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A garden enclosed: botanical barter in Sydney, 1818–39

JIM ENDERSBY*

Abstract. The creators of Sydney's botanic garden were a varied group of people with diverse agendas and interests, only some of whom saw themselves as men of science. While several were trying to advance botany, others were more concerned with self-advancement or financial gain. Yet they collaborated, almost unintentionally, to found Australia's first scientific institution. Exchanges of plants were crucial to forming and maintaining the relationships between these different figures. Studying these exchanges allows hitherto neglected figures to take their place in the garden's story alongside well-known ones. This study also takes issue with the notion that British colonial botanic gardens were established as part of a botanical empire, with Kew Gardens at its centre. It also seeks to extend Susan Leigh Star and James R. Griesemer's idea of 'boundary objects', by suggesting that relationships based on barter, gift-exchange or patronage rather than cash played a key role in mediating between the participants in colonial scientific institutions.

In 1829 a plant collector called William Baxter threatened to throw his hard-won botanical specimens into Sydney harbour rather than surrender them to the government-run botanic garden. What made them so valuable that he would risk arrest, and perhaps a flogging, by threatening to 'knock down' the government official sent to secure them? Earlier, in 1817, Sir Joseph Banks had sent Allan Cunningham to collect Australian plants, accompanied by the stern warning that if any of his specimens turned up anywhere else, it might 'be deemed a breach of the Fidelity you owe to your Employers'. Cunningham became obsessive about the need to keep exclusive control of his collections, particularly since he regarded Lachlan Macquarie, the governor of New South Wales (NSW), as one of his competitors for the plants. Cunningham even suggested that the Sydney botanic garden had been set up to allow Macquarie's administration to engage in 'a certain speculative botanical barter with some nurserymen in and about London, evidently to their decided advantage'. Why were these inedible plants, which had no worth as commercial crops, considered valuable enough for such a diverse group as Baxter, Macquarie, Banks and Cunningham to be fighting over them?

Central to answering this question is Sydney's botanic garden. In 1818, when it was created, everything from writing paper to cabbage seeds had to be brought to NSW on a

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long, hazardous sea voyage from Britain. It was a time when botany scarcely existed as a distinct discipline and the imperial functions of a network of colonial botanic gardens were not yet established. Founding a public funded botanic garden seems an odd priority for a penal colony, half a world away from the centres of European science. How and why was it founded?

Cunningham's use of the word 'barter' suggests a hitherto overlooked aspect of the garden's creation: its foundation depended on a series of unplanned relationships – between British savants, Australian governors, commercial plant collectors and ambitious young botanists – and these were all mediated by various kinds of exchange that involved plants. Plants could be traded for money, patronage or social and scientific prestige. Some were gifts, others commodities. And even when plants were simply bartered for other plants, the details of the exchanges – swapping familiar European plants for novel Australian ones – have interesting implications. In each of these cases, the participants had a distinct, local sense of what 'their' plants were worth and what they wanted in exchange for them. The ultimate value of any participant's 'trade goods' included such intangibles as local knowledge and access to specimens, as well as inequalities of wealth or status between those participating in the trade. A focus on these exchanges provides useful insights into the nature of the colonial scientific enterprise, particularly in Sydney during these decades, but perhaps more broadly as well.

'Lewd, disorderly Men and Women'

The Domain, the area that includes the Sydney botanic garden,¹ is today one of Sydney's most congenial public spaces: a popular site for picnics, weddings and political rallies. But in April 1816 Lachlan Macquarie, then governor of NSW, ordered three men to receive twenty-five lashes each – a beating that would have left them unable to walk – merely for setting foot on the Government Domain.² What was so special about this area, which at the time was – despite its name – little more than a piece of unkempt wasteland? And why was such an august person as the governor taking such a close interest in protecting it?

Prior to Macquarie's decision to wall in and protect the Domain and garden in 1816,³ it was open land whose uses can be imagined from a gubernatorial proclamation which decreed that 'no Cattle of any Description whatever are...to be permitted to graze or feed on the said Domain...and any Horses, Cows, Sheep, Asses, Pigs, or Goats which may after this Notification be found trespassing thereon, will be taken up and impounded'. The governor also ordered that no one was to destroy the trees or shrubs.⁴

Yet, despite the governor's walls and edicts, some of Sydney's more disreputable elements continued trespassing and the governor felt it necessary to issue another caution:

1 The garden's modern name is The Royal Botanic Gardens, Sydney. However, it did not acquire the 'royal' epithet until 1959, and during the period under study it was referred to by several names. L. Gilbert, *The Royal Botanic Gardens, Sydney: A History, 1816–1985*, Melbourne, 1986, 152.

2 M. Clark, *From the Earliest Times to the Age of Macquarie*, Melbourne, 1992, 306–7.

3 The completion of these walls in 1818 is effectively the garden's founding date, although no formal proclamation of its opening exists.

4 *Sydney Gazette*, Mitchell Library (microfilm), Sydney, Australia, 17/10/12.

the Government Domain...has been much injured, not only by Persons breaking down the Wall that incloses [*sic*] it, but by their cutting down or burning the Shrubbery, destroying the young Plantation of Trees, quarrying of Stones, removing loam, and stealing the Paling.⁵

In a letter to the British government's secretary for the Colonies, Macquarie defended his anti-trespassing measures on the grounds that the

Public Entrances did not suit the Persons going thither for vicious and disorderly purposes, namely secreting stolen Goods...This Shrubbery was also much frequented by lewd, disorderly Men and Women for most indecent improper purposes. I had long wished to put a stop to these disgraceful Meetings and indecent assignations, as well as to save the Shrubbery and young Plantations of Forest Trees, which had been planted in the Grounds...⁶

The botanic garden can hardly have been the only place in Sydney where it was possible to hide stolen goods, nor the only venue for 'indecent assignations'; Macquarie's concern to 'save the Shrubbery and young Plantations of Forest Trees' implies that the trespassers were also vandals, since newly planted trees would have provided neither timber nor firewood.

The nature of some of these intrusions – timber-cutting, quarrying and removing loam, together with Macquarie's earlier injunction against grazing animals – suggest that some of Sydney's inhabitants were treating the area as common land. Pasturing animals and collecting firewood or building materials had been the main uses of such land in Britain during the eighteenth century, before the Enclosure Acts led to the loss of vast areas of commons and a resultant disruption of the communities whose subsistence depended on them.⁷

Enclosure and the social dislocation it caused resulted in an explosion of crime in Britain, which in turn created the country's convict problem. When the 1776 War of Independence ended the transportation of convicts to America, there was an urgent need to find a new dumping ground. A major motivation for colonizing NSW had been to provide just such a facility.⁸ Many of those transported to Australia had been convicted of poaching on the newly enclosed land or stealing to feed themselves – the crimes of people forced into poverty by the loss of the commons.⁹ A substantial proportion of the first Europeans to arrive in Australia were victims of the Enclosure Acts.

Enclosure's relevance to Sydney is that some of the intrusions on the Domain – 'breaking down the Wall', 'cutting down or burning the Shrubbery' or 'destroying the young Plantation of Trees' – sound more like protests than attempts to gather resources. Attacks of this type are recorded as demonstrations against enclosure and poverty in Britain during the eighteenth and early nineteenth centuries.¹⁰ For example, in 1713 a Thomas Chester was sentenced to death because, having 'too much zeal for the common good', he had

5 *Sydney Gazette*, op. cit. (4), 6/7/16.

6 Gilbert, op. cit. (1), 37.

7 C. Hill, *Reformation to Industrial Revolution, 1530–1780*, Harmondsworth, 1983, 151–2; M. Hoyles, *The Story of Gardening*, London, 1991, 37.

8 R. Hughes, *The Fatal Shore: A History of the Transportation of Convicts of Australia, 1787–1868*, London, 1987, 19–42.

9 E. P. Thompson, *The Making of the English Working Class*, Harmondsworth, 1984, 235–8, 290–5.

10 E. P. Thompson, *Customs in Common*, Harmondsworth, 1991.

destroyed some trees that had been newly planted on common land.¹¹ There are numerous examples of such scattered resistance during the early nineteenth century, culminating in the Swing Riots of 1830. While hard to prove, it would not be surprising if Sydney's poor resented the colonial government enclosing land they saw as commons, thus re-creating the circumstances that had brought so many to NSW.

It might be thought that, even enclosed, the botanic garden and Domain were a public space. However, Macquarie's orders specified that entry to them would be restricted to 'the respectable Class of Inhabitants' who would be admitted, 'for innocent Recreation, during the Day Time'.¹² Since 'the respectable' were a tiny minority in Sydney at this time, the garden can hardly be considered public.

As well as providing 'innocent recreation', the garden also played a role in promoting agricultural improvement in NSW, a use that tends to confirm the supposition that Macquarie's walls transformed them into a private area. Agrarian improvement had been used in Britain as a major justification for enclosing common land, and the same ideology of improvement was promoted by the Sydney garden and the various horticultural societies that existed sporadically in NSW between 1818 and the 1830s.¹³ In May 1825 the NSW government's *Sydney Gazette* proclaimed that 'the Botanic Garden has been established with the liberal view of benefiting, not the Government, but the individuals under so considerate an Administration'. The editor also mentions the establishment of government farms, and adds,

These establishments have been formed merely with the view of ascertaining the capabilities of our soil in order that the benefit resulting from such experimental establishments might be imparted to the Colonists generally. We are instructed to say, not only may exotics be obtained from our indefatigable Colonial Botanist (Mr Frazer), but also tobacco seed from Emu Plains, and the sugar-cane from Port Macquarie. Can government exercise a greater stretch of liberality?¹⁴

Linking Sydney's garden to the government's other 'experimental' establishments highlights its role in assisting the colonists to improve their land. Richard Drayton argues that in this period well-run botanic gardens were regarded as evidence of a benevolent administration, precisely because of their role in agricultural improvement.¹⁵ Land was the primary resource that the NSW government could grant its clients during this period, and supplying some help in improving often barren scrub increased the value of the government's bounty.

The garden distributed seeds and plants without charge, the dispersal of such largesse being an essential tool of government in an age of patronage. However, the surviving correspondence makes it clear that these benefits only went to major landholders; the garden offered no benefit to most of the populace. What had once been regarded as common land had been enclosed to benefit the prosperous. Macquarie's decision to wall in the Sydney garden was an attempt to permit some uses and proscribe others; issues of

11 Hoyles, *op. cit.* (7), 38.

12 *Sydney Gazette*, *op. cit.* (4), 6/7/16.

13 J. H. Maiden, 'A contribution to the history of the Royal Society of New South Wales', *Journal of the Royal Society of New South Wales* (1918), 52, 217–31.

14 *Sydney Gazette*, *op. cit.* (4), 15/5/25.

15 R. H. Drayton, 'Imperial science and a scientific empire: Kew Gardens and the uses of Nature 1772–1903', Yale University, 1993, Unpublished Ph.D. thesis. UMI Dissertation Services, Ann Arbor, I, 146–9.

enclosure and access highlight the many purposes and meanings that the garden might have. For example, it sent Australian plants around the world; in exchange, those in Sydney might receive European crop seeds or scientific books. Prestige, patronage or money might also be found on the returning ships. Whoever controlled the garden and its activities could potentially control these various forms of ‘botanical bartery’.

‘In return for seeds received’

In 1820 Allan Cunningham (who would later be the Sydney garden’s third director) gave evidence to a commission of inquiry into the administration of NSW. He submitted some comments ‘on the formation of a Botanic Gardens’, which proposed instituting correspondence with other gardens, ‘by which means...valuable Tropical Fruit trees might be introduced into the Colony’. However, he did not mention any form of taxonomic work; although Cunningham would later become embroiled in a struggle to establish what he saw as a more scientific role for the garden, at this stage he assumed that such work was not a priority in Sydney.¹⁶

Cunningham’s pragmatic focus is unsurprising; during the 1820s the seeds of essential crop plants were still hard to obtain in NSW; the garden’s correspondence is dominated by letters pleading for seeds. For example, a request for assorted garden seeds from a Mr Blackett emphasized that they be sent in ‘such *small* quantities as you can conveniently spare’. Yet even small quantities were hard to obtain; he had to write again a few weeks later to find out where his seeds had got to. Nor was Blackett the only one who had trouble obtaining his seeds – a Mr James Smith also had to chase his order for barley, oats and grape seeds.¹⁷ The various Australian settlements beyond NSW also relied on the Sydney garden for crop seeds. In March 1828 Fort Wellington specified that they needed precisely ‘four ounces of good onion seed’. In August 1828 there were further urgent requests from Fort Wellington, Melville Island and King George’s Sound and in November, Fort Wellington and King George’s Sound were begging again.¹⁸

The seeds in question, even when grown in the garden, had all originally come from overseas and in most cases they were exchanged for specimens of Australia’s native plants, which were still relatively unknown to European botanists. In 1830 Charles Fraser,¹⁹ the Sydney garden’s first superintendent, sent the NSW colonial secretary a list of the ‘Seeds, Living Plants & Dried Specimens of Plants transmitted by me within the last 18 months to Europe and other parts of the Globe’. In addition to the seeds, Fraser lists dried plants (herbarium specimens):

Regius Prof. Botany, Glasgow	1800 specimens
Regius Prof. Botany, Edinburgh	1200 specimens
Mr Cunningham	300 specimens

16 A. Cunningham, ‘General points on the formation of a Botanic Gardens in New South Wales’, 1820. BT Box 22. Mitchell Library, State Library of New South Wales, Sydney, 177–9; W. G. McMinn, *Allan Cunningham: Botanist and Explorer*, Melbourne, 1970, 109.

17 Manuscript records of Royal Botanic Gardens, Sydney, correspondence (hereafter RBG correspondence) 1828–35. Royal Botanic Garden, Sydney, 10/3/28, 16/7/28, 4/8/28, 4/6/28. Original emphasis.

18 RBG correspondence, op. cit. (17), 10/3/28, 13/8/28, 21/11/28.

19 His name is also sometimes spelt ‘Frazer’ or ‘Frazier’ in contemporary sources.

Mr Telfair, Mauritius
 Royal botanic gardens, Liverpool

300 specimens
 300 specimens

Besides many others furnished in return for Seeds received.²⁰

Fraser's bartering of Australian plants (either dried specimens or seeds) for European crops illustrates an important feature of such exchanges: a few ounces of onion seed were worth next to nothing in Britain while an unknown species from the far side of the world might be a prized rarity to a botanist.²¹ Meanwhile, in the NSW of the 1820s, where food was often scarce, crop seeds were worth far more than a dried specimen of some inedible Australian bush. In each case, sending one's trade goods around the world dramatically increased their value. It is also worth noting that the reciprocal nature of these exchanges makes them more equal than they might at first appear; no debt was accumulated by those on the periphery as long as they were able to send back plants that their correspondents needed. By contrast, a European crop plant, once distributed to a grateful NSW landowner, appears to have become part of the government's patronage, reminding influential colonists how lucky they were to be living under 'so considerate an Administration'. The tone of the letters requesting seeds (which were effectively gifts since they were not reciprocated) suggests that the government often succeeded in creating an unequal client-patron relationship, quite different to that between colonial and metropolitan botanists.²²

However, the exchange of herbarium specimens for economically valuable seeds does not prove that Sydney was a passive recipient of either Europe's crops or of its scientific knowledge.²³ A richer understanding of the colonial collector's role emerges once we consider what figures like Fraser wanted from those at the centre, and what they had to offer in exchange.

'A certain speculative botanical bartery'

During this period, Britain had an almost total monopoly on Australian plants, which were valuable novelties in Europe; part of the Sydney garden's worth was that it was one of the most important points from which they could be exported.²⁴ Macquarie's government took advantage of this situation by sending Fraser on occasional plant-collecting trips, including two expeditions to the NSW interior (in 1817 and 1818). He was joined on the first of these trips by Allan Cunningham, who had recently arrived in Sydney, having been sent by Banks to gather specimens for Kew.

20 RBG correspondence, op. cit. (17), 28/7/30.

21 The plants in these exchanges clearly function as what Susan Leigh Star and James R. Griesemer call 'boundary objects', a concept which is discussed further in the conclusion.

22 The inequality created in such exchanges has long been recognized by anthropologists studying the 'gift-giving cultures' of various peoples, for example M. Strathern, *The Gender of the Gift: Problems with Women and Problems with Society in Melanesia*, Berkeley, 1988; N. Thomas, *Entangled Objects: Exchange, Material Culture, and Colonialism in the Pacific*, Cambridge, MA, 1991.

23 One long-established view of colonial science, which begins with George Basalla's pioneering study (G. Basalla, 'The spread of western science', *Science* (1967), 156, 611-22), argues that the earliest phases of colonialism can be described in terms of a 'diffusion' of Western knowledge. The present study reinforces the now widely held view that colonial relationships are more complex than a model of passive diffusion would imply.

24 Drayton, op. cit. (15), 83-4.

Banks's orders to Cunningham make it clear that he hoped to exploit this privileged access to Australia's plants:

Should any new Plant sent...by you to Kew appear in any other Garden an Enquiry will be immediately set on Foot to Find out in what way...it was procured & if...it Proves to have been obtained from you in any Circuitous manner whatever[,] your having Parted with...it will be deemed a breach of the Fidelity you owe to your Employers.²⁵

Cunningham took his instructions seriously: on returning from his first expedition, he anxiously reported to Banks that other members of the expedition had collected 'ample Duplicates of many of my very interesting and valuable Seeds and bulbs...chiefly with a view of turning them to Cash, upon their return to Sydney'. He hoped that 'nothing incorrect' would be attributed to him since 'many are now in the Possession of several wealthy Individuals...who intend to transmit them to their friends in England by the earliest opportunity'.²⁶

Macquarie shared Banks's concern with controlling the distributions of plants, and tried to ensure that only the two official botanists should make collections on government-sponsored trips. When Fraser went on his second expedition (in 1818), Macquarie ordered that 'he is to be exclusively employed in making these Collections for His Majesty's Ministers at Home – and for the Government'. Macquarie also explicitly told Oxley, the expedition's leader, to 'prohibit all other Persons Employed on the Expedition from interfering with Charles Frazer in making his Collections, by making similar Collections for Themselves and their Friends, which you are not to permit them to do'.²⁷

Cunningham's specimens were sent by Banks to the Royal Gardens at Kew (which were then directly under the control of Banks's main patron, George III), while those collected by Fraser were forwarded by Macquarie either to Earl Bathurst, then Secretary of State for the Colonies, or to other members of the European aristocracy. In 1818 Macquarie dispatched a shipload 'of the most admired rare and choice Flowers, Shrubs and Plants of the Country', which were intended for the Emperor Francis I of Austria, Prince (later King) Leopold of Belgium and Queen Charlotte, wife of King George III.²⁸ Winning and keeping the support of powerful patrons was as important to Banks and Macquarie as it was to Fraser or Cunningham.

Given the prestige that accrued to whoever could supply Australian plants, it is not surprising that a degree of rivalry developed between Macquarie's collector, Fraser, and Banks's collector, Cunningham, and this competitiveness was probably the ultimate cause of a conflict that arose between Macquarie and Cunningham. However, its immediate source was a letter from Cunningham to Banks, in which he mentioned that he had been denied both a house and a government horse by Macquarie. This fell into Macquarie's hands and he accused Cunningham of 'false and ungrateful conduct'. Macquarie wrote to Banks complaining that his name was being blackened by this 'Unbred, Illiterate man'.²⁹

25 Gilbert, *op. cit.* (1), 28.

26 Gilbert, *op. cit.* (1), 31.

27 L. Macquarie, 'Instructions to Oxley, 9 May 1818', MSS-5322, no. 48. Mitchell Library, State Library of New South Wales, Sydney, 54.

28 Gilbert, *op. cit.* (1), 34–5.

29 Gilbert, *op. cit.* (1), 28–33.

Banks persuaded Macquarie to take no further action, but after this incident he wrote to Cunningham that ‘I fear there is some jealousy in your governor in favour of his colonial botanist...who has, I am informed, sent home some plants different from any in your collections’.³⁰

Reporting Macquarie’s attitude to Banks may have been tactless, but it is easy to understand Cunningham’s suspicion that Macquarie was being deliberately unhelpful. Fraser’s second expedition (which produced the botanical treasures Macquarie was so keen to send to the crowned heads of Europe), had not included Cunningham because Macquarie had sent him off on another trip – to cover ground that had already been thoroughly explored.³¹ It seemed as though Cunningham was deliberately being kept away from Fraser to ensure that the latter’s collections would be unique when they appeared in Europe as gifts from Macquarie.

Whatever the facts, Cunningham became increasingly suspicious of Macquarie and his motives. He commented to Banks that Fraser’s appointment had been intended to provide plants for ‘some of the more opulent nurserymen near London’. Cunningham shared the same suspicions with William Aiton, curator of Kew, to whom he confided that he thought the Sydney garden had as its ‘object (under the present administration), that of carrying into effect a certain speculative botanical barter with some nurserymen in and about London, evidently to their decided advantage’.³²

The idea that Macquarie was trying to turn the flora of Australia into a source of private profit is implausible, despite the long history of official corruption in NSW; it is more likely that he simply coveted the prestige that the plants could bring him. It is hard to imagine any other reason why the governor would deliberately obstruct Cunningham, whom Macquarie himself referred to as ‘the King’s botanist’. Australian plants gained value by becoming gifts when they were sent overseas, just as European crops did when they became available for the governor to distribute within Australia. By controlling the Sydney garden and its collectors, Macquarie could hope to control the flow of plants and prestige.

For Fraser, supplying Macquarie with appropriate gifts for his patrons was essential to earning and keeping the governor’s goodwill. However, as we have seen, Fraser also exchanged specimens of Australia’s flora with the rest of the world – and this brought him to the attention of some of Britain’s most important botanists. In May 1831 the NSW colonial secretary sent Fraser a copy of Robert Brown’s *Proteacea*, in which ‘you will see your own name often quoted’ and ‘Fraser’s name also appeared more than two hundred times in George Bentham’s *Flora Australiensis*’.³³ Despite having come to Sydney as a mere private soldier with a little gardening experience (which is what brought him to the governor’s attention), by the time he died in 1831 he was respectable enough for obituaries to appear in the Sydney newspapers. The *Sydney Monitor* told its readers that Fraser had ‘advanced the cause of science’.³⁴ He certainly had, but he had also advanced himself by,

30 McMinn, op. cit. (16), 34.

31 McMinn, op. cit. (16), 35.

32 McMinn, op. cit. (16), 34.

33 RBG correspondence, op. cit. (17), 15/5/31; Gilbert, op. cit. (1), 49.

34 *Sydney Monitor*, Mitchell Library (microfilm), Sydney, Australia, 30/12/31.

among other things, exchanging his botanical knowledge for a grant by Macquarie of 500 acres of land and three government men to work them.³⁵ It is interesting to ask whether Fraser would have thought of what he was doing as science; while his motives are unclear, he had evidently been able to barter his position at the garden for personal, social advancement. During this period the differences between activities such as agriculture, commercial and scientific plant-collecting, horticulture and botany were still largely undefined. It was partly the activities of people like Fraser and Cunningham which defined the novel role of 'scientist', at least in its colonial context, as the century progressed. Yet it is obvious that the networks of colonial natural history included people, like Fraser, who played a part in the formation of what came to be seen as colonial science without necessarily practising science. An even clearer example is William Baxter, a freelance botanical collector, whose main interest was not learning but lucre.

'So excellent a collector'

In April 1830 a letter to Fraser from William Hooker, then director of the Glasgow botanic gardens, asked about 'the results of Baxter being employed by you'. Hooker added that he expected much of Baxter 'and I do trust for the sake of science you have not been disappointed. He is so excellent a collector that he will surely not return from King George's Sound without adding many new Sp[ecies] to those already known'.³⁶

Hooker enquired not only for 'the sake of science', but also for his own sake: he asks Fraser not to 'forget me' when Baxter's collections are being divided, adding that whatever he finds, 'even Fungi', will be acceptable. Hooker's letter illustrates the almost avaricious enthusiasm for botanical novelties that gripped European botanists, an enthusiasm that could only be satisfied by colonial collectors like Fraser and Baxter. As well as fungi, Hooker asks about seaweeds, as 'I am equally interested in them as other plants. I regard not any reasonable expense and am determined as far as lies in my power to make my Herbarium the richest of any private one in Europe'.³⁷

Despite Hooker's regard for Baxter, little is known about him: he had originally been a gardener, but had collected for various British nurserymen in Australia in the 1820s. There is also a record of 'a botanist named William Baxter' marrying a Mary Jones in Sydney in 1827, which suggests that he lived in the colony for several years.³⁸

Baxter had first contacted Hooker in 1825:

I have not the Honor of personally Knowing you and should not now have obruded myself to your notice only in consequence of Mr Frazier the Botanist to the Governor of these Colonies having applied to me for Specimens of the various Banksia's and Dryandra's, stating they were

35 Gilbert, *op. cit.* (1), 39. James Moore makes the point that such self-advancement through science was also relatively common in Britain during the early decades of the nineteenth century. J. R. Moore, 'Green gold: the riches of Baron Ferdinand von Mueller', *Historical Records of Australian Science* (1977), 11, 371–88, 371–2.

36 36 RBG correspondence, *op. cit.* (17), 12/4/30.

37 37 RBG correspondence, *op. cit.* (17), 12/4/30.

38 R. Desmond, *Dictionary of British and Irish Botanists and Horticulturalists: Including Plant Collectors, Flower Painters and Garden Designers*, London, 1994.

for you. I supplied him with a good collection, in which were two specimens of undescribed *Banksia*'s with a fruit attached to each, these I entreated Mr Frazier to beg of you, not to permit being grown in the Garden, should he have sent such to you, I have to request you will oblige me in not allowing them to be grown, as I am engaged with a House [i.e. a commercial nursery] I am very unwilling to injure.³⁹

Baxter was plainly as anxious to retain exclusive control over his collections as Macquarie and Banks were over theirs. The *banksia* cones changed their significance as they passed from hand to hand: to Macquarie they might be a route to patronage, for Hooker or Banks they could bring scientific prestige, but to Baxter they were primarily a source of income – and if Fraser or Hooker grew their own *banksias* that would lower the value of his tradable goods.⁴⁰

A later letter to Hooker (1827) provides evidence of just how precarious a commercial plant-collector's life was. Baxter recounts the many disasters that had befallen him, including having his ship seized by the government of Van Diemen's Land (now Tasmania) 'through a misunderstanding respecting the Register of the Vessel'. Upon his return to Sydney to try and get his boat back, Baxter discovered that the bills of exchange provided by Mr Henschman (the British nurseryman he was collecting for), which were his only source of money, 'were returned dishonored'. Baxter was now in debt, without money and with no means of earning any:

Picture to yourself my astonishment & surprize at such unheard of cruelty, to strike at the very root of my prospects & expectations & to mend the matter I was arrested & thrown into Prison for a paltry debt of thirty pounds which being at the commencement of the Season has been very prejudicial to me.⁴¹

Baxter's reference to the importance of collecting during the appropriate season suggests that the local knowledge he had accumulated during his years in the colonies would have been one of his assets.

However, despite the setbacks he had suffered, Baxter was optimistic:

I now consider myself clear from my engagements with Mr Henschman. I purpose to supply the whole trade & doubt not eventually I shall find it much more beneficial as my Connexions are so very extensive & respectable & the orders I have already received are very considerable.⁴²

Baxter was apparently convinced that there was enough demand for Australian plants for him to make a living from them, and his reference to 'the whole trade' implies that he did not distinguish between the scientific needs of Hooker and the commercial interests of nurseries. Similarly, European botanists like Hooker, Brown and Bentham relied on others to collect the specimens they needed to compile their floras, and did not distinguish between government employees, like Fraser, and commercial plant-collectors, like Baxter. All were part of the networks of colonial science, but Baxter might have been even more surprised than Fraser to hear himself described in such terms.

³⁹ W. Baxter, Correspondence 1825–27. KDC 72. Archives Royal Botanic Gardens, Kew, 23/9/25.

⁴⁰ *Banksias*, which were named in honour of Sir Joseph Banks, are a uniquely Australian genus of the family Proteaceae.

⁴¹ Baxter, op. cit. (39), 31/1/27.

⁴² Baxter, op. cit. (39), 31/1/27.

However, despite his ‘extensive and respectable’ connections, Baxter still had some obstacles to overcome:

I am sorry to add Mr McLeay has joined with the rest to persecute me from a misunderstanding which took place on his application to me for Specimens Plants and Seeds which from my original arrangements I could not with Honour furnish to him.⁴³

‘Mr McLeay’ was Alexander McLeay,⁴⁴ a central figure both in the early history of the Sydney garden and in the formation of Australian science more generally. He had been honorary secretary of the Linnean Society of London until 1826, when he became colonial secretary of NSW. Upon arriving in the colony, he involved himself in the management of the embryonic colonial museum and founded and chaired the Sydney garden’s first management committee.⁴⁵

Despite Baxter’s worries, any hostility McLeay felt towards him must have abated quickly, because in November 1828 he gave permission for Baxter to collect for the Sydney garden – the trip Hooker had been enquiring about. Baxter struck a deal with the NSW government: they would provide him with free passage, a government ration and other supplies; in exchange he would give half his collections to the garden.⁴⁶

In March 1829 Baxter was able to send Fraser the seeds of 145 different species, commenting in the accompanying letter that ‘you will see that I have not been idle’. Yet, despite this first shipment, things were once again going badly; he offered his regrets at the modesty of the collection, but added that he could not have sent more, since

not having near enough to eat I am not able to carry more than a small quantity of each sort. I never knew what a [government] ration was before but I find it by far too little to make such long journeys and carry such loads as I do.⁴⁷

Despite his hard work, Baxter’s deal with the Sydney garden soon turned sour. In June 1830 Fraser wrote to McLeay to say that Baxter’s conduct ‘has been so outrageous as to call forth the following statement’. According to Fraser, he had tried to get the garden’s share of the collections from Baxter when the latter returned to Sydney in September 1829. However, Baxter had ‘made several evasive excuses’ which forced Fraser to obtain a government order to gain access to the specimens. A customs officer, Mr Oliver, was sent to Baxter’s ship to locate ‘Two Sacks Containing Cones of Banksias’ that Baxter had ordered ‘should not be delivered to any person but himself’:

On Mr. Oliver going on Board and making his Business known, Baxter made use of the most Abusive Language. Threatening to knock Mr. Oliver down at the same time attempting to throw some of the most valuable Tubs of Plants Over-Board...Such was the violence of his conduct that Mr. Oliver was obliged to send for Two Constables, When Mr. Baxter saw them approach he left the Vessel.

Fraser comments that

43 Baxter, op. cit. (39), 31/1/27.

44 The McLeay family name is now commonly spelt Macleay, but the older form used in the contemporary sources has been retained for consistency.

45 R. Strahan, *Rare and Curious Specimens: An Illustrated History of the Australian Museum 1827–1979*, Sydney, 1979, 7.

46 RBG correspondence, op. cit. (17), 17/11/28, 21/11/28.

47 RBG correspondence, op. cit. (17), 25/3/29.

[Baxter's] threats strengthen me in my opinions that his intentions were to purloin the most valuable part of the collection for on Embarking on Board the Vessel in which he took passage to England he publicly states that after all our [look?] out he had cheated the Govt. of the very things he particularly wanted.⁴⁸

If Baxter ever recorded his side of this dispute, it has not survived. Perhaps the privations he had undergone to collect the plants made him feel that they were worth more than the meagre support he had received from the government. However, it is noticeable that it was the banksias, with their high cash value, that he was most anxious to keep for himself. If, as he had claimed in an earlier letter to Hooker, he really was 'more sinned against than sinning', it is difficult not to feel that he had an astonishing talent for attracting misfortune.⁴⁹ However, whatever the facts, the incident illustrates the difficulty someone like Baxter faced, trying to negotiate an exchange while caught between his own cash-based world and the barter-based deal he had made with the NSW government.

Discussions of Australia's colonial history often refer to the 'tyranny of distance', the communication problems created by Australia's isolation.⁵⁰ But such discussions sometimes overlook the opposite point: that the same distance also 'tyrannized' Europeans who, for example, wanted access to Australia's flora.⁵¹ Unless someone like Hooker was willing to send a plant-collector halfway around the world, he had to rely on the locals to acquire plants for him. Baxter might well have viewed metropolitan botanists like Hooker as dependent on him – since only his local knowledge (of flowering seasons, plant locations and so on) could supply the coveted specimens. While colonial collectors were in some senses dependent on those at the centre, they also had assets to barter and so were not powerless. This is not to suggest that the relationship between people like Baxter, Fraser or Cunningham and European savants like William Hooker was in any sense an equal one – that idea would have been as laughable in Sydney as in Britain – but acknowledging obvious inequalities need not reduce the colonial side of the relationship to complete passivity. The complexities of these colonial connections are further illustrated by the botanical exchange networks in which the Sydney garden participated. Insofar as these were organized at all in these years, they were organized by the colonial gardens for their own benefit, not by or for those at the centre.

'Say not a word of the cost'

Even in Fraser's time, before formal scientific work was being done, the Sydney garden was participating in casual botanical networks that regularly exchanged seeds, plants and news. The workings of these arrangements can be glimpsed in letters to Fraser from Charles Telfair, of the *Mon Plaisir* (later *Pamplémousses*) botanic garden in Mauritius.

48 RBG correspondence, op. cit. (17), 19/6/30.

49 Baxter, op. cit. (39), 31/1/27.

50 G. Blainey, *The Tyranny of Distance: How Distance Shaped Australia's History*, Melbourne, 1982; D. W. Chambers, 'Does distance tyrannize science?' in R. Home and S. Kohlstedt (eds.), *International Science and National Scientific Identity: Australia between Britain and America*, Dordrecht, 1991, 19–38.

51 I am indebted to Ruth Barton for her illuminating comments on this point. R. Barton, 'Haast and the Moa: reversing the tyranny of distance', *Pacific Science* (2000), 54, forthcoming.

In 1828 Telfair received some seeds from Fraser via Captain Richards of the *Tyger*, whom Telfair had enjoyed meeting, describing him as ‘a very intelligent, observing man’. Telfair was not only a contact for gardens overseas, but also a node within a Mauritian botanical sub-network; he mentioned passing some of Fraser’s seeds on to a Professor Bojin and that ‘the *Cunninghamia* which you sent me are in the most flourishing state’ – so much so that specimens of them had already been passed on to other gardens. At the same time, Fraser profited from Telfair’s network; a later letter from him enclosed seeds and a specimen of a new hibiscus species from Mombasa, in Kenya. On the same day, and presumably by the same route (‘Captain Foreman of the *Denmark Hill*’), Fraser received a note from John Newman, also in Mauritius, along with some nutmegs, other seeds and an offer to send similar parcels to any other Australian colonies at appropriate latitudes. A letter from Mr Graham, of the Edinburgh botanical gardens, introduces a Dr Henderson (presumably the bearer of the letter and the seeds it lists), who will be happy to transport anything Fraser cares to send ‘whether in the shape of seeds or dried plants’.⁵²

These networks were informal, friendly affairs – alongside the plants, various gifts were exchanged and these exchanges kept the arrangement running. For example, Stewart Murray, writing to Fraser from the Glasgow botanic gardens, states that he is not only sending some seeds, but also ‘some *Glasgow Herald*s which may perhaps amuse you in a spare hour’ – Murray must have known that Fraser was a Scot who might be pining for news of his native land.⁵³ A similarly generous tone is evident in William Hooker’s letters. In July 1829 he sent Fraser a copy of his *Botanical Magazine* and the first number of the newly founded *Botanical Miscellany*, and asked him to ‘say not a word of the cost’. He also offers Fraser copies of his *Jungermanniae* and various works on *Muscii*, if Fraser did not already have them. It is apparent from this and other letters that Hooker was expecting some reciprocal benefit in the form of Australian plants, since he tells Fraser, ‘All your things in whatever way they come to me, have reached me safely and the cost is but trifling when compared with the value I set upon such good plants’.⁵⁴ Hooker’s letters to other botanical collectors, such as Ronald Gunn in Tasmania, exhibit a similar warmth and Gunn, too, received gifts of books.⁵⁵ As noted previously, the reciprocity of these exchanges implies a degree of equality between the participants. Treating Fraser or Gunn as in some senses his equals may have been no more than courtesy on Hooker’s part, but it is nevertheless a reminder that if he was to get the plants he wanted he needed to remain on good terms with his colonial collectors.⁵⁶

The Sydney garden’s participation in these casual networks also shows that the crucial terms ‘centre’ and ‘periphery’ cannot be unambiguously defined in this period. Although Sydney was remote, and undoubtedly peripheral when viewed from London, it was a virtual scientific centre from the perspective of newly established Australian outposts. Fraser had supplied crop seeds and advice to the first western Australian settlement, King

52 RBG correspondence, op. cit. (17), 13/3/29b, 21/6/29a, 21/6/29b, 13/3/29a.

53 RBG correspondence, op. cit. (17), 30/6/29.

54 RBG correspondence, op. cit. (17), 1/7/29.

55 A. M. Moyal, *Scientists in Nineteenth Century Australia: a Documentary History*, Stanmore, NSW, 1976, 43.

56 James Moore, op. cit. (35), 372 makes the point that such gifts are part of developing what Pierre Bourdieu calls a savant’s ‘symbolic capital’; they were an investment that was expected to pay substantial dividends.

George's Sound (present-day Albany), but the ground proved unsuitable for European-style agriculture and a decision was taken to found another western colony in June 1829, at the mouth of the Swan River (present-day Perth). A letter from a Mr Davis in King George's Sound shows that Fraser had helped (rather unsuccessfully, it seems) to assess the suitability of the site:

I am sorry to tell you that your botanical account of Swan Port is not at all relished by the new colonists. Some of them would I think have no mercy on you, they all expected to find the country fertile and in every sense a Paradise, but they are now satisfied that *Sand*, and *Sand*, and *Sand* is everywhere to be found.⁵⁷

The founding of the Swan River Colony was not the only occasion when Fraser advised the NSW government; by making himself useful to the governor and to overseas botanists like Hooker, Fraser created a small botanical network – based on bartering plants and exchanging gifts – with the Sydney garden at its centre.⁵⁸

However, the independence of Sydney's networks is perhaps their most significant feature. Kew is largely invisible during the early years of the Sydney garden: there is no surviving correspondence between Sydney and Kew, nor any mention of a single seed or specimen being sent to Kew during these early years.⁵⁹

Undoubtedly, Kew's absence from the garden's records is partly because it had its own collectors, notably Allan Cunningham, in NSW. However, the formative years of the Sydney garden also coincide with a period of relative decline at Kew following Banks's death in 1820. In 1838, Kew's deterioration had become so serious that the British government set up a committee and asked the botanist John Lindley to examine the garden's condition.⁶⁰ His report recommended that Kew be turned over to the nation and used as the botanical headquarters for the British Empire, but the most interesting aspect of Lindley's report is his rationale for the change:

There are many gardens in the British Colonies and dependencies: such establishments exist in Calcutta, Bombay, Saharunpur, in the Isle of France [Mauritius], at Sydney, and in Trinidad, costing many thousands a year: their utility is very much diminished by the want of some system under which they can all be regulated and controlled. ...there is no unity of purpose among them; their objects are unsettled; their powers wasted, from want of not receiving a proper direction; they afford no aid or assistance to each other, and it is to be feared, in some cases, but little to the countries in which they are established...⁶¹

⁵⁷ RBG correspondence, op. cit. (17), 5/10/29, original emphasis.

⁵⁸ The existence of such a network suggests a possible problem with analyses which presume that colonial science can be described in terms of a single centre, such as those which draw on Bruno Latour's concept of cycles of accumulation. B. Latour, *Science in Action: How to Follow Scientists and Engineers through Society*, Cambridge, MA, 1987; D. P. Miller and P. H. Reill (eds.), *Visions of Empire: Voyages, Botany and Representations of Nature*, Cambridge, 1996.

⁵⁹ R. Desmond, *Kew: A History of the Royal Botanic Gardens*, London, 1995, 141. It should also be noted that Sydney's informal exchange networks must lead us to re-examine the notion of a British botanical empire with Kew at its centre, first suggested by Lucille Brockway, particularly since she argues that Kew 'regulated the flow of botanical information from the metropolis to the colonial satellites, and disseminated information among them'. L. Brockway, *Science and Colonial Expansion: The Role of the British Royal Gardens*, New York, 1979, 7.

⁶⁰ J. Lindley, *Report to the Committee Appointed by the Lords of the Treasury in January 1838 to Inquire into the Management, &c of the Royal Gardens of Kew*, London, 1838.

⁶¹ Lindley, op. cit. (60), 5.

The implication of this is clear: Kew did not establish the networks of which it eventually made such extensive use. From the way Lindley phrases his proposals, one could almost conclude that the botanical colonies founded the 'new Kew' empire: the need to manage the pre-existing colonial gardens, such as Sydney, was an important part of the case for saving and rebuilding Kew at a time when it was threatened with closure.⁶²

As we have seen, Sydney's networks were developed through the colony bartering what it had for what it required; they were intended to meet colonial needs, not those of distant savants. For the colony, developing Australian agriculture was essential; the British government expected its penal colony to become self-sufficient, but Macquarie and his successors also had to justify their expenditure of public money on such institutions as the garden to the colonists whose taxes they were spending.⁶³ During the commission of inquiry that eventually led to Macquarie's dismissal, the cost of the garden had been cited by some as an example of Macquarie's extravagance: John Thomas Bigge, who ran the commission, received many complaints from pastoralists that Macquarie was monopolizing the supply of convicts for government work while there was a labour shortage in the bush.⁶⁴ Government expenditure became an issue again during the 1830s, when the botanic garden was the target of mounting political opposition to government extravagance.

'Cabbages and pines'

In July 1833 the *Sydney Monitor* published a lengthy account of a public meeting that had been called to protest against high government expenditure and the resulting high taxes. William Charles Wentworth's address to the gathering was reported in full, and in it he gave examples of government profligacy:

The Colonial Botanist was once a necessary establishment, but in the present state of things, I think you will all join with me in thinking that the Colonists can do very well without it. The sum expended for this gee gaw is 764l 18s 8d without apparent good done to the colony, unless it be indeed the rearing of cabbages and pines, for which it is famous. (Loud laughter) And I think that those persons who are desirous to dabble in such things ought to do so in their own gardens, and not at the public expense. I would ask what of Botanical research appears in the unscientific and disorderly amalgamation of trees, vegetables and fruit, which is presented to you in ten or twelve acres of ground? I can only say, that the person who gives it the name of a Botanical Garden, is guilty of a great misnomer (Applause).⁶⁵

The *Monitor* and Wentworth saw eye to eye in condemning government overspending. The week after it published Wentworth's speech, the paper renewed the assault, devoting almost the whole issue to a line-by-line critique of the government's spending estimates. Among its targets is the botanic garden; under the heading 'Colonial Botanist' is a breakdown of the £764.18.8 mentioned by Wentworth. As the editor comments,

This is a large sum to pay for the science of Botany. ...Zoology, Mineralogy, and Astronomy, and Botany, and other sciences, are all very good things, but we have no great opinion of an infantile people being taxed to promote them. An infant colony cannot afford to become scientific for the

62 Drayton, op. cit. (15), 245–6.

63 Brockway, op. cit. (59), 68; D. Mackay, 'The burden of *Terra Australis*' in *Studies from Terra Australis to Australia* (ed. A. Frost and J. Hardy), Canberra, 1989, 233–65, 264.

64 Clark, op. cit. (2), 342–3.

65 *Sydney Monitor*, op. cit. (34), 13/7/33.

benefit of mankind. If old, rich countries want local information in science, let them send their travellers to us. Public establishments in sciences are very apt to degenerate into jobs though we say not this of our present Colonial Astronomer or Botanist. We think highly of the talents and industry of both. Still we are not for taxing a young Colony for the promotion of science. Let our rich men promote it by private subscription.⁶⁶

At first sight, these attacks on the garden and the Colony's other scientific institutions seem to indicate an anti-science faction in the colony, but the original political context does not support this view.⁶⁷ Quite apart from any legitimate concern that Wentworth and the *Monitor* might have felt about government spending, the real target of these attacks was almost certainly McLeay. The botanic garden, the Australian Museum and sciences generally were all close to McLeay's heart and he promoted them enthusiastically; a public attack on their worth was an attack on McLeay himself. Wentworth was a self-appointed champion of the 'emancipists' (ex-convicts) but more specifically of his fellow, Australian-born 'currency lads and lasses' (the emancipists' children), and he detested both McLeay's 'Church and King' Toryism and the English-born McLeay personally. Earlier in 1833 Wentworth had attacked McLeay publicly, calling him a 'bloated pensioner' because he received a British government pension of £750 a year in addition to his NSW salary.⁶⁸ The *Monitor's* suggestion that the Colony's 'rich men' should promote science by private subscription was undoubtedly also aimed at McLeay.

Wentworth's snide remarks about the garden's expertise in raising 'cabbages and pines' were targeted precisely at their economic role. This again suggests that the garden served the interests of the 'exclusives', the landowning free settlers; Wentworth's constituency, the sons and daughters of convicts, would have seen the garden as the preserve of the wealthy and respectable. Attacking the garden as an 'unscientific and disorderly amalgamation' was a clever tactic on Wentworth's part, striking both at McLeay and at those who benefited from both the crops and leisure that the garden offered, the landowning class for whom the garden had been enclosed. These criticisms of the government's expenditure suggest another reason why exchanges and barter might often have been the only way for the Sydney garden's director to get new plants, and they highlight the importance of local, political issues when trying to understand how such exchanges functioned in specific times and places.

By the time of Wentworth's assault, Fraser had died and been replaced as director by Richard Cunningham, Allan's brother. There is some evidence that, despite McLeay's influence, the government may have reduced its expenditure on the garden over the next few years. In January 1835 Cunningham requested additional funds to make a trip to Hobart 'for the purpose of collecting plants peculiar to Van Diemen's Land'; the governor suggested that he should instead contact a Mr Scott, 'Botanical Collector in that Colony',

⁶⁶ *Sydney Monitor*, op. cit. (34), 20/7/33.

⁶⁷ Both George Basalla and Roy MacLeod quote this passage to make precisely this point – that the early stages of colonial science are invariably dominated by a pragmatic hostility to 'pure' science, and that colonial science is therefore initially entirely dependent on that of the centre. Basalla, op. cit. (23), 618; R. MacLeod, 'On visiting the moving metropolis', in *Scientific Colonialism* (ed. N. Reingold and M. Rothenberg), Washington, 1987, 234.

⁶⁸ M. Clark, *New South Wales and Van Diemen's Land, 1822–1838*, Melbourne, 1987, 65–6, 199–200.

to find out ‘what can be obtained from him before you set out. The journey may perhaps be saved’ – and so, presumably, could the expense, especially if Cunningham followed the usual practice and exchanged plants with Scott rather than purchasing them.⁶⁹

Unfortunately, the government’s parsimony was not enough to prevent Richard Cunningham joining Thomas Mitchell’s expedition the following month. While exploring around the Bogan River, Cunningham’s plant-collecting zeal led him to become separated from the main party. A few days later he wandered dazed, starving and raving with thirst into an Aboriginal camp – where the startled Kooris killed him.⁷⁰ Following Richard’s death, Allan Cunningham returned to NSW and took up the post of director of the garden that he had previously declined in favour of his hapless brother.

‘The insatiate maws of all-devouring officials’

When Allan Cunningham returned to NSW in 1837 he discovered that several of the proposals he had made five years earlier, when his brother had been appointed director, had since been implemented.⁷¹ The garden had been divided into the ‘Botanical Garden’ proper and the ‘Vegetable Garden and Domain’, and a committee, chaired by Cunningham’s good friend McLeay, had been established to supervise the botanic garden. In July 1836 Governor Sir Richard Bourke had told the committee that they were to have responsibility for the botanic garden, while the ‘Kitchen Garden and inner Domain [are] to be kept distinct as heretofore under the superintendence of the Colonial Botanist’.⁷²

It is not easy to know how to interpret the governor’s instructions. Cunningham might have approved of the order that ‘no vegetable or fruit trees are to be raised in the gardens’ except valuable crops being acclimatized (once again illustrating their importance). Similarly, the provision that the committee should report annually on their progress ‘towards a scientific arrangement of the Plants’ would presumably have pleased him, as would the promise that the government would provide ‘every facility’ for plant-collecting.⁷³ However, the instructions could also be read as saying that the colonial botanist would be excluded from the management of the botanic garden proper. This is unlikely, given that the important gentlemen who made up the committee would have been too busy to involve themselves in the day-to-day running of the garden; it seems more plausible that the committee was intended to supervise Cunningham’s work in the botanic garden proper, but leave him to his own devices in the kitchen garden. Nevertheless, the ambiguity of these directions contributed to the friction which emerged as soon as Cunningham returned to NSW.

Although the governor’s instructions appeared to create a clear demarcation between the scientific work of the botanic garden and the more mundane activities of the kitchen garden, there was no real division because Cunningham had to supervise both parts of the

⁶⁹ RBG correspondence, op. cit. (17), 23/2/35.

⁷⁰ Gilbert, op. cit. (1), 56.

⁷¹ A. Cunningham, Hay Correspondence, 1832, A2146. Mitchell Library, State Library of New South Wales, Sydney.

⁷² Archive 4/7577. 1836. State Archive Office of New South Wales, Sydney, Australia, 9/7/36.

⁷³ Archive 4/7577, op. cit. (72), 9/7/36.

garden. The superintendent's role was further complicated by the inclusion of the government Domain – an area primarily used for the townspeople's recreation – within his purview.

The sheer quantity of surviving correspondence on such mundane administrative matters as importing ornamental trees for the Domain gives some sense of how much of Cunningham's time must have been taken up with what he regarded as non-botanical topics. It is also evident from his only annual report that he disliked these broader responsibilities and was especially irritated by the expectation that he should fulfil the functions of a landscape gardener. He commented on the path he had been instructed to create between the lower garden and Fort Macquarie (the point where Sydney's Opera House now stands), 'The walk was defined, formed and gravelled...as creditably as could be expected [of] an individual not in the least conversant with the operations of either blasting rocks or opening vistas'.⁷⁴

What seems to have annoyed Cunningham most about this landscaping work is that it was being carried out not to further what he saw as science, but for the people of Sydney, who generally regarded the botanic garden as a place of entertainment. For the government, providing leisure for the respectable was a useful way of justifying the cost of the garden; it might be considered another form of patronage – a pleasant space for rational recreation being offered in exchange for supporting the administration. However, to Cunningham, opening vistas and supervising convicts was simply a waste of his time. Since his first trip to Sydney, he had been elected to membership of the Linnean Society of London, the Royal Irish Academy and the Royal Geographical Society – he apparently thought himself too important for the Sydney garden's more mundane activities, but it was running the kitchen garden which really aroused his ire.⁷⁵ He finally resigned in November 1837 and wrote to friends in England telling them that 'I have discharged the Government cabbage-garden in disgust, and am now to enter with all my might...on a more legitimate occupation'.⁷⁶

Although Cunningham may well have wanted an occupation more befitting his new status, local political factors also played a part in his decision. Ten months earlier his friend McLeay had been sacked by Bourke, after McLeay had refused to support Bourke's plan to extend public education in the colony – one of a number of arguments between the two men over public expenditure.⁷⁷ Behind these disputes lay the bitter factional divisions that characterized the colony's politics at this time. In NSW the distinction between Whigs (such as Bourke) and Tories (like McLeay), which dominated British politics at the time, was overlaid with the endless rivalry between the emancipists and exclusives. Darwin noted on his trip to the colony that 'there is much jealousy between the rich emancipists and their children and the free settlers'.⁷⁸

Cunningham's resignation was seized on by the editor of the Tory-sympathizing *Sydney Herald*, who saw it as an opportunity to attack the Whiggish Bourke:

⁷⁴ McMinn, *op. cit.* (16), 109.

⁷⁵ McMinn, *op. cit.* (16), 108–9.

⁷⁶ Gilbert, *op. cit.* (1), 62–3.

⁷⁷ Clark, *op. cit.* (68), 214–21.

⁷⁸ C. Darwin, *Voyage of the Beagle*, Harmondsworth, 1989, 325–6.

We have had frequently to call the attention of the Colonists to the fact, that a Kitchen Garden, under the pretence of being a botanic garden, is supported in Sydney at an expense of from £800 to £1000 a year! But what care the 'powers that be' for that as long as hungry officials can 'furnish forth' their tables with fruit and vegetables grown at the public cost? WE scarcely ever walk through this garden without seeing some servant with a basket carrying off vegetables, or fruit, for Mrs This or Mrs That – the wife of some official...People frequently ask 'What becomes of the fruit and of the vegetables grown in this *botanic garden*?' The question is easily answered. They fall into the insatiate maws of all-devouring officials...Seriously we do say that such an impudent job ought to be done away with. It is, in fact, so barefaced that Mr Cunningham would no longer consent to remain a mere cultivator of official cabbages and turnips; and, accordingly, he has resigned the management of the *botanic gardens* in disgust.⁷⁹

The complexity of Sydney's politics is illustrated by the fact that we now find publicly grown fruit and vegetables being hurled by a Tory newspaper at a Whig governor; precisely the same argument that the Whiggish Wentworth had used four years earlier to attack the Tory McLeay. However, the *Herald's* ire over this particular form of government gift-giving came too late to make a difference: Bourke had already submitted his own resignation by the time Cunningham offered his – he was replaced by Sir George Gipps in 1838.⁸⁰

The newly arrived Gipps was concerned by Cunningham's resignation and wrote to Lord Glenelg that he felt

a very lively regret at the prospect of losing the services of a person so distinguished as Mr Cunningham for his knowledge of Botany, I could not suffer him to leave the Colony, without making an effort to induce him to change his purpose.⁸¹

Cunningham responded to the governor's approach with a report setting out his 'views with reference to my being retained for a period as a Botanist in this Colony'⁸² in which he suggested several changes that, if implemented, would make the garden 'fully entitled to the Support of a liberal Government, and would be well worthy of a place among other *scientific* Institutions, of this most rapidly advancing of Her Majesty's Colonies'.⁸³ His comments implied that the garden in its present state was not worthy of such a place, nor of the government's support.

Cunningham also proposed a new role for himself of 'advancing Botanical Science' by maintaining a correspondence with other gardens, and by helping to obtain 'a variety of valuable timber and fruit bearing trees and ornamental shrubs'. It is worth noting that this was one of the suggestions he had made in 1820; Cunningham evidently did not see such horticultural and agricultural matters as incompatible with his notion of 'botanical science'. However, the scientific work that had been largely absent from his first report dominated the new role he now had in mind for himself. He proposed that he be appointed government botanist and be given the means to explore and collect plants, 'But I beg to state explicitly, that I trust my holding such a Travelling appointment will never connect

79 McMinn, op. cit. (16), 110, original emphasis.

80 Gilbert, op. cit. (1) 62.

81 Gilbert, op. cit. (1) 63.

82 A. Cunningham, Memorandum to the Committee of the Botanic Gardens, 1838. A1218. Mitchell Library, State Library of New South Wales. Sydney, 626.

83 Gilbert, op. cit. (1), 63.

me again, with the botanic garden, from all the various duties of which I have permanently retired'.⁸⁴

In suggesting a salary for this proposed position, Cunningham stressed that he had never been rewarded 'in land or otherwise' for his earlier explorations (Fraser's 500 acres apparently still rankled), nor for the lengthy reports he wrote for the government describing the suitability for settlement of the country he had travelled through. Cunningham therefore proposed a salary of £450 a year – plus horses, a cart and travelling expenses for himself and four convict servants.⁸⁵ Gipps was not hostile to this proposal but, perhaps alarmed by Cunningham's use of the term 'carte blanche' in relation to his proposed expenses, declined the offer.

Although Gipps had a high opinion of Cunningham, the latter had overreached himself in trying for such a high salary (his brother Richard had been paid £200 and Fraser had received £150). Cunningham had apparently miscalculated his own worth, and that of botany, to the colony particularly at a time when the colonial government was under attack for extravagance. A colonial collector needed to understand the 'botanical market' in order to trade successfully – Baxter and Fraser seem to have had a more realistic sense of what they could get in exchange for their local knowledge and specimens; Cunningham was over-ambitious by comparison. The colony needed cabbages as much, if not more, as it needed a professional plant-collector.

However, cabbages were not to plague Allan Cunningham for much longer. His health was now deteriorating rapidly and in June 1839 he died in Sydney. His desire to never again be connected with the botanic garden has been thwarted: he is buried there, under a cluster of Bangalow Palms, *Archontophoenix cunninghamia*, one of the many Australian plants that have been named after him.

Conclusion

Even this brief study of the early years of Sydney's botanic garden reveals a surprising complexity of interests, motives and intentions among the garden's various creators. In trying to get a sense of how these diverse interests relate to one another, the various exchanges of plants have proved a useful focus. Charles Fraser was able to barter a modest experience as a gardener for a government job, tending a patch of wasteland and gradually turning it into a garden. He used his position at the garden to make himself useful to botanists overseas, in the process bartering Australia's indigenous plants for crop seeds and making himself ever more useful to the government. Through this train of exchanges, Fraser ended up a respectable minor landowner, with a modest scientific reputation. In the course of his career, Fraser helped Governor Macquarie to use the garden to provide recreation for the people of Sydney, government largesse in the form of agricultural improvements and gifts for patrons overseas. William Baxter bartered his plants (not altogether successfully) for an income, but in the process he – like Fraser – contributed to Sir William Hooker's project of making his herbarium 'the richest of any private one in

⁸⁴ Cunningham, op. cit. (82), 628.

⁸⁵ Cunningham, op. cit. (82), 630.

Europe', despite the fact that there is no evidence that Baxter thought of himself as a 'man of science'.

Similar points could be made about the relationships between Fraser and Macquarie, or between Allan Cunningham and Joseph Banks. Each had their own agenda, but were nevertheless partially embarked on the common project of creating not just a botanic garden but the practices of colonial collecting that would take shape during the nineteenth century. As we have seen, the casual botanical networks created by gardens like Sydney to serve their own, local needs formed the basis for the more formal networks that Kew would later use for its imperial plant transfers; Kew's 'empire' was actually founded by the colonies, not the centre, and the botanical practices it utilized were partially developed in places like Sydney.

Fraser and Baxter each had local knowledge and access to Australia's highly desirable flora, and each was able to barter with men like Hooker to exchange their modest assets for commensurately modest desires – social advancement in Fraser's case and money in Baxter's. Richard Cunningham was not in Australia long enough to draw any conclusions about his career, but Allan Cunningham obviously had an unrealistic sense of what his expertise was worth to the colonial authorities.

It may be useful to look at other examples of colonial science in these terms and to ask what trade goods – such as specimens or local knowledge – individual players had at their disposal. For example, Julius von Haast succeeded in becoming an influential geologist and museum curator in New Zealand during the 1860s and 1870s by bartering his access to moa bones with European savants such as Richard Owen. As Ruth Barton has emphasized, Haast had privileged access to the highly prized fossils of these giant, flightless birds and by refusing to defer to Owen was able to gain both scientific recognition and valuable specimens for his museum.⁸⁶ However, other colonial scientists were less successful. Ferdinand von Mueller, director of the Melbourne Botanic Gardens from 1857 until 1873, understood the reciprocal nature of the exchange system and tried to turn it to his advantage. He sent large, extravagant gifts of plants to Kew in the 1850s in the hope of creating a debt that would be repaid with the prize of writing the first flora of Australia.⁸⁷ He failed, however; that honour went to George Bentham, whose access to Kew's collections, together with the friendship and patronage of both William and Joseph Hooker, proved to be much more valuable than Mueller's gifts of plants, or his first-hand knowledge of Australian plants.⁸⁸

Colonial actors with exclusive access to hard-to-obtain specimens could have considerable bargaining power in their relationships with metropolitan experts, but only if they understood the value of the goods they had. Overestimating the value of one's trade goods could be disastrous, as Allan Cunningham found.

Turning from the people who made the Sydney garden to the plants that passed through it, it is evident that they had many different potential meanings and values for the various

⁸⁶ Barton, *op. cit.* (51).

⁸⁷ Moore, *op. cit.* (35), 381.

⁸⁸ R. W. Home, A. M. Lucas, S. Maroske *et al.*, (eds.), *Regardfully Yours: Selected Correspondence of Ferdinand von Mueller. Volume 1: 1840–1859*, Bern, 1998, 25–7, 36–7, 293–4, 328–31; Moore, *op. cit.* (35), 376–82.

participants in this story, and that this diversity allowed the negotiation of a rich assortment of professional and social relationships. The plants can therefore be usefully analysed as ‘boundary objects’, in Susan Leigh Star and James R. Griesemer’s sense.⁸⁹ Boundary objects can be things (such as natural history specimens) or more abstract entities (such as classificatory schemes), but in every case, their value and meaning are constantly ‘translated’ and reinterpreted as they move between historical actors with different agendas. In particular, such objects allow cooperation in the absence of consensus over the aims of a common project. Star and Griesemer note that as such they allow non-scientists, such as commercial specimen collectors, to participate in the creation of scientific institutions without sharing the scientists’ notion of what constitutes science.⁹⁰ Their analysis usefully illuminates the diverse roles of Fraser, Baxter and Macquarie (who may not have considered themselves ‘men of science’), and the ways each played their part without necessarily sharing the views of those – like Banks, Cunningham or Hooker – who had clear (but not necessarily identical) notions about the scientific nature of their activities. However, while the present case reinforces the usefulness of Star and Griesemer’s study, it also suggests that other relationships – such as those based on barter, gift-exchange or patronage rather than cash – played a similar role. Further studies of such exchanges, especially in colonial contexts, should provide material for developing their model.

There is, inevitably, no one answer to my initial question: why was the garden founded and what was its purpose? Like the plants, the garden itself has diverse meanings: a pleasure garden for the respectable; a research station for the wealthy; a source of gifts and patronage for the governor; a livelihood for Fraser, Baxter and Cunningham; a source of publishable botanical novelties for Hooker; and finally, a trysting ground and hideout for Sydney’s poor. These coexisting, multiple meanings – which were mediated through various forms of ‘botanical barter’ – allowed diverse groups of individuals to participate in the garden’s activities without having to agree in advance what the botanic garden was for, or even what botany was. Indeed, no such agreement would have been possible in this period, for it was partly the activities of such diverse groups – including fights over banksia cones and arguments about official cabbages – that allowed botany gradually to emerge as a distinct discipline.

89 S. L. Star and J. R. Griesemer, ‘Institutional ecology, “translations” and boundary objects: amateurs and professionals in Berkeley’s Museum of Vertebrate Zoology, 1907–39’, *Social Studies of Science* (1989), 19, 387–420; I am indebted to Anne Secord for drawing this to my attention; her paper ‘Science in the pub’ (*History of Science* (1994), 32, 269–315) makes elegant use of Star and Griesemer’s work to clarify some features of the tradition of British artisan botany during the early nineteenth century.

90 Star and Griesemer, *op. cit.* (89), 389–90.

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[Footnotes]

²³ **The Spread of Western Science**

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⁸⁹ **Institutional Ecology, 'Translations' and Boundary Objects: Amateurs and Professionals in Berkeley's Museum of Vertebrate Zoology, 1907-39**

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