



ARTICLE

From Lady Jane Franklin to marvellous Mrs Mac: a brief history of trailblazing women in early Western science communication in Australia

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Abstract

The history of women in Australian science communication has thus far received little attention. While there is a growing body of research on the history of Australian women in western science, scholarship on the early history of colonial science communication in Australia is scarce, and research on women's roles in the field even more so. Despite this research gap, several colonial women played critical roles in educating on and communicating science to Australians from the 1830s through to the 1930s, particularly their fellow women and children. They took on various science communication roles that sometimes differed from men's approaches, such as scientific administration, visual artistry, and domestic education, and have therefore been overlooked. This article makes these science communication activities visible and aims to be a starting point for filling the gap in the literature on the history of women in Australian science communication. It also aims to broaden the understanding of what counts as science communication.

Keywords

Diversity, equity, inclusion and accessibility in science communication; Women in science; History of public communication of science

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1 - Introduction

While much of modern science communication has its origins in nineteenth-century popularisation, science communication philosophies, practices and activities have arguably existed for far longer. From this perspective, the beginnings of science communication in Australia, and likely the world, can be traced back to the first tellings of the Yorta Yorta Cadell Fault story over 30,000 years ago. It is a story about a geological event — the uplift of the Cadell Fault across the ancestral river, which resulted in a large flood that created a new wetland-forest ecosystem [Atkinson, 2005; Orthia, 2020]. Ancestors of the Yorta Yorta Nation witnessed this event and those that followed, and over thousands of years documented their observations about its impacts on the land and their community's actions [Orthia, 2020]. Through oral storytelling, the Yorta Yorta passed this knowledge down over countless generations and continue to tell it today in contemporary forms, like YouTube videos [Atkinson et al., 2016], presentations to scientific societies [Atkinson, 2005], and even court case testimonies [Atkinson, 2004].

The Cadell Fault story is an exemplary tale of adapting scientific and other complex knowledge to context and different audiences across time, space and cultures. Yet, it is not traditionally considered part of science communication histories (both in Australia and globally), which continues to be dominated by western perspectives [Orthia, 2020; Ramadan, 2024; Rasekoala, 2023]. And the Yorta Yorta Nation's story is just one example of science communication that is overlooked. Thus far, research on the history of science communication has also focussed disproportionately on the contributions of men [Campbell, 2021; Govoni, 2009; Richards, 2024; Rossiter, 1986]. And like the male-dominated history of science in Australia more broadly [Carey, 2001, 2023; Moyal, 1993], Australian histories of science communication are no exception to this trend.

During the nineteenth and early twentieth centuries, Australia's colonial population was concentrated primarily in coastal settlements, with the 'outback' interior remaining sparsely settled by Europeans — a population distribution that persists today. The vast geographic distances, coupled with remoteness of communities from Britain and from one another, shaped how western scientific knowledge circulated across the country and often heightened the importance of local communicators, organisers, educators, and cultural intermediaries. Despite this, there is little published on the early history of science communication in colonial Australia, and even less about the roles and activities of women in this context. This may be in part because the history is viewed as "relatively recent" [Orthia, 2020] and therefore there is not much to record, and/or is "based on too narrow a view of what constitutes science content" [Burns, 2014, p. 72]. It is also possible that there is plenty of interest in doing this work, but scholars have not yet had the chance to publish on the subject, or it is not their primary focus. Indeed, while there have been brief histories on the science communication activities of women from other parts of the western world [e.g. Campbell, 2021], there remains little mention of Australian women. Whatever the reason for the lack of Australian scholarship may be, this article starts filling this research gap. I begin by exploring the existing literature on the topic.

A small collection of sources on the general history of science communication in Australia exists alongside other more general resources on the history of science communication teaching and research practice. In her book *Portraits in Science* [1994], Ann Moyal interviews a series of scientists and science communicators in Australia about their lives and innovative

application of scientific knowledge from the 1930s onwards. In her short essay, Burns [2014] traces the history of science communication in Australia from the early nineteenth century through to 2010, highlighting the influence of the UK and US on Australian science communication activities, the relationship between science and media outlets (particularly the Australian Broadcasting Corporation), the flourishing of science communication during the Cold War and space race years, the first Australian National Science Week, and the establishment of the Centre for the Public Awareness of Science. Similarly, Gascoigne and Metcalfe [2017] document the emergence of modern science communication in Australia with a focus on key events in the post-war era, such as the formation of the first science centres and institutions, science awareness programs, university courses, and post-graduate research activities. These scholars have also recorded the history of science communication research in Australia and how it interacts with science communication teaching and practice [Metcalfe & Gascoigne, 2012] and proposed five stages of development of modern science communication in Australia [Gascoigne & Metcalfe, 2020]. In a more recent history, McKinnon and Bryant [2017] track the thirty-year evolution of a science communication degree at the Australian National University. There is also a collection of publications focussed on the history of science schools and science teaching in Australia [e.g. Danos, 2012; Kerr, 1961]. For the purposes and scope of this article, I focus on the broader early history of science communication practices in Australia, rather than the history of its teaching and courses.

It is important to note, in the literature cited above, the disparity in the number of men referred to as key figures versus the number of women. For example, Burns [2014] points to over 20 men as key actors in the shaping of Australian science communication, and only four women. Gascoigne and Metcalfe [2017] also only mention four women, compared to 16 men. Publications tend to focus on the contributions of male science journalists like James S. Bray and Ian Anderson, broadcasters like Julius Sumner Miller and Robyn Williams, and Dr. Michael Gore who established Australia's first science centre. Additionally, with the exception of Jane Franklin, the women mentioned are from the more recent history of the field, namely the 1990s and 2000s, and often only referenced in passing.

Today, in the twenty-first century, female science communicators in Australia are certainly acknowledged and far more visible than their counterparts in historical accounts. Contemporary Australian broadcasters and journalists such as Natasha Mitchell [ABC, 2026c], Ann Jones [ABC, 2026a], Belinda Smith [ABC, 2026b], and Sana Qadar [ABC, 2026d] demonstrate that women continue to shape Australian science communication through forms extending beyond formal scientific institutions, including radio, podcasting, journalism, and interdisciplinary storytelling. Women have also played major leadership roles in the recent institutional development of Australian science communication itself. Emeritus Professor Sue Stocklmayer, for example, helped establish science communication as an academic field in Australia through her pioneering work at the Australian National University [Gascoigne & Metcalfe, 2017]. Similarly, Dr. Jenni Metcalfe has shaped the field through consultancy work and as a founding member and former president of the Australian Science Communicators [Australian Science Communicators, 2020]. Women have also occupied highly prestigious public-facing science leadership roles in Australia, including former Chief Scientists Dr. Cathy Foley and Professor Penny Sackett, both of whom played important roles in publicly advocating for and communicating science [Australia's Chief Scientist, n.d.; Australian National University, 2026]. In this article, however, I show that women have been contributing to Australian science communication for much longer.

Scholars have been calling for the inclusion of women in science communication histories since at least the 1980s. Historian Margaret Rossiter, for example, asserted the following in her paper about women, library history, and science communication:

Like most of “women’s work”, much of scientific communication has been so invisible to outsiders that it has been taken for granted, and its importance often minimized. When more attention is paid to the history of scientific communication, especially to women’s roles therein, truer assessments of the relative value of various types of scientific work may be possible. [Rossiter, 1986, p. 39]

Similarly, Australian historian of science Ann Moyal has argued that “despite [their] major contributions to scientific explication [and science communication by extension], women’s work was camouflaged” and that “[m]embership of a scientific family often confirmed the subordination of the female role and absence of contemporary recognition” [Moyal, 1993, p. 178]. Further to this, “[t]ransforming the purpose of science communication to grapple with diverse philosophical understandings and historical frameworks can, however, stimulate new imaginative avenues for inclusion” [CPAS Inclusive Science Communication Collective, 2025, p. 15].

Against this background, it is pertinent that scholars make visible the histories of women in science communication, including in Australia. Here, I focus on three groups of Australian women as case studies, from the 1830s to the 1930s, highlighting their various science communication activities and contributions. In so doing, I hope to create a starting point for charting the history of women in Australian science communication and establishing a more accurate and inclusive understanding of the field’s origins. I argue that histories of science communication in Australia must adopt a broader understanding of what constitutes science communication work, including forms of communication embedded in domestic life, artistic practice, social hosting, and other activities not traditionally recognised as part of the field.

Following the qualitative historical research methods set out in Berg [2001], I first searched the existing scholarship on the history of science communication in Australia and the history of Australian women in science more generally, to identify the names of Australian women for potential case studies. I used the broader work of Campbell [2021] to categorise the gendered roles these women may have played as science communicators and I followed this up with searches in Trove and Wikipedia to find further examples of women in action as scientific administrators, scientific artists, and science educators. I then analysed biographies, archival documents, and personal diaries/publications of these women to refine my initial arguments and to narrow down the examples used in this article.

2 - Admins, artists, and educators: the roles of women in Australia’s science communication history

According to Burns et al. [2003, p. 183], science communication can be defined as “the use of appropriate skills, media, activities, and dialogue to produce one or more of the following personal responses to science (the AEIOU vowel analogy): Awareness, Enjoyment, Interest, Opinion-forming, and Understanding”. I adopt this clear and inclusive definition of women’s

approaches to (western) science communication in Australia's history, and I explore the contributions of several women in Australia through the AEIOU science communication lens. These women took on various science communication roles that can be split into three main categories: (1) scientific administration, (2) scientific visual art, and (3) science teaching via domestic activities. Many of these activities fall outside of conventional understandings of science communication, which have historically privileged formal lectures, journalism, and institutional science outreach over domestic, artistic, and organisational labour.

Lady Jane Franklin, the woman who likely inspired western science communication in Australia, falls most neatly into the first category of scientific administration. Lady Jane Franklin née Griffin (1791–1875) was a renowned traveller, philanthropist and second wife of explorer Sir John Franklin, who famously went missing while charting the Northwest Passage [Alexander, 2013; Herbert, 2012]. She is most remembered for organising and sponsoring several expeditions to find her missing husband [Alexander, 2013; Woodward, 1966]. Lesser known, however, are her contributions to science communication and establishing the intellectual life of colonial Tasmania.

In 1837, John Franklin was appointed Lieutenant-Governor of Van Diemen's Land (today known as the state of Tasmania) and, unlike her predecessors and the traditional duties of a governor's wife, Lady Franklin was determined to play an active role in shaping the nation. Her first calling was to host a series of social gatherings to lift local standards and encourage science and culture in Tasmania. These gatherings were designed to be more intellectual than the conventional dinners and balls expected of a Lady. In July and August of 1837, this came in the form of five weekly 'conversaciones' — a type of entertainment popular in Victorian England where people met for scholarly and cultural discussion, especially about science, medicine, literature and the arts [Alberti, 2003; Alexander, 2013].

Conversaciones played a role in exposing scientific and other complex knowledge to non-experts and thus fostered a "culturally sophisticated urban middle-class identity in the later nineteenth century" [Alberti, 2003, pp. 208–209; see also Plunkett & Sullivan, 2012]. They were a kind of informal science communication where non-experts could be active participants, rather than passive consumers, of science:

The very act of 'conversation', of course, is active, challenging the notion of a one-way transmission of expert knowledge. Furthermore, dozens of amateurs displayed the products of their scientific practices, whether mounted butterflies or astronomical observations, and discussed them with each other, and with those who strolled past. Visitors could ask them questions, examine the exhibits, leaf through the prints and browse the printed matter. [Alberti, 2003, p. 223]

This was certainly the case for Lady Franklin's conversaciones. She was intentional about what subjects were picked for discussion, who was speaking, and what scientific objects were put on display, to ensure that as many people as possible would feel included and able to enjoy scientific knowledge. One surveyor, James Calder, had this to say about her social gatherings:

What was a reunion, or an 'at home', in Lady Franklin's time? It was an intellectual treat. No burlesque of a queen's drawing room. Nothing beyond the usual forms and conventionalities of genteel life. It partook more of a *conversazione*, Lady Franklin, after taking the initiative, taking care that the subject introduced was not beyond the capacity of the company. Her study was to make every person at home and happy, and admirably did she succeed, for an evening at Government House was considered the most enjoyable of all parties. [Calder, 1984, pp. 8–9]

Originally, she also wanted to mix people from all social classes and reject only two groups — the ex-convicts and tradesmen [Alexander, 2013]. This was a little unusual — *conversaciones* were open to both men and women but, most of the time, only accessible to those of the upper and middle classes [Alberti, 2003]. It is no surprise, then, that she was eventually convinced by people close to her to be more exclusive and divide colonists into four grades; all were invited to separate *conversaciones* (although this later received criticism as she prioritised the wishes of government officials over the Tasmanian people, see Alexander [2013] for more).

Lady Franklin also hosted smaller and private dinner parties with equally stimulating discussions. While the guest lists were heavily masculine and exclusive, they nonetheless encouraged interactions between scientists and non-experts, and dialogue about science and the arts between friends. The conversations were topical, including discussions about Cooke and Wheatstone's electrical telegraph and Harris's lightning conductor [Alexander, 2013]. Lady Franklin also had an interest in science and observing nature herself. She often collected specimens, read the latest science journals and books, and encouraged other people to do the same as much as she could.

In addition to her more 'visible' social gatherings, Lady Franklin participated in several other activities that could be described as science communication. For example, in 1839 she founded the Tasmanian Society — an early version of the Royal Society of Tasmania. Although her husband John is often credited, it is clear from historical records that the Society was actually the brainchild of Lady Franklin [Alexander, 2013]. Indeed, she was the one who set it up and kept it going — whenever she was absent, the Society flagged until she returned. Though never an official member herself, Lady Franklin organised the Society's scientific lectures, managed society members, attended and ran meetings, and edited, published and distributed papers in Australia and England, to name a few [Alexander, 2013]. She even built a museum and botanical garden, the *Ancanthe*, complete with Tasmanian memorabilia, sculptures, books, paintings, and scientific specimens [Alexander, 2013; 'Lady Franklin Museum: historical letter written on eve of opening', 1935]. Her museum opened to the public in October of 1843 and is still standing in Hobart, today used by the Art Society of Tasmania for exhibitions, workshops, and social events [Räabus, 2017; 'Lady Franklin Museum: historical letter written on eve of opening', 1935]. Except the museum, most of the Society's other activities were not open to the public and by invite only. However, they still played a role in growing Tasmania's scientific community, circulating knowledge, and connecting people for scientific purposes.

Lady Franklin's *conversaciones*, dinner parties, and Royal Society facilitated an understanding of and engagement with science among the Tasmanian colonies, honouring all the AEIOU elements of science communication. She was "Australia's first innovative

‘patroness’ of science” who, due to the political climate of the time, also “imposed a strategic self-concealment behind the public figure of her husband” [Moyal, 1993, p. 180]. Her style is what Rossiter [1986, p. 52] might deem a “scientific hostess” or scientific administrator who participated in the less visible, behind-the-scenes work of science communication that is often underappreciated and overlooked, as are many other science communication styles of women from Australia’s western history. From this point of view, science communication is not just the act of communicating, but also all the background organising that needs to happen for communication and dialogue to happen.

Shortly after Lady Franklin laid the groundwork, a new wave of women arrived from the Colonies and turned to a different form of science communication: visual art. In the late eighteenth century to early nineteenth century, it was common for upper- and middle-class women to be educated in botany and sketching [Richards, 2024; Shteir, 1987]. Women from Britain and the USA brought these skillsets with them to Australia, and some published their drawings and (scientifically accurate) descriptions of the local wildlife for the wider community to engage with. For example, Fanny de Mole (1835–1866) published the first ever illustrated book from South Australia on wildflowers, titled *Wild Flowers of South Australia* [1861], complete with illustrations and scientific information. Similarly, artist and collector Fanny Charsley (1828–1915) included explicit botanical nomenclature alongside lithographs in her book *The Wild Flowers around Melbourne* [1867]. Anna Frances Walker (1830–1913), on the other hand, targeted a wider audience and displayed her watercolours of Tasmanian and New South Wales flora at colonial exhibitions [Moyal, 1993]. This included at the London International Exhibition in 1873, where she won a gold medal [Olsen, 2013; Powerhouse Museum, 2025], and at the Melbourne Exhibition in 1880, where she was awarded first place [‘Exhibition awards’, 1880]. All three women were vital to informing people on Australian flora and saw the value of educating non-experts on botanical knowledge in an accessible, visual format. As de Mole said in 1861:

The botanical information at present to be obtained on Australian plants is very scanty [...] but those of this volume we have striven to represent as nearly like nature as possible and have added written descriptions of their growth and peculiar characteristics. [de Mole, 1861, p. 3]

In her diary, Walker also points to the important role that generations of colonial women played in educating Australians about botanical knowledge [Moyal, 1993].

While de Mole, Charsley and Walker were focussed on botany, other women were interested in illustrating natural history more broadly. Louisa Atkinson (1834–1872), for example, trained herself in several scientific areas, including botany, zoology, and geology, and from 1861–1873 published a series of sketches on natural history in the Sydney papers for readers to enjoy [e.g. ‘A voice from the country. Orchidaceae’, 1862; ‘A voice from the country. Epacrideae’, 1863; see also Moyal, 1993]. Her work has been credited as not only highly informative but popularising with an accessible tone and clear intention [Lawson, 1988]. Another writer and illustrator, Louisa Anne Meredith (1812–1895), also published illustrated books on Tasmanian wildlife that had wide popular appeal [Moyal, 1993], including her works *Tasmanian Friends and Foes. Feathered, Furred and Finned* [1880] and *Some of my bush friends in Tasmania, native flowers, berries and insects drawn from life* [1860]. Her work has been praised as “excellent source material” and “faithful representations” [Rae Ellis, 1979, pp. 194–195].

But perhaps two of the most influential natural history illustrators were sisters Harriet (1830–1907) and Helena Scott (1832–1910), daughters of entomologist Alexander Scott. For thirty years, through the 1860s–1890s, the pair created nearly all the artwork for Sydney's scientific literature [Moyal, 1993]. Their illustrations were “scientifically precise and alternatively delicate and powerful” [Moyal, 1993, p. 178], working to make science publications more appealing and digestible. Many of their illustrations are still used today [Australian Museum, 2025].

Several other women of this ilk, who I do not have space to discuss here, made equally important contributions to what we can call visual science communication [for their names, see source Kerr, 1992; Moyal, 1993]. As sketchers, collectors, watercolourists, illustrators and writers, these women conveyed their findings to a generalist audience:

They were transported and reared initially in a strange continent where new flora and fauna challenged the eye and brush, and where the illustrations of women served to communicate and enhance knowledge of Australian species. Cultivated women drew, walked, observed, collected specimens, arranged and painted and, through their knowledge and art, became essential diffusers of a botanical culture. [Moyal, 1993, p. 176]

Through their visual art, then, they made science accessible to more Australians. Whether intentional or not, their actions promoted Awareness, Engagement, and Understanding of science.

After the boom in scientific visual art, the twentieth century saw another group of women who opted for a more targeted and gendered way of communicating science with the rise of domestic science [Campbell, 2021]. Most notable were Mary Farrelly née Maley (1866–1943), Margaret Wylie (1870–?), Deborah Murphy née Drake-Brockman (1887–1965), and later Florence Violet McKenzie née Wallace (1890–1982), who all used food, cooking, and domestic activities to teach science concepts, particularly to Australian women. Their methods further complicate narrow definitions of science communication — cooking demonstrations, household manuals, and food education are rarely treated as part of science communication histories, yet they translated scientific ideas into everyday practice and brought scientific knowledge directly into Australian homes.

Mary Farrelly, also known as ‘The Wheat Queen’, was a popular diet reformer who published leaflets and cookbooks, organised exhibitions, and gave public talks to educate Australians, especially school children and their mothers, on the health benefits of wholemeal grains, fruits and vegetables [Erickson, 1981; ‘Wheat for health: an interesting exhibition’, 1931; ‘Wheat for health: Mrs. Mary Farrelly’s work’, 1937]. Farrelly encouraged their use in everyday meals, travelling all over the state of Western Australia lecturing on the science and benefits of a healthy diet, and her engaging delivery quickly gained her admiration across Australia. She often accompanied her talks with homemade loaves and wheaten biscuits, and sometimes even chewed puffed wheat while lecturing on the topic [Erickson, 1981]. In 1929, she published *How to cook wheat*, offering recipes for “nutritious, appetising and economical dishes” using wholemeal flour. The booklet touches on why wholewheat is a valuable food, especially as it contains more phosphorus than refined wheat products [‘Reduce living costs’, 1919]. Writing about her booklet’s recipes in *The Fremantle Times* [1919], she further

explains the science behind wholewheat, how the process of producing white flour reduces important minerals, and even includes a simple table on the different nutrient levels in white flour versus wheaten flour. Farrelly's booklet was also affordable, so it is not surprising that it ran many editions enjoyed by the Australian public. Indeed, she was known for her accessibility to non-experts:

In this work she has brought within the knowledge of hundreds of people who have no time and little inclination to study text books on food values, the true value of the cheapest and simplest and most vitalising food known — wheat. ['Eat wheat for health and economy', 1921, p. 3]

In addition to her efforts communicating the science of wheat to Australians, Farrelly helped form the Western Australian branch of the Country Women's Association, teaching domestic science courses for rural women [Erickson, 1981]. And there was at least one other notable Australian woman who followed a similar trajectory.

Also hailing from Western Australia, Margaret Wylie was an author and teacher of home economics. She was in charge of the domestic science branch of the WA Department of Education for several years, responsible for almost 30 centres and thousands of pupils ['Bread-making in the home: an expert's advice to rural housewives', 1923; 'No doubt about W.A. women's cooking, says expert', 1937]. She gave talks ['Bread-making in the home: an expert's advice to rural housewives', 1923], published recipes in the local papers [Wylie, 1926, 1927], and wrote the popular *Golden Wattle Cookery Book* [1924] with other teaching staff of the Perth Household Management Centre, weaving science education into all three. Her most prominent recipes and lectures were those on breadmaking, which she very much treated as a science, and thus used as an opportunity to communicate science concepts to students:

In introducing her subject, the lecturer declared that the manufacture of bread was undoubtedly a science, in which the student was constantly confronted with problems in chemistry and physics. ['Bread-making in the home: an expert's advice to rural housewives', 1923, p. 7]

In one such breadmaking recipe, for example, she outlines the scientific properties of yeast:

[Yeast] is a minute plant of the "fungi" family, so small that one million would cover only one cubic inch. Warmth and moisture feed its growth, its food being the sugar formed from starch, it thrives best at 78 deg. F. Its chief power is that of changing starch to sugar, and then converting the sugar into alcohol and carbonic acid gas. Provided the right food and conditions are given it, yeast propagates rapidly at the rate of one million an hour. [Wylie, 1927, p. 8]

She then goes on to classify the different types of yeast, how they are cultivated, and how the gas it generates causes the dough to rise. She also used diagrams to show where salts and

minerals were located in wheat and, on par with her peer Mary Farrelly, maintained that fine milling processes reduced the benefits of wheat [‘Bread-making in the home: an expert’s advice to rural housewives’, 1923].

Deborah Murphy, on the other hand, was a community worker and philanthropist who educated Australians on science through domestic activities more broadly. Best known as Lady Hackett, she helped produce *The Australian Household Guide* [1916], in which she touches on basic science concepts that permeate the home and everyday life [Tetlow, 2023]. The *Guide* was praised as an accessible manual for women and their children. In one review, for example, *The Adelaide Register* described Murphy’s *Guide* as more than just a collection of recipes, but one that

[Deals] with every domestic subject on which mother — and, for that matter, daughters and sons — ought to be informed; and the information is conveyed in language as simple as the type is bold and clear. One of its enthusiastic admirers predicts that it will become the “Mrs. Beaton” of Australia: and the forecast seems to be reasonable. The treatment of all the subjects is eminently practical, and casual tests warrant the claim of the compilers that nothing is recommended to the public on mere theory. [‘A handsome “Household Guide”’, 1916, p. 4]

The same was said of later extended editions, which included

[Authoritative] hints on general hygiene, home nursing, the care of domestic animals, the control of house pests and many other subjects. The book is a veritable treasures trove of knowledge which is backed by good common sense. Clearly printed, carefully indexed and illustrated it is likely to have wide appeal. [‘Lady Hackett’s Household Guide’, 1939, p. 14]

Each chapter weaves in welcoming discussions of science concepts and scientific explanations ranging from the chemistry of cooking and personal hygiene to the psychology of children and animal behaviour, complete with supporting tables, diagrams and illustrations [Murphy, 1916]. In fact, science is such an important part of Murphy’s *Guide* that it is mentioned to readers from the very first sentence: “Man is, scientifically speaking, an animal” [Murphy, 1916, p. 17]. She expands on this with clear, easy to follow scientific explanations of food groups and why the body requires them throughout the rest of the first chapter.

Florence Violet McKenzie, Australia’s first female electrical engineer, took this a step further. Known affectionately as ‘Mrs Mac’, McKenzie was a lifelong proponent of scientific and technical education for women [Dufty, 2020; Malhi, 2021] who fought “to see every woman emancipated from the “heavy” work of the household by the aid of electricity” [McKenzie, 1935, p. 7]. As part of this mission, she used several forms of teaching and science communication methods, including cooking and domestic activities, to dispel myths about electricity and liberate women. For starters, in 1934 she opened an Australian branch of the Electrical Association for Women (EAW) where she taught women how to use an electric kitchen and other modern appliances through a series of demonstrations [Dufty, 2020; Nelmes, 2012]. She also published several accessible articles on electrical safety, co-created

the *Wireless Weekly* journal “devoted to the interests of wireless enthusiasts both amateur and professional” [‘The Wireless Weekly’, 1922, p. 1], the *EAW Cookery Book* [1936] — the first ‘all-electric’ cookbook and first women’s guide to cooking with electricity, and *The Electric Imps* [1938] — a book educating children about how electricity works and how to safely use it, using mischievous ‘imps’ as an engaging metaphor for electric currents [Dufty, 2020; Nelmes, 2012]. The *EAW Cookery Book* was particularly successful and user-friendly, running seven editions and containing around 600 simple dishes (rather than fanciful, complicated recipes) using only electrical equipment.

But McKenzie’s science communication work did not stop at domestic electrical education for women. By early 1939, she founded the Women’s Emergency Signalling Corps in which she taught Morse code, semaphore, circuitry theory, physics, and other relevant science concepts to thousands of women using innovative methods, all for free and with no age limits [Dufty, 2020; Nelmes, 2012]. This made the course highly accessible for women and, consequently, extremely popular. Her innovative methods encompassed using popular short stories, poems, and playing music while her students practiced to help them learn the ‘rhythm’ and ‘shape’ of Morse code [Dufty, 2020; Mohapp, 2014]. She even used passages from Albert Einstein’s books for practicing semaphore Morse code translation [Dufty, 2020]. Thus, at the same time as learning Morse, they were also learning about Einstein’s work in theoretical physics and “gaining proficiency without drudgery, even enjoying it, and benefitting in so many other ways” [McKenzie in Dufty, 2020, p. 221].

Ultimately, aligned with a core tenet of science communication that science should be made accessible for non-experts, she believed that “everybody should understand Morse” [McKenzie, 1939, p. 22] and that, in fact, women perhaps more so than men because “[w]omen’s fingers, used to doing fine work, also seem to me more adaptable to the fine parts of a radio outfit” [McKenzie, 1931, p. 1]. Some of her highly proficient female students did become instructors and went on to train men in Morse code using *Popeye* and *Tarzan* comic strips to practice translation [Dufty, 2020]. Through her teachings and communication methods, McKenzie inspired hundreds of women to pursue careers in engineering, radio, aviation, and other male-dominated areas of STEM, including her niece who eventually opened her own radio shop with her brother [Dufty, 2020].

McKenzie and her predecessors all brought science to women through domestic activities, understanding their audience, gender norms of their time, and meeting women where they were at. Their work demonstrates how science communication often operated through practical and gendered forms of everyday education rather than through formal scientific institutions alone. Their strategies created scientific Awareness, Enjoyment, Interest, Opinion-forming, and Understanding among women and, by extension, the men and children that these women went on to share information and facilitate dialogues with. These women empowered other women to become science communicators themselves.

3 - Conclusions

The various women discussed in this article participated in critical, but often overlooked, science communication activities for Australia. Speaking on women science communicators more generally, Campbell [2021] puts it thus:

[T]he breadth and complexity of women's contributions to scientific communication over the last two centuries demonstrates that their participation is vital. By helping children and laypeople access scientific knowledge, incorporating the voices of suffering patients, leveraging the body for communicative power, and much more, women have pushed the boundaries of scientific communication again and again. [Campbell, 2021, p. 77]

I have shown that this was certainly true of women in Australia's colonial history. They communicated and increased public awareness of and engagement with science as administrators, skilled hostesses, visual artists, authors, popularisers, cooks, domestic teachers, and even entrepreneurs who deeply understood their audiences. Women have long been the connective tissue — between people, disciplines, knowledge, etc. — yet, as with other STEM disciplines, historical accounts have concealed their participation in science communication [Campbell, 2021]. This is likely in part because they “gave no papers, made no noteworthy taxonomic contributions, and hence have been excluded from the record of male-valued scientific [and science communication] development” [Moyal, 1993, p. 177]. Here, I have begun to reveal their roles and make their work more visible.

This article is by no means an extensive history of women and science communication in Australia. It is a point of departure for further research and scholarship to establish a more holistic and inclusive understanding of the field's history. Indeed, “the work of equalizing gender participation in scientific communication is by no means complete” [Campbell, 2021, p. 76]. It also begs the question: if we adopt a broader understanding of what constitutes science communication as set out in this article, particularly in the realm of scientific administration, behind-the-scenes work, and cooking or domestic demonstrations, do we see other marginalised groups (beyond women) appear as key players in the history of science communication? Further investigation is needed to answer this.

Alongside additional investigations into the roles of Australian and other women in the global history of science communication, future research should specifically consider the important contributions of First Nations women, especially given the Yorta Yorta Cadell Fault oral history. As scholars have previously asserted, such research must be done respectfully and collaboratively [Orthia, 2020; Ramadan, 2024; Rasekoala, 2023]. Diverse stories and events from history can help inform the present and future of science communication, offering new perspectives in research, practice, and teaching. After all, to echo a sentiment from Orthia [2020, p. 1], “[h]ow a discipline's history is written shapes its identity”. And the more inclusive the documented history of science communication is, the more inclusive, creative, and impactful the field of science communication and its practitioners are [CPAS Inclusive Science Communication Collective, 2025].

References

- ABC. (2026a). Ann Jones. *ABC Listen*. <https://www.abc.net.au/listen/ann-jones/11409784>
- ABC. (2026b). Belinda Smith. *ABC News*. <https://www.abc.net.au/news/belinda-smith/9065300>
- ABC. (2026c). Natasha Mitchell. *ABC News*. <https://www.abc.net.au/news/natasha-mitchell/3969340>
- ABC. (2026d). Sana Qadar. *ABC News*. <https://www.abc.net.au/news/sana-qadar/13324420>

- Alberti, S. J. M. M. (2003). Conversazioni and the experience of science in Victorian England. *Journal of Victorian Culture*, 8(2), 208–230. <https://doi.org/10.3366/jvc.2003.8.2.208>
- Alexander, A. (2013). *The ambitions of Jane Franklin: Victorian lady adventurer*. Allen & Unwin.
- Atkinson, H. (2004). Yorta Yorta co-operative land management agreement: impact on the Yorta Yorta nation. *Indigenous Law Bulletin*, 6(5), 23–25. <http://www.austlii.edu.au/au/journals/IndigLawB/2004/56.html>
- Atkinson, S., Cardamone, M., & King, D. (2016). Uncle Sandy Atkinson tells the Cadell Fault story. *Culture Victoria*. <https://cv.vic.gov.au/stories/aboriginal-culture/ganagan/uncle-sandy-atkinson-tells-the-cadell-fault-story/>
- Atkinson, W. (2005). Yorta Yorta occupation & ‘the search for common ground’. *Proceedings of the Royal Society of Victoria*, 117(1), 1–22. <https://waynera.wordpress.com/wp-content/uploads/2010/10/atkinson.pdf>
- Australian Museum. (2025). *The Scott Sisters Collection*. <https://australian.museum/learn/collections/museum-archives-library/scott-sisters/>
- Australian National University. (2026). Prof Penny Sackett. ANU Institute for Climate, Energy & Disaster Solutions. <https://iced.s.anu.edu.au/people/academic-members/prof-penny-sackett>
- Australian Science Communicators. (2020). Jenni Metcalfe. <https://asc2020.asc.asn.au/speakers/jenni-metcalfe/>
- Australia’s Chief Scientist. (n.d.). Dr Cathy Foley. <https://www.chiefscientist.gov.au/about/dr-cathy-foley>
- Berg, B. L. (2001). *Qualitative research methods for the social sciences*. Allyn & Bacon.
- Bread-making in the home: an expert’s advice to rural housewives. (1923, March 14). *The Daily News*. <http://nla.gov.au/nla.news-article77896839>
- Burns, M. (2014). A brief history of science communication in Australia. *Media International Australia*, 150(1), 72–76. <https://doi.org/10.1177/1329878x1415000116>
- Burns, T. W., O’Connor, D. J., & Stocklmayer, S. M. (2003). Science communication: a contemporary definition. *Public Understanding of Science*, 12(2), 183–202. <https://doi.org/10.1177/09636625030122004>
- Calder, J. (1984). *Recollections of Sir John & Lady Jane Franklin in Tasmania* [Originally published in *Tasmanian Tribune*, 1875]. Sullivan’s Cove.
- Campbell, L. (2021). Gender and scientific communication. In C. Hanganu-Bresch, M. J. Zerbe, G. Cutrufello & S. M. Maci (Eds.), *The Routledge handbook of scientific communication* (pp. 69–79). Routledge. <https://doi.org/10.4324/9781003043782>
- Carey, J. (2001). Engendering scientific pursuits: Australian women and science, 1880–1960. *Limina*, 7, 10–25. <https://search.informit.org/doi/abs/10.3316/informit.305239667588150>
- Carey, J. (2023). *Taking to the field: a history of Australian women in science*. Monash University Press.
- Charsley, F. A. (1867). *The wild flowers around Melbourne*. Day & Son.
- CPAS Inclusive Science Communication Collective. (2025). A proposed framework for considering “inclusive science communication” in theory and practice. *Science Communication*. <https://doi.org/10.1177/10755470251344471>
- Danos, T. (2012). *The pursuit of excellence: a history of the Professor Harry Messel International Science School*. UWA Publishing.
- de Mole, F. E. (1861). *Wild flowers of South Australia*. Self-published.
- Duffy, D. (2020). *Radio Girl: the story of the extraordinary Mrs Mac, pioneering engineer and wartime legend*. Allen & Unwin.
- Eat wheat for health and economy. (1921, January 9). *The Sunday Times*. <https://trove.nla.gov.au/newspaper/article/57972827>

- Erickson, R. (1981). Mary Martha Farrelly (1866–1943). In *Australian dictionary of biography* (Vol. 8). <https://adb.anu.edu.au/biography/farrelly-mary-martha-6144>
- Exhibition awards. (1880, April 3). *The Sydney Morning Herald*. <http://nla.gov.au/nla.news-article13457223>
- Farrelly, M. (1919, August 22). Wheat as a life giver. *The Fremantle Times*. <https://trove.nla.gov.au/newspaper/article/256636127>
- Farrelly, M. (1929). *How to cook wheat*. Colortype Press.
- Gascoigne, T., & Metcalfe, J. (2017). The emergence of modern science communication in Australia. *JCOM*, 16(03), A01. <https://doi.org/10.22323/2.16030201>
- Gascoigne, T., & Metcalfe, J. (2020). Australia: the five stages of development of science communication. In T. Gascoigne, B. Schiele, J. Leach, M. Riedlinger, B. V. Lewenstein, L. Massarani & P. Broks (Eds.), *Communicating science: a global perspective* (pp. 125–154). ANU Press. <https://doi.org/10.22459/CS.2020>
- Govoni, P. (2009). The historiography of science popularization: reflections inspired by the Italian case. In F. Papanelopoulou, A. Nieto-Galan & E. Perdiguerro (Eds.), *Popularizing science and technology in the European periphery, 1800–2000* (pp. 37–54). Ashgate Publishing. <https://doi.org/10.4324/9781315601472>
- A handsome “Household Guide”. (1916, August 5). *The Adelaide Register*. <http://nla.gov.au/nla.news-article60612133>
- Herbert, K. (2012). *Polar wives: the remarkable women behind the world's most daring explorers*. Greystone Books.
- Kerr, D. A. (1961). The beginnings of science teaching in Australia. *Australian Journal of Education*, 5(3), 159–169. <https://doi.org/10.1177/000494416100500303>
- Kerr, J. (Ed.). (1992). *The dictionary of Australian artists: painters, sketchers, photographers and engravers to 1870*. Oxford University Press.
- Lady Franklin Museum: historical letter written on eve of opening. (1935, May 9). *The Mercury*. <http://nla.gov.au/nla.news-article30085461>
- Lady Hackett's Household Guide. (1939, December 29). *The West Australian*. <http://nla.gov.au/nla.news-article46346098>
- Lawson, E. (1988). Louisa Atkinson, naturalist and novelist. In D. Adelaide (Ed.), *A bright and fiery troop: Australian women writers of the nineteenth century* (pp. 69–84). Penguin.
- Malhi, C. (2021, February 11). Three inspirational women in science and engineering. *Engineering Institute of Technology*. <https://www.eit.edu.au/three-inspirational-women-in-science-and-engineering/>
- McKenzie, F. V. (1931, February 1). Careers for girls. *The Sun*. <http://nla.gov.au/nla.news-article224667228>
- McKenzie, F. V. (1935, November 8). What have the ladies to say? [Cited in *Dictionary of Sydney*]. *The Contactor*, 7.
- McKenzie, F. V. (1936). *The Electrical Association for Women's cookery book*. Self-published.
- McKenzie, F. V. (1938). *The electric imps*. Electrical Association for Women.
- McKenzie, F. V. (1939, March 4). What women are doing. *The Australian Women's Weekly*. <http://nla.gov.au/nla.news-article51592171>
- McKinnon, M., & Bryant, C. (2017). Thirty years of a science communication course in Australia: genesis and evolution of a degree. *Science Communication*, 39(2), 169–194. <https://doi.org/10.1177/1075547017696166>

- Meredith, L. A. (1860). *Some of my bush friends in Tasmania: native flowers, berries, and insects, drawn from life, illustrated in verse, and briefly described*. Day & Son.
- Meredith, L. A. (1880). *Tasmanian friends and foes: feathered, furred and finned*. J. Walch & Sons.
- Metcalf, J., & Gascoigne, T. (2012). The evolution of science communication research in Australia. In B. Schiele, M. Claessens & S. Shi (Eds.), *Science communication in the world: practices, theories and trends* (pp. 19–32). Springer. https://doi.org/10.1007/978-94-007-4279-6_2
- Mohapp, C. (2014). *The rhythm of life: the perfect rhythm of Morse code* [Master's Thesis]. University of Sydney. <http://hdl.handle.net/2123/13058>
- Moyal, A. (1993). Invisible participants. Women in science in Australia, 1830–1950. *Prometheus*, 11(2), 175–187. <https://doi.org/10.1080/08109029308629352>
- Moyal, A. (1994). *Portraits in science*. National Library of Australia.
- Murphy, D. (1916). *The Australian household guide*. E. S. Wigg & Son.
- Nelmes, M. (2012). Florence Violet McKenzie (1890–1982). In *Australian dictionary of biography* (Vol. 18). <https://adb.anu.edu.au/biography/mckenzie-florence-violet-15485>
- No doubt about W.A. women's cooking, says expert. (1937, March 31). *The Daily News*. <http://nla.gov.au/nla.news-article85700169>
- Olsen, P. (2013). *Collecting ladies: Ferdinand von Mueller and women botanical artists*. National Library of Australia.
- Orthia, L. A. (2020). Strategies for including communication of non-Western and indigenous knowledges in science communication histories. *JCOM*, 19(02), A02. <https://doi.org/10.22323/2.19020202>
- Plunkett, J., & Sullivan, J. A. (2012). Fêtes, bazaars and conversaciones: science, entertainment and local civic elites. In J. Kember, J. Plunkett & J. A. Sullivan (Eds.), *Popular exhibitions, science and showmanship, 1840–1910* (pp. 41–60). University of Pittsburgh Press. <https://www.jstor.org/stable/j.ctt1djmj49>
- Powerhouse Museum. (2025). Medal from the London International Exhibition, 1873. *Powerhouse Collection*. <https://collection.powerhouse.com.au/object/291571>
- Rääbus, C. (2017, October 17). Lady Franklin Gallery: why there's a Greek-style building at the back of Lenah Valley. *ABC News*. <https://www.abc.net.au/news/2017-10-17/history-of-lenah-valleys-greek-style-lady-franklin-gallery/9054468>
- Rae Ellis, V. (1979). *Louisa Anne Meredith: a tigress in exile*. Blubber Head Press.
- Ramadan, M. E. (2024). Beyond Western perspectives: inclusive insights to decolonise and transform science communication. *JCOM*, 23(01), R04. <https://doi.org/10.22323/2.23010704>
- Rasekoala, E. (Ed.). (2023). *Race and sociocultural inclusion in science communication: innovation, decolonisation, and transformation*. Bristol University Press. <https://doi.org/10.2307/jj.5274089>
- Reduce living costs. (1919, September 30). *The South Western Times*. <http://nla.gov.au/nla.news-article210701157>
- Richards, I. (2024). 1796 — *An introduction to botany*: the critical role of women in eighteenth-century science popularisation and the early promotion of science for young girls in Britain. *Public Understanding of Science*, 33(3), 387–392. <https://doi.org/10.1177/09636625231217015>
- Rositer, M. W. (1986). Women and the history of scientific communication. *The Journal of Library History*, 21(1), 39–59. <https://www.jstor.org/stable/25541679>
- Shteir, A. B. (1987). Botany in the breakfast room: women and early nineteenth-century plant study. In P. G. Abir-Am & D. Outram (Eds.), *Uneasy careers and intimate lives: women in science, 1789–1979* (pp. 31–43). Rutgers University Press.

- Tetlow, M. (2023, September 15). From 'calves head pie' to the mining of obscure metals, Lady Hackett certainly made her mark. *ABC Radio Perth*.
<https://www.abc.net.au/listen/programs/wa-afternoons/lady-hackett/102863270>
- The Wireless Weekly. (1922, November 17). *The Wireless Weekly*, 1(16).
<https://nla.gov.au/nla.obj-627653463/view?partId=nla.obj-627682392>
- A voice from the country. Epacrideae. (1863, January 2). *The Sydney Morning Herald*.
<http://nla.gov.au/nla.news-article13071851>
- A voice from the country. Orchidaceae. (1862, October 23). *The Sydney Morning Herald*.
<http://nla.gov.au/nla.news-article13235978>
- Wheat for health: an interesting exhibition. (1931, May 1). *The West Australian*.
<https://trove.nla.gov.au/newspaper/article/32515944>
- Wheat for health: Mrs. Mary Farrelly's work. (1937, December 16). *The West Australian*.
<https://trove.nla.gov.au/newspaper/article/41599252>
- Woodward, F. J. (1966). Lady Jane Franklin (1791–1875). In *Australian dictionary of biography* (Vol. 1).
<https://adb.anu.edu.au/biography/franklin-lady-jane-2065>
- Wylie, M. A. (1924). *The Golden Wattle Cookery Book*. Albert & Son.
- Wylie, M. A. (1926, January 16). Cooking of meats. *The Narrogin Observer*.
<http://nla.gov.au/nla.news-article260221816>
- Wylie, M. A. (1927, April 2). Bread making. *The Narrogin Observer*.
<http://nla.gov.au/nla.news-article260225369>

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