



Isaac Newton,
painted by Godfrey
Kneller in 1702.

SCIENCE BIOGRAPHY

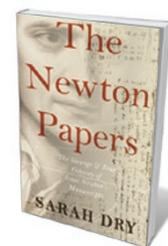
A voyage round Newton

Mordechai Feingold savours a study on how the fitful release of the scientist's papers shaped his reputation.

The last major private repository of manuscripts and correspondence by Isaac Newton and his circle was held in the extraordinary library at Shirburn Castle in Oxfordshire, UK, seat of the earls of Macclesfield. In the late 1970s, I sought access to the documents while pursuing a doctorate at the University of Oxford. I was politely, but firmly, refused. My mentor, Hugh Trevor-Roper, pleaded with the earl, who countered that the last time an Oxonian had entered the library, a book had gone missing. Trevor-Roper apologized on the university's behalf, and asked when the incident had occurred. "In 1747," came the curt reply.

This anecdote illustrates a key element in *The Newton Papers*, Sarah Dry's engaging

narrative of the fortunes of the towering mathematician's *Nachlass* — his private papers. These were inaccessible to researchers for more than two centuries after his death in 1727. Had the politician John Conduitt (1688–1737) completed his biography of Newton — based on papers he had inherited through marriage to the scientist's niece — public perception of the great man's persona might well have been different during the eighteenth and nineteenth centuries. In the event, people were left to conjure for themselves their perceptions of Newton's character and extra-scientific interests. Mesmerized by his scientific achievement, Enlightenment savants divinized Newton, and presumed that his character corresponded to his genius.



The Newton Papers: The Strange and True Odyssey of Isaac Newton's Manuscripts
SARAH DRY
Oxford University Press: 2014

Access to most of the papers has now been free for four decades, and the Shirburn cache was finally sold in 2000, for well over £6 million (US\$10 million), to the Cambridge University Library, UK. Since then, historians have been able to develop a vastly more comprehensive and nuanced understanding of Newton. They have contextualized his scientific pursuits and his life-long interest in areas outside that realm: alchemy, biblical prophecies, and Church and universal history.

Dry's book covers in loving detail and with verve the various permutations of public perception. The speculation began in earnest with the posthumous publication of two of Newton's secret works. In *The Chronology of Ancient Kingdoms Amended* (1728), Newton sought to synchronize sacred and profane history — as reckoned at the time — by shortening Egyptian history by about 1,200 years and Greek history by 500. *Observation Upon the Prophecies of Daniel, and the Apocalypse of St. John* (1733) shows Newton attempting to rationalize the visions of the biblical books of Daniel and Revelation into a coherent prophetic structure, capable of accounting for past, and potentially future, events. Around this time, anecdotal information on Newton's denial of the Trinity also circulated. But neither the content of his posthumous publications nor hearsay about his heterodox religious opinions tarnished Newton's reputation during the Enlightenment.

Starting with Voltaire's relentless campaign to popularize Newton in the 1730s and 1740s, there emerged a view of the mathematician as the greatest and rarest genius, whose character was equal to his mental prowess. In the 1770s, an opportunity to present a more rounded view presented itself when Samuel Horsley, British mathematician and future bishop of Rochester, was allowed access to some of Newton's private papers for inclusion in a new edition of his work. Ultimately, for reasons that are still not clear, none was included.

In the early nineteenth century, the grandeur of Newton's science remained intact. His

reputation, however, was tainted by information suggesting that he had had a nervous breakdown, gleaned from the papers of some of his contemporaries, including Dutch astronomer Christiaan Huygens and English philosopher John Locke. The first provocateur was French mathematician Jean-Baptiste Biot. In 1822 he published a short biography of Newton that contained



Some of Newton's papers, auctioned in 2000.

STEFAN ROUSSEAU/PA

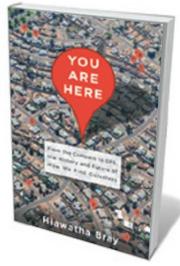
the shocking allegation that Newton had gone mad in the early 1690s, and never entirely recovered — which, Biot insinuated, made him fervently devout and inspired his religious writings. In 1835, an edition of letters and memoirs by the first British astronomer royal, John Flamsteed, brought to light Newton's seemingly heartless treatment of Flamsteed. The revelations engendered debates in England and across the Channel, prompting Scottish physicist David Brewster to spring to Newton's defence. His work culminated in 1855 with a magisterial two-volume biography, which mostly glossed over Newton's heterodox religious views.

Along with her narrative of these debates and discussion of how the history of science evolved in England, Dry offers lively portraits of those who enabled the recovery of the “true” Newton. These include the two earls of Portsmouth who owned his papers — Isaac Newton Wallop, who donated the scientific and mathematical manuscripts to Cambridge in 1872, and Gerard Wallop, who put the rest up for auction in 1936 to pay for death duties and his own divorce. Also discussed are the dealers involved in the dispersal of the papers, and the passionate collectors who vied for a share in the spoils — particularly the economist John Maynard Keynes and the polymath Abraham Yahuda. These two acquired a considerable portion of Newton's alchemical and theological manuscripts in the 1936 sale. Keynes and Yahuda's wife later donated their respective collections to King's College, Cambridge, and the National Library of Israel in Jerusalem, finally allowing free access to Newton's nonscientific papers for the first time.

Dry is to be congratulated for furnishing us with a fresh and readable chronicle of the tortuous route that Newton's manuscript took to being made public — ostensibly in accordance with the wishes of the great man. ■

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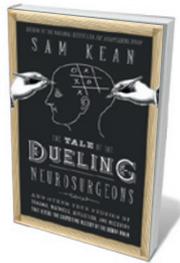
Books in brief



You Are Here: From the Compass to GPS, the History and Future of How We Find Ourselves

Hiawatha Bray BASIC BOOKS (2014)

Getting lost — that adjunct to exploration — is rare in our minutely mapped world. Hiawatha Bray traces the technologies that have driven us to this state of hyper-visibility. Kicking off with Tudor physician William Gilbert's finding that Earth is a colossal magnet, Bray covers radio and gyroscope, global positioning satellites, Wi-Fi, smartphones, Google maps, chip-and-reader tracking and more. The implications of this Orwellian “locational transparency” are amply discussed, to unsettling effect.



The Tale of the Dueling Neurosurgeons

Sam Kean LITTLE, BROWN (2014)

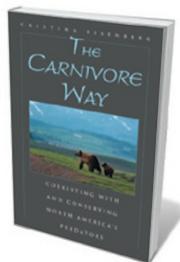
Oliver Sacks's 1985 *The Man Who Mistook His Wife for a Hat* (Summit Books) set off a tsunami of interest in brain anomalies and linked behaviours. Sam Kean braves that wave, revealing how intercranial calamities have built neuroscience case by puzzled-out case, gross anatomy to consciousness. However pop the science, there is much to compel. Victorian explorer James Holman, for instance, was blinded by an infection yet, Kean writes, travelled 400,000 kilometres by echolocation (sounding out surfaces by tapping them with a cane) and was cited by Darwin for work on island seed dispersal.



Hope on Earth: A Conversation

Paul R. Ehrlich and Michael Charles Tobias UNIVERSITY OF CHICAGO PRESS (2014)

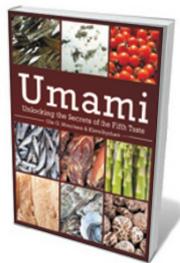
For those wearied by the malaise enveloping high-level negotiations on planetary ills, these ‘bilateral talks’ between biologist Paul Ehrlich and ecologist Michael Charles Tobias offer relief. Their often heated dialogue on the scientific, ethical and conceptual approaches to our global predicament is cogent on details such as the realities of unsustainable livestock farming, or the broken equation of population and resources. Despite the grim litany, their action plan for humanity — such as limiting family size — is convincing.



The Carnivore Way: Coexisting with and Conserving North America's Predators

Cristina Eisenberg ISLAND PRESS (2014)

The “carnivore way” is a vast, fragmented wildlife corridor stretching along the Rocky Mountains from Alaska to Mexico. In this call for a unified vision in conservation, ecologist Cristina Eisenberg argues that big carnivores such as grizzly bears underpin the corridor's ecological health, and need it in turn for dispersal into new territory. She interweaves multiple skeins of science — on predator population resilience, the success of highway wildlife crossings and more — to build a putative scenario of human–carnivore coexistence.



Umami: Unlocking the Secrets of the Fifth Taste

Ole G. Mouritsen and Klavs Styrbæk COLUMBIA UNIVERSITY PRESS (2014)

From Parmesan's savoury tang to the deep complexities of the Japanese soup stock dashi, umami adds a fifth dimension to the flavour universe. Biophysicist Ole Mouritsen, whose *Seaweeds* (University of Chicago Press, 2013) seamlessly meshes science and gastronomy, here reprises that recipe with chef Klavs Styrbæk. Research into areas such as umami's role in appetite regulation alternates with a stunning menu featuring, for instance, braised monkfish liver with peanuts and raspberries. [Barbara Kiser](#)