

A Closer Look At the Evidence

What Orthodox Christians Should Know
about the Theory of Evolution

Protodeacon James Hughes

Printed with the blessing of His Eminence, Metropolitan Joseph,
Hierarch of the Bulgarian Eastern Orthodox Diocese of the USA, Canada and Australia.

Copyright© 2012 by Protodeacon James Hughes
jkhughes@stmichaelschool.us

Contents

Introduction	i
Chapter 1 - Why Some Orthodox Christians Believe in Evolution	1
Chapter 2 - The Time and Mind of Charles Darwin	7
Chapter 3 - On the Definitions of the term “Evolution” and the Main Concepts of the Theory	17
Chapter 4 - A Closer Look at the Evidence Presented	25
Chapter 5 - Scriptural Problems for “Theistic Evolution”	43
Chapter 6 - Patristic Writings on Genesis	47
Appendix - Recommended Reading List	55

Introduction

The purpose of this short book is to provide a doorway into the subject of God's creation of the world by summarizing several aspects of it. The question being addressed is, "In the creation of the world, did God use an evolutionary process, or did He create quickly, as a simple reading of Genesis would indicate?" This book is not meant to be a thorough analysis nor an exhaustive exploration of this question, but a summary which is complete enough to direct the reader toward further investigation. Many lengthy books have been written on the subject, some of which are very technical, and most people will not have the time or the inclination to study the matter in such depth. However, because the idea of evolution is not an isolated scientific idea, but one which has become a foundation of the modern secular world-view, an intelligent decision concerning its value requires some understanding of the matter.

Although this book is directed particularly toward Orthodox Christians, it will hopefully be useful to anyone trying to sort out all the pros and cons concerning the "creation or evolution" question. Its basic approach is to explore the idea of evolution from several perspectives: philosophical, scientific, scriptural and patristic. At the end of the book, we provide a list of recommended books for those who wish to study the subject more deeply.

Many Orthodox Christians, especially those who are in a position of teaching children, are in a struggle to find answers to their questions amidst so much conflicting information. They ask, "How can what I learned in school concerning evolution be untrue? Can't I just acknowledge that God created the world and let someone else figure out the details of *how* He did it? Can we really know? What does the Church teach?"

We are told through many different sources that the world we see around us, in all its diversity, is the result of an evolutionary process. We are told that there is overwhelming evidence that this process occurred very slowly over many millions of years. Yet a simple reading of Genesis, accepted by Orthodox Christians for many centuries before us, does not yield such a complicated picture. The teachings of the Fathers of the Church, as well as several parts of the New Testament, seem to agree with this simple reading more than with a reading which involves an evolutionary interpretation. How can we find our way through this maze of information? How do we discern which is the true perspective?

For many, the answer has been to believe that modern science has helped us to understand Genesis in the correct way. As Christians, they believe that God has created all things, and as those living in a scientific age, they desire to be "science-friendly", that is, to accept what is said to be proven by objective scientific inquiry. Therefore, they conclude that God has created the beautiful world we see through a process which modern science calls evolution.

The main purpose of this book is to show that belief in evolution, whether theistic or atheistic, is not "science-friendly." The belief that modern science has shown us the correct understanding of Genesis is actually a result of a superficial examination of the evidence which has been presented. The rules of science are actually very straight forward, but those who do not know, or forget, the rules of science can be easily deceived and can become victims of a

trick involving “double definitions.” The result is that they believe that something has been “proven” when, in fact, it has not.

Discernment, that is, the ability to see what is true and what is not true, in the midst of a multitude of impressions, is a virtue greatly valued by the Fathers of the Church. This is a virtue which we all need in these confusing times. What is required of us is that we “be not conformed to this world, but be transformed by the renewing of your mind.”¹ Our minds are renewed through the labor of prayer, but there is also the labor of study required as well. Our responsibility is to soberly study the subject as much as possible and pray that we may have the wisdom to discern truth from falsehood.

In the first chapter of this book, we begin our study by considering the various reasons Orthodox Christians have given for their belief in an evolutionary process. These reasons have been gleaned from correspondence with many individuals over several years. Each reason is addressed very briefly. In the second chapter we consider the life and times of Charles Darwin. We need to know about the person of Darwin and the environment in which he lived because, although scientists strive to be objective, their underlying philosophies and beliefs can influence how they interpret what they observe.

Chapter three explores the two main definitions of the word “evolution” and describes, in simple but accurate terms, the main concepts of this idea. Chapter four starts an analysis of the evidence most commonly presented as proof of evolution. Whether evolution is presented as a fact, or as a theory, we have a responsibility to analyze the evidence presented with scientific rigor and logic. Granted, this analysis does require some understanding of scientific terms, and some logical thought, but it does not really require a PhD. Books which more thoroughly examine the evidence are listed in the appendix.

For Christians, an examination of evolutionary ideas from a Biblical perspective should be very important since we hold the Scriptures to be the inspired Word of God. Since the One God is Author of life, visible and invisible, true faith will not contradict true science, nor will true science contradict true faith. Rightly understood physical phenomena and rightly understood Scripture will agree. If a widely accepted scientific idea contradicts many Biblical teachings, Christians find themselves in a difficult situation that requires a choice. Chapter five presents some scriptural passages which must be considered in making this decision.

As part of this Scriptural understanding, Orthodox Christians have an additional perspective that must be taken into account. Orthodox Christianity is often called “the Church of the Holy Fathers.” We put great weight on the writings of those holy people who were much closer to Apostolic times than we are and who defended the Truth against many serious assaults, sometimes at the cost of their lives. It is their understanding of Scripture that we must place above our own. Chapter six offers many quotes from the writings of the Church Fathers.

Finally, for those who wish to study this subject more thoroughly, we have included a list of books that will be helpful in a more complete study.

¹ Romans 12:2

Chapter One

Why Some Orthodox Christians Believe in Evolution

Many Orthodox, as well as many other Christians, have come to believe that God used an evolutionary process to create the natural world. Others are not sure, but leave room in their thinking for the possibility. This chapter explores some of the reasons that Orthodox Christians have presented for their belief in what is called “theistic evolution”, that is, the belief that God used an evolutionary process, over eons of time, to create the world. Some of the same reasons could easily have been given by members of the Roman Catholic faith or of one of the various Protestant denominations. What follows are actual quotes, gleaned from correspondence with many individuals over several years. Behind each one of them is a person struggling to find some reconciliation in his or her heart and mind. Many of these reasons overlap - one reason becomes the basis for another reason.

1) **“Evolution has been scientifically proven.”**

This view is, of course, the basis of all the other reasons. In most of our educational experience, in the newspapers, science textbooks, museums, etc., we are constantly told that evolution is a scientific fact, as clearly demonstrated as the fact that the earth is spherical rather than flat, or that the earth does indeed rotate around the sun. In popular media, many phenomena are explained in terms of evolution, creating the illusion of “scientific proof.” Such persistent input affects our thinking. Despite the fact that many highly qualified scientists from several disciplines have questioned the validity of the evidence presented as proof of evolution, nearly every book in favor of the idea will include a statement such as “all reputable scientists and all educated people” accept evolution to be scientific fact.

Attempts by Christians to find a satisfying synthesis between what we read in the Scriptures and in Patristic writings on the one hand and what we are taught about an evolutionary process on the other are based on this fundamental premise. In subsequent chapters, we will see that the word “evolution” actually has two very different meanings and will examine each from a scientific perspective, and consider the validity of the evidence presented as proof.

2). **“I am now Orthodox. I do not believe what the Protestants believe.”**

Many people who were members of one of the various Protestant denominations have found the Orthodox Church. All Orthodox jurisdictions within the United States have members who have converted from Protestantism. For some of these people, it has been difficult to discern what in their Protestant background they should keep and what they should discard. Some speak of the “heavy-handedness” they experienced in their Protestant church with regard to the topic of origins. One convert referred to a literal understanding of Genesis as “a Protestant fairytale.” Unfortunately, there are Orthodox writers who actually accuse those Orthodox, who do not believe in evolution, of reading the Scriptures “like the Protestants.”

Those who reject the young-earth, non-evolutionary position because they feel that it is a “Protestant belief” are not really leaving the Protestant world behind. They may be rejecting the particular Protestant denomination in which they had distasteful experiences, but they are simply joining the ranks of those Protestant denominations which accept evolution. Although, without doubt, Orthodoxy contains the fullness of truth, there are still truths which are also held by much of Protestantism, including the Trinity (except the filioque phrase), the virgin birth of Christ, and the physical resurrection.

3). **“We should not make the same mistake the Catholics made concerning the sun revolving around the earth.”**

Those defending a young earth, special creation view have been warned not to repeat the mistake the Catholic Vatican made in the time of Copernicus and Galileo. Galileo was accused of heresy after publishing, in 1632, his proposition that the earth revolved around the sun. Although the Vatican vs. Galileo controversy has been seen from many different angles, some Orthodox Christians think that we must not hold too tightly to a particular understanding of Genesis because objective science might show our understanding to be wrong. They do not want to be in the awkward position in which the Catholics found themselves concerning Galileo. Eventually the Vatican had to reverse its geocentric position and admit that it had made a mistake. Perhaps as a reaction, the Vatican has been increasingly open to the idea of evolution and even sponsored a celebration of the 150th anniversary of Darwin’s *The Origin of Species*.

The implication of this warning is that to question evolution is to question science. Yet one of the principles of scientific research is to question and test. In science, an honest doubt is a good thing. Scientific research involves observing phenomena, developing an hypothesis which hopefully explains the observation, and then testing that hypothesis. We are able test hypotheses concerning the orbit of the earth far more than we are able to test ideas concerning the origin of life and the development of various life forms.

At the time of Copernicus and Galileo, it was becoming increasingly clear that the geocentric model of Ptolemy had many problems. This was why the heliocentric model was proposed. Many people do not realize that, if we were to seriously compare the geocentric/heliocentric debate with the Darwinism evolution/Divine Creation debate, we would find that the idea of evolution is in a position similar to that of the geocentric model. The more we learn about DNA, genetics, molecular biology and the intricate structures and systems of life, the more problems arise for the evolutionary model.

4). **“God can do anything. Could He not have used an evolutionary process?”**

Without doubt, God can do anything He wants to do. However, in order to get meaningful answers, one needs to ask the right questions. The answer to the question, “Could not God have used an evolutionary process to create all that we see today?” is, of course, “Yes.” But does this really answer the question at hand? One could also ask the question, “Could not

God have created the world in the way described in Genesis?” The answer to this question is also “Yes.” So we see that questions concerning God which start with “*Could* God...” do not answer the real question that we have. The right question is, “*Did* God use an evolutionary process to create all that we see today?” This is the real question, but we must study in order to have a real answer.

5). “Evolution is not a heresy because the Church has never proclaimed a young earth and a six-day creation as a dogma. I have read papers by Orthodox clergy which state that an evolutionary process fits well with the teachings of the Church.”

There have, indeed, been books written by Orthodox clergy, sometimes hierarchs, which defend a belief in evolution as being not inconsistent with Orthodox beliefs. These writings attempt to develop a synthesis of Orthodox theology and evolutionary ideas by re-interpreting or selecting only some of the pertinent Patristic writings. When studying these writings, one finds that the Patristic references offered are generally very sparse and very short. The quotes resemble “sound bites” rather than complete thoughts.

A clear pattern of assumptions can be seen in these writings. The authors, apparently, have not carefully examined the actual evidence which is presented for evolution and thus are unaware of the fundamental problems that exist with the theory. They erroneously assume that 1) evolutionary theory is indeed scientifically sound, that is, founded on actual observation and rational thought, and that 2) those who are promoting the evolutionary model are unprejudiced in their interpretations of observations and do not have an anti-Christian agenda. Also, it is good to soberly remember that many of the heresies in the early years of the Church were started by members of the clergy, some of them hierarchs.

There have been several modern-day Orthodox clergy who have written against the idea of evolution, including Blessed Justin Popovich and Fr. Seraphim Rose.

In the year 2000, an archpriest in Russia, who also holds a doctorate degree in geology and mineralogy, formed an organization called *Shestodnev* (Six Days). The mission of *Shestodnev* is to make Orthodox Christians more aware of the Patristic teachings and the scientific evidence which supports these teachings. One member of *Shestodnev*, also a geologist, was actually brought back to the faith as a result of his scientific research. Fr. Seraphim Rose’s book, listed in the appendix, reveals an increasing awareness among Orthodox leaders of the falseness of Darwinism.

When one understands how much of Scripture, besides Genesis, must be either disregarded or reinterpreted in order to “reconcile” the Scriptures with the idea of evolution, the close relationship between the theory of evolution and heresy becomes clear. This subject is explored in chapters five and six.

6). “The Holy Fathers were not scientists. They did not know many of the things that we have discovered.”

This statement rests heavily on the first belief, that is, “evolution has been proven.” That misconception will be covered later in chapters three and four. As to knowledge, the word science comes from the Latin word “scio” which means “I know.” While it is true that the Fathers of the Church were not scientists in the sense of knowledge of the physical world, they were scientists in the sense of possessing a deep knowledge of God. Those who present the “Holy Fathers were not scientists” argument have not appreciated the fact that these men were not simply intelligent philosophers giving their opinions. They were speaking from their experience of God to no lesser degree than some modern scientists claim to speak from empirical evidence. A quote from Fr. Seraphim Rose provides a very important perspective:

I believe that modern science in most cases knows more than St. Basil, St. John Chrysostom, St. Ephraim, and other Fathers about the properties of fishes and such specific scientific facts; no one will deny this. But who knows more about the way in which God acts: modern science, which is not even sure that God exists, and in any case tries to explain everything without Him; or these God-bearing Holy Fathers? ²

7). “Why argue over creation-evolution? Who can really know what happened back then - only God knows. Arguing about creation or evolution is like arguing about how many angels can stand on the head of a pin.”

The Church Fathers had great fervor in defending the truth which had been passed down to them. How many modern Christians have the wisdom to see the importance of the difference between “the Holy Spirit proceeds from the Father”³ and “the Holy Spirit proceeds from the Father and the Son?” What may seem to us to be a small point, i.e. the filioque phrase, was an essential and profound point to the Church Fathers. Changing this teaching was disastrous; it was one of the main causes of the split between Eastern and Western Christianity. Anyone familiar with geometry knows that a small change in an angle will eventually have far-reaching effects. Those who consider as unimportant the question of whether Genesis or Darwin is correct have yet to see the far-reaching consequences.

For one example, among many, of how carefully Christians of former times examined important matters, see the For Consideration section for October 5 in St. Nikolai Velimirovic’s *Prologue from Orchard*. He writes of how the Orthodox debated with Millenarians for three days

²Fr. Seraphim Rose, *Genesis, Creation and Early Man*, (St. Herman of Alaska Brotherhood, 2011) p. 439.

³See John 15:26

about their false idea that Christ would come and establish an earthly kingdom that would last a thousand years.

8). One Orthodox catechumen admitted that accepting the traditional Orthodox teaching on creation was difficult because learning about evolution was “one of my favorite things.”

For many of us, the idea of evolution has an emotional attraction. Most of us learned about the idea when we were young and learning wonderful things about the natural world. The teaching of evolution, which included vast periods of time and the gradual development of multiple kinds of life, was fascinating.

While we were studying biology in high school or college, many scientific discoveries were being used for the good of mankind. We had an ideal image - that all who were within the scientific community were not only intelligent, but objective, and striving to discover the true inner workings of nature for the good of mankind. However, now that we are adults and have the responsibility of teaching our children, it is crucial that we re-examine the subject from a more mature and unemotional perspective.

Negative emotions are also involved in the belief in evolution. Not believing is often considered the result of a lack of intelligence, or at least the lack of education. It is assumed that anyone who questions the evolutionary paradigm is resting their perspective on some blind, ignorant faith, or is against science, or has “left their mind at the Church door.” The fear of being ostracized has been effective in preventing some intelligent Orthodox Christians from studying the scientific material which questions and contradicts evolutionary theory.

9). “Someone can be Orthodox and believe in evolution, too. Just because there are atheists among those who believe in evolution, does not mean it can not be compatible with Christianity. The theory of evolution has never been condemned by the Church. A Six-Day creation is not in the Creed. It is not a dogma of the Orthodox Church.”

10). “Science and religion are two different spheres of knowledge, they can compliment each other and do not have to contradict each other. The theory of evolution is strictly in the scientific sphere and is not about whether God exists or not.”

These two statements are related in that they attempt to artificially divide truth into two different spheres. The first expresses the thought that since the Nicene Creed does not state that God created the world in a short period of time. In other words, since “creationism” is not an officially stated dogma, we have the room and the liberty to believe what we think best.

Anyone who has been Orthodox for any length of time should realize that the teachings of the Church are found in more places than the Nicene Creed. The whole of Scripture, Holy Tradition, and the writings of the Fathers of the Church, as well as everything that is read or sung in liturgical services, teaches the Orthodox faith and contributes to our experience of the truth.

The second statement is often used by advocates of evolution as a means of pacifying the religious world by claiming that truth can be divided into “domains” or “spheres” and assuring the religious community that the scientific community is not trying to venture into its domain. There is at least one Orthodox writer, who has used this concept.

The idea was originally presented by a paleontologist, Stephen J. Gould. He called the idea “NOMA”, meaning “non-overlapping magisteria (of science and religion).” Dr. Gould was raised as a secular Jew and considered himself an agnostic. As Fr. Seraphim cautioned, “Are we to follow the lead of someone who is not sure that God even exists?”

The Orthodox world-view does not divide truth into these kinds of separate spheres. Our Lord Jesus Christ said, “I am the Way, the Truth, and the Life.” Christ is not divided and neither is truth. In order to more fully address these last two statements, it is necessary to explore the life of Charles Darwin and the world-view which gave rise to the modern idea of evolution.

Chapter Two

The Times and Mind of Charles Darwin

A common misunderstanding among Christians is that the idea of evolution emerged from an objective scientific investigation which revealed how God created all the wonderful diversity in the natural world. We have been told many times that the teaching of evolution is not an attempt to undermine belief in God and is not, in any way, in competition with any religion. In fact, many religious leaders, including some Orthodox hierarchs, have accepted the concept and tried to show that there is no conflict between evolutionary ideas and the Scriptures. Their view is that we simply need to read Genesis in a different light because the ideas of Darwin give us a better understanding of how God created the beautiful world around us.

These religious leaders teach that it is only important to maintain the position that God was behind any evolutionary process and that mankind (especially the soul) was specially created. Too often that assurance is enough, and many Christians do not pursue the matter any further. The contradictions between the Scriptures and the Patristic writing on the one side, and a long evolutionary process and this new understanding of Genesis on the other, are explained away in acquiescence to what is believed to be undeniable science.

Despite the fact that many who promote the idea of evolution mock religion and promote an atheistic world-view, many Christians assume that the idea itself is purely scientific and says nothing about the existence of God. The true history of the idea is quite the opposite of this assumption. The situation is not that atheists have usurped an innocent scientific discovery, but that Christians have been drawn into an essentially atheistic philosophy.

To understand the relationship between Orthodox Christianity and the tenets of modern evolutionary ideas, it is necessary to know about the life and times of Charles Darwin. Knowing how Darwin thought is crucial because scientific investigation, especially when it concerns something so fundamental as creation, is not as objective as solving a problem in mathematics. Solving a mathematics problem involves using predetermined rules and equations; the relationships among numbers is fixed. In contrast, all scientific investigation, especially when the normal scientific method can not be used, involves a considerable amount of interpretation by the scientist himself. Observations do not come with obvious meanings. The scientist must interpret what he observes; he must extract meaning from his observations. Yet, often the meaning he extracts from his observations are influenced by the presuppositions of his own heart.

Richard Dawkins, perhaps the most popular proponent of evolution today, gives an image in his latest book, *The Greatest Show on Earth*, which is very useful in illustrating this point. He writes that, in regard to the scientific evidence for evolution,

we are like detectives who come on the scene after a crime has been committed. The murderer's actions have vanished into the past. The detective has no hope of

witnessing the actual crime with his own eyes....What the detective does have are traces that remain... there are footprints, fingerprints...⁴

Dawkins is convinced that, having available the various “traces” as evidence, it is only a matter of logically inferring how the traces relate to each other. Once the relationships are discerned, the murderer is revealed. He implies that there is only one way of putting these traces together and, by analogy, only one way to understand the fossil record, the similarities among animals, and other observations which are used as evidence of evolution.

However, the well-respected British astronomer, Sir Fred Hoyle, writes about another factor that is involved in the process of finding the meaning of a series of observations. In his book, *Highlights of Astronomy*, Hoyle writes,

Writers on scientific method usually tell us that scientific discoveries are made 'inferentially', that is to say, from putting together many facts. But this is far from being correct. The facts by themselves are never sufficient to lead unequivocally to the really profound discoveries. Facts are always analyzed in terms of the prejudices of the investigator. The prejudices are of a deep kind, relating to our views on how the universe “must” be constructed.⁵

Charles Darwin also recognized that observations do not, in themselves, contain an obvious meaning. The following is from one of his letters.

In 1861, in his letter to Henry Fawcett, he acknowledges that observation is, in itself, a selective act. “How odd it is that anyone should not see that all observation must be for or against some view if it is to be of any service!” Here he admits that there must be a “view” preceding observation, that is, a theory or hypothesis which *lends value to the fact-finding*.⁶ (Italics not in original)

In another letter, written in 1863 to J. Scott, Darwin advised him to “let theory guide your observations.”⁷

A little self-reflection will show that all of us have had the experience of trying to put together many pieces of information only to come to a conclusion which later proves to be

⁴ Richard Dawkins, *The Greatest Show on Earth*, (Free Press, 2011), p. 16.

⁵ Sir Fred Hoyle, *Highlights in Astronomy*, (San Francisco: W.H. Freeman & Co.1975), pp. 35-36.

⁶*Autobiography of Charles Darwin* (NY: Harcourt, Brace & Co., 1959), p. 161.

⁷*Ibid*, p. 162.

inaccurate. Once we realize that our conclusion is wrong, we examine our thinking. Often we find that the reason our conclusion was wrong is that we had made some assumptions that were not true. In the study of logic, it would be said that our conclusion was wrong because our major premise was wrong.

This aspect of scientific investigation is especially important to consider when evaluating the truth or falseness of Darwin's ideas. We can not perform the kind of experimentation that is normally part of the scientific method. As Dawkins notes, all we have are "traces" from which we must construct the whole picture. Scientists who claim that evolution is true and scientists who claim it to be false have exactly the same "traces" to examine. The difference lies not in the observations, in the physical evidence available, but in how those observations are interpreted. This is where the "prejudices of the investigator" come into play. Therefore, having some knowledge of Darwin's life will allow us to assess how an Orthodox Christian should consider the ideas he presented.

Fortunately, Darwin wrote an autobiography and many letters which give us insights both into the development of his scientific perspectives and into his changing religious beliefs. The following account of Darwin's life and thought come from his autobiography and a collection of his letters, *Life and Letters of Charles Darwin*.

Darwin was born in 1809 and baptized into the Church of England. His mother was a Unitarian while his father, Robert, as well as his grandfather, Erasmus, was among those known as "freethinkers", a group which held the philosophical viewpoint that opinions should be formed on the basis of science, logic, and reason, and should not be influenced by authority, tradition, or any dogma. The freethinkers had little use for religion; many were atheists.

Despite the shallowness of his religious upbringing, Darwin writes of his boyhood belief in God and recounts instances in which he was convinced that God had answered his prayers. When it was time to choose a career, he spent two unhappy years at Edinburgh, studying medicine. He then transferred to Christ's College, Cambridge, where he studied to be an Anglican clergyman. However, his intention to enter the ministry suffered the same fate as his medical studies and, in his own words, "died a natural death."

It was at this time that Darwin, still in his early twenties, was given the opportunity to join the crew of the *HMS Beagle*. His official capacity was that of a gentleman companion to the captain, but he spent much of his time in an unpaid position as a naturalist, collecting specimens and documenting the flora and fauna of areas of South America.

During this time on the *Beagle*, Darwin was finally doing what he had always loved as a boy, and was able to use his inquisitive mind and fine powers of observation. He had the opportunity to see many new and different kinds of animals. He wondered why there were so many species of basically the same kind of animal and noted that each species was wonderfully adapted to its particular environment. He conceived the idea that one species could perhaps

develop into another over a long period of time, and that perhaps even one kind of animal could gradually develop into a very different kind. He realized, however, that this process would take many centuries, more than the generally accepted age of the earth would allow.

Then Darwin started reading the first two volumes of a revolutionary work by Charles Lyell, *Principles of Geology*, which was published in 1830. In this book, Lyell, who like Darwin's father, was of the freethinking philosophy, presented a new interpretation of the many layers of sediment which can be seen in the earth's crust. Lyell proposed that these layers were laid down, not as a result of the Biblical Flood, but very slowly, over the course of many centuries.

In the first volume of his book, Charles Lyell gives a rather long account of the history of geology, noting which perspectives he considers to be true and which he considers false. In this history, he reveals his disdain for the Scriptures. He notes that:

A sketch of the progress of geology is the history of a constant and violent struggle between new opinions and ancient doctrines, sanctified by the implicit faith of many generations, and supposed to rest on scriptural authority.⁸

Later in the book, he reveals the attitude he has toward himself:

There is not one great question relating to the former changes of the earth and its inhabitants into which the considerations of time do not enter; and so long as the public mind was violently prejudiced in regard to this important topic, *men of superior talent alone, who thought for themselves, and were not blinded by authority*, could deduce any just conclusions from geological evidence. It ought not, therefore, to be matter either of surprise or discouragement to us, that at the commencement of the present century (1800), when for three hundred years much labor has been devoted to these investigations, so few sound and enlightened views have met with general reception.⁹

There are a few phrases to be noted in this quote. Firstly, Lyell is relying on himself and his own "superior talent," secondly, this self-reliance means that he is "not blinded by authority," i.e. the Scriptures, and thirdly, the geological features he was observing required a conclusion, and only men such as he could make a just conclusion. This last point reminds us of Sir Fred Hoyle's observation that, "...the facts by themselves are never sufficient to lead unequivocally to the really profound discoveries. Facts are always analyzed in terms of the prejudices of the investigator."

⁸ Charles Lyell, *Principles of Geology*, (London: John Murray, 1830) vol. 1, p. 30.

⁹*Principles of Geology*, vol. 1, p. 302.

Another insight into the mind of Charles Lyell appears in a book, *Life, Letters and Journals*, published by John Murray in 1881. In one of these letters, Lyell states that his goal was “to free the science from Moses.”¹⁰ We see here one of the “prejudices of the investigator.”

Darwin realized that if the earth were far older than what he had been taught, there might be time for the type of gradual change he had envisioned. The fact that Lyell’s book denied the world-wide flood, as well as the Scriptural age of the earth, did not cause Darwin to doubt Lyell’s ideas. According to one of Darwin’s biographers, the reading of these books was actually his “point of departure from orthodoxy.” When Lyell died in 1875, Darwin wrote to Lyell’s secretary:

How completely he revolutionized geology: for I can remember something of pre-Lyellian days. I never forget that almost everything which I have done in science I owe to the study of his great works.”¹¹

As Darwin continued to develop his ideas, and to reflect on the implications of the long ages proposed by Charles Lyell, he was less and less able to accept the Genesis account of creation. His doubts spread to include all of the Old Testament, and in his autobiography he wrote:

I had gradually come by this time (1836-1839) to see that the Old Testament from its manifestly false history of the world, with the Tower of Babel, the rainbow as a sign, etc., etc., ... was no more to be trusted than the sacred books of the Hindus or the beliefs of any barbarian.¹²

The intellectual atmosphere of Europe during of the middle of the 19th century was becoming increasingly distant from a traditional Christian world-view. Some of the more educated people were drawn into various spiritualist sects, while others rejected all belief in the supernatural. This atmosphere, combined with the influences of his relatives, lead Darwin further and further away from any faith in God. He writes in his autobiography:

I never gave up Christianity until I was forty years of age (1849)... I gradually came to disbelieve in Christianity as a divine revelation. Thus disbelief crept over me at a very slow rate, but was at last complete. The rate was so slow that I felt no distress, and have never since doubted even for a single second that my conclusion was correct.

¹⁰ In a letter to George Poulett Scrope, June 14, 1830.

¹¹ *Life and Letters of Charles Darwin*, (NY: Basic Book, Inc., 1959), vol. 2, p. 374.

¹² *Autobiography of Charles Darwin*, p. 85.

Although I did not think much about the existence of a personal God until a considerably later period of my life, I will here give the vague conclusions to which I was driven. The old argument of design in nature, as given by Paley, which formerly seemed to me so conclusive, fails, now that the law of natural selection has been discovered. We can no longer argue that, for instance, the beautiful hinge of a bivalve shell must have been made by an intelligent being, like the hinge of a door by man. There seems to be no more design in the variability of organic beings and in the action of natural selection, than in the course which the wind blows. Everything in nature is the result of fixed laws.¹³

Finally, near the end of his life, Darwin had lost whatever Christian faith he had been given as a child. Once again, his autobiography reveals his state of mind. In 1876, he wrote:

Formerly I was led...to the conviction of the existence of God and the immortality of the soul. In my *Journal* I wrote that whilst in the midst of the grandeur of a Brazilian forest, "it is not possible to give an adequate idea of the higher feelings of wonder, admiration, and devotion, which fill and elevate the mind."

I well remember my conviction that there is more in man than the mere breath of his body. But now the grandest scenes would not cause any such convictions and feelings to rise in my mind.¹⁴

Although it is very sad to chronicle the loss of faith of someone, it is necessary in order to reveal the true picture of evolutionary ideas. A scientist labors very hard to understand the workings of creation, but if he has an underlying disbelief in God, he must interpret all that he sees in an ugly fashion. This is what happened when Darwin tried to make sense of his many observations of nature. Because of his loss of faith, he had to explain the great beauty and diversity of life without any acknowledgment of a loving God. Therefore, from its infancy, the grand idea of evolution was an attempt to explain creation without God.

This understanding of evolution, i.e., without God, is the predominant understanding in the academic community today and has been from the beginning. T.H. Huxley, one of Darwin's most ardent supporters, and known as "Darwin's bulldog", was also a part of the freethinking movement. He is credited with coining the word "agnostic" to express his disbelief in God. Darwin also used this term to describe his theological position, and he may have gotten it from Huxley.

¹³*Autobiography of Charles Darwin*, pp. 86-87.

¹⁴*Ibid*, p. 91.

This godless aspect of the idea of evolution was de-emphasized for many years and, as a result, many Christians were led to believe that the theory of evolution was a neutral, objective scientific theory. However, in the last fifty years, the commitment to the atheism inherent in the idea has been gradually fully revealed. Consider the following quotes.

In the evolutionary pattern of thought there is no longer either need or room for the supernatural. The earth was not created, it evolved. So did all the animals and plants that inhabit it, including our human selves, mind and soul as well as brain and body.¹⁵

I had motives for not wanting the world to have meaning; consequently assumed that it had none, and was able without difficulty to find satisfying reasons for this assumption...For myself, as, no doubt, for most of my contemporaries, the philosophy of meaninglessness was essentially an instrument of liberation. The liberation we desired was simultaneously liberation from a certain political and economic system and liberation from a certain system of morality. We objected to the morality because it interfered with our sexual freedom.¹⁶

An atheist before Darwin could have said, following Hume : ‘I have no explanation for complex biological design. All I know is that God isn’t a good explanation, so we must hope that somebody comes up with a better one.’ I can’t help feeling that such a position, though logically sound, would have left one feeling pretty unsatisfied, and that, although atheism might have been logically tenable before Darwin, Darwin made it possible to be an intellectually fulfilled atheist.¹⁷

¹⁵Julian Huxley, keynote address at the 1959 Centennial Celebration of the publication of *The Origin of Species*.

¹⁶Aldous Huxley, "Confessions of a Professed Atheist", *Report, Perspective on the News*, vol. 3, (June, 1966) p. 19.

¹⁷Richard Dawkins, *The Blind Watchmaker*, (New York: W.W. Norton, 1987).

The following quotes by H.S. Lipson, a physicist, and Richard Lewontin, a geneticist, reveal that evolution is a world-view, not an objective scientific idea. Both of these quotes remind us of Sir Fred Hoyle's words about the presence of the "prejudices of the investigator."

In fact, evolution became in a sense a scientific religion; almost all scientists have accepted it and many are prepared to bend their observations to fit in with it.¹⁸

We take the side of science in spite of the patent absurdity of some of its constructs, in spite of its failure to fulfill many of its extravagant promises of health and life, in spite of the tolerance of the scientific community for unsubstantiated just-so-stories, because we have a prior commitment, a commitment to materialism. It is not that the methods and institutions of science somehow compel us to accept a material explanation of the phenomenal world, but, on the contrary, that we are forced by our a priori adherence to material causes to create an apparatus of investigation and a set of concepts that produce material explanations, no matter how counter-intuitive, no matter how mystifying to the uninitiated. Moreover, that materialism is an absolute, for we cannot allow a Divine Foot in the door.¹⁹

The introduction of the idea of evolution into modern thought has had a devastating effect on the spiritual life of Christians. Dr. Michael Denton, an Australian scientist, writes:

As far as Christianity was concerned, the advent of the theory of evolution and the elimination of traditional teleological thinking was catastrophic. The suggestion that life and man are the result of chance is incompatible with the Biblical assertion of their being the direct result of intelligent creative activity. Despite the attempt by liberal theology to disguise the point, the fact is that no Biblically derived religion can really be compromised with the fundamental assertion of Darwinian theory. Chance and design are antithetical concepts, and the decline in religious belief can probably be attributed more to the propagation and advocacy by the intellectual and scientific community of the Darwinian version of evolution than to any other single factor.²⁰

¹⁸H. S. Lipson, "A Physicist Looks at Evolution", *Physics Bulletin*, vol. 31, May 1980, p.138.

¹⁹Richard Lewontin, "Billions and Billions of Demons," *The New York Review*, (January 9, 1997), p. 31.

²⁰Michael Denton, *Evolution, A Theory in Crisis*, (London: Burnett Books, Ltd. 1985), p. 368.

Finally, in a March, 2011 interview given to Howard Condor on Revelation TV in the United Kingdom, Dr. Dawkins, a very outspoken atheist, was very clear about the relationship between Christianity and evolution. He was asked if there had been any particular experience which convinced him that God did not exist. He replied:

Oh, well by far the most important, I suppose, was understanding evolution. I think the evangelical Christians have really sort of got it right, in a way, in seeing evolution as the enemy. Whereas, the more - what shall we say - sophisticated theologians who are quite happy to live with evolution, I think they're deluded. I think the evangelicals have got it right, in that there really is a deep incompatibility between evolution and Christianity.²¹

²¹www.youtube.com/watch?v=Wfe4IUB9NTk

Chapter Three

On the Definitions of Certain Terms and the Main Concepts of the Theory

Now that we have some background on Charles Darwin and the milieu in which he lived, we should start to examine the ideas he presented in 1859, in his book, *On the Origin of Species by Means of Natural Selection, or the Preservation of Favored Races in the Struggle for Life*. Although this chapter is a bit technical at times, and parts may require a few readings, the concepts presented are crucial to understand if one is to have an informed perspective on the question at hand.

Discussions concerning the question about origins can easily become very emotional. Strong feelings often accompany both a belief in an evolutionary explanation of the natural world (including a theistic evolutionary model) and a belief in a Genesis-based explanation of the natural world. For this reason it is very important to soberly and carefully examine the whole picture. Part of this sobriety involves the understanding, and consistent use, of certain critical words. Honesty requires that the terms which are used be clearly defined, and that whenever a particular term is used, it be used according to the original definition.

There are three terms that especially need to be understood when discerning whether God used an evolutionary process or not. These terms are 1) evolution, 2) species, and 3) micro-evolution/macro-evolution. As you will see, the lack of consistency in the use of these terms, especially “evolution”, is a source of much of the misunderstandings and logical inconsistencies which are so prevalent in this subject. By being aware of the shifting meanings, we can prevent being deceived. “Therefore be wise as serpents, and harmless as doves.” (Matt:10:16)

The First Definition of “Evolution”

Science textbooks nearly always define and use the word “evolution” in two different ways. Sometimes the term means simply a “change in the frequency of alleles in a given population,” and sometimes it means that “all life forms have come from common ancestors.” A common version of the first definition of evolution can be found in many textbooks:

*Evolution can be defined as changes in allele frequencies within a population over time.*²²

An “allele” is a term used in genetics and refers to one of sometimes several forms of a gene possessed by a group of organisms. For example, human beings have different eye colors. This is because eye color is determined by a certain gene. Some people have one form of that

²²J. Postlethwait & J. Hopson, *The Nature of Life*, (McGraw Hill, 1989) p.700.

gene and others have another form; therefore the color of their eyes is different. These different forms are called alleles. In some cases, such as eye color, some alleles are dominant and some are recessive, but we do not have to get into that detail.

A well-known example of this “change in the frequency of alleles” was seen in England during the 1800's. A common moth in England is the peppered moth, which has two varieties, those having a dark color and those having a light color. The coloration is determined by a particular gene, which has two forms, or alleles. In the beginning of the 19th century, before the industrial revolution, most specimens of the peppered moth, were light in color. There were also dark-colored moths, but this variety was less common.

Later in the century, it was noted that the predominant variety was the dark-colored one. This change in the proportion of light-colored to dark-colored moths was attributed to the darkening of the surfaces on which the moths rested. The dark-colored moths were now less visible to the birds that fed on them. The light-colored moths were, on the other hand, more visible and therefore more prone to be eaten.

After England passed, in the 1950's, laws to reduce pollution, the proportion of light to dark moths began to change back to the original proportion. Many experiments have been performed to determine exactly why the proportion of light to dark moths changed first in one direction, then in the opposite direction. Although there are still controversies about the actual cause of this phenomenon, the change in the predominant variety of the peppered moth has, for decades, been used in science textbooks as a classic example of evolution.

In 1975, the British geneticist P.M. Sheppard was thinking of the first definition of evolution when he called the phenomenon “the most spectacular evolutionary change ever witnessed and recorded by man, with the possible exception of some examples of pesticide resistance.”²³ It is this first definition of evolution that must have been in the mind of the writer of an article called "Air Apparent: Moth Evolves Amid Industrial Change."

Clarke (an English scientist) found that the lighter version of peppered moths made a dramatic comeback after the passage of clean-air laws in England in the 1950's. When he started collecting peppered moths in 1959, more than 90% were black. Today, it's about 20%.

For evolutionary biologists, the discovery has special significance. It's the first known case of two separate populations of a single species evolving to suit changes in their environments and then both evolving back when the environment changed again.²⁴

²³Sheppard P.M., *Natural Selection and Heredity*, (London: Hutchinson, 1975).

²⁴*San Diego Union Tribune*, October 16, 1996.

There are many examples of this type of change and sometimes the term “micro-evolution” is used to describe them. The January, 2001 issue of *National Geographic* included an article titled, “Evolution of Dogs: Wolf to Woof.” Although it is universally accepted that wolves and dogs are not very different and can, under the right circumstances, interbreed, the term evolution is used because there is a “change in the frequency of alleles.”

Richard Dawkins, in his book, *The Greatest Show on Earth, The Evidence for Evolution*, also uses the term “evolution” when he writes about the many varieties of dogs. Although dogs are all the same species, the genetic information of the different varieties is slightly different. Dawkins is considering the development of many varieties of dogs as evolution because of the “change in the frequency of alleles.”

Another example of this “micro-evolution” is the varying size of the beaks of finches which Charles Darwin found on the Galapagos Islands. An eighteen-year study of these birds by Peter and Rosemary Grant showed that the beak size of finches on these islands changed in a cyclic manner. Periods of drought resulted in finches with larger, stronger beaks. Rainy periods resulted in finches with smaller beaks. Although there was no lasting change in the finches, the phenomenon was called “evolution” because of the “change in the frequency of alleles.” The full quote concerning this is in chapter four.

The Second Definition of “Evolution”

The second meaning of the term “evolution” is far more expansive. The following definition is in the same book in which the first definition was found:

*All living things are descended from a common ancestor and arose as the result of genetic modification in species that lived before them called **evolution**.*²⁵

This definition of evolution calls it a process involving genetic change that results in the development of brand new kinds of organisms. It is often referred to as “macro-evolution.” This is the meaning implied whenever the term is used in newspapers, magazines, and other types of media. While there are many concrete, observed examples of the first definition of the term “evolution,” examples of the second definition are the result of a certain interpretation of the fossil records and the similarities in structure that exist among living organisms. When someone claims that reptiles arose from fish or that birds have evolved from dinosaurs, it is this second definition of the term that is being used.

²⁵J. Postlethwait & J. Hopson, *The Nature of Life*, (McGraw Hill, 1989), p.14.

Scientific American has made a distinction between “micro-evolution and “macro-evolution” in this way:

Micro-evolution looks at changes within species over time - changes that may be preludes to speciation, the origin of new species. Macro-evolution studies how taxonomic groups above the level of species change. Its evidence draws frequently from the fossil record and DNA comparisons to reconstruct how various organisms may be related.²⁶

It may be helpful to give a definition of “taxonomic groups.” The following definition is from The Free Encyclopedia:

In biology, [organisms are classified] into a hierarchy of groupings, from the general to the particular, that reflect evolutionary and usually morphological relationships: kingdom, phylum, class, order, family, genus, species.

The black-capped chickadee, for example, is an animal (kingdom Animalia) with a dorsal nerve cord (phylum Chordata) and feathers (class Aves: birds) that perches (order Passeriformes: perching birds) and is small with a short bill (family Paridae), a song that sounds like “chik-a-dee” (genus Parus), and a black-capped head (species atricapillus)²⁷

In order to understand why these two, very different, definitions of the term “evolution” creates both confusion and deception, it is necessary to understand, to some extent, the processes which are thought to cause evolution.

Genes and Genetic Mutation

Each cell of an organism’s body contains an extremely large and complex molecule called DNA. This molecule acts as the blueprint which provides, in a chemical language, all the information needed for constructing and operating the body. The DNA molecule is often shown as a double helix. In this form, it looks like a ladder that has been twisted along its length. Unlike a normal ladder, the rungs of the DNA ladder are not identical. There are several different kinds of rungs, which act as the “letters” with which the instructions are written. A gene is a small portion of the DNA molecule. If the DNA molecule were a book which provides the information, a gene would be a phrase, or a sentence.

²⁶John Rennie, “15 Answers to Creationist Nonsense”, *Scientific American*, (July, 2002), p. 80.

²⁷<http://encyclopedia2.thefreedictionary.com/Taxonomic+groups>

As the body grows and maintains itself, new cells are made. Each time a new cell is made, the DNA must replicate itself. Although the replication process is extremely accurate, there are occasional mistakes, called mutations. In our “DNA as a book” analogy, mutations would be typographical or spelling errors.

According to evolutionary theory, a mutation may be beneficial and produce in the organism some trait which gives it an advantage (ever so slight) in the struggle to survive. Such an organism might produce more offspring than others of its species. If a beneficial mutation happens in genes which are passed on to the next generation, then over time, more and more of this type of organism will have those genes. As many generations pass, and the offspring of the original organisms accumulate more and more beneficial mutations, the result may be a group of organisms which are very different from their ancestors. The theory says that this process has created not only new species, but entirely different kinds of organisms. The idea is that this process has occurred billions of times, and has gradually changed a simple life form into the plurality of life forms we see around us today.

Natural Selection

Natural selection is simply a process of nature which determines whether a particular mutation is beneficial or not. In the natural environment, some members of a species may, because of a beneficial mutation, be better equipped to survive than others of the same species. If a genetic mutation makes an organism more able to defend itself or better at procuring food, or gives it some other advantage, it might well produce more offspring than its non-mutated brethren. The theory states that genetic mutations are completely random and that natural selection “selects” those organisms most favorably suited to the environment in which they live.

Of course, natural selection operates even if there are no mutations. The changes in peppered moth populations is an example of natural selection. The light colored moths apparently had an advantage when the rocks and trees were lighter in color. They were better camouflaged. When the conditions changed, the darker moths gained an advantage for the same reason. No genetic mutation is involved because there were always light and dark colored moths.

Species

The term “species” is another word which needs an explanation because, once again, there are two definitions and understandings of the term. Most people would understand the word “species” in accordance with the late Ernest Mayr, (1904-2005), a leading evolutionary biologist, who described a species as “an actually or potentially interbreeding population that does not interbreed with other such populations when there is opportunity to do so.” This is the definition which would explain why crows and hawks, or sparrows and robins, do not interbreed. There may be an opportunity for these birds to interbreed, but they do not interbreed because they are of different species.

This understanding of the word species is, however, not the original understanding. The word comes to us directly from the Latin, and means many things, including “look, shape, form, outward appearance, notion, idea and kind.”²⁸ It is clear that the original meaning of the term is much broader than the modern scientific understanding.

When St. Jerome was translating the Scriptures into Latin in the late fourth century, the word “species” referred to this broader idea rather than to the more narrow definition with which we are familiar. At the time of St. Jerome, (and for over a thousand years after his time), all birds would be considered the same species because they represent the same idea, the same notion, the same kind of animal. When the Scriptures were translated into English, the translators replaced the Latin word “species” with the English “kind.”

During the 1700's, the definition of the term gradually changed to something akin to Ernest Mayr's definition and the use of two different understandings of the same word started to cause trouble. The Scriptures and the early Church commentators had used the term in the broader sense and scientists were now using it in the narrower sense. If someone asserted that the Scriptures teach the fixity of species, the scientist could state that the Scriptures were wrong and could give examples of the development of a new species. Yet, they could both be correct - if the appropriate definitions were applied. The Scriptures actually teach the fixity of kind.

For example, using the original understanding, animals such as wolves, coyotes, dingos and a pet poodle would be one species. They are all of the “dog” kind. Lions, tigers, leopards and a household tabby would be one species because they are all of the “cat” kind. However, in the modern meaning of the word, all these different dogs, as well as all these different cats, are considered separate species. It is generally believed that all the different types of dogs have a common ancestor which was a kind of wolf. Many new species have developed, but not new kinds.

In the last several years, we have been surprised by some animals that have historically lived far apart and have been considered different species, according to the modern understanding. Many of these surprises have taken place in modern zoos which tend to have similar animals in large open areas, rather than in separate smaller areas. As a result, we have seen the appearance of zonkeys, (zebra/donkey) zorses (zebra/horse) as well as tignons (tiger/lions) and ligers (lion/tiger). There have also been matings between bobcats and lynx, and between cougars and ocelots. In 1985, at the Hawaii Sea Life Park, a false killer whale and a bottlenose dolphin got together and produced a fertile wolphin. Llamas and camels have also been bred successfully, resulting in a cama. In January 2012, scientists in Australia discovered sharks that are fertile hybrids of two different species (modern definition) of black-tip sharks - the Australian black-tip and the Common black-tip. Many more examples of hybrids could be given.

²⁸This definition is from Cassell's Latin/English Dictionary, (MacMillan Publishing, 1987).

All the above examples involve animals which are of the same kind, in the Biblical sense. Yet even according to Mayr's definition, horses, donkeys, and zebras might now be considered the same species. Lions and tigers could also be considered the same species. And why not consider false killer whales and bottle-nose dolphins varieties of the same species? There are many varieties of domestic dogs, which look very different from one another, yet we do not consider them different species because they can all interbreed. Given these surprising offspring, which are often the result modern zoo design, one can see that it is sometimes difficult to apply the modern definition of species. While we have many examples of the interbreeding of species, in the modern sense, we have no experience of interbreeding between animals which are of different kind, in the Biblical sense.

Macro-evolution

The last term we need to explore is "macro-evolution." The definition given above from *Scientific American* states that the term is used when referring to changes involving "taxonomic groups above the level of species." This, indeed, was the first use of the term when it was first coined many years ago, and means that macro-evolution deals with (supposed) changes of fish into amphibians, or dinosaurs into birds. However, the term is increasingly being used to describe the development of new species (modern definition), a much less significant phenomenon. Consider the following definition:

Macro-evolution refers to evolution that occurs *above the level of species*, such as the *origin of new designs* (feathers, vertebrates from invertebrates, jaws in fish), *large scale events* (extinction of dinosaurs), *broad trends* (increase in brain size in mammals), and *major transitions* (origin of higher-level phyla). This is one of two classes of evolutionary phenomena, the other being micro-evolution, which refers to events and processes *at or below* the level of species, such as changes of gene frequencies in a population and speciation phenomena.

At times, the concept of macro-evolution has been defined as including evolutionary change *at and above* the level of species, and micro-evolution *below* the level of species. As the dividing point, the process of speciation may be viewed variously as the purview of either macro-evolution or micro-evolution.²⁹

The definition above uses the term "speciation", so we should explain it. Speciation is the process by which members of one species change so much that they can no longer breed with organisms which are members of the original species. While we are sure that new species, in the modern sense, have developed, the details of *how* this happened are still somewhat speculative. The first possible way is that members of a particular species are the recipients of so many genetic mutations that they can no longer interbreed with members of the same species that were not

²⁹<http://www.newworldencyclopedia.org/entry/Macroevolution>. Italics are in the original.

recipients of these mutations. All these mutations made them different enough to be considered different species. They can now only interbreed among themselves.

Another suggested cause of speciation, and perhaps the more likely, is called “genetic drift”. Genetic drift happens when certain members of a species become isolated from others of their species. As a result of this separation, certain genes that were available when there was a larger “gene pool” are much less, or not, available in the isolated group. Over time, the isolated group may have such a different “gene pool” that they can not breed with members of the original group. This method of the development of new species does not require genetic mutations, but simply the isolation of genes that already exist.

What is important to understand about speciation is that it is “horizontal” rather than “vertical.” Speciation may, or may not, involve mutations, but it does not involve new genetic information. It involves a smaller gene pool, not a larger one. To call speciation an example of “macroevolution” is to imply a change far greater than what actually happened. It is equating a phenomenon that may not require any genetic change with one that requires a great amount of new genetic information, such as developing a backbone, developing wings, etc.

New species, in the modern definition, have certainly developed since the Days of Creation, much of it probably caused by isolation, without any mutations at all. However, the development of new species in the modern sense does not mean that there has been a development of new kinds, in the Biblical sense. Some people think otherwise and the next chapter will explore the evidence which is presented to support that claim.

Chapter Four

A Closer Look at the Evidence Presented

Before reading this chapter, please take a moment and consider a question. If you believe that God used an evolutionary process, operating over millions of years, to produce the variety of life we see on earth, what evidence do you find to be most convincing?

Most people would point to the evidence from the fossil record as seen in science textbooks and museums. The fossil record is said to show the gradual development of modern species from simpler life forms. Some people would cite the fact that genetic mutations do, indeed, occur and that there are many examples of natural selection. Others may consider that the great similarity in form and function among the vast number of species, including human beings, is a clear indication of ancestral relationships. Some may be impressed by pictures which show great similarities in the embryonic forms of different organisms.

In this chapter, we can only give the shortest of reviews of each of these lines of evidence. The books listed in the Recommended Reading List will be of great help in getting a fuller, more detailed picture. Unless otherwise noted, the quotations given in this chapter are from scientists who maintain that evolution in the “common ancestor” definition is true.

Genetic Mutations

Evolutionary theory is based on the occurrence of beneficial genetic mutations. Yet, even those who believe in evolution acknowledge that mutations which could be considered beneficial are extremely rare. Our actual experience with genetic mutations is that 1) given the number of cell divisions which take place, mutations are rare, 2) often a small mutation will have no appreciable effect on an organism, and 3) most mutations are harmful. Richard Dawkins, currently perhaps the most popular spokesman for evolution, writes:

When we are talking about natural selection, we think in terms of rare beneficial mutations turning up and being positively favoured by selection. But most mutations are disadvantageous, if only because they are random and there are many more ways of getting worse than there are ways of getting better.³⁰

Often, mutations will harm, or even kill, the organism. Examples of conditions caused by mutations in human genes include Huntington’s disease, cystic fibrosis, sickle cell anemia, Down’s syndrome, and Tay Sachs disease.

³⁰*The Greatest Show on Earth*, p. 352.

Sometimes a mutation will, indeed, give an organism an advantage in a particular environment. However, a close examination of those instances in which a mutation is advantageous to the organism reveals that, nearly always (I say *nearly* simply because I should not be absolute in this case), the advantage involves a loss of genetic information rather than a gain. For example, the frequent news of bacteria mutating and thus being no longer affected by certain antibiotics is often given as an example of beneficial mutations. However, more detailed study has shown that although the bacteria's new resistance is temporarily beneficial, it is due to a *loss* of genetic information, not a gain. These mutations may enable the bacteria to survive exposure to various antibiotics, but the resistance results from loss or reduction of pre-existing activities in the organisms' enzymatic, regulatory, or transport systems. In other words, the bacteria can no longer do what they used to be able to do and this disability is an advantage in the presence of certain antibiotics.

Another example will make the bacteria example more understandable. Beetles generally have wings. Yet, beetles that live on small, windy islands often do not have wings. This lack of wings is considered to be the result of a beneficial mutation. It is beneficial because these flightless beetles are less likely to be blown into the sea. However, the mutation involves a loss of genetic information, not a gain of genetic information.

The problem with depending upon genetic mutations to foster an evolutionary process is that genetic mutations do not produce new genetic information. Mutations have resulted in many strange animals, including five-legged cows, short-legged sheep, even two-headed turtles. Mutations result in either a loss of information or a rearrangement/duplication of information that already exists. They do not result in an increase of usable genetic information. To a beetle on a windy island, losing wings is definitely an advantage, but to the idea of evolution (second definition), such an occurrence is a loss. Evolution, in the "common ancestor" sense, requires a *gain* in genetic information.

Writers of textbooks which teach evolution have great difficulty in giving examples of observed beneficial mutations. The lack of good examples is demonstrated in a textbook, *Biology, Principles and Exploration*, published in 1996. The book shows a picture of a four-winged fruit fly. The caption under the picture reads:

Normal fruit flies have two wings. This mutant has four. This rare mutation, like most mutations, is harmful. Beneficial mutations are the raw material for natural selection.³¹

The obvious question, of course, is, "Why did the author not simply show an example of a beneficial mutation?" The answer is, "They have none."

³¹*Biology, Principles and Exploration*, (Holt, Rinehart and Winston, Inc. 1996).

One mutation of human genes is often cited as an example of a beneficial mutation. People with sickle cell anemia have a mutation which affects the texture and shape of their red blood cells. This mutation makes the cells stiff and sticky, tending to block blood flow. Symptoms of sickle cell anemia include abdominal pain, bone pain, and breathlessness. The beneficial aspect of this mutation is that those with sickle cell anemia are much more resistant to malaria. That does not seem to be much of an advantage.

Pierre-Paul Grasse, who served as Chair of Evolutionary Biology at Sorbonne University (France) for thirty years, realized the impotence of mutations. Grasse stated the following:

Some contemporary biologists, as soon as they observe a mutation, talk about evolution. They are implicitly supporting the following syllogism: mutations are the only evolutionary variations, all living beings undergo mutations, therefore all living beings evolve....No matter how numerous they may be, mutations do not produce any kind of evolution.³²

Natural Selection

As described in the previous chapter, natural selection is the term given to the observation that organisms, in particular circumstances, either survive or do not survive. This simple and obvious observation has a role in evolutionary theory because it is linked with the idea of beneficial mutations. Without beneficial mutations, natural selection does not result in any developmental change, as required by the second definition of evolution, but simply results in a directionless and cyclical series of "changes in the frequency of alleles," i.e. the first definition.

Natural selection is actually very conservative in that it eliminates defects and super-specialization. In the words of one scientist:

Natural selection may have a stabilizing effect, but it does not promote speciation [the arrival of a new species]. It is not a creative force as many people have suggested.³³

The following examples of natural selection were taken from a website of the University of California at Berkeley:

In some cases, we can directly observe natural selection. Very convincing data show that the shape of finches' beaks on the Galapagos Islands has tracked weather

³²Pierre-Paul Grasse, *Evolution of Living Organisms*, (Academic Press, 1977), p. 88.

³³Daniel Brooks, "A Downward Slope to Greater Diversity," *Science*, vol. 217, September 24, 1982, p. 1240.

patterns: after droughts, the finch population has deeper, stronger beaks that let them eat tougher seeds.

In other cases, human activity has led to environmental changes that have caused populations to evolve through natural selection. A striking example is that of the population of dark moths in the 19th century in England, which rose and fell in parallel to industrial pollution. These changes can often be observed and documented.³⁴

These two examples of natural selection are presented on this website as part of an explanation of how evolution, in the second, grander definition, is supposed to work. However, in both examples, some information is missing. The website does not include the fact that after periods of abundant rainfall, the finch population again had a predominance of smaller beaks. Perhaps this is what the author implies by “tracked weather patterns.” Nor does it clearly state that after the anti-pollution policies had an effect, the predominant variety of moth was again light in color. Perhaps this is what the author implies by “rose and fell in parallel to industrial pollution.”

Note that both examples involve cyclical changes, and not new developments. They are only examples of “a change in the frequency of alleles.” Not making this clear can easily lead the reader to conclude that natural selection has led to new developments and that these phenomena are examples of the “common ancestor” definition of evolution.

The Problem of Having Two Definitions for the Same Word

The fact that writers explaining or defending evolution use the term in two, very significantly different, ways makes the concept seem reasonable and apparently true. As we have seen, the first definition is easy to demonstrate, while the second meaning involves a significant amount of speculation and extrapolation. Using the terms “micro-evolution” and “macro-evolution” leaves the reader with the false impression that the two types of phenomena are simply in different places on the same continuum. The impression is that the difference between “micro-evolution” and “macro-evolution” is only a matter of quantity, and therefore, given enough time, a multitude of small changes can result in great changes. However, what is happening genetically in “micro-evolution” is *qualitatively* different from what is said to happen in “macro-evolution.” Yet, science textbooks continually use examples of the first definition to “prove” the reality of the second definition.

The change in beak size of the finches in the Galapagos Islands witnessed by Peter and Rosemary Grant has been widely used as a proof of evolution in the grand sense and this misuse is a good example of the two definitions being merged. Before reading this statement from a PBS web site, consider the fact that the change in beak size of the finches was cyclical. Therefore, there was no “advancement” as required by Darwin’s theory of evolution.

³⁴http://evolution.berkeley.edu/evolibrary/article/0_0_0/evo_26.

But for the Grants, the rewards have been great. They have done nothing less than witness Darwin's theory of evolution unfold before their eyes. That would have stunned Darwin, who thought natural selection operated over vast periods of time and couldn't be observed....

Natural selection, at its most powerful, winnowed certain finches harshly during a severe drought in 1977. That year, the vegetation withered. Seeds of all kinds were scarce. The small, soft ones were quickly exhausted by the birds, leaving mainly large, tough seeds that the finches normally ignore. Under these drastically changing conditions, the struggle to survive favored the larger birds with deep, strong beaks for opening the hard seeds.

Smaller finches with less-powerful beaks perished.

So the birds that were the winners in the game of natural selection lived to reproduce. The big-beaked finches just happened to be the ones favored by the particular set of conditions Nature imposed that year.

Now the next step: evolution. The Grants found that the offspring of the birds that survived the 1977 drought tended to be larger, with bigger beaks. So the adaptation to a changed environment led to a larger-beaked finch population in the following generation.

Adaptation can go either way, of course. As the Grants later found, unusually rainy weather in 1984-85 resulted in more small, soft seeds on the menu and fewer of the large, tough ones. Sure enough, the birds best adapted to eat those seeds because of their smaller beaks were the ones that survived and produced the most offspring.³⁵

Note that while only the simpler, first meaning of the term “evolution” was observed, the claim is that the grander definition was observed. The author expresses this by claiming that the Grants actually saw “Darwin’s theory of evolution unfold before their eyes.” This type of illogical deduction is common in articles and textbooks which concern evolution. For example, Mark Ridley, in his 1996 college textbook, *Evolution*, also makes this error in logic when he uses the change in finch beak size as an example of the common ancestor definition of evolution.

This phenomenon illustrates how we can extrapolate from natural selection operating within a species to explain the diversification of the finches from a single

³⁵Finch Beak Date Sheet on PBS website
http://www.pbs.org/wgbh/evolution/library/01/6/1_016_01.html).

common ancestor....Arguments of this kind are common in the theory of evolution.³⁶

The National Academy of Sciences published a booklet in 1998 as a guide for science teachers. This publication describes Darwin's finches as "a particularly interesting example of contemporary evolution" and that "the Grants have estimated that if droughts occur about once every 10 years on the islands, a new species of finch might arise in only about 200 years."³⁷

Notice that in the quote above, there is no mention of the fact that beak size was cyclical and not directed toward the development of anything new. Also noteworthy is the fact there is no evidence of genetic mutation in the finches. There is only a temporary "change in the frequency of alleles."

A quote from a book, *Icons of Evolution: Science or Myth?*, by Dr. Jonathan Wells (who does not believe in evolution) is appropriate here:

That's it. Rather than confuse the reader by mentioning selection was reversed after the drought, producing no long-term evolutionary change, the booklet (produced by the National Academy of Science) simply omits this awkward fact. Like a stock promoter who claims a stock might double in value in twenty years because it increased 5% in 1998, but doesn't mention that it decreased 5% in 1999, the booklet misleads that public by concealing a crucial part of the evidence.

This is not truth-seeking. It makes one wonder how much evidence there really is for Darwin's theory. As Berkeley law professor and Darwin critic, Phillip E. Johnson wrote in *The Wall Street Journal* in 1999, "When our leading scientists have to resort to the sort of distortions that would land a stock promoter in jail, you know they are in trouble."³⁸

Fossil Record

The classic argument for evolution has long been the fossil record, which is presented as a history of life on earth. Most of us have visited museums of natural history where we saw representations of the geologic strata filled with fossils, and diagrams showing the gradual development of simple life forms into the great diversity and complexity we see today. When we

³⁶Mark Ridley, *Evolution*, (Blackwell Publishing, Ltd., 1996).

³⁷*Teaching about Evolution and the Nature of Science*, (National Academy Press, 1998), p. 19.

³⁸Jonathan Wells, *Icons of Evolution: Science or Myth?: Why much of what we teach about evolution is wrong*, (Regnery, 2000), pgs, 174-175.

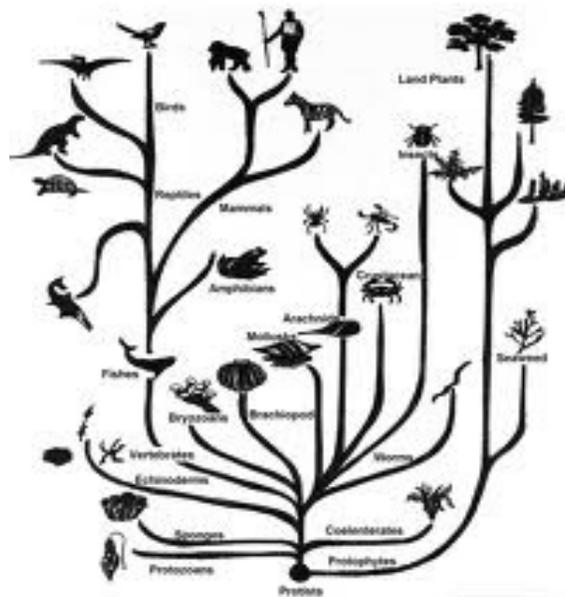
were learning about evolution in high school and college, our textbooks probably included statements like the following:

Although we may make inferences about the course of evolution from the observation of living organisms, the proving ground of evolutionary theory is the fossil record itself. This record reveals a succession of living forms, with simpler forms generally preceding more complex forms...

Since Darwin's time, a steady stream of new discoveries has enormously increased our knowledge of the fossil record, which now extends back more than 3 billion years. In the case of many groups of organisms - plants and vertebrate animals, for example - fossils have been found that exhibit a graded series of changes in anatomical characteristics, linking older forms with the modern forms and revealing pathways of divergence from common ancestors.

The fossil record provides overwhelming evidence that evolution has indeed occurred. It also reveals that the diversity of life on Earth is the result of three broad patterns of speciation, coupled with the effects of extinction.³⁹

In the same section of the textbook, there may well have been a picture or diagram of what is often called "The Tree of Life." Although there are many varieties of the diagram, they all show a single trunk which divides into ever smaller branches.



³⁹Helena Curtis and N. Sue Barnes, *Invitation to Biology*, fifth edition, (Worth Publishers, 1994), p. 367.

The textbook quote given above paints an ideal picture, which, if it were true, would indeed provide “overwhelming evidence” for evolution. However, in the last 150 years, many scientists have questioned what the fossil record actually shows. Thus, the fossil record has an interesting history of its own. The first chapter of this history would cover the years from 1859, when Darwin published his book, *The Origin of Species by Means of Natural Selection or the Preservation of the Favoured Races in the Struggle for Life*, until about 1972. This was an period of intense hope and avid searching for a complete fossil record.

If Darwin’s theory were true, we would indeed find, in the fossil record, the graduated series of changes in anatomical characteristics showing the development of one organism into another. Yet Darwin himself knew that the evidence for his idea could not be found in the fossil record. He was very honest about this, and in his book, he wrote:

Geology assuredly does not reveal any such finely-graduated organic chain; and this, perhaps, is the most obvious and serious objection which can be urged against the theory. The explanation lies, as I believe, in the extreme imperfection of the geological record.⁴⁰

By “the extreme imperfection of the geological record”, Darwin meant that there had not yet been enough research done in this field to reveal what the fossil record had to show. His hope was that as scientists continued their research, the evidence he needed from the fossil record would eventually emerge. The period of looking for the type of gradualism for which Darwin hoped could be considered the first of three chapters of the history of the fossil record.

Indeed, over the last 150 years, multitudes of fossils have been found all over the earth. It is, however, not difficult to find statements by highly qualified scientists which reveal that the clear evidence of gradual development has not been found. Literature and displays aimed at the public always suggest that the fossil record has shown Darwin to be correct, but professionals acknowledge serious problems. Paleontologists have long been aware that the descriptions and pictures seen in textbooks and museums is quite different from the actual fossil record. The following quotes, given in chronological order, are samples of such statements:

...the most famous of all equid trends - the gradual reduction of the side toes - is flatly fictitious...[as for other species] most appear without known immediate ancestors, and really long, perfectly complete sequences of numerous species are exceedingly rare.⁴¹

⁴⁰Charles Darwin, *Origin of Species*, p. 293.

⁴¹Dr. George Gaylord Simpson (1902-1984), American paleontologist, author of *Horses (1951)*.

The family tree of the horse is beautiful and continuous only in the textbooks.⁴²

It is a mistake to believe that even one fossil species or fossil "group" can be demonstrated to have been ancestral to another. The ancestor - descendant relationship may only be assumed to have existed in the absence of evidence indicating otherwise.⁴³

We paleontologists have said that the history of life supports the theory of gradual change, all the while really knowing that it does not...Each new generation, it seems, produces a few young paleontologists eager to document examples of evolutionary change in their fossils. The changes they have always looked for, of course, have been of the gradual, progressive sort. More often than not their efforts have gone unrewarded - their fossils, rather than exhibiting the expected pattern, just seem to persist virtually unchanged...This extraordinary conservatism looked to the paleontologist, keen on finding evolutionary change, as if no evolution had occurred.

Thus studies documenting conservative persistence rather than gradual change were considered failures, and, more often than not, were not even published. Most paleontologists were aware of the stability, the lack of change, which we call stasis...But insofar as evolution itself is concerned, paleontologists usually saw stasis as "no results" rather than as a contradiction of the prediction of gradual, progressive evolutionary change. Gaps in the fossil record continue (to this day) to be invoked as the prime reason why so few cases of gradual change are found.⁴⁴

I admit that an awful lot has gotten into the textbooks as though it were true. For instance, the most famous example still on exhibit downstairs (in the American Museum of Natural History) is the exhibit on horse evolution prepared perhaps 50 years ago. That has been presented as literal truth in textbook after textbook. Now I think that is lamentable, particularly because the people who propose these kinds of stories themselves may be aware of the speculative nature of some of the stuff.

⁴²N.Heribert-Nilsson, *Synthetische Artbildung* (Gleerup, Sweden: Lund University, 1954).

⁴³Gareth V. Nelson, "Origin and Diversification of Teleostean Fish," *Annals of the New York Academy of Sciences*, (1971).

⁴⁴Dr. Niles Eldredge, "Evolutionary Tempos and Modes: A Paleontological Perspective", in the collection *What Darwin Began: Modern Darwinian and Non-Darwinian Perspectives on Evolution* (Godfrey, ed., 1985).

But by the time it filters down to the textbooks, we've got science as truth and we've got a problem.⁴⁵

No wonder paleontologists shied away from evolution for so long. It seems to never happen. Assiduous collecting up cliff faces yields zigzags, minor oscillations, and the very occasional slight accumulations of change - over millions of years, at a rate too slow to really account for all the prodigious change that has occurred in evolutionary history. When we do see the introduction of evolutionary novelty, it usually shows up with a bang, and often with no firm evidence that the organisms did not evolve elsewhere! Evolution can not forever be going on somewhere else. Yet that's how the fossil record has struck many a forlorn paleontologist looking to learn something about evolution.⁴⁶

The lack of transitional fossils has been a sore point for those who believe in evolution. Often they object when such quotations, as those given above, are presented by those who maintain that God created the world in a much shorter period of time, i.e. as according to Genesis. The complaint is that the quotations are taken out of context and thus misunderstood. Yet, the late Dr. Colin Patterson, former Senior Paleontologist at the British Museum of Natural History, confirms the problem with the fossil record. In 1978, he wrote a book, *Evolution*, in which he described the fossil record. Someone who had read the book wrote to him, complaining about the lack of drawing of transitional forms. Patterson responded by writing:

I fully agree with your comments on the lack of direct illustration of evolutionary transitions in my book. If I knew of any, fossil or living, I would certainly have included them. You suggest that an artist should be used to visualize such transformations, but where would he get the information from? I could not, honestly, provide it, and if I were to leave it to artistic licence, would that not mislead the reader?

He went on to say:

Yet Gould (Stephen J. Gould, the now deceased professor of paleontology from Harvard University) and the American Museum people are hard to contradict when they say there are no transitional fossils. ... You say that I should at least “show a photo of the fossil from which each type of organism was derived.” I will lay it on the line—there is not one such fossil for which one could make a watertight

⁴⁵Dr. Niles Eldredge, in an interview with Luther D. Sunderland, as quoted in *Darwin's Enigma*, (Master Books, 1988), p. 78.

⁴⁶Dr. Niles Eldredge, *Reinventing Darwin: The Great Debate at the High Table of Evolutionary Theory*, (John Wiley & Sons, 1995), p. 95.

argument. The reason is that statements about ancestry and descent are not applicable in the fossil record.⁴⁷

It is clear from these quotes that what Darwin had hoped for - evidence of gradual change - and what textbooks and museum displays still claim as true, is not what the fossil record actually shows. Dr. Stephen Jay Gould, one of the most respected paleontologists of the 20th century summarized the situation in 1977. In an article published in the journal, *Natural History*, he notes the two main features of the fossil record:

1. **Stasis.** Most species exhibit no directional change during their tenure on earth. They appear in the fossil record looking pretty much the same as when they disappear; morphological change is usually limited and directionless.

2. **Sudden appearance.** In any local area, a species does not arise gradually by the steady transformation of its ancestors; it appears all at once and fully formed.⁴⁸

He makes the same observation thirty years later, in a book, *The Richness of Life*:

The extreme rarity of transitional forms in the fossil record persists as the trade secret of paleontology. The evolutionary trees that adorn our textbooks have data only at the tips and nodes of their branches ... in any local area, a species does not arise gradually by the gradual transformation of its ancestors; it appears all at once and fully formed.⁴⁹

The scientists quoted above all believed in evolution. Their belief was, apparently, not founded on the overwhelming evidence of the fossil record. They believed in evolution for other reasons. Also note that the textbook, quoted earlier in this chapter, (see footnote 39) was published in 1994, well after paleontologists knew that the fossil record did not show “a graded series of changes in anatomical characteristics.” Although it was clear by 1972 that the fossil record did not show this gradual change, the textbooks from which our children learn still teach that it does.

The second chapter of the history of the fossil record begins in about 1972 with Dr. Stephen Gould and Dr. Niles Eldredge who, in an attempt to address this problem of not finding evidence of gradual change, proposed an explanation, which they called "punctuated equilibrium." They postulated that species are generally stable, changing little for millions of years, then

⁴⁷Luther D. Sutherland, *Darwin's Enigma*, (Santee, CA: Master Book Publisher's, 1988), p. 89.

⁴⁸Dr. Stephen J. Gould, *Natural History*, vol. 86, 1977, p.14.

⁴⁹Dr. Stephen J. Gould, *The Richness of Life*, (W.W. Norton and Company, 2007), p.263.

suddenly this equilibrium is punctuated by a rapid burst of change that results in new species but leaving few fossils behind.

According to this idea, the changes leading to a new species do not usually occur in the mainstream population of an organism, where changes would not endure because of so much interbreeding among those which were not inheritors of the proposed beneficial mutations. Rather, speciation is more likely at the edge of a population, where a small group can easily become separated geographically from the main body and undergo changes that can create a survival advantage and thus produce a new, non-interbreeding species.

At this point in the history of the fossil record, we can see a reversal in the sequence of thought. In the beginning, the fossil record is presented as physical evidence to prove that an evolutionary process had occurred. Now, in the second chapter, belief in an evolutionary process has so permeated our thinking that it is not questioned when the major piece of evidence fails. The lack of evidence provided by the fossil record does not cause doubt in an evolutionary process, but rather inspires even more speculative ideas.

Finally, Richard Dawkins, author of *The God Delusion* (2006), and many other books, begins the third chapter. Dawkins states in his book, *The Greatest Show on Earth* (2009), that we do not need the fossil record to prove evolution. He writes:

There is more than enough evidence for the fact of evolution in the comparative studies of modern species and their geographical distribution. We don't *need* fossils - the case for evolution is watertight without them; so it is paradoxical to use gaps in the fossil record as though they were evidence against evolution. We are, as I say, lucky to have fossils at all. (*italics in original*)⁵⁰

Is not Dawkins actually admitting that the fossil record does not show what Darwin and many others after him had hoped it would show? Does his statement that “we don't *need*” the fossil record actually discount its value as evidence? Compare this statement by Dawkins with the statement from the textbook, *Invitation to Biology* (footnote 39). The textbook states that the fossil record is “the proving ground”, while Dawkins states that it is unnecessary.

Dawkins' last sentence, in which he says that we are “lucky to have any fossils at all,” should be explained. Until the time of Charles Lyell, (1797-1875), the general understanding was that the geological strata, seen in many places around the world, was one of the products of the Biblical Flood. Lyell had his own interpretation of the strata and presented the idea that the many layers we see in places around the world were laid down, not all at once because of an abundance of water, but very slowly over many of millions of years.

⁵⁰Richard Dawkins, *The Greatest Show on Earth, Evidence for Evolution*, (Free Press, 2009), p. 146.

Fossils are the impressions of the bodies of dead plants or animals that are found in these layers. If a fossil is to be formed, the dead animal or plant must be covered very quickly, before the natural processes of disintegration could return the remains to soil. The following is a description (from an evolution-friendly website) of how fossils are commonly thought to form:

The most common method of how fossils formed is once an animal or plant dies, it falls to the ground, and is covered by sediment. This is often sediments brought from water. Finally after hundreds of thousands, or millions of years, the land is eroded and the fossil can be seen.

Of the vast amount of prehistoric life that died, it is only a tiny amount that has survived the fossilization process. The conditions when the majority of life died were just not right at that time to preserve them. Most fossils are found in sedimentary rocks which were formed from the sediments of rivers, lakes and seas. The majority of the animal and plant fossils we find today had originally died near these areas, got broken up and deposited on the beds of the rivers, lakes and seas. The sediments covered them and over time some of the layers grew so thick that many of them got crushed. The sediments compacted and over time turned to rock. The rocks shifted, moved and became exposed to the elements. This process can take up to several hundred million years. Now as the rocks erode or are quarried, the fossils become exposed and can be collected.

This description of how sediments and fossils are formed is what Dawkins has in mind when he says that we are “lucky to have any fossils at all.” It is easy to understand that this slow process would result in very few fossils.

We have clear evidence, however, that sediments can be formed very quickly. Quickly forming sediments would much more likely result in an abundance of fossils. In 1980, when volcanic Mt. St. Helens in the state of Washington erupted, we learned much about sedimentation. A tremendous amount of snow pack was quickly melted by the eruption, and flowed down the mountain, carrying billions of cubic yards of matter. On June 12, 1980, twenty-five feet of stratified layers were laid down in less than a day. The layers had the same patterns which are seen in layers reportedly requiring millions of years to form. There is a DVD available which explains what happened during the volcanic eruption and how it relates to the forming of geographic strata. It is called *Mount St. Helens, Explosive Evidence for Catastrophe*, featuring Steve Austin, PhD in geology.

In several places around the world, fossils of various animals have been found in such abundance that the sites are known as fossil graveyards. In one such site, (Agate Springs, NE), the remains of about 9,000 animals were buried together. A site in South China contains the remains of over 20,000 animals. These graveyards point to a much more rapid and catastrophic process of sedimentation than that proposed by Charles Lyell.

It is well known that if soil is covered with water and shaken up, it will be suspended for a short time and then settle in distinct layers. This is actually a very good science experiment. Get a jar with a lid and fill the bottom third with various kinds of dirt. Fill the next third with water and shake vigorously. Let the mixture settle for several hours. You will see various layers of sediment. Our experience is that all sedimentation and therefore all fossilization requires water.

Homology

When Richard Dawkins speaks of “comparative studies of modern species,” (footnote 50) as a proof of evolution, he is referring to homology, a branch of zoology which studies the similarities in the structure of animals, as well as similarities in physiology. There are, indeed, many examples of structural homology. The forelimbs of vertebrates, such as the wing of bird or bat, and the foreleg of an amphibian, are homologous. There is an almost identical number of bones in the limbs, and the patterns of construction are very similar. The pattern of muscles in vertebrates are so similar that biology students dissect cats or pigs to learn about human anatomy.

Dawkins is not the only scientist who sees homology as a proof of evolution. It has been a very important part of the argument from the beginning. Charles Darwin devoted an entire book, *The Descent of Man and Selection in Relation to Sex*, largely to the idea that humans share common ancestry with apes and other animals. Darwin built his case mostly on anatomical comparisons, revealing homology between humans and apes. To Darwin and Dawkins, the close resemblance between humans and apes could be explained only by common descent.

The problem with using homology as an argument for evolution is that the argument clearly involves a particular interpretation of an observation. Similarities in structure among different kinds of animals does not necessarily mean that one is the ancestor of another. The similarities could exist for the same reason we hear similarities in musical structure in compositions by the same composer, and see similarities in the works of an artist. Another obvious interpretation of the similarities in the animal world is that they all have the same Designer. Once again, we must consider the “prejudices of the investigator.”

Evidence from homology should, therefore, hold no weight for a Christian. The common ancestor interpretation for the great similarities among species is only necessary if one first eliminates the possibility of a Common Creator. *Of Panda and People* is a good book to read to see many examples for very deliberate design in creation. It also has some good illustrations of how the fossil record looks when an evolutionary interpretation is not used.

Geographic Distribution of Related Species

Richard Dawkins states that the other “water-tight” evidence for evolution (footnote 50) is the geographical distribution of plants and animals. This argument for evolution is based on so many assumptions and speculations that it is difficult to have any clear evidence for it or against it. For someone who clings to evolution *a priori*, geographic distribution will be sufficient

evidence. For someone who is more discerning, the observation has several other interpretations. We will, however, provide a description of the argument:

Another clue to patterns of past evolution is found in the natural geographic distribution of related species. It is clear that major isolated land areas and island groups often evolved their own distinct plant and animal communities. For instance, before humans arrived 60-40,000 years ago, Australia had more than 100 species of kangaroos, koalas, and other marsupials but none of the more advanced terrestrial placental mammals such as dogs, cats, bears, horses. Land mammals were entirely absent from the even more isolated islands that make up Hawaii and New Zealand. Each of these places had a great number of plant, insect, and bird species that were found nowhere else in the world. The most likely explanation for the existence of Australia's, New Zealand's, and Hawaii's mostly unique biotic environments is that the life forms in these areas have been evolving in isolation from the rest of the world for millions of years.⁵¹

Embryonic Similarities

Finally, we should address the belief concerning embryonic similarities that is still sometimes given in defense of evolution. This argument, which has its origin in 1874, was promulgated by a German biologist, artist and philosopher, Ernst Haeckel, who was very taken by the ideas of Darwin. The basic idea is as follows.

The “Tree of Life” displays in natural history museums show the forms of life getting more and more complex as time goes on. Haeckel’s idea was that the development of each individual organism - in the egg, in the womb, or wherever it develops - would go through the same stages, in the same order, as all its evolutionary ancestors until it developed as far as it could. He coined two words to describe this process, “ontogeny” and “phylogeny.” *Ontogeny* is the development of the individual organism. *Phylogeny* is the evolutionary history of that particular organism. Sometimes this belief is called the “biogenetic law,” and expressed in the slogan “Ontogeny recapitulates phylogeny.”

For example, a human embryo would go through an invertebrate stage (no backbone), a fish stage, a reptile stage, an amphibian stage, and a mammal stage until it finally reached the human stage. Some of us were taught in our embryology classes that, at one stage of our pre-natal development, we actually had gill-like structures. The truth is that we never had “gill-like structures.” What is seen as gill-like structures are simply folds of tissue which develop into structures of the ear and neck. There are actually several times in our pre-natal development in which tissues are folded in order to develop new structures.

⁵¹http://anthro.palomar.edu/evolve/evolve_3.htm.

This recapitulation idea has been shown to be false, and a result of falsified drawing, many times in the last hundred years. Biologists in the early years of the 20th century recognized that Haeckel's idea was a deduction, premised on belief in evolution, rather than empirical evidence which supported evolution. Since then, many eminent scientists have spoken out against it. The following are samples.

Dr. Keith Thompson, Professor of Biology at Yale University, published an article, "Ontogeny and Phylogeny Recapitulated." In the article he states:

Surely the biogenetic law is as dead as a doornail. It was finally excised from biology textbooks in the fifties. As a topic of serious theoretical inquiry, it was extinct in the twenties.⁵²

Embryologist Erich Blechschmidt considered Haeckel's "biogenetic law" to be one of the most serious errors in the history of biology. Although an evolutionist himself, Blechschmidt is very straight-forward in repudiating Haeckel's "law":

The so-called basic law of biogenetics is wrong. No buts or ifs can mitigate this fact. It is not even a tiny bit correct or correct in a different form. It is totally wrong.⁵³

In the 1990's, Dr. Michael Richardson, an embryologist at St. George's Hospital Medical School in London, assembled an international team of embryologists to do a thorough study of Haeckel's claims. He found that no one had ever really done cross-species studies of embryos and published evidence in support of the idea of recapitulation. When his team did such a study, the findings did not support Haeckel and Dr. Richardson published the results in scientific journals. He notes:

This is one of the worst cases of scientific fraud. It's shocking to find that somebody one thought was a great scientist was deliberately misleading. It makes me angry...What Haeckel did was to take a human embryo and copy it, pretending that the salamander and the pig and all the others looked the same at the same stage of development... These are fakes.⁵⁴

Dr. Keith Thompson, quoted above, states that this recapitulation idea was "excised from textbooks in the fifties." Unfortunately he was wrong. My embryology classes in the late 1960's

⁵²Keith Thompson, "Ontogeny and Phylogeny Recapitulated", *American Scientist*, vol. 76, (May/June, 1988), p. 273.

⁵³Erich Blechschmidt, *The Beginnings of Human Life*, (Springer-Verlag Inc., 1977), p.32.

⁵⁴as quoted by Nigel Hawkes, *The Times*, (London), August 11, 1997, p. 14.

were full of positive references to the “ontology to phylogeny” model. A survey of more current high school and college textbooks will reveal that it is still being taught, either directly or by implication.

The information and quotes in this chapter have revealed the great gap between what we learned in our biology classes concerning the idea of evolution and what has actually been scientifically documented. Christians who are not aware of this discrepancy often resort to re-interpreting the Scriptures to fit what they think has been shown to be true. The next chapter looks at some of the Scriptures that are either ignored or re-interpreted in this attempted “reconciliation.”

Chapter Five

Scriptural Problems for "Theistic Evolution"

There are some Orthodox Christians, Roman Catholics and members of various Protestant denominations who believe in evolution. By making what they think are minor variations in the understanding of Genesis, they attempt to reconcile their belief in the authority of Scripture and their belief in evolution. The most common variation is to simply make the six days of creation extremely long, essentially vast, eons of time, in order to provide the time required by evolutionary theory. The idea is that God started the process by creating life and then allowed an evolutionary process, following the mechanics proposed by Darwin, to produce the various forms of life we see today. They will affirm that, although the human body was developed through this evolutionary process, the soul was created directly by God. One Orthodox lay theologian expresses this belief by writing, "Adam is the evolved beast who receives in its innermost being the divine breath, the seal of the divine image, and becomes man."

However, the Bible is a unity, a whole that can not be altered in one place without causing ripples and distortions in other places. Let us examine a few other parts of Scripture which would require re-interpretation to allow for what is known as "theistic evolution." In Exodus we read:

Remember the Sabbath day, to keep it holy. Six days shalt thou labor, and do all thy work: but the seventh day is the Sabbath of the Lord thy God: in it thou shalt not do any work, thou, nor thy son, nor thy daughter, thy manservant, nor thy maidservant, nor thy cattle, nor thy stranger that is within thy gates: for in six days, the Lord made the heavens and earth, the sea, and all that in them is, and rested the seventh day: wherefore the Lord blessed the Sabbath day, and hallowed it.⁵⁵

The reason we are told to rest "on the Sabbath day" is because God rested on the seventh day. The term "day" in the first half of this passage obviously refers to a short period of time. Given that the same word is used, on what basis would one understand the term in the second half as vast aeons of time? A very similar passage can be found in Exodus 31:15-17.

In the Psalms, when creation is mentioned, the spirit of the passages is that God's command resulted in an immediate response, not one that took eons of time.

Praise Him, ye heavens of heavens, and ye waters that be above the heavens. Let them praise the name of the Lord: for He commanded and they were created.⁵⁶

⁵⁵Exodus 20:8-11

⁵⁶Psalms 148:5

In the Gospel of St. Mark (as well as in the Gospel of St. Matthew), the Pharisees ask Jesus about a man divorcing his wife. In His answer, Jesus refers to the creation of man and woman.

And Jesus answered and said unto them, "Because of the hardness of your hearts, he wrote you this precept. But from the beginning of the creation, God made them male and female."⁵⁷

One who believes that mankind is the result of billions of years of evolution, not appearing until the sixth eon of time, is forced to say that Jesus was mistaken by saying that man and woman were made "in the beginning." If man appears billions of years after God started creating the world, this can hardly be considered "the beginning."

The writings of St. Paul also must be adjusted if the first chapter of Genesis is re-interpreted to provide time for evolution. In the epistle to the Romans, Paul writes:

Wherefore, as by one man sin entered into the world, and death by sin; and so death passed upon all men, for that all have sinned... For if through the offence of one many be dead, much more the grace of God, and the gift by grace, which is by one man, Jesus Christ, hath abounded unto many.⁵⁸

And in the first epistle to the Corinthians he writes:

For since by man came death, by man came also the resurrection of the dead. For as in Adam all die, even so in Christ shall all be made alive. The last enemy that shall be destroyed is death.⁵⁹

St. John Chrysostom, in his commentary on Paul's letters to the Corinthians, writes concerning this passage:

How the last? After all, after the devil, after all other things. For so in the beginning also death came in last; the counsel of the devil having come first, and our disobedience, and then death.⁶⁰

⁵⁷Mark 10: 5-6

⁵⁸Romans 5:12,15

⁵⁹I Corinthians 15:21-22,26

⁶⁰Homilies on First Corinthians, The Nicene and Post-Nicene Fathers, (Eerdmans Publishing, 1983) vol 12, p. 237.

If the days of creation were actually millions or billions of years during which a process of evolution took place, we can only conclude that millions of deaths occurred before Adam was even on the scene. How do we reconcile this conclusion with the Scriptures which teach that death is the result of Adam's transgression? How could God, after each day of creation, say, "it was good" and after the creation of man, say "it was very good", if death, which is referred to as "the last enemy" was commonplace?

Some writers attempt to reconcile evolutionary theory with the fact that death is the result of sin by separating the perfect and deathless state of Paradise in which Adam lived from the rest of creation. In this view, Adam and Eve, as well as creation *within* the Garden of Eden, were not subject to death until after the sin of Adam, but creation *outside* the Garden was corrupt and subject to death from the beginning. Others say that the death referred to as "the enemy" is the death of a human being, not the corruption and death which exist in the natural world.

These views are not supported either by the Scriptures or by the writings of the Church. In his epistle to the Romans, Paul teaches:

For the earnest expectation of the creation eagerly waits for the revealing of the sons of God. For the creation was subjected to futility, not willingly, but because of Him Who subjected it in hope, because **the creation itself will be delivered from the bondage of corruption** into the glorious liberty of the children of God. For we know that the whole creation groans and labors with birth pangs until now.⁶¹

The Church's Divine Services express the same view. In the Hymns of Ascent (tone one) of Matins, we sing, "In the Holy Spirit **all the creation is renewed and presses forward to its original state.**" The original state is, of course, the state before the sin of Adam. There is no distinction between creation "inside the Garden" and creation "outside the Garden."

The time line of history according to contemporary science places the appearance of man at between 200,000 and 400,000 years ago. If a Christian accepts this age as being the result of true scientific investigation and also accepts that Adam was the first man, how do we reconcile the genealogies which are recorded in the Gospels of Matthew and Luke? The evangelist Luke lists the father and son relationships all the way back to Adam. Even given the long life spans of some of those listed, there are not enough generations to span 200,000 years. Some have attempted to reconcile the difference by suggesting that Luke left out many generations. Yet is this not simply modifying the Scriptures to fit secular thought?

One of the underlying principles of evolutionary thought is called "uniformitarianism", which states that the geological formations we see in the natural world today are the result of slow natural processes taking place over millions of years. This is in contrast to the idea of

⁶¹Rom. 8: 18-22

"catastrophism", which states that the major geological features we see on the earth are the result of great catastrophic events.

The world-wide flood described in Genesis does not fit with evolutionary theory since such a world-wide deluge would have caused too much of a disruption of normal, uniformitarian processes. The Scriptures concerning the flood are re-interpreted to mean a large, but local, flood.

However, the Apostle Peter, who refers to the flood in his epistles, does not leave room for us to interpret his words as meaning a local flood. St. Peter writes:

For if God spared not the angels that sinned, but cast them down to hell, and delivered them into chains of darkness, to be reserved unto judgment; and spared not the old world, but saved Noah, the eighth person, a preacher of righteousness, bringing in the flood upon the world of the ungodly.⁶²

...when once the longsuffering God waited in the days of Noah, while the ark was being prepared, wherein few, that is, eight souls were saved by water.⁶³

For this they willingly are ignorant of, that by the word of God the heavens were of old, and the earth standing out of the water and in the water: whereby the world that then was, being overflowed with water, perished.⁶⁴

There are, undoubtedly, many other verses in the Scriptures that would have to be understood in a way contrary to Orthodox Christian teachings if one is to allow for an evolutionary process. The above are given simply to demonstrate the unity of the Word of God and the necessity of a correct understanding of Genesis.

⁶²II Peter 2:4-5

⁶³I Peter 3:20

⁶⁴II Peter 3: 5-6

Chapter Six

Patristic Writings on Genesis

There are probably more Patristic commentaries on Genesis than any other single book of the Bible. This emphasis on Genesis is very understandable when one considers that all the subsequent books of the Bible are founded on Genesis. In Genesis, we are instructed concerning the creation of the world, the fall of mankind and God's plan of salvation. The rest of Scripture tells of the unfolding of that plan. If we do not understand Genesis correctly, how can we understand the rest of the Scriptures correctly? Yet to accept Genesis as it is written requires an acknowledgment that our thinking has been saturated by a modern perspective, parading itself as "scientific."

Church Fathers who have written commentaries on Genesis include St. John Chrysostom, St. Basil the Great, St. Ephraim the Syrian, St. Ambrose of Milan, St. Gregory the Theologian, St. Gregory of Nyssa, St. Symeon the New Theologian. We will present only a few examples of what the Fathers had to say. Fr. Seraphim Rose's book, *Genesis, Creation and Early Man, The Orthodox Christian Vision* explores this aspect much more fully. The quotes given in this chapter are all in Fr. Seraphim's book and the footnotes indicate the pages on which they can be found.

In his *Homilies on Genesis*, St. John Chrysostom continually reminds us that we must remember that Moses is not simply presenting his opinion, or personal vision. What we read in Genesis is Divinely inspired and has a profound meaning. These are not Moses' words, but God's.

Let us see now what we are taught by the blessed Moses, who speaks not of himself but by the inspiration of the grace of the Spirit.⁶⁵

He calls Moses a prophet, not of future events but those in the past.

All the other prophets spoke either of what was to occur after a long time or what was about to happen then; but he, the blessed (Moses), who lived many generations after (the creation of the world), was vouchsafed by the guidance of the right hand of the Most High to utter what had been done by the Lord before his own birth. It is for this reason that he begins to speak thus, "In the beginning God created the heaven and the earth," as if calling out to us with a loud voice: it is not by the instruction of men that I say this; He who called them (heaven and earth) out of non-being into being - it is He Who has roused my tongue to relate of them. And therefore I entreat you, let us pay heed to these words as if we heard not Moses but

⁶⁵ Fr. Seraphim Rose, *Genesis, Creation and Early Man*, (St. Herman of Alaska Brotherhood, 2011), p. 130.

the very Lord of the universe, Who speaks through the tongue of Moses, and let us take leave for good of our own opinions.⁶⁶

Those promoting an evolutionary view of Genesis often claim that the word which is translated into the English “day” can also be understood as “epoch” or “eon.” This alternate translation allows us to believe in the vast periods of time required by evolutionary theory. Other scholars state that the word for day in Genesis is also used in other places in the Scriptures in which the only reasonable translation is a day, in the sense of a short period of time.

The Fathers may differ somewhat on the exact length of the day, but none of them speaks of eons of time. St. Ephraim the Syrian, who understands the days of Creation to be 24 hours long, emphasizes that the creative acts of God in those days did not require 24 hours, but only an instant. Thus, concerning the first day he writes,

Although both the light and the clouds were created in the twinkling of an eye, still both the day and the night of the first day continued for twelve hours each.⁶⁷

The following quote from St. Gregory of Nyssa is often used to defend the belief that the Fathers of the Church taught that the gradual development of creation was evolutionary, from the simple to the complex.

If, therefore, Scripture tell us that man was made last, after every animate thing, the lawgiver (Moses) is doing nothing else than declaring to us the doctrine of the soul, considering that which is perfect comes last, according to a certain necessary sequence in the order of things... Thus we may suppose that nature makes an ascent as it were by steps - I mean the various properties of life - from the lower to the perfect form.⁶⁸

St. Gregory the Theologian gives us the correct understanding of this Scripture by telling us the real reason that the creation of man was last. It is a spiritual reason, not a physical one. He writes:

To the days (of creation) is added a certain firstness, secondness, thirdness, and so on to the seventh day of rest from works, and by these days is divided all that is created, being brought into order by unutterable laws, but not produced in an instant, by the Almighty Word, for Whom to think or to speak means already to perform the deed. If man appeared in the world last, honored by the handiwork

⁶⁶Ibid, p. 131.

⁶⁷Ibid, p. 138.

⁶⁸Ibid, p. 143.

and image of God, this is not in the least surprising; since for him, as for a king, the royal dwelling had to be prepared and only then was the king to be led in, accompanied by all creatures.⁶⁹

In the same vein St. John Chrysostom writes:

The Almighty right hand of God and His limitless wisdom would have had no difficulty in creating everything in a single day. And what do I say, in a single day? - in an instant. But since He created everything that exists not for His own benefit, because He needs nothing, being All-sufficient unto Himself, on the contrary He created everything in His love for mankind and goodness, and so He creates in parts and offers us by the mouth of the blessed Prophet a clear teaching of what is created so that we, having found out about this in detail, would not fall under the influence of those who are drawn away by human reasoning...And why, you will say, was man created afterwards, if he surpassed all these creatures? For a good reason. When a king intends to enter a city, his arms-bearers and others must go ahead, so that the king might enter chambers already prepared for him. Precisely thus did God now, intending to place as it were a king and master over everything earthly, at first arrange all this adornment, and only then did he create the master, (man).⁷⁰

The Patristic understanding of creation is that although God performed His work over a period of time, the creation of each day was instantaneous. The plants and animals did not develop from lower, more simple forms of life, but were fully mature at His command. "He spake and they came to be. He commanded and they were created."⁷¹

St. Basil the Great emphasizes at various points of his commentary on the Six Days this instantaneous nature of God's creation. Concerning the Third Day of Creation, he writes:

"Let the earth bring forth herbs." And in the briefest moment of time the earth, beginning with germination in order that it might keep the laws of the Creator, passing through every form of increase, immediately brought the shoots to perfection. The meadows were deep with the abundant grass; the fertile plains, rippling with standing crops, presented the picture of a swelling sea with its moving heads of grain. And every herb and every kind of vegetable and whatever shrubs and legumes there were, rose from the earth at that time in all profusion... "And the fruit tree," He said, "that bears fruit contains the seed of its own kind and

⁶⁹Ibid, p. 141.

⁷⁰Ibid, pgs. 141-142

⁷¹Psalm 32:9

of its own likeness on the earth." At this saying all the dense woods appeared; all the trees shot up...Likewise, all the shrubs were immediately thick with leaf and bushy; and the so-called garland plants...**all came into existence in a moment of time**, although they were not previously upon the earth.⁷²

St. Ephraim the Syrian states precisely:

The herbs, at the time of their creation, were the production of a single instant, but in appearance they appeared the production of months. Likewise the trees, at the time of their creation, were the production of a single day, but in their perfection and fruits, which weighed down the branches, they appeared the production of years.⁷³

St. Gregory of Nyssa also emphasizes that what was created by God was not merely seeds or a potentiality for growth, but the actual creations we know; seeds come from those first-created plants.

We learn from Scripture in the account of the first creation, that first the earth brought forth "the green herb", and that then from this plant seed was yielded, from which, when it was shed on the ground, the same form of the original plant again sprang up. In the beginning, we see, it was not an ear rising from a grain, but a grain arising from an ear, and, after that, the ear grows round the grain.⁷⁴

St. Ambrose, concerning the Fifth Day, writes:

At this command the waters immediately poured forth their offspring. The rivers were in labor, the lakes produced their quota of life. The sea itself began to bear all manner of reptiles...We are unable to record the multiplicity of the names of all those species which by Divine command were brought to life in a moment of time. At the same instant substantial form and the principle of life were brought into existence... The whale, as well as the frog, came into existence at the same time by the same creative power.⁷⁵

God's creation of the sun on the Fourth Day of creation presents particular problems for those promoting an evolutionary view. If each day were actually a vast period of time, how could

⁷²*Genesis, Creation and Early Man*, pp. 166-167.

⁷³*Ibid*, p. 167.

⁷⁴*Ibid*, p. 167.

⁷⁵*Ibid*, p. 179.

plants be created before the sun? Those writing in favor of theistic evolution simply say that God created the sun on the first day, as part of, “Let there be light.” Yet this is not the Patristic understanding. The Fathers insist that although there was light before the fourth day, that light was not from the sun. The sun did not exist before the fourth day. Plants and trees appear on earth, as the Fathers repeat again and again, before the very existence of the sun.

St. John Chrysostom writes:

(Moses) shows you that everything was accomplished before the creation of the sun, so that you might ascribe the ripening of the fruits not to it, but to the Creator of the universe. He created the sun on the fourth day so that you might not think it produces the day.⁷⁶

St. Ambrose makes a special emphasis on this point:

Look first upon the firmament of heaven which was made before the sun; look first upon the earth which began to be visible and was already formed before the sun put in its appearance; look at the plants of the earth which preceded in time the light of the sun. The bramble preceded the sun; the blade of grass is older than the moon. Therefore, do not believe that object to be a god to which the gifts of God are seen to be preferred. Three days have passed. No one, meanwhile, has looked for the sun, yet the brilliance of the light has been in evidence everywhere. For the day, too, has its light which is itself the precursor of the sun.⁷⁷

St. Basil teaches:

The heavens and the earth had come first; after them, light had been created, day and night separated, and in turn, the firmament and dry land revealed. Water had been collected into a fixed and definite gathering. The earth had been filled with its proper fruits; for it had brought forth countless kinds of herbs, and had been adorned with varied species of plants. **However, the sun did not yet exist, nor the moon, lest men might call the sun the first cause and father of light,** and lest they who are ignorant of God might deem it the producer of what grows from the earth... If the creation of light had preceded, why, now, is the sun said to have been made to give light?... At the time (the First Day) the actual nature of light was introduced, but now this solar body has been made ready to be a vehicle for the first-created light... And do not tell me that it is impossible for these to be separated. I certainly do not say that the separation of light from the solar body is possible for you and me, but that which we are able to separate in thought can also

⁷⁶Ibid, p. 168.

⁷⁷Ibid, p. 173.

be separated in actuality by the Creator of its nature..."Let them serve," He says, "for the fixing of days," not for the making of days, but for ruling the days. For day and night are earlier than the generation of the luminaries.⁷⁸

And again St. Basil writes:

The adornment of the earth is older than the sun, that those who have been misled may cease worshiping the sun as the origin of life.⁷⁹

The Scriptures tell us that, after each day of creation, God looked upon the work of that day and "saw that it was good." At the end of the sixth day, God "saw that it was very good." This Divine observation of the goodness of creation presents another difficulty for those promoting an evolutionary view. In the evolutionary view, there must be death and corruption before Adam's transgression. To reconcile God's observation and the requirements of evolution, some claim that only a part of the earth, that part known as Paradise, was incorrupt, while the rest of the creation was, from the beginning, subject to death. One Orthodox author, who believed in evolution, writes:

Let us not forget that Paradise was but a restricted and well-circumscribed place on earth **while the rest of the earth was in the state of corruption that we know.** The Paradise described in Genesis was an island of God's grace on earth. Outside Paradise animals continued to devour each other, plants continued to die and decay, and life was as it always has been from the beginning.⁸⁰

Compare the above with the teaching of St. Symeon the New Theologian, who states:

God, in the beginning, before He planted Paradise and gave it over to the first-created ones, in five days set in order the earth and what is on it, and the heaven and what is in it. And on the sixth day He created Adam and placed him as lord and king of the whole visible creation. Then there was not yet paradise. But this world was from God as a kind of Paradise, although it was material and sensuous...God gave it over to the authority of Adam and all his descendants, as the divine Scripture says (Gen. 1:26-30)...God gave over to man at the beginning this whole world as a kind of Paradise.... Adam was made with a body that was incorrupt, although material and not yet spiritual, and was placed by the Creator God as an immortal king over an **incorrupt** world, not only over Paradise, but also

⁷⁸Ibid, p. 171.

⁷⁹Ibid, p. 168.

⁸⁰Dr. Alexander Kalomiros, *The Eternal Will*, as published in *The Christian Activist*, vol. II, Fall/Winter, 1997, p. 47.

over the whole of creation which was under the heavens....**This whole creation in the beginning was incorrupt and was created by God in the manner of Paradise. But later it was subjected by God to corruption, and submitted to the vanity of men.**⁸¹

Some of the more recent saints have also expressed their disapproval of Darwinism. The following is from the book *Elder Barsanuphrius of Optina*, by Victor Afanasiev.

The English philosopher [Charles] Darwin created an entire system according to which life is a struggle for existence, a struggle of the strong against the weak, where those that are conquered are doomed to destruction and the conquerors are triumphant. This is already the beginning of a bestial philosophy, and those who come to believe in it wouldn't think twice about killing a man, assaulting a woman, or robbing their closest friend - and they would do all this calmly, with a full recognition of their right to commit all these crimes. And again, the beginning of all this is in a thought which people have believed - in the thought that nothing is forbidden, that the Divine commandments are not mandatory, while the decrees of the Church are inconvenient. One must not trust these thoughts.⁸²

The St. Herman of Alaska Brotherhood has published at least three books of the writings of St. Theophan the Recluse, who reposed in 1894. In one of these books, *Thoughts for Each Day of the Year*, St. Theophan makes frequent reference to the spiritual/moral decline that was occurring in Russia and Europe in his time. In his thoughts for the Monday after the 2nd Sunday after Pentecost, St. Theophan writes about the results of this decline.

Some are captivated by freedom of mind. They say, "We don't want the bonds of faith and the oppression of authority, even Divine authority; we'll figure things out and make up our minds for ourselves." So they have made up their own minds. They have built fables in which there is more childishness than in the mythology of the Greeks - and they magnify themselves... Has not the theory that man originated from animals arisen from this moral fall?"⁸³

St. Hilarion (Troitsky), was an Archbishop of Vereya in Russia and lived during the Communist Revolution. He was eventually killed for his faith. An ardent defender of Orthodoxy

⁸¹ *Genesis, Creation and Early Man*, p. 209.

⁸² Victor Afanasiev, *Elder Barsanuphrius of Optina*, (St. Herman of Alaska Brotherhood, 2000), p. 488.

⁸³ St. Theophan the Recluse, *Thoughts for Each Day of the Year*, (St. Herman of Alaska Brotherhood, 2010), pgs. 127-128.

in a time of great controversy, he wrote against a diversity of Western ideas that had infiltrated Russian society, including the idea of evolution, which would become a guiding principle for both the Communist regime and the modernist “Living Church.” In one of his essays, “The Incarnation and Humility”, he explains how belief in evolution and progress actually feeds the pride in man.

The Church through the ages carries the ideal of deification. This is a very high ideal, and it demands much from man. It is unthinkable without the Incarnation; it forces man first of all to be humble. Humanity rejects this high ideal and it no longer needs the Incarnation of the Son of God. An infinitely lowered ideal of life allows mankind to speak about progress; it gives it the opportunity to feel proud about its achievement. Precisely these two thought-patterns comprise the two world-views: the ecclesiastical and the secular. The ecclesiastical: the descent of perfect Adam, the fall, the need for the Incarnation - humility. The secular: the ascent from the monkey, progress, the needlessness and denial of the Incarnation - pride.⁸⁴

There are many more references given in the second edition of Fr. Seraphim Rose’s book, *Genesis, Creation and Early Man*, published in 2011.

We pray that what has been presented here has been helpful to those who have some attraction to the idea of evolution, for whatever reason. There is no reason to try to reconcile Christianity and the idea of evolution, whether “theistic” or atheistic. One is true and the other is a lie. What we believe is actually a result of who we believe. The appendix lists several books which explore the subject in greater detail.

⁸⁴ *Creation, Genesis, and Early Man*, pg 801

Appendix

Recommended Reading List

The following is a list of books which are recommended to those who would like to study this subject more thoroughly. As to where to start, I would recommend *Darwin on Trial*, by Phillip Johnson, for some of the intellectual difficulties and *Evolution, A Theory in Crisis*, by Michael Denton, for some of the scientific difficulties.

Writers defending evolutionary ideas often claim that all “reputable” scientists believe in the theory. The attempt is to discredit those who write of the many logical and scientific problems which exist. The academic qualifications of the following authors should make them “reputable.” The books listed have been reviewed by other scientists from a variety of fields - genetics, geophysics, biology and others. There are many more books on the subject. The ones listed are simply among the best.

The books by Phillip Johnson are mainly concerned with the thinking processes involved with Darwinism. Dr. Johnson was a professor of law at the University of California, Berkeley for many years. His books contain some scientific terminology and concepts, but his emphasis is on the problems of the logical inconsistencies and of the assumptions inherent in evolutionary arguments. Dr. Johnson wrote the introduction to *Genesis, Creation and Early Man*, by Fr. Seraphim Rose.

His books are:

Darwin on Trial, (Regnery Gateway, 1991)

Reason in the Balance, (InterVarsity Press, 1995)

Defeating Darwinism by Opening Minds (InterVarsity Press, 1997)

The Wedge of Truth, (InterVarsity Press, 2000)

The Right Questions, Truth, Meaning and Public Debate (InterVarsity Press, 2002)

Michael Denton holds a PhD in biochemistry. His book is especially powerful because he is not Christian, and therefore, can not be dismissed on the accusation of a “fundamentalist bias.” Parts of the book are rather technical, but are well worth the struggle to understand. He thoroughly explores all aspects of Darwinism from a scientist’s perspective.

His book is *Evolution, A Theory in Crisis*, (Adler and Adler, 1986)

Another excellent book is by Jonathan Wells, who holds a PhD in religious studies from Yale University and a PhD in molecular and cell biology from the University of California, Berkeley. In this book, Wells concentrates on the classic examples, or “icons”, that are most often given as evidence of evolution. His analysis includes Darwin’s tree of life, homology in vertebrate limbs and the fossil records.

His book is *Icons of Evolution: Science or Myth?: Why Much of What We Teach about Evolution is Wrong*, (Regnery Publishing, 2000)

The next set of books is by Jonathan Sarfati, PhD in physical chemistry from Victoria University in Wellington, Australia.

His first book, *Refuting Evolution*, is similar to *Icons of Evolution*, by Jonathan Wells, in that he explores the observations most commonly offered as proof of evolution. In addition, Sarfati writes about radiometric dating and the age of the earth.

The second book, *Refuting Evolution 2*, is a series of rebuttals to arguments commonly given by proponents of evolution. Sarfati responds to arguments such as 1) Creationism is a Religion, Not Science, 2) Evolution is True Science, Not “Just a Theory”, 3) Common Design Points to Common Ancestry, and 4) Some Mutations are Beneficial.

The third book by Jonathan Sarfati is called *The Greatest Hoax on Earth*, and is a point by point rebuttal of Richard Dawkins’ latest book, *The Greatest Show on Earth*.

The Greatest Hoax on Earth, (Creation Ministries International, 2010)

Refuting Evolution, (Creation Ministries International, 4th Edition, 2008)

Refuting Evolution 2, (Master Books, 2002)

A good book on plant and human genetics, with an in-depth analysis of our experience with mutations and the mathematics of neutral, good and detrimental mutations is written by Dr. John C. Sanford, a researcher at Cornell University.

His book is *Genetic Entropy & the Mystery of the Genome*, (Ivan Press, 2005).

Of Pandas and People is a very interesting book in that it emphasizes the fact that any given evidence can be interpreted and understood in more than one way. It is a very informative book, yet not difficult to read. One of the authors is Dr. Dean Kenyon, Professor Emeritus of Biology at San Francisco State University. Dr. Kenyon is a good example of a well-educated

scientist who has seen through his studies that evolution can not be true. He received his PhD in Biophysics from Stanford University. He was a National Science Foundation Postdoctoral Fellow in Chemical Biodynamics at the University of California at Berkeley, a Research Associate at NASA-Ames Research Center, and a Visiting Scholar at Trinity College, Oxford University.

Of Pandas and People, The Central Question of Biological Origins, (Foundation for Thought and Ethics, 1993)

Fr. Seraphim Rose, a well-known Orthodox writer of many books, has written one called *Genesis, Creation and Early Man, The Orthodox Christian Vision*. The book was first published in 2000, and there is now available a second edition which contains considerably more material. This new edition, over 1,100 pages long, is very highly recommended.

The book is divided into five major parts, titled 1) An Orthodox Patristic Commentary on Genesis, 2) The Patristic Doctrine of Creation, 3) The Philosophy of Evolution, 4) Selections from Letters written by Fr. Seraphim, and 5) Notes and Outlines. In addition, there are four appendices which include more Scriptural, Patristic and scientific material.

Genesis, Creation and Early Man, The Orthodox Christian Vision, (St. Herman of Alaska Brotherhood, 2011)

There are many other, excellent resources, but these are given as a starting point for those who are interested in studying the subject.