

I Don't Believe in Music, It's Only a Theory
How to Respond to those Who Don't Believe in Evolution

By
Rev. Dr. Todd F. Eklof
July 10, 16

Several years ago, back in 2005 to be exact, I ran into a couple of old friends, Charlie and his spouse Terri, whom I hadn't seen since our seminary days together back in the late 1980s. Although they were extremely conservative and I was already pretty liberal in seminary, we had been very good friends. You'd think after more than fifteen years we might have changed a little, but it turns out they had gone to a conservative Southern Baptist Church near Lexington, Kentucky where Charlie was minister, and I had only just been fired from my secular job after taking a public stand in favor of gay marriage.

I can't recall why exactly, but at some point during our conversation Terri said, "I don't believe in evolution, it's only a theory."

"You don't?" I said with surprise.

"No," she said. "I didn't come from no monkey."

Now there are a lot of things wrong with this statement, the least of which is its poor grammar. Its use of a double negative turns it into a positive statement affirming the idea that she only comes from monkeys. More importantly, since humans and monkeys are both primates, and since monkeys appear much earlier in the fossil record, humans must have evolved from monkeys. But the most astonishing problem with her statement, as far as I'm concerned, is that she said it to begin with. I remain baffled that at this point in human history, after all we've learned about the origins of life through evidence-based empirical science, there are still so many people who refuse to accept evolution.

"But we did come from monkeys," I insisted. "Humans are primates—apes to be more specific. Our DNA is almost exactly the same as that of chimpanzees and gorillas, our closet living relatives." Alas, as good as it was to see my old friends, I knew the fossil records and genetic evidence I presented for evolution fell on deaf ears and it would be polite to just change the conversation.

This happened just a couple of years before the Creation Museum opened in Petersburg, Kentucky, a 70-thousand square foot, state-of-the-art facility with nearly 200 exhibits depicting Bible stories as historical events and misleadingly countering what science teaches us about the origins of life. The 30 million dollar venue had almost 2 million visitors its first year and averages around 250,000 attendees annually. The "theme park," as I prefer to call it, uses false science and unsound reason to disprove evolution and sustain the claim the Earth is only 6,000 years old.

Fortunately, according to recent polling, Americans are finally beginning to catch up with rest of the modern world on this issue, with more of us accepting evolution than ever. According to the latest findings of the Pew Research Center, a majority of Americans, about 60 percent, now claim to believe in evolution. Among those age 30 and younger, the number is even higher, greater than 70 percent. So at least there's hope for the future. Even so, there are still over a third of us who continue to reject evolutionary science in favor of the ancient religious myth claiming the world was created in just six days. They say, like my friends, that, "evolution is *only* a theory," which they take to mean it's something that has yet to be proven.

This assertion, however, is as absurd as modern people taking an ancient myth to be historically and literally true. It's like saying, "I don't believe in music because it's only a theory." Millions of music students are required to learn music theory—understand how music works beyond its practice and performance—but none of them would ever think for a moment there's any chance that music doesn't exist. That music exists is self-evident. Music theory only helps us understand what music is and how it works.

The same is true of evolution. Throughout human history there have been many theories of evolution, including, most notably, Charles Darwin's theory of natural selection, but this is not that same as saying evolution itself is "only" a theory. The theory speculates about "how" it happens, but does not question "if" it happens. Evolution, like music, is undeniable. The word "theory," furthermore, which comes from the Greek word meaning something like, "to see," or "to speculate," when used by science refers specifically to an observation or speculation that has been tested and confirmed through rigorous scientific experimentation. So a scientific theory should never be dismissed as "only" a theory, as if it were on par with some other untested, unsound, and unsubstantiated belief that's as ridiculous and insulting as *Creationism*.

As I said, theories of evolution, of *how* evolution happens, go way back to some of our earliest ancestors, long before our species was able to observe or speculate about anything through the lens of science. So they invented myths and stories to help them explain what they noticed happening. And what they noticed is that human begins, like all other creatures, somehow emerged from the Earth, a truth so apparent that origin stories of people emerging from the sea or being fashioned out of mud are common and universal.

The Egyptian goddess Nun, for example, according *The Larousse Encyclopedia of Mythology*, represents the, "primordial ocean in which before the creation lay the germs of all things and all beings.¹ ...inside Nun, before creation, there had lived a 'spirit, still formless, who bore within him the sum of all existence.'"² Doesn't this

¹ Guirand, Felix, ed., *The Larousse Encyclopedia of Mythology*, Aldrington, Richard & Ames, Delano, translators, Barnes & Noble Books, New York, 1959, 1994, p. 11.

² Ibid.

sound much like a pre-scientific means of describing the evolution of life from the sea through adaptations of the genetic code? Can't DNA be described as "the germ of all things and all beings?" In Babylonian mythology, Apsu is the name of this primordial chaos, this abyss filled with water from which all life eventually springs, fashioning human beings, in particular, out of mud. In Greek lore it is Prometheus who creates human beings by mixing earth and water together, similar to the stories of people (and often animals) fashioned from mud found among numerous Native American and Mesoamerican traditions, as well as in African and Chinese lore.

Indeed, the Chinese oracle, the *I Ching*, translated, "Book of Changes," one of the most ancient texts on Earth, which could as correctly be translated, *Book of Evolution*, is based on the very idea that all forms, structures, and forces eventually change from the ground up. Perhaps this is why the root of so many of our words for *human* also mean "earth," like *Pueblo*, *Humus*, and, even *Adam*. Yes, even the story of Adam and Eve, is but another mud man myth, confirming, when not ignorantly taken as literal history, that even our ancient ancestors knew that humanity emerged from the ground. Even the name "Eve," the myth's original woman, means, "Life," suggesting, since in the story she came from Adam's rib, that Life comes from the Earth, Eve from Adam—that all living things come from Adam, Pueblo, Humus, Earth.

Again, I bring all of this up now to point out that evolution is not itself a theory. It is self-evident, like music, and is so obvious that even our ancient ancestors accepted it, even if they couldn't fully explain how it happens. It's a mistake, in fact, to think Darwin discovered evolution. He did not. Darwin (who, by the way, was raised in a Unitarian family) developed the theory of special selection as a means of explaining *how*, not *if*, evolution occurs. According to Robert Wright, author of *The Moral Animal*, when he was still just a student at Edinburgh, studying to become a medical doctor, Darwin spent a lot of time "walking and talking with a sponge expert named Robert Grant, who ardently believed in evolution—but didn't, of course, know *how* it works."³

Several years later, while famously serving as a naturalist aboard the Royal Navy's *HMS Beagle*, seizing the opportunity to examine the characteristics of animals from around the world, he came upon his theory of special selection. As Wright explains, "All the theory of natural selection says is the following. If within a species there is variation among individuals in their hereditary traits, and some traits are more conducive to survival and reproduction than others, then those traits will (obviously) become more widespread within the population."⁴ These traits thus become dominant in the gene pool, slowly changing the species, "And there you have it."⁵

It's so simple and so, "obvious," as Wright says, that when Darwin explained it to his friend, Thomas Henry Huxley, Huxley expressed disappointment with himself,

³ Wright, Robert, *The Moral Animal*, Vintage Books, New York, NY, 1994, p. 21

⁴ *Ibid.*, p. 23.

⁵ *Ibid.*

exclaiming, "How extremely stupid not to have thought of that!" The point here, once again, is that Huxley already believed in evolution, he just didn't have a good explanation for it, which, we can be grateful, Darwin's theory now provides us with. At the start of the 19th century, sixty years before the publication of his theory, and about the same amount of time before Gregor Mendel introduced the world to genetic science, Jean Baptiste Lamarck theorized that evolution happens when individual animals pass on characteristics they've acquired during their own lifetimes. Lamarck's theory wasn't quite right, although he was on the right track given the limits of his knowledge.

But the point here is that there are theories of evolution, be they natural selection, Lamarckian, or a mud-man myth, but evolution itself isn't a theory. It's just the name or the word we used to describe an undeniable natural phenomenon that's been known since the dawn of human history. Music, in particular, is an extremely apropos analogy because it too is something that can be experienced and is self-evident, though what exactly distinguishes music from other sounds is difficult to conceptualize and put into words. Professionals in the field learn music theory to better understand what makes music music, while the rest of us simply enjoy it, even if we don't know much about it. But even if we can't explain it, we wouldn't begin to doubt that music happens. And, like music, evolution isn't a thing; it's a process—a relationship between things, but not the things themselves.

It is also often argued that evolution takes millions of years to occur and therefore cannot be scientifically observed since no observer can live long enough to do so. While it's true, that biological evolution, in particular, often takes long expanses of time to turn one species into something new, this isn't always the case. Evolution, through natural selection is happening all around us as some species are forced to quickly adapt to dramatic changes in their environment.

I heard a news story on National Public Radio a couple years ago about the emergence of a new kind of silent rattlesnake. In many southern states, like Texas Arizona, and South Dakota, rattlesnakes have been hunted to the brink of extinction. Hunters find them, naturally, by listening for the sound of their rattles. Those snakes with deformed rattles, however, preventing them from making the rattling noise, end up surviving and passing their genetic deformity on. And because they can't make this familiar warning sound they tend to be more aggressive and more likely to strike. The result is an increasing number of silent, more aggressive rattlesnakes, which were previously only genetic anomalies. In short, rattlesnakes are evolving, adapting to their changing environment, right before our eyes.

Another amazing example of accelerated evolution involves an experiment with foxes conducted by the Institute of Cytology and Genetics in Russia. After rescuing several foxes from a fur company, the researches selected those that were unusually timid, representing less than 1 percent of the population. Within just three generations the usual aggressive behavior demonstrated by foxes began to disappear, to the point that even pups, upon opening their eyes for the first time, began greeting humans

with excitement by wagging their tails and howling. Within just fifty generations the foxes had become completely domesticated. More amazingly, according to the NOVA documentary, *Dogs Decoded*,⁶ within just a few generations their normal appearances also began to change. Instead of their usual pattern of coloring, they developed randomly colored coats, their tails became curled, their limbs shortened, and their ears flopped, to the extent they began looking more like dogs than foxes. Having been selected for tameness, these other physiological changes happened automatically, which helps explain why dogs, which have not truly evolved from wolves because they still are wolves, look and behave so differently than their wild relatives.

Here's one more example. When life began on our planet 3.5 billion years ago, it was restricted to single-celled organisms. It took more than a billion years before the first multi-cellular organisms emerged, in the form of slime and algae. But in 1998 a scientist by the name of Martin Boraas raised a species of single-celled algae in the lab for over a thousand generations and nothing changed. He then introduced another single-celled predator into their environment that had the ability to swallow and ingest the algae. In less than 200 generations the algae began forming into clumps of eight, just large enough to keep them from being swallowed. After the predator was removed, the algae continued to reproduce as multicellular clumps of eight. As paleontologist Neil Shubin says, "In short, a simple version of a multicellular form had arisen from a no-body."⁷

The point here is that natural selection seems to be the best theory for explaining how evolution occurs causing species to change into other creatures over long periods of time, but that evolution occurs is as plain as the noses on our faces, which is why we are able to selectively create new breeds of animals and plants in our own lifetimes. It was by already knowing that humans can successfully breed plants and animals for desired traits, after all, that Gregor Mendel discovered genetic science to begin with.

In addition to the examples of evolution happening right before us, scientists have been able to observe evolutionary changes preserved in ancient fossil records. They are able to determine the age of the rocks, and therefore of the fossilized creatures within them, through carbon dating, potassium dating, volcanic ash dating, and, of course, simply observing rock strata. In their book, *The First Chimpanzee*, John Gribbin and Jeremy Cherfas refer to these methods of dating as, "The Grandfather Clock," or what we might refer to as the analogue clock.

But there is also a digital clock now available to evolutionary scientists, which Gribbin and Cherfas refer to as, "The Molecular Clock." Since the discovery of DNA researchers have become adept at comparing chains of amino acids in order to see how various organisms are related to each other and when they began to change into different species. "DNA is the ultimate ancestor," they say, "not only of every chemical

⁶ <http://www.pbs.org/wgbh/nova/nature/dogs-decoded.html>

⁷ Shubin, Neil, *Your Inner Fish*, Pantheon Books, New York, NY, 2008, p. 137.

manufactured by the living body but of all living bodies. There is no 'chicken and egg' problem here; DNA came first and the complexity of living cells followed."⁸

The old rocks, our Grandfather Clock, showed us that humans are apes and that we, like other apes—orangutans, gorillas, and chimps—split off from a common ancestor millions of years ago. One of those ancestors, appearing about 4 million years ago, had an ape-sized skull, but walked upright. Today we can't be sure if modern gorillas and chimps didn't evolve from this upright ancestor, returning to a knuckle dragging posture only after they returned and adapted to life in the forest. This was, after all, about the time the split between humans, gorillas and chimps occurred. What we can be sure of, thanks to the molecular clock, is that genetically speaking humans, gorillas, and chimps are, as Gribbin and Cherfas put it, "so similar that it is practically impossible to tell them apart."⁹ Most of us know our DNA is only 1 percent difference. In fact, according to Emile Zuckerkandl, inventor of the molecular clock, who first used it in 1962 to test haemoglobin, "from the point of view of haemoglobin structure, it appears that gorilla is just an abnormal human, or [human] an abnormal gorilla, and the two species form actually one continuous population."¹⁰

I won't go further into all the reasons for trusting the accuracy of the Grandfather and Molecular clocks. Certainly there are those who argue against empirical science in favor of ancient myths, but this is precisely my point in bringing all of this up. Even if there is room to question the science, and there is always room to question the science, is no reason to presume any other explanation is equally as plausible. If we must take a leap of faith, let's at least base it on our best educated guess, a guess based on hard empirical evidence, not ancient myths that any rational person ought to understand are just stories. Evolution isn't just another story. It isn't "only" a theory.

We will now have our closing song; for those, that is, who believe in music.

⁸ Gribbin, John, and Cherfas, Jeremy, *The First Chimpanzee*, Barnes & Noble, New York, NY, 2001 (2003), p. 88f.

⁹ *Ibid.*, p. 5.

¹⁰ *Ibid.*, p. 98.