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Response to Simon Conway Morris

I would like to thank Professor Conway Morris (CM) for his gracious and insightful response to my paper, which has helped me to think through my argument more carefully.

I do not have space to address all of CM's feedback, much of which I agree with. Certainly, he is preaching to the converted when it comes to the reality of convergent evolution. The sceptical stance adopted in my paper was more rhetorical than a personal admission of doubt. I retract any implied accusation that CM has been intentionally adopting Natural Theology 'design argument' tactics, and I acknowledge his laudable aim of 'sowing seeds of unease' among atheistic materialists. My main concern – and where I want to stick to my guns – is with regard to the principles underlying the idea that convergent evolution carries a greater theological significance than divergent evolution. This is what I want to focus on for the rest of this rejoinder.

In his opening paragraph, CM states, 'If...humans are a very likely, if not inevitable, outcome of the evolutionary process then maybe we are entitled to seek further congruences with the underlying order that defines, in our eyes, God's agency'. This is a very illuminating statement which, I believe, captures the root cause of our differences. Within it, lie a number of hidden assumptions about divine action within the created order that are worth unpacking; assumptions that carry a number of problematic implications. First, CM seems to be saying that if an event is physically inevitable (or at least strongly constrained towards a fixed outcome) then it is more congruent with divine action than, say, random, stochastic, or chaotic events. He argues, secondly, that we should therefore actively be looking for such congruences, presumably lest our sense of the ubiquity of divine action be diminished. And, thirdly, he implies that when looking for congruence between natural processes and divine action we already have a good understanding of what are the exemplars or archetypes of divine agency with which we are hoping to make comparison (e.g. those involving an 'underlying order').

While I recognise that CM's statement will strike a chord with many Christians, this is not the only way of viewing divine agency or divine providence. Rather than see the hand of God in only certain 'orderly' causes, an alternative stance is to see God's agency behind *all* processes and events – at least all of those not entailing moral evil.[1] According to this alternative view, God's action

1 I am bracketing here the question of God's involvement in the morally dubious aspects of the created order such as the death and suffering of sentient beings. But, as CM points out, this is a problem for both sides

is not one of intervention, or of setting up the initial conditions and then backing away. Instead, God's radical transcendence is such that he acts in a non-contrastive, non-competitive manner whereby creaturely and divine actions operate, as it were, on orthogonal or incommensurable ontic planes.[2] There is no need to go looking for 'causal joints' between God and nature (e.g. at the quantum level), or for patterns in the cosmos that manifest God's action, since the whole of the cosmos is already, by definition, a product of God's continuing creation. God does not have to intervene any more directly to achieve certain purposes than others; he does not need to compete with 'natural processes' to bring about the 'miraculous' such as the incarnation, resurrection or ascension, any more than he has to repeal his own 'laws of nature' that might appear to stand in the way of answered prayer. We can be sure that God is no less in control over the apparently random and divergent than he is over the apparently deterministic and convergent. In which case, why claim that instances of the latter exhibit greater congruence with divine action? If we must, to quote CM, 'import a metaphysic' into our science then surely we should import one that is indiscriminate in its apportioning of agency (and glory) to God?

But some might see the above as a lazy way out, a conversation-stopper, or an unwelcome opening for the view known as divine voluntarism in which God's freedom is such that his actions need bear no resemblance to his nature and are instead arbitrary or capricious (the 'liberty of indifference'). So, maybe we *do* need to go further than this and find ways of affirming the consonance of creation with God's essence or attributes. CM cannot see why '...merely finding an apparent congruence between scientific observations and the claims of Christianity is particularly questionable', and I would agree with him, it is not questionable – *as long as* we are using the *same* claims and singing from the *same* hymn sheet. If, for example, CM means that it is a 'claim of Christianity' that God acts through bringing about convergent processes, then I would agree that one could indeed construct a theology of convergent creation from the fact that it is part of God's own nature to be convergent. The Trinitarian relations are mutually coinherent and mutually converging. God's purpose it to attract all things to himself,[3] just as he is in himself internally attractive through the perichoretic exchange of Father, Son and Holy Spirit. So, it is not surprising if such a motif is to be found in creation given there is already an eternal divine precedent. In fact, the motif is found not only in convergent evolution but also in convergent genetic mixing (e.g. sexual reproduction), convergent speciation (e.g. mutualistic symbiosis), convergent ecosystems (e.g. complex inter-de-

2 This is the vocabulary of Kathryn Tanner; see Tanner, K. *God and Creation in Christian Theology*, Oxford: Basil Blackwell (1988). It has deeper roots in the so called 'double-agency' theory of divine action presented in different ways by the likes of Thomas Aquinas, John Calvin and Austin Farrer.

3 Ephesians 1: 10; Colossians 1: 20

pendencies), and convergent behaviours (e.g. intra and inter-species cooperation). But – and here is the key point – surely it is *also* a 'claim of Christianity' that God acts in *divergent* ways as well. Again, the exemplar for this can be found in the Trinity inasmuch as the Son is eternally begotten of the Father and the Spirit is proceeding from Father and Son. The intrinsic divergence of the Trinity spills out into creation of the finite. Not just a singular finite, but a multitude of diverse forms that diverge, as it were, from The Three-In-One. Logically, metaphysically and physically, creaturely divergence must be anterior or antecedent to convergence. The very act of creation entails a metaphysical distance between God and creatures and therefore a divergence of beings.[4] So too, in the physical realm, God has chosen to mirror his self-effusive divergence in what we now know as a largely expansive, divergent cosmological process punctuated by various convergent events such as the formation of atoms, molecules, stars, and planets. Convergence between creatures would not be possible if there had not first been divergence; after all, things need to be separate before they can come together. Admittedly, in the story of life on our planet, the situation has been a little more complicated than this, since species did not first diverge before converging, but the divergence and convergence (in the broader senses listed above) took place simultaneously.[5] Even in the narrower sense of convergent evolution caused by external constraint or deep homology, this must have taken place simultaneously with divergent evolution, each perhaps keeping the other in check. As Maximus the Confessor would say, the emanation of the *logoi* from the *Logos* has led to a 'unity-in-distinction' between all creatures: they are simultaneously divergent *and* convergent.[6] In my view, it is therefore a mistake to emphasise convergence (or contraction) over divergence (or expansion), or vice versa. Both can be considered to have their roots in a Trinitarian exemplar and so we would be unwise to show a favouritism towards one aspect of the Trinity at the expense of the other.

The same can be said for apparent beauty. In connection with our ability to discern beauty, CM gently accuses me of '...depart[ing] quite radically from the orthodoxy of an *imago dei*'. I assume this is because he thinks that I deny the existence of beauty and thereby deny the existence of one of the many 'consti-

4 Though this is not to imply that God and nature are both members of the set 'beings'. God's being and creaturely being cannot be compared or contrasted since God is beyond being and God is the being of beings

5 Some would argue that we are mutually constituted not just by being enmeshed together in mutual relationships but in the very enmeshment itself; see Sharma, H. *Interdependence: Biology and Beyond*, New York: Fordham University Press (2015); Ingold, T. *Being Alive: Essays on Movement, Knowledge and Description*, London & New York: Routledge (2011).

6 See for e.g. Maximos the Confessor *On Difficulties in the Church Fathers: The Ambigua*, Constas, N. (ed. & trans.), vols. 1 & 2, *Dumbarton Oaks Medieval Library*, Cambridge, MA: Harvard University Press (2014), Amb. 10, 1133C; Törönen, M. *Union and Distinction in the Thought of St Maximus the Confessor*, Oxford: Oxford University Press (2007).

tutive' criteria of the *imago dei*, namely our aesthetic sensitivity. Leaving aside the contentious question of whether a constitutive understanding of *imago dei* is correct, I do not, for the record, deny the uniqueness of *Homo sapiens* or that in some sense we are made in the image and likeness of God. But in the context of aesthetics, to be made in the image of God surely includes the ability to recognise the whole of creation as beautiful, as God presumably does, and not just those aspects that we, as individuals, perceive as beautiful. Most of us will agree on the beauty of a sunset, and many of us on the beauty of a Bach cantata, but how many of us consider the beleaguered ichneumon wasp to be beautiful? I certainly do, and maybe others do too (especially entomologists); but most people probably do not. So, we are far from agreed on what we mean by beauty, which goes to show that claiming to discern God's hand behind certain more beautiful creatures, or more elegant secondary causes, is susceptible to personal bias. Maybe it is only collectively that we humans can fulfil our image-bearing status. Perhaps only as human ommatidia within a humankind compound eye can we hope to image creation in the way God intended as multiple refractions of the divine. As Thomas Aquinas surmised, maybe it is

> because his goodness could not be adequately represented by one creature alone, He produced many and diverse creatures, that what was wanting to one in the representation of the divine goodness might be supplied by another. For goodness, which in God is simple and uniform, in creatures is manifold and divided; and hence the whole universe together participates the divine goodness more perfectly, and represents it better than any single creature whatever.[7]

Therefore, my point is that just as privileging convergence over divergence is to misjudge the extent of divine agency, so too is any claim of a clearer hallmark of divine agency based on our individual ability to perceive differences in creaturely beauty. The same goes for exemplarity. If we wish to single out a particular creature or a particular instance of convergence as imitating a divine attribute we must be careful not to imply that other creatures or other creative processes are not also imitative in their own ways. Maybe we struggle to see the beauty, but others might succeed where we cannot.

My overall claim, then, is that it is better to flatten out the attribution of divine purpose across all secondary causes that God has used in creation and not to privilege those that have given rise to what we think are the more beautiful or more sophisticated of his creatures. To be sure, humankind stands out as being especially blessed, but there is no need to baptise the biological processes that have led to humanity with any special significance. We think highly enough

7 Aquinas, T. *Summa Theologica*, Fathers of the English Dominican province (trans.), vol. 1, *Complete English Edition in Five Volumes*, Notre Dame, IN: Christian Classics (1948), I.47.1.

of our own species as it is without needing to claim a special process that God has used to create us, or some extra effort that God has expended. As far as we know, the conditions and processes that God used to create *Homo sapiens* are no different from the kinds used to create other creatures, while being no less under God's transcendent control. It may or may not be true that there is some in-built determinism or constraint in the pathway to humans such that a hypothetical rewinding of the tape of life would lead to the same outcome (as CM argues), but it does not imply that God *had* to act in that way, or that it was more fitting for God to have acted in that way, or that similar constraints are not being used to create other creatures. In my view, it is purely incidental to a robust view of divine agency that any discernible patterns should emerge through the fog of stochastic evolution. Would we feel any more confidence in God's agency if somehow it could be proved that mutations were directional instead of (usually) random? I hope not. To use a crude analogy, when a conjurer performs a 'magic' trick, we may think we have worked out how he/she did it, but does it really make any difference to our confidence in the fact that no laws of physics have been broken? In the same way, the outcomes of evolution are a wonder to behold and, though we may think we have spotted God's 'sleight of hand', we can rest content that every step of the way was sustained, upheld and directed by God all along. God leaves nothing to chance, whether or not he shows his hand.[8]

Finally, CM's helpful comments on my paper have reinforced for me the need to celebrate all the processes of creation. If the tone of my paper was a little too dismissive of convergent evolution then I want to correct that here by affirming wholeheartedly that, through the eyes of faith, convergence is indeed awe-inspiring and magnifying of God's glory and eternal nature.[9] Along with the other forms of biological convergence I mentioned earlier, convergent evolution should quite rightly be extolled as a counter-narrative to the atheistic myth that nature is necessarily divergent, dissipative and destructive. However, as I have tried to show, the divergent forces of nature are also divinely authored and divinely imitating. Without divergence there would be no convergence. Nature's effulgence pours out in every realm and in every creative process shouting 'God, God!'[10] Let us therefore rejoice in the pansacramental character of the *whole* of creation.

8 I appreciate that some would dispute this, particularly those who support certain versions of process theology.

9 Romans 1: 20

10 Psalm 19: 1