

ally certainly influenced Scott's characterization. In December 1824, about a year after completing *Saint Ronan's Well*, Scott described Wordsworth as 'our moral poet'.⁵

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⁵ 'Prefatory Memoir to Robert Bage' in *The Novels of Swift, Bage, and Cumberland*, Ballantyne's Novelist's Library, IX (London, 1824), xxx.

PEACOCK'S MR ASTERIAS AND 'POLYPODES': A POSSIBLE SOURCE

IN chapter seven of Thomas Love Peacock's *Nightmare Abbey*, Mr Asterias, the bumbling mermaid-hunting ichthyologist, arrives at the Abbey, and we are introduced to his strange and varied scientific pursuits. Of particular note is his radical belief in evolutionary biology:

He maintained the origin of all things from the water, and insisted that the polypodes were the first of all animated things, and that from their round bodies and many shooting arms, the Hindoos had taken their gods, the most ancient of deities.¹

It has been convincingly established that Peacock created Asterias primarily as a caricature of two discredited scientists, the Frenchman Pierre Denis de Montfort and the Scottish baronet Sir John Sinclair,² and it has been suggested that Montfort's work on microscopic shells provided the source for Asterias's belief in the origin of all life in the water.³

However, the similarity between the above quoted aspects of Asterias's scientific views and the work of the eighteenth-century Swiss biologist Abraham Trembley appears to have gone unnoticed.⁴ In 1740, Trembley made a vital

discovery in the field of biology when he conducted a series of experiments on what he termed polyps (today known as hydras). These were small aquatic life forms, consisting of cylindrical bodies and numerous long tentacles – an appearance closely resembling that of Peacock's 'polypodes', described as having 'round bodies and many shooting arms'. Before these experiments by Trembley, the scientific boundaries between 'plant' and 'animal' were thought to have been firmly established, and a clear biological distinction could be made between life forms in either category. However, in a remarkably wide-ranging series of investigations, Trembley observed that the polyp possessed characteristics common to both plant and animal, such as the ability to move, catch prey, reproduce asexually, and regenerate a whole new creature from a small off-cut. Trembley's illustrated *Mémoires*, published in 1744, thus forced a fundamental rethink of these biological principles, laying the foundations for later evolutionary biology and thinkers such as Erasmus Darwin.

Thomas Peacock himself was well informed on scientific matters and the debates surrounding evolutionary biology through his association with Percy Shelley's personal physician, William Lawrence, who was one of the participants in the famed vitalist controversy of 1814–19. As Marilyn Butler notes, the Shelley group's friendship with Laurence probably ensured that they wrote 'more accurately and less speculatively on scientific matters than they otherwise might'.⁵ It is thus likely that Peacock was aware of Trembley's experiments, and that Trembley's investigations formed the source for Asterias's obsession with 'polypodes' as the genesis of animated life.

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¹ Thomas Love Peacock, *Nightmare Abbey* / *Crotchet Castle*, ed. Raymond Wright (Harmondsworth, 1969), 71.

² See Norma L. Rudinsky, 'Source of Asterias's Paean to Science in Peacock's "Nightmare Abbey"', *N&Q*, xx (1975), 66–8; Norma L. Rudinsky, 'A Second Original of Peacock's Menippean Caricature Asterias in *Nightmare Abbey*: Sir John Sinclair, Bart', *English Studies*, lvi (1975), 491–7; and Norma L. Rudinsky, 'Contemporary Response to the Caricature Asterias in Peacock's *Nightmare Abbey*', *N&Q*, xxiv (1977), 335–6.

³ Rudinsky, 'Source of Asterias's Paean to Science in Peacock's "Nightmare Abbey"', 67.

⁴ For a concise introduction to the work of Abraham Trembley, see Howard M. Lenhoff and Sylvia G. Lenhoff, 'Trembley's Polyps', *Scientific American*, cclviii (1988), 86–91.

⁵ Marilyn Butler, 'Frankenstein and Radical Science', in J. Paul Hunter (ed.), *Frankenstein* (New York and London, 1996), 305.

A SOURCE FOR MARY SHELLEY'S 'SAILING BALLOON'

MARY SHELLEY's futuristic novel *The Last Man* (1826), which is set in a republican England at the end of the twenty-first century,

includes a description of flying machines in use as a mode of travel. In the fifth chapter of Volume One, the narrator Lionel Verney engages a 'sailing balloon' to take him from Windsor to Scotland; a journey which will take, he says, some forty-eight hours:

The balloon rose about half a mile from the earth, and with a favourable wind it hurried through the air, its feathered vans cleaving the unopposing atmosphere . . . The pilot hardly moved the plumed steerage, and the slender mechanism of the wings, wide unfurled, gave forth a murmuring noise, soothing to the sense . . . The machine obeyed the slightest motion of the helm; and, the wind blowing steadily, there was no let or obstacle to our course.¹

McWhir's footnote to this passage comments that the first manned hot-air balloon flight had been launched in France by the Montgolfiers in 1783, with the first hydrogen balloon following later the same year, adding: 'Unlike MWS's strange machine, neither had wings.' It is also noted that, by Mary Shelley's time, balloonists had crossed the English Channel, though far longer journeys had also been imagined by her literary predecessors, such as the Comte de Grainville in *Le Dernier Homme*.²

The editors of other recent editions of Shelley's novel have noted that 'The balloon – with the addition of feathered steerage wings – as a regular means of rapid transit is one of Mary Shelley's prognostications of technological advance.'³

However, a more specific source for this idea might now be offered by Percy Shelley's mentor at Eton, Dr James Lind MD, FRS (1736–1812), whose wide-ranging influence upon scientific imagery in the work of the poet and his wife continues to be reassessed.⁴ As retired physician and practising natural philosopher resident in Windsor, Lind maintained a keen

interest in novelties such as ballooning. During 1783–4, letters to Lind from fellow Scottish astronomer Alexander Wilson discussed 'the Art of Flying' in excited terms, describing the hot air balloon as a 'flying chariot' – a concept later put to much use in Percy Shelley's poetry. Wilson then somewhat presciently opined that balloon travel heralded the arrival of a new epoch in the history of the human race, comparing its advent to the inventions of gunpowder and printing. Considering the subject at some length, Wilson mused upon the possibilities of mankind 'trusting to Montgolfier's wings', and embarked upon a lengthy deliberation of the physics of flight and possible new means of aerial navigation. He also suggested one of their mutual friend James Watt's 'fire-engines' as 'primum mobile' to drive a machine in powered flight by wings using 'muscular action, like a Batt or Butterfly'.⁵

At this time, Lind was also corresponding with his friend Tiberio Cavallo, the London-based Italian physicist, who was the author of the earliest definitive text on the subject.⁶ Throughout 1784–5 they discussed the flights of both the Montgolfiers in France and of Lunardi in Italy. The best methods and materials were considered for the construction of balloons and the underhanging boat or basket for passengers. In 1785 they noted how Alexander Wilson's predictions of the previous year had seemingly come true due to the French balloonist Blanchard building 'a balloon of six feet with a boat with wings'.⁷ Lind also discussed the practical aspects of ballooning in correspondence with the chemist Joseph Black, whose research on mass-producing Cavendish's 'inflammable air' at Edinburgh University enabled the earliest attempts at flights using hydrogen balloons to take place almost simultaneously with those of the first hot-air craft.⁸

It might be added that Lind and Cavallo's

¹ Mary Shelley, *The Last Man*, ed. Anne McWhir (Ontario: Broadview Press, 1996), 55.

² Trans. as *The Last Man: A Romance in Futurity*, 2 vols (London: Dutton, 1806).

³ Jane Blumberg and Nora Crook (eds), *The Novels and Selected Works of Mary Shelley, Vol. 4: The Last Man* (London: Pickering, 1996), 58.

⁴ Christopher Goulding, 'The Real Dr Frankenstein?', *Journal of the Royal Society of Medicine*, xcvi, 5 (May 2002), 257–9.

⁵ Birmingham Central Library, James Watt Papers, W/1, 14 December 1783 and 18 January 1784.

⁶ British Library, *Letters of T. Cavallo FRS*, 2 vols, MS Add. 22897 and 22898 (14 February, 10

October, and 19 November 1784, 9 May 1785). Tiberius [sic] Cavallo, *The History and Practice of Aerostation* (London: C. Dilly, 1785).

⁷ British Library, Cavallo (5 March 1785).

⁸ Edinburgh University Library, Docs. Gen.873/II/198–9 and 226–7 (8 October & 19 November 1784).

interest in balloon travel might also have prompted the Shelleys' later association of such a futuristic mode of transport with republican politics. In another letter to Joseph Black, Lind was to note how quickly the radical novelty of ballooning as a means of travel had attracted the suspicion of the authorities:

I am sorry that their are [*sic*] a party against Balloons, as well as for them. Our president and a certain great personage [i.e. Sir Joseph Banks of the Royal Society, and probably the King] I suspect are of the first.⁹

Such early official suspicion in Britain would be exacerbated as French domination of ballooning continued after the revolution, and was exported from France to the recently independent United States.¹⁰ In 1793, Jean-Pierre Blanchard demonstrated one of the first manned flights to take place in the USA, when he flew the flag of his host country alongside the tricolour of the French Republic in the skies above Philadelphia, witnessed by President Washington himself.¹¹ Moreover, there remained some objection to ballooning based on fundamentalist Christian thought, the tone of argument being that the skies were God's, and not mankind's natural province.¹² Such associations of balloons with radical politics would surely only serve to make them all the more attractive to both Percy and Mary Shelley.

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⁹ Edinburgh University Library, Doc. Gen. 874/IV/11–12 (27 March 1785).

¹⁰ L. T. C. Rolt, *The Aeronauts: A History of Ballooning 1783–1903* (London: Longmans, 1966), 60.

¹¹ Christine Sternberg Patrick, 'Washington Supports "bold Aeronaut"', *The Papers of George Washington: Presidential Series*, 11 (August 1792–January 1793), accessed online (21 August 2002) on University of Virginia website at: www.gwpapers.virginia.edu/newsletter/summer_01.pdf

¹² Rolt, *Aeronauts*, 25.

AN ALLUSION TO GOLDSMITH'S *TRAVELLER IN LITTLE DORRIT*

BY way of patriotic coda to his catalogue of countries in *The Traveller*, Goldsmith has a procession of Britons pass his mind's eye:

I see the lords of human kind pass by,
Intent on high designs, a thoughtful band,
By forms unfashioned, fresh from Nature's hand;¹

But even as he celebrates his homeland with this proto-Elgarian fanfare, he finds that here, as in all the other instances, a 'favourite good', carried to excess, has begotten 'a peculiar pain' – in this case, the oppression entailed in the *low* designs of an increasingly powerful merchant class:

The wealth of climes, where savage nations roam,
Pillaged from slaves to purchase slaves at home.

(653–4)

Dickens had much the same thing to say about the merchant class in *Little Dorrit*, and repeatedly elides undeveloped cultures with *soi-disant* 'progressive' Victorian society: 'all *taboo* with that enlightened strictness, that the ugly South Sea Island gods in the British Museum might have supposed themselves at home again'.²

Since Mr Merdle is chief among these oppressive nouveaux riches, his wife's feigned nostalgia for life in undeveloped countries seems doubly ironical in the light of the 'poor Indians' in London itself: 'A more primitive state of society would be delicious to me. There used to be a poem when I learnt lessons, something about Lo the poor Indian whose something mind! If a few persons moving in Society, could only go and be Indians, I would put my name down directly; but, as, moving in Society, we can't be Indians, unfortunately – Good morning' (243).

This parallel between *The Traveller* and *Little Dorrit* would have remained submerged and tangential if Dickens hadn't brought it to light by explicitly alluding to Goldsmith's Britons 'fresh from Nature's hand'. Mrs Merdle's freshness is quite as feigned as her primitivist yearning for Indians, and her relentless consultation of Society, shows that, far from being

¹ *The Poems of Gray, Collins and Goldsmith*, ed. Roger Lonsdale (London: Longman, 1969), 650.

² Charles Dickens, *Little Dorrit* (London: Oxford University Press, 1953), 28.