



## The Good Society and the Environment

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*Exodus 8: 1–7 John 15: 12–17*

I'd first like to thank the Dean of Chapel for inviting me to speak in this excellent series, and secondly let me thank the Director of Music and the choir as always but especially tonight for singing so beautifully. And then to Ethan McGrath, composer of tonight's *Nunc Dimittis* – thanks so much for being with us this evening.

The environment has been around much longer than we have. It is not a constant thing. Societies too come and go. So what is 'Good' about society and how should a society be good to the environment?

The last Glacial Maximum was 25,000 years ago. If, like me, you find big numbers hard to digest then take a leaf out of David MacKay's book (more about that later) and try to make big numbers small. 25,000 years is about 1,000 generations, if you consider an average age for childbirth at 25. It was about two generations ago that Trinity first admitted women students, so go back only 500 times further and you get to the ice age. We were pretty primitive back then.

Sea level was 120 metres lower than it is now and as things began to warm up Britain was exposed from under the ice as the northwest corner of a vast continental shelf for humans to inhabit. Our nearest beach was up near Inverness, not too far from Norway, on the coast of Doggerland. Then further warming and rising seas gradually flooded low-lying lands. And about 8,000 years ago (that's 300 generations) huge tsunamis and releases of water from glacial lakes in North America inundated Doggerland. There's nothing any Good Society could have done to influence any of this. The environment was changing very fast.

Over the 300 generations since the flooding of Doggerland the world's climate has remained remarkably stable. During that time our Societies have come and gone – Greeks, Romans, Goths, Saxons, Hapsburgs ... a lot has happened over those 300 generations and it isn't that long ago, especially if you think that 20 generations have passed since the time of Leonardo da Vinci.

Why Leonardo? Well, he invented the flying machine. OK, his design would never have worked. But his idea was picked up by some 20 generations of engineers and perfected. Now we fly routinely. Flying has had a big impact on our Good Society and it is having a big impact on our environment. It's not just that planes release lots of carbon dioxide. Local residents near airports don't appreciate the noise, the traffic, the air pollution.

And let's not forget that easy travel causes the break-up of families with knock-on effect on the environment too. We no longer as communities tend for the veggies and chooks in our gardens, we don't sit around chatting as we make our own clothes, we aren't passing on the skills we need to make our own furniture. And we get away with it because all our food, clothes, furniture can be flown in.

It's all too easy. We've worked out that in our Good Society the only meaningful resource is money and the only meaningful skill is how to acquire lots of money. And it seems that the more money we have the more we can do good in society. But the money has come at the expense of the environment. The biggest manifestation of this is the burning of oil, coal and gas – the fossil fuels. We use money to pay people – other members of our Good Society – they must be our friends, I guess, since we gladly pay them. We pay them to dig this stuff out of the ground. Then we take the fossil fuel that we've bought with our money and we burn it, distributing it evenly around the globe as carbon dioxide.

For sinners also lend to sinners, to receive as much again.

Our original sin is to have taken so much out of the abundant Earth. Those fossil fuels – or 'dead dinosaurs' as I like to call them – were laid down about 30 million years ago. That's a million generations – forget it, unimaginably long ago. Was it a resource that was stored up conveniently for us to use? I don't think so. We're using it all up in just ten or so generations. Do we have plans for replacing it in the future? Ought we not repay in full the amount that we have borrowed from the Earth? Do we not somehow expect the Earth to respond? Have we pushed her too far? – and will she give us frogs?

David MacKay, whose photo you will see in the order of service, matriculated in 1975 and read Physics. He wrote this fantastic book *Sustainable Energy Without the Hot Air*. He was a critical thinker on climate change and renewable energy. His book lays out clearly the options we have for the provision of sustainable energy. He says that for any solution to be effective the numbers have to add up.

Let me give you a flavour of David's thinking. He could see that nuclear power would have to form part of the way forward to supply energy in the UK and elsewhere. When asked by a journalist why he was so pro nuclear he responded, "I am not pro nuclear, I am pro arithmetic."

The Good Society that we have inherited is based on science, technology and engineering down to its roots. Its impacts on the environment are severe, everything from plastics that end up inside turtles, to CFC's, to species extinctions – the list is endless. We have a duty to understand at least something of these technologies and their impacts and it behoves members of this community in Trinity to be numerate. It's like spelling – we expect that all educated people can spell.

In a Good Society we would value numeracy.

On the subject of the third runway at Heathrow, for instance, David would say, "we should be closing two runways per year if we're to meet our climate-change targets, not building new ones." It's an easy sum: there are 50 commercial runways in the UK and if we need to be carbon zero in 25 years then you have your answer – 50 divided by 25 equals 2. I know some of you have hopes for electric planes – they're nowhere near just yet. But if you'd like to try one of the electric scooters that the College will be trialling next month then I gather they will be on display after evensong tonight.

If you pick up on numbers and use them every day it becomes a habit. And we remember useful numbers, like 365 days in a year, ten apples in a kilogram (very handy to know in Trinity – each apple weighs one Newton) But for 'impact on the environment' do we have a useful number? We need one to know what is good and what is bad. I have a handy number

and it is my poo print. Each day were I to collect my poo in a bag how much would it weigh? I reckon less than half a kilogram per day.

Add to that my kitchen waste and other unavoidable things – perhaps again under half a kilogram per day. So poo and other waste add to about 250 kg per year. That's what I call my poo print. It's about three times my body weight per year. And back in Doggerland the poo print per person would have been about that, I imagine, around 250 kg/year. And it was like that right up until 1769 when James Watt invented the steam engine.

Back to flying. Each hour I generate 100 kg of carbon dioxide – that's my share. That's more than my own body weight. In one hour. Just me. So on my forty-hour round trip to Australia I am responsible for 4 tonnes of CO<sub>2</sub>. That's sixteen times my annual poo print. 50 times my body weight. Poo and kitchen waste is biodegradable and easy to dispose of. Even useful on the garden. CO<sub>2</sub> waste is definitely not useful and it's not at all easy to dispose of. The BBC last week published figures to say that I could offset the CO<sub>2</sub> from my flight to Australia for a cost of £35. I don't think so. Could I dispose of 4 tonnes of kitchen waste and poo for £35? £350 more like. There is a distinct lack of numeracy going on here.

When it comes to numeracy we should lighten our darkness.

Do we talk about the environment with our friends, family, children? It has become a real issue for young people because of course they will be living with the impacts of environmental damage for longer than the rest of us. They are really worried, you can tell. Let's make sure we talk about it openly in schools, in Brownies, Scouts, Girl Guides, Cubs. We can't afford to be afraid of the truth. Early man used to be pretty clued up to his tribe and to what nature was doing. But it's the height of irony that in a world of unprecedented communications, we've stopped listening.

This time last Sunday Cressida Dick was speaking about the Police. She cited the Nolan principles for standards of behaviour in public life: Openness, Honesty, Leadership. We owe it to our children and to their children to be open and honest about the impacts our lifestyles are having on the environment. And leadership ought to be coming from us, not from them.

Two weeks ago we saw the launch in Cambridge of the Centre for Climate Repair – it will be looking at things like how do we suck CO<sub>2</sub> out of the atmosphere and how can we refreeze the arctic. This is excellent for Cambridge. We have an opportunity to be leading the way. But I hope the emphasis is on things other than 'repair' because from where we are now we must do all we can to inflict as little further damage as possible on our lovely blue-green planet.

Excellent too that the Cambridge City Council has declared a 'climate emergency'. If this for real then we should expect to see an emergency room of some kind. Do we dial 999? What kind of emergency is this? I think we're all a bit confused. What we need is a drop-in centre for Public Engagement with Climate Change. Let's set up a local-community-led climate newspaper, a single 'climate.cam.ac.uk' domain for whole-university engagement, perhaps host an annual Cambridge Climate Festival where we throw open the doors of all the departments and get teams from across Cambridgeshire to work on their zero carbon local schemes. None of this seems to be happening.

There's so much to do. But for me I know I should find ways to cut down my flying. Difficult decisions come my way, mostly in my personal life. Some choices are easy, like when my niece in Melbourne invites me to her wedding. "You must come, Uncle Bertie, please!" "I can't," I say, "because a return flight to Melbourne is four tonnes of CO<sub>2</sub> – but the flight would cost me £1000, so here's £1000 as a wedding present." "I'm so glad you're not coming to my wedding, Uncle Bertie!" she says.

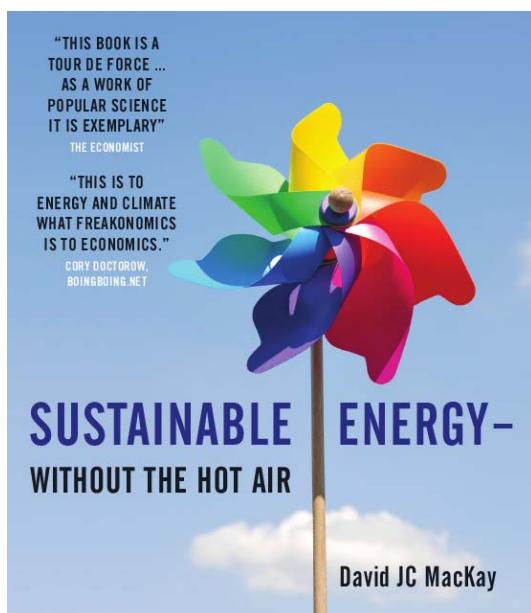
But others are not so easy: Do I fly to Australia for my mother's funeral? That was a tough one, but I went. I went with my numeracy hat on and at least understood what I was doing. I'm still glad I went.

I can make choices to be good or bad. Sometimes I leave undone those things I ought to have done. Those 'undone' things are having their bad effect on the environment. That's because climate change isn't just driven by those things I have done that I ought not to have done. We can all stop eating meat, stop flying, buy second-hand clothes and so on. But do all of this and our Good Society will still have a big impact. We owe our health to Addenbrookes Hospital (with its own large environmental footprint), the success of our University and College to international collaborations (for which we need airports). We owe the safety of our streets (even when riding a bike) to good lighting and road surfaces. Reducing our society's impact on the environment is going to require changes at the highest level, in parliament, in local government driven by a will to act, to decarbonize all facets of our energy use. We can't do this on our own.

The Good Society now recognizes the importance of the work of Extinction Rebellion and the school strikes for climate led by Greta Thunberg. We ought to support these actions because they have a good chance of making a difference – of kick-starting conversation. We're beginning to notice that the juggernaut of fossil fuels is driven by greed and it's not just our own greed. There is huge profit to be made in the fossil-fuel industry. The imperative now is to put down the mighty from their seat. The Good Society has become global, and it is not uniformly good. Another one of those Nolan principles is 'fairness'. Equity. One equal possession.

If I have a single message for you it is do something big. For most of you an easy first step is to fly less. Attend fewer conferences and don't be afraid to tell the organizer why you're not going. And when you really have to fly, go Economy. It's not that bad. Business Class takes up 3 times as much space on the plane and First Class maybe ten times as much.

And always ask for a window seat. Look out the window as often as you can and remind yourself that we are his people, the sheep of his pasture, and that pasture down there – this declining Garden of Eden – is worth looking after.



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