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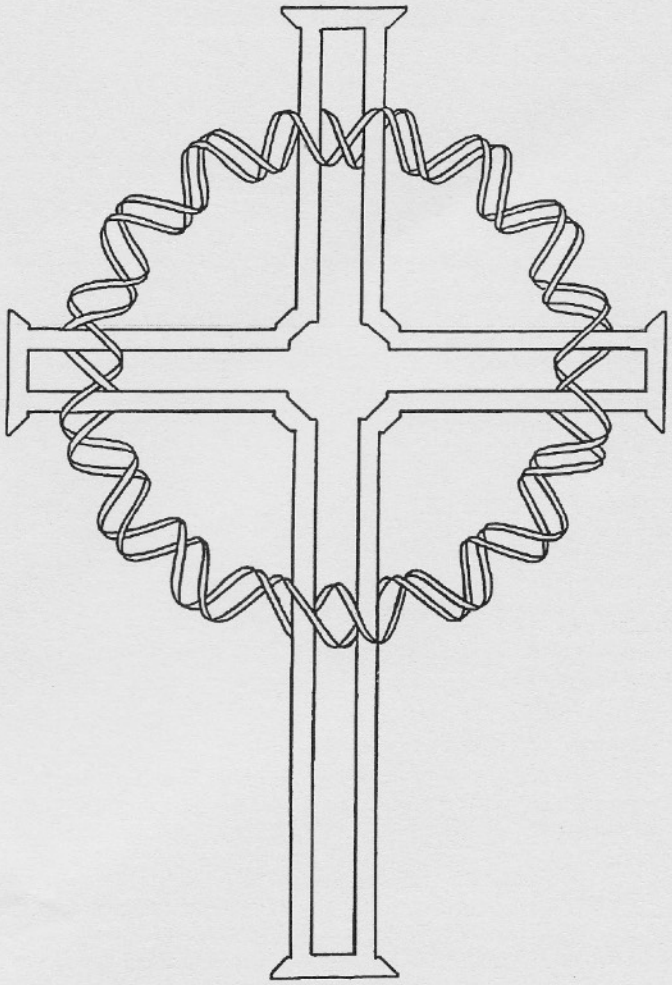

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Autumn 2024

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FROM THE GATHERING

Photograph taken in front of the Risen Lord Jesus, Launde Abbey

+David's Sermon for the Admissions Eucharist at Launde Abbey 2024

"Facts are sacred", wrote CP Scott, long time editor of what I still like to refer to as the *Manchester* Guardian. "But", he added, "comment is free". Having been subject to the on-line reaction when I've written for Scott's former paper, I can testify that those submitting comments exhibit no lack of freedom, or indeed any other inhibition that one might expect common courtesy or decency to place upon them. Scott made it a hallmark of his editorship not to confuse these two.

One of my own media sidelines is to be part of the team of presenters who bring listeners Radio 4's Thought for the Day from Monday to Saturday, at around 0745. Because it is an uncontested slot, by which I mean that nobody gets to challenge me on air, or demand right of reply the following day, the rules are very strict. I

work alongside a producer drawn from the Religion and Ethics team, who has two principal tasks. The first is to help me get my point across in as clear and concise a way as possible (I have a maximum of 2 minutes and 50 seconds, which amounts to around 450 words). The second is to ensure that, whilst I might range far and wide in the opinions I express, I have a firm evidential base for anything I present as fact. Listen carefully, and you'll hear us presenters use little phrases like "as I see it", "in my view", or "for me", to bridge the gap between fact and comment.

Science, is an exercise in finding facts, discovering the truths about the world about us. We propose and test hypotheses until we have confirmed them to a high level of probability. We can then treat them as factual unless and until fresh evidence arrives that makes our earlier conclusions unsafe. In that sense science operates a bit like the criminal court system, where an appeal can be heard if new and compelling evidence emerges. Perhaps the main difference, one for which we are profoundly grateful, is that the findings of which we become convinced and convicted are less likely to result in our being sent to prison. At least in most parts of the world. We may have our opinions on scientific matters, but woe betide any scientist who fails to follow Scott's dictum when publishing in an academic journal.

Most people, most of the time, operate in a world beyond science, very much on the "comment" side of Scott's distinction. It's a world where opinions and beliefs do not have to be quite so securely grounded in hard evidence, nor demonstrated beyond reasonable doubt. We don't need a logical basis for preferring the work of one artist to another or liking different types of music. We don't need incontrovertible evidence to justify thinking one football team to be better than another, nor to form a view as to which political party is best placed to lead our country over the next few years. The problem comes when Scott's boundaries get blurred, particularly if done so with intent.

Politicians are, I suspect, particularly inclined to overstep the boundaries between fact and comment. And it can't help that most of them come from non-scientific backgrounds, where such behaviour is more acceptable. Here in the UK, the first main skirmish of the current campaign came when the Conservatives tried to package as factual, estimates of Labour's tax policies that had been drawn up on the basis of assumptions chosen by Tory advisors. "Garbage in, garbage out" as we said in the earlier days of computers. And yet, even though the Civil Service moved swiftly to rubbish the figures, they are still being trotted out as though they had a sound factual basis. Indeed, Labour have largely given up on refuting the allegations, in favour of presenting their own dodgy data instead.

As both scientists and ministers of religion, we in this Society are in a good position to understand both hard evidence-driven facts and matters of opinion. The same evidence of the world around us can, and does, lead us to quite different theological conclusions. So how do we maintain clarity as to which side of Scott's boundary we are standing on?

Well, one of the things I have learned from almost a quarter century of being a bishop, is how important it is for me not only to understand the perspectives of people whose opinions are very different from my own, but to be able to argue their case along the lines that they would argue it themselves. People really appreciate being understood, and their opinions respected, even when they are not agreed with. Yet where I find I have to resist is when I am asked to give equal space and respect to arguments that play fast and loose with the facts. Or where clear and demonstrable facts are denied because they fail to support the opinion someone wishes to maintain.

So, one of the things that grieves me most in an election campaign is when interviewers treat false facts with the same respect that they properly offer to diverse opinions. I still shudder at the comment of a

former, and possibly future, US President who, confronted with the falsity of his statements, spoke simply of having “alternative truths”.

“Facts are sacred”, said Scott. Most of the time, in that sentence, the emphasis is placed on the first word. But we, above all others, should understand what that final word “sacred” means. It goes beyond saying “treat with respect”. To be sacred is to be precious to God. We follow the God of truth, the God to whom truth matters. We need to treat facts with the same reverence as we treat other sacred objects or entities; to recognize that they might form the basis for comment and opinion, but can never be collapsed into them. And maybe, our dual training, as scientists and theologians can help us do that, both for our own benefit and the benefit of our congregations and communities.

The Warden’s Sermon for the Final Eucharist at Launde Abbey 2024

Through a glass, darkly. . .

I have said this before I know, so apologies, but there are times when I do enjoy, even prefer, the King James Version. The words and cadence resonate easily on the tongue, and on the heart. Some of my other recent reading has resulted in the phrase, ‘through a glass, darkly’, coming to mind frequently. But, in true self-referential mode, in the world of Hebrew translation, even that phrase seems to yield its own confusion and debate, with particular heat about the presence or absence of a comma following glass and preceding darkly. But then, perhaps punctuation is the putative dark matter to be found, or not, in ancient Hebrew texts. Certainly, papers are written on its non-existence.

There are times when I am quite happy with the Ptolemaic system. There are times when even that is too complicated. It’s not necessary to worry where the sun goes, and whether it’s the same one coming up each morning. On a sunny day, and any time of the year, one swift glance at the sky - and the time, and the direction to base camp, can be deduced, which satisfies all I need to know, not to mention my Vitamin D requirements.

And as we progress through the year, one can go Copernican, and reflect on the earth tilted on its axis relative to its orbital plane around the sun. And don't tell anyone, as my children's astronomy books did, that the earth wobbles. What makes it wobble? And no one could tell me. Until the penny dropped that it didn't wobble, it's just tilted.

What cause the 'darkly': the glass itself or the eyes trying to see through it.

And further again, with a spacetime continuum, and three dimensional gravity wells, not just the two they always draw in text books, and time slowing down and speeding up, and, yes, it's not as dark as it could be, I can just about see through it, and then someone says, but you realize that this is a three dimensional projection within a four dimensional bubble, and my brain begins to shut down, and someone else says, but it's all a digital simulation anyway, and can I have some NASA funding to test the hypothesis, and now my brain is modelling a black hole, and not only is the glass dark, even the glass, or the event horizon, seems to have vanished.

And then I read Nick Spencer's book, 'Magisteria'. To be clear, Nick's book is clear sighted, illuminating so much of the entwined history of science and Christian faith and, for me at least, making sense of it. And without using the word wobble at all. Though my heart did wobble as Nick's laid bare of the role of science in the eugenics movement, which provided clear evidence, objective, empirical, and statistically demonstrated, that all men are not equals. It must have been gratifying for them to find the most elite humans of all, physically, mentally, morally, were men just like themselves, white, well educated, middle class or higher, financially sound, respected by ***men*** just like themselves. Self - reference is a dangerous tool.

In so many areas of life we are still trying to recover from that perspective, that arrogance. It still pervades our modern society. For once, however, it was the Church who challenged the scientists, saying, no, in God's eyes, we are all God 's children and we are all equal in God's eyes. Or to use an alternative more modern

translation, translation, in a ‘we see a reflection in a mirror’, does the mirror distort my image, or do my eyes, or my interpretation.

And then I read Ed Yong’s book, An Immense World, in which he explores the many and diverse ways that animals of all kinds sense, are aware of, the environment around them, their umwelt. History repeats itself as human scientists, with a literal and metaphorical limited vision, peer darkly at the living creatures around them. For so many years animal senses have been dismissed and diminished.

So, contrary to previous writings, dogs are not colour blind, can see well in the red, blue and ultraviolet parts of the spectrum. They may not have a colour palette as nuanced as humans, having only two kinds of colour sensitive cells whereas we, mostly, have three. But before the males among us applaud ourselves, it has been found some women have four. But even that is no great feat, as many animals have several more and the mantis shrimp has twelve, sixteen counting the ones that see polarised light, and can swivel its eyes in any direction, and independently too.

Darkly, it is so easy to turn the wonder of senses into a simplistic competition, when what really matters is what helps as species to survive and prosper. And as for vision, here is a quote from Yong, “The real glory of colours isn’t that some can see more of them, but that there’s such a range of possible rainbows”

The Books of Ezra and Nehemiah pose an interesting challenge for us. Who belongs in the kingdom of God they are building. A very limited gene pool. It certainly did not include the Samaritans and other local tribes, those who had been left behind. Divided off and then discarded. But are they right? A purity of vision and purpose? Clear sharp dividing lines. A purity of people who are themselves pure and purposeful. In their context, they achieved a lot. But did it include enough rainbows. Was it just a monochromatic rainbow? Oh, for a prism, a very special glass, when you need one.

We have had our own ongoing challenges since our inception as ordained scientists. What constitutes ordination? What defines scientist? Where do we draw our lines?

As scientists and disciples of Jesus of Nazareth, we continue to be surprised and sometimes disturbed at how inclusive and

interdependent God's creation keeps turning out to be. People often ask whether they will be with their pets once again in heaven. I recently asked a spirituality group whether the assorted bacteria, mites, and assorted invertebrates we carry within and about us would enter the gates of heaven, especially the ones that contribute to our wellbeing, even survival. Stereologically speaking, do we share an umwelt?

Jesus just by his existence would have turned Ezra and Nehemiah's world upside down. Pentecost would have pulled it inside out. The outsiders are now inside. What happened to the gates? Who is this gatekeeper? Other flocks, other pens, other I's.

God said let there be light. And light filled the universe. Is my 'darkly' my lack of ability or am I just squinting, half closing my eyes, trying not to be overwhelmed by the abundance and plurality of God's rainbows.

[Readings: Ezra 9.1-4
1 Corinthians 13
John 10.14-18]

Summary of the Addresses from Nick Spencer

In lecture 1, **AI and the Body**, Dr Spencer looked at the (sometimes apocalyptic!) discussions around the future of AI, and in particular the point at which it might be considered to be "human", or at least to merit being treated as such. He argued that we make a mistake in thinking that this whole question is one about intelligence. In this, we imagine that because humans are uniquely intelligent, intelligence is therefore the key characteristic of our humanity. That being so, the way in which machine can now outperform us in intelligent tasks – whether that be playing chess, winning a debate, or writing an essay – would mean that machines are therefore also more human than we are. Hence the belief, at least on the fringes, that AI is already conscious. This case, Dr Spencer argued, completely forgets the importance of the body. Humans may be intelligent or rational, but we are also alive! We have an embodied, contingent, vulnerable, frail, temporal, physical presence in the world, which is not incidental to who we are. On the contrary, it is of incalculable importance,

informing everything we think, say and do. This, he argued, was the real litmus test for AI, and he concluded that while he had no a priori reason to believe that AI would never become sentient, conscious and human, if it did so it would be because it has a body and a stake in our shared physical reality.

In lecture 2, **Animals and personhood**, Dr Spencer explored the issue of whether non-human animals should be accorded personhood. This is not a theoretical consideration. Indeed, it is an intensely live one, not least in the US where the Nonhuman Rights Projects has taken many cases to court to fight for legal recognition of animal personhood. Dr Spencer charted some of the (depressing) history of how humans have denied other animals (not to mention other humans) proper recognition, in the former case arguing – first on Cartesian and then on behaviourist grounds – that animals were merely unreflective stimulus-response machines. Recent developments in zoology and in particular primatology have shown this to be quite wrong, and so the demand to recognise animal personhood has accordingly grown. However, Dr Spencer went on to argue that while the greater awareness of animal cognition, reflection and emotion is welcome and should alter the status of some animals in the human world, it is also the case that the human capacity for complex language serves as a significant distinction between humans and other animals. He explored how language has been fundamental to a biblical and theological understanding of humans made in the image of God, and concluded that the moral, rational and imaginative universe opened up to humans by their linguistic capacities should be taken into consideration when thinking about the possibility of animal personhood.

In lecture 3, **Aliens, uniqueness and value**, Dr Spencer looked at the search for extraterrestrial life, and what this meant for religious and in particular Christian belief. The popular view is that it would damage it irreparably, the conviction being that Christian faith is committed to – indeed based on – the belief that humans are unique, and so therefore also uniqely valuable. Discovering life (especially

intelligent life) elsewhere, so the argument goes, would demolish this conviction and along with it the religious edifice raised above it. If so, this is bad new because, as Dr Spencer showed, the numbers are undoubtedly on the side of alien life somewhere in the cosmos. However unlikely intelligent, civilised life may be, the sheer number of stars and our newfound realisation of the number of planets orbiting them means that we are probably not alone (though that isn't to say that we will ever make contact). However, he went on to argue, the prior belief – namely that human value is predicated on human uniqueness – is actually alien to authentic Christian thought. In doing so, he drew out the distinction between being special by merit and being special by grace, and argued that the Christian worldview ultimately favoured the latter.

In lecture 4, **Genetic engineering and the human telos**, Dr Spencer explored the rapidly developing field of genetic manipulation. In reality, this hasn't moved quite as rapidly as some expected when the human genome was first decoded quarter of a century ago. However, new research, reduced costs and the advent of CRISPR-Cas9 does promise to catalyse our ability to understand and manipulate the genome. This invites momentous ethical questions, for which science is singularly ill-equipped. Dr Spencer took the audience back to the earliest moments of modern science – or experimental natural philosophy as it was known – and reminded them that science's success was predicated precisely on bracketing out metaphysical and, in particular, teleological questions. What something was for was, early scientists thought, the kind of Aristotelian question to which science should not attend. However, it is precisely this kind of question that is kicked up by genetic engineering: to what end should we be modifying the genome? Dr Spencer outlined a sliding scale that stretched from eradicating diseases, through eradicating disabilities, all the way to enhancing abilities, and argued that the further we travel along that scale the more debatable the good in question becomes. In evaluating how far we do travel, he argued, it was imperative to know what we were modifying *for*. And when that came to the specific question of human genetic modification, the

question was focused down onto the (essentially theological!) question: what are humans for?

All four lectures were developed from Dr Spencer and Dr Waite's book *Playing God: Science, Religion and the Future of Humanity*

The Wardens' Stole by John Maxwell Kerr

The four equations on the Warden's stole represent one way of writing Maxwell's equations.
Why are they represented on a stole worn by the Warden of the Society of Ordained Scientists?

James Clerk Maxwell was a Scottish physicist of the nineteenth century, probably the most distinguished British physicist of that century, and a devout Christian. He held to the principle that disseminating science, whether in the lecture theatre or at a soiree, was a moral as well as an educational issue. As a Christian socialist, he was as committed to teaching science to workers as to administering Cambridge's first experimental physics laboratory. We in SOSc, in our Aims, also commit to science education, not least to the Church: it is a moral obligation.

The Austrian physicist, Ludwig Bolzmann, compared Maxwell to a Wagnerian mage: "as if by a magic wand, hopeless confusion is reduced to order. Obediently, his formulae delivered result after result, until we reach the final surprise effect." But James Clerk Maxwell was also a very amusing man, much given to self-mocking humour. And he wrote poetry. And he was convinced that his science destroyed radical determinism and so allowed for free will.

There are many other equations written by many eminent Victorian scientists. Why did I choose Maxwell? It must be confessed that one reason I did so was because he was a Scotsman. In his inaugural lecture as a professor of natural philosophy at Aberdeen, (in 1858 he was 25 years old and all his best work lay before him), he told his audience that "Scotchmen are born with an instinctive tendency towards metaphysics, and when they run short of practical arguments, they take refuge in a higher and more impregnable region…" "Physics was good for Scots", he declared , "because they would be forced to work 'till *these* metaphysical principles are at peace with *those* incontrovertible facts." Science and religion, entangled; theory and practice, mutually enlightening, at least for we Scots. And when his Cambridge students asked him about his skill in solving so many diverse scientific problems, he replied, "I just dream about them." The famous treatment of the Second Law of Thermodynamics, "Maxwell's demon" is still the classic example of a thought experiment.
Maxwell's many achievements included inventing a new kind of vector algebra, producing a new method of using reciprocal diagrams to analyse and resolve stresses in bridges. As undergraduates, we studied his application of probability calculus to the motion of gas molecules, and his proof that gas viscosity is independent of pressure.

Maxwell's four equations form a complete description how of electric and magnetic fields interact: they actually express experimental laws. The equations, in various forms, express how electromagnetic energy generates light. Since Galileo and Newton, physicists have come to believe that the language in which the created order is written is mathematical. And in these equations, "Let there be light" is expressed. In fact, one can buy t-shirts (MIT Gift Store) printed with the equations: "And God said – then the equations – And there was light", though that seemed a little crass to display on a stole.

But, some will say, people don't understand these equations. It is alleged that even some members and associates of the Society of Ordained Scientists don't understand the language of mathematics.

What I found is that the equations surprised and intrigued College and University chaplaincies as well as parish congregations. "But they don't understand mathematics!" some may say. I observed other stoles with Greek or Hebrew characters on them, equally unintelligible. Our stole, Maxwell's equations on one side, the SOSc cross on the other, provided many valuable opportunities to talk about science and religion. And no doubt, the contemporary relevance of Maxwell's equations will remind many of us of the statement, not an exaggeration, of the great American physicist, Robert Millikan: "Maxwell created our modern electrical world."
I hope God may bless our new Warden and that Lucas may wear this stole to good effect in his ministry on our behalf.
John Maxwell Kerr
Second Warden of the Society of Ordained Scientists.

[The nabla symbol, ∇, denotes the three-dimensional gradient operator, del, the $\nabla\cdot$ symbol (pronounced "del dot") denotes the divergence operator, the $\nabla\times$ symbol (pronounced "del cross") denotes the curl operator.]

This Planetary Body and how Christian Denominations view it.
(a synopsis of Mark Siddall, A tentative anatomy of Christian responses to anthropogenic climate change Oxford Open Climate Change, Volume 4, Issue 1, 2024, kgae002, https://doi.org/10.1093/oxfclm/kgae002)

It hardly needs saying that the responses of individual Christians to climate change extend from utter panic beyond denial to cynical narratives of conspiratorial manipulation by some shadowy political force. While there may be patterns across denominations a host of other factors influence the response of Christians, not least wealth, race, background and political understanding. Studies to date note this complexity and have struggled to understand the complex, multi-variate responses of Christians to climate change. One approach is to

begin with simplifying assumptions to gain some initial insights into this problem and at least make it tractable.

Over the course of the 1960s the social anthropologist Mary Douglas developed what has come to be known as grid-group cultural theory, which provides a model which has offered significant clarity for similar multi-variate problems over the intervening decades since (Douglas, 1970). Mary Douglas conceived the model based on what she describes as our most fundamental metaphor, our bodies and how our bodies relate to the world around us. For example, one might either assume that our bodies decay from within or that they are polluted from without. Either understanding changes the way we relate to the world around us. Building on the primitive metaphor of the body, Mary Douglas suggested two dimensions which she calls grid and group. The group dimension describes how closely we affiliate with a given group (for example Roman Catholics have a relatively high group affiliation whereas federated denominations such as Southern Baptists have a relatively low group affiliation). The grid dimension describes how tightly our roles and morals are guided by that group (for example both Roman Catholics and Southern Baptists have extensive and thorough moral codes whereas Charismatic groups might have a different emphasis). Decades of research in the lead up to and following Mary Douglas' work have established patterns of behaviour across these two dimensions, which when plotted perpendicular to each other create a grid-group plane with four quartiles.

The work of Holling (1979; 1986) and Timmerman (1986) has observed differences across the grid-group plane in terms of ecological management and their work is particularly informative for this study. Distinctive cosmologies are associated with each quartile and in each the relative stability or reliability of the cosmos differs from capricious (type A) to benign (type B) to mostly stable but needing some tending (type C) to an ephemeral and unstable cosmos (type D). For this study a representative and manageable sample of Christian denominations and one aid organisation were selected

from the USA and UK. The governing structures of each group are available on line and allow a reasonable approximation of their relative position on the grid-group plane:

Type A - Southern Baptist,
Type B - Assemblies of God in the USA
Type C - Church of England, Roman Catholic
Type D - Christian Aid
Close to the centre of both axes - Elim Pentecostal

Many denominations and Christian organisations have been able to make coherent statements regarding climate change on the basis of scriptural understanding and pastoral responses to extreme weather events and ongoing changes to temperature and rainfall/drought patterns. These statements are either composed by theologians and climate scientists and then agreed by the relevant governing structure of the denomination or they are the product of rigorous debate and competition within the governing structure. Either way these statements can be said to represent the normative voice of each denomination (Cameron et al 2010), that is agreed statements on climate change by the denomination or group. These statements can then be compared to the characteristics observed for each of the four cosmological types on the grid-group plane.

In the first place these normative statements on climate change act as a sort of validation of this approach. To summarise, the statements on climate change from each of the four cosmological types are in good agreement with the predictions of the grid-group model. Type A represents competitive cosmologies where the cosmological perspective of strong leaders are hotly debated and then followed by loyal adherents. There is a tendency for Type A cosmologies to see the science of climate change as just another competing cosmology among many. Type B cosmologies tend to be somewhat passive on climate change except where there is a motivation to connect with younger generations for whom climate change is a priority. Type C cosmologies take an ecological and relational approach, willing to

take the action needed cooperatively. This is typified most obviously by the 'integral ecology' of Pope Francis (2015). Finally Type D cosmologies were acting urgently and attempting to convince others to act urgently alongside them. Close to the centre of both axes, well informed and accepting responses can be found.

Based on the agreement between the published statements on climate change of the different denominations and the predictions of the grid-group model findings the wider implications on how to best communicate climate change to elicit constructive responses can then be explored. This can hint at how to avoid the pitfalls of the culture wars or conspiracy theory but also help to understand why responding well to climate change comes easily for some denominations but is harder for others. By way of synthesis the paper returns to the human body this time reflecting Paul's 'body of Christ' metaphor in 1 Corinthians. Dake and Thompson (1999) have published research hinting at the different strengths of each cosmological type in responding to environmental concerns. By responding in ways that come easily to each denomination rather than in a uniform way, this paper hints at ways that denominations can respond most effectively and authentically to climate change.

Full references and the complete paper are freely available here:
Mark Siddall, A tentative anatomy of Christian responses to anthropogenic climate change Oxford Open Climate Change, Volume 4, Issue 1, 2024, kgae002, https://doi.org/10.1093/oxfclm/kgae002

'Praying for Heaven on Earth' by Lucas Mix

What does it mean to pray God's will on earth as in heaven? Space is not Heaven, says this astrobiologist, but it can help orient us in the right direction.

Every day I pray, 'Thy will be done on earth as it is in heaven.' I ask the God who orders the cosmos—setting stars and planets in motion with clockwork precision—to attend to my daily life—messy as it is. I

ask the governor of space and time to focus on one pale blue dot and on the fragile surface of that sphere, to attend to me.

Image used under license from Shutterstock.com

Too often we assume that other planets and space itself must be like the Earth. We explore space because it is not. We go and see because we do not know what we will find. Likewise, too often we assume that heaven must be like earth and so miss the opportunity to be better than we are. Our prayer must never be 'in heaven as on earth.'

I said this prayer as a child, and it has a childhood meaning. God rules a kingdom over my head, both physically and metaphorically. "Such knowledge is too wonderful for me; it is so high that I cannot attain to it." (Psalm 139: 6) I prayed for God to come down from the sky to help me in my hour of need. My country and my world felt broken. And so, I prayed for them as well. God, come and fix this mess. Lord, have mercy.

I said the same prayer this morning, but it meant something different. Astronomy and Scripture changed my view of heaven and earth. And they changed my view of God. The faith remains, the hope remains, and the love remains; I still ask God to intervene. But my understanding has shifted. The Kingdom of God is not, as I thought, physically overhead. When I look up, I see sky, and beyond sky space, and beyond space more space. The universe extends so far, I cannot imagine its boundaries. The scientists and telescopes tell me so. And, upon reflection, so does the psalmist. "Such knowledge

is too wonderful for me; it is so high that I cannot attain to it." It is so far above me metaphorically that it isn't even visible physically.
The Kingdom of God is radically different from our own kingdoms. I would have no hope for salvation if this were not the case. Things here are severely messed up and so God has to offer something radically different. The kingdom of God is mysteriously and miraculously near.
Astronomy and Scripture changed my view of heaven and earth. And they changed my view of God.
My hope is not a castle in the sky, with cloud foundations. It rests on relationships, conversations, and daily interactions. It is built on the teachings of my parents, the faith of my friends, and the wisdom of my church. It was passed on through the centuries. It arises from daily encounters with scripture and worship. In other words, it relies on those same messy, embodied connections that make up my world. In Jesus' words, "The kingdom of God is not coming with things that can be observed; nor will they say, 'Look, here it is!' or 'There it is!' For, in fact, the kingdom of God is among you." (Luke 17: 20-21)

Not Above, But Within and Among
Christians have known this since the time of Christ that salvation is not found among the clouds or even among the stars; it is found in community and in the space between us. Copernicus and Galileo had something important to say. Heaven and earth follow the same rules. But we must be ever so careful how we hear their message. Too often we assume that other planets and space itself must be like the Earth. We explore space because it is not. We go and see because we do not know what we will find. Too often we assume that heaven must be like earth and so miss the opportunity to be better than we are. Our prayer must never be 'in heaven as on earth.'
"When I was a child, I spoke like a child, I thought like a child, I reasoned like a child; when I became an adult, I put an end to childish ways." (I Cor 13: 11) As an adult, I understand that the mess is not local. I stumble and fall. The people around me stumble and fall. And that bumbling extends across humanity and our relationship

with the natural world. These days when I pray “thy will be done on earth as it is in heaven” I have a whole planet in mind.
I do not wait for God to reach down from above (or in from beyond). I ask for God’s Spirit to move within me, teaching me to pray as I ought and live as I ought. (Romans 8: 26) I seek not to escape the earth but, with the Earth, to find harmony with heaven. Scripture tells us that we are not a foreign country, but a rebel province. Our hope lies in God’s actions. God reintegrates humans in creation and makes creation at-one with God.
We must not confuse the faith of childhood with the faith of our ancestors. They too were children once. And they too passed on their faith to their children. Otherwise, we would not be here. The kingdom of God is not above, but among…and within.

Heaven not Space, but Harmony
God asks me to have the humility of a child (Matthew 18: 3; Mark 10: 15). He invites me to look up at the heavens and around me at the earth with wonder and openness. He calls me to look for the kingdom at all times and in all places, trusting not in my own wisdom, but in God’s grace. He asks me to have the faith of a child, but not that faith alone. He asks me to think and reason as an adult as well.
And so, I keep my child-like prayer. I ask a transcendent God to reach into my immanent mess and make something holy out of it. But I also pray as an adult. I ask for creation to be conformed to God’s will. I ask him to make us one body through that same Spirit that was in Christ.
Heaven is not space; it is harmony. It is a harmony so radically different from the life we know that God had to become human to show us and tell us about it. Heaven is beyond my understanding, but not beyond my grasp. The earth is more than planet Earth. It is the entire range of humanity, perhaps the entire universe. The earth is more than planet Earth, but it cannot be less. The planet is broken and in need of God’s harmony. I cannot ask for God to intervene without giving myself to the task, joining in the movement of the spirit.
Heaven is not space; it is harmony. It is a harmony so radically different from the life we know that God had to become human to

show us and tell us about it. Heaven is beyond my understanding, but not beyond my grasp.
I ask God to forgive me as I have forgiven others, knowing these are not two acts but one. In the same way, I ask God to nurture me as I nurture the earth. I ask that heavenly harmony would break in through me, as it breaks in everywhere else. I cannot be saved alone, nor would I wish to be. My treasure is in my relationships.
And so I pray, “thy kingdom come on earth as it is in heaven.”

About the author

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The Search for Meaning in Nature:
A Colloquium for Unitarian Ministers

Delivered at Harris Manchester College in Oxford University on 15/10/2022 by John Maxwell Kerr.

“Nature”, says the ad-man, means “good”, “full of natural goodness, all-natural ingredients”! And yet, COVID, paediatric cancer, the Anopheles mosquito, the Great White Shark, death.
“Nature”, says the industrialist, means "natural resources to exploit. Nature means money, progress, wealth!” And yet, extinction of species, poisoned habitat, burned rainforests, depleted water tables, global warming.

“Nature”, says the poet, is “the source of my dreams and my inspiration; some impulse from a vernal wood, a host of golden daffodils, David Attenborough’s nature series on the BBC, beautiful sunsets”. And yet, flooding in Pakistan, a hurricane in Florida, the radiation released when the Uranium 235 atom undergoes fission, skin damage by uv light.
“Nature”, says the scientist, is "merely the sum of all phenomena, governed by mathematical laws; all a matter of inference to the best explanation…" And yet, and yet.....

But as we are a gathering of ministers of religion, is “Nature” a subject to which we may have anything distinctive to contribute?

I’d like to begin with the Collect, the common prayer, of the Society of Ordained Scientists. That will give me a framework for this address, and then I’ll ask some questions for us to consider trying to give meaningful examples as we go along.

“Almighty God, Creator and Redeemer of all that is, source and foundation of time and space, matter and energy, life and consciousness, grant us in this Society, and all who study the mysteries of your creation, grace to be true witnesses to your glory and faithful stewards of your gifts; through Jesus Christ our Lord, Amen.”

Shall we start there in our search for meaning in nature?

One big question for this morning might be: “Could nature actually be said to have any *intrinsic* value or meaning, or even teleological purpose?” I.e., could we read off from nature a meaning or meanings that are already there, or must we merely project meaning onto it? If there is meaning, can we understand it? The answer to questions about value may determine where and how we ministers search for meaning in nature.

Science asks specific sorts of limited questions from nature: that's why the sciences make such progress as they do; time and space, matter and energy, life and consciousness; all that is. There are no *scientific* answers to questions about meaning or value: that's not what science does.

Some scientists have asserted that the practical and intellectual successes of science prove that only science can explain everything about reality (eventually), without limit. All else is meaningless and therefore scientists, "real scientists", must be atheists. Such a view, scientism, has its advocates: Peter Atkins and, in his earlier writings, Richard Dawkins[1], Francis Crick, E.O. Wilson, Carl Sagan. Scientism is not in itself science: its approach to answering questions about morality or the meaning of life is disguised naturalism and materialism.

May I give you a real and positive example of the limited questions by which science seeks for meaning in my research at Leeds University in an arthritis and rheumatism lab. We found an answer to this question: "What does this constant error in our measurements of the porosity of cartilage mean?"
A member of our team discovered that cartilage was piezoelectric: when you compress it, squeeze it, a small electric charge is generated. Finding that effect answered the question of what one puzzling aspect of nature meant. No-one had ever understood it before, but this effect is essential to how our body's arthrosic joints function. So what? Too esoteric an example? Too boring? Too trivial? …… unless you suffer from arthritis or rheumatism.

In our time, science sets the agenda for theology. Our environment is in peril because of increasing greenhouse gas concentrations in the atmosphere. Scientific discoveries provide the data, and yet science does not have a vocabulary for motivation to solve the problems.

[1] R. Dawkins, Unweaving the Rainbow, Houghton Mifflin, 1998. Q.v. The Selfish Gene and other writings by Dawkins et al.

Although there are climate change deniers, the data are hard to ignore. Nor is the earth flat.

I am quite sure that science cannot provide the moral imperative for the urgent, necessary, change in values, the *almost* unprecedentedly rapid evolution in values, we need. That's where we ministers may come in. And, to my great surprise, there is a very unlikely, and yet to me encouraging, historical example of just the sort of huge change in values we must struggle to achieve. But it's not found in science, but in history, and in theology.

But where to begin? Not with science, not yet.

The C19 British poet, Robert Browning, wrote a long narrative poem about a quattrocento Italian artist, Fra Lippo Lippi.
The artist, who is a monk, is out wandering the dark streets one night (all who wander are not lost), when he's stopped by two security guards who ask him who he is and what he's doing.
"I'm an artist, I paint things, people", says the monk.
"An artist? What's that mean when it's at home?" the guards ask. They want to know why anybody would spend their life painting pictures. Scientists and theologians, artists and poets, believers and atheists alike, love the artist's reply:
"This world's no blot for us, nor blank; it means intensely, and it means good. To find its meaning is my meat and drink."[2]
Thing is, finding meaning is the Friar's *vocation*: and he searches to reveal or express meaning by painting pictures from real life. The artist plays an active part in the search for meaning. Painting is his research method into thinking God's thoughts after God, portraying and interpreting the creation. He is a person of faith: he is matter and spirit, both real and both good, an artist, a created co-creator, like us. What he's doing is trying express what he sees of *creation*, of God's glory in creation. He represents three dimensions of space in two

2 R. Browning, "Fra Lippo Lippi" in "Men and Women" 1855.

dimensions on canvas, using the medium of oil paints, to express the meaning of all that is, at least, all that he can see.
The Church authorities, the security guards of doctrine, say that's totally the wrong approach. They actually make him redo his canvases: they tell him to paint the soul, not the flesh. ("Paint the soul, never mind the legs and arms!"). Nature has no meaning except what the ecclesiastical hierarchy says it is. The powerful church authorities have been replaced in our day by industrialists, economists, plutocrats: they tell us what nature must mean. Theologians, ministers, even those who paint, even Unitarians, are out there on the silent margins. But, given a lever and a place to stand, one could shift the world from such a point. It has been done before.

The C19 Jesuit poet, Gerard Manley Hopkins, saw God's glory in the natural world, but he was not a nature worshiper, nor a scientist. He believed that there was sanctity in nature: his response was to praise the creator and sustainer of all that is in his poem, "Pied Beauty[3].

Meaning in nature, as revealed to Hopkins, meant: "this world's no blot for us, it means intensely, and it means *God*." God's presence, everywhere, in everything, at every level, gives praise just by being what it is, created and sustained in existence, and that includes Gerard Manley Hopkins, SJ, poet. Nature means us or includes us. Hopkins' meaning in nature is deeper than just aesthetic, though the aesthetic response is important to scientists and theologians. Is the source of beauty the meaning you see in nature, whenever you think of it? And do we see meaning IN nature, or is nature a lens THROUGH WHICH we may seek and see meaning, an outward and visible sign of an inward and spiritual grace? A sacrament?

3. G.M. Hopkins, "Pied Beauty" in G.M. Hopkins, Collected Poems, R. Bridges, edit., 1918

Hopkins again from his poem “God’s grandeur”: “There lives the dearest freshness deep down things’.[4]

And therein lies a complication: we cannot see very far deep down things. Our senses can only see slow-moving, cold, relatively large objects, within the narrow range of frequencies of visible light; and then we can paint pictures of them or write poems about them. We identify that superficial and naïve glimpse with nature. The Nobel Prize-winning quantum physicist, Werner Heisenberg humbly agrees: “What we observe is not nature itself, but nature exposed to our questioning.”[5] “Not only is the Universe stranger than we think, it is stranger than we can think.”

There really isn’t much we can say about **time**, except to note that, as Star Trek had it: “Time is the fire in which we burn.”

We are constrained to live and move and have our being, and exercise our ministry, always in the present moment. This is what De Caussade called “the sacrament of the present moment.”[6]

We have no choice about the age which we are born and our inheritance of very unstable ecosystems, war in Eastern Europe, and natural or engineered weaponized pandemics lurking in the wings.

Our legacy reaches us from an unalterable past – “the past is another country: they do things differently there.”[7]

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[4] G.M. Hopkins, op.cit.

[5] Werner Heisenberg, “Physics and Philosophy: The Revolution in Modern Science”, Penguin Classics, (2000).

[6] J. P. DeCaussade, “The Sacrament of the Present Moment”, Harper, San Francisco, 2009.

[7] L.P.Hartley, “The Go-Between, Hamish Hamilton, (1953).

We have inherited burdens and choices, an agenda, and the values that shaped such nature as we experience: they are not of our own making. I suppose that is the theme of those movies "Ice Age."

But the time-dependent search for meaning poses a moral question: what do we owe future generations?[8] When it comes to making decisions about the future, you and I have a very impoverished vocabulary. We speak in the abstractions of investment: short term. Medium term. Long term: abstract ideas from business investment.

Macaskill[9] reminds us that the Iroquois people in North America speak of a seventh-generation principle. "We make every decision that we make relate to the welfare and well-being of the seventh generation to come. We consider: will this be to the benefit of the seventh generation."

Seven generations ago, the fastest any human could move over land was on a fast horse. Seven generations from now, your great-great-great-great-great … given the rapid changes over the last seven generations, is their future even less imaginable than your seventh-generation ancestor could have predicted about our present day? What do we owe unimaginable future generations in an unimaginable future?

There are some who say, cynically, that we owe them nothing. These future beings, and that's perhaps most of the human beings who will ever exist, don't exist, can't vote, can't influence the market, consume nothing, manufacture nothing, can express no opinions…… so whatever damaged 'nature' we leave for them is not our concern. "In the long run", said, J.M. Keynes the great economist in 1923, "we are all dead". That is the 'value system' we have inherited, and which

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[8] W. Macaskill, "What we owe the future", One World, 2022. The following example and analysis draws strongly on this book.

[9] W. Macaskill, "What we owe the future", One World, 2022.

has bent the trajectory of the future downward. Nature's future and those who may inhabit it, is meaningless, some say.

Perhaps we owe the future ***hope,*** and can at least try to make evidence-based choices that would allow them to live without cursing us. But hope is not a plan. Nor is hope a scientific principle. And always, the grammar of hope contains a seed that hope will be unfulfilled, and, in Keynes' long run, we won't be there to see it.

Poets are the prophets who look at nature past, present, and see, as in a vision, the shape of things to come. What they have to say provides us, ministers, with resources for liturgies of lament, of grief and guilt.

The late Poet Laureate, Philip Larkin, felt no hope in January 1972 – half a century ago - when he wrote this prescient poem about nature and us, “Going, Going”.[10]

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[10] P. Larkin, “Going, going” in High Windows, Faber, 1972.

I thought it would last my time –
The sense that, beyond the town,
There would always be fields and farms,
Where village louts could climb
Such trees as were not cut down;
I knew there’d be false alarms

In the papers about old streets
And split level shopping, but some
Have always been left so far;
And when the old part retreats
As the bleak high-risers come,
We can always escape in the car.

Things are tougher than we are, just
As earth will always respond
However we mess it about;
Chuck filth in the sea, if you must;
The tides will be clean beyond.
But what do I feel now? Doubt?

Or age, simply? The crowd
Is young in the M1 Café;
Their kids are screaming for more –
More houses, more parking allowed,
More caravan sites, more pay.
On the Business Page, a score

Of spectacled grins approve
Some takeover bid that entails
Five percent profit (and ten
Percent more in the estuaries): move
Your works to the unspoilt dales
(Grey area grants)! And when

You try to get near the sea
In summer …
It seems, just now,
To be happening so fast;
Despite all the land left free
For the first time I feel somehow

Was Larkin, writing in 1972, too pessimistic?
In Iceland, you'll find a bronze plaque on a hill where, until recently, there used to be a glacier. An ancient hilltop glacier, Okjökull, has melted away to nothing. A funeral was held for this inanimate bit of vanished nature, and a bronze plaque in several languages, 'A Letter to the Future', was cast and put on a memorial stone. The English translation reads: "This monument is to acknowledge that we know what is happening, and what needs to be done. Only you know if we did it." [11]
There is a text for you. If there is hope, it is faint, implicit, and conditional. As Kierkegaard wrote, "Life can only be understood backwards; but it must be lived forwards."

Perhaps some are tempted to preach about *stewardship*.
Stewardship treats nature as "*the external world in its entirety*" – this definition comes from a well-respected dictionary (Webster-Merriam).

Nature, as the Collect defines it, is "all that is; time and space, matter and energy, life and consciousness." That includes us. The dictionary definition mistakenly defined nature as "the external world in its entirety", and by "external" it meant only plants and animals and their habitats, coral reefs and the like.

But, nature – 'all that is'- is not merely 'the *external* world in its entirety.' We humans are inextricably part of nature. We are late-comers, true, having emerged comparatively recently in the long evolutionary history of Earth's "interconnected web of life ". But we are not apart from nature: human nature, whatever that may be, is still part of the evolved nature of our species, genes, memes, cartilage, bacteria, viruses, and all.

What's wrong with the stewardship model? It places humankind in a grandiose managerial role as if we were outside and above nature,

[11] W. Macaskill, op.cit.

acting responsibly on behalf of an absentee God, standing under God, between God and nature. It does not allow for an immanent God's indwelling presence in humankind as part of creation. It is bad theology.

Stewardship? Of what? Nature? Stewards of the tiny bit of nature we see, but don't understand? Homo sapiens cannot be held responsible for managing the 13.57 billion light years of expanding universe, nor the 5000 exoplanets discovered so far, nor most of life on earth today, nor over almost all of earth's history.

'Stewardship' is something of a weasel word. For energy companies, it means a somewhat less-rapacious exploitation now, in order to provide dividends for future shareholders. Nature is a thing, a conglomerate of useful things.

An example of what "stewardship of nature means" in this context? An unmanned impact probe in a deep crater found there was much more water (ice) on the moon than had been thought. What did that discovery mean? That 'we' could have a permanent base on the moon, and 'we' could mine its valuable minerals to send back to meet our growing needs!!!

We are not wrong to be concerned about that banausic outlook, are we?

Richard Attenborough ended the last of his series on 'Frozen Planet II' on a note of hope. That last programme was bleak. Nature, in the sense of the natural world, is a mess. For 70% of species, there is no hope because they have become extinct in the last 70 years.

Frans De Waal's excellent book, "Are we smart enough to know how smart animals are?"[12] sums up research that shows how very little we continue to understand animals.

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[12] F. De Waal, "Are we smart enough to know how smart animals are?", Norton, 2016.

Animals, such as dogs, pigs, chickens, have evolved advanced central nervous systems anatomically just like ours. Anatomy and physiology demonstrate that form and function are related. Their central nervous system, like ours, means animals can feel pain, can suffer. Physically and emotionally. When hurt animals made noise, it used to be dismissed as like a squeaky wheel in a machine made of meat. Even knowing the facts about the nature of animals suffering, we still ignore it, and condone it. Change in values does not necessarily follow from increased scientific knowledge. Greater scientific knowledge should widen the circle of moral concern, and to some extent, it has..and yet.

But is all nature is precious? Must all life must be preserved?

Two species of living creatures have been made deliberately extinct in the last fifty years. *Variolus Major*, that's the smallpox virus, and the *Rindpest* virus. Ernst Schrodinger speculated that viruses are not really alive; they are just opportunistic crystals[13], but we shall leave that aside. The WHO's programme eliminated the smallpox virus from nature in 1977. The last case 'in the wild' was a Kenyan called Ali Maolin. The ecosystem to which it was so well adapted, and in which it evolved, is *Homo sapiens*. It was a terrible scourge throughout history, a 'natural evil', causing death and disfigurement to millions. Now it is extinct. Deliberately extinct.

So is the *Rindpest* virus. When that virus first arrived in Africa, some 90% of cattle died, bringing about starvation and vast social disruption. Now the *Rindpest* virus is extinct. Both were part of the interconnected web of the natural world of living creatures. Were they therefore good? Does good stewardship include eliminating naturally-occurring species for human purposes? Are human purposes (such as corporate profit or reduced human suffering) good enough grounds for eliminating polar bears or just disease vectors? If,

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[13] E. Schrodinger, "What is life?", Cambridge, 2012

because thanks to medical technology and scientific knowledge, we *can* make species extinct, does that mean we *should*? These are questions of *value* to which there is no scientific answer.

Another example? The most loved piece of classical music in the UK is Ralph Vaughan Williams', "Lark Ascending". Yet how many of you have ever heard a skylark? I find that a great many people have not. The skylark is on the RSPB's rather long Red List of extremely endangered species. Nature is transient, species come and go. Does it matter that the rainforest is turning into ash and CO_2, or that skylarks, like Dodos, may soon become mere references in books? Or in the case of the lark ascending, moments of beauty on Radio 3? What does an absence from nature mean for the future?

Smallpox, Rindpest, skylarks: if we were called upon to construct a ritual or liturgy appropriate/necessary for the natural world in our time, and for future generations, might we not prepare a lament for all species? There are lots of sources for laments, the psalms for instance. A lament normally expresses grief and loss, but we would need to incorporate another factor: guilt. The task for we ministers, but not scientists, could be to express grief and guilt in a lament, not an hypothesis or theory. Grief and guilt liturgically, in a service of lamentation: grief and guilt for nature and the rapacious anthropocentric values that have brought us to the eve of destruction. And hope? Can you also preach on realistic hope?

Now for the science bit, then an unlikely historical source of hope.

MATTER, ENERGY, SPACE

Is there meaning in nature? If there is, could we discover it, express it? Nature consists of all that is: time and space, matter and energy, life and consciousness. What about matter, energy, and space?

Einstein, who devised Relativity Theory said: "The most incomprehensible thing about the universe is that it is comprehensible." Is it? Is 'all that is, time and space, matter and

energy, life, and consciousness' comprehensible to us humans? Einstein thought so, perhaps he hoped so. Others disagreed with Einstein: "Not only is the Universe stranger than we think, it is stranger than we can think." — Werner Heisenberg[14].

In the 1930s, a very distinguished Cambridge physicist, Paul Dirac, was thinking about the electron. I know you are familiar with electrons: you did them at O-Level or GCSE: small negatively-charged particles of matter located in space in orbitals around the nucleus of atoms. As an electron shifts from one quantum energy level to another, the light emitted is responsible for the colours we see in Fra Lippo Lippi's canvases (electrochromism). Back to Cambridge: because a purely mathematical symmetry led to a discovery in physics, Dirac suggested there should be a subatomic particle corresponding to the electron only positively charged: the positron. There was no evidence for any such a thing – until forty years later, when new technology revealed it to be antimatter. And because nature may be more strange than we can know, Richard Feynman suggested that a positron may mean that it's an electron moving backwards in time. Stranger than we can know?

Reality, nature, is not what it seems: at the quantum level of quarks – the very small scale, - time and space do not exist. And yet the quantum universe is the foundation of all we see and experience: it underlies all physical reality. But in nature at that level, there is no death, no life, no beauty, no hope. At the experienced level of nature, there is order, law-like behaviour. At the quantum level all is chaos, indeterminacy, disorder. How does that work? What meaning lies there? And can we fully know it?

After all this superficial level of what we call nature is gone, there will still be quarks and gluons and Higgs Bosons, and the elusive dance of probabilities in Hilbert space.

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[14] W. Heisenberg, Across the Frontiers, Harper and Row, 1974.

Our common sense understanding of all-that-is nature is as far from reality as flat-earth theory, or that the sun goes around the earth. Maybe meaning in nature, every aspect, lies more deeply, out of sight but not out of mind, and written in a strange language understood by few.

Nature, as the SOSc Collect defines it, is "all that is; time and space, matter and energy, life and consciousness." Each of our disciplines maps nature in a different way, and in different, sometimes mutually incomprehensible, languages.

That's what Galileo Galilei came to see. He wrote:
"[Natural] philosophy is written in that great book which ever lies before our eyes, I mean the universe, but we cannot understand it[s meaning] if we do not first learn the language and grasp the symbols in which it is written. *The book is written in the mathematical language,* without whose help it is humanly impossible to comprehend a single word of it."

And that search for meaning in nature by means of mathematics inspired the great scientists of the Scientific Revolution and beyond – Newton, Kepler, Maxwell, Einstein,….. But the mathematics was not as simple as the Euclidean geometry that Galileo thought. His experiments with throwing things (fundamentalists, claim my Harvard colleagues, wistfully) off the Leaning Tower of Pisa would never have led him to conclude that gravity is a geometrical property of the space-time matrix. Nature is stranger than the past knew or than we know. But that will be my conclusion.

Maybe mathematics is the best way to map the universe and explain nature at the deepest level. But behold, I show you a mystery.

Mathematics is the free creation of the human mind. The bit of nature where mathematics has its birth and being is us. "If nature leads us to mathematical forms of great simplicity and beauty—by forms, I am referring to coherent systems of hypotheses, axioms, etc.

—to forms that no one has previously encountered, we cannot help thinking that they are “true,” that they reveal a genuine feature of nature…. You must have felt this too: the almost frightening simplicity and wholeness of the relationships which nature suddenly spreads out before us and for which none of us was in the least prepared.” [15]

A mathematical physicist, Eugene Wigner began a paper with the belief that mathematical concepts strangely map realities far beyond the physics for which they were originally developed.
Wigner sums up his argument by saying that "the enormous usefulness of mathematics in the natural sciences is something bordering on the mysterious, and that there is just no rational explanation for it".
Behold, I show you a mystery.
He concludes his paper with the same question with which he began:
“The miracle of the appropriateness of the language of mathematics for the formulation of the laws of physics is *a wonderful gift* which we neither understand nor deserve. We should be grateful for it and hope that it will remain valid in future research and that it will extend, for better or for worse, to our pleasure, even though perhaps also to our bafflement, to wide branches of learning.”
“It is difficult to avoid the impression that a miracle confronts us here, quite comparable in its striking nature to the miracle that the human mind can string a thousand arguments together without getting itself into contradictions, or to the two miracles of laws of nature and of the human mind's capacity to divine them.” [16]
Or the physicist, Robert Jastrow:
“At this moment it seems as though science will never be able to raise the curtain on the mystery of creation. 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

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[15] W. Heisenberg, op.cit.

[16] E. Wigner, "The Unreasonable Effectiveness of Mathematics in the Natural Sciences," Communications in Pure and Applied Mathematics, February 1960,

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."[17] And Werner Heisenberg, the distinguished quantum physicist: The first gulp from the glass of natural sciences will turn you into an atheist, but at the bottom of the glass God is waiting for you." [18]

Is he joking? An example from the mediaeval schoolmen: "How many angels can dance on the point of a needle?" (NOT on the head of a pin, by the way, if you wish to be correct). But that's not the pointless mediaeval question about angelology Richard Dawkins derided: it is an attempt, using the language of theology in the Middle Ages, to express an extremely difficult problem in mathematics: the nature of real infinity. Angels have no dimensions, no geometry, but even the sharpest point of a needle does, so what does infinity mean? Can one add one more angel, or an infinity of angels? Or an infinity of infinities of angels? Does nature contain infinities? With infinity, what you see is not what you get. And the formalism to resolve that seemingly absurd question was not devised until Georg Cantor in the C19 in his work on transfinite numbers and set theory. And what possible sense can stewardship of nature make of quantum gravity? And what can we preach about the search for meaning in nature on the point of needles?

Or eternity. Time is neither everlasting or infinite: in modern physics, space-time, and matter and energy ($E = Mc^2$) are bound together. And at the quantum level, time and space disappear.

But eternity? The English metaphysical poet Henry Vaughan described a vision using a simile. I have been wondering what that symbolism means.

The World

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[17] R. Jastrow, God and the Astronomers, Revised edition, 2000.

[18] Werner Heisenberg, "Physics and Philosophy: The Revolution in Modern Science", Penguin Classics, 2000).

"I saw Eternity the other night,
Like a great ring of pure and endless light,
All calm, as it was bright;
And round beneath it, Time in hours, days, years,
Driv'n by the spheres
Like a vast shadow mov'd; in which the world
And all her train were hurl'd."

What does time mean, past, present, or future? McTaggart's A and B: time is unreal because our experiential descriptions of time are either contradictory, circular, or insufficient. That is for another day.

Now for my hopeful example from history, not from Unitarian history, but from another minority powerless fringe denomination, The Society of Friends, the Quakers[19]. And one very eccentric man in particular: Benjamin Lay in C18 Pennsylvania. I find this example to be hopefully relevant to our search for meaning in nature and our present crisis.

One aspect of society we happily did not inherit from the past is the slave trade: its abolition is my historical example providing hope. Almost every society throughout history held slaves. Why? Economics! Labour costs are the expense of capturing someone and maintaining that person at subsistence levels until they died: a perfect example of a renewable resource. But here is why the abolition of slavery encourages me: it was a very improbable value change, a huge rapid moral change, *brought about by the very society which benefitted from it*. When self-interest concludes that we can't afford to slow or stop climate change, (it would ruin our economies), recall similar arguments from seven generations ago. Benezet and Wilberforce and the other abolitionists (Darwin included) achieved the British ban on the slave trade in 1807, just over seven generations ago. By 1833, just over six generations ago, slavery became illegal over most of the British Empire. Surely abolition

[19] W. Macaskill, "What we owe the future", One World, 2022. This example comes from that inspiring book.

would have happened anyway? Wasn't it just a matter of economics? Wouldn't technological advance have made slavery unprofitable? Keep in mind the parallel with the urgent, short term, two-generation, changes which must be made to slow or reverse the effects of global warming.

At the time of abolition, slavery was enormously profitable and getting more so for the British. Our colonies produced more sugar than the rest of the world combined, and Britain consumed the most sugar of any country. When the slave trade was abolished, the cost of living shot up: sugar cost about 50% more, and the UK economy took a hit of 21 million pounds over seven years. To pass the 1833 Slavery Abolition Act, the UK government also paid off slave owners at a cost of 20 million pounds: that's 40% of the Treasury's annual expenditure then. They took out a loan of 15 million pounds, which was not paid back until 2015. A moral decision was taken to change the future of the world.[20]

CONCLUDING UNSCIENTIFIC POSTSCRIPT

"All Christian life is sacramental. Not alone in our highest act of Communion are we partaking of heavenly powers through earthly signs and vehicles. This neglected faith may be revived through increased sympathy with the earth derived from fuller knowledge, through the fearless love of all things."[21]

Increased sympathy with the earth. Fuller knowledge. Through the fearless love of all things. Could such a theology of world as sacrament bring about the rapid changes we now need?

As a scientist and a Christian theologian, I am what's called a critical realist. I believe there really is such a thing as nature 'out there' as it were, and, also, that I am an integral part of it, a facet of created nature's evolutionary history, the praying bit of the universe. I believe that to some limited extent, we can make surprising sense of nature.

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[20] W. Macaskill, "What we owe the future", op. cit.

[21] Hort, F.J.A., The Way, the Truth and the Life, MacMillan, London, 1908, p.213.

Unlike the empiricist Bishop Berkeley in the C18, I think that our senses, - what we see, hear, taste, touch, smell, - directly or through our most sophisticated instruments, really react to nature, and are not just ideas floating around in our minds, mere replicating memes as it were.

Nature is real. Stones are real: they fulfil God's will because they exist, and they fall in a gravitational field. Does that make nature good, as Fra Lippo Lippi thought? I think nature, including us, as far as we can see it or model it, or can understand it, is morally neutral or ambiguous, at best. Yes, there is a Wordsworthian delight in a 'host of yellow daffodils', but also a Tennysonian revulsion in 'nature red in tooth and claw.'

Nature may be stranger than we know, stranger than we can know. What meaning there is in nature, "all that is, time and space, matter and energy, life and consciousness", is a mystery, only very partially comprehensible to fallible humans. That is my conclusion. But that's OK. More than that, it is humbling and inevitable. In this, De Saussure was right: "Placed on this planet since yesterday, and only for a day, we can only hope to glimpse the knowledge that we will probably never attain."[22]

That is my conclusion: that it is the search itself that provides meaning. The search itself, driven by curiosity and compassion, illuminates our minds and informs our moral decision-making. It is the search that makes us human.

[22] De Saussure, H. *Voyages dans les Alpes,* Barde Manget, Geneva, Vol 1&2 1786; Vol 3&4 1796.

Book Reviews

Peter Harrison and Paul Tyson (eds.), *New directions in Theology and Science: Beyond dialogue* (Routledge 2023)

Of Ian Barbour's fourfold categorisation of the ways in which science and theology can interact – conflict, independence, dialogue and integration – it is dialogue which has most gripped those who have seriously explored this interaction in recent decades; and, indeed, many insights have been generated by such dialogue. However, a prominent theme in recent science and religion writing has been the increasing realisation that if the dialogue appears one-sided, with theologians relating their work to that of scientists rather than vice-versa, that's because it is: there has been an assumption that science provides the 'norms' for the interaction, which theology then follows. The historical work of Peter Harrison has done much to clarify how this situation has come about, and to expose the complicity of the 'natural theology' projects of the eighteenth and nineteenth centuries (continuing, to some extent, up to our own) in enabling this imbalance to come about. The very idea of 'dialogue' has thus become problematized. So, how might we move beyond it?

Harrison and Tyson's book draws together a rich variety of responses to this question. An Introduction by the editors sets the historical context and makes the important point that 'not only does history provide the relevant background for an understanding of our present situation, it also points to viable past models of engagement that are no longer in play' (p. 5). Subsequent contributions look both to the present and to the past in exploring ways of moving 'beyond dialogue'.

Early chapters focus on particular contemporary issues, in discussions of which theology might find a new voice. Andrew Davison urges a widening out of the field of science and theology: he urges that we need 'More *history*, more *science*, more *theology*, more *partners*,

and more *philosophy*' in pursuing this field (p. 29). Simone Kotva contributes an account of a 'climate change observatory' in the Solomon Islands, which uses the observations of members of the Anglican Church network in the region to report and record empirical changes in their environment. Michael Northcott argues that 'scientific knowledge lacks cultural purchase' (p. 63) and urges a 're-entanglement' of religion and science in tackling climate change. Nathan Lyons finds the introduction of an 'extended evolutionary synthesis' in the thinking of modern biology a welcome change from the reductionist thinking which has for so long prevailed in this discipline, suggesting that 'rather than reducing the organism to fit the reductionist picture of nature, we *inflate* our picture of nature to accommodate the reality of the organism' (p. 78, italics in original).

The next set of chapters look at science and religion in the public sphere. David Wilkinson notes the crucial role played by the media in disseminating information (and misinformation) about science, religion and their interactions, arguing that 'the rise of a media-dominated society adds both simplicity and complexity to the territories of science and religion' (p. 87): this is a topic of vital importance, though Wilkinson's treatment of it here feels rather under-developed. Sotiris Mitralexis notes that '*mis*conceptions about religion often seem to set the tone of the dialogue on science and religion' (p. 105), and suggests:

Facing the world not as a given, impersonal object but as a *gift*, in which one encounters both the *person* giving it, the Creator, and the *reason* for Him giving it, His love, may transform the very mode in which one maintains an appetite for exploring the reality of the world. Then, the examination of the natural world acquires something of the delightfully childish curiosity in looking very closely at a gift, not only in order to learn more about the gift itself, but in order to learn more about the love of the one making the gesture of granting it' (p. 110, italics in original).

Paul Tyson suggests that the 'first philosophy' underpinning the interpretation of data provided by the sciences has become naturalistic and mechanistic, and that this fails to do justice to all aspects of reality. 'Here, our actual experience of value, love and

purpose is an illusion; our actual experience of transcendent significance undergirding the wonder and order of nature is a fiction; and our actual experience of good and evil is in reality only about relative power' (p. 122). In contrast, he urges: 'Christianity cannot discuss truth with the plausibility structures of knowledge embedded in modern materialist first philosophy. It can also be persuasively argued that only a genuinely theological first philosophy can undergird a reasonable understanding of nature' (p. 128).

These contributions lead naturally into a subsequent section featuring contributions on the development of a 'theology of science' as an alternative to the approach to apologetics facilitated by traditional natural theology. Keith R. Fox offers a reflection on what might motivate people to undertake scientific research. Tom McLeish and David Wilkinson extend the biblical picture of 'creation', which has long been dominated by the opening chapters of the book of Genesis and traditional exegeses of these, and look in particular at insights that may be derived from the Christology of Colossians and from the accounts of nature found in the book of Job. Knut Alfsvag's chapter looks at the ways in which Nicholas of Cusa, Martin Luther and Georg Hamann all uphold a doctrine of creation which maintains a careful distinction between God and the created order, thus underlining the point that 'God and the world are not real in the same way, and one's understanding of reality is only adequate to the extent that one appreciates this difference' (p. 170). A concluding 'Afterward' by Charles Taylor reflects on the contemporary backdrop to the encounter of science and religion in the West, exploring inter alia ideas of disenchantment, secularisation, and the 'unbundling' of religious life from other forms of social belonging.

This is a fascinating, and timely, collection of essays, from which most readers will doubtless emerge enthused about the possibilities for the future interactions of science and theology. I personally warmed greatly to the 'theological turn' pursued by several contributors as a means to enrich discussions with a deeper theological understanding; and I am convinced, with Kotva, that the Churches as communities have a great deal to contribute to the scientific endeavour. This may come about both through the kind of empirical

observation he describes, and also through providing public spaces in which to facilitate – and, when necessary, to challenge – scientific ideas. One might point to initiatives such as Eco-Congregations, and the Church of Scotland's Society, Religion and Technology Project, as instances where such facilitation is already taking place in the Scottish context.

I'm sure I'm not alone in feeling that the interactions of science and theology, as pursued over recent decades, have reached something of an impasse. This book offers some thought-provoking reflections on where those interactions might most fruitfully be pursued next.

Michael Fuller
New College, Edinburgh.

Review of Amitav Ghosh (2021) *"The Nutmeg's Curse: Parables for a Planet in Crisis"*, John Murray.

Long before our eyes were opened to the climate crisis now gripping our planet, we had been alerted to the grave ecological consequences of human interference with the natural world. The blame game began almost immediately: Rachel Carson ("Silent Spring", 1962) singled out pesticides – particularly DDT – while historian Lynn White (1967, Science 155, 1203-7) blamed exploitative Judaeo-Christian interpretations of dominion in Genesis 1:26, 28. Accelerating climate change has spawned a veritable deluge of culprits, both likely and highly unlikely, especially in the wilder reaches of online conspiracy allegations (I flatly refuse to dignify them with the respected scientific connotations of "theories").

In the book under review, the distinguished Indian novelist Amitav Ghosh (do read his Ibis trilogy), focusses on colonialism as the prime suspect responsible for climate change. Yes, capitalism and industrialisation played their parts, but our blameworthy attitudes towards resources, the natural environment, and indigenous peoples, all clearly spring from roots in the European colonial past. He begins with an incident in 1621 on the Banda islands in the Dutch East Indies – then the sole source of nutmeg. The Dutch wanted a monopoly on the nutmeg trade, but the islanders refused to renege on their long-established trade links with China and India. Reaching an impasse,

the Dutch massacred the recalcitrant Banda islanders and brought in conscript workers to cultivate the nutmeg trees.

This is a pattern repeated over and over again in colonial history, and there's little to choose between the various European powers in terms of their records. The largest and most egregious example was the colonisation of the New World, by the Spanish (and Portugese) in South and Central America and the British (mainly) in North America. An estimated 75-95% of the indigenous (First Nations) peoples perished as a result of the colonists' takeover. There were indeed massacres, sometimes amounting to genocide of particular tribal groups, but the main killers were European diseases like smallpox, to which the indigenous peoples had no immunity. It is a whitewash to describe this as an 'unintended consequence' of the settler influx – colonial documents attest to deliberate biological warfare on multiple occasions – with blankets from smallpox hospitals being offered as gifts to native tribal leaders. Such acts did not result in the censure of any official concerned, so the obvious inference is that they were condoned (at least tacitly) by the colonial authorities.

The settlers clearly regarded indigenous peoples a 'savages' who needed to be taught not only the Christian religion, but also how to farm the land and build permanent settlements along European lines. Ghosh terms this "terraforming" – but "Euroforming" might be more precise here. The fact that established native patterns of transient settlement and land management were far more appropriate to the local ecology would become abundantly clear scarcely a century later, with the Mid-West dust bowl of the 1930s. It was of course necessary to displace the indigenous peoples off their traditional lands in order for the settlers to grow crops and raise livestock. Some territory was 'sold' to the white settlers under treaty, but land ownership was an alien concept to First Nations people, who regarded the land, water and air (along with all their animals and plants) as sacred resources entrusted to the whole community. Tribes weakened and decimated by disease could offer little resistance to being herded into reservations on undesirable marginal land. Military action suppressed any sign of real opposition – the colonists' superior firepower almost always winning the day. But

probably the most effective tactic of all was ecological warfare – destroying the ecology and food sources on which the native peoples depended. For millennia, Plains "Indians" had hunted bison on a modest scale for food. A government bounty per head of bison killed, abetted by the hunters' powerful rifles, reduced the population of these great herbivores from around 60 million in 1820 to barely 1000 by 1880. This mass slaughter was undertaken with the explicit aim of driving native tribes off the Great Plains.

The colonists – for the most part (there were honourable exceptions) – were engaged in a land-grab, enclosing fields for agriculture, opening up mines and pits for mineral extraction, building towns, cities and villages connected by roads and later railway tracks. In all of this (perhaps understandably, given the vast scale of the American continents) there was scant regard for the land itself or for its native wildlife, and even less for the indigenous peoples who lived there. Exactly similar attitudes of rapacious exploitation were seen back in the home countries as industrialisation took hold – Blake's "dark, Satanic mills" were not only a blot on the landscape, but also a new low in terms of the treatment of workers and their insanitary living conditions: the phrase "wage slaves" is uncannily apt. To be sure, all this provoked a counterblast of reforms that improved the lot of many workers – and indeed abolished the slave trade in the early 19th C – but somehow these did not spread to the subjugated indigenous peoples of the colonies. Ghosh regards the European colonial enterprise as antecedent to – and thus responsible for – the later development of capitalism and the Industrial Revolution – which are more commonly held to blame for climate change.

It may be argued that people like John Muir became aware – rather late in the day – of the rampant environmental destruction that followed in the settlers' wake, and sought to protect remaining areas of wilderness as National Parks – set aside for recreation and spiritual renewal. Notably, in 1880 the last bison herd roamed what would become the Yellowstone National Park. This is true, but Ghosh identifies a streak of eco-fascism here: Muir had scant regard for the indigenous peoples who lived in those wilderness areas, so they were displaced (along with any European settlers) in order to keep the

Parks as free of human influence as possible (though tourist facilities now encroach into most of them). This US model of uninhabited National Parks – also adopted widely in Africa and elsewhere – contrasts sharply with the postwar UK model, where villages and farms are seen as integral to the conserved landscape (albeit with planning restrictions that effectively freeze them in the past). Ghosh traces the history of eco-fascism from roots in the early 19th C through to Nazi Germany and the present day: a nationalistic love of country gets equated almost mystically with love of its soil and scenery, with the consequence that interlopers of any kind are seen as undesirables, as they 'pollute' the land. Such interlopers may include indigenous peoples, whose interests are simply dismissed as impediments by the "independent" (but in reality still beholden to big business) successors of the old colonial powers – witness the appalling destruction of Amazon rainforest in Brazil and Borneo jungle in Indonesia – all this in the interests of logging, cattle ranching, mining or palm-oil plantations.

Ghosh argues that indigenous peoples usually know best how to live in harmony with the ecology of their homelands, though this traditional wisdom is now being undermined increasingly by climate change. But we should surely heed that wisdom rather than dismissing it as myth-based and unscientific. Where many readers might part company with Ghosh is when he espouses a kind of neo-vitalism, ascribing agency to natural ecosystems and their inhabitants – agency that we ignore at our peril. He argues that this is a necessary corrective to our objectification and depersonalisation of the natural world, which has led to its being ravaged and exploited by the colonial powers and their successors. Such attitudes are, of course, seen as necessary detachment in scientific study, but they often run counter to the reverence for creation that is integral to most religions. Perhaps we in this Society are in a better place than most to explore both sides of that conundrum. Do read this book; Ghosh is an impassioned and eloquent writer – his arguments are well supported and referenced.

David de Pomerai

Review of *Science and Theology in Western Literature: Critical and Theological Studies*", edited by Michael Fuller; Routledge Science and Religion Series, 2023.

The trouble with academic debates about science and religion is that vocal protagonists on both sides (New Atheists for science, Creationists for Christian faith) try to disallow key truth-claims made by the other side. Faith is devoid of any objectively provable reality in the eyes of the likes of Richard Dawkins – but equally for fundamentalists the literal truth of scripture must be upheld and science dismissed as mistaken or fake whenever the two come into (apparent) conflict. And while rational debate is certainly possible in the middle ground, there is always some lingering suspicion about where a participant's true allegiances lie.

It is therefore refreshing to turn to a book in which this sore point can be set aside as irrelevant – because in works of fiction the reader is asked to suspend disbelief, whether faced with incredible religious claims or with scientific developments that go far beyond what is currently possible (e.g. time- or faster-than-light travel, personality downloads, etc). Something similar is true in poetry, whose imagery can range far and wide across the entire gamut of human experience, from science to religion and everything besides. The vital question is not "is this fiction *true*?" (or even plausible), but "does it make for a good *story*?". And indeed many writers – of novels, plays, short stories and poems – have intertwined and counterpointed themes drawn from science and religion, sometimes in a playful way, but often in a darker and more dystopian vein. This short book offers explorations and insights into several key writers through a series of 10 essays from experts in relevant fields.

Victoria Lorrimar's contribution looks at Philip Pullman's "*His Dark Materials*" and more recent "*Dust*" trilogies. These are often read as anti-religious or at least anti-Christian, rejecting the narrow-minded and dogmatic strictures of the Magisterium and the Authority which lies behind it. Yet spiritual issues are central to his plot; witches and rebel angels, souls personified as daemons, the whole theme of Dust as a panpsychic power of creativity and connection. The Fall story (Genesis 3) is apparently reversed – with the heroine Lyra cast in the

role of anti-Eve. But as Lorrimar points out, some more recent readings of the Fall have interpreted it as a (necessary) coming-of-age for humanity – growing up through eating the fruit of the tree of knowledge of good and evil, and being driven out by God from our protected 'nursery' in Eden to fend for ourselves in the wider world (Lyn Bechtel, 1994, "Adam and Eve: A Myth about Human Maturation") – rather like the local swans who have recently banished last year's cygnets so as to nest again and wait for this year's eggs to hatch. Even panpsychism – so reviled in Peter Medawar's devastating 1961 critique of Teilhard de Chardin's "*The Phenomenon of Man*" – has attracted serious philosophical (Philip Goff, 2019, "*Galileo's Error*") and scientific attention in recent years. These abstract issues are all opened up for us vividly in Pullman's compelling story.

Alison Jack's chapter deals with religion and science in 19th C Gothic and modern Weird fiction – the former focusing on the familiar texts of Mary Shelley's "*Frankenstein*" and Robert Louis Stevenson's "*The Strange Case of Dr Jekyll and Mr Hyde*"; and while the latter is completely unfamiliar to me, the parallels are clearly fascinating. Mark Harris then considers Aldous Huxley's "*Brave New World*" – rejecting the standard reading of this novel as a dystopian prophecy of the present (which even the author embraced in later years), seeing it rather as a satire on the social and scientific *milieu* of the early 1930s, when it was written. "Fordism" is not quite consumerism as an anodyne creed for today, and the supposed triumph of science over religion does not bear close scrutiny; the leader (Mond) explicitly rejects "real science" as potentially subversive, sanctioning only technological applications of science. Both science and religion are therefore constrained and tightly controlled in this Brave New World. Insofar as this novel includes prophetic elements (and most dystopias do contain some), we are perhaps not there yet….

Michael Fuller offers fascinating insights into the work of the Czech writer Karel Čapek – to whom we owe the word "robot" from his 1920 play RUR. Čapek treats large themes in philosophy, science and religion in a quirky and often satirical vein, but at the cost of rather one-dimensional characters. This is an author with whom I remain

largely unfamiliar (though clearly bearing some parallels with Mikhail Bulgakov), but one whom I shall certainly investigate. Particularly notable is his technique of allowing multiple voices to speak for themselves and air different perspectives within the narrative – a common theme encountered in many of the writings discussed in this book. Alison Millbank next traces the "Spirit of Nature" through from the Cambridge Platonists (More, Cudworth, Vaughan and others), through the naturalist John Ray, to Coleridge and the early Romantics – a fascinating journey of exploration through often unfamiliar territory. Wilson Poon examines the "cruciform poetics" of the poet R.S. Thomas – and in particular his rather tentative use of scientific images and concepts in his religious poetry. Like many of the contributions to this book, Poon's chapter sent me back to some of the material under discussion – easier for poems than for an entire novel!

Mark Eaton looks at Cosmic Consciousness in the work of William James ("*The Varieties of Religious Experience*") and his brother, the novelist Henry James (notably his short story, "*The Turn of the Screw*") – focussing on the former's deep involvement in the Society for Psychical Research, and his attempts to find "scientific" proof for so-called psychic phenomena. Though Henry's involvement in this field was only peripheral (and arguably sceptical), he nonetheless wrote vividly about ghosts – especially in "*The Turn of the Screw*". David Jasper next considers Marie Corelli, an almost forgotten author from the turn of the last century, who far outsold her rivals such as H. Rider Haggard. What is remarkable about her novels is the way in which they serve up a mish-mash of oversimplified and often misunderstood scientific ideas (X-rays, atoms, etc.) with a simplistic version of Christianity – in later years with an overlay of theosophy. It struck me that we have a 21st C equivalent of her writing in the four popular "*End Time*" novels of Tim LaHaye and Craig Parshall – which mingle right-wing conspiracy theories with fictional realisations of the Apocalypse as portrayed in the Bible (notably in Revelation). Beth Singler looks at a sub-genre of "AI Singularity" stories – where "nerds" embrace the Singularity of downloading their personalities (personae?) through AI – leaving "primitives" to live on as mortal

human individuals. Both groups have in some sense embraced religious creeds: *in silico* immortality on the one hand versus some version of traditional religious belief on the other.
Lastly, Jaime Wright examines the new genre of "cli-fi" – fiction based around climate change and projected future life on a warmer planet. Such futures tend to be dystopian, but in the two authors discussed by Wright (Margaret Atwood's "*MaddAddam*" trilogy and Octavia E. Butler's "*Parables*" series), religion offers crucial elements of hope. Not quite the religions we are familiar with today, it has to be said, but rather envisaging more syncretic eco-religions drawing insights from present-day eco-theology together with environmentalist practices that work *with* the non-human world rather than *against* it. To what extent mainstream Christianity (or any other major world religion) can embrace these elements within its practice and spirituality remains to be seen. But like it or not, climate change is almost certain to continue for the foreseeable future, and possibly much further than that. Religion, like industry and farming and all other aspects of our lives, will need to adjust accordingly. Christopher Southgate then closes the book with a thought-provoking Afterword.
All in all, a fascinating exploration into relatively uncharted (but fertile) territory. I am told that a much cheaper paperback version is in the offing – so do wait for that, as the hardback is ridiculously over-priced.

David de Pomerai

Stavrakopoulou, Francesca *God: an Anatomy* (Picador, 2021)
This fascinating book is by the Professor of Hebrew Bible and Ancient Religion at Exeter University, England. When we speak of God today, it can be terms of the "immortal, invisible" being, the influence of another dimension perhaps, maybe the spirit within us, or the silent One beyond all understanding. We all can add other descriptions to that list.
Professor Stavakopoulou wants us to go back to the beginnings, and the book sets off with descriptions of the gods of the Levant in the Late Bronze Age. Here we find "a polytheistic world". There is the senior god, El, with Athirit (the mother goddess) and many junior

gods, of whom Yhwh is one. In due course El assigns Yhwh to be the patron of the Hebrew people (as in Deuteronomy 32: 8f) and the rest, as they say, is History.

But what history? With the OT passage just mentioned, and in many other places, as the relationship between God and "his people" developed over the centuries, and the religion became monotheistic (El and Yahweh combined?), older stories and texts were revised, edited, and re-configured to match the latest theology, with further details lost via later translations.

Having started us on our way, the book gets into its main purpose: to look at how God is described – in human terms – within the Jewish Scriptures, while drawing on illustrations from, and comparisons with stories of the gods, rulers and others from surrounding nations. The text can be demanding in places, but the book is greatly enriched by many colour plates, plus over 50 drawings. The final sections take us into the New Testament era, so we are briefly into the Gospels, the Spirit at Pentecost, and the influence of Greek philosophy, along with later developments in Jewish thinking.

The book's structure sets out the chapters and sections as a study of God's physical body: from the footsteps of the gods, via the feet, legs, and genitals, through the torso, to the arms, hands, head, eyes and senses. It works well, and time and again forces a rethink in how we understand a myth, a story, a character, an event, and the many human interactions with God.

In the end, as Professor Stavrakopoulou writes, there has become "the Christianized separation of the divine from the material, and spirit from matter… the distance between God and humanity is light years from the image of God in the Bible". The latter is "a god more like the best of us and the worst of us. A god made in our own image".

John Davidson

CHANTRY LIST 2024

Christian Name	Surname	Date of Death	Category
Kumyul	Albone	2021	A
Robyn	Arnold	2022	M
Peter	Arvedson	2011	M
Michael	Benton	2013	M
Sjoerd	Bonting	2012	M
John	Brennan	2023	M
Robert	Buckley	2014	M
Mary	Catterall	2015	A
Cyril	Challice	2023	Life
Reed	Freeman	2022	M
Peter	Fulljames	2020	M
Tim	Gouldstone	2006	M
+John	Habgood	2019	H
Richard	Hills	2019	M
Jack	Hird	2013?	M
Eric	Jenkins	2006	M
Lucius	Johnson	2020	M
Donovan	Laurie	2024	A
John	Loxton	2023	A
Hubert	Makin	2008	?
Philip	McPherson		A
Michael	Meredith	2014	A
David	Moore	2018	A

James	Moran	2010?	A
Rowland	Moss	1993	M
John	O'Hearne	2017	M
Arthur	Peacocke	2006	M
John	Polkinghorne	2021	M
Michael	Pragnell	2020	M
Barbara	Pursey	2014	M
Michael	Ranken	2003	M
James	Sawers	2017	M
Robert	Semeonoff	2009	M
James	Skehan	2020	M
Helen	Stacey	2013	M
Derek	Stanesby	2024	ex M
Bill	Stoeger	2014	M
George	Tolley	2015	M
Frank	Topham		A
+David	Young	2008	?

Total=	40