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Creation in Christian Thinking

by Prof David Wilkinson

(Professor Wilkinson gave a talk illustrated with slides, and this is reported in red. However, he had also provided your editor with a background paper offering some of the theological underpinning for what he was saying, and this is included here in black, though it did not form part of the presentation.)

Introduction

Good evening, everyone. I'm a little hesitant being asked to give a talk on a Friday evening when many of us have had long journeys, so if you do find yourself going to sleep we'll all understand! I'm on study leave at the moment so I've not been giving talks, but your leaders were so persuasive that I couldn't say no to this. I'm delighted to be here and I come as a mere Methodist among Anglicans and Lutherans, and I find myself in St Chad's, our sister college. St John's and St Chad's have had a friendly rivalry over one hundred years or so. St John's was characterized as a place of 'Happy Clappy Christianity' and St Chad's was 'Smells and Bells'! But these days, under the very wise leadership of Dr Margaret Masson, we work very closely together. I'm sorry that I'm not here for the whole of the conference – it looks fascinating. But thank you for the opportunity to talk about how Christ is alive and we find him in the cosmos.

My background is as a theoretical astrophysicist. That sounds very grand until you meet people at parties and they ask, 'What do you do?' and you tell them, 'Astrophysics', and they move across and talk to an accountant at the other end of the room! Astrophysics is very simple. It's 'Twinkle, twinkle little star, how I wonder what you are.' And astrophysicists unfortunately spoil the rhyme by going on to say, 'Up above the world so high, a contracting ball of hydrogen gas undergoing nuclear fusion' which doesn't quite scan!

As far as my Christian journey is concerned, from astrophysics through Methodist ministry I now find myself teaching theology, and one of the interests that I have is in bringing science and Christian theology into a dialogue together. I don't believe that the two can be fully integrated in that there's always going to be those kinds of interesting questions, and they are separate disciplines, and we've got to respect their dissonance. But the very first moment of my Christian life was some kind of recognition of the Lordship of Christ, and from that moment discipleship seemed to me to be about asking the question, 'How is Jesus Lord, not just of my life on a Sunday morning, but also in terms of my life from Monday to Saturday? And how can the kind of thinking that I do as a scientist be put into dialogue with this commitment that Jesus is Lord?'

I thought that what I would do this evening is to bring into dialogue what I would call a Christian understanding of creation and some recent scientific insights. Now this might not bring you answers to frequently asked questions about science and Christianity, but I hope it might stimulate a few questions and thoughts, and maybe stimulate the imagination as well.

I'm going to pick out four or five themes within the Christian doctrine of creation and then just allow them to talk to some of the scientific discoveries that we've been looking at in the past few years. Does that sound alright? I hope it is, because that's what I've prepared! I do it noting that that this conversation is going on not just within the Christian Church or within the theological academy but is being played out against everyday life. And so part of the 'Christ is alive' theme is a missiological theme, and it's about how we talk about that, and proclaim that Christ is alive.

Let me illustrate that, because it's a Friday night and like me you're probably a bit sleepy. So let me give you three short video clips showing the way that various commentators within our culture might look at some of these themes. The first is an Irish comedian named Dara O'Braian who talks about his understanding of creation.

[You should watch this for yourself at https://www.youtube.com/watch?v=Wdi_u1ZenRw]

That's picture one. The second comes from an American series which follows the life of Sheldon Cooper. Some of you will have seen the 'Big Bang Theory'. Sheldon is the archetypal physicist, and throughout the series there's a dialogue going on with his origins in Texas, particularly with his mother who's a very strong conservative Christian. The spin-off series is called 'Sheldon' and features Sheldon as a young child, including Sheldon's experience at church.

[You should view the clip here <https://www.youtube.com/watch?v=vbfgE0YIPPs>]

That's picture two. Picture three is Richard Dawkins and Lawrence Krauss talking about their view of theology.

[The editor was unable to locate the clip but you can hear what was said by clicking the audio link on the Home Page of the website]

Well, we might feel toe-curling embarrassment as he talks about 'the transubstantiation of the Trinity', but these three clips provide some of the kind of mood music of the culture in which we live – not entirely, but some of it.

So, what does it mean to think about Christ in the cosmos? Well, let me go back to where I said I'd start with a number of insights from Christian tradition in terms of what forms a Christian doctrine of Creation that actually might help us, not just in our own thinking but also in the missiological task.

1. The Christian doctrine of creation is never an abstract academic concept

What I mean by this is that quite often Scripture talks about creation in the context of application, either in worship or in encouragement during difficult times. It's never there simply as an abstract concept. And so, when we come to the first chapter of Genesis, which is unfortunately the place where many people start with the doctrine of creation, we find that they do so ignoring the many different ways creation is discussed in Scripture. People have a tendency to read Genesis chapter one as a scientific description. For me, the first chapter of Genesis is a place of worship. It's not meant to tell us how old the universe is. It's meant to excite us about just how great this Creator-God is, and to catch us up into a liturgy of worship about goodness and extravagance and beauty.

The Christian doctrine of creation has often been high-jacked by

- controversies of creationism
- deistic tendencies
- concentration on Genesis 1 to the detriment of the richness of other biblical passages on creation.

Scripture is of course extremely rich in a diversity of styles as it discusses creation

- Look in the Old Testament; a first reading of Proverbs 8:22-36, Psalm 8, Psalm 19, Psalm 148, Genesis 9:8-17, Job 38:1-42:17 and Isaiah 40:9-31 shows very different styles represented by both wisdom and prophetic traditions. In Genesis 1-3 we note the differences of styles of Genesis 1:1-2:4 and Genesis 2:4-3:24.
- This diversity in the way the biblical writers discuss and present creation is a reminder of just how rich the doctrine is, but also that it is a dynamic and practical doctrine.

The Bible never discusses creation in terms of cosmology for its own sake. It does it to inspire worship, to encourage the weak, to call for holiness, and to offer reassurance in times of trouble.

Colossians 1:15-20 illustrates this. It has long been recognized that this passage is carefully worded and rhythmically balanced with a number of significant repetitions and parallels. Some scholars have suggested that it is a Christian poem, or it could even be an early hymn. Since the work of Eduard Norden in 1923 scholars have suggested that Paul borrowed an already existing piece of a hymn or liturgy¹. There is not enough information for us to be sure of its original setting, but we can be clear about how Paul used this passage.

In order to help us into this way of thinking I therefore turn to Colossians 1:15-20, rather than Genesis 1, as a key passage to hold us to a Christian doctrine of creation. This allows us to suggest the following framework.

'Christ is the image of the invisible God, the first-born of all creation.' (Col.1.15) Well, that has a context to it, as you well know. What the Colossian heresy was no-one is ever too sure about. It's one of those PhDs that you want to do because there's not an easy answer to it! But it seems to be something about an undermining of the special, unique nature of Jesus.

Paul is responding to groups either inside or outside the young church who were saying that Jesus is not that special. It is difficult to know where this was coming from.

- Dunn has suggested that the response is to a diffuse series of groups and ideas rather than one heretical stance².
- Some have suggested that the problem in the church was Gnosticizing syncretism where beliefs in intermediate cosmic powers and mystery cult initiation rites were being grafted into Christian faith.
- Others have argued that the problem stemmed from Jewish synagogues as the source of influences that threatened the church, which attempted to force Christian converts to 'complete' their faith by becoming Jews³.

The common theme within all of these tendencies is the message, 'Jesus is not that special!' False teachers were saying to the young Christians that they needed more than Jesus, perhaps some secret rites or secret knowledge in order to be really Christians.

Here a passage on creation is being used not in the abstract, but as a way to combat error and indeed to excite Christians again about Jesus.

Paul is using the doctrine of creation to say just how great and supreme Jesus is. So the doctrine of creation is never an abstract concept. And when we reduce it to that in terms of our mission, for example when we fall into the old trap of trying to prove God through the Design Argument or the Ontological Argument or particularly the Cosmological Argument, we misunderstand what a Christian doctrine of creation is. It's much better to ask the question, how do we draw people into worship?

Whether Colossians 1.15-20 was or was not a hymn composed by the early Christian community, a sense of worship runs through it. In a similar way when we come to Genesis 1, there is good reason to see this passage as hymn or liturgy, with the writer far more concerned about getting the reader to worship this amazing Creator God rather than with the mechanics of how God did it.

Dan Hardy has argued that at its heart the action of God in creation requires worship⁴. The call to

¹ E. Norden, 1923. Reprint 1956. *Agnostos Theos: Untersuchungen zur Formgeschichte Religiöser Rede*. (Darmstadt, Wissenschaftliche Buchgesellschaft).

² JDG Dunn, *The Epistles to the Colossians and to Philemon* (Carlisle, Paternoster, 1996), p. 76.

³ See for example N.T. Wright, *Colossians and Philemon*, Tyndale New Testament Commentaries, (Leicester, IVP, 1986)

⁴ Hardy, D. W. (1996) *God's Ways with the World*, T&T Clark, Edinburgh, p. 157.

worship is written into the very fabric of the Universe. In the light of this, we need therefore as Christians to be very careful not to let a discussion of creation move too far away from its implications for worship and lifestyle. Now of course that does not mean that the Christian will not be an enthusiastic and active participant in science and cosmology, but it does mean that the scientific exploration of origins is not to be an end in itself. Put another way, we need to be very careful to focus on the Creator not on creation itself.

I go to a church, a Methodist church by the way, where I am often the oldest person at worship - that's often unusual for a Methodist church! Our music group seems to me to use worship songs that are only about six months old. If they're older than that then they're thrown out! We sang one the other day, and I'm going to play it to you now. I'm sorry if you're a person that gets nervous around new music, and to do it in St Chad's Chapel is quite a risk, but I've got the Principal's agreement to it! This comes from the two great kinds of movements in modern charismatic music, Hillsong and Betel. Some of you will know those, while some of you will have no idea what I'm talking about!

But this fascinates me as a song. Not only is it a group of Christians who are very conservative in their theology talking about astrophysics and evolution in a praise song, where they're often criticized for 'Jesus is my boy-friend' type of music, but they illustrate the imaginative use of music and words in worship. I'm going to play it to you now. If you don't like this kind of music, well – fine! But just see what you make of it.

David then played 'So Will I' by Hillsong United.

[You can listen to it yourself here <https://www.youtube.com/watch?v=GfVd5x9W1Xc>]

As we sang that in church I was sitting beside a man, a second-year undergraduate, a biologist, and tears were streaming down his face. I said to him at the end of the service, 'Did God speak to you in any particular way?' and he replied, 'It was the first time I was able to connect my science into worship.'

Now he obviously doesn't know the hymnody throughout history that has done that, or the poetry, or the way we've designed some of our churches to look at creation. But I think that what I'm asking for here is that we rediscover awe and wonder, and that we connect that into worship. An awful lot of people in every culture have a sense of awe and wonder when they look at the universe. What they don't do well is to connect that sense of awe and wonder to worship.

So, what does it mean for us to think theologically, not to discuss creation as an abstract concept but to see how it flows into worship?

That's the first point I want to make. The second is this:

2. The Christian doctrine of creation has Christ at the centre

Now you might say, 'Well, that's obvious, isn't it? Why have we come to this session by a Durham theologian telling us that Christ is at the centre of the Christian doctrine of creation?'

Well, it is obvious, but let me just remind you, if I may, of its importance. It's there in the Colossian passage, with Christ at the centre. But often within the history of the Church we've forgotten that, and there are one or two movements today which have also forgotten that.

Alongside the scientific revolution began the rise of Natural Theology. It had been there, of course, in the Greeks and in many other ways, but the scientific revolution, particularly the Newtonian idea that the universe was a bit like a clock, a beautiful mechanism, gave rise to a whole number of works and lectures sponsored by various people – the Boyle Lectures, the Bridgewater Treatises – which used the structure, the beauty of the natural world to argue for the existence of God. John Ray wrote a whole book on the

fly's eye and how that gave evidence for belief in God.

Of course, the high point was William Paley's Natural Theology. You will remember it; when I walk across a field and I see a watch and I pick up the watch I see that that watch must have been designed by a designer. So, says Paley, if I apply that to the natural biological world I say the same thing. It is beautifully designed and therefore there is a designer.

Kant and Hume criticized this Argument from Design and took it apart philosophically on a whole number of different levels, but it was really only when Darwin appeared that the design argument began to fall. I won't go into the history of Darwin too much but I think it important to recognize that what Darwin brought to the Church was a challenge. It was to ask the question, 'What does it mean to be human?' Are we unique or not, if we're descended from a common ancestor to an ape? But he also undercut trust in the design argument by saying, 'I have an alternative option for you. No longer is there just one answer as to where the design comes from.' That's exactly what he did in his Theory of Natural Selection.

For those Christians whose faith had rested on design-type arguments Darwin immediately appears a threat. For those Christians like B.B.Warfield, for example, one of the founders of the Princeton school of theology, who had a strong doctrine of Scripture with Christ as the revealer of who God is, it was less of a threat. Warfield, interestingly, was quite relaxed about Evolution at the end of the nineteenth century.

Focusing on the Creator, poses the fundamental question of how that Creator is known. Paul is explicit in saying that the Creator God is known supremely in Christ. Jesus is the 'image of the invisible God' (Col 1.15), the projection of God himself into the dimensions of space-time in a way that reveals his true nature. In answer to the question of how is the Creator known, Christians respond that he is known through his revelation in Jesus Christ.

Later in the passage Paul claims that in Jesus 'all the fullness of God was pleased to dwell' (Col 1.19), or as Tom Wright translates 'God in all his fullness was pleased to take up permanent residence in him'. Paul reemphasizes such an understanding in Colossians 2:9; 'It is in him that all the fullness of deity dwells in bodily form'. Does that mean that Jesus was fully God but not really human, as if God came to earth just with the outward appearance of humanity? Paul will not allow that, arguing for both full divinity and full humanity through reference to the physical body (Col 1.22) and 'bodily form' (Col 2.9).

- this insight from the Christian doctrine of creation becomes extremely important.
- Darwin hit not on the questioning of the literal truth of Genesis 1 (as many Christians in the 19th century did not hold with a 6000 year old creation) but on a view of human uniqueness and more particularly the design argument⁵. By providing an alternative explanation through natural selection, Darwin showed that the design argument as a logical proof of the existence of God does not work. Thus the shift from revelation to reason in the 19th century, characterized by the exaltation of the design argument over Biblical revelation, meant that Darwin became a major threat to some religious believers. As David Livingstone has pointed out, it is interesting that those who held most strongly to Biblical revelation, such as B.B.Warfield, had fewer problems with evolution⁶.

In our own time you'll know very well Karl Barth.

In the 20th century, the centrality of Christ to the doctrine of creation was represented forcibly in the thinking of Karl Barth. For Barth, God's self-disclosure in Jesus of Nazareth is essential to

⁵ Wilkinson, D. 'Reading Genesis in the light of modern science'. In S. Barton and D. Wilkinson (ed.) *Reading Genesis After Darwin*, (New York: OUP, 2009, in press).

⁶ Livingstone, D., *Darwin's Forgotten Defenders*. (Edinburgh: Scottish Academic Press, 1987).

understanding aright what it means to view God as creator:

‘I believe in Jesus Christ, God’s Son our Lord, in order to perceive and to understand that God the Almighty, the Father, is Creator of heaven and earth. If I did not believe the former, I could not perceive and understand the latter.’⁷

The problem, it seems to me, with Richard Dawkins is that he is primarily criticizing a doctrine of creation which is still based on the Design Argument and the Cosmological Argument. In fact, if you’ve read ‘The God Delusion’, in chapter 2 Dawkins says explicitly this: ‘I am not going to talk about specific religious faiths. I am going to talk about God in the general and I am going to criticize God in the general.’

You see, once you take away the Christian understanding of Jesus Christ you’re left with a very shallow understanding of creation. Let me illustrate that by reference to a contemporary movement, and if I step on anyone’s toes here I’m really sorry. You can hit back in the question and answer session.

I worry about the growth in intelligent design, primarily from our friends in the United States, because it has huge power among students, not least those here in Durham. And the problem I have is that it may not only be a ‘God-of-the-gaps’ type argument but there’s no real mention of Jesus in the whole of it. It goes; let me prove to you that the universe is intelligently designed and therefore there is a God – and then let’s go and talk about Jesus. I think that’s the wrong way round. I think that as Christians we’re called to offer Christ and then see the universe from that perspective. Does that make sense?

Now, not just intelligent design, but also alongside that, something that has become very popular in science and religion dialogue is what Paul Davis calls ‘The Goldilocks Enigma’. It’s the idea that the universe is just right for you and me to exist in its law and its circumstance. And some of this is very interesting. Sir Fred Hoyle, a brilliant British physicist in the 1960s, was a proponent not of the ‘Big Bang’ model but of the ‘Steady State’ model of the universe. And part of that was Hoyle’s commitment to atheism. Then Hoyle did some wonderful work on what happens when stars explode. [Here David showed a photo of the remnants of a supernova explosion, a star that’s come to the end of its life and exploded.] And Hoyle showed how carbon, oxygen, nitrogen, the things that make up you and me, are formed in the explosions of stars at the end of their lives. But he found a really interesting thing. He found that the energy levels of oxygen and carbon were so precisely set that if they were just off you and I wouldn’t exist. If the energy levels of carbon were 2% different from what they are, and the energy levels of oxygen just half-a-percent different from what they are there would be no carbon in the universe. And that’s quite serious for you and me because we’re made of the stuff! Hoyle wrote after that, ‘Nothing has shaken my atheism as much as this discovery.’ And that led him through the 1980s to write a book called ‘The Intelligent Universe’. Now, he never came anywhere near to Christian faith but he found himself with Paul Davis saying, ‘As I look at the universe, is there a deeper story?’

Now this is separate from intelligent design. It sounds a bit like it, but these physicists are not saying, ‘Let me prove to you God.’ These are physicists saying, ‘Perhaps there’s a deeper story.’

I don’t think that in a scientific discussion you can often say that there are physicists saying ‘Christ is alive!’, but I do think we’ve got people saying, ‘There may be a deeper story.’ Martin Rees has done this in a book called ‘Just Six Numbers’. I won’t go through the mathematics with you this evening – I can tell how disappointed you are! But Martin Rees picks out six numbers and says if they were just different then we wouldn’t exist. He suggests people have three options. One, you can say, ‘Well, that’s just the way it is.’ But, he says, most people think that’s not good enough because these things are so extraordinary there are two other possibilities. Either that God did it, or that our universe is one of many universes, a multiverse, but that in our universe the numbers are just right. Now Rees is doing what Darwin did. Rees is saying that there is another explanation for how your numbers might be just right. For Darwin it was Natural Selection, for Rees it’s many universes.

⁷ Barth, K. 1958. Church Dogmatics Vol III, edited by G. W. Bromiley and T. F. Torrance. Edinburgh: T&T Clark, p. 29.

That's why I don't want us to re-engage with design arguments. I think we can say, as John Polkinghorne and others have very well said, that these may be pointers towards a deeper conversation; they are not proofs of the existence of God.

That is why Dawkins is completely correct in showing that his 'God hypothesis' is a delusion⁸. He refuses to engage with any particular expression of religious belief or revelation and defines the hypothesis of God in the broadest possible sense. He then goes on to show that the design and cosmological arguments do not work. None of this is a surprise to the Christian doctrine of creation. The Universe cannot be fully understood as creation without Christ. Indeed the main Christian critique of the Dawkins approach is how little attention he gives to any discussion of the life, death and resurrection of Jesus.

This is also a word of caution to Christians who want to push six day creationism or intelligent design as apologetic strategies. Some six day creationists attempt to demonstrate that modern science is wrong and there are strong scientific arguments for accepting the literal truth of Genesis 1. Some then seem to go on and say, 'Now that I have proved Genesis is correct, then the whole of the Bible follows'. Alternatively, intelligent design argues that science is incomplete in its description of the development of the Universe, and that only the intervention of an intelligence can explain the development of complexity. There are key questions here for evangelical Christians concerning whether six day creationism is the best interpretation of the Genesis narratives, and whether intelligent design is good science⁹. However, I remain unconvinced that many forms of six day creationism or intelligent design sufficiently represent the centrality of Christ. Any apologetic strategy which stems from the Christian doctrine of creation must have a key place for Jesus.

Is there, therefore, nothing to said about the Creator God outside of God's revelation in Jesus? What about the concept of natural theology, where the Universe might give us knowledge of God? Barth famously said a big 'no' to natural theology, but we need not go that far. First we need to take seriously that 'the heavens declare the glory of God' (Psalm 19:1). God may choose to reveal himself through the natural world, through the book of his works as well as through the book of his word. Second, the Christian doctrine of creation says that natural theology and revealed theology should always be held together.

To illustrate this, let me take you to a Durham Professor, Temple Chevallier, of whom you may or may not have heard. He studied at Cambridge at about the same time as Darwin, and then came to Durham in 1835 as Professor of Mathematics. He was also at the same time Reader in Hebrew – he was quite disappointed when he never got the Chair of Hebrew; he thought he deserved it! Then in 1841 he also became the first Professor of Astronomy. He was also University Registrar and, for many years, Vicar of Ash Parish Church just up on the hill; he was Rural Dean and Residentiary Canon at the Cathedral – they didn't have television in those days!! As well as fundamental discoveries in astronomy on sun spots and various other things, Chevallier wrote theologically. He gave his Cambridge Hulsean Lectures, 'On the proofs of Divine Power and Wisdom, derived from the study of astronomy and the evidence, doctrines and precepts of Revealed Religion' (1827) and what's interesting is the way he did it. He has 20 lectures to give so he uses Psalm 19 as his template. The first five lectures are about how he looks at God in his astronomy (cosmos). The next five, following Psalm 19, are about how he encounters God in the Scriptures. And then he does what many of us have done, not knowing what to write in the next ten lectures, he basically gets old sermons and fills up the lecture series with them!

What's really interesting is that this book is mistitled, 'On the proofs of Divine Power', because Chevallier doesn't do that. In the first five lectures he approaches it with a "Wow! Gosh! Isn't this interesting from

⁸ Dawkins, R., *The God Delusion*. (London: Bantam Press, 2006), p. 31.

⁹ Alexander, Denis, *Creation or Evolution - Do We Have to Choose?* (Oxford: Monarch, 2008).

science. Let me just excite you a little bit!” Then he uses the Scriptures to provide the overall framework by which he interprets the science. Now, notice the date. This is the beginning of the nineteenth century. My contention is that most of the design argument was not of the Paley variety. It was a “Gosh! Wow! Look at this! Let’s have a conversation about it” variety. And as we engage in the conversation, let’s make sure we do so from the point of view of the Christian Scriptures, with Christ at the centre.

An interesting example of this approach can be seen back in the 19th century. In 1835 Revd. Temple Chevallier was invited to become Professor of Mathematics at the newly founded University of Durham. Subsequently he also became Reader in Hebrew, and in 1841 its first Professor of Astronomy. In his Cambridge Hulsean Lectures, ‘On the proofs of Divine Power and Wisdom, derived from the study of astronomy and the evidence, doctrines and precepts of Revealed Religion’ (1827), he uses the structure of Psalm 19 as a model to give ‘the evidence for revealed religion’. He looks at evidence from astronomy, the Bible and the spiritual life. Chevallier is interesting for a number of reasons. At the time of Darwin he demonstrates the commitment of both a scientist and an ordained clergyman and, at the time of the rise of natural theology, he shows a commitment to the importance of revelation. Further, ‘proofs of Divine Power’ are not for Chevallier philosophical arguments leading to a logical proof of the existence of God. They are rather scientific pointers or questions which can only be interpreted correctly in Jesus. Some of these pointers concern the ‘wow’ of the size of the Universe or the beauty of the mathematical laws.

This approach is quite different from intelligent design. It does not look for gaps within the scientific account into which God has to be squeezed as the only explanation. It looks at the scientific description of the world as a whole, allows science to raise questions such as the intelligibility of the universe or the origin of the laws of physics which lie beyond science’s ability to answer, and sees these questions from a framework of a Creator God who reveals himself in Jesus. It is an approach seen not only in the 19th century in Chevallier but in a number of Christians contributing to the dialogue of science and religion today¹⁰.

So that’s my second point. Are you still with me? I was told that I could go on until 11pm. Is that alright? [Laughter] I’ll try to speed up. So, on to my third point:

3. The Christian doctrine of creation affirms that God is the sole Creator of the Universe

In the Colossians passage it says, ‘All things in him were created.’ One of my favourite galaxies at the moment is GN-z11. Astronomers have great imagination in naming their galaxies! What fascinates me about this quite small galaxy is that it is the object the furthest in the universe that we have ever seen. So the light from this galaxy set off to us 13.2 billion years ago. The light from the sun, which we occasionally see in Durham (!), takes about 8 minutes to reach the earth. The light from this galaxy has taken 13.2 billion years.

Now we can just stay with that and talk about awe, and wonder, and amazement. But, of course, that galaxy is only one of some 100 billion galaxies in the universe and each of those galaxies contains on average about 100 billion stars. So, how many stars are there in the universe? I know it’s late on a Friday night but all you have to do is multiply 100 billion by 100 billion and the answer is – a lot! If you can begin to imagine the grains of sand on the beaches of the world that gives you something like the number of stars in the universe.

Now, fold that into Psalm 19 again, ‘The heavens declare the glory of God’, or Psalm 8.3, ‘When I look at your heavens, the work of your fingers’. What are human beings in the midst of all of this? And the Christian doctrine of creation says that God is the source of everything in the universe.

¹⁰ Eg. J. Polkinghorne, *Theology in the Context of Science*, SPCK, London, 2008

Let me do a bold thing. Let me put the history of the universe onto one slide. [Professor Wilkinson showed a timeline from today back to the origin of the universe] Here we are. Our current age is 13.8 billion years. Some of us feel that more than others!!! Now we're going to trace the history of the universe back in time, and we think we know what the universe was like when it was only one million years old. This isn't to scale, by the way, those of you who are mathematicians!!! In fact, we think we know what the universe was like when it was only one second old. By that I mean that our laws of physics give a good description of what the universe was like. In fact our present laws go back to $1/10^{-43}$ of a second. If you're not a mathematician that's one divided by ten followed by 42 zeros! That's virtually zero, isn't it? Not quite! At that point our current laws of physics break down, and I'm interested in this simple fact, that our laws of physics break down. What does that mean? Well, they break down because quantum theory and general relativity don't fit together very well at that time in the universe's history, and at the moment it's at that point that we're looking for string theory or a theory that will bring these two together. But at the moment we haven't got one! And so the theological interpretation of this can proceed sometimes.

This is from a book by Robert Jastrow called 'God and the Astronomers' and I'm sorry for the sexist language – it was written a few years ago: 'For the scientist who has lived by his faith in the power of reason, the story ends like a bad dream. He has scaled the mountains of ignorance; he is about to conquer the highest peak; as he pulls himself over the final rock, he is greeted by a band of theologians who have been sitting there for centuries.' [Laughter]

Well, no, actually! Because if you recognize this you'll realize it's a "God-of-the-gaps" type argument, and although it was being used by Popes and mathematicians we must, as Charles Coulson said, beware of God-of-the-gaps type arguments; beware of inserting God into the gap because as science progressively explains its own area God becomes irrelevant.

Now, God is the source of creation in a Christian doctrine of creation. He is not God as a kind of divine fireworks lighter who reaches out his hand and lights the blue touch paper. The Christian understanding of creation is that God is the one who holds the universe in the palm of his hand, keeping it in existence moment by moment. So Paul writes in Colossians 1.17, 'In him all things hold together' – all things cohere. Our understanding of creation is of God as the source of all the physical laws, keeping the universe in existence moment by moment, whether it is 6000 years, 13.8 billion years or just $1/10^{-43}$ of a second old, it is God's sustaining activity that we understand as the source of creation.

Not only is God the source of all creation he is the sustainer of order: 'In him all things hold together.' One of the fascinating things for scientists is that underneath the complexity of the universe are beautiful, simple, elegant physical laws. In fact, not so long ago, I was walking just outside the college here and a physicist came up to me with tears in his eyes and hugged me. This doesn't happen a lot in Durham [laughter] and certainly doesn't happen with physicists! But it was the day on which the discovery of gravitational waves was announced. Neither of us had anything to do with that experiment but the amazing thing is that a hundred years ago Albert Einstein had said that in his theory of General Relativity if two black holes a long way away collide then they'll send out ripples in the space-time of the universe. And then he added; By the way – you'll never see them! And just a few months ago we saw them, because that ripple of space-time stretched space by less than the diameter of a proton and yet we were able to see it.

And you go "Gosh! Wow! Thank you, Lord" that the order that we see in the gravitational force on the earth is the same that describes two black holes many millions of light-years away. To see the laws of physics in their God-given way also feeds into what we sometimes teach in terms of vocation. By that I mean that the scientist, the engineer and the technician are only able to do their work because at the heart of the universe are these beautiful, universal laws that can be understood through the gift of science.

I'm sure your church is not like this, but I go to some churches where, if a young person says 'I want to go

to Bible College or become a minister or a missionary', they're brought to the front of the church, hands are laid on them, and they're given a big cheque to help them with their expenses. If a young person says 'I want to do chemistry at university', I wonder if the same church rejoices, brings them to the front, lays hands on them and gives them a big cheque! We need to affirm of science, technology and engineering as Christian vocations.

The doctrine of creation affirms that the Universe cannot be fully understood without reference to God. The Christian doctrine of creation goes further and locates creation in the action of God in Christ. CF Burney argued that in the Colossians passage, Paul echoes the understanding of 'wisdom' in the Old Testament, where God creates the world through wisdom. For Paul the creative work of God is expressed not through a concept or indeed a personification of a divine attribute or holy law but through the person of Jesus Christ.

First, this cosmic picture of Jesus conveys that God is the source of all creation. Verse 15 is not meant to imply that Jesus was himself created. The idea is of priority in both time and rank, or as FF Bruce translates, 'firstborn before all creation'. Then Paul gets carried away with excitement as he describes the creative work of Jesus. All things were created by/in him (v16), by/through him (v16b), and for him (v16b). He is therefore the foundation, the agent and the goal of creation. This is a big picture of Jesus and creation.

It is at this point we may be reminded by JB Phillips that 'Your God is too small'. The Christian doctrine of creation continually challenges us to take seriously the greatness of God and the wonder of such a creation. It is interesting that in *The God Delusion* Dawkins quotes some famous words from Carl Sagan in order to attack religious believers:

'How is it that hardly any major religion has looked at science and concluded, 'This is better than we thought! The Universe is much bigger than our prophets said, grander, more subtle, more elegant? Instead they say, 'No, no, no! My god is a little god, and I want him to stay that way'. A religion, old or new, that stressed the magnificence of the Universe as revealed by modern science might be able to draw forth reserves of reverence and awe hardly tapped by the conventional faiths'¹¹.

Christians have looked at the Universe and should look at the Universe with awe and excitement, and with the sense that God who became a human being in Jesus is the amazing Creator of 100 billion stars in each of 100 billion galaxies. Science, whether it be through Stephen Hawking or Charles Darwin, allows us to see just how great God is.

The belief that God is the source of all creation has been developed theologically into *creatio ex nihilo*, that is, creation out of nothing. Some have argued that the biblical material is at best ambiguous as to whether God simply shaped the universe from pre-existing matter, somewhat like an architect imposing order on matter, and that creation out of nothing only came to clear articulation as the Christian faith encountered and responded to the questions and challenges of Greek philosophy and Gnostic thought¹². I do not believe that the early chapters of Genesis are as ambiguous as some would think on this. Even so the New Testament is unequivocal in its belief that all that exists has its source in nothing other than the limitless possibilities for life that God is (John 1:3; Col 1:16; Heb 1:3).

It is important to recognize that if the whole material Universe is created by God, then the natural sciences are affirmed. Indeed many historians of science would say that the Christian doctrine of

¹¹ C. Sagan, *Pale Blue Dot*, (??, Ballentyre, 1984), p. ??

¹² May, G., *Creatio Ex Nihilo: The Doctrine of 'Creation out of Nothing' in Early Christian Thought*. (Edinburgh: University of Edinburgh Press, 1994); Young, F., 'Creatio ex nihilo: A Context for the Emergence of the Christian Doctrine of Creation'. *Scottish Journal of Theology* 44 (1991), 141.

creation was of prime importance in the development of modern science.¹³ Creation is both to be valued, rather than to be escaped, and free to be investigated rather than worshipped. Along with this, God was not constrained in creating by the limitations of pre-existing matter but could create freely. Thus, to fully understand the God-given order of the universe it is necessary to observe it, which is the basic principle of empirical science.

Second, this cosmic picture of Jesus suggests that God is the sustainer of order in creation. Paul in Col.1.17 reminds us that Christ is before all things, but also that 'in him all things hold together'. This is a very different picture of the deistic Creator who lights the blue touch paper of the Big Bang and then goes off to have a cup of tea! The Creator God is the sustainer of creation. The verb is in the perfect indicating everything held together in him and continues so to do.

As an astrophysicist this has always been an important verse for me. The simplicity of the physical laws underlying the complexity of the Universe is one of the striking features of modern science. The fact the Universe 'holds together' or 'coheres' in such an amazing way is not only because of an impersonal physical theory but because of the creative work of Jesus. Science is only possible because of the work of Jesus.

The Christian doctrine of creation affirms science and technology by seeing them as a gift of God. Those who explore the order of the Universe such as scientists, or those who exploit the order such as engineers, do so because of God, whether they recognise it or not. And so science, engineering and technology are Christian ministries. So Kepler in 1595 wrote to Maestlin, one of his teachers, that he had turned away from a vocation as a theologian and that 'through my effort God is being celebrated in astronomy'¹⁴. Likewise we need to encourage Christian believers to see science as a Christian vocation rather than a secular threat.

I've gone on far too long, so the final two points very briefly:

4. The Christian doctrine of Creation holds together our understanding of creation and new-creation

In that passage from Paul in Colossians as you well know Paul parallels creation and new-creation with Christ at the very centre. It seems to me that we've often talked about creation without reference to new-creation, and we've talked about new-creation without reference to creation. The new-creation, in terms of the New Testament description, is a transformation of this creation, not a throwing away of this creation and starting all over again, or simply a continuation of this creation with a few nice Christians in it! God's fundamental work, and here, because I'm a Methodist, I mention the name of John Wesley whose understanding of new-creation was that it wasn't just about the individual believer being transformed, or the Christian community being transformed, but was about a new heaven and a new earth. That's why in his sermon 'The Great Deliverance' he talks about the future for animals in new-creation. It seems to me that there's a lot of work to be done in that.

For Paul the supremacy of Christ is seen not just in creation but also in new creation. In order to do this Paul uses parallels within the passage to stress the supremacy of Christ in both creation and new creation¹⁵:

- 'who is' the image of the invisible God (v15a) and the beginning (v18b)
- 'he is the first-born' of all creation (v15b) and from the dead (v18c)
- 'he is pre-eminent' as he is before all things (v17a) and he might be pre-eminent in all things (v18d)

¹³ Harrison, P., *The Bible, Protestantism and the Rise of Natural Science*. (Cambridge: CUP, 1998).

¹⁴ O. Gingerich, *The Eye of Heaven: Ptolemy, Copernicus, Kepler*. (New York, American Institute of Physics, 1993) p. 307.

¹⁵ J.M. Robinson, 'A Formal Analysis of Colossians 1:15-20', *JBL*, **76**, (1957), pp. 270-87; .M. Hay, *Colossians*, Abingdon New Testament Commentaries, (Nashville, Abingdon Press, 2000).

- the Son unifies as in him all things hold together (v17b) and he reconciles all things (v20a)
- everything is related to him in creation (v16b) and in new creation (v20c)

In addition the sequence of ‘in him...through him...to him’ is paralleled in both verses 16 and 19-20a, implying that the same agent accomplishes both creation and new creation. Jesus is not simply an historical human being or even a mediator of present religious experience; he is both Lord of creation and new creation.

The parallels link creation and new creation. The one who is creator is also redeemer. The agent of creation is also the goal to which the creation tends, its eschatological purpose. Of course this is based in the Old Testament view that Israel’s God, the one who delivered them from Egypt, is also the creator of the whole Universe (Is. 40:12-31).

One of the key aspects of this new creation is reconciliation. Sin is overcome by Jesus’ death on the cross and Paul’s use of ‘blood’ (v20) gives a model for this reconciliation in the idea of sacrifice. However, his canvas is large, and another parallel between the One who creates ‘all things’ and reconciles ‘all things’ emphasizes the universal scope of God’s action. In fact this is further emphasized by yet another parallel between verses 19 and 20. His argument is that because ‘the fullness’ of God was in Christ then there will be a fullness of ‘all things’ redeemed. The image of reconciliation also has the sense of bringing the entire Universe into a new order and harmony, a fulfilment of God’s plan for it¹⁶.

At the heart of the parallels is the phrase ‘first born’. It is used as ‘over all creation’ (v15) and then ‘from the dead’ (v18). Jesus is not only the beginning of the creation; he is also the beginning of the new creation. This is demonstrated by his resurrection. His resurrection is the beginning not only of the new age, but will be followed by the resurrection of believers.

Therefore, in the many parallels that the writer uses, we see again the centrality of Christ, and we have a clear understanding of the link between the resurrection of Jesus and the reconciliation of all things. As Wright puts it, ‘with the resurrection itself, a shock wave has gone through the entire cosmos: the new creation has been born, and must now be implemented’¹⁷. But we may ask what does it really mean for a shock wave to go through the entire cosmos? In what sense is the new creation born? Perhaps the image of birth is not a bad image in this context. The birth of a child is a dramatic event which has both immediate effects and points forward to a new phase of family life. We can see the pointers to the future in the resurrection. But what are the immediate effects of the resurrection on this creation? The gospel writers interestingly enough see little immediate effects on creation in the aftermath of the resurrection. Indeed, Matthew’s earthquake and associated upheavals happen at the death of Jesus (Mt. 27:51-53). The immediate effects are of course on transformed, hopeful and puzzled people. The birth of the new creation is seen in the power of the gospel to change lives. However, the dramatic and immediate effects should not blind us to the longer term consequences. The Christian doctrine of creation always asks us to expand our horizon in these consequences.

The Christian doctrine of creation maintains that this creation really is good, whilst also looking forward in the purposes of God to a new creation, a ‘new heaven and new earth’ (Revelation 21). The hope is not of God completely starting again, or the hope for some kind of disembodied immaterial state, but the hope for the transfiguring fulfillment of this present creation into all that it was called into being to be. Given this combination of identity and transformation, the present created order is not to be written off as evil or unimportant, but is, rather, to be cared for, respected, enjoyed and delighted in.

¹⁶ Wright, N. T., *Colossians and Philemon*. (Grand Rapids: Eerdmans, 1986), p. 68.

¹⁷ Wright, N.T., *The Resurrection of the Son of God*. (London: SPCK, 2003) p. 239.

And the final point – I’m sorry, I’ve done this badly – but the final point I would have made is that the Christian doctrine of creation sees being human as gift rather than physical make-up:

5. The Christian doctrine of creation sees humanity as the gift of intimate relationship with God

Now at the moment when you look around lots of science I think the core question of the next ten years is not going to be my area of cosmology: the core question is going to be, ‘What does it mean to be human?’

So, artificial intelligence, how do we understand the difference between that and humanity? The human genome project – after all, I share some 67% of my genes with cauliflower! You can probably tell that by looking at me!!! [Laughter] But what makes me different from cauliflower? If we discover life elsewhere in the universe what will that mean for our humanity?

Those are the big questions, as well as those about human beginnings and endings that seem to me to require a Christian understanding which is about intimacy of relationship that God gives us by gift, about responsibility, about living in community, about being transformed into the image of Christ.

Let me stop there. I’ve tried to lay out a foundation dialogue. So if I’m asked the question ‘Christ is alive – really?’ I want to say something about wonder and awe and worship, and how we articulate that. Creation is not an abstract concept. I want to say something about the fact that at the heart of the universe is Christ. And I hold that and I look for it in confidence. I want to say something about how the source and sustaining of all that there is, those physical laws themselves, find their origin in Christ. I want to say something about Christ as the fulcrum between creation and new-creation, and I want to say how it is in Christ that I find what it is to be fully human.

I’ll stop there and will be happy to answer questions.

The question of what it means to be human is one of the central questions of contemporary culture. Advances in artificial intelligence, the Human Genome Project, the nature of the human brain and greater understandings of the capabilities of animals, all push the question of what is special about human beings. Traditional theological thinking has often attempted to define the unique nature of human beings as their possession of an immaterial soul or by attempting to define ‘image of God’.

While the main focus of this Colossians passage is on Jesus, the reader will be drawn to think about the nature of humanity by Paul’s use of ‘image of God’ reminding us of the Genesis text where men and women are made in the image of God (Gen 1.27). The meaning of ‘image’ has caused considerable debate. Different suggestions have included that God is physically embodied and human beings are physically the image of God; that the image denotes human reason; freedom; or our moral sense. Yet none of these interpretations does justice to the biblical material.

Studies in the language and context of the ancient Near East lead to a different understanding of image as not so much a part of the human constitution as a pointer to the distinctive place of humanity within the created order. It is less about something we have or do and more about relationship¹⁸.

In contrast to the Babylonian account where the role of humans is simply one of serving the gods, humanity is viewed here, in distinction from the rest of creaturely reality, as enjoying a relationship of unique conscious intimacy with God. Or, perhaps better, humanity is that part of creation that is capable of being conscious of and responsive in its relationship to the Creator. As

¹⁸ Westermann, C., *Genesis 1-11*. Vol. 1. (London: SPCK, 1984) p. 158.

David Fergusson has put it, 'The image of God is thus to be understood not substantively in terms of the possession of an immortal soul, but relationally in terms of the role that human beings play before God and before the rest of creation.'¹⁹ Furthermore, as this already implies, this relationship involves responsibility. In particular, there is a close connection in the text between being made in the image of God and God's command to humans to exercise dominion over the natural world (Genesis 1:26-28). This is to be understood as a call to share in the creative, sustaining dominion of God and so act as the visible representatives of God's benevolent care for creation.

In this context it is significant that it is Jesus of Nazareth who is *the disclosure par excellence* of true divine power in a manner profoundly subversive of common expectations and, likewise, Jesus who is regarded as truly being in the 'image of God'. Thus we see not only what God is like in Jesus, we also see what human beings are meant to be.

Therefore, if being made in the image of God involves responsibility and stewardship of the natural world, we need to exercise that responsibility in a Christ like way, as servant rather than as ruthless dictator. This is an added dimension to thinking about our response to the environmental crisis. As Christians we share the concern for the environment that future generations will have to live with, we share with other faith communities the sense of caring for the Earth as creation, but we also want to go further and see environmental responsibility as part of living under the Lordship of Christ.

It is striking that the Genesis 1 narrative reaches fulfillment not in the creation of Adam and Eve but in the Sabbath day on which 'the whole creation glorifies its maker.'²⁰ This provides further perspective on the distinctive role of humans within the created order as that of priests giving voice to creation's praise. That is, resting in, rejoicing in and living out of the Sabbath praise of God is regarded here as the very pinnacle of what created reality and human reality in particular is called to. Viewed in this way, we humans are called not just to 'use' material reality for our own ends, but to hallow it, to reverence it as God's gift, to work for its flourishing and, in this manner, be viceroys of God's gracious generative sovereignty in God's good world.

We have therefore reviewed the Christian doctrine of creation and found a common theme. The meaning of the Universe is not to be found in an impersonal cosmic force, or in a mathematical theory of everything, or in an abstract philosophical idea but in a personal God who wants to be in relationship with human beings. To be human is to be given the gift of relationship, to love and to be loved by the God who created you.

The Christian doctrine of creation points us to the God of creation who is revealed in Jesus Christ, and calls us to worship God through the way we think, act and live.

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¹⁹ Fergusson, David, *The Cosmos and the Creator*. (London: SPCK, 1998), p. 14.

²⁰ Fergusson, David, *The Cosmos and the Creator*. (London: SPCK, 1998), p. 17.