

Enough of Galileo and the Huxley-Wilberforce Debate: science and theology in the climate emergency

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Abstract: This article comments briefly on the current state of the science-religion debate, before exploring three areas on which (it is claimed) it should now be focussed: the COVID pandemic; humans' relationship with other animals; and the global climate emergency. In each case the article comments on recent work and makes connections with longer-established themes in the debate.

Keywords: science-religion debate; COVID; divine action; animals; vegetarianism; climate change; hope.

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In 2016 I wrote for the journal *Zygon* a descriptive survey of the science-religion debate in the UK as I perceived it to stand at that time (Southgate 2016). This article abandons that balanced view to make a case for directions in which the debate should, perhaps indeed must, be redirected.

I begin however with two observations of the most recent trajectory of the academic science-religion debate. The first stems from a very vigorous and engaging session at the American Academy of Religion in San Diego in November 2019. It aimed at 'playful, unthreatened curiosity' about what might be explored by the upcoming generation of science-religion scholars, 'Generation XYZ'. I was struck listening to many of the presentations by the focus on human psychology. There were questions as to whether prioritising analytic, as opposed to aesthetic, thought would lead to a less believing worldview. There were questions about whether certain people can simply never believe certain things (on the day of the US election, this seems all too probable). Rationality (drawing on recent neuroscience such as that of McGilchrist, 2009) was said to ride on the back of an emotional elephant. There was exploration of spiritual practices and their effect on a sense of transcendence, of the breakdown in the human-animal distinction, and (conversely) of the notion of a post-humanity. And the enterprise of science was deconstructed to conclude that there is no common essence to science. Theology should neither envy science nor base its methodology upon it. So as Philip Clayton remarked in his response to the young scholars, this thinking in the new generations is marked by doubts about pure reason, about metaphysics, and the absolute claims of any belief-centred religion. There is a shift, then, from a focus on *what* is thought and believed in the two great human explorations of science and religion, to investigating *how it comes to be* thought and believed.

At the same time, important recent work by two eminent physicists seems to speak of a somewhat different direction of travel. Tom McLeish and Andrew Steane in their different ways both seem to want to accord more respect to the conclusions of the hard sciences than was typical of the 'XYZ' speakers. Like very many scientists McLeish and Steane come across as instinctive physicalists and realists – we do inch closer through the

sciences to knowing how things really are. At the same time both want to recognise that science is at its best when it knows its limitations, when it recognises that it is part of a larger human exploration, and when it acknowledges the role of artistic practices such as poetry both in complementing and in fuelling its searches. (See McLeish 2014; 2019; Steane 2018). I suggest that McLeish and Steane find themselves, consciously or not, heirs to that critically-realist comparison of methodology and content in the hard sciences and theology that characterised the emergence of the modern science-religion debate after Ian Barbour's *Issues in Science and Religion* was published in 1966. For early forays into that debate in the UK see Arthur Peacocke's Bampton Lectures, *Creation and the World of Science*, published in 1979, and John Polkinghorne's *One World* (1986). There is a single reality, of which the sciences and Christian theology both offer explanations that progress towards a closer correspondence with the way things really are. I take the recent work of Neil Messer, with its concentration on how these explanations should and should not be combined and weighed together, also to follow in this tradition (Messer 2020).

Well, it could be argued that there was a certain philosophical naivete about the great trio of Barbour, Peacocke and Polkinghorne, or at least a resistance to postmodern perspectives. Be that as it may be, the nuanced and thoughtful studies of McLeish and Steane advance this more 'traditional' approach to the debate in helpful ways. It is especially important that McLeish turns his attention in the latter part of his 2014 book *Faith and Wisdom in Science* to ecological issues, and how human beings might better understand – from ancient and contemporary sources – what wisdom is and how it resources both science and human flourishing. (See also Johnson 2014 for a related approach.)

I have long maintained that it is in areas such as climate change that the crucial contemporary interactions between the sciences and theology are now to be found, and that the traditional historical approach, going back to the Galileo Affair, and then tracing the rise and fall of natural theology to arrive at the breakthrough of Darwinism, needs to receive much less emphasis and attention when the science-religion debate is taught or expounded. The rest of this article outlines three areas of contemporary concern, and sketches out how the issues raised map interestingly into previous elements of the science-religion debate, as

well as how vitally they affect the future flourishing of human societies and the biosphere as a whole.

I begin, perhaps inevitably, with the COVID pandemic. Here I identify two types of issue. First, and most immediately, what is the status of the science that is being presented, and forming the basis of political decisions about tightening or relaxing restrictions on citizens' activity? Second, how does the pandemic affect the self-understanding of Christian communities, and how might they explore the apparent tension between the claim that a God of love created a 'very good' creation, and the huge extent of suffering and loss that the virus is causing?

Like many, I suspect, I greeted the news of the spread of the new pathogenic virus with gathering alarm, tinged with a sense that here was a real issue that would cut across populist bluster and fake news and perhaps unite societies much divided by (for instance) Trumpism and Brexit. The penetration of viral RNA into cells in the lining of the lungs does not admit of fabrications. And theology too must celebrate accurate and reproducible information about the natural world. But in all spheres relating to human behaviour, very much including religious commitments, the question *whose* truth is to be celebrated, and *whether* under-considered voices are now being adequately heard, remains a very pressing one. 2020 has been the year not only of COVID but of the 'Black Lives Matter' movement, and yet a year in which 76% of white evangelical American Christians voted for Donald Trump. Vaccine rejection and climate change denial in this group are perhaps *the* key puzzles in the contemporary science-religion debate.

Even within the sciences, the pressure on public-facing scientists has proved intense, and for every policy recommendation from a scientific committee there is another group recommending the reverse. All this is only the usual processes of enquiry dragged into the public square, without the usual protections of protracted peer review, or yet academic esotericism. But it does heighten the importance of the proper understanding of provisionality and risk, both in terms of the validity of results, and in terms of courses of action with uncertain results.

I have reflected much on the implications of COVID for the debate about natural evil, stimulated by a series of pieces that emerged with remarkable speed (Wright 2020; Collins 2020; Moritz 2020; Schilling 2021). These shed further light on a now-familiar fault-line on the question of disvalues in an evolving creation. Is the virus the result of the operations of a 'dark power' (Wright) or is it in itself evil (Moritz): rather is it the product of an ambiguous biology (Collins), belonging to a class of entities with a range of effects, some of them profoundly beneficial (Schilling)?

I have consistently advocated the latter type of approach to the theodicy of natural evil (e.g. Southgate 2008; 2017). Although it suffers from the difficulty of having to explain why God as creator *ex nihilo* was not able to achieve a better balance of values as against disvalues, a theodicy that acknowledges honestly that God indeed did create an ambiguous world is greatly to be preferred to the invocation of some mysterious and bizarrely powerful counter-force (cf. Schneider 2020). Where more work needs to be done is in relation to divine action, long a favourite topic of science-religion conversation. In the face of the apparent lack of providential intervention by God into this crisis, including the seeming lack of protection of those American Pentecostals who claimed on the basis of texts such as Mark 16.17 that they could gather in faith with no fear of COVID, formulations such as Clayton and Knapp's 'not even once' principle seem ever more attractive (Clayton and Knapp, 2011: Ch. 3). Clayton and Knapp use the 2004 Indian Ocean tsunami as a test-case to show that God could not, morally, intervene even once in this catastrophic event, or even offer a specific warning as to its advent, but only offer what might be termed axiological input – offering courage, diligence, prudence to the minds of those involved. It would be interesting to replay this analysis with COVID. Clayton and Knapp's tempting but limited account of providence could be integrated with a 'pneumatological naturalism' such as is advocated by Sarah Lane Ritchie (Ritchie 2019). But it is harder now to sustain the strong sense of divine providence proposed by Polkinghorne in his *Science and Providence*, which included the implication that even praying for rain might elicit a divine response of using the (supposed) indeterminacy of the mathematically-chaotic system of the weather to occasion rain (Polkinghorne 1989:39).

My second area of exploration is less immediately threatening to human welfare, but in the longer term it has the potential to change the way we live in a very profound way. It concerns our relation to domesticated and other farmed animals, and tends to be focussed around both the keeping, using, and killing of animals for food, and the use of animals for experimentation. In the UK a key figure in the theological and ethical critique of our current practices is David Clough (Clough 2011; 2017). It is around Clough's work that the debate currently tends to focus, though he of course stands on the shoulders of others, and especially Andrew Linzey (e.g. Linzey 1994; 2000), who is still working in the field.

Focussing on the issue of eating other animals, it seems to me that there are four types of argument that might lead Christians to oppose this practice. The first might be termed protological vegetarianism. This rests on a reading of Genesis 1 as a description of an original creaturely harmony in which animals, birds and fish ate only plants (1.29). This argument would hold that God's later permission of meat-eating (Gen. 9.3) was only a concession to weakness not part of God's original intention (see e.g. McLaughlin 2014a: Ch. 5). But did this state in which animals ate only plants ever exist? Certainly the anatomy of predators suggests not. Humans evolved as omnivores – at different periods they may have eaten more or less meat, and the development of the use of fire made it much more readily digestible, but there seems little evidence to support the picture offered by Gen. 1.29. Perhaps that picture represents an aspiration, the way things really should be, rather than a reality? But where does that leave the superb creaturely qualities of a predator like the lion? Clough's conviction that in Eden lions had green plants for food (Clough 2011:121) is surely implausible. I note too Holmes Rolston's point that carnivorousness released all sorts of evolutionary possibilities that would have been missing in a vegetarian creation (Rolston 1992).

The second type of argument is eschatological. Andrew Linzey argues that even if meat-eating was sanctioned in the first phase of creation, a mark of the transition to the phase of new creation, God's transformation of all things, should be that we should cease to use animals for our own purposes, including eating them. Key to his argument is that the world is fallen and that that is why these distorted relationships with other animals have come about. But now humans have been offered redemption through Christ, they can claim

their freedom, what Rom. 8.21 calls ‘the freedom of the glory of the children of God’. Paul’s key point in that passage is that the liberation of the rest of creation awaits humans coming into their true freedom. So ceasing to exploit animals would be an eschatological sign (Linzey 1994:76; 2000:7-8). Ryan McLaughlin has evaluated this argument of Linzey’s, and his reasoning takes him ultimately to a fruitarian conclusion (McLaughlin 2014b:Chs 10-16). In my view embracing vegetarianism – indeed veganism – as an eschatological sign is indeed an option for Christians, but I have questioned whether every Christian should regard themselves as so called (Southgate 2008:116-24). I point out, for instance, that a whole way of life, which can contain deep interspecies relationships with animals (who would not exist if not kept for food) would be lost.

That leads to my third type of argument, which is in terms of the cruelty with which farmed animals are kept for food, and especially the arrangements around their slaughter. Here is where the scientific input into the question again becomes important. It is not possible to deny that other animals are capable of feeling not just pain, but profound levels of distress. The whole tenor of research into the neurophysiology and ethology of other animals runs counter to this, as Clough documents throughout the second volume of his *On Animals* (Clough 2017). Clough’s theological thesis centres around his argument that the divine Word in Christ became flesh (Jn 1.14), not just human but living-creaturely flesh, and that other animals also image God (in their own ways). The former is a very helpful emphasis, pursued with energy and imagination by Niels Gregersen (Gregersen 2001). It can reasonably be used to support a view that all creatures fall within the ambit of God’s redemption. The latter contention, on the *imago Dei*, is harder to substantiate, running counter, as it seems to, to the whole way Genesis 1 is framed (see also Deane-Drummond 2019:239).

I have a methodological concern with Clough’s work, that where it suits his argument on the protection of animals and the elevation of their status he seems happy to make what to me would be an over-literal appeal to texts such as Genesis 1-2, rejecting the contrary direction the sciences would suggest. But where new scientific research supports the trajectory of his argument for a greater equality between humans and other animals, the distinctiveness accorded to human beings in both Genesis creation accounts is

discarded. An object lesson for those of us having to weigh Scripture with scientific reason in other areas.

Clough's sense that as a fellow creature, another animal deserves to be regarded as 'neighbour' seems better grounded, and consonant with the way our scientific understandings are developing. He deploys this tellingly against both the killing of farmed animals for food, and animal experimentation (also their unnatural breeding, exploitative use of their labour, etc.). The 'neighbour' challenge seems to me a strong one, and is reinforced by recent genomic studies that emphasise our kinship with other animals. An objection might be made to Clough's claim that Christians 'have strong faith-based reasons to adopt a vegan diet' (2017:239) on the grounds that there is no sign that Jesus, surely the arch-exponent of neighbour love, ever did so. But Clough might properly respond that most 21st Century Christians in the Global North both have dietary options not available (or properly understood) in Jesus' time, and are also exposed to the structural sins of intensive food production that likewise had no parallel in the ancient world.

The fourth argument for a reduction, if not an elimination, of meat from the diets of the affluent is the strongest, and leads into a discussion of what I see as the most major issue for the contemporary science-theology conversation. That is the impact of human activity on the stability of the climate, and on other essential components of ecosystems such as the supply of fresh water. There is debate about exactly how great the impact of livestock-rearing is on anthropogenic climate change (Clough 2017:57-8), but it is common knowledge that meat production requires large amounts of energy and water, and gives rise to large emissions of greenhouse gasses.

The huge extent of the keeping of farmed animals, then, is another aspect of the unsustainability of current human activity. Every report from the Intergovernmental Panel on Climate Change is more ominous in tone than the last, and every international accord fragile and inadequate. What exercises me in this article is whether climate change raises any new issues for theology, or whether it is just the latest twist in an ecological crisis, the modern manifestations of which sparked Rachel Carson's *Silent Spring* and Lynn White's 'The Historical Roots of our Ecologic Crisis', and has occasioned the spilling of much

subsequent ecotheological ink. There have been times, surveying the literature, when I have felt that essays on theology and climate change tend to consist of the author's pet theological tropes re-rehearsed, with climate change jammed on the end.

As with COVID, issues arise about the provisionality of science, its ability to speak with a single voice, and to communicate clearly what in Al Gore's felicitous phrase *is* the most 'inconvenient truth' for an industrialised and industrialising world, the systems of which depend on huge amounts of transport of goods and people. Here Mike Hulme's work has been of great importance in analysing reasons for our very inconvenient disagreements (Hulme 2009; 2020). Hulme shows how arguments in the climate change debate 'are very often proxies for other types of disagreements' (2020:2). That said, as with the case of the plant-eating lions, theology must attend to the established scientific consensus, and be prepared to consider the re-reading of its sacred texts in the light of that consensus. For an illustration of this hermeneutical approach see Horrell et al's *Greening Paul* (2010:Ch. 6). Theologians should also warn against those science projects funded by interests determined to keep truths more convenient to themselves, and they should be alert to questions of risk – what, even as the models range in precise prediction, is the risk of not addressing the health of what Pope Francis has so tellingly called 'our common home'? (Pope Francis, 2015)

Interestingly, T&T Clark have recently released *The T&T Clark Handbook of Christian Theology and Climate Change* (Conradie and Koster 2020). The importance of this volume lies particularly in its emphasis that North Atlantic theological voices must recognise that their anthropocentric tradition is part of the problem, and that Christian thought needs to make bridges with other traditions and worldviews. In my search for distinctive theological approaches to climate change, I comment now on a few of these essays.

I was reminded, reading them, of H. Paul Santmire's categorisation of approaches to ecotheology (Santmire 2000:Ch. 1), in terms of 'apologists' (who see the tradition as adequate to the task without significant re-framing), 'reconstructionists' (who see that whole classic structure of Christian thought as in need of reform), and 'revisionists' (who adopt an intermediate position, bringing to the fore neglected aspects of the tradition). The *Handbook* adds a dimension to this by requiring that Christian thought speak out in ways

that could shape policy and behaviour beyond its own constituency. That raises in turn issues about whether that outward-facing discourse is indeed Christian theology's role or whether it should 'simply' seek to refine its truth-speaking on its own terms. This dilemma is exemplified in Conradie's own essay on sin (2020:384-94). The tradition's valuable insights into why human beings fail to find their place in the created order, and thereby find themselves in a state of sin, may be devalued simply because the word 'sin' is an in-group word with little currency outside the Abrahamic faiths.

Pope Francis must count as the epitome of the Santmirean revisionist, with his emphasis on reappropriating St Francis and on applying Catholic social teaching. Ivone Gebara in contrast must qualify as a reconstructionist. She wants to reject Christianity's formulation of a dualism between the divine goodness and the evil that results from human failure (Gebara 2020:467). 'We deify the good in order to make it a greater force upon us... These dogmatic and mythical acrobatics no longer solve the challenges of our times, nor do they give a reason for a hope of change.' (470) Rather the origins of good and evil are the same, and the one continually emerges out of the other. For her sin is 'consent to actions that are harmful to others in favour of myself and my equals' (469). It is therefore a breaking of a collective pact of survival that might be thought of as the divine will. This is a very radical reformulation. I would want to play back to Gebara the question asked of Storm Swain by her Filipina respondent Elizabeth Tapia: yes, we can draw helpfully on postmodern and post-colonial analyses, we can learn from trauma theory (Swain 2020:615), but 'wherein lies our hope?' (Tapia 2020:629), now that humans are themselves an endangered species (Swain 2020:618). If our hope is not in a God whose goodness is ultimately transcendent over evil, where can that hope be grounded?

What, then, do these forays into a 'new-look' science-religion debate suggest? Not, certainly, the old chestnut of an intrinsic conflict between the sciences as revolutionaries and the reactionary forces of traditional religion, or yet that conflict's new-atheist revival. But neither do the natural sciences most need to be doubted, deconstructed, or anatomised. Rather it is what those sciences tell us that means that these interests of Generation XYZ need to find focussed application to the kind of practical and moral crises I have been outlining. Not as escape from metaphysics, or yet scientism, but because the

science tells us things that are so urgent, and that human and other creaturely flourishing is so much more fragile than we had dreamed, and because some ancient religious formulations, re-read in hermeneutically nuanced ways, remain as radical as ever.

So key questions would seem to be: how does the scientific community most effectively communicate its workings in a way that retains their critical integrity and yet does not simply fuel the tweetings of ‘deniers’? How can ancient understandings of idolatry, sin and shame be deployed into the emotional elephant of our blindness to the needs of our ‘neighbour’, be that the healthcare-poor of the world, or the islanders of Tuvalu and Kiribati, or the non-human creatures trapped in our practices of cruelty, or yet the unborn neighbours, human and non-human, who will suffer, or simply not exist, because of our inaction and intransigence? What is the role of hope in both confronting disturbing realities, and acting self-sacrificially that others may flourish?

The Korean theologian Meehyun Chung says that ‘Today, Christians are demanding a paradigm shift to overcome the dualism of [the present] arrogant and hostile schema’ (Chung 2020:643). She is writing of modern capitalism, (especially highly developed in her country, and fuelled by the particular brand of Protestantism American missionaries brought), but I suspect the ‘new’ paradigm is the one Christians have always known about but rarely quite inhabited. The Spirit groans with us (Rom. 8), but also offers us fruit: love, joy, peace, patience, kindness, goodness, faithfulness, gentleness and self-control (Gal. 5.22-3). Koinonia in that Spirit is offered to all, and that must include the non-human neighbour (Nalwamba 2020:612, drawing on the work of Denis Edwards). Future generations – human and non-human – may also be thought of as neighbours, worthy of our care. The very fragility of living by the Spirit has to rest, I suggest, on that transcendent hope we learn about at Rom. 8.39 – that no powers whatsoever can separate us from the loving generosity of God, only our own folly.

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