BJHS 38(4): 463–467, December 2005. © British Society for the History of Science
doi:10.1017/S0007087405007375

Essay review

The electronic harvest

Science in the Nineteenth-Century Periodical: An Electronic Index, v. 1.0, hriOnline <http://www.sciper.org> [accessed 30 June 2005].
Geoffrey Cantor and Sally Shuttleworth (eds.), *Science Serialized: Representations of the Sciences in Nineteenth-Century Periodicals*. Dibner Institute Studies in the History of Science and Technology. Cambridge, MA and London: MIT Press, 2004. Pp. vi + 358. ISBN 0-262-03318-6. £25.95 (hardback).
Geoffrey Cantor, Gowan Dawson, Graeme Gooday, Richard Noakes, Sally Shuttleworth and Jonathan Topham (eds.), *Science in the Nineteenth-Century Periodical: Reading the Magazine of Nature*. Cambridge Studies in Nineteenth-Century Literature and Culture. Cambridge: Cambridge University Press, 2004. Pp. xi + 329. ISBN 0-521-83637-9. £45.00 (hardback).
Louise Henson, Geoffrey Cantor, Gowan Dawson, Richard Noakes, Sally Shuttleworth and Jonathan R. Topham (eds.), *Culture and Science in the Nineteenth-Century Media*. The Nineteenth Century Series. Aldershot: Ashgate, 2004. Pp. xxv + 296. ISBN 0-7546-3574-0. £47.50 (hardback).

A digital scanner linked to optical character recognition software is the combine harvester of twenty-first century scholarship, in a few short years reaping electronically the results of centuries of literary production. Already the full text of every work listed in the eighteenth-century English short-title catalogue is available. The London *Times* is online, and other major British newspapers will be soon. Plans for digitizing most of the leading Victorian periodicals are well under way. The transformation in American history is even more advanced. Within a decade, I have been told, every printed work published in the United States up to 1900, including all newspapers, will be searchable electronically. Around that time, the cost of access to much of this material is expected to plummet, for scanning is cheap and prices are unlikely to be sustained at their current high level. The effect of all this on research is difficult to fathom. Having spent much of my academic life hunting for ephemera, the task now will be winnowing down mountains of references obtained in a few hours. The possibilities for asking new kinds of question, and making new kinds of generalization, are very attractive.

Anyone interested in these issues in relation to the history of science will be familiar with the 'Science in the Nineteenth-Century Periodical' (SciPer) project. Based at the Division of History and Philosophy of Science in the School of Philosophy at the

https://doi.org/10.1017/S0007087405007375 Published online by Cambridge University Press

University of Leeds, and the Centre for Nineteenth-Century Studies in the School of English, University of Sheffield, SciPer brought together an outstanding interdisciplinary team of historians and literary scholars to explore the role of science in the general periodical press. Although regrettably short lived, SciPer has been typical of the kind of large collaborative project currently in favour among funding bodies in the United Kingdom. It began with a successful meeting at Leeds in April 2000, and ended with a substantial database of indexed material going online earlier this year. Almost anyone with interests in scientific publishing and reading will have benefited from the intellectual stimulus of the SciPer team. In reviewing the results, I must mention my own connection, as a member of the original advisory panel.

SciPer came into being, in part, as a way of exploiting the possibility of computer searching. Unlike many such projects, however, it never aimed at providing versions of original texts; if you want to read the original articles or see the illustrations, you need to look elsewhere. SciPer's main output is, instead, an online index (http://www.sciper.org). This provides, through a variety of different searching and browsing options, a detailed inventory of the scientific content of selected nineteenth-century periodicals. Science is broadly defined, with much material on technology and medicine, and an eye on current interests among historians of science. A first release of eight periodicals appeared at the start of 2005, and a second of eight more is scheduled soon. It has been intensive rather than extensive, most useful when capturing information that would not be available from Boolean word searches. In the thorough and well-thought-out indexing policy, references to science are identified and made explicit. Take, for example, the bizarre cartoon in the *Comic Annual* for 1836 (p. 113) of a man in front of a fireplace mantle being attacked by a creature made up of saws. A straightforward word search would never pick this up as a reference to the geologist Gideon Mantell's discoveries of fossil saurians.

Such tangential references are especially significant in humour, and it is appropriate that the two longest runs of journals indexed in the SciPer database are the complete *Comic Annual* (1830–9, 1842) and *Punch* (1841–72). It is surely these, and particularly the thirty-year run of *Punch* during its best period, that will attract the majority of first-time users to SciPer. Many Victorianists start a new project by seeing what *Punch* has to say, but before this it has been a nightmare to find all the isolated comments and buried puns. SciPer does not necessarily make the jokes funnier, but it certainly makes them easier to locate and assess, and it will continue to do so even after the full text of *Punch* goes online. Similarly, inclusion of the full run of Thomas Hood's *Comic Annual* will be welcome to all those who work on science in the 1830s; this turns up new material on topics ranging from Galileo's telescope to the London zoo.

Throughout SciPer, the focus is on crucial periods in the history of particular journals: William Makepeace Thackeray's editorship of the *Cornhill Magazine* (1860–4), the early years of the pioneering illustrated weekly *Mirror of Literature* (1822–8) and the critical first decade of William Stead's campaigning *Review of Reviews* (1890–9). This will render the work especially valuable for specific targeted projects. For example, anyone researching the role of science in the early campaign for women's rights will welcome the

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index to the *Englishwoman's Domestic Magazine* (1852–60); those working on science for children will discover helpful material in the *Youth's Magazine* (1828–37) or the first four years of *Boy's Own Paper* (1879–83). There is an innovative stress on religious periodicals, including the *Wesleyan-Methodist Magazine* (1822–9). SciPer is thus not a substitute for a full-text database, but an alternative means of accessing different kinds of information.

The main downside, as the date ranges just cited make clear, is that the runs of volumes covered are almost all frustratingly short. Five of them are only for a year. They give focused snapshots of science coverage at decisive moments across the century, but not access to a range of perspectives on particular debates. Thus only three journals are indexed for 1860, the main year of controversy over Darwin's *Origin*, and this is the most coverage available for any single year. The problem, which has bedevilled all attempts to come to terms with the plethora of nineteenth-century periodicals, is one of scale. With over 15,000 articles indexed and 5,500 people mentioned, the amount of work that has gone into producing this database for even a few hundred volumes is prodigious.

The scale of the SciPer enterprise is also clear from the trio of edited books under review. Three publishers, thirty-two authors, forty-seven essays, a thousand pages; bringing all this to publication must have been a very large task. Two of the books (*Culture and Science in the Nineteenth-Century Media* and *Science Serialized*) are revised conference proceedings; the third (*Science in the Nineteenth-Century Periodical*) is written by the project staff and their immediate associates. Despite their different origins, the three volumes are best considered as a serial publication; appropriately, they read like three fat issues of an unusually well-stocked and -edited periodical, rather than as distinctive books. The scope they cover is vast. The essays range from accounts of evangelical journals in the early nineteenth century to the periodical literature of late Victorian secularism, from weekly newssheets to annual almanacs, from the economics of mass publishing to the careers of individual editors. Almost all the major scientific disciplines are touched on in one way or another, although comparatively little is said about astronomy, zoology and geology, while evolution, psychology, technology and physics are given special attention.

Faced with so many new essays, many of them short, most readers will quarry these volumes for information on specific journals and personalities. There is much new here, for example, on old favourites such as *Nature* and *Punch*, as well as the *Cornhill Magazine*, *Review of Reviews*, *North American Review* and Charles Dickens's *All the Year Round*. Or one can find out about lesser-known but significant titles, such as the Quaker *Friend* and the *Dublin Penny Journal*. There are essays on well-known editors and authors, notably Grant Allen, William Kingdon Clifford, William Crookes, Richard Proctor and W. T. Stead. The quality of most of the individual essays is high. Especially impressive are Katherine Anderson's revealing discussion of the *Illustrated London Almanac* and its astrological competitors, Bernard Lightman's telling comparison between *Knowledge* and *Nature*, and Jonathan Topham's amazingly well-researched analysis of the *Mirror of Literature* and other cheap miscellanies in the 1820s.

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A number of general themes emerge. Taken together, the chapters on religious audiences offer fresh ways of thinking about the relation of devotional practices to science. Almost every denomination had its weekly, monthly and quarterly periodicals. Reading in these magazines, as Sujit Sivasundaram, Jonathan Topham, Aileen Fyfe and Geoffrey Cantor argue, powerfully reinforced traditional communion with the faithful at church on Sundays. Periodicals, rather than being seen as unproblematic transcripts of religious doctrine and belief, are examined as instruments of practical piety. In terms of the *Evangelical Magazine*'s 'spiritual barometer' as discussed by Sivasundaram, godly reading could move the reader up the scale towards 'glory', away from perdition and death.

Serial publication also transformed the practices of secular intellectual debate, including the conduct of celebrated controversies about materialism and evolution. Opportunities for quick publication, together with a heavily differentiated market for journalism, created possibilities for controversy across a huge range of issues. This is evident in Lightman's fine account of the impact of John Tyndall's notorious Belfast Address on his reputation, and Helen Small's essay on W. K. Clifford's article in the *Contemporary Review* on 'The ethics of belief'. Coverage of periodicals which focused on science, such as the *Philosophical Magazine* and *Philosophical Transactions*, is strictly limited, although several of the authors (notably Graeme Gooday on electricity and energy) do trace connections with specialist scientific practices.

It is easy to pull plums from these volumes, but the larger significance of considering science in a periodical context is easily lost in the buzzing complexity of possible aims and themes. A clear sense of purpose is hard to achieve in any multi-authored interdisciplinary enterprise. Coherence, however, is particularly important when a project is not only surveying a known territory, but forwarding a particular historiographical approach. There is a dichotomy at the heart of these volumes, never resolved, about what 'science *in* the nineteenth-century periodical' really means. Many authors, especially those who focus on specific scientific topics and themes, underplay or ignore issues that arise from considering knowledge in a serial form. Journal titles are mentioned, editorial policies discussed, but it is often not clear why the periodical setting really matters for the argument. Roger Smith, writing on debates about the physiology of the will, is refreshingly up-front about this: 'the approach does not analyze readership, the structuring effects of the periodical medium itself, or the role of editorship and authorship' (*Science Serialized*, p. 82). The result is a fine essay, but one that simply does not fit into the project's overall frame.

The place to start in understanding what SciPer has actually achieved is in the introduction to the volume from Cambridge University Press, *Science in the Nineteenth-Century Periodical*. Jointly authored by Gowan Dawson, Richard Noakes and Jonathan Topham, this offers a lucid survey of the range of general nineteenth-century periodicals and their engagement with science. It demonstrates why looking at science as a form of serial production really matters, and provides a map of the terrain which will be invaluable for future research. With that map in hand, the reader is ready to understand the wider significance of the essays in all three volumes, and also innovative ways of using the online index.

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Even leaving aside its tangible results, both print and electronic, the project at Sheffield and Leeds has fostered a critical mass of expertise in history of science and encouraged a lively sense of debate. If the scanner is the combine harvester of electronic scholarship, then SciPer (in contrast) should be seen as a quality organic producer.

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https://doi.org/10.1017/S0007087405007375 Published online by Cambridge University Press