People enjoy being right. The constant arguments and debates that plague our society are adequate examples of the world’s fear of being wrong. No place is this idea more evident than in the field of science. Biologists and chemists pride themselves on their ability to understand the inner workings of the universe. Their laws and theories are direct results of millions of meticulous experiments designed to rule out any erroneous information. While these tests never directly prove a hypothesis, they most definitely lend support to it. Therefore, they feel all of the laws of science are extensively backed up by countless experiments. In order to change anything in science, evidence must be provided that disproves the existing theory. Thus, the conflict with religion begins.

In quite the opposite way, religion requires no direct proof of anything. In some cases, faith could actually be described as believing in something despite natural observations and laws. For this reason, religion and science often clash. This is the case in the never-ending debate over evolution and creation. In recent polls, 57% of the American public supported the creation story found in Genesis, 33% believed in evolution, and 10% were unsure.1 Both sides throw around “scientific evidence” and accuse the opposition of bias and ignorance. While these techniques may allow each side to feel better about its stance, the arguments do not provide an answer to the question of how the universe was formed. Examining scientific evidence does not decisively clear the issue. Although the application of science is important, Christians need to remember that creation is more a matter of faith than science, and this faith cannot be proven by scientific arguments.

As the issue is analyzed more closely, the first objection raised by numerous creationists is the notion that evolution is no more than a theory, a mere speculation. However, upon examining the word “theory” as it is used by the scientific community, this protest becomes quite useless. In science, the word “theory” is used to portray a concept that encompasses numerous laws and has been thoroughly tested.2 For example, the cell theory explains the cellular makeup of all living organisms. No one would doubt Newton’s theory of gravitation simply on the grounds that it is only a theory.3 In practice, scientists treat theories as if they are proven true.

Indeed, creationists hurt their case rather than help it when they use this argument, for anyone trying to make a scientific argument should find this simple point quite obvious. For example, according to one supporter, “no theory is better founded, more closely examined, more critically argued and more thoroughly accepted, than the theory of evolution. If it is ‘only’ a theory, that is all it has to be.”

Discussing the terminology of the “theory” only allows evolutionists to display their case. Christians ought to know how the term is actually used in science.

However, the final aspect of a theory requires that it be falsifiable. No experiment in science can ever prove a hypothesis; it can only disprove. All theories must allow for tests and observations that would show the statement to be false. For example, if two objects fail to attract each other according to Newton’s theory of gravitation, then this theory would not stand.

In the same way, one should be able to prove the theory of evolution to be false. Here, however, some scientists run into problems. Because evolution takes place over such a long period of time, it is very difficult to disprove its occurrence. Some scientists go so far as to say, “Our theory of evolution has become . . . one which cannot be refuted by any possible observation. Every conceivable observation can be fitted into it. It is thus ‘outside of empirical science’ but not necessarily false. No one can think of ways in which to test it.” The evolution theory seems to lack the falsifiable requirement.

Another one of the main arguments that creationists have hammered revolves around the second law of thermodynamics. This law, in its simplest form, states that in a closed system, change tends to increase entropy, or disorder. Without some input of energy, the system will become more disorganized. Creationists therefore conclude that the world could not have evolved from a few chemicals into the very complex environment witnessed today. Evolution, they say, violates the very foundation of the second law of thermodynamics by increasing rather than decreasing order.

This argument, however, once again overlooks the very essence of the second law. Evolutionists rightly counter this attack by saying that neither the earth nor any part of the earth can be defined as a closed system. According to scientists, the energy given off by the sun supplied energy to the developing world throughout the course of evolution and continues to influence the world today. If nature is left alone today, the situation does not spin into absolute chaos. Rather, the developing ecosystem can become more involved and complex with time.

In fact, the “only truly closed system” is that of the whole universe. Examination of this system seems to bring up some crucial questions. Because the universe is an isolated system, the second law can and must be applied to it. Therefore, the entire universe should be

---

4 Asimov, “‘Threat,’” SM24.
6 Gish, Teaching, 2.
8 Kitcher, A using, 92.
increasing in entropy. While this may be true of the present system, the question of where this energy came from in the first place remains.\textsuperscript{10}

Creationists are beginning to question how the sun first came to have order. To give energy and order to the earth, the sun first had to receive that energy and order from another source. This source, in turn, had to receive energy from somewhere else. While this process of thinking can become quite confusing, the evolutorial question still remains: where did the energy come from in the first place? Either the universe is, in fact, not an isolated system, or science seems to contradict itself.\textsuperscript{11}

The process of evolution itself is not visible, only the results of the development can be seen throughout nature. Evolution involves only those alterations that are inheritable, or able to be passed on from one generation to the next. For example, a giraffe does not have a long neck simply because his ancestors strained to reach taller trees.\textsuperscript{12} On the contrary, evolution involves natural selection, or variations and mutations at the genetic level.

The theory of evolution states that one mutation could provide the organism with a new function. If this mutation causes a new process that is harmful, the animal will very likely produce fewer offspring or die, and the mutation will soon be weeded out of the population. However, if the function is helpful, the organism will most likely survive longer and pass this adaptation on to a new generation. Some scientists have calculated that it is possible to have 100 positive mutations per generation for a given organism.\textsuperscript{13} Using their estimation of 25,000,000 generations from the original organism to the present, the genetic information of the final population could easily have 1,000,000 differences when compared to the original species.\textsuperscript{14} These calculations give evolutionists the numerical figures to support evolution.

Creationists, in turn, choose to statistically examine the chance that a living cell could come into being. In studying the simplest type of cell, scientists “calculated the probability of the necessary protein enzymes arising by chance on this planet in five billion years. The probability turned out to be one chance out of the number one followed by 40,000 zeros!”\textsuperscript{15} The probability of the enzymes (specific proteins) in a cell coming into existence is one divided by 1040,000, and this does not include the likelihood of producing DNA, RNA, or the other cellular components necessary for life. Some creationists go so far as to compare these odds to the chance of a tornado destroying a junkyard, and in the process creating a 747 airplane.\textsuperscript{16}

Once again, however, this 747 analogy shows a lack of comprehension. No one claims that evolution happens solely by chance. The process is instead a result of chance combined with natural selection. In other words, populations of organisms retain those traits that increase their reproductive and survival rates. The concept of natural selection must be incorporated into any statistical calculations regarding the evolution of DNA, RNA, or enzymes.
Another issue that has more recently developed centers more on the genetic code at the cellular level. In its most simple form, the “Central Dogma of Biology” says that cellular DNA encodes the information that is transcribed into RNA and is then translated into proteins. These proteins are essential to almost all functions of the cell, including the transcription of DNA into RNA. While this process seems to consist of two quite straightforward steps, DNA to RNA and RNA to protein, they are extremely complicated procedures. Scientists in no way understand all the factors or events that surround the translation of even a single protein. As one author posed the problem, “The cell’s complex inner composition cannot function at all unless all the parts are simultaneously present, working in tightly integrated confederation. Hence, gradual emergence, which allows the pieces of life to fall into place only one at a time, cannot even explain the cell, let alone the larger world of life.” If protein production requires the presence of numerous preexistent proteins, how did proteins ever come to be in the first place?

Proteins are made up of molecules called amino acids. These units must be arranged in exactly the correct order or the protein cannot complete its function; one amino acid switch can make the protein dysfunctional. Even if proteins could be created by the process of evolution, the idea of forming the plethora of known proteins by chance seems quite impossible. According to Dr. Duane Gish, a biochemist and Senior Vice President for the Institute for Creation Research, “A protein of 100 amino acids is a rather small protein (the average protein contains 400 amino acids), and yet the probability of forming a single protein molecule of 100 of the 20 different amino acids arranged in precise order is approximately 10^{-130} (that is one chance out of the number one followed by 130 zeros).” Basically, forming even one small protein based on the present evolutionary theory seems unlikely.

Evolutionists will answer that unlikely chances must have happened, because life does exist. They will cite examples where RNA can act as a protein, and therefore would be capable of aiding production. They believe that the chemical processes involved in protein production and cellular existence were present before actual life. However, as molecular biologists daily discover new and amazing mechanisms involved with RNA and protein production, these evolutionary discussions and arguments must become more and more complex as well.

The previous arguments have centered on the laws of physics and molecular data. One final area of discussion that cannot be avoided centers on the scientific field of archaeology. Evolutionists claim great evidence lies in the fossil records and the present variation among species, while creationists claim that the very lack of evolutionary examples in records is directly damaging to the evolutionary case.

---

21 Hartwell et al., *Genetics: From Genes to Genomes*, 255.
Creationists strongly assert that there are many missing examples of transitional species - no animal that is half-reptile and half-bird, for example.\textsuperscript{23} Evolutionary scientists, however, point to the fact that not every dead animal is likely to form a fossil.\textsuperscript{24} The so-called “transition species” have not yet been found simply because they did not form fossils, not because they did not exist. Evolutionists often point to examples of evidence for the reptile-mammal transition. While one specific animal cannot be classified as half-reptile/half-mammal, there are interesting similarities between some reptiles and early mammals. For example, two of the bones in reptiles' jaws are said to have evolved and moved to form the inner bones of mammals' ears. Evolutionists state that these characteristics are “very richly documented.”\textsuperscript{25} These small changes are often displayed as evolutionary evidence.

Another example of evolution sometimes given is the bird-like reptile called \textit{Archaeopteryx}.\textsuperscript{26} However, scientists have discovered birds that date back to a time before that of \textit{Archaeopteryx}. If so, \textit{Archaeopteryx} cannot be a transition from reptiles to birds, for birds existed before it did! Although there may be no “transition species” per se, evolutionists believe they have an overabundance of evidence to support the evolution of characteristics from one species to another.

Recently, creationists have become very excited by the Paluxy riverbed in Texas, which supposedly contained both human and dinosaur footprints from the same time period.\textsuperscript{27} If the prints and interpretations had been accurate, this could have seriously damaged the current theory of evolution. Upon further examination, however, scientists determined that the “human” tracks were prints of a second dinosaur that had had been modified to look human.\textsuperscript{28} Although some creationists still try to accuse scientists of being biased, most accept the interpretation and have moved on to other arguments.

After examining some of the most hotly debated topics on the issue, the truth still does not seem cut and dried. Both sides, while attempting to set forth convincing arguments, in no way prove their case. The debate continues, and no end is in sight.

Because of their deeply ingrained belief in evolution, most evolutionists will need a large amount of solid proof to convince them that their theory is erroneous. More and more, scientists believe that evolution, in its basic idea, defines the beginning of life. In response to creationists’ attempts to dissuade them, they respond, “The facts that Creationists cite are not inexplicable by evolutionary theory. They are simply unexplained. Ironically, they remain unexplained because they are not sufficiently problematic to merit further attention.”\textsuperscript{29} All information presented seems to center around the evidence or lack of evidence for evolution. No evidence is ever directly offered to support creation.\textsuperscript{30} Thus, the complaints and protests of creationists are viewed as irrelevant jokes.

The difficult question, then, remains how to find a way for science and faith to coexist peacefully. Both are necessary. As stated by Einstein, “a legitimate conflict between science

\textsuperscript{23} Gish, Teaching, 34.
\textsuperscript{24} Kitcher, Abusing, 107.
\textsuperscript{25} Kitcher, A busing, 110.
\textsuperscript{26} Gish, Teaching, 41.
\textsuperscript{27} Kitcher, A busing, 121.
\textsuperscript{28} Kitcher, A busing, 121.
\textsuperscript{29} Kitcher, A busing, 123.
\textsuperscript{30} Asimov, “‘ Threat,’ " SM24.
and religion cannot exist . . . Science without religion is lame, religion without science is blind. 31  Scientific laws influence numerous aspects of the physical world and universe and are mentioned in Biblical passages such as Psalm 104 and Acts 14:17. 32 Christians need to realize, however, that their main argument for creation cannot be scientific. In the end, science cannot, by definition, prove creation happened. It can only hope to disprove all or part of evolution. Based on the previous discussion of different interpretations of data and the difficulties involved in falsifying this scientific theory, the likelihood of discovering proof which effectively handicaps the theory of evolution is not great.

Evolutionists always have a scientific answer for creationists’ attacks. When creationists so quickly jump at “scientific evidence” against evolution, only to later find it is not applicable, they in reality only weaken their case. After creationists “cry wolf” too many times, scientists will eventually stop listening altogether. 33 Beating a scientist at his own game is a difficult task because understanding the intricacies and complexities of even a fraction of the scientific field requires years of study.

However, it is vitally important that creationists be able to discuss the scientific concerns correctly. 34 Even though scientists choose to study the observable laws of nature as opposed to the Law of God, they have no problem presenting their own so-called “evidence” from the Bible. Therefore, Christians must be able to correctly understand the scientific view as well as the Bible’s teachings, in order to intelligently converse about this issue.

Nevertheless, creationists must realize that their main argument cannot and should not be scientific. At best, this argument disproves evolution; at worst, it makes creationists appear ignorant. In neither case does it lend support to their own beliefs. Christians need to recognize that they are unlikely to convert someone to faith in Christ based on the creation verses evolution argument. Both theories require assumptions, and therefore in the end, both require some sort of trust. 35 Scientific reasoning cannot save, nor does it directly point to a Savior. Only God’s Word reveals Jesus Christ and the true path of salvation. Although the scientific points are important when talking to evolutionists, the end decision depends on faith.

---

31 McCoy, Christian, 28.
32 McCoy, Christian, 21.
33 Kitcher, A busing, 120.
References


