

SCIENCE – FRIEND OR FOE?

Science without religion is lame, religion without science is blind

Albert Einstein

The early scientists (those who lived after the beginnings of ‘modern science’ in the sixteenth century) were explicit and often devout believers. Johannes Kepler (1571-1630) wrote of ‘thinking God’s thoughts after him’. Isaac Newton (1643-1727) devoted himself as much to theology as to physics and Michael Faraday (1791-1867) observed that the Christian ‘finds his guide in the Word of God and commits the keeping of his soul into the hands of God. He looks for no assurance beyond what the Word can give him, and if his mind is troubled by the cares and fears which assail him, he can go nowhere but in prayer to the throne of grace and to Scripture’.

But as knowledge of science grew, the place for God seemed to grow smaller. The comment of the French astronomer Laplace when asked by Napoleon about the place of God in his science is often quoted ‘Sire I have no need of that hypothesis’. This was not actually a denial of the existence of God but a recognition that there was no place for a sort of treadmill operator in his universe. Increasingly modern men and women found themselves in a bigger and bigger cosmos regulated by laws which were being discovered and made known by the ‘new philosophers’. Such a mechanical view of the world and its creatures was wholly non-contentious. Science actively promoted the cause of religion by showing the beautiful workmanship in the world. It was a good God who had put the mountains in the right places to precipitate rain from the clouds and give us water to drink. Such was the ‘argument from design’.

Problems began to arise with reconciling the developing science of geology with the Bible stories in Genesis. (This affected the understanding of Eden and the flood stories). Many writers have argued that the most satisfactory solution to the issues surrounding science and faith are that they give two complementary accounts of reality. This is implicit in the old idea that God has given us two books, the Bible and the ‘book of nature’. How can they be read together?

Perhaps the simplest way of approaching this is to oversimplify reality and talk of ‘How’ and ‘Why’ questions. Scientists study *how* things work: what causes plants to grow etc. They do this by testing an idea (hypothesis). The more tests a hypothesis survives without being disproved the more likely it is to be right.

The tragedy is that we assume that scientists have excluded God from the world if we can answer the 'How' questions without referring to him; we assume that there is less room in our world as we know more about how it works. God is squeezed into the ever-decreasing gaps in our knowledge. The response of Sir Peter Medawar, a Nobel Laureate for his work in immunology is worth hearing:

That there is a limit upon science is made very likely by the existence of questions that science cannot answer and that no conceivable advances of science would empower it to answer. These are the questions children ask – the ultimate questions of Karl Popper. I have in mind such question as:

How did everything begin (why is there something rather than nothing)?

What are we all here for?

What is the point of living?

Jonathan Sacks former chief rabbi in the UK in his brilliant book 'The Great Partnership - God Science and the search for Meaning' puts the question of the relationship of science and faith like this;

Science is about explanation. Religion is about meaning. Science analyses, religion integrates. Science breaks things down to their component parts. Religion binds people together in relationships of trust. Science tells us what is. Religion tells us what ought to be. Science describes. Religion beckons, summons, calls. Science sees objects. Religion speaks to us as subjects. Science practises detachment. Religion is the art of attachment, self to self, soul to soul. Science sees the underlying order of the physical world. Religion hears the music beneath the noise. Science is the conquest of ignorance. Religion is the redemption of solitude.

Evolution and Purpose

'Most of our anxieties, problems and unhappiness stem from a lack of purpose which was rare a century ago and which can be fairly blamed on the consequences of scientific enquiry..... There is one great purpose for man and for us today and that is to discover man's purpose by every means in our power. That is the ultimate relevance of science and not only science but every branch of learning which can improve our understanding. In the words of Tolstoy' The highest wisdom has but one science, the science of the whole, the science explaining the Creation and man's place in it.' **George Porter (Nobel Prize Winner Chemistry 1967 – writing in 1975)**

The scientific enquiry to which Porter refers is the implication of the general acceptance of evolution in the nineteenth century and the dethroning of human beings from their assumed position as the crown of creation. If we are nothing but naked apes, we can claim no privileges and no hope beyond that of any other animal.

What then do the Genesis accounts of creation actually say as opposed to what we assume they say? Most importantly, they are about the Creator first and foremost, they are only secondarily about his action. It is God who speaks; it is God who sees his work as good; and it is God who puts his image into humankind.

The problem we have is how to translate the language of these chapters into the twenty first century. We are faced with a literal description of God walking around on earth, and the devil in the form of a talking snake. We have to be very careful about our interpretation of these early chapters in the Bible. We should note two points. They should not be read as *scientific* accounts. They are concerned with theological truths. This is not to say that there are factual inaccuracies but to insist on the primary purpose of the passages. Just as we speak of 'sunset' rather than saying that 'we can no longer see the Sun from our position on the Earth, because the rotation of the planet has rendered the Sun invisible to us' so we should accept that the Bible uses picture language. A moment's reflection shows that this is essential if the Bible is to be understood by all people at all times, scientific language is a very recent and geographically limited invention.

Secondly both accounts of Creation give a clear description of progress, most obviously in Genesis 1 where we begin with chaos and travel through to humankind (the Bible as a whole begins in a garden and ends in a city). This leads us to the key question of what processes God used in creation. Here we have a problem in that his mechanisms are not described in the Bible. We are merely told that 'God said.... And it was so'

God in Creation

There are those who assume that if we know the cause of an event, then God cannot be involved. A moment's reflection shows this cannot be so or God would be removed from a vast range of processes which we regard as his providential care. It is better to inquire as to what we mean by the cause of an event. It is wholly consistent with both science and Scripture to insist that God is the Creator, but also that he worked through mechanisms which we may discover through scientific research.

Look at the great miracle, the crossing of the Red Sea (Exodus 14). We read here that all night long the Lord drove back the sea with a strong east wind. The prevailing wind in Egypt is from the west and an east wind is very unusual. Thus, God's intervention, though providential was through natural processes. However, we can say it was a miracle. It involved a disturbance of the normal pattern of events by God in such a way as to draw attention to himself; the miracle lay in the place and timing of an event not just in its occurrence.

The mechanisms producing the plagues in Egypt are not given in the Bible but all of them could have perfectly reasonable natural causes. The point of the story is not simply to state God's control over the natural world- that is implicit throughout Scripture and is one of the main inferences from the creation accounts in Genesis- but to emphasise his care for his own people and his response to specific prayer. In all of this it is important to see God's action and scientific understanding as *complementary* explanations. The God of the Bible is primarily a creative upholder (Colossians 1v 17) and not a divine watchmaker. There should be no conflict or rivalry in distinguishing between *why* God created (which is described in the Bible) and the methods or mechanisms used.

God is immanent in his creation

An understanding of God therefore which depends only on the notion of transcendence could easily degenerate into the deistic idea of a distant and remote God who winds up the universe at the beginning and then occasionally returns to intervene or meddle around with it. Such a scenario is disallowed by the biblical insistence that God is also *immanent* in his creation, meaning that God is intimately involved in continued creative activity in relation to his universe. All that exists only continues to do so because of his continued say-so.

Page after page of the books of Psalms, Isaiah and Job reminds us that God creates and sustains the smallest details of biology, including making grass grow for cattle (Psalm 104v 14), supplying food for lions who 'roar for their prey and seek their food from God' (Psalm 104 v 21) and for 'the raven when its young cry out to God' (Job 38 v 41).

When reading such Psalms – and many others like them you are struck by the biblical insistence that God is no distant potentate, but one who is actively creating and sustaining the amazing universe that he has brought into being, complete with all the richness of its biological diversity; an aspect of God's creative actions sometimes referred to as his 'providence'.

It is this providential generosity of God in his daily provision of the bounty of his creation that Paul and Barnabas used so powerfully in their preaching in first century Lystra (modern day Turkey). 'Yet he has not left himself without testimony: He has shown kindness by giving you rain from heaven and crops in their seasons; he provides you with plenty of food and fills your hearts with joy' (Acts 14v 17).

All analogies are limited, but God's continued creative activity has been likened to the continual flow of digital signals without which there would be no picture on our TV screen. Your favourite TV show is a self-contained drama and talk of digitally encoded signals will add nothing to it, yet without the continuous signals, the drama would cease to be conveyed to your living room. God is the continuing author of creation.

Humankind & The Apes – The Fall

I offer the following as something I have found helpful in seeking to understand the Genesis texts on human beings as made in God's image and on the historicity of Adam and Eve. What is it that makes us distinctive from other animals? Various writers suggest that this distinctiveness is the result of God's work in us and not a matter of anatomy, physiology, or genes. Sam Berry in his book 'God and the Biologist' puts it like this: *'the first creation account in Genesis tells us that we were created on the same day as the other animals, and were distinguished from them by God's image. The second account says that the distinction between humankind and previously created material was God's spirit or breath.* This renders the whole debate about the age of humans redundant. BB Warfield one of the greatest theologians in nineteenth century and someone who held a very high view of the authority of the Bible could write this; *'it is to theology as such a matter of entire indifference how long man has existed on earth'*.

The Fall

The inherent problem with Darwinian humankind evolving upward from the apes is that we might be expected to be getting better all the time morally as well as physically. This contrasts with the scriptural position that we are a special creation, inbreathed by God at a specific point in time. Was there a single historical Adam and Eve? We should certainly be open to the probability of symbolic elements in the first three chapters of Genesis, the serpent and the tree of life reappear in the book of Revelation where they appear to be symbols.

Adam and Eve are different; the Bible seems to intend us to accept their historicity (see Genesis 5, Luke 3, Matthew 19) and most notably Paul's carefully constructed analogy between Adam and Christ in Romans 5. Paul's teaching clearly rests on the fact that 'sin entered the world through one man and death through sin'

Sam Berry argues that God created Adam in the body of a Near eastern farmer comparatively recently in archaeological terms. In his book 'Creation or Evolution' Do we have to choose? Denis Alexander goes through a number of models which are proposed to relate the theological teaching of the early chapters in Genesis with evolutionary biology. He opts for the kind of approach Sam Berry argues for with a model called *Homo Divinus*. He makes it clear that the model itself is not found within the Genesis text. The idea is to generate a working model that will explore the possible 'narrative behind the narrative' that might at least be consistent with Genesis theological account.

The cultural context of the Genesis account does look very like that of Neolithic farmers. Precious metals and other materials are mentioned (Genesis 2:11-12) and (Genesis 4v 22) items that would have been of little interest to hunter gatherers. 'The Lord God took the man and put him in the Garden of Eden to work it and take care of it (Genesis 2v 15) is strongly suggestive of settled farming consistent with God's word to Cain in Genesis 4 v12 'When you work the ground, it will no longer yield crops for you'. Mention of musical instruments (Genesis 4v 21) is likewise characteristic of settled communities.

The cultural context of Adam and Eve as real individuals, farmers in a community of the Near East around 6,000, 8000 years ago is consistent with the Genesis text. Within the frame of the Genesis account there were other humans around in addition to the godly line of Adam and Eve, since Cain expressed fear of being killed during his time as a 'restless wanderer on the earth' (Genesis 4v 12) As a bonus the model also explains the thorny old chestnut as to where Cain got his wife from! This model of course does not answer all the theological questions that people like to ask. What was the eternal destiny of all those who lived before Adam and Eve? We have no idea. But we can be assured with Abraham: 'Will not the Judge of all the earth do right' (Genesis 18v 25) As Denis Alexander puts it 'The question asked about those who lived prior to Adam and Eve is not dissimilar to other questions we could ask. For example, what was the eternal destiny of those who lived in Australia at the time the law was given to Moses on Mount Sinai?'

Again, we do not know and again 'Will not the Judge of all the earth do right'.

Another important facet of this model is the way it fits with the focus Scripture places on the calling of individuals to fulfil God's will. Later in Genesis, God was to call Abraham to leave his home country and set out for the promised land, to call Moses to help set his people free from their bondage to slavery, to call Mary to bring the Saviour into the world. So, the call of two Neolithic farmers to be the recipients of God's specific commands in order that they might walk with him, setting the pattern for all those subsequently who walk with God, seems not at all out of keeping with the general tenor of the biblical revelation. Sam Berry argues that maybe for clarity we should distinguish *Homo Divinus* from *Homo Sapiens*.

So, it is possible to argue that there are three possible views about human origins. One sees us as nothing more than a highly evolved ape, one as nothing more than a special creation of God made complete in every respect, one as a being inbreathed by God's spirit, with an evolutionary history but with a unique relationship with the Creator. Many argue that it is only the last of these options that incorporates a sensible understanding of Scripture and the findings of science. It can also be argued that this also does justice to the God of the Bible who is both Creator and *Sustainer*. In a strange and deeply ironic way Darwin brought God back into his world from his exclusion 'out there' by the theologians of the eighteenth and nineteenth century who in the main had consigned God to more of an absentee landlord than the living, dynamic God of Scripture. Only when God is seen to be both immanent and transcendent will Christianity become relevant again. It could be argued that for many people today Christianity is not so much wrong as unnecessary. There is no virtue of hope in believing in a First Cause who is impotent in the world he created. Our God is often too small; he is one who has redeemed us and is working his purposes out, but one whom we do not like to recognise in the events of everyday living.

It is fascinating to note the experiences people have had of God's presence with them. Ernest Shackleton, after an 800-mile crossing of the Antarctic Ocean in an open boat landed on the barren south shore of South Georgia. He and his companions had to cross the unexplored high interior of the island to reach human settlement. He later described this:

I know that during the long and racking march of thirty-six hours over the unnamed mountains and glaciers of South Georgia it seemed to me often that we were four, not three. I said nothing to my companions on the point, but afterwards Worsley said to me, 'Boss, I had a curious feeling on the march that there was another person with us.' Crean confessed to the same idea.

Frank Smyth had a not dissimilar experience at over 28,000 ft on Mount Everest. *'All the time I was climbing I had the strong feeling that I was accompanied by a second person. This feeling was so strong that it eliminated all loneliness I might otherwise have felt.'*

We can be cynical about such stories but if God really is with us it would not be surprising if he sometimes becomes disconcertingly real. The general rule surely is that God in Christ is *always* with us – after all in Him all things hold together (Colossians 1 v 17)

So, to reflect again on Jonathan Sacks analysis – Science is about explanation. Religion is about interpretation. Science takes things apart to see how they work. Religion puts things together to see what they mean. He writes;

The mutual hostility between religion and science is one of the curses of our age, and it is damaging to religion and science in equal measure. The Bible is not proto science, pseudo-science, or myth masquerading as science. It is interested in other questions entirely. Who are we? Why are we here? How then shall we live?

Ultimately as we wrestle with these great questions are need is not great faith; it is faith in a great God.

Ross