

in the way Hale invites us to. Scholarly writing of this kind is a tradition all of us should want to be part of.

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ROBERT J. RICHARDS, *Was Hitler a Darwinian? Disputed Questions in the History of Evolutionary Theory*. Chicago and London: The University of Chicago Press, 2013. Pp. 269. ISBN 978-0-226-05893-1. \$27.50 (paperback).  
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At first glance, this book is reminiscent of the late Steven J. Gould's essay collections. It consists of seven revised versions of papers previously published in places ranging from *American Scientist* to the journal *Biological Theory*. Together with a new essay, 'Was Hitler a Darwinian?' (this chapter makes clear that he wasn't), the book's subtitle suggests that the essays are linked by a common theme – disputed questions. However, the disputes are mainly ones originating with creationist or intelligent-design attacks on Darwinism and therefore miss out on disputes that European readers might consider to be more important. For example, the German evolutionary popularizer Ernst Haeckel is defended from charges of fraud in his illustrations of vertebrate embryos. This attack on Haeckel is usually made by creationists, looking for anything capable of discrediting evolutionary ideas. In fact, it does not matter if Haeckel's illustrations contained errors at the woodcut stage; no one seriously doubts that in their early stages vertebrate embryos are remarkably similar. To defend Haeckel from charges of fraud is like a lawyer spending time defending a client against a speeding offence when the client is also charged with conspiracy to murder.

Haeckel's real crimes were that he did not understand natural selection and that he was a right-wing nationalist, part of a history of German racial superiority that did play a part in the rise of Hitler. Haeckel recommended German editions of Darwin's *Origin* to his German colleagues, but the early German editions were slightly modified to include the views of their translators. Haeckel saw both ontogeny and phylogeny as being part of 'evolution'. The English edition of Haeckel's *Evolution of Man* was in two volumes, the first titled *Human Embryology*. He claimed, 'The history of the foetus is the history of the race', and it is possible that Haeckel's views on the degeneration of the German race were to form part of the stream of ideas leading to the Nazi final solution.

There are two chapters on Herbert Spencer, and again Richards ignores the main criticism of Spencer. In the fifth essay, comparing the ideas of Spencer and Darwin, he tries to show that Spencer's ideas are worth more than the three paragraphs that he receives in Ernst Mayr's classic *The Growth of Biological Thought* (1982). However, as with Haeckel, this defence ignores Spencer's harmful effects. Darwin's natural selection can be seen as a filter but Spencer saw evolution as a cosmic force affecting everything, and when considering the evolution of society he thought that there were necessary stages such as occur in embryology. Like Haeckel, he failed to distinguish phylogeny from ontogeny. This has had the harmful effect of preventing many modern sociologists from considering evolutionary views of societal change. For example, the leading social theorist Anthony Giddens declared, 'I reject every type of evolutionary view of history' and 'I wish to pay emphasis upon the simultaneous, interconnected existence of different types of society ... to free us from the tendency of evolutionary thought to analyse societal development in terms of "stages" and from the influence of "unfolding models" of change'. 'Stages' and 'unfolding' belong to embryology and to the ideas of people like Spencer and Haeckel. They should not be confused with Darwin's natural selection.

Richards states that there are two threads connecting his seven essays. These are a new way of writing the history of science and a defence of Darwin against the charge that he introduced 'blind chance' into his world view. Does Darwin need a defence against this charge? It seems to depend on

which side of the Atlantic you live. Evolutionary theory on opposite sides has different emphases and sometimes different questions. Richards, from Chicago, tackles some issues that may be unfamiliar in the UK where ‘blind chance’ was disposed of years ago.

One of the last reputable UK zoologists to object to ‘blind chance’ (via support for Lamarck) was H. Graham Cannon, the Beyer Professor of Zoology in the University of Manchester. Cannon’s book *The Evolution of Living Things* (1958) is dedicated ‘To the memory of William Bateson’ (Bateson was one of those early twentieth-century writers who seized on mutations as offering an alternative to natural selection). The preface states, ‘If I can make it understood that evolution represents a continuous succession of amazingly efficient things that work, and not an incredible series of successful “treble chances”, then I shall feel that I have been justified’. ‘Treble chance’ refers to the UK’s football pools that were popular in the 1950s, long before the national lottery. Since then, books such as Richard Dawkins’s *Climbing Mount Improbable* (1996) have shown how apparently unlikely events can occur via a long series of small changes. Darwin does not need to be defended against charges of ‘blind chance’.

*Was Hitler a Darwinian* is an unusual book, worth reading for two reasons. First, its defence of ideas that ought to be attacked makes readers think about their established views, especially those from Europe; second, it contains some little-known additions to the history of evolutionary thinking, such as Chapter 8 on August Schleicher and the evolution of language. This essay shows how Haeckel acquired his early idea on evolution from Schleicher long before he heard of Darwin. Interest in language led to interest in culture. Embryology and biology came later. This helps to explain why Haeckel did not grasp natural selection. It is also another example of how ideas such as the so-called social Darwinism stem from writers other than Darwin, and not from people using his ideas. Hitler was not a Darwinist.

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CATHERINE MARSHALL, BERNARD LIGHTMAN and RICHARD ENGLAND (eds.), *The Papers of the Metaphysical Society, 1869–1880: A Critical Edition*. 3 vols. Oxford: Oxford University Press, 2015. Pp. xxiv + 1,288. ISBN 978-0-19-964303-5. £320.00 (hardback).  
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The Metaphysical Society was a uniquely Victorian institution. It met every month during the Parliamentary season between 1869 and 1880 to debate the most pressing scientific and philosophical issues of the day, bringing together members of all religious sects and denominations, including those without any faith, to discuss such incendiary hot potatoes as the relation between morality and religious belief and the physiological reality of the Resurrection. Yet these predictably provocative discussions were conducted in an atmosphere of mutual tolerance and self-consciously old-fashioned civility that was rarely, if ever, contravened. It was, after all, in this urbane environment that, famously, Thomas Henry Huxley coined ‘agnosticism’ to differentiate his respectable unbelief from more contentious labels like atheism. The society’s diverse members, who as well as Huxley included Alfred Tennyson, William Gladstone, John Tyndall, J.J. Sylvester and Cardinal Manning, were likened by one of their fellows to a popular mid-nineteenth-century street show in Trafalgar Square, known as the Happy Family, in which cats, mice and birds were caged together without ever letting their predatory instincts get the better of them. After eleven years of its members keeping their claws concealed, the Metaphysical Society, as Huxley quipped, finally ‘died of too much love’ (p. 15). The brief blossoming of this fascinatingly flawed forum in the Victorian high noon is hardly unknown to historians of science, and many of its discussions, initially conducted in private, became the basis of celebrated contributions to periodicals such as the *Contemporary Review* and the *Nineteenth Century*, whose editor, James Knowles, was a founder member of the society. But many of the papers presented at its