Is Belief in God a Superstition?

David Gooding

A Myrtlefield House Transcript



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Is Belief in God a Superstition?

So the topic at hand is the question, 'Is faith in God a superstition?' and I imagine it is safe to say that an increasing number of people nowadays would answer that question in the affirmative.

'Yes,' they would say, 'faith in God is little more than a superstition. It was never built on any firm, provable evidence; and now, with the increase of scientific understanding of the universe, faith in God is shown to be baseless. Therefore, those who still retain it are in fact clinging to an outworn superstition.'

There are other reasons why some people feel that faith in God is little more than a superstition. There is the great and profound problem felt by many people who argue that, if there is an all-powerful and all-loving God who created this world, and he can do exactly what he likes, and if he loves us he will do the very best for his creatures, how then can you possibly explain why so many good people suffer such bad things?

That is a large topic in itself and I wish to acknowledge my awareness of it. I shall not be attempting to answer it in this particular lecture; it deserves a lecture of its own. I come in this lecture to deal with the idea that, somehow, science has, so to speak, buried God. It has made faith in God unnecessary; because science can explain practically everything about how the universe works, there's nothing left for God to do.

It is said that in old times people believed in God in order to explain things they couldn't understand that they saw happening before their eyes. For instance, when they saw lightning and heard thunder, and didn't understand the causes of these phenomena, they said to themselves, 'This must be the voice of some god or other, as the words come out of his mouth.' Of course, we no longer think that. We understand the physics of lightning and thunder, the question of electromagnetism and meteorological principles, so we've no need to imagine that it is God actually speaking words out of his mouth when the thunder occurs.

A good many people imagine that the same is true of all the workings of the universe. Science now explains, if not all of them, a vast amount of them. Men and women can understand how the universe works, and, because they understand it, they have no need to drag in the hypothesis that there's some God making it work.

Before I come to answer that particular idea, that science has buried God, I ought to say a few preliminary things.

So that we shouldn't weight the question unfairly from the very start, I would like to point out that there are many scientists of world stature who do themselves still believe in God. They may be a minority, but they are scientists of first rank, as we shall later discover.

The second preliminary is this. I myself am a Christian—a very poor specimen, but a Christian nonetheless. You may well conclude therefore that I am biased when it comes to this question, and so I am. I freely confess that I am a Christian, born of Christian parents. You may well decide, 'Well, that explains everything. The poor man has not outgrown his childhood myths.'

That kind of argument is double-edged, isn't it? What would you care to say about atheists who were born of atheist parents? Is their atheism a failure to outgrow their childhood myths? It's an argument that is pretty useless. We all have our prejudices, and when we approach a question like this it's impossible to be a human of any long experience without having built up all sorts of *a priori* prejudices. Our task surely is to recognize and make allowance for them, as we try to consider the evidence.

I am not a scientist, so people will probably say, 'What right have you to deal with the science that lies behind today's question, that science has buried God? If you are not a scientist, how are you qualified to speak on these things?' I suppose that is a fair point, but it needs to be modified.

Nowadays many a scientist writes a book, telling the general public about their discoveries and what their theories are, and they expect the likes of me to buy the books and read them. They can't really complain, then, if I take them seriously and investigate the value of their arguments. It's not being offensive to scientists, of course, to point out that logic and philosophy are not fields that are solely given over to scientists. Some of us who are not scientists also try to be logical; and the philosophers perhaps play their important part as they examine the philosophical assumption upon which much science is based.

Proposition 1: There is no need to believe in God

Because science can now explain how the universe works without needing to drag in God or a creator or some superhuman being, then there is no need to believe in God. You can understand the universe without dragging in the hypothesis of a divine being. It seems to me, I must say, that there is a fallacy lurking in that particular argument, and I should like to illustrate that fallacy by making up a little story about some pygmies—I guarantee that it's true, because I made it up myself.

I want you to suppose there are some pygmies in the rainforest and, somehow or other, treading through the forest, one day they come across a motor car, dropped there perhaps by the Americans for some obscure reason. They have never seen a motor car before and they spend a long time surrounding it, looking at it and poking it and this kind of thing, to find out what it is. One day someone accidentally turns the ignition key and the engine starts to hum. They're mightily impressed; they think it's alive. The only things that ever went 'hum' before were human beings, so they decide that there must be a man inside this thing somewhere, who's now humming. When it hums nicely, as sometimes cars do, they think it's because the man inside is pleased with them. One day, when it backfires, they get terrified and think that the man inside must be angry with them. So they bring their sin offerings to atone for their sins before the man inside the machine. Then the clever ones notice that on the front there are some letters 'FORD'. They decide that's the name of the man inside the machine, who's making it go.

After a while, they go to their universities and learn engineering science, and come back to this thing and start to take it to pieces. Lo and behold, they find they can understand what makes it go; the processes of the internal combustion engine and electricity, and batteries and things, and differential gears. They understand perfectly how the thing works from end to end, and to their astonishment they find there isn't any man in the machine. They thought the letters 'Ford' were the name of the man inside. Now they find out that was a superstition: there is no man in the machine. You can explain it perfectly without dragging in the notion of a man in the machine that makes it go. Marvellous!

They have found out the truth about the thing and one must applaud their developing knowledge of affairs. But suppose, because they understand how the machine works, and there isn't a Mr Ford in the machine, they decide that there never was a Mr Ford. Likewise, it is a superstition to suppose that once upon a time a Mr Ford designed this engine so that it could go. Suppose they felt that, because there was no man in the machine making it work, and they could understand how it works, they needn't think that anybody made it. That would be a fallacy, wouldn't it?

I want to say it is an equal fallacy to suppose that, because science can understand how the universe works, there's no God behind it who made it. God isn't in the works; but the works were made and designed by God. At least that is the Christian view, and it's not only the likes of me who say so.

Let me read you some words from Professor Stephen Hawking in his famous book, *A Brief History of Time*.¹ Towards the end in page 104 he says, 'Even if there is only one possible unified theory'—that is, a theory that explains the whole of the universe and how it works—'it is just a set of rules and equations. What is it that breathes fire into the equations and makes a universe for them to describe?'

What does he mean? Well he means simply this. Here's a mathematician, like he is himself, and he studies the universe and gets out his equations. But mathematical equations are just mathematical equations; they don't produce anything. If equations could produce things, I should get out a number of equations and take them to my bank manager, and a lot of money would appear in my bank balance. But I'm sorry, equations don't cause anything; they're merely a description of the world that's there, and how it works.

Suppose you do have a unified theory and a whole sheet of equations that can explain the universe, the equations didn't cause the universe to be there in the first place. How did the universe come to be? What is it that breathes fire into the equations and makes a universe for them to describe? The usual approach of science in constructing a mathematical model cannot answer the question of why there should be a universe there already for the model to describe.

Stephen Hawking asks, 'Why does the universe go to all the bother of existing? Is the unified theory so compelling that it brings about its own existence, or does it need a creator? If so, does he have any other effect on the universe, and who created him?' That is a world-ranking scientist, telling us that, just because we can understand how the universe works, we haven't solved the question of how the universe came to be. How did it come to have such a marvellous design? Who made it in the first place?

¹ First published April 1, 1988 by Bantam Books.

As far as scientists go, let me quote you the words of the astronomer Sir Fred Hoyle,² and his colleague Chandra Wickramasinghe.³ To my knowledge, neither is a believer in God in the classical, orthodox sense. Here is what they wrote in 1998 in their book⁴, in the chapter called 'The Concept of a Creator':

The Creator has been given many shapes and names in the diverse cultures throughout the world. He has been called Jehovah, Brahma, Allah, Father in Heaven, God, in different religions, but the underlying concept has been the same. The general belief that is common to all religions is that the Universe, particularly the world of life, was created by a being of incomprehensibly magnified human-type intelligence. It would be fair to say that the overwhelming majority of humans who have ever lived on this planet would have instinctively accepted this point of view in some form, totally and without reservation.

Now they add a significant paragraph to that.

In view of the thesis of this book [their own book that they're writing], it would seem to be almost in the nature of our genes to be able to evolve a consciousness of precisely this kind, almost as if we are creatures destined to perceive the truth relating to our origins in an instinctive way.

That's a very interesting comment, ladies and gentlemen. We shall hear more about genes and suchlike things later in this talk. These two scientists are saying that it seems to them as if this worldwide belief in a creator has been implanted in our very genes by our creator, so that we develop into beings that instinctively recognize that there is a creator of this universe. Christians present will realize how near that is to what the New Testament itself is saying, that God has put the knowledge of himself into the human heart. 'For what can be known about God is plain to them, because God has shown it to them' (Rom 1:19).

Proposition 2: If there is no God, we cannot know why we exist

Now let's consider another implication of the theory we're discussing: Is faith in God a superstition? Well, just because we can understand the universe through scientific methods and we do not need to suppose God as an explanation of how it works, that does not mean science has proved there is no God and no creator. Science has not yet told us how the universe came to be. Most scientists would agree that that goes quite beyond science to explain.

But let's come at it another way round. To suppose that our universe, and we within it, can simply be explained on the ground of science without including belief in God the creator, carries certain very serious implications that we may not like. Of course, if the theory is true, we must accept its implications. On the other hand, before we eventually decide, we'd better look at the implications straight in the face.

² Sir Fred Hoyle (1915-2001). 'The big bang theory' was a phrase that he coined in derision in the 1940s. (Britannica.com)

³ Chandra Wickramasinghe, mathematician and astrobiologist (1939-). Worked with Hoyle for forty years.

⁴ Cosmic Life-Force, Paragon House, 1990.

As we've just heard Stephen Hawking say, if there is no God-creator, then science cannot tell us the purpose, either for the universe's existence, or for ours. That is a very serious affair, for we human beings have an instinctive concern with the purpose of things. So does the scientist. When he's in his laboratory, examining the atom or the human body, he is forever asking, 'What is the purpose of this particular bit of the body; what is the purpose behind this particular quark in the atom?' All the while, he's assuming there is a purpose. Even the pygmies examining their engine would want to know the purpose of the piston in a cylinder. 'What is it meant to do?' When you talk like that, you're talking in terms of purpose; someone designing something with an end in view.

But if there's no God—if the universe just happened, somehow inexplicably it came to be, blind matter reacted with other blind matter and produced a universe—then ultimately we have to say there is no purpose behind the universe. You can understand and explain the purpose of the bits and pieces in it and how they work, but the universe itself has no reason, no purpose behind its existence, and that would mean we have no ultimate purpose or meaning to life. As one man put it recently, 'human beings started life as a fluke, proceeded as a fallacy, ending up as fertiliser.' Yes, we need to face it.

I was listening this week to BBC Radio 4, as is my custom from time to time. Professor Atkins of Oxford was being interviewed, and he said, 'There is no purpose behind the universe. We can enjoy discovering how it works, but we must face the reality that there is no ultimate purpose in it.' That means, ladies and gentlemen, that ultimately human life is meaningless. As one (atheist) scientist put it, 'We must face the fact that we human beings are the product of blind, mindless forces.'

Reductionism

Peace be to the scientists, but I must be allowed to comment on what is called *reductionism*. Now let me explain what that is. Faced with very complicated situations or phenomena, scientists often very sensibly do not attempt to explain it all. What they do is to reduce the whole big complex into tiny little bits and pieces. They study this little bit and that little bit, in the hope that one day the solution to all these little bits will add up to one unified theory.

That is a very sensible way of doing things, and science has achieved enormous success in building up these explanations by that method. But there is a little danger in that method, if wrong conclusions are drawn from it. For instance, if you're going to study human beings, you might choose to come back down to the human cell, and the workings within the cell, because we human beings are made up of cells. If you can explain the cell, you can explain the human being, because what are human beings but multitudes of cells all put together?

So Crick⁵, the famous scientist who discovered the double helix structure of DNA—how the genes in our cells work, what they are, the form and shape of them, and what they do—was rightly applauded throughout the whole world for his discovery. Nevertheless, carried along by the sheer excitement of having discovered it, he made some alarming statements.

⁵ Francis Crick (1916-2004), together with James Watson, Rosalind Franklin and Maurice Wilkins solved the structure of DNA. In April 1953, the classic paper was published by Crick and Watson in *Nature*, and in 1962 Crick, Watson and Wilkins shared the Nobel Prize in Physiology or Medicine. (DNA Learning Center)

Not only are human beings made up of cells, and therefore genes, but listen to this: 'You, your joys and your sorrows, your memories and ambitions, your sense of personal identity and free will, are in fact no more than the behaviour of a vast assembly of nerve cells and their associated molecules'.

That statement deserves that we ponder it slowly for a moment. Do you see what the famous Crick is saying? According to him, ladies and gentlemen, you—not only your body, but your joys and your sorrows, your memories, your ambitions, your sense of personal identity and your free will—you are nothing more than the behaviour of a vast assembly of nerve cells and their associated molecules. That's all you are, a lot of molecules. What you thought was your personal free will and choice, ambitions and decisions, as you went to buy a motorcar, or when you chose your wife, were just a lot of molecules, nerve cells and neurons firing off every now and again. That's all you are, just chemicals and electricity.

I don't know whether you recognize yourself under that description, or would be content with it, but that was the view of Crick. We call that view *reductionism* because it reduces human beings. Having seen that we are made of cells, and in the cell there are genes, it then decides that human beings are nothing more than cells and genes.

The famous, not to say notorious, Professor Richard Dawkins of Oxford says similarly. He says that we human beings are simply genes. In his famous book *The Selfish Gene* he informs us that we are made up of nothing else but genes, and they're selfish. Each human being is a whole collection of genes that are interested simply in multiplying themselves and seeing they are passed on to future generations.

You thought you had other things to do in life, and of more significance. According to Dawkins, you are mistaken. All you are is a lot of genes. You may have your own desires and ambitions and what have you, but all you are is a lot of selfish genes. As a human person, you are merely the channel they use for replicating themselves and passing themselves on with maximum success to future generations. It's like saying that an oak tree is simply a device so that acorns can perpetuate themselves. Some of us used to think that acorns were there to produce oak trees, and that the oak tree was the point of the whole business. Not according to Dawkins: oak trees are simply a device that acorns use for perpetuating themselves throughout the generations. It's called reductionism, and it's a very odd way of looking at life.

An illustration

The great philosopher Michael Polanyi (1891-1976) protested against that kind of thing, understandably. He said that there are dangers in taking a whole complicated entity and trying to say it's no more than the tiny constituent parts. He used the illustration of a big, many-storeyed building in the centre of a city. So can you imagine it: a big block, a very huge thing? How will you describe it? What is it?

You say, 'Well it's built of brick, and brick is made up of various bits of soil and granite, and all sorts of clay and things like that, so this building is nothing else but clay, or sand.'

That would be nonsense, wouldn't it? Sure, you can understand and explain the constituent parts, the material of the brick; you can explain that in terms of chemistry and physics. But, because you can understand what the basic materials are, it is an obvious fallacy to say that the building is nothing more than sand or brick, and it can be explained totally in

terms of physics and chemistry. Sand doesn't form itself into bricks by itself. To do that, you'll need technology and a technologist who will make the bricks. And then, bricks don't put themselves into a building. For that, you'll need an architect.

And you say, 'Yes, there'll be architects, and obviously an able builder. But how did he come to build it there?'

Well to build it there, he'll need the permission of the DOE or some other such body.

Then you say, 'Why did he build it this shape, and these rooms like this?'

You'll have to ask what was the original purpose of the building. Is it this shape because it was designed as a hospital? But the moment you start talking about the design and purpose of the building, you have gone back in time before even the making of the bricks, to when people decided in their minds that there was need for a hospital. Because they needed the hospital they would have to have it built, and it would have to be built in this way.

To try and describe the building merely in terms of the bricks is a fallacy; and to try and describe it merely in terms of the physics and chemistry is a similar fallacy. Behind the building, before it was ever started, was a mind with a purpose, with a design that was then impressed upon the basic stuff of which bricks are made.

Two further implications of reductionism

1. For morality

If reductionism is true, it has a devastating implication for morality if you can understand human beings simply by reducing them to their basic 'bricks'—the genes in our bodies.

Listen to Professor Dawkins once more. He says that human beings are simply an assembly of genes. That's what we are. So, if I'm nothing more than a lot of genes that ultimately constitute and decide the workings of my brain, you can't blame me for anything that I do. If one of these mornings your car breaks down in the middle of the city and embarrasses you, you feel justified in blaming it. But you can't have it up in court, because it's just a mechanism and the mechanism went wrong. It couldn't help itself; it didn't have any choice.

But if we human beings are nothing but genes and the genes go wrong and lead us to murder someone, you may not like it, but in that sense you can't blame our genes as being morally responsible. Genes have no sense of morality; I've never met a gene that did, have you? If we are just genes, then you must take the view of some extreme modern psychologists that you cannot blame anybody for what they do.

Dawkins himself is aware of this, and he comes out with the marvellous idea that, though we are made of genes, we must at certain times rebel against our genes. I don't know if you've tried it, but it's a remarkably difficult thing to do. If you are nothing but genes from the hairs on your head to the nails on your toes, and your brain included, how on earth will you rebel against your genes? What is there left in you that isn't a gene that could rebel against the gene?

Professor Stephen Rose of Cambridge, in one of his books, makes that point very strongly. He was saying the same thing just last week in Melvyn Bragg's programme, 'In our time', on BBC Radio 4. It has the most serious implications for morality, but there is something even worse.

2. For rationality

Examination and study of the brain is becoming more and more central to scientific endeavour these days, and rightly so. But it is becoming quite a widespread theory that even our brains are nothing but a collection of neurons, sort of like computer wires, only infinitely more sophisticated. Our thinking happens when the neurons and the synapses fire and all sorts of marvellous things happen in our brains; they being a kind of a machine made up of chemistry and electricity.

So our thoughts can be measured. Devices can be put around our heads, and we're told to start thinking about roses or something. The scientists can mark the place in the brain where the electricity starts to be apparent. If you start playing the piano, another part of the brain lights up. If you start singing—or have mercy on your neighbours and don't, they can detect what part of the brain is working. From that they've decided that our brains are nothing but chemistry and electrical motion in the neurons. Well if that be so, ladies and gentlemen, it has a devastating implication for rationality.

Here I read you the words of John Polkinghorne. He was made a *Fellow of the Royal Society* for his work in the early days on the atom and quantum physics. He is also a believer in God and an ordained minister of the Church of England. Talking about this kind of reductionism that says our brains are nothing more than systems of physics, chemistry and electricity, Polkinghorne says:

This idea is ultimately suicidal. Not only does it relegate our experiences of beauty, moral obligation and religious encounter to the epiphenomenal scrapheap . . .

What does he mean by that? Well, if our concept of beauty and moral obligation and religious encounter is just a lot of bits and pieces of atoms and chemicals, electricity and neurons firing off in the brain and there's no person there, no mind there—what is it better than the scrapheap?

. . . it destroys rationality. Thought is replaced by electrochemical neural events. Two such events cannot confront each other in rational discourse. They are neither right nor wrong. They simply happen.⁶

You and I are going to have a conversation, so we start. But what would you think about it if all that's happening is that some neurons in my brain are firing, and some neurons in your brain are firing and there's no mind behind them? They're just like wires with electricity passing through and exploding now and again. What would that make of our conversation?

That is what Polkinghorne is saying. 'The very assertions of the reductionist himself are nothing but blips in the neural network of his brain.' Get hold of that point. Some people

⁶ John C. Polkinghorne, One World: The Interaction of Science and Theology. London: SPCK, 1986.

⁷ Ibid.

may tell us that our brains are nothing but electricity and physics and chemistry, but they had to think that up in their brains before they told it to us, didn't they?

Then we ask, 'What is the status of their brains but simply a lot of wires and chemistry, firing off at the synapses every now and again? What value have they?'

This is the point that Polkinghorne is making. He says, 'According to this theory, the world of rational discourse dissolves into the absurd chatter of firing synapses in the brain. Quite frankly, that cannot be right and none of us believes it to be so.'8

If reductionism is trying to explain everything, human beings included, on the basis of philosophic materialism—there is no God, no spirit, just matter—the serious implication of it is that it would make rational thought itself ultimately meaningless. It's time, therefore, to look again at the evidence of the universe around us, to see whether modern science is pointing in the direction that behind our universe there stands a designer creator, whom people call God.

Four major considerations that point to intelligent design

1. The intelligibility of the universe

What do people mean when they talk about *the intelligibility of the universe*? Go out and look at the night sky and see the vast multitude of stars. Look at the images from the Hubble telescope and see the marvellous array of galaxies, right to the remotest parts of the universe, and now ask a practical question. How are we humans related to this vast universe? Are we meant to be here? Is this universe our home, or are we strangers—accidents in the universe that cares absolutely nothing for us? As one student in my student days said, are we human beings 'an eczema on the face of the earth'?

How are we related to the universe?

Modern science is showing us ever more clearly that we humans are at home in this universe. But first, this matter of its intelligibility. Scientists can help us to understand how the universe works, but that is an extraordinary thing. The universe is not chaotic. Einstein said that the most unintelligible fact about the universe is its intelligibility. By that he meant, 'What right have you to expect that the universe would follow intelligent laws? Why isn't it simply chaotic?' He said it was an extraordinary thing to find that the universe is intelligible by our human brains. We can understand how it works; that is no accident and it has tremendous significance.

Here, for instance, is what Professor Paul Davies writes in his book.⁹ As far as I know, Professor Davies does not believe in God in any conventional sense of that term, but he is observing this phenomenon on the fact that the universe is intelligible to us human beings. He says,

The central theme that I have explored in this book is that, through science, we human beings are able to grasp at least some of nature's secrets. We have cracked part of the cosmic code.

B Ibid.

⁹ The Mind of God: Science and the Search for Ultimate Meaning. Penguin Press Science, 1993.

Why this should be, just why Homo sapiens should carry the spark of rationality that provides the key to the universe, is a deep enigma. We, who are children of the universe—animated stardust*—can nevertheless reflect on the nature of that same universe, even to the extent of glimpsing the rules on which it runs. How we have become linked into this cosmic dimension is a mystery. Yet the linkage cannot be denied.

*He thinks that the constituent chemicals of our bodies were made in the explosion of the stars.

A mathematician can sit in his study and come out with marvellously sophisticated, logical results. Then, sometime later, a scientist is examining the actual universe out there, and finds some bit of it that works according to the equations that the mathematician thought up.

The famous Professor Penrose of Oxford solved a problem called *tiling*. If you have ever tiled your bathroom or kitchen, you will know that that can sometimes be a problem. But his was a very sophisticated problem in pure mathematics: how to organize tiles in such shapes that they all could be fitted together in a certain way. He came up with a wonderful design. Some firm copied it and put it on toilet paper. Professor Penrose sued them in the courts and won the day, for stealing his design without permission. And then somebody discovered a bit of the universe that is designed like that. How does it come that a human mind can use its rationality and intelligence and thus understand how the universe works?

That is the point Professor Davies is talking about. He says,

What does it mean? What is Man that we might be party to such privilege? I cannot believe that our existence in this universe is a mere quirk of fate, an accident of history, an incidental blip in the great cosmic drama. Our involvement is too intimate. The physical species Homo may count for nothing, but the existence of mind in some organism on some planet in the universe is surely a fact of fundamental significance. Through conscious beings the universe has generated self-awareness. This can be no trivial detail, no minor by-product of mindless, purposeless forces. We are truly meant to be here.¹¹

Oh, what a phrase, 'meant to be here'. We humans? Well then the question arises, who did the meaning?

Who meant us to be here?

The intelligibility of the universe sets us thinking. The sun is not alive; the sun doesn't understand us. And yet, thanks to the scientists, I with my little brain understand the sun. The distant planets and galaxies don't know I'm here. I know they're there, and I can begin to understand how the universe works and see the intelligence behind the universe to which my intelligence corresponds. That's the consideration that makes Davies say that this is no accident, 'We are truly meant to be here.' Who meant us to be here, then?

¹⁰ In April 1997 a writ was served against Kimberley-Clark Ltd for producing a Kleenex brand of quilted toilet tissue using Penrose tiling. (Science Museumgroup.org.uk)

¹¹ The Mind of God: Science and the Search for Ultimate Meaning. Penguin Press Science, 1993.

2. The fine-tuning of the universe

That's a very easy idea to get at, if you think for instance of our solar system. Here we are on planet earth, twizzling around in space, and for our very existence we need light and heat. For that we're dependent upon the sun up in the sky, but for it to work properly, the distance between our planet earth and the sun has got to be very precise. If we're too near the sun, we'd get burned up, shrivelled like chestnuts. If we're too far away from the sun, we'd be frozen to death. Our planet is precisely where it needs to be in relation to the sun.

And then there's the question of the rate of the daily rotation of our planet earth. That is very, very carefully organized. You see, not all the planets in our planetary system rotate at the same speed. There's old Jupiter way out there, a massive planet. It goes round at an incredibly fast pace, but with dire results. What is called *the Great Red Spot of Jupiter* is in fact a vast hurricane that's been going for hundreds, if not thousands of years, generated by the fact that the planet is turning round at such a phenomenal speed. If our planet earth turned round at that speed, it would produce winds that would blow us to smithereens.

So the rotation of our planet has to be organized very carefully. It mustn't be too quick or life would become impossible. It mustn't be too slow, for the obvious reason that if you were too long facing the sun, the earth on your side would become too hot. Or if the night side lasted too long, you'd freeze to death. Multitudes of things appear to be finely tuned to make life possible.

Dr Hugh Ross in his book¹² lists about thirty-five features of our planetary system that appear to have been designed with precision to make life possible. But that is as a mere nothing: listen to Sir Roger Penrose again. What his beliefs are as to whether there is a God or not, I don't know. He talks in his work of a creator and the creator's aim, but he puts the word 'creator' in inverted commas, so what he means by it, I wouldn't be sure.

Listen to what he says in his book.¹³ Penrose explains that, in order to have a universe compatible with the second law of thermodynamics:

This now tells how precise the Creator's aim must have been, namely to an accuracy of one part in 10 to the $10^{123\text{rd}}$ power. This is an extraordinary figure. One could not possibly even write the number down in full in the ordinary denary notation: it would be 1 followed by 10^{123} successive 0's. Even if we were to write a 0 on each separate proton and on each separate neutron in the entire universe—and we could throw in all the other particles for good measure—we would fall far short of writing down the figure needed.

That's a mathematician talking, Professor of Mathematics, now retired, in the University of Oxford. Our universe itself is fine-tuned to an almost incredibly vast proportion and accuracy. Put along with the intelligibility of the universe and modern science, it shows me Paul Davies is very right in arguing that we're truly meant to be here.

¹² The Creator and the Cosmos: How the Greatest Scientific Discoveries of the Century Reveal God, NavPress; 3rd Expanded ed. Edition, 1993.

¹³ The Emperor's New Mind: Concerning Computers, Minds, and the Laws of Physics (Oxford Landmark Science), OUP Oxford, 1999.

So it raises the big questions: who meant us to be here, and who fine-tuned the universe? Can we begin to believe it all happened by accident, without any mind and without any purpose?

3. Irreducible complexity

This can be dealt with quickly, though its significance is profound. It has been popularized in these last two or three years by Professor Michael J. Behe in his book, *Darwin's Black Box: The Biochemical Challenge to Evolution*. He's arguing as a biochemist that the human body shows such irreducible complexity that it cannot have evolved little by little over centuries, because the systems in the body that make it work are so complex that they must have been present all at once, or else they wouldn't work.

Professor Behe uses the famous illustration of a mousetrap. A mousetrap is a bit of wood at the bottom, with a hammer to come over and smite the unwitting mouse, and a spring to enforce the hammer. It has a little catch thing that holds up the hammer so that the mouse should be enticed by a piece of cheese that's on the little bit of wood.

Says Professor Behe, you can see how the parts of this very simple mechanism have all to be there at one and the same time, or else it won't work. You can't just take a piece of wood and hope to catch mice on it for so many millions of years, and then suddenly a bit of iron comes out of nowhere and falls on to the wood and it makes a better mousetrap, so you catch a few more mice. A spring comes out of the grandfather clock and somehow gets connected with the hammer, and now a very efficient mousetrap is evolving. Then a bit of cheese suddenly appears out of nowhere. That's nonsense! Simple though it is, all the parts of that mousetrap have to be there at once, at the same time, simultaneously, otherwise the thing won't catch any mice.

On that analogy, Behe points to what goes on in the cells of our body. He cites what happens if you cut your finger and the finger begins to bleed. That sets in motion about thirty different chemical processes. They're called *cascade processes*; they all have to be acting together and in the right order to get the desired result. You cut your finger, it starts to bleed; that's very good because it washes away the germs, we hope. It wouldn't do for it to go on bleeding forever; you'd die, wouldn't you? So there has to be a chemical in the blood that can make the blood clot, and it fills in the gap where you cut it, so it can't bleed any more. That is what happens; but that chemical has already to be in the body's system. If you cut your finger or gash your thigh, it's no good having to go down to the pharmacy in Belfast to get the necessary chemical to put on it to stop the bleeding. You might be dead before you got there. So the stuff has got to be in the body.

Ah, but wait a minute; it can't be in the body in the form that would make the blood clot all the time, even before you cut your finger, or else you'd be dead before you were alive! It's got to be in a form that doesn't make it clot until you cut your finger; and then something has got to happen to it and change it into the form that does make the blood clot. And then it mustn't clot while it's coming down your arm, it's got to wait until it gets to the place where you've wounded yourself. That is to reduce it to very simple elements. There are about twenty-three or more chemical processes involved in that clotting of the blood. And when the wound has healed, the blood goes back to normal, so that it doesn't clot any more. If any one

or two of those chemical processes is absent, the body grows ill. For it to be effective, they've all got to be there, present at once and at the same time.

That's irreducible complexity, and Behe argues that that is how the cell is; and, in being so, it shows irrefutable evidence of being designed.

4. The DNA double helix in the gene

Francis Crick discovered the form this takes. But it is common knowledge nowadays that the DNA in the genes is a form of code, made up of certain basic chemicals in a very sophisticated arrangement. It is carrying information, and one can see what the complexity of it is.

The child begins life in a zygote, contributed by both parents coming together. That zygote now carries all the necessary information for the development of the foetus in the womb, so each part should develop at the right stage. It's no good having an eye if you haven't got a head to put it in. It will control the development and the timing of the birth. It will control the growth of the baby all through its life, in fact. And even more wonderful than that, it will so work that the adult can marry and generate a child. The information is passed on through the person to the offspring. The actual chemical that carried the information to start with has long since perished, but the information carries on.

One of the most interesting developments in modern science has been what is called *information science*. It points out how, in the realm of nature, we find not just blind matter, but matter that is carrying information. Like a piece of paper has got ink on it and shapes of letters; the paper and the ink are carrying information. The information could have been carried by flags, semaphores; it could have been carried by Morse code, or by the voice. In all sorts of ways, the information could be carried. The information, however, is distinct from the thing that carries it. Information is non-material, and everywhere nature shows this phenomenon of information being carried by matter, and thus forming human beings and our universe around us.

What does that imply? Well, in our own human experience, the only source of information is an intelligent being. I suspect you've heard of *SETI*, the Search for Extra-Terrestrial Intelligence. In the United States, there are vast radio telescopes listening constantly to the universe around us, and they're building even bigger ones all the time, collecting the sounds that come in from outer space. Of course they neglect just mere noise, for random noise doesn't signify anything. They're looking for signals from space that might come from intelligent beings.

How would you know that the sound came from intelligent beings? Well they explain it like this. If they got a succession of sounds through their radio telescopes, which they could then analyze in their computers, if it was from an intelligent being and a language carrying information, they would be able to analyze the sound's patterns to show it was a code and carrying information. So, if they got such a code through their machine, they would decide, 'Yes, it comes from an intelligent source out there.' Marvellous, isn't it? Those who work at it are mostly atheists, but where they find information they conclude it must come from intelligent beings.

Where does the information come from?

The information is carried by the genes, by the DNA double helix in the cells; but where does it come from? On every analogy, we should have to decide it comes from an intelligent being. There's only one candidate in the field, and that would be God, the creator. What does that imply?

You say, 'Well, yes, perhaps there is an intelligent creator somewhere around, but what's that got to do with me? How do I know that that intelligence is personal?'

I had a colleague and we often used to talk about these matters. He was a mathematical physicist, and he would say, 'Yes, I believe there's an intelligence behind the universe, but it's not personal', and he gave me his reasons for thinking it was not personal.

How we can feel sure that the intelligence behind the universe is personal? If it isn't personal, we ourselves can scarcely have any relationship with it.

I suggest a little experiment. Think about yourself. You can see the sun up in the sky and you can understand it. You jolly well know the sun doesn't understand you.

You say, 'Yes, but I'm a person. The sun isn't personal.'

Very good. How do I know that the intelligence behind the universe must be personal? I think the short answer to that was given brilliantly by the Christian Apostle Paul. He said to the Athenians, the Stoics and the Epicureans, 'Being then God's offspring, we ought not to think that the divine being is like gold or silver or stone, an image formed by the art and imagination of man' (Acts 17:29).

Why shouldn't we liken God to gold or silver or stone? Because, says Paul, 'we are his offspring; God made us.' If we human beings look at stone and wood, we say to ourselves instinctively, 'We are better than that; we are superior to that.' All appearances to the contrary, my brain isn't made of wood; my brain is sheer matter. But I'm more than matter; I'm personal. And if we are persons, the one who made us cannot surely be less than personal. So the evidence not only points to an intelligence, but that that intelligence is personal, and we're meant to be here, as Professor Davies said.

Does that imply personal responsibility?

I speak as a Christian, for the Bible would say that if we are the product of an intelligent creator, who designed us and made us to be here, then it is our responsibility to seek that creator. 'Seek the LORD,' says holy Scripture, 'while he may be found' (Isa 55:6). And that brings me to my final point. I began by confessing my own prejudice: I am a Christian. I pointed out that sometimes other people have their prejudices too. Let me not put this in my own words, but read to you what some notable scientists have said.

Stephen Hawking: 'Many people do not like the idea that time has a beginning, probably because it smacks of divine intervention.'14

Arthur Eddington: 'Philosophically, the notion of a beginning of the present order of Nature is repugnant to me . . . I should like to find a genuine loophole.' ¹⁵

¹⁴ The Illustrated Theory of Everything: The Origin and Fate of the Universe, New Millennium, 2003.

¹⁵ *Nature*, March 21, 1931, p. 447.

Sir John Maddox, former Editor of *Nature*, the scientific magazine, pronounced the idea of a beginning thoroughly unacceptable, because it implied an ultimate origin for our world and gave creationists ample justification for their belief.

Those scientists are being honest, aren't they?

Professor Lewontin of Harvard in the States is an atheist and a Marxist. He tells us that he conducts his experiments on the basis of a materialistic philosophy in order to exclude any possibility of supernatural explanation. 'Moreover, that materialism is absolute, for we cannot allow a Divine Foot in the door'.¹⁶

We have our prejudices, ladies and gentlemen, I freely confess that. But I would argue most strongly that, as modern science progresses, it brings to light strong evidence that points to a creator designer behind our universe, a God who is not only intelligent, but personal. Being a product of his hands, given intelligence, and made in the image of God, we have a responsibility to seek our creator. We are assured that those who seek shall find.

I thank you for your patience, and here I rest my case.

¹⁶ From Lewontin's review of Carl Sagan's last book, *Billions and Billions of Demons: Thoughts on Life and Death at the Brink of the Millennium*, Random House 1997.

About the Author

DAVID W. GOODING (1925-2019) was Professor of Old Testament Greek at Queen's University Belfast and a member of the Royal Irish Academy. He taught the Bible internationally and lectured on both its authenticity and its relevance to philosophy, world religions and daily life. He published scholarly articles on the Septuagint and Old Testament narratives, as well as expositions of Luke, John, Acts, Hebrews, the New Testament's use of the Old Testament, and several books addressing arguments against the Bible and the Christian faith. His analysis of the Bible and our world continues to shape the thinking of scholars, teachers and students alike.