doi:10.1111/j.1741-2005.2006.00133.x

Newman on the Argument from Design

Noel Keith Roberts

Introduction

Michael Behe's book, *Darwin's Black Box*,[1] argues that intelligent design is evident in the existence of some biochemical systems of organisms, which could not have evolved gradually as required by Neo-Darwinism. He labels such systems "irreducibly complex." Behe's book is promoted as the biochemical challenge to Evolution. Behe maintains that Archdeacon Paley in *Natural Theology*[2] correctly identified what constitutes design in living things: "the ordering of separate components to accomplish a function beyond that of the individual components." According to Behe, Paley introduced extraneous considerations in describing the obvious design of the watch; such as the gears are made of brass to avoid rust formation and a glass cover to keep out dust. Paley is now talking about arrangements that simply fit his idea of the way things ought to be. Richard Dawkins[3] and others have seized on these additions – "the way things ought to be" – to attack Paley's argument. However these additions are not necessary for the functioning of the watch. Behe maintains that the key to

[1] Michael J. Behe, *Darwin's Black Box* (New York: Touchstone, 1996)

[2] William Paley, *Natural Theology* (1802) p.1 Paley begins his book with the following words: "In crossing a heath, suppose I pitched my foot against a stone and were asked how the stone came to be there, I might possibly answer that for anything I knew to the contrary it had lain there forever; nor would it, perhaps, be very easy to show the absurdity of this answer. But suppose I had found a watch upon the ground, and it should be inquired how the watch happened to be in that place, I should hardly think of the answer which I had before given, that for anything I knew the watch might have always been there. Yet why should not this answer serve for the watch as well as for the stone? Why is it not as admissible in the second case as in the first? For this reason, and for no other, namely, that when we come to inspect the watch, we perceive – what we could not discover in the stone – that its several parts are framed and put together for a purpose, e.g., that they are so formed and adjusted as to produce motion, and that motion so regulated as to point out the hour of the day; that if the different parts had been differently shaped from what they are, of a different size from what they are, or placed after any other manner or in any other order than that in which they are placed, either no motion at all would have been carried on in the machine, or none which would have answered the use that is now served by it . . . the inference we think is inevitable, that the watch must have had a maker–that there must have existed, at some time and at some place or other, an artificer or artificers who formed it for the purpose which we find it actually to answer, who comprehended its construction and designed its use."

[3] Richard Dawkins, *The Blind Watchmaker* (Avon: Bath Press, 1986) p.4 et seq

© The author 2007. Journal compilation © The Dominican Council/Blackwell Publishing Ltd. 2007, 9600 Garsington Road, Oxford OX4 2DQ, UK, and 350 Main Street, Malden MA 02148, USA

https://doi.org/10.1111/j.1741-2005.2006.00133.x Published online by Cambridge University Press

intelligent design is not whether a basic structural plan appears to be the product of design, but whether there is the ordering of separate components to accomplish a function beyond that of the individual components. The confrontation between Behe and Dawkins is fascinating but here is not the place to consider it. What is of interest for this paper is Behe's endorsement of Paley's identification of what constitutes intelligent design. As we shall see Paley's logic does not arouse the same admiration in Newman.

Prior to the the 19th century the proof of God's existence from design in nature was almost universally accepted. A profound change took place in educated public opinion as a result of the evolutionary ideas of Wallace and Darwin: design in nature was no longer considered as self-evident. The change in attitude is glimpsed in the writings of John Henry Newman.

Newman's favourite argument for the existence of God is the presence of conscience in rational beings. For Newman conscience is the normal means by which most come to knowledge of God. In the *Letter to the Duke of Norfolk* he writes: "Conscience is not a long-sighted selfishness, nor a desire to be consistent with oneself; but it is a messenger from Him, Who, both in nature and grace, speaks to us behind a veil, and teaches and rules us by His representatives. Conscience is the aboriginal Vicar of Christ, a prophet in its informations, a monarch in its peremptoriness, a priest in its blessings and anathemas, and even though the eternal priesthood throughout the Church should cease to be, in it the sacerdotal principle would remain and would have sway."[4]

Upon the completion of the *Grammar of Assent* in 1870, in which Newman gives almost exclusive prominence to conscience as a natural means of arriving at God's existence, he received a letter of appreciation from Father William Robert Brownlow, a fellow Anglican who had entered the Church under Newman's influence. Brownlow sought clarification from Newman concerning his neglect of the argument for the existence of God from visible creation:

> I suppose your resting the evidence for the existence of God rather on the testimony of conscience than on the testimony of the visible creation was intended only to supplement and by no means to contradict the old fashioned Scriptural and patristic method of proving the existence of a personal creator.[5]

[4] John Henry Newman, *A letter Addressed to the Duke of Norfolk on Occasion of Mr. Gladstone's Recent Expostulation* (London: Longmans, Green, and Co., 1900) Vol. II Part 5 p.249.

[5] Charles Dessain and Thomas Gornall, (eds.) *The Letters and Diaries of John Henry Newman* (Oxford: Clarendon Press, 1973) Vol 25, p.97.

© The author 2007
Journal compilation © The Dominican Council/Blackwell Publishing Ltd. 2007

https://doi.org/10.1111/j.1741-2005.2006.00133.x Published online by Cambridge University Press

Newman's answer on April 13th 1870, must have shocked his scholarly friend:

> I have not insisted on the argument from *design*, because I am writing for the 19th century, by which, as represented by its philosophers, design is not admitted as proved. And to tell the truth, though I should not wish to preach on the subject, for 40 years I have been unable to see the logical force of the argument myself. I believe in design because I believe in God; not in God because I see design.[6]

We do not have Brownlow's reply; but as Brownlow knows that Scripture and the Fathers of the Church testify to the argument from design he must have been puzzled, to say the least. For doesn't Paul in the letter to the Romans state: "His invisible attributes, that is to say his everlasting power and deity, have been visible, ever since the world began, to the eye of reason, in the things he has made." (1: 20.)

Aquinas' 5th Way

Aquinas' 5th proof for the existence of God is presented in different forms in the Summa Theologiae and the Summa contra Gentiles. The argument in the Summa Theologiae is a teleological argument or an argument from design: we observe that many things act towards an end, and since they have no knowledge someone who is intelligent and possessed of knowledge must direct them. In the Summa contra Gentiles the argument is slightly different: many things with different and even contrary qualities co-operate towards the realisation of one order. The proof in Summa Theologiae[7] emphasises the internal finality of the object itself while that in the Summa contra Gentiles[8] emphasises the co-operation of many objects in the realisation of the one world order or harmony. This is the classical theological argument from design to prove the existence of God.

The Catechism of the Catholic Church summarises the ways in which one can come to know God:

"Created in God's image and called to know and love him, the person who seeks God discovers certain ways of coming to know him. These are also called proofs for the existence of God, not in the sense of proofs in the natural sciences, but rather in the sense of 'converging and convincing arguments', which allow us to attain certainty about the truth. These 'ways' of approaching God from

[6] Ibid.
[7] Aquinas, *Summa Theologiae*, 1, q2, a3
[8] Aquinas, *Summa contra Gentiles* 13,35

© The author 2007
Journal compilation © The Dominican Council/Blackwell Publishing Ltd. 2007

https://doi.org/10.1111/j.1741-2005.2006.00133.x Published online by Cambridge University Press

creation have a twofold point of departure: the physical world, and the human person."[9]

> Starting from movement, becoming, contingency, and the world's order and beauty, one can come to a knowledge of God as the origin and the end of the universe. As St. Paul says of the Gentiles: 'For what can be known about God is plain to them, because God has shown it to them. Ever since the creation of the world his invisible nature, namely, his eternal power and deity, has been clearly perceived in the things that have been made.'[10]

How are we to reconcile scripture, Aquinas and the teaching of the Church with Newman's position?

Clues from *The Idea of a University*

Newman's earlier writings give us some clue to how he reached his position. As an Anglican Newman expressed great dislike for the argument from design in a sermon, Faith and Reason, contrasted as Habits of Mind, before the University of Oxford in 1839. He writes,

> Sometimes Christians are perplexed that those philosophers, ancient and modern, who have been eminent in physical science, have not unfrequently shown a tendency to infidelity. The system of physical causes is so much more tangible and satisfying than that of final, that unless there be a pre-existent and independent interest in the inquirer's mind, leading him to dwell on the phenomena which betoken an Intelligent Creator, he will certainly follow out those which terminate in the hypothesis of a settled order of nature and self-sustained laws. It is indeed a great question whether Atheism is not as philosophically consistent with the phenomena of the physical world, taken by themselves, as the doctrine of a creative and governing Power.[11]

Yet when he came to edit his sermon for his Catholic audience he concedes that if physical phenomena do not logically teach us of the Being of God . . . we are in St Paul's words "without excuse."

His talks given at the newly created Catholic University of Ireland, to which Newman was appointed Rector in 1851, also give us an

[9] *Catechism of the Catholic Church* Par.31

[10] Ibid. Par.32

[11] Newman's *Oxford University Sermons*, Sermon 10, Epiphany 1839.

When Newman edited this sermon as a Catholic he added an explanatory phrase after "Physical phenomena, taken by themselves;" that is, apart from psychological phenomena, apart from moral considerations, apart from the moral principles by which they must be interpreted, and apart from that idea of God which wakes up in the mind under the stimulus of intellectual training. The question is, whether physical phenomena logically teach us, or on the other hand logically remind us of the Being of a God. In either case, if they do not bring to us this cardinal truth, we are in St. Paul's words. "without excuse."

© The author 2007
Journal compilation © The Dominican Council/Blackwell Publishing Ltd. 2007

https://doi.org/10.1111/j.1741-2005.2006.00133.x Published online by Cambridge University Press

insight into his thinking on the matter. In The Idea of a University[12], in a lecture to the School of Medicine in November 1855, he discusses at some length the argument from design in nature to arrive at knowledge of God. It is evident that Newman has little sympathy with this approach as it "cannot tell us one word about Christianity proper." Even though Newman has no wish to disparage natural theology he finds the Argument from design in nature is no more compelling for the philosopher of the 19th century than it was for the Early Greeks. Newman quotes with approval the following passage:

> The discoveries of modern astronomers and anatomists have really added nothing to the force of the argument which a reflecting mind finds in every beast, bird, insect, flower, and shell The reasoning by which Socrates, in Xenothon's hearing, confuted the little atheist, Aristodemus, is exactly the reasoning of Paley's "Natural Theology. Socrates makes precisely the same use of the statutes of Polycletus and the pictures of Zeuxis, which Paley makes of the watch. Physical Theology, then, is pretty much what it was two thousand years ago, and has not received much help from modern science.[13]

If both Socrates and Paley considered the argument from design convincing, one fails to see how this statement weakens the argument or what purpose Newman had in quoting it. There is ample evidence that the public of Newman's time were more aware than ever before of the intricate design in nature. In the Victorian era there was an insatiable desire for knowledge of the material world, arising from the emerging disciplines of Geology, Biology, Chemistry and Physics. Contrary to Newman's view, physical theology was in its heyday at the time he wrote because of the great advances that had been made in the fields of science. Newman all but admits that this is so when he accepts that "there are a great many minds so constituted that, when they turn their minds to the question of a Supreme Being, they feel a comfort in resting the proof mainly or solely on the Argument from Design which the Universe furnishes."[14] As to the remark, "there are a great many minds so constituted", it is very clear that his is not one of them. In this passage from a lecture in the school of medicine to the Catholic University of Ireland, entitled Christianity and Physical Science, he refers to the dangers of the offshoot of physical science, physical or natural theology.

> There is a science, which avails itself of the phenomena, and laws of the material universe as a means of establishing the presence of Design in their construction, and thereby the fact of a Creator and Preserver.

[12] John Henry Newman, *The Idea of a University* (London: Longmans, Green and Co., 1907) p.428

[13] Ibid. p.450.

[14] Ibid. p.454

© The author 2007
Journal compilation © The Dominican Council/Blackwell Publishing Ltd. 2007

https://doi.org/10.1111/j.1741-2005.2006.00133.x Published online by Cambridge University Press

> This science has, in these modern times, at least in England, taken the name of natural theology.[15]

Newman perceives a positive disadvantage in this approach to prove the existence of God and views it with the greatest suspicion[16]. Newman argues that, apart from the fact, it cannot tell us anything about Christianity, "if it occupies the mind it can dispose it against Christianity as it speaks only of laws; and cannot contemplate their suspension, that is, miracles. Those exquisite laws, at length, appear too beautiful to be broken."[17]

Newman's dislike for this approach is also seen in his lecture on Theology as a Branch of Knowledge:

"The Almighty is something infinitely different from a principle, or a centre of action, or a quality, or a generalization of phenomena. If, then, by the word, you do but mean a Being who keeps the world in order, who acts in it, but only in the way of general Providence, who acts towards us but only through what are called laws of Nature, who is more certain not to act at all than to act independent of those laws, who is known and approached indeed, but only through the medium of those laws; such a God is not difficult for any one to conceive, not difficult for any one to endure."[18]

In the letter to the Rev Brownlow Newman advances another reason for preferring the argument from conscience to the argument from design: "You will say that the19th century does not believe in conscience either—true, but then it does not believe in God at all. Something I must assume, and in assuming conscience I assume what is least to assume, and what most will admit. Half the world knows nothing of the argument from design—and, when you have got it, you do not prove by it the moral attributes of God—except very faintly. Design teaches me power, skill and goodness—not sanctity, not mercy, not a future judgement, which three are the essence of religion."[19]

But it is one thing to dislike and view with suspicion the Argument from Design and criticize the limited attributes of God which the Argument provides, and quite another to deny the logical force of the Argument.

Perhaps Newman took to heart another passage from St Paul;

> "The world with all its wisdom did not come to know God." (1 Corinthians 1:21) i.e. worldly wisdom failed to come to a real affective knowledge of God.

[15] Ibid. p.449.
[16] Ibid. p.454
[17] Ibid. p.455
[18] Ibid. p.38.
[19] Charles Dessain and Thomas Gornall, (eds.) *The Letters and Diaries of John Henry Newman* (Oxford: Clarendon Press, 1973) Vol 25, p.97.

© The author 2007
Journal compilation © The Dominican Council/Blackwell Publishing Ltd. 2007

https://doi.org/10.1111/j.1741-2005.2006.00133.x Published online by Cambridge University Press

George Mivart's *Genesis of Species*

George Jackson Mivart (1827–1900) became a Tractarian while at King's College, London and influenced by Pugin's revival of Gothic architecture became a Catholic. A self taught biologist, he became a leading biologist of his day. His *On The Genesis Of Species* showed him to be a leading evolutionist who rejected Darwin's contention that Natural Selection was the driving force of evolution. Newman supported Mivart when he was attacked by W.G. Ward. Towards the end of his life Mivart rejected most of Christianity, after a lifetime of defending it. His sudden mental change has been blamed on severe diabetes, which led to his death.

There are two letters of Newman to Sir George Mivart, dated January 25th and December 9th 1871, concerning Mivart's recently published book, *The Genesis of Species*[20] that shed light on Newman's' difficulty with the argument from design. *The Genesis of Species* was a response to Darwin's *The Origin of Species* and was widely acclaimed. In the letter of December 9th 1871 Newman writes:

> My dear Mr Mivart,
> Ever since you wrote to me in October, I have meant to send you a line to thank you for the kindness of your letter. But when I slip the first day or two, then difficulties come in the way of my fulfilling my intention.
>
> Let me do so now. And let me say that I shall be abundantly satisfied and pleased if my Essays do a quarter of the good, which I hear your volume is doing. Those who have the right to judge speak of it as a first-rate book – and it is pleasant to find that the first real exposition of theological insufficiency of Mr. Darwin's theory comes from a Catholic.
>
> In saying this, you must not suppose that I have personally any great dislike or dread of the theory, but many good people are much troubled at it – and at all events, without any disrespect to him, it is well to show that Catholics may be better reasoners than philosophers.
>
> I am. My dear Mr. Mivart, Sincerely yours John H. Newman.

In a letter of January 25th 1871[21], Newman thanks Mivart for a copy of *The Genesis of Species*.

> My dear Mr Mivart,
> Thank you very much for your valuable work. I have read enough of it to know that it is valuable as it is interesting, and made me eager to read more of it. And I have to thank you for the notice you take of me in your last chapter. And also for your kind letter.
> Most truly yours, John H. Newman

[20] George Mivart, *Genesis of Species* (New York: D.Appleton 1871)
[21] *John Henry Newman, Letters and Diaries*, Vol XXV, January 25th 1871

© The author 2007
Journal compilation © The Dominican Council/Blackwell Publishing Ltd. 2007

https://doi.org/10.1111/j.1741-2005.2006.00133.x Published online by Cambridge University Press

What is to be made of Newman's comments to Mivart? These become clearer from a letter Newman wrote to Pusey[22], his friend from his Oxford days, on the same topic seven months prior to his second letter to George Mivart, as they give a clue to his understanding of Darwin's theory. In it Newman supports Darwin's receiving an Honorary Degree at Oxford. There was strong opposition from some quarters because Darwin's theory was perceived as being antichristian and in conflict with the Bible.

> My dear Pusey
> I have not fallen in with Darwin's book. I conceive it to be an advocacy of the theory that that principle of propagation, which we are accustomed to believe began with Adam, and with the patriarchs of brute species, began in some one common ancestor millions of years before. . . . .
> Ever Yrs affly John H Newman

Newman goes on to show that such a teaching is not at odds with scripture or Theism (putting Revelation aside). He goes so far as to argue that Scripture in fact suggests that Adam was not immediately formed from the earth and accepts that Darwin does not profess to oppose Religion. Newman concludes: "I think he deserves a degree as much as many others, who have one." Darwin declined the honour of an Honorary Degree on the grounds that he could not stand the strain of the ceremony.

Newman shows no awareness, let alone understanding, of the central role of Natural Selection in Darwin's theory. He accepts that evolution is not at odds with Scripture, but he fails to make a distinction between the *fact* of evolution and Darwin's *theory* of evolution. This is surprising in view of Mivart's book, which he supposedly read, in which Natural Selection is rejected as the driving force of evolution. One must, therefore, ask the question: Of what aspect of Mivart's book was Newman showing approval? It would appear that he had little grasp of Darwinism apart from the general notion of the evolution of man.

Mivart discusses the signs of design in nature, especially in Chapter XII, *Theology and Evolution* – the very chapter to which Newman refers in his letter. But Mivart freely admits that "it evidently has not been the intention of the Creator to make the evidence of His existence so plain that its non-reception would be the mark of intellectual incapacity. . . . . Thus we might expect that it would be a vain task to seek anywhere in Nature for evidence of Divine action, such that no one could sanely deny it."[23] While not rejecting the evidence of design in nature Mivart comes very close to Newman's position.

[22] Ibid. June 5th 1870
[23] *Genesis of Species* Chapter XII

© The author 2007
Journal compilation © The Dominican Council/Blackwell Publishing Ltd. 2007

https://doi.org/10.1111/j.1741-2005.2006.00133.x Published online by Cambridge University Press

Mivart's remarks also carry much weight as they are the opinion of a renowned scientist with a deep Christian faith. So Newman is in good company.

Original Sin and the Argument from Design

The reality of Original sin occupied a prominent position in Newman's pastoral and theological ministry. A striking statement of its reality is found in Newman's *Apologia pro Vita Sua*.

> Starting then with the being of a God, (which, as I have said, is as certain to me as the certainty of my own existence, though when I try to put the grounds of that certainty into logical shape I find a difficulty in doing so in mood and figure to my satisfaction,) I look out of myself into the world of men, and there I see a sight which fills me with unspeakable distress. The world seems simply to give the lie to that great truth, of which my whole being is so full; and the effect upon me is, in consequence, as a matter of necessity, as confusing as if it denied that I am in existence myself. If I looked into a mirror, and did not see my face, I should have the sort of feeling which actually comes upon me, when I look into this living busy world, and see no reflexion of its Creator. This is, to me, one of the great difficulties of this absolute primary truth, to which I referred just now. Were it not for this voice, speaking so clearly in my conscience and my heart, I should be an atheist, or a pantheist, or a polytheist when I looked into the world . . . . The sight of the world is nothing else than the prophet's scroll, full of "lamentations, and mourning, and woe."

Newman's acceptance of the reality of original sin goes a long way to explaining his difficulty in accepting the argument from design. At the basis of his dislike of the argument from design is Original Sin, which blights both human nature and the physical world.

> To consider the world in its length and breadth, its various history, the many races of man, their starts, their fortunes, their mutual alienation, their conflicts; and then their ways, habits, governments, forms of worship; their enterprises, their aimless courses, their random achievements and acquirements, the impotent conclusion of long-standing facts, the tokens so faint and broken of a superintending design, the blind evolution of what turn out to be great powers or truths, the progress of things, as if from unreasoning elements, not towards final causes, the greatness and littleness of man, his far-reaching aims, his short duration, the curtain hung over his futurity, the disappointments of life, the defeat of good, the success of evil, physical pain, mental anguish, the prevalence and intensity of sin, the pervading idolatries, the corruptions, the dreary hopeless irreligion, that condition of the whole race, so fearfully yet exactly described in the Apostle's words, "having no hope and without God in the world,"—all this is a vision to dizzy and appal; and inflicts upon the mind

© The author 2007
Journal compilation © The Dominican Council/Blackwell Publishing Ltd. 2007

https://doi.org/10.1111/j.1741-2005.2006.00133.x Published online by Cambridge University Press

> the sense of a profound mystery, which is absolutely beyond human solution.[24]

The phrase, "the tokens so faint and broken of a superintending design", highlights the blight of original sin on mankind and the physical universe, which has all but obliterated any traces of its Creator.

Newman continues:

> I have no intention at all to deny, that truth is the real object of our reason, and that, if it does not attain to truth, either the premiss or the process is in fault; but I am not speaking here of right reason, but of reason as it acts in fact and concretely in fallen man. I know that even the unaided reason, when correctly exercised, leads to a belief in God, in the immortality of the soul, and in a future retribution; but I am considering it actually and historically; and in this point of view, I do not think I am wrong in saying that its tendency is towards a simple unbelief in matters of religion. No truth, however sacred, can stand against it, in the long run; and hence it is that in the pagan world, when our Lord came, the last traces of the religious knowledge of former times were all but disappearing from those portions of the world in which the intellect had been active and had had a career.[25]

Here is the kernel of Newman's difficulty in accepting the argument from design. Aquinas's five ways for demonstrating the existence of God rely solely on unaided human reason; among those ways is the argument from design in visible creation. Newman argues that unaided human reason, actually and historically, i.e. in its fallen state, tends to unbelief. This attitude is demonstrated by his words to Brownlow: "Half the world knows nothing of the argument from design." Newman admits that unaided reason, "correctly exercised", leads to belief in God, then he places himself in the position of denying that fact by stating that he is unable to see the logical force of the argument from design.

Conclusion

As much as we admire Newman for his treatment of the subject of human reason and belief in God's existence, we are left in a state of confusion when he comes to discuss the Argument from Design. Newman's approach to belief in God is personal and concrete. According to Newman the Argument from Design fails to discover those very characteristics of God, sanctity, mercy and a future judgement, that constitute true religion. In Newman's novel of the 3rd century

[24] John Henry Newman, *Apologia pro Vita Sua*, London: Longmans, Green and Co., 1864) p.335

[25] Ibid. p.336

© The author 2007
Journal compilation © The Dominican Council/Blackwell Publishing Ltd. 2007

https://doi.org/10.1111/j.1741-2005.2006.00133.x Published online by Cambridge University Press

about Callista, her brother, Aristo, alarmed at her increasing attraction to Christianity, involves the eminent and conceited philosopher, Polemo, in the hope of persuading her to offer incense on the altar of Jupiter and thus save her from a cruel death. "What does that action mean?" says Polemo; it proposes to mean nothing else than that you are loyal to the Roman power." As Callista begins to feel the force of Polemo's arguments she asks, "Polemo, do you believe in one God?" "Certainly", he replies, "I believe in one eternal, self-existing something." Callista exclaims "I feel that God within my heart, I feel myself in his presence. He says to me, 'Do this: don't do that.' ... It is the echo of a person speaking to me. ... So you see, Polemo, I believe in what is more than a mere 'something.'"[26] And Newman in his *Apologia pro Vita Sua* writes, "the arguments for the existence of God ... do not warm me or enlighten me; they do, not take away the winter of my desolation, or make the buds unfold and the leaves grow within me, and my moral being rejoice."[27]

Undoubtedly, Newman's aversion to the logical force of the Argument from Design is the consequence of the argument leading to a "something" rather than to a "person."

Noel Keith Roberts
11 Sharps Road
Lenah Valley
Tasmania
Australia 7008
Email: noel.roberts@utas.edu.au

[26] John Henry Newman, *Callista* (London: Longmans, Green and Co,.1855) p.315
[27] *Apologia pro Vita Sua*. p.335

© The author 2007
Journal compilation © The Dominican Council/Blackwell Publishing Ltd. 2007

https://doi.org/10.1111/j.1741-2005.2006.00133.x Published online by Cambridge University Press