

**Adam or death:**

*which came first?*



**Why the order matters for the gospel, science and apologetics**  
**Stephen Lloyd**



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*which came first?*

**by Stephen Lloyd**



Biblical Creation Trust

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# Contents

Preface	i
Foreword	ii
Summary	iii
Introduction	1
I. Age of the earth and chronology: methodological considerations	2
1. <i>Chronology and the Bible</i>	3
2. <i>Absolute Chronology</i>	3
3. <i>Relative Chronology</i>	4
4. <i>Dating and biblical chronology</i>	5
II. Theological attractiveness	7
1. <i>Humanity after Adam</i>	7
2. <i>Global flood after Adam</i>	10
3. <i>Death after Adam's sin</i>	11
III. Apologetic attractiveness	15
1. <i>Suffering and the goodness of God</i>	15
2. <i>Sin and the goodness of God</i>	16
3. <i>Destruction of the Canaanites and the goodness of God</i>	17
4. <i>Human identity and sexual identity</i>	17
5. <i>Historicity and physicality of Christianity</i>	18
IV. Scientific attractiveness	20
1. <i>Scientific models</i>	20
2. <i>Is it science?</i>	22
3. <i>Is it plausible?</i>	23
V. Conclusion: the right place for dogmatism	25
Notes	26

## Preface

This booklet is a republication of my paper that appeared in Issue 72 (May 2017) of the Affinity theological journal, *Foundations* with the title 'Chronological Creationism'. The article was commissioned to set out an alternative position to that represented by a paper published in the previous issue of the journal.

This re-publication adopts a new title designed to focus on what is the most central question of biblical chronology. The choice between a history in which 'Adam is the father of death' or 'death is the father of Adam'\* has profound implications for our understanding of the gospel, as well as science and apologetics.

This booklet presents, briefly but relatively comprehensively, the approach to the origins debate that we seek to nurture through the ministry of Biblical Creation Trust. Crucially, it provides methodologies to address both the biblical and scientific questions: theology derived from the sequence of events in the biblical storyline and model building, respectively. These methods are anything but novel, yet they are rarely applied to origins questions.

In addition, I argue for a more holistic approach to the apologetic challenges Christians face. It is only as we adopt the correct biblical sequence of events in earth history that we can coherently counter contemporary attacks on the character of God and human identity.

My hope is that this booklet can encourage a more nuanced debate amongst Christians that will enable us to unite around the gospel.

Finally, I am grateful to my colleague Paul Garner for his help in the preparation of the paper and to Bill James in providing a foreword to this booklet.

*Dr Stephen Lloyd, October 2017.*

\* Douglas Wilson, '7 Reasons why BioLogos is a Threat to Classical Christian Education', 3 December 2014. : <http://tinyurl.com/y8j3fwbw>

## Foreword

The creation debate is unappealing to many ordinary believers. Some lack the expertise to grapple with discussions of rock formations, geological ages and genetics. Others fear that creationism is a liability in seeking to present the gospel to those around us. If we bring up the subject of a young earth, or six-day creation, we might be met with eye-rolling contempt; such notions nowadays are even less credible than alien abduction, and we will have lost our opportunity to speak of Christ. But most importantly, many believers struggle to see why this issue is of such crucial importance. Even if we are able to discern what shibboleths we must subscribe to, whether six-day creation, or a young earth, we cannot see the relevance either to the gospel, or to everyday life.

Dr Stephen Lloyd cuts through this Gordian knot of objections at a single stroke. He brings us back to the heart of the gospel: the cross and resurrection of Christ. He reminds us that if these are true, and we are to receive the benefits of Christ's saving work, then certain other things must be true, too. There must be an historical Adam, our forefather in sin, from whom we are rescued by the second historical Adam, the Lord Jesus Christ. There must be an historical fall, entailing the judgement of physical death, which requires the physical death of Christ upon the cross and bodily resurrection. Not only are these fixed points required by the gospel, they must occur in the right order. Adam must have appeared before any other human beings to be our forefather, with whom we share the image of God. And his sin must have come before the judgement of physical death (and the disease and suffering which go with it).

Not only do we now have a Christ-centred and coherent creationism, but we are also helped in our presentation of the gospel. For example, we can speak confidently of the goodness of God, who created the world perfect; the suffering and death which we see now are the result of the fall. The annihilation of the Canaanites (i.e. their physical death) is God's judgement on sin, not mere vindictive genocide. Our position on gender and sexuality is defined by God's good creative purpose, not our own personal prejudice. And our faith is rooted in objective historical realities.

Perhaps a study in chronology would not be your first choice of reading matter. But this little booklet brings clarity, and confidence in the gospel.

*Bill James, Principal of London Seminary.*

## Summary

This paper coins a new term, ‘Chronological Creationism’ to describe a nuanced approach to the creation-evolution debate which is theologically, apologetically and scientifically appealing. The importance of the Bible’s chronology, both relative and absolute, is introduced and then chronological considerations are applied to a series of doctrinal issues relating to origins: Adam and humanity, Noah’s flood and the relationship between Adam’s sin and death. It is concluded that if the Bible’s relative chronology in these doctrinal areas is maintained then it is impossible to reconcile the absolute chronology of the Bible with the dating used in evolutionary history. While this presents a formidable challenge, it is only if the relative chronology of the Bible is maintained that we are able to provide coherent responses to many contemporary attacks on Christianity. Starting with the relative chronology of the Bible also allows us to develop a robust scientific approach to origins that is innovative and enriching.

# Chronological Creationism

## Introduction

Evangelical reactions to creationism share similarities with people's reactions to the crispbread, Ryvita. Enthusiasts find it delicious as well as nutritious and can't understand why everyone else doesn't share their passion. Others find it distasteful and wouldn't go near it. But most, while accepting it may well be good for you, would prefer to find a more appetising alternative.

I'm no fan of Ryvita, but I am a creationist – a 'young-earth creationist' – yet not everything that comes under the brand name *creationism* appeals. My aim in this paper is to set out a distinct methodology that leads to a creationism that is both essential and attractive. It is essential and attractive theologically because it centres on the gospel, attractive apologetically because it enables us to bring consistent, gospel answers to the most compelling contemporary challenges, and attractive scientifically because it gives a secure framework for original scientific research. In other words, when it comes to origins, Christians are not faced with a choice between something biblically questionable, but apologetically and scientifically appealing, and something biblically straightforward, but apologetically and scientifically untenable.

Before I make the theological, apologetic and scientific case I will begin by setting out a method that facilitates a new approach.

## I.

**Age of the earth and chronology: methodological considerations**

The previous issue of *Foundations* included a paper with the title, ‘The age of the earth: a plea for geo-chronological non-dogmatism’.<sup>1</sup> The author, John James, argued that there is not a single understanding of the ‘days’ in Genesis 1 demanded by the text, a conclusion supported by the fact that a range of interpretations have been adopted throughout church

**the length of the ‘days’, in and of itself, doesn’t provide an age of the earth** history. Hence the ‘days’ in Genesis 1 do not necessarily need to be understood as equivalent to modern, 24-hour, literal

days. These arguments are not new and there is already a vast literature debating how the ‘days’ should be understood to which I do not intend to add. But my main reason for not responding to these arguments is that they are largely irrelevant to the position I am advocating.<sup>2</sup> Ironically, I would suggest they are of marginal relevance to the position of ‘geo-chronological non-dogmatism’ James advocates as well. How so?

The length of the ‘days’, in and of itself, doesn’t provide an age of the earth. For example, coming to the conclusion from the text that the ‘days’ of Genesis 1 are literal days does not tell you *when* these days occurred – whether they were six thousand or 4.5 billion years ago. The fact that no one considers the latter scenario as a viable option shows us what the debate today is really about: it is not the ‘age of the earth’ as a single datum in isolation, but a whole sequence of events describing the history of the planet. Hence a modern evolutionist would find a six-day creation (culminating in the creation of humans) completed 4.5 billion years ago just as ludicrous as one six thousand years ago, because in evolutionary history<sup>3</sup> human beings have not been present for 4.5 billion years. They would also dismiss an account of earth history stretching over 4.5 billion years in which the sequence of events is in the order they appear in the text of Genesis 1: the sun made after the earth and seed-bearing plants before marine life. Equally, I could find myself fundamentally disagreeing with someone who believed in a six-day creation, six thousand years ago, if they combined this with the evolutionary view that death was present from the beginning (a point that I will explain further later). All of which leads us to another irony: taken literally, the common creationist focus on ‘24-hour days’ as a shibboleth of orthodoxy rather misses the point.

In other words when Christians today<sup>4</sup> debate ‘the age of the earth’ or ‘the length of the days’ these are phrases acting as a kind of shorthand for the underlying real question of whether the creation account of the Bible coheres with evolutionary history or not.<sup>5</sup> The central issue is therefore *chronology* in the sense of sequence of events – relative chronology – rather than a particular figure for age. For example, a Christian in Darwin’s time who believed the Bible was consistent with evolutionary history would have accepted an age of the earth much lower than the current consensus of 4.5 billion years.

### **1. Chronology and the Bible**

Historically the church has been very interested in chronology seeing it as a central concern of the Bible. James Barr cites Martin Luther, Joseph Justus Scaliger, Sir Isaac Newton as well as James Ussher as examples of great scholars, representing a wide variety of theological positions (!) all of whom assumed the Bible provided an absolute chronology of the history of the world.<sup>6</sup> There were disagreements over the exact figures, but agreement that if various textual uncertainties could be resolved, exact

**time and time again, the Bible provides the information that is needed to construct an absolute chronology**

dates for events in the Bible (the exodus, Noah’s flood, creation etc.) could in principle be found. This mattered, because as Barr notes, ‘the precision and detail of the chronological data of scripture was one major reason why the divine origin and authority of scripture should be accepted at all.’<sup>7</sup>

Although with a rather different doctrine of scripture, C. S. Lewis makes a similar point, at least about the Gospels: ‘As a literary historian, I am perfectly convinced that whatever else the gospels are they are not legends. I have read a great deal of legend and I am quite clear that they are not the same sort of thing.’<sup>8</sup> Building on this quote Glen Scrivener notes, ‘Legends are set *once upon a time*. You simply cannot answer the question ‘when?’ about any detail of a legend.’<sup>9</sup>

### **2. Absolute Chronology**

Time and time again, the Bible provides the information that is needed to construct an absolute chronology (e.g. Arphaxad was born ‘two years after the flood’ (Gen 11:10), Jacob was 130 years old when he went

to Egypt (Gen 47:28)) yet absolute precision is not possible because of various textual uncertainties and also factors such as not knowing the birthdays of the various people mentioned.<sup>10</sup> The genealogies in Genesis

**stories have an internal logic that requires the correct relative sequence of events to remain coherent**

5 and 11 provide the ages at which people begat successive generations, allowing an absolute chronology to be constructed. While it is not possible to

prove there are *no* gaps in these genealogies there is scant evidence for gaps. Rather, the text clearly establishes direct father-son relationships for some names (e.g. Gen 4:25), and the possibility of gaps does not allow arbitrarily large periods of time to be added to the chronology.<sup>11</sup>

The New Testament uses the chronological information in the Old Testament, for example, Abraham's age when he fathered Isaac (Rom 4:19).<sup>12</sup> In Galatians 3:17 Paul provides an absolute figure (430 years) for the time between the promise announced to Abraham and his descendants and the giving of the law to Moses. This is a figure not directly provided by the Old Testament but calculated from the information that is given,<sup>13</sup> supporting the conclusion that this information is provided to allow us to construct a chronology.

### **3. Relative Chronology**

I have stressed the possibility of an *absolute* chronology above because it is a topic largely ignored today, but of even greater significance and theological importance is the *relative* chronology of the Bible. In Galatians 3 and Romans 4 Paul bases his theological argument about the priority of faith on the *chronological* priority of Abraham over Moses. His theological point stands whether they are separated by 40 years or 400, but not if Moses existed before Abraham. Why is this relative chronology so important? Because the Bible has a story-line, that in its broadest strokes can be summarised as creation-fall-redemption-restoration. Stories have an internal logic that requires the correct relative sequence of events to remain coherent: causes precede effects, problems precede their solution. Christ's redemption, through dying and rising again, is the response to the problem introduced by Adam's sin. In other words, the coherence of the gospel rests on the story-line.

When it comes to questions of origins we therefore need to consider more than Genesis 1. To assess whether the Bible's teaching is compatible

with evolutionary history or not we need to compare the sequence of events in the Bible's story-line with that in evolutionary history. Like Paul we want to keep the theological priority with the relative chronology, while recognising the Bible also provides an absolute chronology.

#### **4. Dating and biblical chronology**

There is one more chronological issue that needs to be considered: the relationship between the Bible's chronology (both absolute and relative) and other extra-biblical chronologies. Put simply, the Bible contains no BC or AD dates. Any attempt to place a particular date on an event recorded in the Bible requires some correlation between that event (or another event in the biblical chronology) and some external historical event or artefact that is dated. So, for example, the Bible tells us that the final destruction of Jerusalem happened in the eleventh year of Zedekiah (2 Kgs 25:2) and the nineteenth year of Nebuchadnezzar

(2 Kgs 25:8). Records of Babylonian history enable us to date the event at 587/586 BC. But there is

**it is the chronology, not the age of the earth that is at issue**

no *biblical* reason to object to a date of 577 BC or similar, in the event of some radical revision of our understanding of Babylonian history, so long as it still occurred in Zedekiah's and Nebuchadnezzar's eleventh and nineteenth years respectively. If that were not the case the new revised version of Babylonian history would reflect a challenge to the accuracy of the Bible's chronology. In other words as soon as an attempt is made to correlate the Bible's story-line with evidence outside the Bible there is the possibility of a challenge to the reliability of scripture. But equally it provides an opportunity: we can show the Bible is a book dealing with reality.

I want to adopt the same methodology when it comes to origins and science. The challenge is to correlate scientific evidence of events with the Bible's chronology. This is no different in principle to what we do in the example of the Babylonian destruction of Jerusalem above. If we believe the Bible provides true historical information about, say, the history of mankind, then we cannot avoid the challenge of explaining where a set of hominin fossils, for example, fits within the chronology, the story-line of the Bible: are they before or after Adam? It is the chronology, not the age of the earth that is at issue. The answer matters because it impacts on the gospel itself.

It is for this reason that I question James' plea for 'geo-chronological non-dogmatism' on the grounds that it distracts and diverts from the real battle against 'reductionistic naturalism' and from hearing the 'life-changing truth' of the creation account.<sup>14</sup> To avoid or play down the importance of the chronological issues I have cited actually hinders that task and robs us of opportunities to present the gospel.

In summary:

- Chronology is a major concern of the Bible, essential to its character as presenting a historical account of God's actions in the world.
- While the Bible allows, even encourages, us to produce an absolute (but not totally precise) chronology it is the relative chronology that has theological priority.
- As soon as we use the Bible to inform our understanding of historical evidence outside the Bible we need to correlate the Bible's chronology, both relative and absolute, with that evidence. To refuse to do so, or to see that task as unimportant is to keep the Bible hermetically sealed from the scrutiny of external evidence and, in practice, to deny its essential character as a book of history. The attraction of such an approach is that it removes the possibility of the Bible being disproved, but at the same time it allows people to dismiss Christian belief as something internal to the person and irrelevant to the real world they live in.

## II.

## Theological attractiveness

In this section I am providing a series of theological arguments based on the Bible's chronology to show that attempts to fit evolutionary history into the Bible end up messing with the relative chronology in a way that makes the gospel incoherent.

### 1. Humanity after Adam

I am starting from the assumption that the Adam described by Paul as 'the first man' (1 Cor 15:45, 47) was a particular person who really existed, and that his historical existence matters for the coherence of the gospel.<sup>15</sup> However it is possible to believe in a historical Adam that is not the same as *the* biblical Adam.<sup>16</sup> The latter is not one among many but someone unique because he is the first human, from whom all others are descended. In other words *Adam had no parents*, Adam *precedes* the rest of humanity.<sup>17</sup> I will begin by setting out why this is the biblical Adam and therefore why it matters for the gospel before considering the chronological implications.

Modern science classifies all human beings existing today as the species *Homo sapiens*. In the Bible, what distinguishes humans from the other living creatures of day six is that they are made 'in the image of God' (Gen 1:26–27), a categorisation that is assumed elsewhere to apply to all people in general (e.g. Jas 3:9). Paul says to the Corinthians that 'we have borne the likeness of the earthly man [i.e. Adam]

**my human identity as the image of God is based on physical descent from Adam**

(1 Cor 15:49). How is the 'image / likeness' given to Adam shared with the rest of humanity? Genesis 5:1–3 provides the answer:

*When God created man, he made him in the likeness of God. He created them male and female... When Adam had lived 130 years, he had a son in his own likeness, in his own image; and he named him Seth.*

By this definition my human identity as the image of God is based on physical descent from Adam. That my identity should rest on physical descent is entirely consistent with the pattern we find in Scripture. Why is so much space given to genealogy? Because it mattered which family

you belonged to. Descendants of Jacob were blessed, descendants of Esau were cursed (Mal 1:2–3). Within Israel, to serve in the temple you needed Levi as your ancestor, to be a Davidic king you needed to be in David's line. Still for us today, so much of our identity is shaped by our family (our genes, our birthplace, our native language etc.)

If Adam is one among many, his *image-of-Godness* is something conferred upon him at some point, not intrinsic to him from the beginning. It is a status that is given *arbitrarily* by God in the sense that there is nothing that marks out Adam as unique among the other hominins

**detached from the anchor of physical descent from Adam I am left in a frighteningly insecure position** existing alongside him. This creates a problem: who else bears the image of God? If it is

those descended from Adam then it does not include his parents, who presumably would therefore have the status of animals (and whom he could therefore legitimately kill and eat). And what about Eve? Did Adam *marry* an animal? More importantly, it would also exclude people alive today who are not physically descended from Adam. If on the other hand, the image of God is given individually by divine decree how do I know if I, or my neighbour, shares that status? I am not privy to the decrees of God. Detached from the anchor of physical descent from Adam I am left in a frighteningly insecure position and prey to abuse from any who would want to question my true human status before God.

The same problems arise with Adam's position as the representative head of humanity.<sup>18</sup> If being 'in Adam' (1 Cor 15:22) is not rooted in the ontological foundation of physical descent from him then how do I know who is included in the humanity that he represents? And who is the humanity that Jesus came to save? Jesus was born into the family line of Adam (Lk 3:23–37). Hebrews 2:14–17 explains that Jesus assumed the flesh he came to save. But if I am not a descendant of Adam, then the flesh, the humanity that Jesus assumed would be different to mine. He would not be my 'kinsman redeemer' to use the imagery of the book of Ruth (2:20, 4:14). Surely the gospel rests on the reality that in the incarnation Jesus assumed our humanity, not *any* humanity.<sup>19</sup> Similarly, in Genesis, it is from Eve, 'the mother of all the living' (3:20) that the descendant will come to crush the serpent's head (3:15).

Chronological implications of our doctrine of Adam cannot be avoided once an attempt is made to correlate what the Bible says about human

beings (a lot) with the vast amount of palaeontological and archaeological data concerning human existence and behaviour. Hominin fossils (of enormous variety) exist. Piltdown fraud aside, they are not some invention of an evolutionary conspiracy and they need to be explained. Are they fossils of creatures/humans that existed before or after Adam? Take Neanderthals. In the evolutionary chronology they died out around 25,000 years ago, but left evidence of a developed culture including clothing and burying their dead with artefacts presumably for use in an afterlife.<sup>20</sup> They were therefore people not too dissimilar to us and DNA evidence indicates they interbred with our own species *Homo sapiens*.<sup>21</sup> If Adam existed *after* Neanderthals then how do we explain their apparent spiritual behaviour? What of their spiritual state – are they ‘in Adam’ or not? What is the spiritual status of the offspring of the interbreeding, and of their descendants today – descendants that include most Europeans and most Asians?<sup>22</sup> If Neanderthals are not human these offspring are the fruit of bestiality. Such questions naturally push us to place Adam *before* Neanderthals (or at least before the later Neanderthals). Maybe Adam was part of the original *Homo sapiens* population around 200,000 years ago? (I say ‘part of’ since recent research is interpreted to mean that the genetic diversity in modern humans could not have arisen from a single pair, but rather an initial population of the order of 10,000.<sup>23</sup> Hence even in this scenario Adam could not be the ancestor of all modern humans).

But why stop at *Homo sapiens*? To define only this species as biblically human is arbitrary and also promotes the potentially divisive notion that being truly human means ‘people like us’.<sup>24</sup> Details of lifestyle are more sketchy for more distant hominins like *Homo erectus* and *Homo ergaster*, but anatomically they are not so different from us and evidence of sophisticated tool manufacture and the controlled use of fire suggest similar capabilities.<sup>25</sup> Was Adam before *Homo erectus*, two million years ago? Whichever of these scenarios you adopt because of the theological constraints brought by the *relative* chronology, the strain on the *absolute* chronology is severe if the dates associated with the evolutionary history are assumed.

## 2. Global flood after Adam

Noah's flood is clearly a significant event in the early chapters of Genesis, but its theological importance to the wider biblical story is rarely considered.<sup>26</sup> What is its chronological importance in the Bible's story-line? Firstly, it functions as an anticipation of the judgment and re-creation at the second coming (2 Pet 3:3–10). The flood *de-creates* the world God has made (Gen 6:6–7, 7:4) which along with Peter's parallels suggests *both* are world-wide events. Or to put it the other way round, if the flood is regarded as a local, non-global event the account in Genesis 1 must also refer to the creation of only a small part of the world! The flood also results in a *re-creation*, a new world less susceptible to human self-destruction allowing a new era of grace to flourish (Gen 8:21). In other

**salvation is not merely spiritual but includes the physical world**

words, in the flood we discover that God's plan for redemption is not only about human souls: salvation is not merely spiritual but includes

the physical world. Animals (Gen 9:10) and the earth itself (Gen 5:29) are included in God's post-flood blessing.

But there is another chronological datum that has even more important implications for the gospel today: Noah precedes Abraham. Why does this matter? God's promise to Abram is that through him blessing will come to all peoples on earth (Gen 12:3). Who are the 'all peoples'? They are defined by the context as the nations that emerged from the confusion of Babel (Gen 11:9), people who are explicitly said to have descended from Noah's sons (Gen 9:19, 10:32). We see Abraham's promise fulfilled as we obey Christ's command to 'make disciples of all nations' (Mt 28:19). There is therefore a problem if the flood was local and wiped out only a portion of mankind outside the ark. Peoples today descended from the contemporaries of Noah not affected by the flood are not included in the post-flood promises (explicitly tied to Noah's descendants, Gen 9:9) or, by extension, in the promise to Abraham. On what basis, then, are they to be included in the great commission?

Considering the date of the flood highlights further problems. In the Bible its beginning is dated unusually precisely to the 'seventeenth day of the second month' in the six hundredth year of Noah's life (Gen 7:11). How does that date correlate with external evidence such as the existence of humans in other parts of the world? With the dating accepted in evolutionary history aboriginals have been in Australia for at least 40,000

years. Did they arrive before or after the flood? If before, then the flood must have been a local event confined to some portion of the Ancient Near East so they could survive, but it would lead to the problem that they are not included in the Noahic covenant or the blessing of Abraham. If after the flood, the theological problems are minimised because the aboriginals' existence is consistent with the relative chronology of the Bible, but it means the date for the flood needs to be pushed back to at least 40,000 years ago which would put the absolute chronology of the Bible under considerable strain.

The implications for the absolute chronology become insurmountable if the most obvious statement of relative chronology (used in the section heading) is considered: Adam preceded the flood. Evolutionary history contains evidence of many catastrophes of vast proportions and of continents having been submerged under water: but in the evolutionary chronology this was all long before humans appeared. To allow this evidence of continent-spanning catastrophe to correlate with Noah's flood, whilst maintaining the evolutionary dates, would require Adam to have existed hundreds of millions of years ago.

There is a pattern in my conclusions from these first two theological areas: if the relative chronology of the Bible is to be maintained (which has theological priority) while adopting the dates provided by evolutionary history then the Bible's absolute chronology is stretched beyond reasonable bounds. In other words there is a sizeable 'dating problem' arising from the doctrines of Adam and Noah's flood even before the more wide-ranging implications in the following section are considered.

**there is a sizeable 'dating problem' arising from the doctrines of Adam and Noah's flood**

### **3. Death after Adam's sin**

At the centre of the Bible's story is the death and resurrection of Jesus. How this central event is understood hinges on the chronology of death you adopt.

In evolutionary history (physical) death has always been present: indeed it is essential for the development of life. If that chronology is assumed then the death sentence announced on sin in Genesis 2:17 *cannot* include physical death, since it was already in existence. But that then raises the problem of why physical death is assumed (without comment) to be a consequence of sin throughout the Old Testament (e.g.

1 Sam 12:19) and, even more seriously, why Jesus had to *die* (physically) on the cross. If physical death is intrinsic to our humanity then the Lord's Supper (symbolising a physically broken body and shed blood) becomes a celebration of Jesus' incarnation, not his atonement. It also makes a nonsense of the resurrection as a victory over the enemy (physical) death (1 Cor 15:26). If physical death has always been present we find Jesus conquering what he himself made as an enemy at the beginning. That makes the story of the Bible, the gospel, incoherent.

My argument is not theological speculation, but based on the explicit teaching of the New Testament.<sup>27</sup> The physical suffering and death of Christ is repeatedly linked to payment for sin (Col 1:22, 1 Pet 2:24, Heb 10:10, 1 Cor 15:3). And this is explained in terms of the story-line in 1 Corinthians 15:21, 'For since death came through a man, the resurrection

**if physical death has always been present we find Jesus conquering what he himself made as an enemy at the beginning**

of the dead comes also through a man.' Jesus' resurrection from the dead (the solution) is linked to the problem of death through Adam's

sin. Given that the resurrection includes new *physical* life, Adam's sin must have led to *physical* death.

The sentence of death includes the suffering and decay that leads to death. Our *bodies* (part of physical creation) need redemption (Rom 8:23), presumably because they too are affected by the curse on sin. Jesus speaks of needing to *suffer* and to *die* (Mk 8:31). His atoning death for sin is linked to the healing of *disease* (Mt 8:17) and his healing miracles were to undo the consequences of sin, rather than being the actions of a bad architect patching up what he had made in the beginning.

This argument centred on the cross requires that death and disease were absent from the original creation declared 'very good' (Gen 1:31) *before* Adam's sin.<sup>28</sup> It is *after* Adam's sin that death and violence become a repeated feature of the narrative (Gen 3:19, 4:8, 15, 23, 5:5–31, 6:5–7).

How we understand the end of the Bible's story is also shaped by our chronology of death. Despite its place in highly symbolic literature everyone interprets Revelation 21:4 as referring to the literal absence of physical death and suffering in the new creation. (No hermeneutical uncertainty or nondogmatism there!) But if physical death has been present from the beginning then this new creation is not something purchased by Christ through his death. The renewal of creation then has nothing to do

with redemption from sin and everything to do with God trying to make a better job of creation than he did at the beginning. Second time round, 'very good' doesn't include brain tumours or cancer.

The theological (and apologetic) consequences of our chosen chronology of death are immense. So are the implications for dating, even if only human death is considered. All the hominin fossils we find are, self-evidently, dead. If they are human then they must post-date Adam given a biblical relative chronology of death from sin. Hence if *Homo erectus* is human Adam's sin in the garden would need to be at least two million years ago which is such a stretch for the absolute chronology of the Bible that we have strong grounds to question the dating supplied by evolutionary history on this point alone.

**how we understand the end of the Bible's story is also shaped by our chronology of death**

To avoid this conundrum, imagine that you opt for an Adam around 10,000 years ago who is not subject to death. In this scenario the *Homo sapiens* around him (such as his parents) may suffer from a terminal disease. Since they are physically, emotionally and intellectually identical to Adam their suffering must be similar to what Adam would experience were he subject to death. Why would such suffering in Adam be a terrible evil caused by sin, whereas the identical suffering in his parents (who are animals) would be morally neutral? The same inconsistency will apply whatever date you choose for a death-free Adam: he will have physically identical contemporaries whose suffering is of no moral consequence.

For these reasons and others<sup>29</sup> I find a position that insists only human death has resulted from sin unworkable. Hence I am reassured that explicit biblical teaching linking animal death to human sin is actually rather easy to find. This is brought out most clearly in the judgment of the flood destroying 'all flesh' (which includes animals as well as humans (Gen 7:15–16, 21) in part because of the violence in animals (Gen 6:11–13) as well as humans) but also in the judgment of the Passover (Ex 12:12, 29) amongst other examples.<sup>30</sup>

**the theological (and apologetic) consequences of our chosen chronology of death are immense**

With animal death included as a consequence of human sin, the consequences for dating are inescapable. Depending on where you draw the line of which animals are included,<sup>31</sup> Adam's sin would have to have been hundreds of millions of years ago.

For that reason (not the length of the Genesis 1 ‘days’) I have to challenge the dating provided by evolutionary history.<sup>32</sup> Multiple, independent theological arguments all point to a dogmatic conclusion that the chronology of evolutionary history (including the dating) is not consistent with the chronology (relative and absolute) of the Bible. If data are interpreted to preserve the relative chronology of the Bible a date for Adam is required (in the evolutionary chronology) that is impossible to reconcile with the Bible’s absolute chronology. The doctrinal issues involved have sufficient theological reach that we cannot afford to be non-dogmatic about them. Furthermore, attempts to reconcile the evolutionary and biblical chronology lead to very unattractive, incoherent and, in some cases, frankly bizarre theology. Although it is possible to survive on such a poor theological diet, the long-term consequences are deadly.

More positively, the gospel-relatedness of these biblical chronology doctrines creates a great opportunity. Questions about origins are no

**questions about origins are no longer a distraction from the gospel but an entry point into it**

longer a distraction from the gospel but an entry point into it. For example, I have been on national television explaining my beliefs about origins on three occasions.

Each time, despite not having long to speak, I have talked about the cross because it was integral to my beliefs about creation.

### III.

## Apologetic attractiveness

The reason many pastors find creationism unappetising, even if orthodox, is that it seems to be an apologetic liability. It is not something you want to serve up to non-Christian friends. In recent decades one of the quickest ways to be dismissed as someone inhabiting a different intellectual planet (dangerous as well as crazy) is to be intellectually 'outed' as believing in a 'young earth'. Hence in the Q&A at the end of an outreach event when the question of origins comes up there is a massive incentive to say, 'It's okay, the age of the earth isn't an issue for me or the Bible. Next question.' I understand the problem,<sup>33</sup> but my argument in this section is that such a response creates a greater apologetic problem. It makes it harder to provide coherent answers to many other objections for the reasons set out in the previous section: attempts to accommodate evolutionary chronology distort the Bible's own chronology and hence its theological coherence.<sup>34</sup> Overall, apologetics is a lot easier if a position of chronological creationism is adopted. This is how the evangelist Glen Scrivener put it to me in an email<sup>35</sup> providing the outline of a talk he was preparing:

**overall, apologetics is a lot easier if a position of chronological creationism is adopted**

*I want to give them a biblical account of creation that is more evangelistically attractive than simply capitulating to evolution from the outset. So I want to do a proper theology of creation – a Good God, a Good Creation, a Real Adam, a Genuine Fall, a Physical Redemption, etc. Actually this is what we really want to be true when we're handling the question of questions which all evangelism actually revolves around: How can we believe in a good God in a suffering world?*

### **1. Suffering and the goodness of God**

Stephen Fry's much shared rant from 2015<sup>36</sup> captures the objection well: how can God be good if he makes a world in which children are afflicted with bone cancer? Even if his argument is incoherent (on what basis is he making his moral judgment?) it is still a potent attack on Christianity if the evolutionary chronology is correct. The problem is particularly acute because it is the goodness of creation that is emphasised through repetition in Genesis 1. The conclusion 'it was very good' (Gen 1:31)

followed by rest on day seven suggests a sense of satisfaction, even delight in all that God has made. If, for example, cancer was present from the beginning, as the evolutionary chronology requires, we are left with the choice of two unpalatable options: Either cancer is included in what is

**it is the goodness of creation that is emphasised ... in Genesis 1**

‘very good’ or, if it is actually something very bad yet created by God, then (as Stephen Fry understands) it is hard to explain how

God can himself be good. Or to take a different example, if infertility has always been present, then God’s competence as the craftsman of creation is called into question given that his expressed purpose for the creatures he made is that they multiply (Gen 1:22, 28).

Even some of the best modern Christian apologists don’t appear to have appreciated the link between beliefs on origins and answers to the problem of natural evil. Tim Keller, who would certainly not describe himself as a ‘young-earth creationist’, nevertheless adopts the chronology of creationism in this very explicit explanation for the suffering in the world:

*Human beings are so integral to the fabric of things that when human beings turned from God the entire warp and woof of the world unravelled. Disease, genetic disorders, famine, natural disasters, ageing and death itself are as much the result of sin as are oppression, war, crime and violence.<sup>37</sup>*

If this is the correct explanation for natural evil, evolutionary history is false.

The Intelligent Design pioneer William Dembski, who accepts an old earth, takes an alternative approach. He feels the force of the problem of natural evil so strongly he is ready to take the remarkable step of jettisoning the chronological coherence of the Bible’s story in proposing that the punishment of Adam’s sin preceded the crime.<sup>38</sup>

## **2. Sin and the goodness of God**

Evolutionary history is a story of violence and promiscuity. How does Adam (and other hominins) fit into that history? If Adam is one among many he has parents who are physically, emotionally and intellectually identical to him, yet, morally speaking, they are animals. Hence they can be violent and promiscuous without incurring the guilt or punishment

of sin, as can Adam before his special status before God is conferred. However, once Adam is God's image-bearer he is an accountable, moral person. Assuming an initial period of perfection before he sins, his 'fall' merely puts him back in the position he was in before he knew God, except that he is now held guilty. In these circumstances it would be understandable if Adam regarded bearing the image of God as more of a curse than a blessing. He would also have grounds to question God's justice and goodness: why is he being held accountable for behaviour (e.g. violence) that is intrinsic to how he has been made? As the *image of God* why is it wrong for Adam to *image* God's use of violence in creation? And we, represented by Adam, could ask the same: God's condemnation of violence as sinful seems arbitrary, even hypocritical.

**the gospel is about answering the problem of sin, including the sin of violence**

What does this scenario do to the gospel message? The gospel is about answering the problem of sin, including the sin of violence. But if violence is intrinsic to my human identity, how I have been made, then in the gospel God is rescuing me from how he made me. In effect salvation has become God saving me from himself. That is an apologetic millstone I don't want round my neck.

### **3. Destruction of the Canaanites and the goodness of God**

The destruction of the Canaanites is now one of the most common objections to Christianity cited today. I have discussed this in more detail elsewhere where I argue that it can be defended morally if their destruction is understood as an act of God's justice, using Israel as his agent.<sup>39</sup> But this argument is only coherent if death is understood to be a punishment for sin. If death existed before Adam then it is a natural part of life and the destruction of the Canaanites becomes an act of violence, which cannot easily be defended morally.

### **4. Human identity and sexual identity**

The Bible's teaching on our human identity as the image of God is particularly pertinent today but it is undermined if Adam is one among many. In such a scenario God's image is something *added* to Adam after he has been made so it is not intrinsic to his identity from the beginning. Adam had a body, thought, sang, planned and worked long

before he was the image of God. His existence was not bound up with being God's image, so how can it be fundamental to our identity today? It is a spiritual status unrelated to Adam's physical body since there were

**the Bible's teaching on our human identity as the image of God is ... undermined if Adam is one among many**

other physically, emotionally and intellectually identical hominins (such as his parents) who do not share that status. In addition, if we

can't be sure *who* is the image of God our biblical arguments for human dignity (and equality) are undermined and people will be justified in seeing their identity as something fluid, and in attempting to find their significance in self-achieved ways.

There are also implications for our sexual identity. Genesis 1:26–27, 5:1 speak of being made or created as God's image and parallel language is used in both references for our sexual identity as male or female. If the former is understood as divine decree *subsequent* to the beginning of Adam's physical existence then the same must apply to his sexual identity as male. Human sexuality is not then rooted in how we have been made,<sup>40</sup> which undermines our apologetic against contemporary transgender claims that our gender identity is a matter of personal choice and feeling.

### **5. Historicity and physicality of Christianity**

Chronological creationism self-consciously connects the chronology of the Bible with evidence of events outside the Bible in the physical world. As such it emphasises the historical, real-life basis of Christian

**attempts to insulate the Bible from challenge inevitably end up retreating from the physicality of what God has done**

theology, which of course centres on God himself entering his own creation. That emphasis is sorely needed in an age which prefers to

compartmentalise Christian truth as private and internal to the believer, with no purchase on reality. To avoid being dismissed as irrelevant we need to show how the Bible's chronology correlates with external events, and not be afraid of the challenge that will come when external evidence appears to be inconsistent with it.

Attempts to insulate the Bible from challenge inevitably end up retreating from the physicality of what God has done: human uniqueness is a purely spiritual quality, my relationship to Adam as the head of humanity is only spiritual, death from sin is only spiritual. When

our theology is no longer grounded in ontological created reality we are left with a God who 'pulls his theology out of thin air'.<sup>41</sup> What is the attraction in that?

## IV. Scientific attractiveness

When it comes to the science much creationism is better described as ‘anti-evolutionism’. There is a place for this as there are real weaknesses in evolutionary explanations, especially when it comes to providing viable mechanisms by which the complexity of life can arise and develop.<sup>42</sup> Here the Intelligent Design movement is helpful in providing quantitative, strictly scientific criteria and arguments for design.<sup>43</sup> What Intelligent Design doesn’t provide is a chronology of earth history. Chronological creationism, on the other hand, frees us to move beyond taking pot-shots at evolution and evolutionists to develop a scientific account of earth history that is consistent with, and complements, the chronology provided by the Bible.<sup>44</sup> In this section I want to explain the methodology behind this approach which allows us to address the many existing scientific questions and objections and also those that will arise in the future. My argument is that this approach is more attractive and, while only pursued systematically relatively recently, it has proven scientifically fruitful.

### 1. *Scientific models*

Too often approaches to the scientific questions betray a lack of understanding of how science works, with a focus on pieces of evidence in isolation as if they can act like ‘silver bullets’ somehow proving or disproving a particular scientific idea. But science is not the same as arithmetic in which inputs into an arithmetical expression unambiguously produce one correct output. In science, a particular piece of evidence may be consistent with a whole variety of different scientific models, but would be *proof* of none. A scientific model is an explanatory framework that brings coherence to a variety of different data. For example, the genius of Newton’s theory or law (= model) of gravity was in showing that the motion of the moon around the earth and the motion of an apple falling to the ground (two seemingly unrelated phenomena) fit the same mathematical equation.

When it comes to historical science, constructing a scientific model is closely analogous to the work of a detective in solving a crime. Suppose

the detective finds the following piece of evidence: a knife coated with human blood. What story (model) fits this datum? Surely it is evidence for murder? Quite possibly, but it is not the only explanation (model) for why the knife is coated in blood. It could be the result of a kitchen accident, or a research project testing the corrosive effects of human blood on steel, or any number of other scenarios. The job of the detective (and the scientist) is to look for other pieces of evidence to test different explanations (models) of what happened. The best explanation will be the one that explains the most pieces of evidence in the most uncontrived, least *ad hoc* manner. However, the conclusion reached is only ever provisional since not every possible explanation has been thought of let alone tested, and not every relevant piece of evidence has been examined – such as the evidence we didn't look for or the evidence we didn't think relevant!<sup>45</sup> It is not uncommon for what seemed like watertight criminal convictions to be overturned as new evidence came to light and the history of science is littered with examples of cherished scientific models being discarded in the face of new data. What 'everyone knows' can sometimes be wrong.

Put more simply, there can be lots of evidence for scientific models that are wrong. There was, *and is*, evidence for the phlogiston model of combustion.<sup>46</sup> However, no chemist accepts that model today because the oxygen model explains the same evidence, and much else besides, far better. In a similar way there is plenty of evidence supporting evolutionary history (that is, in the main, why so many scientists believe it!) but that doesn't mean it is a *true* history of life on earth. There are plenty of data consistent with large amounts of decay of radioactive isotopes in earth history, data that *are* consistent with an 'old earth' but that is not the *only* possible conclusion. Because (like Luther and Newton) I am confident in the truth of the Bible's chronology I believe that a scientific model, consistent with the Bible's chronology can be developed that explains the same data, and much else besides in a more convincing, satisfying and coherent manner. But like any other scientific model it will not be without problems. There are almost always some data that are unexplained or that do not fit the preferred model, but a model can be accepted on the strength of the weight of evidence it does explain.

**there can be lots of evidence for scientific models that are wrong**

## 2. Is it science?

The methodology of starting with the Bible in developing scientific models is open to challenge in at least two ways. First, the Bible contains accounts of the miraculous activity of God in which the normal workings of the world (what science describes) are disrupted. How can a scientific model include miracles, and what stops miracles being invoked to overcome problems in a particular model? Miracles, by definition, cannot be explained by science, but since they occur in a physical universe they can leave evidence. Thus it is possible to infer from evidence the occurrence of a miracle. We do this all the time in arguing for the resurrection. There is (historical) evidence of the miracle (an empty tomb and appearances of the risen Jesus) and this evidence is best explained, in the least contrived manner, in terms of the miracle of the resurrection. When it comes to creation models there can be evidence best explained through a miracle (even where the Bible does not explicitly tell us of a miracle) but they cannot (usefully) be invoked *ad hoc* to discount evidence.<sup>47</sup>

**it is possible to infer from evidence the occurrence of a miracle**

Second, how can a model be disproved if it is based on the inerrant chronology of Scripture? The answer is to distinguish the biblical teaching and the scientific model. For example, I believe in a global flood because of my trust in the truth-telling God who wrote scripture. However those scriptures do not teach a particular scientific model describing the detailed geological activities that occurred during the flood. A whole number of models may be consistent with the biblical teaching, so they have to be assessed on their *scientific* merits (i.e. how well they explain the data). If new scientific work discredits my preferred model I need to go away and do better science and come up with a better model. My belief in the flood is intact because it rests on scripture, *not* my particular scientific model. Ironically this approach to origins, where my fundamental epistemology comes from the Bible, allows me to be more dispassionate in assessing the merits of my preferred scientific theory than an atheist evolutionist whose basic beliefs are tied to the scientific models they adopt. Starting from the Bible allows me to be rightly non-dogmatic when it comes to scientific models.

The model-building approach I propose is a relatively recent development<sup>48</sup> and one that isn't often reflected in popular creationist literature and talks (which tend to be characterised by

anti-evolutionism). Despite its newness, it has been a fruitful research strategy increasingly deploying researchers who are experts in the fields in which their creation models are focused and as such cannot be quickly dismissed as the work of ignoramuses who don't understand the evidence.<sup>49</sup> None of this means their models are necessarily correct but they are undertaking real scientific work that in some cases is published in peer-reviewed secular literature.<sup>50</sup> Science is enriched as new discoveries are made because researchers are ready to work with an alternative model which prompts different questions for research.

**science is enriched as new discoveries are made because researchers are ready to work with an alternative model**

### **3. Is it plausible?**

The biggest barrier to chronological creationism being taken seriously scientifically is its apparent implausibility. However, our sense of implausibility is highly subjective and conditioned by presuppositions and unrecognised assumptions. When I have set out my scientific approach I have sometimes been met by a reaction of incredulity: 'There is too much evidence against you.' 'It just doesn't work.' 'It can't be done.' But how do we know 'It doesn't work' or 'It can't be done' until we try? We need to test a properly biblical model. For example, genetic studies have been cited as evidence against humanity being descended from a single original pair.<sup>51</sup> But to test the scientific coherence of the Bible's chronology the genetic studies need to test a consistently biblical model that includes Adam being created as a mature adult with a disease-free body, living 930 years, with successive generations living to similar ages, a flood that wipes out all humanity except the eight people on the ark and a definition of humanity that includes more than *Homo sapiens*. Plausible or not, what I am proposing is more radical than often recognised!

**how do we know 'It doesn't work' or 'It can't be done' until we try?**

Sometimes implausibility is based on false facts. Young and Stearley confidently assert (in line with the geological consensus) that the Coconino Sandstone, present in the Grand Canyon but outcropping over much of central and northern Arizona, is a wind-deposited desert sand.<sup>52</sup> As such it effectively disproves a flood model since this desert sand sits in the middle of the stack of rock layers that chronological creationists

would attribute to the global flood. Young and Stearley cite the absence of the mineral mica and the well-sorted and well-rounded sand grains as proof of its desert origin. The problem is that both claims are false. While conventional geologists had no reason to reinvestigate the evidence for the origin of the Coconino Sandstone, chronological creationists did. Their

**there is an enormous mismatch between the observational evidence favouring rapid formation of the rock strata and the radiometric dates that are assigned to the same rocks**

research identified the presence of the mineral mica throughout the Coconino Sandstone, showed that the Coconino sand grains were only moderately to poorly

sorted and rounded and documented many other independent lines of evidence pointing to the Coconino being laid down rapidly underwater.<sup>53</sup> In short, starting with a belief in the Bible's account of a global flood these researchers have made new discoveries, enriched science for everyone and even presented their results at the Geological Society of America conference and in mainstream geological journals.<sup>54</sup>

When it comes to the key issue of dating it is important that *all* the available evidence is considered. The reasons for thinking the earth was old in Darwin's time (e.g. estimates based on sedimentation rates, cooling of the earth or orbital physics) are now known to be wrongheaded.<sup>55</sup> Geological processes once thought to require vast lengths of time are increasingly understood by modern geologists as being consistent with very short periods of catastrophism.<sup>56</sup> Today, long ages are mostly inferred on the basis of the radioisotope evidence, which shows that lots of radioactive decay has occurred during the history of the earth. However, there is an enormous mismatch between the observational evidence favouring rapid formation of the rock strata and the radiometric dates that are assigned to the same rocks.<sup>57</sup> Proposals have been made for a model to explain both sets of data,<sup>58</sup> but plenty of questions remain.<sup>59</sup>

None of this is easy nor will it always yield immediate results, but it is attractive. What is more exciting as a scientist than to do something genuinely original: to ask new questions, to look at data in new ways and find new data – especially when that research effort leads to new models? As biologist Todd Wood says: 'The more I dig, the more I work at it, the more insight I get, the more answers I get, it's really exciting.'<sup>60</sup> In other words, doing science as a chronological creationist is not like eating Ryvita!

## V.

**Conclusion: the right place for dogmatism**

In the origins debate there is one thing worse than misplaced dogmatism and non-dogmatism, and that is non-engagement. However well-intentioned such a strategy may be it will leave the church ill-equipped for the actual battles we are facing and with an overly spiritualised gospel message.

Polarisation around prominent individuals or organisations or slogans is equally unhelpful: ‘Do you support [prominent creationist speaker / organisation]? Do you believe in literal days?’ Instead, on the biblical questions we need a *nuanced* dogmatism, nuanced to the specific doctrines of relative chronology tied to the gospel: humanity *after* Adam, death *after* Adam, a global flood *after* Adam etc. Such doctrines should also be the focus as we look for insights from theologians in church history.

**on the biblical questions we need a nuanced dogmatism**

These doctrines have implications for how we are to interpret scientific evidence concerning the earth’s history such that some scientific models (e.g. those requiring death before Adam) must be rejected. However, there are any number of possible scientific models that could be adopted that are consistent with these doctrines and that attempt to explain the various pieces of evidence. Since no particular model can claim unique biblical endorsement non-dogmatism is necessary here. There may be strong *scientific* arguments to prefer one model over another (a *scientific* dogmatism) but these are not binding on the conscience of a Christian.

## Notes

- 1 *Foundations* 71 (November 2016), 39–51.
- 2 For a more systematic statement of my position see Stephen Lloyd, 'Christian Theology and Neo-Darwinism are Incompatible: An Argument from the Resurrection', in Graeme Finlay, Stephen Lloyd, Stephen Pattermore & David Swift, *Debating Darwin* (Milton Keynes: Paternoster, 2009), 1–29. As I note in my response (69–78) my chapter made no mention of the 'days' at all! In addition, I argue that the presence of literary structure and artifice in the early chapters of Genesis does not demand an a-historical interpretation. Hermeneutical uncertainty is minimised by my doctrinal approach based on numerous passages, representing differing literary genres across the whole story-line of the Bible.
- 3 I use the term 'evolutionary history' in this paper rather than the more ambiguous term 'evolution' to make clear that the issue is not change (of unspecified degree) over time but the 'amoeba to man' story of evolution referring to the whole history of life on earth. It is therefore about geology as much as biology in providing the time-line over which all the development of life occurs. Darwin himself built his ideas on the foundations of Charles Lyell and other geologists – he read and was greatly influenced by Lyell's *Principles of Geology* during his voyage on *HMS Beagle*.
- 4 It is our *contemporary* concerns that are the focus of my paper. Whether the reasons that Christians in the past debated the age of the earth were different or the same is not at issue.
- 5 As should be clear from note 3 above, 'evolutionary history' therefore encompasses 'old-earth creation' views as well as 'theistic evolution'.
- 6 James Barr, 'Biblical Chronology: Legend or Science?' The Ethel M. Wood Lecture 1987 (London: University of London, 1987), 1–19.
- 7 *Ibid.*, 3.
- 8 *God in the Dock*. Walter Hooper (ed.), (London: HarperCollins, 1979), 82.
- 9 *Love Story* (Leyland: 10Publishing, 2017), 5. Emphasis his.
- 10 Pete J. Williams, 'Some Remarks Preliminary to a Biblical Chronology', *Creation Ex Nihilo Technical Journal* 12/1 (1998), 98–106.
- 11 *Ibid.*, 98.
- 12 This raises another issue of direct relevance to the origins debate: the long life-spans of the patriarchs and those before. It is not just the major figures who seem to live a long time (Abraham 175, Isaac 180, Jacob 147 – interestingly Jacob regards his life as rather short compared to his ancestors [Gen 47:9]) but also people like Amram who lived to be 137 [Ex 6:20]. In addition there is a systematic, exponential decrease in life-spans after the flood from those recorded in Genesis 5. That these ages should be understood as real life-spans is supported by the way events in their lives are also dated e.g. Noah has children aged 500, and the flood begins when he is 600 [Gen 5:32, 7:11].
- 13 Harold W. Hoehner discusses different possibilities for how Paul arrived at this figure in 'The Duration of the Egyptian Bondage', *Bibliotheca Sacra* 126 (1969), 306–316.
- 14 'Geo-chronological Non-dogmatism', 51.
- 15 See D. A. Carson, 'Adam in the Epistles of Paul', in N. M. De S. Cameron (ed.), *In the Beginning: A*

- Symposium on the Bible and Creation* (Glasgow: Biblical Creation Society, 1980), 28–43. Even among those who would deny a historical Adam (e.g. Peter Enns, *The Evolution of Adam* (Grand Rapids, Michigan: Brazos, 2012), Denis O. Lamoureux, *Evolutionary Creation* (Cambridge: Lutterworth, 2008)) there is an acceptance that the Apostle Paul believed (in their view erroneously) that Adam was a historical individual.
- 16 This distinction is made by Derek W. H. Thomas, 'Differing Views on the Days of Creation', in Richard D. Phillips (ed.), *God, Adam, and You* (Phillipsburg, New Jersey: P&R Publishing, 2015), 131.
- 17 I am therefore primarily contrasting my position with a range of views in which *Homo sapiens* arose as described by evolutionary history and then an individual member of the species (Adam) was given the special status of representing humanity (e.g. Denis Alexander, *Creation or Evolution. Do we have to Choose?*, Second ed., (Oxford: Monarch, 2014)). My arguments equally apply to a (somewhat *ad hoc*) scenario in which Adam is directly created by God but exists alongside other hominins (such as Neanderthals) who share similar physical, emotional and intellectual capabilities (e.g. Fazale Rana & Hugh Ross, *Who was Adam?*, Second Expanded Ed., (Covina, California: Reasons to Believe, 2015)). In both cases Adam is one among many, and there are other hominins aside from Adam from whom modern humans could, in principle, be descended.
- 18 Further implications for the doctrine of original sin are discussed in Hans Madueme & Michael Reeves (eds.), *Adam, the Fall, and Original Sin* (Grand Rapids, Michigan: Baker, 2014). My focus here is on the status of Adam as a representative, not all that this representation involves.
- 19 Michael Reeves, 'Adam and Eve' in Norman C. Nevin (ed.), *Should Christian Embrace Evolution?* (Nottingham: IVP, 2009), 55.
- 20 Brian Hayden, 'The Cultural Capacities of Neanderthals: A Review and Re-evaluation', *Journal of Human Evolution* 24 (1993), 113–146.
- 21 S. Pääbo, *Neanderthal Man: In Search of Lost Genomes* (New York: Basic Books, 2014), 185–195.
- 22 *Ibid.*
- 23 Dennis R. Venema, 'Genesis and the Genome: Genomics Evidence for Human-Ape Common Ancestry and Ancestral Hominid Population Sizes', *Perspectives on Science and Christian Faith* 62/3 (2010), 166–178.
- 24 This discussion demonstrates that it is actually rather important to be able to distinguish which hominins are biblically human by some method that moves beyond arbitrary assertion. For an example of the sort of rigorous approach that is required see: T. C. Wood, 'Baraminological Analysis Places *Homo habilis*, *Homo rudolfensis*, and *Australopithecus sediba* in the Human Holobaramin', *Answers Research Journal* 3 (2010), 71–90. More recently, this analysis was expanded with the addition of other hominin taxa in T. C. Wood, 'An Evaluation of *Homo naledi* and 'Early' *Homo* from a Young-Age Creationist Perspective', *Journal of Creation Theology and Science Series B: Life Sciences* 6 (2016), 14–30. The implications of denying humanity to those 'not like us' are considered briefly in T. C. Wood, 'Psychological Considerations on the Recognition of the Human Holobaramin', *Journal of Creation Theology and Science Series B: Life Sciences* 4 (2014), 30.
- 25 R. Boyd & J. B. Silk, *How Humans Evolved*, Sixth Ed. (New York: W.W. Norton & Company, 2012), esp. 274–281.
- 26 Further reflection on Noah's flood can be found in Lloyd, 'Christian Theology and Neo-Darwinism are Incompatible' and also my article '*Flood Theology: Why does Noah's Flood Matter?*' available for

download from <http://biblicalcreationtrust.org/resources-origins-archive.html>.

- 27 The origins debate should therefore be as much a concern of New Testament scholars as Old Testament specialists.
- 28 A 'death-free' existence is not the same thing as intrinsic immortality. My point is that before the fall Adam was not subject to disease and decay processes that would inevitably lead to death. Neither was he intrinsically immortal (only God has 'life in himself' (Jn 5:26)) - for example, he needed to eat in order to live.
- 29 Nigel M. De S. Cameron, *Evolution and the Authority of the Bible* (Exeter: Paternoster, 1983), esp. 64-71.
- 30 Lloyd, 'Christian Theology and Neo-Darwinism are Incompatible', 18-23. Also see Marco T. Terreros, *Theistic Evolution and its Theological Implications* (PhD Dissertation, Andrews University, 1994).
- 31 By 'animal death' I am talking about higher animals, not microbes. 'Cell death' is a modern scientific term that should not be equated with the biblical terminology of 'death'. Given that plants were eaten in the pre-fall world (Gen 1:30) cell 'death' must have occurred.
- 32 James, 'Geo-chronological Non-dogmatism', 41 notes that his article does not attempt to address wider questions such as the existence of death before the fall. Limitations in what can be covered in one article are entirely understandable, but in not addressing this topic James has missed what is in my view *the* most significant argument impacting his chosen topic of geo-chronology and the Bible.
- 33 Although I wonder if we are too swayed by university settings and the reception of the élites. Amongst the public as a whole there is a significant degree of scepticism towards evolution and even its timescales. See Nick Spencer & Denis Alexander, *Rescuing Darwin. God and Evolution in Britain Today* (London: Theos, 2009). Available for download from: <http://www.theosthinktank.co.uk/files/files/Reports/RescuingDarwin.pdf>.
- 34 My approach is no different to what we readily adopt for other 'defeater' beliefs. For example, a biblical understanding of homosexuality will not endear our message to many audiences yet we recognise that attempts to accommodate homosexual practice as non-sinful requires a distortion of key gospel themes. See Sam Allberry, 'No Longer Taboo', in 'True to Form' *Primer*, issue 3 (Market Harborough: FIEC, 2016), 53.
- 35 29 April 2015. Emphasis his.
- 36 From an interview with Gay Byrne broadcast on 1 February 2015. Available on YouTube: <https://www.youtube.com/watch?v=5suvkwNYSQo>.
- 37 Timothy Keller, *The Reason for God* (London: Hodder & Stoughton, 2008), 170.
- 38 William A. Dembski, *The End of Christianity* (Nashville, Tennessee: B&H Publishing, 2009).
- 39 Stephen Lloyd, 'Horrid Histories?', *Evangelicals Now* (February 2013), 19 & (March 2013), 19.
- 40 C. Everett Berry, SBJT Forum: 'In the Beginning...'. *Southern Baptist Journal of Theology* 11/1 (2007), 89-90.
- 41 Reeves, 'Adam and Eve', 50.
- 42 James A. Shapiro, *Evolution. A View from the 21<sup>st</sup> Century* (Upper Saddle River, New Jersey: FT Press Science, 2011); Thomas Nagel, *Mind & Cosmos. Why the Materialist Neo-Darwinian Conception of Nature is Almost Certainly False* (Oxford: Oxford University Press, 2012). Neither author doubts the chronology of evolutionary history but they do question the viability of neo-Darwinian mechanisms to bring it about. Nagel also questions the ability of strictly materialist theories to explain the mystery of consciousness.

- 43 For example, William A. Dembski, *The Design Inference* (Cambridge: Cambridge University Press, 1998), Stephen C. Meyer, *Signature in the Cell* (New York: HarperOne, 2009), *Darwin's Doubt* (New York: HarperOne, 2013).
- 44 For examples of this approach see: Paul A. Garner, *The New Creationism* (Darlington: Evangelical Press, 2009), Kurt P. Wise, *Faith, Form, and Time* (Nashville, Tennessee: Broadman & Holman, 2002), Todd Charles Wood and Megan J. Murray, *Understanding the Pattern of Life* (Nashville, Tennessee: Broadman & Holman, 2003).
- 45 Os Guinness makes a similar point in a different context drawing on a fictional story in *Fools Talk* (Downers Grove, Illinois: IVP, 2015), 47–48.
- 46 This is one of the examples discussed by Thomas S. Kuhn, *The Structure of Scientific Revolutions*, Second Ed., Enlarged, (Chicago: University of Chicago Press, 1970).
- 47 The dangers of invoking miracles *ad hoc* are minimised if there are several independent streams of evidence consistent with a specific miracle hypothesis. An example would be the proposal of episodes of accelerated nuclear decay at one or more times in the past. See Garner, *New Creationism*, 96–104. However, it is possible that further research may reveal a non-miraculous explanation for these data. In short, the proposing of miraculous intervention is not a science show-stopper!
- 48 For a brief history see Paul Garner, '50 Years of Creationism', *Evangelical Times* (February 2017), 5, 13.
- 49 A recent development is the formation of professional research networks hosting annual conferences including the Creation Biology Society and Creation Geology Society. The Creation Biology Society has a website at [www.creationbiology.org](http://www.creationbiology.org). These societies are led by people with PhD degrees in the respective natural sciences.
- 50 Some are cited in this article. Also note the following two peer-reviewed guides to field excursions led by young-earth creationists at annual meetings of the Geological Society of America: S. A. Austin, 'The Dynamic Landscape on the North Flank of Mount St. Helens', in: J. E. O'Connor, R. J. Dorsey, and I. P. Madin (eds.), *Volcanoes to Vineyards: Geologic Field Trips through the Dynamic Landscape of the Pacific Northwest*. Geological Society of America Field Guide 15 (2009), 349–356. M. R. Ross, W. A. Hoesch, S. A. Austin, J. H. Whitmore & T. L. Clarey, 'Garden of the Gods at Colorado Springs: Paleozoic and Mesozoic Sedimentation and Tectonics', in L. A. Morgan & S. L. Quane (eds.), *Through the Generations: Geologic and Anthropogenic Field Excursions in the Rocky Mountains from Modern to Ancient*. Geological Society of America Field Guide 18 (2010), 77–93.
- 51 Venema, 'Genesis and the Genome'.
- 52 Davis A. Young & Ralph F. Stearley, *The Bible, Rocks and Time* (Downers Grove, Illinois: IVP, 2008), 305.
- 53 Two full-length technical papers have been published in the peer-reviewed creationist literature: J. H. Whitmore, R. Strom, S. Cheung & P. A. Garner, 'The Petrology of the Coconino Sandstone (Permian), Arizona, USA', *Answers Research Journal* 7 (2014), 499–532. J. H. Whitmore, G. Forsythe & P. A. Garner, 'Intraformational Parabolic Recumbent Folds in the Coconino Sandstone (Permian) and Two Other Formations in Sedona, Arizona (USA)', *Answers Research Journal* 8 (2015), 21–40.
- 54 A partial list of abstracts reporting this research at annual meetings of the Geological Society of America can be found at <http://www.biblicalcreationtrust.org/research-projects-coconino.html>. In addition, some full-length papers have been published in peer-reviewed geology journals, including J. H. Whitmore & R. Strom, 'Sand Injectites at the Base of the Coconino Sandstone, Grand Canyon,

- Arizona (USA)', *Sedimentary Geology* 230 (2010), 46–59. S. A. Maithel, P. A. Garner & J. H. Whitmore, 'Preliminary Assessment of the Petrology of the Hopeman Sandstone (Permo-Triassic), Moray Firth Basin, Scotland', *Scottish Journal of Geology* 51 (2015), 177–184. C. J. Anderson, A. Struble & J. H. Whitmore, 'Abrasion Resistance of Muscovite in Aeolian and Subaqueous Transport Experiments', *Aeolian Research* 24 (2017), 33–37.
- 55 G. Brent Dalrymple, *The Age of the Earth* (Stanford, California: Stanford University Press, 1991), 12–78.
- 56 For example, granite formation, once considered to require timescales of millions of years, is now described as 'geologically extremely rapid – perhaps even catastrophic'. See N. Petford, A. R. Cruden, K. J. W. McCaffrey & J.-L. Vigneresse, 'Granite Magma Formation, Transport and Emplacement in the Earth's Crust', *Nature* 408 (2000), 669–673. J. D. Clemens, 'Granites and Granitic Magmas: Strange Phenomena and New Perspectives on Some Old Problems', *Proceedings of the Geologists' Association* 116 (2005), 9–16. A. A. Snelling, 'Catastrophic Granite Formation: Rapid Melting of Source Rocks, and Rapid Magma Intrusion and Cooling', *Answers Research Journal* 1 (2008), 11–25.
- 57 For a particular example published in the mainstream literature see Leonard R. Brand, Raul Esperante, Arthur V. Chadwick, Orlando Poma Porras & Merling Alomia, 'Fossil Whale Preservation Implies High Diatom Accumulation Rate in the Miocene-Pliocene Pisco Formation of Peru', *Geology* 32/2 (2004), 165–168. For a wider overview see Leonard Brand, *Faith, Reason, and Earth History*. Second Ed., (Berrien Springs, Michigan: Andrews University Press, 2009), 368–375.
- 58 See Garner, *New Creationism*, 96–104.
- 59 E.g. Wise, *Faith, Form, and Time*, 201–205.
- 60 Blog post, 'Is Genesis History Q&A', 20 February 2017, <http://toddcwood.blogspot.co.uk/>. The quotation is from the film, *Is Genesis History?* that he is discussing.



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