

Book Reviews

Anna Case-Winters
Reconstructing a Christian Theology
of Nature: Down to Earth

Aldershot/Burlington VT: Ashgate, 2007.
 183 pp. hb. £50.00. ISBN 978-0-7546-
 5476-6

This is an attempt, from within the Reformed tradition, to contribute towards ‘a more viable theology of nature’(1). The author considers that the need for such a reinterpretation of existing theology lies in the ‘state of the world’ (the usual ecological suspects but presented within a wider canvas of economics and health issues) and the ‘state of theology’. The latter includes the obvious accusations, from Lynn White, of dualism between God and World leading to anthropocentrism and the desacralisation of nature. However, Case-Winters expands the challenge to include attacks by both feminist and process thought on other hierarchical dualisms within the Christian tradition, and the need posed by scientific understandings of origins and causation to reconsider our accounts of creation, human distinctiveness, and divine action. A more adequate Christian theology of nature should address these issues while retaining a concept of a God worthy of worship, both immanent in the world yet sufficiently distinguished from it (a weakness she finds in the work of McFague and Kaufmann); it should also establish the alterity and intrinsic value of nature and provide a model for living within it (41, 131, 145).

Curiously, despite finding a number of fruitful contributions within her own Reformed tradition, notably in the works of Calvin, Moltmann, Hall and Rolston (Ch.3), Case-Winters does not build much on these but turns to process thought, more specifically process pantheism, to articulate a view of God and world which maintains the distinction between the two without collapsing into pantheism

and allows for divine action without violation of natural laws. Other panentheisms would presumably also achieve this but she sees process thought’s value lying within its espousal of ‘panexperientialism’, its ‘refusal of a material-spiritual dualism in which God and the human being have a monopoly of spirit and the rest of nature is simply material’ (129). It lets God off the theodical hook to some extent, and provides a non-hierarchical view of reality.

The strength of this book is its identification of the wider issues (not just the ecological crisis) facing a theology of nature and its juxtaposition of a number of different approaches to dealing with the problems she identifies. If you find process thought a satisfying and coherent account of the world then you may find her thesis convincing. I would have liked to see her working more with some of the promising lines of thought she identified within her own tradition, using the texts themselves to reshape a more robust theology of nature to counter the weaknesses of classical theology. For instance, the material on humanity as dust and as *imago Dei* (119-23) is particularly helpful.

The merits of this book are unfortunately undermined by a degree of repetition and errors in syntax, punctuation and referencing, the latter being a confusing mixture of Harvard style and footnotes. The content as a whole would have been improved by some acknowledgement of other contributions towards a theology of nature more adequate to our current situation yet situated firmly within the Christian scriptures, such as those from Michael Northcott, Celia Deane-Drummond and James Nash.

Despite its publication within the interdisciplinary *Ashgate Science and Religion Series*, this is a theological treatment of the topic with only enough

science included to convince the reader of the necessity of the task undertaken and the suitability of the solutions proposed; in fact, the inclusion of some topics, such as ID, does not really contribute to the overall thesis. Although some theological terms are defined and explained they are not always appropriately presented (for example, panentheism is defined on p. 126 although occurring, according to the index, on 17 different pages *before* then) so a non-specialist reader might find it quite a challenging read.

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Kevin S. Seybold
*Explorations in Neuroscience,
Psychology and Religion*

Aldershot, Hampshire, UK &
Burlington, VT, USA: Ashgate, 2007. 163
pp. hb. £50/\$99.95. ISBN 978-0-7546-
5563-3

Recent developments in neuroscience and psychology raise many questions for Christians, ranging from the nature of the soul to the evolution of religion, and the stated aim of this book is to address these for the benefit of the 'person in the pew'.

The first five of the book's ten chapters provide the factual and conceptual background for the remaining five. The initial three chapters sketch the basics of neuroscience and psychology, and dissect subtle distinctions between the terms 'religion' and 'spirituality'. Chapter 4 summarises in a mere but masterly seven pages how the philosophy of science has changed since the days of positivism, mentioning the ideas of Kuhn and Polanyi, and considers the issues of naturalism and reductionism in relation to psychology and neuroscience. Chapter 5

deals with the interactions between religion and science, and refutes claims that they are inevitably in conflict, drawing on the ideas of Habgood, Barbour and McGrath.

Having laid the foundations in the first half of the book, Seybold turns in the second half to the questions raised by modern neuroscience and psychology, and attempts to show that 'it is possible to be both an honest Christian and an honest scientist'. I think he succeeds well.

Chapter 6 ('Brain and Religion') deals with whether emotional and religious experiences can be reduced to brain activity, as had been claimed by Persinger and others. Seybold argues convincingly that to explain is not to explain away.

Chapter 7 ('The Self') deals with selfhood and the nature of the soul, and summarises the philosophical debate between monists and dualists. He appears to favour the nonreductive physicalism of Nancey Murphy and Warren Brown, a moderate form of monism that accepts the mind as an emergent, depending on the brain but 'nevertheless a different property that cannot be viewed as consisting of nothing more than neurons and neurotransmitters'. And he draws on theologians such as Joel Green to argue that nonreductive physicalism is consistent with Scripture. While I happen to agree with Seybold's position, I feel he gives here insufficient attention to theologians with a contrary view such as J.W. Cooper. In this same chapter, Seybold discusses the somewhat different problem of brain disorders that affect a person's experience of selfhood, and their implications for Christian belief and practice.

Chapter 8 provides a balanced survey of evolutionary psychology as applied to the origins of morality, altruism, sexual tendencies and religion, pointing out both the explanatory power of this approach but also its relative lack of supporting evidence. Problems raised for

Christian belief are addressed including the apparent contradiction between evolutionary psychology and the biblical account of the Fall.

Chapter 9 considers the influences of religion and spirituality on health, and provides a discussion of recent research on the neuropsychology of forgiveness.

Chapter 10 looks into the future and discusses ethical questions that may arise from the application of new technology to brain enhancement.

I am glad I read this book. It is not particularly original, and does not claim to be, but it provides a superbly balanced and well-informed overview of the implications of modern neuroscience and psychology for Christianity. More weight is given to psychology than to neuroscience (there is no discussion of neural determinism), which probably reflects the fact that Seybold is a professor of psychology. I discovered from the web site of his College (Grove City, a Christian college in Pennsylvania) that he gives regular courses on Science and Religion, and Psychology of Religion. His experience in teaching these subjects comes out in the clarity and evenness of this book. It will be tough going for the average 'person in the pew', but I think it is just right for many readers of *Science and Christian Belief*.

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Walther Thirring

Cosmic Impressions: Traces of God in the Laws of Nature

Philadelphia and London: Templeton Foundation Press, English Translation 2007. 88 pp. pb. £12.99. ISBN 978-1-59947-115-0

Walther Thirring has spent a long and distinguished career researching in many areas of theoretical physics. Born

in Austria, he writes from a Catholic background and in this book he presents some wide-ranging perspectives of physical science, seen from a faith-based point of view. The present volume is a translation of the original German version.

Thirring's account focuses on the areas of cosmology, astrophysics, the physics of the solar system and particle physics, with some thoughts on how life is able to exist on our planet. While broad in scope, the discussion does not attempt to be exhaustive or overly rigorous, but rather to convey general principles to a non-specialist reader, especially with regard to a number of topics that are of particular interest to the author. All the chosen topics are important and well merit the emphasis given to them.

In any book such as this, a professional author has the problem of how to communicate the specialist aspects of his subject to a non-specialist readership – in this case the more mathematical aspects. Thirring includes quite a lot of equations and mathematical concepts in his text, trying to keep it all quite elementary and relegating much to a series of Appendices. I suspect he has not fully succeeded in his intentions: the non-mathematical reader will still probably find this material heavy going, even though it comprises a small fraction of the text overall. At the same time, other readers may find the lack of real mathematical detail a little frustrating. There is no easy compromise available, but some criticism must be made of the translator, who writes in a very informal American style but is apparently not a native English speaker. In particular, mathematical terminology is sometimes inaccurately rendered, such as referring to the 'answer' rather than the 'solution' to an equation, and talking about the 'level' rather than the 'plane' of an elliptical orbit (118). This kind of faux pas is unhelpful and should have been avoided.

The basic message of the book is in line with anthropic ideas, namely that the universe at all levels is remarkably con-

sistent with a principle that the physical processes should enable the emergence of intelligent advanced life and appear surprisingly well set up for this to occur. Thirring takes pains to discuss the stability of the solar system. This cannot be taken for granted. Despite Laplace's conviction two centuries ago that he had proved that the planetary orbits are in the long term stable, it later became realised that his arguments lacked the necessary precision, and even now we cannot be completely certain of the situation. But yet the earth has survived for the necessary millions of years in a condition that has enabled life to evolve. Thirring argues that this is far from being an obvious expectation.

The style of the book is very idiosyncratic, but there is no sin in that. Much of the text has the flavour of after-dinner occasions in which a distinguished guest affably discourses on the subjects that have provided him with so much fascination during his long career. Thirring's enthusiasm is palpable even when the arguments become a little difficult. Some sections are written as conversations between various characters, such as between the planets Uranus and Neptune over the aberrant behaviour of their small companion, Pluto! I found Thirring's reminiscences and anecdotes about various well-known physicists – and some less well-known ones – very valuable to have.

Probably this does not represent a major new contribution to the science-religion debate, despite some very interestingly presented points of view. There are better books on the market if one is seeking an in-depth account of the Anthropic Principle as such. On the whole, I think the present book will appeal most to physically well-informed readers who are able to follow the mathematical aspects without difficulty; however any reader who is willing to skip over some of these will obtain new insights and an appreciation of the style of thinking of a researcher who holds a

high place in his field. It will certainly be a welcome addition to my own bookshelf.

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Agneta Sutton

Christian Bioethics: A Guide for the Perplexed

London: T&T Clark, 2008. 180pp. pb.
£14.99. ISBN 978-0-567-03197-6

John Wyatt's book, *Matters of Life and Death*, has somewhat dominated the Christian bioethics book scene for a while now. My guess is it will continue to do so, but Agneta Sutton's new book, with its self explanatory title, is a very useful addition to this scene.

In some ways, Sutton's book can be seen as an updated version of Wyatt's – albeit shorter, and with more John Paul II and fewer biblical references – as it includes new legal and scientific developments, such as hybrids and cybrids. Although, of course, even some of these will be out of date by the time the current Human Fertilisation and Embryology Bill completes all its stages through Parliament. Sutton states in the preface that her book is written as an introduction to the subject from a Christian standpoint and is for the informed general reader and university students (x). I would agree. It is not really pitched at the average person in the pew who is intrigued by the issues but at someone who already has a basic interest and who wants to know more facts, theology and the location of bioethics within its philosophical context.

Sutton takes bioethics in its widest sense. She covers not just the traditional medical ethics issues (beginning of life, abortion, euthanasia, genetics, eugenics, cloning, stem cells, hybrids and chimeras) but other disciplines too, such as animal welfare and ecology. However, she deliberately does not explore newer technologies such as nanotechnology, AI,

pharmacology etc, arguing that: *'The present is giving us enough pause for thought.'* (7)

Sutton's philosophical background provides a solid foundation for the book. Her central thesis is that there are two main schools of thinking in bioethics, or an 'old' and a 'new' medicine. The 'new' medicine, or the secular, utilitarian school, is exemplified by Peter Singer, who is quoted extensively by Sutton. The 'old' medicine is exemplified by the Hippocratic and Christian traditions, particularly the Roman Catholic position. Throughout the book Sutton pitches these two against each other. Whilst this divide is a useful means of introducing the broad philosophical context of Christian bioethics to readers, and there is obviously conflict and strong disagreement between these competing world-views, by necessity there is a tendency to oversimplify the context and overlook the variety of philosophical influences on bioethics today. Indeed, differences have existed for centuries in the various strands of the Christian church alone, filling many books, so it is always going to be hard to categorise 'the' Christian bioethics position, let alone 'the' secular position on controversial ethical dilemmas. Sutton's sympathies clearly lie within the traditional Hippocratic tradition, veering more to the Catholic than the evangelical side, with the result that some biblical doctrinal themes undergirding the Old and New Testament, that play a key role in Christian ethics (Creation, the Fall, Redemption and Consummation), are not as well covered. For this readers will have to go back to Wyatt, or try Hollinger (*Choosing the Good*) or Meilander instead.

Nevertheless, Sutton's continual engagement throughout the book with secular thinking is both informative and relevant (who amongst us isn't trying to engage on a daily basis with the world around?) and it is useful to have consistent, clear, well argued and persuasive lines of response. This book works for the

reader both as reference and to read straight through. It is well structured, with plenty of subdivisions, headings and good quotations, making it easy to dip in and out of it. If any further recommendation is needed, my review copy is already well thumbed and I have referenced it a number of times when needing a clear, simple explanation and analysis of a bioethics dilemma or written confirmation of a position I am already inclined towards.

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Graham Dunstan Martin

Does It Matter: The Unsustainable World of the Materialists

Edinburgh: Floris Books, 2005. 282pp.
pb. £20.00. ISBN 0-86315-533-2

As I write this review, Richard Dawkins' *The God Delusion* – a trumpeting of materialism – is at the top of the best-seller lists. Dawkins is operating outside his field of expertise and it shows in what Terry Eagleton aptly describes as a 'lunging, flailing, mispunching' book (*London Review of Books*, 19 October 2006). Dawkins constantly reiterates the importance of truth and evidence, but in the context of a belief that science is the only possible source of knowledge and hence of any evidence to be considered, or truth to be attained. Science is such an ever-present part of all our environments today that *scientism* is probably widespread. Even for Christians, it can be almost impossible to remove all its influences from our thinking. Time spent with Martin's lucid book can be the mental equivalent of the time spent at a top class health spa.

Martin ranges into areas as diverse as quantum physics, cosmology, artificial intelligence, brain science, biology, mysticism, theology and philosophy in order to

pursue his critique of materialism, but his fundamental point is startlingly obvious and simple. Most of what we know, we know by direct experience. Indeed that knowledge is the only knowledge that isn't a hypothesis. Science, by contrast, is only a small, specialised part of what we know, utterly dependent on the knowledge that precedes it. Late in his book (221) Martin refers to the 'law of Mundane Association' – that we easily overlook many simple facts of experience which we constantly test out in our lives every day. Martin's witty and perceptive exposition of everyday experience is the best and strongest part of his book. For this alone he has richly deserved to be the joint winner of *The Scientific and Medical Network's* 2005 Network Book Prize (www.scimednet.org).

Martin starts with consciousness, moves on to the 'qualia' (the 'feel' and 'look' of colours, sounds, textures, tastes, odours, pain etc.) and then to our tacit knowledge. Most of our knowledge has the form of habitual assumptions that are constantly checked against experience, but are far too general and informal to be scientifically articulated or tested. It is not that science validates, or authenticates, such knowledge, but that without it neither science, nor any other study could ever get off the ground. When reductionist scientists and philosophers assert, for example, that science's causal determinism has disproven the reality of consciousness and free will, we must retort that this has everything upside down: the experience of free will is the fundamental reason we believe in the reality of causality (247).

Those opening chapters are rich and stimulating with many fascinating diversions (such as 'Can computers be conscious?' – Martin argues powerfully that they cannot.) The rest of the book is then rather disappointing. For reasons that are never really explained, Martin excludes a Christian, or even generally theist, position and instead moves his discussion towards the conclusion of a

universal consciousness, the universe as itself a vast living unity, with which our consciousness is one. And the whole is 'power, bliss, wisdom, benevolence and timelessness' (244). I find this very unconvincing, especially when it comes to considering the problem of evil (which is hardly mentioned by Martin). This latter half of the book ranges over quantum theory, mysticism and intelligent design and Martin's arguments and conclusions are constantly controversial. For example, he affirms evolution, whilst rejecting Darwinism in favour of intelligent design (ID). Here he feels it necessary to issue a warning: "The moment Darwin's theory is touched, the cry is "blasphemy!" (191). While I am persuaded that there is much more to the ID case than is generally allowed by Christian scientists in the UK, I do think that it is a digression to Martin's case that he would have been well advised to omit. But whatever our thoughts on such matters, and whether or not we follow Martin's particular arguments all the way, we can all benefit from the encouragement to have confidence in our everyday knowledge against the pretensions of materialistic science.

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Jeremy Campbell

The Many Faces of God: Science's 400-Year Quest for Images of the Divine

New York: W.W. Norton & Company, 2006. 314 pp. hb. £17.99. ISBN 0-393-06179-5

The single argument in Jeremy Campbell's *The Many Faces of God* is that people have perceived God in different ways over the last few centuries. He delineates a few of these ways and vaguely points to how they may have been affected by scientific insights. That all might seem a rather trivial argument to build a book

on and this is, indeed, a rather trivial book. Campbell has certainly read a lot of material (mainly secondary sources, it must be said) but failed to digest it sufficiently. Consequently, he appears to be regurgitating what he has learnt rather than constructing an argument from it. This is a pity because there is a very interesting book waiting to be written on the influence of theology on scientific world-view that has developed since the seventeenth century.

Much of the problem, I think, is that the habits of journalism have infected the book. Readers of *Science and Christian Belief* have, I am sure, often felt annoyance when reading a newspaper article on a religious, scientific or historical subject. The journalist who wrote the article will lay out some facts, uncritically quote a couple of 'experts' and leave it at that. It is clear that the writer of the article has not really understood the issues. This book reads in a similar way. Furthermore, being far longer than a newspaper article, it also suffers from being disjointed, repetitive and unstructured. Some paragraphs follow so poorly from what precedes them that I felt sure that some sort of intervening heading must have been removed during the editing process. The lack of a bibliography is another infelicity, although the endnotes are reasonably full.

Campbell's use of his secondary authorities is also ill thought out. While I enormously respect some of the historians he quotes, such as John Hedley Brooke and Margaret Jacob, and have rather less time for some of the others, such as Christopher Hill, I cannot make much sense of a book that forces the irreconcilable opinions of many different scholars into a homogeneous whole. Campbell also seems convinced that his readers' attention could never be held by a quotation more than a couple of lines long. This is a shame because many of the scholars he quotes write far better than he does.

The book itself contains summaries of

the ideas of a smorgasbord of thinkers including Newton, Moses Maimonides, Spinoza and Fred Hoyle, in no particular order. It takes us on a winding journey from Nicea to Cambridge via Mount Sinai. On the way, Campbell presents two different aspects of God – either as an ineffable, distant and omnipotent other or as a loving, involved and caring person. Science has tended to limit God's capacity to act in the world, thus pushing him away from us. On the other hand, religious believers want a God to whom they can relate. Campbell seems to believe that the Christian conception of God as both almighty and loving is a case of trying to have your cake and eat it. Although, such is his meandering style, it is hard to be certain what he really thinks.

Despite its potentially interesting subject matter, I cannot recommend this book. I hope that another author will tackle the fascinating question of how science has influenced the image of God over the long historical term at some point in the future.

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Ted Burge

Science and the Bible: Evidence-Based Christian Belief

London & Philadelphia: Templeton Foundation Press, 2005. 193 pp. pb.
\$16.95. ISBN 1-932031-93-6

As Ted Burge explains in the preface, this book is a very personal project, being the fruits of his study of the evidence for and against his Christian beliefs.

Writing from a background in nuclear physics, Burge is at his best when describing scientific discoveries and giving a scientist's account of how the world works (chapters 6-8). When he discusses Christian belief and the Bible, the result is a mixed bag. Early on in the book he

tells us: 'A sensitive appreciation of the richness of metaphor can resolve many of the problems associated with key Christian beliefs' (6). This sounds promising, but there are many places where such an approach is lacking. For example, while he is surely right to speak of 'the erroneous belief that physical death came into the world because of sin', Burge strays into a crude caricature of Romans 5:15 when he writes: 'today few people would suggest that God was so offended by the eating of an apple by one human that he condemned to physical death the whole of humankind' (95).

Again, he is right to say that we should read the early chapters of Genesis 'carefully avoiding a literal interpretation', but much of their theological significance is lost when he describes them as 'primarily evidence of the beliefs of their authors or editors' (95). While insisting that the Bible is inspired by God, he is wary of affirming 'This is the word of the Lord' after a Bible reading: 'The phrase needs a careful qualification in the mind of the hearer: "This was the word of the Lord 2,000 years ago, to people of very different cultures"'(43). He offers a strong defence of the bodily resurrection of Jesus (chapter 13) but is wary of most other NT miracle stories (chapter 14): 'The teaching of spiritual truths by means of miracle stories does not require belief in the literal truth of the stories'(121).

Burge sometimes adopts unconventional theories without bothering to tell us how unconventional they are. In the first chapter, without explanation, he adopts the radical 'New Chronology' of David Rohl, baldly stating: 'The name for David in the el-Amarna tablets, dated 1020-1000 B.C.E., is Tadaa...'(8). Readers who know something of the el-Amarna tablets (conventionally dated three and a half centuries before David) will be baffled, while those who know nothing about them will be misled into thinking this is a generally accepted fact.

When Burge specifically mentions the 'New Chronology' (or 'NC') in chapter 5

he does nothing to dispel confusion. Factual errors abound. For example, it is simply not correct to say that the 'Old Chronology' (or 'OC', i.e. the conventional one) 'relied mainly' on the list of Egyptian kings in the Turin Canon, or that the Canon records 'significant astronomical events' (it records none at all). We are told (52) that the Exodus occurred 'about 1447 B.C.E. (NC) or 1360 (OC)', but even this 'OC' date is far from conventional. Here Burge has been seduced by another idiosyncratic theory, that of Graham Phillips, who links the Exodus with the eruption of Thera and the reign of Ahkenaten (a synchronism that is only achieved by ignoring both calibrated radiocarbon dates and the best archaeological evidence). Burge fails to mention that the majority of Old Testament scholars actually place the Exodus around 1260 BC, or that some favour the alternative date of 1447 BC without adopting Rohl's 'NC' dates for Egypt. Sadly, this whole section is a misleading muddle.

When discussing the history of the Bible itself, Burge does little better. In a brief treatment of the Septuagint (the Greek translation of the OT) we are told: 'The earliest manuscripts are from Qumran and are dated to the second century B.C.E.' (35). In fact the earliest surviving manuscripts of the Septuagint are contained in Christian codices. Perhaps what Burge has in mind is that the manuscripts from Qumran (i.e. the Dead Sea Scrolls) include some *Hebrew* texts that agree with the Septuagint against the later Massoretic Text. We are also told that 'most of the Pentateuch' was written in 'Mishnaic Hebrew', which developed in the eighth century BC (87). In fact Mishnaic Hebrew was a development of the post-biblical period (1st-4th centuries AD).

Bizarrely, Burge devotes a section to 'The 'missing' Book of Jashar' (31-32). Of various late texts bearing this name the one Burge has in view is a work published in 1751 but allegedly translated by Alcuin of York from an ancient manu-

script found in Persia. Purporting to be the Book of Jashar mentioned in Joshua 10:13 and 2 Samuel 1:18, this odd document has been widely regarded from its first appearance as an anti-religious hoax perpetrated by its printer, Jacob Ilive. Burge is aware of the charge and admits that the case for authenticity needs 'to be put on a firmer footing', but he is clearly drawn to the idea that this is a genuinely ancient work and suggests that, because of discrepancies between its version of events and that found in the Pentateuch, it was 'omitted from the approved collection of books, probably in the time of Josiah'. I am astonished that anyone can read 'The Book of Jashar' and still find this remotely plausible.

Many readers of Burge's book will find it helpful, but I fear a good many more will be confused and even misled.

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Paul L. Allen

Ernan McMullin and Critical Realism in the Science-Theology Dialogue

Aldershot: Ashgate *New Critical Thinking Series* 2006. 201 pp. hb. £55.00. ISBN 0-7546-5283-1

Ernan McMullin is a highly distinguished philosopher of science, in the broadly Catholic philosophical tradition. He has written and lectured on the relationship between cosmology and theology, the role of values in understanding science, and the impact of Darwinism on Western religious thought. Since his earliest publication in 1955 he has maintained a steady stream of 200+ articles and books over more than fifty years. Nevertheless, he is perhaps less well known in 'science and religion', than the 'trinity' of Barbour, Peacocke and Polkinghorne. All the more reason, then, for this painstaking and sympathetic critical analysis by Paul L Allen, of Concordia University, Canada, focusing especially

upon epistemological matters concerning a critical realist view of the world.

Structurally, we are presented with five chapters, the first of which examines the contributions of the above-mentioned 'trinity', all Gifford lecturers and exponents of contemporary Natural Theology, who concur in affirmation of *critical realism* (CR), yet exhibit a 'frustrating divergence' concerning its meaning. In chapter 2, Allen notes that CR can be secured as an explanatory notion that goes beyond describing methodological similarities between science and philosophical theology. And this can be based upon a theory of scientific rationality that is invulnerable to positivist or empiricist critiques. McMullin's theory of *retroduction* points to the heuristic value of the imagination, which works towards the *ontological* value of successful science. This retroduction theory is verified by the classic activities of Newton and Galileo, McMullin being a world authority upon the latter. McMullin's historical studies are made to defend strenuously the ontological character of scientific rationality against sociological and anti-realist critiques.

McMullin's more differentiated notion of CR needs to vindicate its strengths in domains of investigation where the scientific explanatory network is stretched or patchy. Perhaps *consciousness* would serve as a suitable test-bed. However, in the event, McMullin's scientific and philosophical competencies are amenable to a strong cosmological thrust. Here in cosmology there is the 'blunt challenge' to explain the universe itself causally. Allen astutely locates the crux (103) in the quest for a broader aim that measures progress by nothing less than an understanding of the universe as the creation of God. In this, Allen seeks a complementary perspective to – *inter alia* – exponents of a directly theological CR, such as the biblical scholars Tom Wright and Ben Meyer. Allen discusses the contributions that scientific cosmology can bring to the debate, but cautions against attempts to derive specifically Christian or Trinitar-

ian cosmologies on a scientific basis. I am sure he is correct! In expounding McMullin, Allen notes (109) how science regularly encounters a necessary transition to philosophy precisely 'at its most innovative point'. There emerges a 'cross-traffic' between the disciplines, resembling the 'hazy relationship between mathematics and logic'. And '...the mediating role of theory in cosmology is so extraordinary...that the move to incorporate...creation into a meta-explanatory framework is not the reversion to mere religious interpretation' (116).

The final two chapters are concerned, respectively, with McMullin's position on Faith and Rationality and an extension of his integrative proposals arising from his theology of 'self-transcendence'. Like Polkinghorne, McMullin has a strong emphasis on the priority of faith in understanding: *credo ut intelligam*. And his integrative views have some resemblance to those of Peacocke, though a fundamental divergence remains.

I propose, however, that the most significant element in the book (133ff.) is the emphasis of both McMullin and Allen that the God of faith should be viewed as inherently *atemporal*, as distinct from the rather temporally-bound God of the aforementioned 'trinity'. In this, McMullin is strongly Augustinian, and also develops the cogency and relevance of Augustine's hermeneutic of early Genesis, and biblical cosmology. In particular, McMullin's dissent (135f.) from the approach of his reformed philosopher colleague, Alvin Plantinga, over 'theistic science' is highly important to current debates about intelligent design. This requires more discussion than is feasible in a short review.

Overall, this lucid and meticulously prepared volume is an invaluable guide to the core contributions of Professor McMullin. The full indices and bibliography facilitate deeper exploration of this seminal thinker in science, philosophy and religion.

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Simon Coleman and Leslie Carlin (editors)

The Cultures of Creation

Aldershot: Ashgate, 2004. 212pp. hb. £55. ISBN 978 0 7546 0912 4

This is a compendium of inputs dating back to 1996, claiming to try to understand the cultures and motivations of 'Creationism' rather than assess its truth. 'Creationism' is defined as any anti-evolutionary system, including the 'scientific creationism' that purports to be areligious.

It is not encouraging to find in the introduction repetitions of standard myths about the Huxley-Wilberforce encounter and Scopes' trial. Actually, the fact that the latter was about *human* evolution is correctly cited later on p.129, which calls into question whether the editors read the papers before writing the introduction. Moreover, in chapter 1 David Knight's contribution (mostly about Huxley) states that 'by the 1830s' Genesis was '*no longer taken literally*' (my italics – so when had it been?). David Knight is a respected and well-informed historian of science, so perhaps this was inadvertent. In Chapter 2 Simon Locke introduces 'Discourse Analysis', by which he seems to mean the deconstructive reading and interpretation of a text without assessing the truth of its content. Locke aims to show how Creationists 'present their version as given by reality, and evolution as the outcome of various psychological and/or social factors' (p.48). He suggests that they do this by exploiting tensions within science itself – for example, over the fact/theory relation; managing the problem of competing accounts of the Bible and merging the world and Word in a 'discursive syncretism'. He also shows how Creationists themselves have widely varying versions

of what science is (though perhaps they can hardly be blamed for this in an era in which the most prominent professor of the Public Understanding of Science seemed to have very little idea how science actually works and even less of the metaphysics behind it!) Locke's sources, however, are limited, and nothing very surprising emerged for me. Chapter 3 contains various statistics of Creationism movements up to 1996. Chapter 4 contains a perhaps rather specialist analysis of Creationism in Canada, and chapter 5 of the movement and its opponents in Australia. Chapter 6 is a longer section on the history of Creationism in New Zealand. In Chapter 7 Robert Layton compares indigenous Australian creation myths with western Creationism. He contrasts post-modern tolerance of one and rejection of another by mainstream society. But he also considers how the creation myths 'provide an intellectually satisfying ontology, within the limits of empirical investigation practicably available to believers, and a rational ground for action in the world'. He sees parallels between this and the place in subcultures of American Creationism. Much of the rest of the chapter concerns aboriginal land-rights concerns, that are probably not much on the minds of most of us. Chapter 8 considers various 1990s surveys of views among young people in Kenya and Britain. The final chapter is by the affable atheist Michael Ruse, whose testimony was important in the Overton ruling in 1982 against teaching Creation Science in Arkansas schools. This chapter is actually a serious philosophical critique of Intelligent Design – and certainly not some kind of impartial 'Discourse Analysis' – and does make some telling points.

So at whom is this book aimed? In truth I emerged unsure. Much of it is purely historical (indeed chapter 6 had previously appeared in a historical journal) and maybe would interest specialist historians. But, for the more general reader, to understand the historical *roots* of creationism he or she would be better

reading Ron Numbers *The Creationists* (or indeed my own *Reason, Science and Faith!*). For sociologists or linguists the Discourse Analysis angle might be of interest, though actually this appears little in explicit reference outside the introduction and chapter 2. Finally, for those who look for a philosophical critique of Creationism – particularly Intelligent Design – this appears only in the final chapter.

So to whom will it appeal? This is hard to say. I have been to conferences of groups of enthusiasts where, at the end, someone says: 'This was a good conference and we all enjoyed the week away – why don't we get it written up as a symposium?' On reflection, sometimes, it may be doubted what exactly the market will be. This is my impression of this book.

Underlying the book there is actually an issue that I believe is central for those of us who reject Young Earth Creationism. This is that such belief systems are embedded in subcultures, and the identity of those who believe in such systems is usually bound up in that subculture. If, for example, one's whole life has been built on a religious system which binds the truth of Christianity itself with biblical literalism, then any attack on biblical literalism is perceived as an attack on Christianity itself. No amount of scientific 'evidence' – for an ancient earth, for example – can have any effect without destroying the very identity of the person. Bland assurances that the Bible 'is not a scientific textbook' will just not circumvent this problem. Only when reassured that their identity as 'Bible-believing' Christians is not threatened by belief in an ancient earth, can someone be open to scientific evidence that it is indeed ancient. In this respect it could be useful to study Creationist literature, and see what their arguments are actually trying to do. This could include, for example, their identifying their system as 'true science' (however defined), or 'presenting Christ's position in a fashion that will provide *entitlement*' (p.56) – that is, as

condoning their own literalistic approach. This could then inform an appropriate anti-young-earth approach from a more traditional (and therefore non-literalist) evangelical position. Our starting point may need to be to demonstrate that actually Jesus' own approach – for example, to the snake in Genesis – was emphatically non-literalist (cf. Gen 3:15; Mt 12:34; 23:33; Jn 8:44), and that biblical-literalism is in antipathy to the approach of Jesus to language rather than in line with it. We may also need to present a balanced view of what science is, recognising the human fallibility both in science and in biblical interpretation. Only in a realigned mind-system may someone be prepared to consider the evidence for an old earth, or the genetic evidence strongly though still circumstantially pointing to macro-evolution.

The problem with this symposium is that it moves between pure specialist history, non-committed Discourse Analysis, and a chapter of philosophical critique, without really doing any of this thoroughly. Whilst some interesting insights may be embedded, I was not convinced that this warranted the investment in reading so much history.

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Karl Giberson and Mariano Artigas

Oracles of Science: Celebrity Scientists versus God and Religion

New York: Oxford University Press, 2007. x + 273 pp. hb. \$29.99. ISBN 0-19-531072-1

In this collaboration the physicist Karl Giberson and the late Mariano Artigas (a priest with doctorates in physics and philosophy) survey six men they describe as 'oracles of science'. This phrase is shorthand for the fact that, in addition to being eminent in their own fields, these men are also gifted communicators and

popularisers who have had a significant impact on the public perception of science and scientists; furthermore, they have all used their status as scientists as a platform for addressing wider issues of culture and religion.

The six scientists selected for this treatment are Richard Dawkins, Stephen Jay Gould, Stephen Hawking, Carl Sagan, Steven Weinberg and Edward O. Wilson: three physical scientists and three life scientists, four Americans and two British. Giberson and Artigas suggest that if their popular writings are taken together as a representative portrayal of science, then it can be inferred that (i) science is mainly about questions of origins, (ii) scientists are by and large atheist or agnostic, and (iii) science and religion are incompatible. But, argue the authors, none of these assertions are true.

The oracles are treated alphabetically and the chapters are independent of each other, so there is no need to read them in any particular order. In terms of structure, each chapter consists of a short biographical section, followed by a survey of each man's scientific work and an analysis of their view of religion. The tone of the writing is consistently gracious and objective, so these chapters would serve as useful introductions to the life and works of the men surveyed.

A concluding chapter seeks to highlight some of the similarities and differences between the oracles. Unsurprisingly, all six portraits reveal men who are unusually ambitious: their scientific ambitions have led them to undertake grand projects, which they have pursued obsessively, and they have correspondingly grand visions of power of science to explain the world in which we live. But are they as hostile to religion as is often inferred? In fact, only two of the six are openly hostile. For Steven Weinberg (many of whose family died in the Nazi Holocaust) the problem of evil is an insuperable barrier. Richard Dawkins writes with the evangelical zeal of a convert

from one religion to another (in this case, scientism). In the case of Edward Wilson, the idea of conversion is even stronger: evolution has become a substitute for the Southern Baptist religion of his youth. Stephen Hawking's position is more difficult to fathom; his utterances on religion tend to be cryptic and unclear. Finally Sagan sees no necessary conflict between science and religion, while Gould is prepared to admit their potential compatibility.

Giberson and Artigas ask whether and to what extent the religious views of these men have derived from their science. With Wilson the connection is fairly clear: he sees evolutionary science as a valid basis for ethics (a position that Dawkins firmly rejects). In this context, I can't help feeling that they take Hawking's comments on knowing the mind of God a bit too seriously (to my mind, this is less a theological statement and more an affectionate allusion to Einstein). The authors complain that the oracles fail to achieve anything like a consistent humanism on the basis of their faith in science. But this is hardly surprising given that there is no consensus between them as to what constitutes scientific truth. All this really shows is that science is no more monolithic than religion.

So what have Giberson and Artigas managed to show in relation to the three inferences cited above? Their account of the diverse scientific achievements of these men does demonstrate that science is about a good deal more than questions of origins. The clear disagreement among the oracles on the incompatibility of science and religion indicates that a case has not been made for a necessary hostility between them. However, the format of the book means that the authors have been unable to argue for the compatibility of science and religion. Instead, they have to content themselves with passing references to eminent scientists who are also Christians.

As already noted, the format of the book limits what the authors have been

able to do. Nevertheless it remains a useful addition to the library shelves. It is an invaluable introduction to six of the most important shapers of the public perception of science at the end of the twentieth century. As such it provides a good deal of useful raw material for Christian engagement with the scientific dimension of contemporary culture.

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D.B. & L.D. Haarsma

Origins: A Reformed Look at Creation, Design and Evolution

Grand Rapids, MI. Faith Alive, 2007.
208 pp. pb. £13.95. ISBN 978-1-59255-227-6

K.W. Giberson

Saving Darwin: How to be a Christian and Believe in Evolution

New York: HarperOne, 2008. 256 pp. hb.
\$24.95. ISBN 9780061228780

These are two very different books, each in their own way aimed at students. The first (*Origins*) is a study book giving an introduction to a wide range of information and also pointing out the strengths and weaknesses of a wide range of opinions concerning the early chapters of Genesis and the use made of them in the rest of the Bible. Each chapter comes with a further reading list, a set of questions and URLs where supplementary material may be found. As the title suggests, the authors, being members of the Christian Reformed Church of North America, have a high view of God's sovereignty. They thus understand (with the writers of Scripture) that events that to us seem to happen by chance do not take God by surprise nor do they fall outside God's supervision of the world. Indeed casting lots was a standard way in Scripture of seeking to determine God's will,

right up to choosing a replacement for Judas Iscariot. The most famous verse setting out this principle is Proverbs 16: 33: *'The lot is cast into the lap, but its every decision is from the LORD.'* The book sets out the scientific evidence for an old Earth and for change over time in the biological world. It discusses Darwin's theory (in its original and present forms), Intelligent Design, and the cosmology lying behind the description of the world in the early chapters of Genesis, the Psalms and other scriptures. The authors point out the main problem lies not with a relatively recent Seven Day Creation versus an ancient universe but with reconciling what Paul taught in Romans about the entry of sin into the world through one man (and hence the appropriateness of atonement for that sin by one Man) with a natural evolutionary description of the emergence of humankind. The strengths and weaknesses of the many positions Christians have taken on this issue are set out. No conclusion is drawn because the purpose of the book is to get students thinking through the issues.

Saving Darwin is a very different kind of book. It starts off as a personal testimony from the author, who grew up in a church in rural New Brunswick where the theories of Henry Morris and John D. Whitcomb (famously set out in 1961 in *The Genesis Flood*) were regarded as the only valid way of interpreting Scripture, and how he came now to hold very different opinions. He recounts that as an older teenager, considering whether to go to college, he met Henry Morris who encouraged him to obtain an education to the highest level with the possibility that one day he might join the Institute for Creation Research. Giberson now teaches science (including Darwin's theory) at the Eastern Nazarene College, near Boston, whose ethos is Methodist/Holiness rather than Reformed. I learnt a great deal new from this book, particularly (i) the antecedents to Morris & Whitcomb's theories; (ii) what was going on behind the scenes in the Scopes trial

in 1923; and (iii) how Darwin's ideas were quickly linked into some very unsavoury movements (including eugenics), which Giberson terms 'Darwin's Dark Companions'. I also had not appreciated that Morris & Whitcomb were so sure that the modern scientific understanding of the age of the universe and biological evolution were wrong that they expected their book would stimulate a research programme to demonstrate this conclusively and quickly. But as Giberson points out this has not happened. In this regard, the movement they started has failed. It has, however, been spectacularly successful as a religious movement so that their interpretations of the Two Books (Scripture and the natural world) are regarded in many churches as the only valid ones. I found Giberson's discussion of Intelligent Design (ID) particularly helpful. Giberson points out that the (to our eyes) horrific feeding behaviour of the larvae of the Ichneumon Wasp passes Dembski's complexity filter (famously applied to the bacterial flagellum) and hence has the appearance of having been designed by an intelligent being. This example is chosen by Giberson because it horrified Charles Darwin, who as a young man held to the early nineteenth century version of ID as set out by William Paley and the writers of the *Bridgewater Treatises*. The Ichneumon Wasp was one factor that made Darwin doubt God's providential design in Nature. Giberson comments that 'Promoting "design" in isolation from God's other attributes is a dangerous and ultimately self-defeating way to get God back into science. Christianity will be far better off if ID fails.' Or to put it another way, you cannot just choose 'nice' examples if you are going to promote ID.

In my arrogance and pride, I thought before I read them that I would not learn much from these books, having studied the matter for over thirty years since I was saved by Jesus in much grief and anguish of heart in the mid-1970s. I was wrong: I learnt a lot. Will the matters discussed in these two books be resolved in

my lifetime? I doubt it. Maybe this side of eternity they never will.

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Denis Alexander

Creation or Evolution: Do We Have to Choose?

Oxford: Monarch Books, 2008. 382pp. pb. £10.99. ISBN: 978-1-85424-746-9

In this book, Denis Alexander addresses a question that is fundamental to the conversation between science and Christianity. The title of the book clearly and concisely states the issue to be addressed in what follows. Namely, is evolution an elegant scientific theory to be embraced, or a misleading and threatening idea that undermines the Christian idea of creation? The author approaches this question as any good scientist should – by looking at the facts before him, and asking what model are they most consistent with. There are a number of reasons why this book succeeds impressively in significantly contributing to the answer to this question. First, the author's credentials, which include a successful research career in the biological sciences together with a track record in communication across the science/faith interface in diverse contexts, coupled to a strong evangelical theological outlook. This makes for a seamless weaving of science and theology throughout the text, that adds to the coherence. Secondly, the style that the book is written in, which is clear, readable and accessible to anyone with an interest in the subject matter (although I think non-biologists may find some chapters tricky). Thirdly, the science is completely up to date (which unfortunately is not often the case in these kind of books). Fourthly, the breadth of issues addressed within the 350 or so pages of main text provides a comprehensive treatment of the subject matter. Finally, the author is gracious to

those with other perspectives on the issue, while gently yet passionately presenting his own views. Altogether, this makes for very compelling reading.

Apart from being a compelling read, the book is also very timely. The creation-evolution debate never seems to move into the shadows for too long, and recently it has come to the forefront with great intensity again, partly due to the publicity given to the Intelligent Design movement in the States in recent years, but largely due to the year that we are in, 2009 being a celebration of Darwin's 200th birthday as well as commemorating 150 years since the publication of *On the Origin of Species by Means of Natural Selection*.

There is a logical flow to the order of the chapters, which brings the reader on a coherent journey through the issues raised. Dr Alexander begins by clearly spelling out the biblical doctrine of creation (chapters 1 and 2). Chapters 3, 4 and 5 represent the most scientific part of the book, where the author covers the evidence for, and science of, evolution. Here the reader is first drawn into the world of DNA and genomes, and although the author uses excellent metaphors in what is effectively a crash course in molecular biology, those of a non-biological background may struggle a little to keep up. Thereafter, all the major concepts surrounding evolution, such as natural selection and speciation, are well explained and illustrated with up-to-date science. Further chapters spell out and deal with common objections to evolution, then discuss interpreting the Genesis account in the way it was intended, which then leads the reader into a fascinating consideration of Adam and Eve in chapters 9 and 10. I found this section particularly strong, and it contains the best example of the ability of Dr Alexander to describe in parallel the relevant science and theology of the subject. Different models for understanding the Genesis account in the light of human evolution are presented, and

these are carried through to the discussions on death and the Fall. This allows the reader to consider each model in the light of a number of key theological and scientific issues at the same time. A strong case is made that 'Physical death is intrinsic to the purposes of God for human life on this earth' (267). This brings the reader to the question of natural evil and theodicy (chapter 13), which is always a tricky topic. The author does well here though, and manages to navigate the reader through the issues, and give some sensible conclusions. However, a more robust look at topics such as God's sovereignty and foreknowledge, free will and the role of Satan (the latter of which is barely mentioned) would have been welcome, but possibly were outside the scope of this present work. Furthermore, it would be fascinating to look at different Christian perspectives on these theological issues in light of Genesis and current scientific theory to discuss which perspectives are currently most helpful in understanding God's world.

After examining the scientific credentials (or lack thereof) of the Intelligent Design movement (chapter 14), and before an interesting final chapter on current research into the origin of life (chapter 16), in chapter 15 ('Evolution – Intelligent and Designed?'), Dr Alexander wraps up and draws together a number of ideas that have run through the book. A key thread that permeates the work is the idea that science involves observing how God made the universe (through evolution), and that although it is wrong to invoke specific punctuated divine intervention along the way, God is somehow in his immanence sustaining all things all the time. Within the first few chapters, the notion of how God interacts with the physical world was introduced: 'There has been much recent discussion about how exactly God does interact with the world. The main answer that the Bible gives is that he does so by that most personal of activities – speaking' (34). Dr Alexander continues that this means not a literal voice but 'com-

municating power, authority and information so that the created order operates harmoniously' (34). This is coupled to the notion of God's immanence: 'All that exists only continues to do so because of his continued say-so' (29). More than that, 'There is nothing accidental in the overall direction of the created order...the heavenly author writes the script and bestows upon the universe properties continually sustained by him that will instantiate the script according to his perfect plan.' (285). Again, in chapter 4, the author, in using the illustration of a twenty-four hour period to envisage the 4.6 billion years of earth's history, stated 'If we had a bird's-eye view of the whole day, what would we see the Creator do' (87). The slight problem here is that I'm not sure what the answer is – nothing perhaps? In carefully keeping to the correct categories, and rightly not allowing theology and philosophy to get muddled with science, some readers will be left a little exasperated at the end wondering what in fact the Creator does do, how exactly this differs from naturalism, and what it looks like in practice. So the different levels of explanation provided by science and theology so succinctly mapped out in this book will provoke further questions about how exactly these two spheres of understanding interact, but this should be welcomed, and seems to be a much more important and robust topic for debate at this stage than whether evolution happened or not.

I don't think I'm giving the game away by stating that the conclusion of the author to the question posed in the title is a firm 'no'. 'Evolutionary history on this planet', claims the author, 'displays overall increased complexity, genomic constraint and convergence' (330), and 'In biology it is beginning to look as if the whole system is set up in such a highly organised way that the emergence of intelligent life was inevitable' (331). Wouldn't it be great if Christians united behind this idea and began seriously to engage with the scientific community from this new starting point? This book

should help to achieve that goal.

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John Polkinghorne and Nicholas Beale

Questions of Truth: Fifty-one Responses to Questions about God, Science, and Belief

Louisville, Kentucky: Westminster John Knox Press, 2009. 186 pp. pb. £9.99. ISBN 978-0-664-23351-8

This book is largely compiled from answers to questions submitted to the website www.polkinghorne.net run by Nicholas Beale, with the addition of three appendices dealing at greater length with anthropic fine tuning, mind and brain, and evolution. Both authors supply answers and comments, either singly or jointly. The range of subjects dealt with is much broader than simply the relationship between science and Christian faith. Questions which are dealt with range from 'Why is the Universe So Big?' through 'Who or What is the Devil?' to 'What is the Point of Praying?'

There are benefits and drawbacks from this dual authorship and wide selection of subject matter. There are valuable comments and illustrations on a huge range of subjects, sometimes bringing scientific insights in unexpected areas. On the other hand there is repetition and uneven coverage, and little opportunity to develop a sustained argument. The general stance of both the questions and the answers is Christian. I judge that this book will be read with interest and profit by Christians who have questions and problems, but will not prove convincing to those who start from an atheist or agnostic position. The level of previous knowledge assumed in the reader in matters theological, philosophical and scientific is rather variable, but this is in general not a technical academic work but

aimed at the serious non-expert.

While the standard of proof-reading seems to have been good, I am not sure that the actual writing has been careful enough. Sometimes errors are inconsequential; superconductivity was discovered in 1911 and largely explained in 1957, not 1917 and 1962 respectively (117). Sometimes bold statements are made that seem to be incorrect, though the argument is not greatly weakened; for example, there are third generation stars: the sun is commonly thought of as one (143). Some illustrations lose their force through being inaccurate: the difficulty in achieving a hole in one depends on the area of the hole, not its diameter (102). Occasionally a key statement in an important argument is open to serious objection. For example, with reference to intelligent design, 'if even one biochemical mechanism could be found where the probability of its evolving was extremely low, *since evolution is inherently probabilistic*, it could not be convincing evidence that evolution was wrong' (57, my italics). In a book entitled *Questions of Truth* one looks for careful attention to such matters. I was also disturbed by the omission of significant references; it is for example strange that the work of Leonard Susskind on *The Cosmic Landscape* is not referred to in the detailed discussion of multiverses (105 ff.).

Reference is made not only to John Polkinghorne's own books, but to a wide variety of current literature. Probably the greatest value of this work is that it will encourage the reader to consult other books on the questions considered. If you are looking for an authoritative, logical and structured argument dealing with the issues raised here, I suggest you look elsewhere – and the list of references would be a helpful pointer! If you are looking for stimulation to think, and suggestions for further study, then read it!

Paul Wraight has retired from teaching physics and electronics at Aberdeen University and is thinking and writing about design.

Mark S. Whorton

Peril in Paradise: Theology, Science, and the Age of the Earth

Waynesboro, GA: Authentic, 2005. x+233 pp. pb. £8.99. ISBN 978 1932805239

This book sets out a theological critique of the Young Earth Creationist (YEC) movement that in its modern form started in 1961 with the publication by Morris and Whitcomb of *The Genesis Flood*. Whorton once taught their theories in the church he is an elder in, but came to see there are serious theological flaws in the presuppositions of the YEC movement. He identifies early in the book the crux of the matter: what is meant by the words 'very good' in Genesis 1:31, 'And God saw everything that he had made, and behold it was very good.' The YEC theorists take this to mean that the whole Earth at that moment was a paradise, i.e. that the conditions of the Garden of Eden prevailed everywhere. In particular there was no death, not just of humans but of animals. Animals were therefore immortal. They then take Romans 5:12 (about death coming into the world through sin) to apply to animals as well as humans. Other key verses are Isaiah 11:7 and 65:25 which, among other things, say '...the lion shall eat straw like the ox'. Thus not only was the whole world once a perfect paradise, but that is where the redeemed of the Lord are headed back to, despite Isaiah also saying in chapter 35 v. 9 that no lion will be there!

The whole complex of ideas Whorton characterises as the Perfect Paradise Paradigm. He points out the following problems. First, before the Fall the humans were commanded to subdue the earth. This is quite a strong word in English, but Whorton comments that the Hebrew word is even stronger, implying substantial force will be needed. Secondly, there is no hint in the text that the conditions prevailing in the Garden (beautiful trees, plentiful water and fruit, gold and jewels) extended even throughout Eden let alone the whole world. Thirdly, a great many

scripturally unsubstantiated miracles have to be invoked to save the theory including, ironically, an incredible rate of animal evolution after the Flood.

Whorton then examines the whole counsel of God to try and elucidate what the words 'very good' mean. He concludes that rather than being originally a perfect paradise, the world has a perfect purpose, that is to display God's glory both to men and to angels, not only through its natural grandeur but supremely through the Cross. He gives some quite shocking quotations from Morris and Whitcomb to show that they believe that the Gospel is God's Plan B, dreamt up to cope with man's rebellion. This is inconsistent with Apostolic teaching which Whorton points out is helpfully summarised in the Westminster shorter catechism concerning God's eternal decrees.

Overall I found this book most helpful. I had been wondering for some time what the words 'very good' in Genesis 1:31 might mean. Did they refer only to the world as it was at that moment or could they be taken to mean the way God in eternity sees the whole world, from beginning to end? Whorton shows that even if the first meaning is what the words say in their original context, the Holy Spirit has shown through the rest of Scripture that the second interpretation is closer to the truth. He shows the YEC movement has a rather sentimental attitude to animals and to pain which Charles Darwin shared. One piece of speculation Whorton indulges in is to imply that the world was created by God as a response to the fall of the angels. But this only pushes the problem from time back into Eternity.

Whorton helpfully restates the 'vale of tears' theodicy as 'This is the best route to the best of all possible worlds'. Whether Voltaire would have agreed is left to the reader's imagination.

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