

5. THE E-WORD

We began Chapter 4 by considering a scene at the Grand Canyon where a boy is asking his mother, “*The ranger said the river dug the canyon, Mommy, and you said God did it. Who’s right?*” We saw how a proper theology of nature, one that recognizes that God is sovereign over the river, that the river is a tool God uses, that natural explanations aren’t rivals to God, can deal with this sort of question, which is at the root of many of our alleged conflicts between science and faith. We could go through the same reasoning if they were at the zoo. *Did God make the giraffe, or did natural processes like evolution make the giraffe?* Logically, this is the same question as the canyon and the river, but somehow the church has a much easier time with God using the tools of nature to create canyons than to create giraffes. In some places, if you suggest that evolution is a tool God uses, you’ll get charged as a heretic.¹

So, we need to tackle the E-word. Evolution. It often gets a knee-jerk negative reaction, especially in more conservative churches. In turn, that reaction is a major factor in many scientifically literate people deciding that Christianity is for stupid people; they won’t listen to the Gospel because of the things some Christians say about evolution and other science. There is plenty of blame to go around for this situation, but at least part of the problem is because people use the word without defining what they are talking about. There are many different ways the word “evolution” can be used, ranging from things that Christians should have no problem with to things that are totally unacceptable. Our first task in order to deal with this constructively is to distinguish among these different meanings.

The Many Meanings of “Evolution”

Others might classify things differently, but for our purposes we will identify six meanings of “evolution.” First, we will describe each one and its degree of scientific certainty (or uncertainty); then we will come back and discuss the compatibility (or incompatibility) of the different meanings with Christian theology.

- E-1) *Change over time.*** This is the most basic meaning of the English word “evolution,” simply meaning that something changes with the passage of time. For example, we might talk about the evolution of popular music, or the evolution of stars. With regard to living things, this simply says that things are different than they were in the past (there used to be dinosaurs; now there aren’t). Almost nobody denies this meaning.
- E-2) *Common ancestry.*** This is central to what scientists usually mean by “evolution.” Common ancestry (or *common descent*) means that life has branched out, so dogs and wolves are distant cousins, dogs and cats are more distant cousins, and if you go back far enough dogs and fish, or dogs and trees, had a common ancestor. You can put humans in the family tree as well – related to chimpanzees, more distant from other mammals, and so forth. This says nothing about how or why this occurred, merely that life has branched out in this way. Sometimes people distinguish between evolution as “fact” and as “theory,” and the distinction is between common ancestry as the “fact of evolution” and the “theory of evolution” that tries to explain how it happened. Many people don’t appreciate that the evidence for common ancestry is overwhelming. It might have been reasonable to question

¹ You can read about the trial of biochemistry professor Terry Gray in the Orthodox Presbyterian Church at http://www.asa3.org/gray/evolution_trial/index.html.

it 50 years ago when it was just based on things like fossils and anatomy, but now DNA technology has provided powerful independent confirmation.²

E-3) *Evolutionary mechanisms (genetic variation, natural selection).* This refers to specific natural mechanisms (first proposed by Darwin, although in a primitive way because genetics was not yet understood) that cause species to change. Genetic variation is the fact that (due to mixing of parental genes and to mutations) children have different genes and different traits. Natural selection refers to the fact that the traits will make some children more likely to survive and pass their genes on to future generations. E-3 is clearly correct on some scales, as it can be directly observed (for example, the evolution of bacteria resistant to certain antibiotics) or studied at the level of individual traits (for example, a recent study traced the evolution of lactose tolerance in humans as milk-producing animals were domesticated in different societies).

At this point, we need to observe that these first three meanings of evolution are extremely well established. To deny these senses of the word is now almost indefensible. If we tell people they need to deny these things in order to follow Jesus, that is a huge stumbling block, not too different from telling them that following Jesus requires saying the Earth is flat.

E-4) *Mechanisms (E-3) account (physically) for common descent.* This is typically what scientists mean by “the theory of evolution.” We know these mechanisms produce changes in species, but do they account for all the evolution (in the E-2 sense) that has happened through the history of life on Earth? Most biologists, including most Christians working in these areas, would say “yes,” but it is certainly not as 100% established as the previous meanings. It is very important to note the word “physically” in our E-4 definition. When we say the mechanisms account for what happened, that is at the physical level – it says nothing about whether this is nature acting by itself (of course for a Christian there is no such thing as nature acting by itself!) or whether God is working through nature.

E-5) *Origin of life (chemical evolution).* The theory of evolution is only an explanation for the development of life from other life. How life began in the first place is a different question, but people have proposed somewhat similar theories (the technical term is *abiogenesis*) of how that happened. That is an area where there is much room for doubt; some people see it as an insurmountable problem, while others think science is coming closer to good explanations. If you want to question this, you probably shouldn’t use the word “evolution” – use some other word like abiogenesis, because this is not what the scientific community typically means by evolution.

E-6) *Evolutionism.* I use that term to refer to a meaning that is not science at all, but rather an ideology that sometimes masquerades as science. This starts with the philosophical position that natural explanations exclude God (the “God of the Gaps” error discussed in Chapter 4). Since science has produced these natural explanations for life, those with this ideology claim to have pushed God out of the picture. Of course these metaphysical conclusions are not science in any way – those who advocate this meaning are simply pushing atheistic philosophy, and it is wrong to try to claim it is a result of science.

² Meaning that the family relationships that show up in the DNA of species agree extremely well with those that had been previously deduced from other evidence. For an accessible explanation of the strong evidence (DNA and otherwise) for common ancestry, see the book by Falk listed in the Bibliography.

From a Christian standpoint, it will not do to say we accept or reject “evolution” without distinguishing among these meanings. E-6 is clearly unacceptable. E-1 is clearly no problem, and there is really no reason for E-3 to be a problem. E-2, and to a greater extent E-4 and E-5, can create tension with some doctrine, but they are more compatible with Christianity than many people assume. We will consider some of the potential issues shortly.

Other Problematic Words: “Darwinism” and “Naturalism”

While we are clarifying things, we should discuss two more words that are often sources of misunderstanding in these discussions. In both cases, those who fail to make the necessary distinctions of meaning (either out of carelessness or as a rhetorical tactic) hinder our ability to deal with issues constructively.

The first problematic word is *Darwinism*. In common scientific usage, it merely refers to Darwin’s explanations for the evolution of life (E-3 and E-4 in our list above). However, in some Christian circles, this word is used to refer to E-6, a combination of science with atheist ideology. The confusion over this word has become so great that it might be best to avoid it completely in discussions of science and faith.

Similar confusion arises with the word *naturalism*. Sometimes this simply refers to the study of nature (so we might refer to John Muir as a naturalist). But often it is used in a more philosophical sense, and that is where the trouble starts. One must distinguish between two very different types of naturalism. *Methodological naturalism* is a description of how science operates, studying nature only in terms of natural explanations. As the name implies, this is merely a limitation on the methods of science – it does not mean that the supernatural does not exist, or that we can’t know about it, only that it is not something that can be studied by science. *Metaphysical naturalism* is a philosophical position (also known as *materialism* and closely related to E-6 above) which, rather than being a limitation on science, is a limitation on reality, saying that the natural world is all that exists. A classic example of this is the line from the late Prof. Carl Sagan,³ “The Cosmos is all that is or ever was or ever will be.”

Some people use “naturalism” in ways that ignore the distinction between methodological and metaphysical naturalism, or treat them like they must go together, and that causes major problems. Any time you hear the word “naturalism” in these discussions, you should demand clarification of which kind is meant, and reject any implication that the two are inseparable.

Scientific Objections to Evolution

Now that we have delineated the different meanings of “evolution,” we can consider issues of compatibility with the Christian faith. In order to do that, we will talk about the different reasons some Christians have rejected the theory of evolution. When I use that term here, I will usually mean E-4 in our list of meanings above.

Most of the objections discussed will be Biblical and theological, because that is the focus of this course and because I promised that no scientific background would be required. However, I will start by mentioning scientific objections, without going into any detail. We can put these objections into two categories.

The first category is “nonsense.” Unfortunately, there are many awful anti-evolution arguments that betray gross ignorance and harm the cause of the Gospel (recall the Augustine quote in

³ In his TV series *Cosmos*

Chapter 2). These include bad geology arguments from the “creation science” movement, and misuse of the Second Law of Thermodynamics. I got my Ph.D. in thermodynamics, and I can tell you that any time you hear somebody using the Second Law to argue against evolution, that is a good sign that they don’t know what they are talking about.

However, not all science-based anti-evolution arguments are nonsense, so we have a second category of more reasonable claims. Some people⁴ argue that there are “gaps” in natural history that evolution by natural means can’t explain. They talk about concepts like “irreducible complexity” and “specified complexity.” These play a major role in the so-called “Intelligent Design” movement, which we will discuss briefly later in this chapter.

While recognizing that this second category of more reasonable scientific arguments exists, we should note its limits. The scientists who make these arguments⁵ agree with a lot of evolution. Most of them fully accept E-2 (common ancestry) and E-3 (Darwin’s mechanisms), and often most of E-4 – they just claim that God had to do something special at one or more key points, such as the origin of life. So, in our spectrum of meanings for “evolution,” these more reasonable arguments are only in opposition to E-5 and sometimes E-4; they leave E-2 and E-3 unscathed.

Biblical and Theological Objections to Evolution

As we try to determine the compatibility of the various aspects of evolution with the Christian faith, the more important objections to consider are the Biblical and theological objections. In this section, I will list all the ones I can think of, and we will evaluate each of them to see if they present a real problem, or if they can be dealt with by sound Biblical interpretation and a healthy theology of nature.

1. *Genesis*. Some would say that the creation story in Genesis is not compatible with the evolutionary development of life. We essentially dealt with this in Chapter 3, as we looked at interpreting Genesis. We saw that if you read it in its historical and cultural context, and if you allow God to accommodate his revelation to the audience, Genesis isn’t making any scientific claims that would rule out God’s creation unfolding over millions of years.
2. *Death before the Fall*. The more extreme “creationists” claim that there was no death of any sort before the Fall of Adam and Eve. This position may come from New Testament passages about death entering the world through one man,⁶ and maybe also from people thinking that God’s good original creation shouldn’t have any death. For plants and animals, this interpretation fails badly. In context, the passages about sin and death are clearly talking about human death. If you think about it, if God tells his creatures to be fruitful and multiply, a good creation needs to include death, or else things are going to get very crowded. We might also recognize that God created carnivores. Human death before the Fall is a more legitimate issue. Even there, it has been pointed out that the passages may refer primarily to death in the spiritual sense (for example, God tells Adam “the day you eat of it [the tree of knowledge of good and evil] you shall die,”⁷ but Adam and Eve did not die physically that day).

⁴ For example, biochemistry Professor Michael Behe in his 1996 book *Darwin’s Black Box*.

⁵ But not necessarily the non-scientists who promote these arguments for their own purposes.

⁶ Rom. 5:12; I Cor. 15:21-22

⁷ Gen. 2:17.

3. *The Fall, Adam and Eve.* The picture given by the theory of evolution (and the scientific evidence in general, whether or not one accepts evolution) does not fit the traditional idea of two people, living fairly recently, who gave rise to the whole human race, and whose sin is transmitted to us as their descendants. It is now clear that humanity (at least physically) dates back at least 100,000 years, and that if you put Adam and Eve just 6000 or 10,000 years ago there are many people all over the world who can't be descended from them. While this is a genuine point of tension with traditional Christian doctrine, there are at least three possible resolutions.

First, you can push Adam and Eve much further back in time – it would have to be at least 100,000 years, and even millions of years has been proposed. That raises some other problems,⁸ but it is one option.

Second, Adam and Eve can be viewed as representatives. At some point, God took two early humans and put them in a garden and they fell to temptation, and they were in some sense representing all humans (maybe as the first real humans given the image of God), as they disobeyed on behalf of all of us. John Stott is one prominent Christian who has taken this view, which makes Adam not the biological but the “federal” head of the human race.

Third, Adam and Eve can be viewed as an inspired story that isn't trying to tell us scientific or historical details, but instead is communicating the message that we all are sinners who follow our own desires instead of God's. This does not make Genesis any less “true” – it just says that the truth about human sin is being conveyed in the form of a story, not unlike the Parables of Jesus. Some people consider this option unacceptable, claiming that places in the New Testament that mention Adam⁹ speak about him like a real person. But that is flawed reasoning. If a pastor gives a sermon and says we should love our neighbors like the Good Samaritan did, that doesn't mean he is claiming that the Good Samaritan was a historical individual – he is using a familiar character to make the point. Similarly, when the Apostle Paul mentions Adam, he is using a story that his readers would be familiar with, and the points he is making (which are about Jesus, not about Adam) don't depend on whether Adam was a real individual or a character in the inspired story.

4. *Specialness of humans.* Christian doctrine would say that there is something special about humans, unique among God's creatures. Some would claim that this is diminished if we say we are related to other animals. However, our specialness is not in our physical bodies. Scripture uses the image of dust, or mud, for our bodies – there's nothing special about that. What is special is that we are made in the image of God, with a unique capacity to be in relationship with God and a unique responsibility to be God's lieutenants on Earth. Our special spiritual capacity and responsibility don't depend on what tools God used to produce our bodies.
5. *Consistency with God's character.* Sometimes people object to evolution with statements like “God would never use a process with so much death and suffering.” In response to this, we might observe that God has (in Jesus) used death and suffering to accomplish his purposes. God does not always work like we expect God to work. A related objection would be that of *efficiency*, wondering why God would take billions of years to carry out

⁸ For one thing, the Biblical descriptions of agriculture and society for Adam and his children seem to be appropriate for the Neolithic period, around 10,000 years ago.

⁹ Passages referenced in footnote 6.

the creation. However, efficiency is only an issue for those of us whose resources are finite. God is not limited by resources or by time, so whether God creates over billions of years, or six days, or instantaneously, is not a question of efficiency, but merely a matter of the way God decided to do it (and who are we to second-guess God?).

6. *Morality.* Some people oppose evolution due to what they see as its moral consequences, pointing to Social Darwinism, eugenics, and other cases where evolution has been used as a justification for evil. An example was provided several years ago by a woman from the so-called Christian right named Nancy Pearcey. Supporters of the Intelligent Design movement got a sympathetic hearing in Congress, and, in conjunction with that, Pearcey made an anti-evolution statement based on lyrics from a rap song: *You and me, baby, ain't nothin' but mammals, so let's do it like they do on the Discovery Channel.*¹⁰ This might have been embarrassing to her colleagues who were telling Congress that their movement was all about science, but it illustrates the morality argument. She was saying that if we accept a theory that tells us we are “nothing but mammals” (of course evolutionary science doesn't tell us that; it says we are mammals but the “nothing but” is not a scientific conclusion), it makes us behave like animals. In response, we might point out that sinful people were finding excuses to “do it” long before Darwin (David and Bathsheba, for example), but there is a more fundamental flaw. Even if a scientific theory is used for bad purposes (as mentioned in Chapter 2, historically evolution has been misused), that says nothing about whether it is true or false. This argument is just like saying we should reject Christianity because of the Crusades or corrupt televangelists or any of the other bad things that have been done in the name of Jesus.
7. *Explanations without God equal atheism.* Some people say that if something is explained without reference to God, the explanation is atheistic and we must reject it. Underlying this is the idea that God working through nature somehow doesn't count, so we have to find room for God. We discussed that in Chapter 4; this is the childish either/or (the “God of the Gaps” error) that fails to understand that “the river” and “God” can both be correct answers to “Who made the canyon?”. We used the example of rain, where our atmospheric scientist friends can explain it physically without invoking God, but as Christians we still affirm that God is in charge of the rain. If we have a proper theology of nature that appreciates God's sovereignty over creation, we will recognize that the reasoning behind this objection is faulty.
8. *It is an atheist weapon.* This is related to the objection above. It is true that some atheists use evolution as a weapon in attacking the faith, but that doesn't mean they are right in their analysis. It is important to recognize that their argument has 2 parts:
 - A) *A “natural” explanation for something means God didn't do it.*
 - B) *The theory of evolution is a correct natural explanation for the development of life.*

Therefore, the logical deduction from Parts A and B, if both are true, is that God is not the creator of life.

Many Christians respond to this argument by attacking Part B. That is not necessarily wrong, but the problem is that too many Christians skip right past Part A, falling for the atheists' initial premise. However, it is Part A that is clearly wrong – it is an assumption

¹⁰ “The Bad Touch” by the Bloodhound Gang.

about the metaphysical meaning of evolution, but we should not allow atheists to define *meaning* for us. For the Christian God who is sovereign over nature, this assumption is simply incorrect; it is the “God of the Gaps” error discussed in Chapter 4. When Christians are faced with this two-part argument, the first thing we should do is reject Part A. Then we can discuss Part B if we wish, but without Part A we don’t put ourselves in a position where our faith is riding on whether or not Part B is true.

9. *Apparent lack of purpose.* Christian doctrine would say that life has developed according to God’s purpose. Can this be reconciled with an evolutionary process where “chance” seems to play a major role? We know from the Bible that God works out his purposes, but the way God does that may not be visible to us. With regard to God using random processes, there are at least two possible answers. One is that what appears to be chance to us is really being determined by God behind the scenes.¹¹ The other possibility is that the randomness is real, and this is one of the ways God has given his creation freedom, but of course the whole picture is under God’s authority to accomplish God’s purposes. An analogy for this latter option would be a casino where there is real randomness, but things are set up so that the house always wins in the end.

We have now gone through all these objections, and a few of them raise legitimate issues, but none of them is fatal. So, there is no compelling Biblical or theological reason why Christians should reject “evolution,” if the word is restricted to its scientific senses (meanings E-1 through E-5 in the list above). From the standpoint of Christian theology, it is OK if God did his creating that way (and OK if he didn’t). Figure 4 below summarizes the different meanings we have discussed; our conversations about “evolution” will be more edifying if we can keep these distinctions in mind.

Meaning of “Evolution”	Scientific Certainty	Compatible with Christianity?
<u>E-1</u> : Change over time	100%	No problem.
<u>E-2</u> : Common descent, common ancestry	Beyond a reasonable doubt.	No problem unless fundamentalist interpretation of Genesis adopted.
<u>E-3</u> : Darwin’s mechanisms of variation and natural selection	Beyond a reasonable doubt.	Should be no problem.
<u>E-4</u> : Hypothesis that E-3 completely accounts (physically) for development of life on Earth (E-2)	Well-supported, but room for some doubt.	Some friction, mostly goes away if we remember God’s sovereignty over nature and don’t try to make the Bible a science text.
<u>E-5</u> : “Chemical evolution”: similar natural mechanisms for origin of first life.	Very uncertain.	Some friction, mostly goes away as in E-4 above.
<u>E-6</u> : “Evolutionism”, claims that natural explanations like E-4 and E-5 mean no God.	Not science at all, atheist philosophy often falsely attached to science.	Incompatible.

Figure 4. Summary of different meanings of “Evolution”.

¹¹ *The lot is cast into the lap, but the decision is the Lord’s alone.* (Prov. 16:33)

Thoughts on the “Intelligent Design” Movement

I mentioned that legitimate scientific questions have been raised about some of the broader meanings of evolution. While it is clear that life has branched out and modified over billions of years (or else God has gone to great lengths to plant phony evidence of it), the theories that try to account for all that in terms of natural mechanisms are not 100% airtight. I hope I have convinced you that, even if these natural explanations are right, it shouldn't threaten our faith – it is perfectly fine if God created that way. But if God didn't, if God at some point worked in a more direct way rather than God's usual working through nature, that's probably worth knowing, and it might be helpful in our apologetics if it is done wisely and with a sound theology of nature behind it. Of course, if it is done badly it can hurt the cause of the Gospel, so we need to avoid doing more harm than good.

These arguments are most prominent today in the so-called Intelligent Design (ID) movement. Movement is the right word – it is not just a few scientists with different ideas, it is tied together with conservative social and political movements and the so-called “culture wars.” While we will not take the time here for a thorough analysis of the ID movement, I will offer a few brief thoughts and observations – not about the science, but about some significant aspects of the overall approach.

First, I wish it had a different name. All Christians believe in a designer (a specific designer, revealed in Jesus); we just differ about how God carried out the design. The distinctive aspect of this movement is not that it affirms an intelligent designer; it is the claim that science can detect God's design. Unfortunately, that name gives the misleading impression that anybody not on board with the movement is rejecting the idea of a designer. Of course that's not true; there are many Christians who believe in a designer but who don't believe in the ID movement.

Second, it has an unfortunate tendency to avoid theology. In Chapter 4, we discussed how a sound theology of nature is essential for Christians in dealing with these issues. For the most part, when the ID movement discusses ideas, it tends to be philosophy, not Christian theology. Probably this is partly because they want to influence school boards. But another factor is that it is not a specifically Christian movement – it is an anti-evolution movement that has many Christians in it, but their main biologist is a Moonie, and there are other non-Christians. While it can be OK for Christians to join with non-Christians for a good cause, our participation when we do that should be grounded in theology that is well thought-out and distinctively Christian.

Third, science often takes a backseat to public relations. The amount of science has been more than zero, but it has been small. So far, the movement has been primarily philosophy and rhetoric and public relations, trying to cast doubt on existing science but with almost no new, constructive science. Public relations isn't necessarily all bad; people need to communicate, and some of the popular writing from the movement is reasonable and responsible. But there are also things out there that are more like propaganda, using rhetorical tricks and quoting out of context and other things that damage the cause of Christ.

Fourth, it sometimes lets itself be used by the extremes of the “creationist” movement. In the recent school-board controversies in Kansas and Pennsylvania, the Intelligent Design movement was the public face, but most of the real push came from the extremists who insist that the Earth is 6000 years old and that Genesis must be read as a science textbook. The scientists in the ID movement for the most part don't agree with that viewpoint, but they don't seem to mind being used to promote it. Their justification is that they have a “big-tent” approach, joining with anybody who is on their side in fighting atheism. That is defensible, but their tent only seems to

stretch in one direction. People who believe God used evolution to create, who are just as opposed to atheist philosophy, are often treated as enemies. For example, one of the leaders of the movement has claimed that Christian professors support the theory of evolution not because they think it is true, but because opposing it would be bad for their careers.¹² It is fine to criticize people's views, but we can't condone that kind of attack against the integrity of fellow Christians. These are people who should be on the same team, but that doesn't seem to be how the ID movement defines their team.

Fifth, it tends to promote the "God of the Gaps" error, giving the impression that it is theologically necessary that God be scientifically detectable. As we have discussed, this error is the idea that natural explanations exclude God, that if we can't find "gaps" in nature where God obviously did something, that means God didn't do anything. With a God-of-the-Gaps mindset, your faith depends on finding these gaps, when a proper theology of nature would say that God is in charge of the whole fabric, not just the gaps. Some people in the ID movement avoid this error, but it becomes a problem of translation – by the time it gets to the churches (where unfortunately many Christians already think in God-of-the-Gaps terms), it gets interpreted that way. So you hear things like "Christianity isn't false after all because the Intelligent Design movement is showing that evolution isn't true after all" which is horrible theology that denies God's sovereignty over nature. So, at a minimum the movement needs to be more careful in communicating to make sure those who hear their message don't fall into the God-of-the-Gaps trap. They must make it clear that they are presenting their arguments as evidence pointing toward God, but not as necessities, where the truth of the faith depends on their arguments being right.

Finally, despite these problems, when the ID movement does science (which unfortunately is not very often), it raises some interesting questions and it deserves to be listened to. If sufficient care is taken to avoid and disavow the "God of the Gaps" error, well-chosen design arguments may have a legitimate role in apologetics for certain audiences.

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¹² Phillip Johnson, in several interviews including the radio programs of James Dobson and Charles Colson.