

## And all in the end is harvest

Bread, represented for us today by the beautiful loaves made by Pete and his team with much consciousness and engagement, is intensely evocative and pressed into service again and again to give form to that which is essential or of value. For us today it symbolizes harvest, an annual event since humanity first domesticated wild grasses 10,000 years ago. It can express pure survival (as in 'a loaf of bread,' the Walrus said, 'is what we chiefly need'); or provide a benchmark of quality (acorns were good until bread was found according to Francis Bacon; and 'how can a nation be great if its bread tastes like Kleenex?'). Then there are the many references to justice, and spiritual and moral themes: 'There are people in the world so hungry, that God cannot appear to them except in the form of bread' said Gandhi. We have just heard of the mysteries of the bread of heaven and the bread of life, and most powerfully of all for my theme today is what we will all say shortly around the altar 'we are one body because we all share in one bread'.

So what is bread and how might it reflect such extreme unity? On one view, bread is essentially carbon atoms with added hydrogen and oxygen. As carbon-based life forms, so are we. We are bread transformed, via the workings of the carbon cycle. Being a cycle, the implication is that bread is also transformed us. A very simple and localized version of the cycle goes something like this: carbon exists as carbon dioxide in the atmosphere. (Even though atmospheric carbon dioxide has a very bad press of late because of its global warming capacity, it is essential to life on our planet.) The carbon dioxide is absorbed by plants during photosynthesis, and transformed into the grain that becomes the flour that becomes the bread that is consumed by the humans. Humans, being active, warm-blooded and growth-full, combust the bread in their cells and produce carbon dioxide which is returned to the atmosphere to be absorbed by the plants to make the grain to make the bread. We very literally *are* transformed bread. And more than that, through this constant cycling through atmosphere, biosphere, hydrosphere and lithosphere, our substance is intimately linked with almost every chemical process on planet earth, and indefinitely recycled. This has a profound effect on my sense of identity, and on the way I relate to the myriad other identities – my neighbours, green, flesh and stone - sharing this pale blue dot suspended in cosmic vastness.

Here are some other atomic and molecular ideas which might also help structure a planetary sense of identity and relatedness:

First, all our atoms in all our organs are replaced all the time. Up to 98% of my substance is new every year. There is likely to be nothing at all in me that was there when I was born.

Second, atoms are very small and very persistent. There aren't many new ones appearing on earth apart from the odd meteorite and the products of radioactive decay.

Consequently, whatever water-based beverage you drank this morning to help with waking up and getting to church is likely to contain one or more atoms that were previously ingested and later excreted by, for example, Jesus, or Judas, or Einstein or mitochondrial Eve, the common female ancestor of all humans alive today.

Third, atoms combine to make molecules, a famous one being DNA with its powerful resonance of species identity. And yet we share 98% of our DNA with chimpanzees, 50% with bananas and 7% with bacteria. These figures are often quoted, but what do they really mean? One meaning is that all the chemistry needed for complex multi-cellular life such as that enjoyed by a banana is also going on in all of our cells.

And finally, those bacteria I mentioned, living organisms, and built from the same molecules that we are. They make up 10% of our body mass, which in my case is a good few kilos of bacteria. They form a vast, intricate, ecosystem of independent living cells which have co-evolved with our mammalian ancestry. There are 10 times as many of these cells as there are of my own cells. If you could dissolve every one of my cells and leave only the bacteria, you would see a perfectly formed, Deborah-shaped sculpture standing here.

So who are we, physically, materially? A flux of atoms, continuous with the flow of all the other atoms which constitute the planet. A close relative of every other life form on earth through our common carbon-based DNA. And a community of utterly inter-dependent organisms, all tightly meshed, or 'structurally coupled' as theologian Anne Primavesi puts it, quoting biologist Lynne Margulis, with the on-going history of planet earth which has reached 4.5 billion years and counting (compare that with the mere 10,000 years that we've been harvesting bread). Those 4.5 billion years of co-evolution have resulted in a very precisely balanced and self-regulating earth-system named Gaia by scientist James Lovelock. Gaia, named for a Greek goddess, became a scientific paradigm, offering a more holistic perspective than the reductionism which had become so prevalent in the 19<sup>th</sup> and 20<sup>th</sup> centuries, and allowing us to see the earth as a unified entity of which we are a functioning part.

A sense of belonging which takes into account this multi-layered material symbiosis radically changes my approach to the environment with which I am structurally coupled. As Primavesi puts it 'Our descriptions matter. How we express our relationships reveals more than we can say, and the effectiveness of those expressions correlates in some way with our impact on the material environment.' A symbiotic understanding and expression brings with it a sense of participation and gift. Participation is empowering, it implies creativity and the ability to make. The alternative description of the earth primarily as a resource bank, even if we see ourselves as stewards, leads, in Primavesi's words to 'ever more agribusiness, ever more consumption' and an assumption that 'the land and its gift of life belong to us.'

Many finely-tuned Gaian systems have been disturbed over the last 200 years as a result of the 'resource bank' approach, through burning of fossil fuels (huge reservoirs of sequestered carbon) to generate energy for our 20<sup>th</sup> and 21<sup>st</sup> century lifestyles. These disturbances are already proving catastrophic for non-human and human populations. Two weeks ago, the IPCC (the Inter-governmental Panel on Climate Change) told us that it is now 95% certain that current climate change is substantially anthropogenic, structurally influenced by human activity. I am not going to rehearse this here except to say that scientists predict the extinction of a million more species by the middle of this century, and the UN estimates that at least 300,000 human deaths each year are directly attributable to climate change. As the Bishop of London puts it in his preamble to the Church of England's 'Shrinking the Footprint' campaign, 'In the 21st century in an interconnected world, practising love of neighbours means that we are committed to mitigate the effects of climate change, which fall disproportionately on the poor and vulnerable in the world and those least able to adapt to rising temperatures and flooding'. I would add that a creation-centred, participative approach would include a paradigm shift in attitude towards the earth system, and a commitment to prevention as well as mitigation. While Christianity in many respects has a poor track record in this arena stemming from a split between spirit and matter, it also has an ancient and rich seam of creation-centred spirituality, and much recent holistic theology which recognizes the radical inter-dependence of humanity and the earth.

Here at St James's Piccadilly we used about 320,000kWh of energy last year, almost all of it generated through burning fossil fuels. To give some perspective on this large number, think of boiling an urn continuously for 10 years. Alternatively, if we could eat the energy in gas and electricity, 320,000kWh could feed a family of 4 for about 70 years. The Church of England's 'Shrinking the Footprint' campaign commits us to reducing our carbon emissions by 42% by 2020 and 80% by 2050 (compared to 2005). Having humbly received an F rating for energy efficiency pre 2010, we have now reduced gas consumption by about one quarter thanks to installation of a new boiler and roof insulation, and are currently acting to significantly reduce our electricity consumption by installing energy efficient LED lighting. Perhaps most important is the work we do on changing perceptions and behaviour as we collectively move into a climatically uncertain future.

I leave you with these lines from Edith Sitwell, which although written in an entirely different context speak of the inter-dependence and participation which is the bedrock of our existence, and which we symbolize today through sharing bread.

'Love is not changed by death. And nothing is lost. And all in the end is harvest.'