

GERMAN SCIENCE IN NINETEENTH-CENTURY AUSTRALIAN LIBRARIES

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ABSTRACT: Between Bligh's disdain for Robert Townson's books at the beginning of the century and C.W. Holgate's 1886 commentary on the collections of the Melbourne Public Library, there is evidence of deficiencies in Australian holdings of materials derived from the German states and from the Austrian Empire. Consideration of private collections, of the roles played by individuals in developing research institutes, learned societies and community libraries and ultimately of the efforts made by university leaders to equip and enhance a culture of scientific investigation leads to the conclusion that the German or Prussian model was beginning to dominate by the turn of the twentieth century.

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If one leaves aside the German participation in voyages of discovery round the Australian coasts before and after the First Settlement of 1788, it could be claimed that the early contacts of the colonial authorities with the scientific world east of the Rhine were far from promising. In his account of the history of geological inquiry in this country, T.G. Vallance (1975) cites the comments made by Bligh in 1807 to Sir Joseph Banks on the private library of Robert Townson (1763–1827): 'Many [of the books] can be of no general benefit here, as they are written in the German tongue; had they been otherwise, some advantage might have been derived from them.' In a society where the educated were much more likely to read French, Italian, Spanish and Portuguese – remember the Peninsular Wars – German was to take some time to achieve the position it deserved intellectually and scientifically. Waves of settlers from the 1830s onwards and the presence of outstanding men of science from the German lands were, of course, to create a reading public that has been evoked in more detail elsewhere (Kirsop 2004). However, it can be maintained that older traditions were still in evidence in public collections quite late in the nineteenth century. When C.W. Holgate (1886) reported on Australian libraries as he found them in 1884, he remarked of the Melbourne Public Library, by far the most substantial then and for many decades to come, that 'the portion [...] which seemed to be the least well represented in proportion to its importance, was the collection of works relating to the language, literature, and history of Germany'.

How did this comparative reticence affect research and teaching in science? As always in the nineteenth-century Australian colonies the answers are complex and often perforce nuanced. One cannot draw together into one simple narrative settlements begun at different dates over a period of fifty years and developed more or less

quickly with divergent mixes of population. Nonetheless in presenting what is in essence a program for a wider-ranging investigation it is necessary to try to give some coherence to the argument. As a consequence emphasis will be placed on the role of individuals, first as the importers and creators of private libraries of scientific books and journals, second as the organisers of societies of like-minded specialists, usually amateurs, and as promoters of exchanges of publications with institutions throughout the world, third as directors of research cooperation and communication from the vantage point of chairs in the emergent universities of the various colonies. Some attention will be paid to the scattered and frequently fragmentary documentation available for this sort of study, but in any case it will not be possible to go beyond sampling.

PRIVATE LIBRARIES

The first serious scientific collections to arrive in Australian waters were – and remained – on board ships. The best attested example is that of the two libraries – one generally for the scientific personnel, the other the private property of the commander – on Nicolas Baudin's *Géographe* at the very beginning of the nineteenth century (Fornasiero & West-Sooby 2002). If one remembers the dimensions of vessels of the period, Baudin's staggering reference collection of huge folio and quarto sets looks like self-indulgence on a grand scale. Neither he nor the shipboard library took much notice of German publications, in line with the prevailing French cultural hegemony.

Robert Townson had a degree from Göttingen and had pursued research in a number of Continental countries. Despite an auction sale advertisement in the *Sydney Gazette* of 2 November 1827 that lists various titles, including some by Linnaeus, curiosity bumps up against the typically laconic indication:

And numerous other Scientific Works.

Also, a large Collection of the best German Authors

Most nineteenth-century Australian libraries were sold at auction, rather than direct to booksellers, and newspaper advertisements remain the best evidence. Even when catalogues were printed, they have rarely survived.

In the complicated case of Ludwig Leichhardt, as explored by Matthew Stephens (2007), manuscript lists and volumes held notably in the State Library of New South Wales and the Australian Museum Research Library fill out the cosmopolitan background to his collecting. Where there is not a similar corpus of documents, the chance discovery of a volume with clear marks of provenance may be the only clue to a lost library.

The auction of Alexander Macleay's collection in 1845 offered, as might be expected, an unusually large number of scientific books and journals. Although German titles were in evidence in some of Macleay's special fields, the overall composition was English and French. The challenge for historians is to discover the present whereabouts of the volumes sold in what was the colony's most impressive sale of the time before the gold rushes.

Curiously, since its owner, John Macgregor (1828–1884), was not known for scientific pursuits, what was in August 1884 the biggest private library brought to auction in nineteenth-century Australia contained among its 10,000 volumes substantial holdings not only in philosophy, but also in astronomy, physics and mathematics. Many of the great classics of philosophical and scientific literature – among them Newton, Leibniz, Humboldt, Wolff, Boscovich, Boyle, Kant, Hegel, Euler and Laplace – were there in quantity. Once again the stress tended to fall on English, French and Latin versions, but the German language and scholarship emanating from Germany were certainly not absent. Why a Melbourne solicitor and politician should have built up a library that rivalled and even outshone many contemporary academic institutions in the Australian colonies remains an enigma (Kirsop 2002).

Eleven years after the Macgregor sale a catalogue was printed in Bendigo of the collection of Paul Howard MacGillivray (1834–1895), another Scottish immigrant, son of William, the Aberdeen professor of natural history, and brother of John, of the *Fly* and the *Rattlesnake*. The library was acquired for the National Museum of Victoria. It reflected both MacGillivray's professional activity as a physician and surgeon and his continued interest in natural history and in particular in *Polyzoa*. The German authors held were mostly in English translations, the exceptions being works in the owner's special field. There were several titles of his own composition alongside those of his

brother and father, including a third edition of the latter's *Travels and Researches of Alexander von Humboldt*.

At the end of the century, in August 1899, the estate of Frederick McCoy was dispersed. A privately held catalogue of the books, scientific instruments and artworks reveals relatively little of direct German interest. There is not a complete void, but once again one has the impression that Prussian science was marginal for one of the leading figures of nineteenth-century Melbourne's scientific establishment. As in all investigations of this kind one has to sound a cautionary note. Libraries often best represent youth and early maturity. Thus, to gauge the inclinations of people becoming active in the 1880s and 1890s one has to look towards dispersals well into the twentieth century, precisely at a time when auctions were much less common.

SOCIETIES AND EXCHANGES

Alongside the fairly rapid emergence of official science in the form of observatories, botanic gardens and herbaria, the colonies engaged early in cooperative ventures driven by interested and energetic individuals. Until the creation of the first – very small – universities in the 1850s, not to mention technical schools and the pioneer Melbourne Public Library, volunteering – sometimes encouraged by the authorities – was critical in setting up the institutions of civilised and intellectual life.

The 1820s, when the population of New South Wales and Van Diemen's Land began to expand, were to see several important initiatives. The most interesting one in our perspective was the short-lived Philosophical Society of Australia of 1821–1822 chronicled by George Nadel (1957) and Peter Orlovich (1966). A small group of individuals – too quickly separated and dispersed, alas – agreed to pool their personal libraries via a union catalogue and to meet regularly to discuss scientific questions. We no longer have the catalogue, and the contents of only some of the relevant collections are known. Plans to organise exchanges of specimens and publications seem to have been as abortive as the schedule of meetings. However, what was essential was the project of an entry into the norms of international scholarly communication as they were understood in the shaping decades of the late eighteenth and early nineteenth centuries.

The same decade also witnessed the creation of reading societies and, more formally, of subscription libraries, in particular the one in Sydney that was absorbed at the end of the 1860s into the Free Public Library. Essentially these institutions were designed for the recreation and, sometimes, the instruction of the gentry, however loosely that term needs to be defined in the Australian context. In other words they were more or less exclusive.

More democratic cooperation was channelled into the mechanics' institute movement, which, starting with Hobart in 1827, was very quick to follow the British, or better Scottish, model launched at the beginning of the decade. Indeed over the succeeding century this formula had an extraordinary vogue in the Australian colonies, leading to the construction of thousands of institutes under a variety of names, for example schools of arts and athenaeums, in the smallest towns and villages. Initially there was scientific and technical instruction, at times from visiting lecturers, and occasionally small museums were set up alongside the book collections. Despite subsidies from the colonial governments these were at bottom local affairs. Public money did not flow massively into the sector until the middle of the twentieth century. Surviving book collections, some still actively used, and printed catalogues show the relatively modest place that science came to occupy. Apart from English translations of authors like Liebig, the German content was small. The exceptions were the German-language libraries, notably that in Bendigo, for which we have printed lists from the 1870s and 1880s (Kirsop 1994).

Aside from the input of German-trained scientists in official roles, the influence of the culture that concerns us was to come first of all from the exchanges organised by the general and specialist societies that were securely established by the middle of the nineteenth century and, of course, by museums and herbaria. The role of a Ferdinand von Müller, communicator *par excellence*, cannot be underestimated. Redmond Barry, too, was a zealous promoter of such links, even if by 1888 the Melbourne Public Library had a limited number of exchange partners, including the Preussische Akademie der Wissenschaften, and received most of its subscriptions to leading German scientific periodicals through the local bookseller Samuel Mullen.

For administrative and cost reasons present-day research libraries tend to be reticent about exchanges of serials, ignoring their value in reinforcing international collaboration even in the age of the internet. It is perhaps because of this that the history of our exchange arrangements during more than a century and a half seems to have been neglected. Yet, despite gaps in documentation and, too often, the physical disappearance of the periodicals themselves, the archives of societies, libraries and research institutions still have much to teach us about a process in which far-seeing individuals were active for the profit of the scientific community.

RESEARCH ORGANISERS

Although the third phase was notionally one in which institutions – the growing universities – dominated, in fact individuals continued to play critical parts. In faculties that were still very small, powerful professors could give studies and international contacts their own stamp. It is not an accident that, under the influence first of Charles Badham and then of the original Mungo MacCallum, the University of Sydney in the humanities and social sciences developed – until 1914 – a strong connection with Germany. Meanwhile the University of Melbourne remained more strongly in the thrall of Oxford and Cambridge and generally of the British Isles.

The mark of the last two decades of the nineteenth century, as professional faculties and the serious teaching of science began to develop, was a turn towards research and what can rather cheekily be called Prussification. There were parallels elsewhere – think of Johns Hopkins in Baltimore or of the École pratique des Hautes Études in Paris – but Australia too had to set out on this path.

The evidence lies in research reports, in publications and in the advocacy of people always on the lookout for more money, more equipment and more books and periodicals. Libraries and library statistics are a good measure of the movement. When printed catalogues were produced, for example in 1892 for the University of Sydney, but, alas, not for the University of Melbourne, we have reasonably good snapshots of the state of collections.

In a generation of founders and builders it was to be expected that people would try to map their resources. Thus it is hardly astonishing that T.P. Anderson Stuart, Dean of the new Faculty of Medicine of the University of Sydney, arranged for the publication in 1889 of a *Catalogue of the Scientific Serial Literature* in a group of Sydney libraries. When one consults this pioneer effort, aimed at encouraging rationalisation and filling gaps, one discovers both the university's own commitment to the major German journals and the fact that 'scientific' is being used in the sense of *Wissenschaft*. Literature, philology, archaeology, history and so forth are among the areas covered.

Ten years later it was T.S. Hall, Honorary Librarian of the Royal Society of Victoria, who produced a more substantial *Catalogue of the Scientific and Technical Periodical Literature in the Libraries in Melbourne*, extended in a second edition in 1911. Given the problems of the University of Melbourne in these years as recounted by Richard Selleck (2003), it is not surprising that other institutions were taking the lead. Nonetheless the ambitions of a new and more professional cohort are clear in these individual efforts.

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In spite of early hesitations and allegiance to older Western European traditions, the arrival of a new German scientific hegemony was obvious by the turn of the century. The fits and starts of the library narrative do come to something like a Prussian conclusion.

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