

# The Reality of Evolution, the Myth of Creationism and the Role of Science



*Evolutionary change continues day in day out, and it will proceed so long as life itself exists.*

Much of the world's historic and current politico-religious wars have been based on the propagation of myths in the name of reality. Evolution is a theory in the scientific sense and therefore a fact. 'Theory' in daily usage often refers to a hunch or a speculation. For example, when people say, "I have a theory about why that happened." They are often coming to a conclusion based on fragmentary or inconclusive evidence.

But in science, the formal scientific definition of theory is very different. It refers to a comprehensive explanation of some aspect of phenomena that is supported by a vast body of evidence. Theories in science are well established that no new evidence is likely to alter them substantially.

The next is fact. In science a "fact" refers to an observation, measurement, or other form of evidence that can be expected or predicted to happen the same way under similar circumstances. "Fact" is also used to refer to a scientific explanation that has been tested and confirmed so many times that there is no longer a compelling reason to keep testing it or looking for additional examples.

In that respect, the past and continuing occurrence of evolution is a scientific fact. Because the evidence supporting it is so strong, scientists no longer question whether biological evolution has occurred and is continuing to occur. Instead, they investigate the mechanisms of evolution, how rapidly evolution can take place, and related questions.

Some years ago, evolutionary biologists predicted that they would find fossils intermediate between fish and limbed terrestrial animals in sediments that were about several hundred million years old. And they found it. The discovery confirmed the prediction made on the basis of evolutionary theory.

In turn, confirmation of a prediction increases confidence in that theory. Having said that, the beauty and elegance of sci-



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ence is that, if new evidence that was not previously available to observe and experiment appears, it will be repeatedly tested and verified, and peer-reviewed and only then will it make refinement or change to an existing theory.

Nothing in science is self-evident. Nothing in science is based on faith. The truth must be demonstrated objectively. Scientist talk of parallel worlds and multi-dimensions and illusions etc. and are being investigated and the limitations we have at this time on that front, is the lack of technology.

Claims of having a personal experience of a god or gods is not proof or evidence of anything. I am sure you have, and nearly everyone has experienced what they perceive to be some sort of 'miracles' in their lives. But, that also can be left in the unexplained box. Believers, in-

stead of making it evidential claim to create a fact. God is intelligence some say. God gave people brains to use for reason and for intelligence they say. That does not mean anything. My question is, 'How do you know that?'

We humans are Homo sapiens. Before that we were Homo heidelbergensis! Not a story, but a fact. It can be traced in your own genome. That was a different species. From a geographical time line, it was in the very recent past. Just 250,000 years ago. Again, if one wants to know if man and chimp have a common ancestor, my advice is, map your own genome.

The facts will startle you. These are not fairy tales; they are encoded in your genomic biography. The question if one wants to believe it or not, does not change anything. This is something that believers are terrified of. If you map the genome of a chicken, you will find that it can be traced back 68 million years to the most feared dinosaur of all, Tyrannosaurus Rex.

Again this is also backed with the discovery of pre-historic collagens. The analysis of the collagen provided sufficient genetic proof of a link. This information is not even new anymore. They found this in 2007.

Something that cannot be explained must be left as unexplained or just 'I don't know yet'. Does it mean, if you don't understand something, and the community of physicists doesn't understand it, that it means God did it? If that's how you want to invoke your evidence for God, then God is an ever-receding

pocket of scientific ignorance that's getting smaller and smaller and smaller as time moves on.

Science is always open to change. Just to verify that, read your Physics book from your days at school, and read the Physics book we have today. There are lots of changes. On the other hand, read the books of all Abrahamic faiths...they have not changed and never will!

There are no two different definitions for theory, be it in historical science or classical science. A theory is a theory in science. Be it gravity or evolution. Evolution, by definition of the word is a progressive one. Evolution can be seen today in one form or another. Believe what is being presented. Not by me, but by the authorities of science including forensic science.

Evolutionary change continues day in day out, and it will proceed so long as life itself exists. In recent years, many bacterial pathogens have evolved resistance to antibiotics used to cure infections, thereby requiring the development of new and more costly treatments. In some frightening cases, bacteria have evolved resistance to every available antibiotic, so there is no longer any effective treatment. In the case of HIV, which causes AIDS, significant viral evolution occurs within the course of infection of a single patient, and this rapid evolution enables the virus to evade the immune system.

Many agricultural pests have evolved resistance to chemicals that farmers have used for only a few decades. As we work to control diseases and pests, the responsible organisms have been evolving to escape our controls. Moreover, scientists can perform experiments to study evolution in real time, just as experiments are used to observe dynamic processes in physics, chemistry, and other branches of biology. To study evolution in action, scientists use organisms like bacteria and fruit flies that reproduce quickly, so they can see changes that require many generations. I hope that those who believe in the unknown take good notice.