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NOTES ON CONTRIBUTORS

Robin Attfield is a Professor of Philosophy at Cardiff University. Besides works on ethics and on environmental philosophy, he has recently published *Creation, Evolution and Meaning* (2006).

Max Baker-Hytch is a doctoral student at the University of Oxford, researching the epistemological implications of naturalistic explanations of religion.

Sjoerd L. Bonting is an Anglican priest-theologian and emeritus professor of biochemistry, Radboud University, Nijmegen, the Netherlands. He is the author of *Creation and Double Chaos* and other books on the science-theology dialogue

Geoff Dumbreck is the author of *Schleiermacher and Religious Feeling* (Leuven: Peeters, in press)

David Grumett is Research Associate in the Faculty of Divinity, University of Cambridge. His publications include *Teilhard de Chardin: Theology, Humanity and Cosmos* (2005) and a chapter in the newly-published collection *Transhumanism and Transcendence: Christian Hope in an Age of Technological Enhancement*, ed. Ronald Cole-Turner (Washington, DC: Georgetown University Press, 2011).

EDITORIAL

Issue 58 brings my first editorial as the new editor of *Reviews in Science and Religion*. I look forward to the rewards and challenges that this role will bring with much enthusiasm and anticipation, and I am grateful to Andrew Robinson for his ongoing help in preparing *Reviews* for publication and to Chris Southgate for his help with this issue which is, effectively, a joint issue before I take over the reins fully next May. The first thing I would like to do is to thank Chris for his contribution over the last five years as editor of the journal. I am sure that all the members of the Science and Religion Forum will join me in voicing appreciation for his commitment and for the innovative directions in which he has taken the publication: he will be a hard act to follow! For future editions, I will, of course, be dependent on your support: please do suggest reviews published elsewhere that you feel would be worthwhile reproducing and please do have a look at the list of books received for review to see if any of these appeal to you.

Since the last edition of *Reviews*, many Forum members have enjoyed the Forum's September conference in Cumberland Lodge, Windsor Great Park. The conference was tremendously successful and a report is contained within these pages so that those who attended may happily relive the event and those who did not can lament what was missed.

With my newly found editorial powers I have decided to take the liberty of contributing a piece about a 'book that made a difference' to me. This had to be Sallie

McFague's *Models of God* (1987) and I believe it still has much to offer to the science-theology conversation. The ecological basis for her theological reflection makes for a thorough integration of science and religion: I very much hope you will enjoy revisiting her earlier work by reading the review as much as I did by writing it. Robin Attfield's review of Christopher Preston's *Saving Creation: Nature and Faith in the Life of Holmes Rolston III* is our review article for this edition. I'm sure all readers will agree that Rolston is an extremely important figure in science and religion. Preston's book is notable for its biographical style and it reminds us all of the significance of the events of our daily lives on our academic thought. Elaine Ecklund's monograph (reviewed by Sjoerd Bonting) and David Gosling's book (reviewed by David Atkinson) also consider the importance of the personal religious beliefs of scientists and their attitudes towards the science-theology conversation.

As some of you may know, this year marks the tercentenary of the birth of David Hume. Although far less celebrated than Darwin's bicentenary (and only really noticed north of the border), Hume raised important questions about the ability of science to discover causal connections between events and about the very possibility of metaphysics. Questions of cause and effect are central to Charles Foster's *Wired for God* reviewed by Geoff Dumbreck, while metaphysics, of course, lies at the heart of Ilia Delio's *The Emergent Christ* and Malcolm Jeeves' edited volume *Rethinking Human*

Nature, reviewed respectively by David Grumett and Max Baker-Hytch.

Hume suggests wining, dining, a game of backgammon and making merry with friends as palliative treatment for scepticism. I will take the liberty of suggesting a good read of this edition of *Reviews*: although please feel free to supplement it with any of the aforementioned. On that note: enjoy!

THE ARTHUR PEACOCKE ESSAY PRIZE

I am delighted to report that George Medley III was awarded the Arthur Peacocke essay prize for his essay, 'The Inspiration of God and Wolfhart Pannenberg's "Field Theory of Information."' George is a doctoral student at King's College London working on divine activity and cosmic dynamism in Wolfhart Pannenberg's Theology of Redemption. He was thrilled to attend the conference in September at Cumberland Lodge and has been awarded membership of the Forum for the forthcoming year. I congratulate George and wish him well with his future research.

REPORT OF THE 2011 CONFERENCE

INSPIRATION IN SCIENCE AND RELIGION, HELD JOINTLY WITH CUMBERLAND LODGE, WINDSOR GREAT PARK, 25-27 SEPTEMBER 2011.

The Forum's conference in 2011 was organised jointly with Cumberland Lodge and took place at the Lodge in Windsor Great Park. Its theme, 'Inspiration in Science and Religion' was addressed in eight plenary sessions and one session of short paper presentations. Each talk was followed by a lively period of 'question-and-answer'.

The conference got off to a flying start with a lecture about historical perspectives on inspiration in science and religion, followed by a session about Christian and Islamic perspectives on inspiration in religion. One speaker spoke about the huge growth and popularity of the Pentecostal and Charismatic movements both of which appear to incorporate a high level of inspired spiritual excitement. Pentecostalism sees inspiration as the human feeling of divine indwelling: possessed by God's spirit, a believer may speak in tongues, perform miracles or make prophecies. Emphasis on the personal experience of God distinguishes Pentecostalism from the more ritualistic and sacramental expressions of traditional Catholicism or Protestantism. Another speaker gave a polished account of inspirational influences in the development of Islam, pointing out that for some Muslims inspiration in terms of direct religious experience has also become more important in recent

times. Thus, there has been a growth in individual engagement with the *Koran*, and a new sense of responsibility for one's personal salvation through one's actions on Earth. Both Pentecostalism and this Protestant-style Islam have been highly successful in reaching out to more people, in new ways, and were described as renewal movements. They are both modern in the sense that their growing popularity is fuelled by increased levels of literacy and education. However, several conference participants asked whether these versions of religion allow for inspiration from the beauty of art, architecture or hierarchical traditions? In reply it was conceded that modern Islam has sometimes attacked the appreciation of natural beauty, music or other more indirect sources of inspiration. The main forms of beauty such Muslims might focus on are the *Koran*, and the life of the Prophet; the inspiration of these may be narrow, but they are believed to be the means to rebuild society from the bottom. Similarly Pentecostals believe, if not exclusively, at least whole heartedly, in the divine inspiration and inerrancy of the Bible; the pattern of repentance, regeneration, water baptism and baptism with the Holy Spirit, as instigated by the Apostles of the early Church, still has the power to transform the lives of individuals. Whether this precludes inspiration from works of art was not explored at the conference, however it was agreed that for Pentecostals there is far less emphasis on finding inspiration from the sacraments or liturgical construction.

As the conference progressed, speakers discussed the role of inspiration in science from personal experience, factors that might predispose people to experience inspiration (and the broader impact of a moment of insight) and the brain mechanisms that might underlie inspirational thinking. Several speakers underlined the mysterious nature of inspiration by saying that the division within our brains between the left and right hemispheres actually serves to undercut the value of the right hemisphere's imaginative and holistic thinking; more emphasis is put on the analytic and reductive, which takes place in the left hemisphere. Yet both left and right hemispheres are necessary; inspiration requires both the effort by which the mind 'aspires, grasps, struggles, wishes and craves' and the stillness of the mind which 'fits him to receive it, when unsought.' Scientific truth comes as a welcome, yet mysterious arrival.

The joy of discovery should not cause us to downplay or ignore the years of hard work, learning and experimentation which underpin scientific research and other forms of human achievement. One speaker suggested that the 'eureka' moment is really very rare indeed. Those exceptional individuals who have been truly creative - the likes of Beethoven, Einstein, Newton or Galileo - were often extremely hard to live with; not the sort of people you would want to be trapped with on a submarine! It was thought that creativity should not be seen as coming in a flash, but as being a much slower process of gradual building. Isaac Newton famously said

'if I have seen further, it is only by standing on the shoulders of giants', and his own work would much later inform Einstein, whose theory of relativity reflected years of learning as much as an emotional moment of sudden insight. While scientists are inspired by the work of previous scientists, this does not mean, as Richard Dawkins claims, that scientists can and will provide all the answers. There is much that we will never know; human consciousness, parallel universes, evolution and genetics are all unimaginably complex areas. In the face of such profoundly difficult questions Dawkins' assertion that 'science is the truth' seems to reveal the folly of misplaced arrogance. Ever since the Psalmists, writers and artists have suggested that there is a certain futility and ridiculousness in pretending we are greater than we are, even in the face of all our wonderful scientific discoveries and artistic creations. Science does not deconstruct the wonder of human life as much as it adds to it; the more we understand, the more there is to try to understand. One participant thought that currently neuroscience seems only to confirm what already appears to be common sense, rather than telling us anything radically new; the limits of scientific insight still seem clear in this sphere. The speaker responded by pointing out that neuroscience is profoundly important, for how else will we be able to understand how individuals learn, or help those suffering from mental disorders? However, the warning was given that the utilitarian benefit of successful scientific research should not blind us to the possibility of disastrous outcomes from unsuccessful

experimentation, as may be the case with genetic engineering.

The link between creativity and inspiration was discussed in considerable depth and one talk profusely illustrated this relationship with short video clips including a particularly striking one showing a musician apparently suffering agonies during an inspired performance. Other speakers spoke of inspiration in relation to Shamanism and 'educating for inspiration'.

It is probably true to say that more questions than answers appeared in the course of the conference discussions. It became clear from the outset that it is difficult to define what is meant by 'inspiration' or 'inspirational'. Inspiration/al is usually taken to mean a period of sudden artistic or scientific creativity, or, in biblical terms the divine origin of the bible, but the word is used much more loosely in modern English. For example, inspiration or inspirational has been used as the title of a number of music albums and films, inspirational music and inspirational fiction are particular genres, sportsmen and women are frequently said to produce 'inspirational performances' and the term has even been applied to a bottle of scent. Religious inspiration may be even more difficult to relate to these definitions.

The best working definition of inspiration may be as a sudden insight or revelation which may be triggered in a variety of ways. The inspiration, however, does not produce a complete work of art or a new scientific concept in a flash, and the popular notion of instant inspiration or 'eureka' moments is probably misleading.

One speaker referred to a film about Beethoven which showed the great composer during a supposed period of what may be termed 'composers' block' hearing someone bang on his door 'da-da-da-DAH', and the next scene jumps to Beethoven conducting the opening bars of his Fifth Symphony. Whether or not he heard such a knock, the whole symphony would not have sprung immediately into his mind. A great deal of work would have been required to turn the initial idea into a finished work, and because Beethoven was a creative genius he was able to use a four-note phrase, which has been likened to fate knocking at the door, as the base for a great piece of music.

A considerable time may elapse between the initial insight or inspiration and the conversion of this insight into a great work of art or new scientific theory. Similarly, there may be a considerable period before an insight when the problem is being turned over in the mind of the subject and this may be part of the process which generates the insight. Just as Gary Player is reputed to have replied to a reporter commenting on his luck on the golf course, "the more I practice the luckier I get," one might say in relation to inspiration "the more I think the more insights I have." This might be taken to support the idea that it is possible to develop a capacity to receive inspiration.

It was suggested that inspiration can be found in many ways and in unlikely places. Perhaps for some this conference will turn out to have been a truly inspirational event.

Report written by Jeffrey Robinson (Science and Religion Forum) and Sandra Robinson (Cumberland Lodge). The conference speakers were Professor John Hedley Brooke, President, Science and Religion Forum; Professor William Kay, Professor of Theology, Glyndŵr University; Professor Michael Reiss, Professor of Science Education, Institute of Education; Professor Francis Robinson, Professor of the History of South Asia, Royal Holloway, University of London; Professor Pauline Rudd, Professor of Glycan Biology, University College, Dublin; Dr Christopher Southgate, Research Fellow, University of Exeter; Dr Fraser Watts, Reader in Theology and Science, Queen's College, University of Cambridge; Lord (Robert) Winston, Professor of Science & Society, Imperial College London; Professor Linda Woodhead, Director, AHRC/ESRC Religion and Society Programme, Lancaster University. The conference was conducted under Chatham House rules.

A BOOK THAT MADE A DIFFERENCE

Sallie McFague, *Models of God: Theology for an Ecological, Nuclear Age*. Philadelphia: Fortress Press, 1987, pp. 224, paperback, ISBN 0800620518, £12.99.

REVIEWED BY LOUISE HICKMAN

I was an undergraduate student when I first encountered Sallie McFague's work. Having studied the Western canon's usual suspects of philosophers and theologians (all the dead, white men) my third year of study brought with it my first theological paradigm shift: feminist theology, process theology, panentheism and ecotheology were opened up to me in a book as accessible to read as it is rich in novelty and vision.

Models of God builds on and expands McFague's earlier work, *Metaphorical Theology*, and it asks us to conceptualize God and the God-world relationship through three imaginative models: God as mother, God as lover and God as friend, all of which expand upon McFague's model of the world as God's body. Each model is presented as a different way of expressing the central Christian doctrine of God as love by reflecting different aspects of various loving inter-human relationships, while at the same time emphasizing either the creative (mother), salvific (lover) and sustaining (friend) aspects of this love.

McFague's proposal that God should be understood by means of models rests on a commitment to theological language as metaphorical in character. Metaphors claim simultaneously both that something 'is' and 'is not' like something else: the negation is always present in the assertion, important because this highlights the limits of our human language and guards against the dangers of idolatrous literal God-talk. A model is defined as a metaphor with 'staying power' (34) because it allows many different aspects of a subject (in this case God) to be understood. 'God as Father', McFague suggests, is one such model, and it is one that has gained largely unquestioned acceptance in Christian theology. Here was the first unsettling suggestion to me all those years ago (and, I remember, to my fellow class-mates): could a 'model' like that be purely metaphorical? It must be, claims McFague, and it is a problem that we have become so comfortable with some expressions of metaphor, we have forgotten that this is all they really are.

A welcome account of religious language is opened up with her metaphorical approach. At the time I first read her, the choice was one of wrestling with the analytical examination of language about God, which treated religious language as literal (cue a great deal of worry about whether God could create a stone so heavy God couldn't lift it and resultant head scratching) or adopting the non-realist or non-cognitive approach (which seemed even more beyond the pale to me at the time), which declares the death of God (or at the very least, God-talk). McFague's metaphorical language is not

literal or non-cognitive but takes the challenge of post-modern deconstructionism seriously while allowing God-talk to be reconceived in terms of models that 'remythologize'. Incorporating the feminist insights of her day, she talks about the danger of the 'absolutizing imagination': God as Lord, King and Ruler is interpreted all too literally resulting in oppression, exploitation and a loss of shared mutuality and reciprocity (19). That her alternative models are striking proves her point beautifully: they disorientate and reorientate (182) precisely because the conventional models dominate our thinking. If we are shocked to think of God as a mother, it is because we idolatry male conceptions of the divine.

One thing that makes McFague such a notable figure is that despite her critique of the patriarchy and hierarchy of so much of the Christian tradition, she did not follow so many of her feminist contemporaries (such as Mary Daly) into separatism but attempted instead a synthesis of her feminism with a re-conceiving of traditional theological ideas. It is not just feminist thought that McFague integrates with theology but scientific thought too. Any appropriate model of God, she suggests, should cohere with our present understanding of our world (14) and in this she pays particular attention to evolution and ecology and (as she interprets it) their central insight of relationality. Taking science seriously thus means a turning away from an anthropocentric to an ecological sensibility (9). Dualistic, hierarchical models are inappropriate for our time and should be replaced by models of mutual dependence and care.

All this leads us to the models themselves: God as mother pictures creation as a physical event, with the universe expressive of God's very being (110), which deconstructs any dualistic God/world or spiritual/material distinctions and which leads to an ethic of 'kinship, concern and affinity' (110). God as lover emphasizes God's passionate love for all creatures and insists on the reciprocity of that love. Sin, therefore, becomes the refusal of relationship and interdependence with all other beings (139) and salvation (envisaged as the reunification of the beloved world with its lover, God) is not something passively received by us but is the overcoming of oppression (owing to race, gender, destruction of the ecosphere) undertaken by us in partnership with God, as God's conscious, responsible agents. God as friend accentuates non-hierarchical mutuality, commitment, trust, interdependence and a common vision for the well-being of the earth (167), emphasizing the sustaining work of God and a model of church as a community of friends. 'A Christian lifestyle modelled on God as parent, lover and friend', she states, 'would be one committed to the impartial continuation of life in its many forms, the healing and reunification of all dimensions of life, and the sharing of the basic needs of life as well as its joys.' (92)

Within these models are striking re-conceptions, informed by evolution and ecology, of sin, salvation, the *imago dei*, and the nature and role of Jesus. McFague doesn't want to offer merely a few different models to redress the balance of patriarchal imagery but wants us to

think about theology in a totally different way. Her commitment to evolution and the fact of change leads her away from the assumption that theological statements must remain constant, 'for all time' (44). Hers is not a 'systematic theology' because its aim is an imaginative 'picture' of the God-world relationship through models and metaphors that can be tested by their comprehensiveness, coherence, potential for dealing with anomalies, and their ability to address and cope with the most pressing issues of the day (27). For McFague, at the time of her writing, the threat of nuclear holocaust was the gravest issue. By the time I read her book, this threat was becoming less, but was rapidly being replaced by a realization about the extent of human environmental damage. The threat of human-induced destruction of the planet therefore took on a different guise, but this made McFague's concerns no less pressing.

I owe to McFague a realization of the inseparability of theology (one could also add science) and ethics. Hers is a radical understanding of truth claims and epistemology: flourishing is the criterion of truth (62) but, more radical than most, not just human flourishing but the flourishing of the entire natural world. She sparked in me a lasting interest in certain aspects of process theology, which I have pursued through my interest in the development of the Neoplatonic tradition with its ideas of emanation (by which the divine inheres in all) and its reticence to make any distinction between 'intelligible' and 'sensible' worlds. She has also made a difference to way I introduce my own undergraduates to

philosophical and theological thinking. Her thought works brilliantly as an antidote for too much analytical philosophy and is prescribed as a matter of course to those students (and there are many) perplexed by obsessions with logical coherence and all manner of logical possible worlds. Her contextual theology raises important, and still timely, questions about the concept of God and nature and purpose of theology: her discussion of evil, for example, is a precursor to more contemporary debates about the inadequacies of theodicy as a justification of God. Non-realism is no longer grabbing the headlines as it was but debate about the possibility of metaphysics is still driving much contemporary theology, and McFague's account of metaphor helps those of us who want to retain some commitment to (a critical) realism.

Reading her afresh today it strikes me that she still presents a remarkable synthesis of theology, feminism, ecology and evolutionary theory. Her theology is distinctly radical and yet she has managed to become part of the mainstream, influencing a vast number of thinkers working within the field of science and theology. She offers a welcome alternative ideal based on mutual cooperation, empathy and community – all inspired by ecological thinking – and one that is as worthwhile now as it was back then.

REVIEW ARTICLE

Christopher J. Preston, *Saving Creation: Nature and Faith in the Life of Holmes Rolston III*. San Antonio: Trinity University Press, 2009; pp. 256, hardback, ISBN 978-1595340504, £15.99.

REVIEWED BY ROBIN ATTFIELD. ORIGINALLY PRINTED IN *ENVIRONMENTAL ETHICS* 32.4, WINTER 2010, 417-420. WE THANK THE AUTHOR AND THE EDITOR FOR PERMISSION TO REPRINT THIS REVIEW.

Holmes Rolston is on any account a towering figure both in environmental philosophy and in the field of science and religion. Christopher Preston has now performed a service by publishing Rolston's first biography, written in a relaxed, semi-popular style. Debates and deep issues are tackled with the profundity they deserve, as well as significant biographical landmarks; in keeping with the style, quotations are selected as encapsulating Rolston's thinking of one or another period, but are seldom ascribed to particular works. The approach is almost entirely sympathetic, with just a few traces of the author distancing himself from the subject (as over Rolston's belief in the superiority of human beings over other animals: see p. 168). One of the greatest strengths of the work is its excellent coverage of theological and religious issues, in connection with Rolston's early upbringing, heritage and theological training, and with his much more recent work reconciling science and faith.

The book is structured around an event of 1965, when two elders of the Presbyterian church in rural Virginia, of which Rolston was the minister, called to tell him of the congregation's discontent with the way he delivered his message, not least with his endorsement of evolution by natural selection and equally with his disapproval of the defacement of woodlands, slopes, and rivers in the cause of agricultural progress. This event did not cause him to leave the ministry (that came later), but is seen as leading to a lifelong struggle both to present cogent grounds for an ethic of preservation, and to show how scientific (and particularly biological) beliefs can be held together with religious ones with one's integrity intact. This struggle issued in his re-training as a philosopher, taking a post half a continent away in Colorado, becoming even better educated in science, carefully presenting a secular ethic concerning natural value, pioneering the new discipline of environmental philosophy, writing works on the interface of science and religion, and later presenting Gifford Lectures and other writings on how biology, ethics and faith can be reconciled. These achievements brought the struggle to a largely successful culmination, supplying helpful stances for many readers, if not, perhaps, for all Virginian Presbyterians.

Rolston's achievements are in some ways greater than they appear from this book. Thus the select bibliography (pp. 231-3) and the references to Rolston's punishing work schedule do not disclose that in addition to his books, he had by 2003 authored over 80 chapters and over 100 articles, or that his writings include several

works of biblical commentary, in addition to his philosophical and scientific works. However, Preston's book well covers his customary long-distance hiking, when at home and equally when on speaking trips abroad, his discovery of species previously unknown to science, and his readiness to learn lessons about ethics and theology from close association with and experience of the world of nature.

Rolston's 1975 article in *Ethics*, 'Is There an Ecological Ethic?' was indeed a key milestone, charting possible ways of reasoning from ecological facts to 'ought' conclusions, and thus comprising one of the classical writings of environmental ethics; it gave Rolston widespread recognition, and is celebrated as such in Preston's chapter 'Colorado Breakthrough'. But the text describing his thinking at this stage seems a trifle anachronistic. For that article is not about genes or about information transfer, or the value that they encapsulate. There is a good deal present about homeostasis and about ecosystem integrity, but the other themes just mentioned emerge only in later works. Even if insights relating to those themes were actually gained at this stage, as they could well have been, it is misleading to present them as already central in a chapter leading up to Rolston's important paper of 1975, which is represented (p. 118) as the embodiment of the breakthrough in question. Later, while *Philosophy Gone Wild* (a collection of papers of 1986) receives some prominence, little is expressly given to *Environmental Ethics: Duties to and Values in The Natural World* (1988), perhaps Rolston's

central work of environmental ethics,¹ although some of its thinking (for example about the value of species) is discussed in the middle chapters of Preston's work.

There are also exaggerations when Preston reports the cultural problems that Rolston encountered. 'Up to this point in philosophy, nature's only value had been assumed to be as an instrument for the satisfaction of human needs' (p. 120), says Preston of the period 1973-5. But some of the writings of Stanley and Rosalind Godlovitch to contrary effect pre-date this period, as of course do those of Plutarch and Porphyry. Shortly after this, Preston claims (still about the mid-1970s), that 'For the first time in Western cultural history, ethicists had successfully pressed the case that humans should constrain their behaviour for reasons unconnected to their own interests' (p. 122). Yet this suggests that Basil, Cuthbert and Francis were not ethicists, nor Ray, Leibniz, Locke, Linnaeus or Pope,² not to mention the utilitarians Bentham and Mill, whom Preston has already expressly represented as seeking to extend ethics to include animals (p. 120). It also disregards the implicit message of the passage from Psalm 104 quoted at p. 71.

¹ Holmes Rolston III, *Environmental Ethics: Duties to and Values in The Natural World*, Philadelphia: Temple University Press, 1988; see the review by Robin Attfield in *Environmental Ethics*, 11.4, 1989, 363-368.

² See Robin Attfield, *Environmental Philosophy: Principles and Prospects*, Aldershot and Brookfield, VT, Ashgate, 1994, 21-68; also *The Ethics of Environmental Concern* (1983), 2nd edn., Athens, GA and London: University of Georgia Press, 1991, 34-50 and 198-201.

There again, the growth of environmental philosophy in the two decades following Rolston's breakthrough goes largely unexplained. Thus when J. Baird Callicott is mentioned at p. 165, and is glossed as 'one of the most prominent environmental philosophers of this first generation', the reader learns for the first time of there being such a first generation, other than Richard Routley and Arne Naess (pp. 119-121). There is little mention (let alone explication) of the re-discovery of applied ethics, or of the emergence of journals such as *Philosophy & Public Affairs*; while the founding of *Environmental Ethics* in 1979 by Eugene Hargrove goes unmentioned, and its existence only surfaces when the controversy over Ramachandra Guha's 1989 article is under discussion (p. 161).

However, there is excellent coverage of other important areas: Rolston's childhood and family history; the controversy over preserving wilderness and policies of letting-be; the controversy just mentioned concerning Guha's criticisms of radical American environmentalism; Rolston's rejection, as theologian and biologist, of both the anthropic principle and Intelligent Design; and, among others, the controversy surrounding Rolston's publication of 'Feeding People versus Saving Nature' (1996). (But it is a pity that one of the editors of the relevant collection, the late William Aiken, a considerable philosopher in his own right, has his name misspelt as 'Aiden' on p. 232.)

This was the paper in which Rolston maintained that in some circumstances it could be right to save nature rather than to feed people. Your current reviewer is here

quoted (p. 183) as holding that agonizing over this theoretical question should be replaced by devising policies which combine poverty reduction and wildlife preservation. (It is notable that Rolston had himself advocated such comprehensive policies in his book *Environmental Ethics*.) However, Preston, detailing the nuances of Rolston's case, spells out Rolston's list of conditions for prioritising the saving of nature. Of these, the sixth includes: '(and if) escalating birthrates continue so that there are no real gains in alleviating poverty ...'. Rolston wrote as if all these conditions were both relevant and satisfied. So it is worth remarking that the proportion of underfed people worldwide has significantly decreased; thus this condition, even if it were allowed to be relevant, is probably not satisfied in the actual world. (Perhaps I should add that I do not hold (any more than Rolston) that there are no imaginable circumstances in which nonhuman interests should be prioritised over keeping a human being alive.³) Preston further suggests that the damage that Rolston's stance might have done to environmental philosophy was forestalled by the interventions of Alan Carter, Ben Minteer, James Sterba, Andrew Brennan and myself (pp. 182-3); but the discipline was probably well enough entrenched by this stage, largely through Rolston's own efforts, for any such damage to be lasting.

The later stages of the book return to issues of science and religion, on which Rolston gave his Gifford Lectures

³ See Robin Attfield, *The Ethics of Environmental Concern*, p. 179

of 1997. In the resulting book, *Genes, Genesis and God*,⁴ some fine ripostes to sociobiology are to be found, which fall beyond the scope of Preston's book, as well as Rolston's mature thinking on genes, information transfer and values. However Rolston's view that the explanations supplied by Darwinism are necessary but insufficient to explain the phenomena of biology is well handled; some kind of additional progressive drive supposedly needs to be postulated, and this corresponds in part to the grace of God. (Rolston's position here overlaps with that of Keith Ward, as expounded in *God, Chance and Necessity*).⁵ Aspects of Rolston's theodicy of suffering are also well discussed, and seem to be shared by Preston personally, to judge by what he says at p. viii. However, Rolston has made further important contributions to issues of theodicy in his paper 'Disvalues in Nature' (1992), a fine paper to which the reader wanting the fuller story can be recommended to turn.⁶

In the Epilogue, Preston returns to Rolston's essay 'The Pasqueflower', which is a superb prose-poem, and can be found in *Philosophy Gone Wild*. This essay combines biological erudition with sensitiveness to the seasonal reappearance of this resilient plant, and with sensitive theological symbolism. Without solving all the

⁴ Holmes Rolston III, *Genes, Genesis and God*, Cambridge, New York and Melbourne: Cambridge University Press, 1999

⁵ Keith Ward, *God, Chance and Necessity*, Oxford: Oneworld, 1996

⁶ Holmes Rolston III, 'Disvalues in Nature', *The Monist*, 75, 1992, 250-278.

problems, it supplies a fitting conclusion to Preston's enjoyable book (which can be recommended as a good read), and also supplements the achievements of a thinker who will be as much remembered for his inauguration of environmental philosophy, for his generosity, and for his striking prose evocations of nature as for the force of his often ingenious and incisive arguments.

REVIEWS

Charles Foster, *Wired For God: The Biology of Spiritual Experience*. pp. xviii + 331. ISBN 978 0 340 96442 2, £12.99

REVIEWED BY GEOFF DUMBRECK

This engaging text, aimed at non-specialists, is written in an extremely lively, conversational style. It is packed with examples, from St Paul's conversion of the Damascus road to the lesser-known experiences of a tantric sex practitioner in north Oxford. It remains unclear whether these exceptional or surprising cases can tell us much about the spiritual experience of most people, though Foster is not the first to take this approach. In the seminal work on this subject, *The Varieties of Religious Experience* (1902), William James deliberately excludes communal spirituality, preferring to concentrate on remarkable individuals. Here, as there, the result is an entertaining but rather incomplete account.

Foster begins with anatomy. From the outset, he stresses that correlation differs from causation. The fact that certain patterns of brain activity correlate with seeing a dog does not mean that the brain activity causes the dog. Likewise, if certain patterns of brain activity correlate with religious experience, that does not mean that the brain activity causes that experience. Foster is sceptical about the idea of a 'God spot', but makes much of the relationship between the two hemispheres of the brain, boldly stating that 'the whole history of humankind and every individual within humankind can

be written in terms of the battle between the hemispheres' (p. 18).

The role of epilepsy is addressed in chapter four, and here he makes the further bold claim that 'one could contend perfectly coherently that the history of religion was the history of temporal lobe epilepsy, or at least temporal lobe lability' (p. 51). This is overstating the case: several pivotal religious figures may have been epileptic, but I am sure that many others were not. Foster also considers 'Jerusalem syndrome', the uncharacteristically agitated behaviour of some Western, usually Protestant, visitors to the city. He offers an explanation in terms of the brain's hemispheres: in such cases, the left hemisphere's preconceived notion of what Jerusalem is like is contradicted by the right hemisphere's observation of the real city, and the left hemisphere 'puts on a show in a pathetic attempt to convince itself and the right hemisphere that the old view was correct all along' (p. 71).

Foster goes on to tackle many other interesting phenomena, from stigmata to drug-fuelled visions to near death experiences, describing multiple instances of each and noting the way that they are interpreted in different religious traditions. Again, his focus is primarily on the rare or unusual, but he stresses that religion and experience are, in general, 'crucially and fundamentally connected' (p. 197). He also hints at a broader conception of spiritual experience in the final chapter, suggesting that 'to live as a human being is itself, and inescapably, a religious act' (p. 243). It would have been interesting to

hear more about this, especially as Foster describes it as his one 'unshakeable conviction.'

Foster's gift for story telling makes this book easy to read, but it is sometimes hard to follow a line of argument. Occasionally, he seems to point in opposite directions. In chapter one, for example, he suggests that Christians have no theology with which to reconcile free will and the biological determination of behaviour. Yet he must know that Christians have long debated the relationship between free will and other forms of determinism, because he introduces the Calvinist doctrine of predestination in chapter three. Elsewhere, I suspect that he has simply misconstrued certain theological points: his reference to the 'belief that the Virgin Mary was herself conceived sexlessly' (p. 47) may well reflect a common misunderstanding of the Roman Catholic doctrine of the Immaculate Conception (which actually claims that Mary was conceived free from sin).

Perhaps the least convincing aspect of this book is Foster's attempt to rehabilitate Cartesian dualism in a sixteen-page appendix. Although many would join him in rejecting Francis Crick's claim that 'you're nothing but a pack of neurons' (p. 262), the difficulties of extreme reductionism need not drive us to the opposite, Cartesian extreme. Foster notes that we use personal pronouns to describe our bodies, personalities, preferences and experiences. He concludes that these four change with time, while the 'I' that possesses them remains immutable (p. 255). But what is this 'I' *without* the body, personality, preferences or experience? The Christian

insistence on the resurrection of the body implies that corporeality (of some form) is an essential part of the human person. It is possible to see human beings as a psychosomatic unity without embracing Crick's brand of physicalism; 'emergentism' and 'non-reductive physicalism' both take this middle path, and might usefully have been considered here.

Elaine Howard Ecklund, *Science vs. Religion: What Scientists Really Think*. Oxford University Press, 2010, pp. 228, ISBN 978-0195392982, hardback, £16.99.

REVIEWED BY SJOERD L. BONTING

Author Elaine Ecklund is a sociologist at Rice University, Houston, Texas, who in her postdoctoral period conducted an extensive survey among 1700 prominent natural and social scientists at 21 top research universities in the USA. The study is described in Appendix A. The 34 survey questions are shown in Appendix B. In addition, she interviewed 275 of the respondents at length using a 27-item guide shown in Appendix C. She collected the data between 2005 and 2008 and then published her findings in the book being reviewed here.

It should be noted that the author describes only the situation in the USA and unfortunately makes no comparisons with the situation in Europe, which undoubtedly differs in many respects with that in the USA. Her findings report the thinking of the scientists

about religion, spirituality, the role of religion (if any) in teaching, and the current debates about religion and science.

A major conclusion is that the 'insurmountable hostility' between science and religion is a caricature not representative of reality. She finds new kinds of science-linked spirituality among scientists, outside churches (synagogues, mosques) and conventional religious understandings.

In the religious affiliation of scientists vs. the US population, evangelicals (2 vs. 28%), black protestants (0.2 vs. 8%), and catholics (9 vs. 27%) are underrepresented. Mainline protestants (14 vs. 13%) are about equal. Overrepresented are Jews (16 vs. 2%) and those non-affiliated (53 vs. 16%). Religious attendance also differs greatly between scientists and US population: once a month or more 18 vs. 46%; never 53 vs. 22%.

Belief in God also shows great differences between scientists and US population: undoubted belief in God 9 vs. 63%, atheism 34 vs. 2%, agnosticism 30 vs. 4%. In her interviews Ecklund found many different reasons for atheism and agnosticism among scientists: learning more about science (a minority); not raised in a religious home; bad experiences with religion; seeing God as too changeable; only knowledge found through science is reliable; questions addressed by religion are too insignificant to waste time thinking about them. Many of them have developed a conflict attitude due to the debate about teaching intelligent design in public schools, the

controversy about embryonic stem cell research and human genetic engineering.

The problem of evil, particularly physical evil such as the destruction of New Orleans by hurricane Katrina, is for a number of scientists the reason to abandon belief in God. I find it surprising that these scientists do not seem to understand that such catastrophes are part and parcel of God's developing creation. Visible here is the lack of theological reflection in these scientists.

From her interviews Ecklund learned that religion is rarely talked about in the academic setting with the result that believing scientists keep silent about their belief and thus do not know that many non-believing colleagues have an open attitude towards religion. Some believing scientists are even afraid that they might not receive tenure if their colleagues would know about their religious faith. An exception to this rule of silence is Francis Collins, an evangelical, who wrote *The Language of God: A Scientist Presents Evidence for Belief* while he was director of the Human Genome Project and who is now director of the National Institutes of Health.

Over 20% of scientists consider themselves 'spiritual' without being religious in the traditional sense. In the general population this may take various forms, such as belief in near-death experiences, spirit guides and angels as well as meditation or prayer fellowships. Scientists, who are spiritual, may believe in nature or the universe. Ecklund feels that the spiritualists are more concerned with self-fulfilment than with the common good, e.g., volunteering in a soup kitchen. But later she admits that

her survey results indicate that the spirituals are at least as volunteering as those who are not spiritual. Scientists who are spiritual-but-not-religious are to her postmodernists in the sense that they have cast off the shackles of religion. Yet, they accept the existence of objective and knowable truth in science. Of the scientists, who call themselves 'spiritual', 22% list themselves as atheists and 27% as agnostics. For them embracing spirituality rather than religion is a way of avoiding the conflict between science and religion.

The second part of the book deals with the place of religion in the public sphere, including the class room. About 39% of the 1700 scientists surveyed consider their religious beliefs influential on their interactions with students and colleagues. A religious political scientist brings Augustine and Thomas Aquinas into his lectures, even though some students or colleagues don't like this. However, a non-religious physicist said that he ignores religious questions of his students during lectures. Ecklund found in her interviews that many non-religious scientists would be open to discussions about religion with their believing colleagues. The latter keep silence, because they think that the former would not want this and some fear that knowledge about their religious belief might hurt their chances of promotion. They rationalize their silence by invoking the separation between church and state. Ecklund regrets silence on religion in the class room, because 70% of the students are religious and are interested in hearing about religion and science. Some universities refuse students credit for high school courses

in which creationism and intelligent design were taught. A number of Christian schools brought a suit against the University of California system on this matter. The court ruled in favour of the University of California in 2005.

Of the 21 universities surveyed 8 were founded as religiously affiliated schools; none of them are such now. They have gradually shifted from their religious origins in favour of an Enlightenment vision of autonomous human reason. The study of religion is, however, coming back to the academy. Fifty religious scholarly associations foster the integration of faith and learning. Universities such as Columbia University, Princeton University and others have created centres for the study of religion. The Templeton Foundation through Metanexus has created more than 200 science-religion discussion groups around the USA. The interest of students, both in traditional forms of religion and in spirituality, is growing. Yet, in her interviews Ecklund found 54% of the scientists seeing religion as a threat to the universities. About 36% of scientists would not allow any role for religious people, institutions, and ideas on the campus. The Intelligent Design controversies play an important role in their attitude. However, they are not aware that many of their institutions offer courses on 'science and religion'.

Ecklund sketches three models for universities: opposition, secular, and pluralist. Atheist scientists oppose any form of institutionalized religion at the university, as this will do harm to science in their opinion. The secular university is favoured by most non-believing scientists as well as by some believing ones.

The latter are the ones who prefer to keep their faith a private matter. The trend, however, is towards a pluralist university with many campus ministries, Christian, Jewish and Islamic, served by chaplains providing religious services, instruction and discussion. For 42% of the scientists this is considered part of the nurture of the students.

Ecklund finds this and the occasional counselling of students insufficient. In her opinion religious scientists need a language to bridge the gap between them and their co-religionists who are not scientists. She thinks three things are needed: 1. Recognizing religious diversity; 2. Recognizing the limits of science; 3. Active engagement. However, she remains rather vague about the content of the science-religion dialogue, except for arguing against creationism and intelligent design.

First of all, I suggest that it should be a dialogue between the disciplines of science and theology. Religion also encompasses worship, prayer, and spirituality, which do not lend themselves to a dialogue with science. The two disciplines of science and theology study the one reality of our world. They both form theories from basic data; observations and experiments in science, biblical data in theology. Secondly, the two main topics should be the development of the cosmos and of life: creation for the theologian and evolution for the scientist. If the theologian will admit that Genesis 1-3 are mythical rather than historical accounts, and the scientist will admit that while we know much about cosmic and biological evolution, we know little about the initial events ('big

bang' and first living cell), then a fruitful dialogue is possible.

The importance of the book is that it presents an extensive and detailed picture of the thinking about science and religion among the science faculty of 21 top universities in the United States. A similar study in the United Kingdom and continental Europe would be desirable.

Ilia Delio OSF, *The Emergent Christ: Exploring the Meaning of Catholic in an Evolutionary Universe*. Orbis, 2011; pp. ix+197; paperback, ISBN 978-1-57075-908-6, £14.99.

REVIEWED BY DAVID GRUMETT

Too much work in science and religion is theologically timid. Scientists reach a certain point in their lives, get interested in religion and perhaps church ministry, and sign up to a set of usually broadly evangelical theological commitments. In contrast with this well-trodden path, the approach of the Roman Catholic Franciscan theologian Ilia Delio is immensely refreshing. Delio reflects deeply on the theological implications of evolution and in so doing calls into question many stock assumptions in doctrine and ecclesiology.

For Delio, evolutionary theory and the new physics dethrone the static Neoplatonic categories on which classic Catholic theology has been founded, establishing in its wake a new metaphysics of immanence, change and

emergence. In her words, the 'radical shift from the world of classical mechanics is enough to warrant a new understanding of being and hence theology' (p. 32). This requires that traditional theological categories be reinterpreted. For example, love within the Godhead is viewed as a principle of change rather than of permanence, while creation is an ongoing divine activity rather than the single unrepeatable act by which God makes something out of nothing. Most provocatively of all, Christ is continually born from within the universe rather than reigning eternally in heaven.

To the theologically attuned reader it will be clear that commitments such as these harmonise conveniently with Delio's Franciscan theology. Hence her book does not really seek to rework classic Catholic theology in light of current science but to develop a particular strand of Catholic theological tradition deriving from figures such as Duns Scotus and Bonaventure with current science in view and offer this to the Church. Indeed, *The Emergent Christ* serves as an instructive example of a Scotist rapprochement between theology and science. Scientific evidence and philosophical concepts are taken seriously and have large theological implications. God is a function of being rather than beyond being. The incarnation is a continuation of the creation and binds together the whole created order in a unity in Christ. Humans possess real freedom of will and their actions co-operate with God.

What might an alternative, Thomist attempt at rapprochement look like? Delio thinks that efforts to fit Aquinas's 'medieval system' into a post-Einsteinian

universe are bound to fail. Because Aquinas views God as beyond being, however, it is not so much a case of fitting theology into any particular scientific cosmology as of situating cosmology, whether Einsteinian or some other, within a theology. Because for Aquinas the world is dependent on God, rather than God being dependent on the world, God gives principles of order and cause to the world rather than leaving the world to develop in the more contingent way that Delio supposes. This is not to eradicate human freedom or creativity, but to set these within an all-encompassing teleology directed by God. Indeed, one might well argue that if humans are to be understood to possess true freedom their work in the world needs to be regarded as fully natural, rather than as the manifestation of an immanent world spirit.

This brings me to Pierre Teilhard de Chardin, a figure who since his death has been used and abused by both supporters and detractors. In places Delio rightly makes clear Teilhard's Thomist credentials: God is self-sufficient and evolution is God-centred. But she more frequently presents Teilhard's theology as in continuity with her own: creation is relational; evolution is the birthing of Christ within the world; God is confluent with the process of cosmic becoming; and Christianity is evolution-centred. Although it is true that Teilhard was familiar with Duns Scotus, as shown in his dialogues with Gabriel Allegra, his evolutionary theology is more a recasting of Thomism than of Scotism. Although he would agree with many of Delio's propositions, he would see all the immanent possibilities to which she points as

dependent on a God who is ultimately other than the world. This Omega is transcendent as well as immanent, dissolving any simple distinction between the world as a closed system and the world as an open system. In Christ, evolution is directed toward a final end, and so is in this sense a closed system. But because that end is transcendent it inaugurates a new indeterminate openness.

Moreover, Teilhard's understanding of Catholicity is strangely traditional. Delio views Catholicity as a 'movement towards wholeness' and as 'participation in creating greater unity through deepening relationships' (pp. 7, 69). Teilhard, in contrast, believed Catholicity to be expressed supremely in the historic Catholic Church centred on Rome. Only in a concrete, organic, universal and therefore ordered body could there be full and real catholicity, and only such a body could preserve and promote a principle of directed development through time. Moreover, Teilhard saw the Eucharist as the primary sacrament of human life, substantially uniting matter and spirit in subjecting both to a higher transformative principle in Christ. Despite the Church's many imperfections, he never thought that it could be replaced by abstract notions of wholeness and new being and in his own life as a priest and Jesuit remained always obedient to its authority.

This is an inspiring and accessible book that will excite readers of open Catholic or generally spiritual persuasions. Although the systematic and historical theologian might hope for greater conceptual clarity and

more consistent treatment of specific historical figures, Delio's willingness to engage in creative and constructive theology and to accept the risks this brings is greatly to her credit.

Malcolm Jeeves (ed.), *Rethinking Human Nature: a multidisciplinary approach*. Eerdmans, 2011; pp. 344, paperback, ISBN 978-0802865571, £25.99.

REVIEWED BY MAX BAKER-HYTCH

Rethinking Human Nature is an edited collection of essays which seeks to bring together perspectives on human nature from the natural and human sciences, history, philosophy and theology. It consists of twelve essays by experts in the various fields, and constitutes a valuable resource for anyone interested in scientifically-informed theological anthropology.

In the opening chapter Felipe Fernandez-Armesto traces out the historical development of the notion of a common humanity from its origins in the first century BCE, through gradual extensions of the concept to include those previously regarded as "monsters" or "subhumans" and up to the present day, in which the notion of universal and inalienable human rights has begun to emerge. Yet all the while, he claims, the story with respect to non-human animals has been one of "progressive pruning of the moral community, from which nonhuman animals have, until now, been ever more aggressively excluded" (p. 17). He considers Peter

Singer's criterion of sentience as a potential basis for an ethic of animal inclusion, but finds it wanting because he thinks it will stretch the moral circle too wide. Fernandez-Armesto's own criterion that a being is morally considerable if another being can recognise it as such seems to be no less problematic, however, given the enormous elasticity of that concept and its inevitable dependence upon human judgment.

Fernando Vidal proceeds to examine the historical development of the concept of personhood, and in particular, the growing obsession with the brain as the locus of personal identity. Vidal makes a compelling argument that neuroscientific advances and the materialistic interpretations that have accompanied them in fact represent the latest in a long series of attempts to come to terms with the Christian conviction that a human person is "is not someone who has a body but whose existence is corporeal" (p. 36). Vidal also shows that, paradoxically, the brain is increasingly presented in popular culture as an ageless information-bearing pattern, which has thus incorporated the qualities of the immaterial soul.

Opening the philosophical section is an essay by Jürgen Mittelstrass which explores the ethical implications of the notion, aired in much German philosophical anthropology, that man is a not-yet-determined animal. On the one hand Mittelstrass asserts that "nature gives no ethical lessons" (p. 67), yet at the same time he claims that technological optimization "threatens to dissolve our condition precisely because

this condition is the essence of humanity" (p. 69). Consequently Mittelstrass leaves it rather ambiguous what his ethical position actually is regarding the use of biotechnologies. Further, given the themes of self-determination and optimization of human nature with which he is concerned, one might have hoped for a connection to be made with the growing literature on "transhumanism," an ideology which promises human fulfilment through the technological transcendence of our biological limits.

Evandro Agazzi offers another historical analysis of the concept of the human person, but whereas Vidal sees contemporary materialism as a perversion of Christian anthropology, Agazzi lays the blame squarely at Descartes' door. He claims that the Cartesian split between *res cogitans* and *res extensa* gave rise to an ensuing struggle in Western philosophy to eliminate one of the two poles—the material and the spiritual—by reducing one to the other. The astonishing success of the natural sciences at accounting for phenomena without reference to final cause meant that it was the spiritual realm that would inevitably be threatened with elimination. Agazzi then goes on to critique reductionism using a deflationary concept of scientific truth which is reminiscent of Arthur Fine's "Natural Ontological Attitude."

Closing the philosophical section is an essay by Franco Chiereghin which explores the possibility that aesthetic experience is a peculiarly human trait. According to Chiereghin, the interplay between the

higher rational faculties and the imagination which occurs during aesthetic experience is characterised by a transcendental freedom—a la Kant—which resists naturalistic explanation and sets apart from even our closest primate relatives.

Graeme Finlay opens the section on scientific perspectives with a survey of the contemporary picture painted by human genetics, noting that; “Our status as a terminal twig of the phylogenetic tree has been established beyond reasonable doubt” (pp. 130-1). On the basis of the genetic evidence, two very familiar but nonetheless important theological conclusions are drawn, namely that our genetic kinship with primates reminds us that “we are living beings created from ‘the dust of the earth’” (p. 117), and yet that humanness transcends our genes.

In his chapter on human evolution, R.J. Berry offers a bold hypothesis concerning the emergence of the image of God. In an attempt to circumvent the scientific difficulties of asserting an absolute ontological distinction between the first humans and their immediate hominid precursors, Berry speculates that “God implanted his image into an existing animal” and that “there is no reason why this divine work should have produced any morphological or genetical change” (p. 173). Berry’s hypothesis would appear to offer one way to hold onto a very literal understanding of Adam, yet positing the insertion by God of an empirically undetectable metaphysical substance into *Homo Sapiens* at a precise moment in history suggests both a dualistic anthropology

and an interventionist notion of divine action that stand in stark contrast with the approaches of other authors in the volume.

In his chapter which focuses on the contribution of the brain sciences, Malcolm Jeeves rightly observes that ever-tightening links between mind and brain renders such dualism an increasingly hard position to defend “without tortuous and convoluted reasoning” (p. 188). Jeeves surveys the neurological basis for a number of the traits historically singled out as the locus of the *imago dei*, and suggests that since “lots of Rubicons keep getting bridged between animals and humans as research advances,” an essentialist conception will not be viable. He captures the spirit of many of the contributions in the volume in concluding that only a thoroughly holistic, non-reductive, and ultimately Christocentric anthropology is ultimately adequate to both scientific and Biblical data.

David Myers surveys findings in social psychology that strongly suggest that relationship is a profound human need, such that relational trauma may even have powerful psychosomatic effects. He takes note of fascinating brain research which suggests that social ostracism is actually felt as physical pain, and concludes that “Contemporary psychological science strongly affirms ancient biblical wisdom: it is not good for humans to be alone” (p. 223). Myers chapter is an excellent complement to Jeeves’ contribution, with its heavy emphasis on the materially and socially located nature of human existence.

In her chapter on palaeoanthropology, Alison Brooks considers a wide array of archaeological evidence pertaining to the emergence of *homo sapiens* as a distinct species—evidence which strongly suggests a gradual rather than a sudden emergence of many of the traits which we typically take to be characteristically human.

Joel Green's primary contribution consists in his careful examination of the Biblical texts that concern the *imago dei*. While Christian theologians frequently favour a Barthian, relational understanding of the image—many of the authors of this volume included—Biblical scholars, such as Claus Westermann, have typically stressed that the notion of God's image in the Ancient Near East most likely connoted humanity's function as God's vice-regent on earth. Green is able successfully to reconcile the two understandings—successfully, that is, provided one accepts the legitimacy of reading the Hebrew Bible through the lens of the New Testament—via an exploration of the Lukan notion of conversion which, he argues, entails that our God-given vocation as humans can only be realized within the web of transformative relationships that constitutes the Church.

Finally, Janet-Martin Soskice offers compelling reflections on the relevance of gender for a Christocentric anthropology—a topic that has received scant attention in contemporary theological anthropology. She concludes with a resounding Trinitarian affirmation of the inherent goodness of unity in difference: "Sexual difference is a primordial difference, a template for the fruitfulness that

can come not when two are the same, but when they are different" (p. 306).

Given the ambitious title of this volume, then, it is fair to ask whether anything in it constitutes a significant development upon themes and ideas already extant in the growing literature on human nature in the science and religion field. In one sense the answer must be 'no'. *Rethinking Human Nature* rehearses theological positions that have been defended for decades by the likes of Nancey Murphy, John Polkinghorne, Robert Russell, and Arthur Peacocke, namely that a human being is an inseparable unity of mind and body, that personhood is an irreducible phenomenon, that our biological kinship with other life-forms is to be celebrated, and that humanness cannot be defined in terms of an ontological essence. Having said that, the book represents an admirable effort to marshal the very latest research across a wide spectrum of disciplines whose findings impinge upon the question "what does it mean to be human?" The book's primary contribution, then, lies in its attempt to show that such a wide array of perspectives may actually be converging upon a verisimilitudinous picture of humanity that corresponds to those long-held theological convictions. To my mind, one glaring omission from *Rethinking Human Nature* is any consideration of the implications of the growing array of technologies that have the potential to radically transform human beings. On the whole, however, this book represents a triumph of interdisciplinary

scholarship and should be essential reading for anyone engaged in the study of human nature.

REVIEWS REPRODUCED FROM ELSEWHERE

David L. Gosling, *Darwin, Science and the Indian Tradition*. Delhi, ISPCK 2011, pp. 96; ISBN 978-81-8456-133-1, paperback.

REVIEWED BY DAVID J. ATKINSON. REPRODUCED WITH PERMISSION FROM *THE BULLETIN OF THE SOCIETY FOR ORDAINED SCIENTISTS*.

I cannot think of anyone better qualified to reflect on the impact of Darwinism on Indian scientific and religious thought than David Gosling. He trained as a physicist and is now a Life Member of Clare Hall, University of Cambridge. He has taught physics in Delhi, has worked for the World Council of Churches, and until recently has been Principal of Edwardes College in Peshawar, Pakistan. He has published before on science and the Indian tradition, and on religion and ecology in India and South East Asia.

This small book is the transcript of the Cambridge Teape-Westcott Lectures for 2009, in commemoration of the year of Darwin's bicentenary. They were given in Delhi and in Kolkata; they were published in India.

David Gosling begins by exploring the response to Darwin in India. The acceptance of English as the medium of instruction in India in 1835 opened the way

for wide engagement with European knowledge. Hindu teachers were advocating a blend of rational science and the Vedānta; Christian attitudes were largely shaped by missionaries – mostly with a positive view of science. In 1859 educated Indians were receptive to Darwin’s ideas – perhaps more so than in England. Gosling argues that there were no comparable controversies in India such as happened in England, and quotes the contemporary press in support: ‘The reasons why Hindus did not react to Darwinism are easy to explain’. Whereas Victorian England was opposed to a common ancestry between animals and humans, ‘no such problem would be faced by Hindus, for whom even the gods can assume animal features.’ Some of the Hindu Reform movements pointed to similarities between evolution and the doctrine of re-incarnation. The idea of an evolving universe was used as an imaginative adaptation of traditional Hindu thought. At the turn of the century, the driving force in the incorporation of Western science was Swami Vivekananda, whose thinking in biology and cosmology from a Hindu perspective, provided an inspiration for later Indian scientists to explore the unity underlying all manifestations of ultimate reality.

The second section outlines an investigation by David Gosling at four university centres in India concerning attitudes to science and to religion. Using questionnaires and interviews, he came to the view that the majority of respondents maintained that there is some relationship between scientific and religious beliefs; that a significant proportion of scientists have had their religious beliefs

strengthened through the study of science; that the conflict between the disciplines is often because of a superficial grasp of science; and that issues related to Darwinism are becoming more problematic today than they were historically.

Gosling's third chapter explores the response of Indian Christianity to evolution, drawing particularly on the thought of Paul Devanandan (d.1962), who worked on the role of faith in a secular society shaped by science and technology, and M.M. Thomas. They wanted to see Hindu and Christian traditions both develop together in ways of benefit to India, and to see science and faith cooperate. The attitude to creation he saw as central to this. Devanandan was one of a number of Indian Christians who have worked for imaginative dialogue with Hindus about the implications of secularisation, and to reaffirm the implications of the incarnation for the world.

Gosling's next chapter considers science and religious belief (Hindu and Christian) in general. He offers some basic definitions of science and of religion, their similarities and differences, and then discusses Creationism and Intelligent Design. Both these alternatives to Darwinism are given short shrift. Creationism is bad science and bad theology. Intelligent Design is not a testable theory, and functions rather like the god-of-the-gaps. Gosling quotes a Hindu scientist describing creationism as 'bunkum', and he reaffirms Darwinian evolution as constituting the best science available.

Finally, Gosling offers a tentative biological version of the anthropic principle. Recent biological research renders the arguments of Dawkins, Gould and Dennett decreasingly plausible, and is more consistent with a 'providentialist' account offered by the theism of the Abraham faith but not with Hindu monism. Increasing biological complexity, underpinned by biological networks, suggest an interconnected, communal process with a high level of constraint. He quotes with approval Conway Morris's approach to biological convergence. Gosling concludes by relating briefly the new biology to God's omnipotence, good and evil and hope for the future, exploring several different options for that relation. This is clearly a significant agenda for future thinking.

This little book is clearly written, with a primary focus on Indian tradition, but raising questions not least in the last two chapters – which are of much wider interest. It is very helpful to see a creative scientific mind at work, fruitfully furthering the conversation between the sciences and faith traditions, and broadening the horizons from the usual Western focus for such an enterprise.

SHORT REVIEWS BY THE EDITORS

F. LeRon Shults, Nancey Murphy and Robert J. Russell
(eds.) *Philosophy, Science and Divine Action*. Leiden:
Brill, 2010. ISBN 9789004177871. Cloth. €146.

This is the opening book in Brill's Philosophical Studies in Science and Religion, of which Shults is the general editor. It brings together ten of the most philosophically-oriented essays from the distinguished series of conference proceedings arising from the CTNS/Vatican Observatory exploration of divine action. The contributors are Barbour, Peacocke, Polkinghorne, Stoeger, Wildman, Clayton, Tracy, Murphy, Ellis and Russell. With such a team this is clearly an important single-volume compilation, and it will help teachers and researchers coming new to the debate and looking for an overview. They will be further helped by a brief but very perceptive introduction from Shults, and an overview of the project by Russell.

At the list price, it looks like a library book rather than one to be bought by individuals, and I would still recommend that libraries acquire instead the whole series of CTNS/VO volumes – an extremely important resource still too little disseminated through the research community. But the Brill volume has some real treasures in it, especially Nancey Murphy's essay from *Chaos and Complexity*, and Arthur Peacocke's 'The Sound of Sheer Silence'. As usual with a Brill hardback it is very well produced. As someone who teaches the divine action debate I can only hope that Brill may be persuaded to

release this in cheap and cheerful paperback form. Christopher Southgate.

Ryan Nichols, Nicholas D. Smith and Fred Miller,
Philosophy Through Science Fiction: A Coursebook with Readings. New York: Routledge, 2009; pp. 433, ISBN 978 0415957559, £25.99.

This book takes a refreshing look at some well known debates in philosophy by illustrating them with examples from science fiction. Each chapter provides an explanation of some of the key arguments in the areas of epistemology, time, freewill, philosophy of religion and personal identity, and then provides selected readings (from both philosophical texts and science fiction), discussion questions and a helpful list of recommended reading. The focus throughout is on analytical philosophy, and despite so many textbooks covering this familiar territory, the use of science fiction enables this one to do a good job of offering a different perspective on some age-old debates: It would have been a more adventurous volume, however, if it had covered (even briefly) contemporary continental and postmodern developments. The book will serve as a useful resource for teachers looking for some innovate examples with which to introduce students (first year undergraduate or A-level) to philosophy, and its well written style means it can be recommended to the students themselves. I suspect, though, that only hardcore Trekkies and science

fiction fans would feel the desire to use it as a textbook throughout a whole course. LH.

Alex Bentley (ed.) *The Edge of Reason? Science and Religion in Modern Society*. London: Continuum, 2008; pp. 222, ISBN 9781847062185, paperback, £13.99.

Eighteen short chapters make up this very readable edited volume, penned by writers from various backgrounds (including anthropology, archaeology, the biological sciences and religious studies) in the attempt to put religious belief in context and thereby explain why it is that science and religion are so often assumed to clash and why, for example, over a third of British people claim to believe in creationism rather than the theory of evolution. The book proposes that in order to understand startling statistics like this, we need anthropological knowledge of the world's belief systems and we need to know what effect religious belief has on the human mind. In doing this, each chapter brings a fresh perspective to the arguments of fundamentalism and atheism and helps us to see the science-religion conversation from a different perspective.

Part I asks whether scientists should challenge religious beliefs and explores some of the limits for scientific discourse. In one particularly notable chapter, Robert Layton, through a comparison with Aboriginal beliefs, argues that creationism in the US is attractive to fundamentalists because it supports their moral stance

and fits with their alienation from politics. Both atheists and theists involved in the science-theology conversation would do well to take note of this. Part II deals with the naturalness of belief: is it inevitable that religion has evolved? The answers in this section tend to be affirmative: and it is not just religion, but warfare, too that appears to be inevitable.

Part III puts forward some counterarguments to the proposals by thinkers like Dawkins that religious belief is harmful. D.S. Wilson gives plenty of evidence for the significant benefits that religion can bring. All the chapters argue that religion can be both good and bad: probably no surprise to most of us, but it is good to be presented with some careful consideration of the evidence. Part IV asks whether science can inspire spiritual wonder: John Hedley Brooke's chapter argues that although the scientific experience of discovery may not warrant the description 'religious', the similarity in sentiment can hardly be denied. This section also contains some interesting discussions about how the discovery of extra terrestrial life would influence our spiritual beliefs.

Overall, this is an imaginative volume with plenty of food for thought. Given the predominance of Islamic as well as Christian fundamentalism, and the different theological political and theological issues involved with Islamic fundamentalism, it would have been interesting to have a chapter addressing these anthropological topics directly to Islam. That said, however, this book is an informative, engaging and very enjoyable read.

BOOKS RECEIVED FOR REVIEW

John Hedley Brooke and Ronald L. Numbers (eds.), *Science and Religion Around the World*. Oxford: Oxford University Press, 2011.

Celia Deane-Drummond and Heinrich Bedford-Strohm (eds.), *Religion and Ecology in the Public Sphere*. London: T&T Clark, 2011.

Maria Kronfeldner, *Darwinian Creativity and Memetics*. Durham: Acumen, 2011.

Alister McGrath *Darwinism and the Divine: Evolutionary Thought and Natural Theology*. Oxford: Wiley-Blackwell, 2011.

Mary Midgley, *The Solitary Self: Darwin and the Selfish Gene*. Durham: Acumen, 2010.

J. Wentzel van Huyssteen and Erik P. Wiebe (eds) *In Search of Self: Interdisciplinary Perspectives on Personhood*. Grand Rapids, Mich: Eerdmans, 2011.

Tony Watling, *Ecological Imaginations in the World Religions*. London: Continuum, 2009.

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

NOTE: This Journal aims to publish original and reprinted reviews of books published in the science-religion area. The Editor regrets that she is not able to publish, or enter into dialogue on, original articles not tied to a book in the field.