

Giving voice to creation – a Christian vocation in science

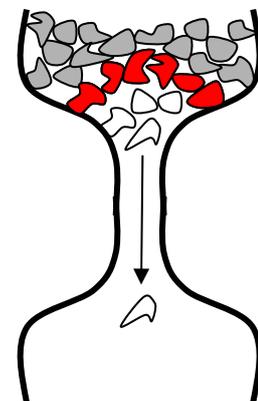
Wilson Poon, St. Peter's, Luton Place, Edinburgh, 21st September 2008.

Texts: Genesis 2:15-25, Psalm 19, Romans 8:18-25, Mark 5:25-34

When we adults go to the beach, we seldom pay very much attention to the sand. We are much more interested in the sea and the sun. But if we look around us, we see that the children are totally absorbed by the sand. Unlikely us adults, they haven't yet grown blasé about how weird the stuff is! They have *never* met anything quite like it. After all, is sand liquid or solid? 'Neither!' seems to be the answer. On the one hand, sand flows all right – tip the bucket, and it pours out like water. But when it hits the bottom, sand doesn't flow away like water; rather, it gathers and grows upwards in a conical pile. That's weird!

Now let me take you back 3000 years, to the time when the ancient Egyptians learnt how to exploit the weird properties of sand to make the first accurate portable clocks. We still use their invention in our kitchens for timing boiled eggs – the egg timer. Have you ever wondered why the Egyptians hit on using sand rather than a liquid in their portable clock? It's not just because they had lots of sand! There is a much better reason than that: water flowing through a funnel would make a rubbish clock! The rate at which water flows out of the hole depends on how much is left. At the beginning, when there is a lot of water and the pressure is high, the flow would be fast. But as water drains, the pressure drops, and the rate of flow drops also. The Egyptians knew that a water clock would always slow down. But they discovered that sand would flow from out at a constant rate, irrespectively of how much is left. Now that's weird too!

While the ancient Egyptians knew how to make 'sand clocks' more than 3000 years ago, it is only very recently that scientists have begun to figure out how they work. Imagine yourself shrinking to the size of a grain of sand and hide just near the business part of the egg timer, which is where the constriction is. This is what you'll see. Magically, the sand grains at the top of the constriction organise themselves temporarily into an arch to support the weight above, much like an arch in a Gothic cathedral, but the unsupported grains below the arch falls away. Then the current arch gets crushed and another arch forms while the grains from the failed arch fall away, and so on. Because the weight of the remaining sand is always temporarily supported by an arch, it does not affect the rate at which grains fall through. Now, *that's* smart. Sand grains figured out how to make arches long before the 12th century Gothic revolution in architecture! I hope you never again think of grains of sand as just dumb bits of inert matter!



Enough of sand. Let me tell you a bit about myself. I am a scientist. I don't study sand. Instead, I spend a large part of my time trying to understand the flow of pastes – concentrated corn starch solutions and tooth pastes are good examples. One of my research group's proudest achievements recently was to show that, amazingly, such wet pastes sometimes behave just like dry sand. We were able to do this because we have figured out ways to observe what happens on the grain by grain level as the paste flows – it is almost as if we really could shrink to the size of an individual grain and see what is going on with our own eyes. As a result, we have discovered an embarrassingly rich 'zoo' of unexpected phenomena. But that's another story.

Now, the Psalm that we sang today, Psalm 19, is central to the way I understand my vocation as a scientist. In this poem, which C. S. Lewis considered one of the greatest lyrics of all times, the psalmist says that 'the heavens are telling the glory of God, and the firmaments proclaim his handiwork'. What this Psalm says of 'the heavens' and 'the firmaments' is true of everything that there is. Since everything is created by God, so everything 'is telling of God's glory and proclaim God's handiwork'. But it is a funny kind of 'telling' and 'proclaiming', because the psalmist goes on to say that 'there is no speech, nor are there words, their voice is not heard'. Nothing in creation has the words to voice God's praise and tell of God glory, nothing, that is, except the one creature that is uniquely created in the creator's image – us, men and women.

I believe that the God-given vocation of a scientist is to give voice to voiceless creation – both by studying creation, and by telling others about the findings. In telling you briefly about sand at the beginning of this sermon, I was doing part of what I think God has called me to do. And, of course, my account was based on years of painstaking work of other scientists, doing their part in giving voice to creation. After listening to what I said, you will, I hope, never look at grains of sand the same way again. Much more importantly, I hope you will, like me, have been moved to give praise to God the creator for lavishing *that* much thought on grains of sand, and making them *that* clever! In so far as I have succeeded in turning your attention to sand – a part of God's creation, and making it a source of wonder and praise, then voiceless and wordless sand has indeed spoken in our midst.

Of course, we scientists are not the only ones responsible for 'giving voice to creation'. Others with very different callings have equally important parts to play. The Hebrew poet who wrote Psalm 19 many millennia ago did his bit, especially with his artful image of likening the rising sun to a bridegroom coming out of his 'wedding canopy'. But scientists have certain unique contributions to make. I will only mention one. The tools we scientists use are essentially extension of our senses – the microscope and the telescope being the two classic examples. With these tools, scientists are discovering more things in heaven and on earth than anyone has ever imagined. This, if you like, this is

the continuation of the work of Adam ‘naming the animals’, which we read about in Genesis chapter 2. As you know, giving a name in Jewish tradition means disclosing the true nature of something. Scientific investigation is surely part, but only part, of finding out about the true nature of things. Of course, discovering that something exists in the first place, whether it be the Higgs boson or a new bird species, is obviously an essential part of giving that something a voice!

Now, ‘giving voice to voiceless creation’ may strike some of you as rather esoteric as a vocation for a Christian. ‘Where,’ you may ask, ‘do you find Jesus calling his disciples to do that?’ I admit that you won’t find any text in the New Testament where Jesus calls disciples to be scientists. But there is a feature of Jesus’ ministry that resonates rather strongly with my understanding of the scientific vocation. Have you ever noticed that during his ministry, Jesus repeatedly gave voice to the voiceless? That he does so is, of course, clear when he heals the dumb. But Jesus does that in other, less direct ways. Once pointed out, these are rather obvious.

One example is in our Gospel reading today. You could not be much more voiceless than a poor woman with an unclean blood disease in first-century Palestine – that was a ‘triple whammy’, being poor, female, and ritually unclean. Poignantly, this woman’s voicelessness was brought out by the way she was healed – hers was the *only* totally voiceless healing in all four gospels. She anonymously touched Jesus’ garment, and instantly her haemorrhage stopped. No words were exchanged. But Jesus, recognizing that her voicelessness was part of her predicament, deliberately singled her out and *gave her a public voice*. She told everyone her story. So, when Jesus said to her at the end, ‘Daughter, your faith has made you well,’ we must understand the ‘making well’, or as other translations put it, ‘making whole’, as far more than just being healed of her physical disease. She had also been given a voice.

So I take encouragement from this reading of Jesus ministry, as a ministry of giving voice to the voiceless. In this light, my understanding of the scientific vocation as one of ‘giving voice to voiceless creation’ does not now appear so far fetched. Indeed, such a reading of Jesus’ ministry immediately suggests other dimensions in understanding the Christian scientific vocation. Jesus in his ministry preferentially gave voice to the despised and rejected, such as a poor woman with a ritually unclean disease. There are parts of God’s creation that are despised and rejected by our culture. This could be because we want to exploit those parts of creation, and it is just convenient that they should remain voiceless. rain forests are just one example among many. Imagine how much harder it would be to fell whole forests for our paper greed if all trees are like the talking trees in Narnia! To my mind, Christian in science have a particular responsibility to give voice to these parts of creation. Other parts of creation are deemed undesirable from a human perspective. In the popular imagination, for example, bacteria are enemies. Part of the scientific vocation is to give voice to

these parts of creation in their own right, as part of what the Creator takes delight in, irrespective of whether their existence is convenient for us or not.

Needless to say, the majority of my colleagues will *not* agree that the vocation of scientists is to 'give voice to creation'. If you don't believe in a creator, then there is no 'creation' to give voice to! The supposed conflict between science and faith is too large a topic to open up here. But I just want to point out that our Psalm today has something to say about this, too. The 'wordless' declaration of God's glory by 'the heavens' and 'the firmament' can only be interpreted aright by those who can hear the word of God in Scripture. That is the logic of moving from 'the heavens' to the law of God: 'The commandment of the LORD is clear, enlightening the eyes.' God's 'wordful message' in scripture is vital for reading aright creation's 'wordless message' about divine glory. We cannot 'read God from creation' unaided.

It is time to sum up and conclude. I believe that the Christian scientific vocation is to give voice to creation. In doing so, the Christian in science contributes towards what Paul calls the liberation of creation from 'futility' into 'the freedom of the glory of the children of God'. The Greek word translated 'futility' there means 'not able to fulfil its potential'. The universe is created to be a symphony of praise to its creator. To do that *fully* requires that the creatures uniquely made in the image of the divine Word, us, to give voice to the wordless creation. The Christian in science has a vital ministry here. It is because I believe that I am called to give voice to creation that very often, before I speak about science, the famous prayer at end of Psalm 19 comes to mind: 'Let the words of my mouth and the meditation of my heart be acceptable to you, O LORD, my rock and my redeemer.' Amen.