

The concluding argument of Fox's work is that 'science mattered' and had a 'constantly prominent place in French public debate' (p. 274). Further, Fox tentatively suggests that this is true of France more than of other European states and calls for extensive comparative study. Yet the statement 'it mattered more in France than elsewhere' (p. 274) is perhaps somewhat misleading and introduces the relatively unhelpful category of 'more' for international comparisons. The difference between the ways in which nineteenth-century European states became increasingly supportive of scientific activity, and the mechanisms by which these changes in support and management took place, would likely be a more illuminating comparison than attempting to simply assess whether science penetrated politics in France 'more' or to a deeper level than in other states. Fox is correct in his argument that science developed in distinct ways in different national contexts and this justifies his focus on France alone. Yet he also successfully avoids the potential danger of becoming too inwardly focused during a period that saw the steady rise of international scientific communication and cooperation. Fox convincingly makes comparisons with Britain and Germany to demonstrate the importance of national pride for the cultivation of the sciences. French reaction to the automation of the British textile industry and the advancement of steam power are particularly well assessed.

Finally, the book engages with the difficulty of measuring success for science in nineteenth-century France and, to answer this question fully, Fox again advises that we must turn to international comparison. The number of Nobel Prizes is suggested as indicative of success for France, but perhaps if we possessed equally well-researched and insightful books on nineteenth-century Britain and Germany we would be able to answer many of the important questions raised in this brilliant and well-researched volume.

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CHARLES H. SMITH and MEGAN DERR (eds.), *Alfred Russel Wallace's 1886–1887 Travel Diary: The North American Lecture Tour*. Manchester: SIRI Scientific Press, 2013. Pp. xiii + 258. ISBN 978-0-9567795-8-8. £21.00 (paperback).
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Since the early 2000s there has been an increasing interest in Alfred Russel Wallace, the co-discoverer of the theory of natural selection with Charles Darwin. In 2013 this interest multiplied tenfold to mark the centenary of his death. He was, as Michael Shermer's preface to this work notes, 'one of the most interesting minds . . . encountered anywhere anytime' (p. vii). Not satisfied with co-discovering one of the most powerful ideas in science, he also pioneered what is now known as biogeography and was one of the most fascinating – and controversial – sociopolitical figures of his age. As a result, by the time of his death he was one of the most famous men in the world and certainly one of the most interesting ones.

Growing interest in Wallace has resulted in a profusion of books, articles and further resources (online and otherwise). The present volume is yet another addition to this burgeoning list. As the title explains, this work tackles Wallace's North American lecture tour in 1886–1887. This ten-month tour 'is not a well-known chapter in his life', argues Charles Smith's introduction, 'but it is an interesting one' (p. 7). As Smith notes, Wallace saw it as a chance to engage with the vibrant American spiritualist community, do some Darwinian proselytizing, and undertake possibly his last opportunity for concerted scientific fieldwork.

Certainly, although not a well-known chapter, it is a far from unknown one. His lecture tour finds its way – in varying degrees of detail – into almost every recent biography on Wallace. However, the most concerted effort to study Wallace's tour has come from Martin Fichman (chiefly surrounding Wallace's role in the development of a transatlantic evolutionary theism). Such coverage is not surprising considering that Wallace himself considered it an important

enough event to dedicate ninety-two pages of his autobiography, *My Life* (1905), exclusively to this ten months across the Atlantic.

Nonetheless, most accounts of his time in North America have relied heavily upon his autobiographical account. This is not unsurprising. As becomes clear from the outset, Wallace's on-the-road diary is often fairly sparse with regard to details – as Smith notes, it is not a 'literary journal' (p. 9). Similarly, where detail is provided, Wallace invariably reproduced those passages almost verbatim in *My Life*.

However, as is often recognized, autobiographical accounts are, as Kitson Clark's *The Critical Historian* (1967) explains, the 'least convincing of all personal records'. Consequently, this book attempts to bring Wallace's on-the-road diary – held at the Linnean Society of London – back to the fore in the discussion of his American lecture tour, by providing a full transcript of it.

The successes are innumerable. The transcription is, in itself, an impressive piece of scholarship. It offers a significant amount of material for historians interested in botany, geology, anthropology, museum studies, spiritualism, social history and beyond.

It is, however, far from simply a transcribed primary source. Within the diary itself the editors smoothly incorporate additional information provided in *My Life*. Similarly, they provide newspaper extracts regarding his talks and visits. These are particularly enlightening and useful for those studying the popular reception of science and scientists in America. Furthermore, the editors offer a number of aids as appendices to help navigate the diary: an effective and efficient series of mini-biographies for most of the individuals mentioned, places Wallace visited and papers he delivered, and a botanical list of the species mentioned. Additionally, they offer a number of his publications written during (or derived from) his time in America. This provides scholars with the possibility of a more holistic understanding of Wallace's American tour which scholarship to date has not quite offered.

There is little not to admire in this short 250-page book. However, some readers may notice some missed opportunities. The introduction offers an effective account of the preamble to the tour. However, a brief overview of the wider lecture tour phenomenon would have been useful to situate Wallace's own. It is relevant that other scientific superstars – such as Thomas Henry Huxley and John Tyndall – embarked on their own tours. As with Wallace, they looked to satisfy their curiosity as well as their bank managers (Tyndall made \$13,000 from his four-month tour in 1872–1873). Such a context also brings to relief the striking elements of Wallace's tour: the prominence of spiritualist investigation, scientific fieldwork (geology and botany in particular) and other research (anthropology, museum studies and other sociopolitical subjects).

There is also a sense of other primary source material being underused. The included letter segments often greatly supplement understanding of the vaguer entries. But much more exists. Wallace's letters to immediate friends and family would be particularly valuable additions to the narrative and help flesh out more bare-bones entries. Indeed, even the fascinating letter to Meldola provided in Shermer's preface does not appear in the text itself despite Wallace referring to it directly (see pp. viii, 121). Similarly, the Natural History Museums hold some further notes from Wallace's tour which appear not to have been consulted. The additional drawings there would have, by themselves, been valuable additions to this well-illustrated volume.

These are, however, minor weaknesses. The editors' additions turn a valuable primary source into an invaluable companion for those interested in the reception of Darwinism in America, details of transatlantic science in the nineteenth century and more besides. Furthermore, as Shermer highlights, those interested in American social history will discover innumerable gems coming from Wallace's critical and perceptive eye being cast on large sections of American society and culture.

This book will undoubtedly prove an enduring piece of scholarship amongst Wallace historians, offering the chance to direct focus away from Wallace's *My Life* account. However, it is far from

being a book just for Wallace scholars. Wallace's diverse interests produce a work with a broad scope of content. Furthermore, its accessibility, thanks to the additions by the editors, means that this should earn its way onto a number of institutional and individual bookshelves and be read by a number of social, political and cultural historians as well as historians of science.

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JOHN ROWLINSON, *Sir James Dewar, 1842–1923: A Ruthless Chemist*. Farnham: Ashgate, 2012. Pp. xviii + 236. ISBN 978-1-4094-0613-6. £65.00 (hardback). doi:10.1017/S0007087413000769

Professor Sir John Rowlinson's book – the first full-length scholarly biography of its subject – is a solidly scientific account of the working life and professional relationships of Sir James Dewar. Through the research questions Dewar chose to investigate we are taken to Edinburgh, Cambridge and the Royal Institution, and introduced to his work on the structure of benzene, on spectroscopy and on cryogenics, via his incidental invention of the vacuum flask. On the way we see him engage in many often fierce disputes over priority, respect for hierarchy, and conflicts of interest. Throughout, Rowlinson gives clear explanations of the science Dewar was involved in and how it was that one problem led onto another. He shows vividly the hard work, patience, perseverance and self-belief required to make progress in science – this is not a heroic tale full of flashes of inspired genius; instead he shows a career and reputation built up steadily over years.

A number of themes recur throughout the book. Almost every chapter shows Dewar quarrelling very publicly with someone. In Chapter 5, Dewar and George Downing Liveing row with Norman Lockyer; in Chapter 7 there is a dispute with Alfred Nobel; Chapter 8 includes his falling out with William Ramsay. Another theme is that of hierarchy, and the idea of knowing one's place. There is also a recurrent tension between 'pure' and commercially driven research. All through his life Dewar took on commercial and legal work, in addition to his work at Cambridge and at the Royal Institution, and in some instances used Royal Institution equipment and assistants, though always apparently staying just within the terms of his contract. What was unclear to me, however, was why he kept doing this. It often caused arguments and, as Rowlinson points out towards the end of the book, he already had two salaries giving him and his wife more than enough to live extremely well on. The book, however, is not one for theorizing. Rowlinson mentions on more than one occasion that Dewar's strengths and interests lay in the accumulation of facts, not in using those facts to create theories, and, in keeping with this theme, Rowlinson seems to have done the same with Dewar's life story. We know what he did; we don't always know why.

This book tells us a huge amount about Dewar's professional work and relationship, often giving detailed accounts of the bureaucracy involved in getting appointed and working for these big institutions in the late nineteenth and early twentieth centuries. It is not, however, a biography that gives an account of his whole life. The chapter on his childhood and early education is just three pages long. His wife is mentioned half a dozen times at most, and it is only in the very last chapter that we learn anything of his outside interests (he was, it seems, an enthusiastic supporter of the arts). There is also very little context given concerning the times in which he lived and how these might have affected his work.

One minor criticism I have of the book is with the editing: there are a number of typos and the chapter on cryogenics is inexplicably three times longer than any other, with Dewar's most famous accomplishment (the invention of the 'vacuum' or Dewar flask) buried in the middle. While I can see the logic in placing that story within the context of his cryogenics work, I felt the whole cryogenics story might have had more impact if broken up a little.

The book's major strength is Rowlinson's ability to explain contemporary problems in chemistry in a way that does not make the theories we know now seem inevitable. He also has a