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Steam-Powered Knowledge: William Chambers and the Business of Publishing, 1820-1860

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During the 19th century print became an industrial product. In 1800 the speed at which text could be put to paper remained governed by the rhythmic operations of the hand press, an invention very little changed since moveable type printing appeared in Europe in the mid-fifteenth century. At the very best, two skilled operators working together could print 250 single-sided sheets per hour. Book production was still a craft, and books were luxury items. Half a century later, mid-Victorian Britain was in the midst of something like a new printing revolution. A flood of cheap publications issued from steam-driven printing presses, aimed at an emerging mass audience for the written word. Even the most respectable publishers were beginning to offer books for only a shilling, and reading was now as likely to be a way of passing the time in a clattering railway carriage as a peacefully contemplative activity indulged in at home. As with other more recent 'information revolutions', the surge of cheap publications provoked tremendous optimism. Through mass print affordable to the middle and working classes, many hoped, 'intellectual darkness must gradually be dispersed, and the light of reason illuminate many a place of gloom.' Yet this sense of confident progress masked a widespread uncertainty about the new technology and its products. In 1851, the pioneering Society for the Diffusion of Useful Knowledge publisher Charles Knight recalled how, 'ten years ago, the majority of publishers, and many of their supporters in the public journals, hated cheap books'. Even among

enthusiasts for cheap publication, difficult questions remained. What kinds of reading material should be offered to the new mass audience? At what price? And how to respond to the stubborn tendency of the members of that audience to buy cheap novels rather than the improving works which cultural arbiters considered more appropriate? Inevitably, these problems were business questions, involving hard thinking about money as well as readers' minds. And many varied and fascinating solutions to them were proposed in the giant marketplace that was Victorian Britain.

Aileen Fyfe's *Steam-Powered Knowledge* offers a fresh picture of this major transformation in 19th-century life, brilliantly recapturing some of the disorientating strangeness experienced by those who grappled with the new abundance of cheap print. The book is built around a detailed study of the innovative Edinburgh publishing house of W. & R. Chambers, whose exceptionally well-preserved archive Fyfe uses to good effect to offer a view of this second printing revolution as seen from the inside. Under the careful management of William Chambers (on whom Fyfe especially concentrates) and his brother Robert, the firm combined an embrace of the emerging technologies of steam printing and stereotype plates with an unusually strong sense (for a commercial enterprise) of a mission of social improvement. From the 1830s, in publications ranging from their signature weekly title, *Chambers's Edinburgh Journal*, to full length non-fiction books, Chambers were in the vanguard of efforts to harness the new printing methods to offer instructive and appealing 'information for the people', from history and biography to geography and the sciences. They aimed to expand minds, elevate morals, and encourage the progress of society as a whole – all while turning a comfortable profit.

Of course, as Fyfe carefully emphasizes, cheap mass print was by no means an entirely new phenomenon – low-price almanacs, ballads and chapbooks had been produced and hawked in great numbers long before the age of steam printing. The important change recognized by contemporaries was that cheap publications began to appear respectable, thanks to the Chambers firm and several other organizations concerned to apply steam technology to offer a printed diet of 'improvement' for a very wide audience. But whereas groups like the Society for the Diffusion of Useful Knowledge and the Society for Promoting Christian Knowledge were organized as charitable bodies, supported by donations, Chambers, while animated by their own strong sense of philanthropic mission, were first and foremost a business. Many of the best insights offered by *Steam-Powered Knowledge* stem from its author's insistence on taking seriously the details of this 'business of publishing', inquiring into how apparently mundane commercial matters – like marginal production costs, opportunities for marketing and selling, the price, speed, and reliability of shipping, business communications, and pre-existing trade practices – all combined to shape what kinds of printed material was available and affordable to different sections of the reading public.

Yet, as the author aptly notes, it was nonetheless apparent to all concerned that 'print was not a commodity like any other'. As the printed word became even more affordable and part of everyday life for larger and larger sections of the population, the kinds of reading material being consumed became a subject of anxiety and debate. The act of reading, many commentators believed, contained the power to form the mind, to build or corrupt character – and even to touch the soul. That added a particular urgency to battles in the marketplace between publications of the kind Chambers produced – generally viewed favourably as part of a 'stream of pure and healthy literature, of useful information' – and competing products like, on the one hand, religiously-themed publications, and on the other, cheap sensational novels that were frequently denounced as at best a frivolous waste of time, and at worst as dangerously corrosive of moral fibre. Rising literacy and, from mid-century, burgeoning national prosperity created a potentially vast and untapped market, with its precise size and tastes uncertain but clearly offering rich rewards to publishers able to exploit it. For some, the bottom line was purely and simply what would sell: if the people wanted lurid fiction, then they would happily provide. But Chambers resolutely stuck to their mission of selling the mass audience cheap, wholesome, intellectually-stimulating improvement – and, even so, managed to prosper financially. Fyfe clearly demonstrates the ways in which this commercial success was the product of a complex intersection of contingent factors, including savvy business choices, the creative use of new steam technologies, and careful attention to the firm's reputation.

But this is a book that offers much more than a well-crafted history of a single important Victorian

publishing house. While remaining firmly grounded in the archive-based business history of the Chambers firm, it seemingly effortlessly weaves in a series of engaging arguments about several of the Victorian era's most iconic new technologies. Alongside the story of Chambers' incorporation of steam printing into their enterprise, the book offers numerous fresh insights on the social effects of the railway, the ocean-going steamship, and the electric telegraph. We see how all of these shaped how the Chambers firm did business as they must have done for countless other commercial endeavours during this period. Yet the perspective adopted explicitly avoids endowing the technologies themselves with too much intrinsic causative power. Here, Fyfe productively applies a point drawn from the wider discipline of the History of Technology, perhaps most powerfully expressed in David Edgerton's book *The Shock of the Old*: technologies' varied uses over the longer term are much more historically important than the famous early moments of their invention and first application.⁽¹⁾ Following this, Fyfe leaves aside the well-worn innovation stories of the technologies she discusses, instead enquiring into how, over several decades, they were subsequently used and incorporated into a pre-existing world and an already-established way of doing things. This approach is handled well, and the book is full of textured historical narratives in which what people choose to do with machines is just as important as what those machines can make happen. In particular, Chambers and other publishers had to work hard to fit the new steam technologies into pre-existing business practices in the publishing trade, a process shaped just as much by human agency and commercial forces as by purely technical factors.

Publishers' use of steam printing provides an excellent case where this insight is put to work. Famously first used at the *Times* in 1814, steam printing machines were initially mostly employed for printing daily newspapers and subsequently a few weeklies with large print runs. The adoption of mechanized printing throughout the publishing trade was much more gradual and highly disjointed. Even in 1833, when Chambers built a machine in Edinburgh to print their weekly *Journal* in-house, they were making a bold and calculated commercial gamble rather than following an inevitable curve of technological progress. And at first, their use of steam power to print books as well as periodicals was partly an incidental side-effect of their *Journal* project (it did not make commercial sense to have the press standing idle). But their gamble on steam paid off, further demonstrating the size of the potential market for inexpensive print. George Combe's central text of Victorian Phrenology, the *Constitution of Man* (1828), had been first issued priced at the already very reasonable 6 shillings. Chambers reprinted the book on their steam press, offered this 'People's Edition' at a quarter of that price ('a miracle of cheapness', exclaimed the *Scotsman*), and promptly sold 2,000 copies in 10 days and 42,000 over the next two years.

Nonetheless, for two more decades, more established publishing houses like John Murray and Longman still scorned to enter the market for cheap steam-pressed books. This was not simple reflexive conservatism: their businesses were doing perfectly well selling books as expensive hand-produced luxury items, and steam was felt to sacrifice quality for speed. Here, and in other places in Fyfe's account, the failure of technologies to be employed and sometimes to function properly when they are used is often as interesting as their successful applications. Just so with the electric telegraph, which another author has rather hyperbolically dubbed a 'Victorian Internet'.⁽²⁾ In fact, the Chambers firm used the very expensive telegraph only rarely and not always successfully for their business communications, and Fyfe prefers to downplay its direct impact on most people's daily lives in favour of less astoundingly swift but cheaper alternatives like the Penny Post and overnight mail trains.

Technology also provides a large scale organizing principle for the book, which divides into three parts. The first part considers Chambers' adoption of the two technologies of steam printing and stereotype plates, and their role in the rise of the firm as a recognised purveyor of 'improving' publications able to hold their own in the marketplace. The second and third parts feature two other iconic steam technologies, the railway and the transatlantic steamship, showing how both of these were also deeply implicated in transformations in publishing during the mid-Victorian period, despite being themselves unrelated to printing.

The section on the railways is particularly good in this regard. Rail transformed the Chambers firm's business practices, allowing them to centralise their business in Edinburgh while continuing to sell in the large English market. But the railways also changed the book business in more fundamental ways, creating

new places where print could be sold and where it could be read: the station bookstall and the railway carriage. A few intrepid souls had certainly read during bumpy carriage journeys by road, but for most this must have been a literally sickening experience. For the comparatively smoother railway, a book or other reading material soon became an essential accessory, not only offering relief from the boredom of long hours in small spaces but also, one guide recommended, providing an "excellent weapon" of defence against unwanted conversational sallies from fellow passengers. Contemporaries experienced this phenomenon of reading on the move as novel, strange, and characteristically modern "it was entirely "a modern invention", one commentator noted, which "belongs to the age of steam exclusively". More established publishers struggled to come to grips with the new railway market, founded on the bookstalls that sprang up to serve passengers at stations. In particular, they had to address its exploitation by a brilliant interloper, George Routledge, and his phenomenally successful "Railway Library" composed of cheap reprints, often of American works not covered by copyright protection in Britain. New novels by established British authors in this period were generally issued priced 31 shillings and sixpence, more than the weekly wages of the skilled compositors who assembled them. Books in Routledge's Railway Library cost a shilling. In the end, Chambers mostly held aloof from the battles over the railway bookstall market, though the firm certainly could not escape the railways' effects on the broader economics of the print trade.

Atlantic steamships provide a focus for the engaging transnational story told in the third part of the book, which chronicles the efforts of William Chambers to do business effectively in the American market. For Chambers, that market's most distinctive feature was its lack of copyright recognition for British and other non-American publications; this caused some very interesting problems for the Chambers brothers and their agents, who worked hard to try to bring out their *Journal* and other works in America faster than the legal pirates who reprinted and sold them independently. This section also convincingly portrays the 19th-century British book trade as an enterprise very much wired into international commercial and cultural networks. Connections like these between Britain and America have perhaps been most extensively delineated in studies of the 18th-century British "Atlantic World". Fyfe's discussion makes clear the importance of fast and reliable steamboat crossings from the 1840s in tying the two continents even closer together "though, she emphasises, without ever fully solving some of the manifold difficulties involved in doing business at a distance. Similarly, the depiction of these connections implicitly constitutes a gentle reminder that 19th-century Britain's cultural and commercial links with the United States were, in some spheres at least, as important as those with its overseas Empire during this period: Chambers sold to Canada, Australia, and India, but his real focus was on the American market.

The portrait of the Chambers firm is so well-delineated that one occasionally wishes the book would strike out more ambitiously. A particular question remains hovering in the background: what actual large-scale effects did the flood of mass print have on society, the reading experience, and popular cultural life in this period? It would be rather unfair to criticize this book for not really addressing this vast, difficult, and rather amorphous question "framed as a close study of the Chambers firm, many of its strengths come from the careful focus on the supply-side of information, and the commercial forces that shaped what was available to readers. These are matters which are decoupled, to a certain extent at least, from what happens to a book or magazine after it is sold. Furthermore, *Steam-Powered Knowledge* does very nicely cover some of the debates which raged among the Victorians themselves regarding the effects of mass print "including the potentially-deleterious effects of railway reading and cheap novels. Moreover, there does seem to be a sense in which, for all their proclamations of the new world of print they were making, Chambers and other publishers remained rather in the dark about the actual effects of their many publications "a situation no doubt reflected in the archives. Yet surely we are now in a better position for speculation about long-term trends than they were, and, especially because this book deserves an audience outside those primarily interested in the histories of publishing and reading, perhaps there might have been space to open a little wider discussion of the question of the actual knock-on effects of mass print "already addressed in studies ranging from Richard Altick's 1957 classic *The English Common Reader* to the work of Jonathan Rose on working class intellectual life.⁽³⁾ Debate remains open on the early modern printing revolution, but its agency has been seen at work in manifold ways in everything from the Protestant Reformation to the Scientific Revolution. What did the surge of cheap print produced by Chambers and their competitors

actually do? Or, to invert the question, what are we to make of the fact that reading was becoming for ever greater numbers of people merely a way of passing the time in railway carriages, parlours, waiting rooms, and similar places ? in other words, that it did not necessarily do very much at all? In his *Biographia Literaria*, Samuel Taylor Coleridge rather snobbishly objected to individuals for whom the sacred activity of reading books was no more than a indolent pastime interchangeable with ?gaming, swinging, or swaying on a chair or gate; spitting over a bridge; smoking, and snuff-taking; tête-à-tête quarrels after dinner between husband and wife; conning word by word all the advertisement of the *Daily Advertiser* in a public house on a rainy day &c. &c. &c.? Coleridge was writing in 1817, and his targets were ?the devotees of the circulating libraries?, with their customary diet of novels and romances. After the mid-Victorian printing explosion, this class of readers (and many more) could now buy and own large numbers of their own books. Reading ? in Coleridge?s rarefied ideal, an almost devotional practice involving intense engagement of the mind and the soul ? had expanded massively, but even more so than before, in the majority of instances it was taking place as undemanding mass entertainment and relaxation. Public expressions of dismay at what, how, and how deeply other people choose to read have recently appeared in a new form in which the target is (usually) the Web or maybe the e-book, but they have long and, perhaps, rather tediously-repetitive history.(4)

Fyfe resists the temptation to make explicit any obvious comparisons between the Victorians? experience and our own on-going and much-proclaimed information revolution ? no doubt wisely, as historians? discussions of present technologies and open debates about them will inevitably tend to age rather badly. Nonetheless, there is certainly a sense in which this is a timely piece of history writing, and the parallels are quite evidently there for those who want them. As e-readers begin to tip the balance against print books among passengers on the London Underground and commentators hasten to offer dubious neuroscientific diagnoses along the lines of ?what the Internet is doing to our brains?, this book agreeably recalls the ways in which the mass availability of books, so familiar now, used to be new and strange. There is a refreshing sense of historical perspective to be gained from its story of how commercial forces, entrenched features of society, and real human choices governed the adoption and use of transformative new technologies.

The book is clearly and elegantly written, with short punchy chapters (each accompanied by a full-page image) delivering a clearly-framed succession of points through the unpacking of particular episodes drawn from the rich resources of the Chambers archives. Those who choose to read it in its ink-and-paper manifestation will have the benefit of Chicago University Press?s typically fine production values and typography, of which, no doubt William Chambers would have been proud. It is harder to say whether he would have approved of or been slightly unnerved by the availability of a Kindle edition, which Chicago helpfully offers as a much more portable, slightly cheaper, but perhaps less enjoyably well-crafted alternative. Whatever the future of print may be, *Steam-Powered Knowledge* is a valuable and lively account of the history of the Chambers firm as situated within British society and culture, and constitutes a fine contribution to the wider histories of Victorian publishing and technology.

Notes

1. David Edgerton, *The Shock of the Old: Technology and Global History since 1900*, (Oxford, 2007). [Back to \(1\)](#)
2. Tom Standage, *The Victorian Internet: The Remarkable Story of the Telegraph and the Nineteenth Century's On-Line Pioneers* (London, 2009).[Back to \(2\)](#)
3. Richard Altick, *The English Common Reader; a Social History of the Mass Reading Public, 1800?1900*, (Chicago, IL, 1957). Jonathan Rose, *The Intellectual Life of the British Working Classes*, (New Haven, CT, 2001).[Back to \(3\)](#)
4. Nicholas Carr, *The Shallows: What the Internet Is Doing to Our Brains*, (New York, NY, 2010); < <http://www.guardian.co.uk/books/2010/jul/15/slow-reading> [2]> [accessed 12 April 2013]; < <http://www.guardian.co.uk/books/2012/jan/30/jonathan-franzen-ebooks-values> [3]> [accessed 12 April 2013].

[Back to \(4\)](#)

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