Reopening of Shine Dome

Address by President, Professor Chennupati Jagadish AC PresAA FTSE

CHECK AGAINST DELIVERY

In thanking the Governor-General of Australia, His Excellency General the Hon David Hurley AC DSC (Retd):

Thank you, Your Excellency. We are honoured to have you and Mrs Hurley with us for this special occasion, particularly in this Platinum Jubilee year and given that Her Majesty the Queen presented the Royal Charter in 1954, establishing the Australian Academy of Science.

We continue to have strong links to the Royal Society of London and keenly participate in scientific activities within the Commonwealth.

It is now my great pleasure to welcome and to invite to the podium the Minister for Industry and Science, The Hon Ed Husic.

In thanking the Minister for Industry and Science, The Hon Ed Husic:

Thank you, Minister Husic. We are delighted that we could welcome you to the home of science so early in your term and we are pleased to hear your vision and commitment to science, particularly when you say you are committing to science, and science is going to play an important role in this nation's future, particularly in terms of policy – the role of science, in terms of directing policy for the country, it's got a big role to play – including issues like science diplomacy, and in terms of developing relationships with our colleagues in the Pacific nations.

We're very much looking forward to working with you, we are here to really help you to achieve your goals, and let us work together to create a vibrant science community in the country.

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Having moved to Canberra to start my career at the Australian National University in 1990, I have had the enormous privilege to learn about the rich historical significance of the Acton campus and the broader contributions from Australia's First Peoples, and their continuing culture and connection to Country. Thank you to Aunty Violet for coming and sharing your connections with this land with us.

And so, I would like to pay my respects to the Ngunnawal people and to all Aboriginal and Torres Strait Islander people with us this evening in person or online. We have much to learn from your ancient wisdom and knowledge systems and the Australian Academy of Science welcomes your invitation *to walk with you in a movement of the Australian people for a better future* as articulated in the Uluru Statement of the Heart.

I also acknowledge that actions speak louder than words. So, since commencing my term as President of the Academy last month, I have confirmed that I will personally champion the Academy's reconciliation activities. I look forward to collaborating with my colleagues and the community on this critically important work.

Dhawura nguna, dhawura Ngunnawal.
Yanggu ngalawiri, dhunimanyin Ngunnawalwari dhawurawari.

Nginggada Dindi dhawura Ngunnawalbun yindjumaralidjinyin.

The words I have just spoken translate into:

This is Ngunnawal Country.
Today we are gathering on Ngunnawal country.
We always pay respect to Elders, female and male, and Ngunnawal country.

Friends, we are so proud of this place, not only because it is the meeting place for Fellows of the Australian Academy of Science, but because it is the home of science for all Australians – for you.

As scientists, our efforts to make new discoveries, to share our knowledge, to see the never seen, is driven by a relentless quest to better your lives and to sustain this planet we all call home.

Ministers, MPs and Senators – thank you for being with us tonight. We are literally a stone's throw from the Federal Parliament and from time to time we will shout a coo-wee, or send a Currawong over Lake Burley Griffin, because we can't serve Australia and Australians without your help.

To enable science to reach its full potential we must work in partnership.

And of course, our friends in the ACT government are even closer and your collaboration is equally important.

In return, the Fellows elected to this Academy offer their expertise and their knowledge to help inform your decision making, and in doing so place science at the service of this great nation.

On the day in 1958 when Prime Minister Robert Menzies laid the first foundation stone, the Academy's inaugural President Sir Mark Oliphant described our mission as "*the advancement of natural knowledge and support for the basic science upon which all industrial advancements rest".*

Much has changed in the world, but that fundamental mission remains the same: "*Basic science upon which all industrial advancements rest".*

We often stand in this building and see its history, but when I look at its occupants, I see the future.

I see Professor Suzanne Cory FAA, whose work in molecular biology has changed the way we treat lymphoma, and Professor Eddie Holmes FAA whose work in virology guided us through the pandemic and is preparing us for future ones.

I touch the future when I see Professor Veena Sahajwalla FAA, who is producing a new generation of green materials, made entirely from waste.

And of course, the indefatigable Professor Michelle Simmons FAA, who is leading the race to build the first quantum computer. And Professor Thomas Macshmeyer FAA whose chemistry has already won the race to improve renewable energy storage, and he is commercialising that technology.

The story of every one of our 590 Fellows colours our past, our present and our future.

Roy Grounds, the visionary architect responsible for design this building said: *"I decided this building was going to be my portrait of them [the scientists] as I saw them, full of mystery, romance and intense intellectual exercises, at the same time."*

He went on:

"I wanted a sense of enormously disciplined order, which is the way their minds work, and I wanted it to have a big emotional impact, because they are very emotional people. They're intensely creative…"

And it was with this characterisation of scientists that Roy Grounds went on to design the Shine Dome. Upon its opening it was described as "*unconventional and futuristic"*, which remains true today.

The construction itself raised many an eye.

Many doubted that a 710-tonne concrete dome balanced on 16 slender supports, could indeed stand.

But stand it did.

It became known as Becker Hall reflecting the donations made by pastoralists and industrialists to enable its construction.

Then thanks to the generosity of immediate Past President Professor John Shine – here with us this evening – the Dome was renovated in 2001 and become known as the Shine Dome.

John so generously donated some of the proceeds of his scientific discoveries to enable the works. John's scientific breakthroughs did not only change the face and name of the Dome but also the direction of molecular biology.

The Shine-Dalgarno sequence has led to the development of genetic engineering and our understanding of gene expression. His work has improved our knowledge of how RNA works – a term that has become a household name since the pandemic.

When the refurbishment was formally unveiled by Prime Minister John Howard he said, *"I know that all of you will see it as a fitting physical reminder of the centrality of science and all that goes with it in the national life of our country."*

As much is true today.

The iconic status of the Shine Dome was further cemented in 2005 when it was added to the National Heritage List. Today, scientific knowledge continues to be shared in these circular walls, but its spaces are also loved and used by many.

From board room meetings and national conferences to interpretative dancing in the moat, it continues to capture the imagination of all who experience it.

And the curiosity of many a young ANU student got the better of them when members of the ANU Monument Scaling Club sought to scale the building.

The club's treasurer, a then post graduate student, was successful on his second attempt – that person was Craig Emmerson who would go on to become a Federal Cabinet Minister. Minister, we don't encourage you to try that one.

The Shine Dome also houses a great deal of Australia's historic scientific collections including the diaries of Professor Frank Fenner, whose scientific contribution to this nation was so vast that his death trigger the flying of the Parliament House flag at half-mast – we believe he may be the only scientist for which this has occurred.

Frank stood at this podium many a time. But it was at the podium of the World Health Organisation where he declared smallpox eradicated.

Imagine for a moment the day when we will be able to say the same of SARS-CoV-2, the virus causing COVID-19. Eradicated. Imagine that.

And of course, his work in virology helped control the rabbit plague through the introduction of the Myxoma Virus.

The Academy's scientific collections contain the history of:

- some of the scientific work undertaken in CSIRO;
- science that contributed to the Department of Defence's efforts to protect our nation;
- Stillwell's involvement in Mawson's expedition to Antarctica;
- And one of my favourites – the notes of Doris Duffield who was the spouse of the first Director of the Mt Stromlo observatory, Walter Geoffrey Duffield. During Doris' sojourn at Mt Stromlo, she did not once mention her husband's work. Meanwhile, Walter's love letters to Doris did managed to reference his science!

The Hailstorm

But in January 2020, all this came under direct threat. It was a month of extremes for the ACT. Severe bushfires blanketed Canberra with smoke and on January 4th the ACT recorded its hottest temperature ever when the mercury hit 44 degrees.

Then on January 20th one of the most severe hailstorms in the ACT swept over this building showering hail stones up to 6 centimetres wide.

Most Academy staff members were working in Ian Potter House on the other side of the carpark, and as the storm rolled in windows were shattered and roof tiles cracked.

The Shine Dome was not spared. The violence of the hail left the copper roof peppered and, most worryingly, all the glass skylights were smashed, leaving some of the unique scientific collections exposed to the elements. Academy staff carried hundreds of boxes to a safe space and saved the collections.

And so, work began to repair and restore the Dome. The entire copper roof required re-cladding. For several months we gained a direct insight into some of the challenges that must have been faced by those who constructed the Dome in 1958. Options 1, 2, 3, 4, 5 were all considered and then torn up.

Finally, a solution.

The original copper was retained, and a new copper layer was placed over it – the space in between acting as a ventilation and insulating layer and affording the Dome extra energy efficiency.

We are indebted to the deep heritage knowledge provided by architect Eric Martin of Eric Martin and Associates and the craftmanship of ARC Roofing who custom made and individually laid every one of the 1888 copper tiles above us.

I also wish to recognise the Australian Heritage Council for their advice and support to achieve this result and the work of the Chief Executive who has worked tirelessly to oversee these works. Thank you Anna-Maria, we really appreciate what you have done.

In addition to the copper resurfacing, which has lost its shine rather quickly give the high volume of rain we have had, the introduction of a heating and cooling system that operates on electricity sourced from renewable energy sources is a great source of pride for us.

It is fitting that the building has every chance to demonstrate the values of its occupants.

The hailstorm was a timely reminder that the digitisation of our scientific collections really could not wait any longer. Over the last two years the Academy has continued its fundraising efforts so as to accelerate the digitisation of our unique collections.

We are not there yet and donations are always welcome.

But earlier this year we did finalise the digitisation of 22 of Professor Frank Fenner's notebooks which can now be accessed by anyone, anytime, from anywhere via our website and via the National Library of Australia's Trove database.

And today, as part of the Academy's *Celebrate Science* campaign each and every one of the 1888 copper tiles on the roof above us can be dedicated to an Australian scientist or a team of scientists who have contributed significantly to science, or to a school teacher who has made an impact on a scientist's career. I would like to particularly acknowledge CSIRO – they've already sponsored 20 tiles to dedicate them to the scientists who worked at CSIRO. Thank you Larry, to you and to your team.

Any individual or organisation can dedicate a virtual copper tile to a scientist. A record of the dedications is published on the Academy's website in recognition of those responsible for our greatest discoveries.

Friends, we are proud custodians of this building and celebrate, not only the outstanding achievements of the past, but nurture the leaders of the future who carry our nation forward.

Thank you for being with us this evening – it means a lot to me and to the Academy.

I would now like to invite the Governor General and Mrs Hurley, Minister Husic, Ngunnawal Elder, Aunty Violet, Vice Presidents Professors Helene Marsh and Malcolm Sambridge, past Presidents Professors Kurt Lambeck, Suzanne Cory and John Shine, and Chief Executive Anna-Maria to join me on stage for the unveiling of the plaque and for a group photo.

ENDS