

# One Christian's Perspective on Creation and Evolution

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As a graduate student I took a course on FORTRAN, a widely used computer programming language. The author, with an obvious sense for the humorous, began his text with this epigram: "On no! Just what the world needs, another book on FORTRAN." I begin my essay with a similar bemused foreboding, posing the question: "Do we really need yet one more essay on the evolution/creation controversy?" Who knows? But I do think that my own students and perhaps others will benefit from a discussion focused directly on the most difficult Biblical issues and that comes from a person within the evangelical community. The essay is organized as follows:

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|----------------------------|---|
| A. Personal Statement      | D. Hard Questions about Genesis             |
| B. Resistance to Evolution | E. The Science of Origins                   |
| C. Understanding the Bible | F. Evolution as God's Mechanism of Creation |

At best this essay is introductory and so I strongly encouraged readers to study more deeply the points I raise. A way to start would be by reading the primary references for this paper, which I list below. All of these books are by orthodox Christian scholars.

- The Bible is both simple and complex. The message of John 3.16 is clear to anyone who wishes to listen. The Bible is also a book of history, poetry and other literary genres. The Fee & Stuart book is an excellent introduction to a more informed way of reading and understanding the Bible.  
Fee, G. D. & D. Stuart (2003). *How to Read the Bible for All It's Worth*. Grand Rapids, MI: Zondervan.
- Peter Enns' book provides a more in depth view of the Old Testament, and introduces the concept of "incarnational inspiration" of the Bible.  
Enns, P. (2005). *Inspiration and Incarnation: Evangelicals and the Problem of the Old Testament*. Grand Rapids, MI: Baker Academic.  
Jeroslav Pelikan's book provides an over view of how the Bible came into being. Pelikan's historical work is a very good complement to the interpretive work of Enns.  
Pelikan, J. (2005). *Whose Bible Is It? A Short History of the Scriptures*. New York: Viking.
- The book of Genesis is of particular interest when it comes to Christians and the natural sciences. The forthcoming article by Harlow is a brief but excellent introduction to the Genesis creation accounts using similar themes (such as incarnational inspiration) developed by Enns.  
Harlow, D. C. (forthcoming). Creation according to Genesis: Literary Genre, Cultural Context, Theological Truth. *Christian Scholars Review*.
- Books about the science of origins (evolution) and religion cannot be numbered, as they are so many. However, Keith Miller's edited volume is the one book all Christians interested in

evolution need to read. It is a book *anyone* should read who is interested in the creation/evolution controversies.

Miller, K. B. (editor). (2003). *Perspectives on an Evolving Creation*. Grand Rapids, MI: Eerdmans Publishers.

### **A. Personal Statement**

I became a Christian in 1964 when I was in ninth grade. I got involved with a Evangelical Christian community that held a high view of knowledge and learning. For example, I was introduced right away to the writings of C. S. Lewis and Francis Schaeffer, both Christian intellectuals who emphasized the importance of knowledge and sound thinking. As a member of this Evangelical Christian community, new and powerful ideas formed as part of my worldview:

- 1) The Bible contains God's truth and apprehending that truth requires the careful and prayerful study of Scripture.
- 2) Sound interpretation of Scripture must always take into account the literary type of the Scriptural passage being studied, authorial intent, cultural period of the Scriptural passage being studied, historical teaching of the Church on the passage being studied, and the entirety of Scripture.
- 3) All truth is God's truth.
- 4) Human knowledge of the truth grows but always remains tentative, faulty, and incomplete. There are very few easy answers to significant questions and no complete and definitive answers.
- 5) Humility is a cardinal virtue.

It is from this background that I approach the Biblical account of creation and the scientific theory of evolution. I first encountered evolution in tenth grade biology. Of course prior to that time, I had learned about the antiquity of the earth and about dinosaurs. Such ideas posed no problems for me; it was all very interesting. I remember reading in our tenth grade biology textbook about evolution and being fascinated by the subject. It never occurred to me that Christians might have trouble with this idea. For me it was, "Oh, so that's how God did it!" Even in college where I encountered evolution at a greater depth, I had no qualms about evolution. I basically trusted scientists. I thought the same way they did and was interested in the same things. Science was great fun, though I was under no illusions about many contemporary scientists also being Christians.

It was really not until after college graduation and a year and a half of science graduate study that I ran into the evolution/creationism conflict. I was teaching high school science when I heard about "creation research" for the first time. It would have been impossible at that time not to hear about "creation research" since the Christian school at which I taught was sponsored by the same church that sponsored the Institute for Creation Research (ICR). As I look back to my interview for the job of science teacher, I am now bewildered as to why I was never asked anything about evolution or creation.

Subsequently, having learned about ICR, I attended one of their summer weeklong workshops on creation and evolution. I must say I was fascinated and I ended up attending three of these workshops over a period of about three years. I read numerous books and articles on the topic. I attended more debates than I can remember, and I met the luminaries personally: Henry Morris,

Duane Gish and Harold Slusher. I even had one of Duane Gish's sons in a high school science course I taught! They were great people. I enjoyed meeting them immensely.

Now you ask why would I even consider attending an anti-evolution workshop (let alone three), if as a Christian I majored in science right into graduate school with no problems with evolution. The answer is community. We are all members of one or more communities. If a respected person within an important community says that a subject is important, we may well be open to study that subject merely because of the trust and respect we have for the fellow community member. In my Christian community of the early 1970s, here was a group of scientists with a very different take on evolution. I was aware that my college science professors had by and large been non-believers and so I was interested in what these Christian scientists would have to say. I listened and I read.

So what happened? Basically nothing. There was at first a certain attraction to “creationism.” One might call it the thrill of forbidden knowledge. I learned a fair amount about alleged weaknesses in evolutionary theory; I was prompted to pay more attention to evolution. The challenges to both theology and science also drove me to the study of theology and philosophy. I also learned a lot about the sociology of knowledge and belief as I observed the reaction in the science and science education communities to creationism. But in the end, I did not enlist in the creationist cause. Why? The creationist ideas were not plausible within the framework of powerful ideas that informed my thinking. The theological arguments for creationist ideas were not persuasive, nor were the scientific arguments.

### **B. Resistance to Evolution**

My experiences are not unique and they are clearly not universal. At the risk of over simplifying people’s beliefs and motivations, I have found that resistance and acceptance of evolution can be categorized. Very simply we can distinguish between people who are interested in the scientific study of origins and those who are not. We may surmise that the second group is on the whole less interested in science but even amongst people who have strong science interests not all are specifically interested in origins. We can also distinguish among people by their views of the Bible. Non-Christians regard the Bible as just another religious book (low regard), whereas Christians are divided between those who hold the Bible in high regard and those who go further and insist on a literalist interpretation of almost the entire Bible. For example, Christians with a high regard for the Bible will often refer to the Bible as God’s infallible guide to faith and practice. Literalists say that the Bible is inerrant.

<b>Those persons <i>not</i> interested in the science of origins</b>	<b>Those persons <i>interested</i> in the science origins</b>
	A. Those persons holding a <i>low</i> regard for the Bible
	B. Those persons holding a <i>high</i> regard for the Bible
	C. Those persons holding a <i>literalist</i> view of the Bible

These categories yield four distinguishable ways in which people respond to evolution.<sup>1</sup>

<p style="text-align: center;"><b>“I reject evolution”</b></p> <p>Amongst those who reject evolution are people who simply have little interest in the science of origins—probably little interest in the whole of science. However when asked, these people will reject evolution because they are Biblical literalists. They have a prior and deeper commitment to a literalist interpretation of Genesis.</p> <p>Or, they may be supporters of Young Earth Creationism. In which case they will be very interested in the science of origins but reject evolution based on their commitment to a literalist interpretation of Genesis.</p>	<p style="text-align: center;"><b>“I don’t care about evolution”</b></p> <p>This group of people is simply disinterested in either the scientific study of origins or in the Bible. When asked, they probably respond in support of evolution but not from any conviction or base of knowledge. They either trust scientific opinion or respond favorably because they think that is what is expected in our modern world.</p>
<p style="text-align: center;"><b>“I accept evolution”</b></p> <p>Those who knowledgeably accept evolution are going to be those interested in the science of origins, but will fall into two groups: those with a low regard for the Bible and those with a high regard for the Bible.</p> <p>Obviously, the “low regard for the Bible” group is quite varied, ranging from atheists and agnostics to more traditional religious people such as Hindus or Muslim. For the purposes of this essay, the focus is limited to atheists and agnostics, who in a sense need evolution as their own creation myth.<sup>2</sup> It is how they answer the fundamental question of existence. Thus, when presented with the evidence for evolution, they see a half-full glass rather than one that is half-empty. They see a bunch of data points waiting to be connected. They realize that more data points would be better but they are still very sure that the evidence available warrants the connections.</p> <p>On the other hand, there are the orthodox Christian supporters of evolution. They find no reason in Scripture to reject evolution but neither do they have a personal need for evolution because for them the Bible adequately answers the fundamental question of existence. They simply find the evidence for evolution persuasive and think of evolution as God’s mode of creation.</p>	<p style="text-align: center;"><b>“I’m not sure about evolution”</b></p> <p>These people include both those with and without good science backgrounds. Even with a good science background (such as healthcare professionals and engineers) they have little interest or only modest interest in the science of origins. As orthodox Christians, they have no personal need for evolution to be true; on the other hand, they do not necessarily object to evolution on Biblical grounds, as they are not Biblical literalists. When they are presented with the evidence for evolution, they see a half-empty glass rather than one that is half-full. They see a bunch of data points waiting to be connected but are unsure that the connections are warranted. In other words, they are more impressed both by the immense complexity of living organisms and the apparent gaps evolutionary evidence.</p>

Where Christians place themselves in these groups depends first on how they understand Biblical hermeneutics and secondly on how they understand the science of origins.

### C. Understanding the Bible

As Christians, the hermeneutics of Scripture must come before turning to the natural sciences and the *scientific* question of origins. The hermeneutics of Scripture begins with properly interpreting the first chapters of Genesis.

<sup>1</sup> These categories are speculative. They make sense given what is known about people from polling data.

<sup>2</sup> Richard Dawkins famously quipped that “Darwin made it possible to be an intellectually fulfilled atheist.”

From the time of the European Enlightenment, beginning with Fredrick Schleiermacher, to Rudolf Bultmann, to the Jesus Seminar of today a succession of Protestant scholars have found it impossible to accept the historicity of any Biblical account including the Gospels of the New Testament. They cannot imagine the veracity of miracles in our modern age of science, especially the bodily resurrection of Jesus Christ. This is Liberal Protestantism, which seeks to separate modern Christianity from tradition and historical orthodoxy. The American Fundamentalist movement of the early 20<sup>th</sup> century was a rejection against the modernism of Liberal Protestantism by stressing:

1. The *inerrancy* of the Bible,
2. The Virgin birth,
3. The bodily resurrection of Jesus,
4. Atonement by the sacrificial death of Christ,
5. The Second Coming of Jesus.

Biblical inerrancy meant the absolute historicity and truthfulness of the Bible in all matters, not just in matters of faith and practice. By mid century, many confessing Christians began rejecting such a rigid stance on the Bible. Controversy broke out again in 1976 with the publication of Harold Lindsell's *The Battle for the Bible*, in which he staunchly defended Biblical inerrancy.

Looking back over such controversies, it seems like the Church is often caught in a psychological equivalent of Newton's 3<sup>rd</sup> Law: for every action there is an equal and opposite reaction. Rather than getting caught up in debates often initiated by people outside the faith, or always reacting to some perceived attack, we need to bring our minds to our faith and co-labor with confessing Christians whose scholarship is the Bible, its culture, its language, its history, and the Church that is responsible for the Bible. But sometimes Christians act as if they are afraid to think; they seem to fear they may discover that their faith is vain if they think too much.

Truth or true knowledge is never to be feared. As reads the title of a book by Arthur Holmes, *All Truth is God's Truth*. If something is discovered or learned that bears upon our Christian faith then we should learn from it. If the alleged knowledge contradicts the Bible and teachings of the Church, we can also have confidence that if this new alleged knowledge truly does conflict with our faith it will eventually be found false. God is not opposed to knowledge. God's commands in Genesis 1 and 2 to fill, rule, work, and care for the earth make no sense without a presupposition that humans will gain knowledge.

Genesis 1

<sup>28</sup> God blessed them and said to them, "Be fruitful and increase in number; fill the earth and subdue it. Rule over the fish of the sea and the birds of the air and over every living creature that moves on the ground."

Genesis 2

<sup>15</sup> The Lord God took the man and put him in the Garden of Eden to work it and take care of it.

And what could be more explicit than Jesus' command that we love God with all our minds?

Matthew 22

<sup>36</sup>"Teacher, which is the greatest commandment in the Law?" <sup>37</sup>Jesus replied: "Love the Lord your God with all your heart and with all your soul and with all your mind. <sup>38</sup>This is the first and greatest commandment. <sup>39</sup>And the second is like it: Love your neighbor as yourself. <sup>40</sup>All the Law and the Prophets hang on these two commandments."

Jesus speaks of the “mind” so what is the *mind* for? The mind is for thinking but there is no thinking without knowledge. Since not all alleged knowledge is true knowledge, a primary task of thinking is to sort out what is true knowledge from what is false, an essential task given the historical nature of Judaism and Christianity. Jesus was a real person. Indeed, we have great solace in that Jesus was an historical person just as much as we are.

Hebrews 2

<sup>18</sup>Because he himself suffered when he was tempted, he is able to help those who are being tempted.

Hebrews 4

<sup>15</sup>For we do not have a high priest who is unable to sympathize with our weaknesses, but we have one who has been tempted in every way, just as we are—yet was without sin.

We also have great confidence that, for example, Exodus really did happen, Jerusalem is a real city of antiquity, and the crucifixion and resurrection<sup>3</sup> of Jesus actually took place. But, since Christianity is a history-grounded faith, there is tension between claims and counter claims. There will always be those who make counter claims against the Bible and Christian faith, such as about the alleged Jesus Ossuary.

Earlier this year, The Discovery Channel aired a documentary claiming that Jesus’ ossuary had been found.<sup>4</sup> The television show could have been of critical importance since finding the bones of Jesus would deal a fatal blow to Christianity. As Paul wrote:

1 Corinthians 15

<sup>12</sup>But if it is preached that Christ has been raised from the dead, how can some of you say that there is no resurrection of the dead? <sup>13</sup>If there is no resurrection of the dead, then not even Christ has been raised. <sup>14</sup>And if Christ has not been raised, our preaching is useless and so is your faith. <sup>15</sup>More than that, we are then found to be false witnesses about God, for we have testified about God that he raised Christ from the dead. But he did not raise him if in fact the dead are not raised. <sup>16</sup>For if the dead are not raised, then Christ has not been raised either. <sup>17</sup>And if Christ has not been raised, your faith is futile; you are still in your sins. <sup>18</sup>Then those also who have fallen asleep in Christ are lost. <sup>19</sup>If only for this life we have hope in Christ, we are to be pitied more than all men.

If Christ was not raised from the dead (and the cynics say “here is the ossuary to show that he did not”) then our faith is empty. In truth, the Jesus Ossuary story was merely sensationalistic reporting. The ossuary in question along with several ossuaries was actually discovered in the 1980s and experts to this day dismiss them as having anything to do with Jesus.

Similarly, Christians felt the challenge of history with Dan Brown’s novel and movie, *The Da Vinci Code*, which contradicted central claims of Christianity about Jesus. What does a Christian do? One example of how to deal with historical challenges to the faith comes from a pastor who writes a local newspaper column. A reader wrote to him about *The Da Vinci Code* saying that the book had shaken his faith. The pastor responded with a URL where this person could get more

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<sup>3</sup> Wright, N. T. (Bishop of Durham). (2007) *Can a Scientist Believe in the Resurrection?* [Web Page]. URL [http://www.ntwrightpage.com/Wright\\_Faraday.htm](http://www.ntwrightpage.com/Wright_Faraday.htm) [2007, August 16].

<sup>4</sup> Viegas, J. (2007) *Jesus Family Tomb Believed Found* [Web Page]. URL [http://dsc.discovery.com/news/2007/02/25/tomb\\_arc.html?category=archaeology&guid=20070225073000](http://dsc.discovery.com/news/2007/02/25/tomb_arc.html?category=archaeology&guid=20070225073000) [2007, April 10].

technical information about the issues, but the primary thrust of pastor's response was very different.

Since I have been called to live by faith, I don't read things that challenge my faith. That's not because I fear that the Bible can't stand up to the scrutiny or examination, but for me, certain things are settled. Jesus said to "take heed to what you hear" -- in other words, watch what you allow to enter your "ear gate." I don't need any help with my unbelief, and so I only feed on things that will increase my faith.... I am a biblically conservative Christian. I believe that the Bible is the inerrant, infallible, complete word of God. It is the basis for my beliefs, values, world view and conduct.<sup>5</sup>

This answer boils down to "don't bother with anything else, just believe the Bible," and is reminiscent of an old Fundamentalist jingle: "God said it. I believe it. That settles it." Unfortunately, Mormons can and do say the same thing about the Book of Mormon, Muslims about the Qur'an, etc. Nor is it helpful that this pastor explains later in his column that his faith is not in a book (as important as is the Bible) but in his personal experience with Jesus. To which the skeptic responds, how do we know your so-called "personal experience" isn't just your emotions deceiving you? How do we know that your personal religious experience is any more valid than a Hindu's personal religious experience?

The pastor's attitude is of no help for a religion that is valid only to the extent of its historical accuracy, especially when it is an evangelistic religion. By not engaging the historical critiques (even as unfounded as is *The Da Vinci Code*), we concede the historical issues to the enemy of our faith. People reasonably conclude that there is no difference between the Bible, Book of Mormon, Qur'an, or any other alleged holy book.

Understanding the Bible and defending our faith requires that we be *knowledgeable* people. As we bring knowledge to the interpretation of Scripture, we also must understand that knowledge is not static, but changes and grows. We know today vastly more about the natural world than did the authors of the Bible. The authors in the Bible speak from the cognitive background in which they lived, but we live in a very different cognitive world. For example,

- 1) The people of the Bible lived in a geocentric world. As our knowledge grew, we learned that we live in a heliocentric world.
- 2) The story of Adam and Eve presents a monogamous model of marriage. Nevertheless, for a very long time Israel practiced polygamy. As knowledge grew, Jewish people and then Christians came to embrace the Biblical model of monogamy.
- 3) The Bible does not say that slavery is wrong but it does say that *all* human beings bear the image of God, not just some. As knowledge grew, we came to understand that the enslavement of any image bearer of God is wrong.
- 4) All of the governments written about in the Bible are dictatorships of one form or another, to which there are no obvious objections in Scripture. For a long time the Church embraced the "divine right of Kings." Eventually we learned to embrace democracy as the form of government most fitting for the image bearers of God.

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<sup>5</sup> Brooks, J. (2006 June). No Headline. *The Kalamazoo Gazette*. [Web Page]. URL [www.nl.newsbank.com](http://www.nl.newsbank.com) [2006, June 26].

- 5) In the past people died of diseases or infirmities that today are readily cured by medicine and medical procedures. We still pray for the ill but we also pray thanking God for the miracles of modern medicine.

These and other developments cannot be denied and the interpretation of Scripture should not be conducted as if these developments had not taken place. Indeed, the growth of knowledge is part of God's plan for the humanity. Yes we are called to faith, but it is an informed faith to which we are called, not a cognitively blind or even cognitively disinterested faith. As Saint Augustine would say, we are all called to a "faith seeking understanding." Such an understanding also includes the *literary* nature of Scripture.

### **The Bible and Genres of Literature**

The inerrancy wars were about the historicity of Scripture but even Fundamentalist theologians know that Scripture is composed of various genres of literature, not just historical accounts. Therefore, part of interpreting texts *literally* is interpreting them *literarily*. The Bible includes of course historical accounts such as the Gospels. There is also poetry such as Psalms. There is wisdom literature such as Proverbs, Ecclesiastes and Lamentations. The Scripture contains figurative language such as metaphor and simile. Biblical passages are not marked for us "This is historical" or "This is poetry." Hence, distinguishing between genres of Scripture falls to us. We thus ask:

- What is God's intended meaning in this passage?
- How do we know which Biblical passages are historical and which are not? Are there reasons within Scripture that require certain passages to be historical?
- Or, are some passages intended to convey important lessons for us but not history?

Let us first consider an example that is far less controversial than the interpretation of Genesis, the Book of Job. Was Job a real person? From the book itself, the message of Job does not seem to require that Job be a real person though he could have been. He could have been somebody who simply inspired this story. But not knowing the historicity of Job, nor even assuming that Job is a fictitious character, makes any difference to the importance of the message if we look only at the Book of Job. On the other hand, James refers to Job by name.

James 5

<sup>11</sup>As you know, we consider blessed those who have persevered. You have heard of Job's perseverance and have seen what the Lord finally brought about. The Lord is full of compassion and mercy.

Is this sufficient evidence from within Scripture that Job actually was a real person? Probably not since James would have had little reason to think anything else. However, even during this period of time, Job was already an ancient story beyond anyone's memory; so what was and is more important: that Job was a real person or the message of the Book of Job? The message of course. Moreover, Job as a person had no central role in the history of Israel. He was not an Abraham, Isaac, Saul or David. Still he could have been a real person but to pursue the historicity of Job, one must go outside of the Bible to extra biblical sources. We need an archaeological find that provides independent corroboration for the person of Job in the right geographical location in the appropriate period of time. As interesting as such a find would be, it would be of little importance to the message of Job.

And this is a critical point, that factuality is not necessary for truth-telling. Unfortunately, the world of post-enlightenment modernism reduces truth to only that which can be demonstrated or verified in actuality. In this sense, for example, the story of the Good Samaritan cannot be considered true because the story is not about *real* people participating in a *real* activity. But this is an impoverished view of truth that surely needs to be rejected. The story of the Good Samaritan (or Job) is true because it accurately portrays something that is right; moreover, the story is all the more powerful because it is fiction. As fiction, we more easily see ourselves as participants in the story. It should thus be no surprise that Jesus frequently used figurative modes of expression. Consider the following.

Matthew 5

<sup>29</sup>If your right eye causes you to sin, gouge it out and throw it away. It is better for you to lose one part of your body than for your whole body to be thrown into hell.

No one thinks that Jesus meant the phrase “gouge it out” to be taken literally. The statement does not need to be taken literally for us to understand the intent. Indeed, the intent would be lost if we really thought that Jesus was literally speaking about sins of the eye. In John 3, Jesus has to correct Nicodemus for making this very mistake of literalism. Nicodemus takes Jesus literally (rather than literarily) and misses the point. So, what does it mean to use figurative modes of expression? It means that a message is conveyed by language not chosen for its accurate representation of physical reality, but for the ability of that language to more effectively convey the message.

### **An Incarnational Understanding of the Bible**

The above passages from the Bible do not speak about the natural world but other passages do. The geocentric nature of the universe is assumed throughout Scripture. There are no indications within Scripture for any view other than geocentrism.

Psalm 104:

<sup>21</sup>The lions roar for their prey and seek their food from God. <sup>22</sup>The sun rises, and they steal away; they return and lie down in their dens. <sup>23</sup>Then man goes out to his work, to his labor until evening.

Ecclesiastes 1

<sup>5</sup>The sun rises and the sun sets, and hurries back to where it rises.

James 1

<sup>11</sup>For the sun rises with scorching heat and withers the plant...

Is this figurative language? No, in each verse, the author meant what he wrote: the sun literally sets and rises. James was not speaking figuratively when he wrote that the sun rises. It could hardly be otherwise given that Scripture was written during a period of time when it was generally understood that the Sun orbits the Earth. Our knowledge of nature, however, has grown since the Biblical period and we know today that the scientific study of nature has settled the question in favor of heliocentrism.

Did James make a mistake? Of course not. James spoke of factual matters of nature as they were known in his day. That these facts about nature were wrong is irrelevant to the purposes of the Bible. It is of no consequence to the truth of Scripture, or to the integrity and veracity of the Gospel message, that in fact humanity has never lived in a geocentric world or that in their day these authors assumed that they did. These verses simply are not about the facts of nature. The

facts of nature as understood by these authors only from the context (indeed the only context available to them) for conveying the truths of God.<sup>6</sup>

This brings us to a critical observation on the nature of the Bible. The Bible is *incarnational*. Just as Jesus Christ is both God and human, so is the Bible both of God and of humanity. The Bible is culturally situated. Jesus spoke Aramaic and Hebrew—not English, French or German. Jesus was culturally situated in the Judaism of his day. The Bible is the same; otherwise no one in the ancient world of Israel would have understood the Bible nor understood Jesus. Similarly, understanding the culture of Biblical days is or great help to our understanding the Bible today. This does not suggest that the message of John 3.16 is not as clear as we thought it was. There is great simplicity to the Gospel message that is open to all. There is also great Biblical depth, such as accurately understanding Genesis, where cultural knowledge<sup>7</sup> is imperative.

As I now move to a discussion of Genesis the points to remember about the Bible are these:

- “Truth” is not necessarily about factual *things*. Not every truth requires a setting of factual persons, events, and activities. The Bible thus includes both factual and figurative modes of expression.
- The Bible is incarnational which means that the truth of God is embedded in human elements such as culture and knowledge of nature.
- Hence, all passages of the Bible must be approached with the question: what is God’s intent in this passage?

#### **D. Hard Questions about Genesis**

I begin this section by noting that I have never encountered anyone, or read of anyone, who rejected the modern theory of evolution based on the evidence and then subsequently came to a literal interpretation of the Genesis creation account. The opposite is typically the case. Having accepted a literal interpretation of the Genesis creation account, the theory of evolution is rejected. Their priorities are correct; their conclusions wrong. They commit an error that worried Saint Augustine some 1700 years ago.

Usually, even a non-Christian knows something about the earth, the heavens, and the other elements of this world, about the motion and orbit of the stars and even their size and relative positions, about the predictable eclipses of the sun and moon, the cycles of the years and the seasons, about the kinds of animals, shrubs, stones, and so forth, and this knowledge he holds to as being certain from reason and experience. Now, it is a disgraceful and dangerous thing for an infidel to hear a Christian, presumably giving the meaning of Holy Scripture, talking nonsense on these topics ... The shame is not so much that an ignorant individual is derided, but that people outside the household of faith think our sacred writers held such opinions, and, to the great loss of those for whose salvation we toil, the writers of our Scripture are criticized and rejected as unlearned men.<sup>8</sup>

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<sup>6</sup> Imagine the confusion that would have been caused if God miraculously led the writers to use scientifically correct heliocentric language. The *important* truths would have been lost.

<sup>7</sup> I use “cultural knowledge” to mean the accepted knowledge of any historical period including the present. The phrase alone communicates nothing about the accuracy of the alleged knowledge of any historical period. Hence, in 2007 we know that some “cultural knowledge” of the past such as geocentrism was incorrect, but we should be careful not to think that in 2007 we have arrived at the end of history.

<sup>8</sup> Augustine of Hippo (A.D. 354-430). (1982). *The Literal Meaning of Genesis*. New York: Newman Press. Vol. 1, pp. 42-43.

But I get ahead of myself. We need to first focus on Genesis. The idea of evolution with respect to Genesis has caused Christians numerous theological problems, most of which are addressed by contributors to Miller's (2003) *Perspectives on an Evolving Creation*. In this paper, I briefly address only what I have found to be the most nettlesome of evolution/Genesis difficulties: the stories of creation in Genesis 1 and of Adam and Eve in Genesis 2 & 3.<sup>9</sup> My intention is to introduce a way of thinking about these stories that neither rejects the knowledge humanity has gained about the world around us nor the God-given nature of the Genesis stories and their meaning, with the hope that readers will pursue these topics in greater depth through the references listed.

I begin by noting that there are accounts in Scripture that both appear to be historical and need to be historical for the integrity and veracity of the Gospel message. Most of the time, these accounts have been corroborated by extra biblical sources of evidence or reason. There are other accounts in Scripture that at first blush appear to be historical, but do not necessarily need to be historical. The stories of creation in Genesis 1 and of Adam and Eve in Genesis 2 & 3 fall into this second category.

### **The Creation**

The central message, the essential message, of the creation account of Genesis 1 is not the God made "seed-bearing plants and trees" on the third day and "the great creatures of the sea and every living and moving thing with which the water teems" on the fifth day of a seven day week of creative acts, that is, the mechanisms of creation. For the moment we may say that these creative acts are historically true but even so the mechanisms of creation are not the message. What the creation account teaches us, the lesson that is of great importance, is that the creation and the Creator are two different things and not to be confused. Not only are they two different things but what is created is always considered less than its Creator. God gives the creation; creation does not give us God.

From Genesis we learn that the creation is *good*. However, it could have been a Gnostic or Manichean creation: dark, foreboding, evil and chaotic. It could have been a Babylonian creation animated and filled with spiteful spirits and other unearthly and unnatural powers.<sup>10</sup> God tells us instead that the creation is *good*, with the implication of order and appropriateness for harmonious human habitation. Although order and linearity are implied by the sequential days of creation, it is not any account of God's mechanism of creation that communicates earthly goodness. We learn this from God himself who proclaims over and over again that His creation is good.

This is the core message of creation and it is a message that is neither dependent on any particular mechanism of creation for its veracity nor does our apprehension of the message require knowledge of God's mechanisms. Do the details of the creation accounts have to be

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<sup>9</sup> The Genesis account of The Flood would be another obvious story of interest but for the purposes of this paper I suggest that The Flood story can be approached the same way as this paper approaches the Creation story and the story of Adam and Eve. For a specific discussion of The Flood story, see Young, D. A. (1995). *The Biblical Flood: A Case Study of the Church's Response to Extrabiblical Evidence*. Grand Rapids, MI: Eerdmans.

<sup>10</sup> Harlow, D. C. (forthcoming). Creation according to Genesis: Literary Genre, Cultural Context, Theological Truth. *Christian Scholars Review*.

historically factual for this core message to be true? No. They might be true, but they do not need to be, any more than does the truth of the Good Samaritan story require that story to be factual. The truth God wishes us to hear in Genesis 1 is the nature of creation and its relationship to God, not the mechanisms of creation. How then do we tell about the historicity of the creation account if the account itself does not require historicity? We look elsewhere in Scripture and we look to extra-Biblical sources, issues to be addressed later.

### **Adam and Eve**

The creation account tells us that human beings are part of creation. We are created, physical creatures. We are not deities, nor will we ever become deities. We are creations just like every other part of God's creation, whether instantaneously from “the dust of the ground” or developmentally beginning with “the dust of the ground” (Gen 2.7). But God also says something very interesting about human beings: we alone in creation are created in God’s image and we alone are given stewardship of God’s creation. This is the core message of Adam and Eve: physical creatures formed from the earth like all the rest of creation yet special, bearing the image of God and given great responsibility and authority.

Do the details of the creation account of Adam and Eve need to be factual for this core message to be true? No. They might be true, but they do not need to be because as specific individuals Adam and Eve are not important. Adam and Eve, however, very importantly represent the entire human race; indeed, Adam’s very name “adam” is Hebrew for “man.” Thus, these two persons could have been any two early human beings. The,

Genesis account portrays Adam and Eve as Neolithic farmers. It is perfectly feasible that God bestowed His image on representative *Homo sapiens* already living in the Near East to generate what John Stott has called *Homo divinus*, those who first enjoyed personal fellowship with God but who then fell most terribly from their close walk with God (Genesis 3.8). All those who disobey God and trust in their own wisdom in place of God’s law reiterate the historical fall in their own being (Ezekiel 28.11-19).<sup>11</sup>

Indeed, even if Adam and Eve had been real persons, their place in this story is still to represent humanity. How then do we tell about the historicity of Adam and Eve if the account itself does not require historicity? We look elsewhere in Scripture and we look to extra-Biblical sources.

### **Determining Historicity**

For most of the Bible’s history people read its geocentric language as common sense statements of fact. As noted above, the geocentric beliefs of Biblical writers are actually irrelevant to the truth of the Biblical message. Today we have corrected our understanding of the Bible<sup>12</sup> when we realize that geocentrism was merely the context for conveying the truth of God (but necessarily so since geocentrism was part of the accepted culture of the day). This is an example of incarnational inspiration: God speaking through human beings within the culture that they know and understand. If God allowed the use of geocentrism for the purposes of conveying his truth, because geocentrism was the cultural knowledge of the day, there must be other examples in the Bible where the context of cultural knowledge has now been superseded. Clearly we know today far more about both the natural world and ancient civilizations than ever before. Indeed,

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<sup>11</sup> Alexander, D. R. (2005) *Can a Christian believe in evolution?* [Web Page]. URL <http://www.eauk.org/resources/idea/bigquestion/archive/2005/bq7.cfm> [2007, September 3].

<sup>12</sup> Note that it is not the Bible that we are correcting but our understanding of the Bible.

the period of discovery during the middle 19<sup>th</sup> century was phenomenal. In 1859, Charles Darwin published the *Origin of Species* and between 1848 and 1876 thousands of clay tablets were discovered in the library of King Ashurbanipal (668-627 BC), in the ancient city of Nineveh, capital of the Assyrian empire.<sup>13</sup> What we learned from that period forward is critically important to the interpretation of the Bible.

Since 1859, the general theory of evolution has developed so as to explain both the present diversity of life on earth and the diversity of life that has occurred through time. The modern study of evolution has been accompanied by the study of earth's changing physical features and its age. The resulting grand narrative is that diversity and change are the hallmark characteristics of the earth. The earth is of great antiquity with diverse physical features that have changed modestly at times while at other times changed quite drastically. Life on earth has flourished and died, changed and diversified over great expanses of time primarily under the pressure of changing physical environments. But this is the cultural knowledge of today, not of ancient Israel or the ancient Middle East.

Of course, there is much to learn in the Old Testament about the cultural knowledge of ancient Israel and Middle East. A great deal more was learned with the excavation of King Ashurbanipal's library. Amongst many other discoveries were the Assyrian and Babylonian creation stories, indeed older stories, which bore remarkable resemblance to the creation stories of Genesis.

What are we to make of these discoveries? One conclusion is that evolutionary science is basically wrong because it contradicts the literal statements of Genesis. As for the Babylonian myths, well their resemblance to Genesis is merely coincidence. This attitude reminds me of Nicodemus.

### John 3

<sup>1</sup>Now there was a man of the Pharisees named Nicodemus, a member of the Jewish ruling council. <sup>2</sup>He came to Jesus at night and said, "Rabbi, we know you are a teacher who has come from God. For no one could perform the miraculous signs you are doing if God were not with him."

<sup>3</sup>In reply Jesus declared, "I tell you the truth, no one can see the kingdom of God unless he is born again."

<sup>4</sup>"How can a man be born when he is old?" Nicodemus asked. "Surely he cannot enter a second time into his mother's womb to be born!"

<sup>5</sup>Jesus answered, "I tell you the truth, no one can enter the kingdom of God unless he is born of water and the Spirit. <sup>6</sup>Flesh gives birth to flesh, but the Spirit gives birth to spirit.

<sup>7</sup>You should not be surprised at my saying, 'You[c] must be born again.' <sup>8</sup>The wind blows wherever it pleases. You hear its sound, but you cannot tell where it comes from or where it is going. So it is with everyone born of the Spirit."

<sup>9</sup>"How can this be?" Nicodemus asked.

<sup>10</sup>"You are Israel's teacher," said Jesus, "and do you not understand these things?"

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<sup>13</sup> Enns, P. (2005). *Inspiration and Incarnation: Evangelicals and the Problem of the Old Testament*. Grand Rapids, MI: Baker Academic.

Nicodemus was a literalist but Jesus' message was not in his literal words. Similarly, it makes much more sense to conclude that the message of the creation account of Genesis is not in the literal interpretation of the words but the story conveyed. The extra-Biblical sources (scientific and archeological) indicate that the Genesis stories are constructed on the cultural knowledge of the day and that this cultural knowledge should be treated today the same way that we now treat the geocentrism of the Biblical writers. We do not want to make Nicodemus' mistake nor the mistake that worried Saint Augustine. We do not want to miss God's points, which are about the nature of creation, the nature of humanity, and our relationship to God. It helps if we recognize that as image bearers of God and as sovereigns on earth we would in a matter of time discover the mechanisms of creation. God has no need to tell us these things; what he tells us in Genesis is what we cannot discover on our own. And the way he communicates is *incarnational*:

When God reveals himself, he always does so to people, which means that he must speak and act in ways that they will understand. People are time bound, and so God adopts that characteristic if he wishes to reveal himself... It is essential to the very nature of revelation that the Bible is not unique to its environment. The human dimension of Scripture is essential to its being Scripture.<sup>14</sup>

### **But it appears that the New Testament Refers to the Stories as Real Events**

People of the New Testament appear to accept the Genesis stories as real events. In general, this is little different from the fact that they also spoke as if the sun orbits the Earth. It was the common sense of the time, and they could not be expected to speak or believe otherwise. But again, the fact that they may have believed wrongly about nature is irrelevant to the core messages of these Scriptural passages.

We must ask, however, about Jesus. The issue of what Jesus knew about nature is a thorny one. It is linked to the question of how much he knew of his own divinity as he walked the earth as a human being. Did the incarnation where God took on the limitations of human flesh mean that he also took on the limits of human cognition? I quickly add that though the question is of great speculative theological interest, no great point of Gospel truth rests on the answer and we should not be bothered by our ignorance. Having said this, even if we could answer the question in the affirmative, that he was perfectly aware of his own incarnation, would Jesus have spoken any differently? Was there ever any real need for Jesus to speak about the details of physical things and processes in nature, even if he had complete scientific knowledge at his disposal? The answer should be an obvious "no." Jesus had enough trouble getting his disciples to understand spiritual truths. We need to remember that even at the empty tomb, the disciples still had not grasped the nature of the Gospel message, the incarnation and the resurrection. To use a paraphrase of the apocryphal words of Galileo, Jesus did not come to tell us how the heavens go; He came to tell us how to go to heaven. Speaking frankly about natural events and processes that the people of the day could not possibly comprehend would have only undermined that message. Imagine the response if Jesus had insisted: "No, the earth really is moving!" Fifteen hundred years later, the great scientific researchers of the scientific revolution, who were also great men of Christian faith, would refer to the *two* important books: the book of scripture and the book of nature. God in His wisdom knew that we would someday figure it out on our own. He came to tell us what we couldn't figure out on our own.

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<sup>14</sup> Enns (2003, p. 20).

A stronger argument for historicity comes from Romans where the Apostle Paul specifically counter poses Adam with Jesus Christ, the old man and the new man.

Romans 5

<sup>12</sup>Therefore, just as sin entered the world through one man, and death through sin, and in this way death came to all men, because all sinned.... <sup>17</sup>For if, by the trespass of the one man, death reigned through that one man, how much more will those who receive God's abundant provision of grace and of the gift of righteousness reign in life through the one man, Jesus Christ.

To understand Paul, it is helpful to think of sin as a spiritual disease and thus the concepts of etiology, diagnosis, and treatment are relevant. Public health officials take great interest in the *etiology* of disease. Let's say there is an outbreak of cholera. In order to prevent the spread of disease, public health officials need to know how the outbreak happened. What was the cause? However, if you are one of the unfortunate victims of the epidemic you will not much care how you got the disease. Your interest will be a correct *diagnosis* of your illness (what's wrong with me?) and an effective *treatment* (what is the cure?). The doctors who treat disease and the sick patients who suffer from the disease often do not know the origin of the illness. Indeed, we often don't care. What we really care about is getting treated. My physician doesn't need to know how I got the bacterial infection that I have; he only needs to know the antibiotics that will fight the infection and cure me. Nobody would suggest that a disease is any less real or any less lethal, merely because we don't know how the disease came about.

In Romans, Paul presents the theological equivalent of disease etiology, diagnosis, and treatment. The diagnosis is sin and estrangement from God. As a result we are all in jeopardy of death. For this disease, we have a treatment and cure in Jesus Christ.

Romans 3

<sup>22</sup>This righteousness from God comes through faith in Jesus Christ to all who believe. There is no difference, <sup>23</sup>for all have sinned and fall short of the glory of God.

Romans 5

<sup>12b</sup>and in this way death came to all men, because all sinned...

Romans 3

<sup>24</sup> [we] are justified freely by his grace through the redemption that came by Christ Jesus.

As with disease, our immediate interest is diagnosis and treatment, however, Paul also provides the theological etiology for humanity's spiritual disease: the story of Adam's disobedience.

Romans 5

<sup>12</sup>Therefore, just as sin entered the world through one man, and death through sin, and in this way death came to all men, because all sinned...

The etiology of sin is important because it shows us that sin is an epidemic affecting all of humanity-- not just me or you, or some other few persons. And if we are all infected, we all need the cure. Again we have to ask, does the veracity of this theological etiology rest on the historicity of Adam? Or, does Paul use the story of Adam as a convenient representative of the earliest of human beings?

Any attempt at an answer must begin by acknowledging that Paul uses both symbolic and factual language. Clearly sin is factual. The concept is used repeatedly in Scripture and it always refers

to some form of disobedience to God. It is never used to represent something else, or to be symbolic of something. Jesus is real. He is not a symbolic figure. He is the Messiah, the Redeemer. Abraham must be regarded as factual. He is not a symbolic figure but the founder of the tribe of Israel, later to become the nation of Israel. However, Paul also employs Abraham as part of a symbolic expression.

Romans 4

<sup>11</sup>... [Abraham] is the father of all who believe but have not been circumcised, in order that righteousness might be credited to them.

Obviously, Abraham is not the biological ancestor of all people who come to believe in God. As the first believer, Paul employs Abraham figuratively as the father of all who come to faith. Paul's reasons for this are beyond the scope of this essay. The point is that Paul uses both factual and representative language and in Romans 4 he often does so within the range of a very few verses.

So which Adam do we have in Romans 5? Literal or figurative? Rationally considered, there is no reason to take "sin entered the world through one man" literally when we are confident that "[Abraham] is the father of all who believe" should be understood figuratively. Taking "sin entered the world through one man" figuratively does not change the diagnosis or the treatment. Whether understood figuratively or literally the message is the same: sin is endemic in the human race, for whom God sent his Redeemer. Indeed, when Romans 5 is read in the light of Romans 1, Paul's use of Adam in Romans 5 appears quite figurative. In Romans 1 there is no mention of Adam even though the time framework is ancient, "since the creation of the world," and the subject is humanity's willful disobedience to God.

Romans 1

<sup>18</sup>The wrath of God is being revealed from heaven against all the godlessness and wickedness of men who suppress the truth by their wickedness, <sup>19</sup>since what may be known about God is plain to them, because God has made it plain to them. <sup>20</sup>*For since the creation of the world* God's invisible qualities—his eternal power and divine nature—have been clearly seen, being understood from what has been made, so that men are without excuse. <sup>21</sup>For although they knew God, they neither glorified him as God nor gave thanks to him, but their thinking became futile and their foolish hearts were darkened. <sup>22</sup>Although they claimed to be wise, they became fools <sup>23</sup>and exchanged the glory of the immortal God for images made to look like mortal man and birds and animals and reptiles.... <sup>32</sup>Although they know God's righteous decree that those who do such things deserve death, they not only continue to do these very things but also approve of those who practice them.

In Romans 1, Paul appears to provide the etiology of spiritual disease but without reference to any specific individuals such as Adam and Eve. Therefore, when Paul introduces Adam in chapter 5, it is reasonable to conclude that he is using culturally known shorthand for the more lengthy passage in Romans 1 on the antiquity and ubiquitous presence of disobedience to God.

As stated earlier, the Christian priority must first be the hermeneutics of Scripture before turning to the natural sciences and the *scientific* question of origins. The summary of my argument is that the principal of incarnational inspiration of Scripture and the awareness of literary genres within Scripture lead to the conclusion that neither the Old Testament nor the New Testament requires a literal interpretation of the early chapters of Genesis. Rather, these chapters are stories used by God to convey critical truth about the creation and humanity, and their relationship to God just as

the Good Samaritan is a story used by God to convey critical truth about how people are to treat one another. Especially for me, as I first heard the Gospel through his preaching, I can think of no better person to corroborate this position than the great 20<sup>th</sup> century evangelist, Billy Graham:

I don't think that there's any conflict at all between science today and the Scriptures. I think that we have misinterpreted the Scriptures many times and we've tried to make the Scriptures say things they weren't meant to say, I think that we have made a mistake by thinking the Bible is a scientific book. The Bible is not a book of science. The Bible is a book of Redemption, and of course I accept the Creation story. I believe that God did create the universe. I believe that God created man, and whether it came by an evolutionary process and at a certain point He took this person or being and made him a living soul or not, does not change the fact that God did create man. ... whichever way God did it makes no difference as to what man is and man's relationship to God.<sup>15</sup>

That being the case, it is through the natural sciences that we begin to understand the mechanisms of creation.<sup>16</sup>

### **E. The Science of Origins**

The thrust of the above discussion is that the Genesis stories of creation are not to be taken literally but literarily for the true message God is about the nature of creation, the nature of humanity, and our relationship to God. I also suggested that people can be categorized by their reaction to evolution, the science of origins: those who reject evolution, do not care, are not sure, or accept evolution as a valid scientific account of origins. There is no point in rehearsing the major lines of evidence in support of evolution as these are easily found elsewhere.<sup>17</sup> Suffice it to say that the evidence is a composite drawn from comparative anatomy, genetics, the fossil record, and geology. Christians can have an open mind about evolution and the supporting data if we grant the view of Scripture discussed above. That does not mean they will now jump to embrace evolution as God's creative mechanism. There remain legitimate questions among those who say, "I'm not sure about evolution". Moreover, adherents to Young Earth Creationism are very good at casting doubt on evidences for evolution. My interest in this paper is not a point-by-point rebuttal because that sort of argument is easily obtained elsewhere.<sup>18</sup> Instead I will address three broad issues about evolution that often trouble Christians: the rise of complexity, transitional forms, and the ancestry of humanity.

#### **Complexity**

Anyone with eyes to see knows that organisms are highly complex. The expression "anyone with eyes to see" features one of the most complex organs within complex organisms, the mammalian eye. How could something like the human eye come about merely by the natural factors of evolution, that is, genetic variation and natural selection? This question is so troubling that even

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<sup>15</sup> Frost, D. (1997). *Personal Thoughts of a Public Man*. Colorado Springs, CO: Cook Communications Ministries. P. 72-74

<sup>16</sup> Obviously, not all scientists view their work as discovering the "mechanisms of creation" just as such awareness is not necessary scientific work. It is however an important contribution that Christians can bring to the work of science.

<sup>17</sup> For example: Volpe, E. P., & Rosenbaum, P. A. (2000). *Understanding Evolution*. New York: McGraw-Hill.

<sup>18</sup> Interested persons should consult the webpages of the American Scientific Affiliation (<http://www.asa3.org/>), which is a "fellowship of men and women in science and disciplines that relate to science who share a common fidelity to the Word of God and a commitment to integrity in the practice of science."

Christians who have rejected Young Earth Creationism sometimes feel that there must be something more at work than the natural forces of evolution.<sup>19</sup> The problem is that the development of complexity, as well as change of species, takes place across expanses of time that are so immense as to be unimaginable. What sense can we as humans, with our lives of a mere 70-80 years, make of 70 million years? The development of complexity takes place not just beyond our experience but also beyond imagination. Thus, in order to comprehend radical change taking place over immense periods of time we need to use a thought experiment based on what we *can* observe: variation and modest change.

They say that no two snowflakes are exactly alike. Well, no two of any natural thing are exactly alike; variation is a fact of life.<sup>20</sup> This variation can lead to observable population changes in response to environmental changes. One of the most frequently cited examples of change is the Peppered Moth of England. Prior to the Industrial Revolution, the vast majority of Peppered Moths were light in color. Around the middle of the 19<sup>th</sup> century, however, dark-colored Peppered Moths became more frequent and by the late 1800s their levels had reached 90% or more. During this period, coal-burning factories in England increased dramatically as did pollution in the form of soot. Biologists reasoned that light-moths were now more visible against the darkening background of soot that polluted the countryside. Being thus more visible to predators, light-colored moths declined while the less visible dark colored moths increased. As is often the case in science, the situation is a bit more complicated than what biologists originally thought<sup>21</sup> but the Peppered Moths remain a classic example of variation and change within a humanly observable period of time.<sup>22</sup>

There was variation and there was change but we also observe that the moths never stopped being moths. Variation and change were limited to types of moths, and this is where we need to begin our thought experiment.

Imagine an organism such as the Peppered Moth. Peppered Moths may all look pretty much alike but our experience tells us that they are not identical. So let us imagine an organism that we will call species “X”. In the graph below,  $X_1$  is how we first encounter species X. The bell curve indicates that not all Xs look alike. They vary from individual to individual but most look very similar, hence the peak of the bell curve representing the most frequent form of species  $X_1$ . For example, in a population of Peppered Moths where the light colored moths are the most frequent, the peak of the curve for  $X_1$  would represent moths with dark wings *along with the myriad of other traits most characteristic of this species population*. Bear in mind that an organism’s traits can run into the millions as we consider behavioral, anatomical, physiological, biochemical, and electro-chemical characteristics. The peak of the curve represents the most common composite of characteristics across the entire array of an organism’s traits. The wings of the curve represent the number of variant organisms in the population, where trait variation in the case of Peppered Moths includes, but is not limited to, variant coloration.

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<sup>19</sup> This is the position of those who embrace “Intelligent Design.” For more on this subject, see: <http://www.asa3.org/ASA/education/origins/design2.htm>.

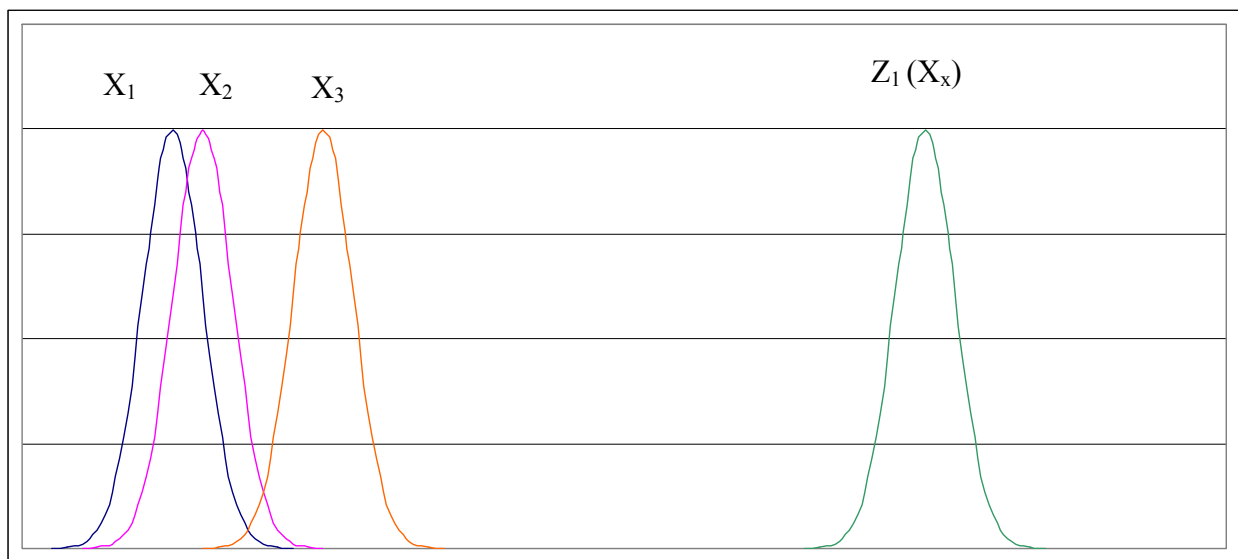
<sup>20</sup> This claim may involve some slight exaggeration (e.g., possibly identical twins) but the point is generally sound.

<sup>21</sup> See: <http://www.millerandlevine.com/km/evol/Moths/moths.html>.

<sup>22</sup> In recent years, use of the Peppered Moth example has come in for some criticism. An informed discussion of the issues can be found in Rudge, D. W. (2000). Does being wrong make Kettlewell wrong for science teaching? *Journal of Biological Education*, 35(1), 5-11.

Now imagine that some 20 years later we return to see how species “X” is doing and we discover that  $X_1$  is no longer the predominate form of species “X”. On our first visit, 20 years ago, we saw a few  $X_2$ s but now  $X_2$ s are the predominant form of species “X” (keep in mind that the difference between  $X_1$  and  $X_2$  could be any composite of any number of characteristics: behavioral, anatomical, physiological, biochemical, or electro-chemical). What we can say is that over the period of 20 years for some reason or reasons the species “X” population shifted to the right of the original bell curve best represented by  $X_1$ .

Imagine furthermore that environmental changes continue that favor the members of species X that are represented by the right side of the curve. I am now retired for many years but my former students 30 years later decide to revisit  $X_1$  and  $X_2$  of species “X” and they find  $X_3$ . An exceedingly rare form of the original species “X” population is now the predominant form 50 years later.



As I noted above, the idea of 70 million years is unimaginable, so we have to look at the shifting population of species “X” in the above graph and think what would happen if the pressure to the right continued not just 50 years but year after year, after year, after year, after year... beyond all possibility of human memory the years have gone by. Some millions of year later, another group of biologists is studying organisms (behavioral, anatomical, physiological, biochemical, and electro-chemical characteristics) and they discover species “Z.” The species “X” population has changed so much from its original form that  $X_x$ , where the subscript represents an exceedingly long line of descent from  $X_1$ , is no longer immediately recognizable as descendent from “X”.

What we have imagined is that even very small differences (in behavioral, anatomical, physiological, biochemical and electro-chemical characteristics) within a population can become very large changes when they are favored over the course of vast numbers of years. Of critical importance is that this change can include increasing organismal complexity

But, someone is bound to ask, why would anyone concoct such a story to begin with? The answer is the fossil record, extinction and time.

## The Fossil Record, Extinction and Time

Kids love dinosaurs and many are the kids who impress their teachers with an uncanny ability to pronounce the multi syllabic names of even obscure dinosaurs. The two things widely known about dinosaurs are that they lived a very long time ago<sup>23</sup> and that they are extinct. Fossils buried in the earth provide evidence that there were organisms on earth long, long ago, that are now extinct, and were very different from any living organism today.<sup>24</sup> However, scientists have learned from the comparative anatomical studies of fossils against today's organisms that ancient organisms had similar anatomical structures, which suggests that organisms are related. Hence, just as scientists use comparative anatomical studies of today's organisms as an aid to determining how closely related are various contemporary organisms, similar comparisons with fossils suggest relationships with other fossilized organisms as well as organisms living today. Both fossils and contemporary organisms thus can be grouped by similar structures; and since fossils can be dated to different time periods in the remote past, the fossil record suggests species change over time, as modeled with our imagined species "X" in the above graph, forming sequences of descent. Open any textbook on evolution and one finds organized fossil descent sequences showing change through time, such as prehistoric Eohippus to modern horse, which is evolution.

The fossils representing organisms that lived *between* the ancient forms and the modern forms (e.g. between X<sub>1</sub> and Z) are typically called transitional forms or transitional fossils. The ancient Eohippus is called the ancestral transitional ancestor to the modern day horse. But the notion of a transitional form is problematic for many people. Eohippus looks quite natural as an Eohippus. It does not look transitional, but people commonly expect a "transitional form" to be some sort of combination of earlier and later forms. Using our imagined species "X", people can picture what X looks like and what Z looks like and if X is ancestor to Z then in between there must be something that is half X/half Z. Or, for example, if a finned organism was ancestor to a footed organism then where is the "transitional" form that has a half fin/half foot? There are none; the difficulty is that the term "transitional" is misleading.

Any organism at any time in earth history looks normal, that is, it looks natural rather than appearing transitional. It will look like what it is; an Eohippus was an Eohippus just like today a duck is a duck. No one looks at a duck and wonders what "transitional" stage it is in! Nor are there any creatures where we say "oh that is an X on its way to being a Z ten million years from now because you can see that it is half this and half that". Hence, at any given moment in earth history there are *no* transitional forms (all organisms are what they are at that time) and *every* organism at any given moment in earth history is potentially an ancestor to something very different. Ducks are ducks today and their descendents could continue as such for a very long time (unless they become extinct like the American saber tooth tiger). The variation in today's duck population could alternatively be the foundation for a very different population of descendent organisms far in the future—some future species "Z".

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<sup>23</sup> The great antiquity of the earth is really beyond dispute. See Wiens, R. C. (2002) *Radiometric Dating: A Christian Perspective* [Web Page]. URL <http://www.asa3.org/aSA/resources/wiens2002.pdf> [2007, September 9].

<sup>24</sup> See, Miller, K. B. (2003). Common descent, transitional forms, and the fossil record. Chapter 8 in K. B. Miller (editor), *Perspectives on an evolving creation*. Grand Rapids, MI: Eerdmans Publishers.

Change through descent is something we only see looking backwards. When the fossil record is examined one sees that there were populations of ancient organisms no longer living today (such as Eohippus) but with characteristics similar to the organisms of later populations. The organisms were all “normal” or “natural” in their own day, but our retrospective examination of many fossils across vast numbers of years leads to the inference that some populations now extinct were ancestral to later populations, which is evolution. Scientists are thus not in the business of hunting down the proverbial “missing link.” Scientists seek evidence for organisms of the past in the form of fossils, which are then placed in ancestral or family histories as much as is possible.

### **Human Ancestry**

Our third problematic issue is human ancestry and the perceived indignity that the human person is a zoological primate and zoologically descended from earlier primates.<sup>25</sup> Many people can accept the idea of speciation through dissent, but draw the line at human beings. In the famous evolution debate between Bishop Wilberforce and Thomas Huxley, Wilberforce is reported to have mocked Huxley by demanding to know whether it was by his grandfather or grandmother that he claimed descent from a monkey. Faced with such incredulity, even Darwin initially published his theory of evolution without reference to humans. However, a traditional Christian view on the dignity of humanity has nothing to do with the mechanisms of creation. After all it is God who created the lowliest of creatures as well as us, and with the same building materials.

But what does the Bible actually say about humans? According to Genesis, God created humans from *dirt*.

Genesis 2

<sup>7</sup> the LORD God formed the man from the dust of the ground and breathed into his nostrils the breath of life, and the man became a living being.

So let's take a small pile of dirt. We can even make it a big pile of dirt. We can make it a pile of dirt equal in weight to a typical human being. Let's also bring in a chimpanzee. It's important to remember that primates are related under evolutionary theory, and that humans are primates. That does not mean that we are descended from “monkeys” but that we share a common ancestry. Would anybody equate in value this pile of dirt and the chimpanzee? Would anybody stand by and let me pound away on the chimpanzee with a 2x4 and not say anything? Of course not. I would be arrested for animal cruelty.

But what would they say if I were pounding on the dirt, other than wonder at my crazy antics? We all know that that chimpanzee is of greater inherent worth and that pile of dirt. Why then should anybody be bothered that God would use a development process of creation that passed through a chimp like stage, but on the other hand, not bothered at all that our origin was a worthless pile of dirt? It makes no sense. If God created us out of the substances, out of the matter, that was more fundamental in his creation, it should make no difference to us whatsoever that he used a developmental process with the result that we actually share ancestry with other members of God's creation. It is what God has said about humanity that matters: we bear the image of God.

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<sup>25</sup> See, Wilcox, D. (2003). Finding Adam: The genetics of human origins. Chapter 11 of K. B. Miller (editor), *Perspectives on an evolving creation*. Grand Rapids, MI: Eerdmans Publishers.

### Even So Some Still Doubt

The theory of evolution is a grand narrative or story of life on earth. Its strength is in the composite of numerous lines of evidence: fossils, comparative anatomy and morphology, biodiversity and geography, the age of earth, DNA/RNA data. When the narrative story is removed and each piece of evidence examined separately, the story of evolution is much less clear. Indeed, not grasping enough of the composite data is a major reason that many people remain unconvinced of evolution even if they do not reject it outright. Science educators share some responsibility here in that evolution is not often taught very well. Science educators need to teach theory and data together so that students see how data is built up to inform a theory while simultaneously explained by that theory.

This theory/data relationship is certainly not unique to evolution but quite common through out science. Theory/data relationships are also common to theology, such as N. T. Wright's case for the resurrection of Jesus.<sup>26</sup> Indeed, agnostic philosopher Michael Ruse recognizes that one cannot understand Jesus unless you see him in full context,

If you want to go after the details, you can criticize Jesus in every detail in almost every place. In fact, there is something in Jesus's actions to offend just about everybody. If you are an Orthodox Jew, you get mad at the way that Jesus works on the Sabbath. If you are a promoter of the family, you get mad at the way that Jesus shows indifference to his mother and his relatives. If you are a believer in strength, then you get mad at the way that Jesus promotes pacifism. And if you are in favour of total abstinence or vegetarianism, then you get mad at the miracle at Cana and at the miracle of the loaves and fishes. Jesus not only ate the flesh of living beings but multiplied them enough to feed five thousand. But to read Jesus in this way is to miss the great strength of the Gospels.<sup>27</sup>

The pieces or the parts must be viewed in light of the whole in order to make any sense. By itself, an educational failure concerning theory/data relationships could be fixed by an improved science (and theological) curriculum and instructional methods.

However, even with improved curricula and instruction, teachers would still need to deal with cognitive waters muddied by those few who have a *metaphysical* need for a theory of evolution and moreover use evolution as a weapon against Christianity. Evolutionary theory is their equivalent of the "Four Spiritual Laws"<sup>28</sup> for evangelizing against all forms of theism but specifically Christianity. Unfortunately, the scientific establishment tends to turn a blind eye to this metaphysicalization of evolution by a few of its members.<sup>29</sup> But we as Christians should not allow atheist zealots to tell us what is true science let alone how to properly understand our own faith. We should also not think that reservations about evolution are a terrible thing. Some reservation is to be expected especially amongst the majority of people who actually have little contact with the science of origins; but neither should conclusions be drawn in the absence of a careful consideration of the composite evidence on which the theory of evolution is built—not

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<sup>26</sup> Wright, N. T. (Bishop of Durham). (2007) *Can a Scientist Believe in the Resurrection?* [Web Page]. URL [http://www.ntwrightpage.com/Wright\\_Faraday.htm](http://www.ntwrightpage.com/Wright_Faraday.htm) [2007, August 16].

<sup>27</sup> Ruse, M. (1999) *Review of E.O. Wilson's "Consilience"* [Web Page]. URL <http://www.metanexus.net/magazine/tabid/68/id/2981/Default.aspx> [2007, June 22].

<sup>28</sup> The "Four Spiritual Laws" is an evangelistic track developed by Campus Crusade for Christ in the 1960s.

<sup>29</sup> Cobern, W. W. (2007). ID hysteria says more about some people's freudian "ID" than about science. *Canadian Journal of Science, Mathematics, and Technology Education*, 7(2/3), 276-262.

merely the individual pieces of evidence. Whatever conclusions we come to about origins should proceed from a good understanding of both Scripture and science. There is a saying that you can keep quiet and people may think you a fool or you can open your mouth and remove all doubt. In other words, be very careful about drawing under-informed conclusions.

## **F. Evolution as God's Mechanism of Creation**

When I first encountered the scientific theory of evolution I was already a Christian, though only a teenager, and my reaction was one of delight at having gained some insight into God's creation of the world. Nonetheless, there are people who find this view hard to accept not because they are fundamentalist Christians but quite the opposite. These people are sure that there is no Creator and that evolution is a supremely materialistic and random process in nature. David Hull for example assures us that evolution is "rife with happenstance, contingency, incredible waste, death, pain and horror."<sup>30</sup> He cannot imagine that a God would create such a world. This nature-red-in-claw-and-tooth perspective has been part of some people's thinking since Darwin himself. And there is no doubt that suffering, pain and death are very much part of our world. There is also great life, freedom, beauty, and majesty in our world.

Earlier I used the expression about half-empty versus half-full glasses meaning that people can observe exactly the same thing and come away with two very different observations. The idea of perspective applies also to one's view of nature. Just as Dawkins found that Darwin made it possible for him to be an intellectually fulfilled atheist by eliminating the need for a Creator, the nature-red-in-claw-and-tooth perspective confirms for the atheist that: "The universe we observe has precisely the properties we should expect if there is, at bottom, no design, no purpose, no evil and no good, nothing but blind, pitiless indifference."<sup>31</sup> In other words, Dawkins and his ilk want to see a pointless cosmos; indeed, they *need* to see a pointless cosmos, because that is what their belief system requires. That, however, is not a perspective under which we as Christians need labor. Life on earth is incredibly diverse and the great creative mechanism for that diversity is evolution. In response to Intelligent Design proponents, Chet Raymo commented:

Evolution by natural selection, for all of its jerry-rigged solutions, for all its failed experiments and blind alleys, is a wonderfully efficient way to populate a universe with diverse and interesting creatures. If I were an Intelligent Designer, and I had a hundred billion galaxies (at least) to fill with wonders, I can think of no way more efficient to do it than by genetic variations and natural selection of self-reproducing organisms... You want intelligent design? Try evolution.<sup>32</sup>

And though at first one might be put off by the thought that creation includes jerry-rigged solutions, failed experiments and blind alleys, we as Christians should not quickly jump to the conclusion that such things are bad. Rather, God's creative acts can be viewed the way we understand healthy human relationships:

one may assume that God's love, at the very least, would allow the other, in this case the entire universe, the time and space to be and become truly other.... If God loves the

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<sup>30</sup> Hull, D. (1991). The god of the galapagos. *Nature*, 352(6335), 485-486.

<sup>31</sup> Dawkins, R. (1995). *River Out of Eden*. New York: Basic Books. p 131.

<sup>32</sup> Raymo, C. (2002 May). Intelligent design happens naturally. *The Boston Globe*, p. C4.

universe as something other than God, then the universe must be permitted to possess at least some degree of spontaneity and autonomy.<sup>33</sup>

In the spontaneity and autonomy of evolutionary processes, we thus behold together the fantastic creative ingenuity of God along with God's great love for his creation. There is suffering, but we as Christians live in the shadow of our Lord's crucifixion and should not agree too quickly that suffering is without purpose. Guy Murchie asks what type of world would each of us create. Would it be nice and safe?

Honestly now, if you were God, could you possibly dream up any more educational, contrasty, thrilling, beautiful, tantalizing world than Earth to develop spirit in? If you think you could, do you imagine you would be outdoing Earth if you designed a world free of germs, diseases, poisons, pain, malice, explosives and conflicts so its people could relax and enjoy it? Would you, in other words, try to make the world nice and safe – or would you let it be provocative, dangerous and exciting?<sup>34</sup>

I suppose that some would prefer “nice and safe”, would prefer to live the life of the idle wealthy, but that is not the destiny for humanity as set forth in Genesis 2. God calls us to work and to overcome, and to that end he has placed us in an evolutionary world that requires just that, that we work and overcome. So yes, evolution is God's incredibly ingenious mechanism of creation.

### Conclusion

In closing this essay, I repeat that these pages are a mere introduction to what are vast topics. It is essential that Christians have correct ways to understand the Bible and should give time not only for its study but also the study of Bible history and interpretation. We would find that the concept of incarnational inspiration has a long pedigree in church history that has too long been overshadowed by very simplistic approaches to the Bible. But we are in danger of committing a modern day version of the Docetic heresy: denying that the Bible has any human elements at all, in other words, denying the incarnational nature of the Bible.

I fear that many Christians, especially American Christians, are embracing a reactionary theology. They hear prominent persons such as Richard Dawkins evangelistically promoting atheism by assuring the public that science clearly demonstrates there is no God (after all according to Dawkins scientists have not detected God nor have need for a God-hypothesis).<sup>35</sup> We are also assured by science, according to Dawkins, that the literal truth of Genesis is nonsense. We *should* say to Professor Dawkins, who is a biologist with no education in religion or theology, that he has every right to his opinions but that the opinions of a prejudiced and willfully ignorant person such as he on the topic of religion are of no interest to us.<sup>36</sup> Instead we react defensively by tacitly adopting *his* view that the truth of Genesis lies in its literal interpretation and that we must be able to physically detect God in nature if we are to conclude

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<sup>33</sup> Haight, J. F. (2007). Darwin and contemporary theology. *World Views: Environment, Culture, Religion*, 11(1), 44-57.

<sup>34</sup> Murchie, G. (1978). *The Seven Mysteries of Life: An Exploration in Science and Philosophy*. Boston: Houghton Mifflin.

<sup>35</sup> Dawkins, R. (1995) or Dawkins, R. (2006). *The God Delusion*. Boston: Houghton Mifflin.

<sup>36</sup> For a scathing of critique of Dawkins' anti-religion polemics, see Lash, N. (2007). Where Does The God Delusion Come from? *New Blackfriars*, 88(1017), 507-521.

that there actually is a God. Otherwise, God does not exist and the Bible is meaningless. Dawkins has us acting like the Pharisees who asked Jesus for a sign.

Matthew 12

<sup>38</sup>Then some of the Pharisees and teachers of the law said to him, “Teacher, we want to see a miraculous sign from you.”

And how did Jesus answer the Pharisees?

<sup>39</sup>He answered, “A wicked and adulterous generation asks for a miraculous sign! But none will be given it except the sign of the prophet Jonah.

By the “sign of the prophet Jonah,” Jesus alludes to the crucifixion and resurrection, the only sign that people needed then or now, as opposed in modern times to seeking signs of the deity in nature. Of course we see God in nature: “The heavens declare the glory of God; the skies proclaim the work of his hands.”<sup>37</sup> But the Pharisees, Dawkins, and all the skeptics in between, want “signs”, they want physical evidence—but Jesus says we have the sign of Jonah. As written in Hebrews 1.1-2:

In the past God spoke to our forefathers through the prophets at many times and in various ways,<sup>2</sup> but in these last days he has spoken to us by his Son, whom he appointed heir of all things, and through whom he made the universe.

We may also think that the skeptics will be convinced of God if we can but show scientific evidence of “intelligent design” in nature. After all, that is the implication of their conclusions. If they say there is no physical evidence of God in nature then surely they are suggesting that if such evidence were forthcoming they would have to change their minds. Really? Consider the story of the Rich Man and Lazarus.

Luke 16

<sup>19</sup>There was a rich man who was dressed in purple and fine linen and lived in luxury every day. <sup>20</sup>At his gate was laid a beggar named Lazarus, covered with sores <sup>21</sup>and longing to eat what fell from the rich man's table. Even the dogs came and licked his sores.

<sup>22</sup>The time came when the beggar died and the angels carried him to Abraham's side. The rich man also died and was buried. <sup>23</sup>In hell, where he was in torment, he looked up and saw Abraham far away, with Lazarus by his side. <sup>24</sup>So he called to him, “Father Abraham, have pity on me and send Lazarus to dip the tip of his finger in water and cool my tongue, because I am in agony in this fire.”

<sup>25</sup>But Abraham replied, “Son, remember that in your lifetime you received your good things, while Lazarus received bad things, but now he is comforted here and you are in agony. <sup>26</sup>And besides all this, between us and you a great chasm has been fixed, so that those who want to go from here to you cannot, nor can anyone cross over from there to us.”

<sup>27</sup>He answered, “Then I beg you, father, send Lazarus to my father's house, <sup>28</sup>for I have five brothers. Let him warn them, so that they will not also come to this place of torment.”

<sup>29</sup>Abraham replied, “They have Moses and the Prophets; let them listen to them.”

<sup>30</sup>“No, father Abraham,” he said, “but if someone from the dead goes to them, they will repent.”

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<sup>37</sup> Ps 19.1

<sup>31</sup>He said to him, “If they do not listen to Moses and the Prophets, they will not be convinced even if someone rises from the dead.”

Well someone has risen from the dead and they still do not believe. The mind of a person seeking signs has already concluded that there are no signs. So why are we listening to the skeptics rather than our Lord? Do we really think that there will ever be evidence for intelligent design that the Dawkins of this world will find persuasive? We have allowed the evangelists for atheism from Huxley to Dawkins teach us our theology. We have allowed the devotees of evolutionary metaphysics to tell us what evolution and science really mean; worse, we have allowed them to tell us what the Bible really means.

In contrast, if we apply the sign of Jonah, we open our eyes to an incarnation approach to the Bible. Problems between science and Genesis disappear. If we learn evolution as science, problems between science and Christianity disappear. As noted by Francis Collins, world class scientist and deeply committed Christian, there are no conflicts between science and Christianity when they are properly understood,<sup>38</sup> and science includes evolution, the science of origins, God’s mechanism of creation.

#### **Revisions in v14.00**

- On pages 18-20, the discussion of species change through time was revised.
- Added Rudge (2000) citation on page 18.
- Revised Conclusion.
- Minor improvement and correction of wording on pages 6, 7, 8, 9 10, 11, 15, 16, 18 and 20.

#### **Revisions in v14.01**

- Minor format correction on page 6.

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<sup>38</sup> Collins, F. S. (2007) *Presentation at the National Prayer Breakfast* [Web Page]. URL <http://www.asa3.org/ASA/resources/Collins20070201.html> [2007, September 10].