*Journal & Proceedings of the Royal Society of New South Wales*, vol. 153, part 1, 2020, pp. 39–41. ISSN 0035-9173/20/010039-03

# Making SPACE for Australia

**Her Excellency the Honourable Margaret Beazley AC QC**

Governor of New South Wales
Patron of the Royal Society of New South Wales

## Abstract

This is the opening address given by Her Excellency the Honourable Margaret Beazley AC QC, Governor of New South Wales, Patron of the Royal Society of New South Wales, to the *Royal Society of New South Wales and Four Academies Forum on Making SPACE for Australia*, at Government House, on Thursday, 7th November, 2019.

Good morning, esteemed Fellows and Friends, I, too, pay my respects to our traditional owners and custodians of this land, the Gadigal of the Eora Nation, and Aboriginal and Torres Strait Islander Elders, past, present and emerging. As we know, and as Professor Sloan has pointed out through his explication of the significance of the Australian Space Agency logo, Australia's Indigenous peoples have long had a connection with space, stretching back some 65,000 years. They were, indeed, this land's first skytrackers, cosmologists and astronomers.

For Indigenous peoples, the stars provided a calendar, a map and a navigational tool; from the stars they also read the tides and the weather.

The Milky Way determined many Indigenous seasonal activities, including uses of land and the search for food. Just one example of this explains to us how the stars were used by Aboriginal people in their daily life, in particular, to find food.

I recently listened to the TED Talk of a young Wiradjuri woman, Kirsten Banks.[1]

An astrophysicist and guide at the Sydney Observatory, Kirsten spoke about how the stars provided a "seasonal menu" for Aboriginal people. She gave the example of how the constellation, *Gugurmin*, in Wiradjuri language, the Emu constellation, guided the Wiradjuri people to find a rich source of nutrition — emu eggs.

At different times of the year, the Emu constellation would appear in different positions — sometimes running, sometimes sitting. When the Emu was in the sky directly overhead following sunset, and looked like an Emu atop a nest, Aboriginal people knew that it was the right time to go looking for emu eggs. An Aboriginal tool, called an Emu Caller, which looked like a short didgeridoo, would be used to "call" the Emu from the nest by imitating the sound of another Emu, providing the perfect decoy and lure to enable the eggs to be collected.

This connection between the stars, Aboriginal culture and land use, involved in these reflections of age-old Indigenous astronomy, is a science deserving of a conference of its own, perhaps on a relevant anniversary celebrating the work of David Unaipon, astronomer, scientist and Ngarrindjeri Elder (1872–1967).

1 https://tedxsydney.com/talk/65000-yrs-the-great-history-of-australian-aboriginal-astronomy-kirsten-banks/

The past year has been a year of space anniversaries and significant milestones:

- 12 December 2018 — the Prime Minister announced the plan to open the Commonwealth's new Australian Space Agency in Adelaide, providing a launching pad to triple Australia's space economy to $12 billion and create up to 20,000 jobs by 2030.[2] In NSW, planning continues for the Western Sydney Aerotropolis, a transformational economic hub for the aerospace as well as other industries.[3]
- 20 July 2019 saw the celebration of the 50th anniversary of NASA's Apollo 11 lunar mission and the historic and momentous occasion of the landing on the Moon.
- 22 September 2019 — The Australian Space Agency and NASA announced the launch of a new partnership[4] on future space cooperation. This opportunity for Australia to join the United States' Moon to Mars exploration, including NASA's Artemis lunar program,[5] is of singular national importance, strategically, in terms of scientific research and application and job creation.
- On 1 October this year, the University of Adelaide announced the set up of a Space Exploration Centre, to consider uses of space in terms of water, minerals, resources and habitation.[6]
- In amongst this mix of events, the Chinese have landed rovers on the far side of the Moon[7] and declared ambitions with Russia to team up to further their space station plans.[8] India's Space Research Organisation is planning to have a space station orbiting by 2030.[9] Fifteen nations are members of the International Space Station program.[10] In the blink of an eye, it seems, there is a new development in space.
- And by 2030, the US plans to arrive on Mars with the first crewed Mars landing,[11] presumably cracking the code on *why it is that "men come from Mars"* ...

These breathtaking global plans raise a number of questions:

- The global space economy was worth an estimated $345bn in 2016.[12] How strongly should Australia participate in what

2 https://www.pm.gov.au/media/australian-space-agency-adelaide

3 https://www.planning.nsw.gov.au/Plans-for-your-area/Priority-Growth-Areas-and-Precincts/Western-Sydney-Aerotropolis

4 $150 million deal

5 https://www.industry.gov.au/news-media/australian-space-agency-news/australia-to-support-nasas-plan-to-return-to-the-moon-and-on-to-mars

6 1 October 2019 Media Release: https://www.adelaide.edu.au/enterprise/UoASpaceExplorationNews

7 Robotic lunar probe Chang-e-4 landed on 3 January 2019, following a record 39 orbital launches, more than any other nation. https://signal.supchina.com/chinas-space-program-is-taking-off/

8 https://www.space.com/russia-china-moon-exploration-partnership.html

9 https://www.firstpost.com/tech/science/space-week-2019-india-plans-to-have-an-orbiting-space-station-by-2030-heres-what-we-can-expect-6825141.html

10 The ISS consists of Canada, Japan, the Russian Federation, The United States, and eleven Member States of the European Space Agency (Belgium, Denmark, France, Germany, Italy, The Netherlands,Norway, Spain, Sweden, Switzerland and The United Kingdom).

11 https://www.space.com/nasa-mars-landing-apollo-11-50th-anniversary.html

12 https://www.gigabitmagazine.com/telecoms/space-law-why-extra-terrestrial-economy-needs-regulating

may easily become another — trillion dollar — "space race"?

- What is our role nationally and internationally in regard to space security, space ethics and space law? We have a number of international agreements (many signed in the 1960s and '70s) and we have recently updated our own legislation, the *Space Activities Act 1998* to become the *Space (Launches and Returns) Act 2018*.[13]
- How do we govern our activities in space, both now and in the future? Who will take responsibility for space debris, for example?
- How closely do we want to align with societies such as the Mars Society?
- In the increasing militarization and commercialisation of space, are we setting ourselves up for a new era of colonial conflict? Already we have a new space vocabulary — "space mining," "space economy," "space weapons" and "space army."
- What are our humanitarian considerations — and our responsibilities to our own planet — in pushing for research and development of this frontier, which is, as Antarctica was, ripe for exploitation?

Is the choice, as H.G. Wells once posed: "All the universe ... or nothing"?[14]

Or are there positions between these two polarities?

In discussing, debating and driving our conversations forward to the stars and — just as importantly — bringing them back to Earth, I thank the Royal Society, our four Learned Academies and our esteemed moderators and presenters, for the preparation of your illuminating and insightful presentations. I am sure they will be well-received ... *universally*(!)

It is my honour to now open this fifth Royal Society of New South Wales and Four Academies Forum: "*Making SPACE for Australia*."

## Acknowledgements

I thank Professor Ian Sloan AO FAA FRSN — President of The Royal Society of NSW — for his Welcome and Acknowledgement of Country. I acknowledge the Royal Society of NSW Vice Presidents and Councillors, representatives from the four academies: — the NSW Academy of Technological Sciences and Engineering, the Australian Academy of Science, the Australian Academy of the Humanities, and the Academy of the Social Sciences in Australia — representatives of the NSW Office of Chief Scientist and Engineer and the NSW Smart Sensing Network, the 2019 Annual Forum Planning Committee, and finally Distinguished Fellows, Distinguished Guests, Ladies and Gentlemen.

13 https://www.legislation.gov.au/Series/C2004A00391

14 HG Wells, *Things to Come* (1936)