

A conspiracy reveal'd

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The Cabinet of Curiosities

Learned friends, a little over twelve months ago, I had the honour of addressing [another distinguished gathering](#). My subject on that occasion was a rather unusual artefact that my colleagues and I had discovered - an item we came to call '[The Cabinet of Curiosities](#)'. In the intervening months we have continued our researches into this object and have uncovered some disturbing facts. To be blunt, I believe that we have unearthed evidence of a widespread and long-standing conspiracy.

I warn you now that being made privy to our researches may expose you to intimidation and scorn, perhaps even derision. You may be forced to confront evil forces beyond your imaginings - forces that seek to compress our understanding, to contain our creativity, to maintain our silence. Yes you may be called into battle against those evil powers encircling and ensnaring us - politicians, accountants, managers, and science communicators...

I warn you now so that you have the opportunity to leave, to block your ears, or hide beneath your tables...

Thank you, you are a brave and sturdy lot indeed.

Let us first go back to the beginning - to the '[Cabinet of Curiosities](#)' itself. For those of you who were not present at the Cabinet's unveiling last year, let me recapitulate our initial findings.

The Cabinet's origins were obscure. It is known that some two hundred years ago a young botanist by the name of Joseph Banks visited these shores and collected a great number of plant and animal specimens. These were transported to Britain aboard the *Endeavour*, contained within an

assortment of wooden chests. While it appeared there may be some connection with these, this Cabinet was clearly a much more complex item.

Indeed, it was reminiscent of the collector's chests assembled by gentlefolk in the eighteenth and early nineteenth centuries. Such chests often displayed natural history specimens along with human artefacts. The *memento hominem*, on the other hand, was biographical in intent. Presenting items that together told the story of a life. What could not be doubted was that this Cabinet also told a story. It is in seeking to unravel this story that we began to discover the Cabinet's meaning - and, might I add its warning.

A clue to the purpose of the Cabinet was contained within an inscription found on the top panel. If I might read it:

This Cabinet holds many treasures. Two hundred years of Australian science are arrayed for exploration and reflection. The curiosities contained are those of Australia's men and women of science, and your own. Open, examine and understand.

There follows a quotation, dated 1939, from Sir William Bragg:

'The spirit in which knowledge is sought, and the manner in which it is used, are more important, more real, than knowledge itself' - Sir William Bragg, 1939.

Two hundred years of Australian science... in a box. It seems preposterous, a mere folly. But as we shall see, its intent is far from frivolous.

And so to the unravelling... If we are to explore 'Australian science' as the inscription on this Cabinet suggests, we might perhaps examine what we see... or see what we examine... Australia offered new horizons for scientific discovery and yet these were largely perceived through old eyes - European eyes. This changed of course, but how and when?

Then, of course, there is the matter of communication. Science cannot function without it, and yet Australian scientists were isolated - victims we presume, perhaps too hastily, of the 'tyranny of distance'. But what did isolation mean, and how was it overcome?

One might also examine the role of *empire* - those political and economic forces that create the space within which science is able to flourish. Or is science more of a participant in this process than a product?

In our initial study of the Cabinet we therefore identified three themes:

- The way in which the Australian environment was perceived... 'all things queer and opposite', as was inscribed on the minute book of a scientific society in Tasmania;
- The counterposed forces of isolation and independence;
- And the role of science, as some commentators have described it, as the 'handmaiden of empire'.

My colleagues and I believe that these themes correspond to the three sections of this Cabinet of Curiosities... Did I mention there were three sections, divided thus, and held together by this arrangement of iron bars and locks.

In this [first section](#), corresponding we suppose to the first theme, there are four trays. The [first](#) contains a series of paintings which, to *my* eye, represent a verdant land despoiled, then restored. Remaking upon remaking. Re-vision upon revision. It is difficult to imagine that our colleagues of

some 130 years prior regarded the bush as silent, and sought to introduce British songbirds to alleviate this auditory oppression. But they did. However, amongst these same scientists were the first to argue for protected areas to preserve the Australian environment. This Cabinet offers no glib slogans, no easy answers, suggesting, nonetheless, that in remaking we are...remade.

The [second tray](#), appears to be a map. This land, of course, became known to science through exploration, through mapping – the creation of legends, both cartographic and otherwise. Many of our famous explorers were scientists – Leichardt, a naturalist; Wills (of Bourke and...) was lured away from the Magnetic Observatory on Flagstaff Hill in Melbourne. But what conventions were used in such mapping? What was sought, and what was found?

The [next tray](#) offers a rather different perspective – it looks up, to the heavens. As well as a new land, Australia offered a new sky for exploration. On being appointed Governor, amateur astronomer, Sir Thomas Brisbane, exclaimed ‘With a virgin sky, what might not be achieved?’ Indeed, astronomers like John Tebbutt followed in Brisbane’s wake, carving out an international reputation. But astronomical achievement is surely more than just a matter of geographic positioning. The means and the will are also required – there are many views to be figured.

The [last tray](#) in this section is, curiously, empty. Have its contents been lost, or was it left deliberately blank. It may be that its silence speaks more eloquently than any installation. Asking us whose voices are heard and whose are not. Even as we begin to perceive the contours of western science in Australia, we become aware of its meeting with alternative ways of knowing – those of the country’s original inhabitants. This emptiness perhaps represents opportunities missed, paths not taken, messages not heard – or... yet to be heard? It may lay empty... waiting.

Now let us direct our attention to the [second section](#) – this bank of six drawers. As I have mentioned, our hypothesis is that this section relates to issues of isolation and independence, and indeed the complex interrelationship of the two. Interestingly, the drawers seem to be grouped in pairs.

From the [first pair](#) peers the puzzling platypus, a reference perhaps to the perceived oddness of the land examined in the first section, but a symbol, too, of new knowledge. How is knowledge created? Its claims authenticated? The naturalist George Bennett laboured over many years to unravel the mysteries of the platypus’s reproductive system. Bennett procured and pickled a plenitude of platypi. He observed them in the field, and gathered many reports, nonetheless, it was his correspondent in Britain, Sir Richard Owen, who drew the conclusions. Owen firmly believed that the platypus gave birth to live young, and Bennett deferred to his well-positioned colleague, despite evidence he had collected that suggested they lay eggs. But was this the only option for colonial scientists? Were they of necessity confined to roles as mere collectors servicing the British men of science?

The [second pair](#) of drawers appears to elaborate upon this theme, moving the focus to botany and taxonomic determinations. The main reference would appear to be to Australia’s premier nineteenth century botanist, Ferdinand von Mueller. Mueller travelled widely throughout the country, collected and described thousands of specimens and yet was allocated a subsidiary role in the production of the *Flora Australensis*. Authority was reserved to a British expert with ready access to the botanical type-specimens stored at Kew Gardens. Sensible enough. Like Bennett, the Baron found himself on the outskirts of a scientific network centred on Europe. But wait... the picture is more complex, for Mueller himself was the centre of a network of collectors throughout Australia – people of varying background and experience, whose loyalty and diligence Mueller deliberately cultivated. There are networks within networks, worlds within worlds. Each drawer we unlock opens more paths for exploration.

It is communication that knits together these networks and sustains these relationships. In the [third pair](#) of drawers we find hints of correspondence, the remnants of a science practised over time and

distance. By careful analysis, we have identified William Henry Bragg as the author of a number of these fragments. Other images seem to refer to Frank Macfarlane Burnet. Significantly, both were Nobel prize-winners, Bragg for physics and Burnet for medicine, though almost half a century separated their awards. Perhaps more important, however, is the contrast in their career paths. Although Bragg began his research in Australia, isolation from the leading practitioners forced him to move to Britain. Burnet, on the other hand, rebuilt the field of immunology from within Australia. Apparently he felt no such isolation. Why this difference? The Cabinet asks us.

From the personal to the political – the [final section](#) encourages us to investigate the political and economic context of science in Australia. Curiosity is not the only factor that shapes research. Indeed, the [first drawer](#) reminds us of the many, potentially devastating problems that faced the agricultural industries in the early decades of this century. Introduced pests and weeds, animal diseases and soil quality were included in the challenging check-list presented to the Council for Scientific and Industrial Research when it was established in 1926. Australia's research agenda thus reflected its economic position – though this arrangement was not without its tensions.

Fragments of scientific formulae discovered within the [final drawer](#) have been found to relate to radio astronomy. You will recall that this exciting field of endeavour arose out of radar research during the Second World War. Australian scientists led the way. Indeed, the war reshaped Australia's scientific community, and science itself emerged from the war with a new, should I say awesome, reputation. The consequences of this are only hinted at. There is so much to consider. Layer and layers of meaning. Questions... many questions...

These were the limits of our original hypotheses, and I would like to express once more gratitude to my esteemed colleagues in this endeavour – Greg St John, David Watt, Lisa Cianci, Nola Farman, David Nugent, Kate Murphy, Neil Roberts, Antoinette De Morton, Peta Cross, and Adrian Jones. Since then we have continued our studies both here and abroad, travelling with the Cabinet [by ship](#) to London for further research. We have been most fortunate in discovering a set of papers (you might call them records) relating to the Cabinet and its creators, in particular to the activities of an individual whom we know only by the pseudonym Professor Duckbill.

It would appear that most of our original hypotheses were correct, some of Duckbill's notes elaborate on the basic themes of the Cabinet, and I quote:

The **Cabinet of Curiosities** is intended to provide a representation of the development of science in Australia. Or is that the development of Australian science? Is there a difference? What does it mean to say that Australia has developed its own scientific culture?... Questions about the development of science in Australia cannot be easily divorced from questions about science itself. Science is international, but it is also local, it permeates our lives and our histories. By exploring the experience of Australian scientists we learn more about the way science is disseminated, encouraged and, indeed, retarded. But by reflecting on the processes and structures of science we gain new perspectives on the Australian experience.

Duckbill concludes:

The Cabinet of Curiosities is neither about science, nor Australia, but about the sites at which these two meet – within the experience, achievements, hardships and glories of Australia's men and women of science.

But for us the question that remains is – 'WHY?' Why did Duckbill go to all this trouble? Why embed a dissertation on Australia's scientific past within such an odd structure? Why did he choose to communicate through these mysterious signs and symbols, through hints and insinuations rather

than a more conventional means of discourse. The answer is – conspiracy. A conspiracy to suppress all attempts to explore the history of Australian science. Duckbill's papers reveal that he spent many years seeking to raise awareness and understanding of Australia's scientific past, until he was eventually overtaken by the forces of ignorance and banal utility.

The Cabinet was the only means of communication that remained, its messages were buried deeply enough to escape the notice of those conspiring against such narratives. Its very complexity and richness of meaning allowed it to pass into posterity where someone might discover it and begin to unravel its stories. It is an encoded message that has slipped past the censors of memory, the dictators of our past, the manufacturers of our ...'heritage'.

But where is the evidence of this conspiracy? I tender first a publication which may be familiar to you – *A History of Australia*, by Manning Clark. Volumes 5 and 6 of this mammoth work encompass the period 1888-1935, but a perusal of their indices is revealing – there are no entries for science... nothing. But surely more recent works have redressed this imbalance? I further tender Volume 4 of the *Oxford History of Australia*. This volume covers the period 1901-1942, a time of great change in Australian science, which included the establishment of the Council for Scientific and Industrial Research. Let us look under 'science'... nothing. Hmmm, perhaps under Council for Scientific and Industrial Research? Ah yes, page 226:

The National-Country Party administration... made a major initiative of the Commonwealth Institute of Science and Industry, recognised and greatly expanded in 1926 as the Council for Scientific and Industrial Research.

That appears to be all...

Where is science in Australian history? To quote from some of Duckbill's early writings:

What sorts of images are conjured up when we think about Australia's history? Intrepid explorers perhaps? Brave Anzacs on the shores of Gallipoli? Or maybe gold rushes, and the development of the wool and wheat industries. But science and scientists? How many Australian scientists can you name? Can we really say Australia has a scientific heritage?

"Can we really say...", is this an indication that Duckbill was already aware of the ways in which Australia's scientific heritage was being marginalised, if not actively suppressed? His next passage provides us with some compelling evidence:

Have you ever looked closely at the faces on the \$100 note? On one side is Douglas Mawson, antarctic explorer and geologist. On the other side is the astronomer John Tebbutt. That's right, they're both scientists. What about the \$50 note? There you will find Ian Clunies-Ross, chairman of the CSIRO from 1949-1959, and Howard Florey, who won a Nobel Prize for his work on penicillin. Yes, another two scientists. On the \$20 note? Laurence Hargreaves, aeronautical engineer...

So, by special arrangement with my bankers, I have a \$100 note with me tonight. If you inspect it as Duckbill suggests, you will find no scientists. Nor on any of the other notes. Scientists have been erased from our currency! I ask, who is responsible for this? Surely some evil conspiracy to obliterate all evidence of Australia's scientific achievements is afoot?

Ahhh, you say, there is no conspiracy, after all are we not in the midst of 'Science Week', a period specifically set aside to celebrate Australian science? Am I alone in finding something disturbing, nay insidious, in this event – in this science *week*. Is this just another way of partitioning science off

from the rest of our culture, of maintaining the separation so obvious in our history books. We dedicate a week to science, so we can ignore it the rest of the year. And instead of promoting inquiry into the way science is tightly bound to the whorls of our history, our society, our very being, we are treated to a cavalcade of the queer and the quizzical – a celebration of trivia.

The time is past for putting eggs in milk bottles!

The time is past for gooey green slime!

It is time to know who we are!

Duckbill did, at one point, begin to investigate the role of science in our understanding of what it is to be Australian. To quote him:

The stump-jump plough, the Coolgardie safe – there are examples of technological innovation wedded to versions of our national identity. The idealised bushman had an ingenious streak that always enabled him to ‘make-do’, no matter what the circumstances. But such innovation was constrained by a narrow, conservative pragmatism, that dared not think beyond immediate needs. For every Victa mower or Hills hoist, there are many other inventions or ideas that were ignored, rejected or ridiculed. Lawrence Hargrave, a brilliant inventor whose work did much to hasten the development of powered flight, commented in 1892: ‘The people of Sydney who can speak of my work without a smile are very scarce’.

How is this to be overcome, Duckbill argues:

An understanding of Australia’s scientific heritage might help prise open the grimly locked jaws of narrow-minded pragmatism. The portrait of the Australian who merely responds to circumstances could be replaced by one of the imaginative thinker, the long-term strategist, the creative spirit, the visionary. The history of Australian science can provide a reservoir of images and examples to build this new identity, and establish a creative environment for future growth and prosperity.

But we should recognise there is a danger here as well – a danger that in seeking to gain popular attention we may ourselves trivialise Australia’s scientific past, reducing it to a parade of the ‘great men of science’. It is all too easy to lapse into the cult of hero worship, to reduce people to icons. As a culture we are scared of complexity. It is simplest and safest to put scientists in boxes – whether they be marked, hero, villain or nerd – the result is the same, they are not us. They are something other to our experience, to our lives.

I myself have been inclined to fall into this trap. I remember indeed, that at the time of my first Cabinet presentation, I was interviewed on a wireless program. ‘Who do you think was Australia’s greatest scientist?’ the presenter asked me. I answered not with one of our Nobel prizewinners, like Howard Florey or Macfarlane Burnet, but with David Rivett. ‘What did he discover?’ came the question in response, leaving me momentarily at a loss. I babbled something about his significance not relating to any particular discovery, but to his work in establishing CSIR as a world-class scientific organisation, to his great idealism and passion for science which he would not resign even in the face of brutal political attacks. But my answer was clearly unsatisfactory, the presenter wanted labels not issues, trophies, not people.

More recently I heard a discussion on the wireless relating to ‘unsung heroes’ of Australian history. Apparently it is a regular item, and it just so happened that the two heroes being sung on this occasion were scientists – Ferdinand von Mueller, and John Tebbutt. However, my initial pleasure at having scientists included in such a forum, quickly turned to frustration.

I have already spoken of Mueller's significance, but what were the two key achievements proclaimed by this commentator to justify Mueller's inclusion in the pantheon of "unsung heroes". First, that he sent eucalyptus seeds around the world, so that we can now see gum trees in California; and second, that he planted marrum grass on Australian beaches to prevent erosion. That was it. There was no indication of Mueller's broader scientific achievements, no understanding of the development of science in Australia - indeed, I doubt whether the words science or scientist were used at all. It seemed rather that Mueller and Tebbutt were being included almost apologetically - 'well, you know they were scientists, but they did some interesting things as well'. Instead of being introduced as active contributors to our knowledge of the natural world and to Australian culture, they were presented as oddities - mere trinkets on the sideboard of Australian history.

It is not merely the people, but the processes of science that have to be revealed. Naming names, recalling feats, is only a beginning, a chink of light appearing around the corner of a door, slightly ajar. We must throw open this door. We must find the science that is in the fabric of who we are and what we do. As Duckbill says:

Just as Australia has looked overseas for advice and expertise, so ordinary Australians have tended to see science as an external source of authority rather than as a constituent part of their own culture. They are expected to adapt to technological change, but are given little encouragement to participate in the processes by which such change is implemented. But Australia's scientific heritage provides a ready antidote to the mystification of science and technology. Scientists become people with the same sorts of ambitions, loves, hopes and fears that we all harbour. Technology is robbed of its omnipotence, and is recast as the fruit of human ingenuity and endeavour.

Dangerous words indeed. It is little wonder then that Duckbill was silenced, reduced to speaking through a mysterious wooden box.

Of Duckbill's fate we are uncertain, the organisation he established here in Canberra was disbanded in unusual circumstances, and he disappeared from view. There are some who believe he is still alive, working underground, taking advantage of new technology to disseminate his 'heresies'.

For the moment though we are left with this - the Cabinet of Curiosities. It stands before us as a starting point, a rallying cry, a call to arms - are we brave enough to meet its challenges?

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