

EVOLUTION AND THE INTELLIGENT DESIGN DEBATE

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Last August, President Bush was asked to comment on whether intelligent design should be included in public schools. He replied, “First of all, that decision should be made to local school districts, but I felt like both sides ought to be properly taught.” Question: “Both sides should be properly taught?” The President: “Yes, people—so people can understand what the debate is about.” Question: “So the answer accepts the validity of intelligent design as an alternative to evolution?” The President: “I think that part of education is to expose people to different schools of thought, and I’m not suggesting—you’re asking me whether or not people ought to be exposed to different ideas, and the answer is yes.”

With these comments, President Bush launched a return to the 150-year-old debate on whether the biblical version of creation or the scientific one of evolution should be taught in our nation’s schools.

Before we look at this debate, let’s first define what we mean by both evolution and intelligent design.

For the past 350 years, the scientific world has adhered to what is called the scientific method. An idea or hypothesis is proposed to explain an observation, then experiments are conducted to try to disprove the hypothesis. Based on the results, the hypothesis is revised and tested again. If, after many, many rounds of testing, the hypothesis continues to be shown to be correct, it is elevated to the status of a theory. In biology, there are only a few such elevated hypotheses; one is the Cell Theory, that every living organism is made of cells. Another is the Theory of Evolution.

In the 1840’s Charles Darwin began taking the observations he had made on the Galapagos Islands and other places to develop a hypothesis on the origin of species by natural selection. Knowing nothing of what we know today of DNA or

genetics or genes, Darwin was able to come up with a hypothesis of how all living creatures came to be on earth. It was revolutionary in its simplicity. There are 3 parts to evolution that Darwin hypothesized. I will use modern language to make it a little easier to follow

Every living organism has DNA in each of its cells that it inherited from the previous generation. This is made of sections or genes that code for making proteins. 1 gene codes for 1 protein. In all living organisms except the bacteria, there are 2 copies of every gene; one that came from each parent. These genes are mixed with each new fertilization so that you do not look or act exactly like your siblings. Furthermore, sometimes changes occur in these genes due to environment or chance. These gene changes, known as mutations, may be passed to the next generation. The study of genetics deals almost entirely with mutations and their implications. With the normal mixing of the genes and the introduction of mutations, each generation is a unique combination of genes. A good example of this is to look at a litter of mix breed puppies. Each littermate looks different from the others and also different from their parents. Darwin called this “descent with modification” and it was the first part of his hypothesis.

The second part of evolution is that there is a struggle for existence; only those who can survive in their given environment can pass on their genes to the next generation. Darwin called this “survival of the fittest” Survival of the fittest often brings to mind phrases such as “nature, red in tooth and claw” or “the race is to the swiftest”. And since that is only partially true, the preferred term today is “natural selection” As illustration, think of a litter of baby mice out in a field. One of the mice is born with a gene variation that causes its eyes to be further apart on its head, giving it greater peripheral vision than its siblings. While foraging, that mouse can use its improved peripheral vision to see the owl swooping down so can dive in its hole and live to forage another day. Natural selection selects for certain genes to be passed on to the next generation.

The third part of evolution is that there must be plenty of time for enough of these small gene differences to occur and be selected. Millions and millions of years of time are required for new species to appear on the earth. Best current estimates are that there has been life on earth for 3.8 billion years.

Darwin's hypothesis is summed up as 1. descent with modification, 2. natural selection, and 3. long times required. In the past 150 years, this hypothesis has been tested innumerable times and since every piece of scientific evidence supports it, Darwin's hypothesis has been elevated to the Theory of Evolution.

Today, much of the way we look at our world is impacted by evolution. DNA fingerprinting to find families and in forensics, genetic counseling, cancer research, the human genome project, ecology, the environment and endangered species acts. The list goes on and on. In each case, we hark back to the ideas of descent with modification and natural selection.

If evolution has been proved over and over again, where's the debate? The answer to that question lies in the bible. In our story for all ages, Patterson read the biblical creation story that is part of Christianity as well as Judaism and Islam. God existed first in a void and out of that void created the planets, the oceans and land, the plants and the animals in 5 days. Genesis 1:27-30 describes how on the 6th day God created humans "in his own image" and placed them "in dominion above" all the other creatures. In Genesis 2:7, a second creation story begins with "And the Lord God formed man of the dust of the ground, and breathed into his nostrils the breath of life; and man became a living soul." It is these bible verses that are at the heart of the debate to which President Bush alluded.

One of the fundamental doctrines of Christian faith is that Jesus died to save our souls. God gave humans their souls, the souls fell into sin and Jesus redeemed these souls from sin. If Genesis were not correct, then this central tenet falls

apart. And having the foundations of your religion ripped out from under you is a very scary thing indeed. So when evolution says that humans are animals and evolved from early primates just like every other organism, many Christians interpret this as “If humans came from animals, they have no soul to be saved by Jesus. Therefore everything I believe is wrong and my whole belief system has just been ripped apart.” And given a choice between that and repudiating evolution, the choice is clear. Evolution must go so that the core values of the religion can remain.

Now, before we start to feel morally superior to these people let me ask you to think about how you would feel if someone were to say to you, “I have proof that everything every person does has already be predetermined long into the future. You have no free will; you have no choice about how to live your life. You are merely a puppet and nothing you do, or say, or think will change that.”

I, for one, would go a very long way to challenge that threat to the foundations of my faith. Evolution to some is as earth-shattering a statement as that would be to us UU's.

So, on one hand we have a mountain of evidence supporting evolution and on the other hand we have a serious spiritual problem that appears to refute the very foundations of many people's faith.

At first Christians framed this dilemma as a polarized debate, rejecting evolution out of hand. The Scopes trial of the 1920's portrayed in *Inherit the Wind* is an example of early rejections in which people were asked to believe Darwin or the bible. The problem is that in the past 75 years, the evidence for evolution has become overwhelming. Everything science has learned about living organisms supports evolution. Everything. In addition, there are pesky problems like, why do men have nipples? Evolution can explain it, but how does creationism handle the nipple problem? What to do? What to do?

In recent years, Christian think tanks have developed the idea of Intelligent Design to counteract evolution. Intelligent design, or ID says that the world is too complex to have come about merely by random mutations and combinations of genes in each generation. An intelligent force had to have been actively involved. For Christians, intelligent force means God so that ID is actually a restating of the biblical creation story. But just renaming a problem—from creationism to intelligent design—is not enough to gain adherents as any politician will tell you. The second part is to reframe the debate, so that you look reasonable and the opposing side appears foolish or evil. Thus, there have recently been a number of articles published in places read by fundamentalist Christians saying that “Evolution is an atheist belief” “You either believe in God OR in evolution.”

These days, I encounter students all the time in my biology classes at ACC who tell me, “I agree with evolution, but I can’t believe it because I believe in God.” This is a very powerful, very insidious argument put forth by the creationists. By equating two very different things: creationism and belief in God, they are demonizing the scientific viewpoint. While we can understand why it is important for fundamentalist Christians to put down evolution, we cannot condone allowing a well-proven science to be demonized and forced into this kind of debate.

Evolution itself says nothing about God—its existence or not is irrelevant to an understanding of evolution. This is the false polarization that has been established by those who want to devalue evolution. It’s as though someone is looking at why the sky is blue and another person is saying, it’s either blue or you believe in heaven. The two are not related. Why the sky is blue is a scientific question. Where heaven is located is a religious question. By posing both as scientific, these people are making a false dichotomy.

The main fallacy of ID is that it is not a hypothesis according by the precepts of modern science which I discussed earlier. Since ID cannot be tested, it is

therefore is fundamentally unscientific. No attempts to establish ID as a scientific alternative, no number of lesson plans, no sincere belief system can turn ID into a scientific alternative to evolution.

As long as intelligent design ideas stay on the internet, it is not a problem. However, Kansas, Pennsylvania and other states are grappling with whether to include intelligent design in science classes along with evolution. Part of this debate arises from commonly held misconceptions about evolution.

One of these misconceptions is that “an organism will adapt to the new environment.” That is, a new trait will suddenly arise to help that organism survive. No, no, no. The descent with modification exists first, then the natural selection. There must be a change in the DNA first. Then it is selected naturally by the environment. The DNA of a mouse cannot say to itself, “Gee, the owl wants to catch me for dinner. I must spread my eyes apart, so I can increase my peripheral vision and avoid the owl.” No, the mutation to increase the mouse’s peripheral vision must exist first, then the natural selection to increase the chances of having this mutation being passed to the next generation.

The other big misconception is that we are descended from apes. Again, no, no, no. We and apes are both descended from a common ancestor. Each of us has adapted to our own environments over many years.

An unclear idea of what is meant by evolution, commonly held misconceptions and the concerted efforts by people who feel very threatened by evolution have all contributed to a very muddied view by many people. A recent Gallop poll showed that 42% of respondents hold strict creationist views and 64% said they were open to the idea of teaching creationism in addition to evolution.

So here we are today with a debate that has been framed with ID, presented as a fair and balanced alternative to evolution on one side and on the other side, the

atheistic God-hater evolutionists. This puts the evolutionists on the defensive. They respond by pointing out the flaws in commingling science and religion or by arguing for separation of church and state. Both of them are perfectly fine arguments, but they won't keep ID out of our schools.

Instead of continuing to see this as a debate with one side taking the prize of our schools, I think we should take a lesson from the Buddhists. They say that if someone pushes against you, the natural tendency is to push back. This results in a having opposing sides in a fight. Whoever is the stronger will conquer the other. Winners and losers. However, this is not the way of the Buddha. Try for the peaceful way; the win-win. When someone pushes against you, don't push back but rather, allow yourself to relax against the push. This offbalances them and allows you to disarm them easily and nonviolently.

And how do we offbalance those pushing against evolution, you say? We recognize that there really is no debate. This is not an either/or question: either God or evolution. It is possible to be both a believer in evolution and a devout Christian who believes in the literal interpretation of the bible. Let's look at the main sticking points one by one.

First, how can we reconcile the 6 days of creation in the bible with the billions of years of life on earth? The answer to that is "Who's to say that God's 6 days were 24 hour days?" In fact, if we assume that 1 creation day equals 800 million years, then the bible and science are in very close agreement.

Secondly, what about the order of creation as discussed in the bible? Again, this is very similar to science. The oceans formed first, then "creatures"—read single celled archea bacteria—and so forth until humans appeared last. No debate there either.

Third, what about “God putting people in dominion over the earth”? Evolution says nothing about this and so has no argument with this statement. Many of us don’t like it much, but it has nothing to do with evolution. As an aside, many fundamentalist churches are using this statement to emphasize stewardship of the earth and therefore end up working alongside the most avid tree-hugger.

The last, and most polarizing idea of all, is that according to Genesis, God gave humans a soul. This soul, which had fallen, was redeemed by the crucifixion of Jesus. Without a soul, Jesus’s sacrifice would be pointless, there would be nothing to go to heaven or hell and the very foundations of Christianity are destroyed as we have seen.

I believe the non-confrontational, offbalancing answer may be obtained from the Roman Catholics. The body, they say, are subject to the normal laws of evolution. The soul is different and subject only to the laws of God. This division allows a middle ground between the two and permits Roman Catholics to remain true to their faith as well as explain the science of evolution. The body belongs to science and the soul belongs to God. The body belongs to science and the soul belongs to God.

With this simple statement, the entire so-called debate breaks down. Everyone ends in a win-win situation. Churches can maintain their belief system without fear that it is being repudiated by outside forces. And science, including evolution, can continue to be studied and taught.

So the next time someone asks you if you believe in evolution or intelligent design, you can say, “It’s not an either/or question; it’s possible to believe in both.” And the next time someone suggests that ID should be taught as an alternative to evolution, you can say, “The body belongs to science and the soul belongs to God.”

Thank you.