machines. In a move that rejected Leonardo da Vinci's approach and challenged seventeenth-century practising engineers, it sought to analyse idealized bodies abstracted from matter and friction.

Galluzzi frames his contribution as an attempt to broaden conceptions of the Renaissance to encompass 'machines' as well as 'arts and letters'. Historians of science will likely find more compelling his engagement with and intervention in debates on early modern artisanal knowledge and science and visual culture as exemplified in the scholarship of, among others, Pamela Long, Pamela Smith, Christoph Lüthy, Melissa Lo and Alexander Marr. His analysis of Taccola, for example, addresses the concept of 'secret' knowledge, the intended use and audience of early modern texts describing artisanal practice, and the role of the visual in communicating scientific knowledge. Similarly, his analysis of the Vitruvian revival enriches previous scholarship on artisan–learned collaborations described by Pamela Long and others by offering a nuanced examination of the specific skills that artisans and humanists brought to their shared project of restoring Vitruvius' work. In its careful attention to the relationship between text and images of machines, moreover, Galluzzi's volume contributes to a growing body of scholarship on the production and reception of early modern technical images, including, for instance, Wolfgang Lefèvre's edited volume *Picturing Machines* (2004), Marie-Claude Déprez-Masson's *Technique, mot et image* (2006) and Nicholas Jardine and Isla Fay's *Observing the World through Images* (2013).

As befits his subject matter, Galluzzi develops his analysis in dialogue with more than a hundred full-color images. The argument and the layout of the volume closely integrate text and image in ways that resonate with the methods he ascribes to his historical actors. The case studies it considers, moreover, have been the subject of extensive and long-standing scholarly inquiry. Galluzzi's careful attention to established traditions of scholarship serves not only to position his argument with respect to previous claims but also to introduce readers to vibrant and long-standing debates in the field.

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Ian Hesketh (ed.), *Imagining the Darwinian Revolution*

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'The Darwinian Revolution', Adrian Desmond noted in the opening sentence of *The Politics of Evolution*, ' – it is an evocative metaphor.' From the beginning, Darwin and his followers proclaimed the 'revolutionary' character of their work. The Darwinian Revolution quickly became a battle cry in the so-called 'warfare between science and religion', in which a naturalistic science of biology would sweep away the antiquated views of theologians, philosophers and idle speculators. Based on a conference held at the University of Brisbane in 2019, this readable and well-produced gathering of twelve essays aims to understand the different meanings that this key organizing framework has had, from the Victorians to the present day. *Imagining the Darwinian Revolution* is a model of coherence and skilful organization, with especially helpful framing discussions by the editor.

Several chapters shed fresh light on pivotal early figures in the British debate, such as Herbert Spencer (by Bernard Lightman), Edward Aveling (by Joel Barnes) and Darwin himself (by Ian Hesketh). A fine essay by Gowan Dawson provides a taste of his forthcoming book on the iconic monkey-to-man frontispiece of Huxley's *Evidence as to Man's Place in Nature* (1863). Here we see displayed the tensions between an author and his illustrator, who held diametrically opposed views of the value of any 'Darwinian Revolution'.

Attention to nuance is a welcome feature of many of the chapters. Ruth Barton explores the different ways in which members of the X Club interpreted what Darwin had done. Jamie Freeman offers a wide-ranging survey of the diversity of Darwin's image in what he calls 'colloquial science', from mid-nineteenth-century popular writers to advocates of intelligent design. Piers J. Hale discusses the multiple political connotations of the Darwinian debates, a theme also raised in several of the other essays.

Although the concept of a Darwinian Revolution has Victorian origins, a quick glance at a Google Ngram shows that it really took off in the mid-twentieth century, to an extent that is more significant than many of the essays on the nineteenth century acknowledge. Two of the most compelling contributions deal with the years around the Darwin centennial in 1959. Emily Kern discusses the uses of Darwin as palaeoanthropology moved to support the 'Darwinian' view that humans originated in Africa. In an important essay on 'Darwinian literalism', Erika Milam charts the rise of efforts to interpret Darwin's words as a kind of holy writ to bolster various philosophical, historical, literary and biological agendas.

Other essays demonstrate significant ways in which the notion of Darwin's revolutionary impact was mobilized for later scientific agendas. Henry-James Meiring makes a strong case that Sigmund Freud should be considered a major Darwinian, both within the psychoanalytic movement and in the popular press. Alex Aylward offers a telling account of R.A. Fisher, who, like many scientists, constructed a Darwin that was useful for his own project, in this case a selection-centred eugenic vision of human history. Turning to France, Emily Herring shows how naturalists constructed alternative visions of a Lamarckian identity, as way of countering the increasing dominance of Darwinian selectionism.

The discipline of history of science was founded in the postwar era, around the same time as the triumph of natural selection among biologists, so it is not surprising that concepts such as the Darwinian Revolution have long been central to teaching and research. A central lesson of the volume is that the 'Darwinian Revolution' – if historians are to use it at all – needs to be defined in broad terms as a rhetorical construct, and not primarily in relation to the theory of natural selection. Throughout most of its history, Darwinism has been a broad church – at least until the hardening of the evolutionary synthesis around the Darwin centennial celebrations in 1959. The Darwinian Revolution was not a coup engineered by a selectionist sect. Since the 1980s, Peter Bowler's widely discussed argument for a 'non-Darwinian' revolution has played a significant role in alerting historians to the range and significance of theories other than natural selection. However, from the perspectives offered here, it can also appear as yet another case of the kind of Darwinian literalism discussed by Milam.

This volume is primarily about the 'Darwinian' in the Darwinian Revolution. The one question that does not get enough attention is how the term 'revolution' became the word of choice for this kind of historical event. The century that witnessed the emergence of the 'Darwinian Revolution' also saw the consolidation of a wide range of associated revolutions in different periods of history, such as the Industrial Revolution, the Chemical Revolution, the Neolithic Revolution, and the Relativity Revolution. Events contemporary with the Darwinian Revolution were often grouped as part of a broader 'Scientific Revolution', associated initially not with the seventeenth century, but with the transformation of everyday life around 1900 by science-based invention and industry. More context about the surprising emergence of 'revolution' as a category for history of science, long before Thomas Kuhn's *Structure of Scientific Revolutions*, would be illuminating.

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Much of the focus in this volume is on the English-speaking world. Ever since Thomas Glick's *The Comparative Reception of Darwin* was published in 1974, however, the Darwinian Revolution has often been depicted as a global intellectual earthquake, from China and Latin America to Russia and Japan. Sarah Qidwai tackles the heroic task of reviewing this vast literature, including a fascinating discussion of her research into the Islamic contexts of South Asia. As she points out, for the purposes of a wider global history, the framework of the 'Darwinian Revolution' is too narrowly centred on Darwin – who was less read than many other authors – and on conceptual frameworks developed in the West.

Qidwai's injunction ties in with Jonathan Hodge's argument (referenced elsewhere in the volume) that a Darwin-centred 'revolution' works badly as a historical category even in its supposed heartlands. If we are to have a decentred account that does not prejudge the victory of one party, discussions of the so-called Darwinian Revolution – and indeed of concepts such as 'the history of evolution' – will need replacing by broader frameworks centred on origins, species and cosmologies. Thankfully, this collection is not another debate about whether the notion of a 'Darwinian Revolution' is vital to the survival of Western civilization, or alternatively should be dropped from the historical lexicon. Instead, it reveals the extraordinary diversity of uses to which the concept has been put since Darwin famously proclaimed the *Origin of Species* as the opening shot in 'a considerable revolution in natural history'.

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CORRIGENDUM

Ian Hesketh (ed.), Imagining the Darwinian Revolution Pittsburgh: University of Pittsburgh Press, 2022. Pp. 352. ISBN 978-0-822-94708-0. $55.00 (hardcover). – CORRIGENDUM

James A. Secord

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The author apologises for the inclusion of two errors in the above article.

In this article, the author refers to the 'University of Brisbane' which is incorrect and instead should be the 'University of Queensland'. The author also refers to 'Jamie Freeman' which is incorrect, and the correct name should be 'Jamie Freestone'.

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