of the unit of light) occupies an important place in the book, but his focus is not on the philosophical questions concerning calibration, replication and ontology (think of Harry Collins and Hasok Chang), nor does he attempt a comprehensive history elucidating the sociopolitical implications of standards, such as has been done for the ohm (Simon Schaffer) or the metre (Ken Alder).

So once we follow Otter and eschew dominant themes and much pre-existing historiography, what is left? Otter wants to stay clear of such overarching concepts, and only because 'the historian must be prepared to make generalizations' (p. 255) does he cautiously offer us alternatives. The most important of these is the theme of the 'oligoptic', a term that he borrows from Bruno Latour, referring to a 'multiplicity of connected spaces' (p. 73). The oligoptic, according to Otter, is the better description of Victorian visual culture.

The 'politics' in Otter's subtitle, *A Political History of Light and Vision in Britain, 1800–1910*, is based on a broad view of the term as the means through which bodily practices of perception and the material systems around them arise from specific relations of power. In contrast to older work in history of technology (he targets Thomas Hughes), Otter does not see politics as merely facilitating or hampering technological growth. Privacy and freedom from large technological systems are not the result of 'politics "getting in the way" of technology' but actually issue from a liberal form of governance that is always already suspicious of totalizing, controlling systems (p. 251).

Methodologically, Otter draws inspiration from the posthuman studies of Latour that find agency not only in humans but also in objects. He does not attempt to adhere strictly to actor-network theory ('One does not need actor-network theory to see how inseparable technology and society had become', p. 262), but his interest in moving beyond human-centred accounts permeates his project. For example, he rejects previous labels which appear to be 'too humanistic'. While late nineteenth-century Britain has frequently been described as 'the age of the inspector', he prefers to call it 'the age of inspectability', finding this latter category to be 'more symmetrical', by being more inclusive of material elements and their networks (p. 132). Otter is most original when he does not focus on answering the traditional who, how and when questions behind the history of artificial illumination, but instead studies processes of 'agglomeration, accessibility, legibility, portability' (p. 109) – categories reminiscent of those of immutability, scale, flatness, reproduction, recombination and so on used by Latour to sidestep otherwise human cognitive explanations.

The narrative is extremely effective when it asks why: why did we create these noisy, smelly, expensive, dirty and high-maintenance networks without which we can no longer survive? The book offers some wonderful detail (Otter even tells us of arguments that electric light 'allegedly stiffened the stools' (p. 207) of those under its illumination). And at times it draws creatively from the work of Alain Corbin on the history of the senses, Maurice Merleau-Ponty on the embodiment of observation, and Henri Lefebvre on the social construction of space. In leaving the focus on surveillance and spectacle aside, the breadth of topics of historical interest increases dramatically. In this regard, *The Victorian Eye* should be commended for its originality and ambition.

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Alice Jenkins (ed.), **Michael Faraday's Mental Exercises: An Artisan Essay Circle in Regency London**. Liverpool: Liverpool University Press, 2008. Pp. xii + 250. ISBN 978-1-84631-140-6. £47.50, $85.00 (hardback).
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In 1818, Michael Faraday, then in his late twenties, formed a self-improvement group with four of his male friends. Aiming to improve their writing, they agreed to meet once every two months,

with each bringing a newly written essay. At the meeting one of them served as scribe, copying the members' essays, but also poetry and satires, into a single manuscript notebook. Although this 'Circle' lasted only from July 1818 to October 1819, its copybook or 'Class Book' remains, now kept in the Royal Institution. The present work is a transcription and analysis of the forty-six entries present as 'mental exercises' in the Class Book, together with a member list and an 'Agreement' – a set of rules modelled in part on a similar agreement used by the City Philosophical Society. There is also a contextualizing introduction from editor Alice Jenkins and, following the transcribed notebook, a reprinting of selections from relevant published and unpublished material by Faraday himself, and published extracts by others such as Isaac Watts, Samuel Johnson and Mark Akenside.

Jenkins points out that Faraday's self-education in science falls between the era of the literary and philosophical societies, which emerged in the late eighteenth century, and the mechanics' institutes, which emerged later in the early nineteenth century. Moral and material advance was the general goal of the Circle, whose members sought to improve their writing in such a way as to enhance their standing in polite culture. Accordingly, the contributions in the Class Book tend to be moralistic in a conventional way. Five of the essays can reasonably be attributed to Faraday, and a few others may be by him. The benefits of self-improvement are a repeated theme (especially in the contributions by Faraday), but the essays also touch on friendship, politeness, 'The charms of sleep', 'On avarice', 'Hope' and the like. A repeated theme is relations with women; several essays are on marriage. There are no contributions on scientific subjects, and religious and political topics are absent. Of the five Circle members, four were Sandemanians, including Faraday himself. The members were similar in age, religion and occupation, all being successful artisans with good backgrounds and prospects. Faraday, as assistant to Humphry Davy at the Royal Institution, was himself upwardly mobile into the same class.

The initiator of the group, Faraday was also its most active member, and his essays are of most interest. His first two contributions, 'On imagination and judgement' and 'On the pleasures and uses of the imagination', present a conventional view of imagination, related to that found in the writings of Isaac Watts, whose *Improvement of the Mind* (1741) was read by Faraday as a teenager. Faraday argues that imagination flows from the senses, and is inherently pleasurable but ineffectual unless restrained by the judgement. Both imagination and judgement are necessary, but must be in balance – and this requires effort: 'Persevere and our improvement is certain We shall trace with pleasure the visible alteration in the style and substance of our essays we shall be delighted with the ease with which we perform what at first appeared so formidable' (p. 55). The pleasures of the imagination are superior to sensual pleasures. Because the imagination can draw upon memory, its range is vastly greater than that of the senses as such – a claim that echoes Faraday's Wattsian concern with memory, and spurred him to keep notebooks, commonplace books and the like.

In 'On Mind and the duty of improving it', Faraday makes a distinction between mind and matter but argues for a dualism in which mind and matter are united: 'The line, therefore, which may be supposed to divide the two sets of relations and habitudes … has no existence; for whenever we presume to draw it, it trespasses either on the one set or the other' (p. 108). Still, the pernicious effects of 'Society' may draw one too close to the material world and its sensual pleasures. Self-improvement is a duty to restore the 'pure and uncorrupted nature' and the 'proper subordination of body to Mind' (p. 111). Faraday disavows a religious approach to this issue: 'I have not mentioned Religion … I think too highly of Religion to regulate it by mere moral duties, or to subject it to the weak powers of reason which I or any man can exert' (p. 112).

Jenkins pays particular attention to the readings manifested in the contributions to the Class Book. Many of these reflect a late Enlightenment sensibility, as with Watts, but also including

Addison and Johnson. The Circle takes its place, then, not among the Romantics of early nineteenth-century Britain, but with an earlier period, both culturally conservative and a continuation of pre-Regency traditions.

Jenkins has done an admirable job of transcribing these materials and providing supporting scholarly work. The transcription is accurate (based on spot-check comparisons against a copy of the original), and includes all strikeouts and changes. Spelling, capitalization and punctuation are transcribed exactly as in the original. Footnotes and introductory material identify literary allusions, quotes and the context for allusions, clichés and borrowings. The reprinted material includes selections from Faraday's correspondence and lectures of the period and one later published piece, his 1854 'Observations on mental education', which echoes many of the themes present earlier. The other selections excerpt works that directly influenced the Circle, including Watts, Johnson and Isaac Taylor. Jenkins's book thus not only serves as a window into Faraday's efforts at self-improvement, but also sheds light on a cultural phenomenon among tradesmen in Regency London and illuminates their relation to other, more public, efforts at education. The book will have wider use than simply for those interested in Faraday.

There has been relative neglect of the many unpublished writings of Faraday, and the present book helps to close the gap. It is an excellent contribution to scholarly knowledge of Faraday and of the context of science in Regency London.

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FRANK A. J. L. JAMES (ed.), **The Correspondence of Michael Faraday: Volume 5, 1855–1860**. London: Institution of Engineering and Technology, 2008. Pp. lviii + 835. ISBN 978-0-86341-823-5. £70.00 (hardback).

FRANK A. J. L. JAMES (ed.), **Christmas at the Royal Institution: An Anthology of Lectures by M. Faraday, J. Tyndall, R. S. Ball, S. P. Thompson, E. R. Lankester, W. H. Bragg, W. L. Bragg, R. L. Gregory, and I. Stewart**. Singapore: World Scientific Books, 2007. Pp. xxxiii + 366. ISBN 981-277-109-3. £39.00 (paperback).

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This fifth volume of Frank James's monumental multi-volume correspondence of Michael Faraday brings us to that great man's declining years as his long, busy and illustrious career gradually drew to a close. James's achievement with these volumes to date has been truly staggering. The first volume of this one-man enterprise was published in 1991. Seventeen years later, this volume brings the total number of letters published so far to 3,873 out of a final projected 4,900 or so items. James's editorship has been careful and meticulous throughout and this volume is, of course, no exception. Most correspondence projects of this magnitude, such as the Darwin Correspondence based at Cambridge or the recently completed Joseph Henry Correspondence at the Smithsonian Institution, are team efforts. That Frank James has been carrying out the huge task of identifying, collating and editing this quantity of correspondence unaided is in itself a great achievement. The final product so far is more than worthy of any one of the great Victorian editors who were Faraday's contemporaries.

The Faraday whose activities are traced in this volume was a Victorian man of science in many ways at the very height of his powers. Faraday by the middle of the 1850s had come a long way indeed from being the young journeyman bookbinder who had first attracted Humphry Davy's attention more than forty years previously and gained employment at the Royal Institution as a humble laboratory assistant. He was no longer the ambitious, brilliant but insecure electrical discoverer of the 1830s either. By now, Faraday was an elder statesman of science. As James notes in his comprehensive introduction, more than a quarter of the more than eight hundred letters contained in this volume relate to Faraday's activities as an adviser to Trinity House on