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Divining Darwin: Evolving Responses and the Contribution of David Lack¹

Christian believers, particularly evangelicals, often react to evolutionary ideas with more heat than light. A significant contribution to clarifying understanding was a book published in 1957, Evolutionary Theory and Christian Belief by the eminent ornithologist David Lack. It was the first attempt to tease out the issues by a scientist of his calibre. Information about this book has recently been published in a biography of Lack. This essay seeks to put Lack's contribution into the perspective of both past and continuing perceptions of Christianity and evolution.

Key words: Darwin, Darwinism, Evolutionary Theory and Christian Belief, David Lack, Dan and Mary Neylan, C.S.Lewis, human nature, *imago Dei*

This paper is about the contribution of David Lack, one of the most distinguished biologists of the twentieth century, to the debates about evolution and Christianity, and his personal journey thereto. His contribution is significant because of the authority he brought to a book he wrote in 1957, which raised these debates to a much more positive and informed level than had previously been the practice. But before we get to Lack and his book, we need to understand something of the background to the understanding of evolution by both scientists and Christians.

The reaction of the Christian community to Darwin's *Origin of Species*² ought to be a simple matter of historical record.³ In practice it is regularly muddled. An Editorial in *Nature* in 2009 claimed, 'In England the Church reacted badly to Darwin's theory, going so far as to say that to believe it was to imperil your soul.'⁴ There may well have been those who maintained this, but they seem to have been few. An important critic was Cambridge geologist and Darwin's teacher, Adam Sedgwick who expressed his 'deep aversion to the theory because of its unflinching materialism, because it

1 This paper is dedicated to the memory of Oliver Barclay, died 12 September 2013; Cambridge University zoologist, founder of the Research Scientists' Christian Fellowship (forerunner of Christians in Science), and first editor of this journal.

2 Darwin's ideas were first published at a meeting of the Linnean Society in 1858, jointly with those of Alfred Russel Wallace. They were set out more fully in the *Origin of Species*, published the following year.

3 Hull, D.L. (ed.) *Darwin and his Critics*, Chicago: Chicago University Press (1973); Moore, J.R. *The Post-Darwinian Controversies*, Cambridge: Cambridge University Press (1979); Numbers, R.L. *The Creationists*, New York: Kopf (1992); Larson, E.J. 'The reception of Darwinism in the Nineteenth Century', *Science & Christian Belief* (2009) 21: 3-24.

4 'Darwin and culture', *Nature* (2009) 461: 1173-1174.

has deserted the inductive track – the only track which leads to physical truth, because it utterly repudiates final causes.... In some instances it shows a wonderful credulity...’⁵

The publication of the *Origin* was clearly a highly significant event, but it should not be overstated. Evolutionary change was not a new concept in the mid nineteenth century: in the *Origin* Darwin listed thirty-four authors who had discussed the topic before him, perhaps most notably Robert Chambers, whose book *Vestiges of the Natural History of Creation* (1844) sold more copies in the ten years after its publication than did the *Origin* fifteen years later. It had many defects, but, as Darwin commented, ‘it has done excellent service in calling in this country attention to the subject and in removing prejudices’.⁶ In addition, both scientists and theologians widely accepted by the end of the eighteenth century that the Earth had a very long history, much longer than the six thousand years or so calculated by people like Archbishop Ussher.⁷

Christian response to the *Origin of Species*

Sedgwick seems to have been in a minority. Charles Kingsley, at the time Rector of Eversley in Hampshire but soon to become Regius Professor of Modern History at Cambridge, wrote to Darwin after reading the *Origin*, ‘I have gradually learnt to see that it is 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 which He himself had made.’⁸ The Bishop of Carlisle, Harvey Goodwin, preaching at Darwin’s funeral in Westminster Abbey, proclaimed ‘It would have been unfortunate if anything had occurred to give weight and currency to the foolish notion which some have diligently propagated, but for which Mr Darwin is not responsible, that there is a necessary conflict between a knowledge of Nature and a knowledge of God.’⁹ Robert Rainey declared in his Inaugural Address as Principal of New College, Edinburgh, that ‘each stream of processes revealed by [Darwin] had distinct value for

5 *The Spectator*, 24 March 1860 – see Hull *op. cit.*, (3), p. 164; Ellegård, A. *Darwin and the General Reader*, Göteborg: Göteborg Universitets Årsskrift (1958) gives examples of other negative reactions in Britain.

6 Berry, R.J. ‘Standing on the shoulders of giants: Wollaston, Wallace, Darwin, Hooker and more’, in Perez, V. & Ramon, C. (eds.) *Islands and Evolution*, Minorca: Institut Menorqui d’Estudis (2010), pp. 27-58. In response to suggestions that he had ignored his predecessors, Darwin added to the 3rd edition of the *Origin* (1861) a ‘historical sketch of the progress of opinion on the origin of species’.

7 Lewis, C.L.E. & Knell, S.J. (eds.) *The Age of the Earth – from 4004 BC to 2002*, special publication no. 190, London: Geological Society (2001).

8 Kingsley, C. letter to Charles Darwin, 18 November 1859, in Darwin, F. (ed.) *The Life and Letters of Charles Darwin*, vol.2, p.287, (1887).

9 Goodwin, H. *Walks in the Regions of Science and Faith*, London: John Murray (1883), p. 301.

the natural theologian'.¹⁰ In 1884 Frederick Temple, Bishop of Exeter and soon to become Archbishop of Canterbury, wrote 'The doctrine of Evolution restores to the science of Nature the unity which we should expect in the creation of God.'¹¹ Owen Chadwick judged that 'the compatibility of evolution and Christian doctrine was increasingly acknowledged "among more educated Christians" between 1860 and 1885; after 1876, acceptance of evolution was both permissible and respectable'.¹² Even more positively, Oxford theologian Aubrey Moore writing in 1889 welcomed Darwinism 'as a friend in the disguise of a foe, by making it impossible to accept the Enlightenment assumption of an occasionally interfering absentee landlord'.¹³ For Moore, Darwinism struck at the heart of nineteenth century deism and was 'infinitely more Christian than the theory of "special creation" for it implies the immanence of God in nature, and the omnipresence of His creative power'.¹⁴ Ironically in the light of future history, Darwin's ideas were assimilated more readily by conservative theologians than by liberals, apparently because of the stronger doctrine of providence of the former.¹⁵

It would be false to claim that there was total agreement about Darwin's ideas in the second half of the nineteenth century,¹⁶ but clearly the consensus was that Darwin had established that evolution had occurred. The infamous clash between the Bishop of Oxford and Thomas Huxley at the 1860 meeting of the British Association for the Advancement of Science was much less influential than is repeatedly portrayed in the media. In reality the debate was not really about evolution versus creation or even science versus religion. On the Bishop's side it was about the danger of legitimising change at a time when he believed it was having dangerous social and theological effects; Huxley's aim was the secularisation of society – to establish the legitimacy of science against what he regarded as the improper influence of church leaders. It was reported that Wilberforce went away happy that he had given Huxley a bloody nose, while Joseph Hooker (who spoke after Huxley) told Darwin that Huxley had been large-

10 Rainey, R. *Evolution and Theology*, Edinburgh: Maclaren & Macniven (1874), p.14.

11 Temple, F. *The Relations Between Religion and Science*, London: Macmillan (1885), p. 121.

12 Chadwick, O. *The Victorian Church*, Oxford: Oxford University Press (1970), pp.23-28. It is said that in 1880 only two 'working naturalists' in the United States were not evolutionists: Numbers *op. cit.*, (3), p. 7.

13 Moore, A. 'The Christian doctrine of God', in Gore, C. (ed.) *Lux Mundi*, London: John Murray (1889), pp. 57-109, p. 99.

14 Moore, A. *Science and the Faith*, London: Kegan Paul, Trench, Trübner (1892), pp.184-185.

15 Livingstone, D.N. *Darwin's Forgotten Defenders: The Encounter Between Evangelical Theology and Evolutionary Thought*, Grand Rapids, MI: Eerdmans (1987).

16 Dupree, A.H. 'Christianity and the scientific community in the age of Darwin', in Lindberg, D.C. & Numbers, R.L. (eds.) *God and Nature*, Berkeley, CA: University of California Press (1986), pp. 351-368.

ly inaudible. As far as the audience was concerned, many scored it as an entertaining draw.¹⁷ Despite this, it has left a tragic legacy of a seemingly-inevitable conflict between science and faith, fuelled by two much-read manifestos by John William Draper (*History of the Conflict between Religion and Science*, 1875) and Andrew Dickson White (*A History of the Warfare of Science with Theology in Christendom*, 1896),¹⁸ and encouraged by the materialist philosophy propagated by the German scientist Ludwig Büchner and his intellectual descendants,¹⁹ and repeatedly re-exhumed by media repetition.

Doubts about Darwinism

There is no doubt whatsoever in the informed scientific community that evolution is a fact – that all living things have descended from a single origin (or just conceivably, a very few individuals). The few who deny this are virtually all from non-biological or geological disciplines. However the fact of evolution should be distinguished from the mechanism(s) whereby evolutionary change happens. This distinction became acute with growth in genetics and knowledge of the causes of variation following the re-discovery of Mendel's work in 1900. It rapidly became clear that the genes (i.e. mutations) studied in the laboratory by the early geneticists were almost all deleterious to their carriers, had large effects and were inherited as recessives – properties which seemed counter to the progressive gradualism assumed under Darwinism. A rift appeared between the biometricians studying the evidence of evolution in living or fossil populations and the geneticists who were unquestionably uncovering the physical basis of heredity.²⁰

The problem was not that evolution had occurred, but that it did not seem to have been driven by natural selection. Vernon Kellogg spoke of

17 Brooke, J.H. 'The Wilberforce-Huxley debate: why did it happen?', *Science & Christian Belief* (2001) 13, 127-141; Livingstone, D.N. 'That Huxley defeated Wilberforce in their debate over evolution and religion', in Numbers, R.L. *Galileo Goes to Jail and Other Myths About Science and Religion*, Cambridge, MA: Harvard University Press (2009), pp. 152-160.

18 Colin Russell commented on them: 'Today the historical views of Draper and White are totally unacceptable, not merely because of many factual aberrations, but much more because they represent a long demolished tradition of positivist, Whiggish historiography... Draper ... was gripped by the fear of the power wielded by the Roman Catholic church... White was President of Cornell, the first non-sectarian university in the USA. His enemies had been those advocates of sectarian theology to whom the very existence of Cornell was a tangible threat... His book was directed not so much against religion as against dogmatic theology' ('The conflict metaphor and its social origins', *Science & Christian Belief* (1989) 1, 3-26, 6); Livingstone *op. cit.*, (17).

19 Author of *Kraft und Stoff* (1857; English edition 1864, as *Force and Matter*); this book is often cited as a significant catalyst in splitting science from religion and the consequent assumption that there is nothing outside the material world.

20 Provine, W.B. *The Origin of Theoretical Population Genetics*, Chicago: Chicago University Press (1971); Berry, R.J. *Neo-Darwinism*, London: Edward Arnold (1982).

‘the death-bed of Darwinism’ in his introduction to a book written for the jubilee of the *Origin*. He declared, ‘Darwinism as the all-sufficient or even the most important causo-mechanical factor in species-forming and hence as the sufficient explanation of descent, is discredited and cast down.’²¹ Into this apparent void, an extravagance of non-Darwinian theories poured: Bergson’s *L’Evolution Créatrice*, Berg’s *Nomogenesis*, Willis’s *Age and Area*, Smut’s *Holism*, Driesch’s entelechy, Osborn’s aristogenesis and orthogenesis. Invention was rampant. A common feature of all these speculations was some form of inner progressionist urge or *élan vital*. Unfortunately three standard and still-read histories of biology (by Nordenskiöld in 1928, Rádl in 1930 and Singer in 1931) were written during this time, perpetuating the idea that evolutionary theory is an illogical mess and that the Darwinian mechanism of natural selection is wholly inadequate as a causative agent.

This frenzy of evolutionary speculations was eventually answered by a series of theoretical analyses in the 1920s, beginning with two difficult and largely non-understood papers by R.A. Fisher, in which he showed that continuous variation could arise through the cumulative effect of many genes, each with a small effect, and that dominance was the result of interaction between genes rather than an intrinsic property of a gene by itself.²² This was then summarised in a series of major works – by Fisher himself, and by J.B.S. Haldane in Britain and Sewall Wright in the United States,²³ culminating in Julian Huxley’s summarising volume, *Evolution: The Modern Synthesis* in 1942.²⁴ Unfortunately – but perhaps not unreasonably – the scientific doubts of the early 1900s were taken as permanent defects by Christians who saw Darwinism as removing the creator God from his world, an assumption which enabled Richard Dawkins to write that ‘although atheism might have been tenable before Darwin, Darwin made it possible to be an intellectually fulfilled atheist’²⁵ and led in more recent times to the popularity (particularly among evangelicals) of ‘intelligent design’ to smuggle God back into his world.²⁶

Reaction in North America was complicated sociologically. It was catalysed by the popularity of Herbert Spencer’s ‘social Darwinism’ among

21 Kellogg, V.L. *Darwinism Today*, London: George Bell & Sons (1907), p. 374.

22 Fisher, R.A. ‘The correlation between relatives on the supposition of Mendelian inheritance’, *Transactions of the Royal Society of Edinburgh* (1918) 52, 399-433; ‘On the dominance ratio’, *Proceedings of the Royal Society of Edinburgh* (1922) 42, 321-341.

23 Fisher, R.A. *The Genetical Theory of Natural Selection*, Oxford: Clarendon Press (1930); Wright, S. ‘Evolution in Mendelian populations’, *Genetics* (1931) 16, 97-159; Haldane, J.B.S. *The Causes of Evolution*, London: Longmans (1932).

24 Huxley, J. *Evolution: The Modern Synthesis*, London: George Allen & Unwin (1942).

25 Dawkins, R. *The Blind Watchmaker*, London: Longman (1986), p.6.

26 Collins, F. *The Language of God*, New York: Free Press (2006), pp.193, 195; Berry, R.J. ‘Disputing evolution encourages environmental neglect’, *Science & Christian Belief* (2013) 25, 113-130.

liberals, typified by John D. Rockefeller's perception that 'The growth of a large business is merely survival of the fittest... [Forcing small companies out of business] is not an evil tendency in business. It is merely the working-out of a law of nature and a law of God.' This 'social Darwinism' was welcomed by the rich, but horrified the poor – they were now disinherited by God as well as by the often rapacious economics system.²⁷ It precipitated a chain reaction underpinned by literalist interpretations of Genesis, leading to the 'Scopes Monkey Trial' of 1925; the publication in 1961 of *The Genesis Flood* by John Whitcomb, a Bible teacher, and Henry Morris, a hydraulic engineer; and a series of legal attempts to establish 'creationism' as a scientific concept as opposed to a religious one – all of which failed.²⁸ An influential book by Bernard Ramm was critical of the idea of a universal Flood²⁹ and provoked the writing of *The Genesis Flood* seven years later. However, there was little coordinated anti-evolutionary activity by Christians in the US in the decades following the Scopes trial. The American Scientific Affiliation (ASA) was founded in 1941 as 'a fellowship of Christians in science and related disciplines who share a common fidelity to the Word of God and a commitment to integrity in the practice of science', but was more concerned with wider aspects of the Christian witness on science and religion.³⁰ This does not mean that evolution was not discussed; the ASA published a rather tentative symposium on *Evolution and Christian Thought Today* in 1959, based on discussions which had taken place over the previous few years.³¹

The European debate was much less heated. The Victoria Institute was formed in Britain in 1865 in the immediate aftermath of the *Origin*, to defend 'the great truths revealed in Holy Scripture... against the oppositions of Science, falsely so called' but declined after its prosperous early years.³² It gathered new life when Ambrose Fleming, inventor of the diode valve,

27 Durant, J. 'Darwinism and Divinity: a century of debate', in Durant, J. (ed.) *Darwinism and Divinity*, Oxford: Blackwell (1985), pp. 9-39; Cole, J.C. 'Scopes and beyond: antievolutionism and American culture', in Godfrey, L.R. (ed.) *Scientists Confront Creationism*, New York: Norton (1983), pp. 13-32; Shapiro, A.R. 'The Scopes trial: beyond science and religion', in Dixon, T., Cantor, G. & Pumfrey, S. (eds.) *Science and Religion: New Historical Perspectives*, Cambridge: Cambridge University Press (2010), pp. 198-220.

28 Whitcomb, J.C. & Morris, H.M. *The Genesis Flood*, Phillipsburg, NJ: Presbyterian & Reformed Publishing (1961); La Follette, M.C. (ed.) *Creationism, Science and the Law*, Cambridge, MA: MIT Press (1983); Numbers, R.L. *Darwinism Comes to America*, Cambridge, MA: Harvard University Press (1998); Larson, E. *Summer for the Gods*, Cambridge, MA: Harvard University Press (1998); Petto, A.J. & Godfrey, L.R. (eds.) *Scientists Confront Intelligent Design and Creationism*, New York: Norton (2007); Ruse, M. *The Evolution-Creation Struggle*, Cambridge, MA: Harvard University Press (2005).

29 Ramm, B. *The Christian View of Science and Scripture*, Grand Rapids, MI: Eerdmans (1954).

30 Numbers *op. cit.*, (3), p.158.

31 Mixter, R.L. (ed.) *Evolution and Christian Thought Today*, Grand Rapids, MI: Eerdmans (1959).

32 Numbers *op. cit.*, (3), pp. 141-143.

served as President from 1927-41. Independently of the Institute, Fleming and a few others set up an Evolution Protest Movement in 1935. It did not have much support. David Bebbington comments, 'That it existed is evidence of anti-evolutionary thinking in conservative Evangelicalism; that it remained small is evidence of the weakness of the cause, even among conservatives.'³³ Despite a distinguished suite of contributors, a collection of essays edited by Joseph Needham published in 1925 seems to have had little impact.³⁴ The 'biology' chapter was written by Needham himself on 'Mechanistic biology and the religious consciousness', concerned mainly with countering the vitalism of Hans Driesch. Theologians were more exercised about evolution than scientists. The problem for them was the Fall. This was raised on a number of occasions,³⁵ but ironically it was highlighted by an atheist, Robert Blatchford, writing in 1903: 'Accepting evolution, how can one believe in a Fall? When did man fall? Was it before he ceased to be a monkey, or after? Was it when he was a tree man, or later? Was it in the Stone Age, or the Bronze Age, or the Age of Iron? And if there never was a Fall, why should there be any atonement?'³⁶ Taking his cue from Blatchford, 'No Adam, no Fall; no Fall, no Atonement; no Atonement no Savior' became a clarion call for the passionate anti-evolutionist Adventist George McCready Price.³⁷ Price's legacy continues to fuel anti-evolutionism among conservatives.

Blatchford's challenge was picked up by 'modernist' theologians, notably R.J. Campbell, Frederick Tennant and Charles Raven in Britain, and Shailer Mathews and Harry Fosdick in the US.³⁸ Particularly significant was Ernest Barnes, a mathematician (he taught R.A. Fisher at Cambridge) and Fellow of the Royal Society. He left academia in 1915, serving as Bishop of Birmingham from 1924-53. Barnes became notorious for his 'gorilla sermons', in which he insisted that the old view of human nature and salvation had to be re-interpreted if Christianity was to do more than

33 Bebbington, D.W. *Evangelicalism in Modern Britain*, London: Allen Hyman (1989), p. 209. Bernard Acworth, one of the founders of the Evolution Protest Movement, tried without success to recruit C.S. Lewis. Lewis was sympathetic. In 1951 he wrote to Acworth, 'What inclines me now to think that you may be right in regarding it [evolution] as *the* central and radical lie in the whole web of falsehood that now governs our lives is not so much your arguments against it as the fanatical and twisted attitudes of its defenders' (Numbers *op. cit.*, (3), p.153).

34 Needham, J. (ed.) *Science, Religion and Reality*, London: Sheldon Press (1925).

35 See Ellegård *op. cit.*, (5), pp. 161-162; Roberts, J. *Darwinism and the Divine in America*, Notre Dame: University of Notre Dame Press (1988), pp. 107-110, 192-196.

36 Cited by Kent, J. *From Darwin to Blatchford*, London: Dr Williams's Trust (1966), p.11.

37 Numbers *op. cit.*, (3) pp. 73-101.

38 Bowler, P.J. *Reconciling Science and Religion*, Chicago: Chicago University Press (2001); Chappell, J.W. 'Rethinking the historical Fall in the light of evolution: F.R. Tennant and after', *Science & Christian Belief* (2013) 25, 131-154.

pay lip-service to modern science.³⁹ Humans had to be seen as apes on the ‘way up’. Barnes’s heterodoxy was such that he was rebuked by the Archbishop of Canterbury. The enthusiasm of this past generation of liberal theologians for ‘progress’ still recurs, although its connection to evolution is now little more than a footnote to history. However, the association of evolution with a particular version of theology has left a residue of suspicion in many theological circles, especially among evangelicals, and may well contribute to an unwillingness to engage seriously with evolutionary science.

Clearly, though, relationships between science and faith – highlighted by evolution – could not be simply ignored. The first productions of the nascent Inter-Varsity Press (the publishing arm of the IVF, now the UCCF) in the early 1930s were seven small booklets for students, five of them written by scientists (Three by Ambrose Fleming – *The Foundations of the Christian Faith*, *The Christian Faith in Relation to Modern Thought*, and *The Veracity of Holy Scriptures*; and two by an eminent surgeon, Albert Carless – *The New Birth* and *The Body and Its Lessons*).⁴⁰ An influential book which first appeared in 1942 and went through several editions was *Modern Discovery and the Bible* by another surgeon, Arthur Rendle Short, who was a frequent speaker to student Christian Unions. Rendle Short was somewhat equivocal about Darwinism, and changed his understanding through different editions. However Robert Clark, another early IVP author, was an avowed anti-evolutionist.⁴¹ In contrast, Gordon Manley, who was Chairman of the IVF Literature Committee and a major theological leader in the early years of the IVF (and Senior [First] Wrangler in mathematics at Cambridge, in the year that Bertrand Russell came sixth), held that ‘scientific developments that took evolution for granted tended to undercut materialist philosophies’.⁴²

Fresh thinking about Darwinism

A new look at the old problems was needed; the old ways represented by Fleming and Clark were increasingly unconvincing. In his history of the IVF, Douglas Johnson acknowledges the support of ‘respected senior

39 Barnes, E.W. *Scientific Theory and Religion*, Cambridge: Cambridge University Press (1933); Bowler, P.J. ‘Evolution and the eucharist: Bishop E.W. Barnes on science and religion in the 1920s and 1930s’, *British Journal for the History of Science* (1998) 31, 453-467; Bowler, P.J. *Monkey Trials and Gorilla Sermons*, Cambridge, MA: Harvard University Press (2007).

40 Johnson, D. *Contending for the Truth*, Leicester: IVP (1979), p.146.

41 Clark, R.E.D. *Creation*, London: Tyndale Press (1946); Numbers *op. cit.*, (3), p. 154-157. In a review of a revised edition of *Creation (Darwin, Before and After*. London: Paternoster, 1948), Charles Raven wrote that Clark ‘nowhere seems to realize that creation, if the “ever-working God” and not “a master-magician” is the Creator, must be a process and not an act, and that the study of evolution is the study of that process’ (*Nature* (1949) 163, 509-510).

42 Bebbington *op. cit.*, (33), p. 207.

[Christian] members of staff' (among whom he names Ambrose Fleming, Arthur Rendle Short and Albert Carless) in urging student leaders to retain theologically conservative views of the Bible and 'to keep alive all the essential elements of the religion of our Lord and the Apostles'.⁴³ But their approach 'mostly followed the lines of the older apologetics of the early part of the twentieth century' and there was a need for 'a new approach, new terminology and new thought modes'.⁴⁴ Zoologist Jan Lever of the Free University of Amsterdam began this process with a book published in Dutch in 1956, although not appearing in English translation until 1958.⁴⁵ Rather like Aubrey Moore half a century earlier, he argued that God may have used the evolutionary process in his creating work. Much more significant contributors to the new approach called for by Johnson were two Oxford University professors, Charles Coulson and David Lack, both born in 1910, both Fellows of the Royal Society, and both of whom died within a year of each other in their early 60s.

Coulson was a theoretical chemist. He regarded science and faith as complementary;⁴⁶ he is widely credited as popularising the inadequacy of belief in a 'God of the gaps', that is, using God as an explanation for a gap in scientific knowledge, on the grounds that advances in science can 'fill' that gap and hence reduce the place for God.⁴⁷ Coulson's attitude was 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'.⁴⁸ He was well-known and respected as a believer; his best known book is *Science and Christian Belief*, published in 1955.⁴⁹

Lack was an ornithologist, Director of the Edward Grey Institute of Ornithology (EGI) in Oxford from 1945 until his death in 1973. He was undoubtedly one of the leading ornithologists of the twentieth century; his biographer claims him as 'the Father of Evolutionary Ecology'.⁵⁰ He

43 Johnson *op. cit.*, (40), p.154.

44 Johnson *op. cit.*, (40), p. 290.

45 Lever, J. *Creation and Evolution*, Berkhout, P.G. (trans.), Grand Rapids, MI: International Publications (1958).

46 Leegwater, A. 'Charles Alfred Coulson (1910-74)', in Rupke, N.A. (ed.) *Eminent Lives in Twentieth-Century Science & Religion*, Frankfurt: Peter Lang (2007), pp. 47-77.

47 Coulson himself refers the notion of the 'God of the gaps' to Henry Drummond (*The Ascent of Man*, Glasgow: Hodder & Stoughton (1904), chap.10) who chastised those Christians who point to things that science could not yet explain – 'There are reverent minds who ceaselessly scan the fields of nature and the books of science in search of gaps – gaps which they fill up with God. As if God lived in gaps' – and urges them to embrace all nature as God's, the work of '... an immanent God, which is the God of Evolution, is infinitely grander than the occasional wonder-worker, who is the God of an old theology'.

48 Coulson, C.A. *Science and Religion: a Changing Relationship*, Cambridge: Cambridge University Press (1955), p.2.

49 Coulson, C.A. *Science and Christian Belief*, London: Oxford University Press (1955).

50 Anderson, T.R. *The Life of David Lack*, New York: Oxford University Press (2013).

was also a prime exemplar of a peculiarly British phenomenon:⁵¹ an avid birdwatcher who became a school teacher (at Dartington Hall, Totnes),⁵² took part in many natural history expeditions including a seminal visit to the Galapagos Islands, and (after war service) 'at the age of 35, having written 3 books and 50 papers... became a professional ornithologist'⁵³ and was appointed to a senior academic position. What was very much less usual was that Lack, who had previously described himself as an agnostic, became a Christian at the age of 38, three years after coming to Oxford. Ernst Mayr wrote of him,

I have known only a few people with such deep moral convictions as David Lack. He applied very high standards to his own work and was not inclined to condone shoddiness, superficiality and lack of sincerity in others. ... His intolerance of shoddy thinking did not mean that he was intolerant of disagreement. I can document this, because David and I had many disagreements, but they never disturbed our close friendship. He knew that we entirely disagreed in the matter of religion, I being an agnostic and he being a devout Christian.⁵⁴

Arthur Cain described him as 'the only religious man whom I knew at the period [1940s and 1950s] who did not allow his religion to dictate his view of natural selection'.⁵⁵

The Neylans and C.S. Lewis

In a memoir published after his death, Lack recorded that in 1948, 'unconnected with Oxford, but partly connected with former Dartington friends, I became converted to Christianity'.⁵⁶ Those friends were identified in Anderson's biography as two Dartington Hall teachers, Dan Neylan (1905-69) and his wife Mary (1908-97).⁵⁷ Mary (Shelley) Neylan went up to Oxford to read English Literature in 1931 with a major scholarship. She was a pupil of C.S. Lewis (1898-1963) and was expected to get First Class Honours. It

51 He was probably one of the people in R.C. Lewontin's mind when reviewing a *festschrift* for Lack's Oxford colleague, E.B. Ford (Creed, R. (ed.) *Ecological Genetics and Evolution*, Oxford: Blackwell (1971)) as coming from the largely 'British pastime traceable to the fascination with birds, butterflies and snails that was characteristic of the prewar upper middle class from which so many British scientists came' ('Testing the theory of natural selection', *Nature* (1972) 236, 181-182).

52 'How lucky I was not to be rushed by the need for a Ph.D.... and how lucky I was not to be pressed to complete work by a set date, so that it could grow naturally' (Lack, D.L. 'My life as an amateur ornithologist', *Ibis* (1973) 115, 421-431, p. 427).

53 Lack *op. cit.*, (52), p. 430.

54 Mayr, E. 'David L. Lack' *Ibis* (1973) 115, 432-434.

55 Cain, A.J. 'Genes and ecology in history', in Berry, R.J., Crawford, T.J. & Hewitt, G.M. (eds.) *Genes in Ecology*, 3-15, Oxford: Blackwell Scientific (1992), p.8.

56 Lack *op. cit.*, (52), p.431.

57 Anderson *op. cit.*, (50), p.127.

was a challenging time for a young woman at Oxford: constrained by past conventions, yet formally emancipated in the present. She claimed to be an atheist and ‘inspired by her wide reading, a passionate romanticism and a believer in free love’; she became involved with a married man.⁵⁸ She was good-looking, intelligent, and high-spirited. But she was obviously a chronic worrier. She corresponded often with her old tutor over the decade after graduation, not infrequently mentioning bouts of ill health or ‘troughs’; she underwent psychoanalysis in the late 1930s; she agonised about relationships; she fretted about her children; she had ‘rages, which terrified people’ and apparently lacked confidence in herself.⁵⁹ Her affair broke down at the time of her final exams and undoubtedly led to her getting only a fourth class honours degree.⁶⁰ Lewis was obviously fond of his young student; he wrote to her to encourage her and assure her that she did not have a fourth class mind.⁶¹

Despite her poor degree, she got a teaching job at Dartington Hall, probably because of a strong recommendation from Lewis (W.H. Auden applied for the same post). In 1935 she married Dan Neylan, who joined the staff soon after her. Her first child was born in 1938. A year later she went to see Lewis in Oxford, worried about bringing up her daughter. Lewis wrote about her visit to his brother away in France at the start of the Second World War: ‘She teaches at Dartington Hall, co-educational, no punishments, and no obedience expected unless the reason for the order can be made clear to the child. She now has a child of her own and finds it all won’t work, and what with that and the general stress of things is just beginning to throw out a tentative feeler in the direction of Christianity.’⁶²

Mary records that she bought Lewis’s *The Pilgrim’s Regress*⁶³ as soon as it was published and found it ‘a book which chimed in with my own experience and eventually influenced me to become a convert to Christianity’.⁶⁴ Lewis had written it soon after his own conversion. In his biography of Lewis, Alister McGrath described it as Lewis’s attempt to clear his own mind, ‘to put into words and images the processes of thought that had shattered his settled intellectual world during the previous three years.

58 Tisdall, S. ‘A goddaughter’s memories’, in Poe, H.L. & Poe, R.W. (eds.) *C.S. Lewis Remembered*, Grand Rapids, MI: Zondervan (2006), pp. 213-224, p. 215. Sarah Tisdall was the Neylan’s elder daughter and Lewis’s god-daughter.

59 Tisdall *op. cit.*, (58), p. 223.

60 Tisdall *op. cit.*, (58), p. 215.

61 Hooper, W. (ed.) *Collected Letters of C.S. Lewis*, vol. 2, New York: HarperOne (2004), p.113; Lewis to Mary Shelley, 31 July 1931.

62 Hooper *op. cit.*, (61), p. 314; Lewis to Warren Lewis, 31 December 1939.

63 Lewis, C.S. *The Pilgrim’s Regress*, London: Dent (1933).

64 Neylan, M. ‘My friendship with C.S. Lewis’, *The Chesterton Review* (1991) 17, 405-411, 406.

Lewis's conversion had forced him to redraw his intellectual maps, renegotiating his "treaty with reality".⁶⁵

A few months after her visit, Mary wrote again to her old tutor. She had questions about the compatibility of psychoanalysis and Christianity; she had profited from the former and was now seriously considering the latter. She had been seeing a psychoanalyst whose treatment was 'very painful, but cleansing like a surgeon's knife... If I implied at Christmas that psychoanalysis was the only thing [that helped me] I was not honest.'⁶⁶ She had 'just reread *The Pilgrim's Regress* and felt as if I had never understood it before'. Lewis responded with a long letter⁶⁷ using arguments about the reasonableness of the Christian faith which he went on to develop in four series of broadcast talks in 1941, 1942 and 1944.⁶⁸ He wrote to Mary,

The sweetly-attractive-human-Jesus is a product of nineteenth century scepticism, produced by people who were ceasing to believe in His divinity, but wanted to keep as much of Christianity as they could. It is not what an unbeliever coming to the records with an open mind will at first find there.... It's a good idea to try [reading] in some other language, or in Moffat's modern translation.

Lewis developed this argument as a so-called trilemma in a broadcast:

People often say about Jesus: 'I'm ready to accept Jesus as a great moral teacher, but I don't accept His claim to be God.' That is the one thing we must not say. A man who was merely a man and said the sort of things Jesus said would not be a great moral teacher. He would either be a lunatic – on a level with the man who says he is a poached egg – or else he would be the Devil of Hell. You must make your choice. Either this man was, and is, the Son of God: or else a madman or something worse. You can shut Him up for a fool, you can spit at Him and kill Him as a demon; or you can fall at His feet and call Him Lord and God. But let us not come with any patronising nonsense about His being a great human teacher.⁶⁹

Lewis wrote to his brother in the same week as to Mary:

This week I received a letter from my former pupil Mrs Neylan (the Dartington Hall mistress) who is trembling on the verge of Christian-

65 McGrath, A. *C.S. Lewis: A Life*, London: Hodder & Stoughton (2013), p. 170.

66 Unpublished letter in the Wade Center, Wheaton College, quoted by Brenton Dickieson, 'Letters to an Oxonian lady', blog posted 14 June 2012.

67 Hooper *op. cit.*, (61), p.376; Lewis to Mary Neylan, 26 March 1940.

68 Phillips, J. *C.S. Lewis at the BBC*, London: HarperCollins (2002). They were originally published by Geoffrey Bles as *Broadcast Talks [The Case for Christianity in USA]* (1942), *Christian Behaviour* (1943) and *Beyond Personality* (1944); combined and republished as *Mere Christianity* (1952).

69 Lewis, C.S. *Mere Christianity*, London: Collins (1952), p. 54.

ity – admits that the issue ‘can no longer be avoided’ – and asks what to read and (more difficult still) who to see. I felt almost overwhelmed by the responsibility of my reply, and naturally the more because two other [former pupils] whose conversion had something to do with me became papists!⁷⁰

Less than a month later, Mary Neylan – still not a Christian – wrote to Lewis for clarification about the meaning of the Anglican marriage service. She was concerned that its asymmetrical injunction for women to ‘obey’ their husbands implied that the woman becomes a ‘slave-wife’ and that it precluded her ‘going in for education’. It is possible that she was depressed, because she wrote to Lewis that ‘one of the things driving her into the arms of God was the realization that [she] was jealous of the bond her infant daughter had formed with her other caretaker’ (Mary’s daughter confirms that this was the nanny hired to help the undomesticated Mary, who had been ‘shattered’ by motherhood).⁷¹

By January 1941 the Neylans had left Dartington, and Mary had become a Christian.⁷² Lewis wrote to her,

Congratulations.... on your own decision. I don’t think this comes either too late or too soon. One can’t go on thinking it over for ever; and one can begin to try to be a disciple before one is a professed theologian.... Don’t worry if your heart doesn’t respond; do the best you can. You are certainly under the guidance of the Holy Ghost – or you wouldn’t have come where you are now; and the love that matters is His for you.⁷³

In April, he wrote again praising Mary for her honesty about her struggle; he suggested that God had used it in a redemptive way.⁷⁴ And a couple of weeks later he wrote once again, ‘I’m sure you are right and that God is leading you... when I suggested jealousy as one of the troubles. I never hope to see the human ship take a big wave in better style!’⁷⁵

Dan Neylan was raised as a Roman Catholic and attended the Jesuit run Wimbledon College. After reading Classics at Oxford and a time of boredom as an investment manager, he went to teach at Dartington Hall, where he met his future wife. At that time he was an agnostic. But he was a diligent enquirer; he liked to check out everything before committing

70 Hooper *op. cit.*, (61), pp.378-379. Lewis to Warren Lewis, 29 March 1940.

71 Tisdall *op. cit.*, (58), p. 217.

72 Years later Lewis wrote to a friend, ‘I once had a pupil who was a mistress at [Dartington Hall] and it seemed to me that the more sensible that girl became, the less she approved of Dartington.’ Mary’s daughter took a different view. She wrote, ‘I feel that it was a great mistake for my mother to leave Dartington. The discipline of teaching held her together psychologically.’ Tisdall *op. cit.*, (58), p. 219).

73 Lewis, W.H. (ed.) *Letters of C.S.Lewis*, London: Geoffrey Bles (1966), pp. 192-193.

74 Hooper *op. cit.*, (61), p.480; Lewis to Mary Neylan, 26 April 1941.

75 Hooper *op. cit.*, (61), p. 484; Lewis to Mary Neylan, 9 May 1941.

himself; the Neylans' life was marked by deep discussions about books, philosophy – and no doubt, the meaning of existence itself. His daughter wrote of Dan, 'Everyone loved my father. I think he was a saint, the nearest thing I have ever met to the true Christian ideal: loving, long-suffering, unselfish. A man of total integrity, a man more widely read than ninety-nine per cent of the population, with a good memory and thoughtful ideas.'⁷⁶ It is no wonder that the serious, probing David Lack was attracted to and influenced by Dan and his wife.

Dan became a Christian after his wife. One of the reasons Dan became an Anglican was his unhappiness about papal claims.⁷⁷ The Neylans marked their joint commitment by arranging to have their daughter baptised, four years after her birth.⁷⁸ Lewis agreed to be a godparent and came to the service. Two years later the Neylans asked David Lack to be godfather to their second daughter, born in 1946. In 1953, the Lacks invited Dan Neylan to be godfather to their second son, Andrew. The Neylans later moved to Godstone in Surrey, and Dan worked as a civil servant in Whitehall. Around this time he was licensed as a Lay Reader. The Neylans seem to have been 'high' Anglicans, often involved with the Mirfield fathers and the nuns at the Wantage Convent.⁷⁹

There was obviously a link between Lack and Lewis via the Neylans, but a more direct one occurred when David became a Fellow of Magdalen College in Oxford in 1947, where Lewis had been since 1925. They were very different personalities. Anderson records that 'They did not get on well, a fact that rather surprised David.'⁸⁰ Notwithstanding, David must have been influenced by the older man, never mind their common friendship with the Neylans. Lack gave his children Lewis's *Narnia* and the *Space Trilogy* books and apparently appreciated the *Screwtape Letters*;⁸¹ it seems unlikely that he did not also read some of Lewis's apologetic works. Their use of reason would have appealed to him. But we don't know what factors actually led Lack to commit himself to Christ.

The faith of the rather reserved Lack probably became known through his friendship with William (Bill) Thorpe, pioneer ethologist, Quaker and Gifford Lecturer. Thorpe wrote Lack's Royal Society obituary, describing Lack as 'from his confirmation [three years after his conversion] until the end of his life a staunch and devoted Anglican, never swerving from what he believed to be the essential Anglican position. The depth and security of

76 Tisdall *op. cit.*, (58), p. 223.

77 Sarah (Neylan) Tisdall, personal communication.

78 Tisdall *op. cit.*, (58), p.218.

79 Elizabeth Neylan, personal communication.

80 Anderson *op. cit.*, (50), p.128.

81 Andrew Lack, personal communication.

belief were time and time again demonstrated to his friends.⁸²

A new approach: evolutionary theory and Christian belief

Lack's lasting contribution to Christian thought is contained in his book *Evolutionary Theory and Christian Belief*, published in 1957.⁸³ Its importance should not be underestimated: it was the first major contribution to the evolution-Christianity debate by a scientist of the calibre of David Lack.⁸⁴ R.A. Fisher was a regular preacher in his College chapel in Cambridge and gave an Eddington Memorial Lecture in Cambridge in 1950 on Creative Aspects of Natural Law,⁸⁵ but this was directed to a specific topic rather than the generality of Darwinism and he never wrote more widely on the subject.⁸⁶ Charles Coulson had prepared the way for a fresh look at the relationship between faith and science, but he was a chemist and not directly involved with biological questions. Lack was a true pioneer.

Lack's book was an expanded version of a lecture 'Man and evolution – modern biological science in relation to Christian ideas of man's place in nature', given in a 1953 series on 'Modern Cosmology and Christian Thought' organised by ICI scientist John Wren-Lewis in St Anne's House, Soho, a centre established in the grounds of the (then) war-damaged church 'to promote discussion on any subject of general interest concerned with religion or religious thought'. Charles Coulson lectured in the same series on 'Creation and the expanding universe'. Thorpe had been invited to give a biological lecture, but excused himself, suggesting Lack in his place. Lack was the first scientist of his calibre to consider the subject in depth. He was under no illusions about his exposure. He began his lecture,

The recent contributions of biologists to religious and ethical discussion have all been made from the agnostic or atheist standpoint. It was a biologist, T.H. Huxley, who coined the term agnostic, and the living writers on this subject include Julian Huxley, Haldane, Waddington,

82 Thorpe, W.H 'David Lambert Lack 1910-1973', *Biographical Memoirs of Fellows of the Royal Society* (1974) 20, 271-293.

83 Lack, D.L. *Evolutionary Theory and Christian Belief*, London: Methuen (1957). A reprint appeared in 1961, with a chapter of 'Afterthoughts' added.

84 Lack was very significant in the application of science in ornithology, not least his use of radar to study bird migration; he is well known for his work on the *Geospiza* finches of the Galapagos, which he termed 'Darwin's Finches'; the Royal Society awarded him its Darwin Medal in 1972.

85 Fisher, R.A. *Creative Aspects of Natural Law*, Cambridge: Cambridge University Press (1950).

86 Moore, J.R. 'Ronald Aylmer Fisher: a faith fit for eugenics', in Rupke *op. cit.*, (46), pp. 103-138. Fisher 'did not subscribe to the dogmas of religion... [he] believed that the practice of religion was a salutary and humbling human activity' (Yates, F. & Mather, K. 'Ronald Aylmer Fisher, 1890-1962', *Biographical Memoirs of Fellows of the Royal Society* (1963) 9, 91-129, 96).

Hogben, J.Z. Young, Graham and others in Britain, and G.G. Simpson and many others in America. In short they include many of our leading biologists, none of them Christian, most of them scientific humanists and some dialectical materialists. I do not know of any book on these subjects by a living biologist who is a Christian.⁸⁷

Lack sent a copy of the lecture to Peter Medawar, Professor of Zoology at University College London and asked for his advice.⁸⁸ Medawar replied positively and perspicaciously, emphasising the difference between the potential achievements of science and topics which science cannot answer, the distinction which he developed years later in his book *The Limits of Science*.⁸⁹ In that book, Medawar regretted ‘my disbelief in God and religious answers generally, for I believe it would give satisfaction and comfort to many in need of it if it were possible to discover and propound good scientific and philosophic reasons to believe in God... I am a rationalist – something of a period piece nowadays, I admit...’⁹⁰ He wrote to Lack,

For my part, I do not believe that today’s prevailing agnosticism and scepticism has much to do with the advance of science, though many people will attempt to rationalize a pre-existing and not very articulate state of agnosticism by appealing to the progress of science. An ordinary man is far more likely to be an atheist because he can’t see the sense of divine dispositions which allows little children to be gratuitously knocked down by motor cars than because they have been upset by the alleged implications of quantum theory for the doctrine of free will. The answers to these questions, in so far as they exist, are of course theological.⁹¹

Lack was obviously encouraged by this reply, and responded with his short (116 page) book, *Evolutionary Theory and Christian Belief*. He was nervous about its reception. He sent the manuscript of his lecture or the book itself to no fewer than nine friends, described in the Preface as ‘Roman Catholic, Anglican, Quaker, and agnostic, biologist, philosopher, priest and layman.’ The nine were Arthur Cain – Anglican and zoologist; Alistair Crombie – zoologist turned science historian; Reg Moreau – Edward Grey

87 Unpublished text of lecture in the Lack Archive in the Alexander Library of Ornithology, one of the Bodleian Libraries.

88 Anderson *op. cit.*, (50), p. 122. This was an interesting choice. Medawar left Oxford (for Birmingham) in 1947; perhaps Lack and he met soon after Lack’s arrival in Oxford.

89 In *The Limits to Science* (New York: Harper & Row (1984)) Medawar pointed out that it is impossible to deduce ‘from the axioms and postulates of Euclid a theorem having to do with how to bake a cake’, p.47. Jeannie Medawar’s (Peter’s widow) wrote that the theme of her husband’s book was ‘that science should not be expected to provide solutions to problems such as the purpose of life or the existence of God, for which it is unfitted’ (Medawar, J. *A Very Decided Preference*, Oxford: Oxford University Press (1992), p. 220).

90 Medawar, P. *op. cit.*, (89), p. 96.

91 Unpublished letter in the Lack Archive in the Alexander Library of Ornithology, one of the Bodleian Libraries.

Institute colleague; Dan Neylan – his former colleague at Dartington Hall; Fr Pierce of the [Mirfield] Community of the Resurrection; J.L. Russell, S.J. of Heythrop College; Bill Thorpe; Bernard Towers – embryologist and disciple of Teilhard de Chardin; and Lack's wife's brother-in-law, Michael Wilson – an ordained Anglican. Lack comments, 'their vigorous and stimulating criticisms showed me many errors and helped me to appreciate their divergent viewpoints'.

Anderson says that the book was well received by reviewers, 'except for a rather acerbic review from a biblical literalist'. He exaggerates somewhat. The review was by D.W. Wood and appeared in *The Christian Graduate*. Wood took exception to Lack's assumption that Genesis 1-3 and Adam were not historical records, but continued, 'the author, having exhibited the bias and dogmatism of the professional scientist, proceeds to his philosophical discussion in a completely different spirit... This part of his book is stimulating and rewarding, and can be recommended.'⁹² Thorpe records that the book 'received a good deal of critical comment and a number of unfavourable reviews'.⁹³ This again seems an exaggeration. The point most commonly raised in the reviews was the need to distinguish between social evolution and the origins of morality.

Nature published a review by the theologian Eric Mascall, who judged the book 'as of much greater importance than its size would suggest'; he commended Lack as 'more competent than many distinguished scientists have been in handling philosophical questions'.⁹⁴ There is no doubt that Lack was perceptive in his selection of topics, dealing with all the major points of contention which are still raised 60 years later:⁹⁵ the randomness of mutation, the origins of novelty, the appearance of purpose and design, the evolution of complex traits, the existence of disease and animal death, the inadequacy of *élan vital* as an explanatory principle, the occurrence of miracles, the problem of interpreting scriptural stories. His comments remain pertinent and cogent, and his arguments have been strengthened by more recent discoveries in phylogenetics, epigenetics and the constraints on variation spelt out by Simon Conway Morris,⁹⁶ never mind the findings of many fossils.⁹⁷ Lack concludes,

the causes of conflict between Darwinism and Christianity have been due to unscientific and unwarranted claims, made especially by certain

92 Anderson *op. cit.*, (50), p.125; Wood, D.W. in *Christian Graduate* for June 1958.

93 Thorpe *op. cit.*, (82), p. 285.

94 Mascall, E.L. 'Evolution and theology', *Nature* (1957) 180, 671-672.

95 See e.g. Finlay, G., Lloyd, S., Pattermore, S. & Swift, D. *Debating Darwin*. Milton Keynes: Paternoster (2009); Nevin, N.C. (ed.) *Should Christians Embrace Evolution?* Nottingham: IVP (2009); *The Delusion of Evolution*, 5th edn., Nottingham: New Life Publishing (2013).

96 Conway Morris, S. *Life's Solution: Inevitable Humans in a Lonely Universe*, Cambridge: Cambridge University Press (2003).

97 Montgomery, D.R. *The Rocks Don't Lie*, New York: Norton (2012).

(but not all) Christians in relation to biology, and by certain (but not all) evolutionary biologists in relation to metaphysics... although on theological grounds the ordering of the animal creation may to some persons seem surprising, man is surely unqualified to judge whether this ordering is in any way evil, or contrary to divine plan.⁹⁸

Lack was particularly concerned with the problems of human origins. He saw no problem with the physical evolution of humankind, but – harking back and taking a contrary view to Bishop Barnes – for him,

whether a more literal or a more allegorical view is taken, the doctrine of the Fall is basic to Christian belief. The statement by Darwinists such as G.G. Simpson (*The Meaning of Evolution*, 1951) that ‘man has risen, not fallen’ misses the point. The human race evolved from beasts, and each adult was once an unconscious embryo, but until a man has attained to his peculiar powers, he cannot misuse them. An act we regard as evil for a man would not be evil if performed by a bird, since evil comes in question only when there is responsibility for action. The Christian view is superior to that of evolutionary ethics in recognizing the importance of individual responsibility, high moral standards and the tendency to do evil; and though the language used is allegorical, not scientific, T.H. Huxley acknowledged that ‘it is the secret of the superiority of the best theological teachers to the majority of their opponents that they substantially recognize these realities of things...’ (*Life*, 1903).⁹⁹

Made in the image of God

The problem is to identify the source of humanness. Lack is clear that ‘a Christian, agreeing to evolution by natural selection, has to add that man has spiritual attributes, good and evil, that are not the result of evolution, but are of supernatural origin. A secular humanist, likewise agreeing to evolution by natural selection, accepts the validity of morality, truth and beauty, while acknowledging that their genesis cannot yet be established.’¹⁰⁰

Lack concluded his St Anne’s House Lecture with a frustration which most apologists can share, ‘When formerly I was an agnostic, I found the arguments of agnostic biologists convincing, where now I find them unsubstantiated assumptions. Hence I do not suppose that arguments change our views. It is simply that agnostics seem blind to the most important aspects of life: though there is this difference from physical blindness – it can be removed.’ In other words, rational argument can only take one so far

98 Lack *op. cit.*, (83), pp. 71, 78.

99 Lack *op. cit.*, (83), p.108.

100 Lack *op. cit.*, (83), p. 115.

– it is sterile if it is not followed by commitment.¹⁰¹ C.S. Lewis had exactly the same realisation. He was persuaded intellectually of Christian truth by his friends Tolkien and Dyson but it was two weeks later on a motor cycle journey with his brother that he changed from intellectual assent to personal commitment: ‘When we set out I did not believe that Jesus Christ is the Son of God, and when we reached the zoo [Whipsnade] I did.’¹⁰² Lack makes the same distinction in an undated and unpublished postscript in his archive, which he calls ‘the next step’. It would be interesting to know why he never ‘went public’ on this extremely important point. His ‘next step’ paper in full is:

The lecture was, of course, concerned with theism, not specifically with Christianity. My impression is that, twenty years ago, nearly all agnostic biologists were effectively atheists; but nearly all the agnostics who read the lecture said to me that they accept the arguments given there for theism, but cannot move from theism to Christianity. I was often asked for advice on the next step that I felt I ought to give it, though any such attempt will be very inadequate.

The three main factors in my own change from atheism to Christianity, so far as I am aware, were the necessity for an external standard by which to recognize evil, the fact of the Resurrection, and prayer. The first of these was discussed in the lecture, and while one does not usually come to accept theism through abstract reasoning, the events determining one’s acceptance depend on principles which can be generalised.

The second point, the fact of the Resurrection, depends on a different type of evidence and reasoning from the philosophical, a type to which the scientist is even less accustomed. The evidence of science is repeatable, the arguments of philosophy proceed logically, but the validity of unique events concerned with persons depends on historical evidence. The Resurrection, like other miracles, can be neither proven nor refuted by science, since everyone agrees it was contrary to the normal laws of nature, and this is all that science can tell about it. The evidence by which it has to be assessed is historical. In this connection, the simple, often naïve, gospels reads like a genuine account. The ethical teaching is generally believed to be a correct account, and there is sound reason for accepting this as genuine and rejecting the miraculous accounts which are interwoven with it. However, at the time of Jesus’ trial and execution, His disciples were in despair and hopeless. A few weeks later, they started confidently to convert the world, and the gospels make it clear first that they were slow to believe the Resurrection and secondly

101 Tom Wright makes a very similar point in a completely different way in his book *How God Became King* (SPCK, 2012), arguing that the creeds of the Church ‘bookmark’ faith but say almost nothing about the Jesus who lived on earth and wants our obedience.

102 Lewis’s own account is given in *Surprised by Joy* (Geoffrey Bles, 1955); it is discussed and contextualised by McGrath *op. cit.*, (65), p.152.

that, once they had become convinced of it and once they had received the gift of the Holy Spirit at Pentecost, they were changed men. It is straining the evidence to suppose that they could have been the victims of fraud or error, still more so to suppose that they might have been responsible for the fraud. Further, if we accept the ethical pronouncements of the gospels as genuinely coming from Jesus, as we do, there is no sound reason to doubt that He also proclaimed Himself to be the Son of God, a claim which unless true is not only absurd but blasphemous (hence His execution), and unless true is quite out of keeping with His other teaching and His life. No other teacher whose ethics we admire made such a claim.

Coming now to the third point, prayer helps, and in most people may be necessary, for conversion. Those who accept theism intellectually ought, surely, to act on their belief. If they wait by sitting back, it seems unlikely that they will be changed; and the matter is urgent. While conversion occurs, at least in one sense, from outside, and the time is not of our choosing, prayer makes one ready for its coming. So one should practise in prayer, submitting one's own will, and this one can do effectively as a theist before accepting Christianity.

My advice to non-Christian theists is, then to study the gospels (perhaps in Rieu's Penguin translation)¹⁰³ and to pray regularly; and provided that one works hard in this way, not to worry if nothing seems to happen for a while. While the reading of books by Christians may help, too much introspection, too much self-consciousness and too much abstract argument can be dangerous. The Lord provides for us what we need, though far from always in the way we expected.

The emphasis that Lack places on the Resurrection as a non-negotiable component of belief is intriguing. He certainly was not averse to accepting a transcendent God. It is a tragedy that Lack died (of non-Hodgkin's lymphoma) before following up these thoughts. He gave a Royal Institution discourse in May 1960 which was published in *Nature*, but did no more than summarise the points he made in his book,¹⁰⁴ and he included a 1962 lecture on 'T.H. Huxley and the nature of man' in a collection of essays printed in 1965.¹⁰⁵ In another 1965 publication, he contributed a chapter on 'Natural selection and personality' to a symposium on *Biology and Personality*, edited by Bishop Ian Ramsey.¹⁰⁶

103 E.V. Rieu produced a translation of the four gospels in the Penguin Classics Series in 1952, one of the earlier attempts to make the text available in modern language. It is similar to the advice Lewis gave Mary Neylan – to read the Gospels in the Moffat version.

104 Lack, D. 'The conflict between evolutionary theory and Christian belief', *Nature* (1960) 187, 99-100.

105 Lack, D. 'T.H. Huxley and the nature of man', in *Enjoying Ornithology*, London: Methuen (1965), pp. 209-221.

106 Ramsey, I. (ed.) *Biology and Personality*, Oxford: Blackwell (1965).

His one recorded more populist venture was giving the 1960 Drawbridge Lecture of the Christian Evidence Society, an organisation founded in 1870 'to tackle the problem of unbelief. Its specific function was to present the case for Christianity to as wide an audience as possible, especially to those who were in danger of being influenced by the rise of an aggressive movement on the part of Free Thinkers.'¹⁰⁷ In its early years, the Society was best known for outdoor evangelism; more recently its activities have been centred largely in broadcasts through Premier Radio. In 1946 an annual Drawbridge Lecture was initiated, named after the Rev. C.L. Drawbridge, Secretary of the Society from 1915 to 1937.

Lack's Drawbridge Lecture was published as a booklet, *The Implications of Evolution*.¹⁰⁸ He rehearses much of the material about improper objections to the evolutionary process given in his book, and concludes (as in the book) with a discussion about the nature of humanness. He is clear that 'self-awareness and free-will are either present or absent, and that an intermediate state between their absence and presence is inconceivable (though once present they are capable of further development)'. He quotes T.H. Huxley with approval when Huxley wrote that evolution 'is incompetent to furnish any reason why what we call good is preferable to what we call bad'. For Lack, 'as Christians, we may stand fast on the problem of moral values, which have not been shaken in the least by the theory of evolution... free will, the assent of truth, and moral values, all seem to be outside the terms of reference of science, yet they are basic to human experience'.

In an unpublished statement cited by Anderson, Lack wrote,

My personal view is that we must accept the scientific conclusion that man has evolved... by natural selection from (amoral) animals. But while this may appear to mean that man has no free-will, that he has no ethical (as opposed to social) behaviour, and that he has no reliable appreciation of truth, I accept the existence of these attributes in man because I consider that, although they come outside the limits of scientific investigation, and from their nature must always do so, yet they are valid, indeed essential, parts of the human experience.¹⁰⁹

Elsewhere he states 'on the Christian view, a supernatural event took place at the time of man's first appearance, before which our ancestors were proto-human mammals and after which, through the divine gift of a soul, they were truly human'¹¹⁰ and 'a Christian, agreeing to man's evolution by natural selection, has to add that that man has spiritual attributes,

107 Gann, J.W. *A History of the Christian Evidence Society*, Chelmsford: Christian Evidence Society (2005).

108 Lack, D.L. *The Implications of Evolution*, London: Christian Evidence Society (1965).

109 Anderson *op. cit.*, (50), p. 125.

110 Lack *op. cit.*, (83), p. 89.

good and evil, that are not a result of this evolution, but are of supernatural origin'.¹¹¹ He saw the popularity of Pierre Teilhard de Chardin's *The Phenomenon of Man*¹¹² as arising from its claim to show a bridge between man and other animals, but disagreed with Teilhard in his identification of the basis of humankind's 'peculiar qualities' in non-human animals.

Lack's interpretation of humanness resulting from 'a supernatural event [which] took place at man's first appearance' is noteworthy. It seems very similar to the understanding of John Stott,

[My] belief is that several forms of pre-Adamic 'hominid' may have existed for thousands of years previously [to the appearance of Adam. These hominids began to advance culturally. They made their cave drawings and buried their dead. It is conceivable that God created Adam out of one of them. You may call them *Homo erectus*. I think you may call some of them *Homo sapiens*... But Adam was the first *Homo divinus*, if I may coin a phrase, the first man to whom may be given the biblical designation: made in the image of God.¹¹³

There is no reason to assume that *H. divinus* would have differed anatomically or genetically from its ancestors, but it is convenient to be able to distinguish it as a new development.¹¹⁴ As a trained taxonomist, Lack would have almost certainly have appreciated the terminology.

Bill Thorpe, almost certainly Lack's mentor in theological matters, had differences with Lack on this issue, centring 'round the question whether the origin of entirely new qualities in evolution and in ontogeny must be regarded as by gradual or entirely discrete steps. He [Lack] regarded the step from no-consciousness to consciousness as an absolute one whereas I adopted the emergent view.'¹¹⁵ This also baffled his colleague (and boss) Alister Hardy, who wrote, 'I have always felt that religion and biology must be brought together in one harmonious scheme of thought; he [Lack], in a manner I could never understand, was able to embrace within his mind both Darwinian theory and orthodox Christianity, apparently keeping them in water-tight compartments.'¹¹⁶ In fact, Thorpe and Hardy do not seem to differ too widely from Lack. All three agree that 'something' happened which differentiated (in Stott's terminology) *Homo divinus* from *Homo sapiens*, whether this occurred gradually or more suddenly. It is reminiscent also of Alfred Russel Wallace's understanding on an issue where

111 Lack *op. cit.*, (83), p.115.

112 Teilhard de Chardin, P. *The Phenomenon of Man*, London: Collins (1976).

113 Stott, J.R.W. *Understanding the Bible*, London: Scripture Union (1972), p.63.

114 Finlay, G. '*Homo divinus*: the ape that bears God's image', *Science and Christian Belief* (2003) 15, 17-40; Berry, R.J. 'Did Darwin dethrone humankind?', in Berry, R.J. & Noble, T.A. (eds.) *Darwin, Creation and the Fall*, Nottingham: Apollos (2009), pp. 30-74.

115 Thorpe, *op. cit.*, (82), p. 285.

116 Hardy, A.C. 'David L. Lack', *Ibis* (1973) 115, 434-436, 436.

he disagreed with Darwin. He wrote, 'Man has something which he has not derived from his animal progenitors – a spiritual essence or nature... [that] can only find an explanation in the unseen universe of Spirit.'¹¹⁷ In this Wallace was probably influenced by his belief in spirit[ual]ism which would not be shared by Lack and the others. It is sad that there seems no record of Lack's dealings with Charles Coulson, who was exploring some of the same problems as him at the same time and in the same city. Lack quotes Coulson's *Science and Christian Belief* in several places in *Evolutionary Theory and Christian Belief* – perhaps even taking his title from Coulson – but we do not know if the two ever discussed their religious faith as scientists.

Lack died before the advent of sociobiological theory¹¹⁸ and the idea that group selection could be an integral part of breeding biology, a concept which deeply interested him. He would certainly have been part of the (continuing) debates around the subject because of his concern about – and opposition to – group (as opposed to individual) selection.¹¹⁹ He also missed the emerging understanding of the unitary picture of human nature, with the soul being an expression of our whole being rather than a distinct entity in its own right.¹²⁰ He would surely have welcomed the shift from the Greek dualist interpretation of mankind as body plus soul which dominated Western thought until fairly recently, to the Hebraic monism which emphasises the key of humanness as being 'relationship'.

Christian understanding of humanness

The crux of the modern understanding of human nature depends on how to interpret 'God's image', which is the distinguishing trait of humankind according to Genesis 1: 26, 27. The conventional assumption is that humanness may have appeared as an emergent character involving self-consciousness or self-knowledge.¹²¹ This was Thorpe's understanding¹²² and

117 Wallace, A.R. *Darwinism*, London: Macmillan (1889), pp. 474, 477.

118 Launched by Hamilton, W.D. 'The genetical evolution of social behaviour', *Journal of Theoretical Biology* (1964) 7, 1-52; popularised by Wilson, E.O. *Sociobiology*, Cambridge, MA: Harvard University Press (1975); see also Segerstrale, U. *Nature's Oracle*, Oxford: Oxford University Press (2013).

119 Lack, D. *Population Studies of Birds*, Oxford: Clarendon Press (1966).

120 Jeeves, M.A. 'Psychologising and neurologising about religion: facts, fallacies and the future', *Science & Christian Belief* (2009) 21, 25-54; Jeeves, M.A. (ed.) *Rethinking Human Nature*, Grand Rapids, MI: Eerdmans (2011).

121 For example C.S. Lewis wrote, 'For long centuries, God perfected the animal which was to become the vehicle of humanity and the image of Himself.... Then in the fullness of time, God caused to descend on this organism, both on its psychology and physiology, a new kind of consciousness which could say 'I' and 'me', which could look upon itself as an object, which knew God, which could make judgements of truth, beauty and goodness' (*The Problem of Pain*. London: Geoffrey Bles (1940), p.68).

122 Thorpe, W.H. *Biology and the Nature of Man*, London: Oxford University Press (1962).

the ground of his difference with Lack. But what is the 'image'? In a detailed analysis of possible meanings, Richard Middleton wrote, 'the *imago Dei* designates the royal office or calling of human beings as God's representatives and agents in the world, granted authorized power to share in God's rule or administration of the earth's resources and creatures'.¹²³ This function is complemented and enabled by our transformation into mankind-soul unities – which is, of course, our creation as human beings in the fullest sense. This transformation must be a divine act and must have occurred in time, even if it can be described in scientific language. In his 'Next step' paper Lack apparently dissents from the miracles described in the gospels, but he was clearly in no doubt about the reality of the Resurrection. Notwithstanding he emphasises that miracles are necessarily outside the realm of science.¹²⁴

Claus Westermann expresses the mankind-soul unity as a kinship: 'The relationship to God is not something which is added to human existence; humans are created in such a way that their very existence is intended to be their relationship to God'.¹²⁵ Dermot McDonald argues similarly. After an extensive review of the Bible, he concluded that image should be taken as indicating 'sonship':

Man's chief end is to glorify God. Such was God's intention for the man he made. But man could only respond to the divine desire in so far as he reflected God's glory. And it was in him so to do because he was created in the image of God with the gift of sonship.... All men are in the image of God by reason of an original creative sonship through Adam.¹²⁶

Middleton sees our role as 'representing and perhaps extending in some way God's rule on earth through the ordinary communal practices of human sociocultural life',¹²⁷ which is not very different from C.F.D. Moule's conclusion, 'the most satisfying of the many interpretations, both ancient and modern of the meaning of the image of God in man is that which sees it as basically responsibility'.¹²⁸

We cannot know if these theological thoughts would have recommended themselves to Lack. He concluded his 'Afterthoughts' in the 1961 edition of his book,

123 Middleton, R. *The Liberating Image*, Grand Rapids, MI: Brazos (2005), p. 27.

124 Lack *op. cit.*, (83), pp. 39-43.

125 Westermann, C. *Genesis 1-11*, Scullion, J.J. (trans.), London: SPCK (1984), p.158.

126 McDonald, H.D. *The Christian View of Man*, London: Marshall, Morgan & Scott (1981), p. 40.

127 Middleton *op. cit.*, (123), p.60.

128 Moule, C.F.D. *Man and Nature in the New Testament*, London: Athlone (1964), p. 5. For a more extended review of different understandings of the 'image' see Berry, R.J. 'Adam or Adamah?', *Science & Christian Belief* (2011) 23, 23-48; for the working out of the responsibility of possessing the image, see Berry, R.J. (ed.) *Environmental Stewardship*, London: Continuum (2006); Berry, R.J. (ed.) *When Enough Is Enough*, Nottingham: Apollos (2007).

the real gap is not [between animals and man], but between two methods of enquiry, scientific and philosophic [or theological], both of which are valid in the study of human nature, but only one of which, the scientific, is valid in the study of other animals. If this interpretation is correct, it suggests that no truly scientific theory can conflict with Christian beliefs.... This does not mean that the conflict has been resolved, but it may mean that the battles have been fought over ideas that were wrongly formulated.¹²⁹

Charles Darwin wrote in his autobiography, 'I think I am superior to the common run of men in noticing things which easily escape attention, and in observing them carefully. My industry has been nearly as great as it could be in the observation and collection of facts. What is more important, my love of natural science has been steady and devout.'¹³⁰ The same could be said of Lack. His science was based on and driven by observation. His faith drove him to explore its relationship to his science. He was an important pioneer in ornithology and evolutionary ecology, but he was also a significant trail blazer in seeking a firm theological base for evolution. Like all pioneers, he did not find all the answers, but he pointed the way to those who followed him – both Christians and scientists. In dedicating himself to firmly grounded truth, he was like his great predecessors – John Ray, Charles Darwin, Alfred Russel Wallace, Joseph Hooker.

At the Linnean Society celebration of the 50th anniversary of the Darwin-Wallace announcement of natural selection, Wallace – the grand old man of the proceedings – asked 'Why did so many of the greatest intellects fail, while Darwin and myself hit upon the solution of the problem?' His answer was that both he and Darwin had been 'ardent beetle-collectors' and were 'constantly led to think upon the "why" and "how" of all the wonderful variety of nature... Then (both of us almost accidentally) we became travellers, collectors and observers in some of the richest and most fascinating portions of the earth.'¹³¹ In an autobiographical note, Lack wrote of himself that he 'suppose[d] I may be one of the last to be elected [a Fellow of the Royal Society] for research done as an amateur'.¹³² Alan Hodgkin who was at school with Lack and went on to become President of the Royal Society and be awarded a Nobel Prize, wrote an obituary of Lack in which he 'hoped that this prediction will not be fulfilled'.¹³³ David Lack was not a beetle-collector, but he was a man of like passions to Darwin and Wallace in his travelling, collecting and observing – and, at least as important, in communicating. *Evolutionary Theory and Christian Belief* left many loose

129 Lack *op. cit.*, (83), p.129.

130 Barlow, N. (ed.) *The Autobiography of Charles Darwin 1809-1882*, London: Collins (1958), p. 141.

131 Berry, A.J. & Browne, J. 'The other beetle-hunter', *Nature* (2008) 453, 1188-1190.

132 Lack, D. *op. cit.*, (52).

133 Hodgkin, A.L. 'In appreciation', *Ibis* (1973) 151, 431.

ends, but should be applauded for its approach and stimulus for positive follow up and solid theology.¹³⁴

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134 This essay was stimulated by Ted Anderson's *Life of David Lack*. My thanks are due to Dr Anderson for prompting me to re-read Lack's *Evolutionary Theory and Christian Belief* and for answering my queries, to Alistair McGrath for guiding me into the massive literature surrounding C.S. Lewis, to John Hedley Brooke for guidance on the science-religion literature in the inter World Wars period, to Sophie Wilcox, Librarian of the Edward Grey Institute, and particularly to David Lack's son, Andrew and the Neylans' daughters, Sarah Tisdall and Liz Neylan for their gracious patience in answering and correcting my impressions of their parents.