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A critique of aspects of the philosophy and theology of Richard Dawkins

Pronouncements made by scientists about religion are frequently seen as carrying some special authority. Undue weight may therefore be attached to their views on matters outside of their own fields of expertise. This possibility seemed to be particularly acute during Richard Dawkins' 1991 Royal Institution Christmas Lectures, both on account of the number of anti-religious assertions and of the youth of the audience. It is because of the widespread attempts which Dawkins has made to disseminate his personal world-view in the name of science, that a paper examining his claims seems called for. For those unfamiliar with his works, this paper offers a commentary on scientific naturalism.

Keywords: Richard Dawkins, design argument, evolution, explanation, faith, God, language, meaning, meme, metaphor, miracles, purpose, religion, selfish gene, supernatural.

Introduction

Richard Dawkins is Reader in Zoology in the University of Oxford. He has a deservedly high reputation in his field of ethology, and his book *The Extended Phenotype* has been described by one reviewer¹ as 'a contender for the title of the most important contribution to evolutionary biology in the 1980s'. However, since this book is possibly one of Dawkins' less contentious works so far as the subject of this paper is concerned, it does not feature prominently here.

Dawkins has also made numerous television appearances, major ones including *The Blind Watchmaker*, BBC 2 *Horizon*, 19 January 1987 and the 1991 Royal Institution Christmas Lectures, *Growing Up in the Universe*, broadcast on BBC 2 in December 1991 and repeated one year later.

In addition to his Zoological studies, Dawkins has made frequent excursions into philosophy and theology in his popular writings, on television, in debates and in letters to the press. He has contributed to the science/religion debate by pointing out, along with others, weaknesses in the arguments of those Creationists who claim that evolution cannot account for the development of complex features like the eye. But he has also relentlessly advocated the *conflict thesis*.

1 Quotation of J. R. G. Turner on the dust cover.

Theology

It might appear odd to speak of the 'theology' of Richard Dawkins on account of his declared aversion to the subject, not least in his letter to *The Independent* following the announcement of the setting up of the Starbridge Lectureship in Theology and Natural Science at Cambridge.²

What has 'theology' ever said that is of the smallest use to anybody? When has 'theology' ever said anything that is demonstrably true and is not obvious? . . . What makes you think that 'theology' is a subject at all?³

However, Dawkins' position can better be understood by initially clarifying what kind of a god he does not believe in. So the first part of this paper outlines Dawkins' published views on such theological matters as God, faith, miracles, the supernatural, and religion in general. This is followed by more general philosophical considerations about the nature of explanation, reductionism and the use of language. There is of course no sharp dividing line between the theology and the philosophy under review; it all falls beneath the umbrella of philosophical theology.

Religion

Dawkins' view of religion is that it is a scientific theory:

. . . until recently one of religion's main functions was scientific; the explanation of existence, of the universe, of life . . . So the most basic claims of religion are scientific. Religion is a scientific theory. [SCAG—key at end of paper]

Such a claim indicates the need for clarifying (i) the nature of a scientific theory and (ii) the distinctions between the meaningful and valid ways in which terms and criteria for testing truth-claims are used within science and religion. Each of these would be huge tasks in themselves. Some points about the differences between the two disciplines will emerge in what follows, but all that is necessary at this stage is to recognise that Dawkins claims that science and religion are *rival* explanations of our world. This claim is pivotal to his whole position, making the subject of the nature of explanation central to this paper. But before reaching that section, Dawkins' notion that these types of explanations are in competition will be evident in his views on the intermediate subjects.

God

In accordance with the above, Dawkins sees the 'hypothesis of God' as an explanatory hypothesis which is in competition with evolution by natural selection: 'God and natural selection are, after all, the only two workable

2 'Writer donates £1m to strike blow for theology', *The Independent*, p. 7, 18 March 1993.

3 Letters to the Editor, *The Independent*, 20 March 1993.

theories we have of why we exist.' [EP p. 181] Dawkins' oft-repeated objection to the 'hypothesis of God' is frequently based on the notion of complexity—

. . . any God capable of intelligently designing something as complex as the DNA/protein replicating machine must have been at least as complex and organised as that machine itself. Far more so if we suppose him *additionally* capable of such advanced functions as listening to prayers and forgiving sins. To explain the origin of the DNA/protein machine by invoking a supernatural Designer is to explain precisely nothing, for it leaves unexplained the origin of the Designer. (BWM, p. 141)

and also on the concept of probability, for

. . . any god worthy of the name must have been a being of colossal intelligence, a supermind, an entity of enormous sophistication and complexity. In other words, an entity of extremely low statistical probability—a very improbable being. [SCAG]

This kind of reasoning, culminating in the question 'But who designed the divine creator?' [CLSG, p. 11] is repeated in several places [e.g. CL 2]. Dawkins' constant assumption, echoing the popular demand, 'who made God?', is that since our common experience indicates that material objects have beginnings, God would also have had to have had an originator. In that sense, the 'god' in whom Dawkins disbelieves is a 'god' in whom the major world religions, Christianity, Judaism and Islam do not believe either. His assumption is a particularly interesting one from the point of view of consistency of argument, since it is precisely this kind of analogical argument that he so vehemently rejects if applied to the world having a designer by comparison with everyday artefacts having designers.

The supernatural

Again by invoking probability, Dawkins attempts to dismiss events which are claimed to be of supernatural origin. In his Christmas Lectures he assured his youthful audience that

Growing up in the universe . . . also means growing out of parochial and supernatural views of the universe . . . trying to understand how the universe works, not copping out with superstitious ideas that only seem to explain things but actually explain nothing. Well, you might say, can we really afford to be snooty about the supernatural? After all many of us have had uncanny experiences . . . [CL 1]

In trying to persuade his audience that there is no substance to supernatural claims Dawkins used an argument which needs to be scrutinised carefully. He asked each of the young people to *will* the outcome of the tossing of a coin to be heads or tails and for those who got it wrong to sit down. Eight tosses eliminated all but one of the audience. The 'achievement' of the 'winner' was interpreted thus:

It had to come out, because of the number of people here. It had to

come out that somebody was . . . apparently psychic . . . he could have thought about ham-and-eggs.

Now when people write into the papers with uncanny experiences, it's just like that, because the circulation of a tabloid paper is up in the millions. There's got to be somebody out there having an amazing experience at this very moment and it means absolutely nothing. So . . . whenever you hear a story about uncanny, spooky, telepathic experiences, think about this experiment and think about how likely it would be to come about anyway. [CL 1]

So the argument started off that, given enough people and enough time, even events which are of low probability for any one person are to be expected—and there is of course truth in this claim. Then came the enormous and unjustifiable leap of equating improbable events in the precise calculus of statistical probability—in this case eight consecutive, correct predictions ('willings') of the fall of a coin—with 'uncanny, spooky, telepathic experiences', among which Dawkins would presumably include answered prayer.

In similar vein Dawkins warned that 'growing up in the sense of achieving a grown-up understanding of the universe' [CL 5] carries dangers of self deception, for

. . . each of those mental tools—imagination, language and technology is double edged . . . A brain that's good at simulating models in imagination—things that aren't there—is unfortunately, also, almost inevitably in danger of self-delusion . . . if ever we hear a story that somebody has seen a vision, been visited by an archangel, heard voices in his head, we should be immediately suspicious. [CL 5]

Although we were not told why we should be immediately suspicious, the implication was that all these things are illusory and will eventually be displaced by a better understanding of science:

As time goes by and our civilisation grows up more, the model of the universe that we share will become progressively less superstitious, less small-minded, less parochial. It will lose its remaining ghosts, hobgoblins and spirits, it will be a realistic model, correctly regulated and updated by incoming information from the real world. [CL 5]

Blame for children retaining 'superstitious' ideas about God is laid upon schools and upon parents:

Most people, I believe, think that you need a god to explain the existence of the world, and especially the existence of life. They are wrong, but our education system is such that many people don't know it. [SCAG]

Children of a certain age believe what they're told. Father Christmas and tooth fairies are harmless enough. But a mind that's capable of believing in fairies is a mind that's vulnerable to all manner of other stuff. [CL 5]

How much of what we believe about our world is the result of what we have been conditioned or told to think? To what extent are we influenced by our parents and our surroundings? Or do we believe what we believe because we have actually and quite independently thought it through? [CLSG, p. 27]

But presumably Dawkins would not direct such criticisms against parents who taught their children that there is no God and insisted that answers to the question ‘... what is life and what, if anything, is it for?’ can only be provided, as Dawkins claims, by ‘science’. [CL 1] Also, in keeping with the sentiments expressed in the last quotation, would Dawkins commend children who, although reared by atheist parents, came to believe in God after having ‘quite independently thought it through’?

Miracles

The notion of probability is once more invoked over the concept of miracle, which is lumped together with ‘Chance, luck, coincidence’.

... events that we commonly call miracles are not supernatural, but are part of a spectrum of more-or-less improbable natural events. A miracle, in other words, if it occurs at all, is a tremendous stroke of luck. Events don't fall neatly into natural events versus miracles. [BWM, p. 139]

To regard miracles simply as events of very low probability may reflect one popular use of the word ‘miracle’—to describe for example the unlikely event of somebody surviving a mid-air collision—but, apart from the rarity aspect, it has little to do with any biblical concept of miracle. For such events are usually associated with the agency of God, carrying with them the idea of a sign. Wonder, significance and (usually) divine agency are all involved;⁴ they are not just ‘more-or-less improbable natural events’. Dawkins’ free use of ‘improbable’ does however raise questions about his use of the notion of ‘probability’. What does he mean by calling God ‘a very improbable being’, or by saying ‘There’s got to be [i.e. probable to the point of certainty] somebody out there having an amazing experience at this very moment’ or indeed ‘miracles ... are part of a spectrum of more-or-less improbable natural events’? For Dawkins does not explicate the meanings he assigns to the term ‘probability’. Is it simply a subjective expression of confidence? Is it a judgement based on calculation from probabilities calculated on some supposedly *a priori* grounds? Or is it a mathematical relationship? In the coin-tossing exercise, but certainly not with ‘uncanny, spooky, telepathic experiences’, the meaning of probability is precise, being the ratio of the number of ways in which something happens—eight consecutive heads uppermost—to the number of ways in which something could happen, which is 2^8 , i.e. a probability of 1:256. But a long run frequency theory of probability is hardly applicable to God. Neither can it validly be applied to an ‘amazing experience’, when each one is unique

⁴ Poole, M. W. (1992) *Miracles: Science, the Bible and Experience*, Ch. 4, London: Scripture Union.

(unlike the binary outcomes of coin-tossing) and each must be judged separately for its worth. There is no way of assigning mathematical probabilities to unique events.

Faith

Faith is the great cop-out, the great excuse to evade the need to think and evaluate evidence. Faith is belief in spite of, even perhaps because of, the lack of evidence . . . Faith is not allowed to justify itself by argument. [SCAG]

Similar assertions appear on pp. 196ff SG and pp. 330f SG. 'Faith'—religious faith that is—is taken by Dawkins to be *unevidenced belief*. It is not clear what he means by 'because of, the lack of evidence', but there is a perfectly unambiguous word already in the English language for unevidenced belief or for beliefs which are actually contradicted by the evidence, and that is *credulity*. Dawkins' indiscriminate use of the word 'faith' is confusing since the word is not univocal. While disparaging *faith* in religious usage, Dawkins uses *faith* with approval in another context:

Put your trust in the scientific method. Put your faith in the scientific method. There's nothing wrong with having faith . . . there's nothing wrong with having faith in a proper scientific prediction.[CL 1]

In addition to portraying 'faith'—used in a religious sense—as unevidenced belief, Dawkins also depicts it as *voluntaristic* in character, devoid of substance, reflecting only the 'will to believe'.⁵ So he dismisses some Creationists' claims that the Paluxy River 'footprints' show that humans and dinosaurs were around at the same time, saying

they saw it because they wanted to see it. They believed it because it fitted with their world-view. They were blind to the truth that was staring them in the face. (BWM TV)

But this is a bad argument for rejecting anyone's views, for it tells us nothing about the truth or falsity of what they believe. One can both want to believe something *and* it can be true. The grounds for rejecting this particular claim are provided by geological and other evidence,⁶ not by whether anyone wished or did not wish to believe it. The difficulty about charging others with wishful thinking is that it is to use a double-edged sword, one which can be wielded equally well against those who believe that there is no God. Such a view of religious faith as voluntaristic, unevidenced belief stands in stark contrast to that expressed in the closing paragraph of F. F. Bruce's *The New Testament Documents*:

The earliest propagators of Christianity welcomed the fullest examination of the credentials of their message. The events which they proclaimed were, as Paul said to King Agrippa, not done in a corner,

5 Hick, J. (1966) *Faith and Knowledge*, (2nd ed.), Ch. 2, Glasgow: Collins.

6 Poole, M. W. & Wenham, G. J. (1987) *Creation or Evolution—a false antithesis?*, p. 42, Oxford: Latimer House.

and were well able to bear all the light that could be thrown on them. The spirit of these early Christians ought to animate their modern descendants. For by an acquaintance with the relevant evidence they will not only be able to give to everyone who asks them a reason for the hope that is in them, but they themselves, like Theophilus, will thus know more accurately how secure is the basis of the faith which they have been taught.⁷

Christian faith is grounded on a combination of evidence, including that drawn from history, personal experience and the world around. The justification for such belief is, as Mitchell has argued,⁸ in the nature of a cumulative case. Like the clues in a detective story, no individual items of evidence may be totally compelling on their own, but together they may build up a convincing case, sufficient for action.

Dawkins conducts a further foray against faith as '... capable of driving people to such dangerous folly that faith seems to me to qualify as a kind of mental illness ... powerful enough to immunize people against all appeals to pity, to forgiveness, to decent human feelings.' [pp. 330f SG] The argument is a tired one. While acknowledging the atrocities that have been committed—supposedly in the name of God—and heeding the criterion of Jesus for distinguishing between the genuine and the bogus, that 'by their fruit you will recognise them' (Matt 7:15–23), it simply will not do to dismiss religious faith in this way. It is superfluous to list the noble deeds of the faithful. The bad argument can be highlighted by pointing out that some of the most evil deeds committed have been occasioned by sexual desire. But this is hardly a good reason for avoiding sexual activity. Right use, not disuse, is the antidote to misuse.

To summarise so far, on theological matters Dawkins treats the concept of God as that of a created being; faith as unevidenced belief; and miracles simply as 'more-or-less improbable natural events'. Confusion is inevitable since the words 'God', 'faith' and 'miracle' are the same words which Christians already use; and the meanings assigned to them by Dawkins are so different from biblical thought that they become a kind of theological 'Newspeak'.

Explanation

A major, probably the major, philosophical difficulty encountered in Dawkins comments about religion is the equivocal way in which he uses the word 'explanation'. Take, for example the following assertion:

The only thing he [Paley] got wrong—admittedly quite a big thing!—was the explanation itself. He gave the traditional religious answer to the riddle, but he articulated it more clearly and convincingly than anybody had before. The true explanation is utterly different, and it had

⁷ Bruce, F. F. (1970) *The New Testament Documents*, (5th ed.), pp. 119f, London: Inter-Varsity Press.

⁸ Mitchell, B. (1973) *The Justification of Religious Belief*, London: Macmillan.

to wait for one of the most revolutionary thinkers of all time, Charles Darwin. (BWM, p. 4]

Now if all that Dawkins meant by this was that Paley's idea of separate creations was wrong in view of current understanding of the origin of species, the statement could pass without comment. But it is his claim in many different places that religious explanations are displaced by scientific ones which is open to criticism. His naturalistic position only admits of physical explanations:

The kind of explanation we come up with must not contradict the laws of physics. Indeed it will make use of the laws of physics, and nothing more than the laws of physics. [BWM, p. 15]

Of course if the required explanation is a scientific one, the statement is unobjectionable. But there appears to be no acknowledgement, in any of the writings of Dawkins which I have consulted, that religious explanations in terms of the actions of a divine agent are logically compatible with scientific explanations of the mechanisms of the processes involved. The concept of explanation is more multifaceted than Dawkins appears to recognise. To explain something is to make it plain and there are various ways of doing this. The literature on the nature of explanation is vast, but Brown and Atkins⁹ have set out a simple analysis of the concept:

Our typology consists of three main types of explanation. These may be labelled the Interpretive, the Descriptive and the Reason-Giving. They approximate to the questions, What?, How?, and Why? Interpretive explanations interpret or clarify an issue or specify the central meaning of a term or statement . . . Descriptive explanations describe processes, structure and procedures . . . Reason-giving explanations involve giving reasons based on principles or generalisations, motives, obligations or values.¹⁰

So, typically, an object such as a thermostat might have a number of **compatible** explanations:

An interpretive explanation A thermostat is a device for maintaining a constant temperature.

A descriptive explanation A (particular) thermostat consists of a bi-metallic strip in close proximity to an electrical contact.

A reason-giving (scientific) explanation Constant temperature is maintained because, when the temperature falls, the bi-metal strip bends, so making electrical contact. It switches on a heater which operates until, at a predetermined temperature, the bi-metal strip bends away from the contact, thereby breaking the circuit.

9 G. A. Brown and Atkins, M. J. (1986) 'Explaining in professional contexts', *Research papers in Education*, 1 (1) 60-86.

10 *Ibid.*, p. 63.

A reason-giving (motives) explanation An agent wished to be able to maintain enclosures at constant temperatures to enable people to work comfortably, ovens to cook evenly, and chickens to hatch successfully.

It is with the reason-giving explanations that our concerns lie. For it needs to be understood that there is no logical conflict between reason-giving explanations which concern mechanisms, and reason-giving explanations which concern the plans and purposes of an agent, human or divine. This is a logical point, not a matter of whether one does or does not happen to believe in God oneself. For it is an invalid reason for rejecting the concept of a divine creator, that we understand how the world came into being. But this point is one which Dawkins consistently overlooks. He fails to acknowledge that there is no logical contradiction between the claim that living things are the outcome of evolution by natural selection and that they could also be the outcome of the plan and purposes of an agent—God.

Dawkins' argument that 'Evolution starts from simple beginnings . . . We don't have to start with a complicated thing like a creator.' [CL 2] might have some force if God's agency was indeed an explanation of the same type as a scientific explanation, in view of Ockham's principle that 'It is vain to do with more what can be done with fewer'.¹¹ But the explanations are of different types, and the philosopher and theologian William of Ockham certainly did not mean that theological explanations were displaced by explanations of mechanisms! So in collapsing the distinction between these two type of explanations and treating them as *alternatives*, Dawkins is committing a type error in explanation. In fact he is making the classic explanatory type-error—Coulson's ubiquitous 'God-of-the-gaps'¹² which accords 'god' the status of being the same type of explanation as a scientific one, one which can be 'plugged in' to the gaps which science is not yet able to fill. So, working from the erroneous belief that the God in whom Christians and others believe is a God-of-the-gaps, Dawkins' task must be to fill the gaps with scientific explanations on the further mistaken belief that they have replacement status for God. On this misconception, the gaps, being filled or capable of being filled, means that you do not 'need a god to explain the existence of the world, and especially the existence of life'.

There are of course very good reasons for trying to fill in the gaps. Coulson, who coined the phrase 'God-of-the-gaps', wisely recommended out of his Christian convictions that, 'When we come to the scientifically unknown, our correct policy is not to rejoice because we have found God; it is to become better scientists.'¹³ For the scientific enterprise is based on a belief that gaps can be filled—but with scientific explanations, not with

11 *Frustra fit per plura quod potest fieri per pauciora*, 'it is vain to do with more what can be done with fewer'—William of Ockham does not seem to have used the popular formulation, 'entities are not to be multiplied without necessity'.

12 Coulson, C. A. (1955) *Science and Christian Belief*, p. 32, Oxford: Oxford University Press.

13 Coulson, C. A. (1955) *Science and Religion: A Changing Relationship*, p. 7, Cambridge University Press.

talk-about-God. So there is a restricted sense in which it is true to say that science has no need for God, that talk about God is unnecessary in science. Its practitioners have chosen to confine science to physical observables and consequently talk about God forms no part of a scientific explanation. But that does not justify any scientist in claiming that the methodological decision to be silent about God means that science has disproved God!

Reductionism

Reductionism also belongs under the canopy of *explanation* and it needs to be distinguished in its various forms. Using Ayala's nomenclature,¹⁴ there is the theologically benign *methodological reductionism* which is simply one of the standard scientific procedures of reducing things to their component parts for study. Within this framework Dawkins' methodological approach fits comfortably:

For those who like 'ism' sorts of names, the aptest name for my approach to understanding how things work is probably 'hierarchical reductionism'. If you read trendy intellectual magazines, you may have noticed that 'reductionism' is one of those things, like sin, that is only mentioned by people who are against it The nonexistent reductionist—the sort that everybody is against, but who exists only in their imaginations—tries to explain complicated things directly in terms of the smallest part, even, in some extremes of the myth, as the sum of the parts! The hierarchical reductionist, on the other hand, explains a complex entity at any particular level in the hierarchy of organization, in terms of entities only one level down the hierarchy; entities which, themselves, are likely to be complex enough to need further reducing to their own component parts; and so on. [BWM, p. 13]

He illustrates his position by reference to the components of a car. However, from his naturalistic stance Dawkins also espouses reductionism in its second form of *ontological reductionism* [ontology: the study of existence, of being]. In denying God and the supernatural, Dawkins expresses his belief that the material is *all* that there is. *Ontological reductionism*, commonly abbreviated to *reductionism* and dubbed by MacKay as 'nothing buttery',¹⁵ 'is taken to imply that religion is just psychology, psychology is basically biology, biology is the chemistry of large molecules, whose atoms obey the laws of physics, which will ultimately account for everything!'¹⁶ The difficulty about any attempt to justify a dogmatic assertion that the material is *all* that exists, is that it would require some privileged insight into the way things actually are, in order to know whether it is true or not.

14 Ayala, F. J. & Dobzhansky, T. (eds) (1974) *Studies in the Philosophy of Biology: Reduction and Related Problems*, p. ix, London: Macmillan.

15 MacKay, D. M. (1974) *The Clockwork Image*, pp. 21, 40–45, London: Inter-Varsity Press.

16 Barbour, I. G. (1966) *Issues in Science and Religion*, p. 7, London: SCM Press.

Design

The 'Argument from Design' in its best known form was expounded by the eighteenth-century theologian William Paley. Dawkins confesses an admiration for Paley for his 'passionate sincerity,' even though he regards his solution as 'wrong, gloriously and utterly wrong. The analogy between telescope and eye, between watch and living organism, is false.' [BWM, p. 5] Dawkins is of course correct in recognising a philosophical weakness in one of the traditional 'proofs' of the existence of God—the Argument from Design. But there is more to be said about the matter of design than this. Dawkins allows that the natural world looks as though it has been designed and rightly attributes this to our experience of many complex and purposeful things which have been designed. But he then goes on to claim that, since the mechanism of *chance variations* + *natural selection* can account for the outcome of complexity, divine agency cannot be involved, whereas such an account neither proves nor disproves God's activity.

Living objects . . . look designed, they look overwhelmingly as though they're designed. But it's terribly, terribly tempting to use the word designed. Time and time again I have to bite my tongue and stop myself saying, for example, that this swift is designed for rapid, high speed, highly manoeuvrable flight and, as a matter of fact, when talking to other biologists, we none of us bother to bite our tongues. We just use the word designed. But I've told you that they are not designed and coined the special word 'designoid' . . . [CL 2]

This [appearance of design] is probably the most powerful reason for the belief, held by the vast majority of people that have ever lived, in some kind of supernatural deity. It took a very great leap of the imagination for Darwin and Wallace to see that, contrary to all intuition, there is another way and, once you have understood it, a far more plausible way, for complex 'design' to arise out of primeval simplicity. [BWM, p. xii]

Once again the underlying muddle over the nature of explanation has surfaced. Dawkins takes the existence of a mechanism accounting for adaptation as a reason for dismissing any idea of design. But the reason is baseless. The existence of evolutionary mechanisms modifies the form of Paley's claims, but it does not eliminate all idea of design. For instance, one argument favoured by Darwin was that the laws of nature were themselves designed. Charles Kingsley found it 'just as noble a conception of Deity, to believe that He created primal forms capable of self development . . . as to believe that He required a fresh act of intervention to supply the *lacunas* [gaps, missing parts] which He Himself had made.'¹⁷ Indeed it could be argued that evolution by natural selection is a clever way of ensuring that available ecological niches are occupied; and that if climate and food supplies change, provided the changes are not too rapid, popula-

17 Desmond, A. & Moore, J. (1992) *Darwin*, p. 477, London: Penguin.

tions of living things are likely gradually to adapt to these changes, rather than dying out. In fact, Frederick Temple, in his 1884 Bampton Lectures made the point that

What is touched by this doctrine [of Evolution] is not the evidence of design but the mode in which the design was executed . . . In the one case the Creator made the animals at once such as they now are; in the other case He impressed on certain particles of matter . . . such inherent powers that in the ordinary course of time living creatures such as the present were developed . . . He did not make the things, we may say; no, but He made them make themselves.¹⁸

The fact that the processes can be described—as Dawkins does—by words like *automatic*, does not eliminate any idea of divine agency. It is all very well to say that

A designoid object is an object that LOOKS good enough for it to have been designed, but which in fact has grown up by an entirely different process, an automatic, unguided and wholly unthought-out process. [CLSG, p. 11]

—but ‘automatic’ is not a word which entails ‘unguided and wholly unthought-out’. In the second Gospel, Mark himself uses it:

A man scatters seed on the ground . . . the seed sprouts and grows, though he does not know how. All by itself [αὐτομάτος—Eng. *automatic*] the soil produces corn—first the stalk, then the ear, then the full grain in the ear.[4:27f, NIV]

As to whether processes which involve *chance/random events* + *selection* of some kind can be seen as divinely managed depends to some extent on the meanings attached to the words *chance* and *random*, something which is outside of the scope of this paper.¹⁹ Suffice to say that the technical meanings of these two terms carry no metaphysical overtones. Indeed, Bartholomew,²⁰ Peacocke²¹ and others have argued that God can create through the operation of what we call chance, within a lawlike framework. But Dawkins does not appear to recognise that the two ideas of processes and agency are logically compatible. Yet, in an almost throw-away comment in the second of the Christmas Lectures, he appears to undermine his whole position of claiming that the processes of *chance* + *selection* are incompatible with the actions of an intelligent agent. For he referred *en passant* to the work of ‘Ingo Rechenberg from Germany . . . [who] designs windmills and he claims that he designs his windmills by a kind of natural selection.’ [CL 2] In the TV programme, *The Blind*

18 Temple, W. F. (1885) *The Relations Between Religion and Science*, pp. 114f, The Bampton Lectures for 1884, London: Macmillan.

19 D. C. Spanner examines the issues in chapter 11 of his (1987) *Biblical Creation and the Theory of Evolution*, pp. 89–96, Exeter: Paternoster Press. A. R. Peacocke explores the subject in *God and the New Biology*, *passim*, London: J. M. Dent & Sons (1986).

20 Bartholomew, D. J. (1984) *God of Chance*, London: SCM Press.

21 Peacocke, *op. cit.*

Watchmaker, Dawkins elaborated slightly on Rechenberg's 'evolution' of ideal shapes for aerofoil sections which minimise drag, and referred to the process as 'Darwinian design'. Rechenberg's book *'Evolutionstrategie' Optimierung Technischer Systeme Nach Prinzipien der Biologischen Evolution*, (Stuttgart: Fromman-Holzboog, 1973), is not, as far as I know, translated into English but, 'optimising technical systems according to the principles of biological evolution' presumably involves randomising certain key parameters and then selecting aerofoil sections according to desired outcomes. This double process of *chance + selection* is employed by a purposive, intelligent agent. So too is Dawkins' fascinating computer programme, *Biomorphs* planned by a purposive, intelligent agent—in this case the purpose being to illustrate evolution by natural selection. So any claim that *chance/random variations + selection* is necessarily incompatible with the actions of an intelligent, purposive agent, human or divine, is falsified by exemplars like these. Perhaps this is what a certain commentator on *The Blind Watchmaker* had in mind when he referred to Dawkins as *The Blind Biomorphmaker*.

Language & metaphor

One use of language which in a subtle way promotes the naturalistic view which Dawkins wishes to advance is the reification²² of concepts like *nature*, *evolution*, *natural selection* and *chance*. Following in a long naturalistic tradition, exemplified by T. H. Huxley with his 'Dame Nature', concepts like these are often vested with attributes formerly ascribed to God and misleadingly credited with the abilities to 'choose', 'build', 'manufacture' and 'create' as in the following passages [italics are mine]:

Natural selection is like artificial selection, except that, instead of humans doing the choosing, *nature* does the *choosing* . . . *Natural selection, nature, is constantly choosing* which individuals shall live, which individuals shall breed [CL2]

So am I really trying to persuade you that a blind, unconscious process, *evolution*, can *build* animal optics that rival human technology? . . . but *evolution*, the blind designer, using cumulative trial and error, can search the vast space of possible structures . . . blind *chance* on its own is no kind of watchmaker. But *chance* with natural selection, *chance* smeared out into innumerable tiny steps over aeons of time is powerful enough to *manufacture* miracles like dinosaurs and ourselves . . . yet we evolutionists seem to be saying that it [the eye] was *created* by blind *chance* . . . [BWM TV]

There is of course a sense in which the use of words in this way could be regarded as a legitimate literary device, on a par with 'Old Mother

22 ' . . . "fallacy of reification" . . . confusing a concept with a real object or cause.' Beck, L. W. (1952) *Philosophic Enquiry*, p. 35, Englewood Cliffs, N.J.: Prentice-Hall, Inc.; L. res—a thing; 'to regard (as an abstraction, a mental construction) as a thing; convert mentally into something concrete or objective . . . MATERIALIZE' [Webster's Third International Dictionary, 1971]; hypostasize.

Nature' stories for children. Indeed, in Dawkins' defence it might be argued that he uses the words as such a literary device, since he makes the following disclaimer:

Natural selection, the blind, unconscious, automatic process which Darwin discovered, and which we now know is the explanation for the existence and apparently purposeful form of all life, has no purpose in mind. It has no mind and no mind's eye. It does not plan for the future. It has no vision, no foresight, no sight at all. If it can be said to play the role of watchmaker in nature, it is the blind watchmaker. [BWM, p. 5]

But the frequent use of the word 'blind', with its implication of absence of divine activity, indicates that Dawkins' intentions go further than the employment of a metaphysically-neutral literary device. Instead, the charge must be one of inconsistency; for if his statement immediately above stands, then many of his other assertions are highly misleading and need to be rewritten. The literary device is *not* legitimate if the purpose of such usage is to press the thesis that science obviates God. Such use of these words degenerates into nonsense if a creating God is denied while a creating chance (+ natural selection) is affirmed. Such Tychism²³ will not do.

Further to Dawkins' use of metaphor, his expression, the selfish gene has attracted considerable attention. He offers his justification for the term—and his caveats against misunderstanding—in the following ways:

If we allow ourselves the licence of talking about genes as if they had conscious aims, always reassuring ourselves that we could translate our sloppy language back into respectable terms if we wanted to, we can ask the question, what is a single selfish gene trying to do? [SG, p. 88]

The metaphor of the intelligent gene reckoning up how best to ensure its own survival . . . is a powerful and illuminating one. But it is easy to get carried away, and allow hypothetical genes cognitive wisdom and foresight in planning their 'strategy'. [EP, p. 15]

Dawkins has been criticised for his use of the 'selfish' metaphor. One series of 'full and frank' exchanges is found in three issues of *Philosophy*. Midgley criticises the metaphor in 'Gene-juggling',²⁴ Dawkins responds in 'In Defence of Selfish Genes' [IDSG] and Midgley replies in 'Selfish Genes and Social Darwinism'.²⁵ Midgley's first article is decidedly polemical. She apologises in her second one for the tone of her criticisms and sets out in more measured form the difficulties which she sees as still remaining from the exchange of views. In response to Midgley's criticism of his use of the word 'selfish', Dawkins says

When biologists talk about 'selfishness' or 'altruism' we . . . do not

23 After Tyche, the Greek goddess of chance: the personification of chance; vesting chance with the properties of a sentient agent, able to think, plan and execute courses of action.

24 Midgley, M. (1979) 'Gene-juggling', *Philosophy*, 54 439–458.

25 Midgley, M. (1983) 'Selfish Genes and Social Darwinism', *Philosophy*, 58 365–377.

even mean the words in a metaphorical sense. We define altruism and selfishness in purely behaviouristic ways . . . I assume that an oak tree has no emotions and cannot calculate, yet I might describe an oak tree as altruistic if it grew fewer leaves than its physiological optimum, thereby sparing neighbouring saplings harmful overshadowing . . . words may be redefined for technical purposes. In effect I am saying: 'Provided I define selfishness in a particular way an oak tree, or a gene, may legitimately be described as selfish'. [IDSG p. 557]

But despite the disclaimer, the phrase 'selfish gene' is metaphorical since 'a word or phrase denoting one kind of object or action is used in place of another to suggest a likeness or analogy between them'. Stipulative definitions are, of course, legitimate explanatory devices. Their value, however, depends on their power to clarify rather than to confuse. But 'selfish', as Midgley points out has such a common meaning that

It is by no means enough, in such cases, simply to give a new definition and repeat it from time to time. When a term is drawn from everyday speech like this, the force of habitual usage is far too strong for that.²⁶

Selfish, then, means here something like 'actually self-preserving in the long run' . . . It is true that philosophers are used to special technical definitions. But that does not mean that no standards apply to their manufacture.

A restricted sense ought to be one which forms part of the normal meaning of the word. It cannot be one which falls, as this does, right outside it . . . the question 'why say *selfish* rather than *self-preserving* or *self-replicating* or *self-perpetuating* or *competitive* or the like?' is still serious.²⁷

Memes

The 'selfish' metaphor is pursued in Dawkins' concept of the 'meme', an entity which he introduces in the following way and amplifies in EP, p. 109.

I think that a new kind of replicator has recently emerged on this very planet . . . but already it is achieving evolutionary change at a rate that leaves the old gene panting far behind . . . We need a name for the new replicator . . . meme

Examples of memes are tunes, ideas, catch-phrases, clothes fashions, ways of making pots or of building arches. Just as genes propagate themselves in the gene pool by leaping from body to body via sperm or eggs, so memes propagate themselves in the meme pool by leaping from brain to brain . . . [SG, p. 192]

As with genes, the qualities that give rise to high survival value among

²⁶ Midgley (1983), p. 369.

²⁷ *Ibid.*, pp. 368f.

memes are given as 'longevity, fecundity, and copying-fidelity' [SG p. 194]. The idea of the meme is an interesting one but its noteworthiness in the context of this paper lies in how it is employed. For most of the developed examples of 'memes' on pp. 192–9 [SG] are ones which are used to convey highly negative images of religion. They include (i) the 'god meme' (ii) the 'hell fire' meme and (iii) a 'member of the religious meme complex [which] is called faith':

[i] The survival value of the god meme in the meme pool results from its great psychological appeal. It provides a superficially plausible answer to deep and troubling questions about existence. It suggests that injustices in this world may be rectified in the next. The 'everlasting arms' hold out a cushion against our own inadequacies which, like a doctor's placebo, is none the less effective for being imaginary. [SG p. 193]

[ii] We have even used words like 'selfish' and 'ruthless' of genes, knowing full well it is only a figure of speech. Can we, in exactly the same spirit, look for selfish or ruthless memes? . . . To take a particular example, an aspect of doctrine that has been very effective in enforcing religious observance is the threat of hell fire . . .

[iii] [faith] means blind trust, in the absence of evidence, even in the teeth of evidence . . . The meme for blind faith secures its own perpetuation by the simple unconscious expedient of discouraging rational enquiry.

Dawkins displays a wholly instrumentalist view of the concepts of *God*, *hell* and *faith*. Erroneous ideas are assumed to underlie each of these concepts and arguments in their favour are not even entertained. The simile of a doctor's placebo is employed without any attempt at justification, simply because it suits Dawkins' view. It could equally well be asserted that the 'everlasting arms' are none the less real for being effective.

Dawkins' choice in developing these three particular 'memes' to illustrate the concept is indicative of an intrusive, overriding desire to discredit religion in general and Christianity in particular. But once again Dawkins has a double-edged sword in his hand when he tries to use the concept of 'memes' to debunk belief in God, belief in hell, and faith. For, according to 'meme-theory', disbelief in God, disbelief in hell, and unbelief are also memes which can be accounted for instrumentally, perhaps as desires to live precisely as one chooses and to escape any responsibility of a non-temporal kind! Dawkins' allied comparison of *belief in God* to a computer virus which goes on replicating itself is also a double-edged sword. For *disbelief in God* can equally well be compared to a computer virus.

Dawkins' attempts to make anti-religious capital in the treatment of a concept like a 'meme' is in keeping with the frequent asseverations which characterise other similar pronouncements, of which a few examples are given below:

Almost every species of bird is also perfectly capable of flying. Is it, then, another designed object? Actually, no! Birds may fly, but they were never designed. [CLSG, p. 10]

But there is no reason at all for us to expect any creatures to serve a useful purpose for us . . . [CLSG, p. 19]

Originally there was no purpose in the universe. [CL 5]

If you ask people why they are convinced of the truth of their religion . . . Nor do they appeal to evidence. There isn't any, and nowadays the better educated admit it. [SCAG]

Once again, such confidence would only be appropriate given some privileged insight into the way the world is.

Summarising the second part of this paper, Dawkins main arguments are variants based on an underlying misconception of the nature of explanation. The concept is not monolithic, but multifaceted. Scientific explanations are not the only types of explanation. Discussions about design, though changed from their Paleyeen form, are not eliminated by evolution, but modified. Metaphorical language requires particular care in its use since it can confuse as well as clarify, not least on account of the power of persuasion vested in a carefully chosen metaphor and of its ability to turn round and bite the user.

Meaning and purpose

Dawkins' attempt to deal with the question of purpose in life is the most difficult in which to discern an intelligible argument. Consistent with his view that 'Religion is a scientific theory' [SCAG], he expects science, and science alone, to be able to answer ultimate questions:

So where does life come from? What is it? Why are we here? What are we for? What is the meaning of life? There's a conventional wisdom which says that science has nothing to say about such questions. Well all I can say is that if science has nothing to say, it's certain that no other discipline can say anything at all. But in fact science has a great deal to say about such questions.[CL 1]

Dawkins then goes on to state what he believes to be the answers which science is able to give about purpose. A difficulty about these proffered answers is not so much what they affirm but what they deny. From his naturalistic stance, Dawkins fails to acknowledge the possibility of additional and compatible purposes to scientific ones. His position appears very poignantly in the following interchange:

[after a little girl of six pointed out some flowers] I asked her what she thought flowers were for? She gave a very thoughtful answer. 'Two things', she said; 'to make the world pretty and to help the bees make honey for us.' Well, I thought that was a very nice answer and I was very sorry I had to tell her that it wasn't true. Her answer was not too different from the answer that most people throughout history would

have given. The very first chapter of the Bible sets it out. Man has dominion over all living things. The animals and plants were there for our benefit.[CL 4]

Dawkins overlooks the compatibility of such purposes as, 'to make the world pretty', to help the bees make honey and 'to help the bees make honey for us.' He answers his own question, 'What are flowers and bees . . . [and ourselves] . . . really for? [CL 4]

We are machines built by DNA whose purpose is to make more copies of the same DNA . . . Flowers are for the same thing as everything else in the living kingdoms, for spreading 'copy-me' programmes about, written in DNA language.

That is EXACTLY what we are for. We are machines for propagating DNA, and the propagation of DNA is a self sustaining process. It is every living objects' sole reason for living . . . [CLSG, p. 21]

The word 'sole' acts, of course, as just another opportunity implicitly to deny any religious reasons for living. Dawkins' dislike of teleology—of goal-directed properties—shows signs of strain at times when he finds it 'terribly, terribly tempting to use the word designed' and when he claims that 'The plants tolerate the bees eating some of their pollen because they provide such a valuable service, by carrying pollen from one flower to another.' [CLSG, p. 19] The thought of a plant not tolerating bees is an interesting one.

On the grand finale of the cosmic drama of which we are part, Dawkins concludes

We can now see human purpose for what it really is. It is a product of our brains that has evolved by natural selection. Originally there was no purpose in the universe. For 3000 million years, life forms grew up on this planet dripping with designoid elegance and reeking with apparent purpose. Then, came along one species that was given, by natural selection, not digging claws like a mole or streamlining like a dolphin, but a powerful and flexible on-board computer. This computer is our brain and the nature and potential of our brain is the difference between us and every other living thing. It is our sense of purpose.[CL 5]

But, of course, a 'sense of purpose' is not the same as a 'purpose'. A sense of purpose can be wholly illusory. In the first of the Christmas Lectures, Dawkins refers to

Faraday's reply to Sir Robert Peel's question, 'what is the use of science?'

'What is the use of a baby?' . . . It's also possible that what Faraday meant was there's no point in bringing a baby into the world if all that it's going to do is work to go on living to go on living and work to go on living again. If that's all the point of life, what are we here for? There's got to be more to it than that. [CL 1]

But if Dawkins' assertion that 'propagating DNA . . . is every living object's sole reason for living' [CLSG, p. 21], then all one is left with are the wistful echoes of his own words, 'There's got to be more to it than that.'

Referencing key to works by Richard Dawkins

- IDSG**—'In Defence of Selfish Genes', *Philosophy* 56 556–573, 1981.
EP—*The Extended Phenotype*,²⁸ Oxford: Oxford University Press, 1982.
BWM—*The Blind Watchmaker*, Harlow: Longman, 1986.
BWM TV—*The Blind Watchmaker* BBC 2 Horizon, 19 January 1987.
SG—*The Selfish Gene*, (2nd ed.), Oxford: Oxford University Press, 1989 (identical to 1st ed. + Chs 12 & 13).
CL 1—1st 1991 Royal Institution Christmas Lecture—*Waking up in the universe* [series repeated in December 1992].
CL 2—2nd lecture—*Designed and designoid objects*.
CL 3—3rd lecture—*Climbing Mount Improbable*.
CL 4—4th lecture—*The ultraviolet garden*.
CL 5—5th lecture—*The genesis of purpose*.
CLSG—Christmas lecture study guide, *Growing up in the universe*, BBC Study Guide to the Christmas lectures, London: BBC Education 1991.
SCAG—'A scientist's case against God'—an edited version of Dr Dawkins' speech at the Edinburgh International Science Festival on 15 April 1992, published in *The Independent*, 20 April 1992.

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²⁸ **phenotype** The manifested attributes of an organism, the joint product of its genes and their environment during ontogeny [The process of individual development]. A gene may be said to have phenotypic expression in, say, eye colour. In this book the concept of phenotype is extended to include functionally important consequences of gene differences, outside the bodies in which the genes sit. EP p. 292.