

ERNEST C. LUCAS, DENIS R. ALEXANDER, R.J. (SAM) BERRY, G. ANDREW D. BRIGGS, COLIN J. HUMPHREYS, MALCOLM A. JEEVES, ANTHONY C. THISELTON

The Bible, Science and Human Origins

This paper considers whether, and how, the current scientific consensus about human origins can be related to the relevant biblical passages. The scientific consensus is outlined, noting points that might seem problematic from a biblical perspective. It is argued that the Bible should be understood using 'the principle of incarnation' as a hermeneutic approach. This requires taking seriously the historical and cultural context, and the contemporary literary forms, of its inspired writers. Genesis 1-3, 1 Corinthians 15:21-22, 42-49 and Romans 5:12-21 are discussed, noting theological points that may be relevant with regard to the scientific consensus. It is argued that the Bible's purpose is not to give us scientific information about human origins but to reveal theological truths about the nature and purpose of humans. How these theological truths might be related to the scientific consensus about human origins is then discussed. Two particular models for relating the biblical story of Adam and Eve and the Fall to the scientific story are presented. These are not the only possible models that are compatible with both the biblical theology of human origins and current scientific evidence. The important thing is that such models are possible.

Keywords: Adam, evolution, Genesis, image of God, Paul, the Fall.

1. The scientific story

The modern scientific account of human origins is based on the theory of evolution. This paper is not the place to discuss the evidence supporting that theory.¹ Its purpose is to consider whether and how the current scientific consensus can be related to the biblical material about human origins. What follows in this section is a summary of the current understanding of the evolutionary origins of humans. The basic framework for it comes from the study of fossil remains of humans and other primates. In recent decades this understanding has been complemented and confirmed by developments in molecular biology and comparative genomics.²

1 For accessible presentations of it see: Ayala, F. *Darwin's Gift to Science and Religion*, Washington, DC: Joseph Henry Press (2007); Coyne, J. A. *Why Evolution is True*, Oxford: Oxford University Press (2009); Falk, D. R. *Coming to Peace with Science*, Downers Grove, IL: IVP Academic (2004); Zimmer, C. *Evolution*, Greenwood Village, CO: Roberts & Co. (2015), 2nd edn.

2 Finlay, G. 'Evolution as Created History', *Science & Christian Belief* (2008) 20, 67- 90.

That these quite different approaches have provided this strong support increases confidence that the evolutionary story of human origins is essentially correct, even though there is a great deal more to be discovered and understood regarding its details.

The occasional dismissive response, 'Evolution is only a theory', arises from a misunderstanding. Like many words, 'theory' has a different meaning in popular speech from the meaning it has in science. The Oxford English Dictionary gives its popular meaning as, 'A hypothesis proposed as an explanation; hence, a mere hypothesis, speculation, conjecture; an idea or set of ideas about something; an individual view or notion'. When used scientifically it means, 'A hypothesis that has been confirmed or established by observation or experiment, and is propounded or accepted as accounting for the known facts; a statement of what are held to be the general laws, principles, or causes of something known or observed'. So, the theory of evolution is considered well-established by virtually all scientists today and is a significant basis for modern biology. Of course scientific theories change over time as new evidence comes to light. However, any good new theory must account for all the evidence that supported the older theory and often incorporates that theory in a modified form. The essential idea of the theory of evolution, that new life forms arise by a process of 'descent with modification' and that all existing life forms on earth are interrelated, being the products of such a process beginning with a common ancestor, is very well established. Debate continues about the detailed understanding of the process.

1.1 The origins of *Homo sapiens*

Our nearest living relatives are the chimpanzees. We have not evolved from them. We and they have evolved from a common ancestor living around 5-6 million years ago. Since then we, the chimpanzees and the other 'great apes' with whom we share common ancestors, have each been following independent evolutionary pathways. Our own genus *Homo* emerged in Africa some 2-3 million years ago. There is debate about its exact lineage, though it probably arose from the genus *Australopithecus*. Several species of *Homo* existed and thrived in Africa at the same time. *Homo heidelbergensis*, a species that is sometimes regarded as archaic *Homo sapiens*, appeared in Africa about 600,000 years ago. It spread from Africa, all over Europe and across Asia to China. The oldest well-characterised fossils that are classed as anatomically modern humans, *Homo sapiens*, date from about 200,000 years ago and were found in southern Ethiopia. Some expansion into the Near East took place by about 115,000 years ago, the date of some *H. sapiens* fossils found in Israel. However, it was

not until around 60,000 years ago, or possibly earlier,³ that a significant migration, or migrations, of *H. sapiens* from Africa took place. Modern humans travelled eastward across Asia and reached Australia by 50,000 years ago and later expanded northwards, where they appear as the Cro-Magnon people. They crossed the Bering Strait into North America by 18,000 years ago. There is now good genetic evidence that there was some inter-breeding between anatomically modern humans and related groups such as Neanderthals relatively recently in human history. Since a small amount of Neanderthal DNA is found in all non-Africans but is absent from most African populations, some inter-breeding probably occurred after the migration out of Africa. Therefore if one takes a strict definition of a species as a population of animals that never engage in successful reproduction with another population, then humans have only been clearly and unambiguously 'reproductively isolated' in this way for the past 35,000 years or so.

Genetics has been of great help in tracing the evolution and migrations of *H. sapiens*. It also provides the basis for estimating the size of the population of reproductively active individuals at various times. At the time when all *H. sapiens* were still in Africa the population size was in the region of 9,000-12,500 such individuals. Of these maybe 1,000 or so migrated out of Africa as the ancestors of the population which now occupies the rest of the world. Small as these figures are, they contradict any likelihood that all modern humans are genetically descended from a single pair of ancestors in the recent past.

The complete sequencing of both the human and the chimpanzee genomes has made it clear that, in terms of overall genetic material, there is very little difference between us and chimpanzees. There are different ways of measuring the genetic similarity, which give figures ranging from 95% to 99.4%. By any measure, the similarity is very close. Equally striking is the fact that the spatial order of genes along chromosomes is very similar in both genomes. These features strongly support a common ancestry for humans and chimpanzees. Further support is provided by the fact that the two genomes share thousands of 'pseudogenes', stretches of DNA that are identical to genes known to be functional in other organisms but which no longer function in humans. For example, humans, chimpanzees and gorillas share hundreds of genes related to the sense of smell that have been inactivated by identical mutations. The best explanation of this is descent from a common ancestral line in which the mutations occurred. Features known as transposons (sections of DNA that have been 'copied and pasted' several times throughout the genome) and retroviral

3 A recent paper based on the analysis of 47 human teeth found in a cave in S. China dates them to more than 80,000 years ago [Liu, W. et al., 'The earliest unequivocally modern humans in southern China', *Nature* (2015) 526, 696-699]. If confirmed by other findings, the current model of emigration from Africa will require some revision.

insertions (sections of DNA that have been copied into the genome from viruses) provide additional evidence of common ancestry.⁴

1.2 Human distinctiveness

So, what makes humans different from chimpanzees and the other apes? Over the centuries people have regarded various human capabilities and characteristics as features which differentiate us from other creatures, for example: language, rationality, moral sense, religious sense, self-consciousness. It has become increasingly clear that a number of abilities or behaviours once considered uniquely human do exist in other creatures in some, perhaps rudimentary, form. Genetics is beginning to throw light on this area, bearing in mind that particular abilities and behaviours are invariably influenced by a suite of genes rather than one single gene. An interesting example is the FOXP2 gene. This 'regulator' gene controls the expression of other genes. People with a mutant form of it cannot speak intelligibly and also suffer from relative immobility of the lower face and mouth. FOXP2 is implicated in mouse vocalisation, bat echo-location and birds' ability to sing, but it also occurs widely in fish and reptiles. The *H. sapiens* FOXP2 gene is identical to that in the Neanderthal but differs from that of chimpanzees by the coding for two amino acids. Another interesting example is the ARHGAP11B gene which leads to the neocortex of the human brain being larger than in other primates. It seems to have arisen by a partial reduplication of the ARHGAP11A gene found in chimpanzees after the *Homo* lineage had diverged from the chimpanzee lineage.

Studies in relatively recent disciplines such as sociobiology, neurophysiology, psychology, and the cognitive study of religion have produced suggestions regarding the possible evolutionary development of some human characteristics. Further study may help us to evaluate these suggestions. Meanwhile debate continues over whether the evolutionary process led to the gradual development of these characteristics or whether there were some 'quantum leaps', perhaps because of particular genetic mutations or the growing complexity of neural networks in the brain, which resulted in distinctively human abilities or characteristics. A recent book with contributions from leaders in various disciplines engages in this debate. The editor,⁵ noting that many of them endorse a gradualist approach, comments, 'This is important because, in the context of wider debates about the relationship between science and religious beliefs, there has been a constant temptation to look for gaps in the scientific evidence and to fit

4 Alexander, D. R. *The Language of Genetics*, London: Darton, Longman & Todd (2011), pp. 133-150; Venema, D. R. 'Genesis and the genome: genomics evidence for human-ape common ancestry and ancestral hominid population sizes', *Perspectives on Science & Christian Faith* (2010) 62, 166-178.

5 Jeeves, M. *The Emergence of Personhood: A Quantum Leap?* Grand Rapids, MI: Eerdmanns (2015), p. 241.

God into those gaps as an additional explanatory concept. There is no place in well-grounded Christian belief for a “god of the gaps”.⁶ He then quotes one of the theological contributors, Alan Torrance,

In summary, if we are looking for a quantum leap in the history of the emergence of personhood, the most relevant ‘nodal point’ would be not the acquisition by *Homo sapiens* of some capacity but God’s bringing human beings into a specific kind of I-Thou relationship, with all the ramifications for the human community (love, forgiveness, reconciliation, care for the sick and elderly) that stem from this. It is in the context of this theological history that the term person finds its warrant and indeed that its use becomes appropriate.

Furthermore, it is important to remember that humans are social beings and to recognise the role of socialisation and cultural development on our development as persons. Although they are at an early stage, these studies require us to consider the probability that evolution has done more than shape our physical bodies. It has also produced and shaped, in ways we do not yet understand, other aspects of what we regard as our distinctively human nature.

2. The biblical creation story⁷

There are a number of texts in the Old Testament other than Genesis 1-3 that speak of creation. They provide an important background against which to understand the early chapters of Genesis properly. Among them are: Job 26:10-13; Psalm 74:12-17; 89:8-12; Isaiah 51:9-11. All of these

6 The editor, in referring to the ‘God-of-the-gaps’ had in mind the views of Donald Mackay who noted,

There is a quite common approach that we might call ‘looking for God in the gaps’ ... You explain things scientifically as far as you can go, then bring God in to explain what is left. You agree on a kind of division of territory into ‘the bits of nature that science can explain and God can’t touch’, and ‘the bits where science has so far failed and perhaps God must be at work’. And so, of course, God is left with a steadily dwindling territory, liable to devastation by every new discovery in our morning newspaper ... The point is that, however imperfectly a scientist understands the processes he studies, it would be advancing a non-Christian idea of God to suggest that God was to be seen at work only in the bits of nature that puzzle the scientist. (Mackay, D.M. *The Open Mind*, Leicester: IVP (1988), p. 34.)

This does not apply to those things with which science *in principle* cannot deal, such as the miracle of the resurrection and why anything exists at all.

7 Many books deal with the topic of this paper. A few recent ones which do so from a variety of broadly evangelical perspectives and provide further references are: Alexander, D.R. *Creation or Evolution: Do We Have to Choose?*, Oxford/Grand Rapids, MI: Monarch (2014), 2nd edn.; Barrett, M. & Caneday, A.B. (eds.) *Four Views of the Historical Adam*, Grand Rapids, MI: Zondervan (2013); Charles, J.D. *Reading Genesis 1-2: An Evangelical Conversation*, Peabody, MA: Hendrickson (2013); Enns, P. *The Evolution of Adam: What the Bible Does and Doesn’t Say about Human Origins*, Grand Rapids, MI: Brazos Press (2012); Madueme, H.(ed.) *Adam, the Fall and Original Sin*, Grand Rapids, MI: Baker Academic (2014).

refer to the God of Israel as the Creator of the world. In them God stills the sea and destroys opponents who are described as sea monsters, serpents, and dragons, two being named as Rahab and Leviathan. This was rather mysterious until archaeology came to the aid of OT scholars.

Excavation of a site called Ras Shamra on the Syrian coast uncovered the remains of a Canaanite city known from Mesopotamian records as Ugarit. An important port and trade centre, it was destroyed around 1200 BC and never rebuilt. Among the remains were clay tablets written in a previously unknown language. It was deciphered fairly quickly and found to be a Canaanite language related to early Hebrew, now called Ugaritic. These tablets include religious texts with stories about the Canaanite gods, some mentioned in the OT, including the god Baal. They are damaged and incomplete.

The stories about Baal contain an account of his battle with the Sea and brief mention of him defeating a monster called Litan/Leviathan. The way this monster is described is very significant (using Wyatt's translation):

... you smote Litan the wriggling serpent, finished off the writhing serpent, encircler-with-seven-heads.

Wyatt⁸ comments that the first two phrases of the Ugaritic text, 'are, allowing for translation, remarkably close to the Hebrew text of Isaiah 27:1.' This text looks forward to the day when the God of Israel will destroy his enemies (the parallel phrases are in italics):

On that day the Lord with his cruel and great and strong sword will punish *Leviathan the fleeing serpent, Leviathan the twisting serpent*, and he will kill the dragon in the sea⁹

There is also similarity between this Ugaritic text and Psalm 74:14, where Leviathan is said to have several heads. It is notable that Job 26:13 mentions God piercing 'the fleeing serpent'. There is little doubt that the Leviathan of Hebrew poetry is the monster of the much older Canaanite texts.

Behind these poetic passages in the OT referring to some kind of conflict at creation lies the creation story we know best from the Babylonian epic *Enuma Elish*. In this story Marduk, the god of Babylon, does battle with the forces of chaos, depicted as a host of monstrous dragons and other creatures. He kills their leader Ti'amat, cuts her in two like filleting a fish and makes the flat disc of the earth and the dome of the sky out of her carcass. He sets the heavenly bodies in the sky to establish the calendar. At this point the tablet is damaged and not easy to read. However, there seems to be reference to establishing day and night, the creation of the

8 Wyatt, N. *Religious Texts from Ugarit*, Sheffield: Sheffield Academic Press (1998), p. 115, n. 4.

9 Biblical quotations are from the NRSV unless otherwise indicated.

clouds, wind, rain and fog, and then the establishment of the basis for agriculture.¹⁰ A variant form of this story is probably reflected in the Ugaritic stories of Baal's conflict with the Sea and Leviathan. Its message is that the cosmos is an ordered place because the creator-god has subdued the forces of chaos.¹¹

In the OT passages the Hebrew poets appealed to this imagery of creation, which was part of their wider culture, to say that the God of Israel, not any other god, Baal or Marduk, is the Creator and the one in control of any forces of chaos. It is a feature of poetry throughout the ages that it sometimes uses deep-rooted, and therefore powerful, cultural imagery to convey its message. For example, John Milton was a Christian, a seventeenth-century Puritan. In some of his poems he conveys Christian ideas by using imagery drawn from ancient Greek mythology. This is because the educated Englishman of his day would have learnt Greek and been well read in the literature of classical Greece. Hence he could use imagery drawn from that source to convey his message succinctly and powerfully. This doesn't mean that he believes in the Greek gods, only that sometimes the stories about them make the point that he wants to make using memorable imagery that will be well known to his readers. The Hebrew poets are doing the same thing with their use of imagery from a creation story that was well known in various versions in the ancient Near East.

2.1 The 'principle of incarnation' in biblical interpretation

An important lesson follows from this concerning how God revealed to the ancient Hebrews the truth he wanted them to know and what that means for how we should interpret the Bible, NT as well as OT. It can be called 'the principle of incarnation' because it is very obvious in God's self-revelation in Jesus, 'The Word became flesh and lived among us' (Jn 1:14). The fullest revelation of God that we have came in the form of a single human person of a particular gender and ethnicity who lived in a particular culture at a particular place and particular moment of human history and who spoke a particular language. This 'particularity' of the incarnation shaped the way in which the revelation was given. A simple example is that Jesus' parables reflect a culture that is very different from that of someone who has grown up in modern, urbanised Western Europe. Unless we put some

10 Dalley, S. *Myths from Mesopotamia*, Oxford: OUP (2008), rev. edn., pp. 228-277 provides an accessible translation. See also, Lambert, W. G. *Babylonian Creation Myths*, Winona Lake, IN: Eisenbrauns (2013).

11 The argument of Tsumura, D.T. *Creation and Destruction*, Winona Lake, IN: Eisenbrauns (2005), part 2 that the apparent use of the *Chaoskampf*-motif in Pss 18, 29, 46; Hab. 3 is simply the result of the metaphorical use of the language of storms and floods does not apply to the verses we have used because, in their context, they clearly refer both to God's creative activity and God's conflict with some kind of monster(s). He rightly stresses (pp. 196-197) the importance of understanding verses in their context.

effort into understanding the cultural and historical context of the parables we can misunderstand, or fail to understand fully, their message. But this is true throughout the Bible. God's message always comes in a form that is 'incarnated' in a particular ethnic, cultural, historical and linguistic context. Because what we have in the Bible is a written record of that revelation, it also comes in literary forms which are appropriate to the time when it was written. All this is very relevant to how we interpret the Bible and the opening chapters of Genesis in particular.

As a guide to help in our interpretation of the Bible there are some quite straightforward questions which flow from this 'principle of incarnation' that need to be asked about any text.

1. What kind of language is being used?
2. What kind of literature is it?
3. What is the intended audience?
4. What is the purpose of the text?
5. What information from outside the Bible might be helpful in interpreting this text?

It is helpful to apply these questions to the interpretation of the early chapters of Genesis.¹²

Although archaeological discoveries over the past century or so have shown that Genesis 1-3 fits into a context of ancient Near Eastern (ANE) literature and thought about creation, this is often not taken seriously by people reading these chapters seeking information about human origins. Some assume that it can be read as if it shares and addresses our post-enlightenment scientific concerns, when it cannot. Clifford and Collins¹³ list four major differences between ANE and scientific ways of thinking about creation.

1. ANE writers imagine and present divine action in creation on the model of human making or natural activity. Scientists regard creation as the impersonal action of physical forces.
2. The focus of ANE accounts is the emergence of human society. They are primarily concerned about the origins of community and culture. Scientists are primarily concerned about the emergence of the physical world.
3. ANE texts present creation as a drama, a story. The story is usually

¹² See Lucas, E. 'Science and the Bible: are they incompatible?', *Science & Christian Belief* (2005) 17, 137- 154 for a systematic application of these questions to Genesis 1:1-2:4a.

¹³ Clifford, R. J. & Collins, J. J. 'Introduction: the theology of creation traditions', in Clifford, R. J. & Collins, J. J. *Creation in the Biblical Traditions, CBQMS* 24, Washington D.C.: Catholic Biblical Association of America (1992), 1-15.

selective and incomplete because it has a limited purpose. Science offers an account of the unfolding of an impersonal process governed by the laws of nature and seeks to be as comprehensive as possible.

4. The criterion of truth in the ANE accounts is functional, 'Does the story enable me to cope satisfactorily with some aspect of life now?' For scientists the criterion is, 'Does it explain all the scientific data satisfactorily?'

Since the OT comes from this ANE world, not from the scientific culture of the modern Western world, we must read it in the context of ANE culture and *its* interest in creation, not *ours*. If we don't do that we are not really listening to the Bible, but simply hearing our own voice echoing off its pages.

Considering the Genesis account in its ANE context, Kitchen¹⁴ expresses the view that, 'In Genesis 1-2 Adam is humanity without differentiation, but he was then set in a workplace and testing ground (2-3) where he failed.' He also suggests that the genealogies in Genesis 5 and 10 may be 'verbal atlases' showing the relationships between peoples rather than individuals.

Walton argues in detail that Genesis 1 should be understood in terms of the cosmology that was widely held throughout the ANE and which the OT shows was held by the ancient Hebrews.¹⁵ Regarding the OT in general he argues that the Israelites received no revelation from God to update their understanding of the cosmos. This was because God was able to express the theological truths he wanted to by using the cosmological view of the world held by the ancient Hebrews.¹⁶ That God did so is not surprising. If the theology had to be tightly tied to any one particular cosmological outlook, which of the many that humans have held over the millennia would it be? In fact, the theological meaning of Genesis 1 is clear to any careful reader, though some aspects of it become particularly clear when one knows something about the cosmological outlook of the ANE. Walton¹⁷ also argues that in ANE creation stories the primary interest is the creation of functioning systems that are important for human life and

14 Kitchen, K. A. *On the Reliability of the Old Testament*, Grand Rapids, MI: Eerdmans (2003), p. 430.

15 Walton, J.H. *Genesis 1 as Ancient Cosmology*, Winona lake, IN: Eisenbrauns (2011).

16 This position has been held in various forms down the millennia by scholars such as Augustine of Hippo, Albertus Magnus, Thomas Aquinas, John Calvin, Galileo, John Wilkins, among others. See Knight, D. *Voyaging in Strange Seas*, New Haven, CT/ London: Yale University Press (2014), pp. 14, 74, 115, 117.

17 Walton, J.H. *The Lost World of Genesis One*, Downers Grove, IL: IVP Academic (2009), p. 26. For more detail see, Walton, J.H. *Genesis 1 as Ancient Cosmology*, Winona Lake, IN: Eisenbrauns (2011), pp. 119-121. The point about the importance of functioning systems stands whether or not one accepts Walton's other argument that there was a lack of interest in the origin of matter.

society. This underlines the second and fourth points made by Clifford and Collins. It explains what God does on the first three days in Genesis 1. God brings into being three functional systems that are crucial for human life: the time system (the pattern of day/night is the basis of our time system); the weather system (with the waters above the firmament providing rain and snow which come through the 'windows' in heaven¹⁸); and the food system (plants are the basis of the whole food chain). On the second three days God creates the functionaries that are involved in these functional systems. When God's acts of creation are described as 'good', the Hebrew word used, *tôb*, which has a wide range of meaning, is best understood in this context in its commonest sense as 'fit for purpose'. These three systems (time, weather, agriculture) were fit for the purpose God intended: making human society and culture possible on earth.

3. The Old Testament story of Adam

There is a long history of both Jewish and Christian scholars reading Genesis 1-3 as figurative literature rather than as history. This was true of Philo of Alexandria¹⁹ and Josephus (for Gen. 2 & 3),²⁰ both more or less contemporaries of Jesus and Paul and representing different 'wings' of the Judaism of the time. It was also true with regard to Genesis 1 for most of the rabbis in the time of Jesus.²¹ In the light of this we cannot assume that Jesus and Paul 'must' have understood Genesis 1-3 in a non-figurative, historical, way. The figurative reading has continued within Judaism down the centuries. Since at least Origen²² in the early third century AD some Christian scholars have read these chapters figuratively. The motivation for a figurative reading was often recognising literary 'clues' within the text. For example, in Genesis 1 there are three days with 'evening and morning' before the Sun, Moon and stars are created on the fourth day. This was taken as indicating that the text was not to be read as a chronological account, but in some other way. Then there is the anthropomorphic depiction of God, especially in the creation of Adam, the presence of a talking serpent and the strange nature of the two trees in the centre of the garden. It is worth noting that the creation of humans by moulding clay and adding a divine element, the 'tree of life' and a serpent robbing humans of the tree of life are motifs found in other ANE literature that

18 Mentioned e.g. in Gen. 7:11; Ps. 78:23; Isa. 24:18.

19 Philo, *De Opificio Mundi*, in Yonge, C.D. (trans.) *The Works of Philo: New Updated Edition*, Hendrickson (1993), p. 4; *Legum Allegoriae I & II*, in Yonge (trans.), *op. cit.*, pp. 25-49.

20 Josephus, *Antiquities of the Jews*, Preface sect. 4 & bk 1.2.

21 Samuelson, N. *Judaism and the Doctrine of Creation*, Cambridge: Cambridge University Press (1994), p. 115.

22 Origen, *First Principles*, Butterworth, G. (trans.); London: SPCK (1936), bk 4, chap. 3, sect. 1.

deals with the nature of humans in story form.²³

In his commentary on Genesis, written some seventy years before Galileo's conflict with the Roman Catholic Church when the 'Bible and science' debate began to get heated, the Protestant reformer and biblical scholar John Calvin²⁴ wrote, 'He who would learn astronomy and other recondite arts, let him go elsewhere.' Calvin bases this on the nature of the language in Genesis 1 and its purpose. Sadly, many people have ignored his advice.

3.1 Genesis 1

Genesis 1 uses two verbs of God's activity: *bārā'* ('to create') and *ʾāśāh* ('to make'). In the OT the first always has God as subject when used in the active form. The second can be used of God's creative work (as here and in Ps. 115:15; 121:2; 124:8; 134:3) but is often used of human making. The use of *ʾāśāh* in Genesis 1 is one reason for seeing it as a figurative account using the model of human making for God's creative activity. The fact that *bārā'* is used of the creation of humans in v. 27 is sometimes taken to indicate that there was something special about the way humans were created. This ignores its use in Genesis 1:1 and 2:4a. Here 'the heavens and the earth' is probably a common Hebrew figure of speech called a 'merism' which refers to two extremes to express the idea of 'everything'. Everything, not just humans, is 'created'. Significantly, the only other use of *bārā'* in the story is in v. 21, 'And God created the great sea monsters'. It is not used there because there was anything special about how these monsters were created, but because they had a special theological significance in ANE thought, representing the forces of chaos. Genesis 1 does not use *bārā'* to indicate acts of creation that are special because of *how* God made things but to indicate acts that have a special *theological* significance. The God the Hebrews worshipped created everything. He did not have to battle with chaos monsters, any monsters there are, he made. Humans have a special place and function in his world because only they are made in God's image and likeness.

There has been much debate about what it means for humans to be made in 'the image and likeness of God' because the Bible gives no clear statement of how this is to be understood.²⁵ There is general agreement among OT scholars that 'image' and 'likeness' do not refer to two different things but are used in typical Hebraic parallelism as two ways of referring

23 For a tabulation of the similarities between Genesis 1-3 and ancient Near Eastern literature see: Harlow, D.C. 'After Adam: reading Genesis in an age of evolutionary science', *Perspectives on Science & Christian Faith* (2010) 62, 179-195.

24 Calvin, J. *Commentary on Genesis*, (1554), on Gen. 1:8.

25 For a valuable recent discussion see: Middleton, J.R. *The Liberating Image: The Imago Dei in Genesis 1*, Grand Rapids, MI: Brazos Press (2005). An interesting discussion of it from a scientific perspective is: De Smedt, J. & De Cruz, H. 'The *Imago Dei* as a work in progress: a perspective from paleoanthropology', *Zygon* (2014) 49, 135-156.

to the same thing. There is also a wide consensus that what being made in 'the image and likeness of God' means is indicated by v. 26b and v. 28 in which humans are given dominion over the other creatures. The terms 'image' and 'likeness' can be used of statues. In the ANE rulers set up statues of themselves in various parts of their domain so that their subjects would know who ruled them.²⁶ Humans were intended to be the representatives of God on earth, ruling it on God's behalf. This understanding of v. 26a is strengthened if, as strongly argued by Clines,²⁷ the verse is translated, 'Let us make humankind *as* our image, according to our likeness'. In its time this was a revolutionary idea, since in other nations only the king was thought of as the 'image' or representative of the national deity. Biblical theologians sometimes refer to functional, relational and structural understandings of the image of God. Thinking of it in terms of the statue background includes all of these. The functional understanding is there in the link with the command to rule over creation as God's representatives; the relational aspect follows because humans can only fulfil this function properly if they live in a right relationship with the God they represent; the structural follows because humans must have the attributes needed to 'image' the nature of God and to do the task God has given them. So, being God's representative implies that the human personality can express, in a finite way, something of the nature of God. It is only because this is so that the incarnation of the Word was possible. God is spirit (John 4:24) and the qualities by which humans can reflect the nature of God, such as the 'fruit of the Spirit' in Galatians 5:22, are not going to result in any physical change that could be seen in the fossil remains of ancient members of the *Homo* genus.

3.2 Genesis 2-3

Does the way the creation of Adam is described in Genesis 2:7 imply a process different from that used for other living creatures? Having 'formed man from the dust of the ground' God 'breathed into his nostrils *nishmath chayyîm* ('the breath of life') and the man became *nephesh chayyâh* ('a living soul/being'). In many English translations it is not clear that the phrase *nephesh chayyâh* is used a few verses later to describe all the other creatures that God created out of the ground (v. 19). Moreover, *nishmath chayyîm* is possessed by all the creatures which Noah took into the Ark (Gen. 7:22).²⁸ This means that Genesis 2:7 does not refer specifically to the

26 See e.g. Millard, A.R. & Bordreuil, P. 'A statue from Syria with Assyrian and Aramaic inscription', *Biblical Archaeologist*, (1982) 45, 124-143.

27 Clines, D.J.A. 'The image of God in man', *TynBul* (1968) 19, 53-103.

28 Mitchell, T.C. 'The Old Testament usage of *n'sâmâ*', *VT* (1961) 11, 177-187 argues that this phrase refers only to humans. However, he can only maintain this for Gen. 7:22 by repunctuating the sentence and accepts that his interpretation of it is only 'possible' and 'cannot be pressed further than that'.

making of humans in God's image. Human specialness lies in the relationship which God chooses to have with them and the task he gives them. That task is to look after and develop God's creation in the way that God intended (Gen. 2:15). To this end God gave them the functioning systems of agriculture and marriage, the basis for a stable human society.

How are we to understand Genesis 3? If it is a figurative story intended to convey theological truth we should be wary of trying to read chronological or scientific information from it. It makes the important theological point that humans are now rebellious creatures, living in a wrong relationship with their Creator. Because of this, other vital relationships have gone wrong. People's relationship with themselves has gone wrong (Adam and Eve felt shame) – the root of our psychological problems. People's relationship with others have gone wrong (Adam blamed Eve) – the root of our social problems. The relationship between humans and the rest of creation has gone wrong – the root of our ecological problems. As a result the two systems of agriculture and marriage have become in some measure dysfunctional. The Bible tells the story of how God set about dealing with this situation.

There has been much discussion of God's warning to Adam in Genesis 2:17, 'Of the tree of the knowledge of good and evil you shall not eat, for in the day that you eat of it you shall surely die.' Despite the emphatic nature of the warning in Hebrew, Adam and Eve did not die physically on the day they disobeyed God. The fact is that in the Bible death does not primarily mean the end of physical life. Blocher²⁹ says, 'In the Bible, death is the reverse of life – it is not the reverse of existence ... It is a diminished existence, but nevertheless an existence.' It is a 'diminished existence' because it is lived cut off from God, who is the true source of life. It is this 'spiritual death' that Jesus speaks of when he says that anyone who believes in him 'has passed from death to life' (Jn 5:24). He also says, 'If anyone keeps my word he will never see death' (Jn 8:51), although millions of his disciples have died physically since! Twenty years before Darwin's *Origin of Species* Buckland³⁰ wrote a carefully argued treatise in which he asserted strongly that, 'Though most clearly inflicted on *man* it [death] is by no inspired writer spoken of as a penal dispensation to any other living creature excepting Adam and his posterity.' The Bible does not attribute animal death to the Fall.

There have been two main ways of understanding the Garden of Eden story in the Christian tradition. One goes back to St Augustine of Hippo and was popularised by John Milton's *Paradise Lost*. Augustine under-

29 Blocher, H. *In the Beginning*, Leicester: IVP (1984), p. 171.

30 Buckland, W. *An Enquiry Whether the Sentence of Death pronounced as the Fall of Man Included the Whole Animal Creation or was Restricted to the Human Race*, (1839), a sermon preached in Oxford on 27 January 1839 and then printed as a pamphlet.

stood Eden as a kind of paradise for pampered pets.³¹ Adam and Eve were morally perfect beings put in a perfect environment. One reason for adopting this view is a common, mistaken, assumption that the word 'good' in Genesis 1 means 'morally good'. A key difficulty with this interpretation is understanding how moral goodness can be applied to the non-sentient creation. Some critics of Augustine's view also argue that it makes it hard to understand the Fall. Why was God so negligent as to let the Serpent get into the Garden? If Adam and Eve were morally perfect, how could they fall for his temptation to disobey God?

The second approach goes back to St Irenaeus of Lyon. He argued that Adam and Eve were not morally perfect but morally innocent. The Garden of Eden was prepared as an environment which would present them with challenges that would provoke moral growth as they responded to them, provided they did so in dependence on God. That was the purpose for which it was fit ('good'). Irenaeus understood Eden as a training ground for moral athletes. If that is so, the existence of suffering is not a result of the Fall. God always planned to put humans in a morally and spiritually challenging environment. There is great deal more suffering now, because so much is caused by us human beings. But the crucial difference is the inability we have to deal with it as we should because we are living estranged from God. This approach has its own problems with regard to the problem of suffering, but that is too big a topic to discuss further here.³²

3.3 The genealogies in Genesis

Finally, we should be wary of attempts to glean historical information from the genealogies in Genesis 1-11. When Archbishop Ussher used the genealogies to calculate the date of creation he was assuming that the numbers in them were used in the way we use them in, say, modern family history.³³ However, there is good reason to question this. The nearest equivalents we have from the ANE are the 'King Lists' from ancient Sumeria. These list eight or ten kings before the flood (Genesis has ten patriarchs) and then several after it. The lengths of the reigns given are much longer before the flood and decline quite rapidly after it. Instead of being a few hundred years, as in Genesis, they last tens of thousands of years before the flood. This alone suggests that the numbers are not meant to be taken 'numerically'. Support for a 'figurative/symbolic' reading of them

31 This is a summary of Hick, J. *Evil and the God of Love*, London: Fontana (1975), pp. 292-294.

32 For a discussion of Irenaeus' teaching see: Lane, A.N.S. 'Irenaeus on the Fall and original sin' in Berry, R.J. & Noble, T.A. *Darwin, Creation and the Fall*, Nottingham: Apollos (2009), pp. 130-148.

33 Rudwick, M.J.S. *Earth's Deep History. How It Was Discovered and Why It Matters*. Chicago: Chicago University Press (2014).

comes from the fact that one of the post-flood kings, En-Mebaragisi, who is said to have reigned for 900 years, is known from other archaeological evidence to have been a real person who lived a normal life-span.³⁴ This suggests that the King Lists are a form of ANE figurative literature. The Genesis genealogies have the same structure as the King Lists. A strong pointer to the numbers in them being purely symbolic is that in Genesis 5 all the numbers are multiples of five, sometimes with seven or fourteen added. This looks like a deliberately constructed symbolic scheme, not real ages. Unfortunately, we do not have the key to understanding the symbolic meaning of these numbers. What is clear is that using them for chronological calculations is a misuse of them because they too are a form of ANE figurative literature.

4. The New Testament story of Adam

Adam is mentioned in five places in the NT. His name appears in Luke's genealogy (Luke 3:38) and in Jude 14. Adam and Eve's sin is referred to in 1 Timothy 2:13 and 14. In Romans 5 and 1 Corinthians 15 Paul draws a parallel between Adam and Christ. Theologically, the most important passages are Romans 5 and 1 Corinthians 15. Since 1 Corinthians was written (about AD 53/4) before Romans (about AD 56/7) we will consider it first.

4.1 1 Corinthians 15:21-22, 42-49

Here Paul addresses the problem that some in the Corinthian church denied the possibility of bodily resurrection (v. 12). This arose from their cultural context. A strong body/soul dualism pervaded Greek thought. Matter was considered 'evil' and the root of human problems is that we are immaterial, immortal souls trapped in a material body. The aim of salvation was escape from the body. The idea of salvation leading to bodily resurrection was unacceptable.

Paul was steeped in the OT's understanding of human personality. The consensus of OT scholars is that, 'The Hebrew idea of personality is that of an animated body, not (like the Greek) that of an incarnated soul.'³⁵ This is a holistic, not a dualistic, understanding. A significant outcome of this holistic view of the human person in the Bible is that future existence beyond death is framed in terms of a *resurrection body* not of a *disembodied soul*.

Paul begins by giving evidence for the bodily resurrection of Jesus, listing those who saw the risen Jesus (vv. 3-11). The Christian hope of eternal salvation rests on this. All who have died 'in Christ' will rise from the

34 Kitchen, K.A. *Ancient Orient and Old Testament*, London: Tyndale Press (1966), p. 40.

35 Robinson, H.W. *The Christian Doctrine of Man*, Edinburgh: T. & T. Clark (1918), p. 27.

dead as he did (vv. 12-19). At this point he introduces Adam and makes a contrast between those 'in Adam' and those 'in Christ' (vv. 21-22):

For since death came through a human being, the resurrection of the dead has also come through a human being; for as all die in Adam, so all will be made alive in Christ.

This will happen at the end of time when Christ's lordship over all creation will be manifest and he will hand over the kingdom to God the Father (vv. 23-28). Paul then grapples with the issue of the nature of the resurrection body. There is both continuity and discontinuity between them, like that between a seed and the plant it produces. He then says (vv. 42, 44),

The body that is sown is perishable, it is raised imperishable ... it is sown a natural body, it is raised a spiritual body. (NIV)³⁶

The contrast Paul makes here between a *psuchikos* (natural) and a *pneumatikos* (spiritual) body indicates that his emphasis is on what empowers the two bodies.³⁷ This is supported by his quotation from the Septuagint translation of Genesis 2:7 in v. 45.

"The first man Adam became a living being"; the last Adam a life-giving spirit.

After God breathed into Adam 'the breath of life' he became a living being (*psuchē*). However, Paul has said that the 'natural body' is perishable, dishonourable and weak (vv. 42-3). He goes on to say (vv. 47-48),

The first man was from the earth, a man of dust; the second man was from heaven. As was the man of dust, so are those who are of dust; and as is the man of heaven, so are those who are of heaven.

This suggests that the perishable nature of the 'natural body' results from the fact that it is animated earthly dust and that Paul is speaking here of physical death. There is no mention of the Fall or sin. Paul never explicitly says that physical death is a result of the Fall. What he does say is that physical death follows from the fact that humans are made from perishable material, the dust of the earth. Héring³⁸ comments, 'The earthly character [of humans] is not therefore an effect of the Fall. It is inherent in creation'. It is the state of all who are 'in Adam'. After death the material body returns to dust. What would have happened if humans had not sinned and become alienated from God, the source of life? We do not know. One reason why 'The sting of death is sin' (v. 58) is that it is sin

36 On the preference for the NIV translation 'natural body' instead of 'physical body' (NRSV, REB) see Thiselton, A.C. *The First Epistle to the Corinthians*, NIGTC, Carlisle: Paternoster (2000), p. 1275.

37 Wright, N.T. *The Resurrection of the Son of God*, Minneapolis, MN: Fortress (2003), p. 352.

38 Héring, J. *The First Epistle of Saint Paul to the Corinthians*, Heathcote, A.W. & Allcock, P.J.(trans.), London: Epworth (1962), p. 179.

which alienates humans from the source of life – depicted in Genesis 3 by the barring of access to the Tree of Life. Another, of course, is the judgement for sin which lies beyond physical death. What is important is that, through Christ's resurrection, for those 'in Christ,' physical death is not the end but the prelude to bodily resurrection to immortality (vv. 50-57).

4.2 Romans 5:12-21³⁹

In Romans 5:1-11 Paul sets out the amazing truth that we have peace with God because God has proved his love for us by sending Christ to die for us 'while we were still sinners' (v. 8). As a result we are reconciled to God. Where did sin come from? Paul says it was because of Adam's sin.

In Romans 5:12-21 Paul develops a 'typology' (v. 14) or parallel between Adam and Christ to explain how Christ's action counteracts Adam's sin. There are complexities in the structure and grammar of this section. Paul begins his parallel between Adam and Christ in v. 12, but breaks off in mid-sentence at the end of the verse to add an explanation of what he has just said (vv. 13-14) followed by a section emphasising the difference between Adam and Christ (vv. 15-17). He shows that, 'apart from the one point of the formal similarity between the relation of Christ to all men, and the relation of Adam to all men, they stand over each other in utter dissimilarity.'⁴⁰ In v. 18a he restates what he said in v. 12 and then continues with his original line of thought – that just as Adam's disobedience brought condemnation on all humans, Christ's obedience has opened the way for all humans to have a right relationship with God, to know peace with God. This comes as a gift of God's grace. The reason for this complex structure seems to be Paul's concern to make clear in vv. 13-17 that the analogy he is about to draw between Adam and Christ in vv. 18-19 does not imply that they are in any sense equals.

In v. 12 Paul asserts that sin and death came into the world (*kosmos*) through Adam. Here 'world' means 'humanity in general', a well-established meaning of *kosmos* in the Greek of Paul's day.⁴¹ The Greek phrase at the end of v. 12, now usually translated as 'because all (have) sinned' (ESV, NIV, NRSV, cf. REB) has provoked a great deal of discussion which we cannot detail here.⁴² Because of how this phrase is translated into Latin in the Vulgate, St Augustine of Hippo took it to mean 'in whom (i.e. Adam) all sinned'. On this basis he developed the idea that sin is transmitted to all humans by means of their physical descent from Adam. It is now widely

39 For a detailed, but concise, discussion of this passage see Thiselton, A.C. *Discovering Romans*, SPCK (2016), chap. 13.

40 Cranfield, C.E.B. *A Critical and Exegetical Commentary on the Epistle to the Romans*, vol. 1, ICC, Edinburgh: T. & T. Clark (1975), p. 288.

41 BDAG, p. 562.

42 For a survey see Cranfield *op. cit.*, (40), pp. 274-281.

agreed that 'in whom all sinned' is not a valid understanding the Greek phrase. There is debate as to the meaning of v. 12b but the most probable meaning in the context of vv. 12-21 is that because of Adam's sin all humans have a corrupted nature which means that all do commit actual acts of sin (Rom. 3:23) and therefore die.

Two significant points follow from this interpretation of v. 12. The first is that the death which came into the world because of Adam's sin was death for *humans* – those who sin. This is repeated in v.18, 'the result of one trespass was condemnation for all *humans*'. It is supported by the parallel with Christ, whose 'act of righteousness was justification which brings life for all *humans*' (Rom. 5:18). There is no hint here of Adam's sin bringing death to the non-human world. Indeed there is no hint elsewhere in the Bible that this was the case. In Genesis 1 there is plant death before the Fall, since the plants are provided for animals and humans to eat. Nothing in the Bible indicates that there was not animal death before the Fall.

Secondly, Paul does not say that all die simply because *Adam* sinned, but because *each person* sins this results in their death. Paul does not say here, or elsewhere, how it is that, as a result of Adam's sin, all humans have a propensity to sin and do sin. He does not say explicitly that it is because we are all physically descended from Adam. In the light of the parallel with the life (v. 18) which comes as a gift bestowed by God, not as a result of any physical connection with Christ, maybe he thinks of human sin and death as being the result of God's condemnation (a kind of 'negative' gift) and not the result of physical connection with Adam.

What kind of death is Paul talking about? As already noted, in the Bible 'death' can mean either 'physical death' or 'spiritual death'. There is no doubt that the 'life' that Paul is talking about in Romans 5 is spiritual life (v. 21 refers to 'eternal life'). In 1 Corinthians 15:47-49, written before Romans, Paul attributes physical death for humans to our creation from the dust of the earth, not the Fall. It is therefore probable that here he is thinking of 'death' primarily as spiritual death, separation from God, though sin gives physical death a particular 'sting' as he says in 1 Corinthians 15:55-56.

4.3 A historical Adam?

It is often assumed that Jesus and Paul must have thought of Adam as a historical figure. They may have done, but as noted above, at least some Jewish scholars of the time understood Genesis 2 and 3 figuratively. Maybe Paul stood in this tradition. So, we should look carefully at what he wrote to try to discern just what his view was.

Some commentators make the point that in 1 Corinthians 15 Adam

and Christ are treated as representative figures. Barrett⁴³ says, 'Neither of the two men he [Paul] has mentioned was simply a private individual. Each was an *Adam*, a representative man'. It would be easy for a Hebraic thinker like Paul to think of Adam as a representative figure. The word 'ādām in Hebrew is normally used as a noun meaning 'man/human being'. It is related to the noun 'ādāmāh meaning 'ground/earth'. There is clearly a play on this in Genesis 2:7. Hebrew has another common word that means 'man/male/husband'. In Genesis 2-3 'ādām is used, with three possible exceptions, with the definite article (*hā'ādām*), which is never used with names in Hebrew, and so should be translated 'the man'. Genesis 2:20; 3:17, 21 are ambiguous, but here it probably also refers to the 'the man'. It is not until Genesis 4:25 that it is clearly used without the definite article and so as a name. However, as noted earlier, even in the genealogies in Genesis 5 and 10 it is not necessarily the case that the names represent individuals.

This raises some uncertainty about how to view the apparent presentation of Adam as an individual husband and father in Genesis 4. Might it be a figurative story about the spread of sin in human communities? In 1 Corinthians 15:45 Paul quotes Genesis 2:7 from the LXX, where it translates *hā'ādām* as 'the man'. He does add the name 'Adam' but, as Barrett argues, this may be primarily for rhetorical effect since he needs a name to balance 'Christ' which he has used frequently up to this point. Of course Christ was a historical individual, so Paul could have thought of Adam in that way as well. However, it is important to note that his theological argument does not really depend on that. He is comparing two 'humanities' rather than just two individual people – an earthly, perishable humanity and a spiritual, imperishable humanity. Walton argues that Paul is using Adam and Christ as representative figures in 1 Corinthians 15, and that they are 'archetypes'. He says, 'Since we all die "in Adam" the way we are all made alive "in Christ", we can presume that our circumstances in either case are not determined by biological descent but through the representation of the archetypes, Adam and Christ.'⁴⁴

Most commentators think that in Romans 5 Paul is treating Adam as a historical individual. A common reason for this is appeal to the Adam/Christ parallel, since for Paul Christ was clearly a historical individual, and the frequent use of 'one man' (9x) together with 'one trespass (2x) and 'one act of righteousness' in vv. 12-19. Thus Morris⁴⁵ says, 'This one man, and indeed one evil deed of this one man, is very important and underlies the whole discussion. Twelve times in verses 12-19 we have the word *one*;

43 Barrett, C.K. *The First Epistle to the Corinthians*, BNTC, London: A. & C. Black (1971) (2nd edn.), p. 376.

44 Walton, J.H. 'A historical Adam: archetypal creation view' in Barrett, M. & Caneday, A.B.(eds.), *Four Views of the Historical Adam*, Grand Rapids: Zondervan (2013), p. 106.

45 Morris, L. *The Epistle to the Romans*, Grand Rapids, MI: Eerdmans (1988), pp. 228- 229.

repeatedly.' However, he had earlier qualified this, saying, 'The argument is very condensed, and in all translations and comments we must allow that Paul's meaning may at some point be other than we think. But we must not exaggerate this.' It may be that our rationalistic western mindset misunderstands Paul. In his study of Paul's theology Dunn⁴⁶ tries to set Paul's understanding of Adam in the context of Jewish thought of his day. He thinks it is clear that in Romans 5 Adam, for Paul, denotes human-kind. He then says,

Whether Paul also thought of Adam as a historical individual and of a historical act of disobedience is less clear. Philo should remind us that the ancients were more alert to the diversity of literary genres than we usually give them credit for. And Paul's very next use of the Adam story (Rom. 7.7-11) is remarkably like 2 *Baruch* 54.19 in using Adam as the archetype of "everyman".

The more important question is whether Paul's theological point stands or falls with the existence of a historical Adam. Some, like Stott, think it does, 'That Adam and Eve were literal people seems clear from Romans 5:12-21, where Paul draws a deliberate contrast between the disobedience of Adam through which sin and death entered the world and the obedience of Christ who secured salvation and life. The analogy is meaningless if Adam's act of disobedience was not an event as historical as Christ's act of obedience.'⁴⁷ Others, like Dunn, disagree,

Paul's theological point [in Rom. 5] does not depend on Adam being a 'historical' individual or on his disobedience being a historical event as such. Such an implication does not necessarily follow from the fact that a parallel is drawn from Christ's single act: an act of mythic history can be parallel to an act in living history without the point of comparison being lost ... The effect of the comparison between Adam and Christ is not so much to historicize the original Adam as to bring out the individual significance of the historic Christ.⁴⁸

Here it is relevant to go back to Walton's point that God could convey the theological message he intended to the ancient Hebrews using their cosmological world-view. If that was so, could not the same be true with regard to Paul? In fact we see just that happening in one of the most profound Christological passages in the NT, in Philippians 2:6-11. In v. 10 the Lordship of Christ over the cosmos is expressed in terms of popular Hellenistic cosmological geography, 'at the name of Jesus every knee should bend, *in heaven and on the earth and under the earth*.' Here the cosmos is envisaged as a having three levels: heaven above the dome of the sky, the

46 Dunn, J.D.G. *The Theology of Paul the Apostle*, Edinburgh: T. & T. Clark (1998), p. 94. Dunn provides evidence of a semi-allegorical Jewish reading of Gen. 2-3, which he argues lies behind Rom. 7:7-11.

47 Stott, J.R.W. *Understanding the Bible*, London: SU (1972), p. 163.

48 Dunn, J.D.G. *Romans 1-8*, WBC, Dallas: Word (1988), pp. 272, 290.

flat earth under that dome, and the underworld below the earth. Paul accepts the three-tier view of the universe that was the common world-view of his day but God reveals profound theology using it. Taking the cultural context into account is as necessary in the NT as in the OT. If Paul did believe in a historical Adam, why should God not be able to reveal profound theology expressed in such terms even if this was only the popular anthropology of the day? Popular anthropology is no more a barrier to God's communicating his word than popular cosmology.

5. The Bible and science

If the primary purpose of the Bible is to convey theological truth rather than scientific information, how should we relate the scientific story of human origins to the biblical story? Mackay gives wise advice on this.⁴⁹

I want to suggest that the primary function of scientific enquiry ... is neither to verify nor to add to the inspired picture, but to help us in eliminating improper ways of reading it. To pursue the metaphor, I think the scientific data God gives us can sometimes serve as his way of warning us when we are standing too close to the picture, or at the wrong angle, or with the wrong expectations, to be able to see the inspired pattern he means to convey to us.

If attempts to read historical, chronological, scientific information about human origins out of the Bible leads to a clash with the generally accepted scientific understanding the right response is not to reject the science nor to try make Genesis or Paul 'fit' with science by convoluted interpretations, but to accept that such an approach to the text is an improper one. This is a valid application of information from outside the Bible to help us interpret it properly. We are back to Calvin, if you want to learn astronomy, or cosmology, or anthropology, or other kinds of science, go elsewhere. The correct way to relate the information from the Bible to the scientific story is to consider how that story can be understood in the light of the theological truths asserted in the Bible.

5.1 Humans and the image of God

According to the Bible, humans are a purposeful creation of God. Their intended role is to be God's image on earth, God's representatives who would care for and develop God's creation while living in a relationship of dependence and fellowship with their Creator. Nothing in the biblical story implies that humans were brought into being in a different way from other creatures. How is the appearance of humans as the image of their Creator to be related to the evolutionary account of the appearance of *Homo*

49 Mackay, D.M. *The Open Mind and other essays*, Leicester: IVP (1988), pp. 151-152.

sapiens? To begin with, it is important to make a distinction between the biblical, theological definition of 'human' and the scientific one. In order to do this some people find it helpful to talk of 'human' in the biblical sense as *Homo divinus*.⁵⁰ Others make a distinction between the process of 'hominization' and 'humanization'.⁵¹ As argued above, being in the image of God refers to aspects of the human person that cannot be looked for by palaeo-biologists in fossil members of the *Homo* genus. It might be found by palaeo-anthropologists who study evidence of early human culture, in particular evidence of religious activity.

Here there is much debate as to whether such things as evidence of deliberate burial with grave goods or cave paintings⁵² are evidence of a spiritual sense, or even religion.⁵³ The firmest evidence of spirituality or religion is the setting apart of spaces for worship activities. The earliest evidence of this used to be rooms in the Neolithic city Çatal Hüyük in eastern Turkey, which was occupied from 7,500-5,700 BC. Their layout and contents suggest they were used for communal worship, not as living spaces. There is now earlier evidence at Göbekli Tepe in SE Turkey. Here six enclosures have been excavated, varying in C-14 dates from 9,400 – 8,200 BC. Their walls have monumental stones inset into them and there are two free-standing stones in the middle. Beautifully carved human and animal figures appear on some stones. There is evidence that they were roofed in. There may be a total of about twenty enclosures on the site. No contemporaneous settlements are known anywhere nearby. People must have travelled to gather at such a place and we cannot be sure why they did so,⁵⁴ but in the light of the structure and contents of the enclosures it is probable that this was some kind of worship or ceremonial complex. Of course, we do not know who, or what, was worshipped, or what kind of relationship people had with the deity. Its date puts it right at, or before, the dawn of the Neolithic era.

Whereas it used to be thought that the formation of settled communities preceded the rise of communal worship activities, Göbekli Tepe leads some to argue that large seasonal gatherings for worship at a site like this one may have prompted the formation of settlements.⁵⁵ Some scholars place the Adam and Eve story in the Neolithic era because of the culture depict-

50 This term was coined by Stott *op. cit.*, (47), p. 63.

51 For example, L. E. Polo as quoted in Suarez, A. 'Can we give up the origin of humanity from a primal couple without giving up the teaching of original sin and atonement?', *Science & Christian Belief* (2015) 27, 59-83, n. 20.

52 Wagner, R. & Briggs, A. *The Penultimate Curiosity: Science Swims in the Slipstream of Ultimate Questions*, Oxford: Oxford University Press (2016), pp. 3-64.

53 van Huyssteen, J.W. *Alone in the World?*, Grand Rapids, MI: Eerdmans (2006).

54 See the cautious assessment of such sites by Renfrew, C. 'Personhood: toward a gradualist approach' in Jeeves *op. cit.*, (5), pp. 51-67.

55 Witherington III, B. 'In the beginning ...: religion at the dawn of civilization', *Biblical Archaeology Review* (2013) 39, 57-60.

ed in Genesis 4:17-22.⁵⁶ However, if this is figurative literature one must be wary about this. Israel became a nation in the Bronze Age. It would be natural for them to place their original forebears in the era before bronze came into use. It is questionable whether one should read anything more specific than that into Genesis 4.

As discussed above, at present there is debate about whether the process of transition from hominin to human was gradual or involved a 'quantum leap' (or 'leaps'). This is not an important issue theologically. Either way, God used a process which he created and upholds to bring into existence beings capable of being God's image and having a personal relationship with their Creator. The important thing in the biblical account is that humans do not 'discover' God but that God takes the initiative to make himself known to human creatures once they have the capability to know God and respond. They then have the choice of whether or not to live in obedience to God.

5.2 The Fall, sin and death

The Bible asserts that both sin and death (whether physical and/or spiritual) entered the world of human society as a result of humans choosing to disobey God. Nothing in the Bible asserts that the physical death of non-human creatures is a result of this Fall. There are exegetical grounds for concluding that the 'death' for humans following the Fall is 'spiritual death', separation from God. The rupture of the relationship with God affects all other human relationships and so has implications for the rest of creation on planet earth, but nothing in the Bible supports the idea of a 'cosmic fall' of all the non-human creation consequent upon the human Fall.⁵⁷ In Romans 5 Paul asserts that as a result of the Fall sin spread to all humans so that all do in fact sin, but he does not say how this came about.

How can the biblical theology of the Fall be related to the scientific evidence that rules out the possibility that all humans today could be the genetic descendants of a single couple and establishes that physical death has always been part of human experience? The latter point is dealt with if the death which follows the Fall is spiritual death. The former point rules out the transmission of sin by procreation and physical descent. Various 'models' have been proposed as ways of relating the biblical story of the Fall and its theology to the scientific story of human origins.⁵⁸ By proposing models we are not adopting an approach that is sometimes called 'concordism,' the attempt to impose scientific meanings on to theological

56 Perhaps the first to do so was Pearce, E.K.V. *Who was Adam?*, Exeter: Paternoster (1969).

57 Bimson, J.J. 'Reconsidering a cosmic Fall', *Science & Christian Belief* (2006) 18, 63- 81.

58 See e.g. Alexander *op. cit.*, (7) pp. 282-304; Suarez, *op. cit.*, (51) 59-83.

texts. The purpose of 'models' in the sense used here is quite different. It is a way to open up a conversation between theology and science which remains faithful to both narratives to see how the two disciplines, both of which make use of models,⁵⁹ may inform each other. Here we will outline only two possible models.

The first is to take the position that in both Genesis and Paul we have a theological account of the spiritual reality with regard to the sinful state of humanity which required God's plan of redemption and Jesus' atoning death. This truth is expressed in terms of the world-views of the culture of the writers. Perhaps because Paul is nearer to us in time and culture we are prone to ignore his cultural embeddedness, but we should not do this. We should accept that God chose to make this theological truth known through the culturally influenced thought forms of these writers. We cannot get back behind the story as told in Genesis and by Paul to find some historical event(s) and scientific explanation. Some might raise the question, 'How can we know that the theology is true if we cannot root it in a real historical event?' The answer is the same as the answer to the question, 'How can we believe the theological truths expressed in Jesus' parables when we cannot be sure that a real historical event lies behind them (e.g. the parables of the Sower, the Prodigal Son, the Good Samaritan)?' We accept the truth of the theology on the basis of the authority of the story-teller, Jesus. We accept the theological truth of Genesis 2-3 on the authority of the ultimate teller of the story, God, who inspired the human authors to write the story. That God inspired them to do so as a figurative story clothed in their own cultural worldviews is God's prerogative and fits with the general 'principle of incarnation' which God uses throughout Scripture and supremely in Christ.

The other model assumes that some historical event lies behind the story in Genesis 2-3. It draws some parallels between what Paul says about Adam in Romans 5 and what he says about Abraham in Romans 4 and Galatians 3. Paul is able to speak of Gentile Christians as 'descendants of Abraham' (Gal. 3:7) and of Abraham as 'the ancestor of all who believe without being circumcised' (Rom. 4:11) because all those who have faith in God's promise as Abraham did are spiritually 'incorporated' into Abraham's family by a gracious act of God. In Romans 5 what Adam does spreads to all humans and what Christ does spreads to all who put their faith in him. It is not necessary for people to be genetically related to Christ for them to receive the benefits of his obedience. They receive them as a free gift of God's grace. Maybe the spread of sin as a result of Adam and Eve's disobedience was a 'negative' gift from God to all humans. This has been called

59 See Jeeves, M.A. *The Scientific Enterprise and Christian Faith*, London: Tyndale Press (1969), chap. 4.

the 'federal head' model of Adam and Eve.⁶⁰ Again, something of a parallel can be drawn with Abraham. Just as God chose Abraham and Sarah to be the heads of a new people through whom, ultimately, the Saviour would come, God, at some point in history, chose Adam and Eve, a real historical couple, to be the heads of a new spiritual race, *Homo divinus*. God chose to make the way they responded to this choice determinative of how he then related to all the other 'spiritually capable' members of the *Homo* genus who were alive at that time. Because of Adam and Eve's disobedience they too became 'fallen' *Homo divinus* because they entered into a relationship of disobedience with their Creator. There may seem to be a measure of injustice in this as it was not the fault of these other members of the *Homo* genus that Adam and Eve sinned. We would have to admit that at times God's actions are mysterious to us – as was his choice of Abraham and his family, rather than some other family, to receive the amazing promises that God made to Abraham. We have to share Abraham's faith, 'Shall not the judge of all the earth do what is just?' (Gen. 18:25) even if we cannot understand the justice of a particular act of God. All humans have the possibility of redemption through the atoning death of Jesus.

Some may see these two models as standing at the ends of a spectrum of possibilities and to be mutually incompatible. This decision is one which is likely to be made on hermeneutic grounds. If the biblical story is seen as a figurative one expressed in the world-view of biblical times it might be argued that it is illegitimate, and probably unhelpful, to try to relate it directly to the scientific story because that was not how God intended the story to be used and it could distort the theology. If it is taken to be a historical account, perhaps on the basis of Romans 5, then taking it as in any way figurative might be seen as compromising its historicity. This would be especially the case if it is thought that the theology depends on the historicity of the events in the story. However, in this case interpretation of the theological meaning of the story is likely to be quite similar to that arrived at by the other approach. Others may see the two 'models' as complementary, at least in the sense that the theological meaning arrived at by the first approach provides a theological framework, or lens, through which to view the scientific story and ask questions like, 'At what point did humans become responsible to God for their actions?', and 'What does it mean to be created in the image of God?'

There are other possible models, which like these two are arguably compatible with both the biblical theology of human origins and the current scientific evidence. The important thing is that such models are possible. Given the current state of the scientific evidence it is simply impossible at present to say which, if any of them, is correct.

60 Kidner, D. *Genesis*, TOTC, London: Tyndale Press (1967), pp. 29-30.

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Denis R. Alexander, Director of The Faraday Institute for Science and Religion, St Edmund's College, Cambridge, 2006-2012.

R. J. (Sam) Berry, FRSE, Professor of Genetics, University College London 1978-2000.

G. Andrew D. Briggs, Professor of Nanomaterials, University of Oxford.

Colin J. Humphreys, FRS, FREng, Professor of Materials Science and Director of Research, University of Cambridge.

Malcolm A. Jeeves, FMedSci, PPRSE, Professor of Psychology, University of St Andrews, 1969-1993.

Ernest C. Lucas, Vice-Principal and Tutor in Biblical Studies, Bristol Baptist College, 1994-2012.

Anthony C. Thistelton, FBA, Professor of Christian Theology and Head of Department, University of Nottingham, 1992-2002.

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