

CHRISTIANS MISUNDERSTANDING EVOLUTION

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ACCORDING TO A RECENT SURVEY, DARWIN'S THEORY OF EVOLUTION IS NOT ONLY CONTESTED AMONG CHRISTIANS: THERE IS A BROAD SPECTRUM OF OPINION ABOUT DARWINISM IN THE WIDER UK POPULATION.

In the poll carried out by ComRes,¹ just over a third of respondents (37%) agreed that 'humans evolved by a process of evolution which removes any need for God', and just under a third (28%) that 'humans evolved by a process of evolution which can be seen as part of God's plan'. Presented with an explicit definition of Young Earth Creationism ('the idea that God created the world sometime in the last 10,000 years'), 11% said they thought this was 'definitely true' and 21% 'probably true'. Given a clear definition of Intelligent Design ('the idea that evolution alone is not enough to explain the complex structures of some living things, so the intervention of a designer is needed at key stages'), around one in seven people (14%) said they thought it was 'definitely true', but a surprising 37% said they thought it was 'probably true'.

The fact that these figures don't unambiguously add up illustrates the widespread confusion as to what evolution really means, but they do show that at least a third of the UK population retains a deep suspicion if not outright hostility towards evolution.

WHY THE SUSPICION?

The reasons are not too difficult to discern, though saying which reason is the most important is more problematic. First, in the 150 years since the publication of the *Origin*, evolution has been used in support of every 'ism' imaginable, including socialism, capitalism, racism, eugenics and atheism. As George Bernard Shaw once remarked, Darwin 'had the luck to please everybody who had an axe to grind'. It was Darwin's bulldog Thomas Henry Huxley who first started referring to evolution as 'Darwinism', with its overtones of anti-clerical campaigning (Huxley's favourite hobby). There is no doubt that many people see evolution as representing a particular ideology, rather than simply a scientific theory, and react accordingly.

A second reason, and really a further development of the first, is the campaigning of the 'new atheists', of whom Richard Dawkins provides the best exemplar, to equate evolution with atheism. As Karl Marx pointed out long ago, if you keep repeating something often enough, then eventually people will believe it, and the irony is that the Dawkins mantra of 'evolution equals atheism' is also held by some Christians, who seem more willing to believe the atheists than those scientist Christians in the churches who see little problem in absorbing evolution into the biblical doctrine of creation.

Third, there are Christians who think that evolution threatens the foundations of their faith, particularly regarding the creation of the first humans, the doctrine of the

Fall and the entry of death into the world. Opposition to evolution is hardly surprising if such key elements of the faith were really at stake.²

The best way to address these various concerns is to clarify what evolution is and, perhaps even more important for the present discussion, what it is not.

WHAT IS EVOLUTION?

The theory of evolution is the best explanation that we have in science for the origins of biological diversity and provides the framework within which all current biological research is carried out. There is currently no rival theory, although there are certainly big debates about the different mechanisms involved in evolution.

When scientists talk about a 'theory', they are using the word in a technical sense, quite different from its everyday usage when we might say, somewhat disparagingly, 'well it's only a theory'. A theory in science may be likened to a map that draws together many different bits of data to render them coherent, an overarching Big Idea that incorporates multiple components and joins them together to provide an explanation for something. When scientists talk about the 'theory of gravity', for example, they are not expressing any doubt that things fall to the ground, but they are using the word in this technical sense.

Evolutionary theory has come a long way since Darwin and in its modern form involves two key steps which operate together to produce new forms of life. In step one, variation is introduced into the genomes of living organisms. The genome refers to the sum total of all the genetic information contained in the DNA of a single living thing. New variant DNA can be generated by more than a dozen different mechanisms, all of which are random in the sense that their occurrence is not connected to any particular requirement of the organism. Much variation occurs through the process of reproduction, which ensures a continual supply of new variant genomes to the offspring. Other variation is a result of mutations, which can influence a single letter of the 'genetic alphabet' in the DNA, or can involve major changes, such as gene duplication, or even duplication of the whole genome.

Step 2 is the one that Darwin discovered, 'natural selection', whereby the variant organisms produced by the variant genomes are tested out in the workshop of life. The variant organisms that are most successful in 'being selected' to pass on their genomes to subsequent generations will do so because they are best adapted for particular environments ('ecological niches' in the jargon of biology). Herbert Spencer invented the term 'survival of the fittest' to refer to this process. Darwin himself borrowed the term, but the phrase misses the most important point. For sure, a plant or animal cannot reproduce without first surviving, but it is 'reproductive success' that counts for natural selection: how many copies of the variant genomes are passed on to the next and succeeding generations?

It is sometimes maintained that this two-step process results in a circular argument: things are selected to survive, and indeed the ones that survive are those that have been selected. But this misses the point. It is reproductive success that leads to evolution, the process whereby variants beneficial to an organism in a particular ecological niche spread through an inter-breeding population. As variants spread, so plant or animal morphology changes and adapts. There is real creativity and new information involved as these new variants are selected.

A species consists of a group of populations which do not normally breed with other such groups. Speciation is thought to occur either by allopatric mechanisms, which

happen when a population is split into two (or more) geographically divided subdivisions that organisms cannot bridge (such as the formation of a new ocean separating two landmasses as a result of continental drift), or by sympatric mechanisms occurring when two subpopulations become reproductively isolated without first becoming geographically isolated.

The term macroevolution is often used to describe evolution of one species into another, but this does not necessarily mean that changes have occurred in the organism's genome that are any different in kind from those that occur between individuals within a species, although they might do. For example, speciation in plants has often occurred by hybridisation followed by doubling of the chromosome number, either induced artificially or in the wild, even though the plants might actually look quite similar. Nearly 50% of existing flowering plant species are thought to have arisen by this process, so rapid speciation of this kind is very common in the plant kingdom.

Animal speciation generally takes longer, typically over a period of tens of thousands of years, but there are cases where it can be relatively rapid.³

EVOLUTION AS A CREATIVE PROCESS

Those with a robust view of Christian theism will see the whole process of evolution as an out-working of God's creative handiwork fulfilling his intentions and purposes for the created order. Indeed it is striking how often in the Bible God's creative work is viewed as a process (Ps 104).

Humans were not around to appreciate the beauty and wonder of the planet and its biological diversity for more than 99% of its history, but God was: and if God chooses to create by a long process that seems very slow to us, then so what? 'With the Lord a day is like a thousand years, and a thousand years are like a day' (2 Pet 3.8). Just as some Christians want instant sanctification without all the tough challenges of being gradually transformed into the likeness of Christ, so they want a God who is more like a magician, waving the magic wand to bring things into being instantaneously. But all we know of God tells us that is not how he has chosen to create, either in our own lives, or the life of the Church, or the people of Israel (Isa 43).

All that scientists can describe is the outworking of God's will, mediated through secondary causes, for there is nothing else to investigate. But the narrative that they provide, the 'how did God do it' narrative, is complementary to the creation narrative, which addresses a different set of questions: Why has God brought all things into existence? Why are we here? What is our future?

Biologists who seek to invest evolution with an atheistic agenda have simply missed the point. It is not that evolution cannot be presented in a way that appears compatible with atheism, of course it can, but equally you can baptise evolution into virtually any worldview you like and it will fit comfortably within most. In other words, scientific data are simply unable to adjudicate between different metaphysical worldviews that have to be assessed on different grounds.

Asking a different kind of question is more useful: 'Is evolution consistent with a particular worldview?' This is the kind of question that scientists often ask in the Discussion sections of their papers when assessing their data in relation to rival theories. Christian theism does rather well in answering that kind of question in the evolutionary context, much better than atheism. If there is a personal God with

intentions and purposes for his creation, then we expect order, directionality and the emergence of personhood. This is precisely what evolution delivers. Taken overall it is far from being a chance process, with design space repeatedly filling up with organisms living within the constraints of particular ecological niches.⁴ Very similar organs, structures and biochemical pathways evolved independently many times in the remarkable phenomenon known as convergence, because these are what you need to flourish in a given niche. On a planet of light and darkness you need eyes, so eyes are what you'll get, and indeed compound and camera eyes have evolved independently more than 20 times. The arrow of biological time also displays a marked increase in complexity over its 3.8 billion years, leading eventually to the recent (past 2 million years) remarkable explosion in brain size, and the emergence of humankind with the most complex known entity in the universe located between the ears, equipped to pray, worship and know God. Such a historical narrative seems quite consistent with the theological creation narrative that the Bible provides.

CHRISTIANS UNDERSTANDING EVOLUTION

The challenge to Church leaders today is not to be swept along by the rhetoric of the new atheists, nor by the anti-science stance taken by the Young Earth Creationists, but to hold both the 'Book of God's Word' and the 'Book of God's Works' firmly in both hands. This position involves reading up on Darwin and evolution in the year of his double anniversary to understand what biological evolution means today, and why it need represent no threat to faith.⁵

The challenge is to communicate evolution as simply a biological theory, and to knock off all the ideological barnacles with which the theory still seems to be encrusted in some people's minds. Scientific theories simply cannot bear the ideological weight of either the atheistic or the creationist rhetoric. If we want to help Christians understand evolution properly, then it means restoring the vision of an all-powerful sovereign Creator, whose ways are not our ways, and whose creative processes can be investigated and described by us, but never dictated by us, as if we could somehow make up the history of life to suit our own theological or apologetic purposes. All truth is God's truth, and if we can preach that faithfully through word and example, then the 'Dawkins' of this world will find less fuel to pour on the flames of their anti-theistic fulminations.

NOTES

1. Nick Spencer and Denis Alexander, *Rescuing Darwin: God and Evolution in Britain Today* (Theos, 2009).
2. For discussion of these issues, see Denis Alexander, *Creation or Evolution: Do We Have to Choose?* (Oxford: Monarch, 2008).
3. The cichlid fish that live in the great lakes of Africa, such as Lakes Victoria and Malawi, are a good example of rapid speciation. See Alexander, *Creation or Evolution*, pp. 98–9.
4. S Conway Morris, *Life's Solution: Inevitable Humans in a Lonely Universe* (Cambridge: Cambridge University Press, 2003).
5. Many resources are available. For books see Francis Collins, *The Language of God* (New York: Free Press, 2006); Alexander, *Creation or Evolution*; Nick Spencer, *Darwin and God* (London: SPCK, 2009). For online lectures see the

Multimedia Folder at <http://www.faraday-institute.org>. For free briefing papers on evolution see Faraday Papers No 11 and No 12 at <http://www.faraday-institute.org>. For other online resources see: www.cis.org.uk;
<http://www.asa3.org/asa/topics/Evolution/index.html>;
<http://www.darwinproject.ac.uk/content/blogcategory/36/63/>.

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