

Exploring God and Evolution: Two Undeniable Truths

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Abstract:

The theory of evolution and one's belief in a creator, God, should be more widely accepted in society and the scientific community as two undeniable and complementing truths. This is necessary because of the undeniable scientific proof of evolution, the undeniable mysterious unexplainable factors of life, our ability to behave and think unlike any other creature on earth, and that the Bible and modern scientific methodology cannot be compared in the way that fundamentalists or some scientists, want to discredit them. Finally, society should clearly see that the teachings, intent and lessons of the Bible and the theory of evolution do not contradict each other, and that they can co-exist fluently.

Keywords: God, evolution, theistic evolution, theology of evolution, incommensurability

It has long been held a firm belief that creationism and the theory of evolution were incompatible and that one could only be a part of one or the other. And that if a believer in a creator (and not necessarily the Christian God) were to believe evolution were true, it would imply that God was false. To make things clear, this article is solely discussing about God, as in faith, and not religion, which is used in attempt to make faith tangible. Being raised a Roman Catholic I was taught and went through all of the traditional passages. But until late in high school, I felt that maybe everything I had learned to date was incorrect, and being highly interested in the sciences, I began to question myself and God and was at the borderline of atheism or being agnostic. That was until I enrolled in a world religions course and explored the similarities and differences between many of the world's cultures, traditions and teachings. From that point on, I developed certain beliefs such as that God created everything in the universe over billions of years ago, which could have very well originated from the "big bang" theory, and that evolution was part of God's plan in order to create us and gave the universe a creativity of its own. In this article, I wish to explain how comprehensive the notion of God and scientific evolution can be with all of the evidence that can be found in the universe.

In the last few centuries alone, mankind's advancement in technology and grasp of knowledge and understanding has propelled our way of life significantly. Breakthrough after breakthrough, the human race has been able to piece together and better explain many questions of our universe, one of which is - "where did we come from?" Evolution is at the forefront of answering this question. A historical event occurred on October 22, 1996; Pope John Paul II stated to the Pontifical Academy of Sciences that we should view "...evolution as more than just a hypothesis" (Paul II, 1996). There are many strong pieces of evidence that confirm that evolution is more than just a theory. One of such are what are known as "transitional fossils"

which are basically the remains of a species that clearly show the evolutionary transition between two uniquely different species today. One of the most famous examples of a transitional fossil is the “fishibian” *Tiktaalik* which featured the characteristics of a fish and an amphibian (Prothero, 2008). More recently in 2009, *Histiophryne psychedelica* has been named a new species of frogfish that have been discovered in Indonesia. This frogfish has a fingerprint-like pattern over its entire body, and both of its eyes are at the front of its flat face. What is unique about *H. psychedelica*, is that it hops along the sea floor with its arm-like limbs, which has never been observed in other frogfish before (Hines, 2009). These “transitional” animals are just one of the many indicators that scientists use to prove that evolution is fact.

There is also another strong example of evolution that the general public may not be aware of, yet some may be promoting it at this very moment without realizing it – this is the emerging threat of antibiotic-resistant bacteria. If one is able to comprehend and acknowledge that bacteria, which have been able to survive on earth since its creation, are able to adapt and mutate into more drug-resistant strains such as extremely drug-resistant *tuberculosis* (XDR-TB), one must admit that evolution is at play. TB can generally be treated with “first-line” drugs. However, when antibiotics are mismanaged and misused, XDR-TB can develop and cause havoc especially in third-world countries where patient care is nowhere close to that of the western world (Nachtwey, 2008). Even we humans are not finished evolving. In her article in *Discover* magazine, Kathleen McAuliffe, a medical and science writer, reports that there are enormous amounts of adaptive mutations in our genome and states that “over the past 10,000 years, data show human evolution has occurred a hundred times more quickly than in any other period in our species’ history” (McAuliffe, 2009). As a science academic, the overwhelming amount of

scientific data leads me to believe that evolution is undeniably true. It does not, however, cripple my faith in anyway.

In contrast, even with all the scientific knowledge in the world, one must admit or acknowledge that there are those times in life where you just get this gut feeling or awareness that there is something else that influences everything in nature which we cannot and never will be able to explain purely through science. An example of this undeniable unknown external force, ironically, is a scientific principle, the Heisenberg Uncertainty Principle. It basically states that the momentum and position of a particle cannot be measured at the same time once we the observers have interfered via stepping in and observing it (Hodgson, 2006). This uncertainty has been found to apply to other quantum principles and this demonstrates that science cannot know and prove everything simultaneously and that what we know are just approximations at most (Voss, 2006). Scientists continue to seek answers within this world, such an example is the Large Hadron Collider (LHC) in Geneva, Switzerland, costing nine billion dollars and taking two decades to build (Sample, 2008). Scientists will attempt to smash protons into each other to see what they are made up of in order to find the Higgs Boson particle, and the possible confirmation of a theory called super symmetry. They are hoping to answer questions such as the Uncertainty Principle or learn more about our origins. “The nightmare scenario is no Higgs, no super symmetry, no anything apart from known particles” (Chalmers, 2008) says Chiara Mariotti, a co-leading scientist seeking the Higgs Boson at the LHC. There is nothing wrong with what the scientists working on the LHC are doing, and success is wished upon, but at what expense? Some feel that theology does nothing for the scientific realm. The knowledge and love of God cannot be quantified or explained through scientific proof - it never will be, as it is through faith and agape love only. Agape love is defined as divine, parental, self-sacrificing, active and

unconditional love. Anywhere that you go in the world, every culture of faith, to a certain degree has the same basic understanding of values and “what is right”, the Moral Laws (Stark, 2001). How is this possible? Obviously, we are all subject to our own personal history which includes where we were born and the cultures we grew up, but God speaks to each of us in our own way. One of the best examples of the existence of a loving creator is creativity. When God set the universe into motion from an occurrence such as the “big bang theory”, he gave it a creativity of its own, which allows us to harness the ability of the creative process. At the 2009 TED conference in California, award-winning writer Elizabeth Gilbert took on the theme of “Understanding” and in her talk she reiterated that “Creativity is a process that does not always appear rationally, and can sometimes feel downright paranormal” (Gilbert, 2009). Not only writers or artists feel this extraordinary sensation, but scientists who are innovative, unique, daring and creative, experience it as well. In her talk, Gilbert describes an example of how when a performer pushes their boundaries producing an almost transcendent experience, the audience would chant the familiar phrase “Olé Olé Olé!”, which is actually derived from an old Spanish chant “Allah, Allah, God, God!” in which the crowd was witnessing a glimpse of God before them.

To clarify, one point that needs to be addressed to those of the scientific community who find it difficult to believe in God, is the notion of incommensurability; that the Bible and the scientific method cannot be measured on the same scale. We must come to realize that different cultures present different contexts of communication. For example, “high-contextual” cultures such as Asian and middle-eastern cultures avoid specificity in order to promote the idea of social harmony while “low-contextual” cultures such as that of the western world tend to express feelings and ideas as unambiguously and as detailed as possible (Adler et al, 2008). Also, we

must acknowledge that the Bible was written approximately 1400 years ago while modern scientific methods were developed in the 17th century during the time of Galileo. In the time period that the Bible was written, people had no scientific mentality and had no curiosity of questions such as how old the universe was. Dr. Father George Coyne, of the Vatican Observatory, in an interview with well-known atheist Richard Dawkins, implies that the scripture in Genesis is poetic: "...and there was night and there was day..." the same way in which the Bible and almost every other traditional "book of truth" are written, in a similar poetic manner (Dawkins, 2008). This poetic style occurred because to the people and cultures that wrote and recorded events, it was all about the meaning and lessons, and had nothing to do with quantitative or deductive measurements and methods. Unfortunately, some take the literature quite literally. We should also note that in the Bible, God created plants before animals and humans in the creation story (King James Version, Genesis 11:20) which is consistent with the scientific understanding as well. "It is a style in order to teach something that is true, but is not scientific" (Dawkins, 2009) says Coyne. This is why many scientists such as Dawkins cannot grasp this idea of God or a "Believer-Scientist" as the evidence does not fit according to their books as it steps outside of the scientific methodology. An example of this in the Bible is when God created Adam from the sand of the earth. In the time period when that was written, there were no such technologies such as microscopes and no such thing as the scientific method; they only cared about the meaning. Imagine tiny micro organisms evolving over millions of years then developing into man, that would be incredibly difficult for the writers of the Bible to comprehend especially when they had no idea what a microbe was, but when they write "man came from sand", it seems very obvious that they understood the general concept of what was happening, they just did not have the terminology. Perhaps for some non-believers, and quite

often, a more death-defying scenario such as a life-altering experience is required in order for them to witness God and realize that there is indeed something else out there.

Furthermore, once one is able to overcome and step outside of the box of both faith and science as separate entities, and into an area where both can be unified together, we can begin to talk about the term the “Theology of Evolution” or “Theistic Evolution” or simply a believer-scientist. Dr. Francis Collins is a geneticist who was the head of the Human Genome Project and is one of the many scientists who are highly intelligent in their given field and believes in a creator, God. Collins earned his PhD in chemistry as an atheist. But when he turned his focus to medicine and after a life-altering event in Nigeria, he realized that there was something more in this world, which then allowed him to accept the existence of God (Collins, 2003). Generally, someone who is a theistic evolutionist believes that God created the universe from nothing about 14 billion years ago and against all odds, everything in the universe was precisely right for life to arise on earth. Once evolution commenced, intelligent human beings developed from a common ancestor with the great apes, and no further supernatural intervention was required. And once humans came to be, we were unique in a way that we had a spiritual connection or parental agape love with the creator, which includes Moral Law, and the longing to find God, which is a characteristic shared by all and every culture that ever existed. Dr. Kenneth R. Miller, biologist and professor at Brown University, wrote an inspirational book entitled “Finding Darwin’s God”, in which he attempted to find a common ground between God and evolution.

Each of the great Western monotheistic traditions sees God as truth, love, and knowledge. This should mean that each and every increase in our understanding of the natural world is a step toward God and not, as many people assume, a step away. If faith and reason are both gifts from God, then they should play complementary, not conflicting, roles in our struggle to understand the world around us. As a scientist and as a Christian, that is

exactly what I believe. True knowledge comes only from a combination of faith and reason. (Miller, 2007 p.267)

This excerpt from Miller is at the pinnacle for believer-scientists. An example of how God and modern evolutionary science go hand in hand is in the Bible is when God “created man in his own image” (Genesis 1:27). This does not imply that God is of humanoid form, but that God created us with intelligence and moral values that he has. The educational video “Powers of Ten” demonstrates human-kinds ability, within such an insignificant period of the history of the universe, to be able to understand the physical world from the extremely macroscopic such as stars, galaxies, quasars, black holes and such to the extremely microscopic such as skin cells, bacteria, atoms (Eames Office, 1977) and even possibly the Higgs Boson. “The Large Hadron Collider is the latest, boldest step in a noble tradition of asking why” (Krauss, 2008) says Lawrence Krauss of New Scientist magazine. How is it that no other creature on earth is even close to being able to do what we can do? Our uncanny desire to seek and discover is almost God-like if you will. This is a sign that God indeed planned for and created us, as he has created us within his own image.

Accordingly, there are many reasons why one would not even think about seeing evolution and God as fluent and a unifying truth. Keep in mind that, if one is a believer-scientist, one must be able to defend both sides of the argument without tarnishing the other. The critique most often used against creationists is usually from atheists against creationists saying that books of truths, such as the Bible, cannot be taken seriously as there are too many metaphors and poetic styles to be considered proof of anything. Again, one must be reminded that because of the difference in time, technology and culture, the objectives of the message are different. But the lessons of the Bible are still whole-heartedly valid. Dr. Antje Jackelén, who is currently the Bishop of the Lund diocese, Church of Sweden, took on this topic in one of her publications and

presented that metaphors are not something to be looked as unreliable in relaying a message, Einstein, Neils Bohr and Werner Heisenberg used them as well to explain their complex scientific theories. “Metaphors help scientists understand what they are doing. They are also crucial in communicating science to non-scientists” (Jackelén, 2008). Another well known argument against believer-scientists is that the creator is merely a “God of the Gaps” reducing God to an explanation for any unknown phenomenon or to cover up our scientific ignorance (Dawkins, 2006). Science has a long claim of overcoming theistic claims and many atheists today feel that, there are so few “gaps” left for God to fill, that it entails a non-existent God. Additionally, they believe that God brings more questions than answers and therefore God is not an ideal explanation. However, this is an arrogant assumption on their behalf that explanations that entail more questions than answers are not good explanations. Likewise, many scientific theories as well raise more questions than answers. Theories in general are made to explain data, and when they explain it well, they are accepted into journals regardless of the other questions brought up. Those who bring up the “God of the Gaps” argument are incorrect and should not do so as the tables can be turned easily against them as atheists even dispute amongst themselves about the origin of the universe from the “big bang”, “alternative universes”, “bouncing universe” and the list goes on. Many scientific theories themselves cannot be tested and measured with 100% accuracy and precision. It is hypocritical for non-believers to give the great burden of finding proof to creationist and believer-scientist while not allowing them to use God as an explanation.

Ultimately, many of the world’s great faiths share common moral values and truths. The fact that scientists have evidence of a beginning such as the big bang, fossil records, bacterial adaptation, to the occurrences of scientifically unexplainable phenomenon such as creativity and

human-kind's ability and desire to seek and learn more about the universe is proof of evolution as well as a creator, God. It is unfortunate that many people, especially those strictly in the scientific or religious communities, imply that one should either be a believer in God or an atheist. They are not able to acknowledge the overwhelming evidence for both points of views and do not realize that it does not necessarily have to be one way or the other. It is now our responsibility to shed new light on this unifying truth. To conclude, Collins entails that the more understanding an individual has of science, the more certainty he or she has about the existence of God (Collins, 2006).

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