

CAMBRIDGE
UNIVERSITY PRESS

The British Society for the History of Science

J. B. S. Haldane's Darwinism in Its Religious Context

Author(s): Gordon McOuat and Mary P. Winsor

Source: *The British Journal for the History of Science*, Vol. 28, No. 2 (Jun., 1995), pp. 227-231

Published by: [Cambridge University Press](#) on behalf of [The British Society for the History of Science](#)

Stable URL: <http://www.jstor.org/stable/4027678>

Accessed: 22/09/2013 11:01

Your use of the JSTOR archive indicates your acceptance of the Terms & Conditions of Use, available at <http://www.jstor.org/page/info/about/policies/terms.jsp>

JSTOR is a not-for-profit service that helps scholars, researchers, and students discover, use, and build upon a wide range of content in a trusted digital archive. We use information technology and tools to increase productivity and facilitate new forms of scholarship. For more information about JSTOR, please contact support@jstor.org.



Cambridge University Press and The British Society for the History of Science are collaborating with JSTOR to digitize, preserve and extend access to *The British Journal for the History of Science*.

<http://www.jstor.org>

J. B. S. Haldane's Darwinism in its religious context

GORDON McOUAT* and MARY P. WINSOR†

Early in this century, only a few biologists accepted that natural selection was the chief cause of evolution,¹ until the independent calculations of John Burdon Sanderson Haldane (1892–1964), Sewall Wright and R. A. Fisher demonstrated that ideal populations subject to Mendel's laws could behave as Darwin had said they would. Evolutionary theorist John Maynard Smith, a student of Haldane's, has raised the question of why Haldane, who was no naturalist, took up the subject of evolution, and he suggests that the answer may have to do with Haldane's lively interest in religion.² In fact Maynard Smith's answer has much more evidence in its favour than he knew.

Throughout his scientific career Haldane carried on a second career as a writer and public figure. There is a natural tendency for biographers to compartmentalize his activities, in spite of his own claim that writing for the general public had stimulated 'some of my most important theoretical work'.³ Historians of evolution, looking back at the neoDarwinian 'modern synthesis' of the 1940s, assign Haldane credit for his series of articles, beginning in 1924, entitled 'A mathematical theory of natural and artificial selection'. Yet it is well known that evolutionary biologists did not read those articles. They depended upon Haldane's popularization of his results in a little book of 1932 called simply *The Causes of Evolution*.⁴ Based on a series of lectures delivered at the National University of Wales in January of 1931, this book has recently been reprinted in paperback.⁵ Because few biologists of that period could understand the mathematics of population genetics without help,⁶ Haldane's skill at communicating the meaning of his calculations must be accounted an essential part of his scientific achievement.

* Department of Contemporary Studies, University of King's College, Halifax, Nova Scotia B3H 2A1, Canada.

† Institute for the History and Philosophy of Science and Technology, University of Toronto, Ontario M5S 1A1, Canada.

1 Peter J. Bowler deserves much credit for calling attention to historians' neglect of the decline of natural selection, in *The Eclipse of Darwinism*, Baltimore, 1983, and *The Non-Darwinian Revolution*, Baltimore, 1988. We are deeply in his debt not only for those pioneering books, but for his generous advice on our manuscript. For stylistic suggestions we thank Alan T. R. Powell and Michael Laine.

2 J. Maynard Smith, 'J. B. S. Haldane', in *Founders of Evolutionary Genetics* (ed. S. Sarkar), Dordrecht, 1992, 45–6.

3 J. B. S. Haldane, *What is Life?*, New York, 1947, p. v.

4 J. S. Huxley, *Evolution: the Modern Synthesis*, Oxford, 1942, 7; E. Mayr and W. B. Provine, *The Evolutionary Synthesis*, Cambridge, MA, 1982, 89.

5 J. B. S. Haldane, *The Causes of Evolution*, Princeton, 1990.

6 W. P. Provine, *Sewall Wright and Evolutionary Biology*, Chicago, 1989, 283.

The first line of *The Causes of Evolution* is packed with clues that can lead us to the wider context of Haldane's science. He opens with an anonymous epigraph: "'Darwinism is dead.'" – *Any sermon*'. From these few words we can infer four things: that natural selection was in low repute, that some religious leaders rejoiced at its weakness, that Haldane saw his work as a revival of natural selection, and that he took pleasure in discomfiting its detractors.

Haldane's epigraph did provoke reaction. One hostile reviewer of *The Causes of Evolution*, the poet G. C. Heseltine, complained about this 'fake quotation'. He correctly pointed out that Haldane himself admitted that 'eminent theologians have accepted evolution and eminent biologists denied natural selection'.⁷ Indeed, Heseltine claimed, doubts about natural selection had been expressed by so many biologists that 'It would be as true to say "any scientist".' Arnold Lunn, a ski instructor and amateur theologian, wrote a letter to Haldane repeating Heseltine's objection.⁸ Haldane replied, 'When I read such a paper as *The Church Times*... I constantly learn that Driesch or some such person has disproved Darwinism, and that evolution cannot be explained without a directing mind.⁹ I have certainly heard and read sermons to this effect.'¹⁰

This exchange was part of a correspondence Lunn and Haldane conducted with the explicit goal of setting down for publication their opposing views. The resulting book, *Science and the Supernatural*, tells us how easy it was for an educated layman at that period to hold that evolution was unproven and natural selection unlikely. We can also learn from this book how well-read in theology Haldane was and how high was his public profile as an opponent of orthodox religion. Lunn began the correspondence saying 'You inform the listening world through the medium of the B.B.C. that the "creeds are full of obsolete science" and that Christianity is dead.'¹¹ What the epigraph to *The Causes of Evolution* implies – that Haldane believed there was a conflict between religion and Darwinism and gladly enrolled himself on the anti-Christian side – is proved in great detail in his letters to Lunn.

The anonymous epigraph can give us one further clue in our quest to understand Haldane, for though he omitted to mention the fact to Lunn, Haldane had used it once before. In his popular volume of 1927, *Possible Worlds* (which includes his classic 'On being the right size'), we find an essay called 'Darwinism to-day' which opens with the same quotation, but with the mask of anonymity torn off, or rather, not yet adopted. The epigraph to this essay reads: "'Darwinism is dead" – Mr. H. Belloc'¹². The function of the epigraph was the same, for the essay it introduced contained the gist of the argument he

7 G. C. Heseltine, 'Professor Haldane and evolution', *English Review* (1932), 55, 11–18; Haldane, op. cit. (5), 2.

8 A. H. Lunn and J. B. S. Haldane, *Science and the Supernatural*, New York, 1935, 111. Lunn repeated his complaint about the 'fake quotation' in *The Flight From Reason: A Criticism of the Dogmas of Popular Science*, London, 1932, p. xxxiv, where he also attacked H. G. Wells, G. P. Wells and J. S. Huxley, *The Science of Life*, London, 1929–30.

9 Driesch's 1907 Gifford Lectures in Aberdeen contained a section called 'Darwinism fails all along the line'. Hans Driesch, *The Science and Philosophy of the Organism*, London, 1908, 269.

10 Lunn and Haldane, op. cit. (8), 138.

11 Lunn and Haldane, op. cit. (8) 1.

12 J. B. S. Haldane, *Possible Worlds*, London, 1927, 27.

would make in *The Causes of Evolution* in 1932.¹³ To the literate public of 1927, the significance of his reference was transparent. By naming the prolific Catholic writer Hilaire Belloc, Haldane was labelling his work on natural selection a contribution to one particular controversy.

In 1926 Belloc had carried on a public war of words with the famous novelist H. G. Wells in response to the republication, in magazine format, of Wells's best-selling *Outline of History*. Belloc's criticisms appeared first in the Catholic paper *The Universe*. When that paper would not print rejoinders, Wells replied with a booklet called *Mr. Belloc Objects to the Outline of History*, which Belloc answered in the booklet *Mr. Belloc Still Objects to the Outline of History*. Belloc assembled his *Universe* articles under the title *A Companion to Mr. Wells's Outline of History*.¹⁴ The popular novelist G. K. Chesterton, an eloquent defender of Catholicism, applauded Belloc and declared him the winner.¹⁵

In the 1926 war of words, Belloc taunted Wells with being so ignorant of the progress of science that he did not realize that natural selection was 'now moribund',¹⁶ and an 'old and exploded theory'.¹⁷ The fact that Wells had studied biology under T. H. Huxley (in the Normal School of Science in South Kensington) in the mid-1880s did not qualify him as an expert, nor did Belloc himself claim to know any science, but at least, said Belloc, he knew enough to notice the judgement of biologists. Belloc declared, 'When Driesch said, twenty long years ago, "Darwinism is Dead" he was hardly premature. To quote him now is to repeat a commonplace.'¹⁸ Perhaps the fact that Haldane in 1927 was attributing words to Belloc that Belloc gave as a quotation explains why Haldane in 1931 did not respond frankly to Heseltine and Lunn's taunts.¹⁹

Belloc had been criticizing Wells's *Outline of History* since its first publication in 1920. Its materialism revolted him. To Belloc, civilization was divided into two simple categories, 'Catholic Doctrine and Modern Thought', and Wells represented all that was seductive and evil in modernism.²⁰ For example, by portraying early humans evolving with Darwinian gradualness from pre-human ancestors, Wells was undermining the essential idea of original sin and thus the need for a Redeemer. Here in the early days of the debate, Belloc thought that one point he could score very easily was handed to him when Wells alluded to natural selection as the cause of evolution. Belloc pronounced him fifty years behind the times, naming William Bateson and Hans Driesch as eminent biologists who gave no credence to the Darwinian mechanism. Belloc insisted that his complaint was not with evolution, which might or might not be true; his quarrel was solely with natural selection.

13 Richard England intelligently compared these two texts for us point by point. We are grateful to him and to David McGee for research assistance.

14 V. Brome, *Six Studies in Quarrelling*, London, 1958, 170–89.

15 G. K. Chesterton, *The Thing*, London, 1929.

16 H. Belloc, *Mr. Belloc Still Objects to the Outline of History*, London, 1926, 10.

17 Belloc, op. cit. (16), 13.

18 H. Belloc, *A Companion to Mr Wells's 'Outline of History'*, London, 1926, 11. We are grateful to Peter Bowler for saving us from the blunder of omitting this crucial part of the story.

19 The rhetorical strategies of all the contenders are worth much more study. The deathbed metaphor was doubtless a reply to atheists who were proclaiming the death of God and religion.

20 H. Belloc, 'A few words with Mr. Wells', *Dublin Review* (1920), 166, 182–202; H. Belloc, 'Mr. Wells' "Outline of History"', *London Mercury* (1920), 3, 43–62.

Haldane must have been aware of the Wells–Belloc controversy from its start, and of the larger conflict even earlier. His father was keenly interested in the religious implications of biology.²¹ At the end of the First World War, when the younger Haldane returned to Oxford, he was in close touch with Julian S. Huxley, an enthusiastic promoter of Darwinism. In reaction to Bateson’s 1921 Toronto address ‘Evolutionary faith and modern doubts’²² and to proposed legislation against the teaching of evolution in the American South,²³ the press, both scientific and popular, was full of talk about Darwinism.²⁴ Nearly every biologist accepted evolution, but those who believed in natural selection were on the defensive.

These biological questions fell within the purview of the Rationalist Press Association (RPA), a group of people committed to combatting Christianity by making free-thought literature available in cheap editions. Books on evolution, like Haeckel’s *Evolution of Man*, were among those the RPA selected to reprint. In 1922 its journal, the *RPA Annual*, carried an article by Sir Arthur Keith entitled ‘Why I am a Darwinist’, which urged his fellow scientists to disseminate their views better. Keith declared, ‘the very fact that Mr. Chesterton and Mr. Hilaire Belloc could confidently assure readers of the Sunday Press that Darwin’s theory was dead showed that those who are studying the evidence of our origin, and who are Darwinists to a man, had lost touch with public intelligence’.²⁵ It was in the same journal, four years later, that Haldane first published the essay reprinted the following year in *Possible Worlds*. For the readers of the *RPA Annual*, Haldane supplied no epigraph. In 1927 the RPA welcomed Haldane and Huxley as Honorary Associates, a title also accepted by Wells in 1929.²⁶

We are currently searching for the source of Keith’s 1922 reference to Chesterton and Belloc, to see if one of them did say ‘Darwinism is dead’ rather than merely report that various biologists had pronounced Darwinism dead. Be that as it may, when Haldane attributed the sentiment to Belloc in 1927, he must have known that the 1926 Wells–Belloc exchange was only the latest battle in an older conflict. Indeed we think it possible that Keith’s call-to-arms had made a particular impression on Haldane, so that Haldane’s 1927 epigraph was actually an allusion to Keith’s 1922 sentence about Belloc and Chesterton.

In 1923 Haldane, having moved from Oxford to Cambridge, first ventured into the popular press with *Daedalus or Science and the Future*. Evolutionary theory was not

21 J. S. Haldane, ‘Biology and religion’, *Nature* (1924), 114, 468–71.

22 B. E. Livingstone, ‘The American Association at Toronto’, *Nature* (1922), 109, 285; W. Bateson, ‘Evolutionary faith and modern doubts’, *Nature* (1922), 109, 553–6.

23 J. S. Huxley, ‘Kentucky bans evolution’, *The Nation & the Athenaeum* (1922), 31, 68–9; W. Bateson, ‘The revolt against the teaching of evolution in the United States’, *Nature* (1923), 111, 313–14.

24 Discussions in the popular press include A. Keith, ‘Is Darwinism at the dusk or the dawn?’, *Nineteenth Century* (1922), 92, 173–82; J. H. Robinson, ‘Is Darwinism dead?’, *Harper’s Magazine* (1922), 145, 68–74. Reports in the scientific press include ‘The present position of Darwinism’, *Nature* (1922), 110, 751–3; J. C. Willis, ‘The inadequacy of the theory of natural selection as an explanation of the facts of geographical distribution and evolution’, *Report of the Proceedings of the BAAS*, 1922, 399; J. T. Cunningham, ‘Origin of species and origin of adaptations’, *Report of the Proceedings of the BAAS*, 1922, 399–400.

25 A. Keith, ‘Why I am a Darwinist’, *RPA Annual* (1922), 11–14. As Peter Bowler rightly reminds us, Keith used the word Darwinism to mean evolution (see, for example, his introduction to the 1928 edition of Darwin’s *Origin for Everyman’s Library*).

26 A. G. Whyte, *The Story of the R.P.A. 1899–1949*, London, 1949.

discussed in that little essay, although the futuristic writings of both Wells and Chesterton were mentioned, and Darwin was named as an example of unrelenting reason. As for Christianity, Haldane declared that 'the only sort of religion that would satisfy the scientific mind' is one 'which will frankly admit that its mythology and morals are provisional', so that the only honest conclusion is that 'there can be no truce between science and religion'.²⁷

In the same year that he published those words, Haldane submitted to the Cambridge Philosophical Society the first of his articles on theoretical population genetics.²⁸ His work in that area is reported to have followed a conversation with Cambridge mathematician H. T. J. Norton,²⁹ who had earlier calculated the effects of selection for R. C. Punnett,³⁰ and we see no reason to doubt that this conversation occurred. Clearly, however, both that conversation and Haldane's population genetics took place within a wider context. Clearly, Haldane believed that if he could make natural selection more credible to his fellow biologists, he would be striking a blow in the war between science and religion. Haldane always loved a good fight.

27 J. B. S. Haldane, *Daedalus or Science and the Future*, London, 1923, 8–10, 90.

28 Minutes, 26 November 1923, Cambridge Philosophical Society.

29 S. Sarkar, 'A centenary reassessment of J. B. S. Haldane, 1892–1964', *BioScience* (1992), 42, 779.

30 J. B. S. Haldane, 'A mathematical theory of natural and artificial selection. Part IV', *Proceedings of the Cambridge Philosophical Society* (1927), 23, 607.