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**NOTES ON CONTRIBUTORS**

Professor David Bartholomew is a former Chairman of the Forum and editor of *Reviews*. He is Emeritus Professor of Statistics at the London School of Economics and author of several books in the field of science and religion.

Dr Alasdair Coles is a University Lecturer in Clinical Neuroimmunology and an Honorary Consultant Neurologist at Addenbrookes Hospital, Cambridge.

Dr Peter Colyer is Fellow of the Centre for Christianity and Culture at Regent's Park College, Oxford, and Secretary of the Science and Religion Forum.

Dr Susannah Cornwall is an Honorary Research Fellow in Theology at the University of Exeter.

Dr David Grumett is a Research Fellow in Theology at the University of Exeter, and has published monographs on Teilhard de Chardin and de Lubac.

The Revd Dr Philip Luscombe is Principal of Wesley House, Cambridge, and the author among much other work of the important *Groundwork in Science and Religion* (2000).

Dr Lawrence Osborn is a theologian and editor with a background in astronomy, who has written extensively on the interaction between theology and environmentalism.

The Revd Dr John Polkinghorne KBE, FRS, one of the major figures in the debate, is a former Professor of Mathematical Physics at Cambridge. He was awarded the Templeton Prize in 2002.

Professor Thomas F. Tracy is Phillips Professor of Religion and Professor of Philosophy at Bates College, Lewiston, Maine. His writings include *God, Action, and Embodiment* and *The God Who Acts: Philosophical and Theological Explorations*.

**EDITORIAL**

Quite a bit seems to be happening in the science-religion field at present. I judge that not only from the ever-increasing stream of books sent to me for review (and I take the opportunity to crave the patience of authors waiting to see their books mentioned). Also from the ever-efficient media machine that is Richard Dawkins, whose three-programme television survey of Darwin, in dialogue with a group of schoolchildren, further stimulated in many the wish that he would actually learn some theology. One of the Forum's own members, the Revd Professor Michael Reiss, has been in the news in a way that seems (at least insofar as one can judge from a distance) to reflect little credit on the scientific establishment in the UK. It seems that Reiss's contention that creationism should be discussed – rather than simply ignored in an intellectual conspiracy of silence – led to widespread calls from senior scientists for his resignation from the post of Director of Education at the Royal Society. He judged it best to offer that resignation (though he remains of course in an influential and important position at the Institute of Education). I include in this issue a review of his edited book with Leslie S. Jones, *Teaching about Scientific Origins: Taking Account of Creationism*.

The launch of the Large Hadron Collider at CERN has stimulated great public interest in high-energy physics (and provoked in my own department at least one new student dissertation on the theological significance of that work). Are scientists playing God? Could they end the world? Behind these headlines lies the reality that, as so often in science, the patient collection of data by a truly formidable array of high-speed computers over a number of years will be necessary before reliable conclusions can be drawn, and meanwhile they need a good plumber experienced in working with liquid helium.

Lastly, this summer saw the death of Sir John Templeton, the field's biggest single benefactor over the last twenty years. Excerpts from his obituary follow this editorial.

In this edition of *Reviews* we publish a major review article by John Polkinghorne, reflecting on the new Vatican Observatory/CTNS initiative on natural evil. David Bartholomew reviews the first published book of SRF Conference proceedings, and Lawrence Osborn treats the proceedings of the 2006 ESSSAT meeting. At that meeting Anne Runehov's *Sacred or Neural?* won the ESSSAT Research Prize. Alasdair Coles' review of her book casts a cold spotlight on this type of study. Other reviews cover a broad range of areas from Christology to ethics.

The Science and Religion Forum held its annual conference at Liverpool Hope University from September 4-6. The theme was 'Matter and Meaning: Is Matter Sacred or Profane?' It was at one and the same time a very successful conference, full of stimulating discussion of issues central to the interaction of science with theology, and one which posed significant questions about the future direction of the Forum. I was not the only one to notice the drift upwards of the age profile of the membership. The Annual General Meeting saw a vigorous discussion of how the mission of the Forum might be taken forward more actively, a discussion which largely echoed earlier work by the Committee. Over and over again we run into the same problem that actual levels of energy and resources do not match the aspirations of the membership. However, there is news in this issue of an important new initiative, the Arthur Peacocke Essay Prize, of two important new appointments to the Forum, and of the 2009 Conference in Cambridge in September, for which another impressive list of speakers has been gathered. Come if you possibly can!

## **NEWS OF THE FORUM**

The Committee are delighted to announce three pieces of news. Firstly, Professor Peter Harrison, holder of the Andreas Idreos Chair at Oxford, has accepted an invitation to be one of the Forum's Vice-Presidents. In this he joins Mary Midgley and Professor Sam Berry. We are very honoured to have such a distinguished trio of supporters.

Also, Dr Louise Hickman has accepted a co-option onto the Committee. Louise, who lectures at Newman University College, Birmingham, and contributed a recent review article to *Reviews*, will have a particular role in fostering contacts with younger scholars.

In addition, we are able to announce the inaugural running of the competition for the Arthur Peacocke Essay Prize (see below).

### **THE ARTHUR PEACOCKE ESSAY PRIZE 2009**

In memory of its founding President and former Chairman, the Revd Dr Arthur Peacocke, the Forum proposes to award an annual prize to a student (undergraduate or post-graduate) registered at a UK university, and aged not more than 30 on the day that entries close, for an essay related to the theme of the Forum's forthcoming annual conference.

The essay title will be drawn each year from the writings of Dr Peacocke. In celebration of the 150<sup>th</sup> anniversary of the publication of Charles Darwin's world-changing book, *The Origin of Species*, the title for the 2009 essay prize is:

**“Evolution – The disguised friend of faith?”**

The prize will be awarded to the writer of the essay which, in the opinion of the Forum's adjudicating committee, offers the best treatment of the above title.

The prize will consist of a cash award of one hundred pounds, free membership of the Forum for one year, and the UK travel and accommodation costs of the winner's participation in the Forum's 2009 conference. This will be held in Cambridge from 8 to 10 September on the theme "Evolving Darwinism: From Natural Theology to Theology of Nature". An abstract of the winning essay will be published in the Forum's *Reviews in Science and Religion*, and the full text posted on its website.

The essay should not exceed 5000 words in length, including references. It should be preceded by an abstract of no more than 250 words, and should be submitted as an email attachment in Word, no later than 31 January 2009, to Dr. Andrew Robinson: [a.j.robinson@exeter.ac.uk](mailto:a.j.robinson@exeter.ac.uk), from whom further information may be obtained.

The essay should be the original work of the applicant – unacknowledged quotation from the work of others will automatically disqualify the entry. Copyright in the essay will remain with the author.

Each submission should be accompanied by a statement from the author's Supervisor or Head of Department, confirming the author's student status and indicating awareness that the essay has been submitted.

The adjudicators reserve the right not to award the Prize if no entry of sufficient standard is received. Their decision will be final, and no correspondence about it will be entered into.

## **NOTES FROM LIVERPOOL HOPE – THE 2008 SRF CONFERENCE**

### **‘Matter and Meaning: Is Matter Sacred or Profane?’**

A very well organised event started by overcoming a classic conference problem – the unavoidable withdrawal of the first keynote speaker, Professor Colin Russell. Mike Poole admirably filled the role of both speaker and responder, a key theme here being the use of models as a necessary way for humans to characterise the material world. The Gowland Lecture was given by Professor Ruth Gregory, a particle physicist. Although much of the material will have been familiar to some of the audience, the quality of the communication of complex ideas in quantum physics was of a very high order. We then heard a fascinating and much more technical exchange between Gregory and her respondent Basil Altaie. So we were admitted with wonderful clarity into the world of what matter is, at its most fundamental, and then given a frisson of how the practitioners in this esoteric world actually talk.

The next morning saw another excellent lecture, this time by Peter Harrison, Andreas Idreos Professor at Oxford, reflecting on historical perspectives on the nature of matter. The breadth of Harrison’s knowledge and the evident precision of his scholarship made it plain why the Oxford panel selected him to succeed our Forum President John Hedley Brooke. Another treat was his exchange with his respondent John Henry.

The lecture in which I learned most was Professor John Harding’s reflection on nanotechnology, and why machines that work well at ordinary scales will necessarily struggle to function at the nano-level, at which thermal agitation is comparable with the motions on which the functioning machine depends. On the

second afternoon came those important components in the new SRF format – two workshops to follow up elements of the main theme, and the parallel paper sessions. At the Conference Dinner we were much entertained – and also challenged – by James Jones, Bishop of Liverpool, an engaging speaker and someone who has facilitated some important discussions with American evangelicals on creation care, and more particularly climate change. Any one of those conversations may mean more to the world in the long run than years of the other debates with which the Church of England currently struggles.

The best feast was left to the last, a wonderful exchange between Niels Gregersen, Professor at Copenhagen, and Dr Kenneth Wilson. Systematic theologians thrive on drawing together themes biblical, philosophical, scientific and doctrinal. Gregersen was masterful in his synthesis, but Wilson was fully equal to his task as respondent. Another good feature of the new conference format is the final reflection on the Conference as a whole, and Michael Fuller gave us a most careful meditation on the issues raised. He will be the editor of the volume of proceedings, and again the Committee has evidently chosen well.

So – a very positive and rich meeting. I had a couple of disappointments only. It was a pity that there were not more young scholars present, and this the Committee is addressing (see the pieces preceding these Notes). Also, I felt that two crucial issues were somewhat skirted around. The first was the issue of creation out of nothing – a trickier theological problem than the great monotheisms have been inclined to admit. The second was the sacredness, or not, of matter, a theme that only emerged, and then rather tantalisingly, in the discussion of Gregersen's talk. But those were small caveats in a meeting on which the organizers should be thoroughly congratulated.

**2009 CONFERENCE – ADVANCE NOTICE****Evolving Darwinism –  
From Natural Theology to Theology of Nature**

Wesley House, Cambridge

Tuesday 8<sup>th</sup> – Thursday 10<sup>th</sup> September 2009**Professor Sam Berry:***Biology after Darwin***Professor David Fergusson:***Natural Theology after Darwin***Professor John Brooke:***Christian Darwinians***Dr Denis Alexander:***A Critique of Intelligent Design***Drs Christopher Southgate and Andrew Robinson***From Origin of Life to Incarnation: Towards a New  
Theology of Evolution***Details and booking forms will be distributed to  
Forum members in Spring 2009.****Book the dates now!**

**OBITUARY****SIR JOHN MARKS TEMPLETON (1912-2008)**

Sir John Templeton's contribution to the debate that concerns this journal has been immense. By establishing a hugely well-endowed foundation and setting as one of its priorities enquiry at the interface of scientific and spiritual exploration, he largely made possible the intense activity we now see in the field. There can be few of those contributing to *Reviews* whose work has not been significantly stimulated by one Templeton initiative or other. Notable among those initiatives have been the Science and Religion Course Program, which encouraged several hundred people who were teaching, or contemplating teaching, in the field, Science and the Spiritual Quest, exploring the spirituality of practising scientists, the Local Societies' Initiative, and the Science and Transcendence Advanced Research Series. Beyond that there have been very many grants and other types of support for research into everything from altruism to humility to inter-faith dialogue. My understanding is that Sir John always took a very active interest in the work of the Foundation and the causes supported. He also of course endowed the Templeton Prize, which has been won by many important figures in the science-religion debate, a further example of his determination to raise the profile of spiritual exploration and to further its study.

It has been fashionable from time to time to criticize the Foundation, and to say that the field has suffered from having only one major funder. No doubt half a dozen major funders would have been a better state of affairs(!), but given that there has only been one, I cannot imagine that there could have been a better donor than a man who had set himself to support a broad range of objective enquiry in the area. It has been

a profoundly important piece of academic philanthropy. My only regret is that one crucial area of the interface between the sciences and theology – the relation of ecology to religious reflection – has always tended to be excluded from the Foundation's agenda. I am confident that if Sir John had been setting things up now, this would have been a priority rather than an exclusion.

Readers will no doubt have consulted some of the very many obituaries available on the Web. I would only point them in addition to the piece by Andrew Brown in *Nature* (v.454, p.290, July 2008). *Nature* has not necessarily been a friend to the science-religion dialogue; I imagine it would have pleased Sir John that finally it too could not but do him honour.

**REVIEW ARTICLE**

**Nancey Murphy, Robert John Russell and William R. Stoeger SJ (eds), *Physics and Cosmology: Scientific Perspectives on the Problems of Natural Evil, Volume 1*, Vatican City: Vatican Observatory and Berkeley: Center for Theology and the Natural Sciences, 2007, pp. 367, ISBN 978-88-209-7959-1, £20-50.**

REVIEW ARTICLE BY JOHN POLKINGHORNE

There is surely no problem that holds more people back from religious belief, and troubles believers more, than the amount of suffering present in a world that is claimed to be the creation of a good and all-powerful God. As early as the third century BCE, the Greek philosopher Epicurus stated the issue with lapidary clarity, God either wishes to take away evils and is unable to do so; or he is able but unwilling; or he is neither willing nor able ... if he is both willing and able, which is alone suitable to God, from what source then are evils? Or why does he not remove them? In wrestling with this problem, many thinkers have distinguished three kinds of evil: moral, natural and metaphysical. Moral evil is concerned with the chosen cruelties and neglects of humankind. The theological response offered has commonly been the free-will defence: the claim that a world populated by freely choosing beings is a better world than one populated by perfect robots, however terrible some of the choices made by the former may turn out to be. After the century of two world wars and the Holocaust, this is not an assertion to be made without some fear and trembling, but I personally believe it to be valid. Natural evil relates to the disease and disaster in the world, for which the responsibility does not seem to lie with humanity but

with the world's Creator. Related to natural evil, and in some cases shading into it, is metaphysical evil, the consequences of the limits of power and possibility possessed by finite creatures. The insights of natural science may be expected to be relevant to these latter two types of evil and the book under review is an extensive exploration of this possibility, regarded in the perspective afforded by physics and cosmology. This multi-authored volume derives from a conference held at Castel Gandolfo in 2005 under the auspices of the Center for Theology and the Natural Sciences at Berkeley and the Vatican Observatory.

While engagement with the problem of evil and suffering has a very long history, the characteristic concerns and strategies of the discussion have varied extensively over the centuries. In the Hebrew scriptures, for example, perplexity at the undeserved prosperity of the wicked is seen as at least as disturbing as bewilderment at the unmerited sufferings of the innocent. In a chapter surveying recent centuries of Western thinking, Niels Christian Hvidt emphasises that a substantial reorientation of the discussion took place in the eighteenth century, particularly under the intellectual influence of Leibniz and affected also by horror at the devastation and loss of life in the great Lisbon earthquake of 1755, taking place on All Saints Day, when most of the Catholic population of the city were in the churches that consequently collapsed. In previous centuries the tendency had been to see disasters as occasions of divine punishment, with guilty humanity in the dock. Now, under the influence of Enlightenment thinking, the perspective was reversed and it was God who stood under accusation for what had happened. One can see this change as one element in a more general shift which brought about a transition from society in 1500, in which belief in God was almost axiomatic, to today's society in which theism is seen

as just one competing option among many, needing to be argued for. Charles Taylor has recently published an extensive analysis of the processes by which the present secular age came into being.<sup>1</sup>

Terrence Tilley identifies two different kinds of response to the problem of evil, which he labels as defenses [sic] or theodicies, respectively. The former simply seek to show that there is no absolute contradiction or incoherence between the existence of suffering and the existence of God. It is a minimalist strategy, not greatly worried about plausibility, so that, for example, appeal to the possibility of deleterious action by rebel angelic forces could be held sufficient to make the point. It has some appeal to those influenced by the style of thought of analytic philosophy, such as Alvin Plantinga or Richard Swinburne. Theodicies are altogether more ambitious, for their aim is not just the exploration of conceivable logical possibilities, but to show 'What God's reason is for permitting evil', thereby offering plausible warrant for belief in the existence of God in the face of suffering.

Clearly, theodicy is a much more attractive proposition for the theologian, even if its achievement represents a much more difficult task. The basic strategy of most contemporary theodicies is what Christopher Southgate and Andrew Robinson call Good-Harm Analysis (GHA), the assertion that some form of evil is the necessary cost of a greater good and therefore its presence is not gratuitous, something that a God who was more compassionate or less incompetent could properly be expected to eliminate. In relation to moral evil, the free-will defence is just such a GHA strategy. I have suggested an analogous free-process defence in relation to natural evil, appealing to the idea that an evolving creation in which creatures 'make themselves'

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<sup>1</sup> C. Taylor, *A Secular Age*, Harvard University Press, 2007.

(in Charles Kingsley's famous phrase) is a better world than a ready-made one would be, despite the ragged edges and blind alleys that are the inescapable shadow side of evolutionary fertility.<sup>2</sup> The theological backing to this claim is the insight that the God whose nature is love could not be a kind of cosmic Puppet-Master, but will give to creatures some due form of independence. In turn, this belief is related to the recognition, widely influential in much twentieth-century theology, that the act of creation is an act of kenosis, or divine self-limitation, on the part of the Creator in allowing the created other truly to be and to make itself. Surprisingly, this kenotic concept receives very little attention in the present volume, though Wesley Wildman, in one of his contributions, does refer to it, while expressing his personal dissatisfaction with it.

Of course, any attempt to apply GHA involves difficult and contestable acts of evaluative judgement, of a kind that Nancey Murphy says are often 'imponderable'. However, I believe that these assessments, though not universally coercive of acceptance, are not beyond the scope of reasonable intuitive evaluation. Careful attention to what science can tell us about the processes of the physical world will emphasise the integrity and interconnectedness of what is going on. Good and evil consequences are inevitably mutually entangled, as when genetic mutation on the one hand has driven the development of new forms of life, while on the other hand it is one of the sources of malignancy. Science does not encourage a belief that it would have been easy for a non-magical Creator to separate the good from the bad, retaining the former and discarding the latter. The unfolding process that over a period of 13.7 billion years has turned a ball of energy into the home of saints and scientists has very much the

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<sup>2</sup> J.C.Polkinghorne, *Science and Providence*, 2 edn, Templeton Press, 2005, ch.5.

appearance of being a package deal. Some authors indulge a little in speculation about 'possible worlds' very different from our own with its fine-tuned openness to the development of carbon-based life, but such attempts are really far too precarious to be of much value, one way or the other. I think that it is fair to say that our scientific understanding of cosmic processes, partial and patchy though it undoubtedly is in many ways, is generally supportive of a positive Good-Harm Analysis. 'Designing' a putative cost-free paradise is not as easy a task as one might have supposed. Yet there remains the challenging and largely imponderable question of the degree of suffering actually present in our world. That there should have to be some cost to creativity may seem understandable enough, but often the magnitude of the suffering actually experienced seems to be such as to diminish or extinguish, rather than stimulate, those on whom it falls. This recognition moves the discourse from the level of the theoretical to that of the intensely personal and practical.

Scientific and theological insights can only carry one so far in the attempt to wrestle with the problem of suffering. The issues are not only intellectual but also existential. The afflicted are entitled to cry out for a response that goes beyond the level of cool argument. In a thoughtful and helpful chapter, Thomas Tracy reminds us that first and foremost the concerns of the Abrahamic faiths are with 'salvation, not explanation'. This immediately brings up the issue of eschatological hope in relation to the ills of this present life. Great caution and delicacy are obviously needed in pursuing this line. A facile 'pie in the sky' theodicy, invoking the delights of heaven as a sufficient recompense for the horrors of earth, would be far too crude a response. Yet, if those whose lives have been diminished or prematurely ended by disease and disaster, have no

hope of some form of fulfilment beyond death, then the tragedy of suffering seems only more intense and distressing. Revelation (21:4) evokes the image of a future destiny in which God 'will wipe away every tear from their eyes, and death shall be no more, neither shall there be mourning nor crying nor pain any more, for the former things have passed away'. It does not seem to me to be incoherent to suppose that God could produce a new kind of 'matter', so endowed with powerful self-organising principles that it would not be subject to the thermodynamic drift to disorder that characterises the matter of this world.<sup>3</sup> Yet to say that immediately raises the critical question of why, if that new creation is to be so wonderful, did God bother with the old in the first place? I believe the answer to lie in the fact that the creative purposes of a loving God are inevitably a two-step process. First must come a phase of creation in which the divine presence is veiled and the divine power kenotically restrained in order to give finite creatures the space in which they can be themselves and make themselves. However, the ultimate purpose of God is to draw all who will accept the divine offer of grace into a freely embraced intimate connection with the life of God. That destiny will be realised in the redeemed world of the new creation, where the divine presence and power will no longer be veiled but God will truly be 'all in all' (1 Corinthians 15:28). I personally do not accept panentheism as an account of God's present relationship to creation, because I think it threatens to blur a distinction that it is vital to maintain, but I do see panentheism as the eschatological destiny of creation.

So far we have been consider theodicies of the GHA type whose strategy is to resolve the dilemma stated by Epicurus by qualifying the meaning involved in calling God 'almighty'. To speak thus does not mean that

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<sup>3</sup> J.C.Polkinghorne, *The God Of Hope and the End of the World*, SPCK/Yale, 2002, ch. 10.

God possesses an absolutely arbitrary power to do anything whatsoever - such as creating a stone too heavy for God to lift or decreeing that  $2+2=5$  - but that God can do whatever God wills to do, but that will only be what is in accord with the divine nature itself. God is not limited externally, but God is limited internally by complete divine consistency (or simplicity, as the medievals put it). This insight has been the basis for the appeal earlier to the kenotic nature of the God of love, whose gift to creatures will be the grant of a due degree of freedom. Exactly how one understands the consequences of this principle of divine consistency will be a matter for theological debate. Philip Clayton argues for a principle he calls 'not even once', claiming that if God were ever to break the integrity of creation even only once to relieve suffering, then God would be bound ethically to keep on breaking it to a degree that would threaten to turn a created cosmos into a realm of chaos. The possibility of miracle, or even special providential care, would be ruled out by so stern a belief. This seems to me to be far too strong. Of course there will not be endless irresponsible divine tinkering with creation, but if personal language about God is to make any sense, even taking into account the stretched sense in which it must be employed, there must surely be the possibility that God does particular things in particular circumstances, and even exceptional things in exceptional circumstances. Obviously there are many perplexities in trying to figure out how divine consistency might relate to actual happenings in the world, and it would be difficult to deny that, on the face of it, there does seem to be plenty of scope for more divine activity in the face of suffering, but I do not think that perplexity about details should cause us to abandon the concept of special divine action altogether.

The tactic of seeking to qualify our understanding of God's almightiness is one that, in one form or another,

is common to many of the authors of the symposium. One contribution, however, takes an entirely different tack. Wesley Wildman is willing instead to qualify the notion of divine goodness. He has much of interest to say, even if the presentation of his thoughts would have benefitted from being expressed in less exuberantly rhetorical a manner. Wildman suggests that there are three distinct and competing ideas of the nature of ultimate reality. He calls them determinate being, process, and ground of being. The first corresponds to the various versions of personal theism. He believes that its adherents are principally motivated by longings for a better world and consequently they are optimists in character. Wildman believes that what he calls 'an argument from neglect' - why does that being not then do more to deal with suffering? - is fatal to that position. In other words, he dismisses the GHA arguments we have been discussing. Process refers to the ideas of Alfred North Whitehead and Charles Hartshorne, which conceive of God as acting within the process of the world by the power of persuasion, perpetually seeking to lure the world in the direction of the greater good. The God of process theology has great, but strictly limited, power. Adherents of this view are characterised by Wildman as activists, seeking to cooperate with the divine purpose. The stance of the ground of being, which is Wildman's own choice, sees that ground as ethically ambiguous, the 'god' of both fertility and destruction in the manner of the Hindu deity Shiva. Wildman characterises himself and his fellows as mystics. This approach dissolves the problem of theodicy, but at a cost which seems to me to be unacceptably great. I do not believe that human longings for fulfilment are just attempts to keep up our spirits in the dark, but rather that they are intuitions of hope which are fundamental to our encounter with ultimate reality.

No volume is going to resolve all the perplexities of suffering and evil. There is much in this book which is interesting and helpful, but there are also some imperfections in the presentation of the material. To draw attention to these is by no means to be unappreciative of the work that CTNS and VO have sponsored, but to indicate some opportunities that might be taken advantage of in further work. As one much addicted to conciseness of expression, I found many of the contributions excessively wordy. Some authors permit themselves to make extensive excursions into collateral matters to a degree that was not necessary for the task in hand. This wordiness is exacerbated by a substantial degree of repetition and overlap between the individual chapters. Stronger overall editing would have been helpful. The CTNS/VO series of volumes as a whole has been based on a procedure in which papers are written and circulated before a single meeting at which they are discussed before being prepared for publication. I believe that well-focused interdisciplinary work ideally requires more iteration than this procedure permits. Having more than one face-to-face meeting is, of course, a significant extra burden, but it is one that it is well worth bearing. Finally, the core group in this series of CTNS/VO projects has largely consisted of people with strong connections of varying kinds with CTNS itself.

Perhaps as a consequence, the references to the literature in this volume tend to focus on the work of those within the circle, with significantly less attention being given to work outside even when it has similar, and sometimes prior, concerns.

**REVIEWS**

**Neil Spurway (ed), *Creation and the Abrahamic Faiths***, Cambridge Scholars Publishing, 2008; hardcover, pp. 150, ISBN 978-1847184665, £29.99; paperback, ISBN 978-1847188090, £9.89.

REVIEWED BY DAVID BARTHOLOMEW

This is the first successful attempt to publish the proceedings of the Forum's annual conference. Those who have experience of bringing such collections to birth will recognize the magnitude of the achievement and wish to congratulate the editor on his success. The conference in question is the 2006 conference held in Manchester and although two years may seem a long time to wait those, like myself, who were present will appreciate the opportunity to revisit this important topic. Memories are unreliable but I have the distinct impression that the re-writing which the editor encouraged amounts, in some cases, to much more than a tidying up of the oral version. Some of the titles have certainly changed – not always in the direction of greater transparency as a comparison of David Knight's two titles will reveal.

Publication will enable members who were not present to share more fully in an important part of what membership offers – though they will have to pay for it, of course. The long term success of the publication project will depend on the appeal of the book to the wider science and religion community, and this may well depend on the extent to which members of the Forum judge the effort to have been worthwhile and are willing to recommend it to others.

Creation is a fundamental doctrine in which Muslims, Jews and Christians share common scriptural accounts, together with the accumulated knowledge of

contemporary science. It is therefore an ideal place to begin the exploration of the understandings at which they have arrived. The idea was that five leading speakers from each religion would give their views on particular aspects and then that others would respond from different vantage points.

The five plenary talks which form the backbone of the book were: *Creation Accounts in the Old Testament* by David Wilkinson, *The Dark Backward and Abyss of Time: 19<sup>th</sup> Century Life Sciences and Natural Theology* by David Knight, *Creation and the Abrahamic Faiths* by Keith Ward, *Judaism and Creation* by Dan Cohn-Sherbok and *Islamic Concepts of Creation and Environment Sustainability* by Mawil Izzi Dien. The first named was the Gowland Lecture, given at the start of the conference, to which there was no response but for which a separate contribution by Basil Altaie was rewritten to serve as a response. The responders to the other plenary speakers were: Neil Spurway, Basil Altaie, John Hedley Brooke and Celia Deane-Drummond.

In addition, there were two other short papers which amply earn their place in this collection. One by Peter Colyer on *Nothing for a Creator to do: has scientific cosmology displaced the need for a creator?* and Sjoerd Bonting on *What Creation Theology? creation from nothing v. creation from chaos*. The latter, in particular, is a sustained and carefully argued case against *creatio ex nihilo* and all will find it challenging, if not ultimately convincing.

It is common for reviewers of collections like this to comment on the variable quality of the material and then, without pointing the finger directly, to concentrate on the parts which they think have merit, leaving the reader to draw their own conclusions about the rest. This is not an appropriate strategy here. All the plenary speakers are well-known authorities in their fields and taken individually, their contributions will stand as

timely statements of their positions. The particular value of the conference setting is that members can engage with the speakers and with one another. This aspect does not come across in the book because all we have are revised texts of the papers and the formal responses to them. Both kinds of presentation were revised for publication so much of the conference 'atmosphere' is lost, though the editor has done his best to fashion the collection into a coherent whole for a wider public.

As readers of the book we must ask whether this effort has resulted in something which can stand alone in the literature of science and religion. Here the conclusion must be more equivocal. On the back cover the publisher writes "Together, the chapters show that the attitudes of the three faiths to Creation have far more in common than otherwise." In spite of going on to speak of an encouraging "coming together in their concerns for the environment" it is not clear where the justification for the main statement comes from. If it is true, there must be something beyond what is contained in their common origins. This is not immediately evident to the reader but there are some clear pointers in the opposite direction. For example, Basil Altaie is clear that "The Qu'ran is more authentic than the Old Testament" (p.14 ) and that Keith Ward's claim for there being much in common between the 'classical' view of creation, held by Thomas Aquinas, and the Muslim view, is incorrect (p.81). On pages 80 and 81 Altaie also argues that the concept of a personal God is no longer compatible with the modern scientific understanding. It seems to me that a mark of maturity in debates of this kind is a willingness on the part of participants to challenge one another's understandings. Apart from these examples, this kind of penetrating criticism is entirely lacking and without it, the commonality of understanding between the faiths cannot be accurately judged.

I found the Jewish contribution particularly disappointing. Dan Cohn-Sherbok was unable to be present at the conference but he provided a written contribution for the book. As one would expect, this is engagingly written and from a personal position, but it does little more than tell us that the six-day account of creation, which was part of his upbringing, is now completely discredited and this must be taken into account in the necessary reconstruction of Judaism. Ian Fox, who acted as his substitute at the conference, quotes many rabbis who, down the centuries, have been grappling with that problem. There has been much interest in Judaism in whether the Creation was from 'nothing', but nothing was said about where the primeval chaos, on which the creative act was made, came from in the first place.

The 'responses' were also a little disappointing – again, not because they lack individual merit but because they were not always 'responses' in the everyday sense of that word. In some case this appears to have been because they could gain little purchase from the contribution to which they were supposed to be responding. For example, this was particularly true of John Hedley Brooke's response to the two Jewish contributions, but can also be detected in Celia Deane-Drummond's response to Mawil Izzi Dien in which she engaged rather more effectively with the writing of others, including Michael Northcott, who did not contribute, than with her prime target.

This collection poses a fundamental question about where the debate among the Abrahamic faiths goes next. They have common ground in the doctrine of creation, as this collection shows, and it also hints that the field of ethics might be another fruitful field but, beyond that, we move into territory where serious differences begin to emerge. It is there that serious debate might actually be more fruitful even if, as Basil Altaie's remarks

anticipate, disagreements will emerge. I am not convinced that the Forum has thought through the longer term implications of continuing along the path which it has so enthusiastically taken in the present volume. Such thinking must be a collaborative effort and this publication might prove a useful starting point.

**Steve Fuller, *Science vs. Religion: Intelligent Design and the Problem of Evolution*,**

Cambridge: Polity Press, 2007; paperback, pp. 179, ISBN-13 978-07456-4122-5.

REVIEWED BY PHILIP LUSCOMBE

‘It’s intellectual quackery like this that gives philosophy of science a bad name,’ concluded a recent newspaper review of another of Steve Fuller’s books on Intelligent Design. Readers of *Reviews* may be tempted to the same conclusion, so be warned that Fuller is never less than infuriating and provocative. The science and religion community has generally been cautious in its evaluation of the sociology of science and Science and Technology Studies. We have been anxious to follow the lead of scientists who tend to dismiss sociology as the work of interfering outsiders who know little of the reality of science. But to take such an approach is to miss the point, especially in respect of Fuller. An American who has worked in Britain for many years, Fuller exhibits that very English virtue of sympathy for the underdog. There is a certain perversity in his championing of unpopular causes. Here he commends ‘my home institution, Warwick University, [which] responded with a measure of sympathetic interest which could serve as a model for how such institutions should deal with their heat-seeking staff members.’ Fuller had agreed to appear as a witness for the anti-Darwinian

Dover school board in their recent court case over the teaching of Intelligent Design in American schools. Perhaps it is best to see Fuller as a prophetic figure, not so much with the task of telling unpleasant truths (I happen to think that Fuller is wrong on most of the major issues discussed here); but rather with the ability to help us see the world from unexpected perspectives, and hence to understand better the broad context of both our beliefs and our science.

Provocatively, Fuller claims that Intelligent Design is a 'venerable research tradition' in continuity with older explicitly religious ways of doing science which were in their day spectacularly successful. Fuller claims that ID has the potential to generate much fruitful new science as opposed to Darwinism, which cannot move beyond the dead end of 'natural history': descriptive and nothing else.

For Fuller science is best described by the classic Newtonian method. That is to say that science seeks to understand the construction and operation of machine-like things. These machines make sense in terms of mathematical law, which in the course of time may be used to construct ever more complex new machines. Thus the boundary between science and technology is dissolved. Darwin's theory of evolution through Natural Selection is a scientific anomaly because it is fundamentally *descriptive*. Fuller is quick to draw attention to Karl Popper's dislike of natural selection as an historical theory, and thus for Popper belonging with Marxism and the other pseudo-sciences.

Fuller claims that such 'sciences' inevitably tend towards pessimism and fail to shape future developments, because they simply describe special cases and have little predictive or manipulative power. He contrasts this with design-based science, such as that of Newton, which is progressive and helps to reshape the world. Hence, for Fuller, there is an

important distinction between 'complexity' which, potentially, is susceptible to being described by new laws, and 'complication' which can only ever be understood in descriptive, historical terms.

In this Fuller sides with Popper against Thomas Kuhn; as ever choosing the losing side in any battle. Kuhn's paradigms are dangerous because they allow scientists to become the sole arbiters, to decide for themselves, and within the closed community, what is good science. Once we get away from the dead end of Darwinian description, claims Fuller, we will see that Design has played a much bigger part in the ideology of science, and its history and pedagogy, than is usually allowed. Consider the biotech sciences: according to Fuller these new ways of doing biology have at last turned natural history into a proper, progressive science. Biotechnical engineering now allows biologists to aspire to become designers and creators of new worlds in the way that physicists have operated since Newton. If Darwin was alive today, speculates Fuller, he might not abandon hope in Design so quickly. Notice here again the elision between science and technology. What matters is the practical outcome.

Thus it is no surprise that Fuller acted as a defence witness for the school board opposed to Darwinism in the recent Dover court case. Fuller claims to have been supporting old fashioned, creative, proven science against the modern defeatism of Darwinian historicism. Inevitably the opposing side won.

What we have here is not 'intellectual quackery.' Fuller forces the alert reader to face hard questions: Is there a fixed template for what constitutes 'good' science? The general view of historians has been that there is not; that part of the reason for the unique success of science has been its ability to adapt its methods radically to fit new subject areas. But if this is so, then who judges what is scientific and what is not?

The danger is that a closed scientific community becomes a new intellectual priesthood, disdainful of any outside influence. Fuller is surely right when he attacks the now celebrated Dover judgement for condemning ID in part *because* of the religious motivation of its proponents; the only thing that should matter in science is its results. But what constitutes the ‘results’ of science? Are scientific laws always mathematical and predictive or can they ever be descriptive? How does science relate to technology? Can technological outcomes ever count for more than detailed description? Doesn’t genetic engineering really rest on the Darwinian rather than the Design paradigm? And, in all seriousness, could ID ever really constitute productive science?

As should be clear, Fuller does not finally convince me. In large measure this is because he fails to take seriously enough the *history* of science itself. By the time of Darwin, Design, which had once been a progressive research programme, seemed unable to unravel the science of the natural world. In *Science and Religion* John Brooke remarked on Darwin’s attempts to explain the life of the Galapagos islands: ‘This was simply too tantalizing a puzzle to solve by invoking the will of God.’ For a sociologist of knowledge, Fuller is remarkably reluctant to allow for the progressive evolution and replacement of intellectual ideas or the importance of evaluating them in their context. Once this is done, the historical contributions of Design can be celebrated without making the theory into a straitjacket for either science or theology.

**Ilia Delio OSF, *Christ in Evolution, with a foreword by John F. Haught*, Maryknoll, NY: Orbis, 2008; paperback, ISBN 978-1-57075-777-8, \$18/£10.**

REVIEWED BY DAVID GRUMETT

The history of Christology can be characterized as a series of encounters between believers witnessing to the Christ of their faith, and scholars from a range of disciplines, including theology, seeking to express this vision in the language and worldview of the day. The result is likely to be mutual adjustment and clarification, as Christians are challenged to give a rationally intelligible account of the Christ in whom they believe, and intellectuals are brought to face some of the aporia in their own discourses. Christianity has experienced such encounters with both Neoplatonism, which illuminated the nature of divine transcendence and participation in the human world, and Aristotelianism, which assisted understanding of how Christ is present to the world in forms such as the eucharist. These were truly exercises in contextual theology, with Christ interpreted afresh in terms comprehensible to the current generation.

The broad intellectual context of Christology over the first two millennia was, Ilia Delio contends, a project to define and develop the self that consisted in the expansion of the idea of the human from myth, through rationalization, to individuation and finally self-reflective consciousness. This 'first axial period' provided Christology with its principal themes: divine personality, the summoning of humanity to personalized existence, and ongoing debates about the nature(s) of the person of Jesus Christ.

Delio sees humanity as now evolving into a second axial period characterized by a new global

consciousness produced by technology and mass instantaneous communication. This consciousness is global both in a horizontal sense of creating complex collective centres of consciousness between people of different cultures, ethnicities and religions, and in a vertical sense, establishing fundamental new imperatives of ecology and energy conservation that draw humans into a new relationship with their planet. Yet Christology and Christian spirituality remain stuck in the first axial age, resulting in a disjunction with the cosmology of the second axial age, which they are consequently failing to address.

If Christology is to regain congruency with this new cosmology, Delio suggests, theologians will need to amplify various existing themes such as the resurrected and cosmic Christ, recapitulation, and eschatology, as well as insights from Eastern Orthodox theology. These could all contribute to a vision of Christ as belonging to the structure of the cosmos rather than as extrinsic to it. A corollary of this integrated vision of Christ and cosmos is that the incarnation is not contingent on human sin.

Particularly illuminating is the discussion of the Christophany of the Catholic Hindu scholar Raimon Panikkar. Christ is pictured by Panikkar as rooted just as much in the cosmos as in the historical person of Jesus, with his incarnation in the cosmos a continuing process. The significance of Christ and of knowledge of Christ are not, Panikkar contends, confined to Christians. In the second axial age, Christians are called to 'dialogic' dialogue in a multifaith context from which new forms of consciousness and religiosity will be born. This spirituality will be mystical, affective, and relational, as exemplified in the monastic witness of Thomas Merton and Bede Griffiths.

Delio's inspiring study fundamentally refutes the idea that humans in the West are now inhabiting a post-

Christian society where belief in Christ is dead. Such a notion, she affirms, 'can arise only out of an ill-informed understanding of Christ that mistakes the centrality of Christ as the personalizing center of the universe for a white, Western, male Jesus, who was really Middle Eastern and Jewish' (p. 135). This outmoded and inaccurate Christology must not, however, be retained in a vision of Christ as a 'static figure, like a goalpost with a gravitational lure, toward which the universe is moving'. Instead, humankind's own 'actions and choices influence the building up of Christ in the universe' (p. 158), with humans acting as co-creators with Christ the evolver.

This attempt to establish new congruency between Christology and cosmology is inspiring and hugely important. Yet to see it in Delio's terms as 'vernacular theology' grounded in experience ignores the fact that most people, and certainly most Christians, do not view themselves as technosapiens entering a second axial age. Most Christians, including many specialists in science and religion, are scared of theological change, and their faith along with its supposedly traditional modes of expression become for them fixed reference points in an otherwise rapidly changing world. This seems to be why the simplicity and even naivety of biblical images of Christ—which Augustine found 'unworthy in comparison with the dignity of Cicero'—have fired the imagination of believers through the centuries. Few perspectives are drawn explicitly from scripture in Delio's discussion, and it would be interesting to learn more about how she sees these contributing to a Christology for the second axial age.

Critics of her vision might like to reflect on how novel it really is. As with Pierre Teilhard de Chardin, whose theology was fundamentally influenced by Paul and patristic thought, Delio draws on suggestive sources, mining a rich Franciscan tradition that envisions

Christ's primacy over the whole of creation, appropriating Alexander of Hales, Bonaventure and Duns Scotus, as well as modern theologians like Zachary Hayes. This project is as much about tracing a new genealogy of Christ as refounding Christology.

**Willem B. Drees, Hubert Meisinger and Taede A. Smedes (eds), *Creation's Diversity: Voices from Theology and Science*, London: T&T Clark, 2008; paperback, pp. xiii + 193, ISBN 978-0567033291, £30-00.**

REVIEWED BY LAWRENCE OSBORN

This recent volume contains a selection of papers from the 2006 ESSSAT meeting in Romania. The title indicates that the editors have chosen them to offer the reader a variety of perspectives on the diversity of creation. After two introductory chapters, the papers are organized into two sections of six chapters each: 'A Diversity of Visions of Creation' and 'Sustaining Creation's Diversity'.

The first introductory chapter, by Willem Drees, simply offers an overview of the book itself. Its companion piece, by Patriarch Daniel Ciobotea of the Romanian Orthodox Church, is an interesting call for dialogue between science and religion. Unlike many similar calls, this one is rooted in Eastern Orthodoxy and specifically the theology of Dumitru Staniloae (whose work deserves to be much more widely known among Western Christians).

'A Diversity of Visions' offers six quite disparate perspectives on creation/nature. First we are offered a Gaian perspective of the biosphere by the feminist theologian Anne Primavesi. While I am sympathetic to the holistic view of the environment she presents, I was

disturbed that there was no acknowledgement of the potential for ecofascism in this approach. In contrast to Primavesi's focus on the history of nature, Regine Kather offers a philosophical exploration of humans as the products of nature, concluding that value is intrinsic to nature. David Goodin offers a fascinating Eastern Orthodox perspective on the Leviathan passages of the Old Testament from which he gleans a timely ecological message about the intrinsic value of creation. With his chapter, Christopher Southgate draws our attention to suffering within the evolutionary process. He revisits the concept of *kenosis* to suggest how the suffering of creatures might be reconciled with the notion of a benevolent creator. Alfred Kracher explores the popular myth that technology and nature are in opposition. The section ends with an article by Tony Watkins on new cosmologies and sacred stories, which calls for a re-imagining of our relationship with the environment by means of metaphors drawn largely from deep ecology and a new transcultural creation myth based on evolution.

The second section focuses on 'Sustaining Creation's Diversity'. Again it consists of six chapters from a variety of perspectives. It begins with Sam Berry objecting to the concept of 'sustaining diversity', which appears in much of the current literature to suggest the maintenance of a status quo. He prefers to speak of 'developing sustainably'. Unfortunately, this concept also has a track record in the literature. Perhaps we should be speaking instead of nurturing diversity. In the next chapter current threats to biodiversity are picked up and explored in some detail by Jan Boersema. Having been presented with a call to nurture diversity and dire warnings about threatened loss of the same, there follows a short paper in which Chris Wiltsher plays devil's advocate. He argues, contrary to popular opinion among environmentally minded theologians,

that nurturing the diversity of creation is not a clear theological virtue. Peter Kirschenmann explores the more general question of whether there are moral principles that would oblige us to maintain biodiversity. His conclusion is that such 'sustainable development' has to be rooted in an ethic of responsibility. Zbigniew Liana shifts the emphasis from biodiversity to cultural diversity. He proposes a Popperian approach to pluralism, which would allow an acceptance of the kind of philosophical and religious diversity apparent in this volume without descending into relativism or scepticism. Finally Dirk Evers draws the book to a close by examining the nurturing of diversity as a theological task in a climate of religious pluralism.

The editors have certainly succeeded in representing the diversity of opinions as to how to relate environmental engagement in the context of religious convictions. The contributors are certainly not of one mind, nor do their papers direct the reader to a particular set of conclusions. But this lack of an overarching argument does have the virtue that the book allows a view into an ongoing discussion. Sadly there is little evidence of interaction between the chapters. I think the book could have been made more useful by allowing the authors to write short responses to each other's papers.

My main reservation about the book is that it doesn't really live up to the title. The emphasis is all on diversity, but judging by the content of these papers most of the authors seem blithely unaware that 'creation' is not merely a synonym for 'nature'. For a book of this kind to ignore the very real theological distinction between the two is a major shortcoming.

However, in spite of that reservation, this book remains a useful contribution to the continuing dialogue between theologies and the sciences on environmental issues.

**Christopher Southgate, *The Groaning of Creation: God, Evolution, and the Problem of Evil***, Westminster John Knox Press, 2008; paperback, pp. 224, ISBN 978-0664230906, £13.99.

REVIEWED BY THOMAS F. TRACY

How can it be affirmed that God creates, sustains, and loves the world, given the harsh realities of suffering and death that we see around us? This familiar problem of evil presents one of the most difficult challenges to the coherence and plausibility of the Christian faith, and a vast literature has arisen that grapples with it. The special virtue of this book is that it focuses specifically on questions about suffering in the non-human natural world. This is a dimension of the problem that has received relatively little attention. Although most discussions of God and evil include at least some consideration of “natural evils” (i.e. suffering that arises primarily from the natural conditions creaturely existence), very often the experience of human beings stands at the center of the analysis. In addition, many of the most familiar and widely embraced strategies in theodicy employ arguments that treat suffering in the rest of the natural world simply as a background condition for the realization of higher goods by human beings.

Southgate issues an eloquent call to pay attention to the hardships of other living things as a problem of evil in its own right. A theology that embraces evolutionary theory must unflinchingly acknowledge that suffering and death are intimately built into the processes by which life elaborates its rich possibilities. This entails that God’s creative purposes include not only the emergence and flourishing of myriad life forms, but also

their continual destruction and extinction. Can these evolutionary dynamics be reconciled with an affirmation of God's loving purposes in creation? Southgate's strategy of response is to contend that "the sort of universe we have, in which complexity emerges in a process governed by thermodynamic necessity and Darwinian natural selection, ... is the only sort of universe that could give rise to the range, beauty, complexity, and diversity of creatures the Earth has produced" (p. 29). He calls this the "only way" argument, and sets it in the context of a nuanced Trinitarian account of God's relation to creatures. In the incarnation and crucifixion God takes "ultimate responsibility for the pain of creation," and the resurrection inaugurates a renewed and transformed creation. God's good purposes encompass not just the fulfillment of the lives of persons, but also the redemption of all creatures, none of which are treated exclusively as an evolutionary means to some further end. This is an important and promising line of theological reflection. If we give up the idea of a fall from original perfection, and acknowledge the integral role of death in the formation of life, then we must look for the full expression of God's good purposes in the future of creation, rather than in the world's past. This leads Southgate cautiously to explore what an evolutionary theodicy might suggest about the fulfillment of all sentient individuals in a transformed creation. He also explores the implications of this theology for rethinking the distinctive responsibility of human beings to care for creation in a variety of ways, from modifying what we choose to eat to reversing our devastating impacts on biodiversity.

Tensions remain, of course. "Only way" arguments are a staple of theodicy, and the central challenge they face is to explain the nature of the necessity linking God's good purposes to the permission of evils. It is not

sufficient to point to necessities rooted in the contingent laws of nature that characterize our universe, since the maker of heaven and earth is not subject to these laws, but rather is their source. The second law of thermodynamics, for example, requires that order be “paid for” with disorder. But God’s creative will is not bound by thermodynamics. The necessity must be of a different sort, *viz.*, it must be impossible in principle to attain the goods that God intends without permitting evils of these types and intensities.

Southgate recognizes this, and wrestles with questions about what these goods are, how they are related to evils, and whether they are worth having at this price. With regard to natural evils we must ask whether there are goods that cannot be secured except by creating a world that operates according to natural laws which are allowed to run their course, even though this results in enormous suffering. John Hick and others have argued that finite free agents can develop their cognitive and moral capacities only in a natural order whose integrity God respects. This, however, makes animal suffering a by-product of meeting necessary conditions for the good of persons, and Southgate convincingly argues that this is morally unacceptable. On the other hand, if we consider just the lives of pre-personal sentient animals, it is difficult to make the case that their good requires something like an evolutionary process. Although both predator and prey have become what they are through their evolutionary “arms race,” we may wonder whether their exquisite adaptations represent intrinsic goods worth having at so high a cost in suffering. For this reason, the eschatological dimension of an evolutionary theodicy is crucial. But if we suppose that the good realized in the lives of animals can be sustained by God without their characteristic patterns of competition, suffering, and death, then we risk undercutting the claim that an

evolutionary process is necessary to generate these goods in the first place.

Southgate tackles these issues with refreshing candor and a deep appreciation of the value of the nonhuman creation. He places a neglected set of questions at the center of the conversation about God and evil, and his proposals move the discussion forward substantially.

**Nicolaas A. Rupke (ed), *Eminent Lives in Twentieth-Century Science and Religion***, Peter Lang, 2007; paperback, pp. 255, ISBN 978-3631568033, £28.10.

REVIEWED BY PETER COLYER

Most of the characters we study as paradigmatic for the range of relationships between science and religion are from the nineteenth century or earlier: Copernicus, Galileo, Kepler, Descartes, Newton, Laplace, Darwin, Pasteur are, we like to think, the great representatives of the continuing need to relate the epistemologies of these two great features of the modern period. This book is therefore welcome in exploring the lives of scientists in the twentieth century for whom religion has been a formative influence. Perhaps Einstein alone among twentieth century scientists has previously attracted widespread interest in his religious affinities. Here in this book, edited by Nicolaas Rupke, we find informative profiles of Charles Coulson, Theodosius Dobzhansky, R.A. Fisher, Julian Huxley, Pascual Jordan, Ivan Pavlov, Michael Pupin and E.O. Wilson. (Einstein is absent, sensibly in view of the attention he has received elsewhere.) One wonders, however, whether these eminent twentieth century lives will ever have the iconic status of their predecessors.

The book is doubly worth reading as it provides a model of historical biography – many models in fact, as each historic life is analysed by a different biographer and focuses upon a different aspect of the subject's experience. The collection is not haphazard, however. The authors have carefully co-ordinated their approaches, and the book is worth reading for Rupke's introductory chapter alone, in which he analyses the trends in historical biography and the living relationship between biographer and biographee.

An earlier phase of science-and-religion biography, writes Rupke, was intended to gain legitimacy for the harmony of belief in God with the practice of science. Belief in God and immortality practised by eminent scientists became useful argument against the late-nineteenth early-twentieth century hostility towards religion. The present volume is intended not as apologetic for religion but to explore "the significance of religiosity in scientific careers". What is the difference? The difference, says Rupke, is that in this volume we examine not only some persons for whom religion was a strong and positive influence, but also those for whom it was continuously nagging in the background and some for whom it was once important but now abandoned. The lives studied here include believers from childhood, converts from nominal to deeply committed faith, and one who quitted the faith of his youth for a secular humanism.

Rupke's chapter also contains some cautionary ideas about the effects of social changes during the twentieth century. It became, for whatever reason, far less common for religious scientists to display their faith publicly, or to consider it necessary to link faith and science in their published works. The meaning of the term "religion" also became both broader and harder to define. This reticence about religion among scientists should not be regarded as evidence of indifference.

Statistical or bibliometric methods of determining the place of religion among scientists must therefore be suspect.

In addition to Orthodox Christians with strong family roots such as Dobzhansky and Pupin, the lives include Charles Coulson whose Methodist Christianity became a personal reality in his student years, Julian Huxley who was an anti-religious rationalist humanist but nevertheless saw purpose and direction in the evolutionary story and became an enthusiastic supporter of the views of Teilhard de Chardin, and E.O. Wilson who left his Southern Baptist fundamentalism but continues to use crusading and religious language in his promotion of biological science.

Each of the chapters concentrates on limited aspects of the religious influences in the subject's life – they could not claim to be complete or detailed biographies. In the case of R.A. Fisher, for example, James Moore focuses on the combination in Fisher's personality of mathematical brilliance and personal insecurity as contributing to his lifelong Anglican faith and his attraction towards eugenics. For Michael Pupin, who arrived penniless in America and later discovered secondary X-rays and became a Professor of Columbia University, his biographer Edward Davis emphasises the Orthodox faith of his parents as a continuing inspiration.

The book contains several annoyingly incorrect hyphenations – demon-strate, major-ity, quan-tum, etc. It really is high time that publishers could manipulate electronic text without carrying over previous line-breaks. And there is one howler: mislead for misled.

**Bernard Hoose, Julie Clague and Gerard Mannion (eds), *Moral Theology for the Twenty-First Century: Essays in Celebration of Kevin Kelly*, London and New York: T&T Clark, 2008, pp. 301 + xvi, ISBN 978-0567032850, £70.00.**

REVIEWED BY SUSANNAH CORNWALL

This *Festschrift* in honour of Kevin Kelly reflects the fact that, as Julie Clague says in her Introduction, he has “kept his theology rooted in pastoral reflection on the joys and the hopes, the griefs and the anxieties of the human person” (p. 3). James F. Keenan comments that Kelly’s vision has always been to read moral theology in and through the pastoral: his career has included new-town and inner-city parish ministry, and work on HIV/AIDS prevention, as well as university-based teaching and research. The essays herein, by Kelly’s erstwhile colleagues, are similarly grounded in human experience, demonstrating profoundly personalist understandings of Christian (and particularly Roman Catholic) moral theology.

As such, the volume includes rigorous, pastorally-sensitive essays on a multitude of specific areas: sexual complementarity, contraception, homosexuality, animal ethics, HIV/AIDS, ecclesiological issues such as ecumenism, and many more. Usefully, however, it also contains what might be called meta-ethical reflections, such as those on the nature of conscience, doctrine, and moral theology itself. These provide a solid underpinning for the ambitious and perhaps slightly meandering range of topics covered in the specifically issues-based chapters.

The reflections on Kelly’s compassionate, flexible attitude toward remarriage after divorce, the use of contraception (particularly condoms in regions where HIV-AIDS is rife) and the ordination of female priests

demonstrate his rootedness in a progressive stream of theology, invaluable for those regularly faced with navigating shifts in the sometimes dizzying realm of human science and technology. Kelly himself notes that it was a work of science rather than theology, namely Thomas Kuhn's *The Structure of Scientific Revolutions*, which enabled him to understand and make peace with his own changing attitudes (to such pronouncements as the official Vatican doctrine of marriage) as being a series of paradigm shifts. Kelly has continued to weave a path between continuity and discontinuity with his tradition, a tactic essential for Christian debate with issues in a shifting moral landscape.

This is echoed by the essays in Part 1, such as Jayne Hoose's piece "Dialogue as Tradition", which gainfully emphasizes that the Gospel is and should always be read through the lens of one's own time and culture. Church authorities such as the Roman Catholic Magisterium, holds Hoose, should not make overweening pronouncements about moral issues without also dialoguing with individuals and communities about their own experiences of engagement with contemporary issues in ethics and public life. She comments, "Surely the most effective way of safeguarding and promoting Church doctrine is to allow it to stand the test of the broadest and widest scrutiny" (p. 61). Her reminder that there might at times be no clear way forward in dialogue because of a genuine lack of knowledge on a given topic (p. 63) is a salient one, particularly given questions surrounding technologies such as human cloning and the long-term impact of genetically modified foods whose implications can at present only be conjectured. This, however, does not mean dismissing the unknown or "shadow-side" aspects of human development: rather, it is crucial to acknowledge error and inconsistency in prior beliefs in order to be able to move on.

Those seeking resources for thinking through the science and technology debate will, however, find particular value in Parts 2 and 3 of the collection, especially the essays by Jacqui A. Stewart, Jan Jans and Celia Deane-Drummond which reflect on the nature of personhood and what it is to be a morally considerable community member, whether as embryo or non-human animal. Stewart's use of Hilde Nelson's and Paul Ricoeur's work on personhood as relationality (which might include being related to by others even though one does not have the capacity to relate to them) is particularly valuable, and echoes Kelly's own emphasis on human existence as profoundly embodied and interdependent.

The argument from tradition is always an odd one, rendering it almost irrelevant whether an initial pronouncement was justifiable or not. It is rather like a parent who rashly threatens to send their disobedient child to bed without any dinner, and then has to see the threat through on the grounds of consistency even after they have thought better of it. "We never have ordained women, so why start now?" is not in itself a strong argument. The essays in this volume, however, recognize this tension. Taken as a whole they weave an impressive path between criticizing the Catholic tradition and tenaciously holding to what the contributors see as its flashes of value and truth, even where these may not coincide with particular disseminations by Church authorities.

**Anne L. C. Runehov, *Sacred or Neural?: The Potential of Neuroscience to Explain Religious Experience***, Vandenhoeck & Ruprecht, Jan 2007; hardcover, pp. 240, ISBN 978-3525569801, €49.40.

REVIEWED BY ALASDAIR COLES

Is there a “Godspot” in the human brain? And can it be revealed by the brain scans of meditating Buddhists or praying Franciscans? Or is all religious experience nothing but a spark of temporal lobe electricity that can be mimicked by an electrified motor cycle helmet? Such questions delight the media ... and cause the regular scientist to despair. For the neuroscientific study of religious experience has become an embarrassment. After several decades of serious contributions from the likes of William James, James Leuba, Wilder Penfield and Donald Mackay, the field has lost its way. Self-declared “neurotheologists” have emerged to steal the attention of the media with experiments that never trouble quality journals. Their doyens are Michael Persinger, Andrew Newberg and Eugene D’Aquili. It is time that someone soberly assessed their work. And that is what Anne Runehov, a systematic theologian from Copenhagen, has undertaken in *Sacred or Neural? Neuroscientific Explanations of Religious Experience: A Philosophical Evaluation*. Sadly she misses the mark.

Michael Persinger of the Laurentian University, Canada, claims that God-experiences are nothing but temporal lobe mini seizures. This suggestion has a noble heritage, from Dostoyevsky, Norman Geschwind and Wilder Penfield. And the opportunities to test the hypothesis are greater now than ever before, with the technologies of functional imaging, ambulant EEG monitoring and increasing numbers of people having temporal epilepsy surgery. But Persinger eschews the

orthodox and instead builds his house of cards around his own private symptom scale, the Personal Philosophy Inventory, and a home-made transcranial temporal lobe stimulation kit, based on a motor cycle helmet. Apparently it induces some people to sense the divine, which therefore proves – to Persinger’s satisfaction – that God does not exist. Richard Dawkins tried it and experienced nothing, no doubt to everyone’s disappointment. But Persinger is not shy about his conclusions, which are far-reaching: “the process that precipitates God experience may also contain some fundamental flaw that could eradicate us from the face of this earth”.<sup>1</sup>

Newberg and d’Aquili also use a privatised sale of spirituality: the Aesthetic Religious Continuum. And they have studied the neuroanatomy of meditation – Buddhist and Franciscan – using an old-fashioned and imprecise form of functional imaging, SPECT. Increased regional cerebral blood flow was demonstrated in the inferior and orbital frontal cortices, midbrain, cingulate gyri and thalamus. Fair enough. But hardly enough to justify the spiralling conclusions that there is a “causal operator” hard wired into the brain which seeks to explain all that the brain experiences, modified by a “holistic operator”, “reductionist operator”, binary operator and so on. From this, Newberg and d’Aquili breathlessly deduce a mega-theology, in which they declare that general structures of the world religions and of theology itself can all be derived from neurotheology. They have no doubt that God exists, although they prefer to describe him as an “Absolute Unitary Being”.

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<sup>1</sup> Persinger MA (1997) "I would kill in God's name:" role of sex, weekly church attendance, report of a religious experience, and limbic lability. *Percept Mot Skills*. 85(1):128-30).

Anne Runehov's review of the work of Persinger, Newberg and d'Aquili is systematic and conscientious. She has fairly summarised their experiments and arguments, more succinctly than the originals, which is valuable in itself. She makes a start at a scientific critique, sniping with issues such as poor sample size and lack of control for gender. But she is out of her depth and fails to make the key criticisms. They are first that the science is poor: their experiments lack any rigor. Secondly, the neurotheologists are deafferented from mainstream neuroscience, publishing in obscure journals if at all. And, thirdly, they flout the proper limits of the neuroscience by building it into a theology. J.Wentzel van Huyssteen seizes this last point. In his magisterial *Alone in the World?: Human Uniqueness in Science and Theology*, Persinger's work is not mentioned at all and of Newberg and d'Aquili, he writes: "Clearly if this [meta- and mega-theology] is only meant neurologically, it would be highly reductionist and a rather naïve scientist violation of the disciplinary boundaries between neuroscience and theology. If it is seriously claimed to be a philosophical position, it would be naively modernist, if not foundationalist, in its disregard for the specificity and integrity of the world's very diverse religions .... their speculations on the kind of meta- and megatheologies that might be derived from this is bad science as well as bad theology." (p.259)

It seems that at some point Runehov had in mind an original research programme of a "psychological enquiry on religious experience". Early in the book, she describes sending out 350 questionnaires to Christian and Islamic places of worship in Uppsala, receiving 42 back and conducting one interview. The results are never clearly laid out and the reader is left wondering what was the purpose of the project? Why did it fail? And, given that it did, why include the details in this

book? This curiously lame start sets the tone for the rest of the monograph.

Someone needs to dismantle neurotheology and reveal its rotten foundations. That person needs to be a regular neuroscientist. Runehov just has not got the tools for the task.

**Leslie S. Jones and Michael J. Reiss (eds),**  
***Teaching about Scientific Origins: taking***  
***account of creationism***, New York: Peter Lang,  
2007; paperback, pp. 213 + x, ISBN 978-  
08220470801, £15-00.

REVIEWED BY CHRISTOPHER SOUTHGATE

I came to this book originally with a specific personal question – how in an undergraduate module devoted to the relation of evolution to Christian theology should I engage with that small (but growing) minority of students holding biblical-literalist views of scientific origins? Recent events with Michael Reiss and the Royal Society (see Editorial) focussed my interest on the issue yet more intensely. But the book's own concern comes through on the back cover and in Jones' essay – biology teaching in the US is being 'crippled' by this controversy, to an extent of which the non-American audience will be largely unaware.

Inevitably an edited collection is something of a scattergun treatment of a subject. Two very helpful historical chapters by Randy Moore and Michael Ruse set the scene. Moore takes us through the history of legal challenges to evolution teaching in the US – the courts have consistently struck these challenges down, and yet as becomes clear later in the book many educators are able to avoid teaching the scientific consensus. Ruse makes clear that evolution 'was impregnated with ideology from its very beginnings, the

ideology of progress' (35). Not surprising then that there was a fundamentalist backlash. Ruse goes on to rebuke Richard Dawkins for the way in which his own ideological approach likewise provokes those of conservative belief.

A far more polemical piece by Robert Pennock reveals his anger at the intelligent design movement, 'a stealth tactic' for breaching the church-state divide. He notes how ID critics of evolution use thin examples, such as the Piltdown Man, which should rather be used to illustrate the self-correcting character of science. Michael Poole offers a typically balanced chapter spelling out the contemporary issues.

From there on the book is clearly trying to balance a range of voices, with which the general reader will have very varying sympathies. Shaikh Abdul Mabud, surprisingly for someone holding a Cambridge PhD in the sciences, challenges the evidence for evolution, particularly the use of morphological homologies, and offers the familiar but fundamentally flawed argument that the molecules of life are vastly improbable. Wolff-Michael Roth makes the odd claim that science is about objects that have been in the past, religion is about what is, experience and grace. This in no way seems adequate to the way the great monotheisms, for example, are grounded in great revelatory phases in their history. David Henry makes a plea for the importance of treating human evolution in US schools, despite the weak support the national documents give to this. He makes the telling point that many things about human beings do not look like good design at all.

There followed some interesting hints about ways of teaching in this area. Lee Meadows cautions that biology teachers tend to approach the subject with a 'resolution mindset' and fall therefore into the 'resolution trap'. He suggests instead the use of conflict management techniques, respecting students' religious beliefs while

not disguising that evolution is undeniably *the* scientific understanding. All this sounded promising but unfortunately was not sufficiently developed to be valuable in itself. David Jackson confesses to holding views similar to Dawkins and Dennett, but nevertheless offers some helpful suggestions, including acknowledging the stereotypes at work in the debate, and the presence of a continuum of beliefs. Leslie Jones herself stresses the importance of letting students know that their religious beliefs are safe in her classroom. I was particularly intrigued with Michael Reiss's suggestion that students roleplay classic views in the debate. Another interesting exercise he offers is the production of a page of the newspaper for the day of publication of *The Origin of Species*.

Reiss's last observation bears particularly on the unfortunate current controversy over his position at the Royal Society. Unlike some of the other contributors, he does not think that creationism is necessarily nonscientific. It is a rational belief, and there *could* be evidence for it. At once I hear my own hackles rise, not because I disagree with this point, but like many others trained in the sciences I am simply reluctant to waste the time necessary to show that, though rational, creationism is not supported by any significant evidence, nor can it lead to a progressive scientific enquiry.

I came away from the book disappointed not to have gleaned clearer guidance on how to 'solve' this issue as a working teacher of the science-religion debate, and even more concerned than before at the damage the controversy is doing. Dawkins' rhetoric intensifies support for simplistic theological positions; creationists' manoeuvrings put off working scientists from even considering an engagement with real theological enquiry. Patchy though the book is, Jones and Reiss

have done a service in alerting readers both to the complexity and to the toxicity of this debate.

### **SHORT REVIEW BY THE EDITOR**

**Neil Messer, *Selfish Genes and Christian Ethics: theological and ethical reflections on evolutionary biology*, London: SCM Press, 2007; pp. 280, ISBN 978-0 334029960, £19.99.**

This is an important book which will – or certainly should – be much used in teaching in this area in the next few years. The strongest part of it is the consideration of the ethics of biotechnology at the end of the book, particularly Messer's criteria for evaluating new projects in this area. He points out that the Christian community, in exercising its practical wisdom, will want to ask: does this technology seem to be good news for the poor? Does it seem to be an effort to be like God, or rather to conform to the image of God? What underlying attitude is implied to the material world, including our own bodies? What attitude is evinced towards past failures? Messer's analysis of new genetic technologies against these criteria is fascinating and important.

Also very interesting is Messer's mini-typology of science-theology relations: Messer offers Arthur Peacocke as an example of a thinker who allows science to shape the encounter with theology, such that Christian doctrine must be adjusted to the science where necessary, and John Polkinghorne's method as one in which neither discipline controls the other. But so much depends on the issue being considered. In eschatology, there is a dissonance between scientific predictions of the end of the universe and the Christian hope. Christian eschatologists must therefore allow their

doctrine to be determinative. On human origin, both Peacocke and Polkinghorne say that the science means that the historicity of the Fall must be discarded. Because Peacocke's work on creaturely and human becoming is more concerned with evolution and less with eschatology, it is easy to see him as the more swayed by science. The picture is complex, but Messer's clearly laid-out typology offers a good way in.

Less strong, arguably, are Messer's engagements with the theodicy problem of evolution. He seems to me to settle too easily for a Barthian refusal to enter deeply into the conversation of theodicians. If anything is to be said, it is that the cost was infinitely more to God, in the Cross of Christ. I think this fascinating problem deserves a richer and more scientifically-attuned engagement. There was also a lot more work that could have been done on theological anthropology in dialogue with human evolution. But overall this is bold and careful theological thinking, fruitfully applied to some crucial areas of ethics. Essential reading.

**PUBLICATIONS BY MEMBERS OF THE FORUM**

Offers to review these books are welcome.

**Peter Hodgson**, 'The Church and Science: A Changing Relationship', *Heythrop Journal* XLIX, 4, 632-47 (2008). This whole issue is on the theme of science and religion.

**Wolfgang Pannenberg**, *The Historicity of Nature* ed. Niels Henrik Gregersen (Templeton Foundation Press, 2008)

**John Polkinghorne and Nicholas Beale**, *Questions of Truth: Fifty-one answers to Questions about God, Science and Belief* (Westminster John Knox Press, 2009)

**Adrian Smith**, *God, Energy and the Field* (O Books, 2008)

**Keith Ward**, *The Big Questions in Science and Religion* (Templeton Foundation Press, 2008)

**OTHER BOOKS RECEIVED FOR REVIEW**

The Editor does not guarantee that these books will receive a review, but he welcomes offers to review them!

**John B. Cobb, Jr. (ed.)** *Back to Darwin* (Eerdmans, 2008)

**Mary Kathleen Cunningham**, *God and Evolution: A Reader* (Routledge, 2007)

**Mark Graves**, *Mind, Brain and the Elusive Soul* (Ashgate, 2008)

**John F. Haught**, *God and the New Atheism* (Westminster John Knox, 2008)

**Alister McGrath**, *The Open Secret* (Blackwell, 2008)

**Michael Murray**, *Nature Red in Tooth and Claw* (Oxford University Press, 2008)

**Alexei Nesteruk**, *The Universe as Communion* (Continuum, 2008)

**Don O'Leary**, *Roman Catholicism and Modern Science* (Continuum, 2007)

**Thomas Oord (ed.)**, *The Altruism Reader* (Templeton Foundation Press, 2008)

**Robert B. Stewart (ed.)** *Intelligent Design: William A Dembski and Michael Ruse in Dialogue* (Fortress Press, 2007)