Australian Government

Chief Scientist

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Science Meets Parliament 2024

Gala Dinner Speech

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Good evening, everyone.

I would like to thank Paul House for welcoming me to your country. It always means a lot to me when I have this privilege.

It's been a full day, so I will try to keep things fairly brief this evening.

As you will know, I led the national conversation on the refreshed National Science and Research Priorities last year.

I hosted roundtables in every capital city, as well as regional centres - with a broad cross-section of Australians, from school children through to the heads of industry, to community groups, the science and research community, local government, state and territory chief scientists and others.

The remarkable thing was the consistency in the messages I heard, no matter what part of country people came from, or their background or job.

The people I spoke to are ambitious for Australia. They're proud of our liberal democracy and our shared values of fairness and equity, and want to protect them.

They're concerned about disinformation, and what it means for social cohesion.

Australians want recognition of indigenous knowledge systems.

They want an urgent response to climate change.

They want access to excellent health and medicine no matter where in Australia they live.

They support the need to build prosperity and domestic capability.

There is an expectation that we will harness new technologies for good.

That we will build thriving communities.

There really is momentum for working together and using research for changes that will improve our daily lives.

These things are important to all Australians.

And the overriding impression that has stayed with me is that Australians are united in their expectations of what society should look like and how we shape our future science and economic ambition.

These shared values and expectations are an excellent foundation. We shouldn't underestimate its importance and how fortunate we are to have this in Australia.

We're also fortunate to have this opportunity each year to bring science and parliament together.

I know for those of you who work in science and those of you who work in politics, your days and working lives are quite different.

I suspect, though, for all of you, 3-year cycles of boom-and-bust play far too big a role.

I’m not sure whether grant writing is quite up there with meet-and-greets in shopping centres, but let’s just say they’re both intense and relentless in the way they come around again and again.

Despite the differences in our working lives, we’re all here tonight because we share something.

The thing we share is a trust in the lessons and in the power of science.

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As you know, science is my life.

It has always been my life.

I learned that immersing myself in understanding the lifecycle of the frog by studying my brothers’ and sister’s Harry Messel Blue Science textbook. Catching tadpoles in the local creek and watching them transform into frogs was completely fascinating to me and it set me to wanting to understand the world around me. Science unlocks the power of imagination and the world of possibility.

Science also holds the answer to many of our most pressing issues.

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Late last year, I saw a poll about the issues Australians want their governments to focus on.

Not surprisingly, cost of living was at the top, and then came healthcare and aging, housing, the economy, and the environment and climate change.

Science and technology didn’t make the top 5.

In fact, it came last, in 16th place.

But what struck me about those top concerns of Australians is that science touches every one of them. Science literally permeates the life of our nation.

If we’re going to tackle climate change and protect our environment.

If we’re going to build new and more sustainable and affordable housing, if we want to be economically successful and prosperous, and create new, well-paying jobs for Australians, all of this requires science.

Let’s just take the No 1 concern, cost of living.

New technologies drive efficiencies that can reduce costs across the economy and improve quality of life for all Australians.

Think back to the price of a phone call, it used to cost a fortune, and technology has changed that.

And once upon a time if we wanted to take a photo, we had to take a roll of film to be processed, not to mention owning a camera.

Thanks to solar, energy is available everywhere and the evidence is that it's the cheapest form of energy production.

Emerging technologies such as digital technologies, AI, quantum, synthetic biology and the ability to develop entirely new materials will grow Australia's economy, drive efficiencies, attract international investment, and create a better standard of living for all Australians.

So, the question for all of us in the room is how we make this happen. How do we ensure that we make the most of these new and critical capabilities?

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There are two things I want to highlight.

One is we need to be agile, and the other is we need to let go of old habits that are unhelpful.

The speed of change is enormous – for example, quantum and AI have gone from zero to 100 seemingly overnight. It wasn't much more than a year ago that ChatGPT burst on to the scene and turned us all upside down.

I remember the date because I was speaking at the Quantum World Congress in Washington DC. It was November 30, 2022. ChatGPT meant nothing to me at the time, but very quickly the scale of what was unfolding became clear.

And since then, we've all spent considerable time coming to terms with the implications.

So it takes agility. It also requires us all to be open to new ways of doing things.

All big systems have an inertia that's hard to get past. Sometimes we get weighed down by structures and artificial barriers, or the ways we've always operated, and that stop us from getting to where we want to be.

My approach is to look to the laws of physics. If we're not breaking them, then the outcome we're aiming for should be possible.

The ambition we have for Australia today is certainly not beyond the laws of physics.

I remember when Martin Green developed a highly efficient solar cell technology in the 1980s. But at the time, we thought we couldn't manufacture solar panels here in Australia – it was seen that the labour costs to manufacture were too expensive.

There was also a mindset that it was too high-tech, something that other countries did, but not us.

And yet the approach to solar cells developed by the UNSW team is used in most of the world's solar panels today and helping deliver a global response to the energy transition.

I'm looking forward to speaking with Martin tomorrow at his keynote – we'll have a chance to hear his wisdom on our future opportunities.

We don't want another lost opportunity. Great science needs to be translated to impact here, to the benefit of Australians.

With new technologies like quantum, we've done the research, it's time to embrace it and turn our fundamental science of the past 20-plus years into impact across applications from navigation in places where GPS can't reach, to logistics, new medicines and diagnostics, the sustainable extraction of critical minerals, and even the Olympic and Paralympic Games by creating a quantum industry here.

We can't shy away from this, as we did with solar. Australia's in a much better place to grasp this opportunity and run with it.

Quantum is a success story for Australia, and I'm working to make sure it stays that way.

That's just one example. There are others.

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I said science permeates every part of our lives in Australia. But we also have to remember that science is one part of the puzzle.

It also takes engineering, humanities, social sciences to take science to impact.

It takes the right business model, investment from industry, and commitment from government.

We also need the social licence.

During the national conversation on the Science and Research Priorities, values came up in every single roundtable discussion.

So when I read a popular book recently it repeated an anecdote often attributed to anthropologist Margaret Mead.

The story goes that she was asked by a student to explain what she thought represented the earliest sign of a civilisation.

Her response was the discovery of a healed human femur bone. Her thinking was that left alone in the wild, a broken leg bone was a death sentence. But a healed bone indicated that somebody had cared for the wounded person while the bone knitted back together.

I think this story is almost certainly apocryphal, and we know that animals also show concern and care for each other and for those who are weak or wounded.

But I like the idea that what it means to be human is rooted in caring for others. And then being able to act on knowledge to bring about change in each other's lives for the better is where civilisation started.

Yes, science is transformative and fascinating for its own sake. It is part of being human and civilised.

The world of knowledge and the possibilities it unlocks is critical to the way it can inspire our children.

However, the reason science is on our national political agenda, the reason the whole of Australia needs to care about, learn about and invest in science, is that it allows us to create a better nation and to look after each other in new ways.

Thank you.