

WILL THE FUTURE BLAME US?,

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Dr Dr Jörg Tremmel

First of all, let me express my sincere thanks for having me here. It is a great honour. Profession-wise, actuaries are used to think long-term when it comes to human affairs. But there is one profession that is used to think much longer term, albeit not with human affairs so far: geologists.

At the International Geological Congress in Cape Town, September 2016, there was a consensus that human activity has reshaped all parts of the Earth system. The impact has happened to a degree that this community spoke out in favour of changing the classification of geological epochs and declaring a new age, the Anthropocene.¹ This step, if endorsed by superior committees can hardly be overstated.

Let me explain: The need for designating geological eras first came up when the theological doctrine that the Earth had to be at most 6000 years old according to the bible was refuted during the age of the Enlightenment. This was a turning point in the human conception of self. The invention and refinement of a geological time scale rank among the most important achievements of human thought. For only now do humans know where they stand.

Against this backdrop, the significance of the pending proclamation of the Anthropocene becomes clear. It, too, may be an eye-opener and a wake-up call for the reform of our political institutions, namely parliamentarianism. Our political institutions, as we know them, were designed in and for the Holocene.² The transition into a new phase of geology necessitates a reform of these institutions.

According to Winston Churchill³, the difference between a politician and a statesman is that the politician thinks about the next election while the statesman thinks about the next generation. In the Anthropocene, the need for more statesmen is imperative. And who could better understand the need for an ongoing adaptation of parliamentarianism to the changing times than the Britons? The mother of all parliaments has seen many reforms since its beginnings, and its best form is still a topic of lively debate.

Now, when I was invited to this event here and today, I was given the question: "What changes could be made to our democratic institutions to help embed longer-term thinking?" I think each nation should come to grips with this question on its own. Being from another country, it is not my task to give specific advice on this to Britons. There is no one-size-fits-all solution, after all. Therefore I limit myself to some general remarks:

Reforms have to take into account both windows of opportunity and path-dependency. One fertile framing of the question for the United Kingdom could be: "Is it possible to transform

¹ Literally speaking, the term 'Anthropocene' can be translated as the 'Epoch of Men' or 'Age of Men', with 'anthropos' (Ancient Greek: 'human') connected to the suffix '-cene' used to designate new geological epochs.

² The name of the current epoch.

³ The quote originally stems from James Freeman Clarke (1810–88), American theologian and author.

the House of Lords into a Council for the Future?" Currently, the House of Lords does have a broader remit, and hardly any of its members think of themselves as a representative of future generations of the British citizenry. But if a force within the House of Lords could be created in favour of long-term, sustainable thinking, then maybe two birds – the reform of the House of Lords and the implementation of an office for the future – could be killed with one stone.

Claire Moriarty, Permanent Secretary, DEFRA

It's tempting to say that Government has a short-term view because of the political cycle, with elections (at least) every 5 years. Parties have remained in office for multiple terms but can't/don't plan on that basis. In reality, Government takes lots of long-term decisions that affect future generations – eg Thames Barrier had a planning lifetime of 70 years, now looking more like 100. Thames 2100 project is based on climate change modelling and looking out to next century.

Could argue whether projects lasting for generations equate to considering future generations in decision-making. In some cases at least, they do, where delivery stretches over a generation. Patrick McLoughlin Crossrail story – being planned when he was a junior Minister in 1989, still being planned (constructed) when he came back as SofS in 2012. First travellers later this year will be at least generation on from those who dreamt it up. We just wouldn't do that if not thinking about future generations.

Big infrastructure investments are perhaps too easy to consider since their intergenerational nature is obvious, and can be taken into account in standard appraisal methodology. Though 60 year maximum is arguably too short for projects with a 20+ year build phase – we certainly had that debate on HS2. The basic conundrum is how to get the current generation to pay a cost in the short term when the benefits will be realised only by future generations. That becomes more difficult when the benefits are less easily visible, or indeed contested.

Some international agreements and protocols seem to have done this, providing long term decision frameworks. For example the Montreal Protocol on CFCs in the upper atmosphere, now coming up to 30th anniversary, or the even longer-lived 1979 Convention on Long-range Transboundary Air Pollution. And the Paris convention begins to shift us in that direction in the much more complex area of climate change, though there's some way to go before we can tell how well it's succeeding.

In your table discussions, it might be interesting to reflect on the relationship between intergenerational issues and international agreements. But here's an example from the UK, and from Defra: the 25 year environment plan. It's explicitly about the interests of future generations, resting on the Government's commitment to leave the environment in a better state than we found it: to improve the environment *in* a generation, *for* future generations.

It's definitely in the frame of short term cost for long term gain, with today's announcement on straws, stirrers and cotton buds a good example of that. We're proud of the level of ambition and especially the fact that it is a genuinely cross-Government plan. It's fair to say that it illustrates the challenge of making very long-term policy, and specifically of doing so with credibility. Reaction to the commitment to reduce avoidable plastic waste by 2042 was inevitably 'that feels a long time in the future'.

The big idea in the 25YEP plan is natural capital. In simple terms, valuing natural environment and thereby bringing it into decision-making. The Green Book – Government’s appraisal bible – was recently updated to take account of natural capital. From our perspective that’s a huge step forward though of course it takes us straight into the question of how you do so. If you look at the Green Book you’ll see it goes through the potential natural capital impacts and signposts ways of valuing them, rather than trying to put a single value on natural capital.

Modelling is by nature based on assumption so our ability to factor in benefits to future generations depends on understanding what will matter to them. That was brought home to me recently hearing Dame Georgina Mace speak about natural capital. One of the many things I learnt was how much the scientific construct has changed over 40 years: from a focus on people-free habitats (nature of itself), via nature despite man (species loss) and nature for people (ecosystem services) to people and nature – recognising a dynamic relationship, with a focus on resilience

Apply that lens to considering future generations in policy-making and you’ll see that a previous generation, thinking about us as a future generation, might have prioritised things very differently from what we now think is important today

A last observation. One of my colleagues pointed me towards a couple of interesting documents. First is the European Environment Agency 2013 publication “Late Lessons from Early Warnings” about chemical pollutants. It documents examples of things that have gone wrong like the effects of DDT pesticides, and suggests we were too late in responding to the problems as they emerged. But it only looks at innovations that resulted in net costs rather than net benefits.

Second is Mark Walport’s 2014 annual report as GCSA titled “Innovation: managing risk, not avoiding it”. Written partly in response to the EEA report, it proposes an approach to innovation and development that balances benefits and costs. Why is that relevant? Essentially it’s a debate about the precautionary principle: a hazard-based versus risk-based approach. It’s true that a hazard-based approach could protect future generations from potential harm, but almost certainly at the expense of potential benefit.

In Defra we often talk about healthy economy, healthy environment. We need the economy to be in a fit state to make it possible to support the environment, and the environment in a fit state to support the economy. In practice that comes down to judgements made on front line by employees of the Environment Agency, Marine Management Organisation, Natural England etc. Will I grant a license, or permission to extract aggregates from the sea bed?

I often say that society outsources some of its most difficult problems to Defra group field staff. It turns out that includes judgements about future generations.

Louise Pryor, member of the IFoA’s Council and Chair of the Resource and Environment Board

As Colin said, actuaries are concerned with understanding the long-term implications of decisions made today. Most of us work in insurance and pensions, looking at the financial side of an uncertain future. We analyse data and evaluate financial risks, and communicate

our finding and insights so that businesses can make better decisions. Crucially, the risks we work with are usually long-term in nature. This means that policy that affects future generations is a key input that we have to consider; it also means that we are ideally placed to help understand what the effects of policy on future generations might be.

For example the bulletins on Intergenerational Fairness that we published last year covered issues such as how changes in pensions and saving legislation might affect whether younger generations will have a decent standard of living when they retire, if indeed they are able to retire; how the health and social care system can both survive the demands of an ageing population and ensure those with care needs are treated with dignity; and how the massive power of the financial system can be harnessed and used to help reduce the impact of climate change on the physical and financial world.

One thing we all know about the long term future is that we don't know what it will be. There's a lot of uncertainty, and many risks and opportunities: we simply don't know how it will all turn out. This is something that is at the heart of actuaries' work. As a result, we have developed some reasonably effective ways of thinking about risk and communicating it to our users. For instance, I rarely talk about **expected** outcomes to my clients – I try talk about **possible** outcomes, and give some idea of how possible they are.

And it's possible outcomes that policymakers should be thinking about in the context of the long term. So maybe some of the actuarial modes of thought about risk and uncertainty could be helpful to policymakers. For example, thinking about a range of potential scenarios can help to explore the available options, without having to come down on any particular scenario as being the likely outcome, or indeed even saying that any of the scenarios will actually happen.

And, of course, we have the way of thinking about acceptable levels of risk that's enshrined in solvency II: decide on what probability of failure you're prepared to accept (say one in two hundred) and then work out what you have to do to achieve that (put enough capital into your insurer). Of course this can be made to work in other ways too: given what you're planning to do, and what's the worst level of outcome you're prepared to accept, then work out what your probability of failure is. The point is that you've got these three things going on, and any two of them can be used to determine the level of the other.

One of the current projects at the IFoA at the moment is focusing on the UN's sustainable development goals, the SDGs. We're looking at how the SDGs affect actuaries and the industries they work in, and how actuaries can help their clients and employers contribute to achieving the SDGs. I want to finish by putting a little plug in for the IFoA Board that I chair, the Resource and Environment Board, which focuses on the impact of environmental risks on society and on the financial system. Thinking about the future and about issues of sustainability is key to all we do. Our role within the profession is two-fold: we help actuaries understand how they can think about environmental risks in their day-to-day work, along with risks such as mortality, investment returns and so on, and we contribute to society's thinking about long term environment risks by presenting an actuarial perspective. If you are an actuary, please do sign up for our newsletter – it's full of interesting stuff.