

Frankenstein's Science: Experimentation and Discovery in Romantic Culture, 1780-1830.

Edited by Christa Knellwolf and Jane Goodall. Aldershot: Ashgate, 2008. xi+225 pp.
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Frankenstein's Science opens with a challenge to the “critical consensus” that *Frankenstein* “is about masculinity and scientific hubris” (1) (or, in the sub-consensus of Evelyn Fox Keller et al., that it is “first and foremost about the consequences of male ambitions to co-opt the procreative function” [qtd. in Knellwolf and Goodall 1]). There’s no denying such a critical tradition exists: it begins more or less in 1823 with Richard Brinsley Peake’s stage adaptation, *Presumption*, climaxes in 1988 with Anne K. Mellor’s *Mary Shelley: Her Life, Her Fiction, Her Monsters*, and lives on in the popular imagination, where Frankenstein is either a deranged laboratory-worker gratifying our technophobic fantasies (arctic flounder genes in tomatoes) or Kenneth Branagh philandering with Helena Bonham Carter on the set of *Mary Shelley’s Frankenstein* (1994), when clearly he ought to have been worshipping the hem of Emma Thompson’s nightshift. The polyamory of the auteur smacks more of Percy Bysshe Shelley than Victor Frankenstein, but all the same, in celebrity gossip columnia, the conjoining of thespian masculinity and marital hubris produces a hideous progeny indeed.

So, there is a lusty tradition wherein *Frankenstein* polemicises against mad scientists attempting to displace their wives. Does this tradition really constitute the critical monolith at which Knellwolf and Goodall propose to chip? Do we have to be persuaded that *Frankenstein’s* representation of scientific exploration isn’t entirely negative?

The Prometheus of *Frankenstein’s* subtitle did more than fashion human beings from clay: at considerable expense to his liver and liberty, Prometheus took fire from the sun and used it to nurture his creation. (Aeschylus’ *Prometheus Unbound*, a now fragmentary account of Prometheus’ sufferings, inspired Percy Bysshe Shelley’s play of the same name.) Mary Shelley’s invocation of Prometheus reminds us that knowledge and technology can give succour. The ironic gap between Prometheus and Victor Frankenstein attends not to any lack or excess in Frankenstein’s creative genius, but to his failure to support his creature. Prometheus disrupts hierarchies of privilege; Frankenstein, abandoning his creature, does not. Who or what the creature represents – the disenfranchised, non-human animals, semi-orphaned Mary Godwin herself – is a subject of considerable speculation, and various critics (Kate Ellis, Lee Sterrenburg, Peter Dale Scott) have investigated the novel’s vexed relationship to Jacobin politics. I mention all this to suggest, firstly, that though Shelley means us to disapprove of Victor Frankenstein, it does not follow that she means us to disapprove of Prometheus or the Promethean spirit of Romantic scientific enquiry, and, secondly, that there are notable works amongst *Frankenstein’s* critical copia that have the author’s depiction of Frankenstein critiquing ills far other than scientific hubris.

The editors of *Frankenstein's Science* are the first to allow that Mary Shelley is an unlikely anti-Promethean. On *Frankenstein's* republication in 1831, Shelley was asked to supply an introduction, to explain “How I, then a young girl, came to think of, and to dilate upon, so very hideous an idea” (5). She writes, as Knellwolf and Goodall remind us, of Erasmus Darwin’s apocryphal length of animated vermicelli. And also of conceiving *Frankenstein's* plot:

Invention, it must be humbly admitted, does not consist in creating out of void, but out of chaos; the materials must, in the first place, be afforded: it can give form to dark, shapeless substances, but cannot bring into being the substance itself. In all matters of discovery and invention, even of those that appertain to the imagination, we are continually reminded of the story of Columbus and his egg. (8)

Shelley identifies here as a discoverer, an inventor, as – so her talk of voids and chaos and the conservation of matter suggests – a cosmographer or physicist – perhaps even, via her allusion to Columbus, a navigator. If the word “scientist” had existed in 1831 (it was first propounded in the *Quarterly Review* for March, 1834), there’s nothing to suggest she would have disdained it, where here she aligns herself with inventors and enquirers of all stripes. *Frankenstein's Science* does not need to argue what Shelley’s own writing makes so obvious, that she may not be the anti-Promethean we apparently suppose. In enlarging on this claim, however, the collection offers important accounts of the cultural and political implications of science and scientism for someone in Mary Shelley’s circumstances.

The ambit of science in Europe and North America two hundred years ago was perhaps more inclusive (of metaphysical, non-empirical enquiry) than it is in Western culture today. The word itself, “science”, was a far more malleable one. “Every savage can dance,” says Mr Darcy to Sir William, in a novel of 1813. To which Sir William replies, “I doubt not that you are an adept in the science yourself, Mr Darcy”. Victor Frankenstein confesses to Clerval his “tastes for natural science” (Shelley 69), but equally Shelley refers to him in her introduction as “the pale student of unhallowed arts”, an “artist” who would “rush away from his odious handy-work, horror-stricken” (9). As Patricia Fara points out in “Educating Mary: Women and Scientific Literature in the Early Nineteenth Century”: “Defining what is meant by ‘science’ at this period is problematic, because the word itself was and is constantly changing in significance. In retrospect, it is tempting to pick out activities of the period that clearly influenced the sciences of the future, an approach that is inappropriately ahistorical” (Knellwolf and Goodall 18). One of the strengths of this collection is its fanatical envisioning of “science” through the lens of Romantic culture. Its essays pursue areas of science and scientific practice prevalent in Mary Shelley’s time: anatomy, geographic exploration, electricity, medicine, teratology (the study of monsters), Mesmerism and spiritualism, vivisection, and proto-evolutionary biology. There was no myth in the early nineteenth century setting science apart from culture. To the extent that there is such a myth now, books like this one are evangelists for the cultural contingency of what counts as science, what and how science is done, and how science is talked about.

Knellwolf and Goodall articulate a clear party line: this book is to contextualise *Frankenstein* in contemporary literary and scientific debates, and ideally will show that radicalism and scientific enquiry are two horns on the same Romantic diablo. Nonetheless, some of the chapters are only tendentiously related to *Frankenstein*, and the final one, Robert Markley's "The Nightmare of Evolution: H. G. Wells, Percival Lowell and the Legacies of Frankenstein's Science", though excellent, has precious little to say about either *Frankenstein* or the "Romantic Culture, 1780-1830" of the book's subtitle.

Several chapters, however, offer new perspectives on Shelley's novel. Jane Goodall's "Electrical Romanticism" is one of the most thrilling, flexuous, gymnastic feats of critical thinking in town. Towards the end of the eighteenth century, electrical experiment had acquired a symbolic association with revolution. Goodall explores how this symbolic connection came about, through particular figures (Benjamin Franklin, Joseph Priestly, proponents of revolutionary ideas and experimenters with electricity), through the sensory effects of electrical experiments and displays, and through theories about the relationship between electricity and life. Goodall considers the conflict between the presumptuous energetic spirit of Franklin and co. and Calvinism. (Shelley's father had grown up in Calvinist circles, Byron had a Presbyterian nurse, and Victor Frankenstein hails, like Calvin, from Geneva.) Science, Goodall argues, was a riposte to Calvinism ("a machine for generating compulsory humility" [124]). To a generation weighted down under "the psychological tyrannies of predestination ... [science] restored human agency to the centre of the picture and made a new heroism out of the determination to extend the bounds of human knowledge" (124). In Victor Frankenstein, we can see the central tenet of Calvinist thought (predestination) in furious conflict with the doctrine of human agency, the scientific ego. On the one hand, Frankenstein is a radical intellectual force; on the other, he is subject to a preordained and tragic trajectory. Goodall goes on to explore how these poles – divine predestination, human agency – correspond with the poles of electricity ("redundancy" and "deficiency" in Priestly's language [127]), and in turn suggest psychiatric bipolarism. There were, so the documentary trail suggests, mood disorders galore in the Shelley ménage.

Joan Kirkby's "Shadows of the Invisible World: Mesmer, Swedenborg and the Spiritualist Sciences" reads *Frankenstein* as the story of Frankenstein's conversion from thorough-going materialism to spiritualism, his recognition of the affinities between the living and the formerly living. Kirkby traces this development alongside Swedenborg's similar conversion. (Swedenborg, that is, whom we may know as William Blake's visionary antecedent, but who spent the better half of his career as an anatomist, searching for the material seat of human consciousness.)

Patricia Fara and Judith Barbour both attend to Shelley's reading history. Fara's essay investigates what it means for Shelley to have been reading Ludvig Holberg's *Journey to the World Under-ground* (1742) while writing *Frankenstein*. Barbour's "The Professor and the Orang-Outang: Mary Shelley as a Child Reader" surveys *Frankenstein*'s literary debts and reads exhilaratingly the cultural assumptions writ into the *Juvenile Library*, a children's encyclopaedia to which her father contributed. Barbour

identifies formative passages, such as this, from “The ourang outang; or, wild man of the woods”: “The gradations of Nature in the other parts of nature are minute and insensible ... but in the ascent from brutes to man, the line is strongly drawn, well marked, and impassable” (44). History suggests that Shelley read this more as provocation than doctrine, but it’s nonetheless invaluable to know by what she was being provoked.

Melinda Cooper’s “Monstrous Progeny: The Teratological Tradition in Science and Literature” explores links between the science of teratology (and teratogeny, the technical reproduction of monstrosities) and Shelley’s vision of the monstrous. The physician attending to Percy Bysshe Shelley’s syphilis, William Lawrence, avidly collected monstrous specimens, including a living brain-damaged boy. Cooper invites us to wonder whether Lawrence treated “the ‘monster’ as a human like himself, a son, or an object of study and experimentation”, and in turn explores how Shelley “invites us to consider the consequences of such experiments from the point of view of the monster” (94).

As for the other essays in *Frankenstein’s Science*, the connection with *Frankenstein* is not always clear. Allan K. Hunter’s “Evolution, Revolution and Frankenstein’s Creature” offers a brief nod to Shelley, but leaves her to her own devices while Hunter looks at how eighteenth-century evolutionary discourse complements and complicates discourses of social change. Christine Cheater’s “Collectors of Nature’s Curiosities: Science, Popular Culture and the Rise of Natural History Museums” focuses on Sir Ashton Lever’s mid eighteenth-century collecting and on John Gould’s work in the 1830s. The essay is well-researched, well-written, well-argued, but it is up to the reader to surmise how it relates to *Frankenstein*.

Meanwhile, though it’s churlish to complain about what a book doesn’t do when it does so much (and already runs to twelve chapters), the absence of an essay on the science of language is disappointing. *Frankenstein* presents us with a theory of language acquisition, the creature recalling:

I found that these people possessed a method of communicating their experience and feelings to one another by articulate sounds. I perceived that the words they spoke sometimes, produced pleasure or pain, smiles or sadness, in the minds and countenances of the hearers. This was indeed a godlike science, and I ardently desired to become acquainted with it. (112)

The creature here is the scientist, who begins knowing “nothing of the science of words or letters”, but “by degrees” makes “a discovery of ... greater moment”, language” (109). Shelley goes to considerable trouble to explain how the creature learns to speak and read (though the sheer extent of his oratorical prowess remains somewhat baffling). There is more attention given in the novel to this, in fact, than to electricity. How much was Shelley influenced by the philological work around her? By Rousseau’s *Essai sur l’origine des langues* or J. Gilchrist’s *Philosophic Etymology: Or Rational Grammar* (1816)?

Works Cited

Shelley, Mary W. *Frankenstein, or The Modern Prometheus*. Oxford: Oxford UP, 1971.

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