

THE UNKNOWN NEWTON

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Isaac Newton’s scientific legacy is well-known. What’s less well-known is that he was a staunch, though unorthodox, Christian, an alchemist, theologian, and Church historian. These facets of Newton’s life and work often seem at odds with our perception of the genius behind the calculus and universal gravitation. In five articles, by leading scholars in the field, the editors of this symposium seek to unveil this “unknown Newton”. In doing so, a much more coherent picture of Newton’s intellectual life emerges.

I’ll start with the final article of the collection, where Sarah Dry tells us the “Strange Tale of Newton’s Papers”. This recounts how it is that Newton’s unpublished religious and alchemical work was largely ignored until surprisingly recently. John and Catherine Conduitt did a superb PR job after Newton’s death, making public only his scientific papers, and promoting the image of “a mythic Newton blessed with almost divine insight and a Christian faith of almost saintly purity to go with it” (106). Newton thus entered the pantheon of semi-divine National geniuses so venerated by the British.

Apparently this image took several hits in the nineteenth century. Firstly, Biot’s biographical sketch, describing Newton’s mental breakdown in 1692, divided Newton’s intellectual life in twain: he floated the idea that prior to the breakdown, Newton’s life was sane, rational and scientific, but afterwards was mad, irrational and religious. Secondly, Baily published a set of letters between Newton and Halley, which painted Newton as “devious and unscrupulous”, “vindictive and occasionally vicious”. Thirdly, even Brewster, Newton’s committed defender, had difficulty hiding the truth about Newton’s heretical views.

In 1888, following a “lengthy and laborious” process, the Cambridge committee assigned to the task of sorting through Newton’s papers decided the alchemical and theological papers were not of great value—they just took the scientific ones. In 1936, the rest of the papers were sold at auction. It is significant that not a single institutional buyer was there to prevent the papers from being scattered. Luckily, the majority of the papers were purchased by two men: Abraham Yahuda and John Maynard Keynes. Both were quick to recognise the importance of these papers. By the 1960s, most material was available to the public.

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Dry points out that it seems fitting that Newton's papers should have found their way to the internet. Like much material on the web, Newton constantly updated and tinkered with his works, leaving no fixed edition of his manuscripts (and thus dating is a constant headache for Newton scholars!). There is also an irony in this: Newton was famously tight-fisted with his intellectual ideas, except with his closest friends.

In a sense, this disconnect between Newton the heroic natural scientist and Newton the religious fanatic and alchemist was a result of our ignorance of the latter work. The rest of the articles in the collection seek to correct this disconnection.

In the first article, Rob Iliffe offers an insightful look at Newton's work on theology—providing a picture of a devout Christian man, who nonetheless held highly unorthodox views. Nowadays, it is fairly well-known that Newton worked on chronology and prophecy, and rejected the doctrine of the Trinity. But these aspects of his intellectual life are often dismissed as the half-baked musings of an old man. Iliffe offers us an alternative, suggesting that Newton viewed rigorous inquiry into theological matters as his moral duty. A duty that he approached, throughout his life, with the same persistence and vigour he brought to natural philosophy. And indeed he brought many of the same methodological and foundational concerns as well. For example, his interest in the restoration of an ancient tradition of knowledge that has been lost or corrupted, and the view that reason, hard work and disciplined empirical research are always preferable to speculation. Whatever we may think of the ideas themselves, Newton's millions of words on theology count as serious scholarship—not the hobbyist pursuits of a man of fading intellect.

In the second article, William R. Newman dissolves two persistent myths concerning Newton's alchemical work. The first is that conducting alchemical research suggests a lack of commitment to rational inquiry in the study of nature on Newton's part. Newman shows that this view rests on an inaccurate view of early modern alchemy and its practitioners. He presents an alternative picture of alchemy as largely synonymous with 'chymistry'—a heavily experimental discipline, often with a pragmatic eye to profit, as much about developing chemical technologies and pharmaceuticals as it is about turning base metals into gold. And Newton's manuscripts reveal that he was interested in all aspects of chymistry—as were most of the best scientific thinkers of the period (e.g. Boyle, Locke, Leibniz, Spinoza). The second myth is that Newton's alchemy was primarily an expression of his heterodox religious views. The thought is that, in Newton's work, there is a strong analogy between philosophical mercury and Jesus Christ, which reflected his views on the relationship between the Father, the Son and the Holy Spirit. And moreover, it is thought that alchemy had an important moral and religious element. Newman shows that, while Newton's alchemy linked up with his religion in the very general sense described by Iliffe (in the previous article), there is little to support these more specific claims. In fact, he notes that, of the two times Newton mentions God (in *all* of his alchemical writings), neither admits this reading. In fact, Newton had two broad projects in relation to alchemy. The first was to link his alchemical research to his more mainstream science—for example, his matter theory. The second, was transmutation *per se*. Newman notes that, while Newton worked on the typical

alchemist's project of deciphering ancient myths, he doesn't seem to have drunk the proverbial Kool-Aid. On Newman's view, Newton's alchemical work arises from the same desire to penetrate appearances and arrive at the fundamental truths of nature that we find in his physics.

In the third article, Stephen Snobelen examines Newton's views of cosmic change. Traditionally, Newton was seen as believing in a static (i.e. unchanging) cosmos—the clockwork universe. But, as more of Newton's unpublished papers on theology and alchemy have come to light, this needs revising. It seems that Newton explicitly conceived of a dynamic (i.e. changing) cosmos. Snobelen offers an update to this (relatively) recent picture, showing that the points of contact between Newton's cosmological views and his understanding of biblical prophecy are deeper and more numerous than previously thought. Again, we see that Newton's vast array of apparently disparate interests form an intricate web of methods and concepts.

In the fourth article, Andrew Janiak examines how Newton negotiated the apparent tensions between his natural philosophy and his religion. Scholars might be tempted to reconcile these by assuming that he was a great compartmentaliser—i.e. adopting the philosophy that what happens in Church stays in Church. But Janiak develops a picture in which Newton's scientific and religious beliefs were deeply intertwined. As one who believed the scriptures were literally true, this was a remarkable feat. Janiak shows us that a distinction between *reality* and *appearance* runs through his scientific and theological work. According to Newton, the Bible describes actual physical realities, but describes them in ways that the vulgar would understand—reflecting the “gross conceptions” of the masses. Whereas natural philosophy provides explanations which look, as it were, under the hood, beyond appearance to the real nature of things. For Newton, natural philosophy provides the true account of nature, *despite appearances*; whereas the Bible is also true, but *because of appearances*.

The collection should be understood less in terms of advancing Newton scholarship, more as a way of communicating to a broader community the richer picture of Newton's intellectual life which has been emerging. For the Newton scholar, there isn't really anything new here. But then, the collection is intended for a much more general audience. And in this, I think it succeeds. The papers are both well-written and insightful, with plenty of interesting tidbits. It also wonderfully illustrates the rather startling fact that, even though Isaac Newton is one of the most recognizable figures in intellectual history, there is still a lot of work to be done in understanding him. In reconciling the Newton we thought we knew—the Newton of the *Principia* and the *Opticks*—with the unknown Newton—the heterodox alchemist—we gain a better understanding of the man himself, as well as the forces and concerns that shaped early modern thought. And we can even renovate long held ideas about aspects of Newton's work we have been studying for centuries.