Cowlishaw, Brian, editor. The Rail, the Body and the Pen: Essays on Travel, Medicine and Technology in 19th Century British Literature. McFarland, 2021.

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Brian Cowlishaw's recent collection on science and technology in nineteenth-century literature directs the essays contained within to a readership of "non-specialists", those who might resemble their nineteenth-century counterparts, "intellectually curious non-experts, ordinary readers who wanted to keep up with the latest developments" in "scientific writing" (2). The Rail, the Body and the Pen seeks to expand the reach of critical, scholarly writing and make exciting developments in literary research open to all who are interested. This is a noteworthy purpose, and one that reflects, I think, wider discussions throughout academia on the cultural chasm between academic and public discourse, the intellectual elitism that has excluded wider reading audiences from research writing and perpetuated the idea of the 'ivory tower'. In order to do so, Cowlishaw promises an exploration of "how nineteenth-century technologies speak through the literature of the time and change the ambient culture" without the reader having to "trudge through fieldspecific or academic jargon" (1, 2). It is an ambitious aim, and one that this collection does not quite achieve. At a time when incredible advances in science and technology – including artificial intelligence, vaccinations, and space exploration - are a regular topic in everyday, popular discourse, significant connections between interested readers of contemporary developments, nineteenth century readers, and the collection's own readership could have been made. As the editor sets up his purpose for the book, this comparison between readership and the continuing trends in popular scientific writing could demonstrate the relevance this type of literary research has for everyone, not just academics.

The volume approaches a broad topic – technologies in nineteenth-century literature – in a slightly unbalanced way. An angle that has been a persistently popular choice for researchers, Cowlishaw attempts to nuance the focus to two, somewhat permeable, branches: railways and medicine. These two halves of the volume have some interesting overlap and, of course, their own important distinctions. But in a collection that names the "rail" and the "body" as two equal focal points, the concentration of essays in 'Part 2: Medicine and the Body' is jarring. Nonetheless, as Cowlishaw mentions in his introduction, the discussions had within and between the essays in each section, and between the two Parts, offers some stimulating links. From thinking through the ways in which rail travel facilitated early psychological theories in Richard Leahy's chapter, to the understanding of telepathy and other disembodied forms of brain activity in O.R. Teregulova's, and the implications new technologies in travel, detection, and diagnosis had for Victorian women in Chandrama Basu, Zoë Perot, and Elizabeth Hornsey's chapters, this collection provides readers with a broad introduction to some of the ways scientific and technological discourses overlapped and implicated other areas of science in the nineteenth-century imagination.

'Part 1: Trains and Travel' does well to cover, in a small number of chapters, the breadth of discussions that were being had around mechanized transport and expanding networks. The first chapter thinks through how railways encouraged the development of some areas of psychoanalysis, most interestingly through the psychological pressures travellers faced when trying to navigate devitalized railway timetables, as well as the uncanny nature of railway travelling: the body remaining stationary while travelling at increasingly faster speeds. Leahy reads railways and railway travelling in two sensation novels as a clearly fatiguing experience of industrial modernity. This is followed by a chapter that traces a narrative of imperial Western exceptionalism in science fiction through wider technological developments, and also sees these narratives persisting in contemporary science-fiction print and film. The final two chapters in this first section look back to railways and railway travelling, and explore some of the novel ways women could engage with industrialized transport. Reading female detectives, in Basu's chapter, simultaneously provides a remedy or distraction from the fear of railway travelling, and a further cultural anxiety as female detectives eroded and transgressed various social boundaries. Basu ultimately reads railways and female detectives as concurrent shocks of modernity. Distinctively, the final chapter reads women and railways in three canonical Victorian novels, *Middlemarch* (1871), *North and South* (1854), and *Tess of the D'Urbevilles* (1891), and posits that women in these texts find themselves "in a place of tension between the old, rural order and the new, modern world of technology which the railway physically imposes on their lives" (81).

'Part 2: Medicine and the Body,' almost twice the length of the first section, further explores some of the ways psychology and medicine developed alongside technological developments in the nineteenth century. With essays revisiting ideas of devitalized, industrial time, telepathy, diagnostic medicinal tools, and photography, the second section provides an exciting overview of how a wide range of medical and technological developments entered the public and literary imagination. Notable chapters in this section include Susan Johnston's 'Factory Time: Mechanization and Monotony in the Victorian Imagination', where she emphasizes the importance of recognizing the nuanced distinction between the changing experiences of time in the nineteenth century after the industrial revolution. She understands, alongside others, that it is anachronistic to label pre-industrial time 'time-less', as it was under the strict timings of seasons, days, nights, the church-bell and so on. As such, the unease felt around industrial, abstract time in the nineteenth century was thus "a contest over the control of time rather than over regulation itself' (95). In other words, as workers moved to factories away from smaller domestic workshops, their time was no longer their own to control, sold as it had been with their labor. Elizabeth Hornsey's chapter also offers a fascinating discussion on the development of speculums, alongside other medical tools, that provided physicians with visual access to women's reproductive organs, and draws connections to the female vampire in *Carmilla* (1872) and the supposedly incomprehensibility of the female body (171).

Throughout all of the essays, however, and I think in part because of the collection's promise to avoid academic jargon, nuance is lost. In trying to engage an "intellectually curious" non-specialist audience with specialist academic topics, the writers include vast, and sometimes shallow, literature reviews that require closer engagement with in order to fully appreciate their significance for this research. The breadth of these reviews is understandable, wanting to give the reader the best possible overview of the leading ideas in these areas. But by essentially listing various points made throughout academic debates, the author's own argument is left searching for firm theoretical or methodological ground to take root in.

A more serious concern lies with the collection's lack of engagement with imperialism and the impact this had on scientific and technological developments throughout the nineteenth century. While Sobia Kiran's chapter explicitly addresses the presentation of imperialism in science fiction, other chapters should contextualize some of their findings within the wider, imperial British world of the nineteenth century. For example, in Leahy's discussion of the development of psychology alongside the intensification of rail travel, he references Social Darwinism and Herbert Spencer, without making note of the influence he had on scientific racism and the racist applications his notion of survival of the fittest engendered. In another instance, Perot defines Victoria's reign through the railway, but only in Britain. Victoria's reign was not limited to Britain in the nineteenth century, and neither were the railways, which expanded into all corners of the globe (and Empire) and actively contributed to British hegemony. Daniel Headrick has thoroughly demonstrated that the development of much science and technology in the nineteenth century was demanded by, facilitated by, and influenced by imperial developments, and while many critics since have questioned the reality of these developments being 'one-way', imperialism's role in British science and technology cannot be overlooked.

Overall, this collection provides readers with a broad, though sometimes lacking, wider reading list, and a taste of the many varied ways in which technological and medical developments encroached on the public mind through literature in the nineteenth century. While there are significant limits and occasional errors in the collection, it makes an important effort to engage a wider reading public in academic work, something that we may be seeing more of in the future.

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