



The Big Bang beginnings

Johannes Kepler: Thinking God's thoughts after him

Johannes Kepler (1571–1630) – astronomer, mathematician and theologian – was a contemporary of Galileo, and one of the giants of the scientific revolution. He is best known for his three laws of planetary motion which overturned the idea that the planets must travel in circular orbits. He described mathematically how the planets could be moving around the sun in an elliptical fashion. Kepler



Johannes Kepler

was set to become a Lutheran priest in his native Germany, but he turned to science for deeply theological reasons. Later, he is reputed to have described his scientific investigations as revealing the glory of the Creator in this way:

I was merely thinking God's thoughts after him. Since we astronomers are priests of the highest God in regard to the book of nature, it benefits us to be thoughtful, not of the glory of ourselves, but rather, about all else, of the glory of God.⁷

Monsignor Georges Lemaître Priest and father of the Big Bang

Georges Lemaître (1894–1966) was a Belgian priest and scientist, and he was a forerunner in describing the nature of the universe as we now understand it. In 1927, after observations and theoretical calculations showing that the universe was expanding,

Lemaître proposed that this expansion could be extrapolated backwards in time to an initial point. He called it the hypothesis of a primeval atom, which later became known as the Big Bang theory after astronomer Fred Hoyle used the term to describe Lemaître's concept. It was his own preferred one, which was the steady state 'eternal' view of the universe.

Lemaître was no doubt aware of the harmony between science and his Christian beliefs. He said he believed that his scientific theory should be used for religious purposes. "As far as I can see, such a theory remains entirely outside any metaphysical or religious question," he said.⁸

Although Lemaître was the first to publish the research calculating the rate of expansion of the universe, he was relatively unknown at the time, and the law came to be known as Hubble's Law, named after Edwin Hubble who, two years after Lemaître, published his own calculations.

Charles Darwin affirms God's two books

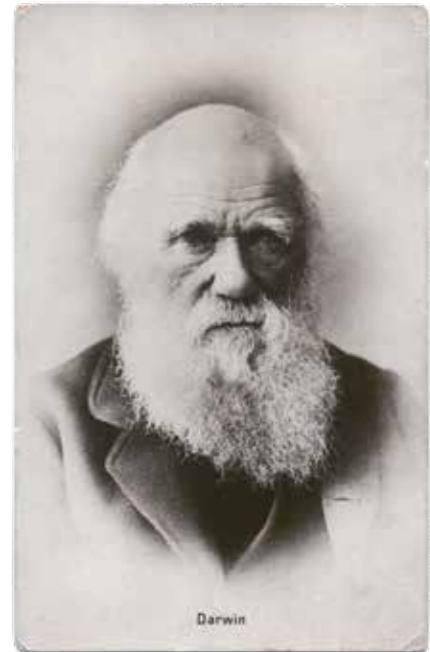
On the Origin of Species by Charles Darwin was published in 1859 and popularised the evolutionary theory of natural selection. Its publication prompted one of the most famous examples of a so-called conflict between science and faith. However, it's interesting that Darwin did not seem to think there was such a conflict and, in fact, he specifically referred to God at the start and end of *Origin*. One of the title pages of the first edition of the book Darwin placed the words of Francis Bacon affirming the necessity of studying both of God's books: "A man out of a weak conceit of sobriety, or an over-applied moderation, think only to maintain, that a man can search too far or be too well studied in the book of God's word, or in the book of God's works; divinity or philosophy;

but rather let men endeavour an endless progress or proficience in both.⁹

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Meanwhile, on the last page of *On the Origin of Species*, Darwin wrote the following (though the words in brackets do not appear in the first edition of the work):

There is grandeur in this view of life, with its several powers, having been originally breathed [by the Creator] into a few forms or into one; and that, whilst this planet has gone cycling on according to the fixed law of gravity, from so simple a beginning endless forms most beautiful and most wonderful have been, and are being evolved.



Charles Darwin

These quotations from Darwin's classic work make it clear that the author of *On the Origin of Species* was not averse to setting evolution in a theistic framework. Although Darwin was not a traditional Christian, and was probably an agnostic by the end of his life, it is simply not true, now or when Darwin popularised the theory, to suggest that evolution was or is necessarily atheistic.

The theory of human evolution

