Australian Government

Chief Scientist

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2017 LaTrobe Lecture

Visions of Victoria

29th July 2017

MELBOURNE

How much do I love Victoria?

Well, put it this way, I've got a son named "Victor". And it might have turned out very badly for him if we lived in Tasmania and applied the same rule.

But luckily for all of us, Victoria is home.

There are about six million people who choose to live in our state: six million people with the good luck and good taste to be Victorian.

And so many of them are exceptional people that I refuse to accept they could all be wrong.

I'm a scientist and this is my evidence-based conclusion.

A toast to six million Victorians!

Now there's a downside to being one of six million right-thinking people. It means the pressure of being the official Victorian of the Year is enormous.

Look at it from my perspective!

I inherit a title from Judith Durham, and then I bequeath it to Mike Brady. That makes me just the nerd from Central Casting in between.

I can't sing. I've never appeared on a postage stamp. No-one has ever made a musical about my life.

At best, in a certain crowd, I can occasionally pass for Dr Who.

I *can* write – I've published a lot.

And funnily enough, I've been waiting all my life for the right occasion to read out some selections from my PhD thesis, titled "Chloride-selective cholinergic receptor-channels in snail neurones", which I happen to have with me tonight…

… but I sense that this is not the right occasion.

What I'd like to offer you instead is a journey through time, and a vision of the future through the prism of the past.

It won't be a snapshot of the future, because the future is too hard to pin down.

No: it's more like a screensaver, all blurring colours and dancing lines.

Focus on the lines, and the image dissolves.

Look for the *patterns* – and then you'll find the line you want.

But to think in patterns you have to think backwards as well as forwards, and sideways as well as straight ahead.

So that's how we're getting to the future tonight: backwards and sideways.

We're starting in 1851 and we're going to the opposite side of the world.

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1851.

A year of three momentous events.

The year the colony of Victoria was born.

The year the gold rush was proclaimed.

And also the year of the Great Exhibition, at the Crystal Palace, in London.

Our prism to the past. The Crystal Palace.

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Now there was a time when every boy and girl in Australia knew the story of the Crystal Palace.

These days, you say "Crystal Palace" and people assume you're talking about the British football team.

If they're slightly older, they think of Superman and the Fortress of Solitude, which was *also* a crystal palace, but one in a frozen wasteland only accessible to Kryptonians and Lois Lane, and not relevant here.

I'm speaking of the *original* Crystal Palace, a spectacular confection of iron and glass that sprang up like a fairy castle in London's Hyde Park, in 1851.

This Crystal Palace was more than 500 metres long and forty metres high, with close to a million square feet of glass. It was a display case like no other.

And the jewel it was built to house was the Great Exhibition.

Inside were more than 100,000 displays from more than 15,000 contributors, gathered from all across the globe.

The richest porcelain and tapestries from France. An ivory throne from India. Watches from Switzerland, and furs from Russia.

And from Germany, a family of taxidermied cats, arranged as a tea party.

But it wasn't all cultural artefacts in dubious taste. There was the best from the British: the mighty iron gods of industry!

The steam hammer. The hydraulic press. The locomotive, and the mechanical loom.

And alongside these incredible machines were the curious models of things to come: submarines and bicycles and hot air balloons.

The variety was staggering, but the overall impression was clear.

Here, in the heart of London, in a chrysalis of glass, was the power of human potential.

It sprang from the vision of Queen Victoria's husband Prince Albert, a globalist and techno-optimist ahead of his time.

He didn't just come up with the idea: he personally chaired the Royal Commission that brought it to life.

The plans for the building were signed off just days before the Queen signed the documents that would establish Victoria as a separate colony.

It is curious to think that Queen Victoria might well have had the plans for the Crystal Palace, and the paperwork for the colony of Victoria, on her desk at precisely the same time.

And when our Separation Day arrived, in the following year, the Great Exhibition was at its height.

Victoria was on its way to becoming a state of six million people – and the Great Exhibition was on its way to welcoming a total of six million visitors.

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Now, if you were looking for Victoria's contribution at the Crystal Palace, you would have come home disappointed. The Great Exhibition opened too early for the colony to have its own presence.

And the contribution of the other Australian colonies was fairly dismal.

There was a good showing for our Merino wool, some samples of wood and at least two barrels of beef fat.

As they say, all very interesting… but nothing to compare to taxidermied cats.

But I suspect we caught the sparkle from London: the spirit of science, of learning, of industry and invention.

Because in that year, 1851, the settler population of Victoria doubled… and doubled… and doubled again.

There were ten times more settlers in the colony at the end of 1851 than at the start.

They founded the University of Melbourne, the Athenaeum, the Royal Botanic Gardens, the State Library.

They built Australia's first telegraph line, from Melbourne to Williamstown, in 1853.

Then they built Australia's first steam railway, from Flinders Street to Port Melbourne, in 1854.

They lit up the MCG with electric arc lights as early as 1879, so football could be played at night.

That means that we had night lighting at the MCG *before* Thomas Edison produced his revolutionary lightbulb.

And we weren't just early adopters in technology– we were social pioneers as well.

- The eight hour day.
- Votes for women.
- Worker's rights.

Victoria was known as the "working man's paradise", because the wages here were the highest in the world.

And so it was that in 1880 – barely a generation on from the Crystal Palace – the Great Exhibition came to Melbourne.

We built our own display case: the Royal Exhibition Building in Carlton.

But everyone knew that it was really Victoria itself that was on show: Victoria, the tiny colony at the bottom of the world, that didn't make the catalogue in 1851, was now the global host.

And our greatest days were still to come.

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You can put it down to gold. But other nations had natural resources, and commodity booms, without anything like Victoria's success.

Argentina is a case in point.

In the early 1900s, Argentina was one of the ten richest nations in the world, with one of the fastest rates of annual growth.

Prior to World War I, its income per capita actually surpassed the levels in Germany, the Netherlands and France.

But Argentina declined while Victoria, and Australia, continued to prosper.

We built strengths not just in mining, but in agriculture, manufacturing, healthcare, education, transport, banking and engineering.

And we grew rich not just in material terms, but in the things that make life worthwhile.

A baby born in the state of Victoria today can expect to live longer than Queen Victoria, ruler of the British Empire.

Think about it.

The average person in our state today lives longer, in better health, and greater comfort – with more opportunities to travel, more things to eat, and more cultures to experience – than one of history's most privileged women.

Every year, the Economist magazine, which I love almost as much as Cosmos Magazine, puts out a ranking of the world's most liveable cities.

Melbourne has topped it for six years and counting.

So you could say that Victoria was not just born in the year of the Crystal Palace – it breathed in the same spirit and it bore out the same promise.

Last month Elizabeth and I went to Italy for a family wedding. We had the opportunity to travel around.

What we saw in so many places was a sense of pride.

People took pride in their history, pride in their community, pride in their shared potential.

They felt honoured to be part of something bigger and more enduring than themselves.

That's the real gold. And Victorians have it in spades.

That is not to suggest that those Victorian Victorians were perfect. Like the builders of the Crystal Palace, they could be arrogant, prejudiced and stubborn.

They also had some appallingly bad ideas – like introducing carp to the Royal Botanic Gardens in 1859.

In the same year, they introduced rabbits, so that they could shoot them for fun.

It is a reminder that we never touch the web of fate with perfect knowledge of the consequences: either the benefits… or the risks.

Some people would say that's a reason not to change things – ever.

But doing nothing doesn't mean we're playing it safe!

It means we're doing nothing.

Instead we must act, while keeping in mind the web of fate, and do our level best to read the patterns.

Then we have to work out how to shift them – the smart way.

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So let's go about it tonight like true Victorians. Let's imagine that we had our chance again to host the Great Exhibition in our own Crystal Palace 2.0.

Imagine that the world came together once more, here in Melbourne, to showcase everything that human beings make, and do, and dream.

What would we put on display?

One rule only: no cats allowed. Dead, or alive.

Let me offer a few suggestions.

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First, the display stand I will volunteer to stand by.

It's devoted to the Bionic Eye.

In itself, it's amazing technology. A small digital camera, in a pair of glasses, transmits high-frequency radio signals to an implant in the back of the eye.

The implant converts the signals to electrical impulses that are passed to the processing centres of the brain through the optic nerve.

But it's not just the raw genius embodied in that device.

It stands for all the expertise we have clustered here in Melbourne, the undisputed capital of Australian medical research.

It's not just biomedicine – it's coding and chemistry… and optics and genetics… and electrical engineering and clinical experience… and more.

You need all of them to deliver a miracle – the science way.

So tick to the Bionic Eye.

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Second, the display we'll use to draw in the crowds: the best of Victorian farming.

We'll have lambs and chickens for the children, and wine for the parents.

But we could take our pick: from apples to zucchinis, you name it, we grow it.

And we won't just showcase the quality of our produce – we'll demonstrate the incredible pace of innovation on farms.

How about the E-Shepherd? It's a GPS collar for sheep and cows, invented in Victoria.

The farmer determines the coordinates of their virtual fence. And when the animal wanders outside the boundary, the collar sends an audio signal that irritates it until it goes back the other way.

So the farmer can move the fence, and the herd, by tapping their phone. Brilliant.

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Third, to Victorian manufacturing.

I'm thinking of a Victorian company named Carbon Revolution: the maker of the world's only one-piece carbon fibre wheel.

It's twice as light and 13 times as strong as the standard aluminium equivalent.

We make them in Geelong, and you'll find them on Audis, BMWs and Porsches. They're that good.

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Fourth, our nine universities and a vital export: education.

If I had a favourite, it would be Monash, where I was Chancellor for eight years.

But of course I would never have a favourite.

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Fifth, something to capture the warmth and charm of Victorians. Let's make it the KeepCup.

Takeaway coffee usually comes with a side order of guilt: the disposable cup.

The KeepCup lets us have our great coffee in a barista-approved reusable cup.

I bought mine in Queenstown, New Zealand. But it was designed and manufactured right here in Melbourne.

As all of you who travel will know, you have to be in Victoria to have a great Victorian coffee.

But you can have an inferior, non-Victorian coffee, in a great Victorian KeepCup, anywhere in the world.

Five suggestions: there's a start. There could easily be many hundreds more.

And we could throw in two barrels of beef fat, for old time's sake.

Folks, it's a beautiful thing: we've made the Great Exhibition Great Again.

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Now here's something else that was remarkable about the Great Exhibition of 1851: it actually turned a profit.

The proceeds were used to establish some of London's finest institutions: the Imperial College, the Museum of Natural History and Science, the Victoria and Albert, and of course, the Royal Albert Hall.

They also paid for science scholarships, which are still offered today.

Those scholarships have supported 13 Nobel Laureates, including New Zealand's most famous physicist, Ernest Rutherford.

We could call that an excellent return on investment.

Naturally, we would aspire to do the same.

So what will we do with the stupendous profits from Crystal Palace 2.0?

Here's a thought: we could invest in science education.

There's a misconception that science is useful for scientists, and optional for everyone else.

Every time a child leaves school with that belief, we have failed.

We have failed to give that child the full set of tools to navigate his or her world. And we have failed to best prepare that child for a better future.

And so we have failed ourselves.

But just imagine what we could achieve, if we inspired every child with the joy of science, and gave our science teachers our every support!

Imagine what our legacy could be!

Just a thought.

But even if I can't send you away with pots of money, I hope we can leave our Crystal Palace tonight with something more important.

It's just this: an unshakeable conviction that the future will be great.

Let's get on with it.

THANK YOU