Evolution and theodicy: how (not) to do science and theology

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Abstract

This article uses Christopher Southgate's work and engagement with other scholars on the topic of evolutionary theodicy as a case study in the dialogue of science and Christian theology. A typology is outlined of ways in which the voices of science and the Christian tradition may be related in a science-theology dialogue, and examples of each position on the typology are given from the literature on evolution and natural evil. The main focus is on Southgate's evolutionary theodicy and the alternative proposal by Neil Messer. By bringing these two accounts into dialogue, some key methodological issues are brought into focus, enabling some conclusions to be drawn about the range and limits of fruitful methodological possibilities for dialogues between science and Christian theology.

Keywords

Creation; Christianity; evolution; evolutionary biology; natural evil; theology; Christopher Southgate.

Introduction

Christopher Southgate has been one of the leading voices in the science-theology dialogue for many years, making major contributions to various specific debates in the field. The breadth and quality of his scholarship, together with his theological acumen, are such that his contributions to substantive debates are also object lessons in methodology. From watching Southgate in action engaging with a particular problem, much can be learned about how theology should – and how it should not – engage with the natural sciences and the questions they raise.

One issue with which Southgate is particularly associated is the problem of theodicy in the light of evolution. In this essay, I propose to use his work and his engagement with other scholars on this topic as a case study in the dialogue of science and Christian theology. The problem of

evolution and theodicy is not only important and interesting in its own right (one might indeed say "fascinating", to use one of Southgate's own favourite adjectives). It can also teach us much about the kinds of thing Christian theology should – and should not – be ready to learn from science.

Framing the problem

In this as in many areas of theological enquiry, how you ask the questions has a significant bearing on the kinds of answer you are likely to get, so it is worth noticing some aspects of the way Southgate frames the problem. He approaches it explicitly as a Christian theologian, distancing himself from the kind of philosophical theodicy intended to "provide logical demonstrations of the goodness of God in the face of evil" (Southgate 2017, 149). His question is rather how Christian traditions of faith and practice should speak of the God whom they confess and worship. For such traditions, he thinks, it is the *ambiguity* of the natural world which poses particular questions. We find it easy to marvel at the rich variety of intricate and exquisitely adapted living beings and systems we see around us, yet nature is also full of pain, suffering, death and destruction. Moreover, we know from evolutionary theory that these "disvalues" are intrinsic to the process which generates life in all its richness and wonder. The theological problem for Christians is that God is "deeply implicated" in this ambiguity, "through having created processes to which disvalues were intrinsic." (Southgate 2014a, 785)

It is noteworthy that Southgate has explicitly made the impact of evolution on non-human animals visible as a theological problem. In particular, he has tended to single out two effects of the evolutionary process as disvalues requiring a theological response: the pain and suffering associated with the struggle for life (citing behavioural and neurobiological evidence that animal suffering is real suffering, e.g. Southgate 2008, 3-4), and species extinctions, which represent the complete loss of particular ways of being a creature in the world (ibid., 9).

Though Southgate has sometimes used the language of good and evil to describe the ambiguity of nature, he has generally preferred the terms "value" and "disvalue," perhaps to avoid begging questions about *which* features of the evolutionary process should be evaluated as good or evil.

In some of his more recent writing he has shifted to the language of "beauty" and "ugliness," a choice of words perhaps not unconnected with his shift of focus away from theodicy towards the theme of divine glory as a way of coming to theological terms with the ambiguity of the world (Southgate 2014a).

Setting up the dialogue: a typology and some *caveats*

Evolutionary theodicy, so framed, is the site of an encounter between science and theology. More particularly, we can think of it (in a schematic and over-simplified way) as an encounter between two "voices": the voice of a Christian tradition of faith and practice, with its roots in the Scriptures of the Hebrew Bible and New Testament, and the voice of science, in this case evolutionary biology. In which case, how much weight should be given to each voice in shaping the dialogue and addressing the questions we are seeking to answer, and what kind of contribution can each properly make?

Broadly speaking, five types of answer can be distinguished:[i]

1) Only the voice of science contributes, the contribution of the Christian tradition being denied or dismissed;

2) Both voices contribute, but the voice of science plays the dominant role in shaping the dialogue and addressing the questions. The claims of the Christian tradition must be adjusted where necessary to fit an account whose shape and content are determined by the scientific voice.

3) Both voices contribute, and neither one plays a dominant role in shaping the dialogue or answering the questions. Both contribute their own distinctive perspectives, which are related to one another by means of what Hans Frei (1992, 38 et passim) called "*ad hoc* correlations".

4) Both voices contribute, but the voice of the Christian tradition plays the dominant role in shaping the encounter and addressing the questions.

5) Only the voice of the Christian tradition contributes, the contribution of science being denied or dismissed.

In the remainder of this paper, I shall use this typology to structure an exploration of the various positions in the debate about evolutionary theodicy, with a particular focus on Southgate's own thinking and some critical responses to it. Before beginning that exploration, however, I must enter some *caveats* about my typology and its use.

First, as I have already acknowledged, it is a rather schematic and over-simplified way of representing the engagement between science and theology: it is obvious that neither "Christian tradition" nor "evolutionary biology" represents a single, unified voice. Nevertheless, this simplified representation can serve a useful heuristic purpose, provided we keep its limitations in mind.

Second, the voices of "Christian tradition" and "science" are not the only ones in the conversation: philosophy, in particular, may play various different roles in discussions about the problem of evil. For simplicity's sake the typology and the following discussion are structured around the relationship of the two voices labelled "Christian tradition" and "science," but it will be important to remain alert to the ways in which other voices may influence the encounter between these two.

Third, the issue is not only *how much* weight to give to the voices of Christian tradition and science, but what *kind* of contribution each can – and cannot – properly make to our understanding. The typology is structured according to the "How much?" question. However, once we begin to examine the various positions in the debate, questions about *what* each voice can and cannot contribute to our understanding of God and God's ways with the world will also come into view.

Fourth, I am not using the typology to classify *authors*, but only particular arguments, moves or approaches. Some authors might operate wholly or predominantly according to one of my types (the late Arthur Peacocke, for example, seemed to regard his theological project in general in the

way I have described as type 2: e.g. Peacocke 2000). The work of others may be more complex and varied, operating in different modes on different occasions. Southgate has indeed argued that different areas of the science-theology dialogue may require different types of engagement (Southgate 2008b), and that the nature of the evolutionary theodicy discussion calls for what I would describe as a type 3 approach (Southgate 2017, 156).

Finally, my use of the typology is not purely descriptive or neutral. As will become clear in the discussion, I regard some ways of approaching the science-theology dialogue as clearly preferable to others. I certainly aim to give a fair account of the various possibilities, which I hope will prove informative and clarifying; but my account will also be a normative proposal about how a science-theology dialogue like this one ought to be set up.

Closing down the dialogue: types 1 and 5

The first type of engagement rules out any contribution from the Christian tradition; of the two voices we are considering, only science is reckoned to have anything to say. This position is reflected in the scientific atheist argument that evolutionary suffering is one indication that this is not the kind of cosmos we should expect if it were the creation of God. As Richard Dawkins puts it: "The universe we observe has precisely the properties we should expect if there is, at bottom, no design, no purpose, no evil and no good, nothing but blind, pitiless indifference." (Dawkins 1996: 155) In short, the phenomenon of evolutionary suffering is consistent with a materialist view of the universe in which theological responses have no place.

The fifth type is almost a mirror image of the first: of our two voices, only the Christian tradition is thought to have anything to say. This could be because the scientific voice is acknowledged as valid in its own sphere but thought to have nothing to say about questions of faith and value, as in the late Stephen Jay Gould's view that science and religion are "non-overlapping magisteria" or "NOMA" (Gould 2002). Alternatively, the validity of the scientific voice could be denied, as by young-earth creationism. One reason given by creationists for rejecting evolution is that the Christian doctrine of the atonement as understood, for example, in light of Romans 5:12-21, presupposes a literal reading of Genesis 1-3, including the six-day creation of a "very good"

world, followed by the first humans' fall into sin. In that case there is no need to see suffering or destruction as part of the process by which life is generated; instead, natural as well as moral evil can be accounted for as a consequence of the fall (e.g. Moore 2006; see Dembski 2009, Chap. 5 for further discussion of this position).

These examples could be critiqued in their own right. In any event, if we are exploring possibilities for *dialogue* between theology and natural science, types 1 and 5 in general seem unpromising – to put it mildly – because both amount to refusals of dialogue rather than ways of conducting it.

Revising Christian God-talk: type 2

The second type of approach allows the voices of science and the Christian tradition to contribute to our understanding of God and God's ways with the world, but privileges the former in determining the shape and content of the encounter. In the field of evolutionary theodicy, scientifically-informed knowledge of evolutionary suffering and destruction problematizes the Christian tradition's confession of God as sovereign and good. A type 2 response might revise Christian claims of God's power, goodness or both. This is the path that Wesley Wildman invites Christians and other theists to follow, abandoning belief in God as a "determinate entity" in favour of a "ground-of-being theism" whose God is "the ontological spring of matter and value" but "not good in a humanly recognizable way, nor personal in character" (Wildman 2007, 293).[ii]

Wildman offers an acute diagnosis of the difficulties facing "determinate-entity theism" (and process theism, which he also judges inadequate) in this area. However, his proposed solution comes at a high cost to Christian faith and practice. He observes that "Christianity has always had an idiosyncratic approach to suffering because of its Christological lens" (Wildman 2007, 293). I agree, but would add that Christians, formed by the awkward and idiosyncratic story of Christ's incarnation, life, death and resurrection, are therefore committed to a life of faith in a sovereign God whose goodness and love are made known to humanity in the person of Jesus Christ – whatever the mysteries and conundrums this life of faith requires them to wrestle with. For this reason, I concur with Southgate in including Wildman's ground-of-being approach

among the "roads not [to be] taken" (Southgate 2008a, Chap. 2) in addressing the problem of evolutionary theodicy. More generally, I have suggested elsewhere another reason to be wary of type 2 science-theology dialogues. It is widely agreed that the natural sciences should be methodologically naturalistic; therefore if we expect them to answer putatively non-naturalistic questions about God and God's ways with the world, we risk failing to respect the integrity and proper limits of scientific methods, as well as distorting or pre-judging the outcome of the enquiry (Messer 2017a, 33-34).[iii]

Southgate's compound theodicy: type 3

According to Southgate, in the field of evolution and theodicy, "robust science encounters theology at its most tentative … There is thus good reason for taking the main lines of the scientific conclusions with the utmost seriousness" (Southgate 1017, 156). Therefore, while he aims "to give full weight to the Christian doctrinal tradition," he also wishes "to learn from science about the way things really are" (Southgate 2015, 247). Such remarks locate his evolutionary theodicy firmly in my type 3, where it represents one of the most influential and carefully worked-out contributions to the field. It is set out most fully in *The Groaning of Creation* (Southgate 2008a), and defended and further developed in a series of more recent publications (including Southgate 2011, 2014a, b, 2015, 2017).

Southgate describes his approach as a "compound theodicy" composed of various elements (see Southgate 2008a, 15-17 for a summary). At its heart is the "only way" argument: creation is under a constraint, such that creaturely life in all its "beauty, diversity and sophistication" (2008a, 48) can only come into being though an evolutionary process involving natural selection. Even the sovereign God of Christian confession could not bring creaturely life into being in any other way. Crucially, this suggests that God *willed* the evolutionary process that entails suffering and destruction, because this must have represented the best balance between the "good of realizing creaturely values and the concomitant pain" (2008a, 48).

Even if this is true at the level of species or the system as a whole, however, the evolutionary process has countless individual victims: creatures whose life is mostly suffering with little

opportunity for the realisation of their creaturely being. The "only way" argument must therefore be supplemented by others. One is that God suffers "in, with and under" the suffering of creatures; the death and resurrection of Christ are to be seen as the moment where this divine co-suffering is most intensely focused, and God inaugurates the transformation of creation. This transformation will be fulfilled in an eschatological future ("pelican heaven") in which all the individual victims of evolution will be compensated by the ultimate fulfilment of their creaturely form of life. Finally, Southgate claims a special calling for human beings to act as "co-redeemers," co-operating with God for "the healing of the evolutionary process" (all quotations in this paragraph from Southgate 2008a, 16).

Southgate recognizes that his account is vulnerable to various criticisms. One is that it relies on a strong and unavoidably speculative claim about the kinds of thing that might or might not be possible even for an all-powerful God. Southgate acknowledges that his "only-way" argument is speculative in this way, but considers the speculation reasonable in light of what we know about the physical cosmos and biological evolution (2017, 157). Another criticism is directed at the idea of eschatological compensation for suffering: D. Z. Phillips, for example, has argued that it seems an inadequate response to horrendous evils (Phillips 2005, 81-90, 247-55). Southgate and Robinson (2007, 82-84) agree that a theodicy which depended solely eschatological compensation would be inadequate, not least because it would make a kind of Manichaean separation between creation and redemption. However, they argue that compensation does have a proper place in theodicy, alongside arguments showing how the goodness of God is compatible with a creation that includes the possibility or necessity of suffering.

A more general point is that Southgate's approach has the basic argumentative structure of many theodicies: we can affirm the goodness of a God who has created a world with evils in it, because the goods of this world could not be realized without the evils, and the goods are great enough to be worth the price.[iv] This line of thought has been criticized by a range of philosophers and theologians (e.g. Phillips 2005; Swinton 2007), who argue among other things that by explaining and justifying the presence of evil in the world, mainstream theodicies can themselves become *sources* of evil. Rather than explaining or justifying evil, according to Swinton, it is the business

of Christians to *resist* it by means of distinctive practices such as lament, forgiveness, thoughtfulness and hospitality (Swinton 2007: Chaps. 4-8). Southgate acknowledges the seriousness of such "anti-theodicy" arguments, but maintains that theodicies such as his, done by people of faith seeking to understand God's ways with the world, can escape the force of the anti-theodicists' criticism (Southgate 2015: 247-48).

An alternative proposal: type 4

In an earlier essay, partly motivated by critiques like these, I advocated an alternative approach to the problem of evolution and natural evil (Messer 2008).[v] The framing of the problem, the choice of starting point and the way of addressing tensions between theological affirmations and scientific data locate my proposal within the fourth type of science-theology encounter. My approach begins with reflection on biblical texts such as Genesis 1 and Isaiah 11:6-9, acknowledging the dissonance between the picture of God's good purposes for creation suggested by these texts and the scarcity, struggle and violence at the heart of the world disclosed to us by evolutionary biology. Rather than concluding that God willed such evolutionary disvalues, I conclude that this state of affairs (in the words of Karl Barth) "does not correspond with the true and original creative will of God" (Barth 1961, 353). The fact that suffering and destruction are intrinsic to the evolutionary process in this world should be recognized as an aspect of evil, opposed to God's good purposes. If we try to explain how or why this should be, we will inevitably find ourselves facing a mystery. However, informed by authors like Phillips and Swinton, I maintain that focusing too much on questions of explanation can distort and misdirect our enquiry. Our principal focus should rather be on what God has done and promised to overcome evil in and through Jesus Christ, and on how we are to respond to what God has done and promised.

This approach has a few difficulties of its own to negotiate. One is that the evil is so closely tangled up with the good: in *this* world, the latter is inconceivable without the former, and this has been the case for the entire lifetime of the world accessible to historical or scientific investigation. Yet that is not so different from many ways in which we experience the world as an inextricable mixture of good and evil. This is one way to read the "fall" narrative of Genesis

3: not as a history of our origins, but a mirror reflecting back to us the world as we actually inhabit it; good and beautiful, but also tragically flawed and broken. The hope and good news in this perspective lie in the promise that it will not always be like this, because of God's reconciling and redeeming work in Christ.

Another potential difficulty has to do with how we conceptualize evil. At first glance, my account might seem dualistic, representing evil as an independent cosmic force opposed to God. This would be a great mistake, which Christian theologians have for the most part taken pains to avoid. My approach draws on Karl Barth's creative re-working, elsewhere in the *Dogmatics*, of a long-standing Christian effort to avoid cosmic dualism by conceptualizing evil as a privation of good (*privatio boni*). Barth uses the term "nothingness" (*das Nichtige*) to speak of evil (Barth 1960b, 289-368).[vi] By "nothingness," he does not mean "nothing." Rather, he means what God rejected, or *did not will*, when God willed to create all things and declared them "very good" (Genesis 1:31). As such, nothingness has a strange, paradoxical, negative kind of existence: it is the chaos, disorder or annihilation which threatens God's creation, to which God is implacably opposed, which has been decisively overcome through the work of Christ. My proposal is that some features of the evolutionary process reflect, not God's good creative purpose, but rather nothingness: the disorder and annihilation threatening the goodness of creation.

Types 3 and 4 in debate: what should theology (not) learn from evolutionary biology?

Southgate has paid me the compliment of extended critiques in most of his publications on theodicy since *The Groaning of Creation* (e.g. Southgate 2011, 2014b, 2015, 2017). There are important areas of common ground between us: for example, as he puts it, we both aim "to give full weight to the Christian doctrinal tradition" (2015, 247), and we agree that suffering and destruction are intrinsic to the evolutionary process underlying the whole history of life on Earth. For all that we agree on, however, Southgate lays various charges against me: for example, that I have misread Barth, that despite my disavowals I am some kind of cosmic dualist, and that in an attempt to affirm God's goodness I deny or limit God's sovereignty (2011, 378-84).

This is not the place for a detailed rebuttal of these charges (though needless to say, I deny them). However, one of Southgate's complaints goes to the heart of the difference between us. As such, exploring it a little further may help clarify what is at issue between the types of science-theology dialogue that our approaches exemplify.

According to Southgate, my approach "does grave harm to the conversation between theology and the sciences" (2011, 384). This is because I do not take seriously enough the way evolutionary values and disvalues are inextricably intertwined, and therefore I avoid rather than facing the central problem, that God is implicated in the suffering and destruction associated with the evolutionary process. My approach "leads [me] away from a willingness to learn from the sciences about the way things really are" (2015, 247), and "runs the risk of making theology appear too defensive, too bent on mysterification, to be part of an authentic conversation" (2011, 384). If Southgate is right about this, it would seem to raise serious questions about the viability of my fourth type of science-theology dialogue; so if I am to defend that type, a response to Southgate's critique is needed.

A good deal hangs on that phrase "the way things really are," and in one sense, Southgate is right. I am unwilling to learn from the natural sciences about the way things *really* are (theologically speaking), because I deny that they are competent to tell us about what Christian confession recognises as the most fundamental reality of the world. This is not to deny for a moment that the natural sciences can give us genuine knowledge of the world.[vii] But we do need to be as clear as possible what kinds of question natural science can and cannot answer about "the way things are." Or, to put it another way, we need to be as clear as possible about what theology *should* be willing to learn from science, and what it should *not*.

In Christian confession, the most fundamental thing to say about the world we inhabit – the way things *most* really are – is that it is God's creation. "Creation" is a theological, not a scientific, category, and if we want to know what is meant by describing the world as "creation," we need to look first to the Scriptures and the Christian tradition's reflection on them. One of the key claims we shall find if we look there is creation's *goodness*. Part of what is meant, in Christian

tradition, by describing the world as "creation" is that "all that God has made" should be recognised as "very good" (cf. Genesis 1:31).[viii]

Now, we learn from evolutionary biology that for the entire history of life on earth, the struggle for existence, with all the suffering and destruction that it entails, has been intrinsic to the generation of biological life in all its varied, complex and wonderful forms; but the suffering and destruction of the struggle for existence appear far from good. This is not just a sentimental or intuitive judgment: in neither the created world depicted as "very good" in Genesis 1, nor the coming peaceable kingdom envisioned by Isaiah (11:6-9), do we see the predation, violence or competition for scarce resources that are intrinsic to the struggle for existence in the world we know.[ix] There are at least *prima facie* reasons, then, to think that suffering and destruction associated with the evolutionary struggle for existence are not what the Christian tradition means by calling the creation "very good." There is a dissonance to be resolved.

In an attempt to resolve this dissonance Southgate in effect reconsiders what might be meant by the "goodness" of God's purposes. Knowing that suffering and destruction are intrinsic to the evolutionary process, he concludes that God must have willed such an evolutionary process as the means by which creaturely life on earth came to be. Perhaps this was because creation was under a constraint, so even an all-powerful God could not create complex life any other way (Southgate 2011, 381); in any event, the God who willed the end must have willed the means. This evolutionary insight then forms an element of the hermeneutical lens through which Southgate reads the Scriptures, so that he attaches less weight to the Isaianic vision of the peaceable kingdom as an expression of God's good purposes, and instead argues that texts like Job 38:39-41 and Psalm 104 support the view that those purposes include predation (ibid., 384). In short, evolutionary findings can tell us something about how God acts in the world, and therefore how we should understand the goodness of God.

I am wary of making this move, because I doubt the capacity of finite and sinful human creatures to learn about the goodness of the transcendent God by reasoning from our investigations of the natural world. In doing so, we risk inappropriately projecting our experience of the world onto God. Moreover, as I suggested earlier in relation to type 2 approaches, if we expect science to

teach us about God's good purposes for creation, we may do a disservice to science as well as theology.

This is not to say that science has nothing to contribute to the Christian tradition's reflection on God's ways with the world. That claim would amount to a type 5 position – a refusal of dialogue – which I have already rejected. In which case, what *can* science contribute? My answer in general terms, borrowing a phrase of Barth's, is that a science such as evolutionary biology can serve as "an interesting commentary on a text which must first be known and read for itself if the commentary is to be intelligible and useful" (Barth 1960a, 122). Evolution can tell us plenty about the "phenomena" (Barth's word again) of the world we live in. But if we wish to understand what it means for this world to be the good creation of a loving and sovereign God, destined for ultimate fulfilment in God's good purposes, we shall need to read evolutionary biology through the lens of the Christian tradition, not *vice versa*.

Attempting to do so yields something like the following picture. Christian tradition speaks of a world which is God's good creation, destined for ultimate fulfilment in God's good purposes, but is diverted from that destiny and distorted by the presence of evil, so that "[its] purpose can be achieved only by its redirection from within by the creator himself" (Gunton 1998, 11). In the present age, the only one to which historical or scientific investigation gives us access, it has always been thus: the world we inhabit is a tragic mix of goodness and brokenness, and this is the world that has the evolutionary struggle for existence woven deeply into its fabric. Predation, violence and destruction are inevitable aspects of that struggle, and the biblical texts cited by Southgate, such as Job 38 and Psalm 104, which speak of God giving the predators their food, may indeed give the impression that God sanctions evolutionary violence and destruction. But as Barth argues, the depiction of the peace of creation in Genesis 1 is a sign that these things "[do] not correspond to the true and original creative will of God and … therefore [stand] under a *caveat*", and texts like Isaiah 11:6-9 promise a good future "when there will be no more question of the struggle for existence" (Barth 1961, 353). In this world, neither we nor God's other creatures can live without violence and struggle, and texts such as Job 38 and Psalm 104 are perhaps best read as expressions of God's patience and grace, making it possible for creatures to

live even in this broken world. But Christians should recognize this state of affairs as standing, in Barth's phrase, under a divine *caveat*. We should hope and pray for a good future when it will no longer be the case. We should also witness to that future hope by doing what is possible for us, with God's help, to renounce violence and participate in the healing of the world's brokenness.[x]

This approach to evolutionary evil offers less by way of explanation than some theodicies purport to. However, I have already suggested that attempting to *explain* evil has its dangers. As that which is opposed to God's goodness and grace, there is something fundamentally irrational and inexplicable about the presence of evil in the world (cf. Barth 1960b, 353-54). By attempting to explain it, we risk rationalizing it and giving it a place in the world (so to say) to which it is not entitled. As I suggested earlier, our focus should rather be on what God does to overcome evil and how we should respond.

As noted above, Southgate maintains that my approach is an evasion of the really hard questions in evolutionary theodicy, "too bent on mysterification … to be part of an authentic conversation" (2011, 384). Yet he himself acknowledges that the problem of evolutionary theodicy is not in the final analysis soluble, and has a "necessary element of mystery" about it (2008, 16). So when he chides me for being "too bent on mysterification," presumably he simply means that I appeal too quickly to mystery. However, I would regard my approach, not as an evasion, but a re-framing of questions that are often problematically framed. In return, I would ask whether he is more ready than he should be to accept a problematic framing of the issue, which lends itself all too easily to the sceptical conclusions of Dawkins and others.

Conclusion: improving the quality of our disagreements

My main purpose in this paper has been to show how Southgate's work brings into sharper focus the various possibilities for setting up a science-theology dialogue on a question such as this. Taking my cue from Paul DeHart (2006, Chap. 5),[xi] I propose some conclusions that can be drawn in terms of the typology outlined earlier.

I have already suggested that types 1 and 5 should be ruled out, if only because they are rejections of dialogue rather than ways of framing it. More tentatively, I consider type 2 an unpromising way to approach science-theology dialogues. As I suggested earlier, not only may the theological costs of such approaches be unacceptably high, but some of them risk distorting the scientific voice in the dialogue, by expecting it to answer questions it is not equipped to answer. However, I emphasize that this is a more tentative conclusion than my rejection of types 1 and 5: it would be open to someone who wished to advocate a type 2 approach to show that I am wrong to reject it.

In principle, I would suggest, types 3 and 4 can both be legitimate ways of framing science-theology dialogues, because both of these types allow space for theology to operate according to its proper sources and methods. However, each of these types has its own characteristic danger or temptation. For type 3, the danger is to drift towards type 2, ceding more control than it ought over the framing of the issues and the ways in which they are approached to the scientific voice in the dialogue. Some of my criticisms of Southgate suggest that this is a danger he has not always avoided. For type 4, the characteristic danger is to drift towards type 5, separating voices of science and the Christian tradition to the extent that the scientific voice can no longer make any contribution to theological understanding, and dialogue ceases. Some of Southgate's criticisms of my position, in effect, draw attention to this kind of danger, which I acknowledge needs to be taken seriously.

It may be, then, that within the whole science and theology field, types 3 and 4 form what DeHart (2006, 217) calls a "mutually stabilizing pair": each needs the critique and correction of the other to draw it back from its characteristic danger. This is not to say that a dialogue set up in one or other of these ways will always get things right. As I have already made clear, I still believe Southgate's response to the problem of evolutionary theodicy to be mistaken in some important respects, and reject the central criticisms he makes of mine. But at least by defining our differences in these terms, it becomes possible to understand them more clearly, and so, as the saying goes (cf. Harris 2016) to improve the quality of our disagreements.

To conclude, Southgate's major contribution to the discussion of evolutionary theodicy is twofold: he has given one of the fullest and most carefully worked-out presentations of an approach that – though I remain unpersuaded by it – has a good deal to be said for it; and by defending his view so vigorously in dialogue with a range of critics, he has brought into sharper and clearer focus some key issues about *how* such difficult questions in science and theology should be explored.

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[i] I originally developed this typology some years ago as a heuristic device to help structure a dialogue between evolutionary biology and theological ethics (Messer 2007, 49-62). Since then I have used it (with some variations in its formulation) in other dialogues between theology and the biosciences, particularly but not exclusively in relation to ethical questions (Messer 2017a, Chap. 2; 2017b). I believe that its use could be extended to other areas of science-theology dialogue, but that development must await a future occasion. The influence of Hans Frei (1992) on my typology will be evident, though mine was developed in a different context for a different purpose and is not simply equivalent to Frei's. For a relatively recent discussion of Frei's typology, see DeHart (2006, Chap. 5).

[ii] Wildman maintains that ground-of-being theism has ancient roots in a range of religious traditions, but has become obscured in modern affluent societies by a "personalistic focus in the doctrine of God" that he regards as "excessive" (2007, 269; see also 280-81).

[iii] This is a characteristic risk of type 2 approaches, but it may not affect all of them. Whether or not Wildman's ground-of-being approach would be subject to this criticism would require further work to determine.

[iv] For a typology of the various ways in which goods may be said to justify harms in theodicy, see Southgate and Robinson (2007). They suggest that Southgate's theodicy includes elements of what they term a "developmental" good-harm analysis, in which the good is realized through a process that includes the possibility or even necessity of harm, and a "constitutive" good-harm analysis in which the good is inherently inseparable from the harm (2007, 88-89).

[v] The central move in my account – to identify evolutionary disvalues with evil, opposed to God's good purposes – has something in common with the approaches taken by Creegan (2013) and Deane-Drummond (2018), though they are both critical of the way I work this out with reference to Karl Barth's account of evil as "nothingness."

[vi] The remainder of this paragraph is taken with modifications from Messer (2009a, 149).

[vii] Like most participants in science-theology dialogues, I take as read some form of critical realist view of science, though I do not have space to discuss or defend that view here.

[viii] In various places Southgate discusses the meaning of "very good" in Gen. 1:31, emphasizing particularly its eschatological reference: "very good" does not mean complete, but destined for eschatological perfection (Southgate 2008, 15-16; 2011, 386-7). It is perfectly possible to agree with this without undermining my basic point, since my account does not propose a temporal sequence of perfect creation followed by historical fall.

[ix] There are, on the other hand, texts such as Job 38:39-41 and Psalm 104, which speak of God giving predators their food. This might seem to call into question the point I am making. However, as I show in the following paragraphs, there are different ways to read these texts and understand their significance for a theological view of predation and evolutionary suffering. These differences map onto Southgate's and my different approaches to evolutionary theodicy.

[x] This last point, concerning human responsibilities in the face of evolutionary suffering, is another area of some common ground between Southgate and me (see Southgate 2008, Chaps. 6, 7). On the matter of our human calling and responsibility we agree on some things but not everything: for example, I am wary of describing humans as created co-creators and co-redeemers, as Southgate does; and in terms of practical responsibilities, he rejects vegetarianism, which I would advocate (Messer 2009b). Our disagreements about practical ethics are perhaps not unrelated to our differences about theodicy.

[xi] In the chapter cited, DeHart is offering a reading of Hans Frei's typology, which was – as explained earlier (above, note 1) – an inspiration for mine.