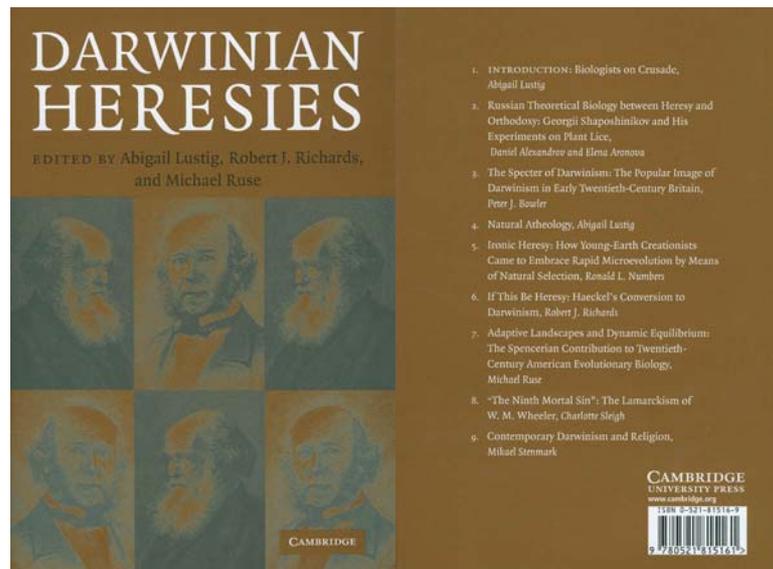
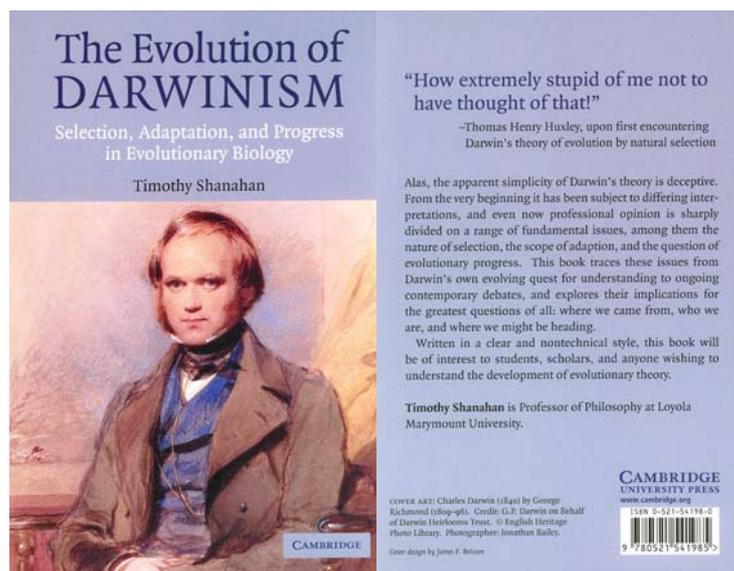


Lustig, A., R.J. Richards & M. Ruse. Eds. 2004. *Darwinian heresies*. – Cambridge, Cambridge University Press



Shanahan, S. 2004. *The evolution of Darwinism. Selection, adaptation and progress in evolutionary biology*. – Cambridge, Cambridge University Press



Book review by I.J.J. Nieuwland

Two works on the ever more popular theme of the history of Darwinian thought are on offer here. Shanahan discusses, at some length, the relation between evolutionary biology in and since ‘On the origin of species’, while Lustig *et al.* treat various forms of dissent with scientific consensus. The first question that arises when looking at these titles is whether they contribute anything to the already extensive bibliography. And fortunately the answer to this question is a positive one, although with some minor caveats, in both cases.

‘Darwinian heresies’ is a collection of eight essays, written by historians and philosophers of science, each treating a historical subject and sometimes assessing its importance for present-day evolutionary biology. However, the emphasis is on the latter half of the 19th century and focuses on the controversy which has surrounded Darwinian thought since 1859, both from outside and inside the scientific world.

The epithet ‘heretic’ is a difficult one, however, and although there has certainly been no lack of controversy, people like Ernst Haeckel can hardly be called heretics, not in the least because of the lack of any

universally accepted dogma to which their 'heresies' can be contrasted. Also, the 'heretics' of one age can, and usually do, constitute the canon of the next.

The 'heresies' under examination are, very roughly, twofold: Lamarckism and religion. Charlotte Sleight's essay about the Harvard entomologist W.M. Wheeler in fact combines these two, with Wheeler's description of his own semi-Lamarckism as a 'sin' against Darwinism. But not always is the relation so blatant, nor the 'heresy' so explicitly acknowledged by its 'perpetrator'.

Also, this collection is evidence of the difficulties in describing the relation between evolution and religious dogma. Unfortunately, Mikael Stenmark's contribution about this very subject is the weakest of the lot, offering little more than a collection of viewpoints and firmly keeping aloof himself. The problem is, that by apparently accommodating two such inherently inimical views of the world, their very apparent clash remains undetected. Efforts such as Stephen Jay Gould's rather ill-conceived NOMA (non-overlapping magisteria) concept have been roundly and justifiably criticised for their philosophical inconsistency, but Stenmark's obfuscating essay does not help to gain an understanding from their status within the debate.

Alexandrov's & Aronova's essay about the Russian Lamarckist Georgii Shaposhnikov offers a welcome insight in both the effect of ideology on science and scientists' wish to appeal to current trends offer a contribution to society. In the case of Shaposhnikov, it lead to lending a Lamarckian interpretation to his research on plant lice, in tune with what came to be expected in a world dominated by the legacy of Trofim Lysenko.

One of the most interesting contributions is that by Ronald Numbers, well-known as an authority on the creationist movement. He shows how the adoption of at least part of accepted scientific methodology forced creationists to accept micro-evolution by way of natural selection. In some ways it is not sufficiently understood how taking part in the scientific debate also forces creationists to accommodate – in that sense, their partial conversion to the ID (Intelligent Design) movement should be viewed as a major concession.

Not so much heretics then as accommodators and revisionists. The contributions are generally well-researched and insightful, even though not all of them venture very far beyond the obvious. Regrettably, the same can be said of the editors' comments. Apart from a general introduction, their ambition appears to be to produce a 'feel-good feeling' about the contributions rather than to add a more critical opinion to them. That is a pity, because doing so leaves the impression that one wishes to avoid a bed of nails; however, that is rather difficult given that this particular bed of nails is what this collection is about.

Shanahan's book offers a more coherent insight into the workings and trappings behind Darwinian thought, although his motivation is decidedly more evangelical: to offer insight into modern Darwinism by explaining its evolution. He does a commendable job: by concentrating on a number of issues in contemporary evolutionary biology and comparing them to Darwin's own views (and those of some of his predecessors) he offers valuable insight in the way the two relate to one another. Shanahan's analysis of Darwin's work is thorough, and he goes to great length to properly understand him. This is a very valuable exercise, since not all that has been perceived to be Darwin, really is. Darwin's canonical status is such that many (if not most) later authors have tended to present their own arguments as 'Darwinian'. Frequently, controversies in science have revolved around the question which side represented a more purely 'Darwinian' viewpoint – the implication obviously being that 'Darwinian' equals 'correct'. Shanahan shows Darwin's strong sides, but he does not shy away from the man's shortcomings.

The main shortcoming is probably Darwin's lack of conceptual ability, for instance in defining at which level natural selection operates. This is not insignificant considering later debates on the subject, from Wilson's sociobiological approach to Dawkins' 'Selfish genes'. Shanahan demonstrates that it is philosophers of science rather than the scientists themselves, which have set the parameters in this discussion.

The discussion around selection is one of the three main tenets of Shanahan's discussion, the other two being levels of adaptation and the direction (if any) of evolution. These choices (especially the last) makes this a work primarily aimed at historians and philosophers of science. However, Shanahan's attempts to define Darwin's own thoughts are valuable to anyone involved in evolutionary biology, if only to see where they stand *vis-à-vis* 'original' Darwinism and, on a broader level, to gain an understanding of the development of scientific thought.

Shanahan's main focus is progress; and here he clearly demonstrates where Darwin's progressivist thoughts clash with modern opinions. The thought that life, through time, becomes more and more complicated and sophisticated has proven to be one that is surprisingly difficult to eradicate, despite the best efforts of prominent Darwinians such as Dawkins or Gould. Shanahan's own position is not entirely unambiguous, but eventually he refuses to commit to any firmly defined viewpoint.

There is really only one drawback to this title, but unfortunately is not an unimportant one. Shanahan's prose is not the most accessible; tighter editing might have made this a book for all; as it stands, a good deal of perseverance is needed to follow the story to the end. But do persist: it is worth it.

Lustig, A., R.J. Richards & M. Ruse. Eds.. 2004. Darwinian heresies. – Cambridge, Cambridge University Press. 208 pp. ISBN 0 521 81516 9. Price £40.00/\$65.00 (hardback).

Shanahan, S. 2004. The evolution of Darwinism. Selection, adaptation and progress in evolutionary biology. – Cambridge, Cambridge University Press. 352 pp. ISBN 0 521 83413 9. Price £50.00/\$80.00 (paperback).