

## Book Reviews

---

**William E. Phipps**

*Darwin's Religious Odyssey*

Harrisburg, PA: Trinity Press  
International, 2002. 207pp. pb. \$16.00.  
ISBN 1-56338-384-5

Much has been written about the impact of Darwinism on religion, but relatively little about Darwin's own religious views. William E. Phipps aims to provide a balanced overview of Darwin's religious development, using the latest resources of Darwin scholarship and documentation.

As its title suggests, the book traces a long journey of ideas. The beginning and end of that journey are tolerably clear. The young Charles Darwin held sincere Christian beliefs. At Cambridge he took delight in the theological works of William Paley, and accepted their arguments in defence of both natural and revealed religion. While Darwin's main enthusiasm was always for natural history, he looked forward to a career in the Anglican clergy. His voyage on the *Beagle* was intended as a prelude, not an alternative, to a clerical life, and during the voyage he defended Christian teaching to his more sceptical colleagues.

By the end of his life Darwin had moved to a position of far-reaching agnosticism. While avoiding public controversy on religious matters, he had lost his earlier belief in revealed religion, and saw no marks of special providence or design in nature. But he still found it difficult to conceive that the universe, and human consciousness, arose entirely by chance. Darwin never rejected the existence of a God, feeling that the problem was ultimately beyond our powers of intellect.

It is difficult to establish the precise timing and sequence of Darwin's changing views. For our knowledge of these we are heavily dependent on Darwin's late

recollections in the short autobiography he wrote for his family. The details of Darwin's religious development have therefore engendered some scholarly debate. Wisely, in my view, William Phipps does not dwell on academic disputes. He sets out the available evidence, making good use of Darwin's notebooks and correspondence, and devoting a chapter to each main phase of his life: the early years; the *Beagle* voyage; the formation of Darwin's evolutionary theories; the *Origin of Species*; the resulting controversies; the *Descent of Man*; and the final years. A concluding chapter contains reflections on the theological significance of Darwin's work, from a Christian point of view. Throughout the book Phipps emphasises Darwin's respect for religious beliefs, and argues that he remained a theist, in some sense, to the end. Darwin's quest for a theory of life based on general laws, rather than detailed intervention by the deity, is consistent with a higher conception of divine power.

The book succeeds in its aim of presenting a balanced, comprehensive, and up-to-date account of Darwin's religious views. It is well researched, clearly written, and in general accurate, though there are a few odd errors; notably, Darwin did not have a half-brother who was an Anglican priest (4). Some may feel that Phipps 'protests too much' in his stress on Darwin's residual theism. Phipps sees the glass half full; others may see it nearly empty. Darwin's public respect for religion arose from a mixture of motives: sincere recognition of the difficulty of the issues; distaste for controversy; a prudent concern to minimise opposition to his own theories; and a desire to avoid distress to friends and family. Phipps does not mention a remark by Darwin's cousin, Julia Wedgwood, that 'everyone who feels Religion infinitely the most important subject of

human attention would be aware of a certain hostility towards it in [Darwin's] attitude, so far as it was revealed in private life' (quoted in J. Durant, ed., *Darwinism and Divinity*, 1985, p.41). The book is also less ground-breaking than the author's preface implies: it unearths little evidence that cannot already be found in scholarly works by Neal Gillespie, James Moore, Frank Burch Brown, John Hedley Brooke, and others. But as a synthesis of recent scholarship, and an attractive overview for the general reader, it is timely and welcome.

**David Burbridge is a writer on the history of biology**

**Richard C. Foltz, Frederick M. Denny, Azizan Baharuddin (eds.)**  
*Islam and Ecology: A Bestowed Trust*  
Cambridge, MA: Harvard University Press, 2003. 584 pp. pb. £18.95/\$28.95.  
ISBN 0-945454-40-6

It is an unusual task to review a book on Islam and Environmentalism for a journal about Christianity and science, but appropriate to what is a rather unusual book. The worldwide environmental crisis has received relatively little scholarly attention from Islam when compared with other world religions, although some prominent Muslim thinkers have raised the issue; many of the places feeling the worst effects of deforestation, desertification, and extreme weather conditions are inhabited by Muslims. Many of the twenty-three essays in this volume were presented at the first-of-its-kind conference on Islam and Ecology held at Harvard in 1998.

Between them these essays represent a veritable smorgasbord of different approaches to the subject matter. The first few focus on what support for environmentalism can be found in Islamic tradition – whether in the Qu'ran, the *hadith* (traditions about Muhammed's

life), the rulings of *shari'a* law down the ages, or the writings of Sufi mystics. Several more look at the approaches and obstacles to addressing environmental problems in Muslim society today. Yet more look at the interaction between environmentalism and issues like social justice and development, some give practical case studies, and the last few study the attitude to nature displayed in Islamic garden design and poetry

The editors are to be commended for assembling work not only from Western academics, but also from a diversity of viewpoints within Islam: from *Sunni*, *Shi'a*, *Isma'ili* and *Sufi*; from Arab, Persian, Indic, and Western background Muslims. The quality of the contributions varies somewhat, and there is substantial overlap of material in some cases, but this repetition does at least serve to familiarise the non-Muslim reader with some aspects of this rich and complex religion.

Many of the essays in this book were prepared with a Muslim audience in mind, so it is worth asking whether (as the editors aim) it is accessible to a wider readership. There are certainly unfamiliar concepts and Arabic terms to be grappled with, the latter not helped by the rather brief glossary. However, for the Christian reader the book works on a number of levels.

Firstly, it provides many fascinating insights into Muslim faith and tradition, and particularly how these are applied to a modern problem. This reviewer found Othman Abd-ar-Rahman Llewellyn's investigation of Islamic Environmental Law particularly rewarding in this respect. Furthermore the great variety of the essays and the views that they express gives a good sense of the diversity of Islam worldwide.

Perhaps more striking, however, is the fact that many of the challenges posed by environmentalism to Islam apply just as well to Christianity – as do the responses. Some theological concepts

cited by the Muslims seem very familiar: all creation declares the glory of Allah, and so should be treated with respect. Man's proper role is one of *khilāfa*, or stewardship, over creation but under Allah's authority. The current environmental crisis is seen as a consequence of the loss of this right relationship. These ideas lead most of the authors to conclude that Islam is an inherently 'green' religion, and in particular to hark back to the 'Golden Age' of the early Ottoman empire as a more environmentally friendly society. The note of scepticism sounded by Richard C. Foltz about the validity and historical credentials of this interpretation also encourages the Christian to be more self-critical. Just as Hashim Ismail Dockrat blames the environmental shortcomings and apathy of modern Muslim nations entirely on the imposition of Western capitalism, it is easy for Christians to externalise the problem as one of our sinful society. There is of course much truth in this, but the temptation in calling for changes to the structure of society is to ignore the changes required in our own lives.

In conclusion, the contents of this volume beg the question: how will the urgency and environmental conviction found here be transferred to the daily lives of millions of ordinary Muslims? The need is pressing for the Church to ask itself the same thing.

**Stuart Lucas is doing postdoctoral research in virology and lives and works in areas of London with large Muslim communities.**

**David H. Smith and Cynthia B. Cohen (eds.)**

***A Christian Response to the New Genetics: Religious, Ethical and Social Issues***

Lanham USA: Rowman and Littlefield Inc., 2003. 190 pp. pb.£18.95 ISBN 0-7425-1499-4

Events in the Episcopal Church of the USA are currently a source of unease for many Christians, but this book, the product of a Task Force set up in 2001, provides a positive contribution for twenty-first century Christians. The Task Force's remit was to consider the new developments in human genetics and how Christian people should respond to them. They have produced a multi-authored book with each chapter written by someone with expertise in the area, giving a well balanced review and in depth consideration of the issues involved. Overall it is quite celebratory in tone and a welcome change from some of the more gloomy offerings from this side of the Atlantic (our chairman John Bryant's recent book being of course an exception!).

The theological chapter sets the scene. It focuses on the wonder of creation, suffering, the importance of the family and social justice. These issues recur throughout the book with social justice tending to be the factor given highest priority. Apart from one excellent chapter, there is little emphasis on the implications of the new developments for the early embryo, a position I found refreshing.

This is not a dogmatic book. In the introduction the editors state that they 'try to specify points at which Christians should draw the line and say "No", others where we must offer equivocal support, and still others where we should have the courage to admit that we don't know the answers.' Genetic enhancement (unless to relieve suffering), reproductive cloning and germ line therapy fall into their 'no-go' group. The proviso 'unless to relieve suffering' is interesting and is a recur-

ring theme which is at odds with Robert Song's critique of the 'Baconian project' as described in his book *Human Genetics, Fabricating the Future*. (see review in S&CB 16, 2004, p. 95)

There is a straightforward and up to date description of the wide variety of technically possible procedures and an excellent chapter on counselling which includes the difficult topic of risk perception. The section on the status of the pre-implantation embryo starts with a good historical review. As increasing scientific knowledge led to our predecessors' being forced to reject widely accepted assumptions so Cynthia Cohen emphasises that our views now should be influenced by our current discoveries in embryology and an excellent description of embryonic development follows. This leads to a comprehensive review of contemporary secular and Christian views on the status of the early embryo.

The chapter on future scenarios proclaims firmly that 'procreative liberty', a concept beloved by utilitarians, may in reality demote individual freedom, technology and the desire for a child can too easily become master rather than slave. As 'autonomy' and 'choice' feature more and more in health care discussions in Britain we can take heart from these firm warning signals coming from Christians in the land of the Free.

In keeping with the emphasis on social justice there are chapters on both social context with a consideration of impairment and disability, commerce and law and on the economics and politics of the new genetics. These look critically at health insurance and funding issues including the relationships between research establishments and the biotech industry. Although written from a North American standpoint the principles raised are widely relevant and it is good to hear Christians beating this drum so forcefully.

The final pastoral chapter has some case studies with questions for discus-

sion. Each chapter is well referenced and there is a short but adequate index. The only serious glitch is a misprint of genetics for eugenics on page 61.

This book can be recommended to anyone wanting an up-to-date discussion of recent developments in human genetics and their implications for Christian believers.

**Caroline Berry is a retired Clinical Geneticist and Secretary of Christians in Science.**

**Susan Brooks Thistlethwaite (ed.)**

*Adam, Eve and the Genome*

Minneapolis: Augsburg Fortress Press,

2003. xvi + 200pp. pb \$20.00

ISBN 0-8006-3614-7

Writing this review has taken me longer, much longer, than it should have done. The reason for that is that I have found it very difficult to know exactly what to make of *Adam, Eve and the Genome*. When I was asked to review the book, I jumped at the opportunity. This sounded as if it should be a real attempt to examine the nature of humankind, perhaps even of human personhood, in the light of our expanding knowledge of human genetics. The sub-title on the front cover – *The Human Genome Project and Theology* – helped to reinforce that expectation. However, even before opening the book, I detected warning signs that all is not as expected. The back cover 'blurb' is headed '*The dilemmas and dangers of DNA*', a phrase that immediately had my post-modernism sensors twitching. Yes, the practice of science owes a good deal to social construction but here was an implication that the chemical substance, DNA itself, carries social values, an implication that I, and most readers of this journal, will reject. Thus, when I started to read this book, my original eagerness had turned to caution.

*Adam, Eve and the Genome* started life as a course jointly run by the Chicago

Theological Seminary and the University of Chicago – an interface course between theology and genetic science. However, if the course is to be judged by the book then it must have been (perhaps still is) rather disjointed. It is more a series of seminars under an over-arching title than a genuinely integrated programme. The book opens with an introductory chapter, the title of which – *Liberation Theology in Dialogue with the Human Genome Project* – again alerts us to the general stance. Then follow three chapters which set the scientific scene. The first of these, *A Brief History of Science by a Sympathetic Theologian*, was for me by far the most useful in this volume. The next two concern genetics itself. These have been written for non-expert audiences and in efforts to achieve clarity (and they are certainly clear), some accuracy has been sacrificed. It is stated for example that 99.9% of all DNA bases are identical in all humans whereas the real picture is that any two individual humans will be, on average, 99.9% identical in base sequence. In talking of genetic risk, the text goes back and forth between correct statements based on the risk that a particular offspring will be affected and incorrect statements that talk of the parents having a 1 in x chance of having an affected child. It is also misleading, I think, to speak of post-Mendelian genetics because the term *Mendelian inheritance pattern* still has an entirely legitimate use.

Following these background chapters, we then encounter the ‘meat’ of the book, set out in five chapters. Certainly there is some interesting material here. It was illuminating to read about the so-called ‘gay gene’ from the perspective of a homosexual man, or about human genetics in the USA in general from the perspective of an African American. The rejection of simplistic determinism and the emphasis on human dignity and responsibility are encouraging and the warnings about misuse of genetic information are certainly timely. However, much of the sociological analysis is based on assumptions

that do not stand up, for example that the sequencing programme is giving us a picture of white, heterosexual, male DNA. To that I would reply four things. First, that we need DNA from a male in order to generate sequence data for both the X and the Y chromosomes. Secondly, how do the authors know what DNA was sequenced in all the countries other than the USA that contributed to the project? Thirdly, as was actually pointed out earlier in the book, humans are remarkably similar in their DNA sequences (although not as similar as the book states) so does it actually matter whose DNA was sequenced? Fourthly, where are these sexist or racist interpretations that the authors see in the Human Genome Project? Craig Venter, who provided the DNA for the Celera Genomics sequencing programme (which, in the USA, ran parallel to the ‘official’ HGP) has never claimed that his DNA is better than anyone else’s. Further, Francis Collins, the US Director of the HGP, has emphasised that the comparative sequence data leave absolutely no room for racism or sexism based on DNA sequence.

Finally, having in some chapters rejected interpretations based just on correlations, the final chapter of the book falls into exactly the same trap. In talking of the increased incidence of hypertension (high blood pressure) in African Americans as compared with European Americans (taking out as far as possible, all other social factors) and having noted that the farther an African American population lives from West Africa, the higher, apparently, the incidence of hypertension, Thistlethwaite concludes that ‘Racism literally breaks the heart in increased levels of hypertension.’ And then there are her throw-away lines, again based on ill-judged assumptions, such as ‘Feminist bioethicists continue to be concerned that a Cartesian dualism predominates in their field,’ presuming that male bioethicists (or for that matter male theologians) are not – does she know this?

Thus I find *Adam, Eve and the Genome* an unsatisfactory book but since I am a white, heterosexual, male genetic scientist I guess that the contributors to the book may come back with 'He would say that, wouldn't he.' So, some of our readers may wish to find out whether my reaction to the book is simply based on my prejudices. However, I am inclined to suggest borrowing a copy rather than splashing out on a purchase.

**John A Bryant is Professor of Cell and Molecular Biology at the University of Exeter and Visiting Professor of Molecular Biology at West Virginia State University, USA**

**William A. Dembski**

***The Design Revolution: answering the toughest questions about Intelligent Design***

Leicester: InterVarsity Press, 2004.  
334pp. pb £12.99. ISBN 1-84474-014-5

This is the latest in a series of books which Dembski has written or co-authored on the subject of intelligent design. It is in one sense introductory, and aimed at a non-specialist audience who are not familiar with the subject; on the other hand it includes a good deal of argument and discussion, which partly depends on prior knowledge of the subject. Dembski's contention is that Darwinian theory is not able to explain certain features of living organisms, which in his view can only have originated by the intervention of an intelligent agent, not by the outworking of 'natural laws' unguided by such an intelligence.

The structure of the book is unusual: the chapters are much shorter than usual (there are forty-four of them altogether), and each of them attempts to answer one question, usually a question critical of intelligent design. These are apparently the kind of arguments that the author uses when lecturing and taking part in discussions, for example with a student

audience. The short sections are arranged in six broad groups, entitled Basic Distinctions, Detecting Design, Information, Issues arising from Naturalism, Theoretical Challenges to Intelligent Design, and A New Kind of Science.

An advantage of this method is that it is quite focused, and it is easier for a reader to identify a particular area of interest: so for example, the suggestion that intelligent design is really equivalent to the position commonly known as 'God of the gaps' is countered in a chapter entitled Argument from Ignorance, in the section on Theoretical Challenges. However a fair amount of repetition is involved, which is unhelpful, and makes the book longer than it might have been. The academic level of the sections is also quite variable; some are quite technical, others informal and chatty.

Dembski makes it clear that he writes as a Christian; on the other hand, he repeatedly asserts that intelligent design is a scientific theory, that the 'specified complexity' which points to a designer can be objectively identified by scientific methods, and that whether the designer is to be identified with God or with some other influence is not an essential part of the theory. It is therefore a little surprising to find this book published under a specifically Christian imprint.

I am glad that I have read the book and recommend it to others; it raises interesting and important questions in a readable way; it encouraged me to want to read the more technical books on which this work depends. It challenged me to try to think more clearly about the ways in which I may understand more fully the way in which the wisdom of the creator may have been expressed in his creation. I remain unhappy about and unconvinced by the basic thesis, partly because it is so strongly aimed at discrediting Darwinism as an explanation of biological complexity, while ignoring those remarkable features of the basic physical laws which physicists tend to use to suggest intelligent design at a very

deep level. I am also unconvinced that he successfully defends his position against being a version of the 'God of the gaps' philosophy, or that he makes a good enough case that intelligent design can become a viable scientific research programme. There is no doubt that there are awesome difficulties to be faced in explaining the origin both of life itself and of some of the particular structures in living things, such as the bacterial flagellum. Christians have a prior commitment to the belief that intelligence – God's wisdom – is the ultimate source of all that is, not merely an unintended outcome of random biological processes. But it is not clear that they have a prior commitment to a belief that 'natural' processes cannot produce complexity.

The book is also published in the USA (Downers Grove, IL: InterVarsity Press, ISBN 0-8308-3216-5).

**Paul Wraight has retired from teaching physics and electronics at Aberdeen University, and is pursuing among other interests the relevance of modern cosmology to Christian belief.**

**John Bryant and John Searle**  
*Life in Our Hands: A Christian Perspective on Genetics and Cloning*  
Leicester: Inter-Varsity Press, 2004, 191 pp. pb. £9.99. ISBN 0-85111-795-3

I am delighted to see the publication of this book for three major reasons. The first is that the authors are prepared to state in clear terms that they do not consider that the human person commences at conception. Regardless of where one stands on this matter, it is important to be able to acknowledge that evangelical Christians can adopt different stances and can express their views in a book with an evangelical publisher. The authors make it clear that there is ample room for disagreement among believers, and they do not hint that their position is the 'correct' one. The second reason I like

this book is that scientific and clinical issues are taken seriously, not surprising perhaps seeing that these are the discipline areas of the two authors. Nevertheless, there is a realism here that is welcome. The third reason is the irenic tone of the writing and the openness of the authors to the difficulties, complexities and uncertainties of the subject matter. They write, 'damage is caused when Christians disagree stridently, with hostility towards each other, and with accusations about the Christian commitment of the other side' (177).

If some with more conservative views on these topics are put off by these comments that would be very sad. This is because the authors unequivocally demonstrate their commitment to Scripture and strive to apply it to genetic and allied questions. Indeed, with increasing attention being paid to these questions, it would be very surprising if there were uniformity of viewpoint within the evangelical world. After all, the biblical underpinnings are far from definitive, especially when compared with the relatively specific biblical teaching on many other aspects of human behaviour and relationships (where Christians still disagree).

In this book John Bryant, the geneticist, and John Searle, the clinician and ordained minister, range widely from the meaning of ethics and theological debates about the image of God and stewardship, through to the scientific territory of manipulating genes in plants and humans, and on to the thorny debates about genetic enhancement and stem cell technology. Perhaps their compass is too broad, although it serves as a useful introductory text.

Right at the outset they are explicit about what they see as the fundamental problem: 'for many of [these issues] the Bible does not contain precise guidance' (7-8). Consequently, they recognise that 'Christians who are equally committed to following the teaching of Scripture come to different conclusions.' This sets the

scene, allowing them to acknowledge that decisions we make may be imperfect and provisional. They write, 'the world in which [Christians] function is imperfect, their own transformation into Christ-likeness is not complete, and the dawn of God's new earth and heavens is not yet' (31). It is a pity that this foundational principle is not worked out in more detail.

When the authors tackle the status of the human embryo they express their trepidation and their sense of inadequacy (47). They are realistic about the clinical consequences of adopting an absolutist view on the protectability of the embryo, and they conclude that, 'life begins at implantation' (56-58). Their reasons for adopting this position are scientific, biblical (and the dangers of what they call reverse transposition, applying scientific knowledge to Scripture), and ethical (the character of decision-making in a fallen world). They describe their approach as one of principled pragmatism, which they view as a biblical application of the responsibility placed upon us by Scripture (59). Once more, these are exceptionally important points, and a detailed exposition of them could have proved immensely helpful.

The chapter on 'Stewardship or Dominion?' is surprisingly brief, but contains valuable discussion affirming the place of science in God's world. The authors argue that they can see no biblical justification for the position that there are some areas of knowledge from which God has warned us away. A whole chapter could have been devoted to this exceedingly important point, which has become a bone of contention in some Christian circles.

While the discussion of GM crops may seem a little removed from the human-centred emphasis of the remainder of the book, the scientific expertise of one of the authors comes to the fore here, as well as the flack he has had to take over his relatively positive stance on this emotive issue. Once again, they are open about

their conclusions from a Christian angle. They write: 'GM is a very useful tool in the plant-breeder's armoury. In reaching this conclusion we can identify no theological, intrinsic or deontological objection to GM technology...' (89). They do not shy away from the broader issues of risk, bias against the poor, and sustainability. Even those who disagree with their conclusions should appreciate the integrity and honesty with which the issues are discussed, surely a basic prerequisite for any debate involving Christians.

The pragmatism of the authors emerges clearly in their discussion of genetic diseases, especially with respect to prenatal diagnosis and termination of pregnancies in some instances of very severe genetic conditions. Their discussion of pre-implantation genetic diagnosis (PGD) and PGD with tissue typing is assisted by reference to actual cases in the UK, and the way in which different ethical principles sometimes meet in head-on conflict. Their defence of germline gene therapy will surprise many, and yet their brief discussion of it is within a framework of the Christian mandate to heal, and of the central significance of our attitudes towards the sick and vulnerable. However, they adopt a conservative stance on reproductive cloning, their ultimate objections being hypothetical ones.

If I can be allowed one small gripe: the authors are somewhat eclectic in the books and articles by evangelical authors they refer to. While I do not expect referencing to be exhaustive, other evangelical writers have expressed very similar positions previously. Acknowledgement of this would have demonstrated that the very balanced case being made in this book is more common within the evangelical constituency than some would have us believe.

**Gareth Jones is Professor of Anatomy and Structural Biology at the University of Otago, New Zealand**

**Philip Clayton and Arthur Peacocke (eds.)**

***In Whom We Live and Move and Have Our Being: Panentheistic Reflections on God's Presence in a Scientific World***

Eerdmans, 2004, 322 + xii pp. pb.  
£24.99/\$35.00. ISBN 0-8028-0978-2.

Susan Howatch's Bishop Charles Ashworth says of panentheism: 'That's what pantheists claim to believe when they're trying to pass off their belief as orthodox.' Though as Brierley points out it cannot be dismissed as a 'fudge' term.<sup>(4)</sup> This volume gathers together several theologians and scientists all who would largely advocate a panentheist view; the *en* making all the difference. The book grew out of a symposium sponsored by the Templeton foundation held at St George's House, Windsor.

Panentheism is attractive to many as it provides a way of integrating a contemporary scientific world-view with theology, and in particular it provides a paradigm for considering divine action without resorting to interactionism; however, this can soon lead into a form of naturalised theism with a non-interacting God. After reading this book I am more convinced that there are many different panentheisms; some that are little different from classical theism and others that verge on pantheism with a process theology sitting midway between the extremes.

The book is split into five main sections. The introductory section contains a summary by Peacocke and an excellent review piece by Michael Brierley. Brierley identifies several 'common panentheistic themes'; these include: the cosmos as God's body; the language of 'in and through'; the cosmos as sacrament; God's dependence on the cosmos; God's passibility; and a degree Christology. Though it is clear from the rest of the contributions in the book not all would agree with all these common themes.

The next section looks at panentheistic interpretations of the God-world rela-

tionship. Gregersen identifies three forms of panentheism: soteriological, expressivist and dipolar panentheism. David Ray Griffin then provides a process theologian's view. Keith Ward examines the views of Ramjuna, an Indian who, in the twelfth century, maintained that the world is the body of God. Other contributors in this section include Chris Knight and Clayton.

In the section on scientific perspectives, Paul Davies and Russell Stannard both provide articles that illustrate how to popularise science without being patronising – though I felt the connections to panentheism were a little stretched!

Theological perspectives – both Eastern and Western – provide the basis for the next section. The Eastern perspectives supplied by Kallistos Ware, Nesteruk and Louth. Ware writes: 'There are thus good grounds for asserting that Judaism, Christianity and Islam are fundamentally "panenetheist", if by "panentheism" is meant the belief that God, while *above* the world, is at the same time *within* the world, everywhere present as the heart of its heart, the core of its core.' (158-159). I must confess that I am at a loss to see why this is any different from classical theism.

The Western perspective is supplied by Denis Edwards, Joseph Bracken, Ruth Page (who prefers 'pansyntheism' – God *with* everything – as she sees some problems in panentheism) and Celia Deane-Drummond, who stresses the need for proper reflection on the 'radical particularity of Christ' if panentheism is to be Christian rather than simply theist. The final section is an afterword by Clayton. There is a four page index.

Particularly useful in this volume are Brierley's review of the concept, Peacocke's introductory overview and Clayton's attempts to pull the diverse strands together in the form of a conclusion. The book provides an excellent collection of original essays and will advance discus-

sion regarding pantheism as a model for understanding the relationship of God to his world. However, I am still not convinced that there is consensus regarding the term pantheism and that classical theism, with its emphasis on transcendence *and* immanence, has all the advantages of pantheism without the disadvantage of sliding into pantheism or naturalism.

**Steve Bishop has degrees in physics and theology and is a lecturer at City of Bristol College, Bristol**

**Garrett J. DeWeese**

***God and the Nature of Time***

Aldershot & Burlington, VT: Ashgate, 2004. 302 pp. pb. £16.99 ISBN 0-7546-3519-8

Garrett DeWeese's work on God's relation to time has grown out of his realisation that what he believed about the one contradicted what he believed about the other. In his efforts to resolve that contradiction he has created a marvellously clear summary account both of classical statements and of contemporary restatements of the relationship. He makes no claims to originality, but he does clearly articulate and defend certain theses about time and the nature of God.

DeWeese has structured his argument in three parts. Part I explores the metaphysics and physics of time. He argues forcefully for a dynamic theory of time, highlighting a number of weaknesses of the static view and defending the dynamic thesis against various criticisms. This leads him to outline a causal explanation of the flow and direction of time. In the next chapter, he continues his defence of the dynamic theory by looking at a number of criticisms arising out of static interpretations of recent physics. He demonstrates that there are reasonable responses to all these criticisms and concludes that the empirical findings of modern physics do not consti-

tute a decisive critique of dynamic time. Since he is satisfied that the philosophical arguments strongly favour the dynamic theory, he proposes its retention. Some practising physicists, particularly those involved in relativity theory, may find his conclusions unpalatable since his responses include a neo-Lorentzian approach to relativity theory.

In Part II, DeWeese turns his attention to Scripture and tradition. Chapter 4 is a brief summary of biblical material relevant to the question. His conclusion is in line with James Barr's important study, *Biblical Words for Time*: 'there is no clear, univocal biblical view of time or eternity, or of God's relation to time' (p. 110). Turning from Scripture to tradition, he traces the medieval consensus that God is atemporally eternal from the Neoplatonic influence on Augustine through Boethius and Anselm to Aquinas, offering admirably clear summaries of the contributions of each of these key thinkers. That clarity is continued into Chapter 6 where he explores several modern restatements of divine atemporality. Along the way he points out how this understanding of God seems to tend to a static view of time (sometimes in spite of efforts to maintain a dynamic view). He argues that this tendency is strong evidence against divine atemporality. In chapters 7 and 8, he repeats the procedure for the view that God is temporally everlasting, beginning with Duns Scotus and tracing its development through to Luis de Molina; then exploring the arguments in favour of divine temporality marshalled by several contemporary philosophical theologians.

Finally, in Part III, DeWeese develops a theory of divine omnitemporality, which he distinguishes from temporality, atemporality and sempiternity. The implications of this are sketched in a concluding chapter. Perhaps the most striking difference between DeWeese's model and the traditional understanding of God is his rejection of divine simplicity and strong immutability. An omnitemporal God, who

experiences a succession of mental states, cannot be the simple entity of traditional philosophical theology. Clearly such a God undergoes internal change and, therefore, cannot be immutable in the strong sense. However, DeWeese maintains a weak form of immutability, arguing that God's non-relational properties are necessarily unchanging. With regard to God's knowledge of future contingents, DeWeese recognises that this is problematic if God is omnitemporal in the sense developed here. However, he maintains that the 'cost' of his approach is more than balanced by its greater explanatory power when applied to such matters as the doctrines of creation and providence, and the notion of petitionary prayer.

I find myself strongly in sympathy with DeWeese's thesis. However, I do have some reservations about his causal approach to temporality as it relates to divine omnitemporality. At first sight, bringing a causal theory of time to bear upon divine temporality has serious consequences for our understanding of the Trinity. If, with much trinitarian theology, we accept that the Father is in some sense the cause of the Trinity (the *fons trinitatis*), does this mean there was a (divine) time when the Trinity was not? I don't think DeWeese's thesis necessarily leads to such a conclusion, but the question does suggest that further development of the thesis is necessary, involving a closer analysis of the concept of causation as it relates to time and God than was possible in a book of this length and whose centre of attention lay elsewhere.

Given his clarity of exposition and his helpful summaries of the major contributions to this subject, DeWeese has produced an excellent starting point for anyone wishing to undertake a serious study of God's relationship to time.

**Lawrence Osborn is a theologian who has written extensively on the interaction between Christianity and contemporary culture.**

### **John Foster**

#### ***The Divine Lawmaker : Lectures on Induction, Laws of Nature, and the Existence of God***

Oxford: Clarendon Press, 2004. 191 pp.  
hb £30.00. ISBN 0-19-925059-6

John Foster, philosopher at Oxford University, presented his proof of the existence of God for the first time in an article titled 'Regularities, Laws of Nature and the Existence of God' (*Proceedings of the Aristotelian Society* CI, 2001, pp. 145-161). He is now offering a longer version of the argument in this monograph. He constructs the argument as an inference to the best explanation: the existence of God provides the best explanation of nature's uniformities and of the role they play in our inductive policies. Foster's approach uses the conviction, as do other natural theologies, that natural order demands, as explanation, the hypothesis of God's existence. However he uses an original strategy: his argument hinges on the idea that the concept of natural law does not make sense outside a theistic framework (72, 78f). More precisely, Foster establishes his theistic proof in four steps: He introduces first the riddle of induction, famously formulated by Hume. Then, he defends 'the nomological-explanatory solution' to this problem: the observed regularity allows to postulate, as its best explanation, the (objective) existence of a law, which in turn guarantees the inductive inference towards the future continuation of the same regularity (47-49). After that, he tries to show that no naturalistic approach to the notion of law is satisfactory; in particular that it seems difficult, or even impossible, to understand the 'natural' necessity of laws, which stands somewhere in between strict logical necessity and pure contingency. Finally, Foster proposes 'a God of the relevant (broadly Judaeo-Christian) type' as the solution to the puzzle of natural necessity (2).

His book is well written and presents a clear line of argument. It is easy to read

even for one who is not familiar with the current philosophical debate about the laws of nature. This advantage has, nevertheless, the drawback that the book covers much well known ground for anyone who is aware of these discussions. Such a reader may prefer to turn instead to the article, in order to find a more direct access to Foster's main line of argument. In general, Foster is well informed about the current achievements in the field. One exception is his treatment of probabilistic laws, in the context of quantum mechanics (53-56, 171f). He does not seem to be aware of recent results that allow for a probability-free formulation of quantum theory (Peter Mittelstaedt, *The Interpretation of Quantum Mechanics and the Measurement Process*, Cambridge: Cambridge U.P., 1998, chap.3). Using these results, one would need to reframe the challenge that the quantum world poses for Foster's argument. I also regret that Foster does not interact with the most recent refinements of David Armstrong's account of natural law, whereas its older version figures prominently in his argument (94-110).

Yet for the most part, one's appreciation of Foster's book will not depend on the details. What is far more important is how one feels about his overall strategy: the effort to establish God's existence as the terminus of a philosophical argument which pretends to be ideologically and religiously neutral (80f, 126f). As a consequence, Foster's God is completely transparent to human reason. Even the modalities of creation are open to rationalist investigation. In order to save our common-sense beliefs on dispositions, we can assume that God has implemented laws according to which the universe evolves from an initial state, instead of creating all the details of its evolution (169). Foster does not even refrain from reasoning about 'divine psychology'. Thus, he thinks that 'our knowledge of the mind of God [— acquired solely by philosophical reflection! —] make[s] it rational to suppose that he would set a

premium on nomological uniformity' (183). In front of such a confidence in the capacities of human reason to work out the nature of both the universe and its Creator, it is no slip that Foster writes that 'the God whose existence we are now assuming *conforms* to the requirements of the theistic account' (183, my italics). If you want to read an argument for the existence of God, elaborated in the spirit of analytical philosophy of religion, turn to Foster's monograph. But be aware: this type of argument does not lead any further than to the god of the philosophers. And this might well be not far enough.

**Lydia Jaeger did postgraduate studies in physics and mathematics, in theology and in philosophy of science and teaches theology at the Bible Institute of Nogent-sur-Marne (France).**

**Graeme Finlay**  
***Evolving Creation***

Auckland: TELOS Publications, 2004. 46 pp, pb, NZ\$9.95, ISBN 0-476-00650-3

***God's Books: Genetics & Genesis***

Auckland: TELOS Publications, 2004. 75 pp, pb, NZ\$9.95, ISBN 0-476-00651-1

Graeme Finlay lectures in General (scientific) Pathology in the Department of Molecular Medicine and Pathology at the University of Auckland, New Zealand. He has a doctorate in cell biology and a bachelor's degree in theology. These booklets have been written to counter the view that evolution and a biblical understanding of creation are mutually exclusive. They are aimed at a university student readership.

*Evolving Creation* is the more general of the two booklets. It assumes the mainstream scientific view of the universe as one in which there has been progressive development of physical and biological entities from the 'Big Bang' to human beings. It argues for an essential compat-

ibility between science and theology. Various common confusions (e.g. between science and scientism, evolution and evolutionism, creation and creationism) are helpfully discussed and dispelled. There is an interesting chapter on 'The place of natural theology' and a helpful one on 'Suffering'. This is a helpful introductory booklet on science and Christianity which I would not hesitate to lend to students, including non-Christians, who are interested in that area.

*God's Books: Genetics and Genesis* argues that 'the scientific understanding of evolution is based on overwhelming evidence, and that the evolutionary history that science has discovered is part of the creative work of God' (back cover). The evidence referred to here is that derived from molecular genetics. In the light of this, Finlay argues, 'We now know that humans have evolved. When this strategically vital fact is realized, all other theologically-motivated controversy regarding evolutionary science becomes redundant' (10). Finlay accepts that this is a 'startling' claim. The evidence for it is given in chapter 3, which covers much the same ground as Finlay's paper in *S&CB* 15.1, 17. This is not easy reading for those who know little or no molecular genetics. Indeed Finlay says of it, 'If this section appears excessively technical, it may be skipped, and the discussion rejoined again at section 4' (13). This is a pity, and one can only wonder whether it might have been possible to present the evidence in a simpler, more readily accessible way. However, even for those who do skip chapter 3, there is a lot of good material in the booklet. There are chapters that discuss the compatibility of an evolutionary understanding of the cosmos and human origins with Genesis 1-3 and with the Christian theology of creation. The final chapter has an interesting discussion that seeks to show that an evolutionary understanding of God's creative activity is compatible with the nature of God as revealed in the biblical account of the history of salvation. The booklet is aimed primarily at Christians.

Both booklets are attractively produced. They are a welcome resource for encouraging and helping students to think through the issues with which they deal. Their brevity adds to their usefulness. It is to be hoped that a UK publisher might take them up. Meanwhile, they can be obtained through the CiS Publications Secretary.

[TELOS Publications are available through the CiS Book Secretary]

**Ernest Lucas worked in biochemical research for some years before studying theology. He is now Vice-Principal and Tutor in Biblical Studies at Bristol Baptist College.**

**Henry F. Schaefer III**  
***Science and Christianity: Conflict or Coherence?***

Watkinsville, Georgia, USA: The Apollos Trust, 2004. 201 pp. pb. No price stated. ISBN 097429750X

This is a very personal book. During the last twenty years the author has given a series of over 190 lectures to university audiences in the USA and around the world on the general theme of Science and Christianity, and here he has provided a printed version, along with an introduction. He is Professor of Chemistry and Director of the Center for Computational Quantum Chemistry at the University of Georgia, and has worked for many years in the field of molecular quantum mechanics.

The topics addressed range quite widely, including the numerous eminent scientists from the seventeenth century to the present who have been committed Christians (as well as those who have not), a 'nondebate' with Steven Weinberg, cosmology and creation ('The Big Bang, Stephen Hawking, and God'), evolutionary theory ('Climbing Mount Improbable: Evolutionary Science or Wishful Think-

ing?'), 'Quantum Mechanics and Post-modernism', 'C. S. Lewis and scientism', 'Ten Questions Intellectuals ask about Christianity' (actually twenty-one), and two autobiographical final chapters.

The science and the Christianity are well mixed, illustrating the coherence of the title. Schaefer came relatively late to faith, and describes the stages by which he did so. The personal testimony which pervades the book is exemplified in the passage where he states 'If you were to ask the average Ph.D. chemist on the street what my most important discovery was, he or she would probably say "the structure of methylene." ... But the most important discovery of my life was my discovery of Jesus Christ.'

The theological stance throughout is one of evangelical orthodoxy, but not in any narrow sense. The author finds no difficulty in believing that the universe started with the 'Big Bang' about 14 billion years ago, that the earth was formed about 4.6 billion years ago, that life began more than 3.8 billion years ago and that humans appeared about 100,000 years ago. However he is critical of what he calls the 'standard model' of evolution, and adopts 'progressive creation' in preference to 'theistic evolution'. His reasons are largely based upon the scientific evidence, and focus on the origin of life, the origin of phyla, and the lack of testable predictions. He quotes with approval the writings of Phillip Johnson and seems inclined towards the intelligent design viewpoint, without espousing its more extreme forms. He is quite explicit, however, that these matters are not of crucial importance, and that the differences between Christians in respect of them should not be accorded great significance.

The index lists solely the names of the numerous people quoted or referred to, and there are appendices giving details of the author's career and the dates and places where the lectures have been given. The book is easy to read, and the small amount of repetition arising from

its origins as a series of lectures does not obtrude. It would be suitable for anyone concerned about the supposed conflict between science and Christianity, and also for anyone who is inclined to keep their faith and their science in separate compartments.

**John Bausor is a retired science educationist.**

**William A. Dembski and Michael Ruse (eds.)**  
***Debating Design: From Darwin to DNA***

Cambridge: Cambridge University Press, 2004. 405 pp. hb. £35. ISBN 0 521 82949 6

Design has seen something of a comeback in the last few decades. The big bang theory, the anthropic principle and developments in cell biology are three reasons why design is now debated by professional philosophers. One important subset of design is Intelligent Design (ID), defined here as 'the hypothesis that in order to explain life it is necessary to suppose the action of an unevolved intelligence' (3). It would be a truism to say that ID is controversial! Recent years have seen a proliferation of books dealing with it. Why then the need for another? The advantage of this book is that it presents many sides of the various arguments and by experts in their fields. In many ways this is a companion book to Neil Manson (ed.) *God and Design* (London: Routledge, 2003). In fact many of the authors in Manson's book are also authors in Dembski and Ruse's (Swinburne, Davies, Dembski, Ruse, Miller, and Sober). The Manson book is largely more philosophical and this one generally focuses on the scientific, particularly the biological.

The book is divided into five main sections. The introduction comprises an overview by the editors and pieces by Ruse and Mengue. Ruse provides an out-

line of the 2500-year old design argument from Socrates to Dawkins and Holmes Rolston III. Mengue gives a brief history of the ID movement and at the same time exposes the fallacies and non sequiturs in Barbara Forrest and Paul Gross' *Trojan Horse*.

In Part 1 on Darwinism, Francis Ayala, a former Catholic priest and eminent biologist, claims that Darwin has explicated the mechanism for design and thus there is no need to propose an intelligent designer. He also argues that the 'design' of organisms is not 'intelligent' as they are full of dysfunctions, cruelties and wastes – an argument similar to that of the atomist Lucretius. He suggests that intelligent design may be natural theology but it certainly is not science. Ayala does, however avoid scientism, as he notes that science although successful and encompassing is not the only way of knowing. Kenneth Miller focuses on Behe's 'irreducible complexity'; he examines the eubacterial flagellum and claims research has shown that it is not an example of irreducible complexity. Sober provides an excellent general overview of the design argument. Robert Pennock examines the work of Stephen Meyer and claims that it is grounded in Christian presuppositions – which to most readers of this journal wouldn't be an argument to dismiss ID!

Part 2, Complex self-organisation, contains four essays, by authors who are to different extents critical of the neo-Darwinian paradigm but think that the complexity in 'nature' is a result of the simple laws of physics and chemistry. Stuart Kaufman has termed this view 'order for free' and in his piece confesses that at the moment we don't have a 'general biology'; here he raises interesting questions, but doesn't supply solutions. Weber and Depew, Christian biologists, rightly write of their concern by Behe et al. to recover Paley's design argument. They maintain to do so may 'expose theism even more nakedly to the withering winds of radical secularism' (186).

In Part 3 Theistic evolution we find presented an alternative Christian view to ID. Although given the rather broad definition of ID – 'Some supporters of Intelligent Design think that this intelligence works in tandem with a limited form of evolution' (3) – in the introduction, one could be left wondering if, by that definition, theistic evolution could even be called ID!

John Haught argues that Darwinism is not necessarily inherently materialistic and that design is not necessarily essential to the concept of providence. Polkinghorne examines the 'inbuilt potentiality of creation' he sees the ongoing creation as an evolving, open and precarious process. Keith Ward selectively utilises some of the ideas of Teilhard de Chardin to argue that God creates an 'autonomous, purposive universe' that is part of a 'self-realisation by God' (267). Michael Roberts' main contention, among others, is that intelligent design does not pay enough attention to the age of the earth and deep time. He also shows that ID is very different from Paley's argument. ID he argues is more a design rhetoric than a design argument. Swinburne's chapter focuses on the 'argument from the laws of nature' and is an update of ch 8 of his *The Existence of God*.

Part 4 is on Intelligent Design. Here Dembski, Behe, Meyer and William Bradley present their case(s) for ID. Dembski concludes his piece by asserting: 'Intelligent Design may not be correct. But the only way we could discover this is by admitting design as a real possibility not ruling it out a priori' (329), which he claims is what evolutionary biology does. Behe provides a helpful sketch of his irreducible complexity concept. Meyer compares the explanatory power of neo-Darwinism, self-organisation and ID with respect to the 'origin of information that arises during the Cambrian [explosion]' (373). He concludes that the Cambrian explosion 'attests to the power and activity of a purposive intelligence' (389).

There is a 13-page index and each essay has its own endnotes and references. The strength of the book is that it presents the many different arguments from philosophers, scientists, theologians and mathematicians; however, the weakness is that there is no debate – despite the title – between the different authors. It would have been particularly helpful to have had Miller's take on Behe's piece and vice versa as well as Meyer's comments on Pennock's. Nevertheless this will be an indispensable book for all those, for whatever the reason, with an interest in design and ID.

**Steve Bishop has degrees in physics and theology and is a lecturer at City of Bristol College, Bristol**

**Peter Barrett**  
*Science and Theology since Copernicus: the search for understanding*

London: T & T Clark, 2004. 208 pp. pb.  
£12.99. ISBN 0-567-08970-3

The original South African (UNISA) edition of this book was reviewed in *S&CB* 13.2 190-191. This new edition (the text is unchanged apart from minor corrections) makes it more readily available in Europe and North America.

**Denis Alexander and Robert S. White**  
*Beyond Belief: Science, faith and ethical challenges*

Oxford: Lion Publishing, 2004. 220 pp pb  
£8.99. ISBN0 7459 5141 4

When asked to speak to a non-specialist audience about the relationship between Science and Faith I sometimes struggle to recommend a suitable book that covers the material at the right level. Many of the books that I have recommended in the past are now out of print. Others make good meaty reading for the specialist but are too complex and indigestible

for a more general audience. If you have found yourself in the same position, then *Beyond Belief* may be just what you have been looking for. It is written by two Cambridge scientists from different scientific disciplines, both committed Christians and at the top of their fields. Denis Alexander is a respected Molecular Immunologist at The Babraham Institute and Robert White is a Professor of Geophysics and Royal Society Fellow in the Department of Earth Sciences. With these credentials it is not surprising that the authors write with authority, clarity and accuracy whilst maintaining due respect for both science and Scripture.

In the first chapter the authors consider what science is and what it is not, addressing both its power and its limitations. In Chapter 2 they move on to explore the relationship between science and faith. They provide a strong critique of those like Richard Dawkins who see the two disciplines as being in conflict. They are equally dismissive of the concordist approach that tries to force science to fit a particular view of scripture and vice versa. Rather they argue strongly for the complementarity of science and faith, each looking at the world from a different perspective – the how and the why. These arguments are expanded in the following chapters. Under the heading 'Is science discredited?' the authors first address the emerging cynicism of some, Christians included, towards science. The extravagant claims of science that have not always born fruit and the dehumanising effects of some technological advances have led many people to question whether we can trust science. This is an easy bandwagon for some Christians to jump on when trying to justify their approach towards resolving conflicts between science and a particular interpretation of Scripture. However, the authors argue that the Christian should defend the scientific enterprise as a fulfilment of understanding how God works in his world and beware of siding with post-modern relativism. Chapter 4 is

entitled 'Is religion discredited?' and here the authors undermine the argument used by the 'High Priests of Science' such as Dawkins that the advance of our scientific understanding of the world has ruled God out of the picture. A fuller explanation is given of the relationship between the scientific and religious explanations of the natural world, including a brief historical overview. Sections are devoted to Natural Theology and the New Age movement with some emphasis on the dangers of drifting into deism rather than theism and of developing a 'God of the Gaps' mentality. The design argument is also considered in some detail. Whilst the importance of recognising the hand of a creator in an improbable universe is recognised, the weakness of the irreducible complexity argument of the 'Intelligent Design' movement is highlighted as being a reversion to 'God of the Gaps' thinking. I was especially pleased to see a coherent critique of Intelligent Design because many Christians are 'jumping on to the bandwagon' without realising the dangers of doing so. As scientists discover more explanations for what we currently fail to understand, as they surely will, such thinking will make it appear that God has been discredited when he has not. In Chapter 5, under the heading 'Science Encounters Faith', the authors look at what difference being a Christian makes to the way we view the scientific enterprise. Issues covered include how we approach the Bible and the creation account (in particular, the age of the earth), the ethical standards we should uphold and the responsibility we should have towards our stewardship of God's creation. Overall, there is the sense of wonder and worship of our creator God that scientific discoveries bring to the Christian.

The second half of the book deals with 'Hot Issues for the 21st Century' and includes three chapters where the authors consider topics such as genetic modification, cloning, reproductive technologies, evolution and creation, the environment and climate change and sus-

tainable consumption. In each case the authors explain something of the scientific background to the topics, the ethical issues that they raise and a Christian response. Inevitably, with the limited space allocated to each, none of the topics is treated in depth; but what is written is accurate, well informed and balanced – a good starting point for further study. The final chapter of the book is entitled 'Christians in Science' and highlights the importance of having Christians in all areas of science. At the personal level, Christian scientists can approach their research as worship, revealing the majesty of the Creator God, and also as a fulfilment of God's command to act as stewards of his creation. But they also have the responsibility to work with integrity and bring Christian ethical principles to bear on the scientific endeavour for the good of all mankind and not just the privileged few.

In conclusion, here is an excellent book to have on one's shelves both to inform one's own thinking and to lend to others. Along with *Can we believe Genesis today?* by Ernest Lucas (IVP 2005; ISBN 978-1-84474-120-5) it has become my book of choice to recommend as a starting point for those wanting to explore issues of science and faith.

**Andrew Halestrap is a Professor of Biochemistry at the University of Bristol.**

**David G. Myers & Malcolm A. Jeeves**

*Psychology Through the Eyes of Faith*

New York: HarperSanFrancisco, 2003.  
243 + xii pp. pb. \$14.95. ISBN 0-06-065557-7

This book, sponsored by the Washington-based *Council for Christian Colleges & Universities* (CCCU), an international association of some 160 mostly North American 'Christ-centred' higher educa-

tion institutes, is primarily addressed to psychology undergraduates. The first edition was published in 1987 but apart from the statement on the cover that it has been revised and updated, there is no specific mention of the changes made over the intervening six years. One of the authors, Malcolm Jeeves, is well known to members of *C&S* and readers of this journal while David Myers is a professor of psychology at Hope College in Michigan State.

The book is divided into thirty-two chapters, none of which is longer than twelve pages. Three of them (14, 17 and 30) are revisions or reprints of material co-authored by Myers previously published in Christian magazines or books. Two further chapters (9 and 22) have been written by two of his colleagues from Hope College, Thomas Ludwig and Charlotte van Oyen. Each chapter is located in one of sixteen parts, the titles of which closely match the contents of a typical undergraduate psychology text. However, their relative brevity makes them considerably more attractive and would certainly encourage a student to dip into the book. An interesting feature at the beginning of each chapter is the presentation of one or two quotations from biblical or secular sources. The book concludes with just over eighteen pages of 'Notes' (essentially reference citations and suggested further reading) and a comprehensive index.

An appropriate opening chapter for such a book is to examine the relationship between science and the Christian faith. Psychology's claim to scientific status is widely accepted today and therefore its hypotheses, experimental findings and interpretations, like other sciences, are objective and operate within the limits of the scientific method. This means that, as with physics, chemistry or biology, psychology is not inherently in conflict with religion and therefore should not be used as a means of undermining faith, or indeed, as has become rather fashionable today, to provide

'physical proof' for the variety of spiritual experiences or the existence of God.

The concluding chapter, which includes a page on 'neurotheology', cautions against the readiness of some Christians to seize upon the findings of experiments using structural (MRI) and functional (SPECT) neuroimaging techniques 'to objectify faith with the bells and whistles of technology' (214). '...science, insofar as it seeks and reveals truth, is a gift from God, a vehicle of revelation that coexists with truths revealed in Scripture and interpreted by scholars' (210). This is sound advice to any student of science or indeed established research scientist and it is pleasing to note that Myers & Jeeves 'bookend' their text with comments on the science-religion debate. In between we have thirty chapters collected under the major headings of the biological basis of behaviour, human development, sensation and perception, learning and memory, thought and language, motivation, emotion and personality, psychological disorders, psychotherapy and social psychology. The authors approach their subject from the viewpoint that psychology 'offers a limited but useful perspective on human nature that complements the perspective of faith' (17) and as such is open to both critique and application by the Christian. This means we should not be too quick to dismiss or accept all the findings and hypotheses arising from psychological research. This balanced approach can be enthusiastically commended to students and the authors are to be congratulated for successfully achieving this aim.

I have one suggestion on how presentation could be improved and that is in the citation of references. The use of superscript numerals in the text to match the details in the 'Notes' section would be more helpful than the use of page numbers. The positioning of 'further reading' should also be consistent. In the majority of cases it is presented in the 'Notes' but for chapters 4, 5 and 23 it appears at the end of the chapter. In a

book with an excellent standard of proof reading, I only noticed one obvious error and that was in the name of the Finnish university, which is Turku not Turkey (p.169).

**Alun Morinan teaches Psychopharmacology in the School of Health & Bioscience at the University of East London.**

**Alan G. Padgett**  
*Science and the Study of God: A Mutuality Model for Theology and Science*

Grand Rapids, MI/Cambridge: Eerdmans, 2003. 218 pp. pb.  
£15.99/\$22.00. ISBN 0-8028-3941-X

This collection of essays explores a mutuality model for the relationship between science and Christian theology. What that means is developed in the opening chapter by way of contrast with the old conflict model of the relationship. Instead of conflict Padgett perceives collegiality – a relationship of cooperation and mutual respect that recognises the different tasks of science and theology. Thus he presents the proper relationship between theology and science as ‘an open dialogue ... in which Christian scholars seek to build a world-view consistent with both ... the search for the truth in both disciplines, in order to develop a coherent world-view that meets our religious needs and satisfies our scientific thirst for knowledge’ (7). In such a dialogue, each discipline can and should learn from the other. And, Padgett insists, this implies that our theological beliefs can and should influence our beliefs in other fields. Specifically, he argues that ‘If two or more theories ... are currently of equal status with respect to their reasonableness, the religious believer is fully justified in choosing that view which is more in consonance with his theological world-view’ (19).

Chapter 2 explores the philosophical basis for this mutuality under the heading of ‘Dialectical Realism’. Why dialectic? Because Padgett stands in the philosophical tradition that sees contrasting perspectives as a potential source of insight. This is not a modern phenomenon. Padgett eschews the system building of Hegelian (and Marxist) dialectic in favour of a more modest approach exemplified in philosophy by Kierkegaard and Adorno and in theology by Abelard and Eastern Orthodoxy. Readers of this journal are probably less likely to ask ‘why realism?’, but one of Padgett’s answers to the question is worth noting. He suggests that realism is motivated by humility, by the conviction that human experience cannot be the sole determinant of reality.

The next six chapters fall naturally into pairs exploring in turn science and world-view, theological method and two case studies of the mutuality model in practice.

In chapter 3 (‘The Myth of a Purely Historical Jesus’) Padgett argues against the belief that it is possible to make a value-free scientific study of religion. Instead he favours a post- (and pre-) modern approach that integrates faith and science. But this is only possible if we abandon the Western misunderstanding of faith as possessing epistemic certainty. Similarly, in chapter 4, he argues that science is guided by values that cannot be justified by science itself. In the course of this chapter he rejects both the scientism of some atheistic scientists and the methodological naturalism of some theistic scientists.

Having rejected rationalism and scientism in the sciences, Padgett turns his attention to theological method. Chapter 5 is a critique of process theology, which he presents as the foremost contemporary example of theological rationalism. He highlights its Procrustean nature: its tendency to edit Scripture and tradition to make them fit a Whiteheadian meta-narrative. In contrast, he favours a post-modern view of the theologian as a philo-

sophical *bricoleur* who adopts philosophical notions on a piecemeal basis, 'seeking the inner coherence of gospel truth and adapting those philosophical doctrines that may help us, in particular times and places, to advance that truth' (96). Instead of theological rationalism, Padgett offers in chapter 6 a vision of theology as first and foremost an act of worship. Its true purpose is 'to know God, to tell the truth about God, and to give glory to God' (107).

Chapters 7 and 8 offer two case studies of the mutuality of theology and science in practice. The first of these, 'Theology, Time, and Thermodynamics' offers a very brief overview of how theology can have a role in theory choice in the natural sciences. He suggests that 'Thermodynamics supports the Christian doctrine that time is linear, while Christian doctrine supports the dynamic, irreversible view of fundamental physics' (135) as opposed to the time-symmetrical view of classical physics (and some interpretations of relativity theory). While I happen to agree with his conclusions, it has to be noted that a different choice of theologians might have led to a very different conclusion.

Finally, in chapter 8 he argues that the methods of historical science can and should influence theological positions adopted on the basis of revelation. Specifically, he explores how the historical evidence can help us choose between competing Christologies.

The book finishes with some brief concluding reflections and an appendix on informal inference for the professional philosophers among his readers.

This is a helpful book that makes some useful points for the continuing development of the relationship between theology and science. In spite of the fact that most of the chapters have previously been published in different forms, the argument flows well. Thanks to the fact that the most technical aspect of his argument has been consigned to the

appendix it is also a fairly accessible work. However, it would probably be of most benefit to readers who already have some degree of familiarity with the subject.

**Lawrence Osborn is a theologian and editor who has written extensively on the interaction between Christianity and contemporary culture.**

**George Richter**  
*Theology of Physics*

Published by the author in 2004, 184pp, no price or ISBN number given

The subject matter of this book is narrower than the title might suggest. The author's conviction is that the universe has not just the four dimensions of space and time with which we are familiar, but ten dimensions, as suggested by many versions of the supersymmetric string theory of elementary particles developed in recent years; that the six dimensions which are hidden from us are the space inhabited by God the Father and the angels (though he believes that the Holy Spirit inhabits all ten dimensions). He envisages the time and space history of the world we live in as a tapestry surrounding the heaven where God dwells. It may be a familiar idea to think about God's relationship with our world of space and time by the analogy of interacting from a space of more dimensions; Dr Richter takes this idea not as an analogy but as literal fact.

The book divides roughly into two halves, though they are less well separated from each other than the spaces he describes. One part elaborates his beliefs, in a fairly down to earth and accessible manner; the other part consists of technical quotations from papers about string theory, whose intention is to convince us that physicists do really believe in ten dimensions. The author is refreshingly honest enough to confess that he does not

understand this part either! One questions the value of including pages of equations which are only accessible to the specialist; your reviewer who is a physicist but not a theoretical particle physicist found many of these pages completely impenetrable; but I am not the only one who has difficulty distinguishing wheat from chaff at this rarified level.

Richter writes apparently from a traditional Roman Catholic position, including not only Trinitarian theology, but also angels, saints and devils, and a prominent place for Mary the mother of the Lord; he writes with a clear evangelistic concern. After reading the book I decided that I liked him and would like to meet him, but remained completely unconvinced of his thesis; this is a very odd book, and of limited interest and value.

[The book is available from Dr George Richter, PE, 2016 Merriam Lane, St Paul MN 55104, USA, eng2gbr@aol.com]

**Paul Wraight has retired from teaching physics and engineering at the University of Aberdeen, and is interested in the relationship between modern science and Christian belief, especially design.**

**Paul Copan and William Lane Craig**

***Creation out of Nothing: a Biblical, Philosophical and Scientific Exploration***

Leicester/ Grand Rapids: Apollos/ Baker Academic, 2004. 280pp. pb.  
£14.99 ISBN 1-84474-038-2

*Creatio ex nihilo* (creation out of nothing) is an important doctrine that has come under fire in recent decades from theologians such as Gerhard May and scientist-theologians such as Ian Barbour. May contends that creation *ex nihilo* is biblically ambiguous and that it was a sec-

ond-century response to Gnostic ideas; Barbour rejects it in favour of an absolute dependence of the universe on God.

It is in response to these ideas that Copan and Craig have teamed up to write this inter-disciplinary book. They show that creation out of nothing is biblical, and scientifically and philosophically grounded. They don't explore the rich theological implications of *creatio ex nihilo* but do show that there is a very strong cumulative case for the doctrine and that, *contra* May, it is a thoroughly biblical one.

The first three chapters explore the Old Testament, the New Testament and much of the extra-biblical evidence. At times these chapters read like a rich mosaic of commentators, but the conclusion in each one is that creation out of nothing is not a second-century invention; it is implicit in both testaments as well as explicit in the Jewish and early Christian writings.

The second half of the book (chapters 4-8) deals with scientific and philosophical arguments. Chapter 5 exposes the error that many – such as Barbour – make in conflating conservation and creation: 'Creation is distinct from conservation in that creation does not presuppose a patient entity but involves God's bringing something into being' (165).

Chapter 5 explores the problem of the creation of abstract objects such as mathematics concepts. They examine three possible solutions: absolute creationism (which seems to be anything but absolute!), fictionalism and conceptualism. They conclude that much creative work is being done and still remains to be done on this issue; hence, they are not prepared to pronounce judgment over which solution is the most plausible. (I am tempted to say none of the three they mention!)

The impossibility of an infinite past is explored in Chapter 6. Chapter 7 examines two broad lines of scientific evidence

that the universe is not eternal and that it had an origin a finite time ago. The first of these evidences is the expansion of the universe and the standard big bang model of creation; the second, thermodynamics.

The final chapter examines naturalistic alternatives to creation *ex nihilo*; namely, that the universe created itself and that the universe sprang into existence uncaused out of nothing. Here they ably show the fallacious nature of these arguments.

One need not agree with all their arguments, but Copan and Craig have provided an excellent, inter-disciplinary and timely cumulative case for *creatio ex nihilo*.

**Steve Bishop has degrees in physics and theology and is a lecturer at City of Bristol College, Bristol**

**Norman C. Habel & Vicky Balabanski (eds.)**

***The Earth Story in the New Testament***

London: Sheffield Academic Press, 2002.  
xx + 225 pp. pb £25.00. ISBN 0-8264-6060-7

'My own conviction is that there is no more urgent task for biblical scholars than the work undertaken in these volumes', writes Professor Denis Edwards, senior lecturer in systematic theology at the Adelaide College of Divinity and Flinders University of South Australia, in a preface to this book, the last of five volumes in the Earth Bible project, headed by Norman C. Habel, also of Flinders University and the Adelaide College of Divinity.

This five volume project (the previous volumes all published by Sheffield Academic Press), undertaken by biblical scholars from a wide spread of geographical locations – Brazil, Canada, USA, South

Africa, but predominantly Australia – works from the burning conviction that Christians, as culpable as any in generating the ecological crisis with which the world is grappling, have often failed to make connections with the biblical roots of their faith. This review deals with the last volume of the project, which concentrates on texts from the New Testament. There is no attempt to treat the New Testament as a whole; rather, each of the invited contributors works with selected texts that range from the synoptic gospels (Matt. 6:25-34; Mk. 1:1-15; 13; Lk. 9:62; 12:13-34), the fourth gospel (Jn. 1 – 3; 9:1-11) through Acts 7 and one article on the Pauline epistles (Eph. 1) to Hebrews 11 and Revelation 12.

While such a piecemeal approach may raise questions as to method and scope, it is important to see this in the light of two fundamental principles on which the Earth Bible Project rests, and which are evident in the treatment of New Testament texts in this volume.

The first is the concept of 'ecojustice'. It is worth enumerating the six principles which express it, together with the volume's own short commentary on each.

1. The Principle of Intrinsic Worth. The universe, Earth and all its components have intrinsic worth/value.
2. The Principle of Interconnectedness. Earth is a community of interconnected living things that are mutually dependent on each other for life and survival.
3. The Principle of Voice. Earth is a subject capable of raising its voice in celebration and against injustice.
4. The Principle of Purpose. The universe, Earth and all its components are part of a dynamic cosmic design within which each piece has a place in the overall goal of that design.
5. The Principle of Mutual Custodianship. Earth is a balanced and diverse domain in which responsible custodi-

ans can function as partners, rather than rulers, to sustain a balanced and diverse Earth community.

6. The Principle of Resistance. Earth and its components not only suffer from injustices at the hands of humans, but actively resist them in the struggle for justice.

These principles have been developed by members of the Earth Bible team in dialogue with experts from a variety of disciplines concerned with the continued well-being of planet earth. In each of the articles in the present volume writers allow one or more of these principles to interact with selected New Testament texts.

It is not so much what these principles say that causes the present reviewer difficulty, as what they do not say, and what seems to be implicitly assumed throughout. What they do not explicitly allow for is that there is a particular place for human beings in creation – either in terms of privilege, or responsibility, or both. The obvious place where this might come from, namely Genesis 1:26-28, is judged, in the light of the ecojustice principles used to examine the Bible, to be hierarchical and anthropocentric, and incapable of being interpreted in terms of ‘stewardship’ (p.10)

Also implicit throughout, stated explicitly only by Archbishop Desmond Tutu in his foreword as a question, is the assumption that any text which promotes human interest must be judged to reflect human *self-interest*. ‘Earth Bible writers are now confronting us with the anthropocentric nature of much of the biblical text. We now ask: does the text devalue earth by making the self-interest of humans its dominant concern?’ (vii)

The second fundamental principle is that biblical texts are approached using a ‘hermeneutic of suspicion’. The introductory essay ‘Hermeneutics: Reflections and Challenges’ attributed to the Earth Bible Team rather than to the editor, explains how this works:

We suspect that biblical texts, written by humans to meet human circumstances, will reflect human interests at the expense of the non-human Earth community. We suspect that many texts will therefore be overtly anthropocentric. And even where texts are theocentric, they are likely to be more concerned about God’s relationship with humanity than with the fate of creation – the Earth community seen as a whole – as such. (1)

This kind of approach has already been used in other types of biblical study, notably in liberation theology and feminist analysis of the scriptures. It is important here to make a distinction between two separate ways in which the hermeneutic of suspicion can work. One argues that biblical texts have been *used* to justify exploitation, even though a closer examination of the text may show that this is unjustified. The theological undergirding of apartheid in South Africa is a notable case in point. The other places the blame *squarely on the texts themselves*; they therefore ‘resist retrieval’ as texts which could conceivably be used in an ecofriendly way. In the present volume Mark 13 and 2 Peter 3 are judged to belong clearly in this category. How are such conclusions reached?

It seems to the reviewer that there is an important distinction to be made here between ‘open’ and ‘closed’ approaches. In the former the Bible is approached with a mind open to two possibilities: on the one hand, that at least some biblical texts may exhibit an attitude which betrays insensitivity to the world of creation; and on the other, that the Bible may show throughout an approach that is creation-friendly. A statement such as this from the introductory essay seems to point in this direction: ‘Numerous texts need to be thoroughly analysed in terms of the ecojustice principles – both as described in this project and developed in response to or independently of it – to determine their relative contribution to ecotheology,

ecoethics and the practical task of reconnecting us to our environment' (14).

In the 'closed' approach, the conclusion is predetermined: there are scriptures which by their very nature and content betray a hostility towards creation, incompatible with the ecojustice principles previously stated. Such an approach is found near the opening of Habel's own essay on the prologue to John's Gospel: '... I begin with the suspicion that the prologue of John, written in an ancient Greek social context, is likely to reflect an ancient dualism similar to the popular dualisms that have developed in Western society' (76).

Something of this bias is displayed in the introductory essay, here expressing impatience with other New Testament commentators who may not have come to similar sceptical conclusions: '... even after exploring the social, religious and cultural context of a passage, there is a general reluctance on the part of many writers to discern those components of the text in context that are forcefully anthropocentric, embrace injustice towards earth, devalue creation or depict God as actively destroying components of Earth' (2).

Individual essays that follow come to varied conclusions. Thus Adrian Leske approaches Matthew 6:25-34 fairly sympathetically, relating the text to an eschatology which is both realised and future. Barbara Rossing rightly sets Revelation 12 in the context of an anti-imperial polemic in which both the poor and the earth itself cry out for justice.

Other essays adopt thoroughly sceptical approaches. William Loader on Jesus in the wilderness (Mk. 1:1-15), together with his actions in calming the storm (Mk. 4:35-41), walking on the waters (Mk. 6:45-52) and feeding miracles (Mk. 6:35-44; 8:1-10) 'all subordinate the natural processes of earth to manipulation that benefits human beings' (41).

Because of the fragmentary approach to scripture, central Christian themes

such as incarnation, cross, resurrection and eschatology hardly get a mention, although the introductory essay by the Earth Bible Team does ask whether the incarnation indicates that God does not stand outside the natural world 'but is an integral part of the life-drive itself' (7). Habel's own answer, in his essay on John 1, is exactly the opposite: 'the transcendent God is viewed as outside creation and that when the Word "tents" in flesh this is only a transitory abode of a God who descends "from above" only to return there again' (7). In the light of Tom Wright's award-winning book on the resurrection (N.T. Wright, *The Resurrection of the Son of God*. London: SPCK 2003), this is hardly consistent with the insistence on the physical resurrection of Jesus and the way the resurrection points forward to the renewal and transformation of the whole of creation.

The present reviewer found this book disturbing and disappointing in at least two important respects. Firstly, the feeling persists that its approach and much of its content is governed by issues of political correctness which predetermine the methodology used to handle scripture and the conclusions reached. To be more specific: given the largely Australian authorship already mentioned, does the sceptical approach evident in large parts of this volume reflect shame over what westerners did to the aborigines and their land? Secondly, in that scripture is brought to the court of the six ecojustice principles and evaluated in such a sceptical manner, it illustrates what can happen when the study of scripture is cut loose from the community of faith.

**Ron Elsdon is rector of St Bartholomew's Church in Belfast, Northern Ireland**

**W. Poon (ed.)**

***Sketches towards a theology of Science***

Doctrine Committee of the Scottish Episcopal Church, no date given (but probably 2004). ii + 37 pp. pb. £2.50. ISBN 0-905573-64-1

The declared aim of this booklet is to discuss how Christians should think about science. A two-day meeting of members of the Doctrine Committee of the Scottish Episcopal Church was followed by written contributions from the seven people concerned and these have been edited by Professor Wilson Poon into this publication (which is intended to be the first of a series exploring issues relevant to Christian discipleship in the modern world). Its origin in a committee is evident at times, but it is a readable document that provides a good, if brief, introduction to science/faith issues. There is a missing 'not' in the third sentence of the final summary on page 31, but any attentive reader will not be deceived by that!

Section 1 (9 pages) makes three basic points: (a) the popular idea of conflict between science and religion is too simplistic; (b) to read the Bible as if it were making scientific statements is to misuse it; and (c) the methodologies of science and theology are not dissimilar.

Section 2 (7 pages) agrees that science can do harm as well as good and discusses a few particular concerns. It affirms that the view of science as the sole generator of truth has been challenged effectively, and argues that the reductionist strategy so common (and so successful) in science needs to be balanced by a holistic approach. The idea of 'personal knowledge with universal intent' presented by Michael Polanyi is welcomed as an indication that there is common ground between theologians and scientists. Three pages are devoted to the 'sustained modern attempt' by feminist scholars (including non-Christians) 'to critique the more absolutist claims of science'. Specific work by such scholars is quoted, warning of 'injustices and distor-

tions of a purely masculinist, patriarchal scholarship (whether it be in science or theology)'.

The third section (14 pages) presents the 'sketches towards a theology of science' promised by the title of the booklet. Scientists today often argue that their discipline is value-free but it was not so in the early days of science. Over the past few centuries the responsibility of scientists to the Creator has been played down and the world has increasingly been seen as serving humanity. A corrective to this anthropocentric view is provided by the biblical notion of 'wisdom' (as presented in Psalms, Proverbs, and other books of the Bible), and it is suggested that this needs to be developed in our generation. The role of liturgy, with its emphasis on worship, consecration, awe and community, is discussed. (This topic is possibly of more significance to Scottish Episcopalians than to most other Christians.) This section concludes that although God obviously allows science to proceed without reference to him, for us to follow that route is 'a tragic misuse of human freedom'.

Section 4 (2 pages) summarises the discussion by saying that believers in God, and especially those who are scientists, must be prepared to challenge both religious people who ignore science and scientists who ignore theology.

A list of further reading gives brief details of 23 relevant books (with publication dates ranging from 1964 to 2003).

This booklet may be obtained by post from General Synod Office, Scottish Episcopal Church, 21 Grosvenor Crescent, Edinburgh, EH12 5EE. (Add £0.35 for postage and packing of a single copy to an address in the UK.)

**Bennet McInnes is a retired astronomer who was secretary of Christians in Science in the 1990s. [bennetmcinnes@fastmail.fm]**

**Alister E. McGrath**

***The Science of God***

London: T & T Clark, 2004. 271pp. pb.  
£9.99. ISBN 0-567-08353-5

Professor McGrath is a well respected and prolific author in the field of theology and science. This work is a follow up to a previous three volume work, *A Scientific Theology: Nature, Reality and Theory*. The aim of this book is to bring the essential elements of that work to the wider audience, to share with them the themes of systematic theology and make the level, style and length more accessible. As a consequence of its roots, the book breaks down into four chapters: the first an introduction where McGrath sets out the basic principles for the work and then three chapters, each covering one of the original volumes, though they can be read in isolation. As the original work was twenty years in the making this should be a well thought through book that distils out that which is necessary for the wider audience. As I have not read the original work, this is difficult to judge but the current volume is coherent and logical.

McGrath goes to some length in the introduction to ensure that we understand that scientific theology is a system, that is that bits come together to make up something greater than the component parts and that it is fundamentally Christian in its foundation and approach. He also stresses that his desire is to develop a *public* theology rather than one isolated from the mainstream. If this is among scientists and theologians then he has probably succeeded but if it is much wider then I think he fails to fulfil that aim. His approach is to use whatever methodology or ideology is appropriate and yet he is also aware of the risk of using other ideas in Christian theology. But as might be expected he plumps for the scientific method of the natural sciences as he believes this selection is the basis of the argument. And he requires it to be founded in Christian orthodoxy as this surpasses time and individual situa-

tions.

McGrath addresses the question of ‘what is nature?’ accepting that it is a difficult challenge, and concludes that it is an interpreted concept. The biblical concept of creation is the next subject to be tackled, which is handled well given the aim to make the book accessible, and this leads sensibly into the implication of a Christian doctrine of creation. As part of the journey to generate a natural theology, there is discussion of the creative order in relation to other trains of thought such as Greek philosophy and this is particularly enjoyable as he seeks to establish the connections between God’s creation and God as creator. One quickly feels that the proof of a natural theology is unlikely as a result of the premise of the argument but the debate is entertaining. There are odd occasions when it really feels as though McGrath has an agenda and will not be swayed from it but his arguments with others are handled well, although I felt that he was hard on those who had surely only attempted to do what he was doing, that is, move the argument on.

Having examined the natural sciences, which according to McGrath are there to develop theories to explain the world, he moves into the chapter entitled *Reality*, since theories work because they relate to the way things really are. It took a while before I knew what this chapter was about but the use of examples really helped to clarify the issues. Yet I find it difficult to give a quick flavour of the content. What I did take away from it though was the need for a scientific theology to be an a posteriori response to reality, which is perhaps all too easily forgotten in the bid for advancement.

How scientific theories and Christian doctrine are developed in response to reality is why *Theory* comes last. According to McGrath a scientific theology holds that theories, whether scientific or theological, are not free creations of the human mind but are rather constructed in response to an encounter with existing

reality. Hence, Christian Doctrine is a Christian form of theory. McGrath separates out 'doctrines' as theories that all Christians subscribe to and 'opinions' as those proposed by groups and individuals but not considered as binding. He clearly subscribes to the phrase: 'All models are wrong but some models are more wrong than others' in that he accepts that we are limited in our ability to represent things. Theories arise because of our need not only to describe things but also explain them and yet McGrath appears to be always critical at the point of failure while in the same breath accepting that the theory will fail. Sensibly, though he asks the question, what happens to theories when they are proved wrong? Are they refined through advancement or do they have to be completely abandoned? Not surprisingly the answer is that we do not know and so it seems hard to be so critical when the developers of the theory were only doing the best they could at the time (assuming no prejudged agenda).

Despite his criticism of others he opens himself up to scrutiny of others in the conclusion. The scientific theology he develops he sees as a system and almost as a meta-narrative that is still applicable at the small scale and he attributes the success of the system to the fact that it is applicable to both large and small issues. It is able to offer an account of the existence, shape and form of the Christian community. He is quite happy to accept that at the end of the day this work and his proposals for the future are unlikely to answer all the questions we have but he hopes that at least the journey of faith is more interesting as a result. This I believe he has certainly achieved.

**Andrew Ison is the Anglican vicar of the Bestwood Park with Rise Park LEP in Nottingham and a former senior lecturer in biochemical engineering at University College London.**

### **Angus Menuge**

#### ***Agents under Fire: materialism and the rationality of science.***

Oxford: Rowman and Littlefield, Inc, 2004. 233 pp. hb. £24.22 ISBN 0-7425-3404-9

Angus Menuge is a philosopher specialising in the philosophy of mind at Concordia University, Wisconsin. His initial academic training was in the UK. He has risen already to moderate prominence in the intelligent design (ID) movement in the USA and this volume finds general inspiration from that source. That will be sufficient to prejudice some academic opinion against his ideas from the outset; for the ID party is controversial. However, the misconception that ID is little more than disguised 'scientific creationism' is very wide of the mark. Recent conferences on the former subject, involving Nobel laureates and the new President of the Royal Society, would be inconceivable were they addressing the latter topic. In any event, followers of the Teacher of Nazareth should be prepared for a bit of controversy and give a man a fair hearing irrespective of the company he keeps!

Despite ideological disagreements, philosopher Michael Ruse contributes a Foreword stating that Angus Menuge has set out a good case – which he would like to see refuted! He notes that, though Menuge writes with strong convictions, he is 'polite with his opponents and careful with their arguments'. The aim of this book is to provide a rigorous defence of the intuition that scientific materialism is incoherent because it rests on presuppositions that are incompatible with its central claims. Materialism's apparent strength rests on careful concealment of borrowed capital. Menuge's special focus is upon the irreducible personal category of *intelligent agency* (IA), against the views of reductive physicalists and others. The book is structured in eight chapters, clustered in groups of 3+3+2. Each chapter is documented with an average of 68 references to classical (e.g. Bacon;

Aquinas) and contemporary academic discussion. Notable sparring partners are Blackmore, Churchland, Dawkins, Dennett, Jaegwon Kim and Pinker.

Central to the argument, and particularly chapter 1, is a classification of reductionism into three types, originally due to Churchland. These are: *conservative*, *reforming* and *eliminative*. Conserving reductions (e.g. of temperature – to molecular statistical motion) give a more fundamental reconception but retain the original concept. More disconcertingly, reforming reductions (e.g. of mass – from Newtonian to Relativistic mechanics) alter the concept in a startling but not devastating manner. Most radically, eliminative reductions (e.g. of phlogiston) dispose entirely of the former concept. These examples show that there are special contexts where all of these types can be appropriate in advancing scientific explanation and understanding. Menuge proceeds to consider varieties of proposed *agent reductionism*, where *agency* itself has the defining characteristic of *intentionality*. Conservative reductionists (identity theorists), reforming reductionists (functionalists) and eliminative reductionists are succinctly surveyed. The discussion then morphs into consideration of two particular stances: *strong agent reductionism* (SAR) and *weak agent reductionism* (WAR), the former denying the ultimate legitimacy of all notions of agency, including human agency, viewed as a useless relic of folk psychology. These two positions are cogently critiqued in chapters 2 and 3, respectively. Although unmentioned, Michael Polanyi's concept of tacit knowledge is cognate to Menuge's position, as are Thomas Nagel's views – which are treated.

To set up the further debate, Menuge recognises four major stances arising out of debates over origins. These he labels: Darwinism (meaning the stance of Dawkins and Dennett), self-organisation, theistic evolution and intelligent design. To maintain brevity, he concentrates

upon the first and the fourth (ID). This polarised approach is both a strength and something of a weakness of the volume. It is unfortunate, incidentally, especially for UK readers, that the first pole is termed simply 'Darwinism', when what he might say is 'extreme Darwinism'. In chapter 4, the author rehearses many of the arguments of Behe concerning irreducible biological complexity. To a scientist, prepared to wait a while upon possible further mechanistic discoveries, these are less convincing than the very strong case for *eliminatively* irreducible human psychological agency, made negatively in chapters 2, 3 and 5 and more positively in chapters 6 and 7. The later discussion develops cogent arguments of C.S. Lewis and Alvin Plantinga. Moreover, it is a case that can claim strong support from Christian theism, as in the Johannine prologue, for which the logical and temporal priority of personal divine intelligence over the material world, and the identity of humankind as *imago Dei* are revealed axioms. Let Dennett dismiss these as 'skyhooks', if he so pleases!

Angus Menuge has written a volume of real merit and integrity that deserves patient and careful study. As an academic monograph, it presents numerous crucial issues for the dialogue between science and religion with detailed arguments and documentation. Highly recommended.

**David Watts is Professor of Biomaterials Science at the University of Manchester in the Photon Science Institute and the School of Dentistry.**

**Rodney D. Holder**

*God, the Multiverse, and Everything*

Aldershot: Ashgate, 2004. 211pp. hb.

£45. ISBN 0-7546-5116-9

Modern physics describes a universe which appears to be remarkably 'fine-tuned' for life. If the ratio of the strengths of the four fundamental forces of nature (gravitational, electromagnetic, weak and strong) were other than they are to a very high degree of accuracy, stellar evolution could not have occurred, chemical elements could not have been built up to allow carbon based life and the universe would not have lasted long enough for life to evolve. If the ratio of the masses of the electron and proton were not as they are, the long chains of molecules which make DNA and other structures in biochemistry would not be possible. Even the fact that we live in a universe which has three spatial dimensions is necessary to allow both stable atoms and stable solar systems. Apart from the values of such parameters, the initial conditions of the big bang itself have to be carefully selected to ensure a universe which will last long enough, have the right amount of inhomogeneity and the right amount of order to ensure that, after about fifteen billion years, intelligent life will evolve to observe it.

There are three possible responses to fine tuning. The first is to say 'well we just got lucky – there is only one universe and it clearly has the correct parameters for life or else we wouldn't be here talking about it – it is a brute fact'. The next is to postulate the existence of an infinite set of universes – the multiverse. Each of these universes can have a different set of parameters and initial conditions, and, the argument goes, if all the possible combinations of these occur, then the existence of our universe becomes if not inevitable, then at least quite probable. Finally we can see the fine tuning as evidence for a creator.

In *God, the Multiverse and Everything* Rodney Holder gives a scholarly, wide

ranging, and invigorating introduction to, and assessment of, these competing views. The book gives a clear and helpful overview of physicists' current theories of the origin and evolution of the universe including the range of possible multiverse theories (spatial, temporal and other dimensional) and then uses Bayesian statistics to assess the merits of the three hypotheses of a single universe, a multiverse and a designer. The first of these is 'disconfirmed' by Bayesian analysis, leaving the idea of a multiverse as the sole competitor to a creator as the best explanation. Holder then subjects the ideas of a spatial or temporal multiverse to close critique and finds them wanting.

One important blow to the multiverse theory is that an infinite, though necessarily countable, number of actual universes in a multiverse is not enough to ensure the existence of a life-supporting universe within it. Indeed, if the number of possible universes (in terms of possible choices of initial conditions and parameters) is uncountably infinite it may mean that the probability of the existence of a universe such as ours is zero. However Holder circumspectly notes that if the number of possible universes is also countably infinite then this criticism loses its force. It should be remembered that issues of whether the number of universes is countably or uncountably infinite, or whether there is a multiverse at all, are in themselves speculative and thankfully throughout the book Holder is a balanced guide to the creativity of modern cosmologists!

The third type of multiverse (other dimensional) is given relatively little discussion. This is a pity, especially given that one form of this class, the many worlds interpretation of quantum mechanics, is quite popular amongst cosmologists. Further, the many worlds interpretation has the intriguing property that (according to David Deutsch) it may be testable using quantum computation, thus potentially moving it from the

realm of metaphysics to physics (a feat which spatial and temporal multiverse theories cannot achieve).

This last point is however a minor quibble; *God, the Multiverse and Everything* is an excellent, engaging and fasci-

nating book, which will surely help to inform and provoke serious debate on the issue of cosmological design in the future.

**Dr Mark McCartney is a lecturer in mathematics at the University of Ulster, Northern Ireland**

### **Can we be sure about anything?**

*'There is no such thing as truth or objective reality, there is only opinion and subjective impression.'* That is the view being propagated by adherents of the postmodern agenda, although it is curious to find academics arguing for the truth (!) of such an assertion. It has implications for both science and belief, each of which depends upon belief in truth in an important sense.

A book with the above title (sub-titled 'science, faith and postmodernism') was published last year. In his introduction the editor (Denis Alexander, editor of this journal) writes:

*'Those in the humanities find scientists irritatingly arrogant as they display a high level of confidence in their latest scientific findings. Conversely scientists despair at the way in which those in the arts are so ready to tell them that what is true for one person might not be true for another, and vice versa.'*

The book addresses a range of issues raised by the variety of ideas collectively known as postmodernism. Six of the twelve chapters originated from talks at a day conference held by Christians in Science, and the remainder have been added. They address widely different aspects of the topic, including history, philosophy, biblical interpretation, values, the practice of science, quantum mechanics, geology and the media. Despite their different styles and subject matter, the editor and authors have produced a book which demonstrates effectively the weakness of the postmodern thesis in various contexts, and, interestingly, shows the considerable extent of the common ground between science and the Christian faith.

**The book is available from the Publications Secretary of Christians in Science: John Bausor, 16 Walter Road, Wokingham, Berkshire RG41 3JA, tel; 0118 978 2902,**

**for £14.30 (including P/P), or from booksellers.**

***Can we be sure about anything? – science, faith and postmodernism*, Denis Alexander (ed.), Leicester: Apollos 2005, 256 pp, £12.99, ISBN 1844740765**