'a brilliant book . . .it is difficult to think that the exposition of Dawkins' writings and their religious implications, will ever be better stated, explored and criticised.'

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ALISTER MCGRATH

DAWKINS' GOD

From The Selfish Gene to The God Delusion

SECOND EDITION

WILEY Blackwell

Dawkins' God

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"More attention to the History of Science is needed, as much by scientists as by historians, and especially by biologists, and this should mean a deliberate attempt to understand the thoughts of the great masters of the past, to see in what circumstances or intellectual milieu *their ideas were formed, where they took the wrong turning or stopped short on the right track."*

R. A. Fisher, speaking at a symposium held in Canberra marking the centenary of the publication of Charles Darwin's Origin of Species. *"Natural Selection from the Genetical Standpoint."* Australian Journal of Science *22 (1959): 16–17.*

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Introduction

I first came across Richard Dawkins in 1977 when I read his *Selfish Gene* (1976). I was completing my doctoral research in Oxford University's department of biochemistry, under the genial supervision of Professor Sir George Radda, who went on to become Chief Executive of the Medical Research Council. I was trying to figure out how biological membranes work so successfully by developing new physical methods to study their behavior.

Although it would be some years before *The Selfish Gene* achieved the cult status it subsequently enjoyed, it was obviously a marvelous book. I admired Dawkins' wonderful way with words, and his ability to explain crucial – yet often difficult – scientific ideas so clearly. It was popular scientific writing at its best. No surprise, then, that the *New York Times* commented that it was "the sort of popular science writing that makes the reader feel like a genius."

By any standards, *The Selfish Gene* was a great read – stimulating, controversial, and informative. Dawkins had that rare ability to make complex things understandable, without talking down to his audience. Yet Dawkins did more than just make evolutionary theory intelligible. He was willing to set out its implications for every aspect of life, in effect presenting Darwinism as a universal philosophy of life, rather than a mere scientific theory. It was heady stuff – far better, in my view, than Jacques Monod's earlier work *Chance and Necessity* (1971), which explored similar themes, but in a rather dull way. And, like all provocative writers, Dawkins opened up debates which were both important and intrinsically interesting – such as the existence of God, and the meaning of life.

Although Dawkins' atheism was evident in *The Selfish Gene*, it was presented in an interesting and engaging way – the kind of approach that

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provokes a good conversation. I was especially interested in Dawkins' own history, as we had traversed quite different routes – in my case, from atheism to Christianity; in his, from Christianity to atheism. In fact, at that time I was in the process of moving from the study of the natural sciences to Christian theology, combining working in Oxford's research laboratories with taking tutorials in theology. My long-term goal was to explore the relation of Christian thought and the natural sciences, and my mentors had made it clear that I would need research degrees in both disciplines to be taken seriously.

By June 1978, I had gained my doctorate in molecular biophysics and first-class honors in theology, and was preparing to leave Oxford to begin theological research at Cambridge University. To my surprise, I then received an invitation to lunch with a senior editor at Oxford University Press. Oxford is a very small place, and gossip spreads very quickly. The Press had heard about my "interesting career to date," he explained, and had an interesting possibility to discuss with me. Dawkins' *Selfish Gene* had generated a huge amount of interest. Would I like to write a response from a Christian perspective?

It would be a wonderful book to write. Only a fool, I remember thinking at the time, could resist such an invitation. After much thought, I wrote a polite note thanking my colleague for lunch, and explaining that I did not yet feel ready to write such a book. There were many others better qualified, in my view – such as the biochemist and theologian Arthur Peacocke (1924–2008). It would just be a matter of time before someone else wrote a book-length response to Dawkins' ideas. So I headed off to Cambridge to do research into Christian theology, before returning to Oxford to lecture in theology in 1983. Oxford University's excellent library resources meant I was able to keep up and develop my reading in the history and philosophy of science, as well as follow the most recent experimental and theoretical developments in the field.

But I had not forgotten Dawkins. His *Selfish Gene* introduced a new concept and word into the investigation of the history of ideas – the "meme." As the area of research I hoped to pursue was the history of ideas (specifically, Christian theology, but set against the backdrop of intellectual development in general), I had done a substantial amount of background research on existing models of how ideas were developed and received within and across cultures. None of them seemed satisfactory.[1]

[1] The one I initially had greatest hopes for was Pierre Rousselot, "Petit théorie du développement du dogme." *Recherches de science religieuse* 53 (1965): 355–90. For the issues, see Alister E. McGrath, "The Evolution of Doctrine? A Critical Examination of the Theological Validity of Biological Models of Doctrinal Development." In *The Order of Things: Explorations in Scientific Theology*, 117–67. Oxford: Blackwell Publishing, 2006.

But Dawkins' theory of the "meme" – a cultural replicator – seemed to offer a brilliant new theoretical framework for exploring the general question of the origins, development, and reception of ideas, based on rigorous empirical scientific investigation. I recall with great affection a moment of sheer intellectual excitement, sometime late in 1977, when I realized that there might be a credible alternative to the stale and unpersuasive models of doctrinal development I had explored and rejected at that stage. Might this be the future?[2]

As I knew from Darwin's work on the Galapagos finches, it helps to approach evidence with at least a provisional theoretical framework.[3] And so I began to explore using the "meme" as a model for the development of Christian doctrine. I shall report more fully on my twenty-five-year evaluation of both the "meme" concept and its utility in a later chapter. Suffice it to say at this stage that I was perhaps somewhat optimistic concerning both its rigorous empirical grounding and its value as a tool for the critical study of intellectual development.

In the meanwhile, Dawkins went on to produce a series of brilliant and provocative books, each of which I devoured with interest and admiration. Dawkins followed *The Selfish Gene* with *The Extended Phenotype* (1981), *The Blind Watchmaker* (1986), *River out of Eden* (1995), *Climbing Mount Improbable* (1996), *Unweaving the Rainbow* (1998), *A Devil's Chaplain* (2003), and finally the culmination of his career as an atheist apologist in *The God Delusion* (2006). Following *The God Delusion*, Dawkins went on to publish some elegant works of popular science, and an informative memoir of his life, which have informed the analysis in these pages. Yet the tone and focus of Dawkins' writing changed over the years. As philosopher Michael Ruse pointed out in a review of *The Devil's Chaplain*, Dawkins' focus shifted "from writing about science for a popular audience to waging an all-out attack on Christianity."[4] The brilliant scientific popularizer became a tub-thumping anti-religious polemicist, preaching rather than arguing his case (or so it seemed to his critics).

So what is the source of Dawkins' hostility to religion? My reading of his works suggests that this animosity is deep-rooted, and not grounded in

[2] I was not the only one to be so excited in this way by Dawkins' new idea: see Stephen Shennan. *Genes, Memes and Human History: Darwinian Archaeology and Cultural Evolution.* London: Thames & Hudson, 2002, 7.

[3] I later wondered if I had made too much of this incident in Darwin's intellectual development: see Frank J. Sulloway, "Darwin and His Finches: The Evolution of a Legend." *Journal of the History of Biology* 15 (1982): 1–53.

[4] Michael Ruse, "Through a Glass, Darkly." *American Scientist* 91 (2003): 554–6.

one specific concern. Four interconnected yet distinct grounds of criticism may be found throughout his writings. All are found in his *God Delusion* (2006); yet their formulation dates from different stages of his career.

1 A Darwinian worldview makes belief in God unnecessary or impossible. Although hinted at in *The Selfish Gene*, this idea is developed in more detail in *The Blind Watchmaker*.
2 Religion makes assertions which are grounded in faith, a "kind of mental illness" which shies away from a rigorous, evidence-based concern for truth. For Dawkins, truth is grounded in explicit proof; any form of obscurantism or mysticism grounded in faith is to be opposed vigorously. Dawkins' robust insistence on evidence-based thinking is obvious in *The Selfish Gene*, and recurs regularly in his later writings.
3 Religion offers an impoverished and attenuated vision of the world. "The universe presented by organized religion is a poky little medieval universe, and extremely limited."[5] In contrast, science offers a bold and brilliant vision of the universe as grand, beautiful, and awe-inspiring. This aesthetic critique of religion is developed especially in his 1998 work *Unweaving the Rainbow*.
4 Religion leads to evil. It is like a malignant virus, infecting human minds. This is not strictly a scientific judgment, in that, as Dawkins often points out, the sciences cannot establish what is good or evil. "Science has no methods for deciding what is ethical."[6] It is, however, a profoundly moral objection to religion, deeply rooted within western culture and history, which must be taken with the greatest seriousness.

In 2004, I published the first edition of *Dawkins' God*, which aimed to explore and evaluate Dawkins' views on science and religion through a close reading of his publications – in effect, a belated version of the book I was asked to write back in 1978. There were three main reasons for writing that book. First, Dawkins is a fascinating writer, both in terms of the quality of the ideas he develops, and the verbal dexterity with which he defends them. Anyone who is remotely interested in debates about the meaning of life will find Dawkins an important sparring partner. Augustine of Hippo once wrote of the "*eros* of the mind," referring to a

[5] Richard Dawkins, "A Survival Machine." In *The Third Culture*, edited by John Brockman, 75–95. New York: Simon & Schuster, 1996, 85.
[6] *A Devil's Chaplain*, 34. For all Dawkins texts, please see the Select Bibliography for a full reference.

deep longing within the human mind to make sense of things – a passion for understanding and knowledge. Anyone sharing that passion will want to enter into the debate that Dawkins has begun.

And that was my second reason for writing. Yes, Dawkins may occasionally seem to be immensely provocative and aggressive, dismissing alternative positions with indecent haste, or treating criticism of his personal views as an attack on the entire scientific enterprise. Yet this is what makes popular debates *interesting*, and raises them above the tedious drone of normal scholarly discussion, which seems invariably to be accompanied by endless footnotes, citing of weighty but dull authorities, and a cautious understatement heavily laced with qualifications. Dawkins clearly wanted to provoke such a debate and discussion, and it would be churlish not to join in.

I had a third reason, however. I write as a Christian theologian who believes it is essential to listen seriously and carefully to criticism of my discipline, and respond appropriately to it. One of my reasons for taking Dawkins so seriously is that I want to ask what may be learned from him. As any serious historian of Christian thought knows, Christianity is committed to a constant review of its ideas in the light of their moorings in Scripture and tradition, always asking whether any contemporary interpretation of a doctrine is adequate or acceptable. As we shall see, Dawkins offers a powerful, and in my view credible, challenge to one way of thinking about the doctrine of creation, which gained influence in England during the early modern period, and still lingers on in some quarters today. He is a critic who needs to be heard, and taken seriously.

The first edition of this work was well received. Yet even within a few years of its publication, it was clear that it needed major revision. For a start, Dawkins published *The God Delusion* in 2006. It would be unthinkable to discuss his views on science and religion without engaging with this influential work. Secondly, a substantial secondary literature emerged, dealing with a range of issues of direct relevance to the topic of this book. It was clearly essential to distil the importance of this new body of knowledge into the text of a new edition of this work.

In the spring of 2014, I judged that the moment was right for a new edition of this work. I had just been appointed as the Andreas Idreos Professor of Science and Religion at Oxford, and it seemed entirely appropriate to begin this final phase of my career by interacting with Oxford's former Professor of the Public Understanding of Science.

Finally, I must make it clear that, although I disagree with Dawkins over many issues, I regard him as one of the most important scientists of his

age, not least because of his superb ability to communicate scientific ideas to a wider audience. He has helped to create a new cultural interest in the field of science and religion, from which I and many others have benefited. That discussion is certain to continue, and will develop in new directions in the future. Perhaps this book might help that debate move onward and upward.

Alister E. McGrath
Oxford, June 2014

1

Darwinism
The Rise of a Scientific Theory

Why are things the way they are? How did they come to be this way? And what – if anything – might this tell us about the meaning of life? These questions have played a decisive role in shaping western thinking about the world. From the beginning of human civilization, people have wondered what explanation might be offered for the structures of the world – such as the haunting and solemn silence of the stars in the night sky, the beauty of a rainbow, and the mysterious behavior of living beings. Not only do these evoke a sense of awe; they call out for an explanation.

The earliest Greek philosophers – the pre-Socratics – argued endlessly about the nature of the world, and how it came to be as it is. They insisted that the universe was rationally constructed, and that it could therefore be understood through the right use of human reason and argument. Human beings had the ability to make sense of the universe. Socrates took this line of thought further, identifying a link between the way the universe was constructed and the best way for human beings to live. To reflect on the nature of the universe was to gain insights into the nature of the "good life" – the best and most authentic way of living. Reflecting on the clues provided in the structuring of the world thus led to an understanding of our identity and destiny.

For many, the answer lay in the divine origins of the world – the idea that, in some way, the world has been ordered or constructed. Many have found this idea to be spiritually attractive and intellectually satisfying. For Dawkins, however, the advent of Charles Darwin has shown this up as "cosmic sentimentality," "saccharine false purpose," which natural science has a moral mission to purge and debunk. Such naïve beliefs, he argues,

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might have been understandable before Darwin came along. But not now. Darwin has changed everything. Newton would be an atheist if he had been born after Darwin. Before Darwin, atheism was just one among many religious possibilities; now, it is the only serious option for a thinking, honest, and scientifically informed person. Dawkins' robustly positive take on Darwinism and the message that it brings to the world can be seen in a short talk he gave on BBC Radio in 2003, in which he set out his personal creed:

> [We should] rejoice in the amazing privilege we enjoy. We have been born, and we are going to die. But before we die we have time to understand why we were ever born in the first place. Time to understand the universe into which we have been born. And with that understanding, we finally grow up and realise that there is no help for us outside our own efforts.[1]

Dawkins argues that Darwin marks that decisive point of transition, providing us with the only reliable explanation of our origins. Intellectual history is thus divided into two epochs – before Darwin, and after Darwin. As James Watson, the Nobel Prize winner and co-discoverer of the structure of DNA put it, "Charles Darwin will eventually be seen as a far more influential figure in the history of human thought than either Jesus Christ or Mohammed."

But why Darwin? Why not Karl Marx? Or Sigmund Freud? Each of these is regularly proposed as having brought about an intellectual earthquake, shattering prevailing assumptions and ushering in radical new ways of thinking which lead to the bifurcation of human thought. The theories of biological evolution, historical materialism, and psychoanalysis have all been proposed as defining the contours of humanity come of age. All, interestingly, have been linked with atheism, the movement that some Europeans in the eighteenth and nineteenth centuries hoped might prove to be an intellectual and political liberator. So why Darwin? To ask this question is to open up the issues which so deeply concern Dawkins, and which have such wider implications.

To appreciate the contributions of Richard Dawkins to debates about evolutionary theory and the relation of science and religion, we must first contextualize his ideas. This opening chapter is a scene-setter, providing the background against which Dawkins' ideas about the "selfish gene" and "blind watchmaker" are to be seen. Before we can make sense of Dawkins' distinctive approach, we need to set him in his proper context,

[1] Richard Dawkins, "Alternative Thought for the Day." BBC Radio 4, August 14, 2003.

and tell the story of the emergence of the form of evolutionary thought that is often referred to as "Darwinism."

Natural Selection: Charles Darwin

The publication of Charles Darwin's *Origin of Species* (1859) is rightly regarded as a landmark in nineteenth-century science. On December 27, 1831, HMS *Beagle* set out from the southern English port of Plymouth on a voyage that lasted almost five years. Its mission was to complete a survey of the southern coasts of South America, and afterward to circumnavigate the globe. The small ship's naturalist was Charles Darwin (1809–82). During the voyage, Darwin noted some aspects of the plant and animal life of South America, particularly the Galapagos Islands and Tierra del Fuego, which seemed to him to require explanation, yet which were not satisfactorily accounted for by existing theories. The opening words of the *Origin of Species* set out the riddle that he was determined to solve:

> When on board HMS *Beagle* as naturalist, I was much struck with certain facts in the distribution of the organic beings inhabiting South America, and in the geological relations of the present to the past inhabitants of that continent. These facts, as will be seen in the latter chapters of this volume, seemed to throw some light on the origin of species – that mystery of mysteries, as it has been called by one of our greatest philosophers.[2]

One popular account of the origin of species, widely supported by the religious and academic establishment of the early nineteenth century, held that God had somehow created everything more or less as we now see it. The success of the view owed much to the influence of William Paley (1743–1805), archdeacon of Carlisle, who compared God to one of the mechanical geniuses of the Industrial Revolution. God had directly created the world in all its intricacy. We shall explore the origins and influence of Paley's thinking in the fourth chapter of this work; at this stage, we need merely note that Paley was of the view that God had constructed – Paley prefers the word "contrived" – the world in its finished form, as we

[2] Charles Darwin, *On the Origin of the Species by Means of Natural Selection*. London: John Murray, 1859, 1. Note that all six editions of this work are now easily accessed online: http://darwin-online.org.uk. Accessed August 5, 2014.