

# The Boyle Lecture 2012

## Christ and Evolution: A Drama of Wisdom?

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## Biographical Notes

### Celia Deane-Drummond

Professor Celia Deane-Drummond is professor in theology at the University of Notre Dame, Indiana, USA. She graduated in natural sciences from Cambridge University and obtained a doctorate in plant physiology at Reading University. She subsequently took up a lectureship in plant physiology at Durham University before turning her attention to theology, obtaining a doctorate in systematic theology from Manchester University.

From 2000 to 2011 she held a professorial chair in theology and the biological sciences at the University of Chester. In May 2011 she was elected chair of the European Forum for the Study of Religion and Environment. She was editor of the international journal *Ecotheology* from 2000 to 2006. From July 2009 to July 2010 she was seconded to the spirituality team at the Catholic Fund for Overseas Development (CAFOD), working in the area of environmental justice and climate change.

Since 1992 Professor Deane-Drummond has published as a single author or as an editor twenty two books, as well as thirty three contributions to books and forty three articles in areas relating to theology or ethics. Her most recent books include *Christ and Evolution: Wonder and Wisdom* (Minneapolis: Fortress/London: SCM Press, 2009) and *Seeds of Hope: Facing the Challenge of Climate Justice* (London: CAFOD, 2010).

### Fount LeRon Shults

Fount LeRon Shults is professor of theology and philosophy at the University of Agder in Kristiansand, Norway. Before moving to Norway in 2006 he was professor of theology at Bethel University in St. Paul, Minnesota, USA. He has doctorates in philosophical theology (Princeton Theological Seminary) and educational psychology (Walden University).

He has written, co-authored or edited 11 books, including *Reforming Theological Anthropology: After the Turn to Relationality* (Eerdmans, 2003), *The Faces of Forgiveness: Searching for Wholeness and Salvation* (Baker Academic, 2003), *Christology and Science* (Ashgate, 2005), *The Evolution of Rationality* (Eerdmans, 2007), *Philosophy, Science and Divine Action* (Brill, 2009), and *Saving Desire: The Seduction of Christian Theology* (Eerdmans, 2011).

Professor Shults is a member of the executive committee of the International Society of Science and Religion and a research fellow at the Institute for the Biocultural Study of Religion at Boston University.

# The Boyle Lecture 2012

## Christ and Evolution: A Drama of Wisdom? <sup>1</sup>

Celia Deane-Drummond

### Introduction

The mark of faith that most distinguishes Christian belief from other religious traditions is belief in the incarnation of Christ; the Word made *flesh*, belief that God in Christ becomes one with the human, material world. But ever since Darwin that flesh is also *evolved* flesh. In *what* sense can it *make* sense that God is present in Christ, but Christ as fully human is also part of the evolutionary world, along with the other billions of creatures on earth? It is therefore hardly surprising that many theologians prefer to envisage God's action as virtually synonymous with evolutionary means. But if we follow this route, where does this leave the significance of the incarnation?

The new atheism, in more aggressive versions such as Richard Dawkins or Christopher Hitchens, or Sam Harris, seeks to explain reality while deliberately excluding God. <sup>2</sup> The impression that is often left is that the God entertained by such writers is

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<sup>1</sup> While to some extent this lecture draws on my book, *Christ and Evolution: Wonder and Wisdom* (Minneapolis: Fortress, 2009; London: SCM Press, 2009), it tackles the question from some very different angles and brings in many new elements to the discussion in the light of further reflection and in the light of the particular context relevant for this occasion.

<sup>2</sup> See, for example, the recent work of Sam Harris, *The Moral Landscape: How Science can Determine Human Values* (New York: Free Press, 2010); Richard Dawkins, *The God Delusion* (London: Bantam, 2006), Christopher Hitchens *God is Not Great: How Religion Poisons Everything* (New York: Twelve, 2007). Perhaps one of the most vocal Christian voices against new atheism is Alister McGrath, who is as prolific as he is sharp in taking on these arguments. See for example, A. McGrath, *Why God Won't Go Away: Is the New Atheism Running on Empty?* (Nashville: Thomas Nelson, 2010); R.B.

incredible, perhaps the result of wishful thinking or even one who acts against the grain of the universe in a way that immediately sets up a hostile relationship with more conservative religious believers. Is it not surprising, then, that evolutionary biology associated with this particular form of atheism, is also viewed with intense suspicion by such believers, tempted, as some of them are, especially in the USA, to opt for literal readings of the book of Genesis as a *scientific text*, a reading which prizes apart the story from its original context. Can we move on from this warfare and find ways of articulating a robust theology while engaging in a clear-sighted discussion with evolutionary theory? Indeed, the variety of that theory and the leading, cutting edge of its questions show that biologists take for granted basic aspects of Darwinian evolution. One of the reasons that Robert Boyle inaugurated these lectures was for the defence of Christianity in the wake of pressures from natural science. By this he was not wanting to *undermine science*, but develop a natural theology that could be more in tune with it, while holding to theological premises. By this he was defending the possibility of a genuine engagement between science and theology, so that, as John Hedley Brooke suggested, Boyle wanted to work against the premise of libertines, who thought a scientific virtuoso ought not to be a Christian and the others that he could not be a true one.<sup>3</sup> I am not intending to engage with the new atheism directly, but take, as it were, a more *indirect* route by exploring ways of conceiving the incarnation in conversation with current evolutionary theories in a manner that I consider in tune with Boyle's intention.

What I hope to do in this lecture, therefore, is to map out a possible ground for a more constructive conversation between how to think about Christ and evolutionary

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Stewart, ed., *The Future of Atheism: Alister McGrath and Daniel Dennett in Dialogue* (Minneapolis: Fortress Press, 2008).

<sup>3</sup> <http://www.gresham.ac.uk/lectures-and-events/the-boyle-lecture-the-legacy-of-robert-boyle-then-and-now>, accessed September 14<sup>th</sup>, 2011. Brooke comments that the endowment of the Boyle was such that "The lecturers would have as their brief: to prove the Christian religion "against notorious Infidels, viz. Atheists, Theists, Pagans, Jews, and Mahometans." And as a rider, to which we shall return, he added that they were not to descend to "any controversies ... among Christians themselves.""

science. Of course, there will inevitably be areas where some tension remains, and this is more or less unavoidable. If all tensions go completely, then it is highly likely that either theology collapses *into* science, or theology turns its back on science, or imagines them in parallel but non-competing realms, none of which are very helpful or constructive.<sup>4</sup> But at least, or as a bare minimum, I hope to show that it is possible to think in a creative way that is both theologically articulate and scientifically meaningful.

### **Classic tradition and modern responses**

A brief look at the way theologians traditionally have come to express belief in Christ is important as a first step in showing both the difficulties of any conversation, and what parameters might be important theologically. Right from the beginning of the early Church, classical debates on Christ's humanity and personhood raged around the meaning of Christ's human and divine nature. The framework eventually adopted was the Chalcedonian definition (451) affirming that Christ is one person, but having a divine and human nature. Even then it was difficult to understand how divinity could become en-fleshed in humanity without either destroying that humanity or weakening that divinity. Two compromises emerged, with the Alexandrian view stressing Christ's divinity and the Antiochene tradition Christ's humanity.<sup>5</sup> Further theoretical discussion followed about how one might consider human nature assumed by Christ—is it an abstract universal that is somehow in God, or does it only make sense in the particular human person of Jesus Christ?—along with related technical discussion about an-hypostasia, human nature as an abstract universal and en-hypostasia, the particular

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<sup>4</sup> I have commented on this in more detail in other papers, such as 'Beyond Separation or Synthesis: Christ and Evolution as Theodrama', in *Darwin in the 21<sup>st</sup> Century: Nature, God and Humanity*, edited by Phillip R. Sloan, Gerald McKenny, and Kathleen Eggleston, University of Notre Dame Press, 2012, *in press*.

<sup>5</sup> If the first view tended to squeeze out the possibility of a human soul, the second ended up with two persons in Christ, the divine indwelling the human. Historically, the story was likely to have been even more complicated than this account implies, with authors such as Cyril of Alexandria adopting some ideas on Christ's rational soul that seem closer to the Antiochene tradition. For discussion, see Oliver Crisp, *Divinity and Humanity* (Cambridge: Cambridge University Press, 2007), 38–40.

human nature in Christ's person.<sup>6</sup> All these technical discussions are essentially *closed* insofar as they represent internal theological debates about what might be logically possible, given certain premises. They seem to bear little or no relationship to evolutionary biology except inasmuch as the concept of two natures and one person becomes incredible or difficult to understand.

It is hardly surprising, given such difficulties associated with classical definitions of Christ's two natures, that there are prominent writers in the contemporary dialogue who lean towards a liberal Christology. Arthur Peacocke, for example, suggests that in his oneness to God, Jesus is an archetype, a chief exemplar of what it is for a human to be completely obedient to God.<sup>7</sup> Jesus appears in the evolutionary story where perfect humanity is manifest. Jesus is therefore one whose deity *emerges* as a result of obedience to divine will. Jesus becomes 'the manifestation of what, or rather of the One who, is already in the world though not recognised or known.'<sup>8</sup> Of course, the idea that Christ might become known as divine through his obedience and openness to God reflects a liberal tradition that goes as far back as Albert Ritschl. The point is that the first paradigm is the evolutionary story of humanity's emergence and Christology then becomes compatible with this.<sup>9</sup> Traditional belief in Christ as the Word of God incarnate

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<sup>6</sup>. An *anhypostatos physis* is a human nature that exists independently from an individual or person. In this scenario, Christ's personhood requires the assumption of human nature by the Word. From the moment of incarnation, there is *enhypostatos*, that is, human nature in a particular person. In some discussions, the human nature of Christ is seen as being taken up into the Word. See, in particular, Crisp, *Divinity*, 72–89. Other ways through the problem of relating the divine and human natures in Christ posit that the two are related through mutual indwelling, that is, *perichoresis*, so that each indwells the other in a manner analogous to the relationships of the Trinity. Crisp also devotes a whole chapter to considering this issue. Crisp, *Divinity*, 2–33.

<sup>7</sup> A.R. Peacocke, *Creation and the World of Science* (Clarendon Press, Oxford, 1979) p. 248. Space does not permit a full discussion of how far liberal Christology influences debates in science and religion, but Ian Barbour, for example, shares Peacocke's stance. The point is that such a view makes reconciliation easier with science, but it is not convincing for those who do not hold such liberal starting points.

<sup>8</sup> A.R. Peacocke, *All That Is: A Naturalistic faith for the Twenty-First Century*, ed. Philip Clayton (Minneapolis: Fortress Press, 2007), p. 37.

<sup>9</sup> Jesus' humanity that has evolved into a form of 'transcendence' is recognised

in human flesh seems compromised. Put more bluntly, would I really be inclined to worship *as God* and name as *Kyrios*, Lord a man who merely expresses that divinity by being or becoming perfectly obedient to God?

### **Christ and Theo-drama as Divine Wisdom.**

Part of the problem in such accounts of Christ is that an evolutionary, emergent view of history has taken over a more theological future orientated view of history. This is exasperated further by cosmological evolution, so that the whole sweep of human history becomes aligned with an unfolding emergent cosmological narrative. But what if a theology of history becomes much more vivid, and perhaps truer to itself as theology, through a *different* reading of history, one that draws specifically on *drama*, rather than a narrative account? <sup>10</sup> In this case theo-drama takes as its starting point theological

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by others as having some sort of divine cogency, though precisely why this is the case is not entirely clear, given that, in theory at least, other humans could also follow this path towards divinization. Peacocke's understanding of the relationship between God and the world is a 'top-down' approach, by analogy with evolutionary emergence of 'higher' levels of interaction. However, his perception of Christ is 'bottom up', in as much as Jesus seems to *become* a fully God-informed subject, rather than being endowed with divine subjectivity from the beginning. Other prominent authors in the science and religion discussion, such as Ian Barbour, adopt much the same position, where Christ appears as a new stage in the evolutionary process. Ian Barbour, *Religion in an Age of Science* (London; SCM Press, 1990), 210.

<sup>10</sup> John Haught is a prolific writer whose main intent is to make sense of evolution in theological terms. The framing for his understanding of drama is the biological drama of life. Christ is identified with that process so that he claims, following that palaeontologist and priest of the last century, Pierre Teilhard de Chardin, that 'what is really going on in evolution, therefore, is God becoming increasingly incarnate in the world'. Evolution and theology are seamless, so that 'Beneath the surface of nature, about which science speaks analytically and reductively, what is really going on is the eternal drama of God's creativity, descent into the world and promise of final renewal'. The difficulty here is that God's action equates with evolutionary emergence, even if now it becomes understood in dramatic language. But what does the God-drama really *mean* if it is just identical to the drama of life and how are we to understand renewal? John Haught, *Making Sense of Evolution: Darwin, God and the Drama of Life* (Louisville: Westminster, John Knox Press, 2010), p. 146

categories prior to turning to evolution.<sup>11</sup> Theo-dramatics is a way of thinking about eschatology and history together in their relationship with each other. Drama, as commonly understood, is about human actions and particular events in particular contexts, and theo-drama is how those actions are connected to God's purpose. Drama pays attention to the specific significance of human agency, the particular context, but also the wider plot. Dramatic consideration will therefore include *subjects*, the acting area, or the *stage*, and the movement of the play or *action*. Another key issue that arises here is that of *freedom*, and what this means in the Christian life. If we perceive God as one who is in possession of divine freedom, this means that history is not just an inevitable chain of events. The advantage of theo-drama is that it envisages an *encounter* between the freedom of God and that of God's creatures, but the two freedoms are not in competition.

Evolutionary history, with its tremendously long time scale almost always becomes epic. Theology suffers from this tendency as well. What do I mean by epic? In the second of his trilogy, *Theo-Drama*, Roman Catholic theologian Hans Urs von Balthasar considers whether there is some standpoint from which we can be merely observers to a sequence of event, including the events of Christ's death and resurrection.<sup>12</sup> At its worse, epic becomes deterministic and creates the wrong impression of being objective.<sup>13</sup> Evolution as incorporating some sort of *necessity* is a typical reading of evolutionary history. Christian spirituality, by contrast, finds

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<sup>11</sup>Theologians are, with Ben Quash, people prepared 'to see the dense, historical world as having an origin and an end in the creative purposing of God, a God who can relate personally to his creatures'. They are "People ready to acknowledge the idea that there can be revelation: a prevenient ground for our knowledge and perception that is not the product of our knowledge and perception, which is neither accidental or impersonal but which freely, and even lovingly, communicates itself", Ben Quash, *Theology and the Drama of History* (Cambridge: Cambridge University Press, 2005), 2.

<sup>12</sup>In such a view he suggests we 'smooth out the folds and say that Jesus' suffering is past history; we can only speak of his continued suffering in an indirect sense, in so far as those who believe in him are referred to, metaphorically, as his members'. Hans Urs von Balthasar, *Theodrama, Volume 11, Dramatis Personae: Man in God*, tr. Graham Harrison (San Francisco: Ignatius Press, 1990) TD 2, 54.

<sup>13</sup>Quash, *Theology*, p. 42.

expression in what Balthasar terms the 'lyric' mode, leaving aside any thoughts of universal significance. Theo-drama avoids epic and equally problematic mystical "lyric" accounts and finds its significance *between* lyric and epic.<sup>14</sup>

In the sweep of history, some moments are termed *kyrios*, and in theo-dramatic perspective the particular coming of Christ and his death and resurrection are pivotal. One could even say that the particular theo-drama of Christ's coming shows up a *pattern of divine Wisdom* that then provides clues to understanding the dramatic relationship between God and creatures. The difference between the emergent divine Christ and the one I am suggesting is that now the divinity of Christ is present from the beginning. It is a profoundly *Trinitarian* drama that involves the cooperation of all three persons of the Trinity, but only the Logos/Wisdom is fully incarnate *in the flesh* in human history. The reception of divine Wisdom/Logos by the Virgin Mary is the first stage of the mysterious drama of the economic Trinity that unfolds to reveal that the very human son born to her is also the Son of God. But at this stage the divinity of Christ is almost completely veiled from view, God appears in the form of a very vulnerable, human baby. Jesus' divinity only becomes obvious in his obedience to the Father through the power of the Holy Spirit. Christology in this conception is a *kenotic* Christology, where the eternal God freely and out of love for the world in the Son chooses to become one with human flesh, to become fully human, but without loss of divinity.<sup>15</sup> Further, the power of that divinity is in a paradoxical way found in the powerlessness of the man hanging from the cross; this is what Paul envisaged in 1 Cor.1.18-26 when he spoke of the divine Wisdom of the cross. But for bystanders

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<sup>14</sup>. Lyric is where "the whole substance of an action is transposed into a highly volatile, highly individual; immediate and emotionally coloured mode of response and expression." Quash, *Theology*, p. 42.

<sup>15</sup> If we envisage God has somehow literally 'given up' divine characteristics or powers, then Christ is no longer fully divine, and we arrive at weakened version of the Trinity. Some versions of kenotic Christology implied this, and are therefore less helpful. For further discussion see C.S. Evans, *Exploring Kenotic Christology: The Self-Emptying of God* (Oxford: Oxford University Press, 2006).

Christ's divinity only becomes visible in the next scene, in the light of the dramatic event of the resurrection.

There is one sense in which, therefore, I heartily agree with Arthur Peacocke that Christ's obedience is very important as a way of understanding the meaning of Christ in today's world. Christ's perfect obedience is one that reveals God most fully. We can envisage, therefore, God as the playwright, where the plot and the script are known in a very general way, but the details are yet to be worked out, improvised according to the particular circumstances. Christ's death was the result of the specific free action of human players in the drama. Once the drama becomes too controlled, too subject to a fixed or even necessary account of God's action in history, or perhaps the result of an inevitable emergence from selfish tendencies in human beings, then drama gives way to epic narrative.

### **What is the place of evolution in theo-drama?**

But what if we allow theo-drama to include not just human history, but evolutionary history as well? Such an expansion has the advantage of viewing other evolved creatures *as more than* simply the stage for human action. The ability to read evolution not just as science, but also as *history* means that through evolutionary accounts, nature as such becomes historical, a perspective that is arguably one of the most significant discoveries of science.<sup>1617</sup>

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<sup>16</sup> J. F. Haught, "Ecology and Eschatology," in *And God Says That It Was Good: Catholic Theology and the Environment*, ed. D. Christiansen and W. Grazen (Washington, D.C.: U.S. Catholic Conference, 1996), 57.

<sup>17</sup> The most common way of reading human history is individual human subjects in genealogies or that according to the dynamics of a 'grand narrative'. In evolutionary science we find similar trends toward either tracing genealogies or constructing grand narratives-witness Darwin's theory of natural selection. I am certainly not suggesting that all these accounts are flatly wrong but that we need to be much more self-aware of what this kind of mapping does for our overall perception of history. Think of the power of the Darwinian perspective to capture the imagination of virtually all disciplines, and the reverberations of this view across a range of academic disciplines. Do we

This evolutionary drama will be judged in the light of what happens in the main act, namely, the act of Christ's coming, but that does not mean that earlier or later players are insignificant. The scientific account, for example, of the emergence of *Homo sapiens* and its evolutionary relationship with hominid species makes for fascinating reading. Unraveling this particular act in the particular drama of human history would take another lecture; but all I want to point to here is the contested manner in which evolutionary biologists are engaged in heated debates about when and why religion has appeared in human societies.<sup>18</sup> While the biological basis for religious belief is still a matter of intense research, even if evidence proves eventually that there are biological characteristics that make human beings more likely to be religious, that does not undermine theological discussion, any more than knowing that there are biological aspects of attachment to my child undermines genuinely felt commitment to that child and its articulation in poetic language. The point is that religion is about intense *relationship* and our perception of how to live in that relationship, in the Christian case, an understanding of a relationship with God in Christ. Balthasar made the mistake of assuming that because different evolutionary accounts were philosophically materialistic

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necessarily want to merge such views with the transcendent and claim that all such narratives are in effect theo-narratives? I have argued so far this would be a mistake. Instead we need to freeze, as it were, moments in the evolutionary narrative in order to pay special attention to the particular theo-drama that is going on at any given time.

<sup>18</sup> For example, different possibilities include; religion is not biologically adaptive, so human nature is like a 'blank slate', or religion is an adaptation that has evolved under the selective pressure of the need to cooperate, either as an adaptation, that implies a link to genetic characteristics, or (more convincing in my view) as an adaptive phenomenon, that religious belief enhances cooperation and so religious communities survive better. In the former, adaptation scenario debates exist as to the timing of the appearance of this particular trait(s), was this prior to the emergence of the hominid line, or coincident with modernity or sometime in between? For a discussion of these and other important questions see especially Justin L. Barrett, 'Metarepresentation, *Homo religiosus*, and *Homo symbolicus*' in Christopher N. Henshilwood and Francesco D'Errico, eds, *Homo symbolicus: The Dawn of Language, Imagination and Spirituality* (Amsterdam: John Benjamins, 2011), pp. 205-224; David Sloan Wilson, 'The Human Major Transition in Relation to Symbolic Behaviour, Including Language, Imagination and Spirituality', Henshilwood and D'Errico, *Homo symbolicus*, pp. 133-139. .

they could not be taken seriously. While he had a wider cosmic vision of creation, he did not give creatures other than humans any significant role in his theology.

Evolutionary biologist Jeffrey Schloss has described evolution in terms of a play on an "ecological stage." He suggests, "The lines, the players and even the plot may change over evolutionary time, though they are ever constrained by the props and setting and choreographic syntax of the ecological moment."<sup>19</sup> While I agree with the analogy, I suggest that we can go even further than this, in that ecology is rather more dynamic than this view might imply. Of course, the degree of awareness of divine action will be different according to different levels of consciousness and cognitive capacity, but by placing creatures in kinship with humanity the evolution of life is perceived as integral to the theo-drama. Here I am envisaging the workings of evolution as discovered in biological science more in classical terms like a *secondary cause*. That secondary cause and its gradual unfolding are still under scientific discussion. What becomes much more problematic is if evolutionary explanations become epistemologically *all* that can be said without remainder.

The difficulty of course, when it comes to the millions of years of evolutionary history, is that human imagination finds it hard to appreciate the dynamics of the particular in any 'scene'. Also, given that evolution takes place over a long period of time, the 'play', if it is to do justice to the individual characters concerned, will find itself dealing with long epochs of history where some characters disappear. Sometimes it may prove preferable, therefore, to use a close examination of those creatures that we know, in order to provide an analogy of earlier epochs. A good example of this is the study of primates in order to give clues as to the life of early hominids.<sup>20</sup> Yet such study

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<sup>19</sup> J. Schloss takes this idea from Evelyn Hutchinson. See J. Schloss, "From Evolution to Eschatology," 56–85 in *Resurrection: Theological and Scientific Assessments*, ed. T. Peter, R. J. Russell, and M. Welker (Grand Rapids: Eerdmans, 2002) 58.

<sup>20</sup> There are, of course, disadvantages in such an approach, especially as much of the cultural history of early humans is heavily dependent on speculation about the

also helps open up the realisation of human ignorance, by focusing on the rapid shifts in evolutionary change where improbable events came together in a way that meant only one lineage survived and not others. Such events, such as the increasing aridity in Africa in the early history of the hominid line, *Homo erectus*, which may have been related to an increase in brain size, but at a cost of the loss of other species or variants, means that the tragic nature of the evolutionary drama comes into view.<sup>21</sup> Rather more complex and fascinating is the specific complexity associated with symbolic thinking in different archaic hominids that could be related to brain size and what is known as Dunbar's levels of intention.<sup>22</sup>

A theo-dramatic approach therefore takes proper account of the tragic, one that is intensely vivid in terms of the evolutionary history of the earth, but now brings this into juxtaposition with an understanding of how God works in human history. It therefore will resist any generalisation of evil or attempt to wash over the contingency of events. In theo-drama, in as much as it takes its cues from the death of Christ, the tragic comes to the surface, rather than being absorbed or neutralized. The tragic has been the pattern for the drama of evolutionary history for millennia, as witnessed in the paleontological record, but it might be more appropriate to suggest that a theo-drama is characterized as a comedy in that its ultimate vision is a hopeful one.

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particular social conditions of that history. For a discussion of current debates see J. Zilhao, 'The Emergence of Language, Art and Symbolic Thinking: A Neandertal Test of Competing Hypotheses', in Henshilwood and D'Errico, *Homo symbolicus*, pp. 111-131.

<sup>21</sup> See Simon Conway Morris, *Life's Solution: Inevitable Humans in a Lonely Universe* (Cambridge: Cambridge University Press, 2003), p.249, also reviewed in more detail in E.S. Vrba et al, *Paleoclimate and Evolution: With Emphasis on Human Origins* (Newhaven: Yale University Press, 1995).

<sup>22</sup> Full discussion of this is of course outside the scope of this lecture, but see Paul Pettitt, 'The Living as Symbols; the Dead as Symbols: Problematizing the Scale and Pace of Hominin Symbolic Evolution', in Henshilwood and D'Errico, *Homo symbolicus*, pp. 141-161.

In theological terms theo-drama forces us to acknowledge humanity's role as *subjects*, a pattern of thinking that scientific methodology deliberately tries to resist.<sup>23</sup> One of the key differences, therefore, between a theological and scientific approach to evolutionary history is that in theological terms human beings deliberately and self-consciously *enter into that history*. On the other hand, while evolutionary science attempts to be objective, there are subjective elements in the myths that shape the way that evolutionary science is presented.<sup>24</sup> This is part of the fascination with evolutionary science, different elements provide competing narratives that try to capture our attention, imagination and perhaps even our commitment. The crucial difference in epic accounts is that we are not necessarily aware of any subjective elements. This may also be the power of the new evolutionary atheism in that it wears a mask of objectivity in rejecting religion but moves its subjects so that they feel part of a grand, or even noble, scientific enterprise.

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<sup>23</sup> Here I am not suggesting that science does not recognise the psychological phenomenon of subjectivity as that which can be analysed, but in order to practice science, the observer has to try and distance him/herself from what is under observation. Even where there are exceptions, such as participant observation in social science, or even the impact of the observer on results of physics, the results are by their nature considered as far as possible to be 'objective', rather than 'subjective', and admission of the latter would amount to 'unscientific' results. It is this kind of methodology that distorts the meaning of theodrama according to Balthasar's argument, so that he can suggest that: 'It [sic-theodrama] so overarches everything, from beginning to end, that there is no standpoint from which we could observe and portray events as if we were uninvolved narrators of an epic. By wanting to find such an external standpoint, allegedly because it will enable us to evaluate the events objectively (*sine ira et studio*), we put ourselves outside the drama, which has already drawn all truth and all objectivity into itself. In this play, all the spectators must eventually become fellow actors, whether they wish to or not'. Balthasar, TD 2, 58.

<sup>24</sup> At the moment I am going to leave to one side the reception or otherwise of Stephen Jay Gould's theory of punctuated evolution. This is because macro-evolutionary processes are operative at species level, rather than operating at the level of the organism. Many biologists are not yet convinced that this theory is necessary in order to account for observed changes. If we do allow for such changes, then punctuated evolution would be the time of intense drama for that species at a given geological time, where, like Gould, species stands in for individuals, though of course not in any self-conscious way. Even here what is witnessed is the emergence of a new species over many thousands of years in a species lifetime of around four million years. I have discussed this in more detail in Deane-Drummond, *Christ and Evolution*, pp. 12-22.

## Theo-dramatics and contemporary evolutionary debates

We can now ask more specifically if this theo-dramatic account of God is ever going to be compatible with contemporary debates in evolutionary science? Just to recap, I am arguing here for a *theological* starting point, then making sense of evolution, rather than the other way round. I am not expecting those who have no experience of religion to find such a metaphysical starting point acceptable. Rather, given certain premises, belief in God and the incarnation, in what way can we understand that belief and still make sense of evolution? Is religious belief still possible in such a scenario? This is surely the spirit behind the inauguration of Boyle's lectures: a defence of the reasonableness of religious belief as defined in its own terms in the face of pressures from modern science.

If I restrict discussion to microevolution, where biologists are more in agreement, there are still heated debates about the way in which natural selection works. Although Stephen Jay Gould is often known best for his stress on evolutionary contingency, he also argued for constraints in evolution, both as a consequence of particular histories, and as result of physical properties.<sup>25</sup> The evolutionary consequence of a particular history in effect locks organisms to particular specialist modes in a way that reduces the capability of those organisms to evolve. But the manner in which such species end up arriving at such a constrained position is, for Gould, fortuitous and as a result of the random walk of evolution through natural selection.

Simon Conway-Morris, on the other hand, is much bolder in his interpretation of constraints in evolution, pointing to the numerous examples of evolutionary convergence, understood broadly as similarities in form and function, from molecular biology through to physical characteristics, when faced with similar environmental

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<sup>25</sup> Stephen Jay Gould, *The Structure of Evolutionary Theory* (Belnap/Cambridge(Mass): Harvard University Press, 2002), p. 49.

conditions. Conway-Morris goes further than Gould in arguing for a *directional signal* in evolution. He therefore believes that human beings are inevitable, so that if the tape of history were to be played again and again, human beings would turn up *again and again*. Gould, on the other hand, while he recognises constraint, resists the idea that there is an inbuilt evolutionary flow towards human beings, rather, for him constraints flow from random narrowing of evolutionary flexibility concurrent with specialisation to a specific ecological niche. Would either view make sense in theo-dramatic terms? My answer is yes, for whereas Gould's position would amount to pure divinely dramatic improvisation, Conway Morris's view allows for a specific divinely directed plot, even if details are flexible. Of course, I should stress once again that neither *needs* a theological explanation, but both are entirely compatible with such an account.

Other aspects of evolutionary research are still unfolding. Recent research on evolution and development by David Stern on fruit flies tends to support the idea of restraint at the level of molecular genetics. He has found that evolutionarily significant mutations accumulate at certain hotspot genes and even specific portions within those genes.<sup>26</sup> This goes some way to explaining examples of parallel evolution between different populations of the same species. The remarkable fact is that even though other genes are also involved in the regulation of specific characteristics, only some of them are active in evolutionary terms. For example, hundreds of genes regulate the pattern of fine epidermal projections or trichomes on *Drosophila melanogaster* larvae, but only *one* of these genes, *shavenbaby*, has evolved variants which alter that pattern of trichomes. The reason for this seems to be that this particular gene plays an integral role in the development of trichomes, so that patterning genes marking out spatiotemporal information regulate the expression of the gene *shavenbaby*, which then in turn regulates the development of trichomes.<sup>27</sup> These findings show not only the

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<sup>26</sup> David L. Stern and Virginie Orgogozo, 'Is Genetic Evolution Predictable', *Science*, February 2009, 323: 746-751. See also David Stern, *Evolution, Development and the Predictable Genome* (Greenwood Village: Roberts and Company, 2010), pp. 149-74.

<sup>27</sup> Other genes that also regulate trichome formation are either also involved in

incredible complexity of gene regulation in a relatively simple organism, a fruit fly larva, but also the crucial evolutionary importance of constraints. Further, and significantly, these constraints seem to have a molecular basis.<sup>28</sup> Gene expression is also known to vary depending on genetic background, a phenomenon known as *epistasis*.<sup>29</sup>

The above demonstrates the interplay of contingency and constraint in evolutionary theory in a way that is at least compatible with a theo-dramatic interpretation of events. In the dramatic emergence of species the contingency of external conditions are in dynamic interaction with historically evolved constraints. The pattern of contingency and constraint is not yet properly understood, but provisionally can be thought of integral to a *drama of life*, but where full awareness of that drama only finally becomes explicit and self-conscious in the human species, *Homo sapiens*, or perhaps in some other earlier hominid lines.<sup>30</sup> The possibility of sharing in a

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other crucial functions, so are not favoured in evolutionary terms, or they still allow for some trichome development, and so would not be visible in evolutionary terms. Variants in *shavenbaby* are also related to variants in the regulation of that gene, rather than the gene itself, known as *cis*-regulatory elements (CREs). The crucial evolutionary role of CREs across a range of species suggests that it is far too simple to think of evolution just in terms of evolution of protein products. Stern and Orgogozo, 'Is Genetic Evolution Predictable?'

<sup>28</sup> How far this might work as an explanation of other 'hotspot' genes remains to be seen. Michael Shapiro, for example, who works with sticklebacks, has found other 'hotspot' genes that do not have the same crucial regulatory function as *shavenbaby*. Julie Kiefer, 'Primer and Interviews: Molecular Mechanisms of Morphological Evolution', *Developmental Dynamics*, 239 (2010), 3502 full article pp, 3497-3505.

<sup>29</sup> This can impact on the rate of evolution in the short terms as more variability shows up with the presence of a given gene mutation. Contingency is therefore present along with constraints, and this contingency is not simply mapped directly onto variations of single gene expressions, but it is far more complicated. Precisely *how* constraints operate at a molecular level to produce *convergent* phenotypic characteristics between species for given environments is much harder to explain in molecular terms compared with the parallelism case, though *some* conservation of crucial gene regulating factors exists across species, such as the Pax 6 found to regulate vertebrate eyes in mice and compound eyes in fruit flies.

<sup>30</sup> This topic is outside the scope of this lecture, but I am thinking here of Neanderthals, that have in popular culture received a bad press, but may have been cognitively and symbolically sophisticated and even disappeared not by conflict but

*performance*, it seems to me, makes for a more readily accommodated perception of inclusiveness with other finite creatures, compared with, for example, a simple portrayal of evolution in terms of a rational system of truth claims.

It is also worth dwelling for a moment on what might be termed *cooperative* theories of evolution. Martin Nowak is an evolutionary biologist from Harvard University well known for mathematical modeling of human behavior based on what might be broadly termed the prisoner's dilemma. This states, in simple terms, that it is more effective for social groups to cooperate, but it is always tempting for individuals to seek the benefits of the social group, without contributing to the cost of such cooperation. In other words, to cheat or defect. Nowak goes further in his claim that cooperation is *built into* the process of evolution from the beginning, from the first fragile life forms through to the most neurologically advanced species.<sup>31</sup> Nowak identifies five different mathematically consistent 'rules' for the evolution and maintenance of cooperation, operating in different ways to enhance the likelihood of cooperation conferring a fitness advantage.<sup>32</sup> In the long term, defection or refusal to cooperate does not seem to be favored in evolutionary terms.

At this juncture it is important to distinguish between the evolution of biological cooperation, that can be found in, for example, social insects, and what might be termed deliberative moral capacities. While the two are certainly not the same, they are not likely to be completely disconnected either. There is a strong tendency for biologists to elide both types of behavior, which is clearly mistaken, or for philosophers to assume

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through assimilation with *Homo sapiens*. For a fascinating discussion see Zilhao, 'The Emergence of Language', pp. 111-131.

<sup>31</sup> Martin A. Nowak, *Evolutionary Dynamics: Exploring the Equations of Life* (Belknap Press: Cambridge (Mass): Harvard University Press, 2006). See also, M. Nowak, 'Five Rules for the Evolution of Cooperation', *Science*, 314 (8), 2006, pp. 1560-1563.

<sup>32</sup> These are, briefly, Hamilton's rule, related to 'kin selection'; Trivers' direct reciprocity rule based on expectation of later reward; thirdly an increase in 'reputation', fourthly, network reciprocity where the cooperators form alliances or clusters, and, more controversially, group cooperative selection, rather than group defection.

that *only* sophisticated linguistic humans can exhibit genuinely moral behavior. Precisely how the human cognitive power of moral abstraction is related to more innate tendencies to cooperate is unclear, but the former does depend on what might be termed higher cognitive and symbolic capabilities. Claims that human societies operate just through absolute abstraction either in the moral sphere or the scientific one should be met with a certain amount of skepticism. The dynamic drama of contingency and constraint expressed eventually either as cooperation or selfishness is also likely to be operative at different levels, but that drama becomes self-conscious only in human beings.

Evidence for genuine cooperative tendencies also comes from a close study of the behavior of captive primates by Frans de Waal.<sup>33</sup> "Morality" here, like cooperation, is a biological term and means that judgment has taken place within group standard norms. It also serves to distinguish between more sophisticated cooperative social action, and innate automated cooperative behavior, as in insects. What may be selected for in evolutionary terms is a *general* capacity to be cooperative and learn in social groups. Some evolutionary psychologists want to go further than this and claim that *specific* human relational skills reflect evolved discrete modular components of brain function.<sup>34</sup> While I agree that the social skills set of the primate mind may well be

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<sup>33</sup> Frans de Waal, *The Age of Empathy: Nature's Lessons for a Kinder Society* (London: Souvenir Press, 2009). While the discussion of the experimental basis for cooperative (pro-social) behaviour in primates is fascinating here, there are some philosophical gaffs, such as the implication that human morality can be shaped by primate behaviour. While such a naturalistic view of ethics is understandable, the case is not adequately presented.

<sup>34</sup> Tooby *et al* present a model of cooperation according to a welfare/trade off ratio, where they present the case that the brain computes the relative welfare of self to another in a precise manner, according to specified brain functions. This ratio depends on genetic closeness, the kinship index, and varies according to key motivational factors such as sexual drive, altruism, and anger. The statistical correlations between welfare/trade off ratios and emotional states are claimed to support an evolutionary origin of specific computational processes in the human brain. John Tooby and Leda Cosmides, 'The Evolutionary Psychology of the Emotions and Their Relationship to Internal Regulatory Variables', in M. Lewis, J.M. Haviland-Jones

distinct from the skill set for tool making<sup>35</sup>, claims that individual human behaviors are *tied* to specific and evolved modular elements in the brain operating rather like an advanced computer seem to me to go beyond the available evidence.<sup>36</sup>

From the account so far we can say, perhaps, in a qualified way that cooperation has appeared in evolutionary history on a number of occasions, that it is *convergent* – and it is this cooperation perhaps that leads eventually to the emergence of wisdom. I would also concede that there could be specific forms of natural wisdom in other social species, just as ‘wild justice’ is identified in social animals.<sup>37</sup> How far and to what extent any traits representing wisdom shows convergence, that is, similar phenotype or

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and L. Feldman Barrett, eds, *Handbook of Emotions* (New York: Guilford, 2008), pp. 114-137. The evidence for the evolutionary origin of specified computational processes seems highly speculative, as is the concept that anger in men or sexual attractiveness in women actually orchestrates cooperation by resetting in the welfare/trade off index in the other party. Aaron Sell, John Tooby and Leda Cosmides, ‘Formidability and the Logic of Human Anger’, *PNAS*, 2009, 106 (35), pp. 15073-15078.

<sup>35</sup> The specific emergence of social intelligence seems to operate in relation to cultural complexity in a positive feedback loop, so that intelligence is as much dependent on cultural factors as innately inherited characteristics. For an overview see Andrew Whiten and Carel P. van Schaik, ‘The Evolution of Animal ‘Cultures’ and Social Intelligence’, in Nathan Emery, Nicola Clayton and Chris Firth, eds., *Social Intelligence: From Brain to Culture* (Oxford: Oxford University Press, 2008), 189-216. A discussion of the basic evolutionary need for cooperation in early hominid societies is fairly well recognised. It seems likely that the external ecological environment as well as the social environment interacted with the way social intelligence emerged in these communities. The Machiavellian version of the social intelligence hypothesis in early human societies puts most emphasis on skills of deception and counter-deception. An alternative is to suggest a more positive feedback loops between social and ecological competence, thus cooperation is the default position, rather than calculated. Even if reciprocal calculation could be unconscious, rather than conscious, the point is that it may not be necessary if an alternative more positive model of cooperation is put in its place. While the ecological and social niche construction hypothesis is also speculative, it has the advantage of not making far-reaching claims about the precise architecture of the brain. See Kim Sterelny, ‘Social Intelligence, Human Intelligence and Niche Construction’, in Nathan Emery, Nicola Clayton and Chris Firth, eds., *Social Intelligence: From Brain to Culture* (Oxford: Oxford University Press, 2008), pp. 375-392

<sup>36</sup> See references in note 31.

<sup>37</sup> Marc Bekoff and Jessica Pierce, *Wild Justice: The Moral Lives of Animals* (Chicago: University of Chicago Press, 2009).

behavior due to similar external pressures, or parallelism, that is, having a similar genetic lineage, is impossible to discern, as this is largely speculative.

There are of course rather too many occasions where human beings are free to conduct what society judges as evil acts according to their own selfish desires. Aquinas long ago recognized that a person commits what they see as a good for themselves, even if others will recognize this as an evil act.<sup>38</sup> Even Hitler thought (wrongly of course) that what he planned was a good for that society. Sin could be thought of as an inability to see the good for all, understood in its most extensive sense, balanced in relation to the good for each. Sin at its most pervasive and deceptive is evil wrought in the name of a supposed good. According to the theo-dramatic metaphor that I have been postulating this makes sense, for in any good drama there will be scenes where cooperation allows breakthroughs in the unfolding drama towards God-given ends, but where the possibility of what might be termed tragic cooperation working for horrendously evil ends disguised as a good also hovers in the background.

### **Christ as the theo-dramatic way, the truth and the life.**

As well as expressing the dramatic ontological act of God in history, the coming of Christ can be thought of as one who came to show in his person the manner in which human beings are to live out their human and social life. His own human capacity for

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<sup>38</sup> Aquinas went as far as suggesting that evil is related to the good as a privation of what the good should be like, rather than simply the absence of the good. *Summa Theologiae, Vol. 8, Creation, Variety and Evil*, trans. Thomas Gilby (1963) (Cambridge: Cambridge University Press, 2006) 1a, Qu. 48.3. On the other hand, in human relationships sin is related to what might be termed a *distorted* good, so that it is in the will that Aquinas finds sin rooted, 'the will, when lacking direction by rule of reason and the divine law, intending some transient good, directly causes the sinful action, and indirectly the disorder, which was not intended', *Summa Theologiae, Vol. 25, Sin*, trans John Fearon (Cambridge: Cambridge University Press, 2006), 1a2ae, Qu. 75.1 More explicitly, 'Every sin arises from an inordinate desire for something good or from an inordinate escape from evil. However, both of these presuppose love of the self', *Summa Theologiae, Vol. 25, Sin*, trans John Fearon (Cambridge: Cambridge University Press, 2006), 1a2ae Qu. 77.4.

self-sacrifice and obedience to God was partly shaped by naturally defined characteristics that he inherited from his human mother, Mary. But he also learnt to express his religious belief through an educative process at home and in the social and political life of his generation. These capacities were, of course, imbued with God's graceful action working through his dedication to prayer and communion with God, so that according to the early Church's tradition his own humanity was gradually divinized (or deified) during his lifetime.<sup>39</sup>

If other human beings choose to follow this pattern, then they would try and perceive goodness through the crystal lens of truth set forth by the purity of Christ's manner of living and dying and rising again. The specific possibility of what might be termed *absolute cooperation* in relation to goodness and truth is only possible for human beings, which may be one reason for the affirmation of Romans 8, that all creation waits in expectant and eager longing for human beings to act. When we reflect on the tremendous practical ecological and social problems facing our own generation, many of these have tragically been of our own human making. However, the hope that Christian faith in Christ can inspire is one that affirms that self-destruction and that of our world need not be the final act in the theo-drama of human and creaturely life.

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<sup>39</sup> See Deane-Drummond, *Christ and Evolution*, p. 98.

# **Response to Professor Celia Deane-Drummond's Boyle Lecture**

## **Wising Up: The evolution of natural theology**

**Fount LeRon Shults**

### **Introduction**

I have given my brief responsive remarks the title: "Wising up: the evolution of natural theology." I use this play on words, this adaptation and expansion of images and metaphors developed by Professor Deane-Drummond in her Boyle lecture and elsewhere, as an entry point for reflecting on her particular proposal and its place within the broader context of the contemporary encounter between science and the Christian religion. In more than one sense, her work illustrates the "wising up" of theology which, also in more than one sense, has been and must continue to "evolve" within its own complex niche of overlapping ecclesial, social and academic environments.

My response has two parts. First, I call attention to the value and significance of Professor Deane-Drummond's proposal, which I call "the sophianic theo-drama hypothesis," for the ongoing development of Christian theological responses to the empirical findings and theoretical formulations within sciences such as evolutionary biology and psychology. In fact, I think her proposal is an exemplar of a particular type of theological response that offers the most promising adaptation of the Christian tradition within this broader dialogue.

However, simply praising the main speaker does not get us very far, so in the second part of my response, I outline some challenges to this *way* of proposing, challenges which, in my view, must be taken yet more seriously even – and perhaps

especially – by those in the vanguard of theological engagement with the natural sciences. What further adaptation, if any, will be necessary for “natural” theology to survive, or perhaps even thrive, within the competitive intellectual environment of the contemporary academy? Can it find its own niche, or will it be compelled to migrate or adapt in some other way?

### **I. The sophianic theo-drama hypothesis as a religious “adaptation”**

My use of the term “adaptation” is not intended negatively in any way. The transmission of any tradition from generation to generation requires a balance between maintaining the integrity and coherence of the system and developing new functionally adequate responses to environmental changes. This also applies to the tradition of Christian theology, and the sub-tradition of “natural theology” within it, which has indeed evolved since the first Boyle lectures, and now must continue to adapt. Metaphorically speaking, we can think of Christian theological hypotheses as complex functional strategies for nourishing and nurturing a particular set of religious communities within a late modern scientific and philosophical environment that sometimes feels very hostile indeed.

Some might find it tempting to repeat fossilized formulations without engaging any scientific challenges, others to concede to any and all scientific challenges without concern for communal integrity. One path leads to the petrification, the other to the dissolution of the Christian tradition. As clearly articulated in her lecture this evening, and further elaborated elsewhere, especially in *Christ and Evolution: Wonder and Wisdom* (2009), Professor Deane-Drummond takes the difficult middle way between the twin temptations of ignoring and idolizing science. It takes great courage and commitment, not to mention an enormous amount of energy, to take this middle way.

There is indeed much wisdom in her approach – materially, as well as methodologically. Deane-Drummond’s material hypothesis is quite complex, but the

central claim on which I will focus here can be summarized quite succinctly: Christians may interpret Jesus Christ as the *dramatic* expression of the *Wisdom* of God in a way that is compatible with contemporary *evolutionary* theory. The warrants and argumentation for this apparently simple claim are quite sophisticated. Her work is characterized by rigorous attempts to fulfill all four of what we might call the desiderata of constructive Christian theology: a faithful interpretation of the biblical witness, a critical appropriation of the theological tradition, a conceptual resolution of relevant philosophical issues, and a plausible elucidation of contemporary human experience.

Although it does not play a large role in the current lecture, Deane-Drummond has argued elsewhere, in careful dialogue with current critical biblical scholarship, that early Christians already interpreted Jesus in light of the Wisdom tradition of Hebrew literature. For example, in the Wisdom of Solomon, wisdom is portrayed as a feminine figure who fills all things and holds them together (1:6-7), who, more mobile than any motion, is creatively pervading and upholding all things (7:24-27). This language is applied to the risen Christ in the famous hymn of Colossians 1:15-20: "...for in him all things in heaven and on earth were created... all things have been created through him and for him. He himself is before all things, and in him all things hold together."

Professor Deane-Drummond also appropriates a vast array of resources from different streams within the Christian theological tradition, relying most heavily on Eastern Orthodox, Roman Catholic and Anglican theologians. She is committed to maintaining the intuitions behind the Chalcedonian creed while still squarely facing the shift in what "fully human" means for us today in light of evolutionary theory.

She also exhibits a commitment to the last two desiderata: doing theology in a way that is intellectually and existentially responsible. Professor Deane-Drummond offers real arguments for her position, engaging relevant philosophical debates on issues such as causality, and links them to real concerns facing humanity as a whole such as the environmental crisis. Deane-Drummond's integration of the sophianic and

the dramatic, especially as developed by Hans Urs von Balthasar, provides a way of attending more carefully to the element of tragedy within the human longing for wisdom that characterizes *Homo sapiens*. Elsewhere I too have argued (Shults, *Christology and Science*, 2008), although not nearly so extensively, that utilizing the dynamic and relational language of the sophianic tradition appears to be the wisest strategy to adopt if one's goal is reconstructing the classical doctrines of Christology in dialogue with contemporary science.

There are certainly objections internal to the Christian tradition that could be and ought to be raised. Some might worry that her proposal is a form of adoptions. Others might regret her lack of attention to resources within other Protestant traditions. Some would be concerned that her emphasis on contingency easily lends itself to a rejection of divine omnipotence, or inadequately protects the distinction between God and the world. What about the problem of evil? Her sophianic theo-drama hypothesis deals respectfully with the tragedy of creaturely suffering but does not ultimately explain why an Omni benevolent being allows it.

Of course such concerns are not unique to Deane-Drummond's proposal; these are the kinds of problems with which all Christian theologians must wrestle. In my judgment, the general adaptive strategy she has developed is one of the best options available for contemporary theologians within the Christian tradition. Rather than focus on these internal questions, however, in the second part of my response, I want to look at the adaptive task with a wider lens. What is happening to the niche within which theology, especially "natural" theology, is attempting to adapt? Exactly why – and how – is it attempting to adapt within this niche?

## **II. Is the "natural" niche of Christian theology shrinking?**

As I indicated in the first part of my response, theological hypotheses are a kind of *religious* adaptation. In other words, they are (whatever else they may be) strategies

developed within religious coalitions to survive and thrive. The term “religious” is contentious in almost every environment, but for the sake of these brief comments I will use it in a way that is increasingly common among scientists in fields such as paleoarchaeology, cognitive science, moral psychology and cultural anthropology: shared imaginative engagement with supernatural agents. Here “supernatural” simply means not necessarily embodied in the natural causal nexus, and “agent” refers to any entity or force that is attributed intentionality. This constellation of disciplines, which I will call the bio-cultural sciences of religion (BCSR), offers compelling evidence that this feature (widespread interaction with discarnate intentional entities) has been exhibited in all known societies, past and present.

In the sense we use the term today, “theology” evolved relatively late in human history; only with the emergence of complex literate states where unity of belief, ritual and social identity was problematized by pluralistic encounters. During the axial age, the idea of *one* ultimate Supernatural Agent emerged in different ways across east, south and west Asia. Christian theology is one example of a west Asian *mono*-theistic idea of such an Agent, whose transcendent intentionality was considered to be the ground for inclusion (or exclusion) with an ultimate supernatural Coalition. In this sense, we could say that theology was an adaptive strategy that helped religious organizations transmit their modes of engagement with the supernatural to new generations. Axial age religion was its original and “natural” social niche.

In another sense, however, theology – like science – is not “natural.” Thinking scientifically – and theologically – is hard work, and requires extensive training; these intellectual engagement strategies must be cultivated. Thinking (as well as acting and feeling) religiously, however, *is* natural; that is, shared imaginative engagement with supernatural agents (or “gods”) comes naturally to human beings today because of the phylogenetic inheritance of cognitive and coalitional mechanisms that helped our early ancestors survive. We might call these theogonic (or god-bearing) mechanisms.

Research in cognitive psychology suggests that gods are “*born*” naturally in the human mind as a result of a hyper-sensitive cognitive device that detects agency in the natural environment when confronted with ambiguous phenomena. This first sort of mechanism helped (some of) our ancestors find (or avoid) important agents like predators, prey, protectors or partners. However, the hypersensitivity of the cognitive tendency to detect intentionality led to many false positives; faces are detected in clouds, ghosts in the shifting of shadows or smoke, divine blessing or punishment in unpredictable weather patterns. But of course not all of these detected supernatural agents stick around.

Although gods may easily appear in the mental space of human life, it takes a village to nurture and care for them. In other words, supernatural agents must be *borne* in a special way within the social space of human life. The gods that stick around are those that are interpreted as having some social interest in and power over what happens within and to the in-group. Once detected, shared engagement with such gods – who are always watching and able to punish or reward – can lead to a decrease in cheating and defection to out-groups. This second sort of mechanism helps to explain (inter alia) the emergence of altruistic behavior in a way that is consistent with natural selection. The cohesion of a group is protected when its members do not hurt one another, and are even willing to signal costly commitment to the coalition by hurting themselves (e.g., participating in painful rituals or other forms of self-sacrifice) or hurting members of out-groups (e.g., promoting exclusive or violent practices).

Empirical findings within the disciplines of BCSR suggest that these detection/protection mechanisms come naturally to most people. So where does theology come in? Part of the “tragedy of the theologian” (to use Pascal Boyer’s phrase) is that the vast majority of regular religious believers do not really *need* abstract doctrinal arguments about the incarnation of ultimate Supernatural Agents, for example, to hold together their everyday mental and social lives. Even if they can articulate the orthodox doctrine of God authorized by the church universal at

Chalcedon, psychological studies (and a moment's reflection on our own experience as – or of – religious believers) show that under stress people's actual cognitive and coalitional engagement quickly and automatically collapses back into the natural default: the detection of supernatural agents (such as angels, saints or even the risen Jesus) who are interested in the protection of their own smaller in-group. Those of us who have labored long in both academic and ecclesial environments know how difficult it is to get many believers to understand, or even to see the importance of, complicated doctrines like the incarnation.

What does any of this have to do with the evolution of natural theology? *Theology* in general may have emerged in the axial age, but the environmental niche in which *natural* theology evolved was the competition of ideas within early modern science and philosophy, in which only the empirically sustainable and explanatorily powerful survived. Natural theology has traditionally been distinguished from *revealed* or confessional theology, which appeals explicitly to the detection of divine intentions (e.g., in a holy text), codifying and to some extent managing the coalition's shared engagement with its Supernatural Agent. This latter kind of theology serves an adaptive purpose, holding together the coalition in a more or less hostile social environment.

Now Professor Deane-Drummond's project seems to blur the lines, appropriately I think, between revealed and natural theology; in my view, this distinction itself is a remnant of other ancient and modernist dualisms. However, we can still ask the question: in what niche and for what purpose does her sophianic theo-drama hypothesis operate? Her description of the task she has selected makes clear that her proposal is meant to function as a way of protecting the cohesion of (some parts of) the Christian tradition as it adapts to a changing conceptual environment. But we might wonder about the viability of that other task, namely, the development of theological hypotheses that *could* function in the broader context of the academy or the public sphere as "defenses of Christianity in the wake of pressures from natural science." It

seems to me that the latter would require argumentation that does not appeal directly to controversial interpretations of the revelation of – or shared engagement with – the supernatural agents of one’s own religious coalition.

In other words, it would require something like classical natural theology. This may have been part of Robert Boyle’s intention when he indicated his desire that the original lectures series should not deal with controversies between Christians, i.e., with issues that might highlight – or even widen – fractures within the coalition. But it also seems to me that the conceptual environment within which such argumentation could be productive or even possible is shrinking rapidly. Theologians who are concerned about the psychological and political health of Christian (and other) coalitions need to “wise up” to the fact that this niche may even be in danger of disappearing as the territory is taken over by naturalist and secularist intuitions. Debates across the sciences and within the public sphere increasingly reject appeals to supernatural agency or coalitional authority in arguments about the causal nexus of the physical world or the normative organization of the social world.

Professor Deane-Drummond describes her task as a demonstration of the possibility of a compatibility between a reconstructed articulation of the doctrine of the incarnation and a scientifically responsible acknowledgement of the explanatory power of cutting edge evolutionary theory. She explicitly notes that science itself has no *need* for such demonstrations of compatibility. What, then, is the environmental niche within which such proposals can serve a (re)productive function? Are they necessarily limited to the Church – or a church? Can they only survive within the guilds of confessional theologians and religious professionals? Professor Deane-Drummond’s work has consistently called our attention to the ecological crises of our world, and urged theologians to contribute. If theology – natural or otherwise – is to survive or even (I dare to hope) thrive intellectually and pragmatically in such a global environment, it may (I dare to suggest) also have to develop new adaptive strategies that do not include arguments based on the detection and protection of our own favored

Supernatural Agent Coalitions. Let us hope that the niche created by the revival of the Boyle lectures continues to provide an environment within which such questioning can thrive.

## The Tenth Boyle Lecture

**2013**

The tenth Boyle Lecture will take place in early 2013.

The trustees are delighted to announce that the lecturer will be **John Polkinghorne**

**The Revd Canon John Polkinghorne KBE FRS** began his career as a physicist at Trinity College, Cambridge. In 1956 he was appointed Lecturer in Mathematical Physics at Edinburgh. Returning to Cambridge as a Lecturer in 1958, he was promoted to Reader in 1965 and Professor in 1968. In 1974 he was elected FRS and awarded the ScD by Cambridge. In 1979 he resigned his professorship to train for the Anglican priesthood, studying at Westcott House. He was Canon Theologian of Liverpool Cathedral 1994-2005 and was appointed an honorary professor of physics at the University of Kent in 1984. In 1986 he was appointed Fellow, Dean and Chaplain at Trinity Hall, Cambridge, and in 1989 he was appointed President of Queens' College, from which he retired in 1996. He was made KBE in 1997 and in 2002 he was awarded the Templeton Prize for Science and Religion in 2002 and became the Founding President of the International Society for Science and Religion. Dr Polkinghorne is an Honorary Fellow of St Chad's College, Durham, St Edmund's College, Cambridge, and Trinity Hall, Cambridge. He is the author of many books about science and religion and has been a trustee of the Boyle Lectures since 2004.

### **Book Launch**

The tenth Boyle Lecture in 2013 will also see the launch of a book which reproduces (with commentaries) the first ten lectures in the series:

Russell Re Manning and Michael Byrne (eds.) *Science and Theology in the Twenty-first Century* (London: SCM Press, 2013) (*forthcoming*)

## Previous Boyle Lectures

2004

Lecturer: John F. Haught

**"Darwin, Design and the Promise of Nature"**

Responder: Richard Chartres

2005

Lecturer: Simon Conway Morris

**"Darwin's Compass: How Evolution Discovers the Song of Creation"**

Responder: Keith Ward

2006

Lecturer: Philip Clayton

**"From Complexity to Anthropology to Theology"**

Responder: Niels Gregersen

2007

Lecturer: John D Barrow

**"Cosmology of Ultimate Concern"**

Responder: Lord Rees of Ludlow

2008

Lecturer: Malcolm Jeeves

**"Psychologising and Neurologising about Religion: Facts, Fallacies and the Future"**

Responder: Fraser Watts

2009

Lecturer: Keith Ward

**"Misusing Darwin: The Materialist Conspiracy in Evolutionary Biology"**

Responder: John Polkinghorne

2010

Lecturer: John Hedley Brooke

**"The Legacy of Robert Boyle – Then and Now"**

Responder: Geoffrey Cantor

2011

Lecturer: Jürgen Moltmann

**"Is the world unfinished? On interactions between science and theology in the concepts of nature, time and the future"**

Responder: Alan Torrance

