



## OFFICE OF THE PRIME MINISTER'S CHIEF SCIENCE ADVISOR

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### **The Challenge of Digitalisation – Beyond the Technology** **Sir Peter Gluckman Speech to D7 Ministers (by video) 22 February 2018**

There is no debating the reality that digitalisation is having very broad impacts on every aspect of human society, its organisation, its economics, its power relationships and wellbeing. Here I am using digitalisation as a short-hand to encapsulate a range of technologies including big-data, machine learning, AI, the internet of things, robotics etc. But because it is a form of innovation that is happening very fast, and being driven by the largely globalised private sector, the focus of discussion has been on its positives, often framed for a somewhat utopian view of the future, and governments have largely taken a reactive approach to issues that have arisen until they become particularly confronting.

Listen carefully to how we talk about digital transformation – you hear the word ‘optimist’ and ‘optimistic’ *a lot*. The very fact that we so often seem to have to declare this optimism when it comes to digital transformation means that we are not entirely convinced... there is still trepidation and uncertainty. We need open discussion about where we want digitalisation to take us. We will need our public officials to assert the public interest – and we need the fortitude to understand that this needn't be seen as stifling innovation, but encouraging it in a socially robust form.

The manifest benefits over the short-term of the internet, social media and e-based services have inhibited balanced discussion. But the power of platform companies is such that at least one country has appointed an ambassador to them, signalling their essential equivalence to sovereign nations. Their power, the evolution of crypto-currencies, the way in which companies such as Uber have tried to reject regulation, the inability to effectively regulate gaming, pornography or questionable transactions online all are illustrations on ways in which the power of the State has been eroded. Further the ongoing uncertainty about the effect of digital transformation on jobs and on the tax base highlight some of the challenges the nation state faces in this rapidly changing environment. So we must keep our eyes open. Doing so will help us maximise the many benefits of the digital revolution while being proactive and responsive to the risks.

Governments have seen the obvious benefits of providing many services electronically. Some governments -- and NZ would be a world leader in this regard -- have started to see big data and integrated data as a way to enhance evidence based policy development and evaluation, particularly through the integrated data infrastructure, but there are also issues that can emerge. For example the public appear to see greater risk with respect to governments rather than private sector activities in accumulating data.

While the revolution is unstoppable and that while it will have major implications for individuals, society and the nation state, much of Silicon Valley believes it is beyond the need to concern itself with the consequences.

Already we seeing effects on mental health, the erosion of confidence in knowledge, loss of power to the nation state and many other things I will soon come to. These consequences, include the potential to overthrow our post-enlightenment sense of human values, indeed some, as I found out in a recent discussion with an in-house ethicist of one of the platform companies, regard that fundamental change as inevitable.

We need to pause at that statement: the inevitability of fundamental change to our most basic human and societal values – this is an enormous challenge to you as leaders of digitally advanced societies. You have a core responsibility not just to think in the short-term but to work collectively to think how these trends can be filtered so as to ensure the future of the human condition is healthy.

Let me explain a bit about where I'm coming from on this before parsing this statement. I am Chief Science Advisor to the government of NZ, but by background I am a paediatrician and an evolutionary biologist – most of my research is focused on understanding the human condition in rapidly changing environments. Beyond that I chair the international network of science advice, INGSA, and sit on the advisory board to the OECD's digital futures work. Through that INGSA has been asked to undertake a major piece of work on understanding the human condition as it is evolving in the digital age: this work is well advanced, led from my Office

Let me give a simple example: two decades ago human self-worth was generally seen in terms of proxies such as living in a safe stable relationship, having a job and adequate income and fulfilling a number of socially scripted milestones. Now for many people, not all young, the intrinsic nature of measures of self-worth is being replaced by extrinsic measures of celebrity: 'friends', 'likes', 'views' and 'shares'.

And where might it go? Will there be increased pressure to portray an idealised self with even greater narcissistic drive; how will successive job retraining and uberized work fit with traditional employment-associated measures of self-worth and so forth? The impact on mental health could be substantial—our resilience mechanisms and strategies are not designed for these environments and we are all facing rapid growth in demand for mental health services, especially for young people.

So back to my encounter with the Silicon valley philosopher— the bottom line was – those values we take for granted – privacy, autonomy, right to determine your own path in life, stable social relationships within a Westphalian State which has a clear set of organisational and regulatory safety nets and supports – are all could evaporate in the future digital world as many techno-determinists see it. Many Silicon Valley pundits and futurists view these societal values are transient, to be replaced by a new set and with those will come new power relationships.

Now none of us is a Luddite—we all want the best from this inevitable revolution but I suspect most of you would that to be framed within protecting that set of values we regard as core to the interests of our citizens. Sorting out what is real, what is not and what must be protected and how requires more than a partisan approach. And it is not easy – look how concepts of privacy, of trust, of responsible communication have changed so rapidly.

Indeed in our work on human wellbeing, we are looking measures of self-worth, opportunities for self-actualisation, personal health, privacy, autonomy and the understanding of reality. We are looking at impacts on social interactions, family, friendship and relationships, public health, inequality and societal cohesion, and societal values and under the heading of society and civic institutions we are looking at information transfer and the new media, representative government and the rule of law.

So where do you as the D7 ministers fit in? Rightfully you want to get as much of the upsides of this revolution as possible for your society, and you have largely done so by standing back and being reactive. You have created internet infrastructures to assist business and the citizen, and increasingly looking at e-government and big-data to assist your own responsibilities. In reactive mode you have started to look at issues like privacy and digital rights. And you are having to invest heavily in cyber-security.

Block-chain technologies highlight your dilemma. At one extreme they can reduce risks of fraud and be used in multiple ways to assist society, at the other they can undermine your national currency, assist tax avoidance and indeed could undermine the current structure of state-based authority and services.

We do not know, despite much rhetoric how to educate and train for what is ahead – educational experiments are needed. How do we ensure the distinction between reliable and unreliable information becomes clearer – in the end facts matter. How do we stop a transition towards a more feudal relationship with the platform companies, how do we ascertain how to protect mental health in the new world, how do we deal with the multiplicity of ethical issues that will emerge – for example who owns data, what is implied consent for data already collected, in a world where cybersecurity is not assured how is the public to be protected, what are the limits on the power of the state in this regard, does the state need independent data governance and ethics structures (personally I think these are critical and overdue), how do we create governance structures for government data that give confidence to the citizen without becoming a big brother society how should nations collectively deal with the globalised digital world, the ethics of algorithms, how do we have public conversations on the evolving nature of democracy? I could go on....

It is easy for politicians to put all this in the too hard basket and focus on short-term reactive solutions on the basis that doing anything else might stifle innovation. But that will not serve your citizens well. The history of innovation shows it can be shaped, What is needed is pragmatic but long-term thinking not driven by techno-optimists but involving social science, psychologists, sociologists, and political scientists to find pathways ahead.

The seven countries here are all thinking countries, all with a strong technological base but also with a history of pragmatism and democratic ideals and a commitment to advancing the interests of their citizens. As a set of countries with different cultures and histories you are well placed to take the lead – not just by meeting and dealing with immediately practical matters like codes of digital rights but in creating a collective approach to evaluate ways in which this inevitable revolution can be shaped so as to promote the upside and restrict the downsides.

Every part of society will be affected this is an issue for more than technology and science advisors. But leadership is needed – this should be the role that D7 can play. It is no use to blindly labelling ourselves as optimists without truly thinking through what it will take to make the optimistic vision a reality. This means directly confronting the downsides too – and mitigating them with the policy and regulatory tools that we have at our disposal, and those we will need to create for the purpose. We need a good dose of techno-pragmatism, intellectualism and collective long-term thinking.