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## Editorial

In this edition of the journal, Colin Hull brings to life the work of Duns Scotus, a significant, but perhaps latterly neglected, medieval voice calling us to approach our theology with cosmological and scientific eyes. Balancing this, Dave Gregory's survey of scientific literacy amongst UK Baptists ends with a plea that we do not lose a sense of wonder and mystery when we contemplate the cosmos either theologically or scientifically.

I recently wrote to all (UK) members of Faith&Thought asking for some feedback on our activities. I received 23 responses with the following broad observations. 83% said they read the journal regularly and many commented that they found the book reviews to be especially useful. In contrast, only 30% were aware of the existence of our website, and it is worth reminding readers that this contains full audio or PowerPoint versions of all the talks delivered at our Annual Symposia over the last 5 years [www.faithandthought.org.uk](http://www.faithandthought.org.uk)

On this note, I would like to personally apologize for printing the questionnaire postcards backwards – the glossy side was impossible to write on and should have been the address side obviously! I am sorry for the inconvenience this caused, and I'm very grateful to all of you who found creative ways to respond in spite of this barrier.

I am delighted that we have received some letters responding to earlier articles. Such dialogue and debate is always welcome, and I would remind readers that feedback on any of these articles or other activities can be sent to me at email [drapkerry@gmail.com](mailto:drapkerry@gmail.com)

# **Evolving Scotus: Existence of God and Primacy of Christ**

**Colin Hull**

*Colin Hull is a Materials Analyst and part time Ornithologist and Conservationist. He is a Reader (Lay Minister) in the Church of England and a member of the Third Order of the Society of St Francis. Here he writes about John Duns Scotus the Franciscan and two aspects of his philosophy. Maybe we can rescue him from his medieval obscurity and find new meanings and applications of his philosophy and theology today.*

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## **Rediscovering Scotus**

John Duns Scotus (c. 1265 - 1308) was one of the great medieval scholars of his time. I first heard about him in a talk by Fr Richard Rohr OFM several years ago. Rohr spoke of him as having a very different philosophical and theological stance to Thomas Aquinas whose influence came to dominate the Catholic Church. Scotus produced a “proof of God” as Infinite Being. He is also known for a number of other philosophical stances, based upon God’s freedom of will, that give a unique flavour to his outlook and which are well worth the re-visit and consideration today. As one of the great thinkers in Franciscan tradition Scotus provides some interesting avenues to explore as a background to a theology of God and Christ to reflect upon within a modern cosmological viewpoint.

There are now many more Scotus resources available for study including commentaries and translations of his works into English. There are problems with Scotus however in respect of getting at his philosophy and theology. He is not an easy person to read first hand. He often takes a simple question and gives complex answers in an argumentative style, closely and carefully examining the views of others and either accepting, rejecting or modifying their arguments in a such a way that is not always clear what his actual views are. He often seems to fail to give a simple summary (that I would prefer). He wrote for academics and has none of the easy read theology like for instance Bonaventure. I have therefore relied on other Scotus experts and online sources to get at his major themes and stance as well as trying to wade through translated texts from *Ordinatio*<sup>1</sup> and his “*De Primo Principio*” (Treatise on God as First Principle, TGFP)<sup>2</sup> and attempting to summarise in my own words for myself the themes that arise. Despite these difficulties I think he is well worth the effort at getting to know and explore from our own perspectives today.

## **Franciscan heart**

Scotus' arguments seem to be extensive and technical in nature however Seamus Mulholland<sup>3</sup> reminds us that he was also a deeply spiritual man, nurtured foremost in the tradition flowing from Francis of Assisi. It may be forgotten that Scotus was Franciscan first and a scholar second. His theological and philosophical efforts stem from his love of God and sense of God's love for him and all creation. As an example of this TGFP starts with a prayer asking that he may be able to demonstrate things about God by reason. The work has other prayers in it and his summary and epilogue is a thanksgiving for what he thinks he has been able to demonstrate from his argument. Always for him knowledge and rational inquiry must lead to love and devotion and is not an end by itself.

## **Apologist**

Scotus is in many ways an apologist for Christian faith. His writings have the character of trying to find reasoned arguments to support the received teachings of the church. He does not often quote scripture yet seems instead to try to find reasons for the faith contained in the scriptures, seeking to probe and demonstrate the truths that are derived from it. Christians today often seek to defend scripture using scripture but Scotus seeks to find other reasons for doing so. There is so much that could be considered about Scotus in the context of apologetics, science and the modern world but for the remainder of this article I want to confine myself on this occasion to two things which may be usefully explored.

- 1) The Existence of God: First, Final and Infinite
- 2) The Primacy of Christ

## **The Existence of God: First, Final and Infinite**

Can one prove the existence of God by rational argument? The question and the challenge to do so was a feature of thirteenth century scholastic education. Perhaps it remains a challenge today too. When people no longer believe simply because of things written in scripture it may still be a live question today. Can Scotus help us in the way he approaches the challenge? In *Ordinatio* vol 1, distinction 2 and in TGFP Scotus sets out to argue that there is an Infinite Being. It is an elaborate set of arguments that he sets out in steps to show there is a First and Final Cause to the world, that God is the most Pre-eminent Being and that this Being is also infinite. The steps and conclusions in his argument are all worth exploring in a modern context. Perhaps we would not argue today precisely as he does but the question of trying to prove an Infinite Being exists and his answers may be worthwhile to

consider in how we might answer and have links with the world as we know it today.

### *First Cause*

The first part of his argument is that there is First Cause of the cosmos (and hence a first cause in the processes of evolution). The argument is that God is the initiator of cosmic life events. It may have been the case that Scotus was trying to make a rational case for a creator, to support the claims of scripture, and a point at which creation occurred rather than a static view of the cosmos in some Greek thought. We know from science today that the cosmos did have a beginning about 13.7 billion years ago. There are those who today argue around the Anthropic Principle (that the forces of the cosmos are ripe for our existence and not some potential accident) and so perhaps are doing a Scotus thing related to the First Cause. Or we may also ask ourselves, can we provide a First Cause argument today and how would we do so?

Personally and spiritually I relate this First Cause principle and argument also to the recognition of our origin with all life and the equality of all life derived from that original cause. Such a view of a united origin of things must affect how we see all the diversity of creatures and people in their unique individuality as coming from the same Love that is our common origin and a unity of life that undergirds all and every difference. This is part of Franciscan tradition and an important one. In a world and culture where competition is such a valued thing the emphasis on equality and diversity of creatures and people is much needed; the graced uniqueness flowing from the original will and action of God. I would also see this “First Cause” as not just testifying to an original act of creation but about a God who is also and always the initiator of revelation and the initiator of new things that may flow from natural processes and human activities.

### *Final Cause*

The second step in his argument is that that there is a Final Cause. It is an argument that God is such that He wills and moves things to an end. In the order of things actually the Final Cause precedes the First cause because it is based on God’s prior will to move things to an end. God wills before God acts. There is much in Scotus works that point to God’s will being a more important thing than knowledge, and the divine will comes from the character of the divine love. Perhaps this again came from his Franciscan background in which Francis was always seeking to discover God’s will for himself and the brothers and to carry it out faithfully.

In TGFP the Final Cause is specifically linked with the “Beloved”, that things are moved and destined for the Beloved. The Beloved is the reason for creation and the reason for God’s other acts. It fits with the opening of the gospel of John that things were “made” through and for the Logos (Word). But I wonder if moving things towards an end for the sake of the Beloved, can in fact also be acts towards an end for all the beloved, hence for all that God loves.

In further respect of the Final Cause perhaps we may need also to argue for evidences today that the cosmos and life are moved to a purpose and not just the result of random and contingent events. Do we in fact find purpose in nature and what evidence can we provide for a purpose in the evolution of life? Where do we find evidence of purpose of the Word moving to an ending? How do we convey and convince others of this purpose and God’s future or is it just a matter of faith?

### *Infinite Being*

I will skip over Scotus’ argument for Pre-eminence and go straight to “Infinite Being”. He argues from God’s Pre-eminence of knowledge and so much that needs to be known that God must be Infinite. Whatever we make of Scotus argument and why he argued it perhaps we need to see that description of Infinite Being today in relation to the immensity of the cosmos in time and space, with its beginning billions of years ago and also the huge multitude of galaxies and clusters of stars and potential unnumbered worlds that may possibly be full of life and most likely to be uniquely different. Here too there is the possibility of other worlds on which other free-willed creatures may have evolved from very different circumstances to our own. So we have God of the immensity and greater than the immensity. We have a God of millions of unknown and as yet undisclosed life and purpose on other worlds.

It’s hard to picture and understand infinity. A God who is Infinite Being must then seem to defy any easy description and can only be known by relating to Him through imperfect images that seem to make sense to us. The Infinity of God is also related to Eternity, of something before the “beginning” and going on to something we cannot even imagine in some far off future both for this planet and all its life, and the whole future of what is possible for all worlds. Spiritually we must see ourselves in relation to this immensity and infinity. Spiritually such a theme of God’s infinity and the vastness of a loved cosmos should call us to humility. What is all our material striving in the midst of this infinity and this Infinite Being whose name and character we find in Christ as Love? How does such a picture of an Infinite God stretch our mind and imagination and therefore our direction in our life and decision making?

## The Primacy of Christ

I have already mentioned that Scotus relates God as Final Cause to the “*Beloved*”. Look up Scotus in many sources and you will find “*The Primacy of Christ*” as one of his most famous philosophical and theological themes. Although often spoken of as the Primacy of Christ this really means the Primacy of the Incarnation. Scotus is famous for taking a very different view of the Incarnation. The prevailing view at the time (including Aquinas) and since is that the Word became incarnate in the man Jesus in order to accomplish salvation. Scotus alternative argument is set out in *Ordinatio* 3, distinction 7. He asked “*Whether Christ was Pre-destined to be Son of God*”. In his lengthy answer he makes the following main points.

- Predestination is the pre-ordering of someone to glory and things related to this glory.
- Christ was special and first in His predestination to glory
- God predestined Christ to glory before all others.
- This would have happened even if the “fall” of Adam and Eve into disobedience and sin had not occurred.

More simply Christ’s predestination was the best of all good that could occur in the created world and therefore did not depend upon the “fall” of humanity. The Incarnation was pre-ordained before humanity sinned. Scotus is of course sure elsewhere that Christ accomplished salvation as part of the incarnate existence but this was not the primary cause of the incarnation.

Although Scotus was famous in making this theological claim about the Primacy of the Incarnation over redemption he was not the only Franciscan to do so. It had already been expounded before in different ways by Robert Grosseteste<sup>4</sup> at Oxford and Alexander of Hales in Paris<sup>5</sup> both of whom were influential on other Franciscans. This is therefore a special Franciscan emphasis. It places God’s will to have the divine nature united first and foremost with a created being in whom there will be a unity of will as the focal point for the rest of creation.

In evolutionary terms we can therefore say that the whole evolution of humanity culminates in this unity of the divine and created being. Christ is and was destined to be the apex of God’s creative work. It is a foreordained purpose that then includes God’s will for all of us to be united with the Trinitarian life, with Christ as the first and most perfect example of that union. The secondary purpose of acts of salvation in Jesus Christ comes because humanity has freely deviated from our intended purpose. It becomes a necessity of the consequence of human moral immaturity and deviation from God’s good will that we must be rescued by the Incarnate Word in an

act of saving grace, but He would have come into flesh even if we had developed into perfect beings as God intended.

A Primacy for the Incarnation of the Word in Jesus, predestined before all else on earth may point to an even greater view of the love of God that unites with other parts of the cosmos in acts of union. Let us acknowledge the bible is most concerned with humanity, our potential and failure, in need of God's saving acts. However the incarnation may actually point beyond humanity to truly cosmic dimensions and a God who loves the whole of the cosmos and not just our insignificantly tiny corner of space.

I consider that the Primacy of the Incarnation can be invoked in a special way in the question of extra-terrestrial intelligence. If as many scientists believe the cosmos is populated by other worlds capable of evolving free-willed intelligence then the question of how God may be related to such beings comes into focus. Would such beings also be potentially "fallen" and in need of a saviour? Even without a "fall" maybe God also becomes manifest in their "flesh" as the Word gains union with their flesh as He did with ours. It could be that there is the one Eternal Word united with many sorts of flesh throughout the cosmos, and in this way uniting the whole cosmos in Himself within the Trinity. Many intelligent species are then represented within God and united to God.

Such a theme has also been explored by Ilia Delio who considers the question in relation to a reading of Bonaventure<sup>6</sup>. The point here is that the Primacy of Christ in the Incarnation points to the nature of the Eternal Word that may be made manifest in other intelligent beings, even apart from any consideration of the sin of humanity or any other being. Perhaps it is the height of our conceit to have a view that God favours our tiny corner of an immense universe with His favour and not anywhere else. Perhaps therefore Scotus and other Franciscan emphasis upon the Incarnation coming first in God's will may today make us think again and have a truly cosmic vision of a cosmic creator and not simply an earth and humanity creator.

For me the Primacy of the Incarnation has one other important application. From the point of view of evolution suffering and death has always been present as a consequence of the very fabric of the cosmos that develops freely in stages. Contrary to the simple biblical image of perfection followed by the fall of humanity, bringing death, we now know that all things die and people die quite apart from any consideration of sin and human deviation from the divine life. Death has been present on earth for as long as there has been life that is finite and limited and can die. It has been the order of death that has progressed evolution and responsible for change. Therefore the Primacy of the Incarnation means that in a sinless world the

Incarnation of the Word would still have entered into a suffering world. Maybe in a more just and sinless world Jesus could have lived and died as a great old man, but die he would have done as a finite human person in a free universe. In Him God the Word would still have shared in the death of all things, even if this was still followed by Resurrection that pointed to a greater future end.

## **Final Word**

I began a study of Scotus because I am a Franciscan and as part of personal devotional study. But I share this in the hope also that people other than Franciscans will take the time to rediscover this medieval philosopher and consider, if like me, they can find things of value in his works for today in the dialogue between faith and science. I modestly also offer my study site [www.cosmicscotus.com](http://www.cosmicscotus.com) as a further resource for thought and devotion where I also list other sources and resources. You may not agree with it all but I hope I can stimulate thought and discussion. Scotus was a Catholic and perhaps a bit obscure as a historical figure but I hope that we can rediscover things of value from him in our time whatever tradition we come from.

## **Further note:**

Scotus was canonised by the Pope John Paul II on 21 Mar 1993 as “The Blessed”. Annual Feast day is the 8<sup>th</sup> Nov.

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<sup>1</sup> Scotus, *Ordinatio* – ed Simpson, Online texts at <http://aristotelophile.com>

<sup>2</sup> Scotus *Treatise on God as First Principle* – Online at <http://www.ewtn.com/library/THEOLOGY/GODASFIR.HTM>

<sup>3</sup> Information about Robert Grosseteste, online at <http://plato.stanford.edu/entries/grosseteste>

<sup>4</sup> Information about Alexander of Hales. Ilia Delio *Revisiting the Franciscan Doctrine of Christ*. [http://web.sbu.edu/friedsam/ereserve/coughlin\\_reserve/Delio\\_4.pdf](http://web.sbu.edu/friedsam/ereserve/coughlin_reserve/Delio_4.pdf)

<sup>5</sup> Seamus Mulholland “*A Gasp of love. Duns Scotus, Franciscan Theologian and Mystic*”. Franciscan International Study Centre 2011.

<sup>6</sup> Ilia Delio “*Christ and Extra-terrestrial life*”, *Theology and Science* 5 (3), 2007.

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# **Wonder and Wondering**

## **Baptist Attitudes to Science - A Preliminary Study**

### **David Gregory**

*(Rev Dr David Gregory is the Senior Minister of Croxley Green Baptist Church, and a former meteorologist)*

#### **Abstract**

This paper presents the results from a survey into attitudes to science and faith among clergy and laity of Baptist Union churches in the Southern and Central regions of the United Kingdom are presented. Berger's "Cognitive Minority" model is employed to suggest possible attitudes. In contrast to the common perception of conflict, an overwhelmingly positive view of the relationship between science and faith is found. Most commonly shaped through experiencing the natural world, an approach for a deepening engagement with science within faith communities through a focus upon wonder alongside rational engagement and debate is suggested.

#### **1. Introduction**

“Sir, how can you be a Christian and a Scientist  
as you have to believe in evolution as a scientist?”

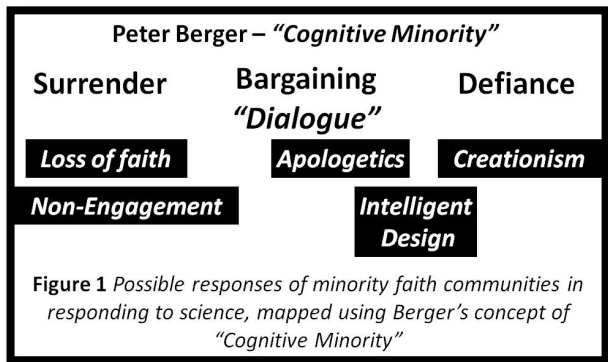
This question, from a teenage member of a Christian faith community at the end of a talk on Climate Change at a typical English secondary school, encapsulates a common perception, both within society and faith communities. Namely that the worlds of science and faith are poles apart, they are mutually incompatible, like oil and water, they cannot be mixed.

Yet, is this perception is correct? Are those who are members of churches within the United Kingdom of the view that faith and science are in conflict? This paper explores this question, focusing upon one particular stream of this faith community - churches of the Baptist Union of Great Britain (BUGB). Results from a preliminary survey of attitudes to science and faith are presented. The survey addresses attitudes and engagement with science, as well as confidence in discussing a selection of current scientific issues that engage both theological and moral perspectives. Responses from both ordained and lay members of the churches are contrasted, and

the ability of ministers to stimulate discussions regarding scientific issues with their local churches considered. The question as to whether the perception of conflict between science and faith, often assumed to be dominant in wider society, shapes attitudes within the life of this group of churches is explored.

## 2. Encounter

The vigorous declaration of the triumph of the scientific world view by “neo-atheists” over the past decades, aided by the stunning computer animations of popular TV science programmes depicting the moment of the Big Bang and bringing dinosaurs to life, have helped to maintain a sense of sense of separation between science and theology, and indeed the triumph of science over religion.



However, in the face of such an onslaught, Berger’s concept of “Cognitive Minority”<sup>1</sup> suggests a wider range of responses from a minority holding faith world views (figure1).

Some “surrender” – not necessarily giving up on faith but choosing non-engagement out fear of science’s ability to de-construct the community’s perspective. Alternatively, others may fail to see the relevance of science to life or ministry, resulting in non-engagement. This resistance in a more active form is characterised by “defiance”; defending faith world view based upon sacred texts, emphasising contradictions and inconsistencies of scientific views in an attempt to undermine them and bolster their own position. Both “Creationism” and “Creation Science” fall under this characterisation. The related “Intelligent Design” perhaps moves towards the middle response – “bargaining” – accepting parts of the scientific description of the world, but pointing to the absurdity of a purely rational understanding in the face of the seemingly improbable co-incidences and connections needed to bring it about. “Apologetics” – a defence of a faith employing rational arguments – might also be categorised as part of this middle ground. Appreciating the wonder that science discloses while arguing that this

points beyond the bare material, it might be viewed as straggling the boundary between “bargaining” and “defiance” in that it suggests the majority materialistic view is only partial.

Speaking of any minority “bargaining” is defensive. “Dialogue” is a more open term, implying a willingness for both perspectives to learn from one another, perhaps both needing the other to gain deeper insight. Indeed, over the past fifty years there has been much reflection upon the encounter of science and faith within the academic community of the United Kingdom, continued in the present by several institutions such as the Ian Ramsey Centre for Science and Religion at Oxford and St John’s College, Durham, along with The Faraday Institute in Cambridge. However, academically, the conversation has been uni-directional, more often with science shaping theological insight, such as in the development of Whitehead’s Process Theology, drawing upon notions derived from evolutionary theory<sup>2</sup>

Beyond academia, the position a particular stream of church, or any particular local faith community, might take in the face of the culture of science will vary according to several factors.

- Their understanding of God’s revealing of himself through sacred texts and nature.
- The level of scientific literacy and comprehension within the community.
- The importance attached to scientific topics by its leaders may also be a factor, and
- The perceived threat of the scientific world view.

### **3. The Survey**

A survey was carried out in the autumn of 2013 and spring of 2014 among clergy and lay members of Baptist churches. The survey size is small and was geographically limited. Sixteen nationally accredited ministers who attend the Hertfordshire Ministers Group responded. Thirty-eight members of a year-long lay-training programme (Footsteps) from churches in the Central (CBA) (Buckinghamshire, Hertfordshire, Bedfordshire, Northamptonshire and Milton Keynes) and Southern Counties (SCBA) (Berkshire, Oxfordshire and Hampshire together with the Channel Islands) Baptist Associations also completed questionnaires. The survey was identical for both groups, although contained additional questions for ministers regarding engagement with science during

ministerial formation and their overall confidence in addressing scientific topics in their ministry.

The study was in part stimulated by a survey undertaken at St John's College Durham, seeking "effective strategies for equipping Christian leaders to engage confidently with science-based issues and in the science-religion dialogue"<sup>3</sup>. This was an interview based survey of 14 senior church leaders across several denominations with half being Anglican. In contrast, the group undertaking the current survey although being from a single denomination, were from local church communities and comprised both laity and clergy. The survey focused upon attitudes to and confidence in discussing a range of scientific subjects, at a popular level, rather than attitudes to specific theories. This may make responses more difficult to interpret, although given the broad scientific educational background of the participants, more specific questioning may have been difficult.

#### **4. The People**

The age demographics of each group undertaking the survey show a peak in the over 35s, although the spread of ages among those on the Footsteps course is wider, peaking in the lower age bracket 36-49 compared to 50-65 for ministers. Only one of this latter sample was younger than 35, perhaps indicative of the later age that people enter ministerial training in recent decades within Baptist Union churches.

Surprisingly, a large proportion of both cohorts showed a level of scientific educational attainment to degree level – 37% percent of ministers, 43% of local leaders. This appears to be significantly above the national average for such scientific education. A 2013 report from Office of National Statistics<sup>4</sup> reports that 38% of the working population of the UK were graduates. While in 2012, the House of Lords report into "Higher Education in Science, Technology, Engineering and Mathematics (STEM) subjects"<sup>5</sup> concluded just over 40% of graduates in the previous decade had studied such disciplines. Assuming this proportion had been similar over previous decades, combining these figures suggests around 15% of the UK employable age population having post-18 qualifications in science.

Against common perception, and perhaps a tendency within Baptist culture to resist academic engagement in favour of local activism, this suggests Baptist communities have greater scientific literacy than the wider population. However, several factors may bias this finding. Within the geographical confines of the survey – the south of

England - engagement with post 18-education may be higher than average, although the mobility of ministers means they are likely to have originated from a wider geographical area. The later entry into ministerial formation and the requirement for graduate academic theological qualifications for national accreditation within the Baptist Union may lead also to bias, as selection procedures may favour those with previous academic qualifications and background. Further, it might be asked whether lay members with a science background may be more likely to engage in the Footsteps course than others because of their enjoyment of exploration and discovery. Regardless, the results suggest an ability within the Baptist community to engage with scientific issues.

## **5. Engagement**

Although a small number of those on the Footsteps course disagreed (5%), regardless of educational attainment, both groups showed a strong majority view that keeping abreast of current scientific developments and views was important – 96% of ministers and 76% of lay members. This interest is fed primarily through engagement with popular media. Only a single individual from either group indicated engagement with academic sources.

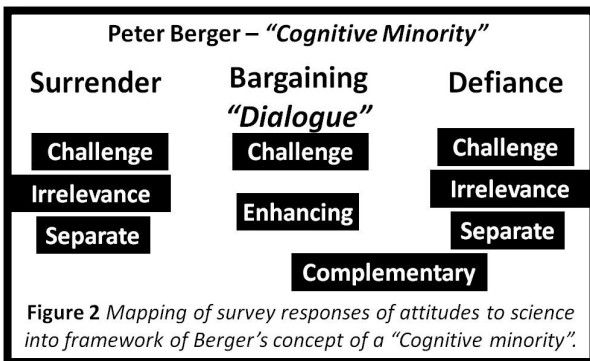
Despite the high level of interest in science, and high scientific literacy within the church, those responsible for teaching do not appear to engage widely with this area. While 35% of laity reported having heard a sermon on a scientific topic during the previous two years, a further third had never heard such a sermon. This contrasts with perceptions from the ministers group, with a much high percentage (over 60%) claiming to have heard a sermon on a scientific topic in the past few years, and over 70% having given a such a sermon in the previous two years. This discrepancy might be due to comparing responses from groups that have little overlap with regard to the churches they represent. Inadequacies in the specific survey question may also lead to differing perceptions. While a sermon may contain an illustration that draws upon scientific ideas, the sermon as a whole may not address solely a scientific topic.

## **6. Attitudes**

The common perception within society is that science and faith are in conflict. Berger's analysis suggests the possibility of a broader range of responses. As does Barbour's categorisation of different theologians' approach to science since the Reformation; conflict, independence, dialogue and integration<sup>6</sup>.

A perspective of conflict sees science as antagonistic to theology, and vice versa. Barbour identifies this stance with extremes of scientific materialism and biblical literalism. Independence affirms the validity of each discipline within their own respective spheres. The protestant neo-orthodoxy of Barth exemplifies this position, with its focus upon the revelation of God and distrust of natural theology. Dialogue is more open to points of conversation between different fields, both in methodology and understanding. Barbour suggests Rahner's exploration of correlations between evolution and theological views of humanity and Christ is an example of this approach. Integration takes this conversation further, theological views being shaped primarily by scientific perspectives, such as in Whitehead's Process Theology or by a response of wonder to the revelations of science or creation, such as in theologies that espouse a sacred element to nature.

Here, participants were asked to characterise their attitude to science with respect to faith under five broad headings; challenge, irrelevant, separate, complementary or enhancing. These resonate with Barbour's characterisation; Challenge with conflict, irrelevant and separate with independence, while Barbour's dialogue and integration broadly map onto complementary and enhancing. Barbour's mapping of different theological perspectives to these alternative positions suggests that the theologies owned by the participants may shape their answering to the survey question. However, in reality, correlations are likely to be complicated. Influences upon a person's theological stance may be fragmented across different issues, drawing upon a variety of different traditions. Further additional questioning regarding how participants would characterise their own theology would be needed to clarify a possible correlation, lacking in this current survey.



There is no direct correspondence between these and Berger's categories, reflecting upon their possible relationship gives insight into how reported attitudes might be understood. (Figure 2).

That science challenges faith might be categorised under all three of Berger's positions. Some respond to perceptions of the challenge of science through non-engagement. Others, by emphasising faith truth claims over and above scientific perspectives. An attitude that science is irrelevant, or the separate nature of the narratives of science and faith might be seen to fall under both surrender and defiance.

While challenge can be part of dialogue, a view of science and faith as complementary or enhancing resonate to a fuller extent with this categorisation. Complementary may also overlap with the characterisation of science and faith as separate, suggesting it in part resists a wholly material explanation of creation. While both provide valid insights, they address different aspects of human cognition and experience, akin to Gould's "non-overlapping magisteria"; "the ... magisteria of science covers the empirical realm ... religion extends over questions of ultimate meaning and moral value. These magisteria do not overlap."<sup>7</sup> More positively, complementary may suggest both views are needed to adequately account for human experience of the world, in synergy with the view that science enhances faith. Indeed, extending the concept, perhaps 'enhancing' suggests a relationship in which both narratives inform and shape the story each tells.

How the responses of individual participants in the survey map onto Berger's framework would entail deeper questioning or one-to-one interviews. However, it is clear that among the majority of ministers and laity, attitudes to science and faith do not coincide with the popular narrative. Among ministers the vast majority see science and faith as either complementary or enhancing, although a quarter of respondents chose to give multiple answers to this question, also stating it was a challenge to faith. A similar non-confrontational view is also expressed among laity, over 50% seeing science and faith as complementary, while just fewer than 35% saw it as enhancing. 13% responded that science was a challenge to faith, responses which unlike those from the ministerial group, were not balanced by more positive responses being expressed along with them.

Within the Berger's framework the dominant attitude within Baptist communities sampled is "bargaining"/ "dialogue". "Surrender" (in terms on non-engagement) or "defiance" appear to be minority views. However, some tensions may remain. As noted previously, viewing science and faith as "complementary" may imply a view that they deal with different spheres – one material, one spiritual. This tension may

be expressed in that some ministers chose both “a challenge to faith” and “complementary to faith” as their response for the encounter of science and faith. The positive attitude to science indicated by the survey is shaped by a wide variety of sources. Of most importance were “views of scientists in the media” and “contact with scientists who are Christians”, while both ministers and laity cited “experiencing the natural world” as the most common reason for shaping their view, particularly among laity.

## **7. Confidence**

The survey reveals a positive attitude to science within at least part of the Baptist community of the United Kingdom. A high scientific literacy rate among participants may account for this and also suggests a resource that might be employed to engage local faith communities with scientific issues. How confident do ministers feel in helping the Christian faith communities they lead engage with specific scientific issues?

Responses reveal variations in confidence across a variety of scientific topics. Confidence was high (50-60% saying they had at least some knowledge) with regard to the evolution of life and the origin of the universe, along with Climate Change, perhaps evidence of the effectiveness with which Christian mission agencies and others have engaged the Christian communities of the United Kingdom with this issue. Low confidence was expressed (less than 20% with at least some knowledge) with regard to quantum theory and stem cell research. While the former area may seem rather abstract, the latter, along with other developments in genetics, will have profound impacts upon medical care in the coming decades. A greater understanding is perhaps warranted within the faith community if adequate pastoral responses can be formulated, informed by a good understanding of the science behind the issues. A deeper engagement with scientific issues within future theological education may assist this. Less than 15% of ministers surveyed indicated having a significant engagement (a module rather than an occasional seminar) during their initial formation.

## **8. Wonder and Wondering**

The results of this preliminary and limited survey among Baptist ministers and laity suggest that the notion that science and faith are in conflict is not the dominant view. Bouveng<sup>8</sup> found a similar positive attitude towards science among senior church leaders across a number of British church groups, against the common perception.



However, as noted previously, geographical and educational factors may bias this result. The Baptist Union of Great Britain is a network of independent churches, and other components of this network and individual members may hold views categorised by Berger's categories of "surrender" and "defiance". That the original trigger question came from a young person who was part of a church outside of the Baptist network highlights possible variations in attitude across denominational groups. In part this may be driven by an inability of leaders of such communities to engage with and communicate adequately scientific matters. Continuing conversation with this secondary school student indicated that leaders within their specific faith community taught that Biblical creation narratives were of more importance than scientific theories. This clearly exhibits "defiance". This dissonance may have negative consequences for the formation and nurture of faith within such a community, and also for an engagement with science through education and wider life.

Too much should not be drawn from a single encounter, perhaps flavoured in part by the fluid forming of faith and world view during the teenage years. However, it indicates the significant role faith leaders play in shaping the narrative of the interaction of science and faith within local congregations. Bouveng's study focused upon senior church leaders because *of* "their strategic role within their organisations"<sup>9</sup>. However, while they may set a permissive atmosphere for debate, leaders in local congregations play a vital, and perhaps more immediate and continuous role, in shaping the views of church members. To enable this, noting the level of interest within the group surveyed regarding scientific matters, a greater level of engagement with science, perhaps as opposed to theological engagement with science, may be of benefit during ministerial formation.

In recent decades, driven by the vigorousness of the critique of faith by neo-atheists such as Dawkins, apologetics has taken central place in the dialogue of science and faith. A rational defence of faith is indeed called for in the face of a rational scientific world view which dominates western culture. However, while science is a rational engagement with nature, appreciation of beauty can be a part it. Poincaré, who in the nineteenth century laid the foundations for Einstein's Theory of Special Relativity and chaos theory in his study of the Three Body Problem, suggested "the scientist does not study nature because it is useful to do so ... (but) because he takes pleasure in it ... because it is beautiful."<sup>10</sup> McLeish also suggests that a love of beauty plays a part in process of science ideas and theories; "we find them beautiful,

compelling, elegant. Sometimes even ... to love them”<sup>11</sup>. One senior church leader in Bouveng’s study suggests “scientists ... have an excitement ... that comes from a sense of wonder”, suggesting that as well as a rational dialogue, one around “awe and wonder needs to be sustained and maintained”<sup>12</sup>.

Despite this wider appreciation of nature and the process of science, to date, dominant within the dialogue of science and theology appears to be a rational methodology. Scientific notions and models are employed as a lens through which theological issues are explored, in a manner similar to that in which Greek Philosophy was employed in the early centuries of the church. Through the twentieth century, examples of this enhancing of faith through the lens of science include Whitehead’s Process Theology, drawing upon the theory of evolution as well as Teilhard de Chardin’s Omega Point, to develop a narrative in which God draws creation towards the ultimate, changing with creation in the process<sup>13</sup>. Pannenberg employs concepts from field theory to explore the action of the Holy Spirit within creation, stressing God’s “continual creation”<sup>14</sup> within the unfolding history of creation. Scientifically, the cosmological notion of “continual creation” was replaced in the late twentieth century by “Big Bang” cosmological theories, demonstrating proof that scientific models are ever changing and provisional, which is also true of theological models. Scientifically, the focus upon origins rather than process with regard to the material world may have fuelled the notion of conflict between the narratives of science and religion. However, the growing understanding of the chaotic nature of creation, revealed by recent geophysical studies such as meteorology, again emphasise process within creation, cycles of order emerging out of disorder, which while transitory, connect with Pannenberg’s view of “new forms of continuous creativity ... God bringing new and unexpected events”.<sup>15</sup>

Despite this rational dialogue within the academic community, the limited survey here among members of local church congregations suggests a different locus for the engagement of science and faith. In large part the positive attitude to an engagement with science revealed among participants stems from wonder regarding the beauty of nature. As no other previous generations, modern imaging techniques reveal the vastness of creation and the intricacy of its smallest parts in astonishing detail. Such images are powerful and informative, evidenced by New Scientists recent “Aperture” pages<sup>16</sup> where an image of nature, science or technology is accompanied by a short reflective article.

Such visual media may play an important part in supporting the notion that science has triumphed over religion. Prior to the Reformation and subsequent Enlightenment, the power of imagery to inspire and sustain faith was well appreciated, a tradition continued in some Christian traditions. Perhaps this might be re-imagined through the new imagery of science providing iconic windows through which not only is the nature of material reality revealed but the divine is encountered. Indeed, Berger suggested that what are needed in a dialogue with the majority view were moments of “ecstasy ... a standing outside of the taken for granted everyday routines of life”<sup>17</sup>, perhaps achieved through such icons stimulating worship.

An example of one such “icon” might be the “Lorenz Attractor”<sup>18</sup>, capturing the chaotic nature of meteorological phenomena. Forecasts of future behaviour, originating from similar states different only in small details, rapidly diverge yet are bounded by the overall possible trajectories of the system. Visualisation of the numerical solutions reveals a hidden beauty of order within disorder, perhaps not appreciated through consideration of the equations that describe the system alone. The entwining and spinning of trajectories found in the image perhaps speak of the provisionality of the openness of creation before God, who sustains and contains. Such images are founded in the rational analysis of the natural world, yet perhaps allow an encounter of wonder through emotions and spirit. In the Medieval period, Bonaventure, an interpreter of Saint Francis viewed “the Christ Mystery (as) the template for all creation ... that ... reveals the necessary cycle of loss and renewal that keeps things moving towards ever fuller life”<sup>19</sup>. Earlier still, Celtic Christianity found order arising from disorder, envisioned in the swirl of Celtic knots and the entwined creation imagery of Celtic crosses. Drawing upon such pre-enlightenment heritage, perhaps in the dialogue of science and faith, an enhanced confidence in and appreciation of both can come from an embrace of wonder alongside the rational vision of the world.

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<sup>1</sup> Berger, P. L., *A Rumor of Angels*, Doubleday (1969)

<sup>2</sup> McGrath, A.E., *Science and Religion – A New Introduction*, pg 96ff, Wiley-Blackwell (2012)

<sup>3</sup> Bouveng, R., What bishops really think about science : Science and Religion among senior Christian leaders in the UK., Vol 5, Pg1-11, *International Journal of Science in Society* (2014)

<sup>4</sup> Office of National Statistics, “Graduates in the UK labour market 2013” ([http://www.ons.gov.uk/ons/dcp171776\\_337841.pdf](http://www.ons.gov.uk/ons/dcp171776_337841.pdf))

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<sup>5</sup> House of Lords, “Higher Education in Science, Technology, Engineering and Mathematics (STEM) subjects” (2012)

<http://www.publications.parliament.uk/pa/ld201213/ldselect/ldsctech/37/37.pdf>

<sup>6</sup> Barbour, F., Religion and Science – Historical and Contemporary Issues, location 1818ff, Harper San Francisco (1997) (Kindle Edition)

<sup>7</sup> Gould, S.J., “Rock of Ages : Science and Religions in the Fullness of Life”, Ballantine, quoted in The God Delusion, Dawkins, R., 2006, pg 78, Black Swan (1999)

<sup>8</sup> Bouveng, R., 2014, Opcit., pg 9

<sup>9</sup> Bouveng, R., 2014, Opcit., pg 2

<sup>10</sup> McGrath, A., The Re-Enchantment of Nature, pg 17, Hodder and Stoughton (2002) quoting the scientist Henri Poincaré

<sup>11</sup> McLeish, T., Faith and Wisdom in Science, pg 196ff, Oxford University Press (2014)

<sup>12</sup> Bouveng, R., 2014, Opcit., pg 5

<sup>13</sup> McGrath, A.E., Opcit., pg 96ff

<sup>14</sup> Bradshaw, T., Pannenberg – A guide for the perplexed, pg 137, T and T Clarke (2009)

<sup>15</sup> Ibid., 137

<sup>16</sup> New Scientist, Reed Business Pub

<sup>17</sup> A review of Berger “A Rumor of Angels” by Charles A. Corr, International Journal for Philosophy of Religion, Vol. 1, No. 1 (Spring, 1970), pp. 55-58

<sup>18</sup> See for example, <http://www.edc.ncl.ac.uk/highlight/rhnovember2006g02.php>

<sup>19</sup> Rohr, R., Eager to Love, location 1925, Hodder and Stoughton (2014) (Kindle Edition)

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## Letters and Discussion

Dear Colin Hull,

I welcome your article on Duns Scotus. In his *Theology for the Community of God*, Stanley J. Grenz has a refreshingly new approach to the doctrine of election. He says, “Reformed theologies, whether Calvinist or Arminian, frame election within the context of the eternal past, for they enquire about the decree concerning the final salvation of individuals present in the mind of God prior to creation.” Instead, he argues that “our proper orientation point” should be the “final goal of history”. Election is God calling individuals by the Spirit to be united with him “in Christ”. (p 590, 591) How fascinating to see, in your article, that such a re-orientation seems to have been prefigured by Duns Scotus.

Now, in a letter prompted by one of my reviews, you say:

*I have been both a Christian and scientist long enough to come to the conclusion that the early chapters of Genesis are mythical and more symbolic of all of us rather than some kind of actual history. To me Adam and Eve were not real historical*

*persons but are archetypal of all of us in their relations with God. Their disobedience is our continued trend to choose our own desires over anything God wants us to do or not do.*

*Attempts to reconcile Genesis with science I suspect are carried out with the sincere attempt to defend biblical authority. But I think that is too conservative and does not help in evangelism.*

*You may find the following link to a website I am creating of interest. Indeed you may find the whole site interesting (but may not of course agree with it?).*

[www.cosmicscotus.com/the-fall/](http://www.cosmicscotus.com/the-fall/)

I have read that web-site. Might I make a couple of comments, for your response?

Firstly, I cannot imagine any fellow minister would disagree with you that “Adam and Eve ... are archetypal of all of us in our relationship with God”. Certainly, in my preaching, I would seek to lead individuals to see themselves before God as Adam and Eve were, as you develop on your website. But does that rule out there being a first ‘man and woman’ in God’s image? I would argue that the New Testament requires it.

Does not the Apostle Paul, in 1 Corinthians 15, see Christ as the first of a new humanity, who has brought about an objective change in the status of all ‘in him’, just as Adam, the first man, did for all in him? It could be argued that Christ saw himself as a Second Adam, in view of his preferred title for himself: “the Son of Man” (= The Man). To say this is not to rule out an evolutionary origin for humanity (up to the point that God bestowed his image on them). Nor is it to claim we all have some sort of genetically inherited death sentence, as in the Augustinian view of ‘the Fall’. After all, we do not *inherit* eternal life from the Second Adam, it is a gift of the Spirit. This leads me to my second comment:

On your website, you say, “*The story seems to convey the origin of death as a punishment. In contrast it is evident that in the long scope of cosmic and geological time suffering and death has always been part of the order of things in the world.*” As I have argued elsewhere, Augustine’s view of Adam’s disobedience as leading to a ‘fall’, from eternal life into death, is unscriptural. Genesis 3:22 plainly sees Adam as not yet immortal. He did not ‘fall’ from eternal life, he fell short of it, as do we all, by our disobedience. (Romans 3:23). Thus, we can see death as something that has ‘always been part of the order of things’, but still see remaining in death as a punishment, that we bring on ourselves. The earliest, Eastern view of Adam’s sin saw it as a sort of arrested development. We are familiar in nature with creatures passing through a larval stage: crawling caterpillar before flying butterfly, tadpole in

water before amphibious frog. In the same way, they saw our present state (as Adam was created) as a sort of larval stage, from which humanity should have gone on to a glorified, spiritual, heavenly existence (1 Corinthians 15:44f), but they failed.

Bob Allaway

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Dear Bob

Thank you for your comments on my original letter. I think that we still do not know enough about the process of evolutionary change as to how *Homo Sapiens* became biologically and genetically separated from previous Homo ancestors and how our actual consciousness developed its “spiritual” nature in relation to God. The process of speciation and separation is still something to be explored and not only in relation to humanity. Can we say there was a first man and woman in a historical sense? Thus my leaning to a purely archetypal interpretation of Genesis and what humanity is in relation to God.

Of course Jesus, Paul and other apostolic and sub-apostolic authors of the bible drew upon their Jewish and other religious cultural traditions that included a belief in a first couple. I think that even Jesus, as man, even though “divine” was limited in his historical knowledge and use of ancient texts. It could hardly be otherwise and does not detract from how He uses those traditions and ancient biblical images and stories. So I think that the bible is at least in part culturally limited in its historical knowledge and that we should not be afraid to recognise it. This does not detract from the central message of our intended human life, our deviation and how God tries to restore us in Christ to His intended purpose.

In respect of Paul’s use of the image of Jesus as the New Adam, or Second Adam, that is also a symbolic image of what we are to be an enabled to be in our union with Christ. God in Christ makes it possible to become all that God has as His original intention and predestined and willed purpose. In Him and with Him we become those fullest human icons of God’s love. Jesus is both the Exemplar of what we are to be and enables us to be as we are released from the burdens and chains of sinful tendency. With Him we become the best that God intended we should be.

Best regards

Colin

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## **Second Law of Thermodynamics**

(Prompted by Bob Allaway's review of P G Nelson's book 'Big Bang, Small Voice' published in F&T No. 60)

The second law of thermodynamics (that, in an isolated system, entropy only increases) is often invoked in discussions of the scientific picture of the universe. It is taken to indicate that the universe is becoming increasingly disordered.

Some thermodynamicists, however, question the application of the second law to the universe. The problem is that there is no experimental way of showing the validity of this. Landsberg writes, '[A] misconception is that thermodynamics, and in particular the concept of entropy, can without further enquiry be applied to the whole universe'.<sup>1</sup> Bachdahl likewise issues 'a word of warning against the tendency to drag "the universe" into thermodynamic theory when to do so is neither required nor justifiable'.<sup>2</sup> McGlashan similarly concludes, 'Clausius's famous aphorism: "Die Entropie der Welt strebt einem Maximum zu" is, to say the least, misleading. The pessimistic idea that the fate of the universe is chaos no doubt has an appeal to a certain kind of mind, but it is a matter of faith which has no support from the science of thermodynamics.'<sup>3</sup>

The problem is made worse when statistical mechanics is introduced. Denbigh and Denbigh showed that, to reproduce the properties of an isolated system, it is necessary to suppose that there is an influence outside the system randomizing the motions of the particles inside it.<sup>4</sup> This influence can be visualized for a system within the universe, but not for the universe itself.

Note that the association of entropy with disorder is not always obvious. For example, while the mixing of two different liquids is usually associated with an increase in entropy, in some cases the entropy decreases. One case is diethylamine and water.<sup>5</sup>

Note also that the second law does not prevent systems becoming more ordered. If a system is part of a larger system then a change can take place in it that lowers its entropy as long as the larger system increases in entropy. This frequently occurs. For example, the rusting of iron is associated with a decrease in entropy, but the heat produced increases the entropy of the surroundings. Creationists who say that evolution violates the second law misunderstand this.

**P.G. Nelson**

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<sup>1</sup> P.T. Landsberg, *Thermodynamics* (New York: Interscience, 1961), p. 391.

<sup>2</sup> H.A. Buchdahl, *The Concepts of Classical Thermodynamics* (Cambridge: Cambridge University Press, 1966), p. 17.

<sup>3</sup> M.L. McGlashan, *Chemical Thermodynamics* (London: Academic Press, 1979), pp. 111–115.

<sup>4</sup> K.G. Denbigh and J.S. Denbigh, *Entropy in Relation to Incomplete Knowledge* (Cambridge: Cambridge University Press, 1985), Sect. 2.3 and App. 2.2.

<sup>5</sup> J.L. Copp and D.H. Everett, *Discussions of the Faraday Society* 15 (1953), 174–188.

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## Book Reviews

### ***Evolution: Still a Theory in Crisis* by Michael Denton (Discovery Institute Press, 2016, 358 pages with index, Kindle edition available)**

Michael Denton is a biochemist who has some questions for Darwinian evolution. Many of those who work in the field of evolutionary developmental biology, he notes, have started to question whether Darwin's theory really does hold all the answers for the traits they are studying. There is no doubt, of course, about natural selection, or common descent over millions of years, or the progressive emergence of higher and more complex forms of life. Those are beyond question. But Darwin's explanation for how the novel characteristics of organisms emerge – gradually, through numerous slight successive beneficial adaptations – is very specific, and may not provide the best explanation for many of the most important characteristics of biological life.

In particular there are the *homologs*, says Denton – the traits shared by all the members of a particular biological group which define them as belonging to that group, the “taxa-defining novelties” which underpin the schema of the great tree of life. Examples include hair, feathers, the pentadactyl limb, the diaphragm, and many more.

There are three problems with a classical Darwinian explanation for these traits, says Denton, a British-Australian biochemist and author of the influential 1985 book *Evolution: A Theory in Crisis*, to which the present book is a follow-up. The first is the lack of transitional forms present in the fossil record to show the development of the traits from more primitive forms – at their first appearance they are already the finished product. This might just be attributable to awful luck with the fossil record, but then there is the second problem: for many of them, such as the pentadactyl limb, which is common to all tetrapods, the precise structure of it (three bones and



five digits) serves no specific adaptive purpose, so that it is not even clear why the finished product would be selected, let alone the elusive steps leading up to it. Furthermore, and this is the third problem, these traits have been conserved inviolate, some of them for over 400 million years. Indeed, it is because they have been conserved that they define the taxa and other groups, demarcating remarkably clear boundaries between unchanging subgroups. Some have even appeared multiple times independently over evolutionary history. Where then did they come from, these non-adaptive traits with no natural history – no lead-up to them, and no move away from them, these fixed points in the emerging tableau of life? Darwin's mechanism, effective though it clearly is for bringing organisms into greater affinity with their environment, offers no hope for an answer here.

Denton is a proponent of Intelligent Design, but he has no interest in exploring ideas of special creation or divine intervention, not least because he describes himself as an agnostic. These are natural phenomena he is studying and he is only interested in a natural solution. He finds his answer in the great Victorian biologist Richard Owen, the founder of London's Natural History Museum, whose rival structuralist account of biology to Darwin's functionalist account Denton believes holds out hope for an alternative and more convincing explanation for the remarkable patterns and homologies of nature.

The key to this approach is the concept of natural law coupled with the idea of the fine-tuned cosmos – fine-tuned in both the universal constants and in the operation of the laws of nature. This fine-tuning means that life, and indeed life as we know it, is not just made possible by the way the universe is structured, but all but inevitable and necessary. The homological traits, Denton contends, reflect the operation of the laws of nature on biological matter in a way precisely analogous to the way the ordered array of atoms and crystals reflects the operation of the laws of nature on subatomic and atomic particles. The homologies appear, and they stick around, because of forces internal to matter which predispose them to form and to hold together over vast periods of time. These forces limit in myriad ways the permissible patterns which matter can adopt, and so force its hand towards those which serve to facilitate and constitute life.

That's why organs know their morphology – their shape isn't in their genes, as geneticists are now increasingly realising, but overwhelmingly epigenetic. It is also why proteins know how to fold down to their lowest energy state without tying themselves in knots. And it is why so much of biological matter exhibits such a remarkable degree of self-organisation and self-assembly, without any need for external input or evidence of genetic coding. It is, then, not just evolutionary

development that would be explained by this structuralist thesis: it would unify ordinary biology with evolutionary biology under a single natural law based framework which would place biological science on the same solid ontological footing as the other natural sciences. This, for Denton, is one of its great attractions.

Where would this leave Darwinism? It wouldn't invalidate it of course – that is impossible. Darwinian natural selection obviously occurs, for the environmental constraints of fitness will always result in adaptations arising from successive instances of natural variation. What it would do, though, is relegate it to a supporting role – an “adaptive mask” as Denton calls it, citing Owen, over the more fundamental “primal patterns” which undergird the tree of life and hold it together over the aeons.

Denton is helpfully candid in the book about the possible theological implications of the thesis, but is keen to play down their significance and focus on finding the best account of the empirical data – a reflection, perhaps, of his own agnosticism. He isn't in this to push a particular doctrinal agenda but to follow the facts.

I found this book an accessible explanation of an ambitious, yet undeniably attractive thesis – though it could, I feel, have been made more accessible through being more careful with its use of technical terminology, using warnings and distinguishing technical and non-technical sections, as is common in popular science books these days. Some sections, particularly early on, felt a little close to the polemical, and the whole book would have benefited from some rationalisation to avoid repeating itself too much, and to ensure that key points were made in their clearest and most arresting form. Personally, I would have liked to have seen something on the possible meaning of the thesis for the existence and character of extra-terrestrial life, which seemed to me an obvious big implication. But these are just quibbles.

Overall, this book represents a bold attempt to present the alternative framework to Darwinian evolution that it seems so lacking in current biological debate and might well explain the data better. Even if you find yourself disagreeing with Denton's arguments and conclusions, you will benefit from having read and considered this book, for evolutionary biology is currently a discipline in flux, and this sets out the problems well and takes a decent shot at a solution.

*Reviewed by Will Jones - a mathematics graduate with PhD in philosophy who is involved with two social theology projects in the UK.*

***The Biblical Cosmos. A pilgrim's guide to the weird and wonderful world of the Bible.* Robin A. Parry, Illustrations by Hannah Parry (Eugene OR: Cascade Books, 2014 ISBN 978-1-62564-810-5 £17.00)**

Most of this book is dedicated to explaining how the authors of the Bible saw the world: radically different from how we see it. Parry makes it clear that they did not differ much from their contemporaries in seeing the earth as flat, the sky as a dome over it, etc. He deals with the sea, hades, deserts and mountains; see page 43 for why we should say that Jesus walked on the sea, not on the water! A separate part of the book discusses the temple which was an image of the cosmos.

None of this is exactly new to theologians or scientists, but Parry presents it in an easy-to-read style which is accessible for many. At the end he raises the question of what these insights mean for modern believers, for example how we should think about the ascension of the Lord Jesus. In this way he offers not merely facts but also their meaning. He defends a Christian Platonism which respects God as the essence of the universe and he presents the unique position of Jesus within it. Some of what he says in this last part of the book is a bit more speculative and in places readers may come to different conclusions. I for one would keep Creator and creation a bit further apart. On the other hand, it would have been helpful to get Parry's insights into the development of computers and robots which are becoming ever more 'human'.

For believers the Bible is a unique book, but it turns out that its cosmology has much in common with that of the surrounding nations and this may come as a bit of a shock to less educated readers. It requires a certain maturity of faith to handle the information contained in this book but Parry is very aware of this, so he presents it gently.

The final part of the book is tough in a different way, in that it is more technical and thus harder to follow than the earlier parts. Parry throws in more theology and philosophy here, and I think it requires theological training to appreciate it. This is a shame because the subject he discusses is relevant for all. That Parry here writes for educated readers is also evident in the way in which he refers to ancient sources by means of standard abbreviations.

*Reviewed by Pieter Lalleman - Dr Pieter J. Lalleman teaches Bible at Spurgeon's College.*

***The Penultimate Curiosity: How Science Swims in the Slipstream of Ultimate Questions* Roger Wagner & Andrew Briggs (Oxford University Press ISBN 978-0-19-874795-6)**

This fascinating book has an unusual pairing of authors, an artist and the Professor of Nanomaterials at the University of Oxford. It had a starting point in the authors' observation that both the University Museum in Oxford and the Cavendish Laboratory in Cambridge, each among the earliest purpose-built scientific institutions in their respective universities, have religious invocations set over their entrances. Investigation showed that these were not mere pious gestures but represented the deeply thought-out convictions of two central figures in the Victorian scientific world. What led to their impulse to integrate the domains of religion and science?

The book's main thesis is indicated by its sub-title. The human drive to seek answers to ultimate questions, to make sense of the world as a whole, has provided a 'slipstream' which has encouraged, shaped, and often helped, the search for answers to penultimate questions, the desire to understand the physical world. What the authors call 'ultimate curiosity' takes a religious form when it leads to the conviction that ultimate answers must come from something or someone that transcends the world. 'Penultimate curiosity' has led to modern science. The 'slipstream' metaphor comes from the V-formation adopted by flocks of birds because this reduces the energy expended by the birds flying in the slipstream of those in front. The same principle leads to the formation of pelotons by the riders in cycle races.

This book covers ground that is covered in others on the history of science, so what is different about it? One thing is the way it presents much of the history by telling the stories of key people whose life and thought provide examples of how the two curiosities interweave in various ways and how penultimate curiosity has been motivated by the ultimate curiosity. Many of the stories are fascinating and this provides an interesting way into the various issues concerning possible ways to integrate science with religion, some more helpful and productive than others. The book has a much wider scope than most, from what is known about the beginning of human culture to the questions posed for religious belief by science in the twenty-first century. The discussion of the evidence for the rise of 'ultimate curiosity' in prehistoric humans, as seen in various artefacts including cave paintings, in Part I is particularly fascinating and will probably break new ground for many readers. More space than usual is given to the contributions of Islamic and Jewish thinkers. Part IX deals with biblical archaeology. There is a very helpful and thought-provoking Epilogue which pulls the threads of the book together.

The book is well-written, lavishly illustrated with relevant pictures and diagrams, and beautifully produced. It is a pleasure to read. More importantly, it deserves to be widely read because in a culture which, encouraged by the media, still believes the 'conflict myth' about the relationship between science and religion, it exposes the myth's falsity and the possibility and potential fruitfulness of a continuing interaction between the two 'curiosities'.

*Reviewed by the Revd Dr Ernest C. Lucas biochemist, Baptist Minister, bible tutor, author.*

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***Right to Die? John Wyatt (IVP Nottingham 2015 191 pp. Pb. £8.99 ISBN 978 1 78359 386 6)***

The argument for assisted suicide has been put persuasively in recent times and has been supported by Lord Carey and Archbishop Tutu as well as by well publicised case histories, which form the opening chapter of this excellent study by the Emeritus Professor of Neonatal Paediatrics at University College London. John Wyatt gives a potted history of euthanasia starting with the 1870 essay by schoolteacher Samuel Williams advocating the use of chloroform to terminate those with hopeless and painful illness followed by the support of the eugenic movement and concluding with the extreme view of Dr. Tredgold who discussed the use of a lethal chamber for 'mental defectives'. This idea was taken up by the Nazis who used gas chambers to terminate the terminally ill and 'incurable idiots' who contribute nothing to society and drained it of resources. He then critically surveys what is happening in countries that have adopted a euthanasia policy and how they differ from each other. In the Netherlands euthanasia is offered to those who suffer 'unbearably and hopelessly', and request assisted suicide. This assisted suicide must be carried out by a doctor but it is not necessary for a patient to have a terminal disease and is currently applied mostly to cancer patients. In contrast to this, assisted suicide has been legal in Switzerland since 1941 but cannot be performed by a doctor or those with a vested interest in the death and in Oregon in the U.S.A. a person can only be assisted to die if he/she wants to die a dignified death, even though there is no suffering, but has less than six months to live. Interestingly since the removal of penalties for attempted suicide in the U.K. in 1961 all attempts to legalise assisted suicide have failed due, according to Professor Wyatt, in no small measure to the influence of Dame Cicely Saunders.

The bulk of the book is taken up with a critical compassionate examination of the arguments for and against euthanasia and to finding the best way forward in the

debate. The author sees the underlying forces behind the call for change as the emphasis on compassion, the rapidly growing ageing population and the western obsession with autonomy. Of course compassion is essential but, asks Wyatt, is death the most compassionate option? What about better pain relief and psychological support? Is it better to kill someone who considers life not worth living or should we seek to make that life better? The growing ageing population costs the country and puts a strain on the NHS. Should we then offer assisted suicide to elderly people who feel they are demented, feel isolated or that they are a burden on society? Those who stress autonomy argue that a good death is one that is chosen by the person at the appropriate time and place and is dignified. It is based on the philosophy that we are masters of our own fate and that we should be able to choose both how we live and how we die. The author is concerned with what criteria would apply if we chose this path. Could a person demand assisted suicide for any reason and if it has to be a rational choice what would constitute rationality? How can it be autonomous if it prematurely destroys autonomy? In addition to this there are risks in legislating for assisted suicide such as wrong diagnosis, undue pressure on the vulnerable, the effect on doctors and health professionals as well as the cheapening of human life.

Professor Wyatt is a Christian and believes that there is a better option than assisted suicide. Christianity teaches that we are created in the image of God and are dependent creatures, not autonomous beings, and although Christians want to alleviate suffering they nonetheless see that it can have positive value. He sees in the work of Dame Cicely Saunders and the hospice movement she started a better option. Saunders opposed euthanasia as unnecessary because pain can nearly always be alleviated. Her philosophy was, 'You matter because you are you' and 'We will do all we can not only to help you die peacefully but also to live before you die'.

She believed that palliative care should include the physical, psychological, relational and spiritual and should not aim to deliberately end or prolong life but to help people 'live before they die'. In a hospice, people are treated as individuals with differing needs and have the opportunity to be with relatives, set matters in order before they die and have their pain controlled. Of course the individual has the right to consent to or refuse treatment especially where there is a danger of overtreatment by doctors fearing litigation if they do not prolong treatment. From a Christian perspective dying need not be totally negative. It can provide opportunity for inner healing and an opportunity to let go, and know that death has been defeated and there is the prospect of a life hereafter.

The book is offered as a road map to the current debate and the author found the writing of it emotionally challenging but equally that the topics discussed are vital ones that cannot be avoided but must be faced head on. I cannot agree more. This book achieves what it sets out to do and can be warmly recommended.

*Reviewed by Reg. Luhman former editor of Faith&Thought*

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***Who Ordered the Universe?* Nick Hawkes (Oxford Monarch 2015 255pp. Pb. £9.99 ISBN 978 0 85721 598 7)**

For several decades scientist theologians have, contrary to popular belief, sought to demonstrate that science supports rather than undermines belief in a creator God. Nick Hawkes' book is the latest attempt to do this on a popular level. In the early chapters he follows a familiar route by using the fine tuning argument, the anthropic principle and the evidence of mathematics to argue for the existence of a powerful mind responsible for the creation of the universe and particularly of humanity. But he is not content with this. The subtitle of the book is, 'Evidence for God in unexpected places' which include suffering, society, truth and death. Hawkes accepts evolution as God's method of creation and rejects both creationism and intelligent design. His treatment of suffering and death in the natural world seems rather confused. He believes that suffering has a purpose and doesn't only happen to bad people but is, nevertheless, a temporary expression of a broken universe. He writes about the 'cleverness of death' which enables evolution to occur. All living creatures have a built-in obsolescence. Yet he also wants to argue that because God, at the moment of creation, proclaimed the universe to be good, God would not have created the pain and suffering that now exists, and according to scientific research, has always existed. He follows Calvin in maintaining that the suffering goes back to the Fall, although he does not go as far as the reformer in claiming that not only predation but noxious insects and inclement weather derive from the disobedience of Adam and Eve. Unlike Calvin he accepts that the earth was not created in six literal days and that suffering, predation and extinctions occurred before sin could ruin any Edenic existence. He proposes a theory of retroactive causation found also in the work of William Demski. In this theory the sin of Adam had implications for all of time, both past and future, because God is outside of time. It seems that the author is prepared to accept that some pain and suffering is good and necessary where scientific research shows that variations in DNA mean that disease, ageing and death will always be present, although not necessarily in a renewed creation as Hawkes shows the Bible anticipates.

In his foreword to the book Professor David Wilkinson writes, "This book is not about proving God but is an invitation to consider a wide range of evidence that

gives clues to the meaning, purpose, and value of both the universe and human life.” Certainly the author provides us with a lot of evidence and argues his case persuasively. However, this is a work of apologetics in which Hawkes sees Christianity as the unique answer to the mysteries he explores and ends the book with an invitation to accept Christ’s sacrifice and enter into a loving relationship with God. In the process of presenting Christianity as the preferred solution he indulges in what the humanist philosopher A. C. Grayling calls ‘cherry-picking’ and needs to put in a number of qualifications. Examples of this is the use of Christian conversion and revivals as evidence for God from society but admits that such personal transformations are not confined to Christianity. Also is it true, as he claims, that throughout history no society has been able to successfully maintain a moral life without the aid of religion? The author stresses that truth is a way of discovering God and that Christianity is the truth. Even here he has to bring in a caveat because throughout history Christianity has supported many questionable practices such as slavery, sexism and anti-Semitism and so he talks about authentic Christianity. He maintains that there is truth and beauty in all religions but that one can only come to God through Jesus Christ. This book makes a strong case but it remains to be seen if it will convince the hardened agnostic or humanist.

*Reviewed by Reg. Luhman former editor of Faith&Thought*



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