

He falls asleep in car parks. Then a patient's complaint floors him. Never mind, he has more funny stories. And then there is the death of a patient. He is broken by it. There is no happy ending. Kay put this book together, he says, 6 years after leaving medicine as he saw "old colleagues...themselves desperately groping for a ripcord out of the profession—brilliant, passionate doctors who've had their reasons to stay bullied out by politicians". Kay's book is an easy read, deserves to be widely read, and provides an insider/outsider gaze on an institution that seems normal when you work in it and bizarre when you have left it. It's a tragedy that both these authors left the NHS—albeit, in Clarke's case,

temporarily. If we do not care for our NHS staff, our staff cannot care for anyone else. Staff are the live currency of care. How many doctors are able to share worries and seek advice over a cup of coffee or a team lunch? Instead, Clarke was offered a Zumba class that she would never get away from work to attend. How many industries would expect that everything would carry on as normal after a tragic incident the day before? More than 100 years after the portrayal of the "modern house surgeon" carrying burdens beyond resources, I do not see much more understanding or urgency in improving their lot.

The NHS is our society at its best, pledging to care for all. The moral

contract between the NHS and professionals is excoriated through the treatment of health care as an overspending business in need of efficiency savings and of staff as merely expendable byproducts. At the heart of these tales by modern junior doctors is that of vocation being squandered by a Secretary of State who does not understand that moral contract. We should perhaps ask ourselves why that is, and if it is sustainable.

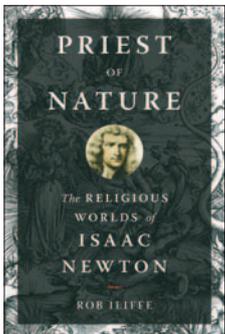
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Further reading

BMJ. The modern house surgeon. *BMJ* 1881; 2: 671

Book Scientist, theologian, and heretic



Priest of Nature: the Religious Worlds of Isaac Newton
Rob Iliffe. Oxford University Press, 2017. Pp 522. £22.99.
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Two centuries ago, William Wordsworth famously contemplated a statue in the chapel of Trinity College, Cambridge, UK, and wrote in *The Prelude*: "Of Newton with his prism and silent face,/ The marble index of a mind forever/ Voyaging through strange seas of thought, alone." Half a century ago, the mathematician and broadcaster Jacob Bronowski added another compelling comment on Isaac Newton in his history of science, *The Ascent of Man*, comparing him with his greatest scientific admirer, Albert Einstein: "Newton is the Old Testament god; it is Einstein who is the New Testament figure...full of humanity, pity, a sense of enormous sympathy." Although neither of these observations appears in *Priest of Nature: the Religious Worlds of Isaac Newton* by Rob Iliffe, a long-time scholar of Newton, together they encapsulate both the challenge and the fascination of writing about the life and thought of this misanthropic, scientific genius.

Newton's scientific achievements were published and celebrated in his

lifetime. But little was known about his profound interest in religion, which was entirely unpublished at the time of his death in 1727. Astonishingly, almost all of the theological writings discussed in Iliffe's book have appeared in print only in the 21st century. Newton refused to publish them partly because he was famously reluctant to publish any of his research, but mainly because he knew that despite his devout Christianity his views were heresy in the Church of England. Publication would have cost him his Trinity fellowship and Lucasian professorship, as well as his later positions as a Member of Parliament for Cambridge University, Warden of the Royal Mint, and President of the Royal Society. Nonetheless, Newton's theology is "eminently worthy of study", argues Iliffe. Not so much because it illuminates his scientific work—though there are intriguing connections between his scientific and theological methods, which Iliffe carefully explores—but because Newton's theological papers

"represent the concerted efforts of the greatest thinker of his age to engage with the biggest questions of his time, and they offer unique, and previously unknown insights into his character."

Why did Newton's theological writings lie neglected after his death? The reasons are complicated and have changed over time. Newton's friend William Stukeley, who was a priest, avoided the writings in his 1752 *Memoirs of Newton*, so as to deify Newton. In the 19th century, the rise of Anglican orthodoxy discouraged their serious study by clergymen. The 20th century saw the increasing separation of theology from science, and the eventual growth of an academic history of science that regarded Newton's absorption in alchemy and theology as unworthy of his undoubted greatness in mathematics and physics. Moreover, his theological manuscripts were fairly inaccessible, having been purchased by the biblical scholar and collector Abraham Yahuda in the 1930s and eventually deposited in the National

Library of Israel. Indeed, scholarly dismissal was the prevailing view in 1986 when Iliffe began researching Newton's theology in the Cambridge University Library. Historians of science assumed that Newton's research on religion—which is hard to date accurately because it is “shrouded in archival fog”—was the product of his dotage.

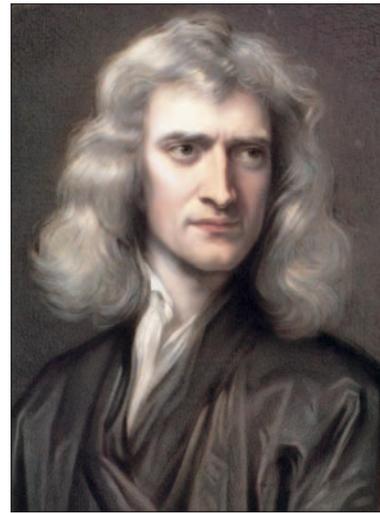
Now, however, it is clear that Newton worked most intensely and innovatively on biblical studies and the early history of Christianity during the very period of his greatest creativity in science—that is, the two decades or so leading up to the publication of *Principia Mathematica* in 1687. Indeed, in 1679 Newton informed Robert Hooke, the polymathic secretary of the Royal Society, that he wanted to withdraw from irritating controversies about “natural philosophy”, such as his work on optics, to concentrate on “other studies” that he enjoyed or which would be of benefit to others—almost certainly a reference to his alchemical and theological research.

Newton's heresy was that he rejected the Christian doctrine of the Trinity (Father, Son, and Holy Ghost) as a diabolical fraud. In his view, which was similar to the 4th-century Arian heresy, Jesus Christ, the Son of God, was not in any sense equal to God the Father, although Christ was divine and deserved to be worshipped in his own right. Furthermore, Newton blamed Roman Catholicism for originally establishing the Trinitarian doctrine and developing a corrupt idolatry of Christ, accompanied by saints. “For Newton”, writes Iliffe, “the most grievous version of idolatry was to turn the Son of God into God himself”.

Characteristically, Newton's heresy was self-taught. As in his scientific research, so in his religious studies, he worked virtually alone. The quasi-monastic setting of Trinity College, evoked in a detailed chapter about its student life when Newton was an undergraduate in the early 1660s, was deeply conducive to his research. Trinity permitted him to be “an

extreme intellectual hermit”: so extreme that he was almost invisible to his contemporaries. Even after Newton became famous in the 1680s, no fellow student or college fellow left any reminiscence of him as a student. Yet, while Newton may have behaved like a monk in many ways, including lifelong celibacy, he strongly disapproved of monks. The extreme asceticism of the Desert Fathers was to Newton “unnatural, irreligious, and directed towards the inflammation of lust”, notes Iliffe. Instead of bodily asceticism, Newton revered relentless intellectual cultivation. When asked how he had discovered the law of universal gravitation, he replied: “By thinking on it continually.” Nor did he believe in fasting. According to the physician and vegetarian George Cheyne, who was acquainted with Newton in later life (until Newton cut off the relationship), Newton performed his early optical experiments sustained by “a small quantity of bread ... with a little sack and water, of which, *without any regulation*, he took as he found a craving or failure of spirits”. The Master of Trinity from 1677 to 1683, John North, believed that if Newton “had not wrought with his hands in making experiments, he [would have] killed himself with study”.

Naturally, no physical experiments were possible in Newton's theological studies, nor did Newton believe that mathematics and theology could usefully mix. Nevertheless, maintains Iliffe, Newton's investigative procedures were similar in both fields. “Although he was of course working in two entirely separate genres and disciplines, there are *prima facie* similarities between the way he adduced data in his work on [biblical] prophecy and the exact sciences. There was no metaphysics, and no contamination by the imagination—just a dynamic interaction between reason and experience, that is, between a continually enriched method and an expanding pile of increasingly empirical data.”



Sir Isaac Newton (1642–1727)

Even so, Newton fell prey on many occasions to errors of the imagination and arguments from self-interest, or worse. For Stukeley he notoriously invented the classic story of the falling apple as his eureka moment about gravitation, dating it to 1665–66, safely before his initial contact with the Royal Society, so that he could claim sole credit. And as Iliffe emphasises, Newton went to extraordinary lengths not long before his death to discredit others dragged into his bitter dispute with the mathematician Gottfried Leibniz over the invention of calculus. Having presented much such evidence, most notably Newton's clashes with Hooke in the 1680s, *Priest of Nature* cannot but reinforce the existing portrait of Newton's un-Christian human weaknesses: his intellectual vanity, his lack of charity to friends and acquaintances, and his inability to forgive his enemies. Yet at the same time, Iliffe's pioneering and erudite study convincingly establishes Newton's religious intelligence and incidentally proves that Newton was a fine example of Einstein's 1941 dictum: “Science without religion is lame, religion without science is blind.”

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