

WILLIAM HORST

Reply to Tom Ambrose

I am grateful to Revd Dr Tom Ambrose for taking the time to respond to my article. The concerns he raises are worthy of further discussion, and doubtless reflect aspects of how my argument would likewise occur to other readers. That being said, I find his response to be problematic in several important ways that deserve discussion.

In the first place, there are certain points on which I do not recognise my position in Ambrose's critique. For example, I am perplexed that his response would give many readers the impression that I consider physical human death to originate from a 'fall' in the Garden of Eden, since I make the case explicitly that Paul's writings about Adam can reasonably be interpreted in such a way that physical death is a natural part of humanity's created state, and not the result of a 'fall'. Indeed, the view that death is an inherent feature of humans' created state, and thus, 'death is as old as life', was quite common in the Judaism of Paul's day, so it would not be at all surprising for Paul to believe this, as I note in the original article.

Ambrose's critique does not raise any particular challenge to my exegesis of the Pauline letters. Rather, he suggests that my article falls short because I do not discuss 'whether Paul's ideas about death through Adam's sin have any validity today'. In that my argument is an exegetical one, my aim is to examine precisely what Paul's ideas about death through Adam's sin are, as best this can be determined from his writings.

The core argument of my article is that Paul does clearly attribute to Adam the introduction of slavery to sin, which he expresses metaphorically using the language of 'death' (see esp. Rom. 5:12–21; 6:13; 7:5, 7–11; 8:6), but that it is not so clear that Paul also attributes to Adam the inception of human mortality. In other words, a plausible exegetical case can be made that in Paul's view, Adam introduced moral death but not mortal death. Ambrose appears to treat the inception through Adam of mortal and moral death as though these ideas must rise and fall together, without explaining why this must be so. Ambrose is right that a preponderance of evolutionary scientific evidence has raised a formidable challenge to the notion that human life began to conclude in bodily death as a result of the actions of one individual or couple (i.e., Adam and Eve), and indeed, this is one of the premises of my article. However, it is not clear to me that an analogous preponderance of evidence exists to prevent me from considering the possibility that some historical 'Adam' might be responsible for the introduction of some sort of divinely-imposed moral corruption. I do not claim that this is the definitive, correct understanding of human origins, but I do present it as a plausible exegetical account of these important Pauline

texts in the hope that it might open up new possibilities for theologically- and scientifically-informed reflection.

Ambrose suggests that my approach to Scripture is unduly 'literal', whereas a more traditional Christian approach should consider reason, experience, and tradition (invoking the so-called Wesleyan Quadrilateral). I am happy to agree that reason, experience, and tradition should bear on faithful interpretation of Scripture, but it appears that the distance between our approaches to Scripture is less a matter of literal versus non-literal interpretation and more a matter of how willing we are to de-authorise elements of the biblical texts. It does not seem that Ambrose is attempting to correct my misguided understanding of Paul's writings. Rather, his problem is with Paul's writings themselves, or at least with Paul's handling of the early chapters of Genesis within his writings. Paul's interpretation of Genesis is 'without foundation'. His words about Adam have prevented innumerable Christians from appreciating creation. Virtually everything Christians have written about atonement is incorrect because of Paul's wrong assumptions. Ambrose is free to hold these opinions if he sees fit, but one can hardly call this sort of approach to biblical interpretation 'traditional'. Rather, the biblical authors and their views have traditionally been held in high esteem, to the point that God is often said to be the author of Scripture, albeit through human writing.¹ Many scientifically-informed readers of Paul's letters will not be as ready as Ambrose to dismiss Paul's view of Adam as thoroughly invalid. Indeed, I explicitly framed my article as an attempt to address the tension caused when the authority of the New Testament writings is maintained alongside a high regard for evolutionary science. At the least, the question of whether Paul's claims about human origins even conflict with present scientific consensus is certainly worthy of careful exploration before one dismisses this important element of the Pauline biblical corpus.

Ambrose appears to operate under the assumption that the narrative of Eden and other primordial biblical accounts (e.g., the Deluge) must either be taken as completely literal or be dismissed as invalid for modern readers, but this is not necessarily the case. Along these lines, I find John H. Walton's work to be instructive. Walton argues that, considered alongside other Ancient Near Eastern texts, the account of Adam and Eve in Genesis can potentially be understood to refer to real people in history without having to provide any account of material human origins. In other words, with ancient literary conventions in mind, one can accept Genesis 2–3 as an authoritative account of past events without insisting that Adam and Eve were the two original humans from whom all others are descended, and without requiring that every detail of the narrative of Genesis must reflect exactly what one would see upon travelling back in time to observe everything first-hand.² Walton's treatment of Adam and Eve focuses on Genesis, but my analysis of Adamic material in Paul's letters turns out to complement his discussion fairly well.

One additional topic deserves commentary here. Ambrose sets up a dichotomy between Paul and Jesus with respect to their view of sin. On the one hand, Paul sees the death of Jesus as an atoning sacrifice that addresses the otherwise insurmountable problem of human sin, which in turn stems from the fall of Adam and Eve. On the other hand, the canonical Gospels portray Jesus as eager and ready to forgive sin, to respond to error with loving correction, and to relieve people of their afflicted consciences. It is certainly true that Paul is the New Testament author who has the most to say about the salvific significance of Jesus's death, and likewise that the notion of Adam's responsibility for human sin cannot be found in any clear way in the Gospels. However, the dichotomy Ambrose proposes is not nearly as tidy as his description suggests. On the side of Paul's writings, it is certainly not the case that Paul's God is somehow reluctant to forgive sins, still less that Paul's God is not a God of love, as Ambrose implies. To the contrary, 'God demonstrates his own love for us in this: While we were still sinners, Christ died for us' (Rom. 5:8). It is telling that the very passage in which Paul sets up the saving death of Jesus as a mirror image to the destructive transgression of Adam (Rom. 5:12-19) is directly adjacent to his description of God's gracious initiative in reaching out to humanity to affect reconciliation through Christ (Rom. 5:6-11). For Paul, the notion that Jesus's obedient death counteracts negative results from Adam's transgression in no way contradicts the conviction that God is proactive and eager to forgive sinful humans through Christ. Indeed, these ideas go hand in hand.

On the side of the Gospels, Ambrose's portrait is likewise selective. Although Jesus can certainly be found extending forgiveness freely and audaciously, various indications can still be found, in the words of Jesus himself and elsewhere, that the crucifixion is a sacrifice for sin. For instance, in Matthew's account of the Last Supper, Jesus says of the cup, 'Drink from it, all of you. This is my blood of the covenant, which is poured out for many for the forgiveness of sins' (Mt. 26:27-28). This passage certainly gives the impression that Jesus understood that his own impending death would cause the forgiveness of sins in some significant way. Although the forgiveness of sins is not mentioned explicitly in the parallel passages in the Gospels of Mark (14:24) and Luke (22:20), the claim that Jesus's blood is 'poured out' for covenantal purposes evokes the sorts of cultic sacrifices established in the Torah (see esp. Lev. 4).³ The Gospel of John likewise indicates clearly that Jesus's crucifixion should be understood as analogous to the animal sacrifices of the temple system, though not in a statement by Jesus himself. The sacrificial analogy is apparent in John the Baptist's comment upon encountering Jesus publicly: 'Look, the Lamb of God, who takes away the sin of the world!' (Jn. 1:29). Clearly, then, the Gospels and Paul are not as far apart in their portrayal of the significance of Jesus's death vis-à-vis sin as Ambrose suggests.

Although Dr Ambrose and I disagree on certain points, I appreciate his thoughtful critique, and I hope that our interlocution serves to clarify some of the implications of my exegetical analysis of Romans and 1 Corinthians.

¹ On widespread convictions about biblical authority and the divine/human authorship of Scripture in Christian biblical interpretation, see, e.g., Childs, B.S. *The Struggle to Understand Isaiah as Christian Scripture*, Grand Rapids: Eerdmans (2004) pp. 300-302, 309-313.

² See Walton, J.H. *The Lost World of Adam and Eve: Genesis 2–3 and the Human Origins Debate*, Downers Grove: InterVarsity (2015); cf. Wright, N.T. ‘Do We Need a Historical Adam?’, In *Surprised by Scripture: Engaging Contemporary Issues*, New York: HarperOne (2014), pp. 26-40. For a similar sort of argument in reference to the Deluge, see Longman, T. III & Walton, J.H., *The Lost World of the Flood: Mythology, Theology, and the Deluge Debate*, Downers Grove: InterVarsity (2018).

³ On Mark’s understanding of Jesus’s death as an atoning sacrifice, see Collins, A.Y. ‘Mark’s Interpretation of the Death of Jesus’, *Journal of Biblical Literature* (2009) 128, 545-554; Marcus, J. ‘Mark – Interpreter of Paul’, *New Testament Studies* (2000) 46, 479-481. Both authors likewise argue that Jesus’s claim that he came to give his life as a ‘ransom’ for many also evokes the metaphor of temple sacrifice (Mt. 20:28; Mk. 10:45).

Reviews

Calum MacKellar

Christianity and the New Eugenics

London: IVP, 2020, 212pp

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MacKellar's previous book, *The Image of God, Personhood and the Embryo*, provides a window into how he will approach the 'new eugenics'. Both in that book and in the present one, he makes it clear that, in his view, every human being from the moment of conception is a creation of God and an expression of profound and real love. Consequently, there is never a moment in the entire existence of any child, when he or she is not unconditionally loved by God (49). 'Child' is used as a blanket term to cover the embryo and foetus from the very first moments of the embryo's existence.

The message MacKellar wishes to get across is summed up in the conclusion. He is categorical that Christians are called to welcome unconditionally, without choosing, every kind of child into existence, irrespective of their biological characteristics, even if they have very short and challenging lives of suffering (180). He contends that any 'well meaning' selection for therapeutic reasons will drift into selection for enhanced traits. Since all possible future persons are to have exactly the same value and worth, no choice can ever be made between them (189).

The book commences with a brief overview of classic eugenics in the first half of the twentieth century, culminating in the horrors of the Nazi regime. For MacKellar, there are disturbing similarities between modern biomedical procedures at the start of life and classic eugenics, leading him to designate all these procedures as eugenic (new eugenics). This is because

'eugenic policies are about the selection of human persons based on genetics'(7). Consequently, any selection of embryos or any genetic modification of embryos amounts to eugenics, since one 'person' is being selected over another. This is a very narrow definition of eugenics and should be interpreted cautiously.

The heart of the book is the chapter: 'A Christian enquiry into the new eugenics', the theological core of which revolves round a discussion of the repercussions of being made in the image of God. Linked with this is the assertion that children are to be the outcome of the unconditional love of their parents. This leads to his conclusion that eugenic ideology is inherently flawed on the ground that it fails to recognise that children have to be unconditionally accepted regardless of any biological traits. Under no circumstances, he argues, is a child's (embryo's) genetic constitution to be altered, but neither are sperm or eggs to be modified since they 'represent embodied souls and ensouled bodies of the man and woman from whom they originate' (55). For MacKellar any use of selection procedures will encourage the instrumentalisation of the future child, since the parents will be seeking to fulfil their own preferences and will be using the child as a product to achieve their aspirations (58,59).

Here, as in other places, there is little, if any, distinction made between therapy and enhancement. The premise is that parents are choosing to have 'better' children and are acting as consumers. This may be the case in extreme enhancement scenarios, and yet is unlikely to be the case when parents are confronted with the prospect of giving birth to another severely ill child. MacKellar does not accept this, because if parents have a right to seek the best for their future child,

they will progress to the eugenic step of choosing for desirable characteristics (117). This is an assertion rather than a statement of fact.

Little attention is paid to the plight of parents faced with horrendously complex decisions, where ethically problematic compromises may have to be made. This is where the messy world of bioethical decision-making comes to the fore. MacKellar rejects any such compromises, since in his view *agape-love* can never be conditional. His Christian worldview is based on the premise that all human beings, from conception, are 'absolutely' equal in value and worth because they reflect the same image of God (119). Not only this, the actual length of life on earth is of little significance to God because immeasurable joy exists in looking forward to spending all eternity with this child (119).

MacKellar discusses a range of bioethical queries, including what it means to decide to have, or not to have, a child; possible existential dilemmas for children who have been selected; and the importance of maintaining a child's identity, even when disabled. His arguments are not explicitly Christian, being regularly found in the bioethical literature. However, MacKellar uses them to bolster his case that Christians are to value equally every human individual, from the first seconds of embryonic existence, and are to reject the merest hint of selection (86). For parents who are both carriers of a serious genetic disorder (X), even choosing not to have a child may be eugenic, since this may convey the message that persons with X should not have existed (90).

A major part of his argument against 'eugenic' procedures in reproduction relates to how individuals with disabilities may conclude that they are worth less and are valued less than the able bodied. Here, he is heavily dependent upon the perspectives of those in the

disability rights movement. These are well represented in the literature and are not specifically Christian. They make an important contribution to bioethical debate and are to be taken seriously, but it is unfortunate that MacKellar stresses the positive reactions of parents to their disabled children, with little attention to those parents who struggle.

This is far more of an academic tome than an introduction to bioethical issues for parents or intending parents faced with some of the overwhelming decisions they may have to face in the reproductive and genetic area. It is very impressively referenced, although it is noteworthy that there is heavy reliance upon Roman Catholic authors and arguments, plus others known for their conservative bioethical positions. When disagreeing with writers holding a contrary position to his, he tends to quote those with extreme utilitarian positions. He ignores evangelical writers, such as Denis Alexander and Francis Collins, with whom he disagrees. In other words, this is more of a polemic than a dialogue between those with diverse Christian and bioethical perspectives.

His coverage of specific reproductive procedures (he terms them eugenic procedures) is extensive, although each is dealt with fairly succinctly. They include sex selection, prenatal genetic selection, preimplantation genetic diagnosis (PGD), saviour siblings, human cloning, infanticide, and germline modification. In each instance, he ends with a negative assessment. For instance, genetic modification of the very early embryo is rejected because this is equivalent to ending the life of the original embryo, a form of selection and eugenics (173).

MacKellar's stance leaves no room for Christians with non-absolutist views on the value of the embryo. It is valuable, however, for the questions that are raised, whether intentionally or other-

wise. First, what place is there for science and scientists in the biomedical area, since science is portrayed as, at best, a dubious influence. More specifically, do Christians who are scientists have any contribution to make to these debates, let alone to medical practice and research? Does a scientific contribution to an understanding of early human development have any place in Christian thinking? This is part of a much wider question, namely, that of the relationship between science and faith.

Second, a very strong case is made for the value of embryos, with little emphasis apparently placed on the value of the parents and their needs and aspirations. They, too, are people made in the image of God and they, too, are to be valued equally with all other humans, including embryos. I would have liked to see a greater balance here, and an appreciation of the broken world in which we all function.

Third, I repeatedly found myself asking the question of how Christians, especially health care professionals, espousing a position akin to MacKellar's, are to relate to those with different worldviews. How are Christians to interact with those with quite different fundamental premises, many of which are seriously at odds with Christian presuppositions? How are they to love their neighbour within a professional relationship?

Fourth, when discussing the need to retain the identity of disabled individuals, little attention is paid to those with severe behavioural disorders, schizophrenia, or type 1 diabetes. Are there to be no efforts to control these conditions and even heal them if, and when, therapy becomes available? Is an individual with cystic fibrosis to remain seriously impaired rather than cured, or practically cured, by recent developments in personalised genetic medicine? This will affect their identity, but Christian imperatives

would, I suggest, welcome them.

Fifth, eugenics is a term being applied to any form of selection, suggesting that all selections are comparable, from the despicable procedures of the Nazis to precise genetic modifications of embryos. Does this all-encompassing use of the term demean it? Perhaps the innumerable selections we all make each day have eugenic overtones; but I don't think so, even those with major ramifications.

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Ann Blair and Kaspar von Greyerz (eds.)

Physico-theology: Religion and Science in Europe, 1650-1750

Johns Hopkins University Press, 2020. 286 pp. hb. £40.50

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The deeply intertwined and largely positive relationship between Christianity and science in the period of the early Enlightenment is well known – or at least well-known among scholars of the period. (The wider public conviction, somehow impervious to evidence, that the arrival of 'Science' in the seventeenth century ousted 'Religion' is another matter). The determination of the Fellows of the newly formed Royal Society 'not to intermeddle in Spiritual things' had nothing whatsoever to do with incipient scepticism on their part, and everything to their desire to avoid getting drawn into the doctrinal disputes that had helped drag England (and indeed most of Europe) into years of bloodshed. 'Religion and Science in Europe, 1650-1750' – the period covered by this volume of essays – was a rich, abundant, discursive and broadly harmonious territory.

It is a territory, however, that is known primarily through the disciplinary lens

of 'natural theology' and the geographical lens of England, the country whose theologians and 'scientists' (the term is anachronistic but convenient) most eagerly identified God's fingerprints in creation. The strengths of this volume, the result of an international conference held at the Herzog August Bibliothek in Wolfenbüttel, Germany, in June 2017, lie in its replacing both of these lenses. First, in place of the proverbial 'natural theology', it discusses the somewhat less familiar 'physico-theology', and second, it replaces the customary English focus with a much wider-angle European one.

What was 'physico-theology' and how did it differ from natural theology? The answer is that the former was, in effect, a subset of the latter. If natural theology is the attempt to identify and discern the divine through the exercise of natural reason, independent of any claimed revelation, physico-theology is that process narrowed down to the observation of the natural world. In effect, the two terms can be and usually are used interchangeably, but the book's focus on physico-theology is merited because this was the period in which detailed examination of the natural world for theological purposes most flourished (though, as the editors recognise in their Introduction, it continued to thrive in Britain well into the 1830s).

Physico-theologians gave glory to God, volubly and frequently, on the basis of what they found in nature. And they found everything there. Some seminal texts, such as William Derham's book, spoke simply of *Physico-Theology* but there were books, pamphlets and sermons about Astro-theology (space), Helio-theology (the sun), Planeto-theology (planets), Cometo-theology (comets), Pyro-theology (fire), Hydro-theology (water), Chiono-theology (snow), Seismo-theology (earthquakes), Bronto-theology (thunder), Phyto-theology (plants), Chorto-theology (grass), Petino-theology

(birds), Ichthyo-theology (fish), Insecto-theology (insects), Akrido-theology (on grasshoppers), Bombyco-theology (silkworms), Lokusta-theology (locusts), Melitto-theology (bees), and Testaceo-theology (mussels and snails). If nothing else, this volume deserved credit for resurrecting this glorious profusion of theological undergrowth.

The book performs a second service, however, in widening the geographical scope to encompass continental Europe. The best known physico-theologians of the time tended to be English – Derham and John Ray in the early years, William Paley at the end – but the enterprise also flourished abroad, albeit often under an English shadow. Thus Nicolas Brucker looks at how the French priest, Noël-Antoine Pluche's popular, widely translated, multi-volume, if rather derivative, work of natural history *Le Spectacle de la nature* animated the tradition in France, whilst Martine Pécharman looks at how one of the greatest mathematicians of the century, Blaise Pascal, poured cold water on the entire enterprise: 'All who seek God without Jesus Christ, and who stop in nature, either find no light to satisfy them, or come to form for themselves a means of knowing God and serving Him without a mediator.' (147-148)

Eric Jorink's chapter details how the discipline fared well in the Dutch Republic, where there was a pressing need to counter the ideas of Baruch Spinoza. Brendan Dooley looks at the case of Antonio Vallisneri, the prolific Italian physician at the University of Padua, while Simona Boscani Leoni explores the success of physico-theology in the Swiss Confederation. Several essays mention the pioneering Danish geologist and Protestant-turned-Catholic-turned-bishop Nicolas Steno. Barbara Hunfield extends the picture to Germany while Kathleen Crowther stretches the volume's boundaries somewhat by exploring the very

early origins of the discipline in the work of the German Lutheran Physician, Jakob Horst, who died in 1600.

It will be clear that the book's geographical range is as impressive as its disciplinary. That may run the risk of severely circumscribing the book's potential readership; after all, there aren't very many people who are interested in the fate of melitto-theology in the Netherlands. Nevertheless, the volume is saved from being too abstruse by the generally clear writing throughout, a concise introduction, and two masterly overview essays by John Hedley Brooke and Peter Harrison who ask, respectively, whether physico-theology was bad theology and bad science, and what we can learn from the prevalence of certain terms, in particular, physico-theology itself, in the period under discussion.

Physico-theology: Religion and Science in Europe, 1650-1750, therefore, is a helpful and horizon-widening collection, which successfully adds something to an already rich, abundant, well-studied period in the history of science and religion.

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Kiara A. Jorgenson and Alan G. Padgett (eds.)

EcoTheology: A Christian Conversation
Grand Rapids, Michigan: Eerdmans, 2020.
228pp. Pb. £18.06.
ISBN: 978-0-9028-7441-2

If not quite a conversation as such, this book sets out to do what its title says: it is a dialogue between four Christian theologians, all of whom have written extensively in the realm of ecotheology and are well recognised in their field. Each section of the book contains one full chapter by one of the contributors and then shorter responses from the others.

The four contributors come from different ecclesiological streams and bring their own backgrounds and expertise in science, ethics and biblical scholarship. All of them stand on the clear foundations that the world God created is a very good world of beautiful diversity, but that it is a world in deep trouble, caused by our actions as human beings. All of the contributors hold strongly to the view that taking care of this world is an integral part of the Christian faith, rooted firmly in the scriptural narrative.

But each contributor also brings their own perspectives to bear on the discussion. Richard Bauckham brings his characteristically brilliant biblical scholarship into his main chapter, as he provides a careful reading of Genesis 1:26-28 which leads into an exploration of the concepts of dominion and stewardship, of what it means to be made 'in the image of God', and wider consideration of our place within 'the community of creation'. Cynthia Moe-Lobeda's chapter is a wide-ranging discussion of the centrality of love in our ecological understanding and ethics. She brings in wider issues of privilege that can go unnoticed and hence unvoiced in ecotheology, and centres her chapter upon the question, 'how will love given by God and incarnate in life on Earth enable humans in the high-consuming world to choose life abundant in the face of climate disaster?' (97).

Steven Bouma-Prediger, like Bauckham, also considers and rejects the notion of stewardship, and his chapter is a biblically-rooted case for seeing humans as 'earthkeepers'. He develops that term through the lens of the Christian virtues, asking, 'if earthkeeping is integral to Christian faith, then what are the character traits of holy creatures living among other holy creatures in a world that is holy?' (121). He looks particularly at the virtues of wonder and humility. John Haught's chapter is focused on the im-

portance of an eschatological vision for our ecological morality. He explores the notion of creation as 'the embodiment of a divine promise' and sees that opening up a future in which all creation will be renewed (167). He discusses two ways of reading nature: the archeological and the analogical reading, and then puts forward his own way of reading nature, in the anticipatory vision.

It is hard to do justice to four such different chapters. The responses also bring out nuances and disagreements and some potential routes for building on the explorations in each chapter. It is a rich book that warrants careful reading.

There is much in it that has a bearing on the relationship between science and the Christian faith. Bauckham finds good links between Boumer-Prediger's virtues of wonder and humility, and the place that science and technology plays in our relationship with the wider creation. Wonder is so often a part of the scientist's response to their areas of research (I think, for example, of an interview I did with Sir Martin Rees and the wonder he showed as he talked with me about the universe), but in relation to nature it has not always been undertaken with humility. Haught's chapter would be of particular interest to scientists as he seeks to build his ecological imperative less on what we find in the Scriptures and more on the scientific awareness that the universe is evolving and still coming into being (it is noticeable that his chapter does not contain a single biblical reference except in his opening quotation from Pope Francis – this contrasts highly with the other three contributors).

The highlight of the book for me is in the discussion that Bauckham generates around 'image of God' and his assertion that it should not be understood in the way that Middleton and others (myself included) have understood it: as referring to a functional calling to be God's

representatives in the world. Whether or not I agree with his case, I enjoyed reading a different interpretation and the challenge that that brought.

The low point, for me, is Haught's chapter, which I found quite frustrating. In putting forward the two ways of reading nature he seemed to be setting up straw men in order to build his own case. I was quite astonished by his assertion that ecological theology has, heretofore, neglected to reflect on eschatological hope and its implications for the wider creation. It made me wonder what he has been reading!

But, what is the point of a book if it does not challenge and provoke? *EcoTheology* certainly does that.

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Eoghan Ahern

Bede and the Cosmos: Theology and Nature in the Eighth Century

London: Routledge, 2020. 292 pp. hb. £120. ISBN 1-138-36543-8

The Venerable Bede (d. 735) is best known for his *Ecclesiastical History of the English People*. He was also a prolific author of biblical commentaries and, as a young man, wrote a cosmological primer called *On the Nature of Things*. He also covered the shape of the world in his celebrated work on the calendar. However, Eoghan Ahern's study successfully argues that Bede's natural philosophy wasn't confined to his explicitly cosmological works. Rather, it pervaded all his writing and provides the stage upon which providential history plays out.

Bede's cosmology presented something of the problem for the old-school proponents, like William Whewell and Andrew Dickson White, of the great con-

flict between science and religion. For a start, the monk was at pains to explain that the earth is a sphere and structured his universe according to classical antecedents like Pliny the Elder's *Natural History*. In the 1970s and 1980s, historians continued to treat Bede's views on the natural world as something of an aberration within the context of eighth-century England. Sometimes he was even portrayed as a proto-scientist. Eoghan Ahern gives these views short shrift. Instead, building on work by Faith Wallis among others, he locates Bede's natural philosophy firmly in the context of insular monasticism and Christianity.

As Ahern shows, Bede's vision of the world is a unity. It has a 'neatness', as should be expected from God's creation. This neatness extends to Bede's use of his sources. He sees no contradiction between Scripture and nature, nor between writers such as Pliny the Elder and Isidore of Seville. He treats the Bible as a unity as well, cross referring between different parts to show the light that they shed on each other. And there was nothing in Bede's own observations of the world around him that conflicted with his theoretical framework. In other words, Bede's cosmology wasn't a subject separate from his biblical commentaries or historical work. Rather, it helped tie them all together into a single narrative ordained by God.

The physical topography of the world was of less concern to Bede than its history. As a result, his views on creation and the end of the world occupy more of this book than the shape of the cosmos. He drew on his classical and Christian sources to flesh out the six days of creation and the apocalypse portrayed in the Book of Revelation. Of course, natural philosophy also encompassed questions of the soul where Bede cleaved close to orthodox Christian views. Ahern's coverage of this topic is comprehensive but he

is stymied somewhat by Bede's own lack of originality in this area.

Where Ahern is very good is on Bede's use of his sources. In particular, he shows how Bede used the insular work *On the Order of Created Things* (*De ordine creaturarum*), as well as Isidore and Pliny. We learn that Bede's library was not as well stocked as we might imagine. In particular, he lacked the late antique textbooks by Macrobius and Martianus Capella, which are often presented as mainstays of early medieval education. Rather, Bede's books were overwhelmingly Christian, which is what we should expect from a monastic collection. This lends them an authority that Bede largely respected, although he did tweak the ideas he found in the Church Fathers where necessary to preserve the consistency of his Christian world picture.

Overall, *Bede and the Cosmos* is workmanlike rather than inspiring. It retains the shape of the doctoral thesis it is based on – seven long chapters with an introduction and conclusion. Ahern is keen to demonstrate he has read all the relevant scholarship, although he did not have to repeat it in such detail for the reader to take his word about this. He is more descriptive than analytical, and the conclusion to each chapter summarises the material rather than elucidates it. I certainly learnt interesting things about Bede, his sources and his natural philosophy from Ahern's study, but probably not enough to justify the investment of reading almost 300 pages. Finally, a regretful word must be said about the absurd sum of £120 that Routledge has seen fit to affix on this book. It seems not even the publishers can afford the price: they sent an electronic copy for review, readable only with a proprietary app. Not even the most completist scholar of Bede's work would have reason to fork out for a copy of this book for his or her personal library, but might have reason to consult

it in one of the few libraries with the budget to acquire it or to get the Kindle version.

James Hannam is the author of *God's Philosophers: How the Medieval World Laid the Foundations of Modern Science*

James L. Hayward

Dinosaurs, volcanoes and Holy Writ: a boy turned-scientist journeys from fundamentalism to faith

Eugene, OR: Resource Publications, 2020. 236 pp. pb. £20.00. ISBN 978-1-7252-5769-6

James Hayward is Emeritus Professor of Biology at Andrews University – a Seventh-day Adventist University located in Michigan, USA. The provenance of this book is significant for at the turn of the previous century it was the Adventist church that planted the seeds of what we now call Young Earth Creationism. The founder of the Seventh-day Adventist church, Ellen G. White (1827-1915) taught that creation took place as a literal six-24-hour-day supernatural event. This view was subsequently promoted by Adventist George McReady Price (1870-1963) in his books *Outlines of Modern Christianity and Modern Science* (1902) and *Illogical Geology: The Weakest Point in the Evolution Theory* (1906). Price, with minimal geological training and a dislike of fieldwork, argued that Earth history as summarised in the geological column was an artificial construct on the part of geologists and that the fossil record was better explained in terms of flood geology. Ideas which were subsequently taken up and popularised in the 1960s.

It was with this intellectual framework that James Hayward grew up as an Adventist pastor's son. This autobiographical account tells of his coming of age as an evolutionary biologist and professor in an American Christian College and is

in essence a discussion of the claims of Young Earth Creationism and why they are fatally flawed. His 'conversion' was gradual with glimmers of 'light' first appearing during his undergraduate years when he discovered, sadly, that 'Christians, including people of my own faith community were not necessarily persons of integrity, and that belief often trumped evidence' (40).

There are perhaps three significant milestones in this journey. The first was Hayward's study, as an undergraduate, of the fraudulent Paluxy River footprints. The Paluxy River is located in the Dinosaur Valley State Park in Texas, where well preserved dinosaur tracks are present on limestone surfaces. It was claimed that another set of poorly preserved impressions, contemporaneous with the dinosaur tracks, were human footprints – a finding which was much publicised by Young Earth Creationists. However, a detailed investigation concluded 'there is no evidence for bipedal man-like tracks in this layer' (39) making it clear that the proponents of the contemporaneity were 'sensationalists with little or no evidence on which to base their claims' (39). This theme of the importance of careful observational science is developed later in the book where the fundamentals of modern geology and ecology are explained and some of the misunderstandings of the Young Earth Creationists refuted.

A second significant event took place during his first year as a University teacher. This was a critique of the writings of Ellen White published in 1976 by the historian Ronald Numbers. This exposé showed that Ellen White had obtained much of the information for her writings on diet and health from other authors, rather than directly from God as she had claimed. This finding was subsequently reinforced by Adventist colleagues in their work on some of Ellen White's other writings and led Hayward to the worry-

ing question of how much of her work was simply the product of contemporary nineteenth century thought, in particular on topics such as the flood, geology and the age of the Earth.

A third strand in Hayward's departure from the conservatism of his youth was in his understanding of the Bible and in a recognition that the ancient Hebrew texts were not written to convey modern scientific information. This is not however, a rejection of scripture for he writes 'I see no reason to ignore the messages of the Bible because of scientific evidence.... For me, both science and Bible inspire me to seek God' (119). Elsewhere he states 'I revere the Bible. It gives me much to ponder and makes me a better person' (117).

I was intrigued by the sub-title of this book which speaks of a journey from fundamentalism to faith. It was the nature of this 'faith' that had been found to supplant the fundamentalism of his youth that I was keen to discover. That, however, I found much more elusive. In his early years of University teaching he speaks of himself as a committed Christian, an active church member and of his faith in God as creator. Musings from later in life come in the concluding chapter where he writes of his ongoing quest for meaning and purpose. For Hayward life is 'a voyage of discovery' in which he explores 'the height and depth and breadth of life; each discovery I make about life is a discovery about God' (201). Missing from this 'voyage of discovery' is any consideration of the issues raised by Young Earth Creationism in the wider context of Christian theology and the extensive literature that now exists on the interactions between science and faith. Instead, we are given some relatively shallow personal reflections on the meaning and purpose of life.

So, who is this book for? As already mentioned, there is no evidence of any wider engagement with the science-faith

community and their literature. I was surprised, for example, to find no reference to some of the better known American Christian apologetics groups such as *Biologos* who have worked hard in confronting many the issues raised by Young Earth Creationism. This lack of wider awareness suggests to me that the book is largely for an Adventist readership. As a read it is a slow burn. Nevertheless, this book can usefully be put in the hands of those from any Christian tradition struggling with the dilemmas that Young Earth Creationism poses for they will find some helpful and thoughtful answers.

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J. B. Stump and Chad Meister (eds.)
Original Sin and the Fall: Five Views

Downers Grove, IL: IVP Academic, 2020.
189 pp. pb. £18.99. ISBN 978-0-8308-5287-1

This volume has two parts. In the first, scholars from five different Christian traditions set out their understanding of the doctrine of original sin and the Fall. The second part consists of responses by each to what the other four have written.

Hans Medueme of Covenant College expounds an Augustinian-Reformed view. Adam and Eve were a historical pair and the progenitors of all human beings. They were created morally perfect. Their disobedience brought both spiritual and physical death into the cosmos. God treated them as the federal heads of the human race and imputed to their descendants both their corrupt nature (original sin) and their guilt (original guilt). As a result, all are born with an irresistible tendency to sin and already guilty in God's eyes. Muedeme accepts that this calls into question human moral responsibility for sin and divine justice.

His response is that if it is unjust of God to impute Adam's sin and guilt to us, then it is unjust of God to impute Christ's righteousness to us. We have to accept, or reject, both. He sees the ultimate origin of sin in Satan's fall and accepts that it is a mystery how Satan, created as a holy angel, and Adam, created morally perfect, were able to sin.

In his Moderate Reformed view Oliver Crisp of the University of St Andrews rejects the idea of original guilt. He argues that it was not taught by two great Reformed theologians, Calvin and Zwingli, is absent from a few of the early Reformed Confessions, and does not have biblical support. He makes no judgement concerning the historicity of Genesis 2-3 or how a corrupted nature is passed down the generations. In his view the idea of an inherited moral condition, which leads humans to sin, is no more unjust than the fact of inherited physical conditions. God condemns us only for the actual sins that we commit. However, our corrupted nature means that all humans are born separated from God and so need to be saved through Christ's atoning work.

Joel Green of Fuller Theological Seminary presents a Wesleyan view. John Wesley accepted all humans have a corrupt nature and do in fact commit sin. However, he believed in 'prevenient grace,' that through the enabling work of the Holy Spirit God enables humans to make a free choice with regard to salvation. Humans, therefore, have moral responsibility and are judged by their own response to God's grace as it is offered to them. Wesley accepted scientific truth as part of God's truth which must be taken into account in understanding Scripture and formulating doctrine. Green takes this view, and accepts an evolutionary understanding of human origins. This makes the idea of a single human pair as the parents of all humans and of the existence of physical death as due to their

sin untenable. In his view Genesis 1-3 is a non-historical story through which God chose to teach the Hebrews theological truths.

An Eastern Orthodox view is provided by Andrew Louth of Durham University. In practice, he says, Western theology begins with the Fall and original sin, moves through redemption by Christ, to individual resurrection to a transcendent life. Orthodox theology begins with creation and God's purpose of fashioning humans in God's likeness. The purpose of the incarnation was not just to overcome the effects of Adam's sin but to bring humans to 'deification,' that is to be participants of the divine nature (2 Pet. 1:4). The problem of the Fall is not original guilt but disorder and disharmony in creation, leading to corruption and death. Death, more than guilt, haunts fallen humankind. Orthodox theologians do not speak of 'original sin' but of 'ancestral sin.' Because of the sinful generations which have preceded us, we are born into a web of accumulated sin and its consequences. We find ourselves inexorably participating in this web. Louth asserts that this way of looking at our innate tendency to sin does not remove free will. He accepts that it leaves the logical possibility of someone living a blameless life through unremitting struggle against sin. He argues that the doctrine of original sin makes fallen humans totally bereft of God, but all creation is dependent on God and so is always in touch with God and loved by God.

Wiley, of the University of St Thomas, comes from the Roman Catholic tradition but argues for a 'reconceived view' of the doctrine of original sin in the light of today's worldview shaped by modern science. She proposes that this might be done using the 'transcendental method' of the Catholic theologian Bernard Lonergan. Her brief exposition of this method is not easy to follow. She says that doc-

trine must be based on experiential realities. Following Loneragan she replaces 'original sin' by 'root sin.' Our root sin is 'unauthenticity,' alienation from our authentic being. To achieve authenticity of being requires reorientation in three areas – intellectual, moral and religious.

I am surprised at the paucity of detailed consideration of the biblical text in the presentations, a point made by Green. Madueme seems to be an exception here since he refers to a good number of texts, but all he does is assume the standard Reformed interpretation of them. When he does say that others understand some of them differently, he implies that this is because they have given in to the modern worldview, ignoring the possibility that the traditional interpretation he adopts may have been shaped by the worldview of the Reformation era. There is no actual engagement with the exegetical arguments used by those scholars who challenge his interpretation.

The issue of the place scientific knowledge should play in biblical interpretation and theology is touched on several times. Madueme says that Christian doctrine must be based on Scripture not fallible scientific theories. In saying this he ignores the fallibility of human interpretation of Scripture, which sometimes may be revealed to us by science. Crisp suggests that science can be put on one side since he argues that the historicity of Adam is not crucial to the doctrine of the Fall and original sin. Wiley takes an evolutionary understanding of human origins as a given and sees it as invalidating the traditional doctrine. Louth's position is unclear. Green gives a clear and helpful discussion of the place scientific knowledge should have in formulating Christian doctrine. He finds an evolutionary understanding of human origins compatible with his Wesleyan view of the Fall and original sin.

This book is well worth reading be-

cause it informs, challenges and sharpens the reader's thinking about this area of Christian doctrine.

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Scott D. G. Ventureyra

On The Origin of Consciousness: An Exploration through the Lens of the Christian Conception of God and Creation

Eugene, OR: 2018. 324 pp. pb. £27.00.

Wipf & Stock ISBN 978-1-5326-5517-3

'Have you ever thought about how self-consciousness (self-awareness) originated in the universe?'

This book is an extensively researched dive into one of the most complex challenges at the interface of science, philosophy and theology – the so-called 'hard problem of consciousness'. What is consciousness? Where does it come from? How has it originated? The reader is challenged with these questions and Ventureyra seeks to show how the Christian conception of God and creation (in varied forms but with significant common features) can provide a unique answer to this question.

He has two aims in writing this book, which he describes as modest: 'first, that Christian theology indeed has something to say to the sciences when it comes to the origin of consciousness' and that the origin of consciousness 'plausibly affirms the Christian conception of God and creation' (282). I am not sure I would describe these claims as 'modest', but what he has written certainly helps to affirm both.

First, he works through different ways of understanding how the disciplines of science, theology and philosophy can

relate to each other, and uses a model of 'creative mutual interaction' between theology and the natural sciences. This approach was developed by the physicist John Russell, who has been very active in the discussion between science and theology. He then delves into different Christian models for how the doctrine of creation and the science of evolution relate to each other. He details a range of understandings and ultimately opts for a 'directed evolution' approach to theistic evolution, seeing God's action in singular events whilst affirming universal common descent. Many will find his discussion on the different views of Christianity and evolution insightful and of much broader application than the problem of consciousness. He then devotes a chapter to investigating the 'scientific theology' of the influential twentieth century philosopher, theologian and anthropologist Teilhard de Chardin. Whilst Ventureyra ultimately disagrees with much of Teilhard owing to Teilhard's unorthodox understanding of the divine, Ventureyra finds much that is useful in his approach of integrating a Christian view of the world with the science of evolution.

Ventureyra is a Catholic, although his approach is sufficiently broad to appeal to many orthodox Christians. He comfortably works with the thought of a wide range of Christian theologians/philosophers such as John Polkinghorne, Eleanor Stump, William Lane Craig, and the book is endorsed by a similarly wide range of Christian writers. After discussing Teilhard, he lays out basic arguments for the classical conception of God, discussing the cosmological argument, fine tuning, and God's simplicity. God's simplicity (the idea that God is not made of parts) is particularly relevant because it 'provides an undergirding for all of reality' (38) and is an example of a theological understanding that can inform different ways of understanding consciousness: 'If we indeed possess a transcendent nature similar to

God, namely that our consciousness and soul are not reducible to the material than an understanding of consciousness which conforms to the doctrine of divine simplicity would be a better fit' (276). In a brief chapter on systematic theology, he discusses how from the image-likeness of God in humanity and our capacity for us to know God through Jesus we 'can recognise an intimate connection between the origin of self-consciousness as manifested through our innate moral awareness' (197).

Ventureyra is thorough. As one might expect from a book arising out of a PhD, he extensively discusses many alternative views and critiques where relevant. The book is heavily weighted towards discussion of the presuppositions and approaches, and only in the last few chapters is the application to the problem of consciousness more fully developed. Whilst this means that he leaves lots of open-ended discussion points in the last few chapters (and provides several possible avenues for future research), the detailed discussion between God, evolution and the relationship between the disciplines of science, philosophy and theology has a much broader relevance on how theology can guide scientific research and understanding in a fruitful way.

As a lay reader with little background in philosophy of mind, I found much of the material unfamiliar and often quite challenging. For example, his explanation and comparison of the three different Christian understandings of consciousness that he highlights ('Substance Dualism' (245), a 'Tripartite Transcendent Model' (253) and 'Emergent Monism' (260)) could have been aided by a concise explanation of the terms and differences in concepts. Nevertheless, these different ways of approaching the problem undergird his first aim in writing, which is to show how Christian theology can provide

important insights into the problem of consciousness.

To address the second claim that consciousness plausibly affirms the Christian view of God and creation, he discusses the weaknesses of naturalistic approaches to consciousness. In response to the claims of Dennett, Churchland and Blackmore who argue that consciousness is an illusion, Ventureyra quotes Searle who sees this as self-refuting, and expresses that it is 'striking to see how one uses consciousness and conscious activity to deny consciousness or that it is merely an illusion' (119).

In his conclusion he says 'most academics in consciousness studies have given up on strictly materialistic explanations', and resort to panpsychism which he sees as 'one of the final subterfuges of naturalism in the hopes of explaining consciousness' (271). Whilst panpsychism (the view that consciousness is a fundamental feature of reality) is attractive in some ways this has a serious drawback in the combination problem – how can consciousness accumulate in miniscule forms in sub-atomic particles to combine to form more elaborate forms and explain self-awareness? This develops the avenue for seeing the existence of consciousness as part of an argument for the existence of God, which has been advanced here from the work of J. P. Moreland (and received fresh attention with the work of Sharon Dirckx, 'Am I Just My Brain?').

Overall, Ventureyra clearly argues that Christian theology has a role to play in science, and in the case of the problem of consciousness Christian theology provides significant explanatory value. It is a challenging read, but many will find it encouraging.

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David Alcalde

Cosmology Without God?: The Problematic Theology Inherent in Modern Cosmology

Eugene, OR: 2019. 226 pp. pb. £22-00.
Cascade Books ISBN 978-1532636844

In his monograph, *Cosmology Without God?* Fr David Alcalde explores the problematic theology that inheres in much of modern cosmology. He trained as both an astrophysicist and a theologian and the breath of his scholarly expertise shines through in the thesis. The text is divided into three chapters and, in the first chapter, Alcalde makes the convincing case that science cannot be divorced from metaphysical and theological presuppositions. Indeed, he illustrates how the declaration of scientific neutrality has rendered a mechanistic and extrinsic conception of God. On this view, God is reduced to a mere agent, set apart from the cosmos, in conflict and intervening in the natural order, and responsible for organising various boundary conditions. Alcalde argues that his impoverished conception of God, held by prominent theist and atheist thinkers alike is, to a large extent, the symptom of a myopic ontology.

Alcalde develops his thesis in great depth in the following chapters where he draws on the rich theology of Thomas Aquinas on the topic of creation and causation. There is little doubt that the advancement of science, measured in terms of its technological accomplishments, has much to do with the abandonment of scholasticism; but this has come at the expense of a rich metaphysical vocabulary. Alcalde brilliantly illustrates how, on the Thomist and Augustinian view, the act of creation is not a mere temporal event; time itself is born in the creative act. Instead it is a kind of hierarchy from the necessary to the contingent. He succeeds in defining an extrinsic-ism that pervades the modern scientific endeavour, in its demarcation and even denial of

metaphysics, in the pursuit of an illusory mode of objectivity.

Modern cosmology has developed a great many fascinating schemes in wrestling with the peculiar initial conditions of the universe and Alcalde, with his unique expertise, translates them into a readable account to elucidate their metaphysical import and shortcomings. Alcalde, for example, refers to the Hartle-Hawking thesis which is a sketch of cosmology that exploits the uncertainties characteristic of quantum field theory along with the space-time symmetry of general relativity to suggest that, at the earliest epoch of our universe, the distinction between time and space might vanish altogether. Perhaps the hope is that this might possibly liberate the cosmologist from the awkward problem of undetermined initial conditions. Initial conditions or not, Alcalde superbly illustrates that the act of God is not to be found specifically at this juncture; God's creative act is far more pervasive and all-encompassing.

In this highly readable monograph Alcalde makes an important and subtle contribution to the scientific-religious debate. He draws upon his rich and broad expertise to elucidate the often unconscious metaphysical and theological presuppositions inherent in modern cosmology. His thesis is not a criticism of the modern scientific method, but rather an antidote to the extrinsic and mechanistic conception of God that is often entailed.

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Stephen R. L. Clark

Can we believe in people? Human Significance in an Interconnected Cosmos

Brooklyn, NY: Angelico Press, 2020. 236 pp. Pb. £16.50. ISBN 978-1-62138-509-7

Who are we in a world that evolved through a process of selection? Are we in any way significant? And how can we understand being created in the image of God in a world like this? What is our role in the context of other species? These are some of the most pressing questions we are still left with, more than 150 years after Charles Darwin published his book *On the Origin of Species*.

With decades of research in philosophy of religion and animal rights Stephen R. L. Clark approaches these questions that touch the very core of our identity from his broad background. Pulling in voices from theology, evolutionary biology and philosophy, he explores approaches that range from ancient Greece to science fiction including discussions about AI and alien life. In what he announces might well be his last book he takes his lifelong explorations back to a dialogue with the Abrahamic religions.

Clark starts his exploration with the quotation in Genesis 1:26-27: 'And God (Elohim) said, Let us make man in our image (*tzelem*), after our likeness (*demut*): and let them have dominion over the fish of the sea, and over the fowl of the air, and over the cattle, and over all the earth, and over every creeping thing that creepeth upon the earth. So God created man in his own image, in the image of God created he him; man and female created he them' (2). He asks whether we are made in the image of God, but no longer in his likeness (5) and explores what fallenness could mean in an evolved cosmos and in the way we treat other species. Chapter 2 explores the uniqueness of rational reasoning that humans often see as proof and precondition for their special relationship with God. Clark questions: 'What actual reason have we to insist that only humans, of all terrestrial creatures, can experience what admittedly, is a wordless communion with the divine? [...] Maybe we do not become

'godlike' by mastering the world, but by acknowledging we are not masters' (40). In the next couple of chapters, he summarises the arbitrariness of species boundaries and emphasises how a functional world needs all sorts of creatures (including bacteria) working together. But instead of assigning less value to the human species for being interconnected with all other living things, he views this as an advantage. Human dignity does not depend on dominion. Providing us with a more complex picture of beauty, colour and diversity, the realisation that we are not alone could actually shape and the values and virtues we live by. He suggests that 'The life we are invited to share, the life that God is, is one of compassion rather than of dominion' (117). From this position, where our personal stories and backgrounds no longer matter more than the stories of every other creature, he then continues to explore the topics of Alien life on earth and elsewhere, and the future of our species. Would it matter if there was extraterrestrial life out there? What are we hoping for when we find it? What is our prospect as human beings in the context of an evolutionary timeline that will probably outlive us? Are we still special, knowing that we will most likely disappear again from this planet?

As Clark touches on a plethora of different and relevant topics to explore the questions he raises, there are of course many ideas that he cannot fully explore within the scope of this book. Not having read all of Clark's substantial output, I realise that it is quite possible that some of these points are explored in some of his earlier works. Nevertheless, the reader will have to be prepared to do some further reading depending on personal interests and previous knowledge. Some topics that are not raised include the definition of what life is in the first place, or the role and meaning of suffering and redemption. It is both stimulating and challenging to keep up with the richness

of approaches Clark takes. In a time when we strive to bring different disciplines into dialogue with each other to explore the big questions in life, Clark's book is a provoking and inspiring example to learn from. Whatever area of expertise the reader comes from, they are in for a stimulating and challenging read, exploring connections between their own field of research and a variety of other fields, from Ancient Greece to science fiction.

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Gilbert Meilaender

Bioethics and the Character of Human Life

Eugene, Oregon: Cascade Books, 2020. xii + 179 pp. pb £20. ISBN 978-1-7252-5128-1

This book is a collection of articles ('Essays and Reflections' according to the sub-title) that the author has previously published; most of them first saw the light of day between 2015 and 2019 although some date back further, including one that initially appeared in 2001. Although in republishing the articles the author has had a chance to update them, such updating is not always apparent. However, this probably does not matter because much of the book's content is aimed at applying general principles rather than detailed 'dissection' of biomedical science. Indeed, the chapter entitled Christian Living Toward Dying in Section III (see below) does not mention biomedical science or bioethics at all.

The author is a Lutheran theologian with extensive experience of teaching ethics and that gives us an insight into his approach to bioethics. Overall, the book has a very American 'flavour' which in places affects the author's discussion. For example, in the USA sperm donors

may remain anonymous whereas in many countries, including the UK, donor-conceived children have, at the age of 18, the right to know the identity of their biological father. Another example is that many American fertility clinics permit sex selection via pre-implantation genetic diagnosis.

The book is divided into four sections, namely Bioethics and Public Life; Thinking Theologically, Life's beginning; Thinking Theologically, Life's ending; Thinking Theologically, To be a Person. The four chapters in the first section arose directly from Meilaender's membership of the President's Council on Bioethics between 2002 and 2009. These chapters provide some fascinating reading with interesting insights as to how the Council worked. Sections II to IV then cover some of the 'classic' areas for bioethical discourse.

Several aspects of the author's thinking emerge clearly as we go through the book. Firstly, Christian Ethics is not a 'bolt-on' to more general ethics but emerges as attitudes and behaviours from our understanding of Christian theology. Secondly, the author, as might be expected, is very suspicious of utilitarianism (although he admits to thinking, in Chapter 4, that some degree of maltreatment of 'captured terrorists' may be acceptable for the greater good). Rejection of utilitarianism and the absence of clear rules (deontology) in the new issues raised by biomedical science means that we rely on virtue ethics. In that he sides with many other Christian thinkers and it is a position with which I strongly agree. Thirdly his views on bioethical issues are very conservative. For example, Meilaender's understanding of the 'moral' status of the pre-implantation human embryo is certainly more conservative than mine, although I know that some readers of this journal will agree with him.

Overall, this book is well written and the author presents his views via well-

organised discussion and argument. I like the way that some chapters are focused on other publications, such as Michael Sandel's *The Case Against Perfection* (I am a fan of Sandel's work). However, there were a few places in which I found the text unconvincing. There is, for example, a tendency to elide pre-implantation genetic diagnosis (PGD) with prenatal genetic diagnosis (PNGD) and indeed, in Chapter 8 he uses the term PGD to cover both. In respect of 'Designing our Descendants' (Chapter 7) I think that he ascribes too much to genes. In Chapters 5 and 6, there is no acknowledgement of the widespread occurrence of casual/recreational sex outside of stable heterosexual relationships. In relation to genome editing (Chapter 8) removal of sequences is more straightforward than replacing the removed sequence with the desired version. Further, it still remains easier to carry out PGD than genome editing in order to eliminate 'disease genes' from a family lineage. Finally, in Chapter 7, germline therapy is defined as 'alteration, not of the somatic cells ... but of the germ cells'. But actually, as currently conceived, germline therapy involves 'alteration' of the zygote, the one-cell embryo, and thus all cells in the body will be altered. And in passing, I wonder about the schematic molecule that forms the cover design. It looks like a complex polyphenol. How does it relate to the theme of the book?

Readers of this review will have noticed that all the 'quibbles' mentioned above relate to the science itself. Indeed, it is my view that bioethical decision-making should be based on an accurate (although not necessarily deeply detailed) understanding of the science. Nevertheless I enjoyed reading this book, even though I do not agree with all the author's views. His writing challenged me to think about the reasons for my own views – which is always a good thing to do. I also need to emphasise that this is not a 'casual' read. It is not a book to take to the beach but

merits attention to each chapter, especially for those of us who approach bioethics from a more 'sciency' perspective.

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Peter Harrison & Jon H. Roberts (eds.)

Science without God? Rethinking the History of Scientific Naturalism

Oxford: OUP, 2019. 263 pp. hb. £69.00. ISBN 978-0-19-883458-8

In the Western world today science and naturalism go hand in hand. This is to say that, scientific explanations do not invoke God at any point. Furthermore, the historical success of scientific naturalism for many people points to a Godless universe governed by brute unchanging laws of nature. But how accurate is this understanding of science and when exactly did it develop? These are the types of questions that *Science without God?* sets out to answer and it does so with successful results. Edited by Peter Harrison and Jon H. Roberts, this work brings together thirteen scholars – primarily from a historical background – who each contribute a chapter within their area of specialism.

As stated in the Introduction by Harrison, although not comprehensive in nature, the aim of the edited collection is to provide 'a history of scientific naturalism' primarily because 'contemporary arguments about naturalism go to the heart of the nature of modern science'. This work is not the first edited collection on scientific naturalism. In 2014 Bernard Lightman (a contributor to this collection) and Gowan Dawson edited the distinguished work *Victorian Scientific Naturalism: Community, Identity, Continuity*. However, whereas Lightman and Dawson focused

specifically on the scientific naturalism of Victorian Britain, Harrison and Roberts determine to expand beyond this. As such chapters range from the period of the Ancient Greeks right up to the present day and are mostly concerned with Christendom across Europe and America, although not always.

The main conclusion of the book is best encapsulated by John Hedley Brooke in his chapter entitled 'Chemistry with and without God' when he states that 'The fact that chemistry, in different contexts, has catalysed both gains and losses for religion means there is no single story to be told about its relevance to religious authority, belief, and practices.' If we replace the word 'chemistry' with 'science' Brooke's words ring true throughout all chapters in this collection. Each contributor brings to light the varying and frankly complicated ways in which religion has been both promoted and demoted through the scientific works and words of Greeks, Muslims, Catholics, Protestants, deists, agnostics and secularists alike. Indeed, even in the twentieth century and beyond where God-talk has been successfully removed from mainstream science, contributors such as Matthew Stanley, Constance Clark, and Michael Ruse demonstrate how Christian substructures continue to frame scientific discourse implicitly, and sometimes explicitly, in fields such as anthropology, biology and physics. In fact if we slightly rearrange Brooke's chapter's title, perhaps a more accurate title for this book might have been *Science with or without God?*

Most interestingly – and of great benefit to the book – is the addition of two newer names, Michelle Pfeffer, and Scott Gerard Prinster. Both scholars contribute individual chapters on the rise of biblical historical criticism in Europe and America. As Prinster correctly points out historians of science have tended to ignore the rise of historical criticism despite its

significant impact on the 'scientific interpretation' of the Bible and liberal Protestant theology. Both chapters serve as worthy correctives to this current omission although much work is still needed in this area.

One of the key distinctions raised in this work is that between 'methodological' naturalism and 'metaphysical' naturalism. A firm conclusion reached is that the former, the limiting of science to naturalistic explanations, does not necessarily lead to the latter, the belief that there is nothing beyond matter and energy. As Michael H. Shank shows in his chapter 'Naturalist Tendencies in Medieval Science', methodological naturalism was not the product of non-religious or sceptical intellectuals after the scientific revolution. Rather, it had its origins in the late-Medieval Catholic Universities and was routinely employed by towering figures such as Thomas Aquinas and Nicole Oresme when discussing the natural world apart from the direct workings of God.

In terms of diversity and scope only two of the thirteen contributors are female, and the majority of the chapters are limited to Western Christendom – bar Daryn Lehoux and Shank's addition of Ancient Greek and Medieval-Islamic thought. This is in part due to the fact that historians of science and religion over the last few decades, usually male, have directed their efforts towards combatting the Westernised and naturalised historiography of science constructed in the nineteenth century. However, although there is certainly much room for improvement here, the overall aims of the book are meticulously achieved through a selection of well-respected, as well as up-and-coming scholars in the field. In conclusion I would highly recommend *Science without God?* to anyone who is interested in the relationship between science and religion and/or the history of

scientific naturalism.

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Alister McGrath

Through a Glass, Darkly: Journeys through Science, Faith & Doubt - a memoir

London: Hodder & Stoughton, 2020.
225pp. pb. £14.99 ISBN 978-1-529-32760-1

It might not be a surprise that I was excited to review a book by Alister McGrath. Over the last few decades, he has been instrumental in helping many comprehend the relationship of science and faith, especially in the public arena. He is of particular interest for those looking to hear a testimony of someone's journey from Atheism to Christianity. Although I was aware of McGrath's reputation and works including *The Dawkins Delusion (2007)* and *C.S. Lewis – A Life (2013)*, I had not read anything directly written by him before. In hindsight, one of his other books may have been a better place to start. However, a large proportion of this book provides a helpful context in which each of his many works are written to correspond with his developing understanding of the world throughout his life.

'In setting out in this book *what* I now think, I cannot help but tell the story of *how* I came to think in this way, and *who* helped me to do so.' McGrath uses biographical elements to show the development of his perspectives throughout his life. His starting point shows a reliance on the absolute 'truth' of science, and the 'simplicity' it brings in explaining the world. He now acknowledges an arrogance in this way of thinking, something that some have continued to have in the scientific field. Sadly, this can affect

the wider population who have less science capital to hold science in the same regard. The argument that God fills a scientific (or even an emotional) gap falls if there is not a gap or absence to fill, or if science can now explain something that was previously unknown. Yet, McGrath's thoughts develop as he wrestles with how he expects the world to be and what influence this has on his scientific practice. McGrath begins to see the fluidity of leading methods for scientific discovery throughout history. He explores the idea that no viewpoint or method is completely justified, just favourable in the culture and climate of the time. This is a reminder of the popularity of a conflicting relationship of science and faith during the twentieth century. This apparent conflict has largely been deconstructed in recent years, apart from a small vocal group.

The title *'Through a glass, darkly'* is a reference to 1 Corinthians 13:12 where Paul is highlighting the limitations of what we can understand. McGrath uses similar analogies through the book to demonstrate how we can perceive the world. Plato's Cave seems to be a favourite and one that I personally found helpful. This model explains that those in the cave can only observe what is in front of them with occasional hints of something beyond the cave. By going beyond that cave (to a point which those inside do not know exists), occurrences within the cave can make much more sense. The journey to this point of view is long but intelligent and suggests that Jesus could be a guide to the outside of the cave for a greater understanding of the world. McGrath goes on to apply this way of thinking to some biblical themes. McGrath uses the Trinity as one example of a complex theme which may be beyond our understanding to comprehend simply. We may instead be limited to understand God as the Trinity without a guide beyond our 'world'. Therefore, Christian themes, such as the

Trinity, can use models for a purpose or message but need regular review and thought so that the analogy does not become a sticking point.

Having no theology background may mean I did not get as much out of the book as the author intended, but that did not mean that the narrative is completely out of reach. McGrath has a talent for taking complex issues and using models to make the ideas understandable for a non-specialist; a skill which he discusses developing in the second section of the book. I also took away a relatable lesson of patience and trusting in God when things happen slowly or not how we expect, although this is not a particular focus of the book. This leads me to want to reflect on my own influencers in my life journey, and the twist and turns.

After reading this book I have been challenged to change my long-winded and possibly incoherent answer to the questions: Why do you believe in God? How can you trust the Bible? McGrath has made me consider my faith as one of the many tools or methods to understand and view the world. Could your perspective be changed by looking at and observing the world through the lens of Christianity?

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V. N. Makrides, G. E. Woloschak (eds.)

Orthodox Christianity and Modern Science: Tensions, Ambiguities, Potential
Turnhout: Brepols, 2019. 277 pp. hb. £143.
ISBN: 978-2-503-57616-9

This rich and varied volume should be required reading for anyone who wants

to talk about 'Christianity and science' without displaying an embarrassing parochialism about the scope of 'Christianity'. Thanks to the 2016-2019 'Science and Orthodoxy around the World' (SOW) project, funded by the Templeton Foundation, out of which this book comes, the potential for a distinctive Orthodox contribution to the discussion is now starting to be seriously explored.

The book is in three parts, addressing respectively the 'uneasy relationship?' between Orthodoxy and modern science, the potential of the Greek patristic heritage, and 'local settings and specific concerns'. As the introduction makes clear, the Orthodox world has a relationship to modern science quite different from that of the West. This means that it preserves features such as apophatic theology and an openness to 'mystery, riddles, ambiguities and ambivalences' (30) which can give greater freedom in relation to the sciences. But it has also sometimes resulted in Western positions being imported wholesale, along with some unnecessary baggage of conflict and suspicion (it is unfortunate that evolution is discussed only in that context). Communist regimes whose propaganda systematically connected science with atheism also cast a long shadow, as we see in chapters on Bulgaria and Russia. Not that materialism had the last word even in Soviet times: the 1981 Serbian *Dictionary of Technology*, produced in the style of a mediaeval manuscript, is among the most intriguing pieces of history here presented.

For theologian Pantelis Kalaitzidis and priest and psychotherapist Vasileios Thermos, the starting point for dialogue with science is the relationship of Orthodoxy with modernity more generally. Thermos compares this encounter to that of early Christianity with Hellenism, requiring similar boldness and discernment, and similarly grounded essentially in Christology: 'indivisible

and unconfused coexistence is part of the mystery the surrounds our entire life, the *mystery of Incarnation*' (77). He cites many examples of efforts to bridge the gap between modern psychology and the highly sophisticated science of the soul developed within the ascetic tradition. This is one area where the relationship of faith and tradition to science has an obvious impact on people's lives. Another is bioethics, discussed by Gayle Woloschak in relation to church life in the USA, while Archbishop Makarios of Australia describes the work of the Inter-Orthodox Bioethics Committee.

In contrast to anxieties about an 'uneasy relationship', the book contains some remarkable examples from physicist-theologians offering a 'view from within' (Kirill Kopeikin, 239), confidently integrating their scientific understanding of the physical world into a vision of reality that flows from their life of faith. How could it be otherwise, if one believes that 'modern science is implicitly based on the presumption that humans are created *in the image and likeness* of the Creator of the world, who is able to comprehend His creation' (Kopeikin, 241)? Thus Kopeikin talks about a correspondence between the psychological and physical worlds; and Christopher Knight and Alexei Nesteruk (in very different contexts) highlight the distinction between human *nous* (the faculty for direct apprehension of truth) and *dianoia*, the discursive reason: Knight uses this to shed light on the arguments over mind, matter and idealism. Again, Metropolitan Nikolaos of Mesogaia – an Athonite monk with a background in astrophysics and bioethics – captures the tension between an ever-increasing knowledge of the universe and an ever-deepening sense of its mystery, 'the humble realisation of [humans'] natural and intellectual limits' (45). Implicitly, he illustrates the freedom of the scientist who can encounter all the questions raised by reality, and

by the advance of scientific discovery, without feeling the need to bind them to the Procrustean bed of scientism.

Stoyan Tanev takes up insights from the theologian Christos Yannaras as to how the 'apophatic' language of quantum physics invites Orthodox theology to speak to post-modernity out of its own apophatic tradition. This paper deserves special notice: whereas many favour building bridges between theology and science in a way that can enrich both, it is rare to see the process in action. Indeed, it is a risky exercise unless one is very well versed in both disciplines. In comparing the notions of 'energy' in Orthodox theology and in physics, Tanev uses what he calls the 'Analogical Comparative Theological Approach' (132), a cross between Bernard Lonergan's 'Analogical Isomorphism' and 'comparative theology', a process of deepening one's understanding of one's own tradition through insights learned from another.

Contributors include one of the towering figures of modern Orthodox thought, the Russian academician Sergey S. Horuzhy (1941-2020). During the decades that he worked under communism in the blameless profession of mathematical physicist, Horujy was also busily engaged in clandestine studies in theology, especially the fourteenth-century hesychast St Gregory Palamas (whose theology of essence and energies was also the inspiration for Tanev). Here he uses the idea of 'cosmic liturgy' – a term applied by H.U. von Balthasar to the cosmological vision of St Maximus the Confessor – to consider how our scientific understanding of the natural world, and the 'technical' application of that knowledge, might be enlisted in the process of 'deification in its complex nature as a sacramental, anthropological and cosmic (in this order!) event' (87).

Many of the authors here represent the great pent-up energy of theological

thought in former communist countries – and an ironic legacy of the heavy emphasis on scientific education in the Soviet bloc, which was intended to free the populace from 'superstition' rather than to fill the theological academies with graduates in physics. So it is no less remarkable to read of the 'theology of the world' of Dumitru Staniloae, writing in communist Romania. As Doru Costache shows, Staniloae perfected a technique of incorporating insights from contemporary science, but couched in a theological language that would be acceptable to the reader wary of innovations – and also, one suspects, escape the notice of government censors who had no desire to see the Church addressing the concerns of twentieth-century man.

Many of the essays are demanding, but most are within the grasp of the non-specialist. The text is for the most part fluent and readable. In some chapters the English is distractingly odd and should have been more ruthlessly edited, but only occasionally does this obscure the meaning: for example the startling 'selfhood' discussed on p. 259 should surely be 'personhood'. It must also be said that in such a wide-ranging book, an index would have been an asset. However, while the book will sadly be unaffordable for many individuals, it should definitely have a place in any library that deals with the dialogue of Christian theology and science.

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Rodney Holder

Ramified Natural Theology in Science and Religion: Moving Forward from Natural Theology

London and New York: Routledge, 2021.
245 pp. hb. £120.00 ISBN 978-0-367-37319-1

Rodney Holder builds logically upon centuries of natural theological tradition since Thomas Aquinas to offer this new extended argument for a ‘ramified natural theology’ in science and religion. The book is a fresh contention for moving beyond any notion of strictly separating between natural and revealed knowledge of God – without naively denying the differences – and for a particular way of working. In his words, the ‘book aims to show that religious belief, and in particular Christian belief, is rational in a way similar to that in which science is rational’. The result is a cumulative case for theism broadly and Christian theism especially using specific intellectual tools.

Ramified natural theology is constructed upon the ways and means of probabilistic natural theology, which produces arguments from general features of the universe to the probable existence of God. A ramified version seeks to establish probabilistic arguments from historical evidences for the truthfulness of Christian doctrines regarding God’s actions in history of a kind publicly recognisable by non-believers and believers alike. Holder follows most notably Richard Swinburne, who introduced the term ‘ramified’ for such distinctly Christian doctrinal natural theological endeavours. Probability calculus, specifically Bayesian confirmation theory, is carefully explained and demonstrated throughout the book as applied to Christian doctrinal matters like the likelihood of the resurrection of Jesus Christ. With its systematic structure and comprehensive detailing, the volume serves as a veritable education and an interesting exercise in this type of theological enterprise.

The eleven chapters include a historical survey of natural theology featuring prominent interlocuters after Aquinas like William Paley, attentions to the important counterarguments of Kant and Hume, and a cache of key thinkers besides Swinburne. Contemporary shades of differing uses of natural theology are illuminated by comparing Alister McGrath, John Polkinghore, and Richard Swinburne, who all reoccur at several points. Biblical scholarship, and discussions especially of prophecy and New Testament passages relevant for evidencing specific Christian claims play vital roles. All of this is handled admirably, and will appeal to novices in this specific area, and to experienced academics.

The inclusion of this volume in a science and religion series gives occasion to remember that science and religion as an academic field has grown in the decades since its revivification by the likes of Ian Barbour, Polkinghorne and Arthur Peacocke from the mid-1960s. We can say revivification since even Aquinas was doing a kind of medieval science and religion when exploring the limits of a marriage of Christian doctrine with Aristotelian natural philosophy. Lately McGrath and a growing crop of younger scholars are at work not only on diverse topics, but using various methodologies. This is noted because the numerous subcategories of science and religion scholarship under way means that not all will find the probability confirmation arguments of this book appealing. The idea that Bayesian confirmation theory can demonstrate with high probability that Jesus Christ was God in fulfilment of prophecy, worked miracles and was resurrected is completely lost on some equally committed Christian science and religion scholars. Other interested parties will differ, and for them there is much here for everyone. My favourite chapter has a pre-ramified cosmological focus examining matters like the Big Bang, and

rational choices related to cosmic fine tuning and a multiverse hypothesis.

The figure of Wolfhart Pannenberg, also at the heart of the book as an exemplar of its arguments, gives for me the clearest possible focal point for seeing the book's strengths and weaknesses.

Pannenberg, who rejected the ghettoising of theology from other disciplines by Karl Barth and colleagues, and contended instead for a publicly accessible theology, was doing ramified natural theology without calling it that, the author says. This is right, although Pannenberg was never given to Bayesian probability arguments.

In that continued tradition of seeking publicly accessible arguments for Christian claims this book is welcome. Yet even Pannenberg near the end of his career admitted (to me at an in-person interview detailed in *God and Natural Order*, 2014), that while as a younger theologian he had been convinced that one could accomplish certain things, he had realised the fundamental limits of such efforts with the passage of time. Similarly, if scripture is going to be important for confirmation theorising, is there not still that prevailing gap referred to by Paul in his epistle to the Corinthians in which some Christian claims will remain nonsense without God's help?

Holder's arguments, nevertheless, do not express an immature hope of evidencing Christian claims in denial of any of the above. Any weaknesses here, therefore, are not due to Holder's expert handling, but to fundamental limits intrinsic to the materials and methodologies themselves.

Experimentation with concepts and their methodologies, like natural theology and in this volume ramified natural theology, is precisely the kind of activity in which science and religion scholarship ought to be involved.

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Roger Abbott and Robert White
What Good is God: Crises, Faith, and Resilience.

London: Monarch Books, 2020. 203 pp. pb.
£10.00 ISBN 978-0857219657

The presence of disasters in the world is devastating, theologically mysterious and tragically, common. Rarely does a day go by when we do not hear about yet another disaster somewhere in the world. Our awareness is shaped by the presence of 24-hour news which constantly draws our attention to the fact that somewhere on our planet there is a disaster either occurring or waiting to happen. So, what are we as Christians to do with the continuing presence of disasters amongst us? For some of us our response is to be found in theodicy: the attempt to explain how and why a good, powerful, loving and ever-present God can allow such things to happen. However, theodicy as a philosophical enterprise doesn't do much for those who have to survive situations of disaster and live with its consequences. Suffering is not an equation to be solved. It is an experience that is lived out with God, within God's creation and alongside others. In this edited text Abbott and White bring together a series of essays that seek to explore the issue of disasters, not by developing theodicies, but by listening carefully to those who have experienced disaster and those who have reflected on such experiences. Their intention is to allow that close listening to shape and form new and important practical theologies of hope which provide important pointers towards the types of healing practices that will allow people to hold on to God even in the midst of deeply traumatic situations.

In the opening essays a rich and deep practical theology of disaster is devel-

oped. Here we are confronted with some difficult truths. White and Moo point towards the fact that many human disasters are created by human action. Our violent relationships with the environment, our ignoring of climate change, our unjust economic systems, all pull together to form a context for fires, floods, pollution, climate change. As Abbott points out, we often rail against God, when in fact we actually need to look more closely at ourselves. Importantly these essays in different ways, tease out what we might mean when we talk about God's goodness. There is a danger that we project an understanding of goodness on to God and the world that is reflective of human desires and expectations rather than the realities of God's good creation which is wild and untamed (Job 39, 41). If we do not think carefully about the nature of goodness, we blame God for not doing things in the way we want them done whilst at the same time taking credit for things that go right. There is an interesting underlying reflection on the tensions within goodness and providence that runs throughout these chapters.

The centre point of the book is contained in the chapters which contain the stories of people who have survived disasters. Here we find a fascinating, moving and deeply revealing insight into what it *feels* like to experience and live through disasters. As we listen to stories emerging from the terrorist plane bombing attack that took place over Lockerbie, the earthquake in Haiti and the wholly avoidable flood that accompanied hurricane Katrina and decimated New Orleans, we are provided with deep and powerful insights into these experiences and importantly, the ways in which we might consider them practically and theologically. Practically, we learn the dangers of parachuting in services to a situation like Haiti, a move that feels like compassion, but actually serves to disempower people and downplay local resources

which may be vital for the process of communal healing and reconstruction. Theologically we are brought face to face with some crucial reminders of our embeddedness within a Western mindset. Richard Dawkins writing in the *Washington Post's* Faith blog responded to the Haitian disaster by claiming it shows the hypocrisy of Christian theology. However, the survivors of the earthquake tell a different set of stories about God and suffering. Christianity talks about a God who is deeply involved with human suffering. The survivor's stories begin to put flesh and bone on that theology.

The last two chapters of the book focus separately on climate change and the Covid 19 pandemic. Rollinson's reflections on climate change are very important and resonate in helpful ways with the kinds of creation-oriented arguments presented in the first section of the book, which discuss human culpability and a theological response to planetary abuse. The chapter on Covid 19 contains a very clear and extremely helpful overview of what a virus is and the kinds of scientific and medical responses that are required. It then moves on to explore the social side effects of the virus. Taken in conjunction with Mobula's reflections on viruses, Ebola, science and health in chapter 4, this chapter provides an excellent insight into the relationship between science and theology in thinking about and dealing with viruses alongside of some important sociological insights which indicate just how difficult viruses are to deal with, particularly within communities that are not used to being told what to do by governments.

Taken as a whole this book is an excellent contribution both to the field of disaster studies and to the development of a rigorous, authentic Christian understanding and response to disaster.

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James Orr

The Mind of God and the Works of Nature: Laws and Powers in Naturalism, Platonism, and Classical Theism

Leuven: Peeters, 2019. 214 pp. pb. 68€ (£63.94). ISBN 9042937629

Engagements between theology and science come in several forms. The mildest of these argue for mere compatibility. Others pursue 'constructive engagement' between science and religion. Orr's book goes beyond this, arguing that traditional theistic metaphysics is actually superior to several forms of naturalistic and non-theistic metaphysics, by the explanatory standards of analytic metaphysics – perhaps the most ambitious form of engagement.

This book assesses major metaphysical accounts of natural laws, and ultimately argues that classical theism provides a better framework for explaining laws and causation than do any of the major naturalistic alternatives. It is a compact work in serious metaphysics, which means that it is necessarily dense and technical – not a breezy read – and as a result its principal audience will be professional academicians and graduate courses in philosophy and theology, and perhaps a few rare advanced undergraduate courses where some background in metaphysics and philosophy of science can be assumed. While technical, it is nonetheless clearly and elegantly written, and provides useful and lucid explications and critiques of the naturalistic views, as well as throwing down the gauntlet of Orr's theistic alternative, and is a book that naturalistic metaphysicians ought to read carefully, consider, and respond to.

Orr examines five types of non-theistic accounts over the first four chapters. The

first of these (Chap. 1) are deflationist antirealist accounts like Hume's which regard laws as nothing more than regularities. The other theories are all realist accounts, grouped as the combinations of the stances one takes on two metaphysical questions about the universals that are taken to be the truth-makers of nomic and causal claims: (a) the 'platonistic' position that they are abstract objects outside of the empirical world versus the naturalistic 'immanent realist' position that there are only instantiated universals, and (b) whether the universals that are the explainers are relations or intrinsic properties of objects (dispositional/causal powers views). Chapter 2 addresses immanent-realist relational views (Armstrong, Lewis) and Chapter 3 immanent-realist causal powers views (Harré, Cartwright, Mumford), respectively, while Chapter 4 examines their 'platonistic' counterparts, the platonised relational model (Tooley) and dispositional model (Bird).

Orr's overarching argument over these chapters is that all of these accounts of laws and causation have serious and perhaps insuperable problems in the central task of making sense of laws, and that this presents a significant problem for metaphysics, as the central role assigned to law-statements in scientific theorising is that they pick out *objective forms of necessity in the physical world*, forms of necessity that constrain reality to behave in predictably regular ways. If we are unable to support these intuitions with a lucid metaphysical analysis of lawmaking, there is no longer any reason to trust our widespread pre-theoretical convictions that there *is* an objective distinction between accidental non-accidental regularities, or that there *is* an ontological ground for claims about now an object would behave in a counterfactual scenario, or that *is* rational to infer unobserved regularities on the basis of those already observed. (124)

As a result, he suggests that it is time to reconsider accounts based in traditional theistic metaphysics.

The careful (and admirably concise) exposition of and argumentation against the positions addressed cannot be captured in a brief review, but this reviewer found the argumentation impressive, and the exposition provided both a useful taxonomy that helped focus the argumentation and the kind of primer on the major metaphysical positions that will be needed by a reader who is not working primarily in metaphysics. Moreover, the organization of the book is well-conceived. While readers who endorse one of the naturalistic theories may already be familiar with most of the arguments for and against competing positions, presenting them together takes the conversation out of the usual internecine disputes among naturalists, setting the reader up for the transition: if *all* the naturalistic theories fail, perhaps one ought to reconsider theistic alternatives, a case that Orr makes effectively.

The most important and original material, however, comes in the final two chapters. Most of Chapter 5 addresses Swinburne's theistic version of the causal powers model and Foster's 'mixed view'. These, Orr argues, 'placed a promising and relatively unproblematic emphasis on the role of causation in their account of laws. But their shared commitment to the Instantiation Principle meant that they were stymied from advancing the inquiry any further than the stage it had already reached by the end of Chapter 3' (156-7). However, the latter part of the chapter also begins to explore something new: the possibility of abandoning *universals* as the basis for explaining laws in favour of something like *concepts* – an idea suggested by Foster and explored (unsuccessfully, in Orr's view) using the assumption of *human* concepts by Place.

Thus the final chapter explores an orig-

inal theory, based not upon human concepts but upon ideas in the mind of God, called Divine Conceptualism. The chapter explores the basic metaphysical framework, ontological commitments, and several possible accounts (labeled semantic, representationalist, and Orr's preferred 'abilities' accounts) before turning to the work it can do in explaining lawmaking relations and powers, ultimately arguing that a Divine Conceptualist version of the powers account is uniquely successful in providing a metaphysical explanation of laws that avoids the many objections raised against alternative theories. This conclusion will be a hard pill to swallow for many contemporary philosophers (though Orr points out that it was a mainstream position before the seventeenth century). But, precisely for this reason, combined with Orr's extensive and meticulous argumentation, it singles out the theory as one that otherwise-minded metaphysicians should feel obliged to assess and come to terms with.

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