

The New Criterion

Books

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In that dawn

by [John Derbyshire](#)

May 7th this year marked the fiftieth anniversary of C. P. Snow's "Two Cultures" speech in Cambridge, England. There were some scattered commemorations. Roger Kimball, writing in the February 1994 issue of *The New Criterion*, had already noted the naïveté and incoherence of Snow's arguments, yet allowed that there was a grain of truth in them: "For there *is* an ingredient of irrationalism in Western culture that regularly manifests itself in anti-scientific biases of one sort or another. Certain varieties of romanticism belong here."

That qualifier is well placed: "Certain varieties." Romanticism, for all its emphasis on sensation over ratiocination, on heart over head, on the felt over the observed, shares a part of the human imagination with science. That imaginative region, properly stimulated, can inspire either a hypothesis or a sonnet equally well. Indeed, there is an entire literary genre, though admittedly it is lowbrow, in which the scientific and the romantic are yoked together: science fiction. Kingsley Amis, in his 1960 survey of the genre, *New Maps of Hell*, wrote that science fiction's best productions "arouse wonder, terror, and excitement." (I note in passing that Amis's book was based on some lectures he had given at Princeton in the spring of 1959, within a few days of C. P. Snow's much inferior Cambridge presentation.)

Wonder, terror, and excitement. These emotions come upon the scientific enquirer when he stands at the edge of the known, peering into the unknown. Unfortunately, the area of the known is nowadays so large that many years of concentrated study are needed to reach its borders. A person who has not submitted to that long training can share the wonder only at second hand, in glimpses offered by science popularizers or skillful science fiction authors. That is the grain of truth in C. P. Snow's oyster, around which his argument accreted.

There was a time, though, in the youth of science, when inquirers of any temperament or education could share in its wonders. Writing of the excitement he had experienced on first looking into George Chapman's verse translation of the *Iliad*, twenty-year-old John Keats, reaching for a simile, found one in science: "Then felt I like some watcher of the skies/ When a new planet swims into his ken." He then reached for another, and found it in the exploration of far continents and oceans: "Or like stout Cortez when with wond'ring [Keats's original adjective] eyes/ He stared at the Pacific."

Writing of this precise moment of poetic inspiration—it fell in October of 1816—Richard Holmes tells us that:

Physical vision—one might say scientific vision—brings about a metaphysical shift in the observer's view of reality as a whole. The geography of the earth, or the structure of the solar system, are in an instant utterly changed, and forever. The explorer, the

scientific observer, the literary reader, experience the Sublime: a moment of revelation into the idea of the unbounded, the infinite.

Keats's illustrious sonnet was written towards the end of the period covered by *The Age of Wonder*. The publication of Mary Shelley's *Frankenstein* was just two years in the future.

In 1827, nine years further on, William Wordsworth and Sir Humphry Davy met for the last time. Both were guests of Tory peer and patron of the arts Lord Lonsdale at His Lordship's seat, Lowther Castle, in the far north of England. The poet and the chemist had been friends for twenty-six years, but now there was an estrangement. Wrote Wordsworth later: "His scientific pursuits had hurried his mind into a course where I could not follow him, and had diverted it in proportion from objects with which I was best acquainted." Paul Johnson, in *Birth of the Modern*, identifies this moment as the parting of the ways between science and the arts.

That is almost certainly a false precision, but Davy's death less than two years later marks the end of this book's main narrative, and the survey of immediately subsequent events in Holmes's last chapter is dominated by public debates about whether science had lost its way. In 1830, Charles Babbage actually published a book titled *Reflections on the Decline of Science in England*. Coming just before Darwin embarked on the *Beagle* and Faraday made his great discoveries in electromagnetism, the reflections were premature, but Holmes makes a good case that *romantic* science ended some time between Davy's death in 1829 and the first public usage of the word "scientist" in 1833–4.

The beginning of romantic science is harder to pin down. With a nod to Keats, we might nominate William Herschel's discovery of Uranus in the spring of 1781. The first manned balloon flight in November 1783 is another strong candidate. Holmes gives full coverage to both events, but opens his story somewhat earlier, with the young naturalist Joseph Banks getting his first sight of Tahiti in April 1769. Banks was traveling as official botanist on the ship *Endeavour* under Captain James Cook. The voyage had mainly scientific aims: to chart the coasts of what we now know as Australia and New Zealand; to collect plant and animal specimens; to observe from Tahiti the planet Venus crossing the Sun's disk (a rare occurrence); and to confirm that sauerkraut and lime juice could fend off scurvy among sailors. Britain's Royal Society supplied part of the funding.

The voyage was written up by a hired scholar ill-suited to the work and fell flat. Banks's own account was never published, though manuscript drafts survive. Holmes calls it "one of the great unfinished masterpieces of Romanticism." The journey had made Banks's scientific name, though. His tenure as President of the Royal Society from 1778 to 1820 encompassed the real Age of Wonder, the age of romantic science at the full, and these are the years to which Richard Holmes gives over most of his text. Banks is constantly in the background: meeting with the balloonist Jean-Pierre Blanchard in 1784; sponsoring William Herschel's great forty-foot telescope in 1785; dispatching Mungo Park to explore the Niger in 1794; defending Davy as sole inventor of the miner's safety lamp in 1817 (against George Stephenson's claims of priority); scandalized by the first canto of Byron's *Don Juan* in 1819. Banks presided over the age of romantic science, and he is quite properly the presiding spirit of Holmes's book.

Among the non-scientists in *The Age of Wonder*, Samuel Taylor Coleridge is most prominent. He became a friend of Humphry Davy's from their first meeting in 1799, and regularly attended Davy's lectures on chemistry—"to enlarge my stock of metaphors," he later explained. Coleridge was an active participant in the Vitalism debate of 1816–20; and in later life he befriended the young Michael Faraday, who had been Davy's assistant.

It is curious, reading this book, to see that chemistry was as fully romanticized as astronomy, ballooning, and exploration. Chemistry is now more nearly complete than any other branch of

science—not even working chemists consider their subject romantic. Yet here is Sir Humphry Davy claiming chemistry as “the crown of a ‘liberal education.’” Perhaps it was the danger that added glamour to chemical experimentation: Davy and Faraday were both nearly blinded by lab explosions. The mood-altering effects of nitrous oxide also lifted chemistry above the merely material plane. Coleridge inhaled nitrous oxide on several occasions at Davy’s Bristol laboratory, though with disappointing results in comparison to those of the opium of which he was already an experienced user.

Richard Holmes’s survey of this fascinating period shows, through the lives of key participants, how the literary, philosophical, and scientific currents of the time acted on each other. There are curious presages of our own concerns. A colossal volcanic eruption in 1815 led to strange meteorological effects and worries about climate change. The slump in ballooning after the initial excitement of 1783–1800 puts one in mind of manned space travel’s retreat following the Apollo program. Coleridge seems to have grasped that “the real subject of the Vitalism debate was the mysterious nature of ... ‘consciousness’ itself.” He would have been a keen follower of modern neuroscience and Consciousness Studies.

There are also many biographical curiosities and anecdotes. I particularly liked Byron’s account of his trying to explain to his voluptuous mistress Teresa Guiccioli the nature of Davy’s genius: “‘What can he do?’ repeated the lady. ‘Almost anything,’ said I. ‘Oh, then, *mio caro*, do pray beg him to give me something to dye my eyebrows black.’” I was surprised to learn that 10 percent of the Royal Society’s members in 1818 were clergymen (“including a large number of bishops”). Did Joseph Montgolfier really discover the hot air principle by watching his wife’s chemise inflating when she hung it over the hearth to dry? *The Age of Wonder* has a heroine, too: William Herschel’s devoted sister Caroline, described with sympathy and insight. Richard Holmes has given us a fine account of science’s great adolescent growth spurt: a time when, for a few decades, poets, astronomers, novelists, chemists, biologists, and explorers met on equal terms, with keen interest and understanding of each other’s work: “Bliss was it in that dawn to be alive.”

John Derbyshire's most recent book is *We Are Doomed: Reclaiming Conservative Pessimism* (Crown Forum).

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