

TIMOTHY WALL**Resurrection and the natural sciences:
some theological insights on
sanctification and disability**

I will explore the Christian concept of resurrection from a biblical perspective arguing that it is physical and found in the context of new creation. These two results are crucial for maintaining compatibility with the natural sciences, for neuroscience emphasises the importance of physicality for identity and cosmology stresses the necessary transformation of the universe if, ultimately, life is to survive. By placing these ideas in dialogue, the importance of the eschatological transformation of both pattern and matter can be seen. This in turn has theological consequences for understanding both how sanctification can be perfected in the resurrection and how disability can be understood in the resurrected life without personal identity being obscured.

Key Words: cosmology, disability, eschatology, identity, matter, neuroscience, pattern, Polkinghorne, resurrection, sanctification.

Introduction

Paul writes to the Corinthians that ‘if Christ has not been raised, then ... your faith is in vain’ (1 Cor. 15: 14, NRSV). Any study of the resurrection comes, then, with a certain amount of inherent significance for the Christian faith. It is not my aim, however, to investigate the validity of belief in the resurrection of Christ in the light of the natural sciences, but instead to observe how a dialogue between the two can reveal important insights. I will argue throughout this article that the Christian concept of resurrection is compatible with the scientific evidence and that a discourse between the two is fruitful theologically in that it reveals how one might think eschatologically about both sanctification and disability. The natural sciences are of course, varied in the extreme. Therefore, I will choose the most pertinent aspects to enter into dialogue with: cosmology and neurology. My assessment of the Christian concept of resurrection will be similarly self-limited and based largely upon the biblical understanding of resurrection.

The Christian concept of resurrection***The resurrection of Christ: a basis for speaking about resurrection in the New Testament***

Resurrection in the Old Testament is conspicuous by its absence. Hope in the Old Testament is focused more strongly, not in post-mortem existence,

but on the fate and fortune of Israel.¹ When hope of a future resurrection does develop,² it emerges not in competition with the hope of a renewed Israel, but as a further expression of it: the resurrection of a faithful community, raised to establish and participate in a restored nation on earth.³

The New Testament authors based their understanding of resurrection, not merely on this Old Testament view, but on the resurrection of Christ which, for them, fulfilled the Old Testament hope of resurrection of the dead.⁴ In other words, while their view of resurrection was in line with Scripture, the basis upon which they conceived of it was the actual event of Christ's resurrection. Luke makes this particularly clear, for on the Emmaus Road, the disciples' eyes are not opened to the reality of the resurrection by Scripture, but when they encounter the resurrected Christ in the breaking of bread (Lk. 24: 31).

It is not that the early Christians believed that Old Testament hope was in some way completed by Christ's resurrection. Rather, that the general resurrection of the dead was the same event as the resurrection of Christ.⁵ In this way, the resurrection of Christ anticipates the general resurrection of the dead, in the sense that he is the 'firstborn of the dead' (Col. 1: 18). Indeed, while there may be apparent asymmetry between Jesus's resurrection and the resurrection of the dead in general,⁶ Paul's use of the 'first-fruits' metaphor in 1 Corinthians 15: 20-23 makes the case clear. If Christ is the 'first fruits of those who have fallen asleep' (v.20) then this implies not only that his resurrection comes first, but that it is a sample of that which is to come, given as a pledge that the rest will be '*similar in kind*'.⁷

The central idea, then, is that for the New Testament writers, the future resurrection is conditioned by the resurrection of Christ. I will use this result to explore two further themes of resurrection for the New Testament authors.

1 Wright, N.T. *The Resurrection of the Son of God*, SPCK: London (2003), p. 99.

2 Daniel 12:2 is the only generally agreed reference to literal resurrection, although passages such as Isaiah 26 and Ezekiel 37: 1-14 certainly use the concept metaphorically (possibly literally in the case of Isaiah 26); Bauckham, R. 'God who raises the dead: the resurrection of Jesus and early Christian faith in God' in Avis, P. (ed.) *The Resurrection of Jesus Christ*, London: Darton, Longman & Todd (1993), p. 138.

3 Nickelsburg, G.W.E. Jr. *Resurrection, Immortality and Eternal Life in Intertestamental Judaism*, London: Oxford University Press (1972), p. 23.

4 Wright *op. cit.*, (1), p. 334.

5 It is in this sense that Wright speaks of the hope of Israel being 'split in two'. Wright, N.T. *Paul and the Faithfulness of God*, London: SPCK (2013), p. 1048.

6 Jesus's corpse is, for instance, three days old whereas other corpses will be in various states of decomposition; see Muddiman, J. 'I believe in the resurrection of the body', in Barton, S. & Stanton, G. (ed.) *Resurrection*, London: SPCK (1994), pp. 130-135.

7 Thiselton, A.C. *Life After Death: A New Approach to the Last Things*, Grand Rapids: Eerdmans (2012), p. 118.

The physicality of resurrection

The gospels emphasise the physicality of Jesus's resurrection. Luke, in particular, most blatantly stresses the physicality of the risen Jesus, in order to make it clear that he is not a ghost but has a material human body (Lk. 24: 39). Luke's portrayal cannot be rejected out of hand simply because it depicts the resurrection in 'crudely physical terms'⁸ because this is the depiction Luke consciously gives us.

We can further observe how the New Testament authors conceived of the resurrection body by examining Paul's discussion of it in 1 Corinthians 15, for if Jesus's resurrection is the basis for the future resurrection, as argued above, what is true of the resurrection body of Jesus is true of the resurrection body of all believers (and vice-versa). Paul makes a clear contrast between the 'physical body' and the 'spiritual body' (1 Cor. 15: 44). However, a number of scholars have questioned the translation of *ψυχικόν* as 'physical' (NRSV).⁹ Instead a better translation is 'ordinary human body'¹⁰ given its use in 1 Corinthians 2: 14, where a similar contrast with 'spiritual' is made (and where the NRSV translates *ψυχικόν* as 'unspiritual' or 'natural').¹¹ The contrast, then, is not between materiality and non-materiality, but is about what kind of life characterises the body; natural human life or the Holy Spirit.¹² Furthermore, the prohibition that 'flesh and blood cannot inherit the kingdom of God' (1 Cor. 15: 50) does not rule out the physicality of the resurrection body in Paul's thinking, but emphasises the necessity for transformation.¹³ Indeed, he goes on to make this explicit: 'we will not all sleep, but we will all be changed' (1 Cor. 15: 51).

This transformation is not one from physicality to non-physicality, but from physicality to some sort of supra-physicality. This can be seen in the three additional contrasts Paul makes in 1 Corinthians 15 between the body which is 'sown' and the body which is 'raised' (1 Cor. 15: 42-44), describing them as: perishable/imperishable, dishonour/glory and weakness/power. The implication is that resurrected life will exceed the categories that humanity now has or can conceive of; a 'purposive and dynamic crescendo of life'.¹⁴ If this is so, physicality itself will not be scaled-down to immateriality, but somehow scaled-up.

8 Morgan, R. 'Flesh is precious: the significance of Luke 24: 36-43' in Barton, S. & Stanton, G. (eds.) *Resurrection*, London: SPCK (1994), p. 10.

9 Wright *op. cit.*, (1), p. 284; Thiselton *op. cit.*, (7), p. 122; Hays, R.B. *Interpretation: First Corinthians*, Louisville: John Knox Press (1997), p. 272.

10 Thiselton's translation; Thiselton *op. cit.*, (7), pp. 122-123.

11 Wright *op. cit.*, (1), pp. 282-284.

12 *ibid.*, pp. 348-352.

13 Jeremias, J. 'Flesh and blood cannot inherit the kingdom of God', *New Testament Studies*, 1956 (2), 151-159 (p.152).

14 Thiselton, A.C. *The First Epistle to the Corinthians*, Carlisle: Paternoster Press (2000), pp. 1279-1280.

Therefore, for the New Testament writers, the resurrection body of believers will be physical. Indeed, if anything it will be transformed to be more physical. It is this transformation which I will now explore further.

Resurrection as the central act of God's new creation

The gospel writers include startling examples of both continuity and discontinuity between Jesus before and after his resurrection. On the one hand the risen Jesus can appear spontaneously in a locked room (Jn 20: 19) and disappear from sight (Lk. 24: 31). Yet at the same time the evangelists emphasise the continuity of his identity. In Luke 24: 39, for instance, Jesus instructs his disciples to 'Look at my hands and my feet. It is I myself. Touch me and see'; the disciples are encouraged to believe that this really is Jesus because there is some sort of continuity expressed through his body. Given that the resurrection of Christ conditions the future resurrection, it is unsurprising to note a similar tension expressed in Paul's analogy of the seed in 1 Corinthians 15: 36-37: the plant is no longer the same as the seed, but neither is it a completely different organism. There is thus some sort of 'organic continuity' between present and future existence,¹⁵ which expresses the bodily continuity of the resurrected.

This tension between continuity and discontinuity is best understood if resurrection is seen in the context of new creation. Indeed, not only does Paul envision resurrection in the context of new creation he understands it to be the central event of new creation. Thus, in Colossians 1 he links the role of Christ in creation ('firstborn over all creation' (v.15)) and his resurrection, which anticipates the general resurrection ('firstborn from among the dead' (v.18)). In other words, just as creation occurred through Christ, so the new creation occurs through his resurrection. This also suggests that it is right to see new creation, and thus resurrection, as cosmic in scale (i.e. on the same scale as creation itself).

In the book of Revelation, heaven and earth are united, as the new Jerusalem comes from heaven to earth (Rev. 21: 1-3). Consequently, the new creation is not depicted as replacing the old; but as its renewal and completion.¹⁶ It is in this context, that the continuity and discontinuity of resurrection makes most sense. The new creation is both continuous and discontinuous with the old, precisely because the old is not replaced but transformed, renewed and brought to fruition (see Paul's use of childbirth as a metaphor in Rom. 8: 22).

It is in the context of new creation that the physicality of resurrection

¹⁵ Green, J.B. 'Resurrection of the body: New Testament voices concerning personal continuity and the afterlife', in Green, J.B. (ed.) *What About the Soul?*, Nashville: Abingdon Press (2004), p. 98.

¹⁶ Bauckham *op. cit.*, (2), p. 153.

is also best understood, because the environment of the resurrected is still earth; transformed, yet still physical. Thus, resurrection is a transformation into a 'body adapted to eschatological existence,'¹⁷ which explains Paul's discussion of the different kinds of flesh and bodies in 1 Corinthians 15: 39-41. The point is not that the composition is different but that God gives to each bodies adapted for their particular environment. Just so then, in the new creation brought about by Christ's resurrection, God will give the resurrected a body adapted for new creation.

Neuroscience and continuity of identity

The mind as a functional property of the brain

One of the most significant findings of modern neuroscience has been to discover an 'ever tightening link' between the mind and the brain, and indeed between the brain and personality and behaviour.¹⁸ I understand 'mind' to mean higher order consciousness and cognition, which includes the representation of the self as an abstract entity.¹⁹ In other words, it is the intuitive concept of the 'me' that thinks, reasons and feels.

Neuroscientists have arrived at the above conclusion for two reasons. First, the evidence from those who have suffered brain injuries suggests that physical effects on the brain can have dramatic effects on the behaviour, personality and indeed the mind of the individual.²⁰ Secondly, there is evidence that the mind can induce physical effects on the brain, for the brain demonstrates a level of 'plasticity', in that it is able to modify its structure through the interaction of cells (synapses).²¹ The generation of new synapses (neural genesis) occurs primarily in the first two years, but continues throughout a human life: synapses are maintained, remodelled or abandoned according to a one's formative experiences (patterns of thought, behaviour and interpersonal encounters etc.).²² In other words, the activity of the mind seems to be able to affect the physical structure of the brain.

Therefore, there is an apparent interdependence between mental processes and the physical make-up of the brain. There seems, therefore, no

17 Fee, G.D. *The First Epistle to the Corinthians*, Grand Rapids: Eerdmans (1987), p. 786.

18 Jeeves, M. & Brown, W.S. *Neuroscience, Psychology and Religion*, West Conshohocken: Templeton Foundation Press (2009), p. 30.

19 *ibid.*, p. 52.

20 Relevant cases are cited by Murphy, N. *Bodies and Souls, or Spirited Bodies?*, Cambridge: Cambridge University Press (2006), p. 67 and Jeeves & Brown *op. cit.*, (18), pp. 63-64.

21 Jeeves & Brown *op. cit.*, (18), p. 116; Green, J.B. *Body, Soul, and Human Life*, Milton Keynes: Paternoster (2008), p. 116.

22 Green *op. cit.*, (21), p. 115.

warrant to locate the mind in an entity ontologically separate from the body, for the research indicates, and Berry and Jeeves state, that ‘human beings are a psychophysical unity’.²³ This seriously questions any understanding which posits a strict duality between the body and the soul, where the soul is understood to be the seat of the mind. Of course, there is a long philosophical and theological tradition concerning the soul, much of which has not conceived of the soul in such starkly dualistic terms and it is beyond the scope of this article to explore how that tradition might cohere with the neuroscientific evidence. However, traditionally it has been the soul which has given humans continuity through death and resurrection.²⁴ That is, it has explained how the person who dies is the same as the person which is raised. It is not my intention to discuss the various merits and difficulties of a physicalist position, only to note that the neuroscientific view (that the mind is a ‘functional property of the brain’²⁵) has called into doubt any notion that the mind can be separated from the body.²⁶ With this in mind, how else can continuity of identity be maintained eschatologically? The answer to this question depends on what makes up human identity. I will now consider this issue making use of both scientific and theological insights.

Bodily continuity

Murphy helpfully points out that philosophical disagreement over whether identity is defined by bodily continuity or the continuation of memory is a redundant one,²⁷ for structures in the brain consolidate learning and memory through cortical networks.²⁸ Thus bodily continuity implies continuation of memory.

A number of other important elements of identity also have physical correlates. One important example is the idea of narrative, the formative stories and experiences from which identity is formed.²⁹ It is not problem-

23 Berry, R. J. & Jeeves, M. ‘The nature of human nature’, *Science and Christian Belief* (2008) 20, 3-47 (p. 5).

24 Polkinghorne, J. *The God of Hope and the End of the World*, London: Yale University Press (2002), pp. 103-104.

25 Jeeves & Brown *op. cit.*, (18), p. 24.

26 Of course, a dualistic anthropology would be hard or even impossible to disprove. My point is that the neuroscientific evidence is against it.

27 Murphy, N. ‘The resurrection body and personal identity: possibilities and limits of eschatological knowledge’, in Peters, T., Russell, R.J. & Welker, M. (eds.) *Resurrection: Theological and Scientific Assessments*, Grand Rapids: Eerdmans (2002), p. 210.

28 Jeeves & Brown *op. cit.*, (18), p. 44.

29 Akin to Gutenson’s ‘sum total of one’s life experiences’; Gutenson, C.E. ‘Time, eternity, and personal identity: the implications of Trinitarian theology’, in Green, J.B. (ed.) *What About the Soul?*, Nashville: Abingdon Press (2004), p. 129. This is also where Murphy’s character criterion would fit in, as she says herself: Murphy *op. cit.*, (27), pp. 212-213.

atic to view this narrative as 'formative histories' that are embedded in the brain, just as memory is.³⁰ Yet Dennett is right to highlight the subjectivity of narrative and memory.³¹ Although both are embodied in our brain, it is not the case that such recollections are accurate. Nevertheless, this does not make them invalid; identity is created through the perception of events as much as through their objective nature.

From a theological perspective, an objective element to narrative identity can be found in humanity's part in the narrative of God. In Luke 24: 13-34, the risen Jesus roots his identity in the 'grand story of God',³² in the sense that, as he walks with the disciples, 'he explained to them what was said in all the Scriptures concerning himself' (v. 27). The Emmaus Road story is as much about identity as any passage in the New Testament, therefore it seems fair to conclude that an objective God-centred element may be part of human narrative identity. This, however, is not necessarily found outside of the body, for in another Lucan post-resurrection scene, Jesus links both his bodily and narrative identities. Jesus appears among his disciples and says 'Look at my hands and my feet. It is I myself' (Lk. 24: 39). The reference to his hands and feet can be understood as a reference to the wounds of crucifixion.³³ Therefore Jesus seeks to demonstrate his identity by making reference first to his wounds of crucifixion (his narrative) and secondly to his actual hands and feet (his body). Embodied narrative and memory, and indeed the body itself, can therefore be identified as key aspects of identity.

Relationship to God

Evolutionary psychology has stressed the importance of humanity's social capacities.³⁴ As Jeeves and Brown state, 'Social interactions ... seem to be crucial in shaping human behaviour and priming the appearance of the highest and most complex cognitive skills, including language.'³⁵ Thus it would be a mistake to undervalue the important aspect of human identity created by relationships.³⁶ Gutenson rightly stresses this from a theological point of view and argues that being made in the image of the Triune

30 Green *op. cit.*, (15), p. 100.

31 Dennett, D.C. *Consciousness Explained*, London: Penguin Books (1993), pp. 115- 126.

32 Green *op. cit.*, (15), p. 93.

33 Although it could also just be read as an invitation to observe Jesus's physicality, the use of the idea in John 20: 24-29 (even without any literary dependency) makes the reference to the wounds more likely; Culpepper, R.A. 'The gospel of Luke' in *The New Interpreter's Bible (Vol. IX)*, Nashville: Abingdon (1995), p. 485.

34 Stone, V.E. 'Theory of mind and the evolution of social intelligence' in Cacioppo, J.T., Visser, P.S. & Pickett, C.L. (eds.) in *Social Neuroscience*, London: MIT Press (2006), pp. 103-104.

35 Jeeves & Brown *op. cit.*, (18), p. 82.

36 Dennett, I think, misses the mark in this regard by attempting to frame his understanding of the self in opposition to others as a boundary: Dennett *op. cit.*, (31), pp. 416-418.

God emphasises how relationships with other humans, with creation and, primarily, with God, make up human identity.³⁷

The primacy of humanity's relationship with God is perhaps emphasised best by reflecting further on what it means to be made in the image of God (*imago Dei*). Paul holds Christ to be the 'image of the invisible God' (Col. 1: 15) and if humans are made in the *imago Dei* this demonstrates the importance, for Paul, of a believer's relationship to Christ. Therefore it is not surprising to note the relational terms Paul uses to express how a believer relates to Christ. He speaks of being 'in Christ' (Rom. 8: 1; 1 Thess 4: 16), 'with Christ' (Phil. 1: 23) and being the 'body of Christ' (Rom. 12: 4-5, 1 Cor. 12: 27). Green rightly recognises that this, once more, stresses the relational aspect of personal identity,³⁸ but it also objectively roots the believer's identity in Christ.

It does not stretch the concept of being 'in Christ' too far to imagine that this gives shape to some form of possible intermediate state between death and resurrection. I am not arguing for a return to dualism or that any such intermediate state is analogous to life as we know it. Instead, because the believer is in Christ and a part of his body, just as Christ endures through the believer's death, so the believer can be said to exist precisely through her sharing in his body and the relationships therein.³⁹ This, I think, makes best sense of those passages which do speak of being with Christ upon death (Lk. 23: 43; Phil. 1: 23); not that there would be any level of consciousness, since, as I have argued, mind is embodied in the physical brain. Green is therefore wrong to emphasise the cessation of all relationships upon death,⁴⁰ relationships within the body of Christ endure, just as Christ himself does.

To sum up, I have demonstrated the importance of the body for human identity, while also emphasising the relationality of human identity. In both cases, there is an element of connection to God; a rootedness in the narrative of God and a participation in the body of Christ.

The importance of the body for identity coheres with the biblical emphasis on the physical nature of resurrection. For if the mind cannot be understood without the physical brain and if key elements of identity are embodied, then it would be almost impossible to envision resurrection in

37 Gutenson unfortunately fails to locate human identity in anything other than relational terms: Gutenson *op cit.*, (29), pp. 130-133; see also, Green *op. cit.*, (21), pp. 62-64.

38 Green *op. cit.*, (15), p. 99.

39 Lampe's idea of 'relational ontology' seems to express a similar understanding, although I would want to stress that the primary ground of existence is in Christ, rather than in the relationships themselves: Lampe, P. 'Paul's concept of a spiritual body' in Peters et al. *op. cit.*, (27), p. 10.

40 Green *op. cit.*, (15), p. 88.

any other form.⁴¹ Furthermore, a key link is maintained between humanity and creation, in that, because human identity is embodied, it is located within the physical universe itself. It is not surprising then, to note the biblical link between resurrection and new creation, indeed, as I now move to examine the dialogue between cosmology and resurrection, this link will prove essential.

Resurrection and cosmic catastrophe

If, as I have argued, resurrection is physical, earth-centred yet with cosmic effects, what does science have to say about the future of the earth and the physical universe? Modern cosmology makes a number of pertinent predictions on this matter. I shall begin by considering the future of life on Earth.

The future of the sun can be modelled quite accurately on the basis of astrophysical knowledge of the evolution of stars.⁴² In about 5 billion years the sun will have exhausted its supply of hydrogen in the core and will begin to burn the hydrogen in the shell around the core. It will then begin to expand, enveloping Mercury, Venus and possibly Earth also.⁴³ In any case, life on Earth will be impossible.

Neither is the safety of the Earth assured in the shorter term. For example, in 410 million years, two nearby neutron stars will collide releasing gamma rays and other radiation that will be fatal for life on earth.⁴⁴ Thus without even considering the effects of asteroid or comet collision, environmental collapse or other man-made or natural disasters, life on Earth seems to be, in the long run, futile. Even if humanity was able to abandon the Earth, which seems to be Rees's preferred solution (certainly in terms of an insurance against the possibility of global disaster), many of these risks would not abate.⁴⁵ The universe ends up being a hazardous place for life and resurrection life in such a universe would be equally hazardous.

The fate of the universe itself is no less bleak. The universe began to expand at the Big Bang, and the startling finding of recent modern cos-

41 Dennett interestingly notes that his conception of the self could, in theory, be placed in another medium, but the physical correlates of mind and identity make this problematic to say the least: Dennett *op. cit.*, (31), p. 430.

42 Polkinghorne *op. cit.*, (24), p. 8.

43 Stoeger, W.R., 'Scientific accounts of ultimate catastrophes in our life-bearing universe', in Polkinghorne, J. & Welker, M. (eds.) *The end of the world and the ends of God*, Harrisburg: Trinity Press International (2000), pp. 24-25.

44 *ibid.*

45 Rees somewhat fails to take into account the risks away from the Earth, or indeed the capability of humans to inflict disaster upon themselves as easily in a colony on the Moon as they have done upon the Earth: Rees, M. *Our Final Hour*, New York: Basic Books (2004), pp. 169-171.

mology is that it is actually expanding at an increasing rate.⁴⁶ The future of the universe is, then, predictable: it will continue to expand and the results will be devastating. The cosmos will disperse to such an extent that there will be no new star formation; only 'dead stars and black holes.'⁴⁷ The term scientists have coined for this is 'heat death' and there will be no chance for life in such a universe.⁴⁸ While death and destruction in the universe often counter-intuitively bring life,⁴⁹ heat-death will be of a different order. It will induce no novelty or fruitfulness, just the futility of continued existence. The timescale for such a future is, admittedly, huge (stars cease to form after 10^{12} (that is, one trillion) years)⁵⁰, but the point is that ultimately, any life in such a universe is futile.

One of the most immediate implications of these cosmological predictions is that any notion that resurrection could occur in the universe *as we know it* cannot be sustained. Even if resurrection occurred on a renewed Earth (saved, for example, from environmental collapse), the universe is still hazardous, and ultimately inhospitable for life in the long term. This certainly does not square with the biblical picture of resurrection life: one that is dynamic, purposeful and increasingly fruitful.

Neither is it possible to sustain two further views of resurrection. The first of these, non-physical resurrection, would certainly remove the problem of a futile universe, but as I have argued, is simply not the biblical view and is incompatible with the neuroscientific evidence. The second of these, physical resurrection in a wholly new universe, will not do either, because, if, in seeking to avoid the futility of this universe, we posit another, ultimately fruitful universe of God's creation, the value of the present creation is undermined. As Wilkinson points out, the implication of eschatologies in which everything other than humanity is relegated to something that will not last, is that ultimately, creation is 'useless and irrelevant.'⁵¹ This is strikingly different from the Christian view of creation, which God has ordained 'good' (Gen. 1).

In fact, the biblical view of the universe is not that different from the one given by modern cosmology. Paul writes in Romans 8:

For the creation waits with eager longing for the revealing of the children of God; for the creation was subjected to futility, not of its own will but by the will of the one who subjected it, in hope that the crea-

46 Wilkinson, D. *Christian Eschatology and the Physical Universe*, London: T&T Clark (2010), p. 13.

47 *ibid.*, p. 15.

48 Despite the attempts of Dyson to argue that human consciousness could survive in, for example, a complex dust cloud. This is far-fetched and, even if achievable, could hardly be called 'life': see *ibid.*, pp. 18-19.

49 In supernova, for example: Stoeger *op. cit.*, (44), p. 28; 21.

50 Wilkinson *op. cit.*, (46), p. 13.

51 *ibid.*, p. 115.

tion itself will be set free from its bondage to decay and will obtain the freedom of the glory of the children of God. We know that the whole creation has been groaning in labour pains until now ...

Romans 8: 19-22, NRSV

Thus there is an image of creation as 'subjected to futility' and in 'bondage to decay'. Far from posing a challenge to the biblical view of creation, the future heat-death of the universe actually coheres with it: creation is ultimately futile. It is in this context that Paul places both resurrection and new creation (Rom. 8: 23). Creation may be futile, but that is not the last word on the matter. Thus it is necessary to hold together both the physical aspect of resurrection and the context of new creation for the whole created order, just as the biblical authors do.

Continuity and discontinuity of the resurrection body

The discontinuity and continuity of both pattern and matter

I have argued that the brain embodies elements of human identity and that the physical nature of resurrection is crucial if it is to be scientifically compatible. Continuity of identity can therefore be understood partly in terms of bodily continuity. However, this should not be taken to imply that there must be material continuity, for the atoms in a human body are in a constant state of flux (replacing themselves about every five or six years).⁵² Thus the actual matter which makes up a human body is indeterminate. Given that I am the same person I was six years ago, even though I may have little matter in common with my body of six years ago, bodily continuity does not seem to imply material continuity.⁵³

A better way to envision bodily continuity is through the idea of an 'information bearing pattern', which encodes how the matter in the body is organised.⁵⁴ This allows the body to be conceived in terms of materiality (in that it defines how matter is organised) without having to rely on the continuity of matter itself.⁵⁵ Polkinghorne places great emphasis

⁵² *ibid.*, p. 98.

⁵³ This is not a new question: Irenaeus held that material continuity was necessary to maintain continuity of identity. Moss C.R. 'Heavenly healing: eschatological cleansing and the resurrection of the dead in the early church', *Journal of the American Academy of Religion* (2011) 79, 991-1017, (p. 1008). This realisation also makes a distinction between Jesus's resurrection as either 'personal' or 'bodily' somewhat redundant, see Auletta, G., Colagè, I. & Torcal, L. 'Discontinuity and continuity between the present creation and the new creation', *Theology and Science*, (2014) 12, 81-89 (p. 83).

⁵⁴ Polkinghorne *op. cit.*, (24), p. 106.

⁵⁵ It would be a mistake to ontologise the pattern as Polkinghorne does to some extent when he refers to it as the 'soul'. There is not time to go into this in any depth, but from the following I hope the problems of this way of speaking are evident: Polkinghorne, J. 'Eschatology: some questions and some insights from science', in Polkinghorne, J. & Welker, M. *The End of the World and the Ends of God*, Harrisburg: Trinity Press International (2000), p. 39.

on the continuity of this pattern in resurrection. Thus, for him, upon death the pattern is held in God's memory before being re-embodied (i.e. in resurrection).⁵⁶ In his conception there is no room for discontinuity or transformation in the pattern, because this would jeopardise the continuity of identity. There are two reasons for this, and I shall argue against both in turn.

First, Polkinghorne envisages that matter in God's new creation will have a 'radically different' nature.⁵⁷ It is necessary for him to locate such a high degree of discontinuity in the nature of matter, precisely because he has placed a similarly high degree of continuity in the idea of pattern, for he rightly recognises that the new creation must demonstrate both continuity and discontinuity.⁵⁸ However, the problem with stressing discontinuity in the nature of matter to this extent is that it does not easily correspond to the biblical picture. There are, of course the startling accounts of how Jesus's body can act in ways which are discontinuous with the old creation, which I noted earlier. However, the transformed matter of his resurrected body can still act within the old creation and interact with untransformed matter (e.g. he eats a piece of fish in Luke 24: 42). This hardly seems credible if the nature of the matter is *radically different*. Wilkinson helpfully here broadens the perspective, pointing out that the necessary discontinuity does not have to be located merely in the *nature* of matter but also in how matter relates to itself.⁵⁹ With this in mind, it is possible to locate a greater degree of continuity in the nature of matter and in turn find there is more scope for discontinuity in the area of pattern.⁶⁰

Secondly, Polkinghorne locates human identity only in the idea of pattern. He is not wrong to use this concept, for, as I have argued, the body is an important element of human identity and this is encoded through the concept of pattern.⁶¹ However, as I have shown, there are other factors which make up human identity, most notably the relationship to Christ. If Polkinghorne incorporated this objective strand of human identity into his view, then he would not have to emphasise the continuity of pattern to the extent that he does, for human pattern could undergo transformation (discontinuity) without continuity of identity being lost, because it is rooted in God.⁶²

56 Polkinghorne *op. cit.*, (24) p. 108.

57 Polkinghorne *op. cit.*, (55), p. 39.

58 Polkinghorne recognises that new creation comes out of the old (*ex vetere* rather than *ex nihilo*), yet the continuity is located within the idea of pattern: *ibid.*

59 Wilkinson *op. cit.*, (46), p. 154.

60 Wilkinson uses the paradigm of 'matter-form-mode-context' and emphasises transformation in all categories: *ibid.*, pp. 94-101.

61 Again, an emphasis which ontologises the pattern may stray into dualism. The idea of pattern as identity only makes sense if it is thoroughly connected to the material body it relates to.

62 This objective strand to human identity, which I have argued above extends through

In conclusion then, it is not necessary to locate such a high degree of continuity in the idea of pattern. Instead it is possible that the continuity of matter and the objective strand of human identity, found in humanity's relation to Christ, mean that there is some scope for transformation of pattern. In turn, therefore, bodily continuity does not exclude the possibility that the body will be transformed. To explore how this might work, I will examine two areas; sanctification and disability.

Sanctification: conformed to the image of Christ

When Paul discusses resurrection in 1 Corinthians 15, he does not do so in isolation. He connects a flawed understanding of resurrection with poor living, for he admonishes the Corinthian Christians to 'come back to your senses as you ought, and stop sinning' (1 Cor. 15: 34). In other words, he equates coming back to a right understanding of God and resurrection, with turning back from sinful behaviour. We should not be surprised, then, that thinking about the resurrection body has some connection to how humans live now.⁶³ Indeed, I will argue that ethical behaviour, through neural pathways, has a lasting effect on the resurrection body, and that this represents the sanctification that will be perfected in the resurrection.

As I have shown, behaviours and actions have physical effects on the brain. They are encoded narratively, but they can also form and shape neural pathways in the brain. This has two relevant and related implications for our discussion. First, that ethical choices, practices and behaviours have lasting, eschatological implications because they shape the brain, which is, as I have argued, a key element of human identity. Bodily continuity means, therefore, that the results of these actions last, encoded in our bodies.⁶⁴ The impetus to behave rightly is, therefore, more than merely doing the right thing, but because such actions have lasting effects.

Secondly, it implies that human identity can be shaped through sanctification, that is, through the process of becoming more holy. Thiselton is right to point out that holiness is more than just having good morals or character; it is about disposition towards God (having a right attitude

the life, death and resurrection, means there is no question of the resurrected person being merely a 'copy' of the person who died (in the sense that they might have the same memories, physical make-up and personality but have a distinct identity): ontological identity is maintained. Furthermore, the faithfulness of God, surely makes any such suggestion (or indeed of multiple 'copies') impossible to conceive of.

63 More expansively, Wright argues that, for Paul, the purpose of the interval between Christ's resurrection and the general resurrection was, in part, ethical (the development of character): Wright *op. cit.*, (5), p. 1048.

64 I do not mean by this that lasting implications of actions are *only* found in the body. The continuity between the old and new creation means that many things outside of humanity will also last, which is a strong impetus to act ethically within creation.

to him and to doing his will).⁶⁵ Thus when Wright emphasises how repeated patterns of right behaviour will create and strengthen neural pathways, therefore making similar behaviour in the future easier and more 'natural',⁶⁶ it is possible to recognise this as becoming more holy. In other words, disposition is altered because certain right behaviour has become engrained in the brain.

Sanctification is therefore a process of growth in this life, which will, as above, last into resurrected life. But will the process itself continue into the resurrected life (i.e. will the resurrected grow more holy) or will it be perfected in the resurrection?

There is a trend within theology, which stresses the need for humans to grow further in holiness or be further cleansed or purified after death if they are going to eschatologically encounter God.⁶⁷ Polkinghorne articulates this idea as he holds that after resurrection, humans will continue to be transformed through a process that 'fits them for everlasting encounter with the reality of God'.⁶⁸ He rightly recognises this as a demythologised version of purgatory, where the matter at stake is sanctification rather than justification.⁶⁹

It is entirely understandable to be concerned with the present sinful state of humanity and conclude that unless something is done, humans will not be at ease in the manifest presence of God (see Isa. 6: 5-7). However, it is not a post-resurrection purgatorial process which removes the propensity to sin, but physical death itself,⁷⁰ for, as Paul puts it: 'anyone who has died has been set free from sin' (Rom. 6: 7). We may note that this represents a level of discontinuity between life now and resurrected life. But what if the issue is not sin, but lack of holiness? In other words, can the discontinuity be extended to say that holiness can be given in the resurrection? There are two key reasons for saying that it can be.

First, as I have observed, holiness is dispositional. Thus it is about how one relates to God and his will and is therefore conditioned by the environment in which one finds God. What I mean by this is that in God's new creation it may be impossible not to be holy, for God's glory will be manifest (see Rev. 21: 3). In such an environment Thiselton remarks that 'nothing other than the will of God will any longer seem attractive or worthy of seeking'.⁷¹ Secondly, in the resurrection, humans are conformed to the image of Christ (Rom. 8: 29; Phil. 3: 21) and are given spiritual bodies (1

65 Thiselton *op. cit.*, (7), p. 132-133.

66 Wright, T. *Virtue Reborn*, London: SPCK (2010), p. 35.

67 Wright, N.T. *For all the Saints?*, London: SPCK (2003), p. 12.

68 Polkinghorne *op. cit.*, (55), p. 41.

69 *ibid.*, pp. 40-41.

70 Wright *op. cit.*, (67), pp.31-32.

71 Thiselton *op. cit.*, (7), p. 208.

Cor. 15: 44). It is inconceivable that having being conformed to the image of Christ and given a body motivated by the Holy Spirit, humans require any further sanctification. As Wright correctly says, it is the *current* life which is a purgatorial process of sanctification;⁷² resurrected life will see this process completed.

Having noticed the discontinuity between humanity's currently sinful bodies and their holy bodies after the resurrection, the question is whether this is possible without obscuring human identity. Can bodily continuity be maintained through discontinuous sanctification? This is why Polkinghorne requires purgatory after the resurrection, because he emphasises the continuity of pattern (humans are raised sinful, because they died sinful). This is where understanding human identity to be rooted in a person's relationship to Christ is so important. For, as above, in resurrection humanity is conformed to the image of Christ, someone in whom their identity is already found. Far from being lost, identity is, in this sense, *gained*, as the two parts of human identity are conformed to each other.

Disability and the resurrection body

In this final section I will further explore how bodily continuity may be subject to transformation in the resurrection, this time in the context of disability. The underlying question is 'will any resurrection bodies be disabled?'. I will argue that the example of Christ, whose resurrected body bears the disabling marks of crucifixion, is central to this question.

For many people (those with disabilities as well as those without), disability cannot be a part of God's new creation.⁷³ One of the reasons for this may be the assumption that to be disabled is to suffer.⁷⁴ After all, existence in the new creation is one without suffering: as Revelation puts it 'there will be no more death or mourning or crying or pain' (Rev. 21: 4). Yet the experience of people with disabilities is not necessarily one of suffering (at least, not because of their disability).⁷⁵ However, given that disability is increasingly seen in terms of social discrimination and marginalisation, rather than biomedical disability (or impairment⁷⁶),⁷⁷ we can conclude that

⁷² Wright *op. cit.*, (67), p. 34.

⁷³ Yong, A. 'Disability, the human condition, and the spirit of the eschatological long run', *Journal of Religion, Disability and Health* (2007) 11, 5-25, (p. 7).

⁷⁴ Song, R. *Human Genetics*, London: Darton, Longman & Todd (2002), p. 56.

⁷⁵ Eiesland notes the experience of someone who, while having no arms or legs, instinctively felt her body was whole and intact. She also points out that the experience of disabled people differs widely: Eiesland, N.L. *The Disabled God*, Nashville: Abingdon Press (1994), p. 24; 36.

⁷⁶ Eiesland distinguishes between impairment, disability and handicap. For simplicity's sake I will just distinguish between social disability and biomedical disability while recognising there is a wealth of disability theory I have not the space to touch upon: Eiesland *op. cit.*, (75), p. 27.

⁷⁷ Song *op. cit.*, (74), p. 57.

such disability will certainly not be a part of the resurrected life. For if there is no suffering, there can be no social disadvantage for those who are disabled. I shall proceed then, with biomedical disability in mind.

To say that no resurrection bodies will be disabled, is to say that disability cannot be a part of human identity. This is contrary to the experience of many people with disabilities. For example, if (as I have argued) the body is a fundamental part of personal identity, then the case of someone who considers her mobility devices to be a part of her body, demonstrates how disability can be included in someone's identity.⁷⁸ Another, perhaps more pertinent example, is that of intellectual disability.⁷⁹ The only way to argue that intellectual disability does not play a key part in identity is via dualism: that there is, in some sense, a non-disabled person 'in there'. I have argued that the insights of neuroscience make such a view problematic and, as Hauerwas puts it, 'to eliminate the disability [of retardation]⁸⁰ means to eliminate the subject'.⁸¹ Thus, in these examples, disability is a part of a person's bodily identity. This implies that disability will be a part of their resurrected body.

There are two caveats to be made. The first is that just as there is no normative human experience, there is no normative experience of being disabled.⁸² Thus, while I have given two examples in which disability is an important part of identity, for some, disability will play little or no part in their identity, and for others it may be a painful cause of suffering outside that inflicted by society. In these cases, it is not necessary to posit that their disability will be a part of their resurrection body, for as I noted above, suffering plays no part in the resurrected life. Instead, their disability can be understood as narratively encoded in the brain, a narrative which will be redeemed in God's new creation (Rev. 21: 4). The second caveat is that just because disability is a part of many people's bodily identity, this does not exclude transformation. I shall explore this further below.

One of the problems with the assumption that resurrection bodies will have no disability is that it assumes that able-bodiedness is normative, and disabled bodies are, in some way, less acceptable to God (hence the

78 Eiesland *op. cit.* (75), p. 38.

79 Interestingly, Eiesland excludes those with intellectual, social or emotional disabilities from her influential work *The Disabled God*. Given that neuroscience suggests that people are psychophysical unities, this may not be a helpful distinction: *ibid.*, pp. 27-28.

80 Hauerwas often refers to 'retardation'. Given that many people find this offensive, I will use the term 'intellectual disability'.

81 Hauerwas cited in Yong, A. *Theology and Down Syndrome*, Waco: Baylor University Press (2007), pp. 269-270; see also, Hauerwas, S. 'Suffering the retarded: should we prevent retardation?' in Swinton, J. (ed.) *Critical Reflections on Stanley Hauerwas' Theology of Disability*, Binghamton: Haworth Pastoral Press (2004), p. 89.

82 Eiesland *op. cit.*, (75), p. 21; 24.

need for transformation).⁸³ Yet this misunderstands aspects of resurrection. First, resurrection represents a transformation, not just for people with disabilities, but for everyone. Indeed Paul stresses this point in 1 Corinthians 15: 51 ('we will all be changed'). The context is different, but the point remains.

Secondly, resurrection is not a transformation in terms of an able-bodied ideal, but as I have argued, in terms of Christ. In resurrection humans are conformed to his likeness.⁸⁴ Once again, the resurrection of Christ is the key issue, and if this is the case, then the fact that his resurrection body still bears the marks of his crucifixion seems pointedly relevant (see Jn 20: 25, 27). The wounds of Jesus were used by the church fathers to say that resurrection bodies would still bear the wounds of martyrdom, but that they would be transformed so they should not even be considered 'defects'.⁸⁵ Yet, with Eiesland, it does not stretch the point too far to say that the wounds mean that Jesus's resurrected body is a disabled body.⁸⁶

The marks of crucifixion on Jesus's resurrected body may mark his body as disabled, but they do not limit him or have any negative effect on him. It is almost paradoxical to suggest that this means that the resurrection bodies of those with disabilities may still be disabled but that they will not be limited in any way. After all, disability is something which is disabling.⁸⁷ However, in the new creation new possibilities emerge, precisely because, as I observed earlier, the nature of matter is transformed as well as how it relates to itself. Thiselton speculates, for example, that sensory experience may be interconnected (he argues from the example of synaesthesia) and far surpass that which we experience now, because matter relates to itself in a new way.⁸⁸ With this in mind, paradoxical suggestions are not wholly out of place, and it becomes conceivable that resurrection bodies, unlike bodies now, may experience disability, but not its disabling effects. It is possible, therefore, to see in this, how bodily continuity (and within that continuity of identity), can be maintained through transformation.

Conclusion

This article has been grounded on two principles. First, that a dialogue between Christian theology and the natural sciences can be fruitful. I have

83 McCloughry, R. & Morris, W. *Making a World of Difference*, London: SPCK (2002), p. 70.

84 Yong *op. cit.*, (81), pp. 273-274.

85 Disability was considered a defect by the church fathers in general; hence, for example, Irenaeus held that although material continuity was essential to maintain identity, this did not extend to disability: Moss *op. cit.*, (53), p. 1008; 1010.

86 Eiesland takes this in a different direction from me, reflecting her different interest: Eiesland *op. cit.*, (75), p. 99.

87 See Eiesland's definition of disability: *ibid.*, p. 27.

88 Thiselton *op. cit.*, (7), pp. 210-215.

argued that the Christian concept of resurrection is compatible with the natural sciences and that, in fact, such an interaction has developed and sharpened the biblical picture of physical resurrection in the context of new creation. For neuroscience has stressed that this physicality must entail bodily continuity if identity is to be maintained and the insights of cosmology have indicated that God's new creation is nothing less than cosmic in scale. I have gone on to propose that bodily continuity does not exclude transformation, but that such a transformation is made possible through the recognition that matter will be the transformed matter of the old creation and that bodily continuity does not exclude transformation of pattern.

The second principle is the importance of eschatology within theology, for how we understand the Christian life in the future affects how we understand the Christian life now. An understanding of sanctification as a process which is perfected in the resurrection gives a context to Christian ethics; understanding that disability may be a part of the resurrected life informs theological reflection and Christian practice regarding disability. Eschatology, thus says something about our life and ethics now.⁸⁹

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⁸⁹ This article has grown out of my undergraduate dissertation. Particular thanks are due to my supervisor, Rev. Prof. David Wilkinson, for his support and encouragement, and to my wife, Susanna, who faithfully read every word that I wrote.