

The University of Cambridge's First Steps into Science

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Earliest records suggest that the University began in 1209, as groups of scholars congregated at the ancient Roman trading post of Cambridge for the purpose of study [1]. The word 'science' is derived from the Latin *scientia* meaning 'knowledge' or 'knowing', and medieval science was an intellectual activity largely concerned with analysis of written texts regarding conceptual situations. University study of science was correspondingly broad, encompassing such topics as arithmetic, rhetoric, music and geometry. Science as it is known today had still not been born, and the 'scientists' of the early Renaissance held a common belief in the supernatural, where magic and mystical properties intertwined with astrology and nature [2].

Over time, medieval universities such as Cambridge became foci for discussion of study texts, as books and manuscripts were rapidly distributed across the globe. By the 1500s, Gutenberg's invention of the printing press meant that dissemination of books and hence knowledge was more efficient, and in 1584 Cambridge's own University Press began. Increased access to previous works allowed exploration into novel ideas and



areas. Although modern science was still undefined, real scientific discoveries began to be made at Cambridge by figures such as William Gilbert (1544–1603), who discovered that the Earth was in fact a giant magnet, and elucidated the previously ill-defined differences between magnetism and electricity [3]. However, as was commonly the case, he defined himself as a natural philosopher and not a scientist, and still believed in divine cosmic harmonies.

It was not until later that the natural sciences became a separate field of study, preceded by the coining of the term 'scientist' by William Whewell in 1833 and followed by diversification into physics, chemistry, biology and the many subdivisions of each that characterise scientific study today. ■

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References:

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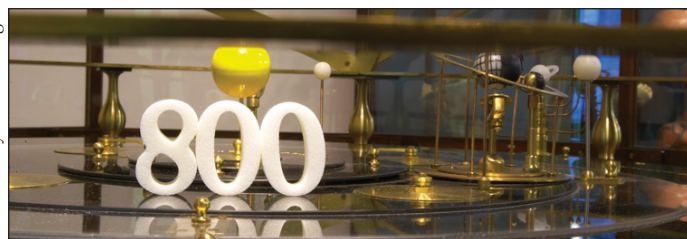
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Sir Isaac Newton

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Sir Isaac Newton was an alumnus of Trinity College and the second Lucasian Professor of Mathematics, Cambridge. While most well known for his works on science, mathematics and philosophy, he also wrote extensively on religion and alchemy, which has led to more recent re-evaluation of many of his contributions to science and mathematics. It is now thought that his works on the natural sciences cannot be viewed in isolation, but rather that his wide range of intellectual interests should be observed as a whole to fully understand the context of his discoveries.

It is generally accepted by scientific historians that Newton himself viewed his different interests integrally,



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and that he wished his writings to be perceived as such. His interest in religion was profound; he wrote over two and a half million words on the subject of theology [1]. Previously, fellows of Trinity College were required to subscribe to strict religious beliefs including the doctrine of the Trinity; however, Newton's strong Unitarian beliefs led to the statutes of Trinity College being altered to accommodate him as a fellow [2]. Further evidence of his faith is apparent in a letter to a contemporary in around 1693 [3], where Newton argued that a divine power is required to explain how the planets came to be in orbit around the Sun.

Newton's letter, along with many more of his writings, are now freely available online as a fully searchable electronic resource through the Newton Project, based at Sussex University. The complete set of works is expected to be available in early 2010. The collection of works can be viewed at www.newtonproject.sussex.ac.uk. ■

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[2] Westfall, R.S. *Never at Rest: A Biography of Isaac Newton*. New York: Cambridge

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[3] Correspondence with Richard Bentley, 1692/3. Transcript available from: <http://www.newtonproject.sussex.ac.uk/texts/viewtext.php?id=THEM00255&mode=diploomatic>