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A response to the commentaries of R.J. (Sam) Berry, John Polkinghorne and Michael Northcott

Perhaps it is academics that are particularly prone to that sinking feeling: be it comments by referees on a submitted paper ('weak arguments ... failure to cite ... extensive revision ...'), the reaction of reviewers to a grant application ('basically flawed ... alpha one, more a beta ... parochial ...'), or even the prospects of being short-listed for a cherished post ('the Panel will expect a five hour seminar, delivered in rhyming couplets; please ensure your toga is the regulation length ...'), in these and many analogous cases the hands are damp, the stomach queasy.

So too when I delivered the 2005 Boyle Lecture I was as aware as anyone could be of the usual metaphors: treading on thin ice is perhaps the most obvious. But the metaphor acquires real force when I agreed first to submit the written version to this journal and thereby expose my arguments, if such they be, to scrutiny and debate. And yet genuinely to my surprise, and, I will be frank, gratification, I have the honour of responding to three exceptionally generous sets of remarks. Amplifying to be sure, offering gentle correction, but also finding much to agree upon. And let me record at the outset that in the vastly improbable event of one of our opponents' reading this – for some reason the name of Richard Dawkins drifts across my mind – I should stress that such broad agreement does not reflect the tireless self-congratulation of some inward-looking coterie. Rather I would argue it is because all of us are gripped with a sense of excitement, the *mysterium tremendens*, the instinct that our story is not only true but has extraordinary implications. To the outsider, I have little doubt, this sounds like wishful thinking, if not a Tertullian obfuscation, but to the attuned a deeper music is heard, one that reveals inner consistencies and as importantly in my opinion what appears as an endless set of future explorations.

But back to the immediate business. The remarks by Sam Berry are, in the best sense of the word, a commentary. First, he provides a valuable historical overview and his remarks on Monod and Gould provide a useful counterpoint to what is our shared position. I have never attempted to study Monod's wider influence, but there is surely much to learn on his contribution to the deeply pessimistic Gallic culture of the last century. The role of Gould has, of course, received much wider, if often uncritical, attention. One of the curiosities in this respect is Sterelny's¹ assessment of this American palaeontologist and

1 Sterelny, K. *Dawkins vs. Gould: survival of the fittest*, London: Icon Books (2001).

Dawkins, where a judicious – if perhaps somewhat lightweight – analysis is offered. There are, moreover, other individuals who deserve to be better known. In this respect I am glad that Berry mentioned Bill Thorpe. Although I never had the privilege of meeting him, I was interested in the reaction of a very distinguished Cambridge academic (I had better not give his name) whose obvious affection for Thorpe was combined with an exasperation that is something of a hallmark of our materialist colleagues: ‘How *can* you believe such things?!?’

Yet Berry’s passing comment on ‘the appearance of “mind” in the natural world’ does touch on a central question. By chance, if chance it was, I was directed to an article² by Richard Conn Henry, a physicist in Johns Hopkins University. Henry forcibly reminds us that to view the universe as simply a physical entity is simply no longer credible. Whilst Henry skirts the theological implications (or is at least effectively agnostic) we cannot doubt that Thorpe’s insistence on ‘mind’ being integral to our universe (a view, of course entirely familiar to theists of nearly all persuasions and one I return to below) is leading us to almost entirely uncharted territory. Paradoxically, the very failure to understand one region of this territory, that is consciousness, is a clear clue that in some way we are on the right track. As a scientist, I am fascinated as to what the exploration of this territory may reveal, but I must also say I find the prospect vertiginous.

Of the three commentators Sam Berry and I have most in common by virtue of our both being evolutionary biologists – and Christians. So I have particular sympathy with his discussion of what chance means in a Darwinian context. So too, given my interest in the historical process, be it through the lens of palaeontology or my abiding fascination with counter-factuals,³ it is apposite when Berry remarks that different histories may possess striking analogies. It is, of course, widely acknowledged that the Christian story is crucially (an intended pun) historical, but many of us are perhaps less comfortable with the fact that this story didn’t run into the sands c.100 AD but still has some chapters unread, a point I return to below. In any event, Berry is correct, I think, to suggest that the idea of progress may yet have its day. It is surely no accident that the cultural ennui with which we are all familiar goes hand-in-hand with both an abandonment of meaning and an ineradicable suspicion of conclusions and closure. So too the notion that the history of Israel has, extraordinarily, some sort of universal significance is deeply unfashionable, yet here too hermeneutic suspicion may blind us to a continuing narrative, not least the fact that it is a story in which we too are embedded. Too often the biblical narrative has been reduced to a pastiche of smoking altars, massacres, political mayhem, not to mention such impossibilities as floating iron. Maybe so, but in

² Henry, R.C. ‘The mental universe’, *Nature* (2005) 436, 29.

³ Eire, C.M.N. ‘Pontius Pilate spares Jesus’, In R. Cowley (ed.) *More What If: Eminent Historians Imagine What Might Have Been*, London: Pan (2003), pp. 48-67.

the context of history let us consider briefly the role of the Jewish prophets.⁴ It is, sometimes, forgotten that at least in certain episodes of Jewish history not only were they a well-identified and powerful group, but by and large they got things wrong. 'Just what you would expect' is the sceptic's retort; no wonder then as now they are dismissed as 'false prophets'. What is also forgotten, however, is that there were key exceptions, men whose activities usually lay far beyond the 'professional' sphere. These people, often much against their will and inclination, were given a golden string to other realities, and it is simply risible to dismiss them as bearded charlatans.

In our present climate we face almost insuperable obstacles in imagining prophecy may still have a role. The risks are self-evident, human credulity endless, but we should also recall that if we claim to identify a consistent world-picture then some things will ring true and warnings will really matter. Naturally the political risks of any nation identifying itself with a 'manifest destiny' are obvious enough, but it would be equally foolish to deny God's continuing activity. And if this 'world' is 13 billion years old, does that make any difference? From our perspective it is quite conjectural what, if anything, happens elsewhere in terms of God's agency. Startlingly, however, at least Paul (and I suppose Jesus also, if I read 'many mansions' in a cosmic direction) understood the Christian kerygma to be universal, not just beyond the Roman Empire but beyond the galaxy. Such, of course, is the obvious stumbling block between what is taken to be a first century attitude and modern scientific understanding. This may be premature, and it is pure presumption on our part to imagine that because the crucial events are squeezed into an infinitesimal slice of cosmic history they cannot be of cosmic importance. Once again, whilst this is a favourite tilting ground between science and religion, we do well to remember that not only is science necessarily provisional but, as has been pointed out by others, the detection of extra-terrestrial sentience may be far more important for theologians than it will be for scientists.

So far as Berry's remarks on chance are concerned, as it happens an important counterpoint emerges in Michael Northcott's remarks on the problem of natural evil. Drawing on a critique of John Milbank, Northcott pertinently notes that such a view 'emerged out of a mistaken metaphysics of divine omnipotence, and the nominalist account of the uniqueness of individual instances', and it is just such a mistaken view that forms the core of the naturalistic complaint against the apparently untrammelled and unchecked existence of evil. I will have more to say on the question of theodicy below, but Northcott's comments have of course a direct relevance to the perceived role of chance in the evolutionary process. In my view one very fertile approach is to consider how the probabilities of life may still lead towards inevitabilities. Such a statistical base has been explored, from a different perspective, by

4 König, E. 'Prophecy (Hebrew)', In J. Hastings (ed.) *Encyclopaedia of Religion and Ethics* vol. X, Edinburgh: T & T. Clark (1956), pp. 384-393.

David Bartholomew.⁵ As I make clear in my Boyle Lecture, and at greater length elsewhere,⁶ the phenomenon of evolutionary convergence also provides evidence for predictable outcomes.

Berry is, therefore, quite correct to remind us that the question of chance in evolutionary processes cannot be swept aside. Yet just as we cannot ignore the implications of a universe whereby mind is not some epiphenomenon of physical processes – if you like, a ‘froth’ of electrical and chemical activity – so too I believe it would be equally a mistake to be forced into the metaphysical crudities offered by many neo-Darwinians. Chance may be statistically tractable, but it can also rest on some slippery assumptions. The Gospels themselves have many instances of what were presumably chance encounters – what about that conversation at a well in Samaria, or on the road to Emmaus? Each of these episodes, in due course, revealed something that at the time was entirely unexpected but ultimately from our privileged perspective in the light of more complete knowledge was in one sense predictable. This emphatically is not to give in to fatalism, or to suppose that past wrongs are now indelible.

Nevertheless, at present, we seem to flounder in our attempt to accommodate the roles of chance in what in many other respects is a remarkably predictable world. Again a theological perspective may not only be important, it may actually be essential. Here I suspect is one reason for the rift between Islam and Christianity (and I hasten to suggest that it is by no means the most important) and concerns how Islam had prior access to the starting motor of the scientific enterprise in the form of Greek physics, notably the writings of Aristotle, yet the motor never really started. This is not to deny the role of political factors,⁷ but as W.A. Miller⁸ suggests a fundamental reason revolved around the perceived agency of God in a natural world. This is, to put it mildly, a prickly area, yet I cannot but feel that if we are on the right track, then our understanding of how ‘chance’ operates in evolution may need radical reformulation. The evidence itself will come from biology, but we need to be alert to the theological implications.

Berry is also surely correct when he observes that to a considerable extent the ‘cultural preconceptions’ are much less of a burden to evolutionary thinking than once they were. But are we as free of them as we like to imagine? Consider, for example, the recent book by Hugh Gauch,⁹ which amongst other

5 Bartholomew, D.J. *Uncertain Belief: Is it Rational to be a Christian?*, Oxford: Oxford University Press (2000).

6 Conway Morris, S. *Life's Solution: Inevitable Humans in a Lonely Universe*, Cambridge: Cambridge University Press (2003).

7 Dawson, C. ‘The Moslem West and the Oriental Background of Late Medieval Culture’, In *Medieval Essays*, Sheed & Ward (1953), pp. 117-134.

8 Miller, W.A. ‘Aquinas and Descartes, Hatchers of Ibn-Rushd’s cuckoo – or “End of Civilization?”’ *Theology* (2005) 108 (843), 185-192.

9 Gauch, H.G. *Scientific Method in Practice*, Cambridge: Cambridge University Press (2003).

things deals with the question of how science fails if it refuses to accommodate a world-picture that in itself remains effectively untestable. This is not to deny the possibility that, contrary to our shared beliefs, ultimately a materialist explanation will actually prove the most satisfactory. This is a risk we must always take, but the above-mentioned question of mentality is one line of evidence to suggest materialism in fact is already on the wane. And consider how loose much so-called materialist thinking actually is. A friend likes to remind me that despite the fulminations of Dawkins against astrology his proclaimed agency of genes has several curious parallels: invisible agents, quite beyond our power, control over our destinies; it all sounds rather familiar, doesn't it? And one doesn't have to be a post-modernist to wonder what a 'culturally free' interpretation would actually be like. Here too a theological perspective might be more helpful than often assumed. Not that our understanding is even remotely complete – the mirror is tarnished, we see through the glass darkly – but our stand against relativist accommodation must mean that in the end some metaphors and analogies are simply more fruitful. Nor is this to concede the argument to scientism; as I indicate elsewhere in my Boyle Lecture to do that is to offer ourselves a black future. Without a theological perspective the world becomes etiolated, we enter a dried-out rose garden.

Let me conclude this first, and highly discursive, section by thanking Sam Berry for his insightful contribution. To write in a Lutheran vein that my Boyle Lecture 'has built a mighty apologetic plank' is certainly flattering, but also very humbling.

John Polkinghorne offers a similarly generous commentary, but as is well known he is empowered by the faith of a physicist. I should, of course, have thought how the 'universal music', to which I briefly allude, has a direct counterpoint, so to speak, to a similarly platonic view of mathematics. This has obvious implications for the universe having an inherent mentality. By this, it may be necessary to explain, I take the view that proposes that amongst other features God has created this world in such a way that it is both open to rational enquiry and also hints that our minds, however dimly, are an echo of God's. In this discussion it would take us too far afield to explain why this outlook is not panentheistic (let alone pantheistic), nor is it in any way intended to grapple with how it is that God is utterly other but also knowable. In any event there can be little doubt that mathematics (and music) will allow us to touch on these mysteries. Although I myself am practically innumerate, I can only admire the oft-quoted unreasonable effectiveness of mathematics. This 'noetic dimension', as Polkinghorne rightly terms it, is one further fact against the argument for a materialist universe. What intrigues, puzzles and even alarms me, is how we connect this deist dimension to the Christian story to which we both subscribe. A neo-Platonic world-picture is deeply appealing to any scientist who seeks immutable and deep realities, but its relevance to the central tenets of the Incarnation is, to me, intuitively sensible, but in its details, obscure. One possibility, and I propose it with the greatest tentativeness, is to consider what in our resurrected state we will exist for. Words fail us, but are there not hints

that the dimensions we will occupy must be both familiar, in a corporeal sense, but also utterly new? In the third of his science fiction trilogy¹⁰ C.S. Lewis wrote graphically of how it was when the Planets – ‘those five excellent Natures’ – literally descended. Realities deigned to visit our world, reducing our experience to thin shadows. It is clear that in *That Hideous Strength* Lewis was particularly influenced by Charles Williams and his interest in archetypes. In evolutionary biology this concept now borders on heresy, but I would suggest that in terms of science and Christian belief this sense of utter, unchanging realities imbued with the numinous needs further thought.

Polkinghorne’s commentary finishes on an eschatological note, a topic that not only interests (for want of a better word) the two of us, but is central to the Alpha and Omega of the Christian narrative. Yet it is in this, which by definition remains a problematic and unresolved, area that perhaps I receive the most severe criticism from Michael Northcott. Just as biologist Berry and physicist Polkinghorne are fellow scientists and so in our tradition are constructively critical, so the theological dimension offered by Northcott is of the highest importance. In the context of eschatology I must welcome this tension; after all none of us has any idea what will happen. Indeed, in my view the only useful clue comes from the Resurrection. If that was a ‘surprise’, as it was, so too will be the Last Day. Prior to the former event, as we now see, clues were littered all over the place. Correspondingly, I must assume that there are eschatological equivalents, but I at least am too blind to them. Remember, however, that science need not be silent on this point. Suppose, simply for the sake of argument, that when the expanding universe grows by another fraction of a millimeter then time changes completely: perhaps it stops or goes infinitely fast? Alternatively, and remembering that God plays by the rules he set down Himself, suppose that the Universe is collapsing all around us. We can see the Andromeda galaxy, but what we ‘see’ is an image made about 2 million years ago. Even if, simply for the sake of argument, the Sun ceased to exist, then we have eight minutes’ grace as its last light arrives.

Not for a moment am I suggesting this is what will happen; how could I? It is worth remembering, however, that science very much consists of knowing what to look for. If, to return to Gauch’s¹¹ point of world-pictures, certain assumptions guide scientific programmes then conceivably cosmology and eschatology may have more to say to each other than presently supposed. So just as the doctrine of Creation (but emphatically neither creationism nor Intelligent Design) may inform our understanding of that strange manifestation we call life and its evolution, so an eschatological perspective on a finite universe may invite a physicist to think ahead.

¹⁰ Lewis, C.S. *That Hideous Strength: A Modern Day Fairy-Tale for Grown-ups*, Bodley Head (1945).

¹¹ Gauch, H. G. *op. cit.*, [9].

Despite this ignorance of what is to come, Northcott makes a telling point to the effect that the Incarnation is massively material, as indeed G.K. Chesterton repeatedly insisted. So too perhaps he is correct that when we are remade, by whatever process and at whatever time, it will not be in the apocalyptic scenario so often imagined. As I have already said, it is guesswork but it must revolve around the Creation. So too I would agree that our role is to assist, to act in the words of Tolkein as subcreators. But even here I suspect we may underestimate radically what is actually expected of us. Here too there is perhaps an echo of the seemingly continuous retreat of theism against scientism. Science may be successful for many reasons, but not least is its power to command our imagination. Can we always say the same of Christianity? Moreover, to speak of an eschaton is surely problematic given its apparently unending postponement. Will it occur before you finish reading this, before your death, before the disappearance of our species, or later still? I would certainly agree with Northcott that what we perceive as our present environmental predicament need not be any sign. But let us also not forget that it is a constant reminder that the world is fallen.

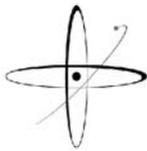
And that leads to Northcott's compelling discussion of theodicy and the problem of evil. I can only agree that irrespective of the dictatorial insistence by Dawkins that evil, especially natural evil, is an affront to any right-thinking Darwinist, the problem 'is precisely *theological*' (Northcott's emphasis). This agreement encompasses not only our mutually deploring the degradation of the world, of which we cannot escape some responsibility, but also the tragic reduction of the arguments to Derridean word-games or Foucaultian power-games; either way we find ourselves stranded in a world bereft of meaning, literally mad, as I think Chesterton would have seen our predicament. And yet despite Northcott's superb commentary the problem of evil remains and paradoxically it is one of the devil's best ploys for eroding belief in God, albeit as a reduced figure dressed up as a tolerant sort of chap, fond of children, and not unknown to enjoy parties. True, but ... It is hardly for me to suggest how we might make any progress in this area. There is, however, possibly some merit in extending Northcott's point about forcing the materialists to acknowledge that in the end the problem of evil is more their difficulty than ours. They are ultimately left with no explanation at all, and a growing sense of helplessness as the worst mistakes are repeated, if not refined. Christians take the problem with the utmost seriousness, and there is more than anecdotal evidence to hint at a pervasive malignity of some spiritual agents. This may sound melodramatic, and for any fallen species it may also be a temptation to find out more. Yet as the many commentators who have tried to encapsulate the overwhelming strength of J.R.R. Tolkein's *The Lord of the Rings* have remarked, it is precisely in the depiction of a pre-Christian, but not Manichean, world that our present predicament is so sharply delineated.

It is, I am sure, no accident that twice Northcott refers to one of Tolkien's greatest friends, C.S. Lewis (as indeed I already have). A colleague once told me, knowing Lewis slightly when he was a research fellow at Magdalene Col-

lege, that he was the cleverest man he had ever met. Lewis continues to provide a touchstone in our search for a fuller understanding of Christianity, and although he remains best celebrated for his powerful apologetics it is vitally important, as Northcott reminds us, to keep also in mind his view of worlds that go wrong and the risks of abolishing Man.

I would flatter myself that someone with the commanding intellect of Lewis would find much of interest in my Boyle Lecture, but I do owe an enormous debt of gratitude to Sam Berry, Michael Northcott and John Polkinghorne for three constructive and properly provocative commentaries. Not only have they helped me to think through some important points, but as importantly, they point to much unfinished business.

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