

Science for Gentlemen – The Royal Society of New South Wales in the Nineteenth Century

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Abstract: During the nineteenth century the Royal Society of New South Wales and its three antecedents functioned as an exclusive club for men ‘of honourable reputations’ interested in the natural sciences. Almost without exception the members were pastoralists, merchants, or professionals such as clergymen, lawyers or medical practitioners. They classed themselves as gentlemen, because they were not engaged in physical labour. Only a handful were what we would now call scientists, because separate disciplines were only beginning to emerge, and career opportunities were few. Members of the Royal Society were part of the colonial conservative establishment. Women were excluded, while rigorous admission procedures ensured that ‘working men’ did not become members. Nevertheless, the Royal Society recognised the need to educate or inform the broader public about the achievements of science, and organised regular gatherings for that purpose.

Keywords: Batavia, *Clarke*, *conversazione*, Denison, gentleman, Governor Brisbane, history, Liversidge, Philosophical Society, Royal Society.

INTRODUCTION

This paper does not deal with the scientific achievements of members of the Royal Society of New South Wales during the nineteenth century, but instead will examine the backgrounds of the people who became members of the Society and its predecessors, and consider what they may have hoped to gain from their involvement. In a body with close to 500 members at its peak, there will inevitably be some broad generalisations, from which there will always be notable exceptions. Nevertheless, I hope to provide something of the flavour of this Society more than one hundred years ago, and that this will allow members to draw comparisons with the Society as we know it today.

BACKGROUND

The Royal Society name first enters Australia’s history when James Cook and Joseph Banks sailed along the eastern coast of the continent in 1770. That was the Royal Society of London, which sponsored a scientific expedition to Tahiti to observe the transit of the planet Venus across the face of the sun. Afterwards, Lieutenant Cook opened his secret instructions from the Admiralty that directed him to search for a possible southern continent – *Terra Australis Incognita*. And so the barque HMS *Endeavour* sailed on through the South Pacific ocean,

circumnavigating New Zealand before reaching that section of New Holland that Cook christened New South Wales. They then sailed home *via* the Dutch East Indies, to a heroes’ welcome. Sir Joseph Banks, the wealthy young amateur botanist, went on to become the longest serving President of the Royal Society, holding that office for some forty-two years until his death in 1820. James Cook was promoted to Captain, and he too was elected as a Fellow of the Royal Society

Their epic journey brought European concepts of science to this continent. Astronomer Charles Green commenced observations the day after the ship anchored in Botany Bay. Joseph Banks and Daniel Solander diligently collected plant specimens at every opportunity, while their artists made painstaking illustrations of the flora, fauna and landscape. The late eighteenth century was the culmination of the Age of Reason, that period of enlightenment when educated men challenged traditional knowledge handed down from antiquity and the miracles of the Bible, and began to make their own empirical investigations of the world around them. The same intellectual movement led to political revolution in both America and France, but for the British it marked the beginnings of the Industrial Revolution that fuelled their imperial ambitions throughout the nineteenth century.

After the American colonies declared their independence in 1776, Britain needed a new location for its surplus criminals. Being the premier intellectual gathering in the country, the Royal Society was asked for advice, and its President, Sir Joseph Banks immediately suggested a place named in honour of his achievements – Botany Bay. Not only was this far distant from England, but it had the added attraction of gaining a foothold in a part of the world where Dutch, French and Spanish interests were beginning to form their own empires. And so it came about that a penal settlement was established at Sydney Cove in 1788, the year before the French Revolution.

To illustrate how timely this event was, at exactly the same time the Dutch were establishing the first scientific society in the region (perhaps in the Southern Hemisphere) at Batavia – modern day Jakarta – when the Batavian Society of Arts and Sciences (*Bataviaasch Genootschap der Konsten en Wetenschappen*) was formed. After some interruptions, this eventually became the Royal Batavian Society of Arts and Sciences (*Koninklijk Bataviaasch Genootschap der Konsten en Wetenschappen*).¹

The early years at Sydney were difficult while people adjusted to their unfamiliar environment. Historian Alan Atkinson has remarked that ‘for many years in this remote corner of the globe the eighteenth century stood still.’ (Atkinson 1997). Nevertheless, settlers and colonial officials found time to collect and classify the animal, vegetable and mineral ingredients of this strange land. Partly this was to satisfy their curiosity, but also to explore the possibilities for commercial exploitation. Even some of the convicts found a profitable sideline collecting shells, birds, plants, and aboriginal artefacts for sale to visiting ships’ captains, who in turn sold them for high prices to wealthy collectors in Britain and the Continent.

Scientific activity in the colony began as an individual activity, starting with the observatory set up by Marine Lieutenant William Dawes on the western side of Sydney Cove within a fortnight of settlement there. This was a short-lived venture, because Dawes was

engaged primarily as a surveyor, and his services were required to lay out the town. Surveyors and other explorers were directed to collect specimens and report on the land they traversed, but this was not a structured activity. The first recognisable scientific institution was the embryonic Botanic Gardens created in the Governor’s Domain in 1816. Charles Frazer was appointed superintendent and became Government Botanist in 1821, but being a gardener of lowly birth, could never join the Philosophical Society that formed that year, even if he could afford to do so on his modest salary of five shillings a day.

THE PHILOSOPHICAL SOCIETY OF AUSTRALASIA

Thirty years after the foundation of the colony, some stability, even prosperity had been attained, which meant that a few people had more time to indulge their interests in natural history. In 1821, towards the end of Lachlan Macquarie’s term as Governor, ten men formed the grandly named Philosophical Society of Australasia ‘with a view to inquiring into the various branches of physical science of this vast continent and its adjacent regions; and the mineralogical and geological state of these countries form primary objects of the Society’. To some extent, that emphasis has persisted to the present day.

The group met once a week at members’ homes in rotation to discuss their discoveries, and to exchange books from their personal libraries. The Society asserted its exclusive status and serious purpose by penalising members the substantial sum of £10 (\$20) if they failed to present a scientific paper on the allotted date, and they were fined five shillings (50 cents) if they arrived more than 15 minutes late for a meeting. They also contributed £5 (\$10) each towards the cost of establishing a small museum at the Colonial Secretary’s office.

Who were these founding fathers who met at Judge Barron Field’s city house on 27th June 1821, and the others who joined later? (Table 1)

¹ Information from Dr Hans Pols, Unit for History and Philosophy of Science, University of Sydney.

Date Joined	Name	Occupation	Residence
27/6/1821	Dr James Bowman	Medical practitioner	Glebe
	Dr Henry Douglass	Medical practitioner	Parramatta
	Judge Barron Field	Supreme Court judge	Cabramatta
	Major Frederick Goulburn	Colonial Secretary	City
	Captain Francis Irvine	Army officer; farmer	Minto
	Edward Wollstonecraft	Merchant	Crows Nest
4/7/1821	Lieutenant John Oxley	Surveyor, explorer	Camden
14/11/1821	Dr Patrick Hill	Medical practitioner	Parramatta
21/11/1821	William Howe	Farmer & magistrate	Campbelltown
12/12/1821	Alexander Berry	Surgeon; landowner	Shoalhaven
2/1/1822	Sir Thomas Brisbane	Governor; astronomer	Parramatta
7/2/1822	Dr Donald Macleod	Medical practitioner	Parramatta
	Christian Rümker	Astronomer	Picton
1/5/1822	Capt. Phillip Parker King RN	Hydrographer; pastoralist	Penrith

Table 1: Philosophical Society of Australasia.

The Senior Chaplain, Rev. Samuel Marsden was invited to join, but declined because of a long-running dispute with Dr Douglass, who became secretary of the society. Dr Robert Townson, a gentleman scholar who had achieved scientific distinction in Europe, was also invited but being preoccupied with making his fortune on his property *Varro Ville* at Minto, does not appear to have replied (Goodin 1967).

When Governor Brisbane took office, he became President of the Society. The other members were relatively young men, with Brisbane the oldest, aged 48. Only one (Captain King) had been born in the colony, but even he was educated in England. Six were English, five were Scots, with one born in Ireland and one in Germany. Five had been medical practitioners; four had been army or naval officers. Six of them were members of the appointed Legislative Council. The medical men were notable in other ways: Bowman was Inspector of Hospitals, Douglass was Superintendent of the Female Factory, Hill became President of the Medical Board, while Macleod was the Governor's personal family physician. Alexander Berry had trained as a surgeon but soon abandoned this for more

profitable ventures as shipowner, merchant, and major landholder.

Most of these men received land grants on the Cumberland Plain – typically 2,000 acres, and they were assigned convicts to work their farming or pastoral properties, usually at the rate of one convict for each 100 acres. They became instant landed gentlemen; they saw themselves as the future ‘bunyip aristocracy.’² Their wealth was derived from the goodwill of successive Governors. Clearly they were all part of the colonial establishment, and they were conscious of their social position.

Governor Brisbane had brought two astronomy assistants with him to staff his private observatory at Parramatta. Christian Rümker was educated in Germany and had served in the Royal Navy. He was invited to join the Philosophical Society, and attended meetings when they met at Government House. Clearly he was socially acceptable, because on occasions he played the piano at musical evenings after dining with the Brisbane family (Liston 2009). James Dunlop, on the other hand, was of humble birth and little education, but was a skilled instrument maker. He was personable

² ‘Bunyip aristocracy’ was the term used by writer and politician Daniel Deniehy to ridicule W.C.

Wentworth's proposal for a hereditary peerage to be included in the NSW Constitution.

and gregarious, but he was not a gentleman, and was not invited to join the Society or to Government House.

WHAT IS A GENTLEMAN?

Perhaps I should say something about the term 'gentleman' in this context. From the Middle Ages the royal courts of Europe gradually developed a code of conduct based on chivalrous, refined behaviour, with a strong sense of a family's honour and reputation. When Queen Victoria came to the throne in 1837 her long reign became synonymous with an era of preoccupation with respectability, morality, and nice gradations of social position. It was a period in England where class consciousness reached its peak. Because many of the settlers in New South Wales came from England they naturally sought to preserve, or at least to adopt these behaviours. Colonial-born residents with social aspirations happily absorbed these practices, because they were desperate to distance themselves from any suggestion of the convict birthstain (Smith 2009).

In England, a gentleman was considered to be a man with private means, preferably with an income from landed estates, who did not have to earn a living. He could normally be expected to have attended one of the exclusive public schools and possibly to have studied the classics at Oxford or Cambridge before embarking on the Grand Tour of Europe for a couple of years before returning to England to select a suitable wife from the debutantes on offer during the London 'Season'. If he had any profession this would likely be law, although he would usually go into politics rather than practice at the Bar. An elder son would inherit the family estates, but if he was a younger son, he might go into the Church or the Army to give himself a respectable occupation.

In the colony of New South Wales, sights had to be set a little lower because there was little inherited wealth. Here the distinction was based on whether or not a person earned his living from physical labour. Gentlemen included educated professionals such as clergy-

men, lawyers or medical practitioners, or they could be pastoralists owning large properties and even prosperous city merchants, as well as retired army and naval officers. In the early years many of these people were appointed honorary magistrates, while later in the century a large number became Members of Parliament, at a time when politicians were not paid and a substantial income from other sources was necessary to support their usually large families.

Many had migrated to NSW in the hope of improving their status and perhaps making a fortune, particularly after the conclusion on the Napoleonic wars in 1815, when former officers were placed on half pay, and there was widespread unemployment and crime amongst former soldiers and sailors. In England their family circumstances would never have entitled them to the rank of gentleman. None of the Philosophical Society members were emancipists or had convict parents, even though some of the most successful business men in the colony had convict origins. Captain Phillip Parker King had two brothers who had a convict mother, but his own background was impeccable, because his father had married a respectable English woman before he was born.³

Following the English model, class distinctions were scrupulously observed in nineteenth-century Australian society. One can see this in the forms of address used in the surviving correspondence and records of the Royal Society:

A labourer would be referred to as 'a man named Jones'.

A tradesman might be given a first name – 'Alfred Jones'.

A clerk in the civil service or a bank could be 'Mr A. Jones'.

But a gentleman would be 'A. Jones, Esquire' or 'Dr A. Jones, Esquire', if not 'Sir Alfred Jones'.

If these terms were incorrectly applied, they could be regarded as a serious insult. Thus when John Macarthur addressed a letter to Magistrate Richard Atkins as 'Mr Richard Atkins' rather than 'Richard Atkins, Esquire', Governor Hunter had to intervene when a duel seemed imminent (Tink 2009). And of course,

³ His father, Philip Gidley King was the third Governor of New South Wales, and had two sons with his convict housekeeper while Lieutenant-Governor of Norfolk Island.

our older members will recall that the use of 'Esquire' as an honorific persisted into the second half of the twentieth century.

In New South Wales, as in Britain, the Enlightenment ideals of reason and order were used to justify a class-based social system. 'The pursuit of such Enlightenment goals as the advancement of the natural sciences could ... act as a badge of social position. Interest in such cultural pursuits ... acted as an entrée to genteel society ...' (Gascoigne 2002).

Within the colony there were critics of the development of distinctive social classes. D.L. Welch, in the short-lived monthly journal *The Australian Era* wrote in 1850 about an 'aristocratic class' composed of merchants, retired officers, the clergy and professional men whose birth, education and occupation 'did not entitle them to this distinction.' Nevertheless, he complained that in the early years 'admission into this charmed circle, by any intrinsic merit, was nearly impossible.' He believed that these people should open the 'institutions for the encouragement of art and literature and science' to the wider population, for the good of the country (Welch 1850). No wonder his magazine did not survive beyond nine issues, if his prospective readers had to read that sort of revolutionary propaganda!

Outsiders did not always share the opinion that the colonial élite had of themselves. Charles Darwin was the archetypical English gentleman: upper middle class, well educated, interested in the natural sciences and independently wealthy. After spending some time in Sydney in 1836, including a pleasant evening at *Dunheved* with his old friend Captain Phillip Parker King, Darwin wrote (Darwin 2006):

'Among those who, from their station in life, ought to be the best, many live in such open profligacy that respectable people cannot associate with them ... The whole population, poor and rich, are bent on acquiring wealth: amongst the higher orders, wool and sheep grazing form the constant subject of conversation.'

Only a handful of these gentlemen were what we would now call scientists, because separate disciplines were only beginning to emerge, and career opportunities were few. In any case, the word 'scientist' was not coined until 1833 (Hooker 2004).⁴ 'natural philosopher' was the common appellation until then. This does not mean that science was only a hobby, or a part-time diversion. Indeed, for much of the nineteenth century the gentleman amateur who conducted his research for love of the subject rather than for money was regarded more highly than somebody who merely engaged in science for a living, and his conclusions were considered to be more reliable.

OTHER CULTURAL SOCIETIES

This is not the place to recount how the original Philosophical Society collapsed in a little over a year because political factions formed. Eleven of the remaining members joined the Agricultural Society of New South Wales, formed in July 1822 with Governor Brisbane as Patron and Judge Barron Field as President, while Alexander Berry and Edward Wollstonecraft became joint secretaries. There had been an earlier attempt to form an agricultural society but this foundered because Governor Macquarie had insisted that emancipist farmers should be admitted as members, a proposal that was unacceptable to the 'exclusives' (Phillips 1909).⁵ The primary objective of the Agricultural Society was to increase the quality and numbers of productive animals in the colony, which reflected a major interest of the former Philosophical Society members. However, like the Philosophical Society, the Agricultural Society soon disbanded, although it was later revived to become a forbear of the present Royal Agricultural Society.

Even if there had been no personality conflicts within the Philosophical Society of Australasia it probably would not have long survived. By 1825 four of the members had left the colony, and another one died soon afterwards.

⁴ William Whewell, of Trinity College, Cambridge used the term at a meeting of the British Association in 1833.

⁵ Emancipists were former convicts who had served their sentence or been pardoned.

Three diverted their attention elsewhere – Dr Douglass, Alexander Berry, and Edward Wollstonecraft all became active in other cultural organisations. One of these was the Australian Subscription Library, founded in 1826. This was a direct ancestor of the present State Library of New South Wales, and because it included Governor Brisbane’s scientific library, we can link its origins to the Philosophical Society. Brothers-in-law and business partners Berry and Wollstonecraft were the joint treasurers of the library, and three other Philosophical Society members became successive Presidents. With this direct connection, it is more plausible to describe the State Library, rather than the Royal Society, as the legitimate descendant of the Philosophical Society (Richardson 1951).

Purely scientific activity in Australia seemed to be concentrated in Van Diemen’s Land for the next few years, particularly during Sir John Franklin’s term as Governor from 1837 to 1843. Franklin was a notable navigator and explorer, whose expedition was lost in 1847 while searching for a Northwest Passage between the Pacific and Atlantic oceans. The Van Diemen’s Land Scientific Society founded in 1829 became the Royal Society of Tasmania in 1843, the oldest Royal Society outside the British Isles.

One reason that cultural societies did not flourish in New South Wales during the 1840s is because Australia suffered its first economic depression in that period, hard on the heels of a severe drought. Several banks failed and the overseas commodity markets (particularly wool) collapsed. Squatters resorted to boiling-down their sheep for tallow. And shades of the ‘Global Financial Crisis’ 160 years later, there had been too much borrowing on limited security (Bassett 1993). These circumstances particularly affected the very people who had intellectual pretensions. Nevertheless, there was still some official scientific activity at the Botanic Gardens and The Australian Museum, which had been founded in 1836. In both these organisations a majority of the board members or trustees also held membership of one of the Philosophical Societies at some stage. The educated community was very small, so it was inevitable that the same names would appear in many places.

THE AUSTRALIAN (PHILOSOPHICAL) SOCIETY

After the Philosophical Society of Australasia collapsed, it was nearly thirty years before a similar society came into being in New South Wales in June 1850. Only two members of the defunct Philosophical Society, Henry Grat-tan Douglass and Alexander Berry, became members of the new body which was called The Australian Society for the Encouragement of Arts, Science, Commerce, and Agriculture, commonly known simply as ‘The Australian Society’. The title indicates that it had a much wider brief than the original body. Dr Douglass became joint honorary secretary, and he always referred to it as the Australian Philosophical Society to emphasise its extremely tenuous connection with the original Philosophical Society of Australasia, which largely rested on the fact that he was secretary of both. Regrettably, no minutes or other documents of this society survive, so we must rely on press reports or incidental correspondence to reconstruct its accomplishments. Sixty people attended the inaugural meeting, so it evidently filled a need, though the attraction may have been commercial rather than scientific, as shown when several men observed that good cedar trees were no longer found within hundreds of miles of Sydney. Only about half of those present appear to have actually joined the Society.

In 1984, former Royal Society President Dr Alan Day, together with his wife Judy Day compiled a biographical register of members of the Australian Philosophical Society and the Philosophical Society of NSW, that was published in two parts in the *Journal and Proceedings* (Day 1984, 1996). This laborious task was carried out by hand on index cards, in the days before personal computers were available. Amongst the difficulties they encountered, Dr Day mentioned that ‘the registration of members . . . appears to have been haphazard.’ Even the membership lists printed in the *Journal and Proceedings* do not tally with the membership registers or the Society minutes. In the twenty-five years since then, more sources of information have become available, but there are still some gaps in the

data. Using computer databases has simplified the task of cross matching membership lists with other organisations in the colony in the mid-nineteenth century.

During its five years of existence, forty-four men became members of The Australian Society. Ten were lawyers, eight were medics, five were engineers or surveyors, five were merchants, while the remainder were clergymen, public servants, teachers and pastoralists. The only one who could be called a scientist was Charles Moore, Director of the Botanic Gardens. Twenty-two were born in England, eight in Scotland, and only two were born here. Of the forty-four members, twenty-three were, or became, Members of Parliament, mainly appointed rather than elected Members of the Legislative Council. Obviously they were all part of the colonial élite.

THE PHILOSOPHICAL SOCIETY OF NEW SOUTH WALES

Mid-century was not a propitious time to form a new association. With the announcement in 1851 that gold had been discovered in the Bathurst region, interests shifted elsewhere. The Australian Society appears to have struggled until several of the scientifically oriented members decided to remodel it as the Philosophical Society of New South Wales in 1856. The decision was made at the last meeting of the Australian Society on 30 July 1855, but the new organisation did not hold its first meeting until the following year. Prominent amongst the activists was Rev. W.B. Clarke, who as Manning Clark observed in his *History of Australia* was 'on weekdays a geologist and on Sundays a man of God.' (Clark 1987). The ubiquitous Henry Douglass and Alexander Berry were involved once again, as were prominent business men such as John Fairfax and Thomas Sutcliffe Mort.

Berry makes an interesting case study. He is the only person to be a member of each of the four incarnations of the Royal Society. Born in Scotland and trained as a surgeon, he became a merchant and shipowner when he settled in Australia in partnership with

Edward Wollstonecraft, whose sister he later married. Through grants and purchase he acquired 40,000 acres on the Shoalhaven, but by the time the Philosophical Society of NSW started, Alexander Berry lived on the north shore at Crow's Nest while his brother David managed the south coast farms. Irrascible and litigious, he was one of the richest men in the colony, and he was an inveterate joiner, holding office in several cultural bodies at the same time.

However, the real driving force behind the formation of the new Society was the Governor, Sir William Denison who became its first President. Denison was an autocratic English aristocrat by birth, but he was also a man of science. Trained as an army engineer, he was knowledgeable about astronomy, geology and conchology. He had been Lieutenant-Governor of Van Diemen's Land before coming to NSW in 1855 and had noted that:

The great evil of these colonies is the absence of scientific men. Many of the settlers have had some education, but there are but few or none in this colony who can fairly be called men of science, and the consequence is that the half-educated, with but a smattering of knowledge, are able to lead the more ignorant by the nose.
(Denison 1870)

The Philosophical Society of New South Wales got off to a flying start. The gold rush had settled down, so 160 members joined in the first year, including twenty-four who transferred from the Australian Society, bringing with them the small cash reserves from that body.

During his term of office, Governor Denison presented seven papers before the Society including one on railways. This was rather foresighted considering that the first railway line in the colony, from Redfern to Granville only opened the year he arrived. The big development during Denison's term, however, was the introduction of responsible government in 1856. Once again the colony was thrown into turmoil as competing factions jostled for power in an elected Parliament, and intellectual affairs moved to the bottom of the public agenda for a time. There were three Ministries in the first twelve months. Denison left the colony at

the beginning of 1861, when he was posted to Madras (Bennett 2009). Interest in the Society steadily declined after he left.

During the eleven years that it functioned, 309 individuals became members of the Philosophical Society of NSW. 60 were businessmen, 48 were engineers, 36 were medicos, 35 were lawyers, 18 were clergymen. Two brazenly described their occupation as 'gentleman'. Sixty of them (19.4%) were, or became Members of Parliament. As one would expect by mid-century, more of the members (12%) were now born in Australia, although they were outnumbered by the Scots and the Irish who each numbered around 14%, while just half the members (49.7%) were English-born. Although this third incarnation of a scientific society had grown substantially, and the range of occupations is broader, in line with the growth in population, it still remained an exclusive body. But after eleven years the resuscitated Society in turn languished, prompting discussion about possible strategies to develop a lasting and effective organisation to promote science. As Joseph Dyer the editor of *The Sydney Magazine of Science and Art* wrote in 1859, in the second (and final) issue of the journal:

... the constant attention to business, which is characteristic of colonial life, appears very unfriendly to the development of a taste for science, literature and art... in a community where politics, professional occupations or mercantile pursuits engross nearly the whole population. (Dyer 1859).

THE ROYAL SOCIETY OF NEW SOUTH WALES

Eventually the model of the Royal Society of London was favoured. That institution had been founded in 1660 after the Restoration of Charles II, and became probably the most prestigious scientific association in the world. Already two of the other Australian colonies – Victoria and Van Diemen's Land – had created local Royal Societies from the remnants of previous philosophical societies. So after considerable lobbying, Queen Victoria gave her Royal Assent in December 1866 for the Philosophical Society of New South Wales to be

known as The Royal Society of New South Wales. To ensure its legal status, the Society was formally incorporated by a special Act of the New South Wales Parliament in 1881 'for the encouragement of studies and investigations in Science, Art, Literature and Philosophy'.

It is a revealing exercise to compare the stated aims and objectives of the four societies, as well as the subsequent amendment when the Royal Society was incorporated by Act of Parliament in 1881. These show how perceptions of the several iterations changed over a period of sixty years (Table 2).

It was the Rev. W.B. Clarke at the inaugural meeting of the Royal Society in July 1867 who claimed its origins lay in the 1821 Philosophical Society of Australasia, although he conceded that it had been more a scientific club than a formal association, and it appears to have survived for only a little over a year. Clarke said that 'After a long interval of silence and inactivity' this became the Australian Philosophical Society, which in turn 'resolved to remodel the Society under the territorial title of New South Wales' in 1855 (Clarke 1868). Professor John Smith in his 1881 Presidential Address expressed reservations about Clarke's claim, but Professor Archibald Liversidge perpetuated the legend when he designed the Royal Society emblem in 1888, which unequivocally proclaims that the Society was 'Founded 1821'.

In my view, we can claim direct descent only from Governor Denison's 1856 Philosophical Society of NSW, and possibly through that to The Australian Society of 1850, but even that is debatable. Some individuals were members of the successive societies, but as I have shown, they were also members of numerous other cultural bodies during the same period. The only common ground that I can discern is the restriction of membership to respectable gentlemen.

Perhaps it doesn't really matter to members in the twenty-first century whether the Society originated in 1866, 1856, 1850, or 1821. As we move further away from those dates it appears less important to trace our genealogy; we now have accumulated a long and proud heritage, with at least 145 years of continuous support for science.

 AIMS AND OBJECTIVES PHILOSOPHICAL SOCIETY OF AUSTRALASIA (1821)

‘Formed with a view to inquiring into the various branches of physical science of this vast continent and its adjacent regions; and the mineralogical and geological state of these countries form primary objects of the Society.’

AUSTRALIAN PHILOSOPHICAL SOCIETY (1850)

The full title of this society described its objectives: ‘The Australian Society for the Encouragement of Arts, Science, Commerce, and Agriculture.’

PHILOSOPHICAL SOCIETY OF NEW SOUTH WALES (1856)

‘The object of the society is to receive at its stated meetings, original papers on subjects of science, art, literature, and philosophy.’

ROYAL SOCIETY OF NEW SOUTH WALES (1867)

‘The object of the Society is to receive at its stated meetings original papers on subjects of Science, Art, Literature, and Philosophy, and especially on such subjects as tend to develop the resources of Australia, and to illustrate its Natural History and Productions.’

ACT OF INCORPORATION (1881)

‘For the encouragement of studies and investigations in Science, Art, Literature, and Philosophy.’

Table 2. The stated aims and objectives of the four societies, as well as the subsequent amendment when the Royal Society was incorporated by Act of Parliament in 1881.

Fifty-eight of the Philosophical Society of NSW members transferred to the re-named Royal Society in 1866, including the venerable Alexander Berry, then aged 85. Within twelve months they were joined by another 50 members, bringing the total to 108 at the end of the first year of activity. The Society began publishing its annual *Transactions* the following year, containing the texts of original papers presented at the monthly general meetings of members. Unsurprisingly in a developing colony, the early contributions tended to be in fields of applied science such as railway engineering or water supply rather than theoretical speculation.

Membership grew steadily for the next ten years, reaching 176 by 1876. In that year the Society moved into its first permanent home, at 5 Elizabeth Street, opened its own scientific lending library, and, most importantly, formed specialist Scientific Sections catering for each of the main disciplines. Membership then increased dramatically and by 1879 exceeded 400. It almost reached 500 before slowly dwindling to 374 at the end of the century. In addition to these elected members, there were up to twenty-five hon-

orary or corresponding members in this period.

Many of these people do not seem to have been very active. Minutes of business meetings or lecture reports do not list the names of those who were present, giving only a general comment like ‘about thirty’ or ‘well-attended’. Professor Liversidge in his 1886 Presidential address remarked on the small number of original papers submitted to the Society. Out of nearly 500 members, only 35 had contributed papers, and most of these were from 7 or 8 people (Liversidge 1886).

Looking at the members of the Royal Society during its first five years there appears to be a shift in the background of members, but this may be misleading. There was a total of 309 people involved in the ten years of the Philosophical Society’s existence, but only 172 were involved in the first five years of the Royal Society, and we have not yet traced the backgrounds of all these men. However, we can say that thirty-eight of them (22%) were Members of Parliament at some stage in their lives, a slightly greater proportion than in the earlier Society.

Under the influence of Presidents and Secretaries such as W.B. Clarke, Professors John Smith and Archibald Liversidge, Government Astronomer H.C. Russell and the geologist Sir T.W. Edgeworth David, the Royal Society displayed a strong emphasis on the physical sciences in its discussions, particularly geology, palaeontology and mineralogy, although the life sciences were not neglected. In that way the aims of the original Philosophical Society of Australasia were realised. People whose primary interests were in the fields of botany,

biology and zoology formed the Linnean Society of New South Wales in 1874 under the guidance of Sir William Macleay. Nevertheless, many people were members of both societies because nineteenth-century science did not follow the rigid demarcation lines we know today, while the two societies themselves maintained a close relationship for many years.

There was a group of distinguished scientific scholars who became Presidents of the Royal Society in the closing years of the century, most of them on more than one occasion (Table 3).

1861-1878	Rev. W.B. Clarke*	Geology
1879-80; 1883	Professor John Smith	Physics
1881; 1884; 1891; 1901	H.C. Russell	Astronomy
1882; 1886	Christopher Rolleston	Statistics
1885; 1889; 1900	Professor A. Liversidge	Chemistry
1887	C.S. Wilkinson	Geology
1888	Sir Alfred Roberts	Medicine
1890	Dr A. Leibius	Chemistry
1892; 1902	Professor W.H. Warren	Engineering
1893; 1906	Professor T.P. Anderson Stuart	Physiology
1894	Professor R. Threlfall	Physics
1895; 1910	Professor T.W.E. David	Geology
1896; 1911	J.H. Maiden	Botany
1897; 1907	Henry Deane	Engineering
1898	G.H. Knibbs	Mathematics
1899; 1908	W.H. Hamlet	Chemistry

Table 3. Distinguished scientific scholars who became Presidents of the Royal Society. W.B. Clarke was actually Senior Vice-President, the NSW Governor being President until 1879.

There were other notable scientists who were members of the Society in this period, but who never attained elected office – Gerard Krefft, Lawrence Hargrave, John Tebbutt, for example. In fact some of them were highly critical of the little clique of rotating Presidents who they believed ‘have had it all their own way for years and cannot brook the slightest opposition.’ (Orchiston 2001).

Unlike its counterpart in Victoria, which encouraged Antarctic exploration and backed the ill-fated Burke and Wills expedition, the Royal

Society of New South Wales did not engage directly in scientific research or exploration. Instead, it preferred to foster independent local discovery through liaison with other organisations and by its program of meetings, symposia and publications dedicated to the furthering of knowledge. It also offered prizes and the Society’s Medal for essays based on original research in specified subjects. Later it began recognising distinguished scientific achievements through annual awards such as the prestigious Clarke Medal, first awarded in 1878.

In the nineteenth century the Royal Society of New South Wales was not the provincial intellectual outpost that many observers have assumed. Science in NSW did not simply serve a grand scheme for enhancing the prestige of the British Empire. Some individuals may have had that objective, as the title of Roy Macleod's recent biography of Archibald Liversidge might suggest – *Imperial Science Under the Southern Cross* (Macleod 2009). This may be particularly so of British-born members like Liversidge, but as the century moved on more and more of the members were born here and thought of themselves as New South Welshmen rather than transplanted Englishmen. Certainly, some may have had sentimental feelings towards a 'Home' they rarely, if ever visited, but others were firm nationalists who asserted themselves as equals of anybody from the other side of the world. Men such as astronomer John Tebbutt and aeronautical pioneer Lawrence Hargrave made significant original contributions in their fields. It is not their science that was provincial, but their social status in the international hierarchy.

Members read the latest overseas journals diligently, they collected specimens and published papers – often descriptive rather than analytical – and they engaged in vigorous discourse on many of the contentious issues of the period, including Darwin's theories of species evolution at a time when such views were deeply unpopular in Australia. On the other hand, one can fairly say that Australians were naturally drawn more to empirical scientific investigation than to theoretical speculation. That reflects the materialism of the society in which they lived.

AN EXCLUSIVE CLUB?

During the nineteenth century the Royal Society of New South Wales functioned like an exclusive gentlemen's club. Membership was strictly controlled, limited to a maximum of 500 (never quite achieved, but reaching 494 in 1884-5). The only qualification was that they should be men of 'honourable reputations and ... a friend of science.' Note that by then

the constitutional references to literature, art and philosophy were being ignored, as was mention of such crass occupations as commerce or agriculture. Candidates were nominated and seconded by existing members or prominent citizens whom they knew personally, and each nomination was placed on the table for three consecutive general meetings to allow objections to be raised, before members finally voted on whether or not to accept the candidate (Royal Society 1889).⁶ At least twenty members had to attend the meeting when the election took place, and eighty per cent of those present had to vote in favour. Having jumped those hurdles, the prospective member was then required to sign a statement in the Obligations Book that he would '*endeavour to promote the interests and welfare of the Society, and to observe its Rules and Bye-laws*'.

The Royal Society in London from its inception was closely linked with Freemasonry. King Charles II was a Mason, and virtually all the early Fellows were members of the craft, so much so that the Royal Society was known as 'The Secret College'. This meant that Roman Catholics had little prospect of becoming members; indeed for the first three decades of the nineteenth century one had to be a communicant of the Church of England to attend one of the English Universities, so Catholics rarely possessed the educational background to become scientists. However, the Royal Societies in Scotland and Ireland catered for men of other faiths, or none, and so we find many distinguished Fellows amongst those Societies.

Governor Macquarie was a Mason, and his regiment formed a Lodge in Sydney in 1814, while the first civilian Lodge was formed in 1820. We know there were a number of Masons amongst the Royal Society members, although because of the nature of the brotherhood it is difficult to quantify this. Freemasonry has always been regarded as 'a passport to convivial society, moral and spiritual refinement, material assistance, and social advancement,' (Harland-Jacobs 2007) and gained a strong grip in the worlds of commerce, the public service and the army. Perhaps freemasonry was less influential

⁶ The rules later were relaxed slightly, so that nominations only had to be presented to two general meetings.

in the Sydney Royal Society than in its London counterpart because Australia has always been a more diverse community. Amongst the Royal Society members in the nineteenth century we find people born in Scotland, Ireland, Germany, USA, and their known religious affiliations include Presbyterians, Unitarians, Lutherans and Jews as well as many Anglicans and Catholics. The Royal Society may have been regarded as fulfilling a similar function as a Masonic Lodge without the paraphernalia and ritual.

In the New South Wales context, the most significant correlation to another exclusive gathering was membership of the Australian Club which was founded in 1838. Fourteen of the original members (including Alexander Berry) were members of earlier versions of the Royal Society. The one big difference is that until the 1890s trade was an occupation that was frowned on in the Australian Club, while it formed a major part of the Royal Society membership (Angel 1988). The slightly less-prestigious but equally exclusive Union Club was founded in 1857, and eleven of its founding office-bearers – including Dr Douglass – were members of the Philosophical Society of NSW. Admission to these clubs was even more rigorous (and expensive) than the Royal Society, and to become a member guaranteed one a certain social cachet.

WOMEN AND THE ROYAL SOCIETY

The wives and daughters of gentlemen were, by definition, ladies, but this was irrelevant to the Royal Society during the nineteenth century, when female persons, whether or not they were ladies were not admitted to the monthly scientific meetings. There was a prevailing assumption that women were essentially frivolous creatures. Libraries often had separate reading rooms for women, adjacent to the romantic novels. Some men contested the mere presence of women in a library, because they were an ‘irresistible distraction’ (Mirmohamadi 2009).

Despite the irony in the fact that Queen Victoria gave her assent to its formation, women

could not become members of the Royal Society of New South Wales until 1935, although they achieved the electoral franchise in 1902. The first woman to be elected President was palaeontologist Dr Ida Brown in 1953. The next, and only other female President was Karina Kelly in 2003-4. During the nineteenth century some enlightened members proposed that women should be permitted to join, pointing out that ‘ladies are neither uninterested nor inappreciative of science’⁷, but these moves were overwhelmingly defeated by the paternalistic majority. Fanny Hunt became the first female science graduate at the University of Sydney in 1888, but could not join the Royal Society, although occasionally papers written by women graduates were read by male colleagues on their behalf. By contrast with the stereotypes of conservative Melbourne and brash Sydney, the Royal Society of Victoria admitted women from 1889, (Pescott 1961) as did the Australian Association for the Advancement of Science from its inception in 1888.

Nevertheless, there were many women who took an active part in scientific activity throughout the nineteenth century, often behind the scenes in support of their husbands, but sometimes alone. They arranged insect displays, collected shells, pressed flowers and above all made detailed and beautiful illustrations of birds, animals and plants. Painting and drawing were acceptable pursuits for ladies, and many excelled at it.

One activity where women, or at least ladies, were welcome was the annual *Conversazione*. Such social gatherings held in a cultural setting were a feature of nineteenth-century life throughout the British Empire. The Philosophical Society of NSW held one as early as 1859 to demonstrate the relatively new art and science of photography, but from 1874 they became a yearly event for the Royal Society of New South Wales, capitalising on the huge interest in science and technology generated by the 1870 Intercolonial Exhibition in Sydney. Originally held in the Masonic Hall – significantly, perhaps – these *Conversazioni* moved to the University after the Great Hall was completed. Exhibits

⁷ This comment was made by Government Astronomer and Royal Society President George Smalley in his 1868 Presidential Address, published in the *Transactions* for that year.

of scientific equipment and the latest inventions lined the walls, while practical demonstrations took place in University lecture theatres or laboratories. Up to 1,000 men and women in evening dress promenaded around the illuminated buildings, consuming suitable refreshments to the accompaniment of light classics played on the organ or by the military band. Members' wives and older daughters proudly displayed their finery – often the latest French fashions. Until World War I, this was one of the most important events in Sydney's social calendar, reported in great detail in the newspapers.

PROMOTION OF SCIENCE

While the Royal Society catered for gentlemen, there was a parallel organisation for the craftsmen and artisans who were known collectively as 'mechanics' in the nineteenth century. This was the Sydney Mechanics' School of Arts founded in 1833, based on a Scottish model. Its objects were to provide further education for working men by 'the intellectual improvement of its members and the cultivation of literature, science and art.' During its first twenty years, the School of Arts President was invariably a Philosophical Society member, and the name of Dr Douglass again appears on the lists, as Vice-President. Eight other Australian Philosophical Society members served on the School of Arts committee during the 1850s, while several members lectured there. The School of Arts in Pitt Street was a forerunner of Sydney Technical College, and contained a library, technological museum, and chemistry laboratory as well as lecture halls.

The Royal Society's move into permanent premises at 5 Elizabeth Street in 1875 enabled it to establish a scientific lending library and reading room. In 1876 the previously published *Transactions* became the *Journal and Proceedings of the Royal Society of New South Wales*, which has appeared without interruption since then. This journal is still exchanged with more than 400 scientific institutions throughout the world. Some of these publications are the only copies in Australia.

After settling into its new home, the Royal Society also launched its Scientific Sections in 1876. These were groups of members with a specialised interest who met monthly to discuss the latest developments in their sub-discipline, whether this be agriculture, architecture, astronomy, biology, chemistry, engineering, ethnology, fine arts, geography, geology, literature, mathematics, medicine, microscopy, physics or public health. Gradually separate societies or professional associations in their particular fields replaced those Sections when there were enough practitioners to create an independent body. Indeed, one of the great contributions of the Royal Society of New South Wales to Australian science has been its function as progenitor and mentor for a host of other associations, such as the Institution of Engineers Australia and the British Medical Association, NSW Branch. Professor Liversidge as President devoted himself to the creation of the Australasian Association for the Advancement of Science in time for the centenary celebrations of 1888. That body eventually grew into the Australian Academy of Science, which incidentally only elected its first female president, Professor Suzanne Cory, in May 2010.

The Royal Society began a series of regular Science Lectures in 1900. They were initially restricted to members but soon welcomed everybody, in a move to reach a wider audience. According to press reports, these 'Popular Science Lectures' were well attended, with men and even women sometimes turned away due to lack of room.

SUMMARY

During the nineteenth century, members of the Royal Society were part of the colonial conservative establishment. As we have seen, women were excluded, while rigorous admission procedures ensured that 'working men' did not become members. It would be easy to characterise the members as typical class-conscious paternalists of the Victorian era, but there were always a few dissenters who did not fit that model. Nevertheless, the Royal Society recognised the need to educate or inform

the broader public about the achievements of science, and organised regular gatherings for that purpose. For some, this may have been due to a sense of *noblesse oblige*, but for many it was through a desire to share their passion.

But why else did these men become members? Most did not have any obvious scientific knowledge or understanding. The Royal Society provided a sense of community and the opportunity for fraternising with men of similar social status and traditionalist values, but it did not offer refreshments and accommodation like the exclusive gentlemen's clubs which many of them belonged to as well. It certainly would have been useful for professional and commercial networking. At the periods when a Colonial Governor was actively involved, there was some social cachet attached to mixing in those circles. Above all, it would have offered an evening of relief from domestic responsibilities – ‘a tree house for boys’, as a later commentator tartly observed. After 1867 the publications would have been an attraction. Membership was at its peak in the period when the Scientific Sections were active, so undoubtedly some men joined just so they could participate in discussions of the latest developments in their professional field, and in due course they founded separate associations for this purpose. In reality, of course, only a small proportion of the members actually attended the monthly meetings – on my estimate, probably around ten per cent. And when you come to think of it, the same ratio still prevails today, so we might ask the same questions now, although at least there are now many women in our midst.

During the twentieth century more inclusive attitudes emerged gradually, reflecting the changes in the wider community. Today it is difficult to discern any remnants of the earlier caste system. At the same time, the influence and public profile of the Royal Society appears to have diminished. No longer can we read detailed reports of our monthly meetings in the *Sydney Morning Herald* and *Daily Telegraph*. No longer does the Senate of the University of Sydney meet in the Royal Society premises. And for much of the community the very idea

of science seems to have lost some of its gloss.

So perhaps we should echo the sentiments of Rev. W.B. Clarke at the inauguration of the Royal Society in 1867. After despairing of the younger generation, who he said are only interested in ‘the frivolities of ephemeral excitement’ Clarke quoted John Milton:

‘Let me fit audience find, though few.’⁸

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⁸ The quotation is from *Paradise Lost*, Book VI, 1.30.

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