



OFFICE OF THE GOVERNOR
VICTORIA

THE SIR ALBERT COATES 2019 ORATION FEDERATION UNIVERSITY AUSTRALIA

Thursday 28th November 2019

Mr Terry Moran AC, Chancellor, Federation University Australia

Professor Helen Bartlett, Vice-Chancellor, Federation University Australia

Mr Don Moss OAM, Chair, Albert Coates Memorial Trust

Mr Roger Trudgeon, Honorary Secretary, Albert Coates Memorial Trust

Councillor Ben Taylor, Mayor, City of Ballarat

Mr Arthur Coates, Nephew of Sir Albert Coates, and his wife **Mrs Robyn Coates**

Distinguished guests

Ladies and gentlemen

First, I acknowledge the Traditional Owners of the land upon which we are gathering and pay my respects to their Elders past and present and to any Elders here with us this evening.

As I have admitted previously – in other places – whenever I accept an invitation to deliver an Oration, it is always with mixed emotions. That is a mixture of honour and dread!

The honour is never lost on me, when I consider for whom the Oration is named, the body for which it is given, and the erudite nature of previous speakers and topics.

But I feel a degree of dread for just the same reasons.

When it comes to the man for whom this Oration is named, there is no mystery as to why he was chosen. Albert Coates was a great Victorian – a Ballarat boy, of course. A great Australian. Amongst other things, a great surgeon and a decorated soldier. Also, I note in this context, a renowned Orator.

But let me return to his many talents in just a moment.

As to the host, this evening, there are of course conjoint hosts, this Oration being a collaboration between the Albert Coates Memorial Trust and Federation University Australia.

The Trust, established in 1998 to honour Sir Albert Coates, is in itself an impressive body. It is administered without any paid staff. All its office bearers are volunteers. And as well as establishing this annual Oration, the Trust provides scholarships to medical and nursing trainees, focused on regional Victorian universities.

I look forward to meeting this year's scholarship winners, shortly.

As to Federation University, I noted at the Installation of the Chancellor earlier this year, that this is a university with - at the same time - a long history, but a youthful and energetic approach to its teaching.

Since starting nearly 150 years ago, it has 'gathered' many different technical schools, colleges, institutes and universities until, in 2014, it became Federation University Australia.

Today, it provides both university and TAFE courses across campuses in Ballarat, Berwick, Brisbane, Gippsland and the Wimmera, and is rated as number one in Australia for graduate employability.

I am honoured to be the Trust's and the University's guest this evening.

When it comes to those who have previously delivered this Oration, they are impressive.

Not surprisingly, many have been military leaders and many have spoken on elements of military service and history.

That prompts me to say that I do not have a military background. In fact, my experience of military matters was limited, before I came into this role.

A number of seminal things, however, have occurred for me since that time.

I have met many of the fine men and women who are serving on our behalves, or who have represented our nation across many decades, continents, battles and peacekeeping missions.

I have been fortunate to visit the Western Front with former State President of RSL Victoria, Major General David McLachlan AO, as my guide.

And I have been well served by the outstanding honorary Military Aides who generously support our program at Government House, never failing to impress all those with whom they come into contact, with their enthusiasm, respect and sense of service.

All that said, when it comes to military matters, I know that I can never be more than a curious learner – certainly not sufficiently well equipped to talk to you about any war effort, campaign or aftermath.

Nevertheless, when I look at the life of Sir Albert Coates, I can still divine a rich vein of which to speak.

Because, this man – this war hero – this civilian hero – was not a one-dimensional man. Far from it.

In the eulogy at Coates's Memorial Service, Sir Edward 'Weary' Dunlop described the man he admired as a mentor as '*...a master surgeon, soldier, teacher, orator, [and] ambassador extraordinary....*'.

I particularly like that description. I like it from a number of perspectives.

First, I like it precisely because it is not one-dimensional. It captures that Coates was, like us all, the sum of many parts. (There is something more I want to say about that in a moment.)

Secondly, I like it because it celebrates the rich diversity of his talents and interests. And I welcome the opportunity this evening to talk about the need for a diversity of disciplines, skills and perspectives within more individuals in our midst.

Briefly though, as to the first point, I often ponder how facile we can be in our descriptions of people.

I fear that if we overlook all the dimensions of a person, we can too readily undersell their talents and complexities. Worse, we can dehumanise them. At the very least, we can more easily default to 'hate', if we see people in terms of a single category. If we resort to labels.

It is a woman. He is a Muslim. She is a soldier. He is a politician. She is a mother. Or he or she is a lawyer, a refugee, a taxi driver, or whatever.

Labels are useful. For objects, at least. They assist us in fast recognition.

But, when it comes to people, it is that very same labelling that too easily enables us to pigeon-hole. To quickly judge. To distinguish ourselves from others.

As a person who, until this role, had lived a primarily private rather than a public life, it struck me when my appointment was announced. In some of the media, the emphasis was on the fact that I was a woman. In others, that I was Jewish. Or, that I was a lawyer.

Each entirely accurate, but none telling a coherent story. I would never be a Governor serving either just the women of the State, nor just its Jewish community nor, for that matter, only the lawyers.

I was conscious that I could equally be described as an AFL Commissioner, someone involved in arts and other community organisations, a fiercely proud Victorian and, most importantly, as a wife and a mother (let alone daughter, sister and aunt), and so on and so forth.

Forgive what is, I admit, a slight diversion. It might be apparent that this topic of labels is one that I readily warm to!

But let me move to what I really do want to emphasise this evening.

It is that the world needs more people like Sir Albert Coates. From lots of points of view. But the point of view upon which I want to focus – as I have already hinted – is the diversity of his talents and interests.

We do need more like him.

We need people whose knowledge spans a significant number of subjects. People able to draw on complex bodies of knowledge to solve specific problems.

We need more polymaths.

I am not sure if that is the apt description for Coates.

He certainly did display an exceptional range of talents, traversing medicine, military service, languages and education.

For this evening's purpose, we do not need to debate the definition. Suffice it to say that, on any view, his skill set was diverse, and that has become an ideal to which I have particularly warmed.

It was not always so. My thinking has evolved across these last four years or so, in this role.

Let me explain.

First, I have discovered the sciences. Secondly, I have come to better understand the intersection between the arts and the sciences. And thirdly, I have come to appreciate just how much we need multi-disciplinary thinkers – those who are able to traverse the arts and the sciences.

As to my discovery of science, that might sound strange. Science has, after all, always been there!

But I was raised in a school system of times past, when science and art were often quarantined from each other. For many of us who more naturally leaned towards the humanities, I am convinced that our interest was not sufficiently piqued in science.

Then, I have come to better understand the intersection between the arts and the sciences by simply looking around me.

I have seen, for example, fashion crafted by the use of lasers. I have watched prosthetic hands being 3D printed to ensure practical movement and a wondrous array of style and colour. And, like us all, I have marvelled at the Sidney Myer Music Bowl – an engineering feat of the 1950s with its innovative lacing of cables and cover of aluminium faced plywood, achieving perfect acoustics.

And, finally, my appreciation of multi-disciplinary thinkers has been embedded, as I have been more closely exposed to some of the challenges of our rapidly changing world.

I see clearly just how much we will need every tool in our figurative armoury – individually and collectively – if we are to meet the challenges of globalism, isolationism, a new power order and technology that all at once improves and threatens our lives and happiness – and then changes, just as quickly as we believe we have conquered it.

Now, I know that framing an appreciation for cross-disciplinary thinking simply in terms of the arts and the sciences is in itself devoid of the very breadth that I am advocating. But it is, at least, a useful starting point: a framework in which to consider the complex needs of the future, and how best we will be able to promote our State's prosperity.

In this university setting, you know the projected shape of our future workforce – the more so, given your focus on and expertise in both academic and vocational skills.

Most in this room will be familiar with the Foundation for Young Australians' report, suggesting that *'It's more likely that a 15 year old will experience a portfolio career, potentially having 17 different jobs over five careers in their lifetime.'*

Some futurists suggest that more than 60% of children attending school today will work in a career that does not currently exist. Whether or not that precise percentage proves to be correct, we know that today's children will work, for example, as autonomous transportation specialists, as human-technology integration experts, or in many other fields we have yet to imagine.

We can be sure that change will be a constant. Agility will serve our workforce well. As will an endless source of curiosity. They will need to straddle disciplines. To understand, for example, the intersection between art and science. How one better informs the other.

Of course, that realisation in itself is nothing new.

Even in recent history, it was some 60 years ago that English scientist, civil servant and novelist, C.P. Snow, delivered a lecture at Cambridge called *'The Two Cultures and the Scientific Revolution'*. His lecture was later expanded into a book.

Snow wrote of the gulf between the arts and the sciences, referring to it as a *'gulf of mutual incomprehension.'*

He argued that to further the progress of human knowledge, our practitioners in the arts and the sciences had to build bridges over the cultural divide between them. They needed, he argued, to slip seamlessly between their different rules and conventions. To apply the insights gathered from art to inform the study of science. And vice versa.

I like his suggestion that literary theorists needed to understand the Second Law of Thermodynamics. And that our scientists needed to understand Shakespeare.

If you think of those who slip seamlessly between their different rules and conventions – those who can apply the insights gathered from art to inform the study of science – I wonder who is front of mind for you.

I hope it does not suggest that I am not up to date, if I tell you that the person who immediately springs to mind for me is a man who died 500 years ago this year.

He was born in Tuscany, initially raised in modest circumstances by his single mother, before moving to live with his wealthier father. He received only an informal education but, as a teenager, he took up an art apprenticeship, which he loved.

I am talking, of course, of Leonardo da Vinci. Painter, sculptor, architect, musician, scientist, mathematician, engineer, inventor, anatomist, geologist, cartographer, botanist and writer.

Yes, a man with many talents and skills.

We know of his magnificent art, including his revered portrait of the Mona Lisa. And of his inventions, to be seen in his early sketches of the bicycle, the helicopter and the tank.

Or, in his great example of the combination of art and science in the Vitruvian man – his representation of the ideal human body proportions – largely derived from a description by the ancient Roman architect, Vitruvius.

But da Vinci's greatest attribute of all was, I think, his curiosity.

The curiosity that led him to study a bird's wings to understand flight, to peel the skin off a human cadaver to understand the muscles and mechanics behind a particular smile, or to explore systems of hydraulic plumbing to help fight the Black Plague.

Da Vinci's curiosity enabled him to see things differently from most others.

Think of how he saw and described the human foot as, '*A masterpiece of engineering and a work of art.*'

How many of us are capable of seeing things in that way? Imagine if we could. Imagine the opportunities that would be open to us.

Not all of us are like da Vinci. Not all of us are polymaths. Very few of us, in fact. True polymaths, although not as rare as the unicorn, must come a close second to that mythical creature.

Arguably, compared with da Vinci's time, there may be less polymaths, in any event. Although there are significantly more available means to expand our knowledge, I wonder if perhaps we have refined our systems of education to become so specialised, that we risk teaching our young people more and more about less and less.

It may not be coincidental that Leonardo da Vinci had little formal education.

Of course, I am not suggesting that what we need is less education in any sense, but perhaps more education that allows youngsters to freely traverse between disciplines without conventional borders. An education that facilitates the curious mind.

And I am not arguing against specialist disciplines, or advocating for our system of education to spit out all generalist students.

I do not disagree with Australia's Chief Scientist, Dr Alan Finkel AO, who, last year at the *5th International STEM in Education Conference*, advocated for the need for our students to focus on a discipline. To master a discipline.

First, I have no doubt that the workforce will demand that level of expertise. But secondly, I note that he went on to say to the students: '*Focus on your discipline – then you'll see your options expand.*' He added: '*Mastering a discipline is mastering your destiny.*'

We do need specialist disciplines, but the openness to see the cross-overs with other disciplines too. To recognise the intersections. To embark on the route. Perhaps to turn a corner or two. To see, as Dr Finkel had noted, the '*options expand*'.

It is an openness that only a few will be able to embrace with the natural aptitude of a da Vinci. In a sense, that is the bad news. But the good news is that many can be taught to see C.P. Snow's '*bridge*' – and can be imbued with the curiosity, enthusiasm and skills to cross it.

The educators amongst us are the ones well qualified to suggest how that might best be achieved. But I have seen one example of how the next generation might be given the tools to cross the divide. And we are fortunate that it is right here in Melbourne.

Following Trinity College Dublin and Kings College London, the University of Melbourne has been selected to be a part of *The Science Gallery Network*. The Network is being expanded to include universities in Bengaluru, Venice, Detroit and Rotterdam.

Each location has been chosen as a fertile environment for a Gallery to inspire young people aged 15 - 25 to appreciate the creative collision between science and art.

May I pause here to note that, although the description of the 'creative collision' between science and art is an evocative one, I was exposed to a different perspective on it last year in Canada.

I had the privilege to meet Canada's Governor-General, Her Excellency the Right Honourable Julie Payette C.C., C.M.M., C.O.M., C.Q., C.D.

Her Excellency is a decorated astronaut. In fact, in keeping with this evening's theme, Her Excellency is very much more than that.

She is a well qualified polymath.

She has been an engineer, science broadcaster and company director and she has flown two missions in space. She speaks six languages. She is an accomplished pianist, and she has been invited to sing with orchestras, including the Symphony Orchestra of Montreal.

When we met in Montreal, we discussed, amongst other things, the cross-over between science and art.

When I referred to what is popularly spoken of as the 'collision' between art and science, Her Excellency explained that she prefers to talk of 'the synergy' rather than 'the collision', the latter denoting something more discordant than what she perceives exists between the two disciplines.

In any event, whichever way we choose to distil the principle of cross-over between the disciplines, how fortunate we are to have this Science Gallery in Melbourne.

Its permanent home is currently being built on the corner of Swanston and Grattan Streets, in the old Royal Women's Hospital and the innovation precinct.

Even without a permanent home, however, the Science Gallery has been up and running here, with terrific and provocative exhibitions across the last few years.

Its first exhibition, *'Blood: Attract and Repel'*, for example, prompted the young people to *'consider what it meant to be human, to be infected, to be other, to smell, bleed, feel, taste, listen, pump, pulse and learn.'*

The Science Gallery's most recent exhibition, *'Disposable: Reimagining Your Waste'*, created a month of pop-up art and science installations, experiments and events to lift the lid on human wastefulness, and to find creative solutions to our throwaway culture.

Now, although I have chosen to frame my consideration of polymaths around an Italian who died half a millennium ago, there are fine examples in Australia's modern history.

In referring to our modern history, I should emphasise that, amongst our first peoples, in the ancient history of this land, there would have been many who would be well qualified for that description.

As the oldest continuous culture in the world, of course there have been great leaders – skilled in mediation and dispute resolution, astronomy, hunting, agriculture, nutrition, medicine, education, art and warfare.

But in modern Australia, we have a fine example in another military leader. Of course, I am referring to General Sir John Monash GCMG, KCB, VD.

Monash entered university at the age of 16 but stopped his studies after two years, due to financial hardship.

Ultimately though, he gained a Bachelor of Arts, a Masters in Science (Civil Engineering), Doctor of Laws (Melb), Doctor of Engineering (Melb), Doctor of Civil Law (Oxford) and Doctor of Laws (Cambridge). And he qualified as a municipal surveyor, a water supply engineer and a patent attorney.

His military history is legendary.

When the First World War broke out, Monash was among the first under fire at Gallipoli, and was the only Australian brigade commander among the original troops not killed or evacuated as wounded.

By 1918, he was in charge of the entire Australian Corps. In this same year, King George V knighted him on the battlefield for his role in the Battle of Hamel Hill. Many historians consider him to be the foremost Allied military commander of the First World War.

In civilian life, Monash was one of Australia's most prominent experts in reinforced concrete for bridges, railways and other large construction projects. After the First World War, he returned to engineering, and became Chairman of Victoria's new State Electricity Commission.

In his last years, he supervised construction of Melbourne's Shrine of Remembrance and oversaw the public appeal for funds. He rewrote the inscription planned for the west wall. He was actively engaged in many aspects of community life, including in teaching and other aspects of the University of Melbourne, the Boy Scout movement, the Victorian Institute of Engineers and the advancement of science.

When I stand in the setting of one of Victoria's excellent educational institutions, I wonder about the next polymath or polymaths being incubated right here.

But I also wonder about those who, although not of that rare ilk, will nevertheless be taught to look across a range of skills, to be nimble enough to ride the inevitable waves of change and to solve the problems that will arise within a complex workforce. Challenges that will require creative thinkers, outside the constraints of one single discipline. Or, at the very least, those who are capable of working in teams of cross-disciplinary experts.

The educators amongst you, and all those who serve the University, must feel deep satisfaction in knowing that it is well within your grasp to support the learning and empowerment of so many young women and men who, like Sir Albert Coates, will go on to contribute to their communities in a multitude of ways.

And about whom one day it might be said, to borrow again from Weary Dunlop's eulogy for Sir Albert Coates, that [they were] *'so gifted, so full of spirit and endeavour and so courageous and ... gave so much of [themselves] to the public good and our good that [their] whole life is on a plane so far above the average [person]...'*

And so, thank you to Federation University and to the Albert Coates Memorial Trust for helping to develop those who will give so much to the public good, and who will thereby contribute – in the words of our State motto – to Victoria's *Peace and Prosperity*.