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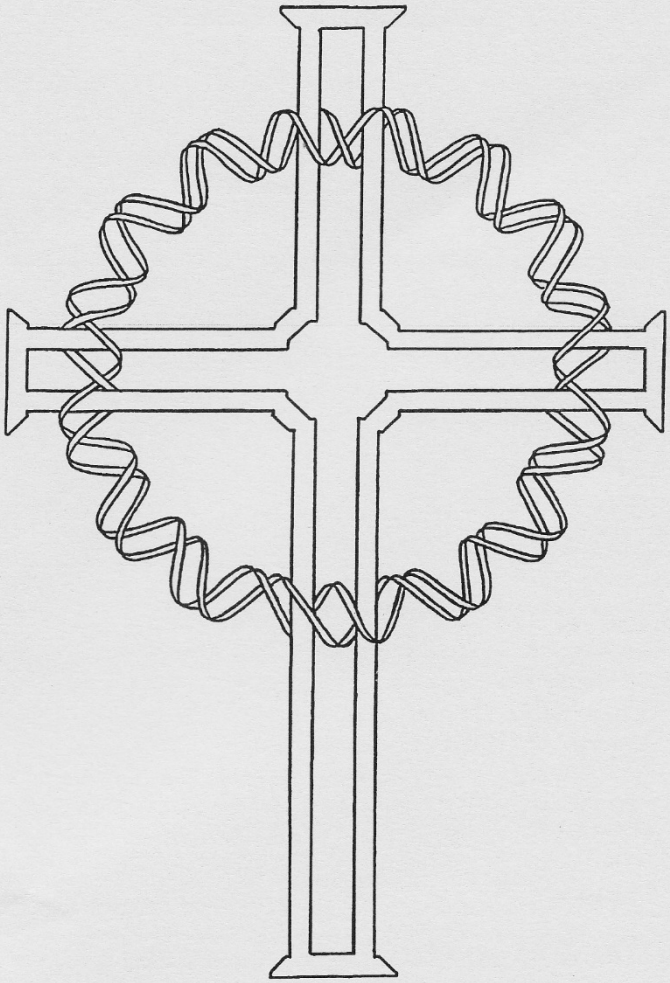
ORDAINED SCIENTISTS



BULLETIN

AUTUMN 2019

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From: THE EDITOR

I am delighted to be able to send you a Bulletin for the Autumn 2019.
You will find the Sermons and Retreat Addresses given during the Gathering in June. The new venue at Leeds was very satisfactory and we all enjoyed the ambience, the friendly staff and the delicious food.
We also have articles from Roger Pullin who has recently moved from the Philippines to make his home in the Isle of Man and from Lucas Mix as well as News from Members and the Obituary for Richard Hills.
I do hope you will enjoy reading the publication and that it will inspire some of you to put pen to paper [or fingers to laptop!]

Maureen F Palmer

NEWS FROM THE GATHERING 2019

Sermon preached by Stig Graham, Warden of SOSc at the Eucharist, Leeds 2019

(Loosely based on the Gospel reading: Matthew 15 10-28)
One of the joys of being Warden is that I get to share with my brothers and sisters in this Society my favourite Bible passages. Last year I was able to share with you the courage of Thomas, Thomas the Doubter, and this year it is the story of the Syrophoenician woman which, like Thomas, has been a pivotal one for me. The joy for you is that you can sit and listen to me.
Or is that just the story I tell myself. That may not be the story you tell one another in the bar or over dinner this evening.
We do like stories. As children, as adults, through all kinds of media, verbal, textual, digital, movies or theatre we flock to have the world explained to us. It really isn't surprising that Jesus told parables, acted out his drama, drew on contextual symbols to try and communicate his Good News.
The week before last, here in the UK, the very last episode of the Big Bang Theory was televised. The essential theme was simple; over several years it followed four very geeky young men and scientists through their love lives, (which most of the time, until recent years, was defined more by its absence than its presence) and their careers. And it has to be said that young women in their lives were much more savvy than the boys were. The series concluded with a strong feel good ending with professional recognition, and the Nobel prize, but most all the recognition of the importance of friendship and the responsibilities it entails.
Sheldon (the Nobel prize winner) (in the interests of parity observing *en passant* that he won it with his wife with their joint paper on super asymmetry)(and yes I know you are scientists but it's a comedy so just go with it), Sheldon had a very clearly structured hierarchy of people in his head. Top of the pile are the theoretical physicists (just like him in fact), then come the experimental physicists followed by the lowly engineers. On being challenged that his wife is also an eminent neuroscientist he smiles condescendingly and observes that, well, yes but after all, it is only biology. And as for those who haven't what it takes to be scientist, well . . . . Certainly, that is the story Sheldon likes to tell himself.
And yes it is funny – except it is a trope which has been around in science for a very long time. I am sure we have all had the experience of hearing someone joking about it, and we laugh and then think, 'You know, you believe that, just a little bit, perhaps a little bit too much'. Have a listen to the Infinite Monkey Cage podcast with Professor Brian Cox (and I am sorry Sharon), but somehow I can't achieve the same level of passion in my voice as you when saying his name – perhaps it's my lack of any kind of hair) and Robin Ince. A witty fun programme, but now and again, just a little too fervent. Or is that the story I like to tell myself?

And, by the by, in tomorrow's Admissions Eucharist, the Eucharistic prayer contains the line, 'In the fullness of time you made us in your image, the crown of all creation'. Us, the crown of all creation? Or is that the story we like to tell ourselves?

The story of the Syrophoenician woman is a case in point. Generally, in my experience, people don't like this story. That was true in even my youth when we were much less aware or sensitive to issues of abuse but in this age of the #metoo generation it seems even more unacceptable. 'Why does Jesus ignore her? 'That's not very Christian' is the popular cry. Part of the problem is that the reading we have just heard is normally split over two Sundays, by which time most people have forgotten the first half, assuming they were there to hear it in the first place.

But taken together, there are only two verses between Jesus saying, "For out of the heart come evil intentions, murder, adultery, fornication, theft, false witness, slander." These are what defile a person' and then us being told that Jesus did not respond.

As a chaplain I would call it 'holding the silence'. Creating a sound space to afford an opportunity for it to be filled. The disciples don't need a question, nor even an invitation; they pile on in, sharing with the world what is in their hearts. 'Send her away she is noisy, she is foreign, she is a woman'. Technically, of course this passage only specifies that she is shouting at them but as we know elsewhere the disciples become greatly exorcised when Jesus is talking with women, children and Gentiles; all those people who are clearly beneath him, and probably unclean – the story which is in their hearts, the story they tell themselves. And, remarkably, being ritually unclean is what they have just been accused of by the Pharisees.

For the record, I don't believe for one moment that the Jesus was rude or abusive. I believe he knew exactly what he was doing: testing the disciples. It is possible that the Canaanite woman, surrounded by equally noisy men, was a woman of such great courage, fortitude and determination, not to mention desperation, that she still pursued her claim. I find it much more likely that in Jesus she saw someone who would not abuse her but would help her, finding in herself the confidence to block his way, kneeling before him, and engaging in witty if brief dialogue. Shades of the scandalous woman at the well, and an echo of Jesus' own mother ignoring his response, overriding him, and simply saying to the servants, 'Just do what he says'.

But more importantly today, I want to draw out what Jesus said about it being what comes out of our mouths which defiles us.

There are many examples in life of abusive behaviour, diminishing and demeaning others, because it aggrandizes ourselves. It is the self-affirming story we like to tell ourselves, because we are the ones who know better.

But let's stay with the women – they are at the heart this Gospel story. We may shake our heads at the disciples. What narratives were running through their heads as they sought to send her away? We may condemn movie moguls exploiting young women for sexual favours – didn't we just mention evil intentions and fornication. 'No, not at all,' is their cry, 'I was merely helping these willing young women to develop their careers'. Well, that's the story they keep telling themselves and, if they have the chance, tell the world too.

Thank goodness that doesn't happen in the Church or Science . . ..

Except of course it is horribly well documented what has happened in the Church. We even have our own designated form of abuse, spiritual abuse. And sadly, it is very real. And in Science too, people with power and authority abuse the vulnerable in all kinds of ways, sometimes indistinguishably from movie moguls. And I suspect we can't begin to imagine the story they tell themselves to justify their actions.

But at least Science, the pure institutional concept, is safe, based as it is on reason, objective thought and empirical evidence. Sadly not. At present, there is a campaign for drug doses to be recalibrated for women because of their physiological differences. The proponents aver that present dosages are predicated are experiments which were mainly conducted by men on men and very often with diseases that afflict men. They also point to how little money has been spent on research on women's ailments. And the history of science shows how often women have been dismissed, demeaned and denigrated just because they are women - and science has been used to justify the stereotypes. Women dying after childbirth because doctors cannot believe that they are the harbingers of death, ignoring the evidence about cleanliness and the washing of hands. The science around breast feeding does not bear review, as the poor delicate wee things, that is – the mothers, clearly don't have the strength or capacity to breast feed their babies for any length of time. And as a woman scientist observed only last week on Radio 4, 'If men suffered from endometriosis rather than erectile dysfunction, I wonder where the money would have been spent'. Even as late as the 1950's scientists at Harvard studying menstruation were still talking about 'meno-toxins', supporting the work of Bela Schick who in the 1920's had published anecdotal evidence that contact with menstruating women caused bread to fail to rise, flowers to wilt and animals to die.

So what? What can we do? As priests and as scientists we can call out poor theology, poor science, poor ethics, especially when it impacts the vulnerable and disempowered. As Christians we are called to stand with the poor and oppressed, those in need. As scientists and priests, we have opportunities that others don't to fulfil that call. But as disciples of Jesus of Nazareth we are also called to examine ourselves, our own motivations, to challenge the stories we tell ourselves too. To ask ourselves the question, and believe me standing here before you, I feel the irony deeply, to ask ourselves the question, 'What is coming out my mouth that defiles me and the image of God that is within me?

Just as well I believe in a God who knows what it is to be human.

Just as well I believe in a God who knows how to forgive the unforgivable.

It may be the story I tell myself, but it is the myth and reality by which I try to live my life.

After the Admission Eucharist

Sermon by Bp. David Walker, Episcopal Visitor
Admissions Eucharist, Society of Ordained Scientists, Leeds, 6 June 2019

Not surprisingly, since our first session on Tuesday, I've been thinking about stories. I'm sorry I missed much of yesterday, and apologise if anything I say repeats (or worse, contradicts) what was said then. But then we're scientists, so we're used to having to handle corroborating and conflicting data - numbers that fit nicely onto the graph and numbers that are literally way off line.

But we're more than scientists, we are theologians too. As such we work with the two basic, but separate, building blocks – numbers and words. Our numbers we fashion into formulae and theories, designs and products. Our words we aggregate into sermons and stories, doctrinal teachings and moral imperatives.

I wonder whether that makes the members of this society particularly useful, to both church and science, on those occasions when words and numbers clash and collide.

Last week I was sent a copy of a report on diocesan safeguarding statistics that was shortly to become a press release from the Church of England. It was well set out in a familiar academic style. Each section began with a very brief introduction, leading into a series of tables and figures, and was then followed by a few lines of text analysing what the numbers might mean. I was invited to comment on it, as the nearest to a statistician among those who have to field media enquiries on behalf of the Church. They numbers made sense, the textual description fitted them, but the overall effect wasn't quite right. Bluntly, they lacked a story, or the story came too late. By the time a journalist had glanced at a few of the statistics, they would be writing their own narrative around them, with greater regard for what made good copy than for the truth of their assertions. Better, earlier narrative would make it harder (though I'm sure not impossible) for the numbers to be pressed into the service of some hostile agenda.

The suggestions I made were little more than probably any of us here today could have done. The paper just needed someone confident enough with both numbers and words to see how the two could be assembled into a coherent message.

As I mentioned to my small group on Wednesday, I learned how easily numbers lose out to words some years ago. Well over a decade ago, at a parliamentary launch event I was given a series of credit card sized pieces of paper that statistically demolished the ten most popular myths about migration. I thought it was a great piece of research,

and bound to change minds. It had no impact whatsoever. A third hand story about someone's daughter being denied a council house, and then seeing a family assumed to be foreigners moving into such a property the next week, carries far more weight, even if it is wildly inaccurate, than any well evidenced argument that migration has very little impact on housing waiting lists.

Entire chunks of UK welfare benefits policy have been based on the power of the narrative around the tiny numbers who seriously abuse the system, even if eradicating their abuses can only be done at the cost of catching many more innocent people in a poverty trap. I suspect every single family with ten or more children reliant on state benefits, and there are only a few dozen at most in the land, has had its day on the front page of at least one tabloid paper. Stories trump numbers, especially when those stories chime well with what we want to believe to be true. Confirmation bias is alive and doing very well, thank you.

Many of us here are people who are comfortable around numbers. We calculate and calibrate with them. We see them as our friends, and we treat them with the respect that friends deserve. Yet we ourselves fall victim to confirmation bias if we assume that others share that perspective. My wife Sue, who will be ordained as a Self Supporting Priest later this month, did some of her research into maths anxiety. In Western society to be illiterate is shameful, to be functionally innumerate is almost seen as a badge to be worn with pride. Outside the scientific community, and in the church as much as anywhere else, numbers are feared, misunderstood, shunned. Within science, words are often awkward, poorly delivered. We've all sat in the lecture theatre whilst the wonders of nature are rendered banal and boring by the limitations of the speaker's language. The force and delight of discovery is often diminished or deflected by the weakness of how it is expressed.

So, are there ways that we can serve the church and society as those who have had to prove ourselves in both fields? Let me offer just two examples. You can think up your own later.

Challenging narratives that twist the evidence with ones that are equally, if not better, stories, yet are grounded in reality and can, when called upon, be supported by the data. When I was asked, following a lecture given whist I was in the USA for the Society's retreat there, to turn my PhD into a book, I knew I would have to replace the statistical tables, much though I loved hem, with example. At the publisher's request I've recently turned the same theory into a series of daily devotional readings for Lent, to be published later this year. A lot of my broadcasting work is grounded in the belief that there is no such thing as effective prose, only poetry that is travelling incognito.

Explaining scientific theories and technological advances in well-crafted prose. It can be done. Few people understand the equations that underlie quantum mechanics but far more think Schrödinger had a cat. The popularity of black holes is probably 75% because they were given such an evocative name. How can we, who are required by our ordination to be wordsmiths, help science find its language more reliably?

RETREAT ADDRESSES GIVEN BY REVD DR SHARON JONES

Talk One

In the beginning was the Word, and the Word was with God, and the Word was God. [2]He was in the beginning with God. [3]All things came into being through him, and without him not one thing came into being. What has come into being [4]in him was life, and the life was the light of all people.

The church is still but for the flickering candlelight, the muffled shuffle of service booklets, and the sway of the drunken revellers who have somehow found themselves in church for the first time in years. Why they're here – well, not even they could explain themselves. Perhaps it's the lure of the candlelight and familiar carols that raise the ghosts of Christmas past. Perhaps it's because of a deep-seated need to be with others – the draw of community no matter how transient. Perhaps church was the last place serving. Or perhaps it's something else… something wilder, more mysterious… they're drawn to something - something of which they are a part even if they're not fully conscious of it.

As the clock ticks on toward midnight – that strange liminal time, on the cusp of a new day – you read those familiar words:

In the beginning was the Word, and the Word was with God, and the Word was God.

Perhaps it's the twinkle of fairy lights or the pre-service mulled wine that was thrust into your hand by your caring but over-enthusiastic church warden, but something has changed. It is as if the very utterance of the Word has set a storm brewing. The air is charged; expectant.

Is this the moment - the moment of creation that echoes down to us in waves, light years past yet always present? The divine Word speaking to us across time and space. Calling to us with the hopeful expectation of a response?

Rowan Williams once noted:

'It's curious how religious traditions of both East and West seem to regard that as a central and foundational metaphor – the sacred syllable which, in Indian religious tradition, echoes from the beginning in the cave of being is not light years removed from the Word at the beginning of John's Gospel, the sense that there is that to which all language is a reply or an echo.'

And how do we respond to this divine syllable? This divine excess that rings out - in and through creation? This syllable that is itself the act and the actor? Perhaps our response is written into the very code of our being… an impulse so strong that none of us, from the toddler at the knee to the technician working on the Large Hadron Collider… we tell stories – to ourselves and to others.

For we humans are narrative animals: 'Homo Fabulans - the tellers and interpreters of narrative.' You only have to look at our consumption of stories to know that our hunger for stories is unquenchable. Whether in the form of television, film, books, theatre, political campaigns… we never seem to tire of being told a tale. And we can't seem to help telling tales either… stories of our daily lives, convenient fictions that allow us to live with uncomfortable truths… we can't seem to avoid turning life into a story with a plot, with protagonists and antagonists… everything from the stories of our origins to how we heroically negotiated planes, trains and automobiles to make it here today. Philosophers have argued that it is the very skills involved in storytelling, our imaginations and schematising capacities, that allow us to experience time and life itself. Paul Ricoeur said:

[T]ime becomes human to the extent that it is organized after the manner of a narrative; narrative, in turn, is meaningful to the extent that it portrays the features of temporal experience.[1]

[14]And the Word became flesh and lived among us, and we have seen his glory, the glory as of a father's only son, full of grace and truth.

Jesus was a skilled storyteller. He speaks in stories. Teaches in stories, and lived perhaps the greatest story ever told. The parables he told weren't funny little stories just meant to entertain. And they're not merely meant to teach us some point of morality, like Aesop's Fables and countless folk and fairy tales. Parables do the whole work of theology. In the sense that they engage our minds, because they're far from straightforward. They engage our hearts because the stories that Jesus tells are so familiar to us even two thousand years on. And they engage our imagination by literally inviting us to step into the situation.

John Henry Newman was not the first to make the point that faith itself takes a leap of imagination.[2] In order to believe that a spiritual reality exists beyond the world of the senses, we must risk believing in what we cannot see, taste, touch or hear. In order to believe in God, and in order to see the working out of the divine in our world, we

[1] Paul Ricoeur, *Time and Narrative.*, trans. Kathleen Blamey and David Pellauer, vol. 3 (Chicago: Chicago University Press, 1985), p.192.
[2] See John Henry Newman, *An Essay in Aid of a Grammar of Assent.* (Oxford: Clarendon Press, 1985).

must imagine things other than how Enlightenment philosophy, and Richard Dawkins, would have us believe them to be. Without our imaginative assent, religion remains a set of doctrines and rituals – beautiful though they may be. Without our imaginative assent we are unable to envisage the bigger picture, the divine story into which our lives fit.

Those who participate in the Ignatian Exercises learn the value of the imagination in understanding our place in God's continuing story. Saint Ignatius invited retreatants to enter into biblical scenes, to experience them with all of their senses, to feel the dry heat against their skin, the noise of an expectant crowd, an uncomfortable thirst and the sight of a man of Galilee whom they say, is the Son of God. By doing this, we are encouraged to leave behind our critical faculties, and instead to inhabit the story, to enter into it completely. The imagination allows us to inhabit worlds that are not our own, to in some ways experience what it would be like 'if'. As Paul Avis said, 'if it lives in the imagination, the battle for belief is more than half over.'[3]

I think most of us would be comfortable with thinking of faith as involving a leap of imagination – an entering into the world of the ongoing story of God. But what about science? Does science ever deviate from careful observation and consideration of substantiated fact into the world of imagination? I think it quite clearly does. And yet it is not so long ago that the idea that science involved imagination was pooh-poohed. And even now, some feel more comfortable speaking of the scientific imagination in terms of image-based metaphor alone, as if entering into a more narrative form of imagination would sully the science. But Keats said that imagination foreshadowed reality, and I have a sneaking suspicion that this is as true for the scientist as it is for the poet.

I would argue that scientists have been some of the greatest storytellers of our time – driven to tell the story of how the world works. When we look up into the majesty of the heavens and contemplate how all this began, it's not surprising that we feel the need to somehow humanise the grandeur by telling stories. When we notice seemingly random patterns in the fluctuating population of certain species, we ask why and then we begin telling ourselves the stories of why that might be. I don't think we can help it. Nicholas Lash said '… the formal systems we construct, whether in philosophy or science, are coloured, shaped, determined by the storytelling soul from which they sprang.'

I like that idea that we are storytelling souls.

As the Cuban-born Italian writer, Italo Calvino, famously wrote, 'It is not the voice that commands the story: it is the ear.'[4]
Stories are demanded of scientists just as they were demanded of the bards of old, just as they are demanded of people of faith. For a time there was no great distinction between the two. Theology and science were two different approaches to the search for truth. Science read the book of nature while theology began with the 'good book'. Theology concerned itself with the "why's" and science the "how's".

And those who entered the storytelling realm through the book of nature began telling stories based on their observations of the world. Some were histories of interpretation or biographies of things… other stories were more speculative, incredible acts of imagination that begin in the language of mathematics but were inevitable pulled into a language that can be shared with those not fluent in augmented matrices and slack variables. 'Language evolved to help people get around on earth not down inside atoms,' George Johnson reminds us. But inevitably, even Nobel prize winners are obliged to tell a story because numbers don't change minds and hearts – stories do. And whether scientists are bidding for grants, justifying the need for animal experimentation, or just filling in the 'impact' section of the Research Excellent Framework entry, scientists are obliged to tell a story.

Philosopher and cognitive scientist Daniel Dennett said: "I have to tell you a story. You don't want to be swayed by a story? Well I know you won't be swayed by formal argument; you won't even listen to a formal argument for my conclusion, so I start where I have to start."

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[3] Paul Avis, *God and the Creative Imagination.* (London: Routledge, 1999), p.82.
[4] Marco Polo to Kublai Khan in: Calvino, Italo. *Invisible Cities*. London: Vintage. 2010

Perhaps it is not so surprising that we are creatures of story. We are, after all, the unruly children of a Creator God; artist par excellence, weaver of stories and meaning who began as the Word – the word that expanded out and set planets and stars spinning, creating time and space as well as beings that could reflect on that creation. And in the Bible, we have an amazing array of stories and verse that chronicle God's relationship with his people, from the garden of Eden to the garden of Gethsemane. Our God does not direct temporality from the side-lines of eternity, a distant voice that calls out of the heavens. This notion is well and truly interrupted by the presence of Christ in the Christian story. Love pitches its tent amongst us. God himself enters the story realm already framed by the Old Testament, requiring that we read the stories of the Old Testament with new incarnational eyes.

[9]The true light, which enlightens everyone, was coming into the world.

But our story didn't end with that final warning at the end of Revelation. We kept on telling stories. Some explained why we made choices, rightly or wrongly. Some stories explained the kindness of strangers and the comparative cruelty of those whom we love. Some stories were told to amuse when the world seemed inhospitable and cold and some stories helped us grieve or love or wait. Some stories tried to express the inexpressible…and the seemingly intolerable barriers of language were broken down by the bards and poets who presented us with wordy pictures that expressed through images the things we found impossible to speak of in prose.

But as we have found out to our cost, stories don't even have to have the ring of truth about them to be convincing. And even the stories told by scientists have to prove their worth in the modern marketplace of narratives. Stories can be damaging and divisive as well as healing and unifying. We have seen too many narratives wrack our world to be unaware of the damage a good story can do to our vision of the world and each other. And so the stories we tell, the stories we inhabit deserve our attention. Particularly the intertwined narratives of faith and science, so often pitted against each other and yet here I stand in a room full of ordained scientists.

In the beginning was the Word, and the Word was with God, and the Word was God. [2]He was in the beginning with God. [3]All things came into being through him, and without him not one thing came into being. What has come into being [4]in him was life, and the life was the light of all people.

So, this week I hope we can engage our story-telling souls and spend some time thinking about how the stories of our faith have been influenced by the stories told by science, and how the stories of our faith have helped shape the scientific imagination. How do the stories we tell honour the Word made flesh?

Talk Two

'[T]ime becomes human to the extent that it is organized after the manner of a narrative; narrative, in turn, is meaningful to the extent that it portrays the features of temporal experience.'[5]

Ricoeur suggests to us that we need a narrative to live by. Without stories our lives become unimaginable. Without the narratives that bind our lives together our individual lives would seem to us to be series of unrelated instances. Stories allow us to weave together the most indiscriminate bizarre realities into coherent narrative which make sense. How else could we understand how suffering could be turned into a positive experience, or how a seemingly positive event could bring individual suffering? But more than this, Ricoeur argues that personal is best envisaged as the result of the stories we tell about ourselves and the stories told by others. So, time is humanised through the narrative we tell about it and narrative becomes meaningful to the extent that it explains a temporal experience.
In *Time and Narrative*, Ricoeur explores the relationship between history and fiction. It is, of course, common to see the two as separate and having little in common: after all, is it not the case that history is the story told about something that actually happened, whilst fiction is the product of an imaginary? The characters that are recounted in history had actual temporal existence, while the characters of fiction exist only in the mind of the author and the

[5] Paul Ricoeur, *Time and Narrative.*, trans. Kathleen Blamey and David Pellauer, vol. 3 (Chicago: Chicago University Press, 1985), p.192.

reader.[6] Ricoeur, however, disputes that a dichotomous relationship exists between history and fiction, as both of them are in some way related to reality, to social existence. He points to the fact that both history and fiction share a common narrative structure. The task of a historian is to make meaningful events of human history. This involves plotting out events in such a way that we understand how and why one event led to another. The art of a good writer could be said to involve similar practices. It is a common trope of literary works to spin the reader a tale which involves seemingly unrelated events and characters, only to tie them together at the conclusion of the tale. What both history and fiction does is to offer to us one interpretation of what could be said about a series of contingent events.

Ricoeur tells us it is only through emplotment that the diverse elements are drawn into an illusion of unity. Without a narrative to bring together the contingent elements of the story, each of those events and all of the characters could have been different or even non-existent. And yet the narrative makes it appear as if each of those elements and characters were supposed to be there. In this way plot actually lends itself to temporal reality.[7] And like all good fiction, in reality, identity is opened up for constant revision until the revelation. The characters that we envisage to be the 'goodies' of the peace quite often turn out to be the murderer, and so it is with our own lives.[8] Although some aspects of foreign identity are contingent upon things like the situation we find ourselves in, or as Heidegger would put it are 'thrown,' there are still multiple stories that we can tell about these aspects of ourselves that seemed quite fixed.[9]

Ricoeur then lays down a gauntlet to theology by demonstrating the inescapability of narrative to accounts of identity. Narrative has been taken up by a number of theological positions in the late twentieth century. However, the one currently most in vogue is that associated with George Lindbeck and the Yale School: Postliberal theology. I provide here an overview of this movement, in order to pick out areas of both its strengths and its weaknesses. This then assists me in formulating my own agenda for developing a feminist theology of story.
Stanley Hauerwas and L. Gregory Jones have pointed out that the recovery of narrative within the discipline of theology began before anyone could imagine a Postliberal world.[10] In the 1970's, religious studies departments across the United States, in their teaching about the nature of religious experience began to utilise the notion of story, specifically autobiography, in order to compare and contrast the religious narratives of people from different traditions and different cultural environments (whether across space or time). The 1970's also saw the rise in New Religious Movements, such as the Human Potential Movement, which spurred interest in 'spiritual growth' across the Western world. As people turned to the more esoteric side of life, they became interested in experience and in seeking out their 'true selves' by relating to various forms of therapeutic and spiritual disciplines and practices.

The rise in the importance of various types of psychotherapy during this period must be considered in relation to the recovery of narrative. Nearly all 'brands' of psychotherapy use the telling and retelling of personal narratives in order to rewrite the stories of individuals' experiences. In this way the therapist guides the client to a different, not necessarily more truthful understanding of their past experiences and future horizons. This rewriting of people's autobiographical narratives allows them to revision themselves and their relationship to the past, present and future. The growth in the popularity of these wholly narrative 'talking' therapies, must have had an effect on the expectations that individuals hold in regards to spirituality, and as an extension, theological discourse. It was little wonder that those studying and teaching in religious studies and theology departments were calling for a more narrative approach to understanding religious experience. This, in itself, tells us that it may be possible – or even necessary – to conceive of the 'turn to narrative' in theology in a way which does not privilege the intratextuality of Christian faith (as with postliberalism), but may be understood in a broader perspective. As we construct and reconstruct our spiritual identities, we do so from within spiritual and cultural frameworks which are

[6] Ibid., pp. 127-41.
[7] Ibid., p.152.
[8] Ricoeur argues that characters only rise to the status of persons when they re-evaluate their actions and their sufferings. The characters of which he speaks can be fictional or real and Ricoeur does not deny that these characters both act and are acted upon. In fact, the interaction of characters creates secondary narratives which are the stories of families communities and nations.
[9] Macquarrie, *Existentialism*, p.191.
[10] Hauerwas and Jones, *Why Narrative? Readings in Narrative Theology.*

polysemic and multi-textual: and at the heart of it all rests the autobiography of the self. I offer extended reflection on the importance of autobiography to narrative theology at a subsequent point.[11]

A further point arises here, as we consider how individuals and communities actually appropriate the 'narratives by which they live', or by which they 'remythologize' their own selves. Namely, we can, in fact, draw a distinction between what is narrative and what is story, although both terms tend to be used inter-changeably in the English-speaking world – and, indeed, following common practice and the usage of my sources I have done so to date in this thesis. However, it may assist us to distinguish the two conceptually. On this analysis, narrative is a means of representing a story, whether the story is true or fictional. Narrative, then, is the 'text'; it is the particular and specific way in which a given 'story' is told.

In this way, it would be possible to conceive of telling the same story in innumerable different ways, and for it still be the same story. "I went to the shop this morning" is a shorter version of "I went out at nine thirty this morning in order to do a little shopping." The narrative (the re-presentation) has changed, but the story has remained the same. The same story can also be told from different points of view: "Ms Granger went out to do an early shop" or "My sister went out shopping this morning." The point of view from which the story is told will determine the narrative to certain extent.

H. Porter Abbott argues that narrative therefore consists of two different elements; narrative discourse and story. The story refers to the series of events being represented, and narrative discourse refers to the vehicle by which the story is represented. Some narrative scholars find that these terms are too easily misunderstood by English speakers and prefer to use the more technical term *fabula* to mean story and *sjuzet* to refer to narrative discourse: in other words, the difference between the raw materials of the story and the way in which they are organised.[12] The ways in which stories are told, regardless of whether they refer to an 'historical' or fictional series of events, suggest that they are indeed re-presentations; that the story (or sequence of events) existed before the narrative retelling of the tale. As Jurij Lotman has noted, narratives are made up of discrete units of meaning (words and phrases) that can be reshuffled to differing effects, whereas, a piece of visual pictorial art, such as a painting or a sculpture, is perceived as an 'isolated whole'.[13] A particular story may therefore be told by any number of narrators, and the narrative discourse would be specific to different narrators as they would inevitably select different material and emphasise the parts of the story that were most significant for them. So for literary theorists, like Peter Brooks, the concept of the *fabula* is useful, because it helps us to understand that the events being narrated are always past; and *sjuzet* a helpful conceptual tool because it reminds us that the story told may give the appearance of being one and the same thing as the *fabula*, but it is not.

Clearly, there is always some form of movement in a narrative, by which the reader is taken from one point to another. Narrative is "chron-logical", as Seymore Chatman puts it, in that narrative conveys the passage of time in two ways.[14] Firstly, narrative creates its own sense of time in the amount of time it takes to read, hear, tell, or write it, but unlike other forms of text, it also creates the sense of the passage of time by means of the story. For example, one might read a short story that takes an hour to read, but the narrative tells a story that covers the passing of five years which is conveyed throughout the movement of the plot. The space that is created by this movement is sometimes represented quite literally, as it is in travel writing, whilst in other narratives, the passing of time creates the impression of space.[15] Within academic discourse, it is often said that an argument or field of study is being

[11] See Chapter Four.

[12] H. Porter Abbott, *The Cambridge Introduction to Narrative.* (Cambridge: Cambridge University Press, 2002), p.16. Abbott points out that the term *sjuzet* actually refers to the ordering of the events, most commonly known to most as the plot, so it is a narrower term than narrative discourse that refers not only to plotting, but also style and mood etc.

[13] J. M. Lotman, "The Structure of the Narrative Text," in *Soviet Semiotics: An Anthology*, ed. D.P. Lucid (Baltimore and London: Johns Hopkins University Press, 1977).

[14] Seymore Chatman, *Coming to Terms: The Rhetoric of Narrative in Fiction and Film.* (Ithaca: Cornell University Press, 1990), p.9.

[15] It is interesting to note that travel writing, along with the academic study of anthropology became popular genres of writing for women in the nineteenth century. One could surmise that in an era when women were fighting for space, both personal and political, that the overt creation of space within the narrative form would be appealing.

'opened out' within a particular narrative. In relation to fiction, critics often use the words 'as the narrative unfurls', again emphasising the feeling of space being created by a particular work. The French cultural theorist, Roland Barthes, in trying to elucidate this process talks about five codes through which he asserts a narrative passes.[16]

Unlike some other theorists who believe that a narrative can be formed by a single event, Barthes talks about the 'code of action', which is, most simply put, one action followed by at least one other, but more usually more.[17] The 'proairetic' code describes the linear nature of these narrative events, and is concerned with the reader's expectations and actual narrated actions. Then there is the 'semic' code of character traits, as even if the narrative concerns an inanimate object, or a particular landscape, they will be drawn as characters and read as characters.[18] Barthes also argues that a text will necessarily draw on the code of binary oppositions in the symbolic creation of meaning. However, the last code, the 'hermeneutic' is perhaps the most interesting of Barthes' codes. He sees the hermeneutic as both propelling the narrative forward, towards the final disclosure, the point of revealing, but also as retarding the advancement of the narrative by way of 'equivocation', 'snares' and 'false replies'.[19] In parallel form, then, just as the proairetic code is concerned with the expectations of the reader and the actions actually narrated, the hermeneutic code is concerned with the questions that the reader may have and the way in which the narrative answers them.

Barthes suggests that narratives are therefore concerned with questions and answers as well as expectations and actions and it is certainly true that if a narrative evokes certain important questions within the mind of the reader, a resolution is normally expected. But readers also, as Peter Brooks has noted, expect to be surprised and often feel cheated if they are not. The detective novel is probably the genre of writing in which this dynamic is most clearly observed. If we consider an Agatha Christie novel in which there is a murder, we expect to find out, at the resolution of the story, who the murderer was as well as how the crime was committed. It would not be the same if in the final scene Miss Marple or Inspector Poirot were to announce that they had no idea who had committed the heinous act; as a reader, I at least would feel resentful that the murderer had not been revealed. Yet, I do expect to be fooled several times by a detective novel. In this way, Brooks understands Barthes' hermeneutic code as *detours*. The genre of the detective novel demands that the reader be led up blind alleys and fed false information by characters who wish to mislead: but detours happen in all forms of narrative. Long passages of dialogue can be seen as providing a detour, in which we may find out about the thoughts and feelings of a character, which in and of itself are not crucial to the plot, but serve no other purpose than to enrich the narrative and slow down (or speed up) the plot. Description can also draw out a narrative; pausing the plot and drawing out moments. Stoppages in a plot may cause the reader displeasure in the immediate instance, but as many successful writers know, the pain caused by stoppages, add to the eventual pleasure of resolution.[20] Stoppages produce tension which in turn can produce actual physiological changes in the reader, causing them to physically experience a narrative.[21] In terms of the space which is created by a narrative, tension does exactly that. As author and editor Sol Stein explains:

The word "tension" is derived from the Latin *tendere*, meaning "to stretch." Tension is a stretching out. Think of stretching out a rubber band more and more. If you stretch it too far it will break. We experience moments of tension as seeming longer because we want the tension to end. Tension produces instantaneous anxiety, and the reader finds it delicious.[22]

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[16] Roland Barthes, *S/Z*, trans. Richard Miller (London: Blackwell, 1974; reprint, 1990). Barthes posits a hermeneutic code, a cultural code, a symbolic code, a semic code and an actional code. All of them but the cultural code (which is effectively an epistemological category) depend on the momentum of the narrative for their expression.

[17] Abbott, *The Cambridge Introduction to Narrative.*, p. 12.

[18] One thinks of the way in which metaphor is often used to describe inanimate objects, assigning them personality. Susan Howatch, in talking of the depiction of the cathedral in the last of the Starbridge novels, describes the building as one of the books major characters. See: Susan Howatch, *Salisbury and the Starbridge Novels.* (Wenlock Shropshire: RJL Smith & Associates on behalf of the Dean and Chapter of Salisbury Cathedral, 1995).

[19] Paul Cobley, *Narrative* (London: Routledge, 2001), p.13.

[20] Ibid., p.14.

[21] Sol Stein, *Solutions for Writers: Practical Craft Techniques of Fiction and Non-Fiction* (London: Souvenir Press, 1995), p.105.

[22] Ibid.

Talk 3 - A Crisis of Story?

1In the beginning when God created the heavens and the earth, [2]the earth was a formless void and darkness covered the face of the deep, while a wind from God swept over the face of the waters.
[3]Then God said, "Let there be light"; and there was light. [4]And God saw that the light was good; and God separated the light from the darkness. [5]God called the light Day, and the darkness he called Night. And there was evening and there was morning, the first day.
[6]And God said, "Let there be a dome in the midst of the waters, and let it separate the waters from the waters." [7]So God made the dome and separated the waters that were under the dome from the waters that were above the dome. And it was so. [8]God called the dome Sky. And there was evening and there was morning, the second day.
[9]And God said, "Let the waters under the sky be gathered together into one place, and let the dry land appear." And it was so. [10]God called the dry land Earth, and the waters that were gathered together he called Seas. And God saw that it was good. [11]Then God said, "Let the earth put forth vegetation: plants yielding seed, and fruit trees of every kind on earth that bear fruit with the seed in it." And it was so. [12]The earth brought forth vegetation: plants yielding seed of every kind, and trees of every kind bearing fruit with the seed in it. And God saw that it was good. [13]And there was evening and there was morning, the third day.
[14]And God said, "Let there be lights in the dome of the sky to separate the day from the night; and let them be for signs and for seasons and for days and years, [15]and let them be lights in the dome of the sky to give light upon the earth." And it was so. [16]God made the two great lights—the greater light to rule the day and the lesser light to rule the night—and the stars. [17]God set them in the dome of the sky to give light upon the earth, [18]to rule over the day and over the night, and to separate the light from the darkness. And God saw that it was good. [19]And there was evening and there was morning, the fourth day.
[20]And God said, "Let the waters bring forth swarms of living creatures, and let birds fly above the earth across the dome of the sky." [21]So God created the great sea monsters and every living creature that moves, of every kind, with which the waters swarm, and every winged bird of every kind. And God saw that it was good. [22]God blessed them, saying, "Be fruitful and multiply and fill the waters in the seas, and let birds multiply on the earth." [23]And there was evening and there was morning, the fifth day.
[24]And God said, "Let the earth bring forth living creatures of every kind: cattle and creeping things and wild animals of the earth of every kind." And it was so. [25]God made the wild animals of the earth of every kind, and the cattle of every kind, and everything that creeps upon the ground of every kind. And God saw that it was good.
[26]Then God said, "Let us make humankind in our image, according to our likeness; and let them have dominion over the fish of the sea, and over the birds of the air, and over the cattle, and over all the wild animals of the earth, and over every creeping thing that creeps upon the earth." [27]So God created humankind in his image, in the image of God he created them; male and female he created them. [28]God blessed them, and God said to them, "Be fruitful and multiply, and fill the earth and subdue it; and have dominion over the fish of the sea and over the birds of the air and over every living thing that moves upon the earth."
[29]God said, "See, I have given you every plant yielding seed that is upon the face of all the earth, and every tree with seed in its fruit; you shall have them for food. [30]And to every beast of the earth, and to every bird of the air, and to everything that creeps on the earth, everything that has the breath of life, I have given every green plant for food." And it was so.
[31]God saw everything that he had made, and indeed, it was very good. And there was evening and there was morning, the sixth day.

"Many people believe that reasoning, and therefore science, is a different activity from imagining. But this is a fallacy . . . Reasoning is constructed with movable images just as certainly as poetry is." [23] Jacob Bronowski

This afternoon I want to think about how the dance partners of science and faith have influenced the way we inhabit the stories of scripture. And although we've just heard the first account of creation, I'm not really going to talk about the debate between creationists, evolutionists and those who favour intelligent design. Because although

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this has been a divisive issue for as long as any of us can remember, I'm really interested in how science has influenced our hermeneutics…because I have a sneaking suspicion that our course was set long before Darwin came on the scene and challenged the six day creation. So why do we read scripture differently today than people of old? I wonder whether the narratives of science really have shaped our theological imaginations and therefore the way we inhabit Biblical texts.

That the Bible contains the foundational stories of Christianity is only the beginning of the story. As Reinhold Niebuhr said: 'revelation is transfer from this history to our history.'[24] The power of any story is in its capacity to engage us, deepen understanding or affect change.

As modern Christians, we look to the Bible as a lens through which we can understand something of the meaning of life. While others may look to the natural world for answers, often we hope to find in the pages of the Bible the answers to the big questions, such as: What does an ethical life look like? Is there meaning to be found in suffering? Alongside the age-old question: Who am I?

Some struggle with this collection of ancient texts trying to decipher what they might have to say about peculiarly modern predicaments, such as the appropriateness of stem cell research, or the ethics of climate change. And it never fails to amaze me how some feel that they do in fact find, not just guidance on these complex issues, but proof-texts that allow them to proclaim knowledge of the mind of God.

I can't help feeling that, more often than not, scripture serves as less of a hermeneutical lens and more of a mirror. Instead of reading our lives and times through the lens of scripture, I would argue that the way that we read the Bible…the way that we use the Bible in theological and philosophical discourse, the way that we appropriate biblical stories in the arts, also reflects back to us something of who we are. Western society and culture is intimately bound with the Bible, our readings of the Good Book are, in part, an elaborate dance with our own reflections.

So, how are we reading the Bible now?

The Bible often seems to be one of the main sites of our division as Christians, or at least we designate it as our battleground. How the biblical texts should be read and appropriated for theological reflection is the source of much mud flinging between liberals and evangelicals, Catholics and Calvinists, and just about every other fake binary pairing you care to propose.

Liberals and Catholics accuse evangelicals of Biblicism, in other words, holding too rigidly to the literal sense of the Bible, accepting only scripture as a source of knowledge and authority. While evangelicals accuse liberals of preferencing other sources over the Word of God and twisting words of scripture to fit their political and social agendas.

The Evangelical Alliance say this on their website:
'Many who call themselves (or are called) liberal Christians might also have a high view of the Bible, but what distinguished classical liberal theology as it developed in the 19th century was a conviction that our experience or understanding, or something nebulous called 'progress' could correct the Bible; evangelicals stood against this - and will continue to do so when it occasionally re-appears.'

Whereas, they argue:
'Evangelicals have generally affirmed a 'plain sense' way of reading the Bible - the text means what it looks like it means; this is not to say that evangelicals are naively literalist… where the form of the text requires a non-literal reading, a 'plain sense' reading is necessarily non-literal.'
They go on to say that:
'Evangelicals will also tend to agree with the classical Reformation position that "scripture is its own interpreter": where a passage is obscure, or can be read in more than one way, it should be read so as to agree with a clearer or

[24] Niebuhr, H. Richard. *The Meaning of Revelation*. Louisville: Westminster John Knox Press. 2006

less ambiguous passage found elsewhere in the Bible. Underlying this is the conviction that, in all its variety, the Bible speaks with a united, if complex and polyphonous, voice, and so we should not find contradictions.'[25]

Liberal interpreters of the Bible try to engage with reason, tradition and experience when interpreting scripture. Scripture is not the dictated word of the Holy Spirit, but rather, the Word as written down by unreliable human narrators who told the stories in ways that reflected their own social, ethical and theological concerns. Hence there are four different Gospels, each telling the tale of Jesus's life from their own point of view, even when, in the case of the three synoptic Gospels, the evangelists were likely working from one source. This does not, however, mean that for liberals the Bible is any less 'true' or any less divinely inspired.

The turn to historical and form criticism saw both liberal and evangelical theologians and biblical scholars trying to read the texts in light of current historical understandings. Remember this morning, I noted the rise of the historian in the seventeenth century, and the notion that facts are not self-evident, but contextual. Scholars began to wonder how the parables would have sounded to a first century Jewish audience, how they might have heard them differently to the way we hear them. They wondered whether Isaiah was one or three writers, writing with the same authority but in different periods. And they also wondered how the transition from oral to written culture may have influenced the transmission of Israel's history.
I am of course presenting these differing approaches in an overly-simplistic way, but I think that we have reached a very strange point in our relationship with the Bible when both evangelicals and liberals tend to employ proof-texts to support their agendas… when talking about the role of women in the church or sexuality or our responsibility towards the poor (though liberals would argue that they arrive at their proof texts through a complex and reasoned hermeneutical procedure).

It is indeed a strange situation when in the US, Donald Trump quotes the Bible in order to garner the support of the evangelical Christian right as a kind of proof text that he will defend their values despite his very public disdain for those values in his own life. And as Martyn Percy, Dean of Christchurch, Oxford pointed out in a Guardian article, Franklin Graham, son of Billy Graham, 'told millions of America's evangelicals that they could vote for Trump with a clear conscience since Trump was comparable to the ancient Persian ruler Cyrus, mentioned in the Old Testament.' In other words, don't worry that he doesn't actually share your faith… better to have someone who protects your values and reclaims Washington power from them liberals! Percy goes on to say:
'…Trump, in this equation, therefore emerges as a liberator-messiah-ruler, and Washington as a kind of centralising Babylon. And you don't need to be a genius to work out that Trump is the Cyrus who delivers all God-fearing Americans from that awful prospect of the Whore of Babylon (Book of Revelation, chapters 17 and 18) living in the White House. "Drain the swamp" and "lock her up" are therefore implicit religious rallying calls, not just injudicious hate speech. These are the chants of the self-proclaimed righteous.'[26]
If ever we needed proof that it is the ear that demands the story.
This kind of modern fundamentalism encourages a vehement response from that other peculiarly modern group of people… fundamentalist atheists, for it is with this kind of rhetoric… this kind of Biblical literalism that they engage. As the reformation began the march towards secularism, fundamentalism has cast its own shadow in the shape of unprecedented opposition to religion.

But what else have we lost in this battle?

Karen Armstrong in *The Case for God* argued that in the ancient world there were two recognised way of thinking, speaking and acquiring knowledge: mythos and logos.

Logos, marked by reason and pragmatic modes of thought focussed on external reality.

[25] http://www.eauk.org/church/resources/theological-articles/evangelicals-and-the-bible.cfm
[26] https://www.theguardian.com/commentisfree/2018/feb/06/donald-trump-faith-politics-religious-presidency

Myths were not just a collection of fantastical stories, neither were they meant to be an accurate telling of historical events. Rather, mythological stories were those that '…in some sense happened once but that also happen all the time.'[27]

For a time, historians told the story of the Greek Miracle – the defeat of mythos by logos – the transition from myth to reason. Few historians stand by that claim now.

For the ancients, neither mode of knowing was superior to the other, they were instead complementary. Myth might not help you build a temple, but it might help you navigate the very human experiences of suffering, grief and falling in love.

Armstrong argues that during the sixteenth and seventeenth centuries – the time of Newton and Descartes and Galileo - logos achieved such incredible results that mythos was almost entirely discredited. Even theologians adopted the criteria of logos leading to rationalised interpretations of religions and literal interpretations of the Bible. So maybe we ought to talk of a Seventeenth Century miracle!

Karen Armstrong said: 'In their desire to produce a wholly rational, scientific faith that abolished mythos in favour of logos, Christian fundamentalists have interpreted scripture with a literalism that is unparalleled in the history of religion.'

Acceptance of credal statements became the prerequisites of faith rather than the adoption of the correct psychological or spiritual posture that led you to 'make the 'truth' of the myth a reality in your own life.' Or, in the words of that great modern hymn… Shine, Jesus Shine… 'mirrored here, may our lives tell your story.'

Of course, Armstrong is in no way the first to argue for the revival of a more mythological understanding of the Bible. Lutheran theologian and professor of New Testament, Rudolf Bultmann back in the 1940s and 50s argued that we needed to 'demythologize' scripture… that is, not to stop reading scripture mythologically… that he said, would be to demythicize scripture… but rather, through a process of demythologization we could extricate the true symbolic meaning. Robert Segal gives the example of the flood. To go seeking evidence for a world-wide flood would be to demythicize the text, but to demythologize the Noah story would be to read it symbolically as a statement about the precariousness of life.

Bultmann said: 'The real purpose of life is not to present an objective picture of the world as it is, but to express man's understanding of himself in the world in which he lives. Myth should be interpreted not cosmologically, but anthropologically, or better still, existentially.'

Bultmann thought that once the Bible was demythologized (in other words: remythologize) it would once again become compatible with the modern drive towards scientific rationalism, because the Bible would in a sense be set free to refer once again to the transcendent, non-physical world and to our human experience of that world.[28]

Philosopher, Paul Ricouer argued that one of St Paul's most extraordinary contributions was the theme of the transformation of the reader of scripture. Ricoeur said: 'In this way he forged the central metaphor of the Christian self as Christomorphic, that is, the image of the image par excellence. A chain of glory…' by which we mirror Christ's life with our own.[29]

At the beginning of John's Gospel we are told that the word became flesh and dwelt among us. If the Christian self is Christomorphic, surely it is incumbent on us to continue to make the word flesh. Demythologizing the Bible demands of us that we acknowledge the ways in which we read and are read by the text. How our lives and culture

[27] Armstrong, Karen. *The Case for God: What Religion Really Means.* London:Vintage, 2010
[28] See: Segal, Robert. *Myth: A Very Short Introduction*. Oxford: OUP. 2015
[29] Ricoeur, Paul. "The Summoned Subject in the School of the Narratives of the Prophetic Vocation." in *Figuring the Sacred: Religion, Narrative and Imagination*. Minneapolis: Fortress Press. 1995

have been formed by the grammar of the Bible… how our laws and norms have been shaped and how they in turn shape us.

Bultmann, and Armstrong after him, suggest that demythologizing the Bible is the work, not of an apologist, but of an evangelist…work that invites people into the habitus of the story and allows them to work out what it means to live out the Gospel in their own lives. This, they would argue, returns religious knowledge from a theoretical to a practical pursuit. In other words – all the mud-slinging and proof-texting are as nothing if Christians do nothing more than argue in the abstract. With a demythologised Bible, scripture is not shoe-horned into one dimension only. There is more to see…. And possibly more ground to explore together across the theological divides, in the way that scriptural reasoning has opened space to talk across the religious divide. Because we must find a way to change the conversation… if we don't, then we have to expect to see the Bible being reduced to a political punchline, a shibboleth to be adopted by those who would seek to deepen the divisions in our churches and in our society.[30]

Michael Meade, mythologist and one of the most important voices in the modern men's movement, argued: 'Literalism is the great spell that binds and blinds the modern world. The lack of inspiration and loss of imagination that have become characteristic of modern societies stem in major part from darkness and blindness caused by seeing the world as literal and time as linear.'

As the stories of science have been opening us up to awe and wonder, as they have arguably resacralized our vision of the cosmos, many of our readings Biblical texts have been literalised and reduced to the very least that they can be.
Sara Maitland has suggested, "Our myth muscles are atrophying, with this goes our access to allegory, metaphor and sacrament." [31]
The march of science has often been blamed for encroaching secularisation, and to some extent it is true that the success of science turned the heads of theologians and Biblical scholars of every school. But in leaving behind mythos I believe the church lost something sacramental.

Stories gives us the time and space in which we can flex our sacramental imagination. And I wonder if it is possible that the new stories that science is telling might help us revive the stories of our faith? Stories can expand our horizons, subvert our presuppositions, and reorient us towards our world. We can imagine anew our place in creation, how we are called to continue God's work. And perhaps, when we least expect it, we might find ourselves up the mountain face to face with the God of story – our hearts on fire with that thing we call faith.

Talk 4
In the beginning was the Word, and the Word was with God, and the Word was God. [2]He was in the beginning with God. [3]All things came into being through him, and without him not one thing came into being. What has come into being [4]in him was life, and the life was the light of all people.

The words with which I began. The divine syllable. The beginning of all our stories.

'It's all a question of story,' wrote eco-theologian Thomas Berry. 'We are in trouble just now because we do not have a good story. We are in between stories. The old story. The account of how the world came to be and how we fit into it, is no longer effective. Yet we have not learned the new story.' Thomas Berry (1988, p. 123.)

Has the story that the church is telling become stuck within a Newtonian framework? Is it time that we learned a new story… a new song?

[30] Just to make absolutely clear, I don't think you need to throw the baby out with the bathwater in order to find some of what Bultmann says as useful! There are some rabbit holes even I can't follow him down…
[31] Maitland, "Religious Experience and the Novel: A Problem of Genre and Culture.," pp.89-90.

What would happen if we allowed the changing stories told by science to interact with the changing stories of the church? What if we left behind the seventeenth century atomistic world view that allows the church to think of itself as a collection of individuals… so that when one of those individuals abuses another, we - the royal 'we'- can distance ourselves from the outrage and take no responsibility… after all it was just one faulty cog in the mechanism, not the whole church that is at fault. What would happen if we stopped seeing the individual penitent, the individual convert, the individual giver as the basic unit of what we do and how we measure our success?

What if we took seriously the new story being told by science… a story in which time and space are part of a continuum, a story in which matter is made up of complex webs of relationship and interconnectedness is at the heart of all that is. A story in which particles that have interacted with one another continue to be entangled even when they are separated by vast distances – possibly the spookiest phenomena of quantum mechanics to date. What if we start seeing all of nature, all of the cosmos, as an undivided wholeness? How might this impact our Newtonian church? How would this new worldview shape our thinking about Christ and his place in the cosmos? Could the new sciences help us get back to telling the story of a world that isn't just mechanistic but deeply creative and mysterious and numinous?

I think that is beginning to happen. In fact, if I'm honest, I think this story was being told by the mystics of our faith centuries before the apple fell on Isaac's head or Einstein wrote down $E = mc^2$.

My own interest in science and theology developed when, as a postgraduate working on the Rhineland mystic, Hildegard of Bingen, I came across the intricate mandalas contained in her manuscript Scivias. The universe they portrayed was not one based on the bog-standard medieval cosmology of microcosm and macrocosm, it went beyond and described matter pregnant with spirit and the interpenetration of divine and mundane spheres. Though her cosmology did not directly challenge the science or theology of the time, she harmonised the two realms because she was concerned to emphasize the fundamental unity behind all of creation which existed in the mind of God even before it came into being. (Mews)

Barbara Newman, that great scholar of Hildegard said: 'Hildegard's keen sense of divine immanence led her to envisage the creative power not as a force propelling the world from without but as an ambiance enfolding it and quickening it from within.'

In Scivias, Hildegard wrote in the voice of the living light:

'I, the highest and fiery power, have kindled every spark of life, and I emit nothing that is deadly. I decide on all reality…. I, the fiery life of divine essence, am aflame beyond the beauty of the meadows, I gleam in the waters, and I burn in the sun, moon, and stars. With every breeze, as with invisible life that contains everything, I awaken everything to life… and thus I remain hidden in every kind of reality as a fiery power.' (Scivias)

She goes on to identify the fiery figure as love. The all creative, all sustaining, all embracing power of the Godhead. And humanity's route to holiness in this world ablaze with God's love is in our ability to recognise our own divine nature. We are created and creative.

In our own time, Sr. Ilia Delio points to the work of the Jesuit scientist and mystic, Teilhard de Chardin whose philosophical and theological writings were supressed by the church, in part because of the challenge his thinking posed to atomistic theology. Teilhard agreed with Darwin in that he believed that given enough time things come together and complexify – and that this leads to rising consciousness. He thought that nature wasn't finished – it is future-oriented and possesses the creativity to transcend itself. He was part of a movement that recognised that consciousness is not distinct from matter but part of the natural world… that mind gives rise to matter, it is an emerging process (or as Delio puts it, a wave - relationality and flow of information.) Like Hildegard before him, Teilhard recognised that there was an inner depth to the universe and that this force that within and without is a force of attraction to the deep centre, and like Hildegard he names this force as Love.

Delio reminds us that energy is relational – it is always a 'we' before an 'I', as if our theology hadn't already told us of this fundamental concept of a Trinitarian God. And this love energy orients us to further complexity, to more 'being'.

Teilhard's cosmology was Eucharistic. Towards the end of his life, he moved away from the traditional notion of transubstantiation as taught by his church to what he described as 'Pleromisation' which means to bring the fullness of Christ into the world. Priesthood, then, (both lay and ordained) was a ministry of Eucharistic transformative action – a work that all humans could participate in regardless of their field. It is our action within creation that is our act of communion.

Teilhard said: 'In action, first of all, I adhere to the creative power of God; I coincide with it; I become not only its instrument but its living extension. And as there is nothing more personal in beings than their will, I merge myself, in a sense, through my heart, with the very heart of God. This contact is continuous because I am always acting.'

It is through our participation that we are consummated, and like the actual Eucharist, human action is a concrete part of the restoration of the world in Christ.

He wrote: 'We may, perhaps imagine that the creation was finished long ago. But this would be quite wrong. It continues still more magnificently, and at the highest levels of the world. 'The whole creation has been groaning in labour pains until now' And we serve to complete it, even by the humblest work of our hands. This is, ultimately, the meaning and value of our acts.'

The Christ of Teilhard was the carpenter from Nazareth, but he was also the 'Alpha and Omega, the principle and the end, the foundations stone and the keystone, the plenitude and the planifier… the one who consummates all things and gives them their consistence.' The Christ Teilhard speaks of is not only the very human historical Jesus, he is the Cosmic Christ through whom all came into being.

But it isn't just the Teilhard scholars who are refocussing on a creative use of older Christian theology and symbolism. In the last year both Rowan Williams and Richard Rohr have published books that beg a corrective in our Christology. Rowan Williams's book 'Christ the Heart of Creation' is a re-engagement with the theology of the Fourth Century and argues that Jesus's human life was not an interruption to his existence as God's Eternal Word and that the infinite and finite are not in completion. Richards Rohr's slightly more accessible 'The Universal Christ' again criticises the move in theology to limit Christ to the historic person of Jesus. He reminds readers that Christ is not Jesus's last name and in the appendix of his book he maps out four world views that we might inhabit at any one time…

The material worldview – outer, visible world, consumerism
The spiritual worldview – primacy and finality of spirit, interior focussed
The priestly worldview – held by priests and scientists etc – help people connect the previous two worldviews – but presupposes there are two world that need connecting
The incarnational worldview – matter and spirit have never been separate. Matter and spirit reveal and manifest each other… found in the theology of the Eastern Fathers, the Celts and the mystics. His shortcut for this world view is the word CHRIST.

If I had time I could talk about Philip Newell's reclamation of Celtic theology, and many many others who are working to correct the atomistic theologies of the church. I haven't gone anywhere near John Polkinghorn's work nor the process theology of Alfred North Whitehead and those who followed him.

So maybe, in different outposts of theological thought, the stories of the New Science are helping us re-invigorate the stories we tell about our faith – imbibing them with a little more awe and wonder. And maybe helping us express, as David Grummet so eloquently put it, '…the dignity, drama and grandeur of the life lived in Christ.'

Elizabeth Box Price, Emeritus professor at Phillips Theological Seminary, in an article I wish I could make everyone read entitled 'Christian Nurture and the New Cosmology', wrote of a course she devised so that Christian Religious Education could participate in the process of reframing our cosmology. This was a course that aimed to not eliminate one way of knowing and replace it with another – it incorporated scientific empirical detail with primordial poetic visions of the cosmos. This wasn't just a course that taught participants the story of the New Science, it integrated the experience of watching the movement of the stars – the theory in action. They sat in silence on the prairies contemplating that there is no new water on earth, only that which has been recycled. The same water that dolphins have swam in, the water we were baptised in. The molecules we breathe in were in the very air that Jesus breathed. The imagination and the senses were engaged as well as brains. Box said:
'It was true, through the imaginative power of our senses, and the courage for re-education our subjectivity was transformed. We had truly entered into a visceral knowledge of the new cosmology… the course formed a community of learners that developed a shared consciousness regarding cultural narratives and myths that can impact attitudes and values. The course explored how these may be changed by new narratives appropriate for sustainable and flourishing ways of living. This community was able to dwell with despair, and yet embrace a new vision of what our role and place can be in the universe – a vision of illumined hope and the will to act.'

Thomas Berry said that we need a new story – I'm not so sure we do. But I do think we need to be more attentive to the stories we tell and we shouldn't be afraid to engage our scientific and theological imaginations in our work of faith.

NEWS OF MEMBERS

Two new Members admitted in 2019

The Revd Dr Anita Morgan

The Revd Mark Gallagher

Michael Pragnell

Many Congratulations to Michael who has been honoured by the Police Force for his twenty years as Police Chaplain. The work has involved weekly visits to the local Police Stations and dealing with problems when they arose. He writes that there have not been many crises during the tenure of his Chaplaincy but he has been locked in a cell on two occasions: the first with a client in great distress, and the second with a Police Officer who had had a row with his wife!

"…THE SEA AND ALL THAT THEREIN IS…"

"*Which made heaven and earth, the sea and all that therein is: which keepeth truth for ever* (Psalm 146, 6; KJV)" This lovely verse can be taken as just one among the many praising the overarching authority of God, as the Source of all that exists and of all truth about its origins and workings. For me, however, it is an important reminder that humanity is sustained by ecosystems and that all truths disclosed to us, through faith and science, come from God. It's a shout of thanks for ecosystems and for the God-sent truths that we can seek, find and then tell.

I have been blessed with opportunities to pursue a long career in aquatic biology, marine and freshwater. From a Lectureship in Marine Biology at the University of Liverpool's Port Erin Marine Biology Laboratory on the Isle of Man (1968-1979), I moved to Manila and spent the next 38 years directing international research programmes in tropical aquaculture and the conservation and use of aquatic biodiversity, and as a consultant to the Asian Development Bank, FAO and others, including teams assessing the impacts of oil spills.

In 2017, I felt moved to return to the Isle of Man and to work for the sustainable use and conservation of my favourite marine ecosystem, the Irish Sea. It's hard to put into words the guidance that one feels when undertaking such a venture, except to say that it's very real. I feel it every day as I look out over the Irish Sea from my front window and pray the Society of Ordained Scientists' Collect.

In 2018, with encouragement from friends and colleagues all around the world, the Irish Sea Centre Limited was incorporated on the Isle of Man, as a Company Limited by Guarantee, registered as Manx Charity No. 1257. Before explaining its objectives and progress thus far, I must summarize what ecosystems are and define the Irish Sea ecosystem.

According to the Convention on Biological Diversity, an ecosystem means: *"a dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit."* Ecosystems are our life support systems. They come in a wide range of types and sizes with larger ones enclosing smaller ones - nested like Russian dolls, but with porous boundaries. A tree with its root zone, a forest, the surrounding catchment, and its contiguous lands and waters are all ecosystems, as is the whole planet.

The Irish Sea ecosystem is semi-enclosed marine ecosystem. It extends from hill tops to sea beds and includes the living and non-living resources in catchments, estuaries, shorelines, islands and waters of substantial parts of the Republic of Ireland, England, Northern Ireland, Scotland, Wales. and the entire Isle of Man.

The Irish Sea ecosystem provides essential ecological goods and services to millions of people across its six jurisdictions and through many sectors, including: energy; fisheries; nature conservation; recreation; shipping; tourism and waste processing. The Irish Sea Centre was established to encourage and contribute to a whole ecosystem/all sectors approach for sustainable use and conservation of the Irish Sea ecosystem.

This big idea is constrained by narrower perspectives and vested interests. Nevertheless, the worsening state and unpredictability of our supportive ecosystems, because of irresponsible use and downright abuse and climate change are bringing wider realization that we cannot continue with business as usual, in 'Us and Them' modes, while sharing the same ecosystems. For marine ecosystems like the Irish Sea, the borders that we draw on maps and our administrative divisions among sectors are not respected by the winds and waves, fish, plankton, pollutants and plastic debris etc.

The scale and complexity of the Irish Sea ecosystem make it highly suitable for pursuing and testing a whole ecosystem/all sectors approach. To this end, the Irish Sea Centre's stated objectives are as follows: *" to assist the sustainable use and conservation of the Irish Sea ecosystem; to gather and disseminate for the public good information about the Irish Sea and its ecological goods and services; and for the benefit of scientific advancement and education including providing advice and assistance to resolve challenges and problems which arise from the changing uses and ecology of the marine environment generally and the Irish Sea in particular."*

Other groups and networks around the Irish Sea, in national universities, government institutions, NGOs and local organizations, have similar objectives to varying extents. However, the Irish Sea Centre's location on the Isle of Man makes it unique. It is 'The Irish Sea Centre at the Centre of the Irish Sea'- politically non-aligned and well-placed to be a hub for information exchange, public awareness, education, research, and hosting meetings and scholars.

Over its first year of operations and based on very limited funds contributed largely by founder members, the Irish Sea Centre has progressed well by establishing a website (www.irishseacentre.org), beginning to recruit a core team and an international network of helpers, and forging partnerships with other organizations, including the Irish Sea Maritime Forum, which will hold its next biennial conference on the Isle of Man.

The future for the Irish Sea Centre looks bright as it becomes increasingly obvious to more and more people that our ecosystems are governing us far more than we can ever govern them. King Canute's tidal bath was a good early demonstration.

When planning these personal reflections, my chosen text and title came to mind easily. They were then reinforced by one of those wonderful instances where God leads to the discovery or re-discovery of something that hits the target perfectly.

During an overnight stay in London with my daughter, I was sorting through some memorabilia kept by my late mother and found an exercise book of my school essays at the age of 15. The first entry, written 60 years ago, was entitled "*The Sea and All That Therein Is*". Bingo!

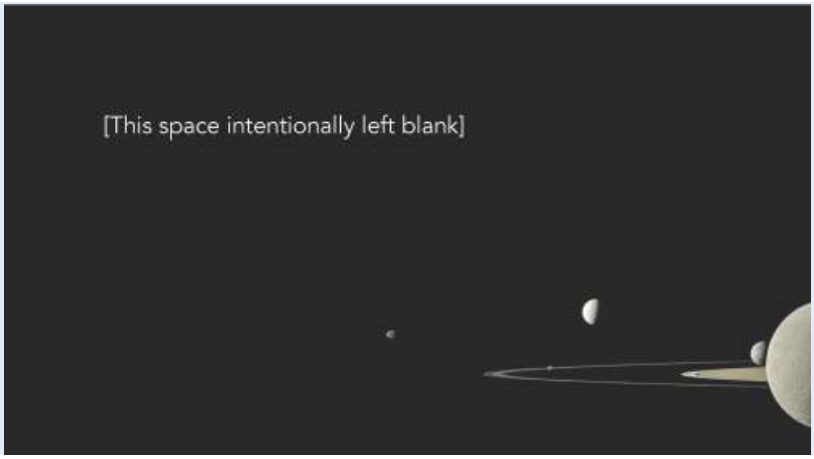
On July 30 1959, I had written that the wonders of marine life could now be seen on TV and at the cinema, and that British waters held much that compared well with the beauties of tropical seas. This was probably a bit wishful as there was nothing around then to compare with the recent Blue Planet series.

My essay received a mark of 33/50 and a comment that it was "*rather technical*".
Fair enough, but then, as now, there was and is an urgent need for wider understanding of technical terms such as 'ecosystems' and for concerted action to become better stewards of these precious gifts from God, including "…*the sea and all that therein is*…" With God's help, may it be so.

Roger Pullin; Secretary/Treasurer, The Irish Sea Centre Limited.

The Irish Sea Centre

SPIRITUAL SPACE



Lucas Mix gave this paper as part of a panel on "Astrophysics, Spirituality, and Space Exploration" for the 2019 'IONS' Conference.

Science and Spirituality
My name is Lucas Mix. I work with NASA on astrobiology, exploring the origin, extent, and future of life in the universe. I am also a preacher and pastor, talking with Christians about faith and theology. I specialize in theoretical and theological biology, what we mean when we say "life." People often ask me about my beliefs. How do I bring science and spirituality together? The real challenge, I think, is keeping them apart. Both are so important to daily life.
When I choose my meals, I think about biochemistry: fats and sugars and calories. There's a gap between reading labels in the supermarket and research biochemistry, but it may not be as big as you think. The shopper and the scientist both make important decisions with limited information. They listen to others, weigh what they know, and reach conclusions. The difference comes from time and training and, above all, the care they take. Researchers want to know, precisely and concretely, how much evidence they have, how they reason from it, and how confident they can be in their answers.

Choosing meals involves ethics as well. Where did the food come from? Is it healthy and just to eat? And metaphysics. How does stuff that's not me become me? Like biochemistry, most of us don't have time to investigate the details of organic farming, sustainable agriculture, sustainable packaging, transportation, and fair-trade, much less human persistence, animal sentience, and ontology. Still, we have to eat. We choose and, consciously or unconsciously, we pick the issues that matter to us and weigh them to the best of our ability.

I feel very lucky that I have had the time and training to tackle biochemistry and bioethics for a small sliver of issues. I've been able to uncover options, read experts, and think critically about how my choices change the world. Still, I am an amateur in a thousand other matters, all related to choosing meals. Economic justice, climate change, and law enforcement may be the top three. The significance of choices can keep me up at night. It makes me deeply grateful for genuine, thoughtful, helpful experts. Life is difficult, and I use all the brains I can beg, steal, or borrow.

Cosmology

Last year, a friend asked me to speak at South-by-Southwest on astrobiology and theology. I laughed at her. Astrobiologists bring together astronomy, biology, chemistry, and planetary science (not to mention engineering and many other fields) with the hope of forming a comprehensive, natural science picture of life. Theologians also synthesize knowledge, often focusing on experience, belief, and choices in light of our relationship with God.

"You want me to talk about life, the universe, and everything?"

"Yes"

I have a hard-enough time figuring out whether I should eat eggs, how could I tackle astrobiology and theology? But in some ways, it is the same problem as lunch: thinking carefully with limited information. We all want to know where we came from, how we fit in, and where we're going. We all tell stories about the cosmos.

If I can share only one thing, let it be this. We are all cosmologists. We all tell stories about the universe and our place in it. Those stories change us, affect our choices, and affect our neighbors. So, let us be careful cosmologists. Let us think critically about what we know, what we value, and what we choose. Let us ask who the experts might be and listen to what they have to offer. We can reason for ourselves, without reasoning by ourselves. Understanding life, the universe, and everything will take more than one person and more than one lifetime.

The word "space" should give you pause. It suggests a region that is both empty and available for use. Many see this as an invitation, perhaps even a duty, to expand, to "take up space." Others think human expansion is inevitable. Given enough time we will spread to other planets and other stars. That is, unless we destroy ourselves first. Surprisingly often, discussions of alien life and alien intelligence take progress for granted. Life, once begun, will produce intelligence. Intelligence, once begun, will advance to the creation of radio telescopes, space ships, and eventually interstellar colonies.

I love Star Trek, but I do not share this confidence about human development or the development of intelligence in general. I do not know that space is available, or that progress is inevitable. Neither biology nor theology reassure me on these points. They tell me that we are part of Earth, and Earth is part of us. We are local and should be humble as we reach beyond the atmosphere and beyond tomorrow. They make me wonder.

What if space was left intentionally blank?

Space can be beautiful. Hasegawa Tohaku's 'Pine Tree' is one of the great works of art. We praise the morning fog and the darkening sky. We praise the freshly fallen snow. Space can also be useful. A cup must have space to hold tea. A house must have space to live in. Physicists know that vacuum makes for great insulation and energy efficient

windows. Biologists know that cells do work in biology because of the space inside. Perhaps it's good to have space between the stars.

Space Exploration

NASA's 'Mars 2020' mission is traveling to Jezero Crater. Sediments from an ancient river fan out from a break in the Western rim. A wonderful gap, by the way, a useful emptiness. I can't wait to know more about that ancient river and that ancient sea. And yet, I value the space between here and there. I value the distance and the difference.

Saturn's moon Titan has seasonal lakes filled with antifreeze. I'm excited about the 'Dragonfly' mission, planned for 2026. I want to know more. We have found more than four thousand 'planets' orbiting other stars, wondrous and strange and surprising us daily.

I like space exploration and I support the journey, but colonization and pilgrimage are different ways to travel. Pilgrims revere their destination, remember their home, and respect the space in between.

Sacred Space

Space can be a good thing. Ely Cathedral was just big enough for a luminous replica of the Moon to hang in the nave. I visited it last month for the science festival.

Sometimes, an object must come near for us to appreciate it.

Sometimes, it must be far away.

For me, the vault of heaven stretches over a cosmic sanctuary. I measure it as a scientist, but love it as a worshiper. We are one species among many, one planet floating in space. I dearly hope to find another. A heavenly chorus would be a wondrous thing, but silence and stillness can also be profound. Maybe this space was left intentionally blank.

Buddhists tell of 'sunyata', emptiness. Muslims say 'salaam', peace. Christians speak of sabbath and sanctuary. And there are many others. When you look up, remember that you, too, are a cosmologist. Your words have scientific and spiritual meaning. And words have a gravity of their own.

The cosmos is more than a void and more than an opportunity; it is a sacred space.

Image Notes

Moons: In 2011, the 'Cassini' spacecraft took a single 'photo' that included 5 of Saturn's moons (Janus, Pandora, Enceladus, Mimas, and Rhea) as well as the tip of Saturn's rings. Saturn is out of frame, to the right. I added the words, but the view is real.

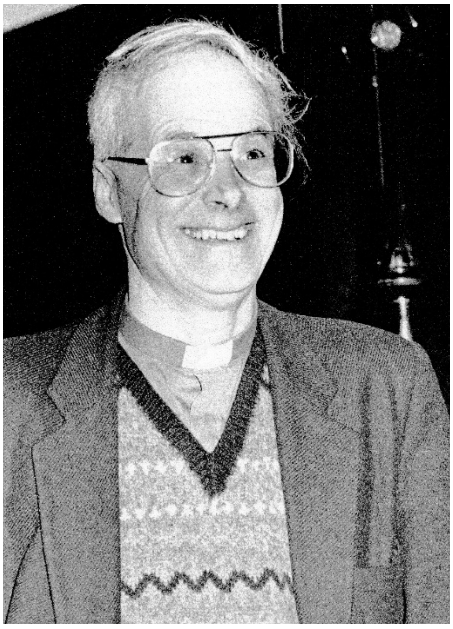
Painting: 'Pine Trees', Hasegawa Tohaku, c.1595

Jezero Crater: mosaic of images from the Mars Reconnaissance Orbiter and Mars Express.

'The Moon' is an artwork entitled 'Museum of the Moon'by Luke Jerram. It hung in Ely Cathedral for the Science Festival, 18 May – 9 June 2019.
It was a deep honor to share the stage with Yvonne Cagle, Bruce Damer, Brian Keating, and Ginny Whitelaw and I encourage you to follow them if you're interested in the topic. We had wonderful discussions both before and after the public talks.

Richard Hills d.10th May 2019 RIP

Richard founded and then was Director of the Science and Industry Museum, Manchester but for many of us he was a priest, secretary and Warden of SOSc and a dear Friend.



Richard as we remember him!

This Obituary has been adapted from that which appeared in the Guardian newspaper.

'When a small boy dashed into the Science and Industry Museum in Manchester shouting "Dad, Dad, they've got a Man City plane!", he summed up the gift Richard Hills, who has died aged 82, bequeathed to the city.
The 1920s Avro Avian, painted by chance in the same pale blue as the football team's strip, is one of a hoard of mechanical marvels that the museum's first curator amassed with unflagging skill and enthusiasm. "If we can't sell it, give it to Dr Hills," became a standard line for modernising businesses – including this newspaper – faced with the question of what to do with redundant machinery. Although primarily an academic and teacher, Hills – as founding director of the museum from 1968 – became Britain's expert on where to find space for historically vital but temporarily unloved leviathans, gifting Manchester knowledge mixed with fun.
Patient and meticulous, he also tracked down archives telling the story of the world's first industrial city and found display room for humble components, pins or spanners, that had played their part.
But his heart was in exhibits that actually worked, engines puffing, looms weaving. An infectious networker, he brought home a Manchester-built locomotive from the Isle of Man in 1975 with the help of a cousin who was a member of the House of Keys; he later flew to South Africa to secure a 120-ton Beyer-Garratt locomotive, dating from 1929, one of the 1,116 built in Gorton, the industrial quarter of Manchester. He arranged the engine's passage just in time on a boat that had been due to carry oranges.
Hills was born in Lewisham, south-east London, where his father, Leslie, was an Anglican vicar, but spent his childhood in the care of an aunt in Tunbridge Wells, Kent, after his mother, Peggy, died of cancer when he was two. His maternal grandfather, Sir John Ontario Miller, had been orphaned at the age of six but rose to high office in

Indian civil service. Hills, whose father was posted as a military chaplain throughout the second world war, showed similar resolution.

Richard Hills had a passion for rebuilding ancient machinery

He boarded at Charterhouse school, in Surrey, read history at Queens' College, Cambridge and served as a lieutenant in the Royal Artillery on national service from 1955 until 1957. He started training as a teacher at Cambridge but nearly lost a leg in a rock fall while leading an Outward Bound party on Great Gable, in the Lake District. He returned to teaching after bone and skin grafts and a year's convalescence.

After stints at schools including Worcester College for the Blind (now New College Worcester), he took a diploma in the history of science and technology at Imperial College, London, which led to the first of his 15 books, Machines, Mills and Uncountable Costly Necessities (1967), a history of the drainage of the Fens.

In the meanwhile, he developed a passion for rebuilding ancient machinery, which had started at school with work on a steam model of Robert Stephenson's locomotive Invicta. Hills' personal transport followed a similar course: he graduated from a vintage motorbike through various old Alvis cars to a 1924 Lancia Lambda which he repaired, maintained and ran for 52 years.

His talents were spotted in 1965 by Prof Donald Cardwell, head of the history of science department at the University of Manchester Institute of Science and Technology (Umist), who was keen to realise the dream of a grand industrial museum, an idea first proposed in Manchester in 1834.

Hills was given a research post in the department and tasked with helping set up what was originally called the North Western Museum of Science and Industry. Over the next 20 years, Cardwell, Hills and the museum's dauntless chief technician, Frank Wightman, made this happen beyond anyone's most optimistic hopes.

The hunt for exhibits was paralleled by a search for space, as the museum moved from temporary rooms to Oddfellows Hall on Grosvenor Street in 1969 to, finally, in 1983, the site of the world's first railway passenger station on Liverpool Road. There it remains as one of north-west England's most popular attractions. One exhibit from 1925, a Galloway mill steam engine, which was one of the last built, had to be dismantled and shifted to three different rented warehouses before permanent room was eventually found.

Visitor numbers rose from 15,000 in 1972 to 70,000 in 1978, with Hills' team ingeniously meeting challenges such as dangerous overcrowding around working machines. They were a friendly group. When the museum's cat had to be removed from a mural at Oddfellows Hall because its presence was thought frivolous, it was only lightly painted over and became known as the "ghost cat".

Richard was made deacon in 1987 and served his title at St Clements, Urmston. He was ordained as a priest in 1988. He was admitted to Life Membership of SOSc in 1989 while serving at Yarmouth.

Hills' unflagging work, documented in his history of the museum in the digital collection at Chetham's library, eventually took its toll, and in 1983, with the move to Liverpool Road secured, he retired as director. He wanted more time for writing – the resulting books included a three-volume biography of James Watt (2002-05) – and for leading hill-walking groups, and to train as an Anglican priest. After ordination in 1988, he worked in parishes in industrial Urmston, Trafford and Great Yarmouth, and finally Mottram in Longdendale, on the edge of the Peak District, where he lived in a 17th-century weaver's cottage full of industrial relics in various stages of repair.

After a diagnosis of prostate cancer in 2005, Hills was helped by many local people and especially Berenice Pickford, a church member and former divisional commissioner in the Girl Guides. They were married in 2008 and enjoyed happy years until she died of cancer in 2016. Hills retained a wide range of friends and, like so many of the industrial pioneers whose work he preserved, played a vigorous part in many Manchester organisations. In 2015 he was appointed MBE for his services to industrial heritage.

He is survived by two stepdaughters, his sister, a niece and three nephews.

DECEASED MEMBERS TO 2019

Arthur	Peacocke
Peter	Arvedson
Michael	Benton
Sjoerd	Bonting
Robert	Buckley
Mary	Catterall
Tim	Gouldstone
+John	Hapgood
Richard	Hills
Jack	Hird
Eric	Jenkins
Hubert	Makin
Philip	McPherson
Michael	Meredith
David	Moore
James	Moran
Rowland	Moss
Barbara	Pursey
Michael	Ranken
Robert	Semeonoff
Helen	Stacey
Bill	Stoeger
George	Tolley
Frank	Topham
+David	Young