



THE **STORIES**

08

FAIRFAX SYNDICATION



Ian Chubb

Advancing Scientific Education

In his five years as Australia's Chief Scientist, Professor Ian Chubb AC attended a staggering number of meetings, forums and conferences, delivering opening addresses, keynote speeches and important presentations at around 100 events each year. Those in his audiences listened with interest as he wove together recollections, facts and anecdotes that helped illustrate the messages he hoped to convey, and few would have imagined that the man at the front of the room was once so shy his legs shook uncontrollably as he struggled his way through the nightmare of public speaking.

Whilst Chubb acknowledges the importance of conferences generally, and the benefits that come from the linkages and connections they facilitate, his personal perspective and experience of conferences is quite different.

"I wasn't an academic researcher who enjoyed conferences," he confessed.

"There are some people I know who would go to the opening of a brown paper bag, but I wasn't one of those people and I could not easily mooch in to large groups of people or pursue the star around the room."

As a young researcher, he attended a two-week conference in America that struck him as being so ritualistic and contrived it left him with doubts about whether he was on the right path.

"During the day everything was formal, then during the night the stars from the American science circuit would go and get changed into jeans and polo shirts and sneakers and wherever they walked they would be attended by a number of PhD or Post Doctorate aspirants, because this was the way you connected. I looked at it and thought, 'well if that's what you have to do to advance, this is not for me.'"

Chubb was also terrified at the thought of speaking in front of a room filled with strangers.

"When I was at my first conference in my twenties and I stood up to speak about my work, I thought I was just going to fall over. Even a few years later at another conference presentation on my work, I remember standing up there thinking to myself... 'well it's a good job my trousers are so loose they can't see how much my legs are shaking'. Somehow I survived it and now I

wander into a room and sometimes adlib for half an hour, but back then it was really quite difficult.”

Apart from his fear of public speaking, Chubb also admits he’s never been comfortable walking into a room filled with strangers waiting to hear him speak.

“I still find it very difficult to walk into a room of 20, 30, 50, 1000 people where I don’t know anyone, and I’m not someone who easily works the room; who can just go up and start talking to people as if I’ve been there with them for the last four hours. There are people who are good at that. I know that. I appreciate their strengths and I appreciate that’s one of my weaknesses.”

Chubb says his love for all things science was sparked at the small school he attended in regional Victoria, where his one teacher constantly sent students outside to study leaves and insects, and then rewarded those who were naturally curious and competitive.

“If you were curious and competitive and did well over a month or so, you got a pencil with an eraser on the end. I was always curious and competitive, and I still am.”

He worked part-time as a junior technician in a research lab whilst doing his undergraduate studies and then set off to discover what the rest of the world had to offer. He settled for a while in Belgium, where he was a Heymans Research Fellow at the University of Ghent, and despite his personal aversion to conferences, accepted they were part and parcel of his fellowship. This was also where he married his French language teacher, Claudette, and started a family.

Chubb says conferences back then were more about pure science, with very little of the business focus seen today.

“I attended conferences in my early years but they were mostly scientific conferences. My generation of scientists were brought up very fundamentally on science and we did research that may at the most be only peripherally engaged with any businesses. There were some exceptions but we weren’t encouraged to go out and innovate and to think of ideas to commercialise

and do start-ups and all the rest; we were encouraged to do good science and the expectation was that we would end up academic scientists and that's what many of my generation did."

But for the present generation, he sees things have changed.

"Business is a big part of the conference audience now, whereas in my day if you had business involved it was to sponsor the morning tea or the afternoon drinks or something like that. It was a different attitude, the world's different."

As a result of a connection made at one of those early conferences, Chubb was offered a place on a research team at Oxford a few years later, and whilst there received his Master's Degree in science and arts and a PhD in philosophy.

Nearly a decade after leaving Australia, he returned in the late 1970s to take up an academic position at Flinders University. It was here that his work and teaching focused on the neurosciences, and over the next seven years, as well as his teaching, he established a highly successful and well-funded neuroscience research team and was chair of a number of important university and national research and grants committees.

By his own admission, a 'fairly impatient person', who thrived on challenge, Chubb still felt he had more to contribute, and after an evening in his backyard looking up at the stars, decided the time was right for him to move into the area of tertiary education management, direction and reform.

He progressed quickly through the ranks of university governance, serving as Deputy Vice Chancellor of the University of Wollongong from 1986–1990, Senior Deputy Vice-Chancellor at Monash University 1993–1995, Vice Chancellor of Flinders University 1995–2001 and Vice Chancellor of the Australian National University (ANU) 2001–2011.

In 2010, aged 67, Chubb naturally began toying with the idea of retirement and tendered his resignation from ANU to become effective in February 2011. But, as fate would have it, as the date approached, the then Chief Scientist for Australia, US-born physicist Penny Sackett, unexpectedly resigned from the position midway through her term. Within weeks of

his ‘retirement,’ Chubb was offered the top job (an ‘easy transition to retirement,’ he was told) and from his first day, worked tirelessly to ensure educators, policy-makers and the general public were made aware of the importance of science not only to our quality of life, but to our very survival.

And fan or no fan, one of his most frequently used tools for ensuring those messages reached a broad audience were the speeches he gave at conferences.

Given Chubb’s nature, his experiences and his deeply rooted foundations in the facts and figures of fundamental science, it comes as no surprise that, when hypothesising about possible long-term outcomes of conferences or the extent to which they’ve impacted his own career or the opinions of those in his audiences, he would like further evidence.

“Well, I think the short answer is that I don’t think they’ve been much influence on me personally, and as far as the audience goes, well, I don’t know the answer to that question. I don’t really think what I say changes those listening on the day, and many of them I won’t ever see again, or they might be in the audience when I talk on some other topic but I don’t go up to them and say ‘Have you changed your mind on climate change?’ or whatever, so I don’t really know.”

But he will go so far as to admit that the fact that he’s often invited back to speak again indicates audiences are listening.

“I think the best illustration to some extent is that I get repeat invites. I give about 100 speeches a year to all sorts of groups and bodies and in order to accept 100 invitations I probably decline about 200 or 300 because I just can’t fit them all in, so I guess that shows you have some influence on the way people think or at least that they want to hear what you’ve got to say.”

And what he’s had to say so eloquently over the past few years are his thoughts on things such as the decline of students enrolling in STEM subjects (science, technology, engineering and maths) at schools and universities, and what impact that might have upon Australia’s future; how to engage students in the wonders of science; the growing importance of citizen science; the research priorities for our nation as we look to our

future; and what new information science can offer as climate change continues to shift from a theoretical concept to a reality of life.

It seems those in his audiences were listening. The National STEM School Education Strategy, a comprehensive plan for science, technology, engineering and mathematics education in Australia, was released in December 2015. That same year, the Australian Government established its Science and Research Priorities, along with the corresponding Practical Research Challenges strategy, designed to increase investment of funds for scientific research in areas of immediate and critical importance to the country.

So, with Chubb's personal aversion to the pomp and ceremony of formal conferences and public speaking, what value, if any, does he feel they have in terms of knowledge dissemination or information sharing in his field?

Once again grounding himself on an evidence-based platform, he says the fact that so many conferences are still taking place around the world, and along similar lines to the way things were done 30 or 40 years ago, tells you they are of value.

“Whether it’s just seeing people who work in your field and having the opportunity to talk to them off line, or whether you actually go to hear a particular lecture, I think there’s some value in sitting in a room and listening to someone talk and looking at their slides.”

But he suspects the big value of conferences lies in the connections made during breaks.

“When I was attending those earlier conferences there were a number of us of a similar age and stage of our careers, and sometimes working in fields that were quite close to each other (and even different fields), but you find people you like. I still have communications today with people I met during that period, and I think that happened in some cases not because I was particularly interested in or working in the same field as them but just because in the breaks you meet some people you find agreeable and that’s important, especially for young people, even more so today than it was in my day.”

“I think having a bunch of people you can talk to frankly and freely about life, how your career’s developing, how hard it is to get a research grant, how you prepare your applications, how hard it is to get published somewhere, how hard the Vice Chancellor is on all young people ... doesn’t support them... and how if only you could be Vice Chancellor at any age between 28 and 68 you’d doubtless change the world for the better ... All that stuff – they’re important conversations to have and I think that one way you do that outside your immediate area is by going to large group meetings and conferences where you can meet and talk to people about all sorts of matters – including your science.”

When Chubb was secretary of the Australasian Neuroscience Society Inc. he tried to ensure their conferences weren’t too formally structured, leaving plenty of time for casual conversations and the formation of networks so people could meet people.

“We tried to organise things around the informal connections that you make at lunch or morning tea or over a drink or a dinner or whatever it might be. We organised our conferences on a reasonably informal basis, but they were also fairly small. They’re a lot bigger now and once they get big the whole picture changes.”

Chubb believes that young researchers, or those starting out in their careers can benefit most from conferences, particularly in terms of their personal growth and career-enhancing opportunities. He says this was why he made efforts during his time at ANU to set aside additional funding to send young people to conferences, thereby improving not only their learning but also their future employment prospects.

“It’s relatively easy to get enrolled in a PhD in Australia these days, and in some ways some of these students are exploited because they’re cheap labour and they do research and it results in publications, which all help the income of the university or even its international ranking, whatever that means.”

Chubb says there are around 60 000 registered Higher Degree research students in Australia today, and the reality is that only a very small proportion will end up in an academic career.

“Still, these students remain hopeful, so they do a Post Doc and then have to depend on someone else to get a research grant to fund them for another 3 years or so, and then they have to apply again and they don’t find out until December whether they’ve still got a job in January. That whole area has become a sad aspect of the development of our sector. These students need to be able to go to conferences to talk to people about their work, to meet people, and to meet some of the elder statesmen, because they might well need their support at some point when they go for a job or another post doc or whatever [it] may be.”

He believes such students should be more appropriately resourced and supported as they work towards their goals.

“I think we should be looking after these people much better than we do. Traditionally, we’ve just said, well here’s a PhD scholarship and here is some money for your PhD supervisor – but it’s not good enough and I think this is an issue that needs to be corrected.”

If he was organising conferences now, he says he would try to do things along the line of the ‘flipped classroom’, where there would be more of a focus on shared discussion than talking ‘at’ those in the audience.

“I’d get the key information out to everyone beforehand, and then I’d gather together a group of people and I’d just turn it into a discussion session. Someone might still come up to you in the coffee break and say they didn’t understand Table Two and that’s ok and that would continue to be a part of it, but the reality is what you need to do is to have the person stand up in the middle of the group, in front of a number of others and engage with them all – not, I repeat, talk at them all.

“It would be a much more useful way of doing it compared to saying ‘well, I’m going to talk to you for at least 12.5 of my allotted time and we’ll have 2.5 minutes for questions’ and then someone rings a bell and says ‘right, its coffee time now, stop.’”

He admits such a format would be difficult at large conferences, with thousands of attendees, but even here he believes it could be done with some of the breakouts.

“If, for example, there are four papers connected with a particular session ... distribute them beforehand ... and for an hour (if there were four of them) run a discussion about the work described in those papers rather than something as regimented as a speech.

“And I’d do that if I were still teaching too. I think giving a lecture to 400 is one way of doing things, but it’s the old way of doing things. Instead, you might divide them up into a couple of groups and say, well here is all you need to know to come to this meeting to discuss the evidence or whatever it is, these principals, these theories etc. and have a discussion.”

Always thinking deeply, Chubb gave a measured response when asked where conferences sat on a scale of 1 to 10 in terms of the importance they played in knowledge diffusion in the field of science, concluding instead that it was dependent upon how international one’s particular area of research was.

“Well, if you’re working on the Australian Education system, then you would have one answer to that question, but if your area of expertise was the study of rocks near Alice Springs you’d have a slightly different answer, and if you’re working in a field like climate change you would have an entirely different response again.

“If I were a climate scientist, conferences would be very important because it’s the one opportunity to bring people from all around the world together to have face-to-face discussion drawing on evidence from all their different disciplines. I mean, you can read what they do when they publish it in journals – but conferences are really important if you want to understand what’s behind what they’ve written.

“I think conferences are important to all fields, but the importance varies, and putting them somewhere on a scale is difficult because it depends on how big and how widely diffused your field of research is.”

Receiving an Order of Australia in 2006, and being named ACT Australian of the Year in 2011 for extensive service to Australian tertiary education, Chubb has a long list of appointments and awards, and yet proudly acknowledges that his greatest achievement is his family. With



Power Of Conferences

his forthright, honest nature and his intelligence and drive, he's managed to bundle three successful careers into a single happy life; and as he once again contemplates his future, staring up at the night sky from his suburban backyard, one cannot help but wonder what distant mountain he is next planning to climb.

