

## Forum: Society as a complex system: implications for science, practice and policy

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### Abstract

This is opening address given by Governor David Hurley to the *Royal Society of New South Wales and Four Academies Forum on Society as a Complex System: implications for science, practice and policy*. This was held at Government House, Sydney, on Tuesday, 29<sup>th</sup> November, 2016.

I would like to pay my respects to the traditional owners of the land on which we gather, the Gadigal people of the Eora Nation. I affirm my respect for their elders, ancestors and descendants—and all Aboriginal people. I recognise their living culture and their knowledge, as the world's oldest continuing culture, which has sustained this land for tens of thousands of years.

As Patron of The Royal Society of New South Wales, I am delighted to welcome all delegates and attendees to this *Royal Society and Four Academies Forum: Society as a Complex System*.

I thank you for your eminent contributions to this Forum, being jointly held by The Royal Society and the New South Wales Chapters of Australia's four learned Academies—the Australian Academy of Science, the Australian Academy of Humanities, the Australian Academy of Technological Sciences and Engineering and the Academy of the Social Sciences in Australia.

I was taught very early in my military career never start a speech with an apology. I will this morning, though, because since we had our power cut off last week—not because we don't pay our bills here, but some workers down the road decided to sever our cable—we've had lots of prob-

lems getting things started up again and I'm afraid the air conditioning's not playing the game today. So, if you need to be in a shirt and tie, please do take your jackets off until we sort something out.

I'm used to "wicked" problems, having worked in the Defence force and looked at trying to determine 20, 30, 40 years down the track what the world will be like. What will conflicts look like, what will the national security condition be, what capabilities will the Defence force in 2010, for example, need in 2050? How do you answer those problems? Today, we, I think, dive further into looking at wicked problems in the sense we're going to look at society as a complex system. I think families are a bit like that, a bit of a microcosm of the problem, because if you look at the definition of a wicked problem or a super wicked problem, there are a number of elements or a number of characteristics: time is running out; there's no central authority—sounds like my household; those seeking to solve the problem are also causing it; and policies discount future rationalities. This is the nature of the problems we'll be looking at today.

If you look at Sydney at the present time, you've no doubt seen the debate that's going on, the discussion between ministers, plan-

ning, industry, the business community and the population and the media about what Sydney will look like in 2026, only 10 years away from now. Our economy is moving from a traditional manufacturing-based economy to a digital- and technology-driven economy. Indeed, IBM says that the amount of data that was produced in 2002 is now produced every two days, under current technology, with all the different systems we have. We've become heavily reliant on a knowledge-based economy. Indeed, in 2026 it is predicted that the three dynamic service industries in New South Wales will be finance, professional services, and information and telecommunications. A drastic change in the economic base of our country. And, of course, this will affect employment, education, housing and health—some of the areas we'll touch on today. So, what our plan is in the State, how our leaders, how those who input into those discussions, will help solve these problems are critical.

As I alluded to last night, the implications for what we'll look at today about how governments and how bureaucracies organise themselves and who the new stakeholders are in these decision-making processes will become important. Are you a good or a poor insurance risk for health? Big data is going to tell us this. Insurers are now searching big data. Your Fitbit, if you wear one, will tell your insurer whether you're a good or a bad risk. These links, which we would never have thought of before, are actually influencing the way business is being done, how people see the world. How to design a health system around the delivery of personal medicine when every bit of data about a person can be

known? Where's the dividing line between privacy and public health requirements, national cost of servicing health? These are problems, I think, that will keep popping up until, somehow, we can provide a means for our decision-makers to address them. And if you think your premium for private health is too high now, watch it go up if you fall in the wrong category. And, indeed, who looks after the uninsurable? These are all problems, I think, that our discussions today can assist. I mentioned the Murray–Darling Basin system last night, I keep coming back to it. It intrigues me and I'm really looking forward to that discussion today about what we do with this major water system.

As you've seen from the agenda today, I think we're in for an extraordinarily absorbing period together. I look forward to the Q and A. I come from an Arts background so I'm pretty much in the wrong audience here but, as I mentioned last year, I did do my degree in pure mathematics, so, even though I didn't use it once I left Royal Military College, I could count the number of soldiers I had in my platoon. That was about the amount—and did I have the same amount in the morning as I had the night before? Yep, we're okay. So, I'm really looking forward to some stimulating presentations today, great discussion and questioning.

On that note, I won't say any more other than to say, again, happy 150<sup>th</sup> birthday to the Royal Society—150 years since the Royal Assent—and to declare the 2016 *Royal Society of New South Wales and Four Academies Forum: Society as a Complex System* at Government House open.

