

Charles Darwin's theory of evolution by natural selection

Because of competition for food, the young of any species compete for survival. Those young who survive to produce the next generation tend to be characterised by favourable natural variations that are passed on by heredity (natural selection). Each generation may improve adaptively over the preceding generations, and this gradual and continual process is the source of evolution of the species.

- All related organisms are descended from common ancestors.
- The Earth itself is not static, but evolving.

Many Victorian Christians were shocked by Darwin's theories, which not only seemed to do away with the need for a divine creator, but which traced human origins back to more primitive forms of life. This seemed to go against the belief that humans were created for a special relationship with God.

The Big Bang theory of cosmology

Approximately 15 billion years ago a tremendous explosion started the expansion of the universe:

- All matter and energy of space was contained at one point. What existed prior to this event is completely unknown and is the subject of pure speculation.
- This occurrence was an event filling all of space, as all the particles of the embryonic universe rushed away from each other.
- The Big Bang consisted of an explosion of space within itself which laid the foundations of the universe.
- After the Big Bang, when the Earth had cooled, life began to develop, starting with sea and land vegetation, and ultimately leading to humans.

Paradigm shift

T. S. Kuhn made a distinction between *normal science* and *revolutionary science*. Normal science works on a set of basic assumptions about which there is no dispute and within the limits of the prevailing paradigm in a given field of science. Revolutionary science, however, occurs when there is a struggle between the prevailing paradigm and one that threatens to supersede it, known as a paradigm shift — for example, the transition from Aristotelian thinking to Galilean.

A new paradigm will face opposition until a sufficient body of evidence and experience vindicates it, but when paradigms conflict

it is because they rest on incompatible assumptions. Darwin's theory of natural selection faced precisely this situation, which he acknowledged as follows:

A crowd of difficulties will have occurred to the reader. Some of them are so grave that to this day I can never reflect on them without being staggered, but, to the best of my judgement the greater number are only apparent; and those that are real are not, I think, fatal to my theory.

Charles Darwin

Issues in science and religion

RSReviewExtras



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A scientific interpretation of the origin of the universe

A purely scientific interpretation of the origin of the universe and life is based essentially on the following principles:

- no personal direction
- no metaphysical purpose or meaning
- no intelligent design
- no supernatural intervention
- independent physical, chemical and biological processes

It challenges purely, or even partially, religious explanations on the grounds that they rely on untestable claims, which are likely to be myths, shared by many cultures. They therefore have no special significance or claim to the truth. Some modern biologists, such as Richard Dawkins, are well known for their atheistic rejection of all religious interpretations of the world as inventions that can now be discarded since science has revealed the answers for questions about the world.

Differences between religious and scientific interpretations

Religious interpreters of the universe and scientists disagree over the *meaning* of the universe, not just how it came to exist, including:

- how to interpret the data
- the problem of the language used to talk about the origins of the universe
- the problem of *how* the universe came to be, compared with *why* it came to be
- the problem of whether the universe has a purpose or whether it is just a brute fact
- the question of whether human beings have a special significance in the universe
- the question of whether science and/or religion can offer any decisive answers, or whether it is all a matter of speculation

Richard Dawkins argues: 'Faith is the great cop-out, the excuse to avoid the need to think and to evaluate evidence.'

Comparing truths

Because different paradigms typically characterise different historical periods, it appears to be possible for a statement such as 'God created the world *ex nihilo*' to be true in one historical period and false in another — a form of relativism inevitably operates. Kuhn suggested that truth in science was evolutionary, since if science progresses then later theories must somehow be closer to the truth than earlier ones.

But, is this an appropriate model when comparing religious and scientific truths? If a creationist view of the universe was 'true' until Darwinism and modern cosmology brought about a paradigm shift, does this make the later paradigms more truthful than the biblically-based perception of the world and its origins? Or are we trying to force an evolutionary relationship between two entirely different types of truth?

To what extent are scientists compelled to support a prevailing paradigm even if they believe it to be open to question?

Most scientists still cling to Darwinism because of its grip on the educational system... You either have to believe the concepts or you will be branded a heretic.

Fred Hoyle

Even if the whole universe consisted of organic soup, the chance of producing the basic enzymes of life by random processes

without intelligent direction would be approximately one in 10 with 40,000 zeroes after it... Darwinian evolution is most unlikely to get even one polypeptide right, let alone the thousands on which living cells depend for survival.

Dave Hunt

Oddly enough, of all the worlds in collision today, it is the scientific world that is increasingly giving the greatest and most shocking evidence in favour of God's existence.

Josh McDowall

McDowall cites a range of phenomena which he, and others, argue point to a creation directed by a purposeful mind:

- The structure of DNA is analogous to written messages.
- Science can now demonstrate the need for intelligent causes.
- Modern cosmologists are amazed at the narrow margin allowed for cosmic evolution.

This means that the initial state of the universe must have been very carefully chosen indeed if the hot big bang model was correct right back to the beginning of time. It would be very difficult to explain why the universe should have begun in just this way, except as an act of God who intended to create beings like us.

Stephen Hawking