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NOTES ON CONTRIBUTORS

Robin Attfield is an Emeritus Professor of Philosophy at Cardiff University, who specialises in environmental philosophy and ethics. Recent books include *Creation, Evolution and Meaning* (2006), *Environmental Ethics: an Overview for the Twenty-First Century* (2003 and 2014) and *The Ethics of the Global Environment* (1999 and 2015). His book *Wonder, Value and God* is due to be published by Routledge in August 2016.

David Bartholomew is an Emeritus Professor of Statistics at the London School of Economics where he taught for many years and was Pro-director from 1998-2001. He was Chairman of the Forum (1997-2000) and edited *Reviews* (1997–2006). He has published widely in books and articles in the fields of Statistics, Probability and Religion.

Finley Lawson completed a BA in Philosophy and Theology at Heythrop College, London in 2008, and returned to Heythrop in 2012 to study for a Master of Research in Philosophy. He is currently undertaking a PhD in Theology at King's College, London with a thesis examining our understanding of the Second Person of the Trinity in light of quantum holism.

Philip Luscombe is a Methodist minister in Kent and former Principal of Wesley House, Cambridge. He is the author of *Groundwork of Science and Religion* (2000).

César Navarro is founder and director of Latin American Educational Society for Faith and Science (SELFYC).

John Nightingale is a retired Church of England Vicar with experience of pastoral ministry, adult education and social responsibility. He has qualifications in philosophy, theology and social work.

John Reader is Associate Research Fellow with the William Temple Foundation, University of Chester and Rector of the Ironstone Benefice in the Oxford Diocese. Publications include *Heterotopia* co-written with Caroline Baillie and Jens Kabo, and *A Philosophy of Christian Materialism: Entangled Fidelities and the Public Good* co-written with Chris Baker and Tom James.

Bethany Sollereeder is a research coordinator in the Materials department and an associate member of the faculty of Theology and Religion at the University of Oxford. She grew up in Edmonton, Alberta, moved to Vancouver to study theology at Regent College and then went on to England for her PhD in theology at the University of Exeter.

EDITORIAL

In February of this year, scientists from the Laser Interferometer Gravitational-Wave Observatory announced they had directly observed gravitational waves. These waves confirm Einstein's theory of general relativity but they have also been hailed as initiating a 'new era' of astronomy by enabling us to see deeper into space and further back in time. They were created 1.3 billion years ago with the collision of two black holes. The detection of these waves means that we are able to 'hear the universe' as well as see it. This makes us think again about our models of human understanding. Theories of epistemology and the language we use to talk about knowledge have long been dominated by models of sight and vision. Consequently other metaphors of perception have been neglected. This different way of experiencing our cosmos gives us not just a different perspective on the universe but also on our relationship to it. Hearing the universe opens us up to new ways of experiencing it. Listening is not passive but involves active engagement, response, and sometimes transformation. In listening to the universe, we are encouraged to think about new ways of knowing.

The limits of scientific ways of knowing is the theme not just of the SRF's forthcoming conference but of several reviews featured in this edition. In his article review, Robin Attfield discusses Radek Kundt's *Contemporary Evolutionary Theories of Culture and the Study of Religion*. Kundt extols the virtues of an evolutionary approach to religion but one which offers an explanation

of culture without the need for a cultural theory of evolution (in this case the theory of group selection). This raises vital questions about the limits of Darwinism and its application to the study of religion.

In Richard Coleman's *State of Affairs*, reviewed by Philip Luscombe, Coleman argues for what he calls sympathy in dialogue. Many of the dominant models of engagement between science and theology have, he thinks, conceded too much to science and given theology a diminished role in the dialogue between them. Luscombe teases out the importance of considering the underlying methodologies and these in turn impact on the interrelation between science and theology.

Finley Lawson reviews Christopher Nassaar's *The War on God*. Writing in response to the new atheism, Nassaar wants to encourage the scientific study of the 'aberrant' and he approaches the science-theology interface from a literary perspective, offering the possibility of a fresh voice in the conversation.

Mathematicians and their Gods, edited by Snezana Lawrence and Mark McCartney and reviewed by David Bartholomew, makes an important contribution to the field of science and religion by contextualising the mathematical thought and religious beliefs of various well-known mathematicians. Finally, John Nightingale reviews Roger Trigg and Justin Barrett's *The Roots of Religion*. This edited volume advances the work of CSR and, as Nightingale emphasises, highlights the importance of taking religious ideas into account, given their nature as part of our 'cultural furniture'.

The reprints in this edition feature reviews of several important new publications. Celia Deane-Drummond's latest monograph sheds new light on how we might understand ourselves and our relationship with other creatures. Ignacio Silva's edited book is valuable for promoting Latin American contributions to the science-religion conversation, and Michael Northcott's *A Political Theology of Climate Change* is of considerable significance for highlighting the inseparability of ecotheology and political theology.

This issue also publishes an obituary for our late treasurer and secretary Jeffrey Robinson, composed by his brother-in-law Michael Williams. I am very grateful to Michael for being willing to share such a fitting tribute with the readers of this journal.

Finally, I must remind readers about this year's Annual Conference and the Peacocke Prize. Details follow: please be encouraged to book early!



Science and Religion Forum

Registered Charity 1034657

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Chairman: Rev Canon Dr Michael Fuller

2016 Annual Conference

Woodbrooke, Birmingham. 31st Aug-2nd Sept 2016

‘Are there limits to science?’

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Christopher Southgate (Exeter)

Fees: SRF members and spouses £265; Non-members £285;
Students £130.

To register, please contact Hilary Martin hilarymartin@lineone.net. The closing date for conference applications is 29 July 2016.



THE ARTHUR PEACOCKE STUDENT ESSAY PRIZE

CALL FOR SUBMISSIONS

On the theme of
'Are their limits to science?'

In memory of its founding President and former Chairman, the Revd Dr Arthur Peacocke, the Science and Religion Forum offers a prize for an essay directly relevant to the theme of its annual conference, as stated above. For further details, see the Forum's website:

<https://srforum.org>

The prize is open to all undergraduate and post-graduate students in full or part-time education. The prize will consist of a cash award of £100, free membership of the Forum for one year, and the UK travel and accommodation costs (or equivalent) of the winner's participation in the Forum's 2016 conference.

The essay should not exceed 5000 words in length, including footnotes but excluding the bibliography. It should be preceded by an abstract of no more than 250 words, and should be submitted as an email attachment in Microsoft Word format, no later than midnight 29th July 2016 to Dr Louise Hickman: l.hickman@newman.ac.uk. Dr Hickman will answer any questions about the prize. All submissions will be acknowledged within 1 week of receipt.

The essay should be the original work of the applicant - unacknowledged quotation from the work of others will automatically disqualify the entry. Copyright in the essay will remain with the author. Each submission should be accompanied by a statement from the author's Supervisor or Head of Department, confirming the author's student status and indicating awareness that the essay has been submitted. The adjudicators reserve the right not to award the Prize if no entry of sufficient standard is received. Their decision will be final, and no correspondence about it will be entered into.

OBITUARY

Dr Jeffrey Robinson (1940-2015).

Secretary of the SRF 2010-2015 and Treasurer 2013-2015

Jeff was born on Trafalgar Day 1940, 135 years after the battle of Trafalgar and at the end of the Battle of Britain and at the beginning of the blitz. He was born in Tring in Hertfordshire, a few miles outside central London but was evacuated to Somerset. He was not there long enough to acquire a Somerset burr but long enough to acquire a love of the countryside. In due course he went to live in Beckenham in Kent with his parents, his sister Gill and his brother Keith. His father ran a radio shop and subsequently a bicycle shop in Bermondsey. Jeff passed his eleven plus exam and went to Beckenham Grammar school.

When not consumed by academic activity, he built model aircraft, mastered the possibilities of meccano, took up woodwork, sang in the church choir, became a Queen's Scout and even found time to read the Eagle, the seminal British comic first published in 1950. Some years later Jeff was distraught when he discovered that his mother had thrown out his copy of the very first edition of the Eagle. This clearly had a traumatic effect on Jeff, for after that he never threw anything out.

After leaving school, Jeff spent his gap year working as a laboratory assistant at the rotameter manufacturing company in Croydon which made scientific instruments.

He was now a mature young man who had missed out on national service by being born after, but only a few months after, December 1939.

In 1960 Jeff went to St Andrew's University to read biochemistry and no doubt a large variety of other things. St Andrew's was a happy choice, particularly since a young lady called Jane Fairlie-Clarke had also made the pilgrimage north to study there, a lady to whom we shall return later. Jeff graduated in 1964 and moved to Edinburgh University where he was a research assistant in the department of zoology. After two years he was appointed to a lectureship in the department and in 1969 he achieved his PhD in molecular biology and became Doctor Robinson. He then transferred to Edinburgh University's central administration. This was followed by a move back to St Andrew's University. Over the next eighteen years Jeff held a number of different posts and was latterly a member of the university's central executive team. Jeff then returned to Edinburgh to run the Central Secretariat of the non-university institutes of higher education in Scotland. When this body was disbanded, he was offered the opportunity to move to a newly created post in the school of biological sciences and spent some fourteen years as the school's senior administrator. The head of the school of biological sciences concluded his later appreciation of Jeff's abilities with the words 'I could not have undertaken the re-organisation of the department without being able to rely on Dr Robinson's skill, insight and experience in analysing the relationship between structure and

functions in academic units. His wise counsel was invaluable'.

It is time to turn now to Jeff's personal life. Jeff and Jane married in July 1965 after they had both graduated in their different disciplines at St Andrew's University. In 1969 Emma was born, in 1971 Lucy, and in 1975 Edward. In 2005 their grandson Benjamin was born and in 2008 their granddaughter Harriet. Jeff and Jane had a very happy and fulfilling family life, both in St Andrew's, in Edinburgh and in Cheltenham. He was greatly blessed in his marriage to Jane. Sadly he died only four months before what would have been their golden wedding. After Jeff's retirement from the last of his administrative posts and Jane's retirement from her job at Scottish Provident in Edinburgh, they decided in 2007 to move south, by chance (or perhaps not) in the very year that Alex Salmond became First Minister of Scotland. They left behind them a large number of very good friends but it was a happy move and they soon immersed themselves in a variety of activities and acquired many new friends. Jeff had always had a wide range of interests. At university, meccano had given way to more extrovert activities. He was a member of the cabaret club at St Andrew's University, performing monologues and musical entertainments at dances and balls. He played rugby for a university team, known as the Saturday club. This entitled him to wear a tie with a motif of an elephant's bottom. Jeff was probably the only member of the team who would have known whether it was an African elephant or an Indian elephant.

Jeff played squash. He played golf and, when disappointed by his lack of improvement, bought himself a set of left handed golf clubs which he mistakenly thought would raise his game to new heights. He was a member of the national art collection fund, the Scottish National Trust and the Kent County Cricket supporters club. He even gained a higher certificate from the wine and spirit education trust and he achieved the considerable distinction of being appointed a Fellow of the Royal Society of Arts.

Jeff and Jane did a lot of hill climbing and conquered a large number of Munros, including Ben Nevis. They went with friends on foreign walking holidays, once to Crete and once on the pilgrim's way to Santiago de Compostela. Jeff was teased on hill climbs for the excessive size of his rucksack but a responsible hill climber like Jeff would have to accommodate at the very least o.s. maps, compass, head torch, swiss army knife, sun lotion, corn plasters, a couple of yorkie bars and a slim volume of poetry.

After moving to Cheltenham, hill walking gave way to Scottish country dancing. Jeff and Jane went on dancing holidays in Britain and abroad. It may not be universally known but Scottish country dancing is based on a combination of elegance and stylised flirtation. On one occasion Jeff and his partner were dancing a dance known as the chased lovers dance (chased in the sense of pursued rather than pure). The lady, having faithfully observed the flirtatious demands of the dance, said to Jeff

that she hoped he knew her well enough to realise that she was harmless and all talk. Yes, replied Jeff, 'but am I?'

When Jeff retired, his range of physical activities seemed to increase exponentially to include yoga; the gym; popmobility (which is apparently a noisy form of aerobics); running ; cooking; travelling and carpentry.

In addition, Jeff had a number of intellectual pursuits. He belonged to a Science and Religion Forum of which he was secretary, organising annual conferences around the UK. He spent seven years studying Portuguese and only last month bravely attempted in a Lisbon hotel to explain to the receptionist in Portuguese a defect in the air conditioning system. Jeff was also a keen member of Probus. He was a member of Friends in Council, delivering papers on Joseph Banks and on Samuel Pepys the Administrator. I looked round his study the other day to get an idea of the breadth of his intellectual interests. There were works on science, religion, philosophy, history, music, art, poetry. There is even a book entitled 'what genes can do for you'. Nothing to do with denim of course.

Jeff's interest and enthusiasm sometimes got the better of him. On one occasion he and Jane were staying the weekend with friends, at the end of which Jeff was invited to enter a comment in their visitor's book. He proceeded to document in great detail the many pleasures of the weekend but at such excessive length that his hosts had to buy a new visitors book.

Jeff's latest pursuit was learning to play the chanter. As most of you here will know, the chanter is the part of the

bagpipes on which the melody is played. I feel sure that God will allow Jeff to continue playing the chanter though I doubt if bagpipes are permitted in heaven.

Jeff was a gentleman and a gentle man. He had a delightful sense of humour and an infectious laugh. He was a wonderful husband and a wonderful father and grandfather. He helped all his family in so many ways and was a huge support at all times. He was in turn blessed by their love and affection. Jane and her family have suffered a dreadful blow and they and Jeff's relations and his many friends will miss him greatly. May he rest in peace.

Michael Williams

REVIEW ARTICLE

Radek Kundt, *Contemporary Evolutionary Theories of Culture and the Study of Religion*. London and New York: Bloomsbury Academic, 2015, pp. 119, £65 hbk, ISBN 978-1-4742-3224-1

REVIEWED BY ROBIN ATTFIELD

This book contains some helpful insights on approaches to the study of religions, but is unfortunately written in often impenetrable prose. Many sentences embody a central-European style, like the one on p. 21, which runs: ‘With a certain degree of simplification, generalisation and typifying, each of them’ [sc. certain traditions] ‘can be classified into one for centuries cultivated philosophical traditions’ [sic] ‘that can be traced through the history back to Antiquity.’ I am sorry to say this, as a Bloomsbury author, but a much more vigorous form of copy-editing should apparently have been insisted on by the publisher. This problem makes the book hard going, and yet many passages (including Kundt’s Concluding chapter) will repay attention. That is one of the reasons why quite a scattering of page-numbers is provided here.

Kundt’s book seeks to defend an evolutionary approach to the study of religion, as one important contribution alongside others. To achieve this he is obliged in his opening chapter to expound early attempts to apply evolutionary explanations to religious phenomena (classical cultural evolutionism), and to hint at their failure to comply with the canons of neo-

Darwinism and to avoid (for example) teleological assumptions about religious history and about cultural development in general. We are also warned of the dangers of assuming, with Universal Darwinism, that Darwinian principles can readily be transferred from biological to non-biological domains.

Chapter Two presents five criticisms of classical cultural evolutionism (27-32). These five criticisms are brought on stage with surprising brevity, such that, valid as they undoubtedly are, it is difficult to distinguish them from each other, and to trace which authors are being criticised. The notes related to this chapter supply some of the necessary detail, but some of them would have been better incorporated into the text, giving this chapter an ampler flow and a less staccato tone. Yet the very brevity of this critique may assist people such as busy teachers and lecturers, short of time and in need of an overview of the shortcomings of these classical theories.

Chapter Three opens Kundt's consideration of three forms of contemporary cultural evolutionism, Group Selection Accounts (the theme of this chapter), Dual Inheritance Accounts, and Memetic Accounts or accounts based on memes, all of which are held to fall short of satisfying neo-Darwinian criteria (see 121-2). Group Selection Accounts (the specific topic of Chapter Three) suggest that human groups such as religions act like organisms, and produce both in-group harmony and inter-group competition. At the same time they seek to explain phenomena like altruism better than can be done by accounts based on selection at the level of individuals

alone (including both kin-selection and reciprocal altruism theories). Readers may be interested to discover that Kundt here finds it interesting that the promoters of group-selection accounts have often been funded by people or organisations 'striving for harmonization of faith and science', and hints that the expectations of such funders detract from the scientific study of religion (40). They may at the same time note that such accounts often appear better to account for the phenomenon of altruism (not only in its ordinary-language sense but also in the biological sense detailed on p. 41), although it should be added that some religions actually promote not inter-group competition but inter-group cooperation.

Kundt presents powerful criticisms of group selection accounts. Firstly there is no counterpart among religions of random mutations; systems of religious belief and practice result rather from intentional human actions and decisions. Secondly, groups are not replicators. Thirdly, groups fail to satisfy the requirements for being organisms, as opposed to merely resembling them, and indeed group selection theorists are unduly protean in the matter of defining groups (54-6). These criticisms (Kundt has others, but these are the clearest) seem to establish that group selection accounts cannot be regarded as examples of the neo-Darwinian synthesis, but it does not follow that they are invariably erroneous. Nor, I suggest, does it mean that the Cognitive Science of Religion cannot function as a branch of neo-Darwinism, since its focus on pre-rational intuitions allows it to compare species or sub-species with adaptive (and

random) intuitions with species or sub-species lacking them.

Dual Inheritance Accounts are considered in Chapter Four. These accounts turn on there being two types of evolutionary process, genetic and cultural, with selection (including group selection) involving an interplay between natural selection and selection operating over non-random inventions (70). In response, Kundt raises the criticisms previously raised against group selection accounts, and adds that processes of non-random variation and selection fail to fit the definition of (Darwinian) evolution. But at this stage he inserts his own recognition that, 'in the cultural domain, the influence' of non-random variation and selection 'is the dominant one' (79). In other words, to understand culture (and religion), we need an account that transcends Darwinian evolution, even if it relies on such evolution, and largely turns on non-random thoughts and intentions and on non-natural selection between them. By contrast, Dual Inheritance theory (implausibly) makes natural selection the dominant force in cultural change. Besides, adds Kundt (sensibly agreeing here with Dan Sperber), 'gene-culture co-evolution is ... too slow a process to explain cultural changes in historical time' (81).

Chapter Five considers Memetic Accounts, which are initially praised as would-be embodiments of Universal Darwinism, suggesting that behaviour not accounted for by genetic replicators (genes) is generated by further cultural replicators: memes. Kundt harbours doubts

about whether memes can be regarded as replicators at all, and mentions Richard Dawkins' hesitations about the ambitious version of memetics presented by Susan Blackmore in *The Meme Machine* (1999, p. 88). In the context of religion, Dawkins' suggestion is that memes cluster together in mutual support and form self-sustaining meme complexes, for which Blackmore devises the name 'memplex' (91). It is also sometimes suggested by memeticists that religious memes function (and spread) like a virus, often one that is maladaptive in the sense of reducing the genetic fitness of its bearers.

Kundt's criticisms of memetic accounts relate not to failure to embody the neo-Darwinian paradigm, but to culture being an inappropriate subject-matter for this paradigm to be applied to. For culture is not composed of small, independent pieces of information that might have corresponded to memes, and in cultural transmission items are seldom replicated in the form of high-fidelity copies, and often transformed rather than replicated at all. The relative stability of cultures is better explained, Kundt suggests, by Sperber's claim that new cultural variants gravitate towards 'powerful cultural attractors that ensure that deviations cancel each other out' (94). This suggestion, he adds, has been modified by Pascal Boyer in his concept of 'minimal counter-intuitiveness of successful religious ideas' (95). In a further criticism of memetic accounts, Kundt contrasts Darwinian evolution, which is restricted to processes that are random and unintentional, with the implicit Lamarckism of memeticism (wherein cultural transmission is non-

random and voluntary); in this connection he applauds forceful opponents of memeticism such as Stephen J. Gould and Mary Midgley. But he never quite adds what could have been the key criticism, which is that memeticism implicitly denies human rationality and rational choice (in religion and in culture in general), and makes the agents of history not human beings but genes and memes.

The following chapter presents Kundt's own favoured general kind of approach, which he names 'The Evolutionary Study of Culture Without Cultural Evolution' (EWCE). Such approaches attempt to explain culture without introducing theories of evolution of a cultural kind; and the version favoured by Kundt attempts to do so without resort to group selection. Thus cooperative behaviour and altruism are to be understood as 'reciprocal altruism', where there are always ultimately benefits for the agent. There is supposedly no such thing as behaviour that benefits the group but damages the agent in question without any benefits accruing to that agent whatever. (Kundt is liable to call such behaviour 'self-sacrificial', but the behaviour in question would also include persistent loyalty that goes unnoticed, where in addition the agent remains unaware of being disadvantaged). Such behaviour would have to be explained by group selection, and so it is important to Kundt that it does not exist. Readers who believe otherwise are thus obliged to reject his position.

Chapter Seven proceeds to relate this approach to Religious Studies and to the Cognitive Science of Religion

(CSR). After reviewing the literature, Kundt discusses whether religion is to be regarded as itself a product of natural selection, and thus an adaptation, or as a by-product of one or more adaptations, apparently leaving both of these options open, including ever more complex varieties of each. Belief in supernatural agents is sometimes held to be adaptive (113), as also is 'the promotion of in-group pro-sociality and cooperation' (114), but religions are so complex that it is difficult to regard them as nothing but adaptations. Rather disappointingly, this is as far as the book goes; we are not told, in the end, what the most cogent versions of EWCE tell us about religion.

Nor does the book help show how a neo-Darwinian approach, confined as Kundt requires it to be to random mutations and natural selection, can explain cultural phenomena, dependent as they mostly are on non-random ideas and on artificial selection between them. Maybe such an approach can explain generic human intuitions, and the natural selection of a species bearing them (a possibility that gives CSR its initial mileage); but rationally selected beliefs and behaviour (whether religious or irreligious) are examples of that very artificial selection the existence of which Darwinism and neo-Darwinism presuppose in claiming that there is a contrasting realm of natural selection. Kundt would agree that cultural change is not to be understood in a Darwinian manner, being grounded in an historical process of intentional actions and reactions (although he would, on purist grounds, deny it the name of 'cultural

evolution' (123)). But since most religious phenomena have just this kind of nature, basis and history, they are not only not to be explained in the manner of classical cultural evolutionism, nor in that of Universal Darwinism, but not in the manner of neo-Darwinism (however sterilised of ideological infections) either.

Kundt apparently regards the 'cultural epidemiology' of Sperber as a valuable contribution to the study of religion (125). Readers interested in a critique of this approach can find one in my essay 'Cultural Evolution, Sperber, Memes and Religion', published in *Philosophical Inquiry* 35, (2011) and available more accessibly on the website ResearchGate.

REVIEWS

Richard J. Coleman *State of Affairs: The Science-Theology Controversy*. Cambridge: The Lutterworth Press, 2015, pp. xii+272, £20 pbk, ISBN 978-0-7188-9392-7

REVIEWED BY PHILIP LUSCOMBE

Despite his title, Richard Coleman is not concerned to conduct a balanced survey of the state of relations between science and theology. Instead his book is written to issue a warning that what he calls the 'New Rapprochement' between science and theology has conceded too much to the scientific perspective and thus is selling short the distinctive contribution that theology might make to a rounded world view.

By the 'New Rapprochement' (he uses the abbreviation NR throughout) Coleman has in his sights the work of Ian Barbour, John Polkinghorne and Arthur Peacocke. He summarises their work thus: 'You belong to the NR if you are willing to let go of a world view where God intervenes visibly and supernaturally, while not forgoing a world view where the hand of God still sustains and guides, no matter how subtly' (107). Coleman believes that the attempts by NR to establish a dialogue between science and theology are fatally flawed primarily because we do not live in a world where science and theology can ever be equal partners.

Coleman begins with a chapter describing *The Contemporary Scene*, with major sections on the New Atheism, Liberal Protestant Theology, 'the Evangelical Turnaround' and the Roman Catholic Tradition. These

headings already give the sense that Coleman isn't attempting a comprehensive survey, but rather that he intends to work with what he regards as significant and credible players. He then moves on to *Irreconcilable Differences*, a chapter whose title explains its approach. Science and Theology are different areas of human activity and we should take care not to attempt any simple assimilation between them. The third chapter gives an account of the history of the relationship in the twentieth century (*The New Rapprochement*), which is followed by a chapter listing Coleman's concerns with what he sees as the current orthodoxy, that is the New Rapprochement, in the study of the relationship between science and theology. Chapters Five and Six list the distinctiveness of first science and then theology, while the final chapter is entitled: *Where do we go from here?* In this concluding chapter Coleman arrives at a position which has a good deal of merit. Following a phrase of Ignatius Loyola he argues for sympathy in dialogue: 'Hearing in order to save is far better than not hearing in order to condemn' (216).

Anyone who has attempted to write on the relationship between science and religion or theology knows how important it is to define terms. So, for example, Coleman is clear that he is discussing the intellectual discipline of theology, the organised and academic study of the area, rather than religion, which for him contains a wide range of unorganised practices and beliefs. But can such a distinction be maintained? Possibly it might in the United Kingdom where the lines

between Theology and Religious Studies are often blurred, and where non-believing theologians have an honoured place in academic departments. For Coleman, however, theology is a discipline of commitment: 'Being a theologian is different from being a preacher, though both are a form of Christian witness' (174).

Coleman runs into other problems of definition. He seems to think that 'science' needs little explanation, and that the word somehow still denotes a common intellectual enterprise. Despite referencing some of the usual more radical commentators on the philosophy and sociology of science he settles for a fairly traditional view. Science is moving towards objective truth, and in their final form theories no longer contain significant cultural influences (163). Similarly his discussions of 'truth' and 'real' or 'reality' lack philosophical subtlety. So in the chapter on the distinctiveness of theology, Coleman's discussion of reality relies heavily on what is scientifically significant. Thus *physical* reality in a straightforward empirical sense is given priority, without any discussion of, for example, the role of the observer in quantum mechanics, or the problems that follow using terms such as 'elegant' to commend the likely truth of an equation.

This lack of subtlety raises two serious problems with Coleman's approach. First, he almost always writes of the 'NR' as a unified approach. In fact Peacocke and Polkinghorne were well aware of the differences between them over issues such as the relative importance to be assigned to the 'assured results of science' to which Peacocke gave considerably more weight than

Polkinghorne. They also differed over the place of philosophy as a possible mediating framework between the disciplines. Secondly, although he makes brief mention of Alister McGrath and Mary Midgely he does not engage with their work in detail. McGrath writing from a broadly evangelical base, but appropriating the best insights of post modernism, provides a different approach to the interaction, which to my mind allows space for the development of separate understandings and methodologies which would enrich Coleman's work. McGrath is, of course, utilising the earlier insights of Thomas Torrance concerning the need for methodology to match subject matter. In a complementary way, Midgely provides a multi-dimensional approach to the meeting of different disciplines, which she has developed over a number of books into an extremely powerful and nuanced tool. By not engaging with these approaches Coleman is forced back into a flat two dimension discussion of the framework within which subjects interact. This leaves him with little room for manoeuvre. Although he dismisses the Non-overlapping Magisteria approach of Stephen Gould, Coleman's two dimensional model in the end results in something very similar.

To conclude on a more positive note, in a final comment Coleman helpfully summarises the distinctiveness of theology:

[T]heology will not ignore the scientific evidence, but rather ... it will include *dimensions* (experiences of the holy), *interpretations* (human sexuality as

sacred and the embodiment of divine love), *moral implications* (the place and meaning of suffering as redemptive), and *biblical/theological warrants* (such as original sin) that may or may not be compatible with a naturalistic methodology (254).

This seems to me a perfectly useful place from which to begin to explore how different forms of intellectual enterprise might be related to each other. If Coleman had begun here and developed these possibilities his book might have been more original and more challenging.

Christopher J. Nassaar, *The War on God: Science Versus Religion Today*. Bloomington: AuthorHouseUK, 2015, pp. 118, £9.99 pbk, ISBN 978-1504991698

REVIEWED BY FINLEY LAWSON

Hardy, Yeats, Tennyson, and Lucretius are not names that one immediately associates with the 'war on God', however all make notable appearances in Christopher Nassaar's first foray into the science and religion debate. Such mentions are hardly surprising given Nassaar's well-deserved reputation as an Oscar Wilde and English Literature scholar, yet they are not common protagonists. In an age when the educated reader seems to be bombarded by books dealing with the antagonistic relationship between science and religion, it is his literary approach that marks this book out from the flock.

Nassaar writes in response to New Atheism, and admits that when it comes to the science and religion

debate he is one of 'those educated readers to whom the flood of atheistic books is directed' (5). With this in mind, it is surprising that he sets himself the ambitious task to 'urge scientists to study the supernatural and to urge the churches to modernize and embrace science' (106) in order that the two may be reconciled. The journey to their possible reconciliation is somewhat circuitous via the soul, religious fundamentalism and history of their antagonism, however into this Nassaar manages to pack a wealth of ideas and thinkers and in doing so provides a broad, but brief, overview of the antagonistic framework. It must be noted that he comes in to this debate via Dawkins, Harris and Hitchens (in that order) and so his view of the relationship is very much framed by their bias. For those amongst his intended audience who have come to the debate through the more positive lens of authors such as McGrath, Polkinghorne or Lennox, his continual use of the 'war' or 'clash' may seem to lack the nuance of the wider debate; however, it is only fair to note that Nassaar views his book as 'an attempt to add a new voice' (65) to the New Atheism debate and so within this context, the focus on the conflict model is perhaps more understandable. Indeed his approach to understanding the historic evolution of the relationship is radically new, as it exemplifies the changing relationship through the poets and authors who manage, in a unique way, to capture the religious climate of their age.

The introduction cites Hobbes in painting a bleak view of the 'nasty, brutish and short' (8) nature of human life and the apparent incongruence that arises between our

desperate lives and the promises made by Christianity. It is this incongruence that drives Nassaar to not only assert that 'Christianity is indeed in trouble' (11) but offer a damning critique of the Catholic and Protestant (Evangelical) Churches' failure to deal effectively with scientific atheism due to 'weakness and simplistic denial' (12). This lack of full explanation fuels his investigation in to the fact that the living being is unable to be captured by science as 'it transcends its various components in ways that science can neither understand nor explain' (16) but to which, in the first of such moves, it would appear that the poet has indeed, if not provided us with the answers, been able to succinctly express the nature of the dilemma. In this instance both Wordsworth and Lord Byron are called upon to highlight the fragility and incomprehensibility of life and it is the struggle for comprehension that forms the root for the reconciliation of science and religion. For '[s]cience also does not know, and when it claims to know it is simply taking a leap of faith' (19) and science must choose in moving forward whether it is to remain with Freud or to fall in line with Jung who 'wanted to study the occult whilst Freud simply denied its existence' (19). For Nassaar the occult/paranormal activity 'is a great new frontier that remains virtually untouched by it [science]. To simply turn its back is a sign either of bewilderment or prejudice' (19) and would make it no better that the fundamentalist religion at the root of the 'war'. It is in this early chapter that we arrive at Nassaar's key to the reconciliation of science and religion: aberrant behaviour, although we

have to wait until chapter eight for the argument to truly be put forward. In order to uncover Popper's 'hidden reality' science must investigate that which goes against the norm, Einstein only arrived at a more complete theory because the 'epihelium of mercury did not behave as Newton would have expected' (20). 'Similarly, the deep scientific investigation of a single supernatural phenomenon may open up huge new vistas for us' (20).

If one is looking for an accessible discussion of the science and religion debate, there are far more detailed and/or nuanced books on the market, for example Harold Attridge edited *The Religion and Science Debate: Why Does It Continue?* (Yale University Press, 2009) which more directly deals with the American evangelical involvement in the debate, as well as ways of delineating the scope of the two disciplines. Adam Frank's *The Constant Fire: Beyond the Science vs. Religion Debate* (University of Californian Press, 2010) provides a nuanced history that gives voice to the commonality between scientific and religious pursuits. Whilst Nassaar states early on that he wishes to chart the landscape before suggesting reconciliation, one gets the feeling that it is the second part, reconciliation, that is the true aim of this book, and I think this is why it is disappointing it takes so long to arrive at his suggested reconciliation. Indeed his reconciliatory argument suffers from a lack of depth precisely due to the time taken to establish the 'antagonistic' history. However what I did find fascinating and what I feel could have been far more developed was his use of poets, authors, and film to

establish and capture society's changing mood towards the complex relationships between science and religion. If this book had been a literary exploration it could have added a new voice to the debate, however, in a book that seeks to 'trace the history of the ever escalating clash between Christianity and science' (7) the lengthy poetry citations are more likely to be off putting to his target reader.

His plea for science to investigate the aberrant is an interesting one, and it has often been raised that if the soul/mind were an immaterial thing, then there is no way for science to find it because it is looking in the wrong place with the wrong equipment. He argues his case on two counts, firstly the existence of well-documented miracles from both his home country of Lebanon and from elsewhere, predominantly, in the Catholic community and secondly from the existence of paranormal activity in terms of ghosts and séances. The paranormal section again takes a literary turn looking at W.B Yeats' wife's experience of communicating with the 'Spirit Masters' and the contrast between Arthur Conan Doyle's acceptance and Houdini's scepticism about the true nature of such experiences. Again, brevity is the key feature of these explorations even though they seem to form the heart of his argument for reconciliation, it is not enough simply to assert that, '[o]ne thing is definite about Yeats: he was not a fraud' (84). He starts to develop an argument that draws parallels between the first assumption of faith 'God exists' and the first assumption of the materialist atheists 'a supernatural realm does not

exist' (85) to highlight that both rely on unproven assumptions which the New atheist rejects with vehemence for religion and yet allows in their argument against the supernatural. But then turns to Houdini and Conan Doyle to illustrate his point, which is interesting from a literary perspective but doesn't add weight to his argument in terms of science and religion.

He moves back on to stronger ground at the end of the book when he is calling 'the churches to modernize and embrace science' (106). His argument can best be understood in terms of isolationism vs integrationism – either we adopt a fortress model of the faith in which we isolate ourselves from new information, or we have to adapt and review our religious worldview in light of science. For Nassaar the issue at the heart of this is the need to accept a limited model of God who is striving for perfection and in doing so bring Christianity 'in harmony with modern science' (107). This chapter maintains his literary flair with Hardy, Chartreuse and Tennyson making appearances, but one chapter is far too brief a space to fully develop a method of reconciliation especially given the limited space devoted to his argument in the preceding chapters.

Christopher Nassaar set himself an ambitious task for his first venture in to science and religion, his literary approach was interesting, but neither fully developed enough for an academic audience (which in all fairness is not his target) nor integrated enough for the general reader who won't be expecting long quotations from poetry. His comparison of New Atheism and religious

fundamentalism could have been better developed and in all honesty it did 'seem out of place at this point' (25). His call for science to investigate, seriously, the aberrant makes a valid point, but I fear that it is too underdeveloped to genuinely provide a robust argument. It is unsurprisingly in the literary engagement that Nassaar's scholarship and knowledge really stand out and this does achieve its aim in bringing a new voice to the debate, but I fear this is at the cost of a comprehensive argument for reconciliation. However were Nassaar to engage in producing an academic work charting science and religion through our literary culture, I would certainly be interested in reading it.

Snezana Lawrence and Mark McCartney (eds.)
Mathematicians and their Gods: Interactions between mathematics and religious belief. Oxford: Oxford University Press, 2015, pp. 304, £24.99 hbk, ISBN 978-0198703051

REVIEWED BY DAVID BARTHOLOMEW

The title of this book is certainly eye-catching but not as informative as the subtitle and even that leaves something to be desired. Nevertheless the editors have given us a collection which is well-written, informative, always interesting and, often, erudite.

In the 'Science and Religion' world the focus has tended to be on Physics and Biology and some attention to the role of Mathematics is long overdue. Although the authors do not make the traditional distinction between

pure and applied mathematics, it will be convenient to do so in this review. In applied mathematics the physical entities of our problem are represented by mathematical symbols and the relationships between them by mathematical equations. We then hope that mathematical analysis of the model, as it is called, will yield predictions about the physical system which can be tested against observation. In pure mathematics, on the other hand, the interest is solely in the mathematical properties of systems which are studied.

Many of the individuals covered in the book are not mathematicians of either kind in the sense that that designation would be understood today. A few like Gödel would certainly appear in any list of famous mathematicians but others, like Kepler, and even Newton, would be seen primarily as scientists or natural philosophers. Some, like P. G. Tait, would not ordinarily appear in any list for their research contributions but are included here for other reasons.

Deduction is of the essence of pure mathematics. Typically, one starts with some relevant axioms and then deduces from them some consequences, called theorems. These theorems draw out the logical implications of the axioms and add nothing in the way of new knowledge. Euclidean geometry is a prime example which starts with a few 'obvious' statements about points and lines which then lead to the whole of Euclidean geometry.

Gödel was one of the great pure mathematicians and the last chapter of the book is devoted to his unpublished proof of the existence of God, This is the most demanding

chapter. It is not known why the proof was not published. There is speculation that Gödel himself was not satisfied with it. Anthony Anderson, who contributed this chapter, is also unsure about the proof which only serves to underline the difficulty of providing a completely satisfactory proof. As with all mathematical proofs, it can only draw out the implications of what is assumed the start. All proofs of this kind must therefore begin with what is self-evident: presumably in this case, that the world and our experience of it, exists.

One of the strangest phenomena which is uncovered when pursuing the use of mathematics by early scientists is what Jean-Pierre Brach, in his contribution, calls *mystical arithmetic*. When we see a formula we naturally suppose that the symbols in it represent numbers and that the evaluation of the formula will produce another number. But if the symbols stand for something quite different, any rules of arithmetic will yield something which calls for some other kind of interpretation. The Bible, and especially the Book of Revelation, contains many numbers of which 3, 7 and 666 have acquired special prominence. Some people in Newton's time argued that if the Bible was God's Word then the numbers it contains must have been intended to convey a particular spiritual meaning. In his theological writings Newton was deeply involved in this activity. This explains the surprising gap, to modern eyes, between his discovery of the calculus, for example, and his theological speculations. It is true that Newton appears to have been more circumspect in this activity than some of his

contemporaries. He spoke of 'positions', for example, rather than 'propositions' but he still seems to have given his support to what seem to us rather outlandish ideas.

Although the term might be unfamiliar to them, Maria Agnesi and Charles Dodgson (Lewis Carroll) were essentially pure mathematicians. Agnesi was a child prodigy whose mathematical talent led to her being the first female author of a mathematical text. She was particularly expert in the differential calculus of Newton but seems to have been anxious to keep her exposition as 'pure' as possible. Any influence which this may have had on her subsequent decision to devote the latter part of her life to the care of the poor must remain conjectural. Similarly, although Dodgson is best known for his writing for children, he was a mathematician by profession. He was an expert in symbolic logic and it is not clear whether this influenced in any way what he called his 'work for God'. The same description could equally well have been applied to any other subject, like ancient history.

A serious omission is any reference in the book to the theory of probability, which occupied the attention of many famous early mathematicians such as Laplace, the Bernoulli brothers and de Moivre. A good starting point for exploring this field is the book *Games, Gods and Gambling* by Florence David (Griffin, 1962).

Another rich vein which could have been mined in the mathematics and science area is that associated with the name of Thomas Bayes. Bayes was a Presbyterian minister who gave his name to a famous theorem in

probability which has become a prime tool for philosophers of religion such as Richard Swinburne.

Not all of the contributions fit neatly into standard mathematical categories. There is a chapter on Flatland by Edwin Abbott, who was Headmaster of the City of London School. Taken at face value this chapter provides an exercise for the imagination in what life might be like in a world of two dimensions. However, this book has been regarded as a satire on the class structure of Victorian England but Melanie Bayley, the author, sees it as a satire on Victorian religion, which would, of course, give it a special relevance for the present book. Similarly, the interest of Elizabeth Lewis's contribution on the work of P. G. Tait and Balfour Stewart is in the claim that science is capable of accounting for supernatural as well as natural phenomena. Finally, the fascinating chapter on free-masonry and geometry is not linked to any particular mathematician.

Curiously, there are photographs at the front of the notable mathematicians, G. H. Hardy, Paul Dirac and John Polkinghorne none of whom is otherwise featured in the book. The first two were atheists and the third a Christian.

This book will certainly interest many working in the science and religion field because it draws attention to the important role of the language of mathematics which is the handmaid of the sciences.

Roger Trigg and Justin L. Barrett (eds.) *The Roots of Religion: Exploring the Cognitive Science of Religion*. Farnham: Ashgate, 2014, pp. 242, £65 hbk, ISBN 978-1472427311

REVIEWED BY JOHN NIGHTINGALE

The cognitive science of religion understands the roots of religious belief as lying in the structure and operation of the human mind. Religion is approached pragmatically as a collection of human thoughts and practices which are generally considered religious; they recur in different cultures though are not necessarily in harmony with each other.

Such an approach has been gaining ground since the 1980s, Stewart Guthrie and Pascal Boyer being notable research pioneers. Some of the key CSR characteristics they have discovered and listed include: HADD, the Hyperactive Agency Detection Device, i.e. our tendency to detect agency, human or superhuman, even when it is not there, e.g. from an unexpected rustle in the jungle. Then there is the Theory of Mind, the conviction that there are agents, human or otherwise, with similar mental characteristics as us. Also there is the theory of MCI or Minimal Counterintuitivity, according to which ideas are better remembered if they are different from what is normally expected but not too much.

Granted that these and other tendencies exist, there is none the less disagreement about how powerful they are and what they indicate in terms of the truth or falsity of the ideas they are expressing. At one time the widespread

prevalence of religious ideas was taken as an argument for their credibility: they must have proved themselves through usage over the years. However, Guthrie, Boyer and, more recently, Richard Dawkins, have argued that they can instead be explained away. Having grown up as an exaggeration of ideas appropriate in one context, they become redundant or at worst—like malignant viruses—positively false or harmful when the context changes. Religious concepts are seen as having a ‘naturalist’ and maybe a determinist explanation.

Accordingly, one of the issues discussed in this book is the nature of naturalist explanations. If religion can be explained away naturalistically, then why not anything else, including the naturalistic theories themselves, atheism included? Justin Barrett, for example, argues that atheism has historically been an unusual stance, likely to arise naturally in an urban environment where people have thought, often unwisely, that they are in control of their own faiths, the opposite to the battlefield where ‘there are no atheists in foxholes’.

However Aku Visala and Graham Wood in their contributions to the volume make substantial qualifications to naturalism. Naturalistic explanations do not necessarily have to involve reductionism or determinism. Consequently researchers have thought that personalist categories like HADD can be best understood at a complex rather than a simple level, that they may have been successful in evolutionary terms in specific contexts so that humans have a genuine choice

whether to use them or not, and at times they may point to the most explanatory relevant cause; for example, out of all the data collected in relation to a particular motor accident—the speed of the vehicle, the condition of the roads, the visibility and weather—the most significant piece of information may be that the driver has deliberately swerved to avoid a cat.

One naturalist response has been to allow the possibility of choice but to maintain that humans have to be educated from their natural but erratic intuitions by a rigorous and repeated training of scientific reason and experiment. However a historical counter-example is provided in Robin Attfield's description of the Epicurean tradition in Chapter Five. Arising in a period of Ancient Greek polytheism, it was naturalist and for all practical purposes atheist, and it continued steadily and peacefully for some 800 years without much conflict with religion. Graeco-Roman citizens were not subject to intellectual pressure and had a free choice as to what religions or philosophies they did or did not believe in, provided they showed loyalty to the political authorities.

What CSR does indicate are the sorts of ideas that are likely to be remembered and used. Strict atheism, it is argued, in spite of the ups and downs of religious practice, has waned in regimes emerging from Communism and is eschewed even in the spirituality of the de-churched West. However, as Jason Marsh points out in Chapter Eight, this does not necessarily mean that all religious doctrines are equally popular either. Not only are doctrines like the Trinity difficult for the faithful

to assimilate; sometimes refinements of doctrine, such as in the direction of a more impersonal view of divinity in both Christian and Buddhist traditions, may find it difficult to gain acceptance in the face of an understanding of personal divine action which is more natural to the human mind.

The editors, Justin Barrett and Roger Trigg, argue that, while the data provided by CSR is invaluable in helping us understand the origin and spread of religious ideas, it is neutral as with regard to those ideas' truth or falsity. This has to be argued on philosophical or theological grounds. Other contributors think this position is a little bit too easy. Joshua C. Thurow in Chapter Eleven, for example, envisages the theoretical possibility that the data of CSR could have a limited effect on some of the traditional arguments for belief in God on the basis of religious experience: if for example it could be shown that all instances of a form of religious experience were associated with an epileptic seizure. And John Teehan in Chapter Ten argues that the divergence of religious beliefs and ethics from one another is one argument against any form of divine design, unless the notion of a historical fall is brought in for purely theological reasons; hence he suggests that the burden of proof is shifted onto the theist.

Perhaps it is a little unfair to cavil at something which this book, as well as CSR generally, has so far not attempted, which is to note that the roots of religion are only partly cognitive. Many of the qualities of religious and spiritual experience, certainly as identified by

research such as that of the Alister Hardy Institute, are not primarily conceptual, relating as they do to the subjects' overall experience of their relationship to the world, for which they struggle to find adequate means of expression. Sometimes it is through words, but at other times through the visual arts, music or dance. Such an overall sense of the relationship of the individual to the world is for most people, according to Iain McGilchrist in his book *The Master and His Emissary*, the province of the right hemisphere of the brain, which is not primarily concerned with language and has to engender the subsequent cooperation of the left hemisphere. For example is not Wordsworth, in his famous lines from Tintern Abbey, about 'a sense sublime of some far more deeply interfused', primarily concerned not to introduce a concept so much as to find an image for a feeling which expresses his relationship to the whole?

This book has the merit of treating CSR seriously, both empirically and philosophically. It is neither the first nor the last word on the subject. The efforts of the pioneers have been put in perspective and a searching eye has been cast on sweeping conclusions too readily drawn. The philosophical rigour in the chapters by Robert Audi, Steven Horst, Kelly James Clark and Dani Rabinowitz make them a rewarding challenge to read. But this book looks also to the future. New lines of research are suggested, and ways indicated as to how the results may be relevant philosophically and theologically. Most importantly, as Roger Trigg indicates in the concluding chapter, CSR has the merit of indicating that religious

ideas are not purely private idiosyncrasies or the province of sectarian groups, but part of the general mental and cultural furniture of humanity, needing to be taken into account by all of us if we are to have a common life together. To the necessary discussion it gives us a novel and useful entry-point. It is essential for any serious library of religion.

REVIEWS REPRODUCED FROM ELSEWHERE

Celia Deane-Drummond, *The Wisdom of the Liminal: Evolution and Other Animals in Human Becoming*. Grand Rapids, MI: Eerdmans, 2014, pp. 317, £23.99 pbk, ISBN 978-0802868671.

REVIEWED BY BETHANY SOLLEREDER

Reproduced from *Science and Christian Belief* 27:2 (2015), pp. 221-223 with the kind permission of the author and editor.

Celia Deane-Drummond has produced another important work for those interested in science and religion. *Wisdom of the Liminal* is an ambitious attempt to describe human nature in the context of humanity's enmeshed and entangled relationships with other creatures. Deane-Drummond's primary interactions are with a broad spectrum of evolutionary scientists, and theologically with Aquinas and Hans Urs von Balthasar.

The first chapter sets out Deane- Drummond's project against other literature in theological anthropology, particularly emphasising the place of theo-drama in her

account. She also expresses her desire to maintain human distinctiveness, which she believes is most helpfully discerned in light of thoughtful encounter with other animals (42).

Following this introductory chapter, there are six chapters comparing human to non-human animal traits in areas that have commonly been contentious in the discussion of human uniqueness: reason, freedom, morality, language, sociality and justice.

The overall aim of the work is to show that the boundaries between human and non-human animals have become increasingly blurred by scientific discoveries. The ever-expanding liminal space between humans and non-humans calls for wisdom in ethics and theological definitions. While these latter topics are not explored in this monograph, Deane-Drummond promises they will be covered in forthcoming work.

'Human reason and animal cognition' focuses primarily on Deane-Drummond's argument that Aquinas emphasises the continuity between human and non-human intelligences, while also allowing a distinction: humans can direct intellect and will towards divine ends in a way that other animals cannot (88). Deane-Drummond also points out that Aquinas's account of animal reasoning is closer to the views held by scientists today than has been accounted for (72).

'Human freedom and animal agency' teases out the complexities of freedom and considers these in light of studies on human cognition, levels of intention and theory of mind. 'Human morality and animal virtue'

argues that instead of judging non-human behaviour by human moral standards, non-human behaviour should be considered in light of the contextual morality of the species being studied. Deane-Drummond illustrates her suggestion through highly engaging work on the relationship between humans and hyenas.

'Human language and animal communication' challenges some contemporary theories on the emergence of language by relying on the work of anthropologists who situate the emergence of language far earlier in human evolutionary development than previously thought. The author shows how this allows for an emergence of language shaped by awareness of and communality with other animals (190).

'Evolving social worlds' traces themes of cooperation, conscience, niche- construction theory and the sociality of the Trinity through the lens of an improvised and responsive theo-drama. A favourite section is when, in the discussion of human social worlds, Deane-Drummond uses the behaviour of evolutionary theory researchers themselves as her case study! (206-207).

'Human justice and animal fairness' sets human justice in biological grounds through Aquinas's account, which Deane-Drummond associates closely with Aristotle's views. The final chapter explores the drama of kinship, investigating how the emergence of altruism and love are present in the theo-drama of creation.

Thorough in her research, Deane-Drummond draws widely on scientific research. The writing style is appropriate for graduate researchers, but I would hesitate

to give it to undergraduates. The writing is replete with Deane-Drummond's characteristically long and densely packed sentences: it takes concentration, but it is worth the effort.

If I were to offer one critique: it was unclear to me why Deane-Drummond relied so heavily on von Balthasar and Aquinas. Theo-drama, for example, played a very small role through most of the chapters, and often Deane-Drummond's own critiques seem to locate von Balthasar in a patriarchal and anthropocentric past. Aquinas, too, often had to be rescued carefully from devastating statements about women and non-human animals. Even then, their thoughts had to be extended significantly and often speculatively in light of contemporary science. Deane-Drummond succeeds in showing that the views of Aquinas and von Balthasar are more relevant to the modern dialogue than one might expect, but it is unclear that the gains they bring are sufficient to outweigh the significant critiques and extensions that are necessary to use them at all. Use of these thinkers may have been better suited to a work that was not trying to cover so much ground. Because of the author's focus on these two theologians, the project is less conversant with recent ecotheological developments than might be desired. Theologians one might expect to see, such as Michael Northcott or Ernst Conradie make little or no contribution, nor do some of the classic authors of ecotheology, such as Annie Dillard or Wendell Berry, whose rich reflections about the need for wisdom in the entanglement of human and non-human animals would

seem to be particularly relevant. Their exclusion might be due to the overall exclusion from this monograph of ethical questions, which Deane-Drummond promises in future work on sustainability.

Still, *Wisdom of the Liminal* is no small feat of scholarship, and Deane-Drummond's accomplishment should not be understated. Anyone interested in new evolutionary discoveries across a range of sciences and distilled through the author's incisive critiques will enjoy this book.

Ignacio Silva (ed.), *Latin American Perspectives on Science and Religion*. London: Pickering & Chatto, 2014. pp. 191, £58 hbk, ISBN 978-1-84893-199-3

REVIEWED BY CÉSAR NAVARRO

Reproduced from *Science and Christian Belief* 28:1 (2016) pp. 45-47 with the kind permission of the author and editor.

The interest in science and religion around the world has gained momentum with this new volume, now from a Latin American context. The editor, Ignacio Silva, expresses in the introduction the goal of the project: 'to problematise further the contemporary understanding of how science and religion relate by bringing attention to these considerations in Latin America' (1). Mainly, this book shows the views in science and religion of some Latin American scholars in fields such as theology, history and philosophy, mostly from a Catholic tradition.

So, it should not be seen as the final representation of the historical or current situation in the region.

Eleven excellent and highly academic chapters are divided in three major sections: methodological considerations, historical interactions and contemporary cases of science and religion. However, the structure and writers' styles follow a distinctive flow, being eclectic and dynamic in each section.

The first four chapters present different approaches to the discussion: Oscar Beltran (Pontificia Universidad Católica Argentina) works on Mario Artigas's reflections on the interactive connection between scientific regulation and theological wisdom through philosophical bridges; Jaime Laurence Bonilla Morales (Universidad de San Buenaventura) offers a Paul Tillich type of view of how a philosophy of religion and theology of culture could bridge the gap between science and religion by portraying and developing the dimension of meaning and depth that lie in the unconditional substance of reality; Juan Alejandro Navarrete Cano (Université catholique de Louvain) provides a more Latin American contextual approach, analysing the works of certain liberation theologians; and Luis Corrêa (Pontificia Universidade Católica do Rio de Janeiro) presents a historiographical and relativistic method in the Catholic tradition.

Although all these methodological concerns give some feedback about how to approach the debate, they also open relevant questions about the interaction between Latin American society as a whole and science and

religion concerns. Liberation and contextual theologies—and other social revolutionary events—have made it almost impossible to talk about theology without including the experiential and social dimension of salvation. 'Theology is not a net of ideas about God, but a reflection on Jesus Christ's praxis and our commitment to it in a contemporary context' (41). On the other hand, how could Christians engage in the debate in Latin American contexts in which superstitious ideas persist and the nonsense mixes with the Christian spiritual dimension which, at the same time, faces the dimension of science? Perhaps a good place to work upon is environmental concern, which is a fascinating and common subject among Christians, scientists and Latin American people.

In the second section, Jesus Galindo Trejos (Universidad Nacional Autonoma de México) opens with an exciting account of the pre-Hispanic Mesoamerican religious understanding of the sky. Miguel de Asúa (Universidad Nacional de San Martín) analyses Jesuit Science in the mission of Paraguay and Rio de la Plata. As in this last case, Christians in the past have used scientific knowledge to meet their needs (Harrison and Lindberg, 2012, 67). Hector Velasquez Fernandez (Universidad Panamericana) argues that meanwhile Catholicism had not raised objections to Darwin's theory, and many scholars and scientists interpreted, adjusted and appropriated evolution in a positivistic way, generating new paths that went beyond the scientific enterprise. This latter might be one of the reasons for the persistence of an

independence/conflict model in the Latin American academy until now.

The final section has four highly useful chapters for contemporary issues. The first two provide a case of study for the creationist/evolutionist debate in Brazil. On one hand, Hesley Machado Silva and Eduardo Mortimer (Universidade Federal de Minas Gerais) analyse the Brazilian result of the 'Rescuing Darwin' survey, originally developed and submitted in the United Kingdom. On the other hand, Eduardo Rodrigues da Cruz (Pontificia Universidade Católica de São Paulo) advocates an alternative way to avoid wars between science and religion in general terms: by recognising the ambiguity of reality and the role of scientists as story tellers in the public understanding of science. Creationism movements (Young Earth and Intelligent Design) are growing fast, supported by the growth of evangelical churches, the authors point out. It is good to mention, however, that not all evangelicals in Latin America adhere to creationism or the Intelligent Design hypothesis. Two good examples are the online journal, *Razón y Pensamiento Cristiano*, dedicated to researching and reaching out to the dialogue between science, religion and humanities and *Sociedad Educativa Latinoamericana para Fe y Ciencia* in Guatemala that makes a case for promoting scientific inquiry, experience and education as divine Christian activities. Both embrace evangelical tradition and the current mainstream science, as in evolutionary theory.

The last two chapters explore human identity and indeterminism. Juan Francisco Frank (Universidad Austral) discusses the notion of 'person' as a good opportunity for an interdisciplinary dialogue. This notion still constrains neuroscience researches for bridging the 'gulf between the discourse of neural processing and the simplest form of personal mental experience, such as seeing red or feeling hungry' (Polkinghorne, 2008, xviii). Claudia E. Vanney—the only scientist—(Universidad Austral) closes with the scientific and philosophical distinction between a deterministic and indeterministic world-view. Academic Christianity has suggested in the past the necessity of an indeterminism in the created order of things to admit free will and God's action in the creation. But for some it might sound like the old god-of-the-gaps argument. Following Leonardo Polo's theory of knowledge, Vanney argues for a transcending knowledge of God in which neither indeterminism of physical reality nor human freedom can be identified or mutually implied in a direct way.

Overall, the whole book is very useful for Latin American students in theology, history and philosophy who are familiar to some degree with the debate and would wish to engage in it with a more contextual flavour. It also introduces the foreign reader to a broader dialogue from a new world that will surely generate many more fascinating meetings between Christianity and science.

Michael S. Northcott, *A Political Theology of Climate Change*. London: SPCK, 2014, pp. 344, £19.99 pbk, ISBN 978-0-2810723-23

REVIEWED BY JOHN READER

Reproduced from *Network Review* 2015-16: 119, pp. 51-2 with the kind permission of the author and editor.

Michael Northcott has published on the environmental crisis before and this is possibly his most important book. It is based on research carried out between 2008 and 2011—and one always has to note these dates as external events in this area shift so swiftly—but is brought up to date with reference to Bruno Latour's Gifford Lectures from early 2013. It is notable not simply because of the depth of scholarship, but also because Northcott does employ some of the important philosophical resources, Latour, Stengers and Whitehead, that many others in the theological world have yet to register. As we shall see however, his conclusions in the final section of the book are perhaps less convincing, but do serve to raise the central questions.

Chapter 1 begins to lay out the contours of the debate and presents many of the disturbing details of the consequences of climate change. These include not only the physical impact of the predicted rise in temperatures and subsequent rise in sea levels, and therefore threat to major centres such as London, New York and Tokyo, but also the potential for conflict created by carbon wars and the struggles to access vital resources. As many national security agencies now acknowledge in their planning,

climate change presents as big a threat to global stability as international terrorism. Hence the CIA is quoted as saying that climate change 'will produce consequences that exceed the capacity of the affected societies or global systems to manage'. Northcott also correctly tackles the vexed subject of the climate deniers and recent attempts to discredit the scientists who point towards the dangers now facing the planet, and argues that this is a politics, and indeed a political theology, not simply a natural scientific theory: 'because, like the Apocalyptic of the New Testament, it indicates the imminence of a moment of judgement on the present form of civilisation, and the end of an era in which humans expanded their influence over the earth without regards to planetary limits and without apparent consequences'.

As Latour has noted, climate scientists are surprised to be called lobbyists by climate deniers, but they should not be so as they need to recognise the political dimension of their findings and reports. The rest of the chapter enters into discussion of the categorisation of the different eras of human activity, the Anthropocene; Agrarianism; the Christocene, and then moves into Latour's examination of 'the modern' which is premised upon a division between culture and nature; between subject and object, and between matter and bodies. 'Nature is made new by being turned into scientific facts, and so brought under the power of knowledge through the mediation of experimental physics, chemistry and biology. Culture is made new as the sphere of moral and political fabrication ... to be modern is to affirm this new

separation of powers'. It is this separation that needs to be challenged, as to be modern is to deny that the weather is political, or that politics influences the climate. Otherwise the claims of the climate scientists will appear an 'incomprehensible hybrid'. Climate science requires a politics which is cosmic and not merely rational. I would agree with Northcott that the work of writers such as Latour and Whitehead is now essential as we come to terms with needing to portray a different relationship between nature and culture and between the human and the non-human.

Chapter Two pursues these themes by looking in particular at the pivotal and damaging role that coal plays in climate change, working with the arguments of James Hansen that, 'coal-fired power stations are the single greatest threat to civilisation and all life on our planet'. Coal is still the largest remaining fossil fuel reserve of carbon dioxide, and could power the planet for another 200 years at the present rate of energy use. New coal-fired electric power plants are being built in Brazil, China, Germany, the Netherlands, Poland, South Africa and Turkey. The impact of this is likely to be disastrous, if Hansen is correct. Worldwide, more than 1200 new coal-fired power stations are planned in the next 20 years. We are reminded of the effects of coal and smog in the recent past in London and indeed the social impact of mining itself on various communities. Northcott then links this to developments in modern physics and our understandings of space and time, moving into an important discussion of Whitehead's critique of the

culture-nature divide, using especially his concept of the 'fallacy of misplaced concreteness' to analyse how the idea of the market has taken on an inappropriate significance. We need to understand ourselves as 'composite beings in the universe ... in the process of becoming and not as a collation of fixed or stable entities'.

Chapter Three takes us into perhaps the more familiar territory of our dependence upon oil and the arguments about peak oil, before turning this time to Vico as another source of criticism of the nature-culture divide.

Chapter Four follows this up with discussion of the 'cult of carbon' and some of the proposed means of trying to alleviate this—most of which are seen as simply a way of shifting the problems rather than addressing them directly. Markets in carbon indulgences are not to be promoted as a real solution. Political approaches such as Marxism are examined, but, again, this is viewed as being promethean, and based on the assumption that humans can solve all the problems through their own powers of control. The climate crisis reveals the limitations of both capitalism and Marxism.

So, as we then see in Chapter Five, can our hopes be pinned on international negotiations and the influence of human reason as various agreements are hammered out (and then invariably not fully implemented even when compromise decisions are reached)? Northcott is not optimistic: 'If climate change is not only a scientific datum but a shaper of social and political experience, then liberal democratic capitalism is itself built upon an illusion: the illusion that the corporately sustained engine

of economic growth can spread freedom and material prosperity to all seven billion humans on the planet ... provided they acknowledge the supremacy of Enlightenment reason, and, in particular, economic rationality, as the means to progress the human condition'. In many ways this summarizes Northcott's argument throughout the book.

What is Northcott's solution though? Chapters Six and Seven move into more explicitly theological territory, and here I find him less convincing. There is quite a surprising, to my mind anyway, discussion of the work of Carl Schmitt on the long crisis of global capitalism and use of his critiques of both liberalism and romanticism: 'Schmitt locates the political in the interstices between air, earth, and sea, and in the agential role of earthly forces in the formation of the borders and laws of nations, and hence of the political'. One of the dilemmas in all responses to climate change is how much weight is to be placed on influencing international politics and how much to try to change individual behaviour, or should we simply promote concepts such as resilience as the only way to adapt to what now seems inevitable? Where do we go from here and to what extent can traditional Christianity contribute to proposed solutions? Northcott talks about 'virtues for living in the Anthropocene' with a discussion of MacIntyre and the need for moral communities. The examples given are those of Transition Towns (now Transition Initiatives in fact) and Eco-Congregations, although he does acknowledge that these,

in themselves, are never going to be enough to tackle the global scale of the problems.

The final chapter addresses the questions of revolutionary messianism and the end of empire, and concludes with a long section on William Blake: 'consciousness is embodied and mediated through the sensory and imaginative apprehension of the material world, and this includes consciousness of divinity as well as nature and humanity'. Even Hardt and Negri and their concept of 'the multitude' become part of the debate, all of which is fine, but does feel rather like clutching at straws.

Having said that, I would recommend this book as a crucial contribution to a debate that political and public theology has yet to take seriously enough, and especially commend Northcott's use of Latour and Whitehead as central philosophical sources as we struggle to work towards a new understanding of the relation between nature and culture, the human and the non-human. He is surely right that this is now a vital subject for Political Theology.

BOOKS AVAILABLE FOR REVIEW

Christopher Baker, Thomas A. James and John Reader, *A Philosophy of Christian Materialism: Entangled Fidelities and the Public Good*. London: Routledge, 2016.

Robert Brennan, *Describing the Hand of God: Divine Agency and Augustinian obstacles to the dialogue between theology and Science*. James Clarke & Co. 2016.

E. Brian Davies, *Why Beliefs Matter: Reflections on the Nature of Science*. Oxford University Press, 2016.

James W. Jones, *Can Science Explain Religion: The Cognitive Science Debate*. Oxford: Oxford University Press, 2016.

William Paden, *New Patterns for Comparative Religion: Passages to an Evolutionary Perspective*. Bloomsbury, 2016.

The Editor welcomes offers to review these publications. Please contact her on L.Hickman@newman.ac.uk

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