(2005), it has also been used as a dichotomy of Atheistic Evolution in some certain times by some authors (cf. Hearn,1971: 140–145 and Dawkins, 2015).

A key aspect of TE is that God might have used evolution as a way of creation. When it is the case, the role of God and His relationship with nature is a classic problem in this area. So the primary concern of TE is explaining the intervention of God in nature. This perception is at the heart of the understanding of this perspective. Despite asserting of God's immanence in nature expressively, such theologians, like that of Jürgen Moltmann (1993), John Haught (2003), and Denis Edwards (2004), have little sureness that this presence can be detected, at least in terms of discerning purpose (telos) in nature.

> "Science, however, lighten newly facts that the cosmos is greater than actually known. So, if God is not discernably existent in nature, Science, however, reveals new depths to the truth that the cosmos is very large—unimaginably so. If God is not discernibly present in nature, God is very far away. God cannot be imagined as just beyond the horizon, the skies, or heaven. If God is outside all matter, God may appear to be beyond human reach. For this and many other reasons the question of God's discernibility in the natural world needs to be reexamined." (Creegan, 2007: 500).

Equally important, recent research and discussions about TE have heightened another problem with the subject. What kind of interpretation should be put on the Bible? This matter plays a key role to choose sides among theological viewpoints. This also remains an open problem in the area. We will investigate this subject in the last chapter.

Despite all the various definitions mentioned above, Collins presents a mainstream framework with six premises of TE. First of all, the universe came into being out of nothingness, roughly 13.7 billion years ago. It has been specifically tuned for life. Life arose with the long-term period of an evolutional process via natural selection. When it started, no special supernatural intervention was required. Humans are no exception in this process, they share a common ancestor with the great apes, but they have also a spiritual nature with which they embody of the knowledge of right and wrong with the feeling of longing for God (Collins, 2006: 200). This means that God uses a gradual creation action within a long process of creating the universe. God continues to create and intervene in this process, which also includes humanity.

Although Collins has drawn a general framework of TE, this term is not appropriate for the perspective according to him. His suggestion is BioLogos, which we will examine in the last section.

History, and Background

There was the concept of the biological change before Darwin in literature. Even after Darwin published his book *The Origin of Species*, he listed the people who had expressed this biological transformation before himself, on the criticisms he had encountered. There were over thirty names on that list. Some of those names: Aristotle, Al-Jahız, Leonardo da Vinci, Abraham Trembley, Benoît de Maillet, Denis Diderot, Erasmus Darwin, Jean-Baptiste Lamarck, Étienne Geoffroy Saint-Hilaire, Robert Edmond Grant, Robert Chambers, Alfred Russel Wallace (Stott, 2012). However, Darwin investigated their works and he concluded that they did not imply the natural selection feature of his theory. In fact, TE began to blossom in the letters of Gray which was written by him to Darwin (vd. Gray, 2009). Gray repeatedly stated whether the phenomenon of evolution has a theological dimension and consulted Darwin about this issue. To bring some information about the history and background of TE, going back in time is a necessity to get a good grasp of the issue. Gordon (2013) has drawn an on-site monitoring frame about the history of TE as stated in the following lines.

Before entering the 18th century, creation was thought to be only a few thousand years old by naturalists. However, as the beginning of the 18th century, with the development and progress of the field of geology and paleontology, it began to be understood that this is not exactly the case when their findings were evaluated. By the end of the 18th century, there were people who worked on the theory of transmutation. The names of those entrepreneurs are Erasmus Darwin (1731-1802) and Jean-Baptiste Lamarck (1744-1829). Transmutation is a theory that claims that organisms in life develop progressively over time (p. 4).

In his work *Vestiges of the Natural History of Creation* (1844), Robert Chalmers wrote down the theory of evolution in an understandable frame for the middle-class of the society and made it easier for them to comprehend the theory. This attempt made the theory more acceptable by the public. The purpose of Chalmer's

work was actually to reduce the criticism and the negative reaction to the atheistic implications, which were adopted by many audiences, towards the theory of transmutation. He thought that mutational point of view was not a negative procedure because he actually considered that it could be a godlike effect in the physical world (p. 4).

In the middle of the same century Richard Owen (1804-1892), who is counted to be a traditional naturalist, considered earnestly the probability that the divine plan might be revealed through the working of natural law instead of miracles (Bowler, 2002: 218- 222). Gray and G. F. Wright (1838-1921) were two of the initial Christian supporters of Darwinism (Numbers, 2006: 34-38). These leading supporters, one of whom is a botanist and the other one a pastor, were actually contributory in advancing Darwin's ideas in a positive way. For example, Gray's interpretation of Darwin's approaches in a theological way was a new point of view for Wright, and he was able to accept both biological evolution and his own religious thought. He came closer to the idea that this theory might actually be God's plan. Wright adopted such an attitude after reading Charles Lyell's *Geological Evidences of the Antiquity of Man* (1863) in his youth together with Darwin's book (Gordon, 2013: 2). Gray and Wright gave the first theological perspectives to the Darwinian discussions with their works which could form the basis of the relationship between religion and science. They ultimately worked together on some initial significant theological influences on the Darwinian discussions with their works which could form the basis of the relationship between religion and science. They ultimately work together on some initial significant theological influences on the Darwinian discussions and Wright argued that scientists and theologians mutually participated in inductive philosophy as a conventional method (Numbers, 2006: 22-23).

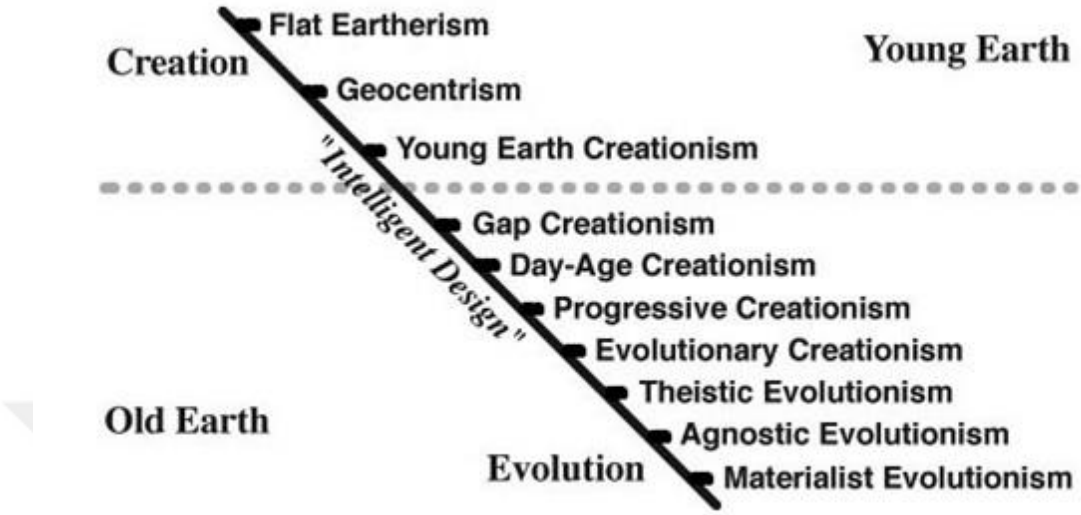
Considering that Darwinism was unsuccessful in enlightening the beginning of the diversity, Wright and Gray denied natural selection. According to their point of denying this feature of evolution, they actually implied to accept divine interfering to natural life. Wright thought that Darwinism did not cancel the design argument which is used for God's existence. He similarly embraced the special creation of the human being, the biblical perceptions of God and the miracles. He believed God created a few

separate organisms or forms which then reached a vast amount of diversity and classifications (families, class, and species) by a supernatural involvement (p. 5).

John Zahm (1851-1921) acted as an exclusive part in the religious history of the United States as the earliest renowned American Catholic intellectual to cope with the developing theories of evolution proficiently. He powerfully confirmed the eventual appropriateness of an evolutionary perspective and the main doctrines of Catholic guideline for humanity, God's providence, and creation. As a Roman Catholic priest and professor at Notre Dame, Zahm gave high-level and well-defined clarifications of Darwinian evolution. He claimed this theory did not present any difficulty to the Catholic faith if it is correctly comprehended. The publishing of *Evolution and Dogma* (1896) was Zahm's top achievement which reinforced his status as a chief Catholic proponent and scholar (Appleby, 1987: 474).

2.1.2. Alternative Perspectives

Most of the theories about creation are, however, focused on explaining the beginning of life. There are two major theoretical frameworks for this explanation that the first one is Creationism and the second one is Evolutionism. Scott (2005) describes these two basic kinds of approaches in a diagram named "*Creation-Evolution Continuum*" (p. 57). From the graphic below (Figure 1), we can see that there are chiefly four kinds of belief systems. These are: a) Flat-Earthism, b) Geocentrism, c) Creationism and, d.) Evolutionism. Creationism is graded according to the age of the earth. It is classified into two broad types: Young-Earth Creationism and Old-Earth Creationism. There are four basic approaches currently being adopted in classification into Old-Earth Creationism: i) Gap Creationism, ii) Day-Age Creationism, iii) Progressive Creationism, and iv) Evolutionary Creationism. Lastly, the key aspects of Evolutionism can be listed as follows: i) Theistic Evolutionism, ii) Agnostic Evolutionism, iii) Materialistic Evolutionism. However, Intelligent Design Creationism has been placed on the continuum as overlaying YEC and OEC because some of its advocates can be situated in each party.



Scott, E. C., 2005 Evolution vs. Creationism: An Introduction, USA, University of California Press.

Figure 1: The Creation-Evolution Continuum

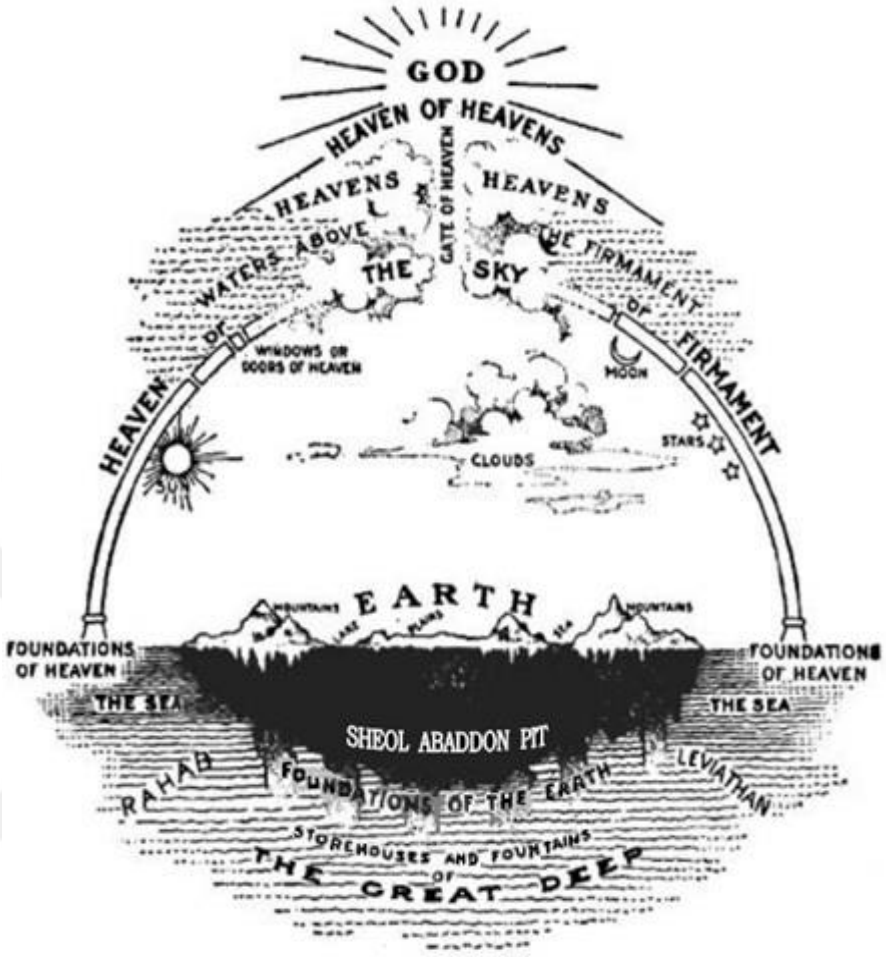
It is essential here to clarify precisely the definitions of the terms that will be useful to grasp the junction of the views. Thus, the main idea of the thesis will be positioned properly and then it will be easy to conclude it. In several fields of science, various definitions of *evolution* are found. One of the first people to define biological evolution was Charles Darwin, who used: "*descent with modification*" (Darwin, 2009: 366). Being a special type of evolution, Darwinism is generally understood as organic structures or organism descent from mutual predecessors with modification through natural selection (Hodge, 2006: 49). In the middle of the 20th century, the typical natural selection theory conjoined with genetic theory came to be identified as the synthetic theory of evolution, namely Neo-Darwinism (Scott, 1997: 266).

Acceptance of evolution in the scientific community differs from its agreement within the public. It seems that among well-accepted scientific theories such as atomic theory, heliocentrism, cell theory, evolution alone is generally refuted by non-scientists. The literal interpretation of sacred texts is thought to be significant to theology which is a noteworthy variable rate in understanding antievolutionism.

Therefore Biblical-literalist Christians, ultraconservative Jews, and Koranic-literalist Muslims are against evolution in general. As a matter of fact, it can be emphasized that the most active antievolutionists are Christians (p. 264). This leads to an increasing amount of literature on the relation of science and religion. With that in mind, attitudes of other religions towards evolution and creationism are beyond the scope of this dissertation. However, as Scott (1997: 264) refers, useful discussions can be found in Goodman (1995: 10-11), Groves (1991: 21), and Scott (1991: 20-21).

Creationism is grouped under various categories of belief as shown in the diagram on the previous page. Educators usually count on the scale of the creation-evolution continuum which helps to describe the variable grades of creationism. It distinguishes between the nuances that exist in the varying creationist standpoints. On one edge of this scale, there is a group of biblical literalists named flat-earthers. They assert that the Bible should be interpreted in a literal way, so with this reading style, Earth cannot be sphere-shaped. Their theological approach leads them to read the Bible just as literally in order to have the accurate comprehension for them. Flat-earthers are certain that the shape of Earth is flat. This point of view, *Flat-Earthism*, is a category of young-earth creationism. Supporters of this belief think that Earth is between 6.000 and 10.000 years old and they also use a literal interpretation of the Bible to establish this opinion. Charles K. Johnson of Lancaster was the head of the *International Flat Earth Research Society* (as cited in Scott, 2005: 58) until his death in 2001.

Geocentrism is a slightly larger group than the flat-earthers. Geocentrists agree the spherical shape of Earth nonetheless they reject the central position of the sun in the solar system. Both flat-earthers and geocentrists represent the view of Earth expressed by the ancient Hebrews to a greater or lesser degree, which was that it was a disk-shaped structure as seen in Figure 2 on the following page. Scott (2005) gives a wide place to a good explanation for the ancient beliefs about the earth as cited in his book:



Robinson, G. L., 1913 **Leaders of Israel**, New York, Association Press.

Figure 2: The Ancient Hebrew Conception of the Universe in Early 20th Century

The heavens were held up by a dome (raqiya or firmament) that arched over the land and that water surrounded the land. The firmament was perceived as a solid, metal-like structure that could be hammered and … the surface of the firmament is solid enough … The Sun, Moon, and stars were attached to the firmament, which means that these heavenly bodies circled Earth beneath the firmament and, hence, were part of a geocentric universe. … Stars were regarded as small, bright objects rather than massive suns hugely larger than Earth. They could fall on Earth because they were below the firmament, a solid object that, if rolled aside, would reveal the throne of God." (as cited in p.59)

Creationism

Among all other belief systems, creationism seems to stand right in front of the Theistic Evolutionism. As we investigate the differences between the components of the perspective, we expect that the positions of two perspectives will be better comprehended. Among the issues, we aim to examine what the reasons of the supporters of this idea are and their supports and objections.

The reason we desire to inspect this perspective in a separated part is that Collins is specifically assessing them in his book *The Language of God* (2006). Because these are in such a position that they draw the thickest line between religion and science. Collins uses *"When Faith Trumps Science"* (p. 171) title on the cover of the chapter for these approaches in his book. Essentially, he thinks the mislabeling of some perspectives is confusing the religious and scientific thoughts. For example, if the "creationist" label carries the implication that God created the universe with an active participation, many large-scale deists and almost all theists actually need to introduce themselves to this label. In the following passages, we are examining two main branches of this perspective.

The term *Young-Earth Creationists* is usually used in its broadest sense to refer to the followers of Henry Morris. He is the founder of the *Institute for Creation Research* (ICR). He and John C. Whitcomb accept Genesis *literally,* such as the creation of humans and even Noah's Flood. They published *The Genesis Flood* in which they claimed to make available the scientific explanation ("creation science") for young-earth creationism (Whitcomb & Morris, 1961) YEC supporters mostly agree to take the idea of "microevolution," through which minor transformations within species can happen by variant and natural selection, but they refuse the impression of "macroevolution," the progression that would let one species evolve into another (Collins, 2006: 172). Ken Ham, who is the president and founder of *Answers in Genesis*, the popular *Creation Museum*, is the leading proponent of this perspective.

YECs accept the Copernican system, but refuse modern physics, astronomy, and chemistry. They also deny biological descent with modification and geology in relation to the age of the Earth which is accepted as being from 6.000 to 10.000 years old in their view. Collins (2006: 173) comments on this issue that if their claims were

true, this would cause a wide-ranging and permanent failure of all the disciplines of science. In fact, it would not be wrong to base the source of this situation on interpreting Genesis 1:1 (In the beginning God created the heavens and the earth,) and 1:2 (Now the earth was formless and empty, darkness was over the surface of the deep, and the Spirit of God was hovering over the waters). YECs are ultra-literal interpretations of Collins' description. He states that this narrow-minded interpretation is mainly an invention of the last hundred years, rising to a large result as a reaction to Darwinian evolution. It is also a basis for some other difficulties which are caused by understanding some scripture in the Bible literally such as "*the right arm of God*" (Isaiah 41: 10) and "*with a mighty hand*". (Peter 5:6) The other problems are related to the contradiction between the sacred texts which are read literally, and scientific developments. Because facing such inconsistencies forces the person to choose one worldview rather than accept the other as a threat (Collins, 2006: 174-175).

Even YECs argue that all the scientific indications such as fossil records and carbon-14 outcomes are planned by God to test their faith. However, this viewpoint is criticized by Kenneth Miller in his book *Finding Darwin's God* (2007), as Collins recounted. He presents a detailed counterclaim by explaining a lot of concerns such as "*Noah's flood*," "*flowering plants*," "*coprolites*". By refuting many of the arguments of YECs, he says that they abstain from compelling evidence, such as the "fact that the digestive systems of the plesiosaurs are filled with ammonites, extinct mollusks from the same geological age." (Miller, 2002: 62). On the contrary, *Old-Earth Creationists* agree to take the age of the Earth as old (close to 4.6 billion years old) but distinguished from mainstream science about how the creation of humankind came into the world. In the mid-1800´s, it was not a radical idea that the earth is ancient to either the Church of England or the Catholic Church (as cited in Scott, 1997: 269). From the middle of the 18th century on, the doctrine of *Special Creationism* has been coordinated with scientific data and theory revealing that the earth was old.

The creation-evolution continuum has several mutual features as most other continua and it has no strict boundaries between ideas. For example, YEC differs from OEC in several important ways, but the partition between the OEC views is to a lesser degree clear-cut. While OECs accept most of modern physics, chemistry, and geology, they are not unlike to YECs in their refusal of biological evolution (p. 271). One of the

familiar attempts to arrange with religion and science was the *Gap Theory*, which claimed there was a great time-based gap between Genesis chapter 1:1 and chapter 1:2 (as cited in Scott, 1997: 270). The Gap theory, which was first raised in the late 18th century, presumes a creation (probably with dinosaurs, etc.) throughout Genesis 1:1. After that, creation was demolished before Genesis 1:2, and then God created the existing world in six days, which are considered as 24-hours, likewise Adam and Eve. A time gap between the two separate creations allows for the *acceptance* of proof for an ancient earth (Scott, 1997: 270).

Another attempt to adjust science to a literal, or mostly literal reading of the Bible, is *the Day-Age Model* which was more widespread than gap creationism in the 19th century and the earlier part of the 20th century (as cited in Scott, 1997:270). At this juncture, religion is attuned to science by means of taking each of the six days of creation is not in twenty-four hours, but longer periods of time—even thousands or millions of years. This consideration is quite compatible with an ancient age of Earth by holding a literal interpretation of Genesis. To put it another way, there is an equivalent between the direction of attendance of living things in the fossil record compared to the order of appearance of living in the first chapter of Genesis–with plants appearing before animals, and humans appearing later (p. 270).

Penultimately, accepting more of modern science than do Day-age and Gap creationism, *Progressive Creationism* commonly believe that God created "kinds" of animals consecutively; the fossil records are thus an exact portrayal of history because dissimilar animals and plants came out at different times during Earth's history rather than being created all simultaneously. PCs deny the view that prior forms are inherently connected to posterior ones, rather "species" are independent creations. They accept as true that biological evolution did not occur. Most PCs admit that God created creatures encompassing as much heritable variant as a family and then some "evolution within a species" occurred. In PC, God is perceived as an active creator as well as acting through natural law such as microevolution (p. 270). Hugh Ross, leader of *Reasons to Believe*, is probably the world's most influential progressive creationist

Terminally, in spite of its designate, *Evolutionary Creationism* is essentially a kind of evolution. According to EC, God the Creator uses evolution to generate the universe in accordance with God's plan. From a scientific point of view, EC is barely

distinguished from TE, which follows it on the continuum. The differences between EC and TE are based not on a scientific foundation, but on a theological ground, with EC being supported by more conservative (Evangelical) Christians, whose perception of God is more interfering in the evolution process than do most Theistic Evolutionists (Lamoureux, 2008). Many conservative Protestant evangelicals are placed at the top in this view's proponent list.

Intelligent Design

Intelligent Design, one of the other topics that we intend to examine, has an extremely widespread mass of supporters. In fact, advocates of this point of view argue that this idea is the most accurate belief system to be chosen as an alternative to both TE and Creationism. Accordingly, we aim to address this idea in a subtler way in this section. Collins highlights that the term has a noteworthy semantic inconvenience the same as with the term creationism.

> "The two words "intelligent design" appear to encompass a broad range of interpretations of how life came to arise on this planet and the role that God might have played in that process. However, "Intelligent Design" (with capital letters) has become a term of art carrying a very specific set of conclusions about nature, especially the concept of "irreducible complexity." An observer unaware of this history might expect that anyone who believes in a God who cares about human beings (that is, a theist) would be someone who believes in Intelligent Design. However, in the sense of current terminology, that would in most instances not be correct." (Collins, 2006: 182).

More to the point, such terminological difficulties conceptualize the idea in a different frame but investigating the belief systems with a wide-ranging assessment provides us a clear sight over its position. In fact, Intelligent Design (in short ID), joined the continuum of perspectives in 1991. Nevertheless it is placed in a large amount of literature that is based upon the argument of William Paley (1743–1805), and dates back at least to Cicero who proclaims God's existence can be proved by exploring and considering his studies (Collins, 2006: 85). Briefly, Paley defined the term by using an analogy. If one found a watch, which has such a complex mechanism, the watch points toward a watchmaker who designed it intentionally. It absolutely could not have been gathered by chance (Paley, 1803: 5). In the same vein, discovering

of order, purpose, and design in the world is evidence of God. Paley's characteristic sample of design in nature is the vertebrate eyes. Along the same line, today's Intelligent Design Creationists probably have words around complicated biological forms such as cells. The ID's key aspect is that such things are "*too complex to have evolved by chance*" (Scott, 1997: 280). As with PC, ID agrees for a reasonable amount of microevolution, but followers think that transmutation and natural selection are not sufficient to trigger evolution from one "kind" to another. Major body plans and the beginning of life are things that are too complex to be enlightened naturally, thus there must be an "*intelligent designer*"–God (Scott, 2005: 63). Philip Johnson is the founder and Michael Behe is the premier supporter of ID.

Collins expresses three basic propositions that the Intelligent Design movement rely on. First of them is that evolution encourages an atheistic point of view and thus it must be resisted by believers in God. What causes this issue is that the founder, Philip Johnson, builds objectional arguments on materialistic views. Thus, such a perception matured among followers.

Secondly, evolution is essentially rejected since it cannot be sufficient to explain the complexity of nature. As Collins states, Michael Behe explains this argument in *Darwin's Black Box* (2006) in detail. However, this subject includes highly technical issues, such as "*workings of the cell, translating RNA into protein and the bacterial flagellum*" (Collins, 2006: 184). Lastly, if evolution cannot explain irreducible complexity, in that case, there must have been an intelligent designer concerned with the required steps throughout the process of evolution (pp. 183-186).

There are both scientific and theological objections against this view. Scientific objections have quite technical points as "*the human blood-clotting cascade,*" (p. 184) the evolution of the eye, and the *bacterial flagellum* which is explained more in the last chapter as an objection to BioLogos. We are not in favor of moving the details of the other subjects here since it goes beyond the purpose of our thesis. We also do not go into the outlines of the scientific developments and explanations in contemplation of our scope and limitations. However, we will handle the main idea of the matter.

First of all, although all scientific theories have frameworks for their experimental observations, Intelligent Design does not have a competent structure to meet the requirements of a scientific theory. The main theory of ID which is directed

by Phillip Johnson, also "suffers by providing no mechanism by which the postulated supernatural interventions would give rise to complexity… Behe presents the argument of sleeping genes which were awakened at an appropriate time hundreds of millions of years later when they were needed" (p. 187). However, as Collins says, "no primitive organism can be found today that includes this cache genomic data for future use" (pp. 187-188). He also draws attention to the contradictions of ID with the words we quoted below:

> "Of even greater significance for the future of ID, it now seems likely that many examples of irreducible complexity are not irreducible after all, and that the primary scientific argument for ID is thus in the process of crumbling. In the short fifteen years since ID appeared on the scene, science has made substantial advances, particularly in the detailed study of the genomes of multiple organisms from multiple different parts of the evolutionary tree. Major cracks are beginning to appear, suggesting that ID proponents have made the mistake of confusing the unknown with the unknowable, or the unsolved with the unsolvable" (p. 188).

As far as the theological objections are concerned, it is well-known that the "God of the Gaps" phrase has been used for this point of view. This perspective claims that God directly creates the phenomena which science cannot account for. However, this is an extremely risky attitude that can undermine the image of faith in God. Because science is progressing every year even by destroying its own truths in some cases. If science discovers how to process an organism which is thought to be too complicated to be evolved, then the claim of it being created by God directly will have been flawed. For example, in the past, a solar eclipse was attributed to God, but in spite of what they thought, developments of science filled that gap. We should quote Collins' words which highlight the seriousness of the situation: "If believers have attached their last vestiges of hope that God could find a place in human existence through ID theory, and that theory collapses, what then happens to faith?" (Collins, 2006: 195).

2.2. Collins' Frame of Reference about Evolution

Evolutionism divided into various classes from the scientific point of view, but it can best be treated under three headings intending to take dissertation's scope and

limitations on board: Agnostic Evolutionism, Materialistic Evolutionism, and the Evolutionism which is handled from a *Theistic* perspective. The last one is the main theme of this research paper, but it is helpful to clarify what the definition of the previous ones are for a better understanding of the latter.

Scott (2005: 65) writes that Thomas Henry Huxley coined the word of *agnostic* in the 19th century. The term signifies someone who has no certain conclusion or considered opinion about God. Huxley considered by including the physical realm that reality would not be known precisely by human beings. Thus, it is not possible to assure to believe in or deny the existence of God. According to Huxley, supernatural thought would be replaced by science because ideas and convictions should be based on empiric sources. His attitude confirms that he was a firm follower of science, but he agreed fairly it would not be sensible to deny the transcendental power over the physical phenomenon. Furthermore, according to *Agnostic Evolutionism* evolution is a fact, but it is not concerned with God.

Materialist evolutionism is placed in the final point of the continuum. Scott (2005) emphasizes that it should be clarified the nuance between materialism and methodological naturalism. Recent scientific methods align to the second one which says, "*natural phenomena can be explained by using natural causes*" *(*p. 65). Materialist Evolutionists state additionally that there is no supernatural power (viz. God) as which it can also be named "*philosophical naturalism*" *(*65). Popular advocates of this point of view are William Provine, Carl Sagan, and Richard Dawkins.

In the rest of this section of the study, we consider only one aspect of evolution emphasizing Collins fundamental arguments on evolution theory. Whether evolution is a fact or a theory is a topic that has been debated for many years. In Collins point of view, the majority of the disagreements may be due to a misunderstanding of the word "theory", because the best-known counter-argument begins with "evolution is actually just a theory". However, while this sentence is used, the word theory has another meaning for scientists. Specifically, Collins cites two different meaning for the term. The first one is, "a speculative or conjectural view of something, and the second one is fundamental principles underlying a science, art, etc.: music theory, the theory of equations." (Collins, 2006: 141). When scientists use this word, they imply the latter from the explanations above, just as they used to describe the theory of gravity. If there

is an uncertain situation, they use the term 'hypothesis' to explain it. Looking at the evidence for the genome comparisons we are going to examine in the next section, no theory other than Darwin's theory, according to any biologist or genetics, is sufficient to explain these similarities.

2.2.1. The Main Evidence of Evolution

The theory of evolution, which can be studied in various areas, takes up a large amount of space in literature. In this study, only the arguments will be handled that can be seen as basic for the main theme of our thesis. In order not to go beyond our scope and limitations, we have not mentioned contradictory arguments and debates. When this is the case, there are three arguments that can be considered as basic. Collins has evaluated these arguments in detail at many conferences and in his book, which we referred to throughout our study. This episode contains the subject of fossil records, common ancestors, genome comparisons, and the pseudogenes.

Fossil Records

Collins gives a wide coverage to fossil recording data in *The Language of God* as a chief and compelling argument to the theory of evolution. He states that fossils have reached an outstandingly advanced stage over the last twenty years. The Discovery of vanished species has filled previous gaps in getting the picture of the history of life on Earth. Moreover, radioactive decay enables us to estimate how old fossils and Earth are exactly. However, a considerable number of organisms have left entirely no trace because the creature has to be caught in a certain type of mud or rock without being damaged. Additionally, rotting and crumbling causes the largest part of bones to decay. Despite these difficulties, it is actually an astonishing opportunity to have such a wealth of data about the organisms that have lived before (Collins, 2006: 93).

The chronological sequence of the organism's appearance let some experts give a possible "*Cambrian explosion*" which can be portrayed as an unexpected amount of diverse invertebrate emergence (vd. Gould, 1990). Collins declares that some theists claim the Cambrian explosion is evidence of the involvement of a

supernatural power, but he highlighted that this argument leads us to another "God of the gaps" argument. Furthermore, it is not convincing evidence, due to the possibility of revealing a new improvement in the scientific field about the issue (Collins, 2006: 94). According to him, the land remained infertile until plants appeared on dry land 400 million years ago which resulted from underwater life. Land-living animals had begun to appear on land 30 million years later. This landing actually caused another gap between sea life form and land-dwelling tetrapods in the fossil record. Current findings, however, have verified convincing samples of just this kind of transition (as cited in p. 95). Collins emphasizes that it is a common acceptance that approximately 65 million years ago, the dinosaurs' disastrous extinction and catastrophic climate changes lead to appropriate surroundings for the emergence of mammals. The prehistoric asteroid collision, which is a thought-provoking event, may have been the only conceivable cause for the extinction of the dinosaurs and growing mammals. That prehistoric asteroid collision which is a thought-provoking event may have been the only conceivable cause for the extinction of dinosaurs and growing mammals. Bones of more than a dozen dissimilar hominid species have been uncovered in Africa. The first specimens we identify as modern *Homo sapiens* date from almost 195,000 years ago. Other hominid branches appeared gradually which can be observed easily that all these fossil records are consistent with the common ancestor's tree. There is also sufficient evidence of transitional forms (p.96).

Common Ancestors

The second convincing argument of Collins is the idea of descending from a common ancestor. Various researchers indicate that DNA and the genetic code reflect the shared ancestry of life. According to Collins, it is exciting to look cautiously at the genome of humankind and compare it with the genomes of many other organisms that have now been sequenced. There are over 30 comparing genome documents between human and multiple organisms. For instance, the mouse genome (MGS Consortium, 2002: 520–62), the chimpanzee genome (CSA Consortium, 2005: 69–87), the domestic dog (Lindblad-Toh et al., 2005: 803–19), the honeybee genome (HGS Consortium, 2006: 931–49) the macaque's genome (Yan et al., 2011: 1019–23) and

these are just the ones that have made the cover of the Nature of Science. After entering those DNA sequences into a computer then comparing them, the program illustrates a tree similar to an evolutionary tree which had already been inferred to by anatomy and by the fossil record including humans at the top which matching quite precisely to the details of animals at the bottom of the scheme (Metaxas, 2011: 312).

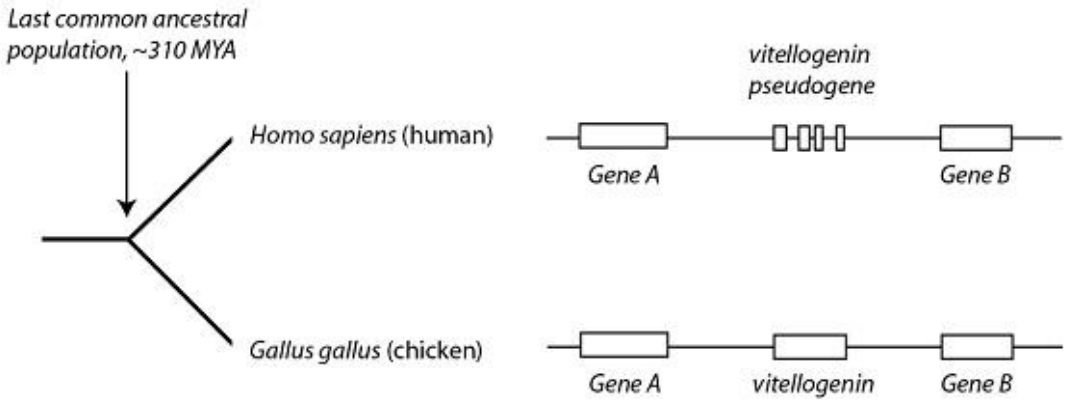
Collins (2006) notes that there are many astounding results of genomic comparisons. The first surprise for him is how little of the genome is actually used to code for protein. There are only about 20,000 and 25,000 protein-coding genes in the human genome. Besides, there are also nearly 20,000 genes in the other simpler organism's genomes such as worms, flies, and simple plants (p. 124). Collins declares another outstanding result of comparing the genome is that we come to know our 99.9 percent of similarity with the various members of our species at DNA level. The capability of making detailed comparisons of human DNA with the other species, which can be easily matched with a computer program, enables us to see the highly significant match of the human genome and the other mammals accurately (p.125). Then again, the percentage of the comparison between human DNA sequence and the other organism genome is lower than the other comparisons of the species.

	Gene Sequence That Codes for Protein	Random DNA Segment Between Genes
Chimpanzee	100%	98%
Dog	99%	52%
Mouse	99%	40%
Chicken	75%	4%
Fruit fly	60%	-0%
Roundworm	35%	-0%

Collins, 2006, **The Language of God**, New York, Free Press

Figure 3: Comparison of the DNA Sequences of Humans with Other Organisms

However, it can be clearly seen that human and mammalian genomes can be matched with the DNA of other nonhuman primates well enough to state that there is a high resemblance between them. Figure 3 shows the percentages of similarity for this kind of match-up. Here we see how close the percentage of the DNA sequences are. These are purely scientific data and it is possible to be verified. Another argument that strengthens Collins argument is "*pseudogenes*". These genes, without going into too much technical detail, are the existing gene, as shown in Figure 4, and not functional though they continue their presence in the next species. In this way, pseudogenes are transmitted from generation to generation.



Venema, 2012, Letters to the Duchess, Retrieved from the BioLogos website.

Figure 4: How a Pseudogene is Located in the Sequence.

The best example of the matter is the FOXP2 gene as Collins notes. The fact that this gene plays an important role in the development of language is evident in the case of a British family of three individuals with utterance damage. When investigated in detail, this gene was misspelled within all the DNA codes on chromosome 7. Additionally, it has been changed in human sequence though it is stable in all mammals. According to Collins, this example reinforces the hypothesis that this gene is related to the development of language (Collins, 2006: 139).

In conclusion, it is the question of Collins, why might a supernatural force have created such nonfunctional gibberish in a very important location? Besides, the chimp

and human genome sequences do not explain to us the Moral Law, and longing for God, which have an eminent means to be a human. These arguments seem to be appreciated as highly persuasive evidence. In the following section, we will try to evaluate the causes of possible objections to evolution briefly.

2.2.2. The Reasons of the Objections

For centuries, people have been aware of the complexity of nature. We can see this awareness from the pre-Socratic philosophers. Aristotle was the first man to have looked sensibly at animals and the forms and relations of their physiques—all animals, right down to sea urchins and oysters and sponges (Stott, 2012: 24). Besides, Paley suggested that there should be a designer of all those complexities. However, Darwin's idea was groundbreaking because he presented that these structures evolved within millions of years. The first disapprovals came with the lack of ability to grasp this long process. The other problem with evolution is its assumed contradiction with the sacred texts. The differences in the interpretation of the scripture will be evaluated in depth in the next chapter. Collins gives an efficient example on the point that St. Augustine, a converted skeptic, and inspired theologian, adopted a non-literal interpretation of Genesis 1:1 and 1:2 (Collins, 2006: 152).

The other objection might be stated that although evolution is a scientific theory and does not intend to explain theological matters, some groups relate evolution to religion. Additionally, they accept it as a threat to their belief. The reason for the attribute is that evolution is firstly adopted by the atheist community, then it gets the label of the atheistic worldview which denies the existence of God. This issue is evaluated in the book of Gray (2009: 62) well enough to get the point.

Another entirely deviant objection is about *social Darwinism* which is totally different from the evolution theory. With this belief, evolutionism is blamed for causing the Holocaust. The applying of evolutionary concepts, such as the survival of the highly adaptational ones, to social problematic issues, is called social Darwinism. Giberson refutes this notion by explaining the defective base on which it lies. He states that the fallacy of moving "is" to "ought to" causes such an irrational result, then asks

“If animals evolve by the strong destroying the weak should we then conclude that it is right for the strong to destroy the weak?” (Giberson, 2011: 25-26).

In addition, there are so many scholars and researchers who study social Darwinism and biological evolution comparingly. For further reading, Jones (1980: 234), Ruse (1980: 23-36), Gloria (1950: 397–412), Claeys (2000: 223–40) studies are useful. In conclusion, the theory of evolution is a scientific theory with many empirical supports and it does not provide an argument to support atheism. From a theological perspective by considering the thesis of our study, evolution poses no threat to the existence of God. Moreover, BioLogos does not claim to be a scientific theory and does not have a mission to establish an identity with the theory of evolution. This topic will be covered in detail in the last section.

THIRD CHAPTER

COLLINS' PROPOSAL: BIOLOGOS AS A NEW NAME

We have used the method of examining alternatives to determine the best explanation in which the arguments here have also been formed. With this aim, we have investigated the alternative perspectives in the previous chapter by taking the scope and limitations of the study into consideration. The following sections will investigate which ground the arguments of Collins is based upon. He argues in *The Language of God* the "*moral awareness*" of human beings is better explained in the theist paradigm and only accepting an ontology of God can provide a rational basis to the "good" and "moral acts." It will be more comprehensible to inspect these concepts closely in the subsequent heading.

3.1. Collins' Fundamental Arguments

A considerable amount of literature has been published on the idea of God. However, the generalizability of much-published research on this issue is problematic, because what we know about God is largely based on hypothetical studies that investigate how the idea of God is possible or vice versa. In this manner, Collins frankly asks a fair question:

> "Does the search for the existence of a supernatural being, so pervasive in all cultures ever studied, represent a universal but groundless human longing for something outside ourselves to give meaning to a meaningless life and to take away the sting of death?" (Collins, 2006: 35).

C. S. Lewis describes Collins' statement of "*a universal, but groundless human longing for something*" (p. 35) in another saying which can be quoted as: "*an unsatisfied desire which is itself more desirable than any other satisfaction*." (as cited in p. 35). In addition, Anselm of Canterbury (1033–1109), who is a well-known example of an ontological argument for the existence of God, used *"something-than-which-nothing-greater-can-be-thought"* (Collins, 2010: 44) the expression for the

same notion that which is indicated. His famous argument which is developed persuasively can be read in his *Proslogium* (1903) precisely. There are similarities between the attitudes expressed by Anselm of Canterbury (1033 1109) in his study and those described by Thomas Aquinas (1225–1274) with his well-known five proofs in his *Summa Theologica* (1485) and John Locke (1632—1704) in his *An Essay Concerning Human Understanding: Of Our Knowledge of the Existence of God* (1689). The relevant excerpts of these books can be found in *Belief: Readings on the Reason for Faith.* (2010)

Collins, on the other hand, offers considerable arguments in this regard. In the following section, we will examine each of the presented arguments in detail. Firstly, we will examine the Anthropic Principle and the fine-tuning of the universe argument, then the Moral Law and altruism will follow the sequence.

3.1.1. The Anthropic Principle and The Fine-Tuning

The Anthropic Principle is the idea that our universe is uniquely tuned to give rise to humans. It has been a source of wonder and speculation since it was fully appreciated a few decades ago (vd. Barrow & Tipler, 1986). In another saying, the natural laws have specific qualities that make them as if they were organized to enable the rise of life. Furthermore, our universe started by a unique occurrence named the big bang, which seems to have happened in just the exact direction so that the universe being born would one day be capable of sustaining life. The notions that establish these perceptions are known as the *fine-tuning* of the universe (Giberson, 2011: 178). Considering the following three observations, Collins gives significant details about The Anthropic Principle. It is the first evidence of Collins which he serves as an argument for the existence of God.

First of all, Collins (2006) underlines that although being symmetrical would be more "natural", there is an asymmetry between matter and antimatter. If there was a symmetry between them, the ratio of radiation would rapidly degenerate the initial circumstances of the universe, then life on Earth and the atmosphere would never have come into being. So Collins calls attention to this symmetry and how it can be explained (p. 71). The second point he wants to emphasize is the admirable degree of

fine-tuning of natural factors. This issue as an object of interest also affects Hawking whose words from *A Brief History of Time* (1998) are cited by Collins in his book:

> "Why did the universe start out with so nearly the critical rate of expansion that separates models that recollapse from those that go on expanding forever, that even now, 10 thousand million years later, it is still expanding at nearly the critical rate? If the rate of expansion one second after the Big Bang had been smaller by even one part in 100 thousand million million, the universe would have re-collapsed before it ever reached its present size." (as cited in Collins, 2006: 72)

Collins stresses the formation of heavier elements has the same remarkable circumstance as a third observation. He expresses all the hydrogen and helium proportion depends on the nuclear force because in case of decreasing the ratio of protons and neutrons even a little, their proportion would change. For example, if all the hydrogen had been converted to helium under the effect of the stronger nuclear force, it would have been different from the 25 percent which was the percentage at the beginning of Big Bang. Besides this outstanding observation, carbon has been tuned by nuclear force just adequate enough to make life arise on Earth (p.73).

By means of a counterclaim, Collins rightly gives place to the possible objections at this point. First is "*multiverse*" hypothesis. Appearing at the same time with our own, a countless number of universes essentially may exist. However, the other universes are not able to be observed. Furthermore, the second response includes the thought of only one universe, and it is what we have around us, and it spontaneously created all the necessary conditions for us to come into being just by *chance*. Finally, the same as the previous one, there is only one universe in which we are living, but it did not occur by *accident* which means that it was created (p.75). If we contemplate the possibility of these options, the first one is more considerable than the second because the existence of infinitive numbers can raise the probability of suitable circumstances occurring for another life. For the last option, a supernatural power has to be accepted, which we have examined in the section of major barriers of faith in depth, so it may provide us a better understanding now. Collins considers coming into being by chance is the least plausible option. Additionally, he states the first option fails *Occam's Razor* which says that the right answer is the simplest one, and he says:

> "Those categorically unwilling to accept an intelligent Creator will argue, however, that option 3 is not simpler at all since it requires the intercession of a supernatural being. It could be argued, however, that the Big Bang itself seems to point strongly toward a Creator since otherwise the question of what came before is left hanging in the air. If one is willing to accept the argument that the Big Bang requires a Creator, then it is not a long leap to suggest that the Creator might have established the parameters (physical constants, physical laws, and so on) in order to accomplish a particular goal. If that goal happened to include a universe that was more than a featureless void, then we have arrived at option 3." (Collins: 2006: 76).

Collins has established a very clear logical equation among the options. To put it more simply, lacking certain evidence decrease the probability of option 1 and 2. On the other hand, accepting an Inventor is related to accepting a supernatural occurrence. When it comes to option 3, Collins enlightens the circumstance by giving a parable which belongs to philosopher John Leslie. He portrays that there are fifty professional expert shooters ready to fire their weapon before a man. After the order, they shoot him, but not one bullet hit the man, and he escapes from the dangerous situation without harm. When asked what the reason for this occasion could be, Leslie presents two possible answers which resemble Collins' 1 and 3 options. Firstly, thousands of executions may also have been on that day, and even the qualified expert shooters will miss in some cases. So, this man is one of that exception. The second option is that all the actions were carried out intentionally by these professionals. After telling this parable, Collins asks deservedly "Which one seems more plausible?" (p.76).

An opinion, system, or suggestion that is defensible is one that people can argue is right or wrong, on the basis of our analysis that Collins reasons for the issue are honestly defensible. While he reveals his arguments in a precise clear-cut language, he also scrutinizes opposing views carefully. However, the same inspection is made by the opponents in terms of defending their sights naturally, but it seems that the demand for scientific proof for such a spiritual issue which was adopted by the atheistic worldview, in general, cannot be responded as in the way they request. Collins has already asserted that science is not the only way of knowing, and also not sufficient enough for such a demand before (vd. Collins, 2006: 229). There are many disagreements among scientists and theologians who are in a quandary about the junction point of science and religion.

The comparison of the claims has boundaries from the different points of view in the last instance. In spite of the fact that no scientific observation can achieve the stage of absolute confirmation of the existence of God, Collins states the Anthropic Principle certainly provides an interesting argument in favor of a Creator for those willing to consider a theistic perspective. However, there are the proponents of an atheistic point of view who need more and different evidence for a conclusion (cf. Cunningham, 2010).

Conversely, besides this principle, fine-tuning of the universe also seems like an indicator to a Creator. It is not a strongly proven evidence, but an expressive signal for it. In point of fact, a fine-tuned universe causes a speculation that this universe was one day brought into existence by a *Power* with the intention of being prolific and fertile with living creatures. With all of its components (e.g. galaxies, stars etc.), the universe needs to be explained by scientific theories with which the physical constants of nature, like the force of gravity and the electromagnetic force, have a precise character (Giberson, 2011: 177).

In the same way, Giberson (2011) clarifies that the density and expansion of the universe must have had to be set accurately in the beginning. Then it can be easily said that in case of changing these parameters even a little, the result is a big fail for the universe to be capable of hosting life. It can obviously be seen that the forces and physical laws have to work together in notable ways to generate the universe fit to live in (p. 178).

In his major study *The Language of God* which has been a best-seller for weeks as we make reference to it frequently, Collins identifies two chief pieces of evidence which can be seen as characteristics of the idea of the existence of God by him. This evidence can also be stated as a base for his philosophy of religion. They are named by us as "*persuasive*" because Collins gives wide coverage to them when it is time to form a basis on the idea of God. We have given wide place to the *Anthropic principle* above as a first evidence. We will handle the *fine-tuning* argument as a complementary section to the previous one, because the Anthropic principle implies that the universe is gradually being fine-tuned for emerging humanity in the end. We want to look at what fine-tuning means closely. We will try to avoid the technical details as much as possible.

To understand the fine-tuning of the universe, we need to keep four natural forces in the matter as stated in the above-mentioned book of Giberson (2011). All the occurrences can be possible with the assistance of these forces. The first one is the *strong nuclear force* which keeps the nucleus together. The second one is the *weak nuclear force* which is in authority radioactive decay, the third one is the electromagnetic force which is responsible for the electrical and magnetic phenomenon, and the last and the most popular one is the *gravitational force* which enables us to stay on earth. All of them have specific characteristics which have even millimetric positions and measures. For instance, amount, distance, and value are so crucial that if one of them changes, all existence will collapse immediately. So, it shows that nature might have been tuned exactly for the universe to give rise to life. This is named *fine-tuning of the universe* (p. 177). For technical and further information *The Language of Science and Faith* (2011: 177–196) can be a helpful source in which Giberson says that the proportion of masses of protons and electrons can be seen as another sample for those forces. Moreover, the producing of carbon of the universe is such a critical matter for the evolution of humanity and finely tuned qualities of carbon are essential for nature's capability to tune itself (p.183).

In light of all this information, although the examples seem quite convincing, many scientists are far from the idea that the universe is specifically shaped by a creator (cf. Cunningham, 2010; Hawking, 1998; Sagan, 1985). In contrast, religious people accept this information with great participation. Right now, the wondered point certainly is whether these issues can really be a sign of the existence of God, or not.

3.1.2. The Moral Law and Altruism

The previous and present premises have a very deep and active place among Collins arguments in his previously mentioned book. Apart from that, there are many approaches and studies on morality in literature, but the name that Collins has impressively been influenced about on this subject is certainly C. S. Lewis. Collins actually begins to explain the *Moral Law* with *altruism* as a leading term. It is generally quite important to conceptualize a notion accurately. Therefore he elucidates the present concepts meticulously. Firstly we will look at the Moral law argument.

By the examples of many areas such as daily life, international affairs, military force, a medicine which is addressed with many others in bioethics in the Appendix of his aforementioned book in detail, Collins stated that the Moral Law or another way of saying, "*the law of right behavior*" (Collins, 2006: 22) is a standard for all areas. After all the examples and practices above, it can be stated the concept of right and wrong seems to be a universal sense for all of us. Even, Collins emphasizes that Moral Law is just like any other natural laws as gravitation and special relativity law. Actually, it is not common through animals because as Collins declares the development of language initiates the consciousness of right and wrong, self-awareness, and the capability to visualize the future, almost all of which are considered as the features of *Homo sapiens* (p. 23). An important point for Collins is that the perception of right and wrong is an instinctual feature of being human or is it only an after-effect of traditional backgrounds? There are various arguments as differing from the cultural norms of each other. Though there are some who argue it has a universal characteristic of humanity. Collins gives a quote of C. S. Lewis whether the Moral Law is cultural or not as follows:

> "… If a man will go into a library and spend a few days with the Encyclopedia of Religion and Ethics, he will soon discover the massive unanimity of the practical reason in man. From the Babylonian Hymn to Samos, from the laws of Manu, the Book of the Dead, the Analects, the Stoics, the Platonists, from Australian aborigines and Redskins, he will collect the same triumphantly monotonous denunciations of oppression, murder, treachery and falsehood; the same injunctions of kindness to the aged, the young, and the weak, of almsgiving and impartiality and honesty." (as cited in Collins, 2006: 24).

Besides some unusual cultural examples such as *witch burning*, there are other authors who counterclaim that argument. The leading one is George C. Cunningham, a geneticist and writer of *Decoding the Language of God* as a rebuttal of *The Language of God* (2010) Cunningham presents in his book a point-by-point rebuttal to Collins' arguments, arguing that there is no scientifically satisfactory evidence to reinforce the belief in a personal God so the arguments of the Moral Law, are completely groundless for him. Actually, Collins states separately that the Moral Law is in serious conflict with the present postmodernist philosophy which asserts that all ethical detections are relative (Collins, 2006: 24). However, he declares it is a case of a series of the logical

Catch-22s. He brings a question to the matter, "*if there is no absolute truth, can postmodernism itself be true?*" (p. 24) Definitely, he asserts that the discipline of ethics requires rights and wrongs in a certain stage.

Besides accepting the Moral Law as a result of culture, some also accept it as a result of evolutionary affections which is a popular attitude in the sociobiological areas as Collins said. They accept altruistic manners are promoted by natural selection of Darwin. Right here, Collins finds this argument so important that he attempts to inspect it closer, because he knows that if it were valid, the Moral Law as a pointer to God would be shaken to the foundation (p. 24).

As the base, it is necessary here to be clear what Collins means by saying "altruism" He defines altruism as "*the truly selfless giving of oneself to others with absolutely no secondary motives*" (p. 25). In other words, this manner does not contain an expectancy of having profits mutually. By example of such names as Oskar Schindler and Mother Teresa, Collins indicates that altruism is the truthfully self-sacrificing of oneself to others with absolutely no secondary reasons. He reinforces the notion of C. S. Lewis' description of the term in all respects. He uses "*agape*" to describe such kind of selfless devotion that derives from the Greek. According to Lewis agape, can be distinguished from affection, friendliness, and love (p. 26). It is a leading discussion for evolutionist and reductionist perceptive because "it cannot be accounted for by the drive of individual selfish genes to perpetuate themselves…. it may lead humans to make sacrifices that lead to great personal suffering, injury, or death, without any evidence of benefit" (Collins, 2006: 27).

Subsequently, Collins replies almost three claims against altruism and the Moral Law. We will give a brief explanation. Firstly, one of the sociobiologists has tried to describe this behavior by way of some indirect procreative advantage of performing altruism. However, Collins responds to the question that repetitive altruistic behavior as a positive characteristic in mate selection opposes nonhuman primates because a recently predominant male monkey killed the offspring of his own future descendants. The second claim is that give-and-take benefits from altruism have given returns to the performer throughout the evolutionary period, but this is not a valid rationalization because a human can have a motive for small deeds of conscience though anyone knows about them. The last claim is formed on the basis of group profit.

For example, ants make surroundings for their mothers' having more of them. Collins says it is the just cause of inherited acquisition which is carried out by all the ants because they are in the same family (Collins, 2006: 28). So, he concludes that the previously mentioned arguments are neither sufficient nor convincing to explain the motives lying under this behavior. It has already been easily concluded that the answers are not culture or evolution, then Collins asks, "*how can we account for this law's presence*?" (p.28). Afterward, he cites a portrayal response to C. S. Lewis:

> "If there was a controlling power outside the universe, it could not show itself to us as one of the facts inside the universe—no more than the architect of a house could actually be a wall or staircase or fireplace in that house. The only way in which we could expect it to show itself would be inside ourselves as an influence or a command trying to get us to behave in a certain way. And that is just what we do find inside ourselves. Surely this ought to arouse our suspicions?" (as cited in Collins, 2006: 29).

3.2. What is BioLogos?

As we have referred in the definition of all other concepts, we shall include the description of this concept with the words of his owner, Francis Collins. He must have considered his conversion in faith with a high degree of awareness, presenting us with all sincerity and detail. After putting the stones one by one in this direction, he finally found an opportunity to realize the idea that he had ultimately adopted.

As an outcome of his own equipment and acquisitions, Collins has contributed a new expression to literature. He has presented this product in a very modest way, and he has given a good reason for his suggestion. While we place the definition of this term in the following topic, we conclude it appropriate to transfer it without touching its own expressions when giving the definition of the BioLogos.

3.2.1. The Definition of BioLogos

In the first part of this chapter, we have addressed TE as required in the frame of Collins reference. After examining his six premises in detail, we aim to handle the definition of BioLogos. As we make an effort to place the definition of all other concepts with their original basis, we will also attempt to place the definition of this concept with the statement of its owner.

While Collins has taken his conversion in faith with superior awareness, he has presented his ideas to us in all sincerity and details. In this direction, after establishing a strong ground, he has the opportunity to lean on the idea that he has finally embraced while putting the stones in place one after the other. As a product of its own equipment and acquisitions, it has given a new expression to the literature. He presented this product and the reasons for the idea in a very modest way, and so did the reasons for the idea. While we are here in the definition of this term, we see that it is appropriate to transfer it without touching its own statements. Referring to the definition of Collins:

> "My modest proposal is to rename theistic evolution as Bios through Logos, or simply BioLogos. Scholars will recognize bios as the Greek word for "life" (the root word for biology, biochemistry, and so forth), and logos as the Greek for "word." To many believers, the Word is synonymous with God, as powerfully and poetically expressed in those majestic opening lines of the gospel of John, "In the beginning was the Word, and the Word was with God, and the Word was God" (John 1:1). 'BioLogos' expresses the belief that God is the source of all life and that life expresses the will of God." (Collins, 2006: 203).

In fact, it is an issue of concern why TE is not appreciated enough. Collins has made such a suggestion because he thinks the reason is that TE would be a bad name. According to him, the ones who are not theologians, as they do not know exactly what the theist means, they also see that this term is used as a descriptive adjective added to the theory of evolution. For this reason, it is no surprise that they are not sure how to use it. Collins has been aware of this circumstance because he knows that "*relegating one's belief in God to an adjective suggests a secondary priority, with the primary emphasis being the noun, namely evolution*" (p. 202). After thinking in this way, Collins, who begins to consider alternatives, concludes that all the words which can be preferred to describe this composition are already used and framed with different influences. In line with him "*evolutionary theism*" does not seem suitable, "*creation, intelligent, fundamental or designer*," are not chosen in order not," are not chosen in order not to cause confusion.

As the proposal of the new name seems to be seasonable, Collins gives another reason why this issue is not adequately supported. As reported by him, contrast and discordancy are more thought-provoking than the opinions that are in harmony. The disputes, natural disasters, and attacks are more on the agenda since it is not very

remarkable that the events in the community are seen in a positive direction which ultimately is a supply and demand issue. It is not uncommon for positive developments to come to your agenda to reconcile opposing views (p.203).

By telling us about his own personal faith conversion and arguing the existence of God and rightness of evolution, Collins actually shows us how to reconcile faith in God and evolution. However, we appreciate that he is concerned that it is not enough to verify the components of merging two phenomena to prove that the BioLogos is the ultimate solution. He has convincing evidence as we have already examined in the previous section.

Collins defines his thesis with clear premises in a conference held by the Veritas Forum (2017): The supreme God, who is beyond the restrictions of time and space, created the universe nearly 13.7 million years ago. This universe had been carefully tuned to allow the human to give rise specifically. In this respect, complicated organisms developed gradually over many years. This development took place in a way that encompassed the evolution mechanism, which led thousands of species to arise. A highly important point is humanity did not belong outside this mechanism. The human was also evolved as part of this process. This is God's plan. When the process of evolution came to an adequate level, the human brain completed its development. The completed brain structure was equipped with the ability to judge what is wrong and what is right as a blessing of God. The right and wrong criterion included the free will and the immortal soul. We violate the Moral Law with our free will that causes us to get away from God. For Christians, the solution to this distraction is Jesus. Collins uses the word "estrangement" to describe this departure. Right, this is indeed to be alienated from God's existence and all its evidence (Metaxas, 2011: 315).

Conversely, if the law of morality is an effect of the evolutionary process as we have assessed in the previous section, then there is no criterion of right and wrong. In short, without building the law of morality as a ground, no structure built on it can be addressed in the rules of logic. Notwithstanding, there are many counter-arguments about the morality. For instance, relativist views were influential in the 20th century, and they argued that the human mind, which advocated that individuals' morals were shaped by the socio-cultural influence of the environment they were in, was an empty plate, a tabula rasa. There are many philosophers who wrote about whether the

morality comes from birth or not in their studies. Leibniz (1896) and Smith (1761) are only a few of them.

Collins actually takes life and God into consideration through all his arguments and explanations. He refers to life by saying *bios* and he refers to God's Word by saying *logos*. In a more descriptive way, bios through logos can be clarified as life through the Word such as stated in the first chapter of John, "*In the beginning was the Word and the Word spoke us into being*". Consequently, it can be possible to compose the notion of these two values into BioLogos. In doing so, it will be certain to yield that God is speaking to us with the life into being. From this perspective, DNA can be considered metaphorically as the language of God (Collins, 2006: 203).

3.2.2. Major Objections to BioLogos

As with every judgment and belief system, objections and opposite views are also involved in this new proposal of Collins. He states that a part of the objections to BioLogos comes from those who identify this idea as another God of the gaps theory. They carry such a perception regardless of whether they have competencies in the field of science or religion or both. BioLogos for atheist scientists is certainly another God of the gaps case, but then again Collins, as we have elaborated on it, implies from different angles in many parts of his book, this argument is not true, because BioLogos, to understand the natural phenomena and the universe, does not try to emplace God into spaces. Contrarily, it presents God as an answer to the questions that the scientific community is not trying to answer. There may be many examples of these questions such as the meaning of life, the universe coming into being, and hereafter. In place of opposing the Intelligent Design belief, BioLogos does not attempt to introduce itself as a scientific theory. The accuracy of BioLogos can not only be tested with rational logic but the supernal judgment of the heart, in other words, scientific methods cannot work on it (Collins, 2006: 204).

In fact, another leading objection to BioLogos is raised by the theists. In consonance with these believers, when God operated his own creation, he could not have used the evolution of Darwin, which is seemingly random and potentially not a soulful process. Besides, some other critics cannot comprehend the long duration of

the progression in which diversity of the natural phenomenon is hard to observe. This objection can be reconsidered in the framework of a timeless and spaceless God. Thereby, it will be obvious that time and space are only valid for humans. In this vein, God could interfere in all the stages of creation in the universe, then He also knows every detail of the future. Evolutional progression could give us the impression it is determined by chance, but from God's side, the result would be totally specified (p.205). Subsequently, it can be comprehended how the evolution process can have taken place under God's control with preserving His transcendental role over it. Afterward, in this frame, chance and randomness do not pose any problem as long as they are under the supervision of God.

Actually, the most central objection with stricter resistance is the admission that the premises of evolution contradict the sacred texts. There is a lot of discussion and review in the literature about the Genesis excerpt to which Collins (2006: 145-158) and Giberson (2011) have been referring to in their book. We would often like to include these discussions on the Genesis 1:1 and 1:2 but it will have been too difficult to grasp this subject entirely in only two or three passages. It will not be sufficient to express the issue with a few explanations and comparisons since it has encompassed a large part of the Christian theology. We will mention the basic spots of the problem. There are numerous objections in the literature, but Collins has presented some of these hesitations as an easy-to-understand explanation as follows:

> "If the now well-documented collision of a large asteroid with the earth 65 million years ago had not happened, it might well be that the emergence of higher intelligence would not have come in the form of a carnivorous mammal (Homo sapient, but in a reptile.) How is this consistent with the theological concept that humans are created "in the image of God" (Genesis 1:27)? Well, perhaps one should not get too hung up on the notion that this scripture is referring to physical anatomy—the image of God seems a lot more about mind than body. Does God have toenails? A belly buttons? But how could God take such chances? If evolution is random, how could He really be in charge, and how could He be certain of an outcome that included intelligent beings at all?" (Collins, 2006: 205).

A number of authors have recognized that there are many alternative methods available for encountering the interpretation obstacle. In order to rectify the problem of interpretation differences, it is necessary to focus on the details of the approaches.

The most authentic approach to solve this problem may be the one is accepting the Bible on its own terms. Old Testament scholar John H. Walton (2010) says "Taking the text seriously is not expressed by correlating it with modern science; it is expressed by understanding it in its ancient context" (p. 111). In other words, he approaches the first chapter of Genesis from a literary and historical context, rather than from a scientific approach. He writes "I believe that people in the ancient world believed something existed not by virtue of its material properties, but by virtue of its having a function in an ordered system" (p. 26). Briefly, Walton's offer can be detailed that Genesis 1:1 was not intended to give us a scientific understanding of the material origins of the universe. Instead, the six days of creation are a cosmic temple inauguration ritual that describes the functional beginning of our world. This approach is called "Framework interpretation"

An alternative approach to the problem is the "Incarnational model" suggested by the professor of Biblical studies at Eastern University, Peter Enns. He proposes the solution to the interpretation discrepancies by utilizing what is also called the "incarnational analogy" that makes the comparison between the nature of Christ and the nature of Scripture. By saying that "The problems many of us feel regarding the Bible may have less to do with the Bible itself and more to do with our own preconceptions" (2015: 15) Enns gains attention for the *Ancient Near Eastern Texts* (ANET) and theological diversity in the Old and New Testaments. What is more, several studies have revealed that the metaphorical reading of Genesis is an attempt of rethinking some ancient questions in light of today's intellectual, social and economic contexts which tries to reconcile the scientific facts about evolution with the key doctrines of Christianity (e.g., Ruse, 2010; Longman, 2005; Middleton, 2013). On the contrary, Lamoureux (2008) says:

> "Most of the events in Genesis 1-11 never literally happened, but that this is not a problem whatsoever to the Christian faith if believers recognize that the attribution of divine and human action is accommodated through ancient categories in order to reveal, as effectively as possible, Holy Spirit messages of faith" (p.312).

Defending the historical authenticity of Christ's crucifixion and resurrection, Lamoureux indicates that the New Testament references are making theological, not

historical, points. He describes the "*Message-Incident*" principal in the book, as well as, Daniel Harrel (2008) supports that it is again a need to take the Bible within its historical and cultural context, not just as a literal history. However, this matter has received considerable critical attention on what leads to such a disagreement regarding the issues of infallibility and inerrancy.

Above all approaches and attributes, St. Augustine, who was also so passionate about matters on the interpretation, stated in *The Literal Meaning of Genesis* (1982) that there was not a conventional method to have knowledge of what the intention of the scripture precisely is. He advised people not to adhere themselves to a specific interpretation. Collins emphasizes St. Augustine's exhortation appreciatively in *The Language of God*:

> "In matters that are so obscure and far beyond our vision, we find in Holy Scripture passages which can be interpreted in very different ways without prejudice to the faith we have received. In such cases, we should not rush in headlong and so firmly take our stand on one side that if further progress in the search for truth [which sounds a bit like science] justly undermines this position, we too fall with it." (as cited in Collins, 2006: 83).

Whereupon, Collins proclaims without being strictly attached to this approach that *poetry* and *allegory* can be the best way to comprehend the depiction of origin rather than a literal scientific standpoint. There are various authors who support the literal meaning and also per contra non-literal proponents as seen above. This issue is in a critical position The attitude which is taken, and the approach which is used to understand the sacred text influences how people contemplate the relationship between God and the universe.

Lastly, some complex organism such as bacteria flagellum is another objection which is given as an example of the compelling counter-claim. This argument, which ID proponents have often used, is discussed in depth in *Finding Darwin's God* (2007) by Kenneth Miller. He clarifies the origin of the argument with figures and the logic of an irreducible complexity giving details about *Type III Secretory System* (TTSS), then he answers the central argument, the counter-attack and the combinatorial argument which is written in *No Free Lunch: Why Specified Complexity Cannot Be Purchased without Intelligence* (2002) by William Dembski. He writes about

“complex specified information” (CSI) in his book, using information theory and mathematics to show that life is the result of Intelligent Design. The details of discussion and information about TTSS and CSI are stated in Dembski and Ruse (2006: 85–90).

However, the outline of the matter can be stated in short as in the following sentences. The argument is that the bacterial flagellum has about 32 proteins that must be combined in just the accurate system to work entirely. Deactivating only one of those 32 proteins causes it to break down. Furthermore, it is a puzzlement how this could ever have occurred on the basis of evolutionary stages. For coming along of those 31 proteins with no positive benefit and then getting the 32nd one does not appear to be mathematically reasonable in this frame. However, Collins expressed in the conference of the Veritas Forum that the bacterial flagellum and other similar instances, components of the bacterial flagellar motor have become a united whole by slow degrees from added constructions and operated in a direction that progressively formed its competence to assist the function, so in this circumstance, it does not seem any more unusual than the standard process of gradual change over a long period, through natural selection proceeding it.

CONCLUSION

The relationship between science and religion, that can be regarded as one of the most remarkable issues of the 21st century, has established the general frame of the relationship between theism and evolution. However, from the very beginning of the study, our aim has been to take the TE issue from the perspective of Francis Collins whose views determine the scope and limitations of our thesis. The biographical background of Collins was in the first chapter and the basic concepts we have studied in the second chapter and should be considered as a base for the core subject of our thesis which is examined in the last chapter. Collins' childhood, educational life, and academic career are an important beginning for us, because his biography has never been addressed and has not been studied before in Turkey. For this reason, we are glad to make such a contribution to our literature. In the second part, we conclude that the definition of TE, its history and background provide us with a more objective assessment of Collins' ideas. So, exploring the position of the term in the theological literature and investigating the other alternative ideas in the same category have given us the wide working field. However, since all of the topics mentioned in the second chapter are so varied and detailed, we could not have given them a wide coverage they deserve in order not to go beyond the scope of our thesis. We acknowledge that our study in this regard needs to be improved. However we would like to point out that this inadequacy of the study does not constitute any problem or handicap for readers since the main purpose of the study has already been examining Collins' views on TE. Moreover, we hypothesize that the necessary contributions have been made by emphasizing the main ideas, leaders and representative organizations of these alternative perspectives.

In order to examine the possibility of TE, which is the cornerstone of our thesis, we have tried to present an extensive border which starts with Collins' process of conversion in faith, his life and all the details of his arguments. The proposal of the concept of BioLogos has been his ultimate contribution to theological literature. By the context of this outline, we have given the broadest place to his arguments which show us the possibility of TE, because we have intended to examine the possibility of this idea in the context of Collins' perspective which determines the scope and

limitations of our study. In this framework, although we try to state as much as possible about the criticism and the counter-claims to Collins, we have still had the primary focus on his ideas individually in which it is our basic purpose to go deeper into.

In short, there are many debates that needs, to be considered within the context of the TE. The various interpretations of sacred texts are at the core of these debates which leads to other various problems. Although we have included this discussion in our work, we do not think that we can adequately reflect the depth and detail of the issue. The reason is that these discussions constitute a very large part of Christian theology. For example, the Bible studies, Genesis interpretations, the fall of Adam and Eve, Noah's Flood, and the resurrection of Jesus, are the first issues that we cannot give a wide coverage to in our thesis. However, TE can be seen at the center of all these issues unavoidably because of its point of view which is about the way of creation of God in general, and the origin of the universe in particular. Furthermore, the idea of TE can be objected to by all the above-mentioned issues separately.

On the other hand, we would like to point out that we are aware of the philosophical dimension of the subject. For example, the standpoints of some philosophers like Thomas Aquinas, Augustine of Hippo and Anselm of Canterbury require more attention and time to be examined since they accentuated in their works about God's creation and the differences of interpretations of sacred texts. We are convinced this side of the subject contains so many nuances that much more time must be spent on them.

We have aimed to investigate just how Collins defends his idea and what arguments he uses. The conclusion we have reached in this framework is that Collins' arguments are extremely successful within the context of TE. In fact, it seems appropriate to consider his arguments as a whole with the barriers that he regards as the most basic handicaps before faith was mentioned in the first chapter. When these barriers are crossed, the rebuttal of the most basic counter-arguments against religion are overcome, too. When it comes to his main claims, it is the first fine-tuning and the Anthropic principle in the arguments of God's existence. The Moral Law is his most basic and convincing argument with the scientific explanations as a complement. Altruism is an important support for Collins' perspective. In *The Language of God*, the main source of the thesis, Collins lists these arguments with the chronology of the

origin of the universe, the beginning of life on earth and the universe the human genome. There are many subtitles that we cannot mention in this order due to the scope of the work. For example, The Big Bang, Solar System and Planet Earth, Quantum Mechanics and the Uncertainty Principle, Cosmology and the God Hypothesis etc. However, we have mentioned in our work the priority parts of them according to the context of our thesis. In all of these, Collins' views on DNA, the chemical structure of the universe, and classical and quantum physics are highly complementary to his theological idea, namely TE. In addition, fossil recordings and genome comparisons, which are one of the most fundamental issues for the theory of evolution, add a very strong contribution to his arguments.

In our view, Collins' major difference is his identity of a geneticist, which allows him to work diligently on DNA. He has created a wonderful connection between the greatest Universe and the smallest Genome, and he has defended his idea of God bringing the universe into being by using the laws of physics with utmost theological and scientific arguments. In doing so, he has made a clear statement that accepting some scientific issues which cannot yet be answered by its method is as the miracle of the special creation of God will lead to a dangerous belief delusion. Even Collins' phrase of "the language of God", represents DNA as a very special alphabet, and God speaks to us by using this alphabet, it is an analogy that is very original and tantalizing. It is not possible to reject that when we gather and contemplate all these scientific and theological approaches, how much of this analogy is a pertinent remark, and that it is a wonderful expression of power, because DNA, the smallest and most significant structure of life in the world, is common to all living things no matter what their shape and form. Collins is working on the most fundamental issue of DNA structure and genome sequencing, placing these differing details on an edge. Ultimately, we have concluded that the idea of DNA as the language of God will become meaningful by reading Collins life, professional perception and his arguments as a whole.

Since the term of Theistic Evolution has not been able to fully meet the intended idea, he has proposed the term of BioLogos: To understand the Word of God through life. In other words, God speaks to life. At this point, there is a detail we want to emphasize. We presume the BioLogos deserves a deeper study. There has been little

qualitative analysis of the notion of BioLogos which is actually the chief keyword of this study. This indicates a need to understand the various perceptions of that concept among the alternative perspectives. However, the authors and academicians offer no explanation for the distinction between TE and BioLogos. For this reason, few writers have been able to comparingly draw on any structured research into the nuances and details of these notions. The leading proponent of the notion is Collins who is also the inventor of the term. The research to date has tended to focus on TE rather than BioLogos because it is a new concept for literature. For this reason, it is almost impossible to go deeper into the subject any more. We have therefore come to the conclusion that this issue should be regarded as a further topic to be studied. We think that elimination of this deficiency in the literature over time will lead to a better understanding of Collins' point of view.

The method we mainly attempt to apply through literature review and analysis is to examine alternatives to determine the best explanation of the main topic. Since we are convinced that the arguments can be evaluated clearly in the light of this comparison, we have built the second and the last chapter in this framework. Although we sometimes try to give a place to opposing arguments in the study, since we do not want to overwhelm the thesis in a polemical tone, we have aimed primarily to reflect and analyze the arguments presented by Collins. The outcome we achieve in this objective, can easily be concluded that contemplation of the possibility of TE in Collins' frame of reference mostly depends on the concern with all the aspects of his ideas as a whole.

Collins has merged the arguments and the objections of theism and the theory of evolution after examining them in their own frame independently. It seems to be very convincing that he presents TE with its strong and weak sides after this considerable analysis of the notions in their own context. Collins' personal presentation, BioLogos, is a pertinent proposal in the context of his own arguments. However, we find it useful to say that theological and metaphysical issues have such a nature that they cannot be proven by testing with scientific methods. For this reason, although the arguments of Collins have been accepted as persuasive, we suppose that the objections made by atheists may be justified in the final analysis according to proponents of that viewpoint. The differences of the schema about the demanding

argument in minds lead various perspectives. The most important detail on this point is Collins' BioLogos proposal has no scientific claim. The method of its proof is also different from science, as BioLogos takes on questions that science is not interested in responding to. He is aware that spiritual subjects cannot be tested with reason. So the question of "What is the meaning of life?" "Why do we exist?" cannot be responded to by scientific rationality.

In addition, for those who have the same point of view with Collins the book of God is not one, the universe is also a book of God. This notion is valid for the Islamic scholars who accepted the development of the scientific issues, too. It is also the same point of view for these scholars that the book of the universe and the book of Revelation cannot and should not be in contradiction.

This work has also shown us that many of the basic concepts of all the Semitic religions have been paralleled by the same reason in some sorts of the issues. This situation will be seen when the Islamic perspective is studied and examined on the same subject. We are convinced that we will continue to be among these kinds of popular topics such as the relation of science and religion in general, evolution and theism in particular in the next hundred years with the speed it has gained.

Even more ambitiously, as scientific developments progress, its relationship with religious subjects will increase and these two worldviews will have to be addressed in peace and harmony, not in conflict, as Collins claims. Otherwise, it will damage both fields rather than move them forward. As scientific studies increase, societies will not be indifferent to them, and this taboo, which is believed to be contradictory to religion, will begin to collapse. In this direction, the people of the next generation will see so much that science and religion cannot really make sense of why they should be separated as now. This is the wish we have in us.

BIBLIOGRAPHY

APPLEBY, R. S.: 1987 "Between Americanism and Modernism: John Zahm and Theistic Evolution," **Church History**, 56/4, 474.

APPLEBY, R. S.: 2017 "Biblical and Theistic Arguments against the Evolutionary Argument against Naturalism" **Zygon: Journal of Religion & Science**, 52, 20.

AUGUSTINE, St., 1982 **The Literal Meaning of Genesis**, trans. John Hammond Taylor, New York, Newman Press.

AUGUSTINE, St., n.d. **The Enchiridion of Augustine: Addressed to Laurentius: Being a Treatise on Faith, Hope, and Love**, [Archive File], Retrieved from https://archive.org/details/theenchiridionof00auguuoft [Accessed 10 May 2018].

BARROW, J. D. & TIPLER, F. J.,1986 **The Anthropic Cosmological Principle**, New York, Oxford University Press.

BEHE, M. J., 2006 **Darwin's Black Box: The Biochemical Challenge to Evolution**, USA, Free Press, Kindle Edition

BIOLOGOS TEAM, 2009 "Our Mission", [Web Site], Retrieved from https://biologos.org/about-us [Accessed 23 June 2018].

BOWLER, P. J., 2002 **Evolution in Science & Religion: A Historical Introduction**, Ed. Gary B. Ferngren, Baltimore, MD, Johns Hopkins University Press.

CGS CONSORTIUM: 2005 "Initial Sequence of the Chimpanzee Genome and Comparison with the Human Genome", **Nature: International Journal of Science**, 437, 469–487.

CHAMBERS, R., 1844 **Vestiges of the Natural History of Creation**, [Archive File], Retrieved from https://archive.org/details/vestigesofnatura00unse [Accessed 10 June 2018].

CHARDIN, P. T., 1974 **Christianity and Evolution**, trans. Rene Hague, USA, William Collins Sons & Co Ltd., Harvest Edition.

CLAEYS, G.: 2000 "The 'Survival of the Fittest' and the Origins of Social Darwinism." **Journal of the History of Ideas**, 61/2, 223–240.

COLLINS, F. S. & VARMUS, H.: 2015 "A New Initiative on Precision Medicine", **The New England Journal of Medicine**, February 26.

COLLINS, F. S., 2006 **The Language of God: A Scientist Presents for Belief**, New York, Free Press, Kindle Edition.

COLLINS, F. S., 2010 **Belief: Readings on the Reason for Faith**, n.p., HarperCollins Publishers, Kindle Edition.

COLLINS, F. S., 2010 **The Language of Life: DNA and the Revolution in Personalized Medicine**, USA, HarperCollins Publishers, Kindle Edition.

COOPER, J.: 2013 "Created For Everlasting Life: Can Theistic Evolution Provide An Adequate Christian Account Of Human Nature?", **Zygon: Journal of Religion & Science**, 48/2, 478.

CREEGAN, N. H.: 2007 "A Christian Theology of Evolution and Participation" **Zygon: Journal of Religion & Science**, 42/2, 499–518.

CUNNINGHAM, G. C., 2010 — **Decoding of Language of God: Can a Scientist Really be a Believer**, USA., Prometheus Books, Kindle Edition.

DARWIN, C., 1859 — **The Origin of Species: The Preservation of Favored Races in the Struggle for Life**, London, W. Clowes and Sons Publishing.

DARWIN, C., 2009 — **The Life and Letters of Charles Darwin, Volume 2: Including an Autobiographical Chapter**, Ed. Francis Darwin, USA, Cambridge University Press.

DAWKINS, R., 2015 — **The Blind Watchmaker**, New York, W.W. Norton Company Inc.

DEMBSKI, W. A., 2002 — **No Free Lunch: Why Specified Complexity cannot be Purchased without Intelligence**, Lanham, MD, Rowman and Littlefield Press.

DEMBSKI, W. A.; RUSE, M., 2006 — **Debating Design: From Darwin to DNA**, USA, Cambridge University Press.

EDWARDS, D., 2004 — **Breath of Life: A Theology of the Creator Spirit**, Maryknoll, NY, Orbis Press.

ENNS, P., 2015 — **Inspiration and Incarnation: Evangelicals and the Problem of the Old Testament**, USA, 2nd Ed., Baker Academic.

FREUD, S.: 1967 — **The Future of an Illusion**, Ed. James Strachey, USA, W.W. Norton Company Inc.

GELEHRTER T. D., et al.: 1998 — **Principles of Medical Genetics**, 2nd Edition, USA, Williams & Wilkins, A Waverly Company.

GIBERSON, K. W. & COLLINS, F. S., 2011 **The Language of Science and Faith**, UK, Ashford Color Press. Kindle Edition.

GLORIA, M.: 1950 "Darwin and Social Darwinism", **Osiris**, 9, 397–412.

GOODMAN, S.: 1995 "Creationists in Canada", **National Center Science Education Reports**, 15,10–11.

GORDON, T., 2013 "Theistic Evolution: A Position Paper", Retrieved from https://www.academia.edu/6811246/Theistic_Evolution_A_Position_Paper , [Accessed 23 June 2018].

GOULD, S. J., 1990 **Rocks of Ages: Science and Religion in the Fullness of Life**, USA, Ballantine Books.

GRAY, A., 2009 **Darwiniana: Essays and Reviews Pertaining to Darwinism**, USA, Cambridge University Press.

GROVES, C.: 1991 "Creationism in Australia: Down But Not Out" **National Center Science Education Reports**, 11/ 2, 21.

HARREL, D., 2008 **Nature's Witness: How Evolution Can Inspire Faith**, Nashville, Abingdon Press.

HARRIS, G.: 2009 "For NIH. Chief, Issues of Identity and Culture", **The New York Times**, October 5.

HAUGHT, J. F., 2003 **Deeper than Darwin: The Prospect for Religion in the Age of Evolution**, Cambridge, MA, Westview Press.

HAWKING, S., 1998 **A Brief History of Time**, New York, Bantam Press.

HEARN, W. R.: 1971 "Truce or Consequences?", **Journal of the American Scientific Affiliation**, 23, 140–145.

HGS. CONSORTIUM: 2006 "Insights into Social Insects from the Genome of the Honeybee Apis Mellifera", **Nature: International Journal of Science**, 443, 931–949.

HODGE, C.: 1874 **What is Darwinism**, [Archive File], Retrieved from https://archive.org/details/cu31924024755567 [Accessed 24 June 2018]

JACKELÉN, A.: 2007 "A Critical View of Theistic Evolution", **Theology & Science**, 5/2, 151–165.

JONES, G., 1980 **Social Darwinism and English Thought: The Interaction Between Biological and Social Theory**, Atlantic Highlands, NJ., Humanities Press.

KESHAVAN, M.: 2018 "NIH's Francis Collins on Gene-editing, His Truck-Driving Aspirations, and What He'd Change about Science", **STAT**, May 3.

KOLATA, G.: 1993 "Scientist at work: Francis S. Collins; Unlocking the Secrets of the Genome", **The New York Times**, November 5.

KÜNG, H.: 1990 **Freud and the Problem of God**, trans. Edward Quin, US, Yale University Press.

LAMOUREUX, D. O., 2008 **Evolutionary Creation: A Christian Approach to Evolution**, USA, Wipf & Stock Press.

LARSON, E. L., 2006 **Summer for the Gods The Scopes**, USA, Perseus Books Group.

LEIBNIZ, G. W., 1896 **New Essays Concerning Human Understanding**, [Archive File], Retrieved from https://archive.org/details/cu31924032296422 [Accessed 10 May 2018].

LEWIS, C. S., 1980 **Mere Christianity: Book One: Right and Wrong as a Clue to the Meaning of the Universe**, USA, HarperCollins Publishers.

LEWIS, C. S., 2001 **Miracles: A Preliminary Study**, USA, HarperCollins Publishers. (Original work published 1947)

LINDBLAD-TOH, K., et al.: 2005 "Genome Sequence, Comparative Analysis and Haplotype Structure of the Domestic Dog", **Nature: International Journal of Science**, 438, 803–819.

LLOYD, J. B.: 2014 "Subjective Judgements Influencing Christian Beliefs about Biological Origins", **Journal of Beliefs & Values: Studies in Religion & Education**, 35/3, 291–302.

LONGMAN, T., 2005 **How to Read Genesis**, USA, Intervarsity Press.

LYELL, C., 1863 **Geological Evidences of the Antiquity of Man** [Archive File], Retrieved from https://archive.org/details/geologicalevide07lyelgoog [Accessed 10 May 2018].

METAXAS, E., 2011 **Life, God, and Other Small Topics: Conversations from Socrates in the City**, USA, Penguin Publishing Group, Kindle Edition.

MGS. CONSORTIUM: 2002 "Initial Sequencing and Comparative Analysis of the Mouse Genome" **Nature: International Journal of Science**, 420, 520–562.

MIDDLETON, R., 2013 **The Liberating Image**, Washington DC., Brazos Press.

MILLER, K. R., 2007 **Finding Darwin's God**, USA., HarperCollins Publishers. Kindle Edition.

MILLS, G. C.: 1995 "A Theory of Theistic Evolution as an Alternative to the Naturalistic Theory", **Plasma Science & Fusion Center**, 47, 112–122.

MOLTMANN, J., 1993 **God in Creation: A New Theology of Creation and the Spirit of God**, USA, Fortress Press.

NEIL, U. S.: 2012 "A Conversation with Francis Collins" **Journal of Clinical Investigation**, Health & Medical Collection, 122/11, 3797–3798.

NUMBERS, R L., 2006 **The Creationists: From Scientific Creationism to Intelligent Design**, expanded Ed., Massachusetts, Harvard University Press.

PALEY, W., 1803 **Natural Theology; or, Evidences of The Existence and Attributes of The Deity, Collected from The Appearances of Nature**, [Archive File], Retrieved from https://archive.org/details/naturaltheologyo00pale [Accessed 14 May 2018].

POLLACK, R.: 2006 "DNA, Evolution, and the Moral Law", **Science**, 313/5795, 1890.

ROBINSON, G. L., 1913 **Leaders of Israel**, [Image File], New York, Association Press.

RUSE, M., 2010 — **Can a Darwinian Be a Christian**, New York, Cambridge University Press.

RUSE, M.: 1980 — "Social Darwinism: The Two Sources", **Albion: A Quarterly Journal Concerned with British Studies**, 12/1, 23–36.

RYAN, P. (Director), WRIGHT N. T. & POLKINGHORNE, J. (Actor): 2012 — "From the Dust: Conversations in Creation", **Highway Media**, [Video File], Retrieved from http://fromthedustmovie.org/

SAGAN, C., 1985 — **Cosmos**, USA, Ballantine Books: The Random House Publishing Group.

SCOTT E. C.: 1991 — "Creationism in New Zealand", **National Center Science Education Reports,** 11/ 2, 20–21.

SCOTT, E. C., 2005 — **Evolution vs. Creationism: An Introduction**, USA, University of California Press.

SCOTT, E. C.: 1997 — "Antievolution and Creationism in the United States," **Annual Review of Anthropology**, 26, 263–289.

SHAW, G.: 2017 — "A Groundbreaking Duet: NIH's Francis Collins, Ph.D., and Soprano Renee Fleming Team Up to Advance Music Therapy", **Neurology Today**, 17/ 14, 18–19.

SMITH, A., 1761 — **The Theory of Moral Sentiments**, [Archive File], Retrieved from https://archive.org/details/theorymoralsent08smitgoog [Accessed 12 May 2018].

STOTT, R., 2012 **Darwin's Ghosts: The Secret History of Evolution**, USA, Spiegel & Grau Press.

TERREROS, M. T.: 1994 "Death Before the Sin of Adam: A Fundamental Concept in Theistic Evolution and Its Implications for Evangelical Theology", (Doctoral Dissertation) **Andrews University**, Berrien Springs, MI, p.98, Retrieved from EBSCO.

THE HOLY BIBLE, 1984 **Isaiah 41:10**, Grand Rapids, Zondervan Publishing House (New International Version).

THE HOLY BIBLE, 1984 **Peter 5:6**, Grand Rapids, Zondervan Publishing House (New International Version).

THE HOLY BIBLE, 1984 **Genesis 1:1, 1:2**, Grand Rapids, Zondervan Publishing House (New International Version).

THE VERITAS FORUM, 2017 **Francis Collins and the Language of God**, [Video File], The California Institute of Technology, Retrieved from http://www.veritas.org/the-language-of-god/ [Accessed 11 May 2018].

TOPALOGLU, A.: 2004 "Richard Swinburne'un İstanbul'daki Konferansı ve Seminerleri", **M.Ü. İlâhiyat Fakültesi Dergisi**, 26, 133–140.

VANAUKEN, S., 1980 **A Severe Mercy**, New York, HarperCollins Publishers.

VENEMA, D., 2012 "Letters to the Duchess", [Image File], Retrieved from https://biologos.org/blogs/dennis-venema-letters-to-the-duchess/understanding-evolution-is-there-junk-in-your-genome-part-4 [Accessed 25 June 2018].

WALTON, J. H., 2010 **The Lost World of Genesis One: Ancient Cosmology**, USA, Intervarsity Press.

WHITCOMB, J. C.& MORRIS, H. R., 1961 **The Genesis Flood: The Biblical Record and its Scientific Implications**, Phillipsburg, NJ, Presbyterian and Reformed Publishing Company.

YAN, G., et al.: 2011 "Genome Sequencing and Comparison of Two Nonhuman Primate Animal Models, the Cynomolgus and Chinese Rhesus Macaques Genome", **Nature Biotechnology**, 29, 1019–1023.

ZAHM, J. A. & CARBERRY J. C.: 1896 **Evolution and Dogma**, USA, Brebook Publishing.