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*Review of Victorian Popularizers of Science:
Designing Nature for New Audiences; Science in the
Marketplace: Nineteenth-Century Sites and Experiences*

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BERNARD LIGHTMAN, *Victorian Popularizers of Science: Designing Nature for New Audiences*. Chicago: University of Chicago Press, 2007. Pp. xviii + 545. \$45.

AILEEN FYFE AND BERNARD LIGHTMAN, eds., *Science in the Marketplace: Nineteenth-Century Sites and Experiences*. Chicago: University of Chicago Press, 2007. Pp. x + 410. \$45.

The Darwin year showed clearly that, at least in 2009, science was far from the exclusive preserve of scientists. The bicentenary of Darwin's birth and the sesquicentenary of the publication of his most important book were celebrated on a global scale. His scientific heirs observed these anniversaries with predictable scholarly pomp and circumstance. More striking were the number and scale of commemorations directed to the general public, as well as the enthusiasm with which they were received. Along with a spate of new and resuscitated books came lectures, conferences, tours, and exhibits. Every institution with a link to the man or his theory eagerly joined in the celebration—which is not, of course, to say that either Charles Darwin or his theory of evolution by natural selection has been universally embraced. It remains controversial outside the scientific community—in some ways more controversial than it was when originally proposed.

The two complementary volumes under review demonstrate here that public engagement with science has deep roots. As twenty-first-century biologists are in some sense descendants of Darwin himself, so the twenty-first-century audiences who flocked to public lectures and museum displays are figurative heirs of the Victorians who made *On the Origin of Species* a scientific best-seller and who listened earnestly to the evolutionary orations of Thomas Henry Huxley. Bernard Lightman's *Victorian Popularizers of Science: Designing Nature for New Audiences* provides a detailed prosopographical background for understanding the reception of Darwin and Huxley by the general public. In *Science in the Marketplace: Nineteenth-Century Sites and Experiences*, Lightman and Aileen Fyfe have collected essays that explore the varied means by which scientific research was conveyed to popular audiences in the nineteenth century.

Victorian Popularizers of Science is a work of magisterial and exhaustive scholarship. Lightman chronicles the sheer profusion of popular science available to the nineteenth-century public, and he demonstrates that this resulted, at least in part, from the profusion of scientific popularizers. In the opening chapter, Lightman puts his own work in historiographical context (the explosion of scholarly interest in the history of Victorian science, which has naturally tended to focus

on the scientific community), and grounds his discussion of scientific popularization in relation to changes in publishing (he is very persuasive about the importance of print runs, where that information is available), the reading public, and Victorian society more generally. He emphasizes several issues that recur throughout his study: the importance of theology (most often, but not exclusively, Anglican) as a component of popular science writing; the opportunities that scientific popularization offered for women writers; the importance of form and genre, as well as content, in works of popular science; and the complex relationship between scientific popularization and elite science. Although Lightman's survey encompasses the full range of nineteenth-century scientific disciplines, he tends to emphasize the life sciences in general, and responses to evolutionary theory in particular.

Subsequent chapters describe the lives and works of thematically grouped popularizers. In some cases the themes are demographic: two groups whose works could recall scientific or natural history popularization of a previous era were Anglican clergymen and women writers. In other cases the themes reflect narrative or presentational strategies: authors who made special use of visual material to illustrate their work or of "the evolutionary epic" to structure it. One chapter focuses on the role of the periodical press, with a fascinating case study of Richard Proctor's short-lived editorship of *Knowledge* (a distorted mirror-image of *Nature*). A chapter on Thomas Henry Huxley and the astronomer Thomas Ball compares the outreach efforts of scientists with the work of writers defined and self-defined primarily as popularizers. The final chapter presents a miscellany of fin de siècle popularizers, united by their need to respond to new conditions in both publishing and science.

In *Victorian Popularizers of Science* Lightman thus supplements our understanding of Victorian science per se with a richly detailed account of its re-presentation to and reception by general audiences. He shows that the works that have attracted modern scholarly analysis—*Vestiges of the Natural History of Creation* as well as *On the Origin of Species*—were parts of a dense forest of publication, rather than lone literary oaks. He rescues many writers from obscurity and offers a rounded view of others who, like Arabella Buckley, most often appear in fugitive asides or footnotes. He discusses a variety of popular forms, most of which were written or derived from writing (Lightman shows that this was true of performances like lectures, no matter how their creators understood them—as even Huxley discovered to his surprise).

In *Science in the Marketplace* Lightman and Aileen Fyfe have spread a wider net. The essays collected in this excellent volume show that verbal popularization, whether performed or illustrated,

was supplemented by popular forms that were less—or perhaps just differently—mediated.

The essays are subdivided into three groups, under the rubrics “Orality,” “Print,” and “Display,” each of which includes a mixture of case studies and more general overviews. Even these conventional categories are open to expansion and reinterpretation. For example, in addition to essays about public lecturing, “Orality” includes James A. Secord’s fascinating account of how science changed from an appropriate topic of genteel conversation—indeed, a potential entrée into elite society—to a topic banned from such settings as “shop talk.” “Print” includes Aileen Fyfe’s imaginative juxtaposition of the experience of visiting the natural history collections of the British Museum (before those collections were moved to separate quarters in South Kensington) with the experience offered by print overviews like the tellingly titled *Pictorial Museum*, and with the experience of a museum visit supplemented by such overviews and by guidebooks to the collections. The “Display” section (and the volume as a whole) concludes with Samuel J.M.M. Alberti’s illuminating reconstruction of the responses of visitors to Victorian museums. Although, then as now, sight was the primary sense through which museum exhibits were experienced, Alberti emphasizes the (historically specific) importance of taking hearing, touch, and even smell into account.

Together, *Victorian Popularizers of Science* and *Science in the Marketplace* constitute a very significant contribution to our understanding of the public reception of science in nineteenth-century Britain. It is worth saying in conclusion that both books have been enhanced by generous illustration and attractive design.

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