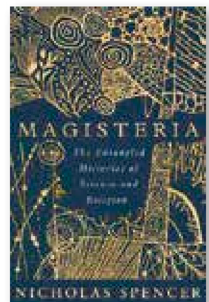
Heavens on Earth
Astronomers work in the observatory of 16th-century Ottoman polymath Taqi al-Din, in a contemporary illustration. Nicholas Spencer's book takes a non-Eurocentric look at the interplay between science and religion

AKG IMAGES

SCIENCE

Competing theories?

PATRICIA FARA is swept up by a novel exploration of the intertwined histories of science and religion spanning several continents and many centuries



Magisteria: The Entangled Histories of Science and Religion
by Nicholas Spencer
Oneworld, 480 pages, £25

When Samuel Johnson embarked on the daunting project of compiling an English dictionary in 1746, he aimed – as he later said – to "embalm his language, and secure it from corruption and decay". By the time he called a halt several years later, he had been forced to acknowledge that this was an impossible task: language changes, words constantly shift, instability reigns. Or, as Humpty Dumpty informed Alice, a "word means just what I choose it to mean – neither more nor less".

In his looking-glass world, Humpty Dumpty neglected to comment on one particularly slippery term: science. Its use has varied so widely that sometimes it does seem to have meant whatever its user intended. So as Jane Austen's Mr Darcy gazed across the ballroom, an onlooker complimented him on his dancing skills by remarking: "I doubt not that you are an adept in the science yourself."

In *Magisteria*, Nicholas Spencer tackles many centuries of debates over the nature of science and its complex relationships with religion. With this exceptionally thoughtful and lively book he convincingly debunks familiar stories of head-on confrontation, instead posing two questions: what (or who) is the human, and who (or what) gets to say? Fortunately, that enigmatic pronouncement, printed in bold on the press release, makes more sense when you read the book.

Magisteria is a large volume with an esoteric but imposing title that stems from evolutionary biologist Stephen Jay Gould's bid – now mostly forgotten – to quell the "Science Wars" of the 1990s by defining science and religion as "Non-Overlapping Magisteria". Spencer disagrees with Gould's model of separate spheres. The basis of his own illuminating analysis is to argue that science and religion share tortuous, messy pasts; repeatedly interacting, at times they have reinforced one another, at others opposed. Spencer imagines two rivers meandering intertwined through a historical landscape. One carries the problem of deciding who holds authority, who makes the decisions about what is right and what is wrong; the other, increasingly important after around 1600, concerns human identity and its spiritual nature. It was only when these rivers converged in the later 19th century that the unhelpful narrative of warfare was created.

> **"** The basis of Spencer's illuminating analysis is to argue that science and religion share tortuous, messy pasts **"**

Getting their hands dirty

One key event occurred in 1833, when the author Samuel Taylor Coleridge berated the members of the British Association for the Advancement of Science for behaving in an unscholarly, ungentlemanly manner. Men who dug up fossils and tinkered with electrical machines did not, he sneered, deserve to call themselves natural philosophers. Thinking quickly, a Cambridge academic calmed the situation by inventing a brand-new word – scientist. It caught on very slowly: Faraday and Darwin are acclaimed as great Victorian scientists, but both rejected the label.

Despite Coleridge's contempt, scientists had no qualms about getting their hands dirty – though they also wanted to boost their social status. Many thus set themselves in opposition to religious authorities, the traditional guardians of knowledge; naturally, the church was similarly eager to safeguard its own territory. Throughout this supposed war between science and religion, fundamentalists on both sides launched vitriolic attacks, many of them ill-informed. Like several other eminent physicists, the Nobel Prize-winner Steven Weinberg refused to acknowledge the religious dedication of Isaac Newton but recycled the facile assumption that he eliminated God from the universe. For Newton, the whole point of studying the universe was to fathom God's intentions, whereas Weinberg commented that "the more the universe seems comprehensible, the more it also seems pointless". As a student, Newton learned that theology lay at the summit of the scholarly syllabus as the "Queen of the Sciences"; however he may have conceptualised this hierarchy, there was certainly no inevitable clash between the two domains.

Despite the subtlety of Spencer's approach, he rather undermines his project by calling all his actors scientists, even describing Aristotle as "the greatest of ancient scientists". This is no mere pedantic quibble: that word – so common now but relatively unfamiliar as little as 100 years ago – emerged as part of the very debates that Spencer aims to pick apart. There was no inevitability about the route from the Greeks to the future, which might have proceeded very differently. Edward Gibbon predicted that Newton would be celebrated for redating ancient dynasties, commenting that "his System of Chronology would alone be sufficient to assure him immortality". Yet, despite Newton's obsessive preoccupations, it would now seem strange to call him a historian or a theologian; conversely, describing him as a scientist pre-emptively excludes the commitment to theology that Spencer has set out to explore.

Spencer makes an impressive bid to get away from Eurocentric stories about science. Starting with the classical world, he embraces Islamic, Judaic and Christian viewpoints up to 1600. He then divides *Magisteria* into two further and more narrowly focused chronological sub-sections, the first continuing to the late 18th century, the second running through to current discussions of artificial intelligence, cyborgs and robots. This three-part structure ingeniously enables Spencer to paint a panoramic picture while also depicting individual episodes in greater detail. The result is a book that is gripping to read and unified by an insightful interpretative framework.

Magisteria opens with the most famous myth about scientific martyrdom in the face of religious obstinacy – the elderly man who eventually confesses his errors to a papal tribunal but stumbles away muttering: "Yet still it moves." As Spencer demonstrates, the matter at stake was not so much Galileo Galilei's insistence that the Earth revolves around the sun, more the Catholic church's determination to maintain its reputation and resist encroachments on its power. A devout Christian, Galileo wittily articulated one way of thinking about the relationship between religion and science: "the intention of the Holy Spirit is to teach us how one goes to heaven, not how heaven goes." **H**

Patricia Fara is a historian of science and emeritus fellow at Clare College, University of Cambridge

FROM FACT TO FICTION

Deadly decor

JM Varese on *The Company*, his Gothic thriller set in the colourful world of luxury Victorian wallpaper-making

Your new novel, *The Company*, takes inspiration from a historical Victorian scandal involving the use of arsenic in fashionable wallpaper. What was the story?
Scheele's Green, a colour invented by the Swedish-German scientist Carl Wilhelm Scheele in 1775, was a brilliant green that became all the rage in home decor in the late 18th and early 19th centuries. The problem with it was that it was derived from arsenic and could be deadly, especially under damp conditions, when the pigments reacted with moisture to produce a toxic gas.

How did you research such a sinister topic?
Two great books on this topic were instrumental for me: Lucinda Hawksley's *Bitten by Witch Fever* (Thames and Hudson, 2016) and James C Whorton's *The Arsenic Century* (OUP, 2010). Hawksley's book is really the bible on this topic – and is gorgeous to boot, including hundreds of samples of arsenical wallpaper from the National Archives. I also consulted numerous primary sources and medical journals to get a flavour of the language of the debates that raged during the 1870s.

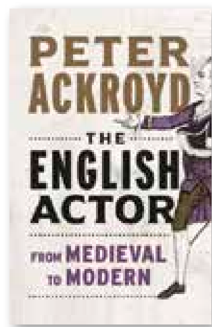
Did you take inspiration from any real-life historical figures?
While I did not cast the great Arts-and-Crafts wallpaper and textile manufacturer William Morris as a character in the book, I did take great inspiration from him. It was Morris who said that the doctors had been "bitten by the witch fever" during the arsenic controversy, and he remained an outspoken denier of the toxic effects of arsenic – though public demand eventually forced him to begin offering "arsenic-free" wallpapers in the late 19th century.

The Company
by JM Varese
Baskerville, 256 pages, £16.99

CULTURAL

Lighting up the stage

STEPHEN UNWIN is enthralled by a survey of English thespians, the subjects ranging from medieval talents to the greats of the 21st century



The English Actor: From Medieval to Modern
by Peter Ackroyd
Reaktion, 400 pages, £20

"Acting is merely the art of keeping a large number of people from coughing," declared the sublime actor Ralph Richardson. His wry line suggests just how hard it is to say anything of substance about this most ancient of art forms. Unlike the playtext itself, a performance leaves behind no trace except in the memory of individual audience members or in the frankly idiosyncratic opinions of theatre critics.

Peter Ackroyd's study of the English actor from medieval times to the modern day doesn't entirely solve this problem. What it does do, however, is showcase an astonishingly expansive cast of leading actors and actresses through the centuries, giving an inkling of what it might have been like to be in their company and watch them at their best. Thus he recounts how the great Elizabethan actor Edward Alleyn played an astonishing seven different parts in 14 days, and reveals how his performance of Marlowe's *Doctor Faustus* was so potent that it was said the devil himself appeared on stage. In detailing the arrival of actresses following the Restoration, he describes how Nell Gwyn's "vitality and vivacity swept her triumphantly on to the stage".

Ackroyd is especially strong on the great arc of acting in England that extended from David Garrick and Sarah Siddons in the 18th century, through the likes of Edmund Kean (of whom Coleridge said that watching him act was "like reading Shakespeare by flashes of lightning") in the early 19th century, onto the two towering figures of the Victorian stage, William Macready and Henry Irving. The latter once boasted to Ellen Terry that: "For an actor who can't walk, can't talk and has no face to speak of, I've done pretty well."

The panorama gets more crowded as the book moves into the 20th century. We hear how actors had to increasingly balance their enthusiasm for live theatre with the competing demands of film and television. The legendary quartet of Laurence Olivier, John Gielgud, Ralph Richardson and Peggy Ashcroft are dispatched effectively, but it's especially touching to see Ackroyd's evident admiration for a younger generation. Thus Mark Rylance's acting is described as "human in the way that it is vulnerable, fallible and recognisable". When Simon Russell Beale goes "into whatever dark crevices or on to what whirring carousels he ventures, he makes you his companion". Ackroyd is insightful, too, about Sophie Okonedo: "There is no 'join', no seam, in her acting. A quiet, heavy, bored cast of expression might leap into tigerish rage, her neck and face becoming all sinew and teeth. Then, as pain intrudes, the pillars under her cheeks collapse, the blazing eyes dim. She begins – and there is no other word for this – to vibrate with grief." If only he could have witnessed earlier great actors in their prime.

Dramatic look Thomas Gainsborough's 1785 portrait of Sarah Siddons, the pre-eminent actress of her age in England

GETTY IMAGES

> "Edward Alleyn's performance of *Doctor Faustus* was so potent it was said the devil himself appeared on stage"

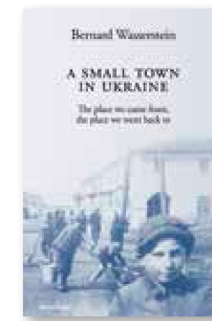
The book's extensive biographical research occasionally lapses into pedantry (do we need to learn all the names of Ralph Nathaniel Twisleton-Wykeham-Fiennes?) and Ackroyd could have been nimbler in exploring the elusive and shifting claims of naturalism in acting. But his handsomely published and authoritative book stands as an invaluable account of an art form at which the English have so long excelled. ■

Stephen Unwin is a director and writer. His latest book is *Poor Naked Wretches: Shakespeare's Working People* (Reaktion, 2022)

20TH CENTURY

What was lost

ALEXANDER WATSON is moved by a study of the impact of extremism on the people of one eastern European town



A Small Town in Ukraine
by Bernard Wasserstein
Allen Lane, 320 pages, £25

In October 1938, some 6,500 Jews living in Germany were arrested without warning and dumped by police outside the Polish frontier village of Zbąszyń. At first, the surprised Polish border guards denied them entry but, after a standoff, these wretched people – who possessed Polish citizenship but who had made their lives in Germany – were allowed across the border. Among these victims of Nazi antisemitism were Berl and Addi Wasserstein. With nowhere else to go, Berl travelled with his son, Addi, to the place of his birth: Krakowiec.

This readable book by Berl Wasserstein's grandson tells the story of this settlement, interwoven with his family history. Krakowiec was for centuries a wholly unremarkable small town in eastern Europe. First recorded in 1423, today it lies just inside Ukraine's border with Poland, 43 miles west of Lviv. Its name is believed to derive from the coarse croaking call of ravens: "kruki, kruki". Like other towns in this region, it was for most of its existence a multi-ethnic place. Roman Catholic and Greek Catholic churches celebrated mass for Poles and Ukrainians, and a synagogue served the town's Jews who, by the 1880s, comprised the majority of Krakowiec's 1,900 residents.

ALAMY

Site of tragedy The small town of Krakowiec, pictured before it was devastated by war

The closest Krakowiec came to a golden age was in the 18th century when the local lord, Ignacy Cetner, built a palace just to the town's west, with a fine landscaped garden full of exotic plants. Craftsmen and some money flowed into Krakowiec, but the good times did not last. In the 1830s, the town was ravaged by disease, and Cetner's palace was partially demolished, having deteriorated through neglect. Thirty years later, when railways came to the region, Krakowiec was bypassed, cementing its status as a backwater.

The heart of this book is its author's poignant account of how his family – along with Krakowiec itself – were devastated through Europe's 20th-century descent into barbarity. The First World War compelled the Wassersteins to flee Krakowiec, which in 1914–15 suffered looting and a nine-month Russian occupation. Berl – just 16 at the outbreak of war – went to Germany, and made Berlin his home for the next 20 years. He wed another Krakowiec Jew, had a family and established a successful raincoat-manufacturing business.

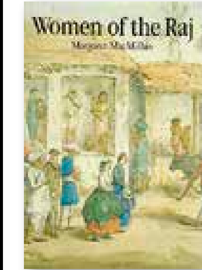
Life in Berlin offered what Krakowiec could not: comfort and prospects. Berl and his family assimilated and blended in while keeping their faith. Yet, as this book sadly records, modernity spawned ideologies with immense destructive power. The Nazi takeover of Germany in 1933 mortally imperilled the Wassersteins. Krakowiec, too, was seized by the age's radicalism. There, Ukrainian ultranationalism proliferated during the interwar period, its visceral hatred of Jews and Poles bursting into extraordinary violence in the 1940s.

The book covers well-trodden ground when it discusses the Second World War and the Holocaust in eastern Europe, but also conveys with exceptional power the enduring impact of the genocide on families. After totalitarian regimes overran Poland, Krakowiec suffered under Soviet rule before being seized by the Nazis in 1941. With help from Ukrainian auxiliaries, they exterminated Jews across the region – including Berl, his wife and his daughter. Addi found refuge in Palestine. This lovingly researched history movingly remembers these people and a place that, once a home, became a site of murder. ■

Alexander Watson is professor of history at Goldsmiths, University of London

THE CLASSIC BOOK

Shrabani Basu on an insightful look at the **experiences of women in British India**



Women of the Raj
by Margaret MacMillan
(Thames & Hudson, 1988)

We have seen them in black-and-white photographs of the time: women in starched gowns and broad-brimmed hats taking tea on manicured lawns, a liveried Indian servant inevitably attending on them. Margaret MacMillan, however, takes us behind the gloss to reveal the real lives of women who travelled thousands of miles to live in India at the height of the British empire.

Women of the Raj tells stories of their lives there – as wives, as teachers or as those seeking husbands, known as the "fishing fleet". It was not always a life of privilege, and the class system largely prevailed. Wives of ordinary soldiers travelled below deck in rat-infested cabins, while upper-class ladies enjoyed fresh breezes on deck.

Once in India, the women adapted quickly, covering their ankles with pillowcases to ward off mosquitoes, and pouring paraffin under their beds to keep pests at bay. Boredom and heat often got to them. Some, such as Eliza Fay (1755/56–1816) and Flora Annie Steel (1847–1929), wrote about their experiences on the subcontinent.

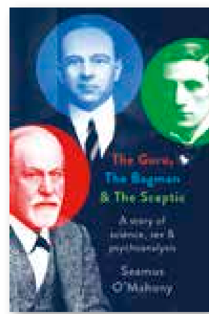
MacMillan's book inspired me to look at stories that had *not* been told, and to focus on the little details and anecdotes that would bring a story to life. It piqued my interest in telling the unknown tales of the Raj – of the real Adela Questeds, Cyril Fieldings and Dr Azizes, of the lives that were shaped by passages to India and passages to England, and the hidden histories locked within. ■

Shrabani Basu is the author of *Victoria & Abdul: The True Story of the Queen's Closest Confidant* (History Press, 2010)

MEDICINE

Mind games

ANDREW SCULL is entertained by a critical but witty examination of early psychoanalytical practitioners and their self-absorbed patients



The Guru, the Bagman and the Sceptic: A Story of Science, Sex and Psychoanalysis
by Seamus O'Mahony
Head of Zeus, 336 pages, £27.99

In his new book, Seamus O'Mahony invites readers to view the shifting fortunes of three men over the course of nearly four decades. The guru in question is Sigmund Freud; the bagman is his most devoted disciple, Ernest Jones; the sceptic is Jones's brother-in-law, eminent surgeon Wilfred Trotter. There's a particular focus on psychoanalysis – which the author, like Trotter, clearly regards as a cult, not a science. "Psychoanalysis," he remarks, "became a home for rich directionless strays, who analysed other rich directionless strays."

If O'Mahony is essentially dismissive of Freud's intellectual legacy, he displays a grudging respect for the man himself. Trotter, the sceptical Englishman, with his dexterity as a surgeon and his innate modesty, is most sympathetically portrayed. Least favoured is the industrious but sycophantic Jones, whose peccadillos and limitations are laid bare.

While still young men on the make, Jones and Trotter were close friends. That friendship became strained when allegations of sexual abuse prompted Jones's abrupt departure from London to Toronto in 1908. More scandals surfaced in Canada, forcing Jones to return to London in 1913. By then he had become a convinced Freudian, and soon built a lucrative practice. Within a few years, Jones "effectively controlled the London market in psychoanalytic patients" and made a handsome living, coming to own several properties including a summer house on the French Riviera.

Jones also acted as "Freud's agent and broker", sending him a steady stream of rich English patients. Freud was duly grateful, thanking him for "providing well for my medical income". However, he disliked Jones and quashed his hopes of marrying Freud's 18-year-old daughter, Anna.

In recounting this history, O'Mahony dispenses caustic judgments about those attracted to psychoanalysis in the interwar years, and about its practitioners. "Psychoanalysis was the opium of the intellectuals," he concludes, and "as influential in Cambridge in the 1920s as communism in the 1930s". He has little doubt about why: "Cambridge intellectuals discovered that they liked nothing better than talking about themselves… The dressing up of this prolonged immersion in the self as a 'scientific' and 'therapeutic' process was intoxicating." The other hotbed of English psychoanalysis was Bloomsbury. "Freudianism appealed to the Bloomsberries because it was simultaneously avant-garde and elitist, and because it legitimised their unorthodox sexual behaviour."

The brains trust Sigmund Freud, pioneer of psychoanalysis, pictured (seated, left) with colleagues in Berlin in the early 20th century; his Welsh acolyte Ernest Jones, the "bagman" of a new book, stands top right

GETTY IMAGES

> O'Mahony dispenses caustic judgments about those attracted to psychoanalysis in the interwar years, and about its practitioners

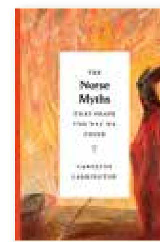
Many patients later joined the ranks of the analysts. The only qualifications these "couch-jumpers" possessed were their own sessions with Freud, who then gave them his personal imprimatur. O'Mahony holds most of these in little regard. The snobbish and casually antisemitic Joan Riviere, among Freud's more able translators, is described as "one of the great monsters thrown up by psychoanalysis in England". James Strachey, who translated Freud's work, and Adrian Stephen, Virginia Woolf's brother, were "dabblers who had failed at everything else, [until] in early middle age they found something they could finally stick at". As for Melanie Klein, the child psychoanalyst who did so much damage to her own children's lives, O'Mahony's verdict is succinct: she was "truly wicked".

This is not a book for those enamoured of Freud and his followers. Others will find much here to relish – the Freudians were a rum lot. O'Mahony has a sharp eye for their foibles, and writes with wit and humour.

Andrew Scull is distinguished professor of sociology and science studies at University of California, San Diego

MEDIEVAL

The legends we love



The Norse Myths that Shape the Way We Think
by Carolyne Larrington
Thames and Hudson
320 pages, £20

Why does everyone love Loki? Blame the novelists. Once, this father of monsters was considered the epitome of evil; in the original Norse myths, he is ultimately revealed to be a malicious traitor. Carolyne Larrington charts how this initially unattractive figure has been reimagined from the 1970s onwards by authors such as Diana Wynne Jones, AS Byatt and Joanne Harris. His "questing intelligence, easy charm, sexual attractiveness and relaxed relationship with ethical questions" have turned him into a flawed antihero, as also reflected in recent Marvel films.

With her previous books, Larrington has been our best interpreter of the medieval Icelandic sources of Norse mythology. In this new and very readable volume, she shows how those stories and characters have stayed alive, evolving and developing as they inspired a host of retellings and reimaginings. Each chapter focuses on a figure (for example, Óðinn, the wanderer in search of wisdom) or a concept (Valhöll, the myth of undying fame). Beginning each chapter with a summary of the Old Icelandic sources, Larrington usefully reminds the reader that, even back then, there was no authorised version. And she uses witty and perceptive summaries – and copious illustrations – to show how later poets, novelists, composers and the makers of films and games have adapted or appropriated the myths.

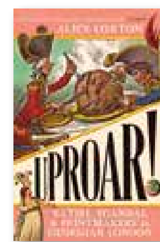
The range of reference is largely Anglophone and weighted towards popular culture, covering an astonishing number of recent books and films. But Larrington is also knowledgeable about earlier history, and very fond of Wagner. She not only reads and watches many reworkings of the Norse myths so that you don't have to, but also shows how the enduring appeal of the originals comes from the way in which the myths can be employed to engage with the big questions of our own time.

Judith Jesch, professor of Viking Studies, University of Nottingham

Charming traitor
The sightless Norse god Höðr is tricked by the mischievous Loki (centre) into killing his brother, Baldr, in an 18th-century illustration

CULTURAL

Taking aim with art



ALAMY

Uproar! Satire, Scandal and Printmakers in Georgian London
by Alice Loxton
Icon, 240 pages, £25

Uproar!, we are forewarned, rips through the context and production of British 18th and 19th-century pictorial satire, focusing on the careers of Georgian artists Thomas Rowlandson, Isaac Cruikshank and James Gillray. The author's note states that this is a subject known only to enthusiasts and academics – quite a claim, on the face of it.

It is certainly true that many of the complex references to contemporary characters and events – which would have been immediately understood by those living through the moment represented – are inevitably lost on the modern viewer. And Alice Loxton is good at summarising the background to the often bewildering barrage of detail around images of William Pitt the Younger, Bonaparte et al. However, many readers of this magazine are unlikely to be ignorant of these artists or of the times their art reflected.

Some will find the punchy, often disarmingly cheeky writing style – in self-conscious imitation of the subject matter? – fresh and invigorating. Others may find this "BISH, BASH, BOSCH" approach a little distracting.

Occasionally the art history feels too simplistic. An example of this is the analysis of William Hogarth (the backdrop to the heft of the book), where a few errors and some muddle creep in: Annibale Carracci (died 1609) could not, for instance, have responded directly to Hogarth's "attack" on caricature, as Loxton appears to suggest.

Another, fundamental issue is the unfortunate over-reliance on in-text black-and-white images. The glorious contemporary hand-colouring of Gillray's prints deserves to be seen – if, that is, you view his work as visual art, as well as social/political documentation. That said, *Uproar!* is a fun introduction to a great subject – and, if it encourages further interest, job done!

Jacqueline Riding, author of *Peterloo: The Story of the Manchester Massacre* (Head of Zeus, 2018) and *Hogarth: Life in Progress* (Profile, 2021)