

conclusion. There they write, ‘Although Britain and its empire has been the geographical locus of the book, it is clear that the empire in and of itself did not influence these processes [of design stages and practices] as much as might be initially assumed’ (p. 110). This is the direction in which they see themselves taking post-colonial history, emphasizing how much business was also conducted with nations outside empire, particularly in Europe. But the making of these four stages to work with relative stability through and across empire – i.e. not only working within its bounds – and their eventual visibility as formal design categories, may very well have been one of empire’s achievements. This would mean that empire remains present wherever the designer plies their trade. By leaving the terms of design outside historical inquiry it inevitably looks as though empire ‘did not influence designers as much as we might have thought’, because we weren’t looking. However, if we recognize design and engineering as products of the very activities explored by this book, then the move to diminish the influence of empire becomes questionable. What does such a move achieve? On the one hand, it pushes us towards a more global history, but on the other, it also shelters the design impulse from association with empire. Who is really interested in helping design escape association with empires past and present?

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MICHAEL BOULTER, *Bloomsbury Scientists: Science and Art in the Wake of Darwin*. London: UCL Press, 2017. Pp. xxii + 175. ISBN 978-1-7873-5005-2. £35.00 (paperback).
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The funerals of Charles Darwin and Karl Marx, in 1882 and 1883 respectively, attended by the biologist Ray Lankester, open Michael Boulter’s *Bloomsbury Scientists: Science and Art in the Wake of Darwin*, an account of what some call a scientific, artistic and cultural ‘modernity’. The work discusses the emergence of the life sciences and biology, and their rapid divergence and specialization into the disciplines of genetics and ecology. Bringing to light the budding community of science practitioners, notably Arthur Tansley, Olive Schreiner, Marie Stopes and Julian Huxley, it assesses the latter in relation to the science-infused output of turn-of-the-century writers and artists from H.G. Wells to Samuel Butler and Virginia Woolf, and Roger Fry, Gwen Raverat and Wyndham Lewis.

Centred on London’s Bloomsbury, the study delineates the overlapping social spheres, sociopolitical concerns and imaginaries of the science practitioners and popularizers, artists and writers active around the secular University College London (UCL) from the 1880s to the 1930s. Boulter also traces a wider historical geography of London science and knowledge-making sites, including South Kensington. The work takes its readers beyond the capital to assess the London-based practitioners in relation to their Cambridge and Oxford counterparts, but draws perhaps too rigid a distinction between London and these caricatured provincial centres of learning. Additionally, the energy and innovations of the northern, Scottish and other regional powerhouses of learning are omitted from this study.

Existential discussions of nature and nurture, and definitions of what it was to be human, or male or female, that took place in Bloomsbury laboratories, flats and squares, are vividly rendered. Against this backdrop we view, read and hear works of art, novels and poems such as D.H. Lawrence’s ‘Relativity’ (1929):

I like relativity and quantum theories
 Because I don’t understand them
 And they make me feel as if space shifted about like a swan that
 Can’t settle,
 Refusing to sit still and be measured;
 And as if the atom were an impulsive thing
 Always changing its mind.

Bloomsbury Scientists argues that these works were active in reconfiguring, and diversifying, social networks. Coursing through each of the ten chapters is the pervasive issue of class. The work is attentive to Lankester's sense of being an outsider amongst the scientific elite, the professionalization of life sciences and their practice by largely working-class students. Yet, despite Lawrence's presence, it focuses on wealthy artists and writers. Here there is an overlook of the popular centres of science demonstration and learning such as the Royal Polytechnic Institute or the Royal Institution, and their regional equivalents, where science and scientific instruments were presented to a wide audience demographic in ingeniously creative and artistic ways.

Considerable attention is devoted to the gentleman of science and eugenicist Francis Galton and the imperial administrator and advocate of science General Sir Richard Strachey, two stalwarts of the Royal Geographical Society, and their contributions to the investigation of the Darwinian theory of natural selection. The analysis of Galton's eugenics and the fashioning of his legacy by Karl Pearson is timely since today the original concept is little understood. And also because, in new malignant and potentially positive forms, its practice continues. However, given the prominence of these two figures, latent in this account and wanting in it is a discussion of the establishment and professionalization of the discipline of geography and of the shifting conceptions of both time and space in this era. More than just survey, cartographic representation of the learning of names of rivers and mountains by rote, geography, and the spaces of geographical knowledge making from the RGS to the British Association for the Advancement of Science meetings around the United Kingdom, was at the forefront of discussions of human–environment relations. In the final decades of the nineteenth century it was one of the most popular savant societies and also a profoundly political one. Social-reforming liberals and European and Russian anarchists and internationalists Elisée Reclus and Peter Kropotkin frequented it. Debates about women's rights, equality of so-called races and of surviving indigenous peoples, spatial and social planning in Britain and across the British Empire were played out in it and disseminated in the society's lectures and publications. Significantly, geographers also debated Matthew Arnold's 1882 lecture 'Literature and science'; the chasm between science and culture; and the urgency, for social good, to bridge it. Discussions of this critical nineteenth-century debate should include the thinking and practices of John Ruskin, John Tyndall and even Oscar Wilde.

Bloomsbury Scientists contains a useful chronology of key events. Black-and-white portrait photographs of the mostly male, but in some cases female, protagonists illustrate it. Lacking are reproductions of impressionist, expressionist and futurist artworks and the covers of the books discussed. Given the focus on Bloomsbury, and attention to the making of knowledge in place, the absence of a map demonstrating the spaces and relative distances between the sites of encounter between the likes of Ray Lankester, Thomas Hardy, Lesley Stephen and Thomas Henry Huxley, is felt.

For all of my subjective quibbles, this deeply personal account is a moving eulogy to intellectual inquiry, education and learning. With wounding cuts, rising fees and falling student numbers, and such extensive and so widely publicized criticism of the higher-education sector, it reminds us that the rights to secular and scientific education were passionately fought for, and acquired, just over one hundred years ago. As practitioners, the short duration of our scientific and intellectual lineage is rendered visible. I enjoyed this work. It will inform disciplinary histories of the social, life and hard sciences and deserves to be read by scientists and historians at all levels and the curious from all walks of life. As with all good works it raises questions: whether or not the education sector has delivered on its political ideals and promises of creating a 'better' world, and how to improve the practice of science investigation and education, to teach science and art together, and to ensure the future of the community of practitioners.

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