The 2023 Banks Memorial Lecture: An Empire of Plants? Chinese plants, Asian/European trade, and Aotearoa New Zealand, 1790s–1880s

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> "Our King at Kew & the Emperor of China at Jehol solace themselves under the shade of the same trees & admire the elegance of many of the same flowers in their respective gardens." (Joseph Banks to Sir George Staunton, January 1796.)[2]

Both the British and the Chinese empires were as much empires of plants as they were empires of conquest. For Sir Joseph Banks (1743–1820), obtaining plants and extending empires were closely interlinked objectives. This article examines some of the manner in which imperial connections between China, India, Britain, Australia and New Zealand reveal lesser-known histories by which plants from Asia – and particularly China – reached these shores, from the early 1830s onwards.

I focus on two groups of people who introduced Asian plants into New Zealand. The first is typified by former East India Company trader, Thomas McDonnell (1788–1864), who settled in the Hokianga in the 1820s. The second group is exemplified by Cantonese migrants and gardeners, such as Dunedin flower-lover Wong Koo (dates unknown), who came to New Zealand in the 1860s. To understand how both European traders and Cantonese gardeners could become involved in plant introductions, I will first explain how Sir Joseph Banks could feasibly imagine two such long-lived rulers as King George III of Britain (r., 1760–1820, dates 1738–1820) and the Qianlong Emperor (Aisin-Gioro Hongli, r., 1735–1796, dates 1711–1799), relaxing "under the shade of the same trees & admire," as he put it, "many of the same flowers", despite living thousands of miles apart.

An empire of plants?

Our story begins in eighteenth- and early nineteenth-century Europe, before moving the narrative to India and China. Thanks to the work of Banks and others, Britain's ever-expanding imperial horizons were opening up new worlds of animal and vegetable life to that island's inhabitants. Botanists were also energising activities to discover, own and exhibit the wonders and beauties of the natural world. Finding novel plants, describing and painting them, and ideally bringing back seeds to grow and perhaps even commercially introduce, were pursuits cross-stitched with issues of class, race, and gender, as well as being tangled up with provincial and metropolitan identities and rivalries, and issues of colonial exploitation and management.[3]

Let's examine in more detail the activities either side of 1800 by Sir Joseph Banks – just one of a number of prominent natural history collectors active in that period. Drawing a large income from his once-sodden, but now drained, lowland estates in Lincolnshire, as a young man Banks had accompanied Cook on his first voyage to the Pacific. Later, as President of the Royal Society, Banks gathered around him a remarkable collection of natural history and ethnographical objects, and played a prominent role in the establishment of the British Museum. Not least, Banks engaged in voluminous correspondence and exchanges with a range of plant collectors around the world, alternately chivvying and sweetly encouraging reluctant factotums and muddled merchants to collect for him in empire's outposts, just as, at other times, he badgered British bureaucrats to encourage natural history collections by sending botanically-trained men on diplomatic and trade missions. As Director of Royal Botanic Gardens, Kew, Banks single-handedly dragged this institution towards the Age of Improvement by supporting the collection, cultivation, and distribution of new and economically useful species from around the world, although it would be William Hooker (1785–1865) and Joseph Hooker (1817–1911), father and son, who dragged the institution into the nineteenth century following its decline after Banks' death in 1820. And, as an enthusiastic improver himself, Banks cannily recognised that studying the 'Book of Nature' and collecting plants revealed God's wonderful works, but also, in an age of improvement, could turn a tidy profit, thank you very much.[4]

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[2] Sir Joseph Banks to Sir George Stanton, 23 January 1796, Sutro Library, C2:37, 2, quoted in Jane Kilpatrick, *Gifts from the Gardens of China* (London: Frances Lincoln, 2007), p. 118.

[3] Note, for example Cahalan and Basaki, eds., *The Botany of Empire in the Long Eighteenth Century*; Londa Schiebinger, *Plants and Empire: Colonial Bioprospecting in the Atlantic World* (Harvard: Harvard University Press, 2007); Richard H. Drayton, *Nature's Government: Science, Imperial Britain, and the 'Improvement' of the World* (New Haven: Yale University Press, 2000).

[4] On Banks' role in botany in empire, see John Gascoigne, *Science in the Service of Empire: Joseph Banks, the British State and the Uses of Science in the Age of Revolution* (Cambridge: Cambridge University Press, 1998); Drayton, *Nature's Empire*.

Britain's botanical empire made available at home a host of exotic plants, as well as animals. Trading connections meant North American plants were relatively commonly available to late-eighteenth-century Britons, along with growing numbers from South Africa and the Antipodes. With imperial expansion in Asia, plants from China and especially from inland India, among other areas, were fetching high prices by the late 1700s and into the next century, an indication too of their limited availability in the UK.

By Banks' death in 1820, improved trading connections meant there were a goodly number of Chinese plants available in Britain. They included *Camellia japonica* (1739, Fig. 1), *Platycladus orientalis* (syn. *Thuja orientalis*, Chinese arbor-vitae, 1743, Fig. 2), and *Ginkgo biloba* (syn. *Salisburia adiantifolia*, maidenhair tree, 1754, Fig. 3).[5]

Fig. 1 Botanical illustration of *Camellia japonica* L., from Curtis, W., *Botanical Magazine*, Vol. 2, t. 42 (1788). Image: www.plantillustrations.org/illustration.php?id_illustration=2820 (CC0).

Fig. 2 Watercolour and ink painting of what is probably Chinese thuja (*Platycladus orientalis*) and two figures, from the collection of Robert Fortune. Image: https://powo.science.kew.org/taxon/urn:lsid:ipni.org:names:677124-1/images, © Board of Trustees, RBG Kew.

Fig. 3 Botanical illustration of *Ginkgo biloba* L., from *Addisonia*, Vol. 11, t. 362 (1926). Image: www.plantillustrations.org/illustration.php?id_illustration=163010 (CC0).

Dates in brackets indicate a plant's successful growth in Britain – but not necessarily its widespread availability. For example, *Camellia japonica* and *Ginkgo biloba* were only readily available in nurseries some 30 or 40 years after their introduction.[6] Informal empire played an important role in these introductions.

The infrastructure and personnel of the English East India Company (EIC), and its shipping networks, made possible introductions of Asian plants into Britain. Natural history, via the discipline of economic botany, underpinned the evolving British vision of the sub-continent's transformation into one big 'tax farm' through the introduction of commercially successful plants.[7] But natural history also appealed for many other reasons. Imperial officials saw it as a lively alternative to the tedium of double-entry book-keeping. Middle- and upper-class women viewed botanical illustration and collecting as suitable gentlewomanly pursuits. Local collectors, meanwhile, saw it as an opportunity to expand knowledge and to get rich.[8]

Promoting the cause of natural history were the electrifying expeditions and exploits of botanists – most famously perhaps, Joseph Hooker's (1817–1911) dizzying ascent of the lower Himalayas in the late 1840s and early 1850s that revealed a dazzling new world (to Europeans, at least) of breathtakingly beautiful flowering plants, none more famous or more stunning perhaps than the rhododendron.[9] Hooker's travels and collecting – alongside those of more humble aspirations and means – reveals how an established and growing military and economic base in India laid the foundation for the introduction of many hitherto unknown plants into Britain.

In 1820s Britain, plant proselytizers like John Claudius Loudon (1783–1843), Jane Wells Webb Loudon (1807–1858) and Joseph Paxton (1803–1865) – the last, perhaps the ultimate self-made man in an age of self-made men and women – were producing a dizzying array

[5] Kilpatrick, *Gifts*, pp. 54–60, 65, 87, 101–8; Maggie Campbell-Culver, *The Origins of Plants: The People and Plants that Have Shaped Britain's Garden History* (London: Eden Project Books, 2004), pp. 241–392.
[6] Kilpatrick, p. 91.
[7] Drayton, *Nature's Government*.
[8] Eugenia W. Herbert, *Flora's Empire: British Gardens in India* (Philadelphia: University of Pennsylvania State Press, 2011); Ray Desmond, *The European Discovery of the Indian Flora* (Oxford; New York: Royal Botanic Gardens; Oxford University Press, 1992); Beattie, *Empire and Environmental Anxiety, 1800–1920: Health, Science, Art and Conservation in South Asia and Australasia* (Basingstoke: Palgrave Macmillan, 2011).
[9] David Arnold, *The Tropics and the Travelling Gaze: India, Landscape, and Science, 1800–1856* (Delhi: Permanent Black, 2005).

of gardening books, journals, and magazines that both responded to and cultivated middle-class interest in the subject. Helped by technical improvements in the reproduction of images, gardeners could leaf through many gorgeously illustrated, yet still affordable, publications. They could also obtain the real thing from the many plant nurseries springing up in this period, or choose to attend flower shows and enjoy membership of botanical organisations like the Royal Horticultural Society (established 1804). Even for the lower classes, gardening was viewed as being decidedly useful, if for no other reason than to keep the idle hands – and minds – of labourers and machine workers occupied and otherwise distracted from playing with any dangerously revolutionary ideas that were still brewing across the English Channel.[10]

In the 1830s, Paxton observed that "novelty as respects flowers is now a complete mania" within Britain.[11] Although still a small proportion of the population, an ever-growing number of Britons now had the available leisure time and wealth to indulge in their passion for plant novelty, pursuits aided, too, by the industrial wonders of the recently dawned Victorian Age. Both the Wardian case (Fig. 4) – effectively a mini-glasshouse whose use took off after the repeal of the Glass Tax in 1845 – and the steamship facilitated the successful transportation of live plants. Until that point, losses were remarkably high. EIC surgeon and plant collector John Livingstone (1770–1838?), writing in 1819, gloomily listed all that could (and very often did) go wrong in transporting live plants from China: from lack of adequate preparation to saltwater poisoning, neglect, and the sinking of vessels. He estimated "that one thousand plants have been lost, for one, which survived the voyage to England." Given the high failure rate, he reckoned that "every plant [from China] now in England must have been introduced at the enormous expense of upwards of £300."[12]

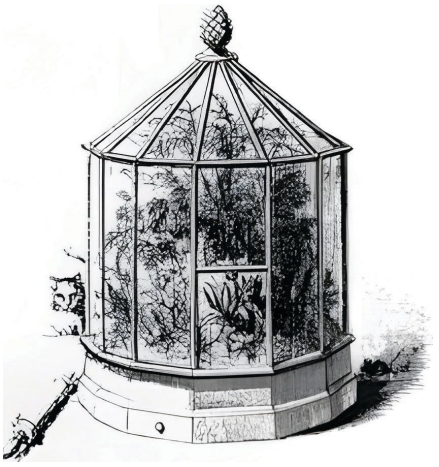

Fig. 4 A Wardian case. Image: Wikimedia, https://commons.wikimedia.org/wiki/Category:Wardian_cases (CC0).

As new plants constantly entered Britain, an intensely competitive market for ornamentals kept prices of new introductions high, but only for so long as supply remained low. An example is provided by Britain's Sunningdale Nursery, which sold the Chinese plant *Mahonia japonica* Bealei Group (currently known as *Berberis bealei*, Fig. 5). Prices for it fetched 105s. per plant when it first appeared on the market in 1854/5. Two years later, its price plummeted to 5s., and dropped still lower such that, by 1862, customers only had to fork out "4s. per hundred" for mahonia seedlings.[13] To those on the make, it appeared that their ability to both afford and be supplied with such plant luxuries as these spoke to the successful operation of Adam Smith's "invisible hand"[14]. Had not mercantilism, many asked, and was not now Smith's beguiling vision of free trade, providing the wealth necessary for purchasing such luxuries?

While genteel collectors like Banks might well have eschewed dirtying his hands by partaking in the vulgar commercialism of selling plants, plants were nonetheless extremely valuable to elites in different ways – they were 'green gold', living cultural and social capital: rare and uncommon plants oiled the wheels of patronage networks, opened to collectors the doors of scientific institutions, and – most of all – screamed out their owners' wealth and refinement. Again, informal empire played a key role in the introduction of such plants.

Fig. 5 Botanical illustration of *Berberis bealei* Fortune, from Curtis, W., *Botanical Magazine*, Vol. 81, t. 4852 (1855). Image: www.plantillustrations.org/illustration.php?id_illustration=794 (CC0).

Britain's base in India gave it a launching pad for entry into other lucrative far eastern and more southerly markets, all of which had important implications for botanical collecting. For example, Banks made extensive use of collectors in India and China. In China, he encouraged the botanical interests of EIC employees, and, like several later commercial nurseries, sent collectors to Canton, as well as lobbying to have botanically interested individuals dispatched on diplomatic missions.[15] Indeed, Thomas McDonnell (see below) commanded one of two vessels conveying an official trade mission to Cochin/Siam in 1821, whose diplomatic failure contrasted with its horticultural success.

In obtaining Chinese plants, highly skilled Cantonese plantsmen were intermediaries in exchanges between

[10] A.J. Lustig, "Cultivating Knowledge in Nineteenth-Century English Gardens," *Science in Context* 13, 2 (2000), pp. 155–181.
[11] *Paxton's Magazine of Botany, and Register of Flowering Plants*, Vol. 4, (1838), p. 81.
[12] J. Livingstone, 'Observations on the Difficulties which have existed in the Transportation of Plants from China to England, and suggestions for obviating them', *Transactions of the Horticultural Society of London*, Vol. III, (1819), p. 427.
[13] Kilpatrick, *Gifts*, p. 249.
[14] This metaphor is explained at https://en.wikipedia.org/wiki/Invisible_hand.
[15] Fa-ti Fan, *British Naturalists in Qing China: Science, Empire, and Cultural Encounter* (Cambridge: Harvard University Press, 2004), pp. 24, 37, 46–47.

British and Chinese merchants.[16] Possessing one of the oldest horticultural traditions in the world, these Chinese gardeners had been hybridising and cultivating flowers for more than a millennium by the time the British turned up. Coupled with China's strong culture of flowers and garden appreciation, Canton represented something of a collectors' wonderland. Its famed flower markets satisfied European demand and curiosity for a while, as did the gifts of plants accompanying the sometimes genuinely warm friendships that emerged among the British and Hong merchants. The restriction on British movement in Canton limited collectors largely to markets and plants from coastal and southern China – and with such plants proving hardly ideal for acclimatisation into chilly northern climes – many itched to have wider access to China's seemingly limitless botanical and economic boundaries.

Direct access to Chinese plants came through the Canton trading system (1757–1842), violently imposed on the Chinese after the Opium Wars (1839–1842; 1856–1860). This meant that China was now ripe for exploitation of its economic base and market (Fig. 6), but also of its wondrous plants from northern and south-western China. In all, Europeans would discover an astonishing 30,000 varieties or so flourishing in the "Celestial Kingdom".[17]

Thomas McDonnell and Horeke

In the 1810s and 1820s, Thomas McDonnell (Fig. 7) joined the many mariners plying opium from India to China through Canton – opium-running of course was part of the attempt by the British to reverse their balance-of-payments deficit with China, and China's response to it was the spark which ignited the Opium Wars.[18] In 1830, McDonnell used the money he had likely in part made from opium smuggling, to purchase the shipyard and timber trading post (entrepôt) at Horeke, Hokianga, in northern New Zealand.[19]

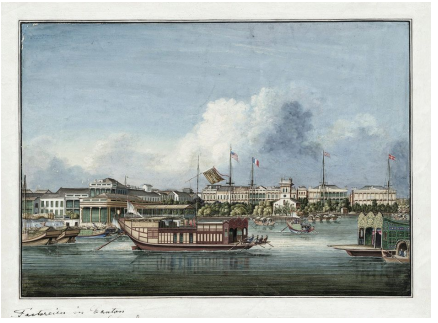

Fig. 6 Canton factories, *c.* 1850. The 'Canton System' allowed Chinese merchants, known as Hongs, to control all trade with the West from a single port. Image: https://en.wikipedia.org/wiki/Canton_System (CC0).

Fig. 7 Lieutenant Thomas McDonnell (1788–1864). Image: DigitalNZ (CC0).

As well as a shipbuilder and timber trader, McDonnell was an avid gardener, as the following descriptions show. As McDonnell rather immodestly declaimed to a parliamentary select committee in 1844, at Horeke I "converted the place from a wilderness to a paradise." At times he employed over a dozen labourers to clear "lands and made roads to the extent of five or six [square] miles."[20]

In gauging the extent to which McDonnell achieved his ambitious aim of redeeming a paradise from what he perceived to be a wilderness, one can consult artworks made at the time, as well as written descriptions. Clergyman James Buller (1812–1884) recalled McDonnell's house and gardens were indeed "of some pretensions".[21] One of McDonnell's sons, also named Thomas McDonnell (*c.* 1831–1899), described his father's houses and gardens thus:

> "A large fenced garden and vineyard enclosed…[The "Cottage"], and separated them [sic] from the business part of the establishment. The outer fence on one side formed one end of a large yard one hundred yards long, and was bounded by the river on one side, and the base of a hill on the other. A row of small cottages, including a large building used as a storehouse, lined the base of the hill. At the further end of this yard stood another cottage, having a passage through the centre of it leading into another large garden, orchard, and vineyard."[22]

What plants did McDonnell cultivate, and why? According to botanist David Given et al., in creating his garden, McDonnell "independently imported many Asian plants in connection with the flourishing timber trade". This included, for instance, the Chinese hill cherry (*Prunus serrulata*, Fig. 8) as one species among several from Asia which "was probably in cultivation in New Zealand decades

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16 Fan, *British Naturalists.*
17 Campbell-Culver, *Origins*, p. 403.
18 Jack Lee, *An Unholy Trinity: Three Hokianga Characters* (Russell: Northland Historical Publications Society; 1997), p. 69.
19 JOC Ross, *Te Horeke: Pre-Colonial Shipyard and Trading Establishment, The Records of the New Zealand Historic Places Trust* (Upper Hutt: New Zealand Historic Places Trust; 1980), pp. 18–22.
20 Lieutenant Thomas McDonnell, examined 23 May 1844, *Minutes of Evidence: Select Committee on New Zealand*, in *British Parliamentary Papers*, p. 10 (first quote), p. 2 (second quote).
21 James Buller, *Forty years in New Zealand* (London: Hodder and Stoughton, 1878), p. 28.
22 Thomas McDonnell Jr., "Incidents of the War. Tales of Maori Character and Customs," in *The Defenders of New Zealand*, ed. T. W. Gudgeon (Auckland: Brett, 1887), p. 617.

before its introduction into Europe."[23] Records reveal other plants from this region raised on McDonnell's property. These include the Franchet cotoneaster (*Cotoneaster franchetii*, Fig. 9), quince (*Cydonia oblonga*, Fig. 10), peach (*Prunus persica*, Fig. 11), and loquat (*Rhaphiolepis bibas*, syn. *Eriobotrya japonica*, Fig. 12).[24] Others, like Indian strawberry (*Duchesnea indica*) – now growing as garden escapees near his former residence and shipyard – may also have been introduced by McDonnell. Alongside plants from Asia, McDonnell grew trees from Australia and Norfolk Island, as well as sugarcane and succulents from the Americas.[25]

Fig. 8 Botanical illustration of *Prunus serrulata* Lindl., from Regel, E.A. von, *Gartenflora*, Vol. 52, t. 1513 (1903). Image: www.plantillustrations.org/illustration.php?id_illustration=325698 (CC0).

Fig. 9 Botanical illustration of *Cotoneaster franchetii* Bois, from Curtis, W., *Botanical Magazine*, Vol. 140, t. 8571 (1914). Image: www.plantillustrations.org/illustration.php?id_illustration=7251 (CC0).

Fig. 10 Botanical illustration of *Cydonia oblonga* Miller, from Blackwell, E., *Curious Herbal*, Vol. 1, t. 137 (1737). Image: www.plantillustrations.org/illustration.php?id_illustration=118979 (CC0).

Fig. 11 Botanical illustration of *Prunus persica* (L.) Batsch, from Blackwell, E., *Curious Herbal*, Vol. 1, t. 101 (1737). Image: www.plantillustrations.org/illustration.php?id_illustration=118943 (CC0).

Fig. 12 Botanical illustration of *Rhaphiolepis bibas* (Lour.) Galasso & Banfi (as *Eriobotrya japonica* (Thunb.) Lindl.), from Siebold, P.F. von, Zuccarini, J.G., *Flora Japonica,* Vol. 1, t. 97 (1875). Image: www.plantillustrations.org/illustration.php?id_illustration=62939 (CC0).

McDonnell likely obtained his Asian plants from several sources. EIC vessels from India and China regularly called into Hokianga, often on their way to or from Sydney, and it

[23] David R. Given, Eckehard G. Brockerhoff, and Jonathan Palmer, "Nationally Networked Plant Collections are a Necessity", *New Zealand Garden Journal* 9, No. 1 (2006), p. 15. Given et al.'s article gives the incorrect botanical name for Chinese hill cherry as *Kalanchoe grandiflora*. The Allan Herbarium, Manaaki Whenua Landcare Research, records confirm David Given's collection of Chinese hill cherry (*Prunus serrulata*) at the former site of McDonnell's garden: CHR 420411, collected September 1984. Given et al. perhaps meant to refer to both species, as Given also collected *Kalanchoe grandiflora* "400 m S of McDonnell Rd", CHR 415372, in March 1984. My gratitude goes to Dr. Ines Schönberger and Murray Dawson for commenting on these names and for searching herbaria records for me.

[24] Information obtained for author from Allan Herbarium by Ines Schönberger. Information on loquat obtained from Rev. William Cotton (1813–1879), visiting in December 1842: W. Cotton, *Journals, Vol. 3, 1842–1843*, qMS-0562-0573, Alexander Turnbull Library, Wellington, p. 123.

[25] R.C. Cooper, "John Edgerley, Botanist, in New Zealand," *Records of Auckland Institute & Museum*, 7 (31 March 1970), p. 124; S.W. Burstall and E.V. Sale, *Great Trees of New Zealand* (Wellington: A. H. and A. W. Reed, 1984), pp. 11, 37–38. On sugarcane, see J.S. Polack, *New Zealand*, 1 (1838), p. 292.

was commonplace for ship's captains to bring plants onboard, thereby giving McDonnell an opportunity to purchase Asian plants. A second source was McDonnell himself, who continued to trade directly with Canton from Horeke, thus enabling him to have access to plants from India and China. He could well have collected some himself, too, since his last recorded trading trip, probably carrying opium into China, took place in 1832.[26] A third source was Sydney, which McDonnell regularly visited on business, and which had quite extensive collections of Chinese and Indian plants, some of which he ordered from Sydney Botanic Garden and most likely also private sources.

By the late 1830s, we can see that the institution promoted by Banks – Kew – became the principal source of McDonnell's plants, a reflection of its role as a clearing house for plants from around the British empire and beyond. McDonnell would order boxes of seeds from Kew, returning "them filled with those of New Zealand".[27] Owing to the paucity of surviving records at Kew (compounded by the loss of all of McDonnell's papers), I do not have extensive information about his introductions, but a surviving record of plants sent to him from Kew Gardens at least provides some clues in this regard (Fig. 13).

Shipped in 1845, European plants dominated the collection (ten of 36 varieties sent), being closely followed by those originating in East Asia (seven). About five came from the India/Himalaya region – *Jasminum revolutum* and *J. pubigerum* (both now synonyms of *Chrysojasminum humile* var. *humile*, Fig. 14), *Cedrus deodara* (Fig. 15), *Rhododendron ponticum* (Fig. 16), and *Leycesteria formosa* (Himalayan honeysuckle, Fig. 17, now a significant invasive plant in New Zealand).[28]

Fig. 14 Botanical illustration of *Chrysojasminum humile* (L.) Banfi (as *Jasminum revolutum* Sims), from Curtis, W., *Botanical Magazine*, Vol. 42, t. 1731 (1815). Image: www.plantillustrations.org/illustration.php?id_illustration=8774 (CC0).

Fig. 15 Botanical illustration of *Cedrus deodara* (Roxb. ex Lamb.) G.Don, from Forbes, J., *Pinetum woburnense or a catalogue of coniferous plants in the collection of Duke of Bedford*, t. 48 (1839). Image: www.plantillustrations.org/illustration.php?id_illustration=478142 (CC0).

Fig. 16 Botanical illustration of *Rhododendron ponticum* L., from Curtis, W., *Botanical Magazine*, Vol. 18, t. 650 (1803). Image: www.plantillustrations.org/illustration.php?id_illustration=7694 (CC0).

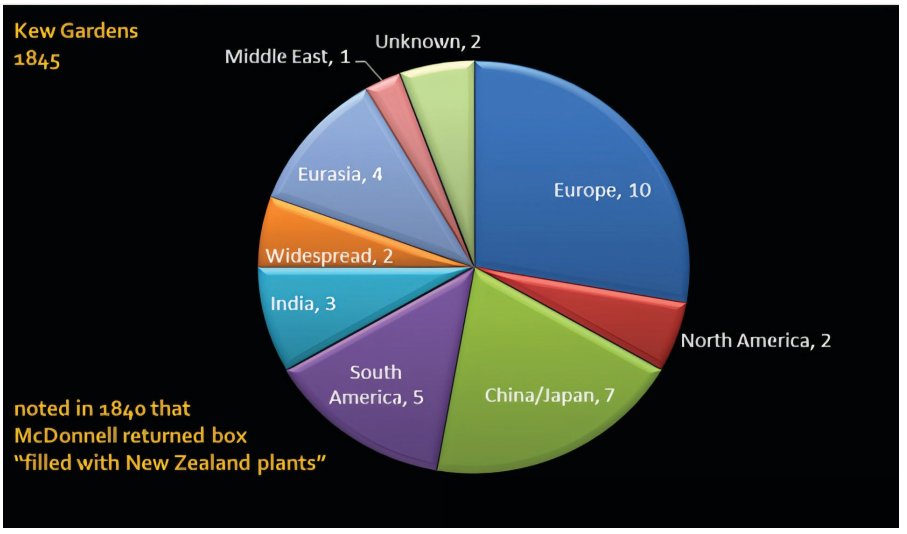

Fig. 13 Source of origin of McDonnell's plant order with Royal Botanic Gardens, Kew, 1845. Source: 'Goods Outwards, Book Volume 1836–1847', folio 181, Royal Botanic Gardens, Kew. Drawn by James Beattie.

[26] Ross, *McDonnell of Hokianga*, p. 53.
[27] Thomas McDonnell to Sir William Hooker, 19 September 1840, Dorset Square, London, Kew Gardens: DC 15 English Letters I–Z, 1840, folio 63, Archives, Royal Botanic Gardens, Kew.
[28] Goods Outwards Book, Volume 1836–1847, folio 181, Archives, Royal Botanic Gardens, Kew.

Fig. 17 Botanical illustration of *Leycesteria formosa* Wall., from Curtis, W., *Botanical Magazine*, Vol. 65, t. 3699 (1839). Image: www.plantillustrations.org/illustration.php?id_illustration=40 (CC0).

But what might explain McDonnell's interest in gardening and rare plants, at a time when this was very much a frontier society, and his primary focus was timber trading?

In a time of uncertainty, a lavish ornamental garden declared McDonnell's taste, wealth, and refinement, as did his employment of a professional gardener and botanist, one John Edgerley (1814–1849). McDonnell's garden-making, also, I argue, served as a snub to his great rival James Busby (1802–1871), British Resident to the Bay of Islands (1833–1837(–1840?)). The two men had fallen out following McDonnell's appointment as Additional British Resident right under the nose and without the knowledge of Busby. Almost immediately, Busby resented McDonnell, correctly viewing his appointment as a personal affront. McDonnell's direct dealings with the Governor of New South Wales, rather than through Busby, rubbed further salt into the wound. And, as someone easily slighted, Busby did not respond well to McDonnell's military bearing or haughty manner.[29] The two men's squabbles and disagreements in print may well have, in other words, spilled over into rival garden-making, with each trying to outdo the other in the botanical field. Busby himself was a keen and accomplished gardener, as well as farmer, who established a garden, forest nursery, and vineyard in the early 1830s at Waitangi – some 50 km as the crow flies from Horeke.[30]

Patronage and plants

Another important dimension of the story of plants in this period, and after, relates to their role in patronage networks and in making money. As I noted above, the influx of plants, coupled with the rise of the middle classes, significantly extended commercial horticultural practices in the UK. In colonial Sydney, historian of science Jim Endersby notes, "plants could be traded for money, patronage or social and scientific prestige."[31]

In the Hokianga, McDonnell used rare Asian plants, employed gardeners, and developed an ornamental garden to present himself as a man of taste, refinement, and wealth in the context of what was to the British frontier New Zealand. In the UK, McDonnell claimed knowledge of Aotearoa's plants and geography; he also sent live kiwi and New Zealand plant seeds, in attempts to gain patronage amongst England's elite. Figure 18 lists some of the documented patronage networks I've been able to uncover – in this respect, McDonnell owed his appointment as Additional British Resident to patronage from Edward Smith-Stanley, the 12th Earl of Derby, a fellow enthusiast of natural history whom he had been introduced to via the private collector Alymer Bourke Lambert (1761–1842).

Documented patronage networks

Royal Botanic Gardens, Kew
Hookers, father and son:
Plants + Edgerley's gardener later works there (on McDonnell's recommendation)

Raleigh Club (later, Geographical Club)
Roderick Murchison (1792–1871):
Maps + exploration accounts, etc.

Twelfth Earl of Derby (Edward Smith Stanley, 1775–1851):
Private collector + established animal park
plants + birds + ethnographical material + samples of woods, etc.
***introduced by Lambert 1835**
***** McDonnell benefits through official appointment**

A.B. Lambert:
Linnaean Society, private collector plants

Duke of Bedford (John Russell, 1766–1839):
plants: *Kauri*?

Fig. 18 McDonnell's documented patronage networks. Source: James Beattie.

Cantonese plantsmen

Another fascinating, but largely overlooked, group involved in plant introductions have been Cantonese migrants, who arrived in increasing numbers from the mid-1860s following an invitation by Otago authorities to work its goldfields (Fig. 19).

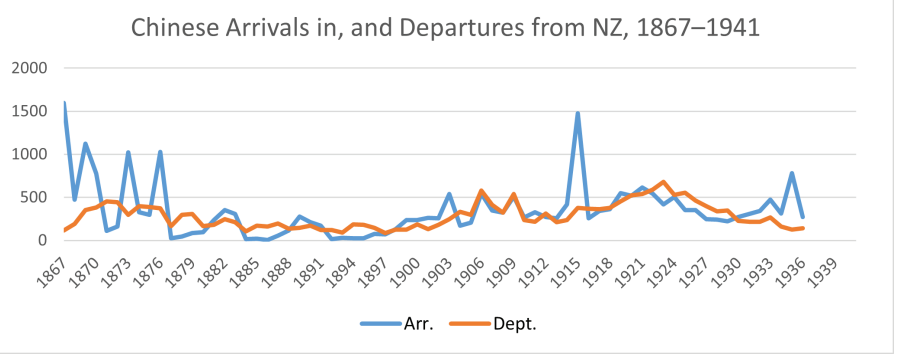

Fig. 19 Chinese arrivals in, and departures from, New Zealand, 1867–1941. The gaps in the graph indicate gaps in sources. Source: drawn from information supplied in 'Table 6 – Chinese Departures and Arrivals in Otago', in James Ng, *Windows on a Chinese Past*…, Vol. 1 (Dunedin: Otago Heritage Books, 1993), p. 348.

[29] Claudia Orange, "Busby, James – Busby, James," *The Dictionary of New Zealand Biography, Te Ara – the Encyclopedia of New Zealand*, last updated 5 June 2013, https://teara.govt.nz/en/biographies/1b54/busby-james.
[30] Martin McLean, *"The Garden of New Zealand": A History of the Waitangi Treaty House and Grounds from pre-European times to the present* (Auckland: Department of Conservation Science and Research Report No. 76, 1990), pp. 75–89.
[31] "A Garden Enclosed: Botanical Barter in Sydney, 1818–39," *The British Journal for the History of Science*, 33, 3 (2000), p. 314.

Otago authorities guaranteed Chinese equal rights before the law, as well as providing them with a Cantonese-speaking constable and court interpreters, as necessary, a situation which changed dramatically following the abolition of the provinces and with rising discrimination from the 1880s.

Almost all migrants came from the Pearl River Delta region of Guangdong Province, and most were males.[32] These Cantonese incomers brought their own migrant networks to New Zealand, making "extensive and effective use of legal structures, financial systems, and the availability of land and other resources" of the host country.[33]

By the late 1870s and into the 1880s, much of the easily won gold was beginning to run out, and Chinese were moving into other occupations. Market gardening suited the skills and organisation of Chinese, and responded to increasing urbanisation. Such was their success in this occupation that by the late 1800s, Chinese market gardeners were supplying the bulk of fresh vegetables in New Zealand. Wellington's citizens, observed parliamentarian J. Duthie in 1896, "are almost solely dependent upon them for vegetables…but [for] these industrious Chinamen the people would generally go short." This was true for much of the country. For example, in 1889, of Dunedin's 110 Chinese market gardeners, 80 worked in South Dunedin, a lowland area of peri-urban settlement. In addition to producing for a local market, Dunedin's Chinese market gardeners likely supplied visiting ships, especially from those gardens located near Dunedin's Port Chalmers (as at Sawyers Bay).[34]

Descriptions and photographs abound of the carefully tended vegetable plots adjacent to Chinese miners' huts, such as "[a]n old man of 70" living at Waipori, Otago, whose very modest hut had beside it a "little cabbage patch and potato plot" (Fig. 20).[35] The diaries of missionary Alexander Don (1857–1934) – extending from the late 1870s to the 1920s – mention many introductions of Chinese plants into New Zealand by Cantonese: bok choy, Chinese cabbage, and other popular edible plants (white radish, Chinese chives, spring onions, Chinese sugar peas and kohlrabi, and less commonly, chrysanthemum greens, coriander and boxthorn).[36] Don sometimes recorded the source of the food he was eating. In Bannockburn, Central Otago, at the turn of the century, for example, Don notes eating "'white cabbage,' grown of seed from China".[37]

Fig. 20 Rev. Alexander Don and unnamed Chinese miner, likely Waikaia. Permission to reproduce image obtained from: NG1-2.37-52, Collection of Jim and Eva Ng, New Zealand Chinese Heritage Research Trust, Dunedin.

Chinese introduced ornamental species alongside edible varieties. One example of Cantonese introducing ornamental species is provided by the man I mentioned at the beginning of the article, Wong Koo. At the 1871 Royal Horticultural Society of Otago Show, Wong Koo gained second prize for his "exhibits of lilies and feather ornaments", receiving special mention for "some specimens of Chinese Narcissus".[38] As historian Louise Shaw notes, at the 1872 Show it was probably Wong Koo who was praised "for some fantastically arranged narcissus".[39] If the 'Chinese Narcissus' mentioned were *Narcissus tazetta* subsp. *chinensis* (Chinese sacred lily or daffodil; Fig. 21), then these could well have been introduced directly from China – certainly we know that seeds of other species arrived from south China (as noted above), and were distributed amongst Chinese, so it's possible this was the case also with the Chinese sacred lily.[40] In 1891 local Cantonese likely supplied Chinese sacred lilies to the Dunedin plant nursery firm of Nimmo & Blair (Fig. 22), possibly facilitated by the friendship between Robert Nimmo and local Chinese.

Fig. 21 *Narcissus tazetta* subsp. *chinensis* (Chinese scared lily). Image: © Sunnetchan, via iNaturalist (CC-BY-NC-ND).

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[32] James Ng, *Windows on a Chinese Past*, Vol. 1: *How the Cantonese Goldseekers and their Heirs Settled in New Zealand* (Dunedin: Otago Heritage Books, 1993).

[33] Beattie, ''A Case Study of Chinese Migration and Colonial Development in the British Empire, 1860s–1920s", in Ts'ui-jung Liu and James Beattie, eds., *Environment, Modernization and Development in East Asia: Perspectives from Environmental History* (Basingstoke: Palgrave Macmillan, 2016), p. 62.

[34] Lily Lee and Ruth Lam, Sons of the Soil: Chinese Market Gardeners in New Zealand (Pukekohe: Dominion Federation of New Zealand Chinese Commercial Growers Inc., 2012); Beattie, '"The Empire of the Rhododendron": Reorienting New Zealand Garden history', in Tom Brooking and Eric Pawson, eds., *Making a New Land: Environmental Histories of New Zealand* (Dunedin: Otago University Press, 2013), pp. 241–257, 365–367.

[35] A. Don, *New Zealand Presbyterian Chinese Mission: Inland Tours XXIII and XXIV, 1909–1911, and Westland Tour, 1911* (Dunedin, Otago Daily Times, 1911), p. 39.

[36] A. Piper, 'Chinese Diet and Cultural Conservatism in Nineteenth-century southern New Zealand', *Australian Journal of Historical Archaeology*, Vol. 6 (1988), pp. 34–42; Don, *Nineteenth Inland Otago Tour, 1905–1906* (Dunedin, Otago Daily Times, 1906), p. 26; Ng, *Windows on a Chinese Past*, Vol. 3, p. 55, note 35b.

[37] Don, *Nineteenth Inland Otago Tour,* p. 26.

[38] *Otago Witness*, 18 March 1871, p. 9. At the following year's Show it was probably he who was praised "for some fantastically arranged narcissus": *Otago Witness*, 23 March 1872, p. 5. See, also, Shaw, *Southern Gardening: A History of the Dunedin Horticultural Society* (Dunedin: Dunedin Horticultural Society/Otago University Press, 2000), pp. 43, 59–60.

[39] *Otago Witness*, 23 March 1872, p. 5. See, also, Shaw, *Southern Gardening*, pp. 43, 59–60.

[40] Somewhat confusingly the sacred lily is neither a lily, nor is it Chinese.

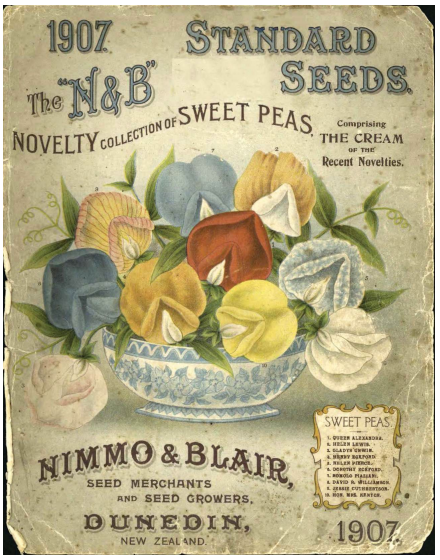

Fig. 22 Front cover of 1907 Nimmo and Blair nursery catalogue. Image: https://livingheritage.lincoln.ac.nz/ (CC BY 3.0 NZ).

Evidence suggests it was not otherwise commonly available in New Zealand until after 1891, so it is entirely possible the bulb reached New Zealand through Cantonese networks.[41] As a bulb, the lily could be easily transported from China and stored for several months. (Although not native to China, it had been in cultivation there for more than 1000 years and was incorporated into its gardening culture.)

Dozens of other Chinese gardeners entered colonial horticultural competitions: for example, at the 1888 Tuapeka Horticultural Show, the butcher and businessman Chow Tie (1847–1930) gained special mention for his exhibition of 'Chinese lily',[42] while Tinwald's Chinese market gardeners scooped up five prizes in the vegetable section at Ashburton's 1905 Horticultural Society Show.[43]

Catalogues of Chinese commercial growers such as the Te Aro Seed Company (Fig. 23), which operated from the turn of the twentieth century until 1956, provide firmer evidence of later Chinese introductions into New Zealand.

Fig. 23 Front cover of 1931 Te Aro Seed Company nursery catalogue of seeds, bulbs & plants. Image: © https://natlib.govt.nz/records/22801908.

Based in Wellington, James Chin/Moon Ting (1859–1956) took over the business in the early 1900s, transforming it into a thriving mail-order seed company, centred on a trial garden, fruitshop, nursery and glasshouse. While its catalogue mostly provided lists of European selections, it also introduced Chinese plants.[44] Finally, readers of an historical bent will appreciate the jibe made against Premier Richard Seddon – who more than anyone else fuelled the flames of anti-Chinese racism in New Zealand during his time in office (1893–1906). Growers at the Te Aro Seed Company named a marrow 'Fat Pea' after the rotund Premier.[45]

Asian plants in settler gardens

By the time the Te Aro Seed Company was advertising, many of the plant selections from Asia already available in the UK, had made their way to Aotearoa, along with a great interest in the plants from this region, as testified by the activities of several early European settlers. In 1841 Thomas (1818–1903) and Jane Mason (1818–1900) developed a fine garden known as 'The Gums' at Taitā (Lower Hutt), north of Wellington (Fig. 24).[46]

Fig. 24 Thomas and Jane Mason of Mason's Gardens, Taita, Lower Hutt, New Zealand Yearly Meeting of the Society of Friends: Records. Ref: MS-Papers-2597-33/3/09-01. Alexander Turnbull Library, Wellington, New Zealand. /records/23060235.

By the 1870s it contained *c.* 8000 plants and 3 tons of bulbs, including a goodly number of harder-to-obtain Chinese species.[47] In 1871, Thomas recorded 60 kinds:

> "of Camellias, besides Azaleas and Rhododendrons, all of which flourish here. Some of the Camellias are upwards of seven feet and have been in bloom for five months, and some are still to flower."[48]

Camellias, first introduced into Britain in 1739, enjoyed its cooler climate, as they later would in parts of New Zealand.[49] Camellias, azaleas, rhododendrons, and other plants continued to be introduced from Britain throughout the nineteenth century.[50] Mason seemed particularly proud of his recent procurement of "some 30 varieties of the Chinese Tree Peony (*Paeonia Moutan*)". They "seem quite at home [in The Gums] and are remarkable for their growth and beauty."[51] This taxon is now known as *Paeonia* × *suffruticosa* (Fig. 25). Botanical surveys of the site of Mason's garden, however, have revealed several other Asian species.

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41 The first mention of the sacred lily for sale in New Zealand I can find is 1891 from the Dunedin firm of Nimmo & Blair. It was subsequently advertised in the *Otago Daily Times*, 21 January 1891, p. 3. Its first mention was a lengthy description of a solitary bulb in 1889: *Press*, 3 June 1889, p. 6.
42 *Tuapeka Times*, 14 January 1888, p. 3.
43 *Ashburton Guardian*, 18 February 1905, p. 3.
44 For example: *Te Aro Seed Co. Catalogue, 1934–5* (Wellington: Te Aro Seed Co., 1935), p. 92.
45 *Garden Annual Te Aro Seed Co.* (Wellington: Te Aro Seed Co., 1931).
46 H. Mason, 'Thomas Mason (1818–1903)', in *The Family of Thomas and Jane Mason of Taita*, compiled by R. Evans and A. Evans (Auckland: Evagean Publishing, 1994), pp. 5–7.
47 Winsome Shepherd, *Wellington's Heritage: Plants, Gardens, and Landscape* (Wellington: Te Papa Press, 2000), p. 33.
48 Thomas Mason to Aunt, Taita, 26 November 1871, Thomas Mason, MS Papers 54, Alexander Turnbull Library, Wellington (ATL).
49 Kilpatrick, pp. 54–57.
50 For example, in 1845 Fortune shipped 130 tree peonies in 8 Wardian cases: Kilpatrick, p. 237.
51 Thomas Mason to Aunt, Taita, 28 May 1883, in *The Family of Thomas and Jane Mason*, p. 39.

These include *Sophora japonica* 'Pendula' (the Chinese scholar tree, now known as *Styphnolobium japonicum*, Fig. 26), which, Winsome Shepherd claims, is "the only old specimen known in New Zealand".[52]

Fig. 25 Botanical illustration of *Paeonia* × *suffruticosa* Andrews, from Curtis, W., *Botanical Magazine*, Vol. 29, t. 1154 (1809). Image: www.plantillustrations.org/illustration.php?id_illustration=8230 (CC0).

Fig. 26 Botanical illustration of *Styphnolobium japonicum* (L.) Schott (as *Sophora japonica* L.), from Figuier, L., *Vegetable World [Histoire des plantes]*, p. 67, f. 80 (1867). Image: www.plantillustrations.org/illustration.php?id_illustration=151504 (CC0).

Mason's plants came from friends, and nurseries in Britain and Australia: again demonstrating New Zealand's colonisation during the second phase of British interaction in China. In 1841 Mason obtained "a few Rose Tree seeds" from his uncle in York, England.[53] 'Rose Trees' were rhododendrons, but which species and from where, is unknown. In 1870 he obtained plants from Thomas Lang's famous Ballarat nursery (Victoria, Australia).[54] As Lang himself specialised in collecting rare plants, especially from East Asia, this could well have provided a further source of Mason's Chinese plants.[55] Mason also obtained tree peonies from the nursery of James Backhouse & Son, near York.[56] In common with other gardens, the Masons laid out Chinese plants alongside other exotics from around the world.[57]

The garden developed at 'Newry', Waiwhetū (Hutt Valley), by Masons' contemporaries, Fanny (1822–1877) and Thomas Ludlam (1810–1877), further indicates the many plants available to settlers of wealth and discernment. Thomas Ludlam's 1868 'Essay on the Cultivation and Acclimatization of Trees and Plants' sought to encourage "the introduction and cultivation of trees and plants of the more rare and beautiful kinds", which they had spent several years pursuing. In particular, he sought to promote the growth of Coniferae over other more commonly-grown trees such as gums, wattles and poplars. East Asian plants dominated Ludlam's list. For example, among the 86 plants listed under 'trees and shrubs', 47 per cent (40) came from Asia. Overall, one quarter of all the plants listed by Ludlam was East Asian.[58]

Conclusion

This article has endeavoured to explain the context to Sir Joseph Banks' statement about global plant distribution quoted at the beginning of this piece, and to demonstrate his backroom role in the introduction of Asian – and especially Chinese – plants into Aotearoa New Zealand. The examples of EIC traders and Cantonese plant introducers demonstrate the fascinating histories and complex routes by which plants made their way into New Zealand at the same time as emphasising the importance of Cantonese migrants as agents of environmental change in this country. The history of the Wong Koos and Thomas McDonnells – and the broader cultural, economic and geopolitical structures making possible their activities – goes some way to explaining the diversity of introduced plants in New Zealand, the complex pathways which plants took to reach here, as well as the fact that in 2008, when Dunedin's Chinese Garden was being developed, a full 90% of the list of Chinese selections specified for the garden, were already available in this country.[59]

Acknowledgements

This article, presented as the Banks Memorial Lecture in March 2023, draws from two previously published works. I thank Harvard University Press for allowing permission to reproduce passages from my chapter: 'Thomas McDonnell's Opium: Circulating, Plants, Patronage, and Power in Britain, China and New Zealand, 1830s–1850s', in Sarah Burke Cahalan and Yota Basaki, eds., *The Botany of Empire in the Long Eighteenth Century* (Washington, D.C.: Dumbarton Oaks/Harvard University Press, 2017): pp. 163–188. I also thank Tom Brooking for letting me publish aspects of my chapter: "'The Empire of the Rhododendron': Reorienting New Zealand Garden history", in Tom Brooking and Eric Pawson, eds., *Making a New Land: Environmental Histories of New Zealand* (Dunedin: Otago University Press, 2013), pp. 241–257, 365–367. I also thank

[52] Shepherd, *Wellington's Heritage*, p. 43.
[53] Thomas Mason to Uncle, 8 June 1841, Wellington, Thomas Mason, MS Papers 54, ATL.
[54] Shepherd, 'The Finest Gardens in the Southern Hemisphere "The Gums", Taita, Wellington', in *The Family of Thomas and Jane Mason*, p. 51.
[55] Paul Fox, *Clearings: Six Colonial Gardeners and Their Landscapes* (Melbourne: Miegunyah Press, 2004), pp. 35–59.
[56] In an 1883 letter, he observed that the "Tree Peonies [from Backhouse & Son] have done better than I expected – eight if not nine are alive & seem likely to live". From the context of this and his previous letters in the series, it appears they were ordered from Backhouse & Son: Mason to Aunt, 28 May 1883; Mason to Aunt, 9 December 1883, ATL.
[57] In 1851, for example, Mason introduced 150 fruit trees from Hobart, Tasmania: Shepherd, *Wellington's Heritage*, p. 38.
[58] A. Ludlam, 'Essay on the Cultivation and Acclimatization of Trees and Plants', *Transactions and Proceedings of the New Zealand Institute*, Vol. 1, (1868), p. 1.
[59] J. Beattie, D. Campbell, *The Art, Culture and History of Lan Yuan 蘭園: The Dunedin Chinese Garden* (Hamilton; Shanghai: Shanghai Museum Press and Dunedin Chinese Gardens Trust, 2013).

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Biography

Associate Professor James Beattie specialises in environmental history, imperial history, and world history. He has curated Chinese art exhibitions, established journals and book series, co-written a feature-length documentary film, and delivered invited lectures throughout Asia, Europe, and North America. As well as holding senior research fellowships in Asia, Europe, and Africa, he is an award-winning writer with 13 books and more than 100 articles. He is currently working on books on: a Chinatown in New Zealand; Chinese art collecting; an environmental history of Chinese in the Pacific; and an environmental history of world empires.

The ‘Seeds of Industry’, Part One: Prospering the nursery and seed trade in early Canterbury

Lincoln University Library holds a significant collection of New Zealand and international nursery catalogues, with dates ranging from the late 19th century to the early 2000s. Much of this collection was originally donated by the late Charlie Challenger (a lecturer and researcher at Lincoln College/University), with more recent contributions from the Mt Albert Plant & Food Research library (largely comprising donations from Dr Keith Hammett of Auckland) and Wellington Botanic Garden.

This substantial historical collection yields fascinating finds about early New Zealand fruit orchards and tree and shrub nurseries, from what selections they raised, to the huge range they sold and distributed to local and international buyers.

Following is a sample of four profiles written by Isabella Kerby on early Canterbury nurserymen and seedsmen whose catalogues are represented in the collection.

Isabella welcomes feedback on these profiles and further information on pioneering New Zealand nurseries.

Part two of this series will profile plant nurseries in the Otago region.

Digitisation of images of the collection’s catalogues was carried out by Eunju Jung, Metadata Analyst (University Collections), Lincoln University.