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BIOTA BARONS, 'NEO-EURASIAS' AND INDIAN-NEW ZEALAND INFORMAL
ECO-CULTURAL NETWORKS, 1830S–1870S*

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ABSTRACT

This article examines informal (private and commercial) imperial networks and environmental modification by former English East India Company (EIC) employees in New Zealand, as well as the introduction of subcontinental species into that colony. Several very wealthy settlers from India, it argues, single-handedly introduced a cornucopia of Indian plants and animals into different parts of nineteenth-century New Zealand and used money earned in India to engage in large-scale environmental modification. Such was the scale of their enterprise 'in the business of shifting biota from place to place' and in remaking environments in parts of New Zealand¹ that these individuals can be considered 'biota barons'. A focus on the informal eco-cultural networks they created helps refine the thesis of ecological imperialism. It also expands the more recent concept of neo-ecological imperialism, by highlighting the role of non-European natures and models in the re-making of Britain's colonies of settlement and by tracing exchanges between white settler colonies and colonies of extraction. In sum, the paper demonstrates the influence of particular private

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¹ Paul Star, 'New Zealand's Biota Barons: Ecological Transformation in Colonial New Zealand', *Environment and Nature in New Zealand* 6 (2) (2011): 1.

individuals with the necessary wealth and will to effect certain kinds of environmental change, and tentatively suggests that we might usefully consider Australasia as ‘neo-Eurasias’ rather than ‘neo-Europes’.

KEYWORDS

ecological exchange, British Empire, East India Company, New Zealand, plants, animals, food

INTRODUCTION

Eco-cultural networks is a concept that considers ‘interlinked cultural formulations, material exchanges and ecological processes’ stimulated by new resource demand and exploitation. Alongside extraction of materials, this framework emphasises the ‘simultaneous production of knowledge about environments with their exploitation under imperial regimes’. It shows how:

[t]he exploitation of new resources reconfigured human–nature relations, led to the mobilisation of new labour regimes, encouraged the development of facilities enabling overseas capital investment, and expanded communication networks and resulting knowledge exchanges, developments which connected different places, peoples and environments.²

² James Beattie, Edward Melillo and Emily O’Gorman, ‘Eco-Cultural Networks and the British Empire’, in Beattie, Melillo and O’Gorman (eds), *Eco-Cultural Networks and the British Empire: New Views on Environmental History*, pp. 8–9 (London: Bloomsbury Academic, 2016). See also, James Beattie, Emily O’Gorman and Edward Melillo, ‘Rethinking the British Empire through Eco-Cultural Networks: Materialist-Cultural Environmental History, Relational Connections and Agency’, *Environment and History* **20** (2014): 561–75.

Despite the overwhelming importance of settlers and private capital in forging eco-cultural networks, and with the exception of certain subjects – such as acclimatisation societies – when considering plant and animal introductions, scholars have largely examined state botanical and zoological gardens, as well as state plant nurseries.³ This essay corrects this imbalance by focusing on informal networks of empire created by imperialism by considering commercial and private plant and animal exchanges in remaking New Zealand's environment. It highlights the ways in which profits earned from ventures in India helped to fund environmental modification outside the subcontinent, and examines the extent to which India can be regarded as a sub-imperial hub at the center of broader Australasian environmental networks between the 1830s and the 1870s, one connecting Indian and Pacific Ocean worlds.

EIC/AUSTRALASIAN ECO-CULTURAL NETWORKS, 1788–1840s

Larger scale Indian–Pacific Ocean formal and informal eco-cultural networks developed from 1788, thanks to Australasian–Indian trade and the migration of EIC families to Australasia. The prior connections between India and Australia means that to understand how New Zealand-Indian eco-cultural networks developed, one must first examine something of the way in which trade, policies, personnel and capital cycled from British India into Australia and the South Pacific from the late eighteenth century.⁴

³ Beattie, 'Recent Directions in the Environmental Historiography of the British Empire', *History Compass* **10** (2) (2012): 129–139

⁴ Tony Ballantyne, *Orientalism and Race: Aryanism in the British Empire*. (Basingstoke: Palgrave Macmillan, 2001); Ballantyne, *Webs of Empire: Locating New Zealand's Colonial Past* (Wellington: Bridget Williams Books, 2012); David Walker, *Anxious Nation: Australia and the Rise of Asia, 1850–1939* (St Lucia: University of Queensland Press, 1999); James Broadbent, Suzanne Rickard and Margaret Steven (eds), *India, China, Australia: Trade and Society, 1788–1850* (Glebe, NSW: Historic Houses Trust of New South Wales, 2003); James Beattie, *Empire and Environmental Anxiety, 1800-1920: Health, Science, Art and Conservation in South*

The Botany Bay Settlement of 1788 established a British base in the Southern Ocean allowing other enterprises, like sealing, whaling and eventually colonisation, to develop, as well as opening up new profit-making opportunities for the EIC. From 1788 until well into the nineteenth century, Australian-Indian trading connections, although dwarfed in scale and volume by British-Indian exchanges, considerably shaped the culture, economy and, from the 1820s, settlement patterns of early colonial Australia. In the 1790s, for example, supplies from India kept Botany Bay convicts, officers and their men fed. Even in prosperous times, commodities from India flooded into colonial markets, while local Australian fashions and building styles followed those in Bengal or Calcutta. Along with goods, eco-cultural networks developed, as colonists traded in live animals, plants and seeds. In the 1790s, for example, privately chartered vessels from Calcutta, contravening the EIC monopoly on trade, landed Bengal Garole sheep in New South Wales (NSW). Early in the following century, the thriving export market in stallions from India to Australia reversed, once Australian studs were established.⁵ Introductions of other Indian animals, as well as plants, also took place,⁶ while enthusiasm for acclimatisation in Victoria included introductions of Cashmere goats from Simla, as well as jungle fowls and unspecified numbers of seeds, including Indian pines and ornamentals.⁷

Asia and Australasia (Basingstoke: Palgrave Macmillan, 2011); James Beattie, 'Imperial Landscapes of Health: Place, Plants and People between India and Australia, 1800s–1900s', *Health and History* **14** (1) (2012): 100–20; James Beattie, 'Tropical Asia and Temperate New Zealand: Health and Conservation Connections, 1840–1920', in Brian Moloughney and Henry Johnson (eds), *Asia in the Making of New Zealand*, pp. 36–57 (Auckland: Auckland University Press, 2007); Sekhar Bandyopadhyay (ed.), *India in New Zealand: Local Identities, Global Relations* (Dunedin: Otago University Press, 2010).

⁵ *The Argus* (Melbourne), 7 Dec. 1865, 5; 26 Feb. 1866, np; K.R. Binney, *Horsemen of the First Frontier (1788–1900) and the Serpents Legacy* ([Neutral Bay, NSW]: Volcanic Productions, 2005). Note, too, Nancy Cushing, "'Few Commodities are more Hazardous': Australian Live Animal Export, 1788–1880", *Environment and History* **24** (4) (2018): 445–468.

⁶ Suzanne Rickard, 'Lifelines from Calcutta', in Broadbent et al. (eds), *India, China, Australia*, pp. 64–93.

⁷ See *The Argus*, 22 Jan. 1861, 5 (Cashmere goats); 16 May 1866, 5 (jungle fowl); 14 Apr. 1862 (Indian pines); 30 Oct. 1861, 4 (animals).

The establishment in 1823 of NSW as a self-governing colony also made it an attractive proposition to retiring EIC officials and military. Over the following decades, migration and trade between India and parts of Australia extended to the other newly founded British colonies.⁸ As Beverley Kingston notes of this period, from the late-eighteenth century into the mid-nineteenth,

A vast network of imperial connections in government, administration, the army, the church, the law, education, and enterprise, extended from India to the Australian colonies. Most families engaged on imperial business, whether officially or privately, knew someone in India.⁹

From the 1790s, new eco-cultural networks expanded into the Southern Ocean, drawing in New Zealand through demand for timber, sealskins and, later, whales.¹⁰ Until its colonisation in 1840, New Zealand functioned as an adjunct to NSW's Indian trade. Through the 1790s until 1801, many EIC vessels called into parts of northern New Zealand in search of timber for spars and trade with local Maori. For example, in 1794, the East Indiaman *Fancy* (150 tons) spent three months in the Coromandel,¹¹ northern New Zealand, obtaining 200 trees for later shipment to India.¹² In 1801, the EIC vessel *Royal Admiral*, on the way to its final destination in China, gathered spars while en route from NSW to Tahiti. Along the way, four

⁸ Beverley Kingston, 'The Taste of India', *Australian Cultural History* 9 (1990): 39; Beattie 'Imperial Landscapes of Health'.

⁹ Kingston, 'The Taste of India', 36.

¹⁰ The EIC permitted whaling in New Zealand waters in 1789. James Beattie, 'Chinese Resource Frontiers, Environmental Change, and Entrepreneurship in the Pacific, 1790s–1920s', in Edward D. Melillo (ed.), *Migrant Ecologies in the Pacific* (Honolulu: Hawai'i University Press, 2020), forthcoming.

¹¹ This was named after a ship, not the Indian coast.

¹² Robert McNab, *Murihiku: A History of the South Island of New Zealand and the Islands Adjacent and Lying to the South, from 1642 to 1835* (Wellington: Whitcombe & Tombs, 1909), pp. 57–58.

convicts escaped in New Zealand's Cape Colville, on the Coromandel Peninsula.¹³ These vessels – and especially those involved in whaling – also offered opportunities for Maori and Indians to travel. In 1809, for example, the daughter of a Maori chief and her European husband landed up in Calcutta.¹⁴ And, in the early 1820s, two Maori chiefs visited Bengal to obtain muskets (in the process complaining bitterly about the area's unhealthiness).¹⁵ Travellers and the early colonial press also reported several instances of 'Lascars' (Indian sailors) living among Maori tribes, having jumped ship.¹⁶ Irregular shipping networks, then, created weak eco-cultural networks linking New Zealand with India, very often via Australia and elsewhere in the Pacific.¹⁷ In this respect, India fulfilled a more minor role in the Pacific Ocean compared to its central one in the Indian Ocean, as 'a nodal point from which peoples, ideas, goods and institutions ... radiated outwards'.¹⁸ The advent of large-scale immigration to Australasia of settlers directly from Britain and other parts of Europe, as well as the development of British markets for Australasian products, and British investment, weakened Indian-Australasian connections from the 1860s and 1870s.

INDIA-CHINA-NEW ZEALAND ECO-CULTURAL NETWORKS, 1820s–1840s

¹³ 'Extracts from the Records of the HEICS Ship Royal Admiral, William Wilson, Commander, on a voyage from London to New South Wales, thence to New Zealand, Otaheite and China, 1800 to 1802, Records of the Honourable East India Company's Marine', 28 May 1801, 10. Unpublished MS: Alexander Turnbull Library; MS-Papers-qMS-0706.

¹⁴ See correspondence in British Library, India Office Records F/4/299/6922; Tony Ballantyne and Brian Moloughney, 'Asia in Murihiku: Towards a Transnational History of a Colonial Culture', in Tony Ballantyne and Brian Moloughney (eds), *Disputed Histories: Imagining New Zealand's Pasts*, p. 71 (Dunedin: Otago University Press, 2006).

¹⁵ Peter Dillon, *Narrative and Successful Result of a Voyage in the South Seas ...* (London: Hurst, Chance and Co., 1829).

¹⁶ Ballantyne and Moloughney, *Asia in Murihiku*, p. 71.

¹⁷ Jim McAloon, 'Resource Frontiers, Environment and Settler Capitalism, 1769–1860', in Eric Pawson and Tom Brooking (eds), *Making a New Land: Environmental Histories of New Zealand*, 2nd ed. (Dunedin: Otago University Press, 2013).

¹⁸ T.R. Metcalf, *Imperial Connections: India in the Indian Ocean Arena, 1860–1920* (Berkeley and London: University of California Press, 2007), p. 1; Ballantyne, *Orientalism and Race*.

One well-documented instance in which trade connections facilitated informal eco-cultural exchanges between locales in India, NSW and New Zealand comes from the activities of Thomas McDonnell (1788–1864). A former free mariner in India, involved at one time in running opium into China, McDonnell began operating a trading entrepôt at Horeke, Hokianga in northern New Zealand.¹⁹ There, McDonnell made extensive use of his EIC networks in importing goods and exporting raw materials, a commerce which also extended to the introduction of Asian plants.²⁰ In Hokianga, he built up an extensive garden showcasing rare ornamentals from India and China, which served as statements of wealth and social aspirations at a time when non-food-producing gardens were extremely rare.

McDonnell invested much of the fortune he made in the EIC trade on the ‘layout of his garden and grounds’ in Horeke. He stocked his garden ‘with the choicest shrubs and flowers, grapevines, hothouses & in fact all the appliances of what is called “a very pretty place”’.²¹ According to the work of botanists interested in historical plant introductions, McDonnell ‘independently imported many Asian plants in connection with the flourishing timber trade’. *Kalanchoe grandiflora* – native to Mysore and which boasts large yellow flowers – was, as a result of McDonnell’s activities, ‘probably in cultivation in New Zealand decades before its introduction into Europe’, notes the botanist David Given.²² Other plants, such as the Indian

¹⁹ J.O.C. 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 For a more detailed analysis, see James Beattie, ‘Thomas McDonnell’s Opium: Circulating, Plants, Patronage, and Power in Britain, China and New Zealand, 1830s–1850s’, in Sarah Burke Cahalan and Yota Batsaki (eds), *The Botany of Empire in the Long Eighteenth Century*, pp. 163–88 (Washington, DC: Harvard University Press for Dumbarton Oaks Research Library and Collection, 2017).

²¹ Theodore Morton-Jones, *Journal of Hokianga, 1851* (Sydney: Mitchell Library) Cited in Jack Lee, *An Unholy Trinity: Three Hokianga Characters* (Russell: Northland Historical Publications Society, 1997), p. 95.

²² D.R. Given, E.G. Brockerhoff and J. Palmer, ‘Nationally Networked Plant Collections are a Necessity’, *New Zealand Garden Journal* 9 (1) (2006): 15. In Given’s article the incorrect botanical name is given for Chinese Hill Cherry. Records confirm that Given collected Chinese Hill Cherry at the former site of McDonnell’s garden. See record CHR 420411, collected September 1984, Allan Herbarium, Landcare Research. My gratitude goes to Dr Ines Schönberger for pointing out this error of nomenclature and for searching herbaria records for me. For details on the plant, see *Curtis’ Botanical Magazine* 20, no. 3 (1864): table 5460.

strawberry (*Duchesnea indica*), now growing as garden escapees near his former residence and shipyard, may also have been introduced by McDonnell.

McDonnell obtained his exotic plants from several sources. Some he likely collected during his voyages to India and China. His last recorded trading trip in this region (most probably carrying opium into China) in 1832 gave him direct access to Chinese and Indian plants.²³

McDonnell's interest in plants from that region may have developed during his time as a free mariner, as it was commonplace for captains of tea and opium clippers to be paid to carry live plants from China and India to Britain.²⁴ McDonnell may also have obtained Asian plants from EIC vessels calling into New Zealand, whose captains were collecting them on spec, or during his regular business trips to Sydney. We know, for example, that Chinese and Indian plants were sold in Sydney,²⁵ while Sydney's Botanic Gardens (later Royal Botanic Gardens) also facilitated the introduction of many Chinese and Indian species into Australia. The Gardens received plants directly from Canton until the mid-nineteenth century, and continued to receive them from Calcutta Botanical Gardens for much of the rest of that century.

McDonnell certainly ordered plants from Sydney Botanic Garden, but as no complete inventory of plant orders has survived, it is impossible to tell whether these included Asian species.²⁶

By the late 1830s, Royal Botanic Gardens, Kew, likely became McDonnell's major source of plants, a reflection of the centripetal tendencies of botanical knowledge-production, as father

²³ J.O.C. Ross, 'McDonnell of Horeke: A Biographical Account of the life and times of Lieutenant Thomas McDonnell, Royal Navy' (unpublished manuscript: Alexander Turnbull Library; MS-Papers-1500-05), p. 53.

²⁴ Jane Kilpatrick, *Gifts From the Gardens of China* (London: Frances Lincoln, 2007); Fa-ti Fan, *British Naturalists in Qing China: Science, Empire, and Cultural Encounter* (Cambridge, Mass.: Harvard University Press, 2004).

²⁵ Broadbent, Rickard and Steven (eds), *India, China, Australia: Trade and Society, 1788–1850*.

²⁶ 'Catalogue of plants cultivation [cultivated?] in The Botanic Gardens, Sydney, At January, 1828, Part 1', 1828–47. Royal Botanical Gardens, Sydney, Archives, B1; 'List of Plants, seeds &c distributed from the Government Botanic Garden Sydney', 1828–1847, Royal Botanical Gardens Sydney, B2.

and son Hooker developed Kew as an imperial hub of plant exchange and hybridisation. In the late 1830s, McDonnell returned boxes of seeds ordered from Kew ‘filled with those of New Zealand’.²⁷ A paucity of records, compounded by the loss of all of McDonnell’s papers in a fire, means we shall never know the full extent of his introductions, but a surviving record of plants sent to him from Kew Gardens provides some clues. From this 1845 document we learn that McDonnell received plants from all around the world. Ten of the 36 varieties sent came from Europe, ten from East Asia, and probably five from South Asia (*Rhododendron ponticum*, *Cedrus deodara*, *Jasminum revolutum*, *Jasminum pubigerum* and *Leycesteria Formosa* [now a significant invasive plant in New Zealand]): these likely reflected McDonnell’s interest in and knowledge of plants from this region.²⁸ Expanding EIC trading networks, connecting different points of the south Pacific, South Asia and China, enabled an individual like McDonnell with the means and inclination to develop informal eco-cultural networks, reliant on species from the sub-continent and China.

EIC BIOTA BARONS IN NEW ZEALAND, 1840s-1870s

During McDonnell’s residence in the Hokianga, the Treaty of Waitangi (1840) formally made New Zealand a part of the British Empire. More established – and ever quicker – shipping connections enabled the introduction into New Zealand of thousands of exotic plants and animals. A rapidly expanding immigrant population also introduced to New Zealand the

²⁷ J.O.C. McDonnell to W. Hooker 1840, 19 Sept. Dorset Square, London, Kew Gardens: DC 15 English Letters I–Z, 1840, f. 63, Archives, Royal Botanic Gardens, Kew.

²⁸ Goods Outwards Book, volume 1836–1847, f. 181, Archives, Royal Botanic Gardens, Kew.

British love of gardening and of exotics in Britain, factors which established a demand for exotic plants, including those from India.²⁹

New Zealand appealed to British migrants because of presentations of easily available land and healthy climate.³⁰ In the nineteenth century, amidst escalating concerns about the effects of the subcontinental climate on Anglo constitutions, Europeans in India were eager to discover a healthy climate to which to retire.³¹ John Turnbull Thomson, another who ended up in New Zealand from Asia, captured the mood of many Anglos in India when, in 1865, he declared that ‘nature wars in the tropics against the white man and his institutions’.³² In the thinking of the time, hill stations offered Britons a temporary fix to India’s noxious climate, but only migration presented a safe and permanent solution.

Another signal event influencing migration to Australasia from India came with the 1857 First Indian War of Independence.³³ In the context of general fears about violence in India and the effects of its climate on Anglo constitutions, a flurry of pamphlets and advertisements in Indian publications encouraged Britons to migrate to New Zealand, whose climate was presented as beneficial to their constitutions.³⁴ As a result of advertisements and the stationing of imperial troops from India in New Zealand, hundreds of officials and troops

²⁹ James Beattie, ‘The Empire of the Rhododendron? Re-orienting New Zealand Garden History, 1830s–1920s’, in Tom Brooking and Eric Pawson (eds), *Environmental Histories of New Zealand*, pp. 241–57 (Dunedin: University of Otago Press, 2013).

³⁰ James Beattie, ‘Climate Change, Forest Conservation and Science: A Case Study of New Zealand, 1840–1920’, *History of Meteorology* 5 (2009): 1–18.

³¹ Mark Harrison, *Climates & Constitutions: Health, Race, Environment and British Imperialism in India* (New Delhi: Oxford University Press, 2002); David Arnold, ‘Introduction: Tropical Medicine before Manson’, in David Arnold (ed.), *Warm Climates and Western Medicine: The Emergence of Tropical Medicine, 1500–1900*, pp. 1–19 (Amsterdam: Rodopi, 1996); David Arnold, *Colonizing the Body: State Medicine and Epidemic Disease in Nineteenth-Century India* (Berkeley: University of California Press, 1993).

³² J.T. Thomson, *Sequel to Some Glimpses into Life in the Far East* (London: Richardson and Company, 1865), p. xii.

³³ James Beattie, ‘A “Shock which ... Can Scarcely Be Understood”: Health Panics, Migration and Plant Exchange between India and Australia post-1857’, in Robert Peckham (ed.), *Empires of Panic: Epidemics and Colonial Anxieties*, pp. 87–110 (Hong Kong: Hong Kong University Press, 2015).

³⁴ *Ibid.*

with Indian experience subsequently settled in New Zealand. Many also encouraged their friends, relatives and acquaintances to join them; later, dozens of Eurasian children were also sent to the colony.³⁵

From the 1850s until the 1880s, several wealthy ex-EIC employees who had retired to New Zealand served in national and provincial politics, with some championing environmental policies and ideas shaped by their Indian experience.³⁶ Because of their significant environmental agency, either through plant and animal introductions from India or through other significant environmental changes, several can be described as ‘biota barons’. This term, coined by environmental historian Paul Star, describes ‘those who were influential in the business of shifting biota from place to place’.³⁷ These biota barons, along with colonial surveyors who had been in India, exemplify David Lambert and Alan Lester’s group of ‘imperial careerists’ – individuals who accumulated years of experience around the empire, introducing policies from one part of empire into another.³⁸ They also constituted some of the agents – alongside plants and animals themselves, once they reached New Zealand – involved in establishing informal Indian–New Zealand eco-cultural networks.

One such biota baron was the Canterbury politician, pastoralist and former EIC judge, Sir John Cracroft Wilson (1808–1881).³⁹ He came to Canterbury in 1854, settling there permanently with his family after the ‘Indian Uprising’. Born in Onamore, India, Wilson had

³⁵ James Beattie, ‘Making Home, Making Identity: Asian Garden-Making in New Zealand, 1850s–1930s’, *Studies in the History of Gardens & Designed Landscapes* 31 (2) (2011): 139–59; Jane McCabe, *Race, Tea and Colonial Resettlement: Imperial Families, Interrupted* (London: Bloomsbury, 2017); Helena Drysdale, *Strangerland: A Family at War* (London: Picador, 2006).

³⁶ Beattie, ‘Tropical Asia and Temperate New Zealand’; Beattie, *Empire and Environmental Anxiety*, pp. 150–76.

³⁷ Star, ‘Biota Barons’, 1.

³⁸ David Lambert and Alan Lester, ‘Imperial Spaces, Imperial Subjects’, in Lambert and Lester (eds), *Colonial Lives Across the British Empire: Imperial Careerism in the Long Nineteenth Century*, p. 2 (Cambridge: Cambridge University Press, 2006).

³⁹ Sir John Cracroft Wilson, Transcript of Diary/Recollections, 1854, of Canterbury, typed transcript by Ron Chapman, 1989, Canterbury Museum, ARC1989.80.

over 25 years' service with the EIC. Before his role in suppressing the 'Mutiny', he had played a prominent role in fighting 'thuggee' in the 1830s, subsequently serving as a magistrate and collector in Moradabad. Wilson's upbringing and life in India gave him an appreciation of and familiarity with the subcontinent's plants and animals, while his wealth and status gave him the means to re-create in colonial New Zealand aspects of the life and environment he enjoyed in the country of his birth, India.

In common with several other ex-EIC retirees in the colony, Wilson penned a manuscript

designed for the use & information of the Members of the Civil & Military services of the Honorable the East India Company ... many of whom are anxiously revolving in their minds ... in what country they must eventually settle and end their days.

Although acknowledging the challenges of living in a 'newly settled' country such as New Zealand, 'there are', he wrote, 'many "good men and true" among the Senior Members of the East India Company's services, who are fit for better things than dragging out a useless existence in England as an Emancipated Indian; men who, in a good climate, are fit for the performance of any duties, however arduous'.⁴⁰ In characterising the retired Indian official in England 'as a very reluctant John Bull', Wilson echoed the sentiments of others in ruing the sometimes socially and economically circumscribed lifestyle they experienced in Britain, in contrast with their former life of luxury in India.⁴¹

Wilson assessed Canterbury's climate in relation to his experience in India. While Canterbury's 'is not always that Heavenly climate which it has been designated', Wilson felt that it largely compared favorably with 'the atmosphere of the Himalaya Mountains at an

⁴⁰ Wilson, 'Diary', 2.

⁴¹ Maya Jasanoff, *Edge of Empire: Lives, Culture, and Conquest in the East, 1750–1850* (New York: Knopf / Fourth Estate, 2005).

elevation of 7000' feet. More particularly, he likened Canterbury's climate to that of the hill stations of Nainee Tal, Musooree and Simlah, all of which are situated at about the same elevation.⁴² This description would have resonated strongly with readers in India, for whom visiting such places was a relief from the maddening heat of the plains and a welcome opportunity to restore one's health.

But Wilson went well beyond mere comparison. He firmly marked Canterbury's climatic association with Indian hill stations by naming the hill immediately above Christchurch, 'Cashmere'. Several of the roads in the area were subsequently named after places in India (Figure 1). As he explained, the view from his house in Cashmere, New Zealand, extended over 'a plain very like the Moradabad Terrace [but] without its Mango Groves'.⁴³ The climatic similarity of New Zealand's 'Cashmere' recalled its namesake Kashmir, a hill station popular among British officials. New Zealand's Cashmere, like its subcontinental namesake, also rose abruptly over flat plains. Wilson probably chose to situate his house there because of prevailing fears of Christchurch's swamps as sources of miasma – unseen effluvia popularly believed to cause disease.

Figure 1. Map showing some of the locations mentioned in the text. Author's own.

Nor was Wilson alone in his attempt to cultivate a patch of India in New Zealand. 'The old warrior' Colonel de Renzie James Brett (1809–1889) was as colourful and influential a character in colonial Canterbury as the 'Nabob', as Wilson was popularly called behind his back. During the Indian War of Independence, Brett had made his fortune by storming the

⁴² Wilson, 'Diary', 41.

⁴³ Ibid., 13.

fort of Kirwee (now, Karwi, Uttar Pradesh), giving over the treasure of the fort (totalling an astonishing £750,000) to British authorities and earning himself a substantial war booty of £5,000. Like Wilson, Brett retired to New Zealand for health reasons and to make the most of the opportunities afforded by newly opening land grants. He also named his Canterbury estate after a place dear to his heart in India – Kirwee – and set about deploying the money he earned in India to laying down pasture and developing a thriving sheep station of 1,000 acres. In colonial Canterbury, Brett erected an Indian-style bungalow (still extant) and set about developing a network of irrigation canals modelled on those of the north Indian plains. Brett persuaded local authorities to fund a gravity-fed irrigation channel costing the princely sum £25,000 that, by 1910, extended a network stretching over 3,218 kilometres.⁴⁴ Suitably, Brett's legacy was commemorated by the erection of a mini Taj Mahal straddling one of his canals, located at the small settlement of Kirwee (Figure 2). Active, too, in provincial and national politics, both Brett and Wilson distinguished themselves by advocating for state conservation of New Zealand forests along lines modelled on India.⁴⁵ Because of the loss of Brett's papers and lack of any extant contemporary photographs of his house and grounds, we do not know whether he introduced any Indian plants and animals into colonial Canterbury. The one existing record of his ecological remaking shows that he developed a plantation under the provisions of a provincial tree-planting encouragement act. This, however, was no ordinary plantation: each tree in his apparently higgledy-piggledy planting arrangement actually represented the disposition of his sepoy during the storming of the Fort of Kirwee, itself indicated by a diamond in the centre of a field.

⁴⁴ Ray Dobbie and Brian Perrin, *In the Shadow of the Alps: A History of Malveryn County, 1853–1989* (Leeston, New Zealand: Selwyn District Council, 1998), pp. 233–235; Derrick Rooney, 'Canterbury's First Century of Water', *The Christchurch Press*, 24 Dec. 1977, 15.

⁴⁵ Beattie, 'Making Home, Making Identity'.

Figure 2. Colonel James de Renzie Brett's memorial, a mini-Taj Mahal, erected in 1930. Photograph by the author.

In contrast to Brett, we are on surer footing in noting Wilson's ecological remaking of Cashmere, New Zealand, in the image of its Indian namesake through introductions of Indian people, plants and animals. In addition to Indian seeds and plants, Wilson arrived in New Zealand from Calcutta (via Sydney) with 'a menagerie for the public good', as a friend described it.⁴⁶ The vessel Wilson chartered, *Akbar*, had on board:

A high cast [sic] very powerful Arab [horse]

Two Bokhara Assess

Two Chinese pigs, Spotted deer, Hog Deer, Antelope.

Five Goats from the Agrah District

Eight Peacocks and peahens

Ten Hares

...

Some Rohillah Game Fowls

Some Guinea Fowls

Two boxes of Grey partridges

One box of Black Partridges

One box containing three French partridges

Three Ward's cases of Scarlet Rhododendron

One Dozen cases of Bamboos

⁴⁶ D.D. Muter to Editor (date unspecified), *Lyttelton Times*, 12 Nov. 1853, 9.

Various kinds of seeds.⁴⁷

For his fellow Indian military officer, Captain (later Colonel) Dunbar Douglas Muter (1824–1909), then resident in New Zealand, Wilson’s introductions promised to attract immigrants who had hitherto been ‘impeded by the barrenness of these Islands in animal life’.⁴⁸ Here, Muter identified one of New Zealand’s perceived deficiencies: its lack of game animals. For Anglo-Indians like Muter and Wilson, this deficiency represented a particular problem. In India hunting – shikar – was not merely a pastime of the British upper- and middle-classes aped from regal Indians, but an incredibly important aspect of masculine identity, military prowess and racial or caste superiority. A contest against a wild animal tested the mettle and skills of a European hunter but also upheld the innate notion of British fair play through the skillful and ‘sporting’ nature of the hunt. Unlike lower-caste Indians or lower-class British poachers who merely hunted for food, the true hunter’s reward was the challenge of man against beast and the glory symbolised by a mounted lion’s head or beast’s pelts stretched out before the hearth.⁴⁹ Hence, as Muter wrote, ‘the pursuit of game not only furnishes amusement, but also, in a great measure, forms the character of a people’.⁵⁰

How did Wilson’s animals fare in their new home? In Sydney, Wilson landed ‘the unfortunate remnant of my once beautiful flock of 1220 ewes and 50 rams’, and horses.⁵¹ The Arab horse he brought with him arrived ‘safe and well’ in Christchurch (also winning him first prize at the December cattle show). ‘Jenny’, the surviving Bosphard Ass, was in constant demand, he noted, ‘carrying a Lady or more ignoble load of flour to the farm or

⁴⁷ Wilson, *Diary*, 3.

⁴⁸ Muter, 12 Nov. 1853, 9.

⁴⁹ John M. MacKenzie, *The Empire of Nature: Hunting, Conservation and British Imperialism*. (Manchester: Manchester University Press, 1997).

⁵⁰ Muter, 12 Nov. 1853, 9.

⁵¹ Wilson, ‘*Diary*’, 10.

Christchurch'. Among the Agrah breed of goats he introduced, 'one male and four females reached Canterbury in safety', and but 'for a wild dog killing them I should have possessed in Dec[embe]r 1854 eight kids whereas I possess only two'. 'The Rohillah Game fowls, the Pintados [guinea fowl] ... and the rabbits are thriving', he continued, while a 'Chinese Boar and Sow are doing very well, obeying Nature's first Law, "Increase and Multiply"'. In contrast, none of the partridges reached Christchurch, nor did any of the three kinds of deer, and only a single peacock survived.⁵² Most likely the failures were due to the perils of shipboard transportation, which illustrate the fragility of eco-cultural networks, and the vital role of transportation conditions in ensuring healthy arrivals. Animals, like humans, experienced cramped onboard conditions, enduring sea-sickness, and very often received poor food and inadequate water, situations ideal for the spread of illness, both among animals and humans, and between humans and animals.⁵³ A case in point is the extraordinary efforts and expense taken to introduce mustelids into nineteenth-century New Zealand – from the provisioning of the ship with adequate live food, to the provision of individualised compartments for each animal: any analysis of an eco-cultural network has to take into account the particular nature of an organisms' journey and its biology.⁵⁴

Wilson's plant introductions had a similarly mixed success to that of his animals. Dr Hugh Falconer (1808–1865), Director of the Calcutta Botanical Gardens, had supplied Wilson with several different species of bamboo before his departure. Although all of Falconer's bamboos reached Christchurch alive, 'frost killed them', despite Wilson having placed the plants under

⁵² Wilson, 'Diary', 24. For later official introductions, note G. Bidie, Honorary Secretary to the Agricultural Society, to the Acting Secretary to the Board of Revenue, 18 Aug. 1868. File 7071930: Internal Affairs 1 1870/1930, National Archives (NA), Wellington.

⁵³ Christopher Blakeley, "'To Get A Cargo of Flesh, Bone, and Blood": Animals in the Slave Trade in West Africa', *International Review of Environmental History* 5 (1) (2019): 85–111. See also Aaron Skabelund, 'Animals and Imperialism: Recent Historiographical Trends', *History Compass* 11 (10) (2013): 801–07.

⁵⁴ Carolyn M. King, 'The History of Transportations of Stoats (*Mustela erminea*) and Weasels (*M. nivalis*) to New Zealand, 1883–92', *International Review of Environmental History* 3 (2) (2017): 51–87.

the shelter of the veranda of his house. Other bamboos did not even make it that far. A fracture in the glass of the Wardian case killed the ‘small hill bamboo (Nilgala)’ he had brought.⁵⁵ These losses plunged Wilson into despair, especially given the special care he had taken to ensure their survival. ‘I kept them with the greatest care in my writing desk’, wrote Wilson dejectedly, but ‘[n]ot one seed germinated, and the loss of this plant, which would be perfectly invaluable in New Zealand, caused me more vexation than all my other losses in the horticultural line’.

Wilson was a relatively early user of the Wardian case, which was effectively a mini-glasshouse that revolutionised trans-oceanic plant transportation (and sometimes, too, insects, either intentional or otherwise). Although invented by Nathaniel Ward in the 1830s, its popularity only took off after 1845, following the repeal of the glass tax, which reduced the cost to produce such cases. As Luke Keogh has demonstrated, its design took many forms, and was gradually refined over several decades, its inventor foregoing a patent on the grounds that the case promised to benefit humanity by facilitating the transportation of plants around the world.⁵⁶ The use of the Wardian case by Wilson demonstrates the vital role of newly developing technologies in eco-cultural networks that facilitated trans-oceanic ecological exchanges. Not only that, but it also shows the challenges of oceanic exchanges in the transportation of plants. As Wilson’s experience illustrated, even with the Wardian case, the live transportation of plants was a chancy affair, subject to the whims of inclement weather, sometimes indifferent care and the ever-present likelihood of loss occasioned by every transferal from one means of conveyance to another.

⁵⁵ Wilson, ‘Diary’, 23.

⁵⁶ Luke Keogh, ‘The Wardian Case: Environmental Histories of a Box for Moving Plants’, *Environment and History* 25 (2) (2019): 219-244.

Not all losses of Wilson's plant material happened by accident. Immediately upon his arrival in New Zealand, Wilson deliberately destroyed doab grass (*Cynodon dactylon*), 'being fearful lest it should become a curse to the country'. He took this action because in Australia Wilson had found the grass 'all over Sydney & the Hunter River', and considered by locals to be 'detrimental under the name of Kooch grass'. Wilson's actions, however, were to no avail, as by the early twentieth century, the grass was widespread in the northern South Island and the North Island.⁵⁷

Contrasting his disappointment over the bamboo and his decision to destroy the 'kooch [sic] grass', the three young Himalayan rhododendrons Wilson brought were 'flourishing under the care of' Wilson's 'friend Mr Davie in a garden adjoining the house of Mr. T. T. Brown in Christchurch'. Wilson himself was an active agent in this particular informal eco-cultural network, by freely distributing garden seeds and creepers from India, something he did throughout his life (see below). Several, he noted, fared well in the district (though he did not note which).⁵⁸ He also gave large amounts of the seed of the large hill bamboo to well-known local gardener and nurseryman, William 'Cabbage' Wilson (1819–1897), who presumably then distributed the plants commercially.⁵⁹ This adds a new dimension to Crosby's study, in highlighting intentional transfers of plant species. Unlike, for example, the hammerhead flatworm (*Bipalium kewense*) in Europe or the coffee rust in tropical plantations, both of

⁵⁷ T.R.O. Field, 'Ford MB. Effects of Climate Warming on the Distribution of C4 Grasses in New Zealand', *Proceedings of the New Zealand Grasslands Association* **51** (1990): 48.

⁵⁸ Wilson, 'Diary', 23.

⁵⁹ On William Wilson, see Charlie Challenger, 'Studies on Pioneer Canterbury Nurserymen: (1) William Wilson', *Royal New Zealand Institute of Horticulture Annual Journal* **6** (1978): 139–62. The man mentioned was Cyrus Davie (1821–1871), Chief Surveyor to the Provincial Council.

which were inadvertently brought with Wardian cases, there were no recorded unintentional ‘stowaways’ aboard Wilson’s plants.⁶⁰

Wilson’s plants were not limited to decorative varieties; he planted curry spices and chickpeas, planning also to introduce ginger on a sheltered slope of his property. Clearly, he introduced more edible Indian plants than those he listed, noting that: ‘In my own garden almost all the seeds used in an Indian Curry germinated and I believe that they will come to maturity.’ The curry, and possibly too the ingredients he had planted, would likely have been prepared by the Indian servants Wilson brought with him to Christchurch – mostly members of the Bussawan and Somen family, whose presence in the colony enlivened somewhat monochrome Christchurch. In introducing these species into Christchurch, Wilson was reaching into the realm of senses. The plants’ aromas and taste evoked his home in India just as powerfully as did the Indian appearance of his new home in New Zealand.⁶¹

In 1859, following his involvement in the events of 1857 in India, Wilson and his wife retired to the colony permanently. On their 1859 trip, they chartered the *Armenian*, a fine vessel belonging ‘properly to the Calcutta and China trade’. The ship’s journey illustrates the complex nature of Indian-Australasian trade, and the kinds of informal eco-cultural networks generated by such commerce. The *Armenian*, ‘full rigged and fitted with auxiliary [steam] engines’, made record time on its journey from Calcutta, via Mauritius and Sydney, to Lyttelton, Christchurch’s port. On the way, the vessel transported 500 coolies from Calcutta to Mauritius, where it picked up sugar for Sydney. Then, in Sydney, it embarked 55 horses and various other cargoes for New Zealand. A participant in the lucrative Sydney–Calcutta horse trade, Wilson then returned with the vessel to Sydney. There, he embarked 150 brood

⁶⁰ Keogh, ‘The Wardian Case’, 241.

⁶¹ On Indian cuisine among the British, see David Burton, *Raj at Table: A Culinary History of the British in India* (London: Faber and Faber, 1994).

mares to be sent on to Calcutta for breeding. On this voyage, Wilson had intended to bring ‘specimens of deer and other game and animals’ from India to New Zealand, but was thwarted by the still-unsettled nature of the subcontinent. Nevertheless, he succeeded in introducing from India into New Zealand ‘two hares and a Bokhara jackass [or donkeys]’.⁶²

Wilson’s activities in introducing new plants and animals into New Zealand were not unusual. Acclimatisation in the settler lands of Australasia, Canada and the United States, as the historian Thomas Dunlap has observed, became something of a colonial obsession. It appealed to Biblical injunctions to improve and restock the Earth with useful plants and animals. It reminded settlers of their homes through introductions of familiar species. It gave colonists an opportunity to hunt game for food. And it broadened settler economies, by introducing economically useful plants and animals.⁶³

In Canterbury, Wilson’s passion for acclimatisation found expression in various forms. He was a founding member of the Canterbury Horticultural and Acclimatisation Society (from 1866, the Canterbury Acclimatisation Society), later serving as its president. As an acclimatiser, Wilson released trout and birds into New Zealand, and oversaw the transportation to the colony of salmon ova. His Cashmere estate, for example, received kangaroo and deer from various sources. On his estate, he also maintained large fishponds of sufficient size to accommodate over 1,000 trout. Aware of the benefits as well as the drawbacks of acclimatisation, he wryly observed in 1866 that he would willingly sell his Cashmere goats if only someone could first round them up.⁶⁴

⁶² *Lyttelton Times*, 9 Apr. 1859, 6.

⁶³ T.R. Dunlap, *Nature and the English Diaspora: Environment and History in the United States, Canada, Australia, and New Zealand* (New York: Cambridge University Press, 1999).

⁶⁴ R.C. Lamb, *Birds, Beasts & Fishes: The First Hundred Years of the North Canterbury Acclimatisation Society* (Christchurch: The Society, 1964), pp. 17, 27, 29, 60, 91, 96.

As an owner of three very extensive estates, Wilson oversaw massive environmental changes across the Canterbury Plains. This included swamp drainage and the laying down of pasturage in place of native grasses, as well as tree planting and the introduction of hooved animals (sheep, horses and goats). The extent of these changes, underwritten, in part, by his earnings from the EIC, is quite astonishing, and underlines the significance of such biota barons in undertaking large-scale ecological change in New Zealand. Upon his death in 1881, Wilson's various landholdings, which included leaseholds and freeholds, tallied at over 48,600 acres. For example, Culverden, one of his three estates, had 5,500 acres laid in pasture, on which he ran 22,347 sheep. Other parts of the estate produced 3,300 bushels of oats and seventy tons of oaten hay per annum. Indeed, his total estate was valued at a staggering £197,000.⁶⁵ A contemporary recorded the extent of Wilson's environmental authorship: almost single-handedly, he had transformed 'dismal swamp ... into magnificent pasture country'.⁶⁶ Along with local labour, several of the Indian retainers Wilson brought with him from the subcontinent were set to work on the project of ecological transformation.⁶⁷

Wilson maintained his enthusiasm for introducing plants from India throughout his life. For example, in May 1871, he entertained Christchurch's mayor and councilors, giving them 'a tour of the gardens and stables'. The tour, noted the reporter, afforded evidence of 'the efforts of Mr Wilson in the way of planting and general cultivation having evidently been of very unusual extent. The great number and variety of ornamental trees and shrubs are worthy of all praise, and would take very extensive space to note in anything like detail.' The writer,

⁶⁵ Department of Justice, High Court, Christchurch. Item CH 511/1881 – Wilson Cracroft John, Box Location: L1, 1a–L4, 31c and L7, 64a – 67i. Deeds – L7, 67i–j. Books of Wills – U1, 3c–e, National Archives, Christchurch.

⁶⁶ *Otago Daily Times* (Dunedin), 5 Mar. 1881, 2.

⁶⁷ Gordon Oglivie, *The Port Hills of Christchurch* (Christchurch and Dunedin: Philip King Bookseller, 1991), pp. 162–68.

however, singled out two subcontinental species for special comment: ‘an extensive avenue of *Cupressus torulosa* [the Himalayan or Bhutan cypress] ... from twenty to thirty feet in height, ... [which] have a most beautiful effect. A number of Deodars, or sacred trees of India, also claimed a visitor’s attention.’ Given the trees’ height, Wilson most likely would have introduced them in the late 1850s. More significantly, perhaps, is Wilson’s continuing desire to distribute the seeds of his deodars for free. ‘Mr Wilson has quite a nursery of valuable shrubs of this kind [that is, deodars], and we understand that with a view to the general good of the province he is prepared to distribute seed gratuitously.’⁶⁸

Together with studies of the prevalence of Chinese plants,⁶⁹ Wilson’s involvement in importing organisms from India into New Zealand modifies some interpretations of plant and animal movement made by earlier generations of environmental historians, such as Alfred Crosby and Thomas Dunlap. In introducing plants and animals as a reminder of India, Wilson’s activities complicate Crosby and Dunlap’s assertions that New Zealand’s environmental transformation took place largely with European species, as a reminder, in part, of Britain (or, according to Dunlap, of England, though the planting of English species).⁷⁰ While the overall thrust of Crosby’s thesis – that, together with suitable climates and already modified ecosystems, human disturbance created suitable conditions for introduced organisms in parts of temperate colonies of European settlement – remains valid, both the pathways of introductions and the origin of those plants requires reconsideration. The diverse origin of introduced plants in New Zealand is emphasised in a study undertaken in 1937, which showed that of the 399 plants estimated to have become naturalised in New Zealand by that date, 306 were common across Eurasia. That figure, of course, an

⁶⁸ *The Star* (Christchurch), 6 May 1871, 2. I thank Louise Beaumont for alerting me to this reference.

⁶⁹ Beattie, “‘Empire of the Rhododendron’”.

⁷⁰ Dunlap, *Nature and the English Diaspora*, p. 53.

approximation, fails also to take account of all of the species settlers *tried* to introduce, irrespective of their success in naturalisation.⁷¹

In this respect, as I have written elsewhere in consideration of the activities of private settlers and commercial groups, it is perhaps less accurate to describe the British Empire as the ‘empire of the dandelion’, as Crosby coined it, than it is to describe it as ‘the empire of the rhododendron’, as a reflection of the number of species from Asia that Europeans acclimatised in its temperate colonies.⁷² Here, perhaps the concept of ‘neo-Eurasias’ rather ‘neo-Europes’ more accurately reflects the origins of the majority of acclimatised plants and animals in New Zealand; just as the phrase ‘neo-Australias’ might usefully characterise the impact of eucalyptus both in New Zealand and overseas.⁷³ This interpretation of the importance of broader ecological networks of plants chimes with recent research on fertilisers by Gregory T. Cushman, who has examined the redistribution of nutrient-rich soils (bird droppings and rock guano) from small Pacific islands to Britain, Australia and New Zealand.⁷⁴

Aside from the actual origin of the plants themselves, the routes by which Indian plants reached New Zealand were far more complex than Crosby ever recognised. For him, plants,

⁷¹ H.H. Allan, *The Origin and Distribution of the Naturalized Plants of New Zealand* (London: Linnaean Society, 1937), p. 32.

⁷² Beattie, “‘Empire of the Rhododendron’”. On other introductions, see Alan H. Grey, ‘North American Influences on the Development of New Zealand Landscapes: 1800–1935’, *New Zealand Geographer* **40** (2) (1984): 66–77; James Beattie, Jasper M. Heinzen and John P. Adam, ‘Japanese Gardens and Plants in New Zealand, 1850–1950: Transculturation and Transmission’, *Studies in the History of Gardens & Designed Landscapes* **28** (2) (2008): 219–36.

⁷³ On which, see Brett M. Bennett, ‘The El Dorado of Forestry: The Eucalyptus in India, South Africa, and Thailand, 1850–2000’, *International Review of Social History* **55**, supp.S18 (2010): 27–50; Robin W. Doughty, *The Eucalyptus: A Natural and Commercial History of the Gum Tree* (Baltimore and London: Johns Hopkins University Press, 2000); Ian Tyrrell, *True Gardens of the Gods: Californian-Australian Environmental Reform, 1860–1930* (Los Angeles and London: University of California Press, 1999); James Beattie, ‘Colonial Geographies of Settlement: Vegetation, Towns, Disease and Well-being in Aotearoa/New Zealand, 1830s–1930s’, *Environment and History* **14** (4) (2008): 583–610.

⁷⁴ This process of neo-ecological imperialism, as Cushman calls it, was necessary to consolidate productivity in Britain and Australasia, following initial soil productivity decline. G.T. Cushman, *Guano and the Opening of the Pacific World: A Global Ecological History* (Cambridge: Cambridge University Press, 2013).

animals and microorganisms came directly *from* Europe to New Zealand – only in a footnote to the first edition of *Ecological Imperialism* does he mention a single exception: the importance of the Australian Eucalyptus genus in the so-called Old World.⁷⁵ Analysis of introductions by individuals and private and public bodies, such as commercial nurseries and botanical gardens, as well as exchanges of seeds and animals among friends and acclimatisation societies, highlights the commonality of multiple stages of plant and animal introductions into New Zealand.⁷⁶ Moreover, it stresses the diverse sources and motivation for such introductions. Direct family or personal connections with India facilitated introductions of some Indian plants and animals into New Zealand, as witnessed in the case of Wilson and, earlier, McDonnell. Others – as I show below – derived from acclimatisation societies sourcing Indian plants from Australia and Hawai‘i, or through commercial nurseries which obtained them from Britain. This complexity supports recent research, notably the work of Pete Minard, who has examined nineteenth-century acclimatisation in Victoria, Australia. Like the findings presented in this work, Minard finds in Victoria that ‘acclimatisation was a contested and unstable practice that united scientists, farmers, hunters, and fishermen’ in a desire to improve nature. Likewise, as with New Zealand, ‘there was never a single idea, person, or practice shaping their formation, activities, decline, and transformation’.⁷⁷

COMMERCIAL AND PRIVATE ECO-CULTURAL NETWORKS

⁷⁵ A.W. Crosby, *Ecological Imperialism: The Biological Expansion of Europe, 900–1900*, 2nd ed. (Cambridge and New York: Cambridge University Press, 2004), p. xiv.

⁷⁶ This is borne out in the research of Paul Star into the introduction of small bird species into nineteenth-century New Zealand: Paul Star, ‘Human Agency and Exotic Birds’, *Environment and History* **20** (2) (2014): 275–99.

⁷⁷ Pete Minard, *All Things Harmless, Useful, and Ornamental: Environmental Transformation Through Species Acclimatization, from Colonial Australia to the World* (Chapel Hill: The University of North Carolina Press, 2019), p. 134.

With their blazing colours, delightful scents and delicate flowers, it wasn't only Wilson who found Indian flowering species especially appealing.⁷⁸ As the *Otago Witness* newspaper observed in 1893, the appeal of rhododendrons and azaleas, as well as other plants from this region, is easily explained when it is considered that 'India has perhaps a greater variety of plants than any other country in the world, having 15,000 native species, while the flora of the entire continent of Europe only embraces about 10,000'.⁷⁹ Eagerly collected by private settlers, municipal and regional botanical gardens and commercial nurseries in New Zealand, rhododendrons and azaleas were obtained from a variety of sources: from individuals and commercial nurseries, as well as botanical gardens in Australia, Britain, North America, India and elsewhere. Wellington settlers Thomas and Selina Drake, for example, developed a fine garden in the early 1840s, obtaining from uncles in Darjeeling rhododendrons and azaleas – which somehow managed to survive a year in transit.⁸⁰ Indian plants were also cultivated by commercial nurserymen and acclimatisation societies in New Zealand.

A Dunedin nurseryman, William Martin (1823–1905), introduced Otago's first rhododendrons and azaleas. By 1880, his catalogue listed nineteen varieties of Indian rhododendron.⁸¹ Of these, Martin was proudest of the 'rich yellow blossoms' of *R. falconeri*,⁸² a bush spreading 'seven or eight feet high and fully as wide'.⁸³ Every November when they flowered, Martin's 'Azalea Walk', at his nursery in Green Island, attracted as

⁷⁸ On their popularity in India, see Eugenia W. Herbert, *Flora's Empire: British Gardens in India* (Philadelphia: University of Pennsylvania Press, 2011).

⁷⁹ *Otago Witness* (Dunedin), 24 Aug. 1893, 4. Of course, China, with around 30,000 species, has the largest.

⁸⁰ Thora Parker, *And Not to Yield: The Story of a New Zealand Family, 1840–1940* (Auckland: David Bateman, 1987), p. 26.

⁸¹ William Martin & Son, *Catalogue of Plants Cultivated for Sale by William Martin & Son, Nurseryman and Seedsman, 'Fairfield'* (Dunedin: Mills, Dick and Co, 1880), p. 10.

⁸² William Martin, 'Early History of Fairfield', November 1963, typewritten. Martin (MS), Toitū Otago Settlers Museum (hereafter OSM), Dunedin, DC-0320 OSMN.

⁸³ William Martin, 'Some Notes on the Rhododendrons at Fairfield' (nd). Garden History Box 5 Nurseries, OSM.

many as 500 visitors a day, out of a relatively small population of 22,525 in 1878 and 24,372 in 1881.⁸⁴ The ‘Walk’ itself was ‘a long curved path margined with azaleas and backed by the fine rhododendrons, eight feet or more tall’.⁸⁵ Martin’s reputation was worldwide, through his hybridization of rhododendrons. The most notable of these was the ‘Marquis of Lothian’ (*R.thomsonii* and *R. griffithianum*), which he sold overseas.⁸⁶ The Marquis of Lothian underlines the importance for historians of ecological exchange to design models that take account of plant (or animal) material that changed through selective breeding or hybridisation, a vital aspect of the technical, scientific and aesthetic dimensions of eco-cultural networks.

Just as rhododendrons and camellias found favour in New Zealand’s cooler southern climes, so too did northern New Zealand’s subtropical climate give acclimatisers hopes of being able to successfully introduce some of India’s tropical plants.⁸⁷ In 1869, the Auckland Acclimatisation Society received Indian plants from Dr Neill (65th Regiment), Mooltan.⁸⁸ This was possibly Assistant Surgeon Alexander Hyndman Neill, who was stationed in New Zealand in the early 1860s. Two years later it was offered unspecified numbers of rare Indian plants from Hawai‘i, where many Indian plants had been introduced.⁸⁹ And, in 1883, Dr James Hector, Director of Wellington Botanic Garden, (and, arguably, New Zealand’s most influential late-nineteenth-century scientist) exchanged New Zealand seeds with the Calcutta

⁸⁴ William Martin, ‘Mr William Martin, a Pioneer Horticulturist of Otago’, handwritten notes by Wm. Martin (grandson), 3 Feb. 1953. OSM. Population figures from: *Census of New Zealand, 1881*, https://www3.stats.govt.nz/historic_publications/1881-census/1881-results-census.html#idsect1_1_502 (accessed 3 July 2019).

⁸⁵ Martin, ‘Some Notes on the Rhododendrons at Fairfield’.

⁸⁶ Martin, ‘Mr William Martin, a Pioneer Horticulturist of Otago’.

⁸⁷ *New Zealand Herald* (Auckland), 18 Aug. 1883, 4.

⁸⁸ *New Zealand Herald*, 5 Aug. 1869, 3.

⁸⁹ *Daily Southern Cross* (Auckland), 6 June 1871, 3.

Botanical Gardens, obtaining Indian ones in return.⁹⁰ These exchanges again underline the complexity of colonial plant transfers, and are several among many such examples of exchanges of Indian species initiated by private and public institutions. For example, the Canterbury plantsman T.W. Adams (1842–1919) received acorns and seeds from India, some of which he then passed on to David Tannock (1873–1952), Dunedin’s Superintendent of Reserves and head of its Botanic Garden, for planting around that city. This included specimens of the ‘*Quercus Dalhousie* [sic]’, possibly *Quercus incana*.⁹¹ *Cedrus deodara* was widely available commercially by the 1870s, if not earlier, with seeds on sale in plant nurseries from the early 1860s.⁹²

While insignificant in comparison with the flow of Indian plants into New Zealand, as early as 1859, the medico and forester Hugh Cleghorn (1820–1895) published a report on the acclimatisation of ‘the Kaurie [sic]’⁹³ pine from New Zealand’ at Bangalore’s Lal Bagh Botanical Gardens, Bangalore.⁹⁴ In 1868, G. Bidie, Honorary Secretary to the Agricultural Society, Madras, recorded that New Zealand flax (*Phormium tenax*) was found to thrive well in its gardens. With ‘every reason to believe that it will do the same at places of lower elevation’, the society’s committee thought, ‘therefore, it would be a great acquisition to coffee planters for cultivation in land in which the coffee has died out’. With that in mind, it requested ‘the Government ... have plants distributed from the Ootacamund Gardens for trial’. Great difficulty, however, was met with in sending the seed ‘to any distance without

⁹⁰ *New Zealand Herald*, 25 July 1883, 5.

⁹¹ T.W. Adams to David Tannock, Greendale, 13 Mar. 1915. Superintendent of Reserves: Correspondence, Series PR 3/2 (1915), Dunedin City Council Archives, Dunedin.

⁹² William Wilson’s nursery offered packets of *Cedrus* seed for sale at 2s 6d per ounce: *Lyttelton Times*, 1 Jan. 1862, 6.

⁹³ *Agathis australis*.

⁹⁴ Hugh Cleghorn, *The Forests and Gardens of South India* (London: W.H. Allen & Co, 1861), pp. 330–34.

impairing its vitality'. It is unknown what became of the trial.⁹⁵ A fuller investigation of the fate of New Zealand flax in India might be worthwhile, given the plant's later commercial success on St Helena in the twentieth century.

Despite the activities of Wilson and the anonymous author of 'The Canterbury Colony', who expressed his intention of introducing a variety of Indian animals, including Chittagong fowl and, for ornamental purposes, Brahman cattle, Indian animals did not enjoy anywhere near the same popularity as Indian plants in New Zealand.⁹⁶ Some of the more unusual attempts at introduction included the importation in 1877 by Christopher Basstian, of Dunrobin Station, Southland, of fifteen mongooses from India in an attempt to rid the station of its rabbits.⁹⁷ No record exists of their fate, and it can be assumed that the introduction did not succeed. Game animal introductions from India were relatively few and far between. One exception was the Himalayan tahr (*Capra jemlahicus* or *Hemitragus jemlahicus*). Intended to satisfy recreational hunting needs and to boost regional tourism, numbers of the animal increased rapidly following its introduction into the Mt Cook / Aoraki area of the central South Island in 1904, and the West Coast.⁹⁸ Today, culling is necessary to restrict the range of the population of 8,000 animals to the West Coast and Canterbury regions. Of birds, the Indian or common mynah (*Acridotheres tristis*) was introduced from Australia into many different places in New Zealand from the 1870s⁹⁹ as a biological insect control.¹⁰⁰ By the late-nineteenth century, the birds seemed to be thriving only in the central North Island. Mynahs

⁹⁵ Internal Affairs File 7071930: IA 1 1870/1930, National Library of New Zealand, Wellington.

⁹⁶ Wilson, Diary, 68.

⁹⁷ *Inangahua Times*, 4 June 1877, 3.

⁹⁸ A.H. Clark, *The Invasion of New Zealand by People, Plants and Animals: The South Island* (New Brunswick: Rutgers University Press, 1949), p. 278.

⁹⁹ J. Drummond, 'Dates on which Introduced Birds have been Liberated, or Have Appeared, in Different Districts of New Zealand', *Transactions and Proceedings of the New Zealand Institute* **39** (1906): 507.

¹⁰⁰ *Wellington Independent*, 26 Mar. 1868, 3.

preferred living on the margins of large forested areas, created through large-scale forest clearances in this period.¹⁰¹ Nevertheless, by the twentieth century they had become a pest species in many parts of northern New Zealand; but, by contrast, had probably died out in the South Island by the 1890s, because of the continued rapid depletion of that island's east coast forests.¹⁰²

CONCLUSION

Driven by nostalgia of India, a handful of ex-EIC biota barons in colonial Canterbury forged informal eco-cultural networks with the sub-continent through the plant and animal species they introduced into New Zealand. Several settlers and commercial nurseries also sourced ornamental plant species from the sub-continent, and other colonies, in the nineteenth century. In the process, they contributed to the development of 'neo-Eurasias' in different parts of the world. As plant species from India became more commonly available in Europe, so settlers in New Zealand in the last few decades of nineteenth century came to source Indian plants from local or overseas horticultural companies, a reflection of improvements in the transportation of living plants in particular and the commercialisation of plants and gardening in general. At the same time as plant breeders around the world, including ones in New Zealand (such as Martin in Green Island), were developing new species and commercialising existing ones, so the associations of India with the azalea or rhododendron diminished. Increasingly, such hybridised varieties came to be associated with particular colours and shapes, and be judged by their size and rarity, rather than necessarily their origins

¹⁰¹ W.W. Smith, 'Notes on the Saddleback of New Zealand (*Creadion carunculatus*)', *Transactions and Proceedings of the New Zealand Institute* **43** (1910): 168.

¹⁰² *Review of the Biology and Ecology of the Common Myna (*Acridotheres tristis*) and Some Implications for Management of this Invasive species* (Auckland: Pacific Invasives Initiative, 2009). The mynah, for instance, had been introduced into Melbourne in the 1860s.

from any particular place (and notwithstanding the quotation that opened the last section).¹⁰³ As Eric Pawson demonstrates, the hybridised rhododendron *Rhododendron griffithianum*, developed in 1856 by Sunningdale Nurseries, UK, ‘was to be a turning point in the breeding of hardy hybrids’. This species ‘became the parent of about 100 named rhododendron hybrids during the next century’.¹⁰⁴ Meanwhile, the nabobs and old warriors from India who had made their home in the colonies were becoming by the 1880s a distant memory among the new generations of settlers coming directly from Britain, Europe or elsewhere. Trends in plant species among New Zealand settlers were also changing, with Japanese species the order of the day in the 1880s, a reflection, more generally, of growing interest in East Asian species, as they were becoming more readily available thanks to Western incursions into the region.¹⁰⁵

Nevertheless, the existence today of Canterbury’s Cashmere and Kirwee, and the irrigation system de Renzie Brett did so much to develop, speaks to the impact of British Indian ideas and environments on a particular period of New Zealand history, just as the many hundreds of descendants of ex-India military, merchants and office mandarins living in New Zealand attests to the social impact of this group. Perhaps, though, the greatest impact of the de Renzie Bretts and Wilsons, both here and around the former British Empire, was environmentally, as biota barons able to deploy resources earned in India towards large-scale ecological transformation of particular localities outside the sub-continent.

¹⁰³ For the beginning of the investigation of this process and the relationship between consumption, commercialisation and botany in New Zealand, see James Beattie, ‘Scientific Agriculture, Health and Gardening: Japan, New Zealand and Bella and Frederic Truby King’, *New Zealand Journal of Asian Studies* 16 (2) (2014): 47–76; James Beattie, Jasper Heinzen and J.P. Adam, ‘Japanese Gardens in New Zealand, 1850–1950: Transculturation and Transmission’, *Studies in the History of Gardens and Designed Landscapes* 28 (2) (2008): 219–36.

¹⁰⁴ Eric Pawson, ‘Plants, Mobilities and Landscapes: Environmental Histories of Botanical Exchange’, *Geography Compass* 2 (5) (2008): 1473.

¹⁰⁵ Beattie, “‘Empire of the Rhododendron’”; Beattie et al., ‘Japanese Gardens’.

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