



Climate change



From the Acting Director

In the 1850s, when the Anglican Church in New Zealand officially came into being, there was a wide-spread attitude that God's creation in this country was wild, to be tamed, overcome where necessary, and put to use. Some of us will remember our own earlier farming generations 'breaking in' areas of land – felling trees, crushing bracken, draining swamps. The standard understanding of the lesson of Genesis 1 and 2 was that humankind was to have 'dominion' over all the earth and 'subdue' it. Indicators of a slowly- emerging change in this attitude came with the establishment of our first National Park, Tongariro, in 1887, from land gifted by Ngati Tuwharetoa; and the preservation of Kapiti Island as a bird sanctuary in 1897.

By the 1980s, a change of emphasis had clearly arrived in the church, as evidenced in ANZPB (1989). Here we find a variety of resources – prayers and liturgies – which extol God as Creator, and our human role in stewardship and preservation of that creation. There is a more nuanced view on the value of God's creatures. In *Benedicite Aotearoa* we give thanks for rabbits, despite the fact that in this country they are pests (as a result of human error).

As to climate change, the evidence is indisputable. The earth's temperature is rising rapidly, and with that rise come other changes: rising sea levels, different rainfall and storm patterns, and possibly disastrous shifts in ocean streams. The extent of human

From the Acting Director (continued)

contribution to the causes of increased earth temperature is still debated, but most people agree that it is possible to intervene to reduce some of those causes.

In late 2015, the UN Climate Change Conference met in Paris. Before the conference began commentators were pessimistic about whether anything would be achieved. But as time went on, optimism grew, spurred on by admiration for the skill of the French who were the hosts. By the end, after exhausting all-night sessions, there was a non-binding consensus agreement from the 195 countries present to reduce carbon emissions, in order to limit expected future temperature rise. There is no enforcement mechanism – just ‘name and shame’. Even this result could not have come about except with the prior agreement of China and USA.

Was the Holy Spirit of God present in this Conference? I’m prepared to say ‘yes’. The outcome is not enough, but it is a signal that the nations of the earth agree there is a

problem which impacts on them all. And they accept that joint action in reducing carbon emissions is the way forward. Praise God!

In this Newsletter, Matthew Bartlett shares his reaction to *Laudato Si’*, the pope’s influential encyclical on care for the natural world, released just a few months before the Paris conference. Emeritus Professor John Flenley offers a simple way for anyone to take action to capture carbon dioxide, and thus help reduce global warming. Maurice Dagger reports on the impact of climate change in the Pacific, and work going on to support people who continue to live on affected islands.

For us here in the church in New Zealand the challenge is to understand what is going on around us, and to recognise the reality of ‘climate change refugees’. Kiwis are a generous people, and there is a vein of goodwill to be tapped into.

Reverend Lyall Perris

The theology of *Laudato Si’*: On Care for Our Common Home

At St Michael’s Anglican Church, Kelburn, Wellington, we read and discussed Pope Francis’ latest encyclical as part of our Lenten journey together. WIT member Richard Deeble asked me to reflect on the theology of *Laudato Si’*, and the difference it might make in our approach to our environmental situation. (Numbers in brackets refer to the encyclical’s numbered paragraphs.)

Pope Francis is not in this long letter or short book writing ‘pure theology’. In addition to theology are anthropology, sociology, cultural criticism, international relations, spirituality and manifesto. But the document has a theological core, which I will attempt to distil for you. I’ll go on to consider what difference its theology makes, if any, to our engagement with our present environmental crises.

Who is God?

‘The best way to restore men and women to their rightful place, putting an end to their claim to absolute dominion over the Earth, is to speak once more of the figure of a Father who creates and who alone owns the world.’ (75)

Simply stated, *Laudato Si’*’s key theological idea is that God is God and we’re not.

The constant human temptation, represented most starkly in the Fall of Genesis 3, is to deny limits and attempt to take God’s place. This denial — sin — breaks our originally harmonious relationships with God, with our neighbour, and with the Earth.

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In recent decades technology has hugely empowered some of us. This has intensified the effect of tendencies that have always been present in humanity, dramatically extending our reach for good and evil. Our moral development has not kept pace. We've treated the Earth's resources and ecosystems as if they were ours to do with as we see fit, without reference to any higher court. But for Francis, it is God who alone creates and owns the Earth.

Who we are?

'Many things have to change course, but it is we human beings above all who need to change. We lack an awareness of our common origin, of our mutual belonging, and of a future to be shared with everyone.' (202)

Francis identifies our faulty self-understanding as a key problem. So what's a right theology of the human person? We are not the authors of our own destiny. Humans are part of God's plan; they're part of the good creation; they are created out of love, and in God's image. Therefore every person has great dignity — whether they are comfortable middle New Zealanders tempted to despair (like me), or children working in indentured servitude in the granite mines of South India. "Each of us is willed, each of us is loved, each of us is necessary" (65).

The Earth precedes us. God's care for us is mediated in large part through the Earth's ecosystems. Our place is to 'till and keep' — to cultivate and care for the Earth. The Earth is God's; we don't ultimately own any of it.

Us and them

'God has written a precious book, "... whose letters are the multitude of created things present in the universe"' (85)

Each species, landscape and ecosystem has something to tell us about God's character, if we have the ears to hear (or microscopes to see). But whether we're paying attention or not, the non-human creatures all have value in God's sight.

Theologian Bishop Robert Barron uses the term 'ontological siblings' to characterise Pope Francis' understanding (and St Francis', for that matter) of our relationship to the other creatures. At a deep level we are brothers and sisters. Having one father means we're all connected: 'God has joined us so closely to the world around us that we can feel the

desertification of the soil almost as a physical ailment, and the extinction of a species as a painful disfigurement' (89)

Hope

'The Creator does not abandon us; he never forsakes his loving plan or repents of having created us.' (13)

Pope Francis squarely faces our ecological situation; cataloguing it in detail in Chapter 1. But he also maintains a hope grounded in the character of God. The universe is not a closed system; it is open to God. Francis quotes Pope John Paul II, "The Holy Spirit can be said to possess an infinite creativity ... which knows how to loosen the knots of human affairs, including the most complex and inscrutable" (80).

The world also has a good destiny: the reconciliation of all the broken pieces in Jesus Christ spoken of in Colossians 1.

What difference does it make?

"We are not living in an era of change so much as a change of eras"¹

Laudato Si' rewards careful reading and rereading. Pope Francis covers a great deal of ground and touches on a huge variety of topics, but his is a profound, integrated and compelling vision for a new humanism, grounded in orthodox Christianity.

How would an environmentalism generated by *Laudato Si'* differ from other approaches to environmental issues? It would be integrated, 'joined up': as concerned with mistreatment of humans as mistreatment of the non-human creation. It would seek the flourishing of other species whether or not they had any economic value to humans. It would be hopeful, happy even. It would see humankind as having a rightful place in the world. Despite our failures to treat the Earth and our fellow humans as we ought, we can regain the dignity of good work to do.

It would follow Pope Francis' example and build bridges; not being content to merely throw stones, or talk amongst ourselves. It would tend to be positive — more than combative; and generative — working in whatever spheres of influence we find ourselves in to help build a 'civilisation of love' (231).

Matthew Bartlett

1 http://en.radiovaticana.va/news/2015/11/10/pope_francis_a_new_humanism_in_christ_jesus/1185723

Climate change: you can do something about it

Two years ago, God told me to write a book about climate change. I debated in my mind whether to write a Christian book, or a general one for the public. I was afraid that a Christian book would not be read by non-Christians, so I wrote a general book. I now realise that that was a mistake. The book has not taken off in terms of its effectiveness. So God has given me another chance to write to Christians, in this newsletter.

We have to start by distinguishing climate from weather. Weather is about individual occurrences: rainfall, temperature, cloudiness, etc. Climate is about averages of these things through seasons and years.

As Christians with knowledge of the Bible, we know that the climates of many countries have been unchanged for a long time. When the Jews spent 40 years wandering in the land east of Egypt, it remained a desert. When Jesus climbed a mountain with three apostles, it was cold at night. When Paul was shipwrecked in the Mediterranean, the water was not excessively cold. Only Noah had something strange happen: continuous rain for 40 days.

But we have experienced some changes in the last few hundred years. In the 1600s in London, the River Thames used to freeze over every winter, and people even lit bonfires on the ice. And in the 1800s, winters in Britain were much harsher than now. Since about 1900, we have had enough thermometers around to show that world temperatures have gradually increased by about one degree Celsius.

The rate of increase has increased in the last few decades. Some people think this could be due to sunspots on the Sun, but there is a better explanation.

Around 1750 CE, Britain experienced the first Industrial Revolution. This involved developing the first steam engines, using wood as fuel to turn water into steam, which drove the engines. Quite soon the wood, which burned away rapidly, was replaced by coal, which burned for longer. When these

fuels burn, they release a gas called carbon dioxide into the atmosphere. This gas sits around in the atmosphere and acts like a blanket, keeping the Earth warm. As the Industrial Revolution spread worldwide, coal mining became a massive industry, fuelling not just steam engines, but electricity generators. Nowadays we need electricity for almost every possible purpose. Only driving cars is different, because they use petrol, which is derived from oil. Petrol also burns away to carbon dioxide.

The net result is that the atmosphere now contains far more carbon dioxide than it did three hundred years ago. This leads to global warming, and if we continue as we are doing, it will lead to massive global warming.

So what, you may say? Won't that mean that we can have warmer homes, and waste less money on heating?

That could be partly true, but what about the air-conditioning we will need in hot summers? And these are side effects. The northern polar ice is melting fast, and the southern polar ice is following it. That will cause a massive rise in sea level – perhaps five metres by the end of this century. More than half the world's major cities are built next to the sea, and half of each of them will be drowned. Millions of people will need to be rehoused, and Christians will have to respond to that with generosity. New Zealand will have to accept refugees from drowning Pacific Islands.

Other things will happen. Carbon dioxide gas dissolves in sea water, and makes the oceans more acid. This is already happening. Acid seawater dissolves calcium carbonate, which is what coral is made of. Already large parts of Australia's Great Barrier Reef are dying and eroding away. Acidic sea water is also poisonous to many fish. The whole commercial fishing industry will collapse, with disastrous economic effects. All these things are predicted to occur during this century. Do we not care about our grandchildren? Is it not a Christian prerogative that we care for the Earth?



So what are we going to do about it? How about we all change to electric cars, and we make more electricity cheaply by wind power and solar panels? The problem is they are not all that cheap, although they do help.

What about nuclear fusion power? Many countries already have nuclear fission power (a controlled version of the same reaction that occurred in the first atomic bombs), but nobody yet has fusion power (a controlled version of the same reaction that powers hydrogen bombs). Nuclear fission has resulted in many problems, including serious accidents, causing many deaths. It also results in radioactive waste. Fusion power is being developed in France, USA and China, but it is not certain when it will become available. When it is, it will completely replace coal and oil and make electricity very cheap, and it will not produce radioactive waste.

But is there not something we could all do now to delay the onset of serious global warming, even if our government is pathetically slow to take the situation seriously? Yes there is! We can plant trees. Trees absorb carbon dioxide and convert it into other compounds which eventually turn into wood. So it is stored in the trunk, branches and roots of the tree. When the tree eventually dies, the wood rots and the carbon dioxide is released again, but many trees live for several hundred years, which would give us time to develop alternative solutions. Anyone can do tree planting. Just go to your garden centre, buy a tree, go home, dig a hole, and plant the tree. If you don't have a garden, ask your council to allocate a piece of land for tree planting. Best of all, join a conservation group such as A Rocha, collect seeds from native trees, grow hundreds of seedlings and plant them

all out. If you are a farmer, plant a fenced grove of trees in each paddock, so your cattle can have shade.

Tree planting has many other benefits. It is very helpful indeed to wildlife, especially birds. That is something which every Christian should be trying to do. It also helps to reduce soil erosion on hilly land. The result is cleaner streams and more native fish, so more whitebait.

In my book *Trees, trees, trees – You can do something about climate change*, I calculated how many trees we should plant. If everyone in the world were to plant 40 trees each, it would delay the onset of major climate change by 5-10 years. But since there is no way that everyone in the world (all seven billion of us) is going to plant trees, we need to plant more each – preferably several hundred. If we are really keen, we could start aerial seeding. This has already succeeded in some countries. If we were to pelletise the seed in a fertiliser coating, and project it from a helicopter into the ground, we could establish new forests everywhere.

Of course there are other problems. Our cows belch out carbon dioxide as they digest grass. But that problem is being researched and may be solved.

If we do nothing, our entire civilisation is at risk, and our grandchildren will not forgive us. So let us do what we can and let us pray for delivery from this problem.

John Flenley

Flenley, J. (2015) *Trees, trees, trees – You can do something about climate change*. Avery Bartlett Books, Wellington. Also available as an e-book.

Climate change in the Diocese of Polynesia

Archbishop Winston Halapua has been studying climate change in the Pacific for more than ten years. Archbishop Winston is Tongan, and Tonga is one of the countries in the front line of climate change and its effects, so it's a bit personal. Within the Diocese of Polynesia, for which Archbishop Winston is Diocesan Bishop, are three of the most vulnerable nations in relation to sea level rising. These are Tuvalu, Kiribati, and the Marshall Islands. Tokelau and Tonga are fast becoming the next two casualties.

In 2011, Archbishop Winston visited Tuvalu. From an article published in Anglican Taonga on 21 October 2011, "Winston Halapua has returned from 3 days in the stricken Pacific Island nation of Tuvalu. And as far as he is concerned, rising sea levels are no longer abstract theory. They are real. And they are a fact. Now.

He's seen the Tuvaluan people critically short of drinking water, because their wells are contaminated by salt water. He's seen kids roaming, because their schools have no fresh water, and are therefore shut. He's seen the hospital, which has been on the brink of running out of water. He's seen the breadfruit, banana and coconut trees, on which the islanders depend for food, withering and dying, because their roots are being poisoned by salt water."

The article did point out that at the time of the visit there was a drought in Tuvalu, which contributed to the problem. But this is not a problem that is easily solved. One could say that by harvesting water from roofs into tanks, the water problem would be solved. That is probably true, and in other parts of the Pacific, where the crops are not affected by sea water, that type of water harvesting is increasing.

In April 2013, Bishop (Now Archbishop) Philip Richardson wrote of a Bishops' Hui, held in Tonga, on a small island just out from Nuku'alofa. Some of his words were:

"Pangaimotu, the small island on which we met, is only 15 minutes by boat from Nuku'alofa. It not only provided a beautiful meeting venue, but also graphically demonstrated the effects of climate change – almost 20% of the island has been affected by rising sea levels."

In late 2015 the estimate of the damage on Pangaimotu was 25%. The effect on this one small island is quite dramatic if an estimated 5% of the land can be devastated in 2 years. In an item in Anglican Taonga News, Archbishop Winston says that areas he walked and fished with his father, as they sought food for his family, on Pangaimotu are now gone. He also said:

"The rising sea level speaks loudly for action. For some of us in Polynesia the truth is as plain as writing on the wall. Our land and our livelihood are drowning and others refuse to see it.

How can we tell our grandchildren the home they were to inherit has been destroyed? There is no justice in that so we are fighting rather than drowning."

Archbishop Winston is not just saying things. He is leading the Diocese into action. There is a strong emphasis on making sure villages have potable water. This means putting in tanks and harvesting water from roofs of buildings. There is also an effort to slow the effects of climate change by planting. On Pangaimotu Island recently there was a worship and planting service involving the Anglican Church in Tonga, Archbishop Winston and the Archbishop of York. The planting part of that service was to plant mangroves in the desolated parts of the island. Planting the salt tolerant mangroves strengthens the natural filtering systems and should help push back the encroaching sea. By pushing the salt water back some of the devastated land can be brought back into use for cropping trees.



Residents in the northern part of the capital city of Majuro in the Marshall Islands watch as their neighborhood floods with seawater during a king tide.

Part of the reason for bringing the Archbishop of York is practical. He is a high profile church leader who has significant international influence. By having him visit these places he can bring the effects of climate change to the notice of a much wider audience.

Archbishop Winston wrote of his reasons for inviting the Archbishop of York in Talanoa Wave 20 of August 2015, "I invited him because of his warm humanity and ability to address global issues, in particular that of climate change. By inviting him to be alongside us, I was inviting him to gain an understanding of our situation and the impact of sea level rising because of climate change very evident in the context of our Diocese."

The Archbishop of York challenged Pacific Leaders to speak with one voice on climate

change. He also challenged the British High Commission in Fiji to gather the leaders together to enable that speaking with one voice.

Our Diocese is involved. There are parishes helping to improve water harvesting systems in Fijian villages and parishes helping in Tonga where we have worked with an Anglican School to help them improve agricultural education by financing the rebuilding of the school piggery. We continue to be involved.

Reverend Maurice Dagger

Articles from *Anglican Taonga*: Tuvalu Visit, 21 October 2011; Straight Talking, 24 April 2013; Archbishop of York plants for Pacific Future, 3 August 2015; Bishops Issue Climate Challenge, 27 November 2015; *Talanoa Wave 20*, August 2015 (*Talanoa Wave* is the newsletter from the Bishop of Polynesia to his Diocese.)

Contact details



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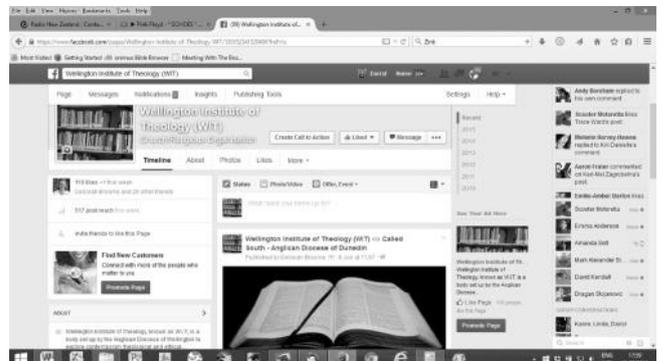
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