

Reviews

David A. Vosburg and Kate Vosburg
Jesus, Beginnings and Science: A guide for group conversation

Farmville, VA: Pier Press, 2017. 101 pp. pb. £9.40. ISBN 978-0-9969915-1-3

Constructive and gracious conversations about science and faith among Christians can be difficult to achieve. Scientific perspectives on human origins, in particular, are seen by many Christians today as a threat to the integrity of the Bible and certain core Christian beliefs. In contexts, such as university campus Christian groups where a range of views on these issues are held, discussions of questions related to science and the Bible tend to be avoided as unhelpfully controversial. As a result, young Christians with an interest in science and who wish to think through these issues in conversation with others are often poorly served.

David and Kate Vosburg, a husband and wife team, have set out to address this need through a ‘conversation guide’ designed to help Christians engage thoughtfully and constructively with each other over these questions. Kate is an experienced campus minister working for Intersarsity Christian Fellowship in the US. David is a chemistry professor at Harvey Mudd College in Claremont California and an associate of the Faraday Institute for Science and Religion. Together they have written a resource targeted at young Christians and seekers to facilitate guided conversations around selected Bible passages that intersect with questions of science and faith.

The book is in three sections, each containing four studies, exploring what the Bible has to say about creation, human origins and science. The selected Bible passages relating to each of these topics are generally well chosen and helpfully take the conversation beyond the usual

debates surrounding the opening chapters of Genesis. For example, the first study on creation lines up John 1, Colossians 1 and Hebrews 1 and encourages the participant to consider Jesus’s role in creating and sustaining his creation (11).

The studies themselves follow a tried and tested formula. Each of the twelve studies commences with an accessible opening discussion question that sets the topic in broad context. After a brief introduction providing historical or literary context to the passage there is an invitation to pray followed by a reading of scripture (usually around one chapter in length). Participants are then invited to examine the passage on their own for a few minutes before discussing their observations with the group. This is followed by three to five discussion questions related to the text and its application. The questions are invariably very helpful and skilfully balance open discussion with gentle guidance (e.g. ‘What is the expected result of trusting scripture? How is it different from trusting a textbook or journalist’s report?’(37). After a chance to share reflections on the study as a whole there is a guided prayer and a question or reflection that participants are invited to ‘take away’ and consider before the next session.

At the end of each study, David contributes a short ‘scientist’s reflection’ that helpfully ties together the themes of the study and presents a slightly more developed perspective on the topic in question. The authors adopt a broadly conciliatory perspective on the relationship between the Bible and contemporary science and this comes across most clearly in these final sections. Though this section could feel tacked on to the end of the study, its positioning as a final personal perspective helpfully presents it as a contribution

to the conversation rather than as a final authoritative summing up of the topic. This nicely allows the authors to present their views clearly without quashing the atmosphere of openness and exploration that they do so well to maintain through the discussion sections.

There is much to be praised about this book. The authors have displayed admirable constraint in keeping the chapters short and punchy. The resource lists for further reading are extensive and provide an excellent way in to Christian thinking on the various topics. The studies appeal to both heads and hearts, and participants are guided not only to think through the issues more clearly but are led towards praise and action. One of us (Jon) found that they worked very well in the context of a forty-five-minute weekly morning prayer group for Christians in his lab and proved a helpful stimulus for relating faith to workaday lab life.

Many like us will feel free to skip bits and adapt the discussion more specifically to our particular needs and interests. Some may find that the studies are slightly too coloured by the polarised American context of the authors, though the emphasis throughout on Christian unity and gracious disagreement can hardly be irrelevant whatever one's context. In the study on origins, we are invited to reflect on Paul's wish that the divisive Corinthian Christians would come to be of 'one mind' (1 Cor. 1:10) and are asked (46): 'How can we move towards this goal while still respecting each other's intellectual freedom?' It's an excellent question when it comes to disagreements over science and faith. Working through this little book in your church or student group would, we think, provide a very good way to start.

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Celia Deane-Drummond, Sigurd Bergmann and Markus Vogt (eds.)
Religion in the Anthropocene

Eugen, OR.: Cascade Books, 2017. 338pp.
pb £34.00. ISBN 978-1-4982-9191-0.

This collection of essays derives from the fourth European Forum for the Study of Religion and Environment held in May 2015 and is divided into six sections. After 'setting the stage' come historical, philosophical, theological, ethical and sociopolitical papers.

A few of the contributors will be familiar names, especially Celia Deane-Drummond and Michael Northcott. Many will be new to British readers. The volume turns on the question of the 'Anthropocene', which is now being proposed as a new geological era, characterised by the huge and unprecedented impact of a single species, the human, on climate, sea-level, ocean acidification, and species habitats more generally.

Setting aside the question of whether this is helpful terminology, the underlying issue on which so many of the contributions turn is whether the Anthropocene should be embraced as a new set of possibilities for human ingenuity, what might be termed the 'Promethean' response, or whether the advent of this era should be a source of shame and new-found humility.

Northcott himself sets the scene, drawing helpfully on Ruskin's response to industrialisation and his call for moral, spiritual and social renewal, recovering the paths of justice and piety. Northcott contrasts this with theorists of the Anthropocene who call rather for better *management* of the Earth's systems. Can we, Northcott ends by asking, summon a

movement of love that defends the stranger, the climate refugee and the unborn of future generations? I also appreciated Christoph Baumgartner's essay on stewardship in this section. He notes first that stewardship does presume a future (contrary to some apocalyptic predictions) and also that in Christian perspective it is a direct obligation to God, not primarily to subsequent generations. But the question remains open whether the time for moderate, conservationist stewardship (of the sort most Christians would associate with the term) has already passed, and more radical technological fixes (a kind of strong, Anthropocene stewardship) have become necessary if there is to be a future for humans.

Deane-Drummond's essay is predictably a high point in the theology section. I particularly appreciated her contrasting of Anthropocene thinking, with its emphasis on the power and influence of human action, with Gaia thinking, which stresses the power, though also the fragility, of Earth's systems. She takes Gaia thinking to be more associated with 'big history', of the sort promoted by the work of Thomas Berry and others, and prefers an approach based on 'deep history', recollecting our own evolutionary roots and pre-historical contexts in which humans were also threatened by extinction. I was less convinced by this – both types of thinking seem to me important in giving human thought reach and perspective.

I imagine some readers of this journal will be disappointed that there is no summary of the scientific issues involved. This is simply not that sort of book, though it everywhere depends on the science of climate (and includes a chilling essay on climate change denial in US evangelicalism). Another disappointment for some will be the thinness of the contribution of Christian theology. I turned hopefully to Matthew Eaton's essay on incarnational Christology, and found there a very good and important summary of Niels

Gregersen's thinking on 'deep incarnation'. But Eaton presses beyond that to a panincarnationalism that will seem to many to be indistinguishable from pantheism, and leads him by his own admission to regard divinity 'more as a relational ecology or field of power than a personal agent' (216). There are other, more orthodox flashes of theological insight, as in Ian Barns's evocation of the eucharistic imagination as enabling us to see into 'the shadows of consumption', and restore a covenant faithfulness that accepts and embraces our creatureliness. The most passionate appeal for a radical discipleship after the example of Christ comes in Petra Steinmair-Pösel's essay on Girard, whose chilling analysis of our predicament in an era of climate change bears much further reflection.

In the ethics section I enjoyed in particular Anders Melin's exploration of our obligations to protect threatened species. He provides a careful critical response to my own proposals in this area, questioning my suggestion that humans might have a vocation to co-redeemdom in the eschatological phase of history (in which the New Testament places us). This discussion led me to reflect that only a self-emptying humility can make possible an exalted human vocation in the Anthropocene. A merely Promethean approach will always turn out to be hubris.

Inevitably in such a collection some essays will appeal more than others. The editors are to be congratulated on putting an important issue – a Promethean versus a kenotic Anthropocene – before the UK reading public. The essays are kept to a judicious length (all under 20pp.). Potential readers should be aware that this is more a religious-studies treatment of the question than a study in theological ethics, but everyone will find something to savour.

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James Stump (ed.)
Creation, Evolution, and Intelligent Design

Grand Rapids: Zondervan, 2017. 235 pp.
pb. \$19.99. ISBN 9780-310-08097-8

Of books on creation and evolution there is no end. But this one is different. The BioLogos team have managed to persuade four of the main protagonists in this often murky debate to engage in a civilised exchange of views. Not only that, but the book also provides ample space for the discussants to respond to each other's views, with the editor, James Stump, as moderator. All this in itself is quite an achievement.

This is a very American discussion which engages competing organisations with considerable resources behind them. The debate has been exported to many other countries, thereby fuelling the cultural perception that there is a conflict between science and religion, but discussions elsewhere are minor compared to those in the USA where the debate remains lively and active, occasionally spilling over into the public domain as a result of decisions made by local school boards or by questions put to Presidential hopefuls. The USA is surely the only country in the world where votes actually depend on the position that one takes on this issue.

Following a gracious and constructive Introduction by the editor, James Stump (Senior Editor at BioLogos), Ken Ham, founding president of Answers in Genesis, leads off with a defence of Young Earth Creationism (YEC). Ham maintains that 'Genesis 1-11 is history - not poetry, parable, prophetic vision, or mythology' [19], highlighting the well-known fact that hermeneutics lies at the heart of this

discussion. 'The scientific evidence confirming the literal truth of Genesis 1-11' is apparently 'overwhelming' [31]. Ham claims that to believe that the earth is millions of years old is a 'gospel issue' but not a 'salvation issue'. In other words he maintains that believing in an old earth undermines the accuracy of the Bible, and thereby its authority, consequently having a negative effect on other people, but that people can still be Christians and believe in an old earth. From such unpromising beginnings, the discussion begins.

Hugh Ross, founding president of 'Reasons to Believe', then goes on to defend the old earth (progressive) creation position. Ross shares Ham's view that modern science supports the Genesis text, a view often known as 'concordism', but comes to very different conclusions from Ham. As Ross points out, the Bible may be inerrant, but human interpretations of it are not necessarily so, presenting the clear scientific evidence that the earth is very old, and defending the idea that the world was created 'good' complete with its death and predation.

Deborah Haarsma, President of BioLogos, presents a clear response from 'evolutionary creation', sometimes referred to as theistic evolution. Haarsma points out the many scientific errors in the YEC position and outlines the strong scientific evidence for evolution. Stephen Meyer, Senior Fellow at the Discovery Institute, then pitches into the discussion from the perspective of Intelligent Design [ID]. Meyer points out that ID does not take any particular position on the interpretation of Genesis, writing that whereas 'all creationists are proponents of intelligent design, not all proponents of intelligent design are either young-earth or old-earth creationists' [61], but also emphasising that he remains supportive himself of the earth being very old.

After such initial position statements, the rest of the book then consists of fur-

ther exchanges and rejoinders, with a concluding chapter by the editor seeking to draw some of the threads together. If you are familiar with the overall topic, then it is unlikely that you will find much that is new in this book, for the arguments are well rehearsed and well-worn, but if the whole cultural and theological context within which this discussion is being carried on is new to you, then this book will provide a useful (and occasionally jaw-dropping) excursion.

In his concluding remarks, the editor comments that 'Perhaps it should be seen as a positive sign that these leaders were even willing to appear together in one volume and interact with each other as they have' [233]. I agree. Personal exchange and contact is even better, and *Biologos* has been particularly successful at engaging with Hugh Ross and 'Reasons to Believe' in this way. Given the influence of the US Christian community around the world, it remains a tragedy that this issue continues to divide the Church community, giving the impression that the Church is in some way hostile to science. *Biologos* is doing a great job at addressing this problem and this volume represents one of their most successful attempts at encouraging dialogue.

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Neil Messer

Theological Neuroethics: Christian Ethics Meets The Science Of The Human Brain

London and New York : T&T Clark, 2017.
215pp. ISBN £85 HB: 978-0-5676-7139-4

When writing a book on the brain or neuroscience it has become customary to begin by referring to President George Bush's Presidential Proclamation in July

1990 declaring the 1990s The Decade of the Brain. Neil Messer, the author of this present book, follows this pattern. But he does not stop there. He is then careful to trace out for the nonscientist the fruits of the accelerating rate of research in neuroscience over the past three decades. It is this research in neuroscience, together with research in cognitive psychology, that is brought together in a well-informed, thoroughly documented way in this book which traces out its implications not only for neuroethics, as many other authors have done, but specifically for *theological* neuroethics.

Neil Messer was trained at the Medical Research Council Laboratory of Molecular Biology at Cambridge, one of the most impressive stables for producing distinguished biological scientists. So he is a secure guide in matters scientific, which sadly, cannot always be said of those who write on the relation between science and theology. He is also well qualified in theology. Awareness of Messer's professional training in *both* biological science *and* theology alerts him, right from the outset, to note how,

It is easy for exaggerated or sensationalised accounts to distort public perceptions of the scope, power and implications of neuroscience. And since neuroscientific studies of complex mental phenomena are inevitably theory laden at every stage from conceptualisation through design to analysis and interpretation of the results, there is a real risk that naive or muddled philosophical-or indeed theological-assumptions may result in ill-conceived and distorted research studies. Indeed, some areas of research discussed in this book are prone to such problems-as critics often maintain, and as I shall point out from time to time in the following chapters. (3)

With respect to Christian theology and ethics Messer asks, 'What significance - if any at all - do such studies have for the truth or validity of the beliefs and practic-

es they are concerned with?’(4) Messer is also concerned to make clear his starting point when he writes, ‘I asserted earlier that the mutual neglect of neuro ethics and Christian ethics is to the detriment of both. This book is an initial attempt to repair that neglect, by exploring a representative range of neuro ethical issues from the perspective of a broadly Reformed Protestant tradition.’(11)

Messer’s review of studies of the neural correlates of religious or mystical experiences is fair and balanced. He draws upon researchers from a range of ecclesiastical traditions. From earlier studies he notes that ‘There is no shortage of theories and proposals in any of these fields, though fewer seem firmly established.’(24) And then he goes on to ask two important questions which he returns to throughout the book. The first is, ‘What bearing, though, do these proposals have on either the methods or the content of Christian theology,’(24) and secondly, ‘How can theology best engage with the insights and claims of the evolutionary, cognitive and neurosciences?’. (24) And he notes that ‘an answer to these questions will play a central role in shaping the discussion of specific neuro ethical topics through the remainder of this book ...’(24)

Does Messer succeed in his self-imposed task? I believe he does. For example, in discussing the neuroscience of morality (chapter 3) his engagement with the views of authors such as Peter Singer and their interpretation of the results of cognitive science research on morality, Messer takes us directly to the early chapters of Genesis and to Dietrich Bonhoeffer’s exposition of Genesis 1 to 3. Linking Bonhoeffer’s views with those of Karl Barth, Messer produces a well-articulated exposition of a theological neuro-ethic addressing the questions raised by writers such as Peter Singer.

Messer’s book is particularly timely in that he does not dodge the ethical im-

plications of some of the most pressing contemporary issues faced by neurologists and clinicians such as disorders of consciousness, including the permanent vegetative state, which pose some of the most contentious practical bioethical and neuro ethical questions. His discussion of disorders of consciousness is thorough, balanced and well informed and it is a good example of how cross-disciplinary reading and debating can provide helpful pointers to the humane care of people such as those with disorders of consciousness. Likewise he does not dodge the difficult issues posed by technological interventions in the brain whether by electrical stimulation, electrical implants or drugs. He brings the issues of what he calls ‘novel neuro technologies’ out into the open and gives them a careful discussion.

At every point he returns to a pervasive theme of the whole book which is well illustrated when he writes (142) ‘There is therefore a theological mandate for Christians to be concerned with all areas of life in the world, and to do what we can to make them fit to be penultimate arenas.’

This book warrants careful reading. But, it is not always easy reading. Messer does not dodge difficult issues and his arguments are carefully set out and require concentrated effort. But there are great benefits from a critical reading of such a well-informed and self-critical author.

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Celia Deane-Drummond

A Primer in Ecotheology: Theology for a Fragile Earth

Eugene, Oregon: Cascade Books, 2017.
167pp. Pb. £18. ISBN 978-1-4982-3699-7

Celia Deane-Drummond has published widely on the subject of ecotheology so is well qualified to write a primer on this topic. This slim book springs from her teaching ecotheology to students at the universities of Chester (UK) and Notre Dame (USA). Two things that strike one immediately about the book are that 26 of the 167 pages are given over to a glossary and bibliography (both very helpful) and that one of the seven chapters is devoted to Pope Francis (subtitled 'Icon of the Anthropocene'), whom Deane-Drummond clearly greatly admires.

The book is meant to be 'user-friendly' and also to cover in more depth what Deane-Drummond sees as 'two crucial areas, namely, Christology and anthropology'. Each chapter has a Reflection section at the end with a few questions to stimulate further thinking on the topic of that chapter. In addition, each chapter has number of 'boxes' briefly highlighting specific topics. For example, in the chapter on Pope Francis the three boxes are: Francis of Assisi and Pope Francis; The Moral Status of the Earth; and Pope Francis as Liberation Theologian.

Personally, I found the chapters on Ecological Biblical Hermeneutics and Christian Ecological Ethics of most interest. The former because how we interpret the Bible is crucial if we are to base our response to God in caring for the Earth on scripture. The latter because it touches on issues of economics, sin and justice from both biblical and ecological perspectives; issues that are also vital to caring for the Earth as Christians. The 'crucial area' of Christology is covered in the chapter on the Deep Incarnation, a term coined by Niels Gregersen to discuss the evolutionary significance of who Christ is. Here Deane-Drummond makes the case for

the use of the concept of theo-drama (drawing on von Balthasar's Christology) to understand the deep incarnation as a transformative and dramatic act that gives eschatological hope for the future of the Earth. This leads into the chapter on A New Anthropology for the Earth, her second crucial area. This seems a rather odd chapter starting with personal recollection of childhood pets and then discussing two case studies: hyena-human relations; and ethnoelephantology (a term meaning the study of interactions between humans and elephants). The chapter ends with Deane-Drummond using theo-drama to explore the relationships between God, humanity and other creatures.

My concern about much of ecotheology is that it comes across as rather abstruse and academic and therefore unlikely to motivate people, and Christians specifically, to act in the ways required to deal with the crises facing the Earth, such as the anthropogenic climate change and the loss of biodiversity. Reading this book did little to alleviate this concern. Deane-Drummond surveys a large range of approaches to ecotheology – covering topics such as ecofeminism, liberation theologies, deep incarnation, ecological sin and justice, to name just a few. In the end it remains unclear whether any of the ecotheologies surveyed have had any significant impact on the life of the church or on individual Christians. However, to be fair to Deane-Drummond, she does seek, through the Reflection sections and in an Appendix on Christian Environmental Activism, to move the discussion beyond the academic to action in response to our ecotheological understanding. In addition, in her teaching she clearly seeks to motivate her students to action rather than just instilling academic understanding.

The book does partially fulfil its purpose in being a primer in ecotheology but the choice of topics is perhaps not as

systematic as one might hope for in an introductory text. It does reflect strongly Deane-Drummond's interests in Pope Francis's views (as expressed in his encyclical *Laudato Si'*) and in the so-called theo-drama approach to the subject, perhaps to the neglect of other topics such as the role of the Holy Spirit and of God the Father in thinking through ecological issues. Overall, the book would probably be most useful to students starting out in studying theological approaches to ecological issues, which is the demographic that it seems to be aimed at.

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John F. Haught

The New Cosmic Story: Inside Our Awakening Universe

London: Yale University Press, 2017. 229 pp. £20. ISBN 9780300217032

John Haught has been a force in the world of religion and science since *Religion and Self-Acceptance* in 1976. His twenty books include the very popular *Science and Religion: From Conflict to Conversation* (1993) and *Deeper than Darwin: The Prospect for Religion in the Age of Evolution* (2003). As a professor, scholar, and author for over four decades, Haught has helped countless individuals better understand the difficult intersections between science, faith, philosophy, and theology.

Within this framework, *The New Cosmic Story: Inside Our Awakening Universe* represents Haught's most ambitious constructive theological exploration. His study rests upon the vision of evolutionary development by Pierre Teilhard de Chardin, SJ. Teilhard envisioned the universe as following an evolutionary

development to God, from the very first atoms to an eschatological future of the universe, which Teilhard called the Omega Point. In *The New Cosmic Story*, Haught transforms this evolutionary Christian vision into a philosophical argument about religion itself and introduces his readers to a unifying 'anticipatory' vision of faith, God, and hope.

Haught structures the book as an answer to four current ways of 'approaching the unity of religion': exclusivism, perennialism, scientific naturalism and postmodern pluralism (20). His anticipatory approach 'assumes that religion is a relatively new chapter in the story of an emerging universe'. Furthermore, 'the emergence of religion...is a no less momentous development in the cosmic story than the earlier arrival of life and mind' (20). Haught's study continues the historical 'quest for coherence' that attempts to find a unity among the variegated religious landscape on the earth (24). Following both Teilhard's vision and the 'story of the universe' school of Thomas Berry, Brian Swimme and Mary Evelyn Tucker, Haught finds this coherence in a cosmic evolutionary drama that points ever forward toward union with God.

Haught builds upon these visions by plotting twelve 'common religious themes' along three ideological axes: archeonomic, analogical and anticipatory (43). Archeonomic readings attempt to explain human behaviours strictly through the origin and development of our species. Only by going back to the history of evolution, for example, 'can we learn how the sense of obligation came to be such an important part of human existence' (145). The analogical reading, conversely, locates meaning in the Divine but remains disconnected from the drama of the universe. Meaning is located via analogy to a God 'that exists eternally, untouched by time' where redemption, for example, 'means the individual soul's

final communion with the timeless unity from which its sojourn in the disintegrating physical universe is only a temporary departure' (95). Finally, Haught's preferred anticipatory vision aligns human religious experience with the overall evolution of the universe. Prayer, for example, 'is the now personalized universe seeking deliverance from the prospect of falling back into its original state of impersonal dispersal' (199).

The audacity of such an exploratory theological work is to be lauded. Haught's vision of the possibility of human unity, spiritual progress and anticipatory theological reflection offers a novel way of approaching the fact that both the universe and our understanding of the universe are constantly changing. As such, this book's vision will likely be welcomed by three overlapping groups: those in agreement with the Berry-Swimme-Tucker school of thought, those who closely follow Teilhard's theological constructions, and those who follow the school of Open/Process/Relational Theology.

However, for those of us who do not identify as members of one of the three groups, this book may struggle to gain ground. In particular, I find Haught's arguments lacking on two levels. First, his reliance upon Teilhard's vision of development must be questioned given the recent revelations regarding Teilhard's use of eugenical ideas in his philosophical constructions of simultaneous biological and spiritual development (see John Slattery, 'Dangerous Tendencies of Cosmic Theology: The Untold Legacy of Teilhard de Chardin', *Philosophy and Theology* (December 2016) 29 1).

Secondly, while Haught offers the anticipatory vision of religious experiences as an answer to relativistic postmodernism, such a vision seems more atavistic than progressive in the context of the past few centuries. Philosophers have been offering universal visions of humanity and since Plato, and have been specifi-

cally trying to unify all modern religions since well before Hegel. The best deconstructivist tendencies of philosophies like postmodernism seek not to disband hope, but to offer a humility of thought in the wake of centuries of eschatological visions of a unified future.

To this end, the book would have been well served by deeper engagement with scholars from historically oppressed communities, especially during Haught's direct engagement with ideas of violence, progress and happiness. Nevertheless, I find the text hopeful, ambitious and optimistic in its novel approach to Teilhard's evolutionary eschatological vision. While it will not satisfy everyone, I have no doubt that *The New Cosmic Story* will enrich many and produce fruitful dialogues for years to come.

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H Chris Ransford

God and the Mathematics of Infinity

Stuttgart: ibidem-Verlag, 2017. 151pp.
16.90€. ISBN 9783838210193

I approached this book with some trepidation: please let it not be an attempt to prove the existence of God through mathematics. But that it certainly is not: rather, with this book Ransford is trying to establish what the mathematics of infinity can tell us about the properties of the Godhead, were there to be such a being. As to the existence of a Godhead, he takes no formal position.

Overall, I found this a frustrating read. First, there are very few references, an important omission when he makes

contentious assertions. Secondly, there is no subject index, which makes navigating between occurrences of key subjects difficult. Thirdly, there are some points where I think Ransford is just plain wrong, not about the mathematics but about the inferences that can be drawn from it.

An example of the latter occurs in an otherwise interesting chapter (22 et seq.) on *Emergence*, which includes the development of language and whether meaningful communication is possible between finite beings and an infinite Godhead. Human language, he says is sequential, one word after another, and transmission of an idea by means of words necessarily takes some finite time. A Godhead is infinite, indeed not just infinite but the highest possible cardinality of infinity, the set of all possible sets, which has, perforce, infinite cardinality (40). Because of this unimaginable discrepancy in scales, Ransford says, we would be quite incapable of understanding Its thoughts.

These are stimulating ideas, and well presented, but the next step is where I struggle. According to Ransford, it follows from this argument that any communication between us and the Godhead, in particular through revelation, is impossible. He says (28) 'even if someone were against all probability still somehow privy to Its thoughts, It could not possibly convey those thoughts by means of even an *ideal* human language. Human language cannot function as a viable vehicle for godlike thoughts.' And later (33) 'any bid to couch such thoughts adequately ... by means of any possible human language would be doomed to failure ... Whenever a televangelist tells us they spoke to God last night they are either lying or delusional.'

The possibility Ransford ignores is that an all-powerful, omniscient Godhead would surely be able to put the essential elements of Its thought into a form of

language which we finite humans could understand, at least to the extent that It wishes us to understand. We might argue about whether any particular text comes directly from the Godhead, or is a result of (imperfect) human interpretation inspired by revelation, and so on, but we cannot on the basis of Ransford's arguments rule out any communication whatsoever.

On the other hand, I found the sections at the end of Part 1 on *The Attributes of Godhood* (44) and *Free Will* (58) stimulating and fresh. Ransford discusses what 'all-knowingness', 'omnipresence' and 'almightiness' can mean, including the possibility that knowing literally everything could, in a rather artificial scenario (a game of chicken in which the Godhead is one of the drivers) be disadvantageous (47). Accepting that this is an unlikely scenario, Ransford uses these ideas to speculate that to play the game properly the Godhead would have to incarnate, although he doesn't take the next step to extrapolate this idea to the incarnation of Jesus. Following that, his interesting discussion of free will is really too short to do much heavy lifting, especially to demonstrate his conclusion that 'if free will exists, it trickles down to the level of the elementary particles of matter' (61).

Encouragingly for us as Christians, in his conclusion to Part 1 Ransford says (61) that 'The most basic tenets of [monotheistic] faith ... seem corroborated by simple mathematical analysis based on the prior assumption of a Godhead.' So far so good.

Part 2 is a short section on spirituality, much of which reads like a rant against religions or at least against their hierarchies. He says *inter alia* that the invocation of a Godhead by 'a few ignorant clerics' to 'glibly explain everything under the sun' has 'obviated any possible mutual respect and peaceful coexistence' between spirituality and science (72). So much for the work of CiS!

Later (73) he takes it as understood that science (especially Hawking and Penrose) has explained the mechanism for how big bang(s) could occur and a universe be born out of nothing, and that therefore God is not necessary. He should perhaps read *God and Stephen Hawking* by John Lennox and rethink this section.

There are some interesting topics discussed briefly in the rest of Part 2 (reliance on dogma; mystical experience; the God of the Gaps; sex and promiscuity; music; education) but I am afraid that I could see little connection between these and the main quest for an understanding of the characteristics of a Godhead through the mathematics of infinity.

In summary, this book doesn't fit comfortably into the category of either popular science/theology or academic textbook. It is a tough read if taken seriously but shortage of references and no subject index make it difficult to follow up and track his ideas. Having said that, Ransford does raise some interesting ideas and makes a useful contribution to some of them. The cover notes say that the book 'does not take sides nor prefer opinions, it only follows mathematics wherever it leads. By doing so it makes a major contribution to an understanding of the nature of reality.' For my part, the book's faults make it hard for me to agree wholeheartedly. It has something to say but not as much as the author would like to think.

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Malcolm A. Jeeves and Thomas E. Ludwig

Psychological Science and Christian Faith: Insights and Enrichments from Constructive Dialogue

West Conshohocken, PA: Templeton Press, 2018. 304 pp. hb. \$24.95. ISBN 13: 978-1-59947-522-6

Jeeves and Ludwig seek to persuade us of four things. First, conflict between psychological science and Christianity is not as strong as one might think and needless conflict-seeking should be avoided. Secondly, we should not engage in *concordism*, which seeks to quickly seize upon new scientific findings and force them into conformity with the theology of the day, or conversely, to distort the theology into harmony with the science. Thirdly, various attempts to *integrate* psychology and Christian faith are marked with ambiguous and imprecise use of the term, to the point that efforts to 'integrate' ought to be abandoned. Finally and relatedly, Christians should, instead, pursue *complementarity* with regards to faith and psychological science. That is, we should consider Christian theology and psychological sciences as two potentially complementary sources of insight and enrichment on given topics. For instance, biblical theology may convince us that humans are afflicted with the sin of pride, and then we can turn to psychological science for more detailed studies of just how and when we humans exhibit self-serving biases (221), tending to think of ourselves as better than average across a number of domains.

This book curates an impressive range of findings and theories that have great theological import. Its many quotations from Jeeves' earlier work and from others include valuable cautions as well as important truths concerning how to bring sciences – especially psychological sciences – together with theology. Nevertheless, the book does not live up to its potential because of incomplete and

unfocused treatments of competing viewpoints. Jeeves and Ludwig critique *conflict*, *concordism* and *integration* as common ways to characterise the relationship between psychological science and Christian theology, and these three critiques all have merits, but also serious weaknesses.

For instance, Jeeves and Ludwig use historical cases (flat versus spherical earth, geocentrism, etc.) to make their point that many alleged conflicts between 'science' and Christianity are oversold or misunderstood. They end this analysis of *conflict* (chapter 2) by asking rhetorically, 'Is there something fundamentally different about psychology as a science? If not, why have psychologists not learned these lessons?' (33). But, of course, psychology *is* importantly different from these other sciences in many relevant respects. Psychologists, scientific or otherwise, have often (but not always) focused on the same topics that have importantly concerned theologians and ministry leaders to a much greater extent than we see in perhaps any other science. Christian theology has not spent much time considering how molecules can and should interact, but has had much to say about how *people* can and should interact, as psychologists have, too. Though it is easy to erroneously suppose the Bible's language on emotions, motivations, social interactions, virtue and well-being always map on to psychology's treatment of the same topics and vice versa, Jeeves and Ludwig are right: it doesn't (196). Nevertheless, it does not follow that psychologists (particularly of the applied sort in clinical, counselling, educational and other settings) are always simply offering complementary perspectives to theological accounts. Freud, Skinner and many other major theorists have really tried to offer perspectives on human thought, behaviour and well-being that contradict common Christian perspectives. Not all psychological science need conflict with Christianity, but at times

Jeeves and Ludwig seem to trivialise genuine points of conflict with specific psychological theories.

Concerning the dangers of *concordism*, Jeeves and Ludwig's favourite case study is the adoption of dualist views of human personhood in early Christianity. The claim is that Christians tried to ride on the authority and credibility of the Greek 'scientists' of the time and so distorted their reading of scripture in a dualist direction: accepting that the soul is a non-physical something extra separable from the body. We are told that such a distorted understanding of souls and bodies has led to unnecessary conflict with contemporary science, which enthusiastically affirms a monist view of humans: humans are physical unities without any immaterial soul, a view also affirmed by some recent biblical scholarship (51, 134).

The trouble with Jeeves and Ludwig's treatment of concordism is that we are never given principles to clearly identify when someone has fallen prey to it. Yes, we should be cautious to not hold too firmly to scientific findings or ignore the fact that biblical interpretation and theology also change with time. These points are important. Nonetheless, when *may* one reasonably wonder what scientific findings and theories might mean in light of one's best understanding of the Bible and theology? The soul-body dualism example cuts both ways. As Jeeves and Ludwig observe (53), monistic readings of the Bible did not come into fashion until recent decades due, it seems, to the rise of neuroscience and its monistic dogma. Dualism pre-dates science and appears to be the more natural way to understand at least mind-body relations (133), so who are the real concordists in this story? Without clearer guidelines concerning what is lamentable concordism as opposed to enthusiasm for letting one's best science inform one's best theology, 'concordism' appears to be nothing more than a way to label and dismiss

those ideas with which one disagrees. The repeated strawman-treatment that Jeeves and Ludwig give dualisms shows clearly that they are committed monists and so they claim that science is on their side and that dualisms are examples of lamentable concordism.

Jeeves and Ludwig's critique of integration, and advocacy of complementarity instead, also has both strengths and weaknesses. They are right to observe that the term 'integration' has been used broadly and imprecisely. Perhaps they are right that the amount of confusion around 'integration' speaks to its need to be retired. Nevertheless, their favoured approach, complementarity, misses some important elements of what is sometimes meant by integration. I find that a useful view of *integration* can be understood as, a personal practice by which one intentionally brings one's Christianity (or other world-view) to bear on doing psychology. There are at least five ways in which one's broader values and foundational commitments influence how one does psychological science: (1) selection of topics to study, (2) assumptions one brings to the study in terms of meta-theory and epistemology, (3) selection and execution of methodology (including ethics around treatment of human subjects), (4) interpretation of results, and (5) how one interacts with colleagues in the necessarily distributed and cooperative enterprises that are the modern sciences. At many points, the Christian psychologist need not look all that different from the non-Christian psychologist, but it does not follow that one's theology never bears upon these five areas of doing psychological science, or that it would not be productive and beneficial to integrate in these areas. This process of self-critically working out one's faith in these areas of doing psychological science is not easily replaced in its entirety by complementarity, even if complementarity has an important place.

One of this book's most valuable takeaways appears near the end in a chapter by David Myers. Myers characterises complementarity this way: 'Said differently, we [Christians] presume that we are the finite creatures of an infinite God. This theism mandates humility. It compels us to hold our untested beliefs tentatively. It frees us to assess others' beliefs with open-minded skepticism. And for matters that are amenable to scientific exploration, it encourages us to winnow truth from error through careful observation and experimentation' (209). This intellectually humble, careful assessment of the science and theology with an eye toward deepening and broadening our understanding of both should, indeed, characterise how Christians should approach the sciences.

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Catherine Keller and Mary-Jane Rubenstein (eds.)

Entangled Worlds: Religion, Science and New Materialisms

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At first blush, the New Materialisms might seem like a far cry from science and religion. For many, a materialist world-view indicates an impoverished understanding of science and the antithesis of religious belief. But it is worth pausing momentarily and taking a second look.

'New Materialisms' is an umbrella term for an increasingly fashionable assemblage of ideas in contemporary philosophy that both undergird, and radically challenge, much of what we take for granted. Like many old materialisms

before them, they direct our attention to the tangible, gritty stuff that the world is made of. But they do not fall into the trap of reducing reality to mere matter. Neither are they content with inert substances, stable bodies or simple laws; Aristotle, Descartes and Newton all come in for criticism. Rather, for the New Materialists, materiality is all a little stranger than it might first appear.

Consider the fact that 90 per cent of the cells within the volume of the human body do not contain the human genome (numerically, we comprise many more bacteria than human cells). Or the quantum mechanical discovery that light is simultaneously wave and particle. Or even Heraclitus' age-old observation that one can never step into the same river twice. Matter is symbiotic, bizarre and on the move. Moreover, it is the scientific discoveries of the twentieth century that have brought this home to us. Emergent, non-linear, complex and chaotic phenomena all subvert a view of the world in which passive objects interact according to entirely predictable rules.

So, what does this mean for theology and religion? Firstly, and perhaps most importantly, the New Materialisms revive an oft underrated materialist strand that exists within the Christian tradition. From theophanies in burning bushes to the resurrection of the body, Christianity has always been an intrinsically incarnate religion. Jesus Christ took on bodily form, fed the multitude, healed the sick and provided more wine at a party. The material should matter to Christians. Secondly, the so-called 'material turn' in the academic humanities has arisen across discourses that previously occurred on the margins. As a result, theologians who write from liberationist perspectives have much to gain from philosophies that disrupt the ruling norms by attending to the strangeness of materiality. Lastly, and pragmatically, if theology and religion want to remain relevant, they must

engage with ideas that are proving to be both persuasive and popular.

This collection of essays, *Entangled Worlds: Religion, Science and New Materialisms*, stemmed from one of the annual 'Transdisciplinary Theological Colloquia' at Drew University's Theological School. For the editors, Catherine Keller and Mary-Jane Rubenstein, the highlights of the New Materialisms are: their displacement of human privilege; their attentiveness to the agency of all matter; and their rejection of binary divisions between physical and spiritual, nature and culture, even life and nonlife. (2) They are also explicitly clear about the need for Christian engagement:

Christianity in particular has long suffered from a condition of [what] we could call 'materiaphobia'. Whether in ascetic practice, Pauline theology, or casual presumption, the spirit got pitted against the flesh, or the soul against the body, in league with a God who remains condescendingly above and apart from the world that 'He' created. (5)

With the New Materialisms in hand, the tenor of the science and religion conversation morphs dramatically, or perhaps even dissolves. '[O]ften the science/religion dialogue has assumed rather standardized forms of interaction,' write Keller and Rubenstein, 'between two well-formed, if comically imbalanced, modern orthodoxies,' but if these two 'worlds' are always already 'entangled' then a rather fresh perspective emerges. (7) As Jacob Erickson puts it, 'theology must rethink materiality on a planet where matter indeterminately shifts, swirls, performs, flows, and is reconfigured with intensity and vibrancy'. (203)

The first section of *Entangled Worlds* assembles some of the leading lights of the New Materialisms. Karen Barad has a doctorate in theoretical particle physics, and now holds the rather amazing job title of Professor of Feminist Studies, Phi-

osophy and History of Consciousness, but she is best known for her seminal interpretation of quantum mechanics in *Meeting the Universe Halfway*. In this essay, she employs Walter Benjamin's notion of now-time (*Jetztzeit*) to probe, and disturb, modern notions of linear progress. The centrepiece of Barad's extended chapter, though, is a collage of quotations from Benjamin, Jewish theology, Karl Marx, Judith Butler and quantum theory. Just as any glance at the night sky contains starlight of very different ages, from very different places, that has travelled very different distances, Barad also frames a snapshot, a crystallisation, of ideas at a single explosive instant.

Jane Bennett, famous for her book *Vibrant Matter* on the political importance of the nonhuman, shifts from physics to biology. In her chapter, she argues that human agency is entwined with botanical life to the point where we can talk about 'vegetal' communication, or even sympathy, between plants and humans. (90) Sympathy, for Bennett, is not subjective emotion, 'but an impersonal mesh of affiliations between natural bodies'. (91) This sympathy, therefore, can be anything from the integration of human with vegetable in our own digestive systems, to the Romantic stirring we experience when we hear the wind in the trees. For Bennett, there is an 'uncanny sense of kinship'. (92)

In *Tingles of Matter, Tangles of Theology* Catherine Keller makes explicit how the material matters for religion: from a creation deemed 'good' to Christian praxis today. Relics, icons, and multi-sensory liturgical rituals, for example—all *matter* in both senses of the word. (113) As Keller points out, the Reformation can be held at least partially responsible for the repression of materiality within the church, and an ensuing division between science and religion. (114)

The second and third sections of the volume comprise essays from some less

familiar authors, addressing *The Matter of Religion* and *Ethical-political Entanglements* respectively. The focus, and quality, of these contributions is somewhat variable, but three essays in particular make for scintillating reading.

First, Mary-Jane Rubenstein probes the 'problem' with pantheism. Why is it that pantheism has become a kind of swear word, with the likes of Spinoza becoming, 'the target of... sustained and systematic name-calling among philosophers and theologians'? (158) If pantheism affirms, 'that the vibrant intra-active, material world of becoming is itself divine,' is that really such a problem? (159) Indeed, Grace Jantzen has argued that an enforced opposition between God and the world is at the root of all oppressive binaries. (161) Rubenstein does not endorse, or argue for, pantheism per se, but wants to re-establish it as a viable conversation partner. She also makes the important distinction between a monistic pantheism that obliterates difference with unity, and a pluralistic pantheism that holds things together in their messy multiplicity.

Jacob Erickson's *Theophanic Materiality* is similarly thought-provoking. Erickson charts the liminal status of cairns: markers in the mist between the natural and spiritual worlds. He also highlights Andy Goldsworthy's land art, which seeks to work 'in collaboration' with a place—and is captured most vividly in the documentaries *Rivers and Tides* and *Leaning into the Wind*. (207) Goldsworthy does not pretend that he has full control over the materials he works with—he 'knows he cannot make the earth in his own image'—but rather tries, and often fails, to work with the 'flow' of the earth. (210) For Erickson, Goldsworthy's creations are reminiscent of theophanies: 'the occurrence of divinity, incandescent in places or things in places'. (211) As Eastern Orthodox theologian Kallistos Ware puts it, perhaps 'the whole universe is a

cosmic Burning Bush'. (212)

Lastly, Manuel Vásquez highlights the relevance of the New Materialisms for a 'new polycentric global cartography of religion'. (233) Who are the important actors in contemporary religious assemblages: religious elites, missionaries, itinerant pastors, pilgrims or religious tourists? And what is flowing: gifts, texts, relics, saints, theodicies, sermons, money or bodies? There is much to be learned by treating religious phenomena as material flows.

It is not possible to provide an overall assessment of such a diverse array of ideas but let me offer a few observations in conclusion. First, the provocative rhetoric and penchant for wordplay can make for uneasy reading if one is used to linear arguments and neat categories. But this is also part of the point: if the New Materialisms are alert to the already-entangled nature of thoughts and their material performance, then it is unsurprising that new writing might emerge. Secondly, if anything, this volume does not go far enough. Perhaps the restrictive form of the academic humanities is to blame, but many of the essays—Erickson's in particular—would have benefited from multimedia presentation, or, at the very least, some accompanying pictures. Lastly, the New Materialists are more than comfortable in thinking with metaphors. If one becomes too fixated on pinning them down, it can become easy to lose sight of their overall argument. But if we take seriously the notion that, 'we are materializations entangled in other materializations,' then both science and religion have a lot to learn. (1)

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Steven Pinker

Enlightenment Now: The Case for Reason, Science, Humanism and Progress

London: Allen Lane, 2018. 576 pp. hb. £25.00. ISBN 978-0-241-00431-9

'No single idea', claims the American sociologist Robert Nisbet, 'has been more important than the idea of progress in Western civilization'. While the antecedents of such an idea are to be found in ancient Greece, Nisbet cogently argues that the notion of linear historical progression reached its apogee in the nineteenth century with the positivism of Auguste Comte and the social Darwinism of Herbert Spencer. Advances in science, technology and social organisation, they averred, would lead ineluctably to the political, social and economic improvement of whole societies, and, in turn, to the betterment of the human condition. Such a quixotic anthropology was not to last, however. Friedrich Nietzsche soon repudiated the idea of progress as the 'weakling's doctrine of optimism', and, writing in the wake of the cataclysm of the First World War, Oswald Spengler, in *The Decline of the West*, argued that progress was not inevitable, and that scientific development in no way guaranteed democracy or moral advancement.

Far from withering away, the debate about progress within modern academe is as heated as ever, and the Harvard psychologist, Steven Pinker, is perhaps the most prominent champion of the 'progress thesis' against (what he perceives to be) its manifold cultured despisers. In his most recent book, *Enlightenment Now: The Case for Reason, Science, Humanism and Progress*, Pinker is at pains to trumpet the achievements of modernity. Over the last three centuries, he tells us, our lives have become healthier, happier, longer, more prosperous and more pacific – not only in the West, but throughout the world.

Not everyone shares this sanguine

view, however. The philosopher, John Gray, for example, in works such as *Straw Dogs: Thoughts on Humans and Other Animals*, emphatically rejects the notion of progress altogether. Pinker and Gray have become lively sparring partners, and Pinker devotes an entire chapter of his hefty tome to what he terms the 'Progressophobia' of Gray and his ilk. 'Intellectuals', Pinker tells us, 'hate progress'; and, ironically, 'intellectuals who call themselves 'progressive' really hate progress' (39).

Enlightenment Now is written con brio, and is crammed with graphs, charts and statistics. Pinker uses this plethora of metrics to show that there have been dramatic improvements over the last five decades in areas such as poverty, female empowerment, racism, sexism, infectious diseases, maternal mortality, calorie intake, food availability, child labour, education and war. Fault can easily be found with graphs: a graph showing a decline in war deaths per annum starting in 1945 would doubtless appear very different had it begun in 1700. Nonetheless, a great deal of the data that Pinker offers is persuasive, and he hammers his case home with relentless energy.

However, while Pinker's portrait of societal improvement is hard to gainsay, critics such as Gray are right to be concerned about the teleological (or 'Whig-ish') view of history which underpins Pinker's narrative. He doesn't say so explicitly, but the aim of Pinker's graphs is to demonstrate some kind of inexorable law, some pre-determined upward trajectory, which has produced the modern scientific age. This almost providential conception of history is reminiscent of Francis Fukuyama's controversial *The End of History and the Last Man* (1992) which tried to convince us that the worldwide spread of Western free market capitalism and liberal democracy signalled the apex of humanity's cultural evolution. But, as Karl Popper and Isaiah Berlin ar-

gued long ago, such historical determinism is implausible, because it vitiates our human ability to make free choices. Furthermore, Pinker's avowed atheism only serves to negate his religious-like faith in secular eschatology; his position in this respect is vulnerable to the criticism that Bertrand Russell made of Karl Marx – another believer in progress: 'Marx', Russell wrote, 'professed himself an atheist, but retained a cosmic optimism which only theism could justify'.

The most problematic part of the book concerns Pinker's claim that the aetiology of this progress was 'the Enlightenment'. As Jonathan Israel and Gertrude Himmelfarb have observed, however, the Enlightenment was very far from being a homogenous or monolithic thing; there is considerable debate about its historical time-period, and the thinkers associated with it had widely differing agendas. Nor is it clear whether Pinker is referring to the French, Scottish or American forms of the Enlightenment. It is, in truth, notoriously difficult to establish historical causation, and the graphs which might help support this aspect of Pinker's case are conspicuous by their absence. The possibility that all this progress might have occurred *despite* (rather than as a result of) the Enlightenment is never even considered. On the contrary, Pinker's explanatory hypothesis appears to be *post hoc, ergo propter hoc*.

Another difficulty is Pinker's failure to acknowledge that 'the Enlightenment' was responsible for anything negative. He excoriates 'prophets of doom' such as Theodore Adorno and Max Horkheimer for attributing the worst evils of the twentieth century to science and 'instrumental rationality'. Hyperbolic though such attributions may be, few would deny that the post-Enlightenment legacy has, at best, been mixed. Edmund Burke and Georg Hegel, for instance, identified a clear link between the French Enlightenment and the Terror. And, while mo-

ernity secured the technical mastery of nature, its lack of firm ethical precepts allowed that mastery to be turned to monstrous ends. In this regard, Pinker is too quick to dismiss what he calls the 'twisted narrative' of the late sociologist, Zygmunt Bauman, who, in *Modernity and the Holocaust*, argued convincingly that the Nazi's greatest atrocities would have been impossible in a pre-modern context. The 'Final Solution', Bauman writes, 'arose out of a genuinely rational concern, and it was generated by bureaucracy true to its form and purpose'. Pinker is, moreover, piqued by any suggestion that science has been employed to justify heinous beliefs and practices, such as eugenics. All of this, sadly, reveals Pinker's total unwillingness to engage seriously with critiques of modernity.

Notwithstanding its philosophical and historical shortcomings, *Enlightenment Now* deserves to be widely read. It succeeds in showing that modern science has led to tangible progress in life expectancy, public health and living standards. One must, however, guard against Pinker's assumption that to be critical of modernity makes one anti-modern. Noam Chomsky has shown that one can embrace the achievements of modernity while acknowledging that progress has often been made in the teeth of unjust socio-political ideologies. Modernity is a complex and often contradictory phenomenon, and those who recognise it as such are not 'Progressophobes' or pessimists. They are, in fact, bona fide progressives, whose realism keeps us from falling into the trap of complacency.

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Elaine Howard Ecklund & Christopher P. Scheitle
Religion vs. Science: What Religious People Really Think

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224 pp. hb. £21.99. ISBN 978-0-19-065062-9

There have been many excellent books written on the subject of science and religion, many of which have been reviewed in the pages of this journal. Most works have come from the fields of theology, philosophy and history and it is only in the last 5-10 years that the study of science and religion has experienced a 'sociological turn'. This has seen researchers conceptualise the study of science and religion as the study of contemporary 'scientists' and 'religious people', asking questions about who these real people are, what they believe and what they actually do in practice. Elaine Ecklund has been at the forefront of the sociological study of science and religion in the US. In 2010, she published the book *Science vs Religion: What Scientists Really Think* (spoiler alert: most scientists do not share Richard Dawkins's views). This follow-up, authored together with Christopher Scheitle, is complementary to that book, asking this time, what do religious people really think about science and scientists?

The book is based on a huge amount of original research material and offers an unparalleled snapshot of contemporary religious views in the US. Interviews were carried out with 320 congregants from 23 places of worship in Houston and Chicago, mainly with evangelicals, but also with mainline Christians, Muslims and Jews. The interview data is complemented by analyses of survey data, gathered from a nationally-representative sample of 10,000 people, together with an additional sample of people working in science occupations. Distilling the findings from this enormous amount of data into a readable format is no easy task,

and Ecklund and Scheitle are to be applauded for producing an interesting and accessible book that will no doubt prove useful to a broad range of readers.

The book is organised thematically, with each chapter tackling a popular myth. Following the introduction, the first few chapters examine some general science vs religion myths, namely that religious people do not like science; do not like scientists; and are not scientists themselves. The remaining chapters focus on a number of specific topics, addressing the perceptions that religious people are young earth creationists, climate-change deniers, and against scientific technologies. The authors argue that the way in which religious Americans approach all these different scientific issues can be boiled down to two fundamental questions or concerns: first, what does science mean for the existence and activity of God? And secondly, what does science mean for the sacredness of humanity?

The analysis and discussion of the data focuses squarely on possible practical solutions, and the authors make various suggestions to facilitate better dialogue between scientists and people of religious faith. However, the book also contains detailed appendices describing data collection methods together with all the questions used in the interviews and surveys, which will be invaluable to other researchers in the field.

One of the things I most appreciated about this book is the fresh insights it offers by broadening the category of 'scientist' to include not only academic scientists but also 'rank-and-file' scientists working outside of academia. It is true that academics in elite universities, including scientists, are less likely to be religious than the average American. But Ecklund and Scheitle's analysis of survey data reveals that a person's religion does not in fact directly influence whether or not they go into some kind of science-

related occupation. They found that 65 per cent of rank-and-file scientists in the US are Christian, and almost 21 per cent evangelical. These evangelical scientists are much more likely than other evangelicals to view science and religion as having a 'collaborative relationship'. Despite this, the authors identify a number of issues common among religious scientists: many do not feel comfortable talking about science within their congregations, and neither do they feel able to talk about their faith in work environments. This can make it seem as if there are no religious scientists. The book is, in part, a call to action for such scientists, recognising their potential to play a vital role in building trust between religious people who are not scientists, and scientists who are not religious.

The thematic arrangement of the material is no doubt the most useful for the different audiences the authors wish to reach. However, this inevitably means that deeper explorations of the different faith traditions surveyed are not possible. It would be interesting, for example, to get a sense of the range of views expressed within different religious traditions, and of the role played by religious figureheads, institutions and media in forming and maintaining those views. But that would be a different book, and quite probably a less useful one.

The book is based solely on US data and is written primarily for a US audience. However, there is much that readers outside the US can gain from reading it: it is an excellent corrective to the headlines that abound internationally about US religion; and many of the practical recommendations will be useful in a variety of contexts.

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Berry Billingsley, Manzoorul Abedin and Keith Chappell (eds.)
A Teacher's Guide to Science and Religion in the Classroom

London & New York: Routledge, 2018. 179 pp. pb. £21.99. ISBN 978-1-138-21182-7

In this philosophical and practical book, Billingsley, Abedin and Chappell bring together a wide range of contributors from both faith and non-faith backgrounds to create a rich and polyphonic experience. The focus is on both science and religion. However, this is really a book about the teaching of science and, while some consideration is given to how it relates to religion, the perceived problem is clearly that science is not properly taught or understood. The book's scope goes beyond classroom techniques and how science and religion relate, pursuing a more holistic philosophy of education that is more insightful, integrated and intriguing. Although primarily a book about science, it was a welcome read for me as a teacher of Religious Education, and I found it at times quite inspiring. It aims to create 'wow' moments in learning, improve career options, tackle untenable dogmatism, empower rigorous science and grasp more healthily what it means to be human in our capacity for knowledge, our desire to be curious, our struggles with mystery, and our love of story.

In a world full of relativism, science has remarkably maintained a popular image of being the messenger of truth. Scientific knowledge has not lost prominence. In my experience in secondary schools, scientism is well established. However, more generally, far from God and religion being eradicated, there seems to be a resurgence of interest in putting science, albeit kindly, in its place. I believe this book helps the achievement of that in schools, in viewing science in an open way that empowers not undermines. Collectively, the contributors poignantly tackle commonly held caricatures. For example, Chapter 13 challenges science

being seen as a black and white subject like maths, the science classroom merely reporting 'objective and factual claims' (136), of scientists in lab coats 'doing science', the definition of science being free of difficulty or debate (chapter 15), or of scientific advance being a clear upward progression (83).

Instead the contributors paint a healthier and more holistic picture of science as a tapestry (147), or a 'windy road with many detours and dead ends' (83), as a story (62) or even at times a mythology. Chapter 6 challenges the simplistic but popular myth of Galileo that gripped minds like Einstein and Popper even though 'much of this story is poppycock of the highest order' (63). Throughout, the contributors portray science as a collective endeavour carried out within a community that builds on mutual trust and communal experience (147). This, I believe, holds great power in a world that is becoming worryingly polarised and increasingly oversimplified. Chapter 12 insists science must predominantly be context not content driven, as it relates to the sociological, philosophical, developmental and so forth, not merely caught in its own bubble. Furthermore, Chapter 2 powerfully shows how physics, chemistry and biology contribute hugely to our view of reality, although they are insufficient alone. Laynesmith effectively explains the various 'ways of knowing' and insightfully shows how each should be seen as integrated parts of a much larger whole, which he calls 'explanatory emergence' (14). The contributors do not oversimplify but instead promote an open, honest, insightful and realistic view of the intricacies and multifarious dynamics that exist.

A chief aim of the book appears to be to influence pedagogy, the methods of teaching. However, it does not particularly achieve this in my opinion. Effort has clearly been spent on not merely writing a book of ideas, but on providing tried,

tested and rewritten plans that are 'to the point, easy to apply and up to date' (6), and by and large these are helpful. However, by covering both primary and secondary schools in one volume the book creates fewer opportunities for deep pedagogical impact or for more specific educational change. That said, it is philosophically rich. Its power lies in its ability to capture the imagination and influence thinking about education, which is surely the preeminent of the two.

The book's contributors collectively critique the current educational system. Four problems effectively highlighted are an over-compartmentalised curriculum, an excessively content driven curriculum, the overbearing influence of terminal exams and the heavy focus on 'right answerism' (Chapter 5). These easily give schools an exam factory feel that is information heavy and thinking skill thin, stifling curiosity and playful exploration. This book shows how these factors can combine to create an unhelpful lens through which to view science and religion, and rightly details how difficult it is to engage in useful dialogue about science and religion in schools – where does it happen and how does it fit? It compellingly diagnoses the detrimental effects this has when dialogue does not happen meaningfully (3): negatively determined careers, damage to people's faith, the diminution of healthy friendships, or the demeaning of scientific endeavour.

For the book's contributors this is not merely a pedagogical issue. Hatcher states that the classroom is the platform for social influence and teachers need to be seen as 'instigators of change' (88). Billingsley, Abedin and Chappell clearly desire that this book will have a powerful impact, but the challenge is getting this book and their message into the hands and into the minds of those that are currently closed to the possibility.

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Lars Q. English

There is No Theory of Everything; A Physics Perspective on Emergence

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The title, of course, has another message behind its simple negation – for the author, and we, all know that the search for a Theory of Everything (ToE) has served as a guiding light for physics throughout the twentieth century. Its promising glow has drawn leading physicists from Einstein to Weinberg and Stephen Hawking, whose biographical movie takes its name from the concept. So when he suggests that the ToE is less of a beacon and more a will-o-the-wisp, US-based physicist Lars English is deliberately inviting controversy. His point is not, however, that physics is less powerful than these great proponents thought – quite the contrary – but that the structure of the world we observe is not one that will ever admit to a ToE at the level of high-energy (or small scale) physics alone.

The book's subtitle points to his reason: there is no such ToE because that would require nature to be strongly reductionist, for all phenomena to be ultimately explicable by reducing them to the behaviour of the smallest components alone. In contrast to this dominant 'Reductionist' framing of science which, as he points out, tends to be slipped into the education of scientists today without drawing attention to its contingent status, English writes this book to urge the alternative narrative of 'Emergentism' – that new causal and irreducible structures emerge in our world at all length scales. So, for example, although biology may depend on chemistry and physics, it is not reducible to them. More than this, he sets out to persuade his readers that this is the view of nature that current science itself urges.

Each chapter calls a new witness in defence of his thesis in this rhetorical yet reasoned book. In each case the science is explained with care and as much

rigour as possible without mathematical and other technical detail. Rich and helpful metaphors reflect the care with which English has clearly developed a skilled lay communication of science. We imagine playing with molecular toys that suddenly assume quantum weirdness, and take part in debating groups of increasing size that model renormalisation group ideas. Quantum entanglement is the first indication of 'top-down causation', then statistical mechanics is called to the bar, the arrow of time itself explained as an emergent phenomenon not found in any small-scale laws. The universality of critical point behaviour (and the renormalisation idea) exhibit large-scale, predictable and quantifiable structures that are manifestly independent of atomic interactions. Chaos theory of nonlinear systems goes further, introducing us to spaces in which 'every point is a critical point' (I liked that), preparing us for neuroscience, the mind, and even a chapter discussing the emergence of social behaviour in communities irreducible to the operation of individuals. In a final chapter the author draws consequences for the discussion of science and religion from the observation of an emergent universe.

There is much to commend this book. It is a good introduction to a scientific approach to emergence, for one thing. Its scientific explanations are inviting to a lay readership prepared to work at them, and in most cases delightfully laid out. The presentation of renormalisation and critical behaviour is very good indeed. It is a bold but necessary move to suggest that an emergent philosophy of physics (and science more generally) is important for science and religion. It is also good to see emergence discussed in systems of much smaller and simpler scale than the mind itself (the nexus of most of the philosophical literature on emergence), before having a go at the question of free will. It is also refreshing to see an introductory route into emergence from the perspec-

tive of science, rather than, as usual, from philosophy. The author rightly hints that he benefits from the environment of his liberal arts college – indeed this is just the sort of reflective, high-level, but well-informed and interdisciplinary scholarship that these wonderful institutions permit and support more readily than do our high-pressured and fragmented research-universities.

By the same token however, *There is No Theory of Everything* is light on the philosophical story. It does not do much to help the reader distinguish 'strong' from 'weak' emergence, a distinction that has become essential in the academic debate. It also does not mention, let alone draw attention to, the several routes by which the book's thesis has been opposed. Kim's objection of double causation, Butterfield's invocation of bridging laws, the challenge of contextual causation by Bishop and others, and the very mire of difficulty around the notion of causation in the first place, would all be good to see mentioned as caveats at least. These objections can be addressed, so English has nothing to fear.

Emergence does of course impact on questions of science and religion. English is right to point out that human free will, an essential aspect of most theologies, rests upon it in the light of science – human decisions and creative acts are just that. However, his theme dominates the thinking in this last section of the book, and he tends to identify 'religion' as emerging within one of the levels of reality that the book discusses, sailing much too dangerously close in my view to Stephen J. Gould's 'non-overlapping magisteria' (NOMA). Science, by English's own terms, speaks to all levels of reality as does any theology in which 'God's invisible qualities may be understood from what has been made'. A better direction is suggested through a brief discussion of Paul Tillich and an embraced experience of human immersion in all the emergence

of the created order.

At £36 and £46 for the e-book and hardback respectively the book is (typically for Springer) overpriced, which is a shame, because it deserves a wider readership than academic-book price-tags signify. It is more in dialogue with Steven Johnson's *Emergence: The Connected Lives of Ants, Brains, Cities and Software* than with Paul Humpreys' *Emergence: A Philosophical Account*.

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Andrew Ter Ern Loke
God and Ultimate Origins: A Novel Cosmological Argument

Palgrave Macmillan, 2017 220pp.
hb.£79.99 ISBN 978-3319575469

This book discusses the Kalam Cosmological Argument (KCA) as popularised by William Lane Craig. The author suggests modifications and rebuttals against counter-arguments to it. The relevance of the KCA for Christian thinking is as a potential apologetic argument for the existence of God as universal Creator. If the KCA is to be successful in this it must do some heavy lifting. It must postulate a creation event, limit the duration of Time, mix quantum theories with relativity and conclude with an initial First Cause (FC). This FC must then be successfully identified with the personal God of Christianity.

Each of the several chapters takes up defence against particular counter-arguments to the KCA. This is a good book if you have heard of the KCA but are unfamiliar with it as it reviews the main points of the KCA in comprehensive detail. The basic thrust of the KCA is that everything that begins to exist has a cause and as the Universe began to exist then it has a (First) cause.

The first chapter presents a clear explanation for using philosophy as a toolkit for understanding reality. Indeed Loke suggests that at times it can be a superior tool to science or theology and so forth. Subsequent chapters deal with intriguing topics including the possibility of infinities, discussions on Time, causal loops and the nature of causation. These should be fascinating topics, but unfortunately the way they have been written makes them very difficult to fully engage with. Although the ideas themselves are not difficult to grasp Loke's writing is often difficult to penetrate. The chapters could easily be shorter and clearer as the same ideas are explained a number of times, often within pages of each other.

Too often Loke's arguments rest simply on disproving an opponent's arguments rather than clearly presenting his own in a positive manner. The author leaves little room for any validity in his opponent's views. A brief look in the surrounding literature calls into question the certainty with which he attempts to dismantle his opponent's arguments. What also frustrates is that the goal posts of his arguments seem to move. At one point the effect of causation from outside our space-time continuum is dismissed while later it is invoked. There are shifts between science, philosophy and mathematics as and when the author needs to use them to suit his conclusions. There seems to be none of the argumentative structure introduced in the first chapter.

Loke's penultimate chapter attempts to make the jump from FC to that of a personal, theistic, God. This is the chapter that earns the book the 'God' in its title. As with earlier chapters I am not convinced by his argument here nor that his opponents are so incorrect in theirs. At best there are too many unknowns to decide between the two. The jump he makes from FC to God not only leaves me unconvinced but also very uncomfortable from another point of view. Throughout

the book the author has been careful not to conflate the FC with the Christian God while engaging with his opponents. However, when the focus of the target audience he is writing for changes to one seeking a theistic argument he is happy to speak much more strongly of God as a personal creator. For myself this parallels too much the engagement tactics of movements such as proponents of biological Intelligent Design (ID).

I was initially intrigued to review this book as the KCA is popular in some Christian circles, yet has never seemed to come up in my own reading around science and Christianity. Consequently I was surprised when the author states that the KCA is 'one of the most discussed' areas of theistic argument in academia (ix). Had this been the case I would have been very willing to be corrected. It becomes clear though from the sources Loke quotes and uses that at a popular level the KCA appears to be another front in culture wars where aspects of science/religion are used as ammunition. He extensively quotes the popular writings of atheist scientists as typical of opponents of the KCA, setting up a false choice between apparent theistic and atheistic viewpoints. Simultaneously at an academic level the same very limited set of names crops up again and again suggesting that the impact of the KCA is relatively small at a professional level. Loke uses extensive quotations of Craig's work throughout the book (the reader will soon tire of the phrase 'Craig writes/says...') in support of the KCA while there seems to be no other independent proponent whose work might also be drawn upon in support.

This seems to echo the culture of movements like biological ID or Young Earth Creationism. In these movements greater impact than is warranted is given to ideas that sound both sufficiently Christian and scientific while being derived from the work a small set of individuals which

has little traction or impact in wider academia. Further echoes are also found in this book where (apparent) incomprehensibility and complexity are used as cultural nudges to move readers into accepting the KCA (136). The use of 'God' to fill an explanatory gap in our current knowledge is also reminiscent of these movements. To his credit Loke tries to argue that an FC is a gap in principle that can never be filled.

Overall, I struggled to read this book. Not only was I unconvinced by the arguments as presented, but the writing style was frustratingly difficult to read. Analogies and metaphors that don't quite work abound and the certainty in conclusions grates. Ultimately I cannot say whether the author is right or wrong about the KCA or his modified form of it, only that as presented it has failed to convince me and has left me suspicious of the whole use of the KCA as an apologetic.

Gavin Merrifield is a physicist by background. He is currently a Committee Member and Trustee of the Science and Religion Forum and has been active in Christians in Science for a number of years.

Greg Cootsona

Mere Science and Christian Faith – Bridging The Divide With Emerging Adults

USA: IVP, 2018. 192 pp. pb. £14.99. ISBN 978-0-8308-3814-1

'Our final goal is this: to weave together mainstream science and the good news of mere Christianity into a narrative that's truly beautiful and beautifully true.' This eloquent quotation sums up the aims of this engaging and thoughtful book which explores the importance of showing young people that science and faith are compatible and provides practical suggestions of the ways in which this

can be achieved.

The book focuses on 'emerging adults', defined as those who no longer feel like adolescents but do not yet feel fully adult, typically eighteen-to-thirty-year olds. This period of life has broadened in recent years as young people leave home, become financially independent and start families later in life leading to a prolonged period of instability and self-discovery. The author is Dr Greg Cootsona, a theologian who directs the Science and Theology for Emerging Adult Ministries (STEAM) programme at Fuller Theological Seminary and who has also previously worked as a pastor with this age group. The book is filled with references to academic studies, the writings of theologians and extracts from the Bible. However, the most novel aspects of the book are Greg's reflections on his pastoral experiences with emerging adults, providing numerous rich examples of the ways in which the science and religion discourse has influenced young Christians in their faith. Greg draws on research conducted with emerging adults on their attitudes to faith and science to provide qualitative evidence of the views of young people. This research includes one of his own projects, in which he and his team met with groups of emerging adults to study and discuss key resources over a four-to-six-week period, with before and after surveys exploring their attitudes to the relationship between religion and science.

The author's concerns will be familiar to many: that some young people assume mainstream science is incompatible with Christianity and therefore reject the church as being anti-science; that some churches can give the impression that science is anti-God; that many young people feel that they need to choose between science and faith. However, there are many practical suggestions throughout the book on how churches and faith communities can engage with science and

faith issues in ways that will be helpful for emerging adults. For example: by engaging with mainstream science, though thoughtful use of the internet and social media and by using/producing high quality resources. Although written in the American context, we found this resonated well with our own experiences of working with emerging adults in the UK.

The book comprises eight chapters interspersed with seven 'case studies' which provide short introductions to science/faith topics that are of particular interest to emerging adults, including climate change, sexuality and cognitive science. As some of the book's chapters are also primarily short introductions to science/faith topics, this structure can at times feel illogical. However, this encourages the reader to read the whole book, rather than just dipping in and out of the topics that are of particular interest to them. Areas of disagreement within the church are dealt with graciously and compassionately, allowing room for differences of opinion between Christians.

There is only space for each topic to be discussed very briefly, but this is arguably a strength of the book – providing a broad overview of many different topics of interest, with full reference lists for those who would like to read further. There is a particularly helpful section on online resources, highlighting resources from organisations that will be familiar to many Science and Christian Belief readers, including: Scientists in Congregations, BioLogos, the Faraday Institute, Christians in Science and The American Scientific Affiliation.

We would happily recommend this book to church leaders and to those who work with young adults. It is also an excellent resource for anyone who would like a brief introduction to contemporary topics in the science-faith dialogue and could be an interesting book for young adults struggling with some of these issues. The author aims to inspire those

in church leadership to direct emerging adults towards studying science as an act of worship, and we hope that church leaders who follow the practical suggestions in this book will indeed inspire a new generation of Christians who accept mainstream science and scientists who feel that science is not a barrier to becoming a Christian.

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