

Surprisingly, Browne's preface offers no guide to navigating this chapter. Readers are left to make of it what they will. While the aim of the book is to present Darwin in his own words, the volume would benefit from further discussion of some of these larger historiographical questions in the preface. Readers aren't provided with any context for Darwin's views on race or empire, but are told that 'his personality shines out from his words' (p. xvi). Darwin's personality by no means shines at every moment in this collection: his largest failings (from a contemporary perspective) are on full display. While Browne includes Darwin's own complaints on being misquoted and misunderstood (p. 209) and closes the book on a key misattribution (p. 306), the history of the places and roles that Darwin's ideas have enjoyed is left untouched.

This book provides further testament to Browne's thorough and painstaking knowledge of Darwin's life and works, and provides an ideal reference source for those new to Darwin and also readers already intimately familiar with his writing. As Darwin's works become increasingly available online, curated presentations of his ideas and beliefs become all the more valuable. There is no sign that people will soon cease to quote (and misquote) Darwin, and this collection delivers a key aid in reflecting on and studying his written work.

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OLIVIER DARRIGOL, *Atoms, Mechanics, and Probability: Ludwig Boltzmann's Statistico-Mechanical Writings – An Exegesis*. Oxford: Oxford University Press, 2018. Pp. xxvi + 612. ISBN 978-0-19-881617-1. £45.00 (hardcover).  
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Olivier Darrigol's exegesis of Boltzmann's statistico-mechanical writings is an exceptional piece of work. Boltzmann is generally well known as the father of much of statistical mechanics, a proponent of atoms and a victim of suicide, but his work itself is less known, probably due to its density and difficulty. Darrigol compares it to 'a huge, dense forest, with little light, abundant bushes, rare clearings, and no well-marked trails' (p. v). The purpose of this book is to grant access to this forest and its riches, while, at the same time, correcting misconceptions. For instance, 'although most Boltzmann scholars know better, they still tend to overemphasize Boltzmann's molecular statistics; they frequently miss his true endeavours; and they keep asking questions that Boltzmann had reasons not to ask' (p. vi). What makes an exegesis like this necessary is the fact 'that the essence of Boltzmann's approach to physical theory is found precisely in the lengthy and seemingly obsolete or unnecessary developments that have been systematically neglected' by readers (p. vi). Darrigol's corrective response to this neglect is to take the reader through the primary documents chronologically, examining and explaining Boltzmann's work in detail as it played out. The results are revealing and rewarding.

This is not a book for the general reader. Familiarity with mathematical physics is presupposed, but this is simply a requirement of the type of deep and extensive study this is. Darrigol strikes a balance between modern mathematical notation and that of Boltzmann's day in a form that is rationalized and consistent throughout; it is an elegant solution that feels seamless. There are also moments where he refers to modern techniques in order to summarize or explain what were more cumbersome operations at certain points in Boltzmann's work given the mathematical tools of the time.

The exegesis itself takes the reader through Boltzmann's work on a cluster of topics related to heat, gases and statistical approaches from 1866 to Boltzmann's more widely read *Lectures on Gas Theory* of 1896 and 1898. Darrigol breaks this work up into chronological eras, beginning with 'Constructing thermal equilibrium (1866–1871)', and followed by 'The Boltzmann equation and the H theorem (1872–1875)', 'The probabilistic turn (1876–1884)', 'The analogical turn (1884–1887)', 'Consolidation (1887–1895)', 'The critical turn (1895–1899)', and finally

'Lectures on gas theory (1896, 1898)'. Following Boltzmann through this work, paper by paper, the reader gets a very different sense of the man and his science than that provided by the *Lectures on Gas Theory* and his later philosophical writings, which tend to be his most-read works today. Darrigol's argument that familiarity with these more popular works alone has led to an incomplete and sometimes inaccurate view of Boltzmann is amply demonstrated for the reader willing to follow him through the twists and turns of the papers themselves.

The exegesis proper constitutes the bulk of the text at 390-odd pages, but is supplemented by two introductory sections that fall under Part A, 'Preliminaries'. The first section is a sketch of Boltzmann's life and works with an emphasis on the 'works' side of the equation. Even this biographical thumbnail is not for those unfamiliar with mathematical physics as equations feature heavily here as well. The 'Life and works' section is followed by perhaps the best short account of the development of nineteenth-century theories of heat I have seen, and some readers might profitably read this section before the 'Life and works' that precedes it. Both of these preliminary sections make for good reference points for what follows in Part B, the exegesis itself.

Darrigol closes the volume with Part C, 'Synthetic reflections', which is the fruit of the seeds planted in the exegesis. Here he makes an argument for a unified conception of 'Boltzmann's theory' despite the varied nature of his work. This variety is amply demonstrated by Darrigol's enumeration of the five different foundations of kinetic-molecular theory that Boltzmann relied upon in the course of his work (p. 565). Darrigol outlines a set of theoretical 'bridges' that Boltzmann employed to connect his many different approaches, arguing that 'even the most remote parts of Boltzmann's theory appear to be interconnected' (p. 567). Because the reader has followed Darrigol through Boltzmann's work in such detail in the exegesis, they are familiar enough to be able to see 'Boltzmann's theory' as 'a tightly connected network of theoretical endeavours, with diverse but ultimately compatible foundations' (p. 567). The journey allows the reader to clearly understand the destination, where Boltzmann's pluralistic ideal of scientific approaches reflects the pluralism 'within his own theory' (p. 567).

Darrigol has created a book that will obviously appeal to experts in the history of modern physics; it will become required reading. But I think this book will also prove extremely valuable in graduate student education as well. Working through this book is an experience. It demands slow, careful reading, but it is extremely rich and rewarding. This would be an ideal text to work through in a seminar on the history of modern science, providing the students have the appropriate background in mathematics, and it should certainly be on reading lists for doctoral exams in the histories of physics and mathematics, both for its enlightening content and for its enlightening approach.

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LAURA J. MILLER, **Building Nature's Market: The Business and Politics of Natural Food**. Chicago: The University of Chicago Press, 2017. Pp. 288. ISBN 978-0-22650-123-9. \$105.00 (cloth cover). doi:10.1017/S0007087418000894

Although market forces have become increasingly pervasive, many people continue to believe that certain objects and relationships should not be subject to the logic of supply and demand, because they either embody higher cultural values or are vital for sustaining life. In an earlier book, *Reluctant Capitalists: Bookselling and the Culture of Consumption* (2006), Laura J. Miller explored the historical dynamics between independent booksellers and large chains and showed that books are still seen by many readers to have an extra-commercial status. In her new book she now examines the role of natural foods in the capitalist marketplace and how producers and retailers of such foods attempt to align – or not – their ethical impetus with their aim to attract more buyers of their products and to make their efforts into a sustainable business.