

Reviews

Ted Peters (ed.) with Martinez Hewlett, Joshua M. Moritz and Robert John Russell
Astrotheology: Science and Theology Meet Extraterrestrial Life

Eugene, Oregon: Wipf & Stock, 2018. 478 + xxiii pp. pb. £44.00. ISBN 978-1-5326-0639-7

It is a mistake to underestimate the importance of this area in contemporary science and pop culture and its implications for Christian theological thinking. The discovery of exoplanets and evidence for terrestrial life planets in a habitable zone around long lifetime stars and the very recent discovery of water on such a planet have given a major impetus to scientific work on the search for extraterrestrial intelligence (SETI). A new generation of telescopes, including the successor to Hubble, the long-awaited James Webb Telescope, will push this even further. Private finance is already contemplating sending probes to Alpha Centauri and the possibility of mining the Moon and Mars. Meanwhile in pop culture games such as Star Trek Fleet Command envisage a huge universe populated by diverse yet strangely human like species.

If theology, as John Polkinghorne has rightly argued, is a critical realist and contextual exploration of the world, this is an area which it needs to take seriously. In doing that, this book provides a guide and inspiration to some of the key theological questions. We are in the safe hands of Peters and Russell, who have led the dialogue of science and theology over decades, combining a clear commitment to mainstream theological tradition with imagination and creativity in both receiving from and contributing to contemporary science. Within that framework they invite chapters from emerging theological voices, key scientists and a variety of

faith positions.

As with all multi-author volumes there is variation in style and quality. Yet this can be overlooked in the realisation that this is a handbook for stimulating the conversation. The contributors are all active in this field and read as a Who's Who of SETI thinking. NASA scientists Jennifer Wiseman, Heidi Manning and Christopher McKay cover the science beautifully and the big picture is well described by SETI scientist Margaret Race. In this it is good to see a well-balanced male/female ratio in terms of contributors.

There are unique contributions from Jewish and Muslim scholars, Norbert Samuelson and Muzaffar Iqbal, and with the Christian scholars there is a good contribution from across the theological spectrum. Of particular note is the essay by Joshua Moritz on the image of God.

Undergirding all of this is the historical dimension provided by Steven Dick, the two chapters by Bob Russell and the eight chapters by Ted Peters. As you would expect there is a rigorous clarity to these contributions taking seriously scripture, tradition, reason and nature of scientific claims.

This is not a book of easy answers or of one Christian or religious voice on this issue. Within the Christian tradition there is disagreement on questions of creation, redemption, eschatology and incarnation in response to SETI. In particular, the question of one or many incarnations if there is other intelligent life continues to probe issues of the nature of humanity, sin and the work of Christ. The volume also rightly does not just confine itself to intelligent life. How might we see primitive life in terms of creation if it does exist deep below the permafrost

of Mars or in the oceans of Europa as it orbits Jupiter?

This is not an old-style apologetics book. It is rather a model of how Christian theology can present a dialogue and invite in a number of other voices. For some Christians looking for definite positions this will be frustrating. But the project is much longer and far more important. It shows that Christian theology has nothing to fear in exploring these big questions with a commitment to graciousness and truth. Indeed as SETI scientists reach out to ask about ethics and the effect of discoveries on culture and religion, Christians should be first in line for the conversation.

The Christian doctrine of creation which contributed significantly to the growth of empirical science sees a God who creates with extravagant freedom and therefore the only way to find out about the universe is to observe it, respect it and take joy in it. Respect and joy run through this book as it probes theological questions.

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Denis Alexander

Is there purpose in Biology?

Lion, Oxford, 2018. 287 pp. pb. £9.99. ISBN 978-0-85721-714-1

I am normally not the target audience of books I am sent to review, so while reading I try to work out who a book may be aimed at so as to at least try to put myself in the intended reader's shoes. Initially I thought this book might be aimed at the educated (perhaps student) and science minded casual atheist, or at least non-militant agnostic, given its clear introduction to the idea of purpose, and informed first chapter romp through 'The historical roots of purpose in biology'. However, once getting to the end of this first chapter I was feeling rather informed

myself, suggesting that there was certainly something to be gained for the professional scientist/academic as well. Indeed, I was also pleasantly surprised by the second chapter 'Biology's grand narrative' which provided perhaps a crash-course for some, but convenient little update for others of us whose formal study of evolution occurred quite a few years ago. Chapter 3, 'Biology's molecular constraints', was somewhat more familiar and I fear perhaps a little too detailed for a casual reader or someone new to the topic. Indeed, although I see how elements of this chapter are needed for the overall argument of the book, I felt that its complexity risked losing the interest of the casual reader.

Losing interest prior to chapter 4 would have been a great shame as the discussion on randomness, chance and purpose is excellent. The distinction between whether it is *practically possible* to work out what is happening, as distinct from whether it is *theoretically possible*, is a widely applicable and helpful idea. This distinction between *epistemological chance* and *ontological chance* is really important, and Alexander does a good job of unpacking this despite the hindrance (that all authors encounter) caused by the technical ring of these terms. The conclusion here is that although we cannot practically predict what will happen with regards to the fine details of evolution, this does not make it impossible to predict the overall direction of travel; one comparison being the difference between predicting the numbers that may come up in a lottery draw compared to predicting the overall *purpose* of a lottery (to make a profit and occasionally pay out large sums at a predictable rate to a predictable number of individuals). This neat analogy essentially provides the answer to the title of the book.

The final two chapters place this answer within the context of Christian

theology. Here I felt that the target audience may have shifted away from the secular reader towards engaging a Christian audience. This is because the text starts to assume a certain level of Christian theological understanding and also starts to drop in scripture references in a style very familiar to Christians but perhaps less familiar for people from different backgrounds. Alexander's argument still flows neatly, and pleasingly he does not avoid difficult issues when discussing primary versus secondary causation, the significance of the Trinity for considering immanence (*creatio continua*) and the functional integrity of creation. Discussion of the thorny topic of direct 'interventional' miracles is, however, limited. The last chapter addresses the difficult issue of death, pain and suffering. Here the necessity of death and pain for biological life is explained clearly, along with suffering caused by human evil. But perhaps a bit less satisfying is the more philosophical/theological argument of 'could it have been otherwise'. Alexander uses the normal 'free will defence' argument but does not really unpack the concept of what a 'free choice' might entail. Here I think he did not make enough of the opportunity to refer back to the ideas of epistemological versus ontological chance made in chapter 4, perhaps discussing the difference between a 'free choice' decision from the perspective of a human with limited knowledge (also an epistemological issue) compared with the larger context within which that choice occurs (perhaps an ontological issue). That said, his inclusion of personal stories in this section does make the chapter both helpful and sensitive from a pastoral perspective, something that is often missing from this genre of writing.

Overall, I thoroughly enjoyed this book and felt that Alexander has woven a clear story linking scientific understandings of chance and purpose with Christian theological understandings of the same

issue. I am still not entirely certain who the book is aimed at because the first half is quite innocuous from a secular perspective, whereas the last couple of chapters are very 'Christian', especially in their assumption of the (perhaps evangelical Christian) idea of free will. The book is therefore unlikely to 'win over' anyone with a specific agenda but does perform well as a source of ideas for further contemplation for a mostly lay readership within the wider context of the interaction between science, philosophy and Christian thought.

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Kyle D. DiRoberts

Prayer, Middle Knowledge and Divine-Human Interaction

Oregon USA: Wipf & Stock, 2018. 178 pp. pb. £20.00. ISBN: 978-1-5326-5352-0

This book, based on the author's PhD thesis, explores a subject of academic theology. Written for a general Christian audience, it examines our beliefs about prayer in the light of four different views of divine providence, Determinism, Compatibilism, Open Theism and Middle Knowledge as proposed by the sixteenth century Jesuit theologian Luis de Molina and known today as Molinism.

Prayer for the Christian seems as natural as breathing. We thank God for our salvation, forgiveness and calling, knowing that he chose us 'before the foundation of the world to be holy and blameless before him...having been predestined according to his purpose' (Eph. 1:4,11). We approach him as Father, bringing him our cares and worries, especially the needs of our loved ones. We seek to align our agendas with his priorities and find that inner peace, which comes from his Holy Spirit.

Yet many Christians live with an irreconcilable tension between God's

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sovereign purposes and our human freedom, as both truths are upheld in scripture. This tension is expressed in many questions. Why does God allow suffering and evil? Is he powerless to intervene? Does this challenge the goodness of his character? Why do we pray? Is prayer a process whereby we discover the purposes of God, so that change takes place only in us or do our prayers actually change the course of history? This book examines our understanding of God's providence through the lens of prayer.

Molina distinguished three types of divine knowledge: God's natural knowledge, his free knowledge and his middle knowledge. The Christian understanding of God is that he is omniscient: he knows everything - everything that *could* happen (his natural knowledge), everything that *will* happen (his free knowledge) but he also knows everything that *would* happen under all possible circumstances (his middle knowledge). According to Molina, God thereby knows the truth of what each of us would do in all possible situations. The Bible clearly talks about God's foreknowledge. Molina's view was that God also had this middle knowledge of all possible counterfactuals in all possible worlds, before he chose to create the universe, thereby reconciling our predestination and human freedom.

The implication of this is that God knows exactly what will happen to us, but prior to creation, he took into account all our potential choices. So God is sovereign over everything that happens in the world but we are none the less free to make real choices. Drawing on prayers in the Bible, DiRoberts shows these prayers to be genuine and relational. Taking the reader through different aspects of petitionary prayer, he compares and contrasts the views of Hard Determinism, Compatibilism, Open Theism and Molinism to see which makes

the best sense of prayer. The different perspectives will affect our motivation to pray and our persistence in prayer. Only Middle Knowledge, he contends, is able to make sense of God's sovereignty, his omniscience in perfectly knowing the future and our libertarian freedom to choose.

Hard determinism seems to imply that God's foreknowledge determines a fatalistic control over our power to choose. However, if we chose differently, then God's foreknowledge would be different, so foreknowledge itself does not determine our choices. Compatibilism implies a *soft* determinism, whereby God pastorally yet irresistibly inclines our free choices without actually constraining them. God's sovereignty is thus held to be compatible with human responsibility, albeit mysteriously (Gen. 50:20).

Open theism, on the other hand, holds that the future is not fully known to God. His creatures are his co-creators working with God in a power-sharing exercise to determine that future. This would mean that God is neither omniscient nor sovereign, and runs the risk that humans will make bad choices, causing God to change his plans. Middle knowledge however proposes a strong view that God is working out his sovereign purposes while his creatures make genuinely free choices.

If God's purposes are changeless, why should we persist in prayer, as Christ and his apostles urged us to do? What is the value of the 'priesthood of all believers' having direct access to petition the Father, if God never changes his mind? Certainly, prayer focuses our minds on God's kingdom, and moves us from apathy to action in fulfilling his will. We want to be in the centre of God's purposes, but do we actually change them? God knows how we will pray, but has he rigged those prayers to serve his purposes?

This is not an easy subject to think

about and the book does not make light reading. As he reviews the alternatives at each point along the way, the book becomes repetitive and tiresome. If God held this middle knowledge *before* he decided to create the world, a metaphysical discussion about timeless eternity, with time being the fourth dimension of our space-time created order, would have been helpful.

DiRoberts' conclusion is not that Middle Knowledge resolves all mysteries, but it is, he advocates, the preferred way of understanding prayer, including our direct but humble access to the Father, our true friendship with God, the best explanation for unanswered prayers and the one most likely to galvanise our prayers. In Middle Knowledge our prayers clearly make a difference.

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Matthew Stanley
*Huxley's Church and Maxwell's demon:
From Theistic Science to Naturalistic
Science*

Chicago/London: University of Chicago Press, 2016. 336 pp. pb. £22.00. ISBN 978-0-226-42233-6

Matthew Stanley's book is a valuable addition to the flourishing historical scholarship on science and religion. Although he himself may identify with more Eastern Buddhist practices and beliefs this book focuses mainly on Victorian British Science. The central aim is to show how the history of science and religion is not one of inherent war in which naturalistic science inevitably replaces theistic science due to its superiority. Rather, as Stanley argues, naturalistic science had its birthplace in a specific time and location due to specific cultural and political factors. Contrary to the usually accepted belief, theistic science and naturalistic science could, and did, co-exist for a long time because their methodological values

were practically unified.

The book starts with a useful contemporary example of how this false historical dichotomy has played out by looking at political debates between the Intelligent Design movement and key supporters of naturalistic science, such as the philosopher of biology Michael Ruse. Stanley points out that both of these groups reinforce the idea that theistic science entails a radically different form of practice from naturalistic science.

The book then proceeds to show how a historical analysis renders this view untenable by focusing on two well-known Victorian savants, the biologist and leading naturalist proponent Thomas Henry Huxley (1825 - 95) and the evangelical theist and mathematical physicist James Clerk Maxwell (1831 - 79). Huxley and Maxwell held to differing religious beliefs, however, both were influential within their respective scientific fields and so serve as a satisfying, although not fully representative basis for an assessment of the scientific and moral values of each camp.

One of the major themes in the book is discussed in chapter two, which looks at the uniformity of nature. Here Stanley brings out the irony resulting from the views of both parties, that is to say, although both Maxwell and Huxley accepted uniformity, both proceeded to argue that the concept only made sense within their own world-views. The irony is that in reality both were able to successfully utilise uniformity within their standard scientific practices unproblematically. Stanley later proceeds to demonstrate how Huxley utilised numerous - and hugely successful - tactics over the course of the latter part of the nineteenth century in order to promote naturalistic science as the dominant methodology, as well as rewrite the history of science to make it seem as though science had always been practised in this way. Today we live in 'Huxley's Church'.

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Because the book is concerned primarily with philosophical concepts, the introduction of a practical example of how Huxley and Maxwell could work together successfully within a specific environment is the section I was particularly drawn to. Chapter four situates us within the walls of the Working Men's College led by the Christian socialist Frederick Denison Maurice (1805 - 72). Although the College itself was highly religious, Huxley was able to teach students there freely as was Maxwell, precisely because their actual scientific practices were virtually the same, even if they differed on what the outcome of their practices should lead to. I think that this inclusion was a wise choice as it served to break up the predominately intellectual nature of the rest of the book.

Where we begin to see differences that could not so easily be reconciled is in the area of free will versus determinism and the human mind. For Huxley, adopting W.B. Carpenter's work in psychophysiology as a basis – although Carpenter ironically disagreed with Huxley's conclusions – uniformity extended into the mind, which led him to proclaim that animals and humans alike are to be considered 'automata'. In opposition to this, Maxwell's evangelical belief in original sin meant that free will was a direct gift from God given to people as an opportunity to prove one's morality, and so extending determinism to the mind was unacceptable.

Stanley concludes with a chapter on how the naturalists won. However, even amongst all the naturalising reforms he shows that scientific practices themselves barely changed at all, which is in fact partly why the smooth transition was possible in the first place. Rather, what changed for the generation coming up under Huxley's teachings were the assumptions attached to scientific practice.

Whilst this book is a distinguished addition it is not exhaustive of the relationship between theistic and naturalistic science and perhaps one of its main limitations might be in its use of historical actors. In particular, because Huxley has been used and reused as representative of the naturalists, many other key figures within this camp, such as George Busk, William Spottiswoode, and John Lubbock, have often been neglected. Stanley's book does not offer much different in this respect, but he might be forgiven in this instance since in order to set up his argument in such a compelling manner, he would need to use two well-known savants who both played crucial roles in Victorian British science but would seem to be at odds with each other. Who better to start with than the leading polemicist T.H. Huxley?

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Jeff Hardin, Ronald L. Numbers, Ronald A. Binzley (eds.)

The Warfare between Science and Religion: The Idea that Wouldn't Die

Baltimore: Johns Hopkins University Press, 2018. 355 pp. pb. £29.50. ISBN 9-781-42142-618-1

One of the disappointments about the academic study of the history of science and religion is that, while all practitioners agree that the conflict hypothesis is false, we still seem to talk about little else. John William Draper's *History of the Conflict between Religion and Science* (1874) was published about 150 years ago, contains no footnotes or scholarly apparatus and, in the opinion of this reviewer, is practically unreadable. Andrew Dickson White's *History of the Warfare of Science with Theology in Christendom* (1892) may include a multitude of references but is no less tendentious in its conclusions. And yet, the shadows of these two books lie over our entire sub-discipline. This

new collection of essays asks how Draper and White achieved this prodigious impact. None of the authors represented here ask whether the conflict thesis is true or false. They all take for granted that it is wrong: a fabrication based on a misreading of the facts and in desperate need of correction.

In a series of short and tightly focused chapters in the first two thirds of the collection, the contributors look at the influence of the conflict thesis on various groups, including English and continental scientists, various Christian denominations and also other religions. The period under consideration is roughly the mid-nineteenth century to early twentieth, with a geographical range from New York to Constantinople. In their chapters, Bernard Lightman and Monte Harrell Hampton look at the intellectual development of John William Draper and Andrew Dickson White themselves. Draper's biography is unusual and fascinating. It's interesting to note he was the warm-up act before the famous debate in Oxford between Thomas Huxley and Samuel Wilberforce, where he bored everyone rigid. Lawrence M. Principe explains that Draper was not an atheist but believed in some sort of Averroistic world spirit. His *History of the Conflict between Religion and Science* was aimed squarely at the Catholic Church rather than Christianity or even religion in general. As M. Alper Yalçinkaya notes in his chapter on the reception of the conflict thesis in the Ottoman Empire, Draper had considerable sympathy for Islam and referred to it as the 'southern reformation'. His book was even translated into Turkish at the end of nineteenth century. For Muslims, the conflict was strictly a Christian problem. Most Ottomans insisted that Islam and science were never in conflict, and the rediscovery of the history of the Islamic Golden Age provided the evidence to prove it.

In the best chapter of the collection, Noah Efron shows that American Jews in the early twentieth century adopted the conflict thesis to fight against prejudice in what was an overwhelmingly Christian society. Their target was not Christianity itself but the hold it had on life and education in the United States. They used the conflict thesis to illustrate the need to fully secularise schools and universities to ensure that American science was not disadvantaged by Christian influence. Secularisation incidentally prevented discrimination against Jews. The debate about that influence by conservative and liberal Protestants is discussed by Bradley H. Gundlach and Jon J. Roberts respectively. Some liberal theologians even found occasion to praise White's *History of the Warfare of Science with Theology*.

These eleven chapters on reactions to the conflict thesis and the uses to which it was put provide many interesting perspectives. They show that the conflict thesis itself is a historical artefact open to investigation by scholars. Unfortunately, the second part of the book is much less valuable. Jumping forward in time to the present day, these chapters look at the way the conflict thesis has been covered by groups such as historians, new atheists and Christian apologists. However, these are simply surveys of the literature. There is little analysis or criticism of the views expressed by these groups. This is a shame as these later chapters were contributed by substantial figures such as Ron Numbers, Peter Harrison and John Hedley Brooke. A chapter in which Numbers gave Richard Dawkins both barrels would be of limited scholarly value, but it would at least have been entertaining. Chapters of the views of scientists and the public on the relationship between science and religion round off the collection. Thomas H. Aechtner's exposé of the historical illiteracy of many modern sociology and anthropology textbooks is particularly

revealing.

Like many collections of essays, this one suffers from the lack of an overarching theme. It would have been better if the last six of the chapters had been omitted and the extra space used to allow some of the excellent contributions on the intellectual environment in the years around 1900 more room to breathe. As it is, the collection contains much of value but feels disjointed.

Dr James Hannam is writing a book on the history of the shape of the Earth for Reaction.

Gerard Verschuuren

The Myth of an Anti-Science Church: Galileo, Darwin, Teilhard, Hawking, Dawkins

Brooklyn, NY: Angelico Press, 2018. 222 pp. pb. £14.50. ISBN 978-1-62138-426-7

Is it possible to generalise about the relations between the Roman Catholic Church and scientific progress? Some have thought so, most notoriously the nineteenth-century chemist and polemicist John William Draper, whose *History of the Conflict between Religion and Science* (1875) painted a vivid picture of a Church with hands steeped in blood, whose attitude towards scientific innovation had been typically hostile. For many, the image of an elderly Galileo ignominiously recanting his Copernican beliefs has been a potent symbol of antagonism between religious authority and scientific rectitude. Writing as a geneticist, philosopher of science and devotee of Thomas Aquinas, Gerard Verschuuren has other ideas. He aims to exonerate his Church and has a neat way of doing so. When the Church has censured scientists, it has not been for their science but for suspect ideologies hiding behind or grafted onto it – ideologies incompatible with Catholic teaching.

The mantra running through the book is that each of his five scientists has a

double personality – as scientist and ideologue. He can then argue, for example, that the Catholic Church did not have a problem with Galileo-the-Scientist, only with Galileo-the-Ideologue. The same formula is applied to Darwin, whose materialism, not his science of evolution, was unacceptable. Likewise with Teilhard de Chardin, a Jesuit rebuked by his Church not for his biological ideas but because his vision, in his own words, of a ‘new religion’, a ‘new faith’, a ‘rectified, explicated, re-born Catholic faith’ was judged theologically unsound, careless of the radical difference between spirit and matter. The Catholic Church was not against Stephen Hawking-the-Scientist but was entitled to reject his un-Catholic neglect of the fundamental distinction made by Aquinas between Creation understood as the ultimate source of all being and Creation as an event with a beginning in time. The self-confessed atheism of both Hawking and Dawkins, and particularly the genetic reductionism of the latter, are ideologies not entailed by their science.

Those are the bare bones of a thesis that is argued purposefully and tenaciously. It presupposes a sharp distinction between science and ideology, not always using the word ‘ideology’ in conventional ways. It turns out, for example, that Galileo’s ‘ideology’ was basically an over confidence in his science in a Galileo-centric universe, manifested in his deliberate neglect of Tycho Brahe’s system, in which the sun still orbited a stationary Earth, carrying the planets with it in heliocentric orbits. While admitting that, retrospectively, the layman Galileo was a more astute theologian than his clerical detractors, Verschuuren reprieves his Church on the conventional ground that Galileo had no definitive proof of the Earth’s motion. If the word ‘ideology’ is sometimes employed too loosely, the word ‘science’ is used throughout in a tenseless manner, to refer to a hypostatized entity that,

as the offspring of Catholic theology, still lives off Catholic capital (199). The oversimplification here will be apparent to those familiar with the books of Peter Harrison, notably his *The Territories of Science and Religion* (Chicago 2015).

There are, however, good reasons for engaging with the author's apologia. Important distinctions are made that will be of interest to anyone committed to creating space for both science and religion in the modern world. An obvious example would be the distinction between primary and secondary causality, as in the philosophy of Aquinas, which allows naturalistic and theistic explanations of phenomena to co-exist. Another would be the distinction between interface and overlap when relating the domains of 'science' and 'religion'. Verschuuren works hard to keep overlap to a minimum while having to acknowledge points of contact if Catholic theology was as instrumental in generating modern science as he believes it to have been. He makes much of the distinction between acceptance of a scientific theory and its official endorsement; and between its rejection by Catholic scholars and its official condemnation by their Church. Conveniently for his case, not even Darwin's theory of evolution by natural selection was ever officially condemned (though Catholic exponents were definitely cautioned). A concept of progressive, as distinct from immutable, revelation helps to accommodate the correction of biblical interpretation when advances in science require it. For those seeking clarity on the distinction between science and scientism, or between science and world-view, there is much here on which to chew.

My two main criticisms stem from the oppressively apologetic character of the work. Deploying metaphysical arguments retrospectively to unravel complex inter-relations between 'science' and 'ideology' runs the risk of distorting

historical realities. At times the author seems aware of this. Thus he writes that 'because it is sometimes hard to untangle the thoughts of Darwin-the-Scientist from the thoughts of Darwin-the-Ideologue, the Church did not quite know what to do with Darwin'(66). 'Unfortunately', he writes, the 'two Teilhards', scientist and ideologue, are 'intricately connected and sometimes hard to separate' (77). Exactly, one is tempted to say! But unfortunate, too, for what is a strikingly unsympathetic account of Teilhard's deeply spiritual interpretation of biological evolution, one that, however heterodox on topics such as original sin, was a remarkable inspiration to more than one generation of Catholics. Indeed, Verschuuren concedes that 'most current Jesuit and non-Jesuit theologians came from the "school of Teilhard", notably Karl Rahner and Hans Küng' (118).

Secondly, as one whose writing is deeply indebted to the scholarship of Stanley Jaki, the author shows a comparable reluctance to confer on any religious culture other than Roman Catholicism the privilege of having contributed to the origins of modern science. Consequently, there is virtually no discussion of Protestant stimuli to experimental methodologies, no recognition of the major role played by Lutheran astronomers in the development of Copernican astronomy, no reference to the role of Protestant biblical scholarship in facilitating a disenchantment of nature. In this respect we are given a historiography that is, and can only be, partial.

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Elliott Sober

Cambridge Elements: The Design Argument

Cambridge, Cambridge University Press, 2019, 83 pp. pb. £15, ISBN978-1-108-45742-2

Michael Almeida

Cambridge Elements: Cosmological Arguments

Cambridge, Cambridge University Press, 2018, 99 pp. pb. £15, ISBN978-1-108-45692-0

The two short books reviewed here form part of a series on basics of the philosophy of religion and are concerned with arguments from nature for the existence of God. The authors are philosophers, and although their subject matter deals implicitly with the interpretation of scientific data, they present only a little of that here, aiming rather to deal with general methodology. So these are not books that examine the actual scientific evidence in any detail, which in some respects is a pity. This is not 'science journalism', says Sober somewhat dismissively.

Sober starts his text with an overview of probability theory, since probabilities play a large role in his arguments about evaluating whether a body of observational data is likely to arise out of intelligent design, natural law or random occurrence. He assumes that the reader already knows what probability is. Although he does not distinguish very clearly between frequentist and Bayesian probability concepts, Bayes's actual theorem and its implications are well enough presented, and I think this section serves a good purpose. His next task is to summarise six ways of drawing conclusions from observational data, particularly as to whether they indicate the likelihood of design, such as whether the system under consideration was designed by God. He has problems with all the approaches he considers except one. With Bayesian likelihoods,

for example, he correctly points out that the believability of a Bayesian hypothesis depends crucially on its a priori likelihood – but assigning these can be very subjective. He prefers a purely 'likelihoodist' approach where you just compare the probabilities (or 'likelihoods') that particular hypotheses would give rise to the observed data – Bayesianism without the a priori factors.

But I don't think this will quite do either. Consider Joe who has just won a lottery. If he cheated, the probability of the observed result would be very high, while if he didn't it would be low. So the likelihoodist approach will always favour the cheating hypothesis, if cheating is possible. You sometimes really do need to include some a priori information, for example about people's honesty! Sober might object that this does not apply to design arguments. He grants, however, that his criticisms in this section are aimed at the simpler versions of the various arguments and that improved versions may be possible.

Sober then discusses the two major topics of biological creationism and cosmological fine tuning. It is no surprise that he is negative about drawing conclusions about design in biology when evolution will do the job, but he points out that evolutionists themselves sometimes use dubious arguments. He discusses irreducibly complex biological structures where no evolutionary explanation has been attained yet but might have gone into a bit more detail. Evolutionists in such cases usually use what Sober has previously criticised – an inductive argument that the evolutionary hypothesis has worked well in the past and will surely work again. I am not criticising this, but it shows that there are few rigorously perfect arguments. As Sober says, the biologists still have work to do.

Cosmological fine tuning has often been discussed in terms of the 'anthropic

principle', which is mentioned only briefly in the present text, and is about the fact that the constants of physics are amazingly precisely set up for the universe to produce beings such as ourselves. Sober grants that this seems to indicate two possibilities, an intelligent Designer or a multiverse. He then introduces a complication that he believes undermines this conclusion: 'observer selection effects'. He believes that such an effect prevents observers with physical bodies from using a design argument that is based on the fine-tuned physical nature of the universe. However, it seems to me that his argument here is both badly formulated and mistaken, and that the validity of the design argument remains unaffected.

Overall, I think that scientists and apologists can benefit from this book, despite the reservations voiced above, since it is informative and readable and makes a number of useful cautionary points – but it should be read in a critical spirit, especially in its concluding section.

Almeida's book is somewhat different. Cosmological arguments assert that God is the cause, reason or explanation of the universe. In particular they feature the kalam argument, which at its simplest states that everything that comes into being has a cause, and so if the universe came into being it must have had a Cause external to itself. The other traditional classes of argument discussed here centre around Aquinas, whose arguments were of several kinds, and Leibniz, who saw God as the underlying explanation for the universe. The arguments are often interrelated, since a First Cause may also be considered as a Sufficient Reason. Almeida has mixed feelings about them, but he offers a fairly thorough overview of what is on offer. He can be extremely fussy about the kind of premises that he is prepared to accept, thinking that there is 'fairly good reason' to disbelieve the premise that 'everything that begins

to exist has a cause'. My comment here is that experimental physics finds some kind of originating reason for everything it observes, although it is agnostic about the universe as a whole, and so this is a hazardous statement from a scientific point of view.

The simplest form of the kalam argument relies on the universe not being infinitely old, and Almeida delivers criticism of proposals (such as the mathematician David Hilbert's famous infinite hotel) that claim to invalidate the existence of actual infinities. He mentions a number of relevant points, but I found this section somewhat inadequate. To discuss infinities in this context you need to be careful in distinguishing potential, actual and physical infinities and you have to home in on the fact that an actually infinite structure cannot be entered from its infinite end. It is attempts to do this, which are mathematically disallowed but which a physical object would want to accept, which underlie several claims that a physically infinite object cannot exist. But does this extend to an infinitely old universe? This is not immediately clear, but some arguments can be made. Imagine an infinitely old universe that contains a periodically varying object, for example a non-rotating planet that has always revolved in a uniform way around a dead star. At time t we observe that point X on the planet's equator is facing the star. What has caused this to be the case? It is impossible to say, because any other point might equally have been in this position. Either this physical infinity is unrealisable, or else an external Reason is responsible. Another argument, more physical than philosophical, is that an infinitely old universe would surely have 'run down' into some kind of 'heat death' infinitely long ago. But these arguments can be contested, and in my opinion a better approach is to consider all the best cosmological models we currently have, and see if they permit an infinitely

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old universe. It does appear at present that this is disfavoured. Here is where the non-scientific philosopher is under a handicap.

Almeida writes as a philosopher for philosophers, and others will find the language he uses challenging. This would be my biggest reservation for readers of *Science and Christian Belief*. He uses the final section to present his own favoured approach: 'theistic modal realism'. This leads him to advocate a 'pluriverse' which is the 'totality of metaphysical space'. It exists as a matter of 'metaphysical necessity' and reconciles '[c]ontingency, necessitarianism, lawlessness, modal imagination, and indeterminism'. This makes the cosmologists' multiverse look tame! As a physicist, I would have to say: 'Not even wrong.'

This book usefully classifies and examines many of the relevant arguments, but scientific and general readers will find it a difficult read and will probably dispense with its final section.

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Robert Plomin

Blueprint - How DNA makes us who we are

London: Allen Lane, 2018. 266 pp. hb.
£20.00. ISBN 978-0-241-28207-6

Robert Plomin is Professor of Behavioural Genetics at Kings College London, and an international leader in this field. He has spent decades promoting the power of genetics in helping to understand differences in human behaviours and this book represents a readable and accessible introduction to the field.

The author describes the various methods and approaches used in the field, drawing not only on more traditional twin and adoption studies, but also on Genome Wide Association Studies [GWAS] and

measurement of polygenic scores that have come to dominate the field in more recent years. Polygenic scores take a great array of individual genetic risk scores, by themselves not statistically significant, and from them construct an overall risk score for the development of certain traits or syndromes. As the author emphasises, 'polygenic scores are probabilistic not deterministic' (154).

The author also explains the rather technical meaning of the term 'heritability' as used in the behavioural genetics field: the proportion of variance in a given population with respect to a given trait that can be ascribed to genetic variation. Unfortunately, the definition comes rather late in the discussion, so the word is often used in the earlier sections as if its meaning is clear, when its technical meaning is often unknown to people outside the field. The word 'heritability' can also mean what we inherit from our parents, but its technical sense is not about individuals at all, but rather is a population statistic.

When it comes to identifying the specific genes that are involved in contributing to population heritability values, the writer is quite correct in pointing out that earlier 'candidate gene studies' represented a complete 'fiasco' in the field and yielded very little worthwhile data. By contrast, providing large cohorts of people are genotyped, GWAS has led to the identification of thousands of genetic variants that contribute to the heritabilities of different traits, many of those variants completely unexpected. But even when more than one hundred genetic variants are identified in this way, they often explain less than 10 per cent, and certainly less than 50 per cent, of the overall heritability of the trait in a population, suggesting that plenty more yet wait to be discovered.

Other fascinating observations emerge from heritability studies. For example, the heritability of measurements of

intelligence increases from 20 per cent in infancy, to 40 per cent in childhood, to 60 per cent in adulthood (55). The same abnormal genetic variants often crop up in apparently quite distinct behavioural traits. Some of the same genes seem to be involved in both reading disability and reading ability (59). And ‘...instead of distinct sets of genes for schizophrenia and bipolar depression, twin studies suggest that many of the same genes affect both’ (169).

Given such a survey of the book’s readability, interest, and general accuracy on the science, why then should a scathing review of this book appear in the journal *Nature*? As the reviewer comments: ‘It’s never a good time for another bout of genetic determinism, but it’s hard to imagine a worse one than this’ [N. Comfort, ‘Genetic determinism redux’, *Nature* 561: 461-463, 2018]. Strong words indeed, but an indication of how passions run deep in this particular field. Are the reviewer’s comments justified? Unfortunately, to a large extent they are. Part of the problem is the very title of the book. A ‘Blueprint’ certainly suggests a determined outcome, an idea reinforced by the sub-title ‘How DNA makes us who we are’. Furthermore, there are plenty of comments in the book that tend to support such an interpretation. For example: ‘DNA is the blueprint that makes us who we are. Environmental effects are important too, but they are unsystematic and unstable, so there’s not much we can do about them’ (186). ‘...genetics is the main systematic force in life’ (92). ‘DNA isn’t all that matters but it matters more than everything else put together’.

Those messages seem pretty clear, but on the other hand the author does seek in other places to play down the idea that the genes are deterministic in how people behave, emphasising that ‘Genes are not destiny. You can change’ (92), commenting on the ‘interplay between nature and nurture’ (169). Such

contradictory messages are scattered throughout the book. I think partly to blame is the author’s own long history in the field. For years the environment was all that counted for psychologists and genes were simply discounted as irrelevant. Now the pendulum has swung the other way and the author feels vindicated. But if the author had been more judicious in his language, then I think his book would have carried more readers with him.

Certainly when it comes to the book’s description of the potential applications of behavioural genetics in education and daily social life, then alarm bells start to ring. ‘Although it might seem far-fetched and perhaps dystopian, dating websites might extend their data to include polygenic scores’ (180). The author suggests that it is really genetics that ultimately determines whether a child does well or not at school, polygenic scores being used to predict achievement at secondary school and university. The possible use of polygenic scores for the purpose of employment is ‘again an empirical issue’ (181). But a basic problem in all these suggestions is that polygenic scores are probabilistic and say nothing as to what actually might turn out to be the case for a given individual. Polygenic scores relevant to education and employment refer to population averages not to individuals.

So as a readable introduction to a complex field, this book is recommended. But the book’s over-deterministic narrative should be discounted in favour of a more nuanced and careful framing of the role of genetic variants in influencing our different behaviours.

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Bethany N. Sollereeder
*God, Evolution, and Animal Suffering:
Theodicy without a Fall*

Routledge, 2019. 205pp. hb. £115.00 ISBN
978-1-138-60847-4

The central metaphor of *God, Evolution, and Animal Suffering* is that of a mosaic. Bethany Sollereeder presents, assesses and assembles individual tiles in order to compose a response to the problem of evolutionary suffering. This tessellated technique serves as a helpful literature review for those who are new to the academic field of natural theodicy, but it also reflects Sollereeder's underlying conviction that 'there are multiple helpful approaches' to the question of animal suffering. (185)

Suffering, it seems, is endemic to the evolutionary process, and yet most Christian responses to suffering have little or nothing to say about the non-human world. Standard fall narratives propose that disorder spread to the rest of creation as the result of human sin. But there is a fundamental, chronological problem with such explanations: evolutionary suffering 'has no human involvement at all and precedes human existence by hundreds of millions of years'(1). Furthermore, other fall scenarios – including an angelic fall or another primordial element of negativity – are inconsistent with a creation that is described as 'very good' and a God who seems to take pride in violent beasts (22).

Sollereeder's somewhat radical proposal, therefore, is that the natural world is not fallen at all. In Chapter 2, she offers a close reading of the biblical text in order to show that the Scriptures allow for this innovative suggestion. Although the land is cursed in Genesis 3, Sollereeder argues that this curse is revoked by God's new covenant with Noah in Genesis 9 (27). The 'disvalues' that we observe in nature today – from the parasitic ichneumon wasp to the 'spare' chick of the white pelican – are not part of a fall

but are somehow included within God's loving intentions for creation.

Chapter 3 then opens out to survey the scene. If we set aside the fall, what are the remaining options for the would-be natural theodicy? This is where Sollereeder furnishes us with a clear overview of the field, from the transactional language of 'Good-Harm Analyses' to the narrative world of Eleonore Stump's *Wandering in Darkness*. Sollereeder's own proposal draws on numerous elements from these previous authors – hence the metaphor of an overall mosaic – but she is also clear that her response starts, not from individual instances of suffering, but from reflection on the nature of God. Chapters 4, 5 and 6, therefore, head into more philosophical and doctrinal territory.

First, Sollereeder describes the character of God's love in creation, including its limitlessness, its precariousness and its vulnerability. God limits God's own self, she suggests, in order to allow for the emergence of creatures who can freely love God in return. Secondly, Sollereeder considers what sort of divine action is possible within this kenotic framework, and she focuses on four ideas. God's gift of being, God's co-presence, a divine lure and divine participation are all viable routes for God's interaction with the world. Finally, Sollereeder suggests how different models for non-human redemption might contribute to a comprehensive eschatology. She combines forms of this-worldly redemption with a traditional account of the resurrection of the body, and concludes, on the basis of the character of God's ubiquitous love, that every individual of every species will be included in one way or another. (163)

Sollereeder's eschatological vision – much like her overall theodicy – is best described by the mosaic metaphor. She includes in the book a visual representation of what she has in mind: a mosaic of individual photographs

of different animals which, with their varying degrees of light and shade, combine to make Michelangelo's picture of *The Creation of Adam*. (166) Each creature is included in its totality, with all its sufferings and all its joys, but it also contributes to the greater picture of creation. Christ, says Sollereeder, can be thought of as both the central pixel and the organising algorithm. (175) The point is that, 'every picture, every creature, every ecosystem, every relationship, is placed in a new arrangement that faithfully captures, redeems, and completes their experience' (167).

Sollereeder's book is carefully constructed and impressive in its coverage, but there are two places where I would want to probe a little further. First, she draws a sharp boundary between the living and the non-living creation. She writes, for example, that, 'God can love the smallpox virus, but not the mountain' (104). Hence, other 'natural evils', such as earthquakes, floods and hurricanes, are beyond the scope of this study. However, a number of recent philosophies – such as the new materialisms, new animisms, assemblage theory and actor-network theory – challenge us to consider the interconnections within the ecosphere and the porosity of our categorisations. This is not to say that we should collapse all difference, but it does encourage us to question where the lines are drawn. We might begin to wonder exactly what qualifies the smallpox virus for redemption?

Secondly, this book inhabits a tension that frequently surfaces in writing on evil and suffering. On the one hand, Sollereeder suggests that she is not writing a theodicy per se, but 'more of an exploration of the God-world relationship in which the suffering of animals is a coherent part of the created landscape' (2). She is explicitly clear that she does 'not intend to stay in the courtroom making cases' (3). And yet, on the other hand, the book still operates

in an abstract and theoretical register. Sollereeder does touch on Kenneth Surin's hard-hitting anti-theodicy, (59-61) but further, meta-level reflection on the praxis of theodicy would be interesting to read.

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Eduardo Sasso

A Climate of Desire: Reconsidering Sex, Christianity, and How We Respond to Climate Change

Eugene, Oregon: Wipf & Stock, 2018.

167pp. Pb. £18. ISBN 978-1-5326-5551-7

This short book is somewhat different from the usual Christian perspectives on climate change and therefore all the more thought provoking. Sasso describes himself as a 'recovering engineer' and that the book is about 'desire: about what we long for and about the consequences of our longing'. His Canadian / Costa Rican background provides the backdrop to his writing, as does his involvement in founding the Earthkeepers organisation, which is described in more detail in the book's Annex. He is an activist and that perspective permeates the book.

In many ways the book has the flavour of the preaching of the biblical prophets, not least because Sasso interacts with the writings of Jeremiah the prophet and John the seer (in Revelation) in weaving together the topics of sex, Christianity and climate change. The book makes extensive use of narrative and metaphor to paint the picture of what we are doing to the Earth. Sasso himself states that the book blends 'realism and imagination, practice and possibility, analysis and anecdote'.

Sex enters the picture because the biblical prophets likened the covenant between God and his people to marriage

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and the people prostituted themselves by following other gods and idols. In the book of Revelation, John describes the economic and commercial dominance of Babylon the great (aka Rome) and portrays her as the great prostitute and the mother of prostitutes, who seduces people. Sasso applies the prophets' imagery and rhetoric to present day idols: idols such as consumerism (with its modern temples, the shopping malls) and endless economic growth (the latter described as 'sacred pie-in-the-sky'). The terminology used by Sasso, like Dark King Coal and Prince Oil, evokes images of some of the idols that global civilisation is in thrall to, and that are the causes of climate change. He notes too that climate change is a symptom of many problems, one of which is 'our one-way ecological love affair propelled by the endless extraction and mindless burning of fossil fuels'.

An important observation made by Sasso is that 'facts by themselves don't spur us into action, but more likely into despair or denial'. The facts of climate change – increasing global temperatures and so on, a result of our continuing use of fossil fuels – are well known, but action is often sadly lacking at the individual, corporate and government level. Sasso does present the facts but, more importantly, he tries to stir his readers' hearts and imaginations in a way that might lead them to act, to live differently, to 'earthkeep' God's good creation, so that future generations might enjoy it.

To give a flavour of the writing I will end with this quotation from the book, 'When they fail to serve the common good, governments and corporations behave like self-obsessed idols that have eyes that do not see, and ears that do not hear (Jer. 5:1; Ps. 115). By bowing down to money and power, these modern giants can easily "prostitute themselves with many lovers" and go on "defiling the land with their vile harlotry" (Jer 2:7; 3:1).'

If you want to encounter a different Christian perspective on climate change then Sasso's book definitely meets that need. In terms of science there is nothing that has not been said elsewhere, but in terms of the biblical challenge to our lifestyles it speaks prophetically and requires a response.

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Steve Donaldson

Dimensions of Faith: Understanding Faith through the Lens of Science and Religion

The Lutterworth Press, 2015. 282 pp. pb. £25. ISBN 978-0-7188-9421-4

In *Dimensions of Faith*, Steve Donaldson (1951-2018), a former professor of computational biology and a cofounder of the Samford Centre for Science and Religion (USA), explores the nature of faith, especially as it applies to science and religion. A keen outdoorsman, Donaldson's book is replete with illustrations and stories inspired by the exploration of nature. In this spirit, he offers up his book as a 'cairn of sorts' (xi); its aim, to help the reader to 'discover new and productive ways to think about faith, take a hard look at the reasons for specific beliefs, and evaluate [their] own approach to truth' (xi).

Donaldson was a Christian and most examples, when taken from a specific religion, are Christian ones; however, for the most part he discusses 'religion' in general terms. The book is largely basic in its intellectual demands but is perhaps better described as an intermediate level text in that it provides a sustained discussion on a single topic. It should be of interest to anyone concerned with the nature and role of faith, whether they would consider themselves to be religious or not.

The book is divided into four parts. In part one the author considers the nature of faith, stating that 'to be valid, faith must always be accompanied by critical examination' (6). This might require the uncomfortable process of questioning long held beliefs and assumptions but is worth the effort. Seven common misconceptions about faith, for example that faith is not based on evidence or is a purely religious phenomenon, are identified and corrected. Then follows the most important (fourth) chapter of the book, in which the author elaborates and defends his definition of faith, namely that it is a probability judgement. As such, not all instances of faith are held with equal certainty. Far from being confined to religion, faith is ubiquitous, spanning all areas of intellectual inquiry and forming a necessary part of our existence. Lastly, the relationship between faith and the brain is considered. While not explicitly arguing for or against the existence of a soul as metaphysically distinct from the body, Donaldson emphasises the role of the brain in faith, arguing that the brain, as a probability machine (noting, for example, the stochastic behaviour of neurons), provides the basis for the probabilistic nature of faith.

Part two examines the relationship between faith and reason. Humans are limited in various ways, for example we are spatially and temporally constrained and are forced to approximate the answers to many significant questions, meaning that much has to be accepted on faith. While certainty may frequently prove elusive, it is important to maximise the accuracy of our beliefs. To do this, the author encourages us to adopt the attitude of an explorer, embracing the unknown and critically examining our beliefs and the assumptions which lie behind them, as opposed to that of a mechanic, who seeks merely to maintain things as they are. Although we will never achieve God-like omniscience, perfect knowledge is nonetheless a worthy goal

for which to aim.

Part three focuses upon religious faith. The author claims there is no difference between religious faith and other types of faith, only in the object of faith, the aim still being to find the most accurate (in this case religious) beliefs. Indeed, it may be that other areas of inquiry, including the sciences, exhibit elements of religion. While some may complain that God has not made himself sufficiently clear, perhaps the problem lies with us, our assumptions and the effort we are willing to make in order to discover the truth about a God who has most likely revealed himself on his own terms, rather than ours. Religious faith has a personal element, as with human relationships and also engages the emotions; however, 'knowledge trumps feelings' (229).

Lastly, in part four, the author argues that not only is life without faith impossible, a world with faith is desirable since it is in such a world that we find our true freedom as explorers journeying after truth. Since we will never know everything, this is a journey that will never end.

Donaldson's book has a number of strengths. Firstly, and most importantly, it achieves its aim (quoted above) – as a result of reading this book I am now thinking about faith in new ways and have more carefully considered my approach to truth. Thus, this book is of value, even to those who would disagree with certain aspects (more below). Moreover, it is insightful, winsome, thought-provoking and entertaining; a serious attempt to deal with an important topic and one which reveals that the question of faith may not be as cut and dried as those on different sides of the debate might have supposed. Though a serious book, the author's sense of humour shines through its pages, as exemplified by the choice of conversation partners which range from Kant and Hume to Dirty Harry and the Beach Boys. Furthermore, the

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use of exercises serves to get the reader thinking and engaged with the topic, while the explorer analogy is particularly apt, resonating with Mark 4:9-25 that effort is needed to bring truth 'out into the open' (Mk 4:22).

Despite its strengths, this book possesses, in my opinion, three key weaknesses. Firstly, I feel that the definition of faith as a probability judgement, which is central to the book, is incomplete. Donaldson equates faith with belief; however, I would argue that Christian faith also includes trust and entry into God's promises (McGrath *Bridge-Building*, 1992). While Donaldson's definition may be adequate to describe the belief aspect of faith, it falls short of capturing the other two. This calls into doubt the author's claim that religious and scientific faith are the same since the third aspect of faith would appear to be without parallel in science.

Secondly, the author's argument against the Calvinist perspective is superficial, its rejection causing serious problems in his discussion by placing the burden of truth-finding upon human reason and jettisoning precisely the theological resources required to take an exploratory approach toward faith. Indeed, Donaldson shows awareness of this tension in his admission that the search for truth may look 'perilously fragile' (250), though shying away from this conclusion himself. Holding the twin truths of God's sovereignty and human freedom together provides the security and confidence to adopt the attitude of an explorer. Since coming to and remaining in faith does not depend upon our flawed human faculties (Jn 10:28-29, Eph. 2:8, Heb. 12:2) we can be sure that, whatever epistemological upheavals might ensue, our relationship with God and our salvation are secure.

Thirdly, Donaldson fails to interact with (arguably) the two most important developments in Christian epistemology

of the last half-century, namely presuppositionalism and reformed epistemology. Presuppositionalism emphasises the need to found our thinking upon the assumption that Scripture is true and that the God of Scripture is real, rather than upon human reason or empiricism which are impaired by the noetic effects of sin (Frame *The Doctrine of the Knowledge of God*, 1987). Reformed epistemologists claim that belief in God is properly basic, such that it can be rational to believe in God apart from any evidence (Plantinga *Warranted Christian Belief*, 2000). Both schools of thought sharply cut against Donaldson's claim that 'faith must ultimately be verified if it is to have any real merit' and that '[e]vidence is the source of that confirmation' (130).

I propose that we conceive of the author's definition of faith as a model, rather than as its full and final description. Consequently, as with any good model, its weaknesses may be as illuminating, if not more so, than its strengths. While I do not entirely agree with the author's definition, it succeeds in capturing something of what I think is meant by faith, while at the same time inviting and stimulating further thought and discussion (it has certainly got me thinking!). As Donaldson notes, a healthy faith requires the attitude of an explorer, and this is no less true when considering the nature of faith itself. The adventure may never end, but it is one well worth pursuing.

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Jon Garvey

God's Good Earth: The Case for an Unfallen Creation

Eugene, Oregon: Cascade Books, 2019. 250 pp. pb. \$30.00. ISBN 978-1-5326-5200-4

A few years ago, Jon Garvey, known to many as the mind behind the science-and-faith blog *The Hump of the Camel*, began to question one of his most basic assumptions about the natural world: that it has, to a greater or lesser degree, been corrupted by the fall of man. This view, though not often taught explicitly in churches, is nonetheless prevalent among Christians and evangelicals in particular. The idea that Creation itself is fallen and has, in its very essence, something wrong with it – the so-called natural evil that inflicts us with everything from fleas to earthquakes – forms part of the paradigm that we imbibe from books, sermons, blogs and conversations with our brothers and sisters in Christ. Many Christians are now challenging this view, however, and Garvey has sought to synthesise these voices into a robust defence of the goodness of Creation against the 'traditional view' of its corruption.

God's Good Earth is written for the informed Christian layman while tackling a number of scholarly topics and presenting a challenge to the academic science-and-religion community. The book is divided thematically into four sections. In Section 1, Garvey establishes a solid biblical foundation for the continued goodness of Creation in spite of the Fall. He provides a thorough overview of the relevant scriptural passages and the theological conclusions that can be drawn from them. Historical attitudes to the fallenness of Creation are explored in Section 2, where Garvey surveys notable theologians from the Church Fathers onwards, highlighting their views on the corruption (or otherwise) of Creation. Garvey identifies that, up until the sixteenth century, the prevailing view

was that Creation remains unaffected by the Fall. A major intellectual shift appears to have occurred sometime around the Reformation, after which the view shifted to one of despair at the utter corruption of Nature, at least among Protestant writers.

In Section 3, Garvey takes issue with the various ways in which biology is used and abused by theologians and popular science writers alike, particularly in relation to the concept of natural evil and the sentimentalisation of animal suffering. The appearance of evil and suffering in the natural world has become a pillar of atheism and Christians have too often bought into the idea that Nature is bad and cruel, rather than presenting a rival view of the goodness of Creation. Garvey presents a more nuanced picture that clears away unhelpful anthropomorphisms. The book concludes with a call to action in Section 4, where Garvey argues that, rather than depressing and reviling us, Creation should overwhelm us with joy and awe, leading us to prayerful thanksgiving and worship and ultimately motivating us to labour for its care.

Garvey, like so many of us, is indebted to John Walton and J. Richard Middleton for much of his interpretation of Genesis, carefully integrating their insights and others into a focused account of the goodness of Creation as affirmed in the Bible. The scriptural exegesis in Section 1 is well structured and convincingly argued, with consideration given for historical and literary contexts. In contrast to these robust theological arguments, the historical analysis in Section 2 is disappointingly weak. Garvey seems to have approached this section by putting his hypotheses first and then haphazardly gathering evidence to support them, often ignoring alternative views and wider bodies of scholarship. There is little consideration for the historical development of ideas,

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the connectedness between historical writers, or their intellectual contexts.

For example, Garvey proposes that the post-Renaissance popularity of the myth of Prometheus and Pandora led to a reinterpretation of Genesis, turning it from a primarily spiritual narrative into an aetiology of natural evil. While I am convinced that a paradigm shift in the perception of the natural world did indeed occur sometime around the late Middle Ages, historically minded readers will be less than convinced by Garvey's promethean explanation, for which very little evidence is provided and alternative hypotheses are left unmentioned. Are we to suppose that nothing happened in the two and a half centuries between Thomas Aquinas and Martin Luther that could account for this monumental change of perception, other than the rediscovery of Prometheus?

Similarly, in looking for an ideology that could serve to justify the catastrophic destruction of Creation in modern times, I was disappointed to find that Garvey blithely places the blame on Francis Bacon and his followers, who supposedly advocated the 'torture' and 'rape' of Nature for the selfish benefit of mankind. With rhetorical flair, Garvey even blames Bacon for human overpopulation, weapons of mass destruction, and abortion. The idea that Baconianism is responsible for the modern ecological crisis has long been a topic of intense debate among historians of science, but Garvey makes no mention of this and fails to engage with alternative perspectives.

In summary, there is much to learn from *God's Good Earth*, though one may find it a difficult and unconvincing read at times. The book would have also benefited from more citations throughout, as it can be difficult to discern which ideas originate with Garvey and which should be credited elsewhere. Nonetheless, the strengths of the book lie in its distillation of various scholarly ideas, with a focus

on the biblical witness to the goodness of the natural world, and in its emphasis on the faithful stewardship of Creation. Garvey rightly argues that, by denying the continued goodness of Creation, we Christians have shown ingratitude towards God and complacency towards our calling of stewardship, negatively affecting our witness to the world. We need to return to the old paradigm, praise God for his bountiful Creation, and labour in faith till Christ returns and fills the earth with his glory.

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John C. Lennox

Can Science Explain Everything?

UK: The Good Book Company in partnership with: The Oxford Centre for Christian Apologetics; The Zacharias Institute, 2019. 128pp. pb. £7.99. ISBN 9781784984113

This short and very readable book is a helpful summary of John Lennox's popular talks on science and Christian faith. The answer to the question in the book's title is of course 'No', and is given partly through stories of Lennox's own life and work as a mathematician, augmented by his extensive reading in the field.

The main arguments will be familiar to most readers of this journal. For example there are, and have been, many successful scientists who believe in God. Science can answer how, but not ultimately why things are as they are. Scientific studies have shown that belief in God is healthy. Arguments that science is the only true route to answers to the questions in life are usually either circular or category errors. Genesis 1-3 is not a literalistic explanation of how the world came to be, so it does not compete with scientific explanations.

The last three chapters of the book explain why a scientist can accept

miracles, the evidence for Jesus' existence, the events of his life and the reliability of the Bible, and the reasons why we need to be in relationship with God. Ultimately, we need both science and religion in order to understand the universe fully.

I had some questions about a few pages (60-63) in chapter four which address the concept of methodological naturalism, or supernatural explanations for scientific questions, without using that jargon directly. It's a very small section of the book, however, and not everyone would notice the link between Lennox's argument here and a much-debated area of the philosophy of science – as well as theology. I wouldn't let this brief mention of a controversial topic put the reader off buying or recommending the book.

This is a well-written and comprehensive, but yet approachable, answer to the question of whether science rules religion out of court. I would happily put this book in the hand of any student who wanted to find out whether they needed to worry about the relationship between science and faith, or anyone who wondered how a member of Christians in Science could reliably claim to be both a genuine Christian and a reputable scientist.

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Pablo Martinez and Andrew Sims
Mad or God? Jesus: The Healthiest Mind of All

London: IVP, 2018. 208 pp. pb. £9.99. ISBN 978-1-78359-605-8

The premise of this book by Martinez and Sims is to examine the popular idea that Jesus suffered from a mental disorder. Why do such doubts about Jesus' sanity exist? The authors begin to unpack this question by firstly considering the reasons why throughout history people

have sought to label Jesus as mad. They highlight how truly radical and counter-cultural he was.

They go on to consider whether or not Jesus may indeed have been mentally unwell. As two psychiatrists, Martinez and Sims provide helpful definitions for those less familiar with the field of psychiatry as they consider different forms of psychopathology in light of various aspects of Jesus' life recounted in Scripture. In doing this, not only do they reject the idea that Jesus was mentally unwell, but they begin to reveal that indeed Jesus may have had 'the healthiest mind of all'.

The concept that Jesus had 'the healthiest mind of all' is the backdrop for the chapters that follow. Martinez and Sims examine different aspects of Jesus' identity that demonstrate his authority and moral integrity. They consider his character, specifically his humility, gentleness, responsibility, patience and love shown to others. The love shown by Jesus towards others is explored further as his relationships with others shown through Scripture are examined. His response in the face of adversity and wider influence are also discussed.

Thus, in examining Jesus's sanity, Martinez and Sims are able to do far more than merely refute the notion that Jesus was mad. They are able to reveal to the reader the character of Christ. The C.S. Lewis 'trilemma' of 'This man we are talking about either was (and is) just what he said, or else a lunatic, or something worse', is touched on throughout the book and much of the structure of the narrative hangs on this. As a result, Martinez and Sims, having explored the possibility that he may have been 'a lunatic', as Lewis words it, or 'something worse', end the book by examining what Jesus really did say he was, his claims made in Scripture about his purpose and God's will for his people.

Book Reviews

As a psychiatrist myself, I found the initial analysis of Jesus' mental health added little to what I could probably have concluded myself. However, this is less likely for those unfamiliar with our field. Where this book really shines is in its examination of the positive attributes of Jesus, by this I mean what he possessed, not merely what he lacked, namely the absence of mental disorder, which is just one of the three possibilities within Lewis's trilemma. Indeed, Martinez and Sims should be commended for choosing to focus most of the book on these attributes. Therefore, I found myself asking, who are the target readers? I concluded that, by providing such a beautiful picture of Christ, Martinez and Sims have created a book suitable both for those familiar and the unfamiliar with mental health, and for established, new and non-believers alike. This is an inspiring read for all.

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Craig M. Gay

Modern Technology and The Human Future. A Christian Appraisal

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This is not a book about transhumanism alone. Rather, it is an analysis of how the increasing use of technology, and of automatic technology in particular, impacts our humanity as meant by God.

The reader who will probably benefit most from this book is the (western?) Christian uneasy with the apparent surrender of our modern world and culture to the onslaught of technological marvels but unable to identify exactly what is wrong with this.

Craig M. Gay is professor of

interdisciplinary studies at Regent College in Vancouver and holds a PhD from Boston University. He is in a unique situation to write this book, as in addition – as stated in the introduction and again in the conclusion – he has benefited personally from modern technology, his father having founded a successful tech company in Silicon Valley.

His analysis however is very clear: the position that modern technology holds in our world is dangerous. Not because of any symptomatic collateral damage it might be causing in its pursuit of progress, but because at its core it undermines what it means for us to be human and what it means for our relationship with our fellow humans and with God.

The book is clearly separated into five chapters, which probably could be read independently. The first, more than just an introduction, is an extensive overview of the negative consequences of technology. An informed reader might not find much new content here and – if of technophile inclinations – will not necessarily be convinced of the dangers described there; but it presents an exhaustive view of current problems. The second chapter was the most surprising to me, as it focuses exclusively on the economic factors and capitalist system that allows and incentivises the increasing use of technology. This is a good example of what I found most useful of this book: it focuses very much on the root causes, beyond a mere superficial critique. Protestantism gets its fair share of criticism in that second chapter, as it does in the third, dedicated to the philosophical trends behind the current trajectory of modern technological development. This chapter is the densest as it tries to summarise the history of centuries of ideas that give rise to the current situation which has technology at its core.

After those three rather bleak chapters, the fourth focuses on how

things ought to be. It is here where the 'Christian appraisal' of the subtitle comes to full fruition, as it is based on the biblical narrative of creation, fall, redemption and consummation. Two concepts which are central for Gay are discussed at length. The first focuses on the creation of humans in time and space, and how modern technology often tries to undermine that by compressing time and pushing constantly for more productivity (whose denominator is time). With respect to space, there is a constant nudging to take us out of our current physical place into cyberspace. In the meantime, in the physical world our current time tends to make places all over the globe uniform (especially visible in agriculture), which stands against the diversity intended in God's creation. The second concept, which is central to the proposed solution, is the embodiment of Christ, in time and space – a truth which underscores the importance that God gives to our bodily experience.

The book would have been merely an interesting theoretical treatise, were it not for the last chapter, aptly entitled 'What on earth shall we do?'. It proposes three levels of actions. They go from surprisingly (for such an intellectual book) very simple basic actions ('technological fasting' to counterbalance

our dependence on devices), to the more fundamental but less concrete one of asking – as individuals and as a Church – important questions. Those questions should make us think what constitutes genuinely human purposes and might make us reconsider our current way of living.

Gay shows a remarkably broad knowledge of both technology and philosophy. On the technological side, most of his comments are accurate and a good reflection of what fuels modern tech companies. On the philosophical side, there is rarely a page without a quotation, while a few thinkers get a more extensive treatment. This can make for dense reading sometimes, but at the same time it provides good pointers for those interested in digging deeper.

On a personal note, this book had a profound impact on me. Both as avid user of and as an active contributor to technology in my daily job, I was constantly challenged to 'try to do those things that are actually within our power to do' (169), interpreting the answer of John the Baptist.

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