

Reviews

John Wyatt

Right to Die? Euthanasia, assisted suicide and end-of-life care

Nottingham: IVP, 2015. 191 pp. pb.
£8.99. ISBN 978-1-78359-386-6

Popular author and speaker John Wyatt takes on one of today's biggest bioethics battles: assisted suicide and euthanasia. Many will have read, or be aware of, his previous book, *Matters of Life and Death*, which examined issues surrounding the beginning and end of life against the background of current medical-ethical thought. This new book takes just one of those issues, the end of life, covering it in more detail but written at a more accessible level that will appeal to an even broader readership.

Wyatt's book is not a theological or philosophical treatise. It is an easy-to-read book that presumes no medical knowledge as it seeks to help lay people better understand the debate, its history and current focus. Ignoring the rather uninspiring book cover, the ambiguous title fulfils its duty in setting the scene by asking the key question, are there are circumstances in which it is right to deliberately bring about death?

The first chapters set the scene, tracing the history of euthanasia in the UK and internationally. Wyatt looks at some of the very disturbing outcomes in countries where it is already law before moving onto the more specific, and more recent, UK debates. He briefly reviews a few of the underlying forces influencing the assisted suicide debate. The brevity of this chapter is rather a shame but it leaves him to concentrate in more depth in his next chapters on the two main driving forces for euthanasia today – the arguments from compassion and from autonomy. Wyatt investigates and challenges these

arguments clearly and empathetically, giving them a good hearing, and including some of the reasons why Christians have sometimes advanced these arguments. He makes his case on evidence and ethics. This will undoubtedly equip readers to counter the arguments themselves and understand their superficiality and weaknesses.

It takes Wyatt to chapter 7 before he considers the biblical arguments against assisted suicide, and what an authentic Christian response should look like. He covers being made in God's image, being dependent, being a burden, and the importance of the human family of God. He looks (I think too briefly) at death and lastly he considers the place of suffering in God's plan. This chapter I felt was a bit weaker, and would be unlikely to satisfy theologians with its mix of bible verses, anecdotes and quotations from other Christian authors. However, this book is deliberately not written for theologians but is designed to engage and equip the 'Christian in the pew' with the tools required to develop a Christian mind-set and response to this controversial issue.

The final chapters look at medical and legal factors, and at palliative care. This last section I found the most informative, perhaps because this is where Wyatt, with his background as Professor of Neonatal Paediatrics at University College London, has the most expertise and understanding and can draw on personal experience about what good medicine at the edge of human life entails. He rightly spends time looking at the remarkable work of Dame Cicely Saunders. She and other pioneers of palliative care were motivated by Christian compassion to find ways of controlling physical and other forms of pain at the end of life and their

work became the hub of a movement that has spread out across the world. It has probably been key to stopping euthanasia being legalised in the UK. ‘Palliative care developed as a reaction to the attitude that “there’s nothing that can be done for you”. This is never true. There’s always something that can be done. Saunders pioneered an approach which put the dying person at the centre of care.’ Wyatt then includes some interesting, albeit short, sections on controversial issues, such as the Liverpool Care Pathway, Lasting Power of Attorney, Advance Decisions and healthcare resourcing, before a final chapter looking at a Christian understanding of what it means to die well.

Wyatt’s compassion and personal experience of working with vulnerable patients and their families is obvious throughout, and he writes with empathy and sensitivity, with the main arguments well covered. More informed readers may find it does not have enough depth to completely satisfy but they might want to make use of the extensive reference list to delve deeper into the topic. I would have found an index helpful – I’m not sure why there is none provided.

I personally would have liked to have had more about some of the key court cases in the UK and Europe and their influence in changing both public opinion and the law. It seems to me that the courts are a key tool for those who are pro-euthanasia.

Overall however, this book is clear, concise, easy to read and covers all the bases. It is not long, at just under 200 pages, making it ideal for those who want to consider this issue in more depth and be better equipped to understand, counter and dissect the main arguments put forward in favour of assisted suicide and euthanasia. I have no hesitation in recommending it and hope that many Christians – and indeed non-Christians – do read it at such a critical time when Christians need to be better

informed on this sensitive, challenging and highly topical issue.

Philippa Taylor is Head of Public Policy at the Christian Medical Fellowship and Consultant to CARE on family and bioethics.

Francis J. Beckwith
Taking Rites Seriously: Law, Politics, and the Reasonableness of Faith

Cambridge: Cambridge University Press, 2015. 225 pp. £19.99. ISBN 978-1-107-53305-9

This book is a curious amalgam of philosophical theology, liberal political theory and American Constitutional Law. It succeeds reasonably well on the first count and less well on the third. The space in the middle – liberal political theory – is the bridge that would connect the two but that ultimately betrays the author’s philosophical and theological presuppositions.

In many ways the value of this book to any reader likely will depend on his or her view of the importance of America’s culture wars. Beckwith, who teaches at Baylor University, is well known as a scholarly participant in those culture wars. At one time the President of the Evangelical Theological Society, in 2007 he returned in much-discussed fashion to the Roman Catholic Church of his youth. The dedication of this book to Robert P. George, a leading proponent of the new natural law theory, reflects Beckwith’s orbit within a constellation of Catholic and Evangelical intellectuals who seek to advance philosophical arguments for traditional values in the public square, including opposition to abortion, rejection of same sex marriage and strong views of religious liberty. The arguments offered in this book ably present the kinds of views advanced by this school of conservative social thought, although they have been

presented at length elsewhere. If there were nothing else to the book it would not seem of much unique interest to readers of this journal.

In his discussion of philosophical theology, however, Beckwith presents some material of interest to the theology-and-science conversation. First, Beckwith addresses an approach to public discourse he labels 'Secular Rationalism' (SR), exemplified in the thought of legal theorists such as Brian Leiter, evolutionary psychologists such as Steven Pinker, and various New Atheist public intellectuals. As Beckwith defines it, SR is essentially a form of logical positivism, scientism, and/or narrow foundationalism. Beckwith dismantles SR along the familiar lines that it is circular, self-defeating, and fundamentally undermined by its own need to presuppose some truths about reality without the kind of evidence it purports to require. Some of the sources in Beckwith's footnotes, such as Alvin Plantinga, David Bentley Hart, and N.T. Wright, have done the same work in far more winsome fashion; some of Beckwith's sources, such as J.P. Moreland and William Lane Craig, are apologists of a certain narrow stripe whose work might be of more dubious value; and other important sources, including anyone from a critical realist perspective (say, John Polkinghorne or Alister McGrath), a process perspective (say, John Haught), or other strands of religious epistemology (say, Conor Cunningham's take from Radical Orthodoxy) are absent entirely. Nevertheless, Beckwith's contribution to the literature showing the intellectual bankruptcy of 'SR' is welcome, particularly in taking on the extension of 'SR' to secularist fundamentalists in the legal academy such as Brian Leiter.

Of further direct interest to readers of this journal, Beckwith's past defence of Intelligent Design (ID) theory and association with the Discovery Institute stand in stark contrast to his arguments *against* ID in this volume.

Beckwith now argues, from a Thomistic perspective, that ID undermines the orthodox Christian doctrine of creation because ID theory subverts creation's causal integrity. He shows that the Thomistic arguments for God's existence do not imagine God as a huge, physical 'finger' within creation, pushing things into motion and perhaps giving things a special poke here and there where 'design' might be detected, but rather that God is the formal and final cause of the material and efficient causes within creation. The overall beauty and order of creation in its material and efficient causes, viewed holistically, point towards formal and final causes outside of themselves. If, as ID theory suggests, creation lacks an organic integrity, with 'irreducibly complex' gaps that suggest a need for constant direct Divine intervention, this would undermine the classical Christian account of creation. It is gratifying to see an erstwhile defender of ID theory recognise these problems.

Notwithstanding his theological and philosophical criticism of ID theory, Beckwith persists in arguing that the 'ID case' in the United States, *Kitzmiller v. Dover Area School District*, was wrongly decided. He criticises the federal trial judge in the case for adopting a legal test under which a 'reasonable, objective observer' (ROO) must assess whether the challenged policy had an improper religious motivation under the establishment clause of the First Amendment to the U.S. Constitution. There is something trenchant about Beckwith's critique on this point, because, as he points out, notions of 'reason' and 'objectivity' require reference to metaphysical perfections that would seem ruled out of court by SR. But this highlights the major structural problem with the book: Beckwith wants to defend his socially conservative policies on the grounds of a kind of reason that would be accessible to anyone in society and amenable to adjudication within a Constitutional framework by the Supreme Court. This simply does

not work, because classical liberalism and the American Constitutional framework embed Enlightenment epistemology and values, not Christian epistemology and values.

A good example of this fundamental problem arises in Beckwith's qualified approval of the result in *Burwell v. Hobby Lobby Stores*, upholding a business's ability to exclude itself from a legal mandate to provide insurance coverage for certain contraceptives. Like most 'religious liberty' advocates, Beckwith skates over the question whether a corporation should have standing to assert 'religious liberty' rights under the U.S. Constitution. There is plenty of case law about Constitutional rights that are afforded (such as the right to freedom of speech) and not afforded (such as the right to vote) to corporations, so from the perspective of U.S. legal doctrine, the question of how the First Amendment's religion clauses might apply to corporations is not by any means out of bounds. From the perspective of philosophical theology, however, it is far from clear whether business corporations should have any personal 'rights' at all, or what, if anything, a business corporation *is* – never mind whether Christian owners of a business corporation that employs non-Christians ought to have, or ought to exercise, a 'right' to excuse themselves from a generally applicable social programme if they otherwise choose to receive benefits the state provides to business corporations. From a Christian theological and praxis perspective, the *Hobby Lobby* case is a mess.

Another example surfaces in Beckwith's discussion of same sex marriage. He offers the familiar refrain that the legalisation of same sex marriage will invoke a parade of horrors for non-conforming religious institutions, which for the most part has not materialised, and he unconvincingly tries to distinguish the same sex marriage issue from the history of miscegenation laws and practices, which Bob Jones University

fought in the Supreme Court only a generation ago. He even suggests that same sex marriage was never really 'banned' or 'illegal,' unless sacramental Catholic marriage also was banned or illegal, because the state has never explicitly sanctioned all the religious elements of Catholic sacramental marriage. It is difficult to tease out the over-clever logic here, but it seems to be a variant on the argument that withholding a government benefit, such as a marital tax deduction, from one group (same sex couples) while providing it to another (opposite sex couples) is not a 'prohibition'. That may be true, but then one wonders what all the fuss has been about. Let everyone have the public benefits, or take the public benefits away from everyone, and let private associations such as churches define the terms however they want. Give to Caesar what is Caesar's, and to God what is God's.

The fuss, as Beckwith goes on to argue, is that 'marriage' relates to deeper metaphysical concepts about the human person. People care about the same sex marriage issue on both sides not because it is about an arcane tax benefit but because it has something to do with human dignity. Either same sex marriage undermines human dignity because it denies something basic about human biology and difference, or disapproval of same sex marriage undermines human dignity because gay relationships are not intrinsically disordered, or at least the question is uncertain enough that dignity demands that each person have the liberty to decide the question without state coercion. Beckwith and the new natural law thinkers with which he is associated think there are forms of rational argument apart from specifically religious claims that can establish their case decisively in the liberal institutions of modern legislatures and courts, if only the undergrowth of scientism / SR can be cleared away. Ultimately, however, clearing away that undergrowth must

involve a *theological* critique of modernity's epistemological pretensions and metaphysical vacuity. It seems that Beckwith and his compatriots do not wish to venture that critique, but believe instead that the modern liberal state can and should advance their goals. The irony is that this move immediately surrenders the metaphysical and epistemological ground, ensuring not only that their culture war will be lost, but also that plenty of collateral damage will occur along the way.

David Opderbeck is Professor of Law and Co-Director of the Gibbons Institute of Law, Science & Technology at Seton Hall University Law School. He earned a Ph.D. in Philosophical Theology from the University of Nottingham as well as law degrees from New York University Law School and Seton Hall University Law School.

Paul Copan, Tremper Longman III, Christopher L Reese, Michael G Strauss (gen. eds.)

Dictionary of Christianity and Science: The Definitive Reference for the Intersection of Christian Faith and Contemporary Science

Grand Rapids, MI: Zondervan, 2017.
704 pp. hb. \$60.00. ISBN 978-0310-49605-2

Zondervan have realised their lofty ambition of publishing an embrative compilation of matters relating to Christianity and science. This 700 page reference work merits a slot in the library of anyone even mildly interested in issues of science and faith.

To achieve their goal, Zondervan turned to four experienced editors in the field: Christopher Reese is a freelance editor and writer currently associated with Lexham Press; Tremper Longman III is a professor of Biblical

Studies at Westmont College; Paul Copan is a professor of philosophy at Palm Beach Atlantic University; and Michael Strauss is a professor of physics at the University of Oklahoma. These editors solicited an additional 130 contributors to write one or more entries.

The title of the book is somewhat misleading as it bears little resemblance to an ordinary dictionary. It provides no guide for diction and never limits itself to a brief phrase or sentence describing the various uses of a word or phrase. Rather, it is an encyclopedia with three main types of articles: Introductions aim to provide an overview of a topic with simple explanations and equal treatment of any diversity of views; Essays are longer entries that provide a more detailed synopsis of a topic; Multiple-View Discussions offer the contrasting supportive and critical views of a topic. The 474 entries include 149 individuals, 9 organisations, 4 books, 276 single-view topics, and 17 Multiple-View Discussions. Entries include from 3 to 100 references and bibliographies, which are primarily in technical journals.

The editors set a goal for objectivity and inclusiveness. 'Where interpretive questions exist, simple explanations of the most viable options are presented, with equal treatment given to each option.' (11) This is most evident in the decision to give both sides of the major divisive issues such as young-earth creationism, days of creation, Adam and Eve, and human evolution. These well-known controversial issues are all given several pages of attention by an advocate of a supporting view and one of a critical view. Unfortunately, these issues are more complex than can be covered by two perspectives and anyone familiar with an issue will likely feel that their own ideas were inadequately expressed. The authors of these views were not given an opportunity to review or comment on the opposing view, so that assertions are at times left unchallenged. Nevertheless, the most com-

monly held perspectives are given a fair hearing.

For single-view topics, achieving objectivity and inclusiveness was more challenging, especially since many of the authors are well-known advocates of a particular perspective of that topic. For example, entries for 'Information' by Bill Dembski and for 'Methodological Naturalism' by Casey Luskin would have benefited from a more complete discussion of diverse opinions. Topics ranged from 'Adam in the New Testament' to 'Worldview' but topics such as complementarity and NIODA (Non-Interventionist Objective Divine Action) are only mentioned under their advocates Donald MacKay and Robert Russell, respectively.

The individuals presented range from 'Aquinas' to 'Davis Young' but omit Socrates, Richard Bube and many more. The organisations include the 'ASA' and 'BioLogos' and the 'Faraday Institute' but omit Christians in Science and the Research Scientists Christian Fellowship and a host of influential organisations. Of the books included, three are ancient myths such as *Gilgamesh Epic*, and, oddly, only one modern book, *The Mystery of Life's Origins*, but not *Origin of Species*. Perhaps books are best left for a separate bibliography but seminal works of great influence would have been appropriate.

To their credit, the editors conclude the Introduction with an invitation to readers to submit to dcs@harpercollins.com any suggestions for topics to be included in future editions (11). A flood of submissions would be appropriate and would need to be added to achieve the titular claim of being a 'definitive reference'.

It would have been beneficial for the Dictionary to include an index of both topics and of contributors. Though the entries are listed alphabetically, a listing by genre would be a great help for the reader to understand what topics

are covered and where a particular discussion might be found. Listing the contributors with the topics they address would also be of great help in perceiving the underlying perspective in any given entry.

The breadth of items addressed and the incisive explanation of each one render this book valuable for every person pursuing science and Christian faith.

Randy Isaac is Director Emeritus of the American Scientific Affiliation and retired IBM Research VP of Systems, Science and Technology, holding a BS in Physics from Wheaton College and a PhD in physics from the University of Illinois at Urbana-Champaign.

Geraint F. Lewis and Luke A. Barnes

A Fortunate Universe: Life in a Finely Tuned Cosmos

Cambridge: Cambridge University Press, 2016. 373 pp. hb. £18.99. ISBN 978-1-107-15661-6

If you only have time or inclination to read one book on fine tuning and the anthropic principle, read this one! In my view this book has several features which make it uniquely valuable. First, it is an up-to-date account by scientists familiar with the subject, and is therefore a unique resource for those who wish to investigate any specific features in more detail, using the excellent further reading list and references. Second, although it deals with many complex topics, it is written in an accessible, even chatty style, and while it is unreasonable to expect those who are not well read in physics and cosmology to follow all the arguments, it makes as good an attempt at explanation as I have seen. Third, it does not stray too far into wild speculation, as some authors are tempted to do; by and large

it deals with well-established science. Fourth (though this may seem to some readers of this journal a weakness) it does not take a strong view about the philosophical or theological significance of the remarkable fine tuning of the physical constants and the early history of the cosmos which the authors expound. In fact the two authors take a different view on this; one favours the multiverse as a naturalistic explanation, the other points out how well these facts fit in with theism. So the discussion of what it means is very much subsidiary to the explanation of what fine tuning is.

It may be helpful to compare this work with three other popular books on fine tuning. *The Goldilocks Enigma* by Paul Davies remains an excellent exposition of the basic ideas, although in my view delving too deeply into very speculative ideas. *The Cosmic Landscape* by Leonard Susskind shows very clearly the way in which theoretical physicists and cosmologists have been astounded by what seem like extraordinary flukes in physics and cosmology, but is an extended attempt to popularise a multiverse (or megaverse) explanation, based on a version of string theory. *The Fallacy of Fine Tuning* by Victor Stenger is an attempt to show that there is no fine tuning to explain; the fallacies in his arguments have been clearly exposed in a technical article by Luke Barnes referenced in the current book (this article remains an outstanding exposition of fine tuning, though much more technical than the present book). *A Fortunate Universe* is more grounded, more up to date, more open-minded and more accessible than any of the others. Moreover, it is probably philosophically more careful and better informed than any of the others. The basic assertion of fine tuning is that the values of some physical constants and of some features of the early expansion of the universe which are not otherwise determined but just have to be measured have to be very close to what they are observed to

be for life to be possible, and that the probability of that happening by chance is very small. It is very difficult to make reliable estimates of this kind of probability, and Lewis and Barnes discuss these difficulties with great clarity. Not surprisingly, there is an Australian flavour; both authors are based at the Sydney Institute of Astronomy. The humour will either amuse or irritate you - an example which amused me was the statement that 'we certainly don't have a perfect, patented prior probability predictor' with the footnote 'with apologies to the Anglo-Australian Anti-Alliteration Association'!

Many atheists (for example Richard Dawkins) and Christians view fine tuning as a significant basis for an argument in favour of theism. The present book is not primarily such an argument, but does provide the scientific basis on which such an argument can be soundly based. (Some Christian arguments in favour of theism based on fine tuning leave very much to be desired!) It will, I believe, prove valuable both for those who want a clear and reliable introduction to fine tuning, and for those who want to deepen their knowledge, and will be able to use both the careful discussion and references to scientific, theological and philosophical publications as an invaluable guide. Strongly recommended.

Paul Wraight retired some time ago from teaching physics and engineering at Aberdeen University, but maintains an interest in fine tuning and the design argument.

Thomas M. Crisp, Steven L. Porter, and Gregg A. Ten Elshof, (eds.)

Neuroscience and the Soul: The Human Person in Philosophy, Science and Theology

Grand Rapids: Eerdmans, 2016. 286 pp. pb. £19.99. ISBN 978-0802874504

In contemporary theological anthropology, few questions have generated as much interest as those surrounding human ontology, particularly the extent to which we should affirm some kind of substantial soul as an essential component of the human person. Although theologians and philosophers have long debated such issues, recent developments in the neurosciences have again made such questions central for anthropological reflection today. *Neuroscience and the Soul* offers a collection of essays addressing some of the important theological, philosophical and scientific issues involved in the discussion, providing a valuable resource for those wanting to understand the shape of these debates more clearly.

The essays in this volume are arranged in three sections, each of which addresses one of the major areas identified in the subtitle: philosophy, neuroscience and theology. Within each of those sections, the essays follow a common pattern: position, response and rejoinder. An initial essay sets up the discussion by tackling some set of issues involved in the debate from the perspective of a particular view of human ontology (usually some version of substance dualism or nonreductive physicalism). The following essay then offers a critical response from a different ontological framework, to which the original author then provides a rejoinder. This format offers the reader not only an introduction to the issues involved in the discussion, but also a clear sense of how each position differs and why those differences matter for understanding the human person. As the editors indicate in the introduction, the goal was to put

scholars 'into conversation with leading critics of their views' (2). And although the various authors approached their responses and rejoinders graciously, they pulled no punches when explaining precisely what they found lacking in their interlocutors' arguments. These essays thus offer a deeper and more diverse analysis of various topics than tends to be the case even in other multi-authored volumes.

It is important to realise, however, that this structure means the book should be viewed more as a set of case studies that illustrate certain key debates, rather than as a more comprehensive overview of how these three disciplines relate the question of the soul. By offering responses and rejoinders to each essay, the book is necessarily limited in the number of topics it can address. The six chapters of the first section (philosophy) focus on just two discussions: William Hasker's emergent materialism, with particular emphasis on the unity-of-consciousness argument and top-down causation. Similarly, the third section (theology) addresses two issues: Velli-Matti Kärkkäinen's multi-dimensional monism and the role of tradition and exegesis in these discussions. Although the second section (neuroscience) is the longest of the three, here the authors cover just three issues: behavioral determinism, the significance of the neurosciences for the existence of a substantial soul, and the problem of consciousness. Few would question the significance of these discussions for understanding human ontology today, and I appreciate the way the book's structure allows for those discussions to be pursued with greater depth and rigour. Yet it does mean that a variety of important topics remain unaddressed. This is not a criticism, since every book must make decisions about how to allocate its precious pages. Yet it is a feature of the book to be aware of since it shapes the kind of contribution the book makes to the discussion.

A more important concern arises with

respect to the second section. The focus here is not so much on *what* the neurosciences have to say about the human person, though that inevitably arises as well, but more on *how* we should interpret that data with respect to human ontology and the extent to which the neurosciences should shape our understanding of the human person in general and the existence of the soul in particular. Nonetheless, I still found it surprising that the essays in this section were primarily philosophical in orientation. Although the authors are clearly well-versed in much of the scientific literature, and they certainly presented important perspectives on the matters at hand, little room was given in these essays for the perspectives of those working in the neurosciences themselves. Thus, although the book seeks to provide an interdisciplinary conversation between ‘philosophers, theologians and scientists’ (2), the voices of that third group were notably underrepresented in this pivotal section. Instead, the three sections of the book seem more adequately represented as being about philosophy, more philosophy (i.e. philosophical perspectives on the neurosciences), and theology.

Nonetheless, the essays in this volume still comprise an excellent resource for understanding contemporary debates about the ontology of the human person with a particular emphasis on how modern developments in the neurosciences are being interpreted and utilised in disparate ways by philosophers and theologians today.

Marc Cortez is Professor of Theology at Wheaton College.

Terry Eagleton

Materialism

New Haven and London: Yale University Press, 2016. 176 pp. hb. \$24.00. ISBN 978-0-300-21880-0

‘Existence precedes essence’, Jean-Paul Sartre once famously declared. Terry Eagleton would strongly disagree, and, in this passionately argued polemic, sets out to challenge an anti-essentialist philosophical anthropology which he believes has a pervasive, but highly deleterious, influence on Western society.

For Eagleton, solidarity and sociopolitical change are only possible if human beings have a shared nature. The problem with the current intellectual fad of postmodernism, he argues, is that it systematically denies that human existence is in any way rooted in, or constrained by, a ‘realm of stable material forms’ (15). Gilles Deleuze and Michel Foucault commit the fatal error of assuming that humans are free-floating autonomous selves, disembodied and disconnected from both the natural world and each other. This lack of ontological anchorage in nature has led, Eagleton argues, to an alienated view of the human self. Worst of all, it has resulted in our having no concern ‘with the destiny of men and women in an exploitative world’ (17).

So how do we recover a sense of a shared and stable human nature? While it may seem tempting for some, there must be no going back to a Platonic belief in an immaterial soul. We have to abandon the philosophical idealists’ notion that the spirit is ‘afflicted’ or ‘burdened’ with matter (19).

How, then, can we retain some kind of anthropological universalism? Eagleton is convinced that, after Darwin, the solution lies in returning us firmly to our animal roots – which means embracing materialism. However, Eagleton is careful to point out that he has no interest in eliminative or ‘reductive’ forms of materialism. His concern,

rather, lies with what he calls 'somatic' (or anthropological) materialism.

The earliest philosopher to defend this view, according to Eagleton, was Aristotle, who held that it is our embodiment that makes us human: 'We are animals all the way through, not just from the neck down' (44). Cognition is just as corporeal an activity as drinking, and humans are agglomerations of material which are inherently active. 'All of this', Eagleton argues, 'just *is* our soul' (39).

Eagleton is keen to enlist the support of three major somatic materialists: Marx, Nietzsche and Wittgenstein. Although they reached radically different conclusions (and, in the case of Nietzsche, some highly dubious ones), all were united by the same conviction that nature is more fundamental than human history (72). Marx and Nietzsche both believed that human consciousness is deeply interwoven with its material conditions and that 'the noble has its origins in the base' (98). While Wittgenstein is often erroneously portrayed as a linguistic idealist, he too held that 'language games' were constrained by the biological facts of existence (125).

But this raises an immediate problem. If we are animals, to what extent are we determined by our evolutionary antecedents? It is precisely our linguistic capacity, Eagleton insists, that is the primary mark of our rationality and agency. We are rational, social and historical beings – but in a peculiarly animal way (44).

Eagleton argues that Marx, Nietzsche and Wittgenstein all held that while we are embodied beings, we have the rational capacity to make our own history. One of the advantages of Aristotelian somatic materialism, then, is that because humans all share the same physical constitution, and are thus united ontologically, we have the potential, through our use of reason and language, to transform our lives for the better (154).

There are undoubtedly strengths to this work. Few would wish to quarrel with Eagleton's desire to find grounds for a shared human future, and his concerns about the spiritual aridity of much postmodern thought are surely justified. To this extent, Eagleton is on the side of the angels. His use of Aristotle is also welcome, and echoes that of other recent neo-naturalistic philosophers, such as Martha Nussbaum and Philippa Foot. However, Eagleton's analysis raises key philosophical difficulties that will be of concern to readers. The most pressing is perhaps his assumption that consciousness is but an epiphenomenon of brain activity, which, despite his protestations to the contrary, suggests a more than passing sympathy with eliminativism (106). It is difficult to see how his contention that human agency actually exists can be squared with such a materialist assumption.

Eagleton clearly fails to acknowledge that among contemporary researchers in neuroscience there is no consensus about the nature of minds. In fact, there are profound problems with materialism. The philosopher David Chalmers, for instance, refers to the very existence of subjective experience as the 'hard problem' – precisely because it resists explanation in materialistic terms.

From a scholarly perspective, the main difficulty with Eagleton's approach is his apparent certainty that complex issues, which remain very much open to debate, have been settled; and his tendency to simply assert, rather than to adduce evidence in support of, his claims. Such peccadillos would be unpardonable in a philosopher. Perhaps it is just as well that Eagleton earns his living as a literary theorist.

Jonathan W. Chappell holds a PhD in Anthropology from University College London, an MLitt in Theology from Darwin College, Cambridge and an MPhil in Philosophy from the University of Essex.

Matthew Nelson Hill
Evolution and Holiness:
Sociobiology, Altruism and the
Quest for Wesleyan Perfection

Downers Grove, IL: InterVarsity Press, 2016. 247 pp. pb. \$29.99. ISBN 978-0-8308-3907-0

Should the title of a book having six nouns in it clearly tell the reader what it is about? I should have thought so. However, in the Foreword to this book Darrel Falk states that it explores 'the connection between Christianity and evolutionary biology'. And David Wilkinson opines that it shows 'how theology can both contribute to and learn from science in the exciting pursuit to be fully human'. Joel Green considers that it covers an 'interaction focused on divine grace working within the restraints of creation', whereas Thomas Oord believes that it 'argues that loving communities and their practices stand the best chance in helping us walk the highway of holiness'.

Thus we need to delve deeper, exploring 'the interface between science and religion' (Holmes Rolston III) (15), that is, how science meets faith. Sociobiology is a new field of study 'that applies evolutionary theory to social behaviour' (18). The first half of this book concentrates on different aspects of altruism, and the second part on John Wesley's doctrine of Christian perfection, that is, holiness (see also Appendices 1 and 2). Altruistic characteristics can be observed in Wesley's bands and classes (see Appendix 3). Humans have found out that living together in communities, and working as cooperative small groups, is effective. In other words, altruism and moral development are beneficial to us. And so we are 'heading in the direction of holiness' (21) and then 'people become more altruistic' (33).

The biological, or sociobiological, explanation of altruism is a complicated subject at the intersection between science (particularly evolution), ethics and theology. Much discussed here are

relevant topics raised in Neil Messer's book *Selfish Genes and Christian Ethics: Theological and Ethical Reflections on Evolutionary Biology* (London: SCM, 2007), Stephen Pope's books *The Evolution of Altruism and the Ordering of Love* (Washington, DC: GUP, 1994) and *Human Evolution and Christian Ethics* (Cambridge: CUP, 2007), Edward Wilson's book *On Human Nature* (Cambridge, MA: HUP, 1978), Mary Midgley's book *Evolution as a Religion: Strange Hopes and Stranger Fears* (London: Methuen, 1985), and Richard Dawkins' book *The Selfish Gene* (Oxford: OUP, 1989). Three major criticisms of sociobiological explanations of altruism are introduced; one of these involves the environment, or the culture, in which humans operate (63) and another is 'its unwillingness to acknowledge the numerous constraints on behaviour' (84). So, humans can use 'free will to overcome biological (i.e. genetic) and environmental constraints on altruistic behaviour' (105, 106).

Since 'selfish and selfless tendencies are so tied to human evolution' (137), Matthew Hill shows that sociobiology and the ethics (namely Christian perfection, which is also known as entire sanctification, or holiness) of John Wesley are, in fact, compatible. 'John Wesley built upon the biological makeup of his followers and developed highly structured groups that mitigated selfish behaviour while nurturing altruistic inclinations' (137). 'For Wesley, Christian perfection always consisted of wholly loving God with one's heart, soul, mind and strength, and loving one's neighbour as oneself' (140). Wesley's longest treatise, *The Doctrine of Original Sin*, is examined. 'Perfection is to be attained *in this life*; it is not merely for the life to come' (153). 'Faith working by love is the length and breadth and depth and height of Christian perfection' (154). The dualism of the body and soul is explored. 'Through a combination of human choice and the grace of God, humans possess the ability to continu-

ally overcome their genes and achieve Christian perfection in this life' (161, 162). Yet individuals still have free will.

'John Wesley's small groups encouraged people to be more altruistic' (172). Matthew Hill reviews John Wesley's structure and organisation of Methodists from the earliest days at Oxford in 1729. 'Wesley always planned his class meeting so that there was no conflict with regular Anglican services, and continually urged his people to be faithful to the church' (177). 'Caring for the poor must be an inseparable part of Christian living' (179). Accountability within the groups was important, as were constraints placed upon their members. 'Wesley's intention was to move people toward inward holiness that resulted in outward holiness' (200). Thus Wesleyan ethics provide a framework for approaching sociobiology.

This book closes most usefully with fourteen pages summarising the main content of each of its seven chapters. This book is well written; it presents well-reasoned and fundamental arguments concerning John Wesley's ground-breaking ideas, and how humans operate effectively in small groups. This background could be valuable when considering how the Methodist church might function more effectively at the beginning of the twenty first century, relying on 'the grace of God while working to develop a lifestyle of holiness that bears altruistic fruit' (217). So, perhaps a better title might have been *John Wesley's holiness and human behaviour*.

Michael Rycroft is a retired Professor of Aerospace Science who worships at Wesley Methodist Church in Cambridge, U.K.

Edward O. Wilson

Half-Earth: Our Planet's Fight for Life

London & New York: Liveright Publishing, 2016. 256pp. pb. £13.99. ISBN 978-1-63149-082-8

E. O. Wilson is that rare combination of respected scientist, passionate apologist and gifted wordsmith. Yet, despite its author's two Pulitzer Prizes, his latest book is somewhat uneven in style and mixed in quality. At its heart is a plea born of desperation, that unless we urgently set aside 'a global network of inviolable reserves that cover half the surface of Earth' (203), we will unleash an ecological apocalypse of mass species extinction such that our current era should be named not the Anthropocene, the age of humanity, but the 'Eremocene, the Age of Loneliness' (19).

In *Half-Earth* there are passages of poetic eloquence and vivid summaries of humanity's myopically destructive impact. Wilson writes of the 'spiritual and lasting' (32) feeling of touching one of the last Sumatran Rhinos, retells the sad story of the (probably) extinct Ivory-billed Woodpecker (92-94), and memorably describes alien species introductions as 'the ecological equivalent of Russian roulette' (36). He manages to be both entertaining and horrifying in summarising the impact humanity is having on species extinctions, through habitat destruction, introduced species, pollution, population growth and over-hunting (49-60). Unsurprisingly, as a scientist whose reputation was built on studying ants, he's at his best describing small things, including the minutiae and complexity of bacterial and microbial life, whether under the ocean floor (120-123) or within the human gut: 'each healthy person contains a series of balanced ecosystems comprised primarily of bacteria' (115). There is also a lengthy section describing thirty-six of 'the best places in the biosphere', an inevitably subjective list compiled by eighteen experts Wilson wrote to (126-

146). It varies from whole countries (South Africa, Papua New Guinea) to islands (Socotra, Madagascar, Galapagos), to smaller unique ecosystems such as the Atewa upland forest in Ghana, where A Rocha Ghana is spearheading a campaign to prevent bauxite mining from destroying the forest <http://ghana.arocha.org/projects/protecting-atewa-forest>).

However, whilst E O Wilson's passion is biodiversity, *Half-Earth* is equally about humanity, and this is where it is weaker and contradictory. Wilson argues that humans are both the source of nature's decline and the only hope for its recovery (although he suggests that if humans were to destroy multicellular life on earth including themselves, microbial life would gradually recreate complex life-forms (123-124)). Yet Wilson's anthropology is conflicted. On the one hand, 'we are still too greedy, shortsighted and divided into warring tribes to make wise, long-term decisions. Much of the time we behave like a troop of apes quarrelling over a fruit tree' (47). On the other hand, Wilson seems to think we are on the verge of a moral breakthrough in human consciousness, stating 'we are thinking organisms trying to understand how the world works. We will come awake' (199), and 'I believe we've learned enough to adopt a transcendent moral precept concerning the rest of life' (205). Similarly, Wilson struggles with the tension between humanity as simply a random product of evolution ('the twig-end of a phylogeny' (149); 'The biosphere does not belong to us; we belong to it.' (17)), and the reality that 'Like it or not, and prepared or not, we are the mind and stewards of the living world' (205).

It is ecological anthropology – humanity's relationship with the rest of nature – that is at the heart of Wilson's hopes and fears. He unleashes his most colourful prose at two groups he believes are guilty of dangerous anthropocentrism: religious believers and advocates of the 'new conservation'. The former

are treated dismissively, Wilson stating that 'traditional religions are pivoted on the salvation of human beings' (205), a claim which betrays his own rejection of fundamentalist Christianity rather than any substantial knowledge of Christian theology or world faiths. The latter, however, are Wilson's main target: those fellow conservationists and environmental philosophers, including the US Nature Conservancy (127), who advocate 'the extreme Anthropocene worldview, in which humans completely dominate Earth' (67). He relentlessly mocks those who advocate valuations of nature based on economics alone, seeing other species as only mattering if they are valuable to us, and paints word pictures of a barren world redesigned to serve humanity but where ecosystems have collapsed through ignorance and myopia. Philosophers of nature such as Erle Ellis and Peter M Kareiva are attacked for judging biodiversity only by its service to humanity (70). E O Wilson wants more first-hand experience of nature, more wonder at the interdependence of ecosystems, more hands-on natural history, more biophilia.

It is highly ironic, therefore, that the final chapter of *Half-Earth* places its hope not in a moral renaissance based on reconnection with nature, but in nanotechnology and robotics. E O Wilson believes that 'threading the bottleneck' (182ff) caused by growth in human population and consumption means removing human beings from half the planet's surface, allowing biodiversity to recover, and living in technocentric communities where economic growth is 'intensive' not 'extensive' and wealth is judged by 'quality' not 'quantity' (186). This section feels utterly detached from the rest of the book, is weak on detail, and based on Wilson's blind faith in 'a world gaining so swiftly in biotechnology and rational capability' (203).

In the end it's difficult to know who *Half-Earth* is aimed at. Much of it will be cheered by those already committed to biodiversity conservation, but its

tone is unlikely to convince hardened Anthropocene advocates and its concluding technocentrism sits uncomfortably with the wonderful quotation from Alexander von Humboldt that Wilson employs earlier: 'The most dangerous worldview is the worldview of those who have not viewed the world' (74). In addition, although Wilson habitually adopts biblical language, including Job 38 (13), Genesis 1 (43) and describing moments of natural wonder as the 'Lord God moment' that naturalists live for (94), his dismissal of religion ultimately alienates those whose support he needs most. The eighty per cent of Earth's population who are affiliated to major religions are critical to the moral shift that is needed with regard to humanity's place in nature if conservation is to succeed in the twenty first century.

Dave Bookless is Director of Theology for A Rocha International, completing a PhD in theology and biodiversity conservation at the University of Cambridge, and serves on the Church of England's Environmental Working Group.

Denis O. Lamoureux
Evolution: Scripture and Nature Say Yes!

Grand Rapids, MI: Zondervan, 2016.
196 pp. \$16.99. ISBN 978-0-310-52644-5

I recently had the opportunity to attend a talk exploring the virtues of scientists and the scientific community given by Michigan State University's Professor of Philosophy Robert T. Pennock. I particularly enjoyed the opportunity to approach the speaker afterwards and thank him for his 2001 volume entitled *Intelligent Design Creationism and its Critics: Philosophical, Theological and Scientific Perspectives*. This 826 page volume represented the first scholarly assessment of what was then a new Creationist movement, and along with

a number of essays penned by Pennock, also has contributions from scholars on both sides of the debate including Philip Johnson, Michael Behe, William Dembski, Alvin Plantinga, Howard Van Till, Michael Ruse, Nancey Murphy, Arthur Peacocke and even Richard Dawkins and Stephen Jay Gould. It is hardly light reading, but does represent a robust and relatively complete consideration of Intelligent Design Creationism, clearly exposing the weaknesses of this pseudo-scientific argument. I read Pennock's volume at a key time in my scientific career when I was troubled by the seeming contradiction between what I had always heard in church and what I was learning in the then final year of my undergraduate Biochemistry degree. It is fair to say that this book represented a turning point for me and enabled me to become an intellectually fulfilled scientist and Christian. I was thus very pleased to finally meet Robert, thank him for his volume, and muse with him that nothing new has really occurred in the Intelligent Design debate since his volume was published sixteen years ago.

Whilst it is indeed the case that the various Creationist movements have not come up with any new intellectual arguments for many years, they have shown themselves to be particularly effective publicity machines as they spin ever new and creative rhetorical attacks on the scientific community. Whilst these are not particularly troubling to those of us with the wherewithal to make it through volumes such as Pennock's, it does cause significant distress to those starting out on their scientific journeys who are presented with evidence at university that seems to contradict key doctrines that they were taught in their well-meaning, but scientifically ignorant, church upbringings. To address this angst a cottage industry of easy reading science and religion books has been developed, funded by organisations such as the Templeton foundation. Perhaps one of the most im-

pressive authors addressing this issue that I have come across is the Canadian triple doctorate Denis O. Lamoureux. I was fortunate enough to review his impressive 493 page volume *'Evolutionary Creation: A Christian Approach to Evolution'* for volume 22 of *Science and Christian Belief*, and now have been given the opportunity to read his much shorter and accessible book aimed directly at new undergraduate students.

As mentioned, the arguments are not new and are structured in a similar way to Lamoureux's earlier volume, but a considerable effort has been made to make them accessible to undergraduates based upon the author's many years of teaching Science and Religion at the University of Alberta. Indeed, it turns out that the author's entire course is available online for anyone who is interested in exploring his particular approach to the subject in more detail alongside the published volumes. Lamoureux certainly achieves his aim of laying out the debate very clearly, starting first with his own personal journey before describing the 'two books' concept, defining some important terms such as teleology and concordism, and then exploring the debate in enough depth to be intellectually satisfying but not too technical. His final chapter 'Let the Students Speak' provides anecdotes from his experience presenting the issue to young students.

When I was an undergraduate I was significantly troubled, and therefore motivated, to wade through scholarly essays on this subject in order to make up my mind. Whilst I still think this is a good approach, the truth is that many of my contemporaries were not motivated enough to put in a similar amount of work and in many ways chose the easy way out – trying not to think about the conflict between science and what is taught in many churches. Here, however, is a very readable book, aimed directly at undergraduates, that explores the issues clearly and persuasively. Whilst I still think more com-

plete volumes are necessary reading, this book provides precisely the sort of introduction to the subject I wish I had whilst an undergraduate. For this reason I will keep my review copy in my office and will probably have given it away by the time this review comes to print. Indeed, I will also try to encourage Christians in Science to buy some copies for their bookstall, especially to recommend to students coming from a Christian background and struggling with this age-old issue.

Simon Kolstoe is a Senior Lecturer in Biochemistry and the University Ethics Advisor at the University of Portsmouth, UK.

Josh A. Reeves & Steve Donaldson

A little book for new scientists

Downers Grove, IL: IVP Academic, 2016. 144 pp. pb. \$12.00. ISBN 978-0-8308-5144-7

Part of an IVP series of little books this is a physically small book in a friendly, easy to read format that is likely to be attractive to its audience of young people considering or starting a career in science. Coming from an American perspective, the book assumes we are living in an age of hostility between science and faith. Aiming at a new/prospective scientist audience the authors clearly present the basics of positive interaction between science and Christian faith. As well as providing a helpful introduction to the topic, the authors provide a good list of suggested further reading at the end of the book. The book is well referenced throughout with many good highlighted quotations from others. This creates a comforting feeling of standing on the shoulders of giants in following a long line of wise people who have thought about these issues before us.

Part 1 of the book addresses the

question ‘why study science?’ Given the book title one would assume that most readers had already decided to study science. However, the content of this section of the book provides a useful, sensible overview covering the basics of the two books analogy, a brief history of the role of Christianity in science and ethics in science. Occasional comments such as ‘knowing the history of science will help inoculate you against common misunderstanding’ may come across as rather presumptive or patronising. However, to a young person who has been taught or exposed to such misunderstandings in their past, this could be very helpful.

Chapter 4 discusses common sources of ‘adversity’ to allow ‘the scientist to be better prepared when they are confronted by them.’ The tone is rather negative, for example in suggesting that science for a Christian can be ‘even more stressful’. However, the content discusses some real issues faced by working scientists. The choice of the female pronoun in the phrase ‘sense of rejection that may leave a scientist wondering whether she has chosen the appropriate career’ is unfortunate in reinforcing unhelpful stereotypes that women are more likely than men to experience doubts that science is an appropriate career for them. Whilst this may be true, reinforcing negative stereotypes is not the best way to improve equality and diversity. However, as this is not the topic of the book I expect the choice was not intended to invoke such connotations, and their mixed use of male and female pronouns through the book does recognise gender diversity within science. Some comments suggest a simplistic view of suffering, for example, ‘As with any form of adversity, one’s reactions will illuminate the depth of her Christian commitment with the inevitable result of strengthening or weakening her witness.’ This might come across as insensitive to certain people, for example a scientist suffering from poor mental health. Although the

link to witness made here may jar with some Christians, it would fit well with the views of many evangelical students. In general, the adversity topic is treated quite abstractly, and I would have liked to have seen more personal examples of how the authors or others have dealt with issues they discuss.

The chapter on working with others in a scientific community reveals some implications that I disagree with. Firstly ‘the weight of scientific opinion can also bend their Christian perspectives beyond recognition’ implies an attitude to faith as under attack by science. Similarly, the opposite, ‘one’s religious beliefs can distort the practice of good science’ implies Christian beliefs are antagonistic to good science. Whilst this may be the case in certain US institutions, referred to by the authors as ‘Christian scientists working in an environment in which their dominant contacts are Christian’, it is fortunately not the norm experienced in many European science institutions. Here, and in other places in the book, the authors use the phrase ‘Christian scientists’ but they apparently mean Christians who are scientists, not adherents to the Christian Science sect. The chapter on working together ends with a good brief discussion on finding other Christians working in Science (mentioning ASA and CiS).

The authors include an important chapter on intellectual humility and then go on to outline basic principles for biblical interpretation. The chapter entitled ‘Are scientists mostly atheists?’ actually addresses the question ‘Why are some scientists atheists?’. The final chapter entitled ‘Science for the good of the church’ considers how intellectually minded Christians can help church members in their thinking.

The book ends with a good conclusion paragraph and a helpful list for further reading. I would recommend the book for students, young scientists and those considering a career in science, espe-

cially for those who have come from a background of hostility between science and faith. The book is a good, concise, accessible introduction to integrating science and Christian faith.

Rhoda Hawkins is a lecturer in physics at the University of Sheffield and an active member of Christians in Science.

Stacy A. Trasancos
Particles of Faith: A Catholic Guide to Navigating Science

Notre Dame, IN: Ave Maria Press, 2016. 178 pp. pb. £11.99. ISBN-13978-1-59471-657-7. E-book: ISBN-13978-1-59471-658-4

As the title suggests, this book has been written from the perspective of a member of the Roman Catholic Church. Stacy Trasancos also shows the enthusiasm for her subject of one who had converted from earlier total unbelief. The book's argument, however, does not differ in content from that which would be employed by any committed Christian – anyone for whom the Christian faith has a prescriptive role in dealing with relations between religion and science. Potentially, a difference may emerge in the final chapter, 'When Does a Human Life Begin?', but there the perspective is essentially that of someone with the sensitivity of a mother as much as that of a Catholic.

Trasancos has worked as a research chemist, has a master's degree in theology, lectures in both chemistry and theology, seems to be a more than competent violinist, and dedicates herself principally to being a homemaker. At the outset she avers that her book is not a scholarly apologetic work and it is indeed marked by a conversational style – she makes the claim that what is missing in the religion and science dialogue is 'the human person'. The person of lively faith is what she really

intends here, as throughout the work she insists on a priority: 'We need faith and reason equally, but when it comes to science, we must view the universe through the confident lens of faith in the Creator' (43). While that is a valid approach, a thorough treatment of the topic would also call for some attention to the distinction between faith and doctrine. This however is implied in some sections of the book, particularly in the treatment of evolution, where varieties of views with regard to human origins are discussed as possible options. An impressive list of topics is covered; there are comprehensive presentations of such issues as Big Bang cosmology, quantum physics and evolution – where her chemist's expertise leads to detailed discussion of microevolution.

Throughout the book, she emphasises that empirical science cannot give the complete picture of reality. That understanding came to her one day as she turned from her laboratory experiment on photosynthesis and looked from the window at the leaves of a tree flapping in the wind: 'Right there, so close, was an orchestration of photons, electrons ... organelles, leaves – a tree so finely tuned down to the quantum level that it did not seem like it should exist' (21) It was a shock experience also: 'The tree held the truth about nature, the truth that Someone made it, and it was frightening'. (22) It was a revelatory moment, leading to her renunciation of unbelief and eventual conversion to Christian faith.

The author's personally engaged approach to the issue of dialogue puts the work into the category of witness, but her comments of a theological nature on diverse areas of scientific progress do not lack objectivity. Discussing the fear some have that faith might be unreasonable, that 'science explains everything people once thought that faith explained', she makes an interesting point about science: 'If you stand back far enough, you will notice that scientific discovery does not fire forward

in a straight line. ... discoveries and theories appear to meander. ... If you look broadly enough, you will see that modern science emanates from, and is sustained by, the light of faith. Faith in an ordered world is the reason we do science.' (39) In taking this stance, she acknowledges dependence on a 1974 book of the late Stanley Jaki in which he claimed that science was born of Christianity because of its teaching that there is a beginning and an end in time and that the universe was created with order – all of this in contrast with the cosmological and religious views of ancient cultures where pantheistic or animistic views of an eternally cycling universe prevailed.

This standpoint provides the basis for a discussion of the evidence for a creator provided by Big Bag cosmology. She gives due credit to Fr Lemaître for his early work and his acute comments, and introduces the useful distinction between inductive and deductive approaches to the subject (66). It is worth noting that she includes here the findings of the physicists at LIGO in 2016 relating to the detection of gravitational waves.

The book presents as a popular account of the current state of the science and religious dialogue, but in fact the reasoning throughout is at a serious level and is demanding of concentration, even if the narrative is sprinkled with accounts of everyday experiences such as family meals. There is perhaps a danger of it falling between two stools – of not being taken seriously by those looking for a sophisticated treatment of the subject and yet discouraging those looking for an easy introduction to a newly fashionable dinner table item of conversation.

Fintan Lyons OSB is a theologian interested in the science and theology dialogue. His book, *Martin Luther: His Challenge Then and Now*, was published in August 2017.

Christopher Lilley and Daniel J. Pedersen (eds.)

Human Origins and the Image of God: Essays in Honor of J. Wentzel van Huyssteen

Grand Rapids, MI: William B. Eerdmans, 2017. 322 pp. hb. \$60.00. ISBN 978-0-8028-7514-3

Mindful of the distinguished contributions over four decades by Professor Wentzel van Huyssteen, one approaches a book containing essays in his honour with a sense of keen anticipation. The editors include contributions from natural scientists, philosophers, historians and theologians. They also, very helpfully, include a contribution from Niels Gregersen who introduces any reader not familiar with van Huyssteen to his remarkable life and work. For reasons that will be apparent later, this review deals first with the two parts containing contributions by philosophers, historians and theologians and later those by natural scientists.

The contributions in Part 2 from philosophers and historians are wide-ranging and illuminating. The first, a contribution by Keith Ward, is extremely clear and readable – not a footnote in sight! He addresses three key questions, 'What is distinctive about human persons? Why, and how far, should they be treated with special respect? And does Christian faith have anything to add to our understanding of persons?' (113). The contribution by Wesley Wildman on Axiological Sensitivity is more challenging and demanding. Michael Ruse's chapter on human evolution addresses questions that puzzle many serious Christians. It is honest, helpful and very thought-provoking. The final chapter in this section by John Hedley Brooke meets the high expectations from one of today's leading scholars on science and religion relationships down the centuries.

In Part 3, headed 'Theologians', the contribution from Michael Welker stands out. Welker offers a detailed

analysis of what theology is all about and in doing so identifies what he calls nine different levels at which theology operates. This is a thought-provoking contribution aiming as he writes, 'at polyphonic consonance of the different perspectives and the truth seeking contribution to the great task that makes theology theology' (235). The other contribution to this section which, for quite different reasons, stands out, is the one by Dirk Smit. The method employed by Smit is in stark contrast to the contribution by Keith Ward in Part 2. Whereas Keith Ward had no footnotes, the total text of Smit's contribution contains twice as many words in the footnotes as in the main text! This means that whilst it will, no doubt, be a great literature source for others researching in Smit's chosen field, it is perhaps not what many readers will be looking for or find easy to digest.

In discussing Part 1 of this volume, devoted to the Natural Sciences, we need to recall the remarkable way in which Professor van Huyssteen, to whom the book is dedicated, has, throughout his career, worked extremely hard to be aware of what was happening at the cutting edges of the full range of sciences which had potential implications for theological issues. Issues such as the one in title of this book, namely *Human Origins and the Image of God*. As one turns to this part one first comes across the usual magisterial contribution from Ian Tattersall, distinguished palaeontologist and palaeoanthropologist. Tattersall directly asks questions about human uniqueness in a penetrating and informative way. The next paper in this section by a distinguished anthropologist once again addresses important issues in an accessible and well-informed way. There is a second anthropologist in this section, Agustín Fuentes, and again his contributions are most illuminating and helpful. The same comments apply to the other two sections by cognitive scientist Justin Barrett and one of his

colleagues and by Richard Potts. It is at this point that one naturally raises the question, why have those sciences which, it is generally accepted, have the most direct implications for questions about human origins no representation in this volume at all? Sciences such as evolutionary genetics, evolutionary biology, evolutionary psychology, developmental anatomy and neurology? To underline and illustrate this point one might refer to a recent publication in the Proceedings of the National Academy of Sciences in the USA of the recent Sackler Colloquium under the title *The Extension of Biology through Culture (Proceedings of the National Academy of Sciences of the United States of America, vol.114, no. 30, pp. 7734-7737 and pp. 7775-7022, July, 2017)*. It is evident from the range of contributions to this Colloquium that the published findings on the range of disciplines mentioned above dates back at least to the early 1970s and yet there is little or no mention of any of these in this volume. To be sure the philosopher Michael Ruse is aware of them but there is no detailed treatment of them and their relevance for the topic of the volume *Human Origins and the Image of God*. Perhaps this serious omission is because the editors of the volume are theologians and hence, it could be argued, science is not their area of expertise. One suspects, however, that with his lifelong insistence on the relevance of the full range of sciences to theological issues, Professor van Huyssteen, whom this volume honours, would not have been satisfied with such an omission.

One concludes therefore that whilst there is much to stimulate and edify in this volume, the question remains of how much better it would have been if a stronger editorial hand had been applied to ensure that all or most of the sciences noted above as relevant to the topic of the book had been represented. It would, moreover, have been the sort of volume which would have benefited enormously from the sort of final chap-

ter overview that Professor van Huyssteen himself was so skilled at producing and would have served to pull together the many important contributions throughout the book.

Malcolm Jeeves is Emeritus Professor, School of Psychology and Neuroscience, St Andrews University, and is editor of and contributor to *The Emergence of Personhood: A Quantum Leap* (William B. Eerdmans, 2015).

Robert S. Dutch
Let There Be Light! Nuclear Energy: A Christian Case

Eugene, OR: Wipf & Stock, 2017.
220pp. pb. £24.00. ISBN 978-1-4982-9149-1

The case for nuclear energy seems clear. We live in a world where the demand for energy is high. The impacts of anthropogenic climate change are becoming ever clearer. And whilst other sources of renewable energy should definitely be pursued, their generating capacity and reliability are not yet sufficient to meet our needs. Therefore, nuclear energy—though far from perfect—is a pragmatic, low-carbon compromise. Accidents do happen; nuclear waste is a concern; and nuclear plants are attractive to terrorists—but many environmentalists now agree that the risks involved are lower than those associated with unmitigated climate change. As the campaigner Bill McKibben puts it, ‘Nuclear power is a potential safety threat, if something goes wrong. Coal-fired power is guaranteed destruction, filling the atmosphere with planet-heating carbon when it operates the way it’s supposed to.’ (124)

Robert Dutch agrees. Having recently retired from a career in the nuclear industry, *Let There Be Light!* is his take on the nuclear energy debate. The book includes sections on the principles of

radioactivity, risk management, and government energy policy, before setting out to counter ten principal objections to nuclear power. Numerous facts are marshalled in support; and some of them are quite striking. The typical radiation dose that a nuclear worker might be expected to receive in a year is equivalent to eating two bags of Brazil nuts (55). Meanwhile, the annual dose from nuclear power for a member of the public is the same as a single flight from London to Rome (129). Nuclear power stations in the UK result in less than 1 kg of waste per person per year, whereas our annual share of general municipal waste works out at 517 kg apiece (145). In 2015, 19% of the UK’s energy came from nuclear power and this constituted 48% of all our low-carbon energy (61). Dutch summarises his case: ‘Nuclear energy has a positive contribution to make to electricity production in limiting climate change, where a growing population, increased energy demand, and expectations are putting considerable strain on our planet and living species.’ (xxviii)

But what is the theological contention? The subtitle does, after all, suggest that one might expect a *Christian* case for nuclear energy. Dutch points to Christians who have been afraid of nuclear power, Christians who have been converted to the idea of nuclear power, and Christians who have worked in nuclear power—yet the existence of these groups of people does not immediately advance the discussion (127). Similarly, the mantra that, ‘it is God’s world and we should care for it,’ recurs regularly, but the argument is never cashed out (85, 99 and 173). Some Christians might think we can best care for the world by using nuclear power, and some might not—so why is it that good Christian stewardship must entail nuclear power?

Dutch’s other line of reasoning seems to be that radioactivity is natural and hence nuclear energy is to be welcomed. As he says near the start of the book,

'it was God's plan in creation to use nuclear energy.' (3) But it is not entirely clear why this should follow: just because something *is* the case, does not mean that it *ought* to be the case. If it did, we would all be committed to a sort of fatalism that has given up on a distinction between good and evil.

Nonetheless, Dutch mentions a couple of interesting points that are ripe for further development. Firstly, as he rightly acknowledges, shifting people from 'nuclear fear' requires something other than simply facts and figures (164). Indeed, the psychology of nuclear reluctance is fascinating. Dutch quotes James Lovelock approvingly when he says that, 'We live at a time when emotions and feelings count more than truth, and there is a vast ignorance of science.' (124) It is undoubtedly true that scientific illiteracy poses a major challenge in the nuclear debate, but it is also the case that Christian theology has always held religious feeling in high esteem. The old chestnut of rational thought versus emotional experience rears its head once again. One task for the theologian, then, is to show why there remains a space for religious feeling, but not for ill-informed, anti-nuclear sentimentality.

The second place for further reflection concerns the link with nuclear weapons. Dutch's chosen quotation puts it nicely: 'Nuclear energy was conceived in secret, born in war, and first revealed to the world in horror.' (109) No wonder, perhaps, that some people are so averse. But the biblical instruction to 'beat swords into ploughshares' appears to have informed broader cultural phenomena (112). The most impressive example to date has been the 'Megatons to Megawatts' program, in which Russian, weapons-grade uranium has been converted to fuel for US nuclear reactors (52). The theological point is that military technologies ought to be redeployed for peaceful civilian applications.

So are there also other ways in which distinctively Christian ethics might shape the nuclear debate? Given Christ's injunction to love our neighbours, is the link between environmental protection and social justice important in this context? Might a Christian tradition of virtue ethics be able to extend the argument beyond the merely utilitarian when it comes to energy policy? And is the Protestant emphasis on individual belief and transformation a hindrance when it comes to taking corporate action on these issues?

Dutch's book is rich in detail, peppered with references and scientifically coherent, but the real test will be whether or not it converts the nuclear sceptic in the pew.

Tim Middleton holds a PhD in Earth Sciences and is now a graduate student in Theology at the University of Oxford; he is an Associate of the Faraday Institute of Science and Religion.

William T. Cavanaugh and James K. Smith (editors)

Evolution and the Fall

Grand Rapids, MI: Wm. B. Eerdmans Publishing Co., 2017. 231 pp. pb.
\$26.00. ISBN: 978-0-8028-7379-8

Few will disagree that human evolutionary biology raises serious questions regarding Christian theology. This edited book explores the implications of evolution for the traditional understanding of the account of human origins and the origin of sin, especially the doctrine of original sin and the Fall. The central theme proposes that Christian tradition is a rich and essential source of theological truth from which 'faithful extensions' can be drawn (xx-iii). The editors present the Council of Chalcedon as an example of 'Spirit-led imagination' (xix) that resulted in theo-

logical development and the doctrine of the hypostatic union. They contend that a similar synthesis and advance is possible through 'reimagining' (xv) human evolutionary science and traditional Christian beliefs regarding human origins.

In the only scientific chapter, biologist Darrel Falk offers an excellent overview of human evolution from a genetic and paleo-anthropological perspective. This is a very accessible presentation for non-specialists and leaves little doubt that humanity descends from pre-human ancestors. In another fine summary, theologian Celia Deane-Drummond presents the Roman Catholic Church's theological development from the concordist and anti-evolutionist 1909 Pontifical Biblical Commission to the present Pope Francis and his affirmation of evolution. In reimagining the Fall without 'a historically literal Garden of Eden, Adam and Eve' (36), Deane-Drummond argues, 'My own view is therefore that the Fall and original sin in particular show up the first occasion when divine awareness permitted an alternative self-destructive mode for human beings, leading to a recognized building up of hostility both within that community, and beyond that toward other animals as well' (42).

Philosopher James Smith offers the most complete example of reimagining the Fall in the light of evolution. He begins by underlining that 'faithful extensions' of Christian tradition must be rooted in the 'plot' or 'narrative logic' of 'creation, sin, and redemption' (50-51). As a consequence, Smith argues that certain aspects of tradition are 'incidental' (52, 55, 57). For example, he states that a 'punctiliar' Fall is not essential to Christianity (58, 60). Smith even offers a two-page reimagining of the Genesis accounts of origins in the light of evolutionary science. Notably, there is no mention of Adam and Eve. Instead, he proposes that humanity emerged from 'a population of hominids' and 'it is this

early population (of, say, 10,000) that constitutes our early ancestors' (61). Smith suggests that the 'Fall might take place over time T1-T3' (62). He even includes a re-imagined Cosmic Fall in his account. But curiously, Smith refers to Noah (61), indicating he embraces some form of concordism.

The only contribution by an Old Testament scholar is by J. Richard Middleton, who is well-known for his insightful *The Liberating Image: The Imago Dei in Genesis 1* (2005). The subtitle of his chapter encapsulates his argument: 'Beyond Concordism and Non-Overlapping Magisteria' (67). Middleton is quick to underline the vacuity of the 'concordist attempt to force science to fit what the Bible is thought to say about these topics' (68). In appealing to Old Testament scholar William P. Brown, he argues that there are 'resonances,' 'consonances,' 'correlations,' 'connection,' points of contact,' and 'parallels' between Scripture and science (70-71). In particular, Middleton suggests that viewing evolution in the light of Genesis 2-3 might offer insights into 'the origin of moral evil, including that notion of a 'historical' or 'eventual' Fall' (72). Middleton also reveals the literary mastery of the author of these biblical chapters through the use of allusions, word play and ancient motifs.

New Testament scholar Joel Green offers in my opinion the most provocative chapter in this book. He argues that 'scripture does not refer to the Fall, traditionally understood, and nowhere speaks of Adam's sin as a physical inheritance' (114). Green begins by reviewing relevant literature from the Second Temple Period and concludes that the sin of Adam and Eve introduced physical death into the world and that humans remain accountable for their own sins (105). This then leads into his understanding of Romans 5-7, and in particular, the 'pivotal text' in Romans 5:12 (108-109). Green translates the famed *eph' hō* in the last phrase of this verse as 'since everyone has sinned.'

However, he conveniently overlooks Romans 5:15-19. Notably verses 16a, 18a and 19a state, 'The result of one man's [Adam] sin: The [divine] judgment followed one sin and brought condemnation [to all humans]' . . . One trespass [by Adam] resulted in [divine] condemnation for all people . . . Through the disobedience of the one man [Adam] the many [all humans] were made sinners.' Though the term 'original sin' is not in Scripture, I believe it is present conceptually in these verses.

In order to offer balance in this book, Roman Catholic theologian Aaron Riches unapologetically asserts, 'The doctrine of monogenism is true: all humanity springs from a single parent, the Father Adam' (134). In his use of Christian tradition, he argues that 'none of the Fathers, Scholastic, or Reformers thought of him [Adam] as simply a metaphor or parable' (119). In particular, Riches points to the feast of the salvation of Adam and Eve celebrated on December 24. He defends the historicity of the first man and woman in Scripture by stating, 'An 'idea' cannot have a feast day' (119). And to put it even more incisively, Riches asserts, 'To rephrase C.S. Lewis's famous 'madman or Son of God argument,' let us not come up with any patronizing nonsense about Adam as a powerful metaphor. When truly considered as a whole, the scriptures, the analogy of faith, and the tradition of the church have not left this open to us' (122).

This book also offers a number of other interesting chapters that are not directly related to the theme of 'faithful extensions' from Christian tradition. William Cavanaugh outlines the decline of the Fall in political theory. Brent Waters offers some fascinating insights regarding transhumanism. Norman Wirzba emphasises that creation must be understood Christologically and that salvation and reconciliation extends not only to humans, but also to all creatures and the physical world. And Peter Harrison proposes that science-religion

conflicts can lead to fruitful theological development.

There was one burning issue that continually arose in my mind while reading this book: what are the criteria that define so-called 'faithful extensions' from Christian tradition? The radically different approaches to the use of tradition by James Smith (seemingly no Adam and polygenism) and Aaron Riches (a historical Adam and monogenism) accentuate this issue. From my perspective, this is easily resolved if the ancient cosmology and ancient biology is identified in both Holy Scripture and Christian tradition, and then deemed incidental and nonessential. Nevertheless, this book is a valuable contribution. I very much recommend it.

Denis O. Lamoureux is Associate Professor of Science and Religion at St. Joseph's College in the University of Alberta, Edmonton, Alberta, Canada.

Simon Oliver

Creation: A Guide for the Perplexed
London: Bloomsbury T&T Clark, 2017.
209 pp. pb. £16.99. ISBN 978-0-567-65608-7

'Who made God?' It is not a coincidence that this question unfailingly arises in the polemics of the so-called New Atheists, including Richard Dawkins's *God Delusion* and more recently in Lawrence Krauss's *A Universe from Nothing*. To ask the question is to imply conflict between theology and science. After all, if God is reduced to just another part of the natural world, a world that can be understood on its own terms and entirely in reference to modern science, then there is no need for the superstitions of theology. In this elegant rejoinder to such modern misapprehensions, Simon Oliver retrieves and reasserts the importance of a Christian doctrine of creation that clearly expresses the re-

relationship between God and the created world. With interdisciplinary expertise, he traces this doctrine's theological roots, identifies the historical factors for its regrettable eclipse, and highlights its significance for contemporary issues in theology and science.

Central to Oliver's account of the doctrine of creation is the idea of participation. With particular reference to the metaphysical thought of the thirteenth-century theologian Thomas Aquinas, he explains that creation participates in God at every moment and thus can be seen only in relation to God. In this sense, God is not part of creation or one thing that stands alongside creation. Rather, creation exists by virtue of its participation in God. That creation shares in God's existence, without which it would be nothing, indicates that creation *ex nihilo* is not in conflict with Big Bang cosmology, which concerns physical processes within creation, rather than the metaphysical nature of God's relation to creation. Participation is a difficult and technical concept, easily misunderstood and often neglected in the contemporary theology and science dialogue, but Oliver offers a clear exposition of its nature and implications. He also provides a helpful appendix for studying Aquinas and suggestions for further reading. Although he acknowledges that the enormity of the topic imposes great selectivity, the participatory insights of Plato and Nicholas of Cusa (who are mentioned elsewhere in the book) would also have been beneficial to consider.

In a move that will be of interest to historians of theology and science, Oliver argues that the rise in the seventeenth and eighteenth centuries of modern natural science significantly altered and impoverished the traditional doctrine of creation. The resultant 'physico-theology' offers a sterile depiction of creation as a self-standing artefact of natural mechanical processes, set in motion by and standing apart from a designer God whose laws can be

described mathematically. While sometimes presented as a way to preserve the integrity of theology and science, such a view subverts the traditional God-creation relationship. Instead of the Thomist insistence on creation's utter dependence on God, what remains is a God who can be put to one side and defined in terms of a world of scientific explanation. This unsatisfactory legacy continues to influence and distort theological engagement with science.

Finally, Oliver applies the resources of the traditional doctrine of creation to contemporary concerns about the disruptive economic and environmental effects of the global free market. Here, he stresses the important participatory notion of creation as gift. Creation's existence is itself a continual gift (freely, lovingly, and graciously given) of participation in God. Oliver suggests that this ontology of gift, grounded in the doctrine of creation, is more fundamental than trade, which misallocates resources, generates anxiety, and understands gifts strictly in terms of human desire and will. Creation *is* the gift of participation in God, which places it beyond the commodification of markets. This approach situates the free market in a deeper perspective (even if it overlooks recent reductions in global poverty and inequality) and provides a promising basis for further delineation of the economy of gift.

With characteristic philosophical rigour and clarity of expression, Oliver has produced a powerful and timely call to attend to metaphysical fundamentals. He convincingly demonstrates that progress in the debate between theology and science depends not on identifying dubious parallels between the two, nor on introducing God into the shrinking space as yet unfilled by scientific explanations, but on carefully articulating the fundamental doctrines of God and creation. If this metaphysical enterprise adds coherence to Christian theology, then it may also encourage humility in science, whose methods alone cannot

account for creation's intelligibility and meaning. To operate with confidence in our scientific future, theology must remember not to forget its past.

Jamie Boulding is a PhD candidate in Theology and Science at Corpus Christi College, University of Cambridge.

Kenneth Keathley, J. B. Stump and Joe Aguirre
Old Earth or Evolutionary Creation? Discussing Origins with Reasons to Believe and Biologos
Downers Grove: InterVarsity Press, 2017. 432 pp. pb. \$24.00. ISBN: 978-0-8308-5292-5.

This book is the result of a decade-long dialogue between the leaders of Reasons to Believe, supporting old-earth creation, and BioLogos, supporting evolutionary creation, aiming to understand on which key points of science and religion they would agree and disagree. Both Reasons to Believe (<http://www.reasons.org/>; founded by Hugh Ross) and BioLogos (<http://biologos.org/>; founded by Francis Collins) are well known and have long-standing track records in dealing with Christianity and science issues. The dialogue took place in a series of meetings mediated by a group of Southern Baptist seminary professors. Most Southern Baptists support recent creationism, and this view motivates some of the questions raised by the mediators, but it does not otherwise feature in the dialogue in this book.

The book contains an Introduction, followed by eleven chapters, a Conclusion and a Bibliography. Chapter 1 outlines the goals of each organisation. Chapters 2 to 6 are dealing with the key issues of biblical authority, Adam and Eve, natural evil, divine action, and the scientific method. The remaining chapters focus on evolution related

issues, dealing with what is biological evolution, geological evidence, fossil evidence, evidence from genetics, and anthropological evidence. The book ends with a Conclusion titled 'What is the next Step?', a Bibliography, and an appendix with brief biographies of the contributors.

Each of the eleven chapters starts with a brief paragraph, in which one of the moderators asks relevant questions in relation to the topic of the chapter, followed by detailed responses from representatives from Biologos and Reasons to Believe. This then leads to a Redirect by the moderator followed by Responses from both representatives. Each chapter ends with a brief Conclusion by the moderator. A total of eighteen persons have contributed to this book.

Although this book does not have the coherence of a monologue, the strength of this book is that it gives an excellent overview of a number of key Christianity and science issues in a fairly brief format. The chapters follow each other in a logical order, and although the issues are interlinked, each chapter can be read independently to a reasonable extent. The writing styles of the contributors are engaging and the topics discussed are very thought provoking. The discussions are in-depth and up to date.

The role of the moderators as reflected in the starting paragraphs and the Redirect paragraphs is a very interesting one. The questions asked and comments provided are excellent. In contrast to this, the end of chapter Conclusions are mostly superficial, leaving the reader wondering whether after all the discussions a number of the moderators are left sitting on the fence of recent creationism.

In reading this book, I found myself more attracted to the positions presented by BioLogos. Whereas BioLogos is repeatedly emphasising the possibility of God working through natural events,

and is therefore more open towards the findings of science, *Reasons to Believe* clearly sees evidence for God's direct intervention in the history of life on earth, both in science and in Scripture (24, 149-153). One of the moderators aptly points out: 'The issue seems to be not *how many* scientific predictions the Bible makes, but whether the Bible makes *any at all*' (26). *Reasons to Believe* representatives claim that their creation model is 'testable, falsifiable and predictive' (25), but in this book they defend their position mainly by casting doubt on the findings of science, in particular by claiming that there are cracks in the theory of human evolution (166-169, 175-176). Repeatedly, natural events are relegated to naturalistic events, and *Reasons to Believe* is presenting the reader with an either-or choice of an interventionist versus a naturalistic perspective.

The following is not a reflection on the quality of this book, but a topic that I found very disturbing is biblical inerrancy. Biblical inerrancy is defined (15-16) by eight statements from the International Council on Biblical Inerrancy (ICBI). Perhaps the most relevant statement is the following: 'We deny that any genuine scientific facts are inconsistent with the true meaning of any passage in Scripture.' It seems to me that this statement opens up a philosophical minefield. Questions concerning the true meaning of certain passages in Scripture lie at the heart of the major divisions that there are in the Christian church with regard to eschatology, the millennium, charismatic gifts and the role of the Holy Spirit, the role of women in the church, and many other topics.

The question as to what constitutes a genuine scientific fact is equally problematic. It is clear from this book that *BioLogos* and *Reasons to Believe* have very different views about the validity of a number of scientific findings in relation to evolution, and also regarding the meaning of a number of passages

in Scripture. Add recent creationism and the differences become even bigger. Whilst prominent atheist scientists are declaring that God is dead, that philosophy is useless, and that natural science is on course towards a complete understanding of the universe, the understanding of God's involvement in the creation remains one of the main division points within the Christian community.

One of the most amazing aspects of the creation and a clear indicator of the involvement of God is the information present in the genome in the cells of living organisms. Yet many Christians have great difficulty in taking this information and what it tells us seriously. Most Christians would rather see God working through miracles than through natural events. The variety of (pseudo-)scientific ideas going around in the Christian community shows that we have well and truly entered an era of post-truth Christianity. Attempts to ring-fence biblical inerrancy are leading to entrenched positions and these are not going to help in removing the divisions. Constructive dialogues, such as the ones presented in this book, are urgently needed.

Peter J. M. van der Burgt is a senior lecturer in the Department of Experimental Physics at the National University of Ireland, Maynooth.

David Gregory (ed.)
Messy Church Does Science
Abingdon: The Bible Reading Fellowship, 2017. 272 pp. sb. £9.99.
ISBN 978-0-85746-579-5

It is now well understood that the widespread idea of conflict between science and religious faith starts to develop at a very young age. Indeed, research carried out by Prof. Berry Billingsley, then Associate Professor in the Education Department of Reading University,

UK, as part of the 'Learning About Science and Religion' [LASAR] project, has demonstrated that by the time young people reach their teenage years the great majority already see science and religion as two opposing forms of thinking, between which one must make a choice.

Messy Church Does Science is an exciting new activity book which will help gently to challenge this damaging misconception and reshape the thinking of current and future generations. The book has been produced by *Messy Church*: a cross-denominational, international network that began in 2004 as a creative way for the Church to engage children and young families with God's story and make Jesus accessible to all. Funded by a grant from *Scientists in Congregations*,¹ this much-needed resource builds upon the interest and enthusiasm that many children, young people and adults alike, including committed Christians, have for science and scientific exploration of the world. Its aim is to encourage exploration of how science and faith mix and to get across, as editor Revd Dr David Gregory puts it, that 'science is welcome in church ... and those who are fascinated by science are welcome too'.

From worms to DNA, and balloon-powered cars to slime, the resource offers a hundred interesting science-based activities or experiments for use in *Messy Church* and similar groups. The activities are divided into ten chapters, each focused on a general theme

and collated by a particular contributor. The range of different topics and activities provides plenty of material, enough to keep even the most budding of young scientists occupied for many a session. The book is mostly text-based and some may find that the lack of accompanying pictures makes the activity instructions a little hard to visualise and follow at times. However, the *Messy Church* team has carefully compiled videos and photos of the vast majority of the activities included in the book on their website (www.messychurch.org.uk/resources/messy-church-does-science), and where the website does not provide photos or videos for a specific activity there is usually clear reference in the book to alternative websites such as the BBC and 'Science Sparks' which do so.

Other very useful additions include the activity rating system which ranks each activity on a scale of 1 – 5 for 'Mess', 'Danger' and 'Difficulty', as well as the recommendation that whilst most materials ought to be readily available in the cupboards at home, some might need to be bought in advance and that a rehearsal before the big day wouldn't go amiss. Information like this should enable those without an extensive scientific background to lead sessions with confidence and enthusiasm and allow for quick decisions as to which activities will be best suited to the venues and age-groups in question.

Each of the hundred science activities is followed by topic-specific 'Big Thinking' and 'Big Questions' sections, providing opportunity to reflect: firstly, on the scientific conclusions that might be drawn from the experiment or current scientific understandings on the topic (Big Thinking); and then on how this scientific understanding might link to scripture, faith and our knowledge of God (Big Questions). In linking science experiments to scripture, the *Messy Church Does Science* contributors avoid the common trap of attempting to ascribe scientific foreknowledge to scripture, or over-emphasising scriptural

1 *Scientists in Congregations* is an awards scheme run as part of The Equipping Christian Leadership in an Age of Science project, funded by the Templeton World Charity Foundation. The scheme invites churches across England to apply for grants of up to £10,000 to fund innovative projects fostering a better understanding between science and faith <http://community.dur.ac.uk/christian-leadership/science/the-project/scientists-in-congregations/>.

alignment with scientific discoveries. Instead, the resource's exploration of the diversity and wonder of science supports simple but profound reflection on specific faith-based themes, aspects of God's character and Bible stories for which the science may provide a helpful inspiration, illustration, metaphor, parallel or segue. This gentle approach engenders a way of questioning and considering the world using both science and faith, rather than having to choose between the two or forcing one to fill the role of the other. Introduction of such ideas helps to validate awe-filled exploration of the scientific workings of God's great universe and reduce the impact of societal influences which would otherwise inspire misleading impressions of science, religion and their interactions during a highly formative stage of life.

Another major strength of the resource is the inclusion of 'Perspective' sections between each chapter. These sections are written by Christians with a wide range of backgrounds, experiences and faith-stories, each of whom communicates excitement about and passion for exploration of God's wonderful universe. Use of personal stories is an extremely powerful way of engaging young people in the area of science and faith exploration, enabling them to access concepts that might otherwise be seen as too abstract or impersonal to be relevant. The *Messy Church* context may not offer opportunity to share these sections with young children (they are, perhaps, stylistically more suited to older age-groups in any case), but the true impact may well lie in affirming and supporting *Messy Church* leaders by reducing any perceived threat of science towards faith and instead encouraging mutual joy and wonder in exploration of God's universe for leaders and groups alike. This same mes-

sage is communicated and enhanced by the combined experience and expertise of the chapter contributors (ministers, school teachers, chemists and more), each a Christian who has taken the time to deeply consider the interactions of science and faith for themselves.

This is an exciting resource for those with a love for science and hands-on experiments, and its accessibility, personal engagement and encouragement of thoughtful reflection will enthuse even those who feel no natural affinity for test tubes and lab coats! The book not only demonstrates that science is compatible with Christian faith, but also enables those using it to discover fun and fascinating things about themselves and the world around them, together with revealing something of the character of our creator God. Through doing so, this resource also encourages ongoing exploration of 'big questions' and the world around us through both science and religious faith. This is an important concept for young people to experience if they are to develop intellectually satisfying and enriched views regarding the interactions of science and religion, taking both seriously, without a sense of having to compromise either to make space for the other. As such, *Messy Church Does Science* is a valuable resource capable of moving all who explore it to a deeper understanding of science and the divine, and ultimately inspiring awe and worship.

Stephanie Bryant is part of the Youth and Schools team for The Faraday Institute for Science and Religion. In addition to school sessions she is involved in the production of a number of resources for young people and their parents, teachers and Sunday school leaders.