



12 May 2013
The Sunday after Ascension Day
Choral Evensong
Job 38 vv. 1–11
John 6 vv. 1–15

Science and Creation

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Where was thou when I laid the foundations of the earth? Declare if thou hast understanding.¹

On the theme of Creation scientists are very much the ghosts at the Banquet. It is they who point to, sometimes reveal, even invert, the intricacies of the ordered world. They who probe, pry, dissect, even murder, the material realms: from the baffling world of quantum physics and the vertiginous prospects of ever deeper levels of order – “Dark energy, anyone? Lost a spoonful of dark matter?” – through the coruscation of living forms exemplified by the whirling synapses of the brain, to the vast arcs of cosmology. Of these perhaps the most familiar to the writer of Job would have been the realm of cosmology. So too the Psalmist declares “The heavens declare the glory of God; and the firmament sheweth his handywork”.²

Few scientists lack a sense of wonder, irrespective of their specialization. But mention Creation and there is usually an eye-brow raised, a quiet English cough, a gentle harumff as the conversation is quickly steered to safer waters. Nor is the scepticism always quite so eirenic. Ever more frequently there is a virulent tantrum, exasperation mingling with lofty contempt. “Surely you don't think *that!*”, followed by the invariable distress call of the well-bred agnostic, head clutched in the hands, rocking slowly from side to side.

Worse still, suppose one subscribes not to some woolly pantheism, not even a more rigorous theism, but Christianity itself. What a scene for unbridled merriment. “Do you honestly mean to tell me that you intend to accommodate – god knows how – the pre-scientific wisdom of a first-century Galilean builder and carpenter – don't interrupt! – the views of a *peasant*, compare *these* with the dazzling insights that science provides as to the construction, indeed the very sinews, of the world. This is a forlorn hope”.

Yes, science reveals deep order, but so too – especially in biology – it not only emphasizes but positively relishes in the contingencies of history. So many possible outcomes: here on Earth those tiresome little bipeds, too clever for their own good, “Out there” on some distant planet maybe some sort of organized slime with a ravenous appetite? And perhaps the very principles of natural selection, the ruthless winnowing of the less fit and the ever-present ratchet of competition extend far, far beyond evolution. Might it also be that those innumerable multi-verses are spawned by an analogous process?

Not so fast. The cosmologist Fred Hoyle, once a Fellow of this College, was deeply shaken by his realization that the synthesis of abundant carbon in the interior of giant stars depends on a peculiar resonance that allows three atoms of helium readily to combine and so contribute to the star-dust of which we are made. So too many others, not least Martin Rees³, have emphasized the extreme delicacy of those equations that define this Universe, a fine-tuning whereby in some cases even a nugatory shove in either direction would lead to a chaos of form and no chance of life, let alone intelligence.

¹ Job 38 v. 4

² Psalm 19 v. 1

³ *Just six numbers: the deep forces that shape the universe* (Weidenfeld & Nicholson; 1999).

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Yet it might be observed that if such resonances and tunings did not occur, we would not be here to talk about them. Science, be it at the level of cosmology or biology, very much prefers us to be a fluke. Convenient for the materialist programme, damning for any theological agenda.

How then might we proceed? Why should scientists not only study the Creation but offer also thanks and homage to our Creator? Not only that but how might they extend such worship to a tall man, with a short pony-tail, who suffered judicial execution by the Romans on Friday, 3rd April, 33 AD⁴? Paradoxically my arguments are aimed at the converted, or at least those of open mind. Nothing I say will influence by one jot a New (or Old) Atheist. Nor is it intended to: “He that hath ears to hear, let him hear”⁵.

Let us start with evolution. In reality the notion that its outcomes, including ourselves, are effectively random is negated by the very real constraints of biochemistry and the prevalence of evolutionary convergence. As significantly it is the intricacies of life, the degrees of co-ordination in the chemical maelstrom of a cell or the spectacular neural complexity of the brain, that show life itself must walk the narrowest of tight-ropes between a chaos of whirling atoms and an immobile crystalline order⁶.

From our brains emerge, or so it is said, mysterious things, language of course, but also music and mathematics. Nor are we alone. Many animals produce music. Glades fill with bird song and across the oceans whales sing. Perhaps, as has been suggested⁷, these convergences of human and animal music – harmony, melody, invention – are not so much the self-evident result of the vibrations of columns of air, but reflect how each in their own way access a Universal Music. Not, of course, a cosmic hum or in the case of animals necessarily the result of conscious decisions. But to me the eerie opening of Mozart’s Dissonance Quartet or the Good Friday music in Wagner’s *Parsifal* point to music being an orthogonal dimension of reality. Mediated by material agencies to be sure, but touching on intangible realities.

So too in mathematics. Animals evidently show a rudimentary capacity; what in the trade we call numerosity⁸. But as Eugene Wigner stresses in his famous essay “The unreasonable effectiveness of mathematics in the natural sciences”⁹ it is concepts such as so-called complex numbers that matter. These have no reality in any every-day sense, but are central in many mathematical operations that most certainly impinge on our lives. Complex numbers may not be real but they exist.

Music, not least by its aesthetics, and mathematics, in its elegance and power, is consistent not only with a Creation that extends far beyond the material, but one that is beautiful and, so it seems, of infinite depth. But again, what does this have to do with our Galilean?

⁴ The date of the Crucifixion has naturally excited great interest and careful scholarship. It is now generally agreed that only 7th April 30 AD and this date are compatible with the various lines of evidence (historical and astronomical) but for various reasons I think the latter is far more likely; see especially C. J. Humphreys *The mystery of the last supper: Reconstructing the final days of Jesus* (Cambridge; 2011).

⁵ Luke 8 v. 8

⁶ See P. T. Macklem *Journal of Applied Physiology* 104, 1844-1846 (2008).

⁷ See P. M. Gray *et al. Science* 291, 52-54 (2001).

⁸ The phenomenon of numerosity is remarkably widespread; bees can count, so can fish. Moreover, a degree of mathematical competence appears to exist in at least the parrots.

⁹ See his paper in *Communications in Pure and Applied Mathematics* 13, 1–14 (1960).

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Born in an out-of-the-way part of the world, ruled by oppressors, where cruelty, illness and famine were on the door-step. On the other hand, born also to a stubborn race who to the incomprehension of their Roman masters, insisted that history – or at least *their* history – was God’s narrative, that constant backsliding on their part and alarming silences on His formed part of the deeper pattern. And this man Jesus? First, I follow Richard Bauckham¹⁰ that for all intents and purposes the Gospels are eye-witness reports. Not that Mark and Luke, possibly neither Matthew, were actually there. But others, including the guardian of this College, most certainly were and their memories are reliable.

In the Gospels, stories of the feeding of thousands occur at least six times¹¹, and most likely report two separate events. Of one such we heard about a few minutes ago. But what *actually* happened? It is not a scientific question. Yes, our hypothetical scientist could have detained the boy, taken a sample of the barley bread and analysed it. So too he could have taken some fragments from one of those twelve baskets. Same result, or so I assume. Indeed so I hope. But in between first five loaves and then twelve baskets to spare? Here, I can only suppose, we see something – bread and also fish – coming out of nothing. This we know to be impossible, and so far as we are concerned it is. We are part of that same Creation and whilst most certainly we are capable of sub-creation – poems, music, even this Sermon – none of us can be the Creator. Jesus was – and is, and only He could feed them – and us.

Jesus was as us but also utterly different. Only through his hands (and some very busy disciples) could the thousands be fed, but only through Him could they be fed at all. The Jews had been on the right track; the Creator pays an apparently surprise visit. But they, and as often as not we, got it badly wrong. Here was a Creator nobody had bargained for. From the moment Jesus began His ministry he was doomed. And the Temple hierarchy in Jerusalem or their Roman overlords were not the only people to get it round their respective necks.

The disciples also engage in a monumental pratfall. It is some weeks after the Resurrection, so I suppose a day in mid-May. Jesus comes and goes, sometimes speaking to a few, other times appearing to a crowd. This time we are back on the Mount of Olives¹². Now is the moment, or so the disciples suppose. Their risen and now invincible Master will lead them back to the Jerusalem, just beneath their feet. At last all the prophecies will be fulfilled: the Messiah will rule Israel, the King has returned and this time forever. Not a bit of it. I almost hear a cough of apology. The disciples wait anxiously and then the words out of the blue and indeed into the blue. “Over to you, you’re in charge now”. And with that he vanishes – at least for the time being.

¹⁰ *Jesus and the eye-witnesses; The gospels as eyewitness testimony* (Eerdmans; 2006).

¹¹ See Mark 6 vv. 30–44, Mark 8 vv. 1–10; Matthew 14 vv. 13–21, Matthew 15 vv. 32–39; Luke 9 vv. 12–17; John 6 vv. 5–14.

¹² Acts 1 vv. 6–11.

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