

# *The Boyle Lecture 2012*

with Celia Deane-Drummond, "Christ and Evolution: A Drama of Wisdom?";  
F. LeRon Shults, "Wising Up: The Evolution of Natural Theology"

## CHRIST AND EVOLUTION: A DRAMA OF WISDOM?<sup>1</sup>

by *Celia Deane-Drummond*

*Abstract.* This paper argues that a genuine engagement of Christianity with evolution needs to include a discussion of Christology. Further, it develops a particular approach to Christology through a theo-dramatic account of incarnation. The somewhat static post-Chalcedon theological categories of divine and human natures are hard to square with contemporary evolutionary accounts of human origins. Once the divine Logos is portrayed in the active categories of Wisdom it becomes easier to envisage divine and creaturely wisdom coexisting in the person of Christ. I argue, in particular, that a focus on God's agency through a modified version of Hans Urs von Balthasar's account of theo-drama invites participation and affirms human agency in a way that grand narratives do not. More particularly, drawing on examples from hominid evolution, contemporary discussion of paleontology and cooperative evolutionary theories, I suggest that the most convincing accounts of evolutionary biology fit into this theo-dramatic account more readily than alternatives. As such, in the spirit of Robert Boyle, this paper deliberately blurs the categories of revealed and natural theology by arguing that we can make sense of the former through concentration on the latter.

*Keywords:* Hans Urs von Balthasar; Robert Boyle; Christology; convergence; cooperation; epic; evolution; grand narrative; hominid; incarnation; kenosis; religious evolution; Sophia; theo-drama; wisdom

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One of the reasons there is a question mark after the title of this paper is that I am intending the discussion to be deliberately exploratory. I am offering this account, therefore, as an exercise in constructive theology that is open rather than closed to further debate. It is my premise that one of the characteristics that have most marked the contemporary

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evolution and religion conversation so far has been a focus on God, rather than a more specific concentration on the person and significance of Christ. While this has the advantage of being inclusive toward other religious traditions, at least theistic ones, the difficulty is that the defining mark of a more specifically Christian theology is left out. On the other hand, those theologians who have concentrated on how to envisage Christ for our times have more often than not ignored the challenge of evolution.

Arguably, 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, therefore, 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 hardly surprising that many theologians wanting to match up a scientific account with God's activity in the world 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 (2006), Christopher Hitchens (2007), or Sam Harris (2010), 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 incredible, perhaps the result of wishful thinking or projection 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 United States, 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 the Boyle lectures was for the defense of Christianity in the wake of pressures from natural science. By this he was not wanting to *undermine* science, but to develop a "natural theology" that could be more in tune with it, while holding to theological premises. By this he was also defending the possibility of a genuine engagement between science and theology. Historian John Hedley Brooke suggests in his Boyle Lecture (2010) that Boyle wanted to work

against the premise of libertines, who thought a scientific virtuoso ought not to be a Christian, or others that if s/he was a person of faith, then s/he could not be a true one. Brooke comments that the endowment of Robert 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, he added that they were not to descend to ‘any controversies . . . among Christians themselves’” (Brooke 2010). Further, and significantly, in Boyle we find an interweaving of natural and revealed theology, with the natural world expressive of divine wisdom. He recognized, above all, the need for a genuine and open dialog, and it is his particular wisdom that is vitally needed today in the wake of pressures from creationism, hostile responses of the new atheists, and public confusion more generally about the compatibility of science and Christian faith.

What I hope to do in this paper, therefore, is to map out a possible ground for a more constructive conversation between how to think about Christ and evolutionary science in the spirit that Robert Boyle intended. Of course, inevitably there will be areas where some tension remains, and I suggest that this is more or less unavoidable. If all tensions go completely, then one of the following options come to the surface. First, theology could collapse *into* science while still asserting its position of faith. Theological shifts to understand God as synonymous with evolution fall into this category. Second, theology could be perceived as no longer viable in a scientific age, so religion or theology is explained away by that science, encouraging a post-Christian stance somewhat similar to shifts away from theological reasoning under pressures from cultural movements such as feminism or postmodernism. There are also what might be termed *withdrawal movements* possible in theology that have a similar end result, where theology turns its back on science and ignores its claims, or imagines theology and science in parallel but noncompeting realms, none of which is very helpful or constructive. I will deal with only some of these difficulties in this paper. 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.

The basic thesis that I develop in this paper is fairly simple. First, the classic accounts of who Christ is are in their theoretical elaboration too detached from accounts of the natural world to be meaningfully related to it. Second, if we are to hold to a traditional account of Christ as both human and divine, one way to do this in a way that still makes sense from an evolutionary perspective is through envisaging Christ as a key player in a dynamic theo-drama. Third, it is possible to envisage evolutionary theory and current debates in evolution as woven into that drama while still retaining their credibility as science.

## CLASSIC TRADITION AND MODERN RESPONSES

A brief look at the way theologians in the early Church came 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. 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 (AD 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 enfleshed 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>3</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 anhypostasia, human nature as an abstract universal, and enhypostasia, the particular human nature in Christ's person (Crisp 2007, 72–89). 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. If I talk to biologists about such theories, the most likely reaction is a blank stare of incomprehension or even incredulity at such beliefs, rather than furthering any fruitful discussion.

It is hardly surprising, given such difficulties associated with classical ontological definitions of Christ's two natures, that there are prominent writers in the contemporary dialog who, if they tackle the topic at all, lean more toward 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 (Peacocke 1979, 248).<sup>4</sup> Jesus appears in the evolutionary story where perfect humanity is manifest. Jesus is therefore one whose deity is likened to a process that *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 recognized or known” (Peacocke 2007, 37). 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. In Peacocke's account Jesus seems to *become* a fully God-informed subject, rather than being endowed with divine subjectivity from the beginning. Traditional belief in the divine Word of God incarnate 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 exacerbated further by a stress on cosmological evolution so that the whole sweep of human history becomes aligned with a grand story of an unfolding emergent cosmology. 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*?

John Haught, another Boyle lecturer in the New Series, has also argued recently for the use of drama in the interweaving of theology and evolution. However, there is a crucial difference in his methodological starting point compared with the position I am arguing for here. The framing for Haught's understanding of drama is the long history of the biological drama of life. Christ's particular history is then identified with that process so that he claims, following the paleontologist and priest of the last century, Pierre Teilhard de Chardin, that "what is really going on in evolution, therefore, is God becoming increasing incarnate in the world" (Haught 2010, 146). Evolution and theology are seamless, so he then adds: "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, as in Peacocke, God's action seems to equate with the grand story of evolutionary emergence, even if now it becomes understood in dramatic language. But what does the God-drama really *mean* if it is equated with the drama of life, however appealing that might seem to our sensibilities?

Beneath the surface there is another problem here that is worth identifying. Evolutionary history, with its tremendously long time scale and habitually reaching back to an account of cosmic history of the earth, almost always becomes a grand narrative or *epic*. Theology may of course also suffer from this tendency as well. What do I mean by epic? In the second of his great trilogy, *Theo-Drama*, Roman Catholic theologian Hans Urs von Balthasar considers whether there is ever a standpoint from which we can be merely observers to a sequence of events, including the events of Christ's death and resurrection (Balthasar 1990, 54). He suggests that we can never be so detached, and if we assume as much, we are deluding ourselves. At its worse, epic becomes deterministic and creates the wrong impression of being objective (Quash 2005, 42). Evolution as incorporating some sort of *necessity* is also a typical reading of evolutionary history.

Rather than using the language of epic, the language of theo-drama encourages viewing ourselves as participants in a story, one where we have a deeper sense of agency, rather than being mere observers to an inevitable process. The difference between drama and grand narrative is that drama puts much more emphasis on agents, on particular activities of particular players and contingent events, while grand narrative stresses the inevitable chain of events in a way that I suggest is ultimately disempowering rather than empowering. Therefore, theo-drama, like drama generally, stresses contingency, freedom of agents, and unexpected twists and turns to the plot.

Crucially, theo-drama as I envisage it takes as its starting point theological categories prior to turning to evolution (see Quash 2005, 2). Theodramatics is therefore 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, but theo-drama is how those actions are specifically connected to God's purpose. Theo-dramatic consideration will therefore include *subjects*, the acting area, or the *stage*, and the movement of the play or *action*, but when considering the incarnation, God in Christ *becomes* one of the subjects and is not simply having oversight of the play. 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.

In the sweep of history, some moments are termed *kairos*, and in theo-dramatic perspective the particular coming of Christ and his passion, 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 God's 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 therefore 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* as a subject in human history. The Orthodox writer Sergii Bulgakov finds in Christ the unity of divine and creaturely Wisdom, but such unity depends both on God being prepared to become human and on humanity being prepared to receive God.<sup>5</sup> While in one sense wisdom remains an ontological category, it also implies activity, *agency*, or in theo-dramatic language, *performance* compared with rather more static classical concepts of divine and human natures. The reception of divine Wisdom/Logos by the Virgin Mary is an expression of the mysterious drama of the economic Trinity, understood not just as the action of God in history, but now God becoming part of that history. But

as drama this also means that Mary had creaturely freedom to turn away from or align with divine intent so that Mary's Yes could also have been No. Such a drama at the heart of the story of the incarnation 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 human view, God appears in the form of a very vulnerable, very human baby. Jesus's divinity only becomes obvious to outside observers in his obedience to the Father through the power of the Holy Spirit, but that does not mean that he was not divine from the beginning of his existence.

Christology in this conception is a *kenotic* Christology, where the eternal God freely and out of love for the world through the Son chooses to become one with human flesh, to become fully human, but without loss of divinity. This is not so much about God "giving up" divine characteristics in order to become human, but showing up divine Wisdom precisely *through* becoming human, the divine incarnate in the flesh witnessed as a vulnerable baby just like every other human person (see Evans 2006). Further, the power of that divinity is also 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 Christ's divinity only becomes visible in the next scene, in the light of the dramatic event of the resurrection.<sup>6</sup>

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 Christ as the Son of 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 theo-drama. Once the drama becomes too controlled, too subject to a fixed or even necessary account of God's action in history, or Christ's coming perhaps the result of an inevitable evolutionary emergence of natural cooperative tendencies in human beings or his death the result of inevitable selfish tendencies, then drama gives way to epic narrative.

#### THE THEO-DRAMA OF CREATURELY, HUMAN, AND RELIGIOUS ORIGINS

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 (Haught 1996, 57).

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. Balthasar made the mistake of assuming that because different evolutionary accounts were philosophically materialistic 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, following Evelyn Hutchinson, 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” (Schloss 2002, 58). 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>7</sup> Yet such study also helps open up the realization 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 hominin line, *Homo erectus*, which may have triggered an increase in brain size but at a cost of the loss of other species or variants (Conway Morris 2003, 249), means that what might be termed the tragic nature of the evolutionary drama comes into view. 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 Robin Dunbar's levels of intention.<sup>8</sup>

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 could be the subject of another paper, 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. For example, different possibilities include (a) religion is not biologically adaptive, so human nature is like a "blank slate" on which religion develops *de novo* in different cultures, or (b) religion is an adaptation that has evolved under the selective pressure of the need to cooperate, either as an (b1) adaptation that implies a link to genetic characteristics or (perhaps rather more convincing in my view) (b2) as an adaptive phenomenon so that religious belief enhances cooperation and so religious communities survive better, or some combination of b1 and b2. In the former b1, 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 what has been termed "modern humans" or sometime in between (Barrett 2011, 205–24; Wilson 2011, 133–9)? 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 or theological language. The point is that religion is about an 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.

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>9</sup>

One of the key differences, therefore, between a theological and scientific approach to evolutionary history is that in the former 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>10</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.

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, and 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 or even convincing. 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 defense of the reasonableness of religious belief and yet acknowledgment of what might be termed *natural wisdom* along with the pressures toward disbelief stemming 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 (Gould 2002, 49). 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 conditions. Conway Morris goes further than Gould in arguing for a *directional signal* in evolution (Conway Morris 2003). 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 recognizes constraint, resists the idea that there is an inbuilt evolutionary flow toward human beings. Rather, for him constraints flow from random narrowing of evolutionary flexibility concurrent with specialization 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 (Stern 2010, 149–74; Stern and Orgogozo 2009, 746–51). 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 that 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>11</sup>

These discoveries show not only the incredible complexity of gene regulation in a relatively simple organism, a fruit fly larva, but also the crucial evolutionary importance of flexibility combined with constraints. Further, and significantly, these constraints seem to have a molecular basis. 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* (Kiefer 2010, 3502). Gene expression is also known to vary depending on genetic background, a phenomenon known as *epistasis*. This can impact on the rate of evolution in the short term 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.

The above demonstrates the interplay of contingency and constraint in evolutionary theory in a way that is at least compatible with a theodramatic 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. Neanderthals have, for example, habitually received a bad press, but the most recent research suggests that Neanderthals were assimilated into *Homo sapiens* populations through interbreeding, rather than simply killed by the rival *H. sapiens* “species” (Zilhão 2011, 111–31). The possibility of Neanderthals or other creaturely agents sharing in a *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 contemporary *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 (Nowak 2006a, 2006b). 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. These are, briefly, Hamilton’s rule, related to “kin selection”; Trivers’ direct reciprocity rule based on expectation of later reward; third, an increase in “reputation”; fourth, network reciprocity where the cooperators form alliances or clusters, and, more controversially, group cooperative selection rather than group defection. 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 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 (2009). While his discussion of the experimental basis for cooperative (prosocial) behavior in primates is fascinating here, there are some philosophical gaffes, such as the implication that human morality can be shaped by primate behavior. Also, a naturalistic view of ethics is understandable, but his case is not adequately presented. “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 (Tooby and Cosmides 2008, 114–37).<sup>12</sup> While I agree that the social skills set of the primate mind may well be distinct from the skill set for tool making,<sup>13</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.

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 (Bekoff and Pierce 2009). How far and to what extent any traits representing wisdom show convergence—that is, similar phenotype or behavior due to similar external pressures—or parallelism—that is, having a similar genetic lineage—is impossible to discern, as this is largely speculative.

A theo-dramatic approach also 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 generalization of evil or attempt to wash over the contingency of events. In theo-drama, inasmuch 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.

Cooperative theories show up the propensity to “cheat,” but in theological terms when humans are self-conscious agents this is judged as “sin.” 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>14</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 toward God-given ends, but where the possibility of what might be termed tragic cooperation working for horrendously evil ends, perhaps even disguised as a good, also hovers in the background.

#### CHRIST AS THE THEO-DRAMATIC WAY, TRUTH, AND 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 lives. His own human capacity for self-sacrifice and obedience to God was partly shaped by naturally defined characteristics that he inherited from his mother, Mary. But he also learned 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, imbibed 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 (Deane-Drummond 2009, 98). Such a process is outside the bounds of what can be explicable by modern science, apart from very general notions of psychological change in response to religious commitment, a view that is an impoverished thin version of the rich, thick theological notion of grace.

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. This may be one reason for the affirmation of Romans 8, that all creation waits in expectant

and eager longing, waiting like an audience, or perhaps we should say other players, at the edge of a stage 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 that interweaves both human and creaturely life. The hope for future is one where creaturely wisdom and divine Wisdom engage once more, but after the pattern set in that crucial act in the theo-drama—namely, the coming of Christ.

#### NOTES

1. This paper is a revised and expanded text of the 9th Boyle Lecture (New Series), delivered at St. Mary Le-Bow Church, London, on January 31, 2012. I am grateful to Lord Cork and Orrery, Michael Byrne, Dr. Russell Re Manning, and other distinguished trustees for the invitation to participate, as well as Rev. George Bush for the provision of the magnificent venue. The paper will also be published in a shortened and modified form as a chapter in the book *Science and Religion in the Twenty-First Century: The Boyle Lectures, 2004–2013* edited by Russell Re Manning, scheduled for release in January 2013 with SCM Press.

2. Perhaps one of the most vocal Christian voices against the new atheism is Alister McGrath, who is as prolific as he is sharp in taking on these arguments. See, for example, McGrath (2010) or Stewart (2008).

3. 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 (Crisp 2007, 38–40).

4. Space does not permit a full discussion of how far liberal Christology influences science and religion debates, but other prominent writers, such as Ian Barbour (1998), for example, share Peacocke's stance. The point is that such a view makes reconciliation easier with science, but is convincing only for those with liberal starting points.

5. A discussion of Bulgakov's Christology is outside the scope of this paper, but it is worth mentioning as he envisaged a kenotic Christology as expressive of divine Wisdom. Wisdom or Sophia is a category that can link successfully the divine and creaturely, only in Christ do we find divine and creaturely Sophia present together. It therefore provides an alternative language to the more difficult terminology of divine and human *natures* used in Chalcedon. Bulgakov also, more controversially, argues for humanity as being eternally present in God and divinity in some sense being present in the human as a preparation for the incarnation (Bulgakov 2008). See fuller discussion in Deane-Drummond (2009).

6. I have to leave to one side here discussions about the compatibility of a classical Christian account of the resurrection with scientific accounts. I view this as an unexpected phase in the theo-drama, at least as far as the actors on the stage are concerned. I do hold to the view that this is a real event—that is, Christ appears in bodily form, even if that body is not identical with his material body on earth. For further discussion see Deane-Drummond (2009).

7. 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 particular social conditions of that history. For a discussion of current debates see Zilhao (2011, 111–31).

8. Full discussion is outside the scope of this paper, but see Pettitt (2011, 141–61).

9. Here I am not suggesting that science does not recognize the psychological phenomenon of subjectivity as that which can be analyzed, 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 theo-drama according to Balthasar's argument (Balthasar 1990).

10. 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 macroevolutionary 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 a 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 4 million years. For fuller discussion, see Deane-Drummond (2009, 12–22).

11. Other genes that also regulate trichome formation are either also involved in other crucial functions, so they are not favored 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, 2009).

12. Tooby *et al.* present a model of cooperation according to a welfare/tradeoff 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/tradeoff ratios and emotional states are claimed to support an evolutionary origin of specific computational processes in the human brain. 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 (Sell *et al.* 2009, 15073–8).

13. 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 Whiten and Schaik (2008, 189–216). A discussion of the basic evolutionary need for cooperation in early hominid societies is fairly well recognized. 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 (2008, 375–92).

14. 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 (Aquinas [1963] 2006, 1a 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” (Aquinas 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” (Aquinas 2006, 1a2ae, Qu. 77.4).

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