



God and Modern Thought

Charles Darwin

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Genesis 1: 24–31 Extract from *The Origin of Species* (1859)

Charles Darwin's association with both Edinburgh and Cambridge make him an appropriate subject for me this evening. In 1825, when he was just 16, Darwin came to Edinburgh University with his older brother Erasmus. They took a carriage from Shrewsbury to Liverpool, a ship to the Firth of Clyde, and then a canal boat across central Scotland to Edinburgh. Today a student from China can arrive in less time.

After two years Darwin abandoned his medical studies in Edinburgh and came instead to Cambridge to pursue a general degree in the arts and sciences. It was said that he couldn't stomach the sight of blood. Yet during his Edinburgh years he developed an interest in geology, botany and zoology, partly through his walks in the East Lothian countryside. The University of Edinburgh makes much of this connection while trying to avoid the impression that it's a good idea to give up your studies after only two years.

Alongside Newton's *Principia*, Darwin's *Origin of Species*, first published in 1859, ranks as one of the great works of science. It aroused extensive debate almost immediately, and to this day his ideas continuing to be discussed, applied, extended and misused. *The Origin of Species* is a large but accessible work – much of it is intelligible to a lay reader, unlike say Stephen Hawking's *Brief History of Time*. Darwin famously described it as one long argument. Accumulating data from an array of scientific disciplines, it integrated these into a rich and high-level hypothesis about the evolution of successive life forms on earth over long periods of time. Though accessible, it's quite a big book running to the best part of 500 pages in the modern Penguin edition. How would it fare today with the preference for reading bite-sized chunks on a computer screen? A researcher in Washington DC has surveyed the new learning habits of students. The vast majority prefer to read excerpts of books online. She noted that the most frequent comment amongst those surveyed was that the main disadvantage of using a hard copy of a book was that 'you had to read it more carefully'. Darwin's big book was produced over many years and has to be read carefully.

His central idea is that of natural selection, sometimes referred to as the survival of the fittest. When linked to the painstaking observations of changes within and across species, together with the findings of other disciplines such as geology, there emerges in his work a graphic picture of long ages of evolutionary change and a diversification of species from common origins. Natural selection is the engine of change. There are many small physiological differences between members of the same species, he observed,

though it would take the work of later geneticists to account for these. In the struggle for survival, those changes that confer an advantage tend to be preserved through successful reproduction. Over very long periods of time, this produces quite striking changes with a proliferation of species in their different ecological niches. Our own emergence from earlier hominins has taken about 5 million years.

Much of the evidence was gathered on the long five-year voyage on HMS Beagle. Amongst other things, it intensified his abhorrence of slavery. You'll have heard of his research on the Galapagos Islands, though less well known is his time in Australia. He was astounded by the wildlife there – kangaroos, koala bears, and the platypus. He remarked whimsically that there must be two creators, but of course his own theory explains rather well this diversity across the globe, especially when one factors in later discoveries such as continental drift.

All this is pretty much the standard fare of popular science. You hear it on TV programmes, it is set out for us in natural history museums, in children's songs, and you can buy books on it in Heffers, Waterstones and Blackwells. In all the leading universities of the world it is taught as a well-grounded theory in the life sciences, even if there remain significant debates around the details and the parameters of evolutionary change.

What is puzzling therefore is that opinion polls reveal many educated people today to be sceptical of Darwinian science. Up to half of American citizens do not believe in evolution, we are told. And elsewhere there are significant bodies of evangelical Christian and Muslim opinion ranged against the teaching of evolutionary science in its present form. Much of this scepticism arises from the fear that Darwinism is inherently atheistic or materialist. This view is also put about by a few scientists and philosophers who belong on the other side of the ideological divide. Through the principles of Neo-Darwinism, they claim, we can have a complete understanding of the world and human life without recourse to the claims of faith. In this respect, Richard Dawkins and creation scientists were almost made for each other. They assume that either evolution or religion is true but that you can't have both together.

The position of Darwin himself was more ambivalent. He was brought up in the Church of England and happily married to his cousin Emma, a devout believer to the end of her life. At one time, he intended to become a clergyman. Yet Darwin's own faith seemed to ebb away and he ceased to attend church in later life. He was haunted by the suffering of species, and the constant preying of one upon the other. In later life, he said that his theology had become a muddle – he was certainly not alone there. He retained some vestiges of faith and piety, although his earlier convictions had diminished. Some of his biographers reckon that his doubts stemmed more from grief at the death of Annie aged 10 than as a result of his scientific convictions. Annie, his favourite child, died in 1851 possibly as the result of contracting both scarlet fever and TB. Later in life, Darwin traced the gradual loss of faith to the age of 40 which coincides with her passing. Perhaps these intellectual and personal factors are so entangled in our life stories that it's difficult to separate them. Darwin died in 1882 still holding a vague residual belief; after a state funeral, he was buried in Westminster Abbey.

Following the publication of the *Origin of Species*, Darwin's ideas were widely discussed. Some popular accounts, perhaps based on reports of the famous Huxley-Wilberforce debate in the Oxford Union, assume that it was a case of progressive science vs. the reactionary forces of established religion – a victor takes all contest, with only one winner. The professional scientist triumphed over the bishop. But this narrative of conflict is very far from how it was. Quite quickly Darwin's theory became widely accepted by theologians and church leaders in Britain, Europe and the USA. The culture wars came later in the 20th century – this is sometimes overlooked. By the second half of the 19th century, scholars had already recognised that the opening chapters of the Bible could not be read literally as if they were articles in a popular scientific journal. Geologists had been arguing for a world many millions of years old. Historical critics were pointing out that the Bible had to be understood by reference to the context of the ancient world in which its authors had lived. The faith of the church has to coexist with the compelling insights of other disciplines and forms of enquiry. These can be critically inspected but they cannot be ignored or blandly resisted.

Darwinian evolution was quite quickly accepted in the mainline churches. Life forms may have evolved over many millions of years, new species descending from older ones now extinct, but this can equally well be viewed as a process ordained by the Creator. Frederick Temple, later to become Archbishop of Canterbury, famously said that 'God did not make the things themselves, but he made them to make themselves.' In other words, a divine providence of sorts can be seen in the processes of evolutionary change producing creatures in all their variety, order and complexity. Instead of a pointless arena of waste and suffering, other writers saw a Darwinian world as one of changing kaleidoscopic beauty. Creatures survived and prospered for long aeons inevitably to be succeeded by other species which in turned flourished for a time. One could see a wisdom in an evolving world, not unlike that discerned in creation by the writers of Genesis, Proverbs and other books in the Jewish wisdom tradition.

Science has much to teach us. We reap its benefits each day through medicine and technology, in our homes and our places of work, and in the forms of transport and communication available to us. But it doesn't explain everything. It does not provide us with a complete understanding of who we are and why we are here. The pull of our genes towards survival and reproduction may determine more of what we do than we realise, but there is much more going on in the world than that. We need the language of art, ethics and religion to express other important forms of understanding.

Charles Darwin never viewed his account of evolution as a totalising theory that would displace other forms of description, including those of religion. Today we should celebrate his achievements, his brilliant discoveries that changed forever our understanding of the world, his wonderful account of the history of life forms, his own courage, honesty and humanity. And as we do so, we can thank God for the work of science and seek to place it in the search for truth and the service of the world.