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ENNZ provides a forum for debate on environmental topics through the acceptance of peer reviewed and non-peer reviewed articles, as well as book and exhibition reviews and postings on upcoming events, including conferences and seminars.

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Editor's Introduction

Paul Star

European New Zealanders have always been unsure how to deal with the western side of South Island, most of which is remote, mountainous and forested. It has never seen much sustained human settlement, though there was a flurry of activity on the West Coast during its gold rush, which in 1867 attracted about 29,000 people. The largest town in the region, Greymouth, now has a population around 14,000. All the easily extractable gold has long since gone; timber and coal remain as exploitable resources, whenever world demand, market prices, and public approval encourage their removal.

In June 2014, despite strenuous opposition from environmentalists, the Minister of Conservation approved an extension of coal-mining on the Denniston Plateau above Westport, though the current slump in coal prices has caused Bathurst Resources Ltd. to defer its proposed activities. At present, and for the foreseeable future, the 'useful' indigenous trees (native beech and, in some areas, rimu and other podocarps) are protected, and are mostly on conservation land. Fiordland National Park and other, smaller parks lie within the Southwest New Zealand World Heritage Area (declared in December 1990), which encompasses 2.6 million hectares, or about 10% of New Zealand's land mass. There are other notable protected areas further up the Coast. This suggests to many that the most promising long-term income that can be derived from the west of South Island relates to ecotourism, which relies on a careful balance between improved facilities on the one hand and the retention of beautiful landscapes and a unique flora and fauna on the other.

This was not evident a hundred years ago. From 1916 to 1930 the Marlborough Timber Company was heavily committed to the exploitation of the rimu forest at the southern edge of what is now Fiordland National Park. This is the subject of the lead article in this issue of *Environment and Nature in New Zealand*. Yet even with these comparatively accessible forests (which grew beside Port Craig, enabling timber to be shipped out), the expenses associated with remoteness reduced the possibility of profit. In an

effort to gain a different financial return from isolated bush areas, Australian brushtail possums had, by this time, already been introduced into the forests of the West Coast in the hope of stimulating a fur industry.

In 1904 – as described on page 153 of *Making a New Land* (reviewed in this issue) – T.E. Donne, the head of New Zealand's Tourist Department, tried a different tack by releasing wapiti at George Sound (within Fiordland) and white-tailed deer at Lake Wakatipu (close by it). He reasoned that, to tempt rich tourists into the wilds of New Zealand, you needed not only mountains to admire but game to shoot. Donne also enthusiastically recorded the progress of another introduced ungulate, the fallow deer, which soon became populous in the forests west of Wakatipu. The significance and spread of this European species, with particular reference to its introduction down under, is the subject of ENNZ's second article. Between them, possums and deer have become the principal agents in the destruction through browsing of New Zealand's native forests, while introduced rats and stoats kill native birds.

The survival of many of the indigenous birds so attractive to tourists depends upon the retention of extensive and healthy native forest cover. This is the kind of birdlife that the *Ecosanctuaries*, discussed in the book of that name, are designed to restore. The review of this publication in ENNZ refers along the way to an island off the Fiordland coast which, in the 1890s, became the focus of an early attempt to save these birds. The most extensive campaign of pest control through aerial drops of 1080 poison ever undertaken is in full swing this season (late 2014), particularly on the western side of South Island. It represents an all-out effort by the Department of Conservation to gain some degree of control over exotic animal populations, whose impact on New Zealand's forest ecosystems is so dramatic.

A review of David Young's book on *Rivers* is a reminder that freshwater environments have also been knocked about. In June 2014 the ecologist Mike Joy, observing that they are 'like miners' canaries measuring the health of rivers', noted that three quarters of indigenous freshwater fish species are listed as threatened. The extraordinary growth of the dairy industry in New Zealand in

recent years, which has become such a significant contributor to the country's export earnings, has been accompanied by a rapid growth in river pollution. All of which perhaps increases the appeal not just of natural heritage areas and ecosanctuaries, but also, for some, of different kinds of spiritual havens, such as the *Garden of Distant Longing* which is the subject of this issue's final review.

Timber Town: A History of Port Craig

Alistair McMechan¹

In nineteenth-century New Zealand, clearing the landscape was widely considered to be 'virtuous and proper'.² Settler mentality generally regarded forests as inexhaustible and an impediment to progress.

While their destruction represented land clearance and was demanded by the growth of settlements, indigenous forests were often also exploited for the housing and commodity markets. Until the 1880s the industry was primarily local, supplying settler needs, but wider regional and provincial industries developed, including trading with the Australian colonies. Initially, kauri forests in the northern North Island were the most exploited for commercial ends, but with the decline of the kauri industry through exhaustion of supply, less valuable natives such as rimu became the mainstay of the industry, particularly in areas once considered inaccessible but which had opened up through improved technology and transportation.³

The First World War brought a boom to New Zealand, but it ended with the 1921 depression, the first in a series leading up to the Great Depression. In this period, exports of milled indigenous timber 'ceased to be an important export'.⁴ Increasingly protectionist through its new policies, the New Zealand timber industry had the 'doubtful distinction' of producing the world's most expensive timber.⁵ Against the background of a 'fluctuating economy' and a timber industry in transition, an attempt was

¹ Alistair McMechan is general counsel of Landcorp Farming Ltd in Wellington. This article is an abridged version of the history long essay he submitted in 1997 in partial fulfillment for the degree of BA (Hons) at the University of Otago, Dunedin.

² M.M Roche, *History of New Zealand Forestry* (Wellington: GP Books, 1990), 10.

³ Roche, *History of New Zealand Forestry*, 439-440, 85.

⁴ Tom Brooking, "Economic Transformation", in *The Oxford History of New Zealand*, 2nd edn., ed. Geoffrey W. Rice (Auckland: Oxford University Press, 1992), 231-232.

⁵ *Otago Witness*, September 7, 1926: 14.

made to establish a large timber sawmilling enterprise at Mussel Beach in a remote part of Southland.

*

Mussel Beach, or Port Craig as it became known, is situated on the south-western corner of Te Wae Wae Bay, on the south coast of South Island. Rising from the coast on marine terraces, the podocarp forest extends from Te Wae Wae Bay around the coast to the Wairaurahiri and Waitutu River valleys and beyond into Fiordland National Park.⁶ Although other species such as rata (*Metrosideros*), totara (*Podocarpus totara*) and silver beech (*Nothofagus menziesii*) are present, it was primarily to log rimu (*Dacrydium cupressinum*) that the Marlborough Timber Company (MTC) built Port Craig sawmill.

Archeological evidence at Sandhill Point has revealed a history of Maori activity in the area, but the food and timber resources of the area were never significantly exploited, primarily due to the small number of Maori travelling around the coast.⁷ The nineteenth century, however, marked the beginnings of extensive European exploitation. The seal and whale trades were followed by the growth of permanent European settlements.⁸ Some were isolated and short-lived, such as the gold mining settlements of Cromarty and Te Oneroa in Preservation Inlet later in the century.⁹ The forests of the Port Craig region remained virtually untouched except for the government-initiated construction of a track out of Preservation Inlet in the 1890s (due to the unreliability of

⁶ Chris Ward, "Waitutu Forest: Fiordland's Other Half", *Forest and Bird* 226 (1982), Supplement: 2-3.

⁷ P.J.F. Coutts, "The Port Craig-Sandhill Point Regions of Southland: A Preliminary Archaeological Report", *Archaeology and Physical Anthropology in Oceania* 5.1 (1970): 53-59.

⁸ P.J.F. Coutts, "Merger or Takeover: A Survey of the Effects of Contact Between European and Maori in the Foveaux Strait Region", *Journal of the Polynesian Society* 78.4 (1969): 513-514.

⁹ F.W.G. Miller, *West to the Fiords: The History of Western Southland* (Christchurch: Whitcombe and Tombs, 1954), 70-74.

shipping routes) and in 1908 the laying of a telegraph wire linking Puysegur Point lighthouse and Orepuki.¹⁰

The transformation of Mussel Beach began during the First World War. The MTC, as the name suggests, began operations in the Marlborough Sounds. The dominant figure in the Company was Daniel Reese, well known as a New Zealand cricketer as well as an entrepreneur.¹¹ Reese's first substantial sawmilling venture, in partnership with Westland miller John Craig, was in the Opouri Valley of Marlborough Sounds. The large amount of capital needed led to eight business people joining together to form the Marlborough Timber Company. Intensive competition with another sawmiller, William Brownlee, saw the forest rapidly depleted, and by 1914 it was clear that the MTC had a limited future in Pelorus Sound.¹²

The site, operation and scale of Port Craig were influenced by the Company's experiences in the Marlborough Sounds. The MTC had invested vast amounts of capital and successfully competed against a prominent sawmiller, which made them optimists in the sawmilling industry. Brownlee's use of imported American technology had a significant influence on Reese and Craig, who visited the United States and were impressed by the Lidger Wood overhead hauling system. The two men resolved to establish a logging and sawmilling operation using American methods and technology in New Zealand.¹³ But competition had also made them wary. The Crown held most available forest and licences issued were small, so logging conditions on Crown lands were not conducive to the establishment of a large-capacity mill.¹⁴

Of several sites they considered, the forests to the west of Te Wae Wae Bay were the most impressive. One contemporary described them as a 'never to be forgotten sight ... the row on row of stately

¹⁰ Ward, "Waitutu Forest": 4; New Zealand Forest Service, *Waitutu Forest: Information and Track Guide* (Wellington: New Zealand Forest Service), 6.

¹¹ Daniel Reese, *Was It All Cricket?* (London: Allen and Unwin, 1948), 454-455.

¹² John Orchard, "A Short History of Sawmilling in the Nydia Bay Area", *Journal of the Nelson and Marlborough Historical Societies* 2.1 (1987): 29-33.

¹³ Reese, *Was It All Cricket?*, 509-511.

¹⁴ Paul Mahoney, "Tall Timber, Tall Stories", videorecording of lecture, 1994.

rimus straight and tall like the vast pillars of some huge cathedral',¹⁵ but Reese and Craig simply saw timber. Their initial reconnaissance estimated more than 500 million feet of available timber, a 'staggering figure' which fired their imaginations. Problems of inaccessibility and the capital required because of this, were overshadowed by confidence that 'here was a place that our sons would be able to carry on for many a day'.¹⁶

By establishing a port at Mussel Beach (the only suitable site), they would in effect 'lock up' the timber to the west, so the chances of a competitor undermining their long-term interests were slim. Moreover, negotiating rights to log Maori as well as Crown land diminished the uncertainty inherent in long-term sawmilling due to small licences.

The South Island Landless Natives Act of 1906 granted Maori land to 'provide for their support and maintenance'. A twenty-kilometre stretch of Waitutu Forest west of Mussel Beach was allocated to Maori, supporting the suggestion since made that the government only gave land of limited accessibility and of dubious worth as a means of livelihood.¹⁷ It is not surprising that the Waitutu owners gave rights to log in return for royalties. By the time the MTC began operations it had secured rights to 4,000 acres.¹⁸

While awaiting the delivery of a complete milling plant from Sumner Iron Works, Everitt, United States, construction began at Mussel Beach in late 1916. The MTC relocated one of its two conventional mills, complete with many mill hands, from Pelorus Sound to Mussel Beach. This had a capacity to produce 10,000 superficial feet per day, and was used to produce timber for the construction of the new American mill and for dwellings and buildings. The forty men employed were housed on the foreshore,

¹⁵ H. McFeely (1916) in Miller, *West to the Fiords*, 119.

¹⁶ Reese, *Was It All Cricket?*, 510-511.

¹⁷ Harry C. Evison, *Te Wai Pounamu: The Greenstone Island: A History of the Southern Maori During the European Colonisation of New Zealand* (Wellington and Christchurch: Aoraki Press, 1993), 472-482.

¹⁸ Mark Hanger, "Sawmilling in the Southern Forests", unpublished New Zealand Forest Service report, 1981, Vol 2, Section 6: Port Craig; Reese, *Was It All Cricket?*, 412, *Otago Daily Times* September 29, 1921: 8.

but as development progressed a settlement for 200-300 people was constructed on the terrace above the beach.¹⁹

Success depended on creating port facilities capable of loading and sheltering ships. Rock for a breakwater was quarried out of a nearby cliff. Completion of the wharf took some time, as it succumbed to the forces of nature and had to be rebuilt.²⁰

Tram-lines were constructed on the terrace above the beach. These differed from most tram-lines both in extent and quality, since logging was expected to last more than a generation and this dictated a more permanent line. It followed a legal road reserve that passed through Maori land, and may have been subsidised by the government. The tram-line had to be capable of supporting large locomotives with considerable loads and the Lidger Wood hauler (a large and heavy piece of equipment).²¹

Development came at a price. Tram-line construction was a continuous cost for the MTC throughout its history, with estimates varying from £2,000 to £4,000 per mile.²² This was an enormous cost, given that track development was ongoing throughout the 1920s, and had to be met by the quality and amount of the timber anticipated.

John Craig oversaw the early development stages with much 'zeal and enthusiasm'. However, tragedy struck in November 1917 when the operation was still in its infancy. Craig had become impatient when a boiler-part failed to arrive as scheduled. In attempting to land at the beach near the Waikoau River, and collect the part where it had been left, he and the head launchman drowned.²³ Craig's value to the venture was demonstrated by it taking two years and several managers to find an adequate replacement.

¹⁹ Fred Flutey, Interview with author, Bluff, June 10, 1997.

²⁰ J.E Bremer, *Port Craig and Waitutu Forest 1925 and 1938* (Invercargill: published by the author, 1983), 4; Fred Flutey interview.

²¹ P.J. Mahoney, "Bush Tramways in New Zealand: An Unrecognized Historic Reserve", *Australian Journal of Historical Archaeology* 9 (1991): 79.

²² Minty Hughes, Interview with author, Invercargill, June 9, 1997.

²³ Reese, *Was It All Cricket?*, 512-513.

John Craig's contribution was marked in perpetuity by an official name change from Mussel Beach to Port Craig.²⁴ Less than a year after his death, his brother James was caught in an explosion while making a cutting in the tram-line and died three days later.²⁵ Reese referred to the 'hand of fate' when the development claimed a fourth fatality in 1920, a teenager who drowned at the Blue Cliff landing stage. The death of these men was a huge blow to the MTC.

Development continued despite these setbacks, particularly after the appointment of Peter Daly as manager in 1919. Of Irish descent, 'big, strong, forceful and brainy', Daly managed to restore 'order out of chaos'. Sumner Iron Works oversaw the design of the new mill, installation of new machinery, and the training of men to use it. Straddling a gully and stream, the mill had a permanent water-supply for creating steam and removing waste, and was built on the edge of a terrace, providing a natural slope from the log skids to the benches.²⁶ Some adaptation to the New Zealand industry was required: Pieces of the expensive machinery deemed unsuitable for cutting rimu were replaced with conventional New Zealand saws.²⁷

By about 1920, the foreshore and terrace above it had been completely transformed into an artificial harbour and thriving community. The settlement had a store, cookhouse, social hall, billiard room, school, library and numerous houses and huts to accommodate the growing number of employees and, for a significant number, their families.²⁸

The new mill, the most modern in New Zealand, was officially opened on September 22, 1921. With a capacity of 40,000 feet of sawn timber per eight-hour day it was four times larger than a

²⁴ Reese, *Was It All Cricket?*, 517-520; Warren Bird, personal correspondence, 1997; *Otago Daily Times* September 29, 1921: 8.

²⁵ *Western Star* October 22, 1918: 3.

²⁶ Reese, *Was It All Cricket?*, 516-518; Camille M. Malfroy, *Small Sawmills: Their Erection and Management* (Wellington: New Zealand State Forest Service, 1923), 6-7.

²⁷ Hanger, "Sawmilling in the Southern Forests".

²⁸ Verdon Sheehy, "Port Craig", unpublished reminiscences (c. 1976), Wallace Early Settlers' Museum, Riverton, 83; Orchard, "A Short History": 33.

conventional New Zealand mill of the era. The report of its opening reflected both the optimism of the MTC and pioneering victory over the landscape, where until now the forests had been 'securely protected' from 'the hand of man' by mountains and an inaccessible coast. The scale of construction at Port Craig was an accomplishment in itself, but it is even more remarkable when the only local resources were timber and rock, and even these required processing before use. Every nail, brick and railway iron had to be transported by sea, the alternative being a difficult pack-track along the Preservation track.²⁹

'Everything at Port Craig set new records for being big'.³⁰ Development did not cease in 1921: Construction continued when needed in the township, the tram-line was an ongoing investment, and new methods were constantly sought to improve efficiency. By 1921 capital expenditure had exceeded £100,000.³¹

There were financial concerns throughout the 1920s, as capital expenditure on the enterprise continued. The two greatest investments after 1921 were the construction of viaducts and the cable loading system. Four deep gullies running perpendicular to the encroaching tram-line resulted in four viaducts over the Sandhill Point, Percy, Edwin and Francis Burns. They epitomised the extent and permanency of the development, and their survival is symbolic of one of the boldest sawmilling ventures in New Zealand's history.

The viaducts had to take heavy loads and were expected to last for some decades. They were extremely well made. A Canadian company, Chester Construction, won the tender to build the first two viaducts and went bankrupt in the process.³² The 125 metre long, 36 metre high Percy Burn viaduct, built at a cost of £5,000, was completed in 1925. Any qualms about excessive expenditure on viaducts were mitigated by the perceived value of the timber in the trees.³³

²⁹ *Otago Daily Times* September 29, 1921: 8; Reese, *Was It All Cricket?*, 515.

³⁰ Mahoney, "Tall timber".

³¹ *Otago Daily Times* September 29, 1921: 8.

³² Hanger, "Sawmilling in the Southern Forests"; Hughes interview.

³³ *Otago Witness*, June 30, 1925: 39.

Unfortunately for MTC, the wharf never met expectations of becoming a loading base for ships. Rather, ships moored offshore and were loaded using flat-bottomed punts towed by the Company's launches. The system was labour-intensive, slow, and unreliable in bad weather. Reese then managed to obtain plans for a cable loading system. It was another 'first' for New Zealand and again exemplified the lengths to which the MTC was willing to go to increase productivity. The wharf was extended and an 84-foot tower erected at its end. Ships were moored to concrete blocks raised from the seabed by rail-irons. A stream-driven carriage ran on a cable from the tower through a derrick over the ship's hatch to a permanent mooring, thus keeping the cable straight. The return journey took three minutes, resulting in a loading rate of 10,000 feet per hour. Reese claimed it was a 'grave indictment' of the wharf labourers of Greymouth, who could only manage 3,500 feet per hour.³⁴ However, the MTC did not enjoy the benefits of the system for long. In operation in May 1928, the Port Craig mill and logging operation was to close in October that year.³⁵

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The working day began early at Port Craig. Before eight o'clock in the morning the navvies and bush-men made their way up the line in a carriage dubbed the 'piecart'. Work continued for eight hours, with a half-hour break for midday dinner, six days a week.³⁶

The focal point of the logging operation was the Lidger Wood. Capable of 128 horsepower, its main wire cable was anchored to the ground and ran through blocks on a spar over 100 feet tall to another anchorage half a mile into the bush. A carriage powered by the boiler ran up and down the cable. Smaller cables ran off blocks on the carriage and were attached to logs within 130 feet of the main cable, and were hauled back down the main cable line on an angle clear of the ground. Using the aerial system, logs were

³⁴ Reese, *Was It All Cricket?*, 522-524.

³⁵ Bird, personal correspondence.

³⁶ Hughes interview; Sheehy, "Port Craig", 82.

carried to the Lidger Wood which sat on a base adjacent to the main or a branch line, and with little effort loaded onto trolleys.³⁷

Unique in New Zealand, the Lidger Wood kept logs free of mud and gravel which could impede or damage a mill's saws. Once in position the Lidger Wood could remain there for months moving only the spar and cable until it had cut a circular swath of a half-mile radius. However, its size and weight (80 tonnes) made moving it difficult. It also lacked the flexibility and selective logging ability of more conventional ground haulers, two of which operated at Port Craig at the same time. When the Lidger Wood broke down and was not repaired in 1926, the MTC's ground haulers were supplemented by four more, which fed the mill until its closure.³⁸

Work in the bush was very labour intensive. The navvies on the tram-line used pick axes and shovels.³⁹ The bush-men felled trees using crosscut saws and axes. Winter working conditions were at times 'very cold and unpleasant' and summer brought sandflies. While the tram-line was well maintained, the bush degenerated into a bog. Occasionally the weather was so bad that the men did not work, but such days were few, nor was unjustified absenteeism tolerated. Minty Hughes, who grew up at Port Craig, recalled five men being sacked upon refusing to work, but it was an isolated incident.

Once hauled to the line, logs were loaded on bogies, which were four-wheeled trolleys coupled by a chain which could be spaced out to suit the length of the logs. The large Price 'Ar', purchased in the mid-1920s, operated the main line, while smaller engines supplied it from the branches before bringing in a load themselves at the end of the day. These logs would keep the mill operating the next morning until the logging produced more.⁴⁰

³⁷ Mahoney, "Tall Timber"; Hanger, "Sawmilling in the Southern Forests"; Hughes interview.

³⁸ Hughes interview; Fred Flutey interview; Les Carroll, Interview with author, Dunedin, June 16, 1997; Hanger, "Sawmilling in the Southern Forests".

³⁹ P.J. Gibbons, "Some New Zealand Navvies: Co-operative Workers, 1891-1912", *New Zealand Journal of History* 11.1 (1977): 60.

⁴⁰ Mahoney, "Tall Timber"; Hughes interview.

Upon being dumped outside the mill, logs were picked up on steam-driven rollers. Minutes later, sawn boards travelled from the mill on a moving chain with kinks and hooks to prevent the timber sliding, down the steep grade to the timber yard. Employees used their own sign language due to the noise of the saws. With the exception of the physical act of logging, the process from tree to timber yard was conducted with minimum handling.⁴¹

The mill was powered by steam generated from two (later three) boilers fuelled by sawdust. Once operating, sawdust was carried from the benches to the boilers on conveyors. The supply was supplemented by waste-wood ground up by a machine called a 'hogger'. Other waste was carried by conveyor across the cliff tops and dumped on a waste-fire, which smouldered continuously.⁴²

When ships came for timber, loading them took priority. The smaller ships, such as *Kotare* and *Oreti*, took 60-70,000 super-feet. When the larger Union Steam Ship Company vessels came, they could be loaded in about 35 hours using the cable system. Two crews of twenty stacked each board end on end until the hold was solid with timber. Men worked around the clock, the wharf lit with electricity for the purpose. Hughes recalled the men having to work double shifts, an eight-hour day in the bush followed by a shift loading.⁴³

Port Craig had three distinct categories of workers: bush hands, tram construction men, and mill hands, plus other skilled workers such as carpenters and blacksmiths.⁴⁴ This reflected sawmilling's interdependent nature. In the kauri industry, sawmilling and logging were separated, with transitory bush camps and sawmilling settlements, but Port Craig had no such division of

⁴¹ *Southland Times*, September 26, 1921: 6; Bremer, *Port Craig and Waitutu Forest*, 20.

⁴² Bremer, *Port Craig and Waitutu Forest*, 7-8; Hughes interview.

⁴³ Hughes interview; Bert McKay, Interview with Bill Howden, Tuatapere, c. 1992; Minty Hughes, Transcript of interview with DOC staff member, Southland Conservancy, c. 1986, 2.

⁴⁴ Bremer, *Port Craig and Waitutu Forest*, 5.

labour and difference in lifestyle.⁴⁵ Nydia Bay and some West Coast mills were similar in structure, but Port Craig's anticipated longevity was uncommon and helped foster a unique working environment.

Despite the stability afforded by Port Craig, the workforce was not static. Many came and went, fulfilling the transient stereotype of the industry.⁴⁶ However, there was a 'solid core' of workers who stayed for years, and many men and families made Port Craig home. Port Craig's permanent nature, its quality of construction and community spirit meant that those engaged in the industry could bring their families with them.

Les Carroll remembered his father, a reputable saw doctor, working at Port Craig. He initially took his family with him, but when expecting another child, the mother and family returned home to Colac Bay. However, he returned to Port Craig in 1926 when Daly offered him better wages and accommodation. Everyone at Port Craig worked for the MTC, with the exception of the teacher. It was therefore essential that the Company satisfied the needs of the community and provided the amenities to attract the likes of the Carroll family.

Pay was 'not great but good for the times' according to Minty Hughes. He recalled leading bush-men getting 25 shillings per day while his father, the head bush-man, earned 30. At the bottom of the hauling crew's hierarchy, the whistle boy got eight shillings per day. J.E. Bremer was hired as a youth at eleven shillings per day in 1925 working in the mill, on the wharf, and even gardening at Daly's house.⁴⁷

Historian Paul Mahoney has observed that accidents were alarmingly frequent in the sawmilling industry.⁴⁸ However, few of

⁴⁵ Duncan Mackay, "The Orderly Frontier: The World of the Kauri Bushmen, 1860-1925", *New Zealand Journal of History* 25.2 (1991): 153; Duncan Mackay, *Working the Kauri: A Social and Photographic History of New Zealand's Pioneer Kauri Bushmen* (Auckland: Random Century, 1991), 1, 153-154, 89, 94.

⁴⁶ A.H. Reed, *The New Story of Kauri*, (Wellington: A.H. and A.W. Reed, 1964), 82-87; Mackay, *Working the Kauri*, 81.

⁴⁷ Bremer, *Port Craig and Waitutu Forest*, 5.

⁴⁸ Mahoney, "Tall Timber".

those interviewed about their days at Port Craig mentioned accidents and the dangers of the bush. Once an employee put his hand on a rope on the loading tower and was pulled through a block, losing four fingers, but generally such occurrences were considered all 'part and parcel' of the job.⁴⁹ Hughes remembered a 'funny' incident where a hauling cable snapped, wrapped itself around a man's neck and lifted him ten feet clear of the ground. He said that cables broke about every eight months, shot into the bush like a coiled spring and were 'liable to take someone's head off'.

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The establishment of Port Craig was a late embodiment of the settler mentality, involving 'progress' on the 'frontier'. The bush at Mussel Beach was cleared and a town constructed, its residents carving a living out of the rugged terrain. Pride was taken in the extent of development, the township, the tram-line, the viaducts, all symbolic of the 'man over nature' ethic. The vast majority of photographs of the Port Craig era are of settlement, of tidy houses surrounded by forest, and of men at or taking a break from work.⁵⁰ They emphasise man-made constructions and supremacy over the 'hostile' environment.

Built for a single purpose yet permanent in nature, small in population yet diverse in character, Port Craig was a distinctive, idiosyncratic 'timber town'. Its *raison d'être* determined the settlement's topography. With no vehicles except rail carts and engines and no roads save for rail tracks, the tram-line ran through the heart of the settlement. Residents built board-walks to combat the mud of winter on the settlement's well-worn paths.⁵¹ The main-line, from Daly's house to its end some miles in the bush, was the 'main street', and ran directly in front of the new school, cook-house, store and social room.

⁴⁹ Bremer, *Port Craig and Waitutu Forest*, 17, 23; Sheehy, "Port Craig", 84.

⁵⁰ Bill Howden, Photographic Collection, Tuatapere; "Port Craig Photographs", Peter Chandler Collection, MS 1270 6-1-5, Hocken Library, Dunedin; E.A. Phillips, Photo Collection, E 2037/31, Hocken Library, Dunedin.

⁵¹ Myrtle Flutey, Interview with author, Bluff, June 10, 1997.

Numerous box-like structures stood in rows adjacent to the line, with clusters in between the old and new mill and on the cliffs overlooking the wharf. These were the single men's huts, mostly of one room shared by two men, the only comforts a basic stove and bunks. Furniture was made as required, there being no shortage of available timber for the job. Sawmillers expected accommodation provision, but its quality often reflected the transient nature of the industry. Bremer recalled helping his travelling companion rebuild his bunk on arrival, as not all the huts were in good condition. In the only union activity he could recall, complaints related to living quarters.⁵²

There were 25-30 houses at Port Craig, most in the settlement but a few scattered along the beach. A row of five almost identical houses was built on a cliff overlooking the bay, serviced by a wooden tramway for hauling firewood and bulky objects.⁵³ Five more were built in a line above the schoolhouse on a small rise. The Fluteys identified some of the occupants as the families Sangster, Carroll, West and McKay, the breadwinners being a blacksmith, saw doctor, carpenter and engineer respectively.

Further along the rise were two more, with the manager's house, on the far side of the mill overlooking the bay. While there are few remains of the once numerous huts, chimney bases and brick mounds reflect the permanency of construction and the superior quality of the houses. The remains of Daly's house, the largest at Port Craig, show two chimney-bases, one of them double-sided.⁵⁴

As well as reflecting the non-transient nature of the settlement, the position and construction variation of the dwellings reveals a basic social structure. While huts were situated adjacent to the 'main street', most homes were away from it, and the manager's home was 'in a sheltered corner overlooking the bay'. The position of houses was based on seniority of position. Daly's house

⁵² Bremer, *Port Craig and Waitutu Forest*, 10-13; Hughes interview.

⁵³ Hughes interview; McKay interview; Jackie Breen, "An Archeological Site Survey of Port Craig, Waitutu State Forest", Historic Resources Section, Department of Conservation, Southland, 63.

⁵⁴ Breen, "An Archeological Site Survey", 54.

was superior in size and construction to the rest, and the only one painted, a visible 'social symbol'.⁵⁵

Despite the differences in accommodation, all endured the same hardships of isolation. Even here some elements in the standard of living at Port Craig allow speculation on its social nature. Single men were provided with food by the cookhouse, sitting at designated places at three long tables for breakfast and tea, with a less formal midday dinner. The seating arrangement may have reflected seniority as it did in the kauri industry. Several aides supported a head cook, waitresses serving the prepared food. Myrtle Sangster was a waitress there between school and marriage to Fred Flutey. Several of the waitresses were members of sawmilling families, while others came into Port Craig and boarded with families. These were the only independent women in the settlement, receiving wages significantly less than men's.⁵⁶

Breakfast consisted of porridge, meat and as much bread as was desired. Lunch was mainly bread and jam, although occasionally hot meals were prepared. Tea proceeded in two sittings, the mill-crew dining while the bush-men journeyed back and washed. The menu was set, soup followed by meat, potatoes and vegetables, and pudding. Meat was imported but the inefficient refrigerator made storing significant amounts and keeping it fresh a problem. The only fresh vegetables available were potatoes, onions and carrots. Dried peas and beans were used extensively. In 1925 dining at the cookhouse cost 30 shillings a week, half the wages of those at the lower end of the income scale.⁵⁷

Fred Flutey recalled the constant moaning of 'stew, stew, stew' by the working men, but the monotony of the diet was broken occasionally by the rich resources of the area. Groper and flounder were welcome treats on the cookhouse menu. The foreshore was often thick with crayfish, a kerosene tin full of them a regular sight, and pigeon stew was common when imported beef and mutton were short. For some, the rich food resources

⁵⁵ Bremer, *Port Craig and Waitutu Forest*, 10; Hughes interview.

⁵⁶ Breen, "An Archeological Site Survey", 65; Bremer, *Port Craig and Waitutu Forest*, 6; Mackay, "The Orderly Frontier": 154-155; Myrtle Flutey interview.

⁵⁷ Hughes interview; Fred and Myrtle Flutey interview; Bremer, *Port Craig and Waitutu Forest*, 5-7.

amounted to virtual self-sufficiency. The West family, of Maori origin, used the coastal and forest resources habitually.⁵⁸

Families dined at home but suffered from the same constraints in food supply as the cookhouse. Families overcame the scarcity of fresh fruit and vegetables by maintaining gardens. Port Craig was fertile and productive enough even to grow luxuries like strawberries. Some products were virtually non-existent. Milk was seldom seen in the cookhouse or most family homes, tinned condensed milk being used instead. The two most senior employees of the company had cows. Daly had five, with excess milk distributed to the families of other senior employees.⁵⁹

In most cases, regular shipping from Invercargill meant that the supply of goods was sufficient to meet needs, though some considered the prices high. Desired products could be purchased or ordered from the store in the 'main street', which opened twice daily. Goods were imported in bulk and sold by weight. Residents were not left wanting for anything, one family even purchasing a piano. Work clothes were sold on site and a tailor made regular visits taking orders for other needs.⁶⁰

Port Craig's 'main street' hardly compared to that of towns, but it could boast one-stop shopping and a financial institution in the street, since the store also acted as post office and pay- and time-keeper. Such an arrangement abrogated the need for money. Men were paid monthly by cheque. All transactions made during that time, including cooking-house dues, were deducted. The system was flexible, and men could even order alcohol as long as it was consumed in accordance with Company rules.

The primary source of energy at Port Craig was, not surprisingly, wood. Off-cuts were plentiful and used extensively, or one chopped one's own from the surrounding forest. For lighting, everyone bought candles and kerosene for lamps at the store.

⁵⁸ Bremer, *Port Craig and Waitutu Forest*, 27-28; Ruth West, Interview with author, Invercargill, June 11, 1997; Carroll interview.

⁵⁹ Fred and Myrtle Flutey interview; Carroll interview.

⁶⁰ Hughes interview; Fred and Myrtle Flutey interview.

Daly had a small private generator at his house, the only dwelling to have electricity.⁶¹

With few luxuries in the immediate vicinity, life was simple. Bremer noted the healthy physiques of men living a 'clean outdoor life' away from the towns.⁶² Illness was rare, apart from the common cold and occasional stomach aches. Several cases of diphtheria in 1921 warranted a visit from the Tuatapere district nurse,⁶³ but doctors' visits were few and the closest hospital was at Riverton. There was an effective sanitation system and the water supply was ample. Houses had tanks, huts barrels, and extra water for the mill and community was piped from a stream immediately north of the settlement. Water was generally heated in a copper on the stove.⁶⁴

In some ways men benefited from the simplicity of their accommodation. The central ablutions block was a comfort. The old mill, which was retired from sawmilling upon completion of the new one, was still used to generate power for the winch to the wharf, the MTC refrigerator, and hot water. The water was used by men returning from work, and one bathroom, complete with wooden bath, was available.⁶⁵

The ablutions were like a 'race stable ... about twenty jokers could have gone in at the same time'. A nine-hole toilet had wooden seats over a six metre long concrete 'trough like structure' with a constant flow of water flushing it into a septic tank. Toilets were also situated below the level of the wharf for yardmen and schoolchildren, the sea providing a natural flush. At high tide the toilet could act like a blowhole. Family homes had out-houses, while ceramic pipes found at Daly's could be consistent with a more advanced sewage system.⁶⁶

⁶¹ Hughes interview.

⁶² Bremer, *Port Craig and Waitutu Forest*, 6.

⁶³ *Western Star*, September 27, 1921: 2.

⁶⁴ Hughes interview; *Otago Daily Times* September 29, 1921: 8; Myrtle Flutey interview.

⁶⁵ Hughes interview.

⁶⁶ Hughes interview; Breen, "An Archeological Site Survey", 35; Minty Hughes, videorecording of Television 3 News interview, April, 1994.

Waste of all sorts, whether biodegradable or not, was simply dumped. A waste wood fire disposed of excess wood and a stream got rid of ashes. Archeological findings show a considerable degree of rubbish dumping, with enamel plates, crockery and old shoes among the lasting rubbish of a previous generation.⁶⁷

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A micro society was built at Port Craig, transporting the town environment, including social structure, to the wilderness. The transformation was not all one way, however. Port Craig was on the periphery of 'civilisation', and its isolation and relationship with the forest influenced its development as a community. Invercargill in the 1920s was a thriving city with broad streets, electric trams, running water, motorcars, stone buildings, shops and theatres. Port Craig was simple by comparison. Whereas Invercargill prided itself on its modernity and manicured gardens, Port Craig was a settlement carved out of an untamed wilderness.

Reliant on the sea for survival, Port Craig seemed primitive in a time when rail and then road construction were linking most coastal communities. Many made the journey to Port Craig by steamer from Invercargill. This was a straightforward trip, although the weather dictated its frequency and duration.⁶⁸ Tuatapere was the closest town to Port Craig. From there a metalled road followed the Waiau River to the coast, where the last point of civilisation was the Erskine family farm at the river mouth, eight miles from Tuatapere and still twenty miles from Port Craig.

The beach or a cart track was followed to Blue Cliff, subject to the tides. If the weather was too rough the remaining eight miles had to be tramped, following the Puysegur Point telegraph line. The difficulty in reaching Port Craig was augmented by rain as rising rivers inhibited passage along the beach. Carts were often unable to cross rivers.⁶⁹

⁶⁷ Breen, "An Archeological Site Survey", 63.

⁶⁸ Carroll interview; Bremer, *Port Craig and Waitutu Forest*, 3-4.

⁶⁹ *Otago Daily Times*, 29 Sep 1921, p 8; Carroll interview; Sheehy, "Port Craig", 81.

The difficulties in travel did not stop a regular flow of single workingmen. For families, however, Port Craig was home and trips out infrequent, the one day off each week not providing enough time for an excursion into town. Port Craig, due to its isolation, did not observe most public holidays, instead closing down for several weeks over Christmas and Easter. For a fortnight many residents left but some families stayed on. Passage on the *Oreti* or similar vessel was not cheap, and many had nowhere else to go.⁷⁰

Myrtle Flutey commented that Port Craig was 'like one big family' where everyone knew everyone else. Hughes agreed, but conceded that he did not know the Irishmen as well as the others, since 'they kept to themselves a bit'. The absence of reminiscences of working men is a limitation, but the evidence available exemplifies that Port Craig was more than just a 'timber town': It was also a community forged in isolation.

In 1925 Port Craig was 'a bigger concern than many Southlanders realise', with a population of about 180.⁷¹ This was a sizeable contribution to Wallace County's overall population of about 10,000.⁷² The operation necessitated a workforce of up to 140, and in addition there were about 30 women, mostly wives, excluding young school girls.⁷³ The number of school children on the school roll varied between 35 in 1921 and 22 in 1922.⁷⁴

The settlement had a telegraph facility, but when the weekly steamer came in from Invercargill perhaps its most valued cargo was mail. The proliferation of mail was indicative of the extent of isolation. During the week, work and life centred on the mill: 'The

⁷⁰ Hughes interview; Myrtle Flutey interview; Sheehy, "Port Craig", 95, 88; Bremer, *Port Craig and Waitutu Forest*, 28.

⁷¹ *Otago Witness*, March 17, 1925: 31.

⁷² *Census of New Zealand*, Vol 2 (Wellington: Government Printer, 1921), 27-30.

⁷³ Hughes interview; McKay interview.

⁷⁴ New Zealand Education Department, "Classification Returns, Port Craig", 1921, 1922.

outside world was forgotten, we were a community of our own ...'⁷⁵

Sometimes the outside world came to Port Craig. The Labour Party was weak in the South, but its candidate got a good reception at Port Craig in the 1925 election campaign, despite passing out at the end of his talk due to the heat of the lanterns. The Liberal candidate, from a white-collar background, was received politely but 'seemed out of place' in a settlement where almost everyone had a working class background. Many residents of Port Craig were not on the electoral roll. In a society that seemed to be excluded from the outside world, many were oblivious to politics and economics, which made the closure in 1928 all the more surprising and distressing to them.⁷⁶

The social focal point for the 'jokers' was the social and billiards room by the cookhouse on the 'main street'. A large fire, billiard tables, card tables, and a piano provided a homely atmosphere. Billiards competitions and music recitals whiled away the long winter hours. There was also a gymnasium and a library.⁷⁷

Management, including Daly and Reese, rarely interacted socially with the men except on special occasions. Families, too, tended to stay at home. However, everybody was invited to dances held about once a month, when the shortage of adult females was alleviated by girls as young as eight becoming dance partners.⁷⁸

Reese considered the presence of women to have had a 'refining influence' even amongst rugged men in isolated places. Drinking, however, was a ubiquitous social activity in the industry and on Saturdays men often had parties, sometimes in the 'blood-house', a bunkroom for recent arrivals completed in 1925. The presence of some single women and daughters of workers meant that

⁷⁵ Myrtle Flutey interview; Hughes interview; Carroll interview; Bremer, *Port Craig and Waitutu Forest*, 22.

⁷⁶ Bremer, *Port Craig and Waitutu Forest*, 29-30; Fred Flutey interview.

⁷⁷ Hughes interview; Bremer, *Port Craig and Waitutu Forest*, 25.

⁷⁸ Hughes interview; Fred and Myrtle Flutey interview; Bremer, *Port Craig and Waitutu Forest*, 26-27; *Otago Daily Times* September 29, 1921: 8.

relationships, often leading to marriage, invariably took place. Fred and Myrtle Flutey were a case in point.⁷⁹

‘There was always something you could do’ socially. Most did not ‘budge far’ except for the occasional excursion to the beach and coastline. At the beginning of each year the MTC had a picnic, when all employees and families journeyed to ‘back beach’ (near Sand Hill Point), spending the day relaxing and playing sports. Wood-chopping competitions were held twice a year and were always keenly contested. Probably because of the physical nature of the work, organised sport was rare. One-off sports days were organised, the year’s highlight being a clash of mill-hands and bush-men on back beach, incoming tides and soft sands simply adding an extra dimension to the game.⁸⁰

In their spare time, many stayed within the settlement, making the most of imported comforts like billiards and books. Others took advantage of the natural environment. Verdon Sheehy spent long summer evenings exploring and deer-stalking. Prospectors passed through on their way to Preservation Inlet in search of minerals, including gold, inspiring some men to spend their days ‘prospecting’ along the coast. Others produced more tangible results fishing and hunting for pigeons.⁸¹

The nearest police constable was at Tuatapere. Daly, a Justice of the Peace, was the only semblance of law at Port Craig. He became manager after several had failed, not in their competence to manage the operation but in their ability to control the settlement. Bremer recalled meeting Daly for the first time: a solid man in a slouch hat and smoking a cigar, with a gruff voice that ‘put the fear of death in me’. Reese believed few men could have done what

⁷⁹ Reese, *Was It All Cricket?*, 517; Bremer, *Port Craig and Waitutu Forest*, 26-27, Fred Flutey interview.

⁸⁰ Fred and Myrtle Flutey interview; Bremer, *Port Craig and Waitutu Forest*, 14, 27; Hughes interview.

⁸¹ Sheehy, “Port Craig”, 88, 93, 94; Bremer, *Port Craig and Waitutu Forest*, 28.

Daly did, praising him for his 'great responsibility', not only at the mill but in his 'control of a small town'.⁸²

Daly asserted his authority on the settlement early. He made a rule that alcohol was not to be consumed before Saturday night. Anyone caught drinking illicitly would be sacked on the spot but, to avoid smuggling, alcohol could be ordered and kept at the store until Saturday night. Men could drink as much as they liked, and with Sunday off the Company ensured a productive, reliable workforce the remaining six days a week.⁸³

The community rarely had serious problems, and in other spheres of life men had a free hand to resolve their own disputes. Relations between the men were generally good, 'although there was a lot of friendly barracking'. Disputes were often solved by fisticuffs. Seniority was respected, the older men diffusing tensions or breaking up fights between younger men, allowing the argument to be solved on the beach when they were sober.⁸⁴

Standards of behaviour were maintained despite the lack of religious influences in the lives of most men in the bush. Port Craig had no church or chapel and visits from ministers were rare. Many felt no need for faith. However, the settlement was not devoid of religion. Myrtle Flutey took young children in basic Sunday school lessons and some services were held in the social room.⁸⁵

Whereas bush-camps of the kauri industry were a 'male world', sawmilling settlements were more conducive to settled life and included women and children.⁸⁶ On arrival at Port Craig with her husband in September 1919, a teacher was shocked to find children running around the beach. She gathered them together in her house, taking elementary lessons and playing games. Upon making enquiries at the Education Board she was made the first teacher, and a building near the wharf became the school.

⁸² Bremer, *Port Craig and Waitutu Forest*, 4; Daniel Reese to Henry Drewe, 6 Sep 1928, Miscellaneous Letters 1924-1930, Wallace Early Settlers' Museum, Riverton.

⁸³ Reese, *Was It All Cricket?*, 516-517; Hughes interview.

⁸⁴ Bremer, *Port Craig and Waitutu Forest*, 22-23; Hughes interview.

⁸⁵ Hughes interview; Myrtle Flutey interview; Carroll interview.

⁸⁶ Reed, *The New Story of Kauri*, 88; Mackay, *Working the Kauri*, 63, 79.

Unfortunately, noise from the mill and poor lighting inhibited teaching, and most children went bare-footed and were vulnerable to sandflies.⁸⁷

An acre of State Forest was revoked and a new school (not completed until 1926) built by the MTC under contract for the Education Department. Ages ranged from five to fourteen, few progressing as far as standard six. After school most children filled their time doing chores, watching others work, or playing on the beach. The wife of the MTC's clerk taught piano and one of the teachers gave singing lessons.⁸⁸

For women, domesticity was a full-time job. No women worked for wages at Port Craig except for a handful of waitresses. Although it was a tough life, those who had been in the industry expected nothing else. Life was certainly hard, even 'a bit primitive', but it was expected, endured and even enjoyed.⁸⁹

The sense of community in Port Craig is best exemplified by the rallying of the community around a family whose breadwinner lost four fingers. In days before substantial accident compensation the community contributed out of their own pay cheques to support his family.⁹⁰ Such generosity epitomised the sense of mateship between working men and community in settlements throughout the industry.

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In May 1928 Port Craig produced an astounding 769,000 feet of timber, the largest output of any mill in New Zealand.⁹¹ It seemed the capital investment was beginning to pay dividends. But, in October, residents were given notice that the mill was to close. This came 'out of the blue' for them, initial disbelief giving way to

⁸⁷ Elsie Scobie, personal correspondence, 1997; Bremer, *Port Craig and Waitutu Forest*, 10; Hughes interview; Hanger, "Sawmilling in the Southern Forests"; Myrtle Flutey interview.

⁸⁸ *New Zealand Gazette* 81 (1924): 2915; Hanger, "Sawmilling in the Southern Forests"; New Zealand Education Department, "Classification Returns"; Hughes interview; Myrtle Flutey interview; West interview.

⁸⁹ Myrtle Flutey interview; Hughes interview.

⁹⁰ Hughes interview.

⁹¹ Reese, *Was It All Cricket?*, 524.

disappointment and sadness. Many had expected they would be at Port Craig for the rest, or most, of their lives: 'They had their little slice of heaven and that's where they were staying'. Now some did not know what to do and had nowhere to go. Sheehy was saddened to see families effectively homeless, since 'This was where they belonged'.⁹²

The tug *Southland* was chartered to ferry people (mostly families, as many single men walked out) to Bluff, and arrived just two days after the mill closed. This was the only assistance the former employees of the MTC received. Some struggled to find work and became statistics of the unemployed in the early 1930s. Others were fortunate enough to have homes to return to.⁹³

The *Otago Witness* reported that 'the cause of the closure is unknown here'. Subsequently, many residents and others have blamed the closure on the Great Depression, but while it prevented reopening from being viable in the 1930s, the closure in 1928 resulted from more complex factors.

Historical geographer Michael Roche asserts that the Depression overshadowed the problems in the timber industry throughout 1920-1935, the period of Port Craig's production. The industry had 'inherent structural limitations' that were exacerbated by economic depression.⁹⁴ The depressed state of the industry can be measured by the number of bankruptcies and reorganisations of companies, and Port Craig is but one of the statistics.

In 1935, there was an excess of supply over demand, causing prices to plummet, which had disastrous consequences for mills with high financial overheads. In addition, the State Forest Service imposed regulatory policies as the industry underwent a transformation towards scientific forestry and exotic afforestation. There were restrictions on the export of indigenous

⁹² Bremer, *Port Craig and Waitutu Forest*, 33-34, 119; Hughes interview; Fred and Myrtle Flutey interview; Carroll interview; McKay interview; Hanger, "Sawmilling in the Southern Forests"; West interview.

⁹³ Carroll interview; Bird, personal correspondence; Hughes interview; McKay interview.

⁹⁴ M.M. Roche and A. Sewell, "The Impact of the Depression on the Timber Industry and Afforestation in New Zealand, 1920-1935", New Zealand Forest Service Working Paper 3/86, (Wellington, 1986): 3, 29, 7.

timber, and it became 'comparatively costly' on the local market as increasingly remote areas were logged. With economies of scale and less rigorous regulations overseas, imports from the United States were often the cheaper alternative.⁹⁵

The biggest cause of the depressed state of the timber industry was the decline in building after the post-World War One boom. Stagnation in other sectors had a corresponding effect as demand diminished and capital became shorter in supply. Although there was a slight recovery in 1929-1930, when Port Craig reopened briefly, the Depression set in with catastrophic effect.⁹⁶ By 1931 Port Craig had closed again, this time for good.

But the nature of the industry and economy was only half the reason for Port Craig's closure. The second reason is, ironically, one that contributed to its high reputation: its size. The amount of capital invested meant it could not afford to run at a loss.⁹⁷

Several interdependent factors undermined the MTC's intentions. In 1916 the quality of the forest had impressed the Company, but the estimates of millable timber failed to materialise. The MTC had projected a profitable 20,000 super feet of timber to the acre through to the Wairaurahiri and Waitutu River Valleys, but as early as 1921 there were indications that the initial survey had not been thorough enough. Surveys in 1921 and 1926 concluded that the average timber volume was only half the original estimate. Sheehy's own records revealed an alarming 6,000-7,000 feet per acre.⁹⁸

This huge problem had a flow-on effect. The rate of logs determined the productivity of the mill. The lower projected rate meant more tram-line and the logging of smaller trees to keep the mill supplied. Because suitable timber was sparse the Lidger Wood had to be moved regularly at great expense. At the opening ceremony a representative of Sumner Iron in fact noted that it was

⁹⁵ W.P. Morrell, *New Zealand* (London, 1935), 159-160; Roche and Sewell, "The Impact of the Depression", 4-8.

⁹⁶ Roche and Sewell, "The Impact of the Depression", 9-10.

⁹⁷ Paul Mahoney, "A Report on the Port Craig Sawmill Wooden Viaducts", New Zealand Historic Places Trust, 1990, 4; Mahoney, "Tall Timber".

⁹⁸ Hanger, "Sawmilling in the Southern Forests"; Sheehy, "Port Craig", 117-118; Fred Flutey interview.

one thing to have the technology but another to make it reach its potential.⁹⁹

In an effort to keep up the log supply, loads on the log-trains were increased. This took its toll on the engines and bogies, causing 'mechanical nightmares'. Proximity to the coast also limited opportunities for logging, undermining the flexibility of branch lines into productive areas. In the long run the value the MTC obtained from the forest did not sustain the investment made in it.¹⁰⁰

A further factor was the amount of each log that was consigned to the waste fire. The percentage of log converted to saleable timber was low. The recovery rate was 60%, the rest simply burned. Mills close to towns could sell their inferior timber cheaply in the local market, but Port Craig did not have this option.¹⁰¹

The depressed market made it difficult to sell timber that cost so much to produce. Between May and August 1928 productivity was high, an average of 628,000 feet per month, but, although these figures were probably the highest in Port Craig's history, sales realised only 74% of production costs. Sheehy remembered the timber stockpiling on the wharf and no ships or buyers.¹⁰²

Dependence on shipping also inhibited the MTC's ability to be competitive. The Union Steam Ship Company at this time was an effective oligopoly. By 1917, 'no ship of any consequence could cross the Tasman or sail the New Zealand coast without its consent'.¹⁰³ Reese Brothers, whose ships took Port Craig's timber to markets in Invercargill, Dunedin and Christchurch, was comparatively modest. Substantial profits depended on larger shipments to bigger markets in North Island and Australia, but the first export to Australia by a Union Steam Ship Company vessel did not occur until 1927. During these later years the MTC had difficulty paying its shipping dues. The MTC only managed to

⁹⁹ Bird, personal correspondence; *Otago Daily Times* September 29, 1921: 8.

¹⁰⁰ Sheehy "Port Craig", 97, 118; Hugh Erskine, interview with author, Tuatapere, June 11, 1997.

¹⁰¹ Mahoney, "A Report", 3; Mahoney, "Tall timber"; Hughes interview.

¹⁰² Bird, personal correspondence; Sheehy, "Port Craig", 118-119.

¹⁰³ Gavin McLean, "The Southern Octopus: The Rise of the Union Steam Ship Company, 1876-1917", PhD thesis, Otago, 1983, 413.

reduce the problem in June of that year, through a share-holding agreement with the larger company.¹⁰⁴

The MTC faced financial problems from the beginning, constantly seeking fresh injections of capital to sustain the operation. It courted the involvement of other sawmillers, and came close to partnership with H.A. Massey prior to his sudden death in 1923. In 1925 fresh wind was at last blown into the flagging sails of the MTC, according to Reese, with the purchase of interests by Sims, Cooper and Co., and Sir Robert Anderson. Money was also invested in McCallum and Co., a timber merchant with yards in Dunedin, Oamaru and Christchurch, to increase Port Craig's markets.¹⁰⁵

Sims' involvement resulted in the purchase of the Price 'Ar', the largest steam locomotive to operate a bush tram-line in New Zealand.¹⁰⁶ Some old hands thought the old mill was already operating efficiently and that change was unnecessary.¹⁰⁷ To those who lived there, oblivious to the world around them, Port Craig was a thriving prosperous community. This contrasted with the realities facing the men who funded the operation: the need for investment, and for innovation to generate a profit worthy of investments made. Attempts failed, and Port Craig ran out of steam.

After its closure, Reese Brothers focussed its attention on sawmilling ventures on the West Coast, and following the Depression it had some success. The Port Craig mill was reopened in January 1930, and many old hands were glad to return. A slight recovery in 1929-1930 had been caused in part by the government's ad hoc lifting of export restrictions on indigenous timber. All of the external and internal factors that had caused

¹⁰⁴ Bird, personal correspondence.

¹⁰⁵ Reese, *Was It All Cricket?*, 520-522, 525; *Otago Witness* December 23, 1924: 31; Alan Mitchell, *84 Not Out: The Story of Arthur Sims, Kt.* (London: Hannel Locke, 1962), 121; Bird, personal correspondence; Bremer, *Port Craig and Waitutu Forest*, 33.

¹⁰⁶ Reese, *Was It All Cricket?*, 525; Mitchell, *84 Not Out*, 121; Bird, personal correspondence.

¹⁰⁷ Bremer, *Port Craig and Waitutu Forest*, 33.

Port Craig's closure in 1928 remained, however, and it was shut down permanently in November 1930.¹⁰⁸

Even then, caretaker families were left at Port Craig for much of the 1930s to maintain and protect the equipment.¹⁰⁹ When Bert Craig examined the mill in 1937, to assess its future prospects, he was immensely disappointed to find that the mill and tram-line were in a 'sad state', with timbers rotting and winches rusting. Any chance of reopening the mill was shattered. To ensure some return on investment, the mill and its equipment were sold to salvage firms.¹¹⁰ Thus the mill that had been developed at immense cost and had enjoyed fewer than ten years of full production was dismantled. Four years of salvaging by two crews of eight or nine men reflected the extent of Port Craig's development.¹¹¹ Mill machinery, tools, steam engines, haulers (including the defunct Lidger Wood), bogies and 24 kilometres of railway iron were all removed. Every house and building was demolished except for the schoolhouse, since it belonged to the Southland Education Board.¹¹²

Deprived even of ghost town status, all that remained of a once thriving community were brick chimneys and walls and scrap wood. A swath cut through the forest, the route of the tram-line and four viaducts were stark reminders of what once was. In all, about 1,400 hectares of prime podocarp forest was logged around Port Craig.¹¹³ A scar on the landscape, the clearance was but a small portion of the Waitutu forest. Abandoned, nature began the lengthy but inevitable process of reclaiming the land.

¹⁰⁸ Reese, *Was It All Cricket?*, 526, 531-547; Bird, personal correspondence; Bremer, *Port Craig and Waitutu Forest*, 34; Hughes interview; Roche and Sewell, "The Impact of the Depression", 9-10.

¹⁰⁹ Conservator of Forests, Invercargill, to Director of State Forestry, April 12, 1931. 'Port Craig Holdings Ltd., 1931', Miscellaneous Letters, National Archives, Dunedin.

¹¹⁰ Hanger, "Sawmilling in the Southern Forests"; V.R. Craig, interview with the author, Invercargill, June 11, 1997.

¹¹¹ Erskine.interview.

¹¹² Erskine interview; Hanger, "Sawmilling in the Southern Forests"; Hughes interview; Bill Howden Photograph Collection; Mahoney, "A Report".

¹¹³ Joint Campaign on Native Forests, "Waitutu: The Track to Preservation", Public submission under the National Parks Act, Invercargill, 1984.

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Port Craig's history coincided with a transition in New Zealand forest history between two extremes, nineteenth century 'progress' and late twentieth century 'preservation'. The mill's operation is a reflection of the former. What was valued by the MTC for its timber, however, is now valued by most for its environmental qualities. In a reversal of the values attributed to bush, largely urban-based environmentalists argue for preservation in perpetuity for the few remaining areas of indigenous forests, assigning to nature the 'civilising' and benevolent attitudes once attributed to its clearance.

Waitutu Forest is now 'the largest remaining relatively unchanged lowland podocarp forest in New Zealand',¹¹⁴ providing a link in the continuity of a series of ecosystems from alpine Fiordland, down Waitutu's terrace river valleys to the sea. In the 1980s, environmentalists saw it as a natural addition to Fiordland National Park. Amid much controversy, Waitutu State Forest was allocated to the Department of Conservation in 1987. Though still not officially part of the National Park, this ensured its protection from further logging.

The Maori-owned coastal strip of the forest was not protected in the 1987 allocation. Agreement was eventually reached in 1996 whereby Maori retained ownership, but the Crown was given a perpetual right to manage it as a national park. In return, Waitutu Incorporation gained compensation and forestry rights to specified Crown indigenous forests elsewhere.¹¹⁵

Rather than detract from the surrounding, comparatively pristine environment, the remnants of Port Craig now add to it. It is unusual, if not unique, for a former major industrial area to be accessible only by foot through virgin country. With the decline of forestry, tourism is regarded as essential for Tuatapere's future. The main attraction is the forest west of the Waiau River. The

¹¹⁴ Sabine Schmidt and Keith Swensen, 'Waitutu: The Ultimate Forest Protected At Last', *Forest and Bird* 280 (1996): 27-28.

¹¹⁵ Waitutu Block Settlement Bill, as reported from the Maori Affairs Committee, Sep 1997, Sections 5, %A, 6; Schmidt and Swensen, "Waitutu": 28.

South Coast Track, beginning at Blue Cliff Beach and finishing at Big River, is an increasingly popular tramp.¹¹⁶

The remnants of Port Craig are one reason for this. The viaducts are particularly stark reminders of what once was. In 1994 the Armstrong Rigging Company of Wellington repaired and treated the Percy Burn viaduct, ensuring the longevity of the largest remaining wooden viaduct in the world.¹¹⁷

A comprehensive archeological survey of Port Craig was conducted in late 1996 by the Department of Conservation.¹¹⁸ Port Craig has been extensively fossicked over the years, but many sites remain in excellent condition. Both the Department and the local community take pride in the area. There are now plans to establish a round trip from Blue Cliff over the Hump Ridge, then down to the Edwin Burn to link up with the South Coast Track. Such a route would take in coastal, forest, alpine and historical points of interest.¹¹⁹ The remains of Port Craig mill, wharf and settlement would complement the extensive tram-line and viaduct system, making it a unique walk in New Zealand and testament to a small piece of Southland's history.¹²⁰

¹¹⁶ Ward, "Waitutu Forest": 5-6; Tim Higham, 'Bridgework', *North and South* (August 1993): 15; Joint Campaign on Native Forests, "Waitutu", E17-E18.

¹¹⁷ Port Craig Viaducts Trust, 'Percy Burn Restoration', videorecording of restoration, February-March 1994, Collection of John Munro, Tuatapere.

¹¹⁸ Breen, "An Archeological Site Survey".

¹¹⁹ Department of Conservation, "Audit of Environmental Impact Assessment of the Proposed Hump Ridge Track", Southland Conservancy, 1995, 1.

¹²⁰ The privately-operated Tuatapere Hump Ridge Track opened in 2001 – for details, see <http://www.humpridgetrack.co.nz/>. Further information on Port Craig can be found in Warren Bird, *Viaducts Against the Sky: The Story of Port Craig* (Invercargill: Craig Printing, 1998) and in Rachael E. Egerton, "Heritage Management at the Port Craig Sawmill Complex: Successes and Challenges", paper presented at the Third Australasian Engineering Heritage Conference, Dunedin, 2009, https://www.ipenz.org.nz/heritage/conference/papers/Egerton_R.pdf.

The Story of the Fallow Deer: An Exotic Aspect of British Globalisation

Simon Canaval¹

Fallow deer have a long history of semi-domestication by humans. In antiquity they spread within Europe, and were associated with various cults of the Phoenicians, Greeks and Romans. After the Romans left Britain, fallow deer became extinct on the island, but they were reintroduced by the Normans in the eleventh century. Due to the increase of the population in Britain during the late twelfth century, which caused enormous pressure on settlement areas and game species, keeping deer in enclosures became popular. During the European expansion of the nineteenth century, deer were introduced into many British colonies.

This article argues that the introduction of fallow deer in the British colonies of Australia and New Zealand can only be understood if we take a look at what Fernand Braudel called the *longue durée*, at centuries of British hunting culture and the special role of fallow deer within this context. This close connection of nature and culture made fallow deer an important part of British hunting culture and a desirable object for acclimatisation.

Introduction

Of approximately 160 huntable hoofed animals in the world, listed by Werner Trensse in his book *The Big Game of the World*, around fifty had their range extended by humans – mostly in the nineteenth century in association with European expansion.² Among these animals, deer played an especially important role, according to their cultural importance and the numbers translocated. As the translocation of big animals called for considerable financial input, and included the catching, shipping

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² Werner Trensse, *The Big Game of the World* (Hamburg and Berlin: Verlag Paul Parey, 1989).

and release of wild animals, the protagonists were primarily members of the royal class, other landlords, and Paul Star's 'biota barons' – people involved in the translocation of plants and animals within the (British) Empire.³

One of the longest-standing reasons for the translocation of animals was their utility as gifts, as with the shipment of eight chamois (*Rupicapra rupicapra*) from Austria to New Zealand in 1907, a gift from the Austrian emperor Franz-Joseph, which formed the basis of today's stock of chamois in New Zealand.⁴ But economic aspects could also be a motive. When space for profitable sheepfarming became scarce in Europe during the nineteenth century, Ferdinand Friedrich, the Duke of Anhalt-Köthen, agreed to an offer from Tsar Nicholas I and moved with his flock to today's southern Ukraine, where they founded the colony of Askania Nova. Within this area the Duke's family not only managed to build up a successful sheep farm, but also to import animals like zebras, antelopes and even some examples of the nearly extinct Przewalski horse (*Equus ferus przewalskii*), which were bred with success.^{5,6}

The breeding and allocation of game species was of outstanding importance to the gentry. Wild animals were kept for hunting, or simply as a symbol of wealth and luxury. One well-known aristocrat, Herbrand Arthur Russell, the eleventh Duke of Bedford, kept over forty different species of deer on his Woburn estate. He is held responsible for the survival of the last specimen of Père David's deer (*Elaphurus davidianus*), but also shipped various deer species to the colonies in Australasia.^{7,8,9,10}

³ "New Zealand's Biota Barons: Ecological Transformation in New Zealand", *Environment and Nature in New Zealand*, 6.2 (November 2011): 1-12.

⁴ Georg Schifko, Zu Ludwig Ritter von Höhnels, "Neuseelandaufenthalt und der Ansiedlung österreichischer Gämsen (*Rupicapra rupicapra*) auf Neuseeland. Aus Anlass des 100. Jahrestages der Aussetzung österreichischer Gämsen auf Neuseeland", in *Mitteilungen der Österreichischen Geographischen Gesellschaft* 149 (Vienna 2007): 247.

⁵ See <http://www.studium-hallense.de/askania.html> (6 March 2014).

⁶ See www.ukraine.com/national-parks/askaniya-nova-reserve/ (6 March 2014).

⁷ John Fletcher, "Deer Parks and Deer Farming in Great Britain – History and Current Status", in Norma G. Chapman and Kristòf Hecker (Eds.),

Other important protagonists in the globalisation of game species in the nineteenth century were members of the ambitious, imperialistic upper class of Britain. People like Cecil Rhodes, followed the example of the gentry, conducting their own translocations and acclimatisations of deer and other useful animals in the colonies.¹¹ Lastly, the rise of zoos and circuses in the western world, where people wished to see exotic animals, promoted the formation of a new business, the 'international animal trade', conducted by English and German tradesmen like Carl Hagenbeck.¹²

Regardless of the different motives for translocation, the globalisation of the nineteenth century was a huge success for some of the translocated deer species. Those which proved profitable and able to survive in a new environment (red and fallow deer) could increase their numbers exponentially, while other ('not globalised') species (like the South Andean Deer or the Barasingha deer) were the losers in this development. In fact, globalisation brought them close to extinction, rather than increasing their numbers as human activities increased.¹³

Today, out of the 42 million hoofed game animals, 1.5 to 2 million live in places where they would not exist without human intervention. Among these the European red deer (*Cervus elaphus*) is undoubtedly the most prevalent species with over 1 million globalised specimens. The second most important is the European fallow deer (*Dama dama*) with about 150,000 specimens. This article presents a concise history of the cultural connections of the fallow deer with mankind and summarises the

Enclosures: A Dead-end? Influence on Game Biology, Conservation and Hunting: Symposium Proceedings (Sopron, 2008), 56.

⁸ Trense, *The Big Game of the World*, 85.

⁹ See <http://www.iucnredlist.org/details/7121/0> (6 March 2014).

¹⁰ Michael Brander, *Die Jagd von der Urzeit bis heute*. (London and Munich: BLV Verlagsgesellschaft mbH, 1971/1972), 192.

¹¹ Bernard M. Magubane, *The Making of a Racist State: British Imperialism and the Union of South Africa, 1875 – 1910* (Trenton: Africa World Press, 1996), 101.

¹² Eric Ames, *Carl Hagenbeck's Empire of Entertainments* (Seattle and London: Washington University Press, 2008), 3.

¹³ Trense, *The Big Game of the World*, 283 ff.

developments that led to the globalisation of this species in the nineteenth century.

The history of the fallow deer in Europe up to the nineteenth century

Today most scientists agree that deer evolved in Asia and spread from there to different parts of the world.¹⁴ The fallow deer itself is nowadays divided into two different subspecies, the European fallow deer (*Dama dama dama*) and the Mesopotamian fallow deer (*Dama dama mesopotamica*).¹⁵ Recent specimens of *Dama dama* show a high phenotypic variation (e.g. in coat colour), but have a remarkably low genotypic variability, which is explained by early selective breeding and a 'bottleneck-effect' that occurred during their history.¹⁶ This effect describes the reduction of different gene alleles within a gene pool, which is evident when only a few individuals of a species survive, resulting in a loss of genetic variability.¹⁷

The most remarkable features of the fallow deer are its planar antlers that are shed annually.¹⁸ During summer the fallow deer wears an auburn coat with white spots that is changed in winter for an inconspicuous, dark grey to brown coat.¹⁹ Their diet consists mainly of leaves, branches and pasture.²⁰ The favourite habitats of the fallow deer are deciduous forests or steppe areas

¹⁴ Wilfried Westheid and Gunde Rieger (Eds.), *Spezielle Zoologie. Teil 2: Wirbel-oder Schädeltiere* (Heidelberg: Spektrum Akademischer Verlag, 2010), 645.

¹⁵ Axel Siefke and Christoph Stubbe, *Das Damwild: Bejagung, Hege, Biologie* (Hessian Melsungen: Neumann-Neudamm Verlag, 2008), 179.

¹⁶ Derek Yalden, *The History of British Mammals* (Cambridge: Cambridge University Press, 1999), 156.

¹⁷ Neil A. Campbell and Jane B. Reece, *Biologie* (Munich: Pearson Studium, 2002, 2006), 529 ff.

¹⁸ Erhard Ueckermann and Paul Hansen, *Das Damwild: Naturgeschichte, Hege, Jagd* (Hamburg: Verlag Paul Parey, 1994), 46.

¹⁹ Ueckermann and Hansen, *Das Damwild*, 50.

²⁰ Westheid and, Rieger, *Spezielle Zoologie*, 652.

with a mild climate.²¹ As fallow deer are able to browse even lignified growth, they tend to harm young forests.²²

Fallow deer can adapt to a wide variety of habitats, but do not commonly live in high altitude areas, or other regions with long snowy winters, where snow might restrict access to grass.^{23,24} The last ice age in Central Europe, some 20,000 years ago, during which the ice shields of the mountains were surrounded by vast, snowy tundras, must have led to the extinction of fallow deer in Central Europe.²⁵

Dama dama bones found at human settlements from the period 4600-1900 B.C. indicate that fallow deer were hunted by humans for several thousand years.²⁶ It was also quite common to keep fallow deer in enclosures or parks. Due to their nature, their appealing appearance and their sociable behaviour within the pride, fallow deer were ideal for captive breeding.²⁷

Even before the Nativity, fallow deer were kept as sacrificial animals by Egyptians and within various Mesopotamian civilisations.²⁸ Among the Phoenicians, fallow deer were sacrificed to Baal-Hammon, their God of Fertility, while for the Greeks they were important sacrificial animals to their goddess Artemis.^{29,30} Due to this early denotation in the Mediterranean area, fallow deer spread to areas in today's Italy, Southern France, Northern Africa and Western Spain.³¹ The Romans, the cultural

²¹ Siefke and Stubbe, *Das Damwild*, 114.

²² Ueckermann and Hansen, *Das Damwild*, 114.

²³ Günter Reinken, Wilhelm Hartfiel, and Eckhart Körner, *Deer Farming: A Practical Guide to German Techniques* (Stuttgart, 1987; Ipswich: Farming Press, 1990), 30.

²⁴ Donald Chapman and Norma Chapman, *Fallow Deer* (Lavenham, Suffolk: Lavenham Press, 1975), 68.

²⁵ Chapman, *Fallow Deer*, 43.

²⁶ Siefke and Stubbe, *Das Damwild*, 182.

²⁷ Ueckermann and Hansen, *Das Damwild*, 89.

²⁸ Reinken, *Deer Farming*, 15.

²⁹ Siefke and Stubbe, *Das Damwild*, 322.

³⁰ Wolfram Martini, "Griechische Antike", in Peter Dinzelsbacher (Ed.), *Mensch und Tier in der Geschichte Europas* (Stuttgart: Alfred Kröner Verlag, 2000), 30.

³¹ Siefke and Stubbe, *Das Damwild*, 322.

descendants of the Greeks, incorporated the goddess Artemis into their cult of Diana. This led to a further spread of the fallow deer into many parts of Europe.³²

A research group, led by Prof. Sykes (University of Nottingham), has recently proved that the Romans brought fallow deer as far north as Britain, where some specimens were even bred and reared.³³ With the fall of the Roman Empire, this tradition was mostly forgotten. At least in Britain we find no evidence for enclosures or for the fallow deer itself after this time.³⁴

The reintroduction of the fallow deer in Britain was probably conducted in the eleventh century by the Normans. Traces of this Norman heritage are still present. It is said, for instance, that the English 'Tally ho!' is derived from the Norman hunting call 'Thiaulau', used to report the sighting of a stag.³⁵ Furthermore, zooarchaeologists recognise a turning-point in the hunting tradition of Britain at this time.³⁶ Especially at excavations of the new elite they found a shift from bones of domesticated animals to wild animals (roe, red and fallow deer) starting in the eleventh century.³⁷

It is now supposed that the Normans brought the fallow deer from their newly-acquired holdings in Sicily, which were conquered in the same decades (A.D. 1061-1091). Paradoxically the fallow deer is not suitable for the so-called hunting *par force* that was favoured by the Normans, due to its tendency to build flocks and its low stamina. Consequently the fallow deer was primarily killed using a bow and arrow, as remnants of arrows within fallow deer-bones indicate.³⁸

³² Reinken, *Wieder-Verbreitung, Verwendung und Namensgebung des Damhirsches*, 199 ff.

³³ Naomi J. Sykes, "Origins of the English Deer Park", *Deer: The Journal of the British Deer Society* 15.3 (2009): 24 ff.

³⁴ Sykes, "Origins of the English Deer Park": 25.

³⁵ Brander, *Die Jagd von der Urzeit bis heute*, 29.

³⁶ Naomi J. Sykes, *The Norman Conquest: A Zooarchaeological Perspective*, BAR International Series 1656 (2007), 1-2.

³⁷ Sykes, *The Norman Conquest*, 66.

³⁸ Sykes, *The Norman Conquest*, 74.

While in the Early Middle Ages the elite called for the clearance of forests in Europe, these forests had to be protected by law, to restrict the use of a resource greatly needed by a growing population.³⁹ In many areas, forests now became primarily recreational areas belonging to the king.⁴⁰ For example the Norman rulers turned vast areas of Britain into areas with restricted easement, which could be given to the nobility.⁴¹ Locking up wild game in enclosures or parks within these forests had various advantages for the gentry. Firstly, it was easier to control the number and habitation of the animals. Secondly, it was more convenient for a possible relocation of the stock; and last but not least the game could serve as a 'larder' for the nobility.⁴²

The containment and restriction of areas for hunting (which were called *foresta*) helped to make the hunt an elite phenomenon, a chance for people to prove their social supremacy and a way to show their fighting skills.⁴³ Fallow deer, with their 'flocksiness' and their familiarity towards humans, were better suited to breeding than other forms of deer. This led to an enormous rise in the number of 'deer parks' in medieval England, where by about 1300 there were more than 3000 parks recorded.⁴⁴

The great importance of the royal hunt turned this exercise into a pastime for the secular and the clerical nobility, signifying high social rank. The gentry were now more likely to move to rural areas, especially close to the forests. Here they could follow the royal example, by hunting different animals. But whereas the hunt *par force* was normally used to cull red deer (and required vast areas of land for the chase), fallow deer were mostly hunted within the parks. This 'drive hunt' became increasingly popular in Britain during the medieval period, and was especially associated

³⁹ Joachim Radkau, *Natur und Macht. Eine Weltgeschichte der Umwelt* (Munich: C.H. Beck, 2002), 167.

⁴⁰ Robert P. Harrison, *Wälder: Ursprung und Spiegel der Kultur* (Chicago and London, & Munich and Vienna, Hanser, 1992), 90.

⁴¹ Brander, *Die Jagd von der Urzeit bis heute*, 31 ff.

⁴² Eric Baratay and Elisabeth Hardouin-Fugier, *Zoo: Von der Menagerie zum Tierpark* (Paris, 1998; Berlin: Verlag Klaus Wagenbach, 2000), 24.

⁴³ Sykes, *The Norman Conquest*, 75.

⁴⁴ Yalden, *The History of British Mammals*, 152-153.

with the concept of wild parks. 'Bow and stable hunting, perfect for parks, was said to be a "way of life" in late fourteenth-century England.'⁴⁵

British expansion and globalisation of the fallow deer in the nineteenth century

The nineteenth century brought new possibilities of transportation (shipping and rail) and other technological inventions (such as the telegraph) that made the world appear smaller. In the era of imperialism the penetration of the world by European colonial powers reached a new level.⁴⁶ Even though the naturalisation and breeding of foreign plant and animal species was not particularly a phenomenon of the nineteenth century, and had in fact been practised over many years, the modern age showed a revolutionary, global characteristic in the translocation of species through the so-called 'acclimatisation' movement. Already in the eighteenth century physiocrats and natural scientists were engaging in the breeding of exotic species. During the nineteenth century the worldwide distribution and acclimatisation of useful plants and animals became a major concern of the natural sciences.⁴⁷ It was never really clear whether acclimatisation meant plants adapting to a new environment, naturalisation of the species in a colony, or just breeding exotic species somewhere else. Even the presence of 'whites' in the tropical climate of the colonies was seen as a human version of acclimatisation.⁴⁸

The main players in acclimatisation were the colonial powers of Britain and France. In France the movement developed in Paris, while within the British Empire it became more a phenomenon of the periphery of Australasia than in Britain itself. Many of the early supporters of acclimatisation in France were followers of

⁴⁵ Stephen Miles, *Parks in Medieval England* (Oxford/New York: Oxford University Press, 2009), 25, 27, 30, 39.

⁴⁶ Matt Cartmill, *Tod im Morgengrauen: Das Verhältnis des Menschen zu Natur und Jagd* (London, 1993; Zürich: Artemis Verlags AG, 1993), 157-159.

⁴⁷ Baratay and Hardouin-Fugier, *Zoo*, 139.

⁴⁸ Michael A. Osborne, "Acclimatizing the World: A History of the Paradigmatic Colonial Science", *Osiris*, 2nd Series, 15: *Nature and Empire: Science and the Colonial Enterprise* (2000): 137.

Lamarck and believed that animals and plants were able to adapt gradually to a new environment. Acclimatisers like Frank Buckland were convinced that God had provided Europe with many useful species and they thought it their duty to spread these species around the world.⁴⁹ The *Zeitgeist* of the nineteenth century supported the belief that humans (and especially Europeans) were meant to transform nature according to their own will and needs.

The arrival of European animals and plants in colonies was another success story. The historian Alfred Crosby even went so far as to explain the supremacy of the European settlers by reference to a certain set of cultivated plants and domesticated animals, which enabled them to become 'the rulers of the world'.⁵⁰ According to Crosby, the ancient co-evolution of humans and animals in Europe and the exchange of pathogens made their immune system more fit for the conquest of the 'New World'.⁵¹

This 'ecological imperialism', as Crosby described it, enforced the development of a distinct European sentiment of superiority which validated their actions.⁵² The principle of 'survival of the fittest', raised by the British sociologist and philosopher Herbert Spencer, fitted perfectly into a world that was conquered not just by a supreme western civilisation, but also dominated by European nature.⁵³ Capture of exotic animals like African giraffes or Bengal tigers and their exhibition in Europe stood symbolically for the subjugation and enslavement of the world. In the nineteenth and early twentieth century a new industry of German and British animal merchants evolved, shipping living animals from all over the world to zoos and circuses at home.⁵⁴ Within the

⁴⁹ Osborne, "Acclimatizing the World": 145, 138, 147.

⁵⁰ Alfred W. Crosby, *Die Früchte des weißen Mannes. Ökologischer Imperialismus 900 – 1900* (Cambridge, 1986; Frankfurt am Main and New York: Campus Verlag, 1991), 172 ff.

⁵¹ Crosby, *Die Früchte des weißen Mannes*, 217 ff.

⁵² Crosby, *Die Früchte des weißen Mannes*, 242.

⁵³ See <http://www.sueddeutsche.de/wissen/jahre-darwin-von-darwin-zum-rassenwahn-1.141257> (5 March 2014).

⁵⁴ Baratay and Hardouin-Fugier, *Zoo*, 109 ff.

big game hunt in the colonies the 'great white hunter' evolved as a stereotype of European imperialism.⁵⁵

The flagship of European expansion was the British Empire. At the height of its power it controlled nearly a quarter of the world and ruled more than 500 million people – a quarter of the world's population at that time.⁵⁶ During the phases of conquest associated with imperialism, the British – like every other colonial power – brought with them a certain set of animals and plants and declared some local species to be vermin or pests. They encouraged the spread of 'English' trees, birds, fish and mammals, for economic, but also for 'aesthetical-conservative' reasons.⁵⁷ In fact many of these species arrived via other British colonies (like India) to Australia and New Zealand or were not even of European origin and were primarily 'English' only in the eyes of the British settlers. This seems to challenge Crosby's concept of a European 'ecological imperialism'.⁵⁸

Hunting game animals was part of the British cultural heritage and was also practised in the colonies. Especially in North America the hunt became part of everyday life, a way to acquire meat or fur and a possible way to make money.⁵⁹ But not all parts of the British Empire were – like North America, India or Africa – blessed with a variety of large mammals to hunt. The loss of the American colonies at the end of the eighteenth century was a bitter setback for Great Britain, but was compensated for by increasing engagement in Australasia.⁶⁰

⁵⁵ Cartmill, *Tod im Morgengrauen*, 166 ff.

⁵⁶ Ashley Jackson, *The British Empire: A Very Short Introduction* (Oxford: Oxford University Press, 2013), 1.

⁵⁷ Jackson, *The British Empire*, 47.

⁵⁸ James Beattie, "Plants, Animals and Environmental Transformation: Indian-New Zealand Biological and Landscape Connections, 1830s-1890s", in Vinita Damodaran and Anna Winterbottom (Eds.), *The East India Company and the Natural World* (Basingstoke: Palgrave Macmillan, 2014), 219-248.

⁵⁹ Thomas R. Dunlap, *Nature and the English Diaspora: Environment and History in the United States, Canada, Australia and New Zealand* (Cambridge: Cambridge University Press, 1999), 61.

⁶⁰ Jackson, *The British Empire*, 83 ff.

Australia

During the expedition of 1769–1770, James Cook claimed Australia for the British crown by right of the concept of *terra nullius*.⁶¹ Even though it was obvious that Australia was different from Britain, and that its climate and vegetation were not suitable for European agriculture, a settlement founded on the principles of British agriculture was set up there. Some early Europeans believed that the plantation of trees would help to store more water in the soil and therefore address the shortage of both water and wood. Serious droughts were declared exceptional; optimism was the order of the day. Especially in the period after 1850, by which time the fertile areas in the south-east were already populated, the colonists increasingly confronted the geographical limits beyond which their agricultural practices would not succeed. Successive attempts to colonise the inland failed miserably. The ‘boosters’ experienced the limited power of humans contending with an unpredictable climate.⁶²

The discovery of gold in the nineteenth century led to thousands of Europeans racing to try their luck in Australia. The arid climate and the scarce vegetation made introduced merino sheep a dominant factor in Australian agriculture and the export of wool became an important source of income for the whole continent.⁶³ Australia was ‘living off the sheep’s back’.⁶⁴

The first European settlers also relied on hunting native game like birds. These animals were hunted by all groups of the population, sometimes to an extreme level that brought them close to extinction.⁶⁵ Among the immigrants there were also representatives of the British nobility, who introduced a culture of British hunting. With the establishment of hunting by horse, the question of suitable objects for the hunt emerged. In the first half

⁶¹ Brander, *Die Jagd von der Urzeit bis heute*, 184.

⁶² Dunlap, *Nature and the English Diaspora*, 73, 76, 78.

⁶³ Brander, *Die Jagd von der Urzeit bis heute*, 184–187.

⁶⁴ Tom Griffith and Libby Robin (Eds.), *Ecology and Empire: Environmental History of Settler Societies* (Edinburgh and Seattle: University of Washington Press, 1997), 66.

⁶⁵ Tony Dingle, *The Victorians: Settling* (Melbourne: Fairfax, Syme and Weldon Associates, 1984), 140.

of the nineteenth century people had started to prey on the flightless emu or on dingoes; in later periods they also hunted kangaroos, and foxes introduced from Britain.⁶⁶ However, by the middle of the nineteenth century, people started to demand the introduction of 'real deer': 'Australian animals were not "sporting" because they lacked the cultural associations that would embed the act of killing them in a familiar context'.⁶⁷ The importation of red fox was cold comfort for those who were used to hunting red deer in the Scottish Highlands, as Thomas Dunlap has noted:

In Australia we would have a kangaroo standing in for the stag ... and Great Dividing Range for the Scottish hills. This will not do. The stag looks noble because of centuries of myth, story, and association have made it so. To the settlers, if not the Aborigines, the kangaroo just looked odd ... The Anglos may, over generations, incorporate Australian animals into their culture and find in hunting them a connection to the land, but at the time they could only import deer and look to the aristocratic model of gentlemanly sport.⁶⁸

The heyday of the importation of deer was the period from 1860 to 1880, when most of today's deer stocks in Australia were established. Altogether more than twenty different species and subspecies of deer were imported, though today only six of them remain in noteworthy numbers.⁶⁹ Among the introduced game species there were red deer from England, but also sambar, Indian hog deer and chital deer from India.⁷⁰ Of these, sambar became numerically the most important of all introduced deer species in Australia.⁷¹

⁶⁶ Arthur Bentley, *An Introduction to the Deer of Australia, with special reference to Victoria* (Melbourne: Australian Deer Research Foundation, 1998), 199.

⁶⁷ Dunlap, *Nature and the English Diaspora*, 65.

⁶⁸ Dunlap, *Nature and the English Diaspora*, 65 ff.

⁶⁹ Bentley, *An Introduction to the Deer of Australia*, 29.

⁷⁰ Trense, *The Big Game of the World*, 334 ff.

⁷¹ Bentley, *An Introduction to the Deer of Australia*, 35.

From the beginning of the nineteenth century, individuals imported animals like the fallow deer on their own behalf.⁷² In Australia and other colonies zoological societies started in the 1860s to call themselves acclimatisation societies, among which the Acclimatisation Society of Victoria in Melbourne was the most popular. Its most prominent member was Edward Wilson, whose association with the movement coincided with its zenith. Acclimatisation societies were sponsored by donations and by fees from their members. Sometimes government contributed a share, but this declined when governments stopped supporting importations at the end of the nineteenth century.⁷³ The members were landlords, farmers, scientists, politicians and magistrates – all brought together by a common interest in the acclimatisation of new species. Acclimatisation societies took over the importation of game animals like deer into Australia.⁷⁴ The real globalisation of fallow deer can therefore be said to have started in nineteenth-century Australia, when the gentry, landlords and acclimatisation societies began their introduction.

This endeavour was an outstanding success on the island of Tasmania, which became the bridgehead of the colonisation of fallow deer in Australasia.⁷⁵ Even before the Tasmanian Acclimatisation Society was able to start importing, species had been introduced there by individuals like James Cox.⁷⁶ The first fallow deer arrived in 1836. Stocks bred so successfully that many other herds in Australia and New Zealand were founded from Tasmanian specimens.⁷⁷ Despite the rough climate the Tasmanian population grew to about 600–800 in 1863, which ultimately led to conflicts with farmers.⁷⁸ A 1975 report wrote of more than 8000 fallow deer living on the island.⁷⁹

⁷² Christopher Lever, *They Dined on Eland: The Story of the Acclimatisation Societies* (London: Quiller Press, 1992), 99.

⁷³ Dingle, *The Victorians*, 143.

⁷⁴ Lever, *They Dined on Eland*, 102, 100 ff.

⁷⁵ Siefke and Stubbe, *Das Damwild*, 332.

⁷⁶ Donald Chapman and Norma Chapman, "The Distribution of Fallow Deer: A Worldwide Review", *Mammal Review*, 10.2&3 (1980): 71.

⁷⁷ Bentley, *An Introduction to the Deer of Australia*, 134, 133, 135.

⁷⁸ Siefke and Stubbe, *Das Damwild*, 332.

⁷⁹ Chapman, *Fallow Deer*, 67.

On mainland Australia the first attempts to settle fallow deer were made in the 1840s. The south-east (including New South Wales) proved to be especially suitable, with a climate similar to the English homeland.⁸⁰ A regular annual fall of rain, and the temperature and the landscape that was formed by this climate, may have acted as a motivation:

Such a habitat is reminiscent of an English deer park, except for the species of plants present, and may have promoted the early settlers to introduce deer for aesthetic reasons as well as for sport.⁸¹

Arriving on the continent, fallow deer were brought to markets like Kirk's Bazaar in Melbourne and were available for purchase by landlords and great landowners for their deer parks. Later on, acclimatisation societies started to introduce fallow deer, as in 1863, when fallow deer was imported from Tasmania by the Acclimatisation Society of Victoria and successfully established.⁸² The herds of this species in North Queensland around Cairns are indicative of their great adaptability. Fallow deer were introduced there in 1865 and the population has thrived up to the present day, despite the tropical climate.^{83,84}

The introduction of deer was always controversial among settlers of lesser means who simply did not benefit from the presence of deer. For them, deer were primarily vermin which harmed their crops. To save the acclimatised species from extermination, they had to be protected by 'Game Acts', issued on behalf of the acclimatisation societies.⁸⁵

Deer hunting was generally organised by hunting clubs and conducted on private ground. Up to the twentieth century hunts were not open to the public and were restricted to landlords and their guests. Around the time of the Great War, damage to crops

⁸⁰ Siefke and Stubbe, *Das Damwild*, 332.

⁸¹ Chapman, "The distribution of fallow deer": 69.

⁸² Bentley, *An Introduction to the Deer of Australia*, 259, 30.

⁸³ Siefke and Stubbe, *Das Damwild*, 332.

⁸⁴ Bentley, *An Introduction to the Deer of Australia*, 144.

⁸⁵ Lever, *They Dined on Eland*, 100f.

caused by deer increased and the authorities started to allow culling.⁸⁶

Laws for hunting game species differed in Australia from province to province. The legislation of Victoria is especially well documented and can serve as an example of the later status of the fallow deer in Australia.⁸⁷ From 1862 deer and other exotic wild species were protected in Victoria by the first Victorian Game Act, whereas native game had to be spared during a certain season. It was an 'Act to Provide for the Preservation of Imported Game, and during the Breeding Season for Native Game'. Consequent amendments gave some imported species the status of pests. Some native animals were nearly hunted to extinction before legislative protection included them from around the end of the nineteenth century.⁸⁸

In the 1930s, interest in hunting as a sport increased, almost leading to the extinction of several fallow deer populations in Victoria. With the Wildlife Act of 1975 deer hunting in the wild was banned year-round; for fallow deer the season was closed in 1976. In spite of relatively few individual fallow deer being introduced to Victoria, these animals increased in number until culled by farmers. Due to competition for space the fallow deer in Victoria still received protection all-year-round at the end of the nineteenth century.⁸⁹

While the fallow deer of Australia was struggling with the extreme climate and competition against humans for fertile ground, New Zealand presented a contrasting situation in terms of the species' reception and management.

New Zealand

New Zealand was one of the few places in the world spared from human influence for a long period. With the arrival of the Maori around 1300, a new era of anthropogenic transformation of

⁸⁶ Bentley, *An Introduction to the Deer of Australia*, 189.

⁸⁷ Bentley, *An Introduction to the Deer of Australia*, 193.

⁸⁸ Dingle, *The Victorians*, 144-146.

⁸⁹ Bentley, *An Introduction to the Deer of Australia*, 49 ff, 100, 103.

nature began.⁹⁰ This accelerated after European settlers arrived in ever-greater numbers, following the formal colonisation of the islands by Britain in 1840. Even the first settlers realised that it would not be possible to live a 'decent European life' without the importation of familiar plants and animals. Dogs and cats as pets, horses and oxen as load carriers, possums for the fur industry, fruit trees, bumblebees for pollination, birds for insect control - an almost endless list of introduced species and motives characterised the environmental transformation undertaken by settlers at this early stage of New Zealand's colonisation.⁹¹

Altogether the Europeans successfully brought 54 mammal species to New Zealand, most of them in the second half of the nineteenth century. These animals had the advantage that local competitors generally did not exist; New Zealand lacked most of the predators that could have maintained a balanced ecosystem. The New Zealand environment was not prepared for such an invasion of exotic species. Carolyn King observes that: "This invasion was the last and clearest example of the processes of "ecological imperialism" by which European influence had been expanding round the world during the previous 200 years'.⁹²

The absence of any indigenous terrestrial mammals was also an issue for the introduced British hunting culture. Many immigrants were excited about the opportunities New Zealand offered in terms of hunting, which in the early days of colonisation meant chasing after native birds or feral pigs.⁹³ Soon settlers, like John Godley in 1850, founder of the Canterbury settlement, spoke of the possibility of introducing deer. In 1857 Charles Hursthouse's guidebook for future settlers of New Zealand stated:

A serious proposal for the introduction of game into New Zealand may be derided by some as speculation

⁹⁰ Robert M. McDowall, *Gamekeepers for the Nation: The Story of New Zealand's Acclimatisation Societies 1861-1990* (Christchurch: Canterbury University Press, 1994), 1 ff.

⁹¹ McDowall, *Gamekeepers for the Nation*, 6, 9.

⁹² Carolyn M. King (Ed.), *The Handbook of New Zealand Mammals* (Auckland: Oxford University Press, 2005), 11.

⁹³ Kate Hunter, *Hunting: A New Zealand History* (Auckland: Random House, 2009), 40.

... But, in truth, the introduction of game into New Zealand might well be attended with social and even pecuniary benefits ... We don't go to New Zealand with pick and pan, to snatch dear-won nuggets, gulp gallons of rum, and then rich or ragged hurry home. We go to the 'Britain of the South' to create an estate, raise a home wherein to anchor fast and plant our household goods ... No man can better deserve ... a day's pastime than a New Zealand colonist.⁹⁴

McDowall, however, suggests that the importation of deer into New Zealand had an unusual social significance. Many emigrants left Britain to escape overcrowding, poverty and an inherited low social position. It seemed as if in New Zealand it was possible to establish a new egalitarian society, still based on the British model, but with greater opportunity to scale the social ladder. Not birth, but rather the possession of money should determine a colonist's position within society. In this country a 'normal man' could – by buying a hunting licence – chase after deer which at that time in Britain were still reserved for the upper classes. The practice of the hunt, once the symbol of social supremacy, played an important role in overcoming a social rank that was predetermined at birth.

Due to a lack of alternatives and a high demand for huntable game species, it is not surprising that, even before the establishment of acclimatisation societies, the introduction of deer was executed on an individual basis. Up to the 1870s the activities of the societies with regard to deer remained relatively insignificant, compared to importations by rich landlords or politicians like Sir George Grey.⁹⁵ Later in the second half of the nineteenth century the influence of these societies increased and so did their involvement in the introduction of game species into New Zealand.

In no other region of the British Empire did the acclimatisation societies reach such a large number or assume such importance as in New Zealand. These societies brought together people interested in acclimatisation, mostly the 'Who's Who' of each

⁹⁴ Charles Hursthouse, *New Zealand, or Zealandia, The Britain of the South* (London: Woodfall and Kinder, 1857), 130.

⁹⁵ McDowall, *Gamekeepers for the Nation*, 34.

province. Many of them were already involved in attempts to acclimatize animals and had good connections at 'Home' in Britain.⁹⁶

David Yerex has described a division within New Zealand society. On the one side, there were the 'simple' farmers, factory workers and other members of the labouring class, who sometimes ran into debt to buy their ticket to New Zealand. For this group a return to Great Britain was out of question. Consequently it would seem logical for them to associate more readily with their new environment and with New Zealand nature. The lower class showed little interest in the importation of deer and spent their time hunting native birds. On the other side, wealthier migrants maintained close connections with their home country and wanted to use hunting to establish an 'English atmosphere' in New Zealand.⁹⁷

Gradually the New Zealand government also developed a greater interest in the introduction and acclimatisation of game species. Here we should mention Thomas Donne, at that time founder and head of the Department of Tourism and Health. Donne, a passionate hunter himself, achieved subsidisation by the government for the import of deer in the early twentieth century.⁹⁸ The economic interests of the government now supplemented the ideological motives of wealthy migrants.⁹⁹ The possibility of hunting red and fallow deer in New Zealand, it was hoped, would attract rich tourists and immigrants:

the sport ... is inducing a very large number of overseas visitors to spend weeks, and often months, annually in this country, and it plays no unimportant part in the inducement held out to the moneyed class to make their homes in New Zealand.¹⁰⁰

⁹⁶ McDowall, *Gamekeepers for the Nation*, 17-18.

⁹⁷ David Yerex, *Deer: The New Zealand Story* (Christchurch: Canterbury University Press, 2001), 29 ff.

⁹⁸ McDowall, *Gamekeepers for the Nation*, 35.

⁹⁹ Yerex, *Deer: The New Zealand Story*, 17 ff.

¹⁰⁰ McDowall, *Gamekeepers for the Nation*, 347.

The real importation of hoofed game had begun in 1851, when the first red deer were shipped to New Zealand.¹⁰¹ Red deer always outmatched the fallow deer in New Zealand in numbers and importance and they spread quickly over a large area of the country.¹⁰² The first fallow deer were brought in 1864 from Richmond Park in London, and were released on the South Island near Nelson. In the following decades several importations of fallow deer were conducted; the largest took place in 1877, when 28 specimens were introduced.¹⁰³ Most animals came from already established stocks in New Zealand (e.g., on Motutapu Island near Auckland) or from the thriving population in Tasmania, or they were imported from Great Britain. Around 1900 Alfred Buckland, a member of the Auckland Acclimatisation Society, established a significant herd in South Kaipara.¹⁰⁴

Besides red and fallow deer, several other species of deer were introduced to New Zealand, all of them with a lesser degree of success. There were attempts to introduce sambar deer from Sri Lanka (1875), sika deer from England (1885), white-tailed deer (1901), thar and axis deer from India (1904/1908), wapiti and elks from Canada (1905/1910), and caribou from Norway (1908).¹⁰⁵

Perhaps nowhere else in the world was the importation of deer so successful and so harmful to the local environment.¹⁰⁶ Already in the nineteenth century, provisions by the authorities put introduced game species under protection. In the 1860s New Zealand's parliament discussed the protection of introduced deer species.¹⁰⁷ Laws like the Protection of Animals Act in 1873 helped to prevent the early demise of introduced animals.¹⁰⁸ This changed the whole ethos around hunting, for whereas in early

¹⁰¹ Brander, *Die Jagd von der Urzeit bis heute*, 192.

¹⁰² McDowall, *Gamekeepers for the Nation*, 345.

¹⁰³ Brander, *Die Jagd von der Urzeit bis heute*, 192.

¹⁰⁴ King, *The Handbook of New Zealand Mammals*, 450-452.

¹⁰⁵ Trense, *The Big Game of the World*, 343.

¹⁰⁶ King, *The Handbook of New Zealand Mammals*, 12.

¹⁰⁷ Hunter, *Hunting*, 42.

¹⁰⁸ Dunlap, *Nature and the English Diaspora*, 68.

colonial days hunting was allowed for everyone, it now became a restricted activity.¹⁰⁹

In the 1880s the populations of game species had increased significantly enough for different acclimatisation societies to start selling hunting licences. They also administered the hunting season and set an upper limit for the culling of deer. Culling was mostly of individual stags, whose antlers were much in demand as hunting trophies. Due to the huge demand for licences they had to be drawn to allow a fair and equal grant.¹¹⁰ The high demand for hunting licences led to a rise in prices. The fact that eventually only rich tourists and wealthy locals could afford to hunt, led to an increase in poaching. When the Nelson Acclimatisation Society allocated shooting right to members of their society (but only on private ground) it precipitated a storm of protest.¹¹¹

But things changed quickly. The introduced fallow deer adapted quite well to the New Zealand environment and their population increased rapidly. Unlike the widespread red deer, the more sedentary fallow deer remained mostly near their original places of introduction. Increased browsing by hoofed animals put too much pressure on the trees and shrubs of New Zealand. Consequently the forests in many parts of the country could not recover and were heavily damaged by deer.¹¹² Even before the end of the nineteenth century this development led to conflicts with farmers, who saw their crops endangered.¹¹³ The bad reputation gained by red deer for browsing on young trees soon extended to all hoofed animals.¹¹⁴ Whether or not destruction of the forests of New Zealand was mainly caused by deer or by human activity, the newspapers held deer responsible, seriously influencing public perception.¹¹⁵

As some stocks of fallow deer were developing quite well, hunting restrictions on them were withdrawn earlier than for most other

¹⁰⁹ Hunter, *Hunting*, 42 ff.

¹¹⁰ McDowall, *Gamekeepers for the Nation*, 346.

¹¹¹ Yerex, *Deer: The New Zealand Story*, 19.

¹¹² King, *The Handbook of New Zealand Mammals*, 457, 458.

¹¹³ Dunlap, *Nature and the English Diaspora*, 68.

¹¹⁴ McDowall, *Gamekeepers for the Nation*, 349.

¹¹⁵ Hunter, *Hunting*, 66 ff.

species. The turning point in the level of their protection and conservation came with the 'Deer Menace Conference' in Christchurch in 1930. From this moment on the government removed all hunting restrictions for game species and again undertook the management of deer.¹¹⁶

Increasing prices for venison, velvet and deer organs in the twentieth century led to a rethink, and recreational hunting became a business. In the 1950s the government started to hunt deer in remote areas.¹¹⁷ With the development of culling by helicopter shooting, hundreds of thousands of specimens were removed from the rugged landscapes of New Zealand. This finally resulted in some measure of control on the number of deer on the islands.¹¹⁸ Public pressure led to legalisation on the breeding of deer, opening up new business opportunities by allowing red and fallow deer to be farmed like cattle.¹¹⁹

Today in New Zealand fallow deer are the second-most widespread game species after red deer, but they have never reached comparable numbers and distribution because of their slow rate of spread.¹²⁰ Considering that up to the year 1910 only 50–60 specimens of fallow deer were imported, it is astonishing that the fallow deer population of New Zealand is nowadays one of the largest worldwide.^{121,122} Detailed statistics for wild fallow deer in New Zealand are not available, but there were about 24,000 specimens in enclosures alone in the year 2000.¹²³

Conclusions

Evolution made the fallow deer a perfect target for semi-domestication. They are sociable and therefore 'made' for a life within a deer park. Since antiquity, the fallow deer was kept as a

¹¹⁶ Yerex, *Deer: The New Zealand Story*, 147, 34.

¹¹⁷ Dunlap, *Nature and the English Diaspora*, 258.

¹¹⁸ Brander, *Die Jagd von der Urzeit bis heute*, 197.

¹¹⁹ Dunlap, *Nature and the English Diaspora*, 258.

¹²⁰ L.H. Harris, "Fallow Deer", in A.L. Poole (Ed.), *Wild Animals in New Zealand* (Wellington: A.H. & A.W. Reed, 1970), 50.

¹²¹ King, *The Handbook of New Zealand Mammals*, 452.

¹²² Siefke and Stubbe, *Das Damwild*, 334.

¹²³ King, *The Handbook of New Zealand Mammals*, 459.

sacrificial animal, an offering to the gods of fertility and hunting. The Romans kept them in enclosures to demonstrate the victory of Roman civilisation over a barbarian wilderness. By the Middle Ages fallow deer had become an important status symbol for the nobility, even though always inferior in importance to the red deer.¹²⁴ In addition, the breeding of deer provided a welcome source of food, a larder for the gentry whose position related to the hunt and to eating venison.

In the British hunting tradition, which was strongly influenced by the Normans, fallow deer were of exceptional importance. With the increase of Britain's population in the twelfth century, the hunt *par force* became less important while the hunt within deer parks became popular. Associated with this hunt by 'bow and stable', the number of parks and the population of fallow deer increased. The fallow deer had become a central part of British hunting and therefore an important element of a noble British way of life. Its association with a high social position turned it into an appropriate animal for wider distribution and finally led to the globalisation of *Dama dama* in the nineteenth and twentieth century.

A comparison of the different periods of fallow deer dispersal identifies some similarities. The invasion of Britain by the Romans and the Normans as well as the British expansion into Australasia was accompanied by the introduction of fallow deer as an important part of a new culture. By restricting the hunting of these wild animals the new elites displayed their wish to establish a new social hierarchy. Fallow deer served as a symbol for the new ruling class, and in this context the introduced species served as an 'icon of colonial dominance'.¹²⁵

In the time of the Roman Empire, the fallow deer appears to have been a curiosity, kept inside the *vivarium*; it was an animal exchanged between the nobility within the empire – to present it

¹²⁴ Fletcher, *Deer Parks and Deer Farming in Great Britain*, 56.

¹²⁵ Baker, Miller, Perdikaris and Sykes, *From Icon of Empire to National Emblem* (forthcoming).

in front of their villa.¹²⁶ Among the Normans the fallow deer served as an object for the hunt within parks. These hunts were restricted by law to the new gentry – which underlined their importance as a symbol of social dominance.

The acclimatisation attempts of the British in the nineteenth century revealed some new facets in the history of the distribution of the fallow deer. While they also distributed the fallow deer to create a new nature, and to fashion scenery that would appeal to the common European conception of beauty, this distribution was on an unprecedented scale and brought the animals from Europe to areas like South Africa, Canada and New Zealand. The introduction of these invasive animals into alien ecosystems had profound effects on the local environment, as the New Zealand case has shown.

Within the British Empire the translocation and acclimatisation of fallow deer was primarily conducted by the ruling class, established families (e.g. the Codringtons); members of parliament; tourism department officials (e.g. T.E. Donne); and acclimatisation societies. Fallow deer played a small, but not unimportant part in their venture to transform colonies like New Zealand into a little 'Britain in the South'.

In the twentieth century red and fallow deer acted in a way that did not fit with the perceived character of luxury items of high standard – they thrived, to the point of becoming a serious menace to the forests and to agriculture, falling out of favour with many settlers.¹²⁷ This ended the era in which fallow deer served as an icon of colonial dominance, representing the establishment of a new social order. Today fallow deer are mainly the subject of commercial breeding and sport hunting tourism in New Zealand.

This article points out the importance of analysing topics of environmental history on a global and extended time scale, to look at the *longue durée* and to understand far-reaching implications. This should include the long history of semi-domestication of

¹²⁶ Naomi J. Sykes, Judith White, Tina E. Hayes, and Martin R. Palmer, "Tracking Animals Using Strontium Isotopes in Teeth: The Role of Fallow Deer (*Dama dama*) in Roman Britain", *Antiquity* 80 (2006): 955 ff.

¹²⁷ Yerex, *Deer: The New Zealand Story*, 29-31, 30 ff.

fallow deer – the facts, events and developments, which are essential to understand the importance of this deer within British hunting culture and its consequent acclimatisation outside Britain in the nineteenth century. The globalisation of the fallow deer stands symbolically for a dominant British lifestyle and was an aspect of British expansion.

REVIEW ESSAY

Island Reserves and Mainland Islands, including a Review of *Ecosanctuaries*

Diane Campbell-Hunt with Colin Campbell-Hunt, *Ecosanctuaries: Communities Building a Future for New Zealand's Threatened Ecologies* (Dunedin: Otago University Press, 2013). 292 pp. ISBN 978-1-877578-56-4. NZ\$40.00 paperback.

Paul Star¹

In the last two centuries, thirteen species of New Zealand's indigenous birds have officially become extinct, while a further twenty-four species are currently considered 'endangered' (that is, having a high or extremely high risk of extinction in the wild).² Concern about this situation has prompted approaches to bird and habitat protection in New Zealand which are both intense and innovative. In contrast, Britain has at least nine species which appear on the International Union for Conservation of Nature (IUCN)'s wide-ranging 'red list',³ but while these nine are threatened they are not endangered species, and only one British bird has become extinct during the period. This was the flightless great auk, the largest member of the auk family, and the bird of the northern oceans whose evolutionary development most nearly mirrored that of the penguins of the southern hemisphere.

The subject of this article is the protection of New Zealand's indigenous wildlife, but, for an environmental historical approach,

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² Based on "New Zealand Species Listed in 2000 IUCN Red List of Threatened Species", at <http://terranature.org/IUCNredList.htm>. Colin Miskelly et al, "Conservation Status of New Zealand Birds, 2008", *Notornis* 55 (2008): 117-135, employing different terminology and including subspecies, list 20 extinct New Zealand taxa post-1800 and 77 threatened (critical, endangered or vulnerable). Hugh A. Robertson et al, *Conservation Status of New Zealand Birds, 2012* (Wellington: Department of Conservation, 2013) list 19 extinct taxa.

³ Two of these nine species, the skylark and song thrush, are now common in New Zealand, where they were introduced from Britain in the nineteenth century.

telling the great auk's story is a good way to begin. The decline of the species commenced at a time when the auk was hunted for its down, which made excellent stuffing for pillows. As it approached extinction and as collectors realised how rare it had become, large sums were paid for great auk skins and eggs. A colony of fifty birds was found on Eldey, off the Icelandic coast, in 1835, but these were soon sought out and the last pair killed in 1844. A British specimen was caught and killed on the remote Outer Hebridean island of St Kilda in the same year. The last sighting of a great auk anywhere was possibly that of a single bird off the Newfoundland coast in 1852.⁴

As a young man Thomas Henry Potts, who inherited a successful London gun-making business and had a strong interest in oology,⁵ built up one of the finest collections of birds' eggs in England. While arranging to move to New Zealand with his family in 1854 he sold two of his great auk eggs. He retained the third one, however, and may well have considered it his most treasured possession. In the decade before his death in Christchurch in 1888 his fortunes declined, forcing him to sell almost everything, but he still kept this egg.⁶

We gain a sense of its importance to Potts from a short paper about the great auk that he read before the Wellington Philosophical Society in 1870.⁷ In this he remarked that there was 'no close time or fence month observed for the Great Auk',⁸ but

⁴ See Jeremy Gaskell, *Who Killed the Great Auk?* (Oxford: Oxford University Press, 2000), 139-150, for discussion of the bird's 'last appearances', and 165-187 for links between the great auk's decline and the passage of the British Act for the Preservation of Sea Birds of 1869.

⁵ Oology is the study or collection of birds' eggs. Potts later wrote a six-part "Oology of New Zealand", published in the *New Zealand Journal of Science* 2 (1884-85).

⁶ His widow sold the egg in 1891, and it was sold on again in 1897 for £294. For a history of this particular egg, see John E. Thayer, "Great Auk Eggs in the Thayer Museum", *The Auk* 29.2 (1912): 208-209.

⁷ T.H. Potts, "Notes on an Egg of *Alca impennis*, Linn., in the Collection of the Author", *Transactions of the New Zealand Institute* 3 (1871): 109-110.

⁸ A 'fence month' first referred to the fawning time of the deer, a thirty-day period when hunting them was forbidden. The term harked back to a now obsolete meaning of 'fence', given in the *Oxford English Dictionary* as the 'means or method of defence, protection, security'.

hoped nevertheless the species 'still exists and breeds on some of the surf-beaten Skärs and Skerries [of Iceland], where a frightful surge almost perpetually rages, and denies access to the boldest explorer'. And, he added, 'would that some of *our rarer* birds [in New Zealand] could be sheltered from impending extinction by a barrier as secure, and thus be saved from the destructive attacks of the mercenary plunderer'.

Here, quite possibly, is the germ of the idea for island reserves on which to protect endangered species – an idea which became manifest with the gazettal of Resolution Island (550 metres from the mainland) in south-western New Zealand, as a reserve for native birds in 1891. This move gained its full significance with the government's appointment of a curator for the island, Richard Henry, who tried to ensure a future for kiwi and kakapo – indigenous species which were rapidly losing ground – by translocating them there from the mainland between 1895 and 1898.⁹ These were actions without precedent anywhere in the world.

An *island* sanctuary was required since, as long as it was far enough from the mainland, predators such as stoats could not be expected to swim across to it. Brought from Britain to kill rabbits, in the New Zealand context these mustelids made a greater impact killing flightless native birds. Resolution Island appeared to be the ideal haven for such birds, since while large (21,000 hectares) it was remote and inaccessible, covered in bush, uninhabited and (except for mice) predator-free, and already in the government's possession.

Potts had been the first to note Resolution Island's potential value. In a letter to *Nature* in 1872, asking the British to 'help us save our native birds', he sought to 'avert what will some day be a great reproach to this country [New Zealand], the destruction of so many species of our feathered tribe'. He named Resolution Island as one of two which 'might be placed under tapu from molestation by dog and gun', where 'wingless species, and birds of feeble

⁹ Susanne and Richard Hill, *Richard Henry of Resolution Island* (Dunedin: John McIndoe, 1987), 177, 233.

powers of flight, might find ... a refuge for some of their representatives'.¹⁰

The kiwi and kakapo which Henry transferred to Resolution Island did not survive, since by 1900 mustelids had proved capable of swimming across to them. The notion persisted, however, of offshore islands as protected environments, with Little Barrier Island gazetted as a reserve 'for the preservation of the native fauna' in 1895, once it had been wrested from its Maori owners.¹¹ Kapiti Island was the next to be reserved as a bird sanctuary, in 1897. Although acclimatisation societies' efforts to introduce exotic birds, mammals and fish into New Zealand presented an ongoing record of frequently successful species translocations, there were no other attempts to move native birds onto offshore islands until the Wildlife Service instigated further island transfers in 1968.¹² In the years since then, given the successful concentration of all remaining black robins on Little Mangere Island in the Chathams in the 1970s, and of most kakapo on Whenua Hou off Stewart Island from the 1980s, island reserves, and the breeding programmes carried out on them, have become a key component of the Department of Conservation's endeavours to 'save our native birds'.

The emphasis in New Zealand on island reserves was posited on a belief that only the sea could operate successfully as a 'fence' to exclude predators from endangered bird species. There is, of course, a parallel history of the creation of national parks and other protected areas on the mainland, to ensure that a large 'indigenous remnant' of the 'natural environment' remains. Here, extensive trapping, shooting and poisoning programmes are designed primarily to knock back the introduced possum and deer

¹⁰ T.H. Potts, "Help us Save our Native Birds", letter to the editor, in *Nature*, May 2, 1872: 5-6. The letter's mention of the kittiwake, protected in Britain since the 1869 Sea Birds Preservation Act, shows Potts was well aware of protection measures outside New Zealand. His use of the word 'tapu' suggests he may also have been influenced by Maori concepts of resource conservation such as rahui.

¹¹ Ross Galbreath, *Walter Buller: The Reluctant Conservationist* (Wellington: GP Books, 1989), 186-192, 211-213.

¹² Ross Galbreath, *Working for Wildlife: A History of the New Zealand Wildlife Service* (Wellington: Bridget Williams Books, 1993), 175-207.

species which respectively devour the young shoots of native tree growth and its understorey.¹³ Traps and poison are also designed to kill the rats, mustelids and other introduced predators which directly attack native birds, in the hope that remaining populations of the terrestrial fauna can be maintained as well. Where the species is sensitive and highly endangered, however (as in the case of the kakapo, of which there are currently a mere 125 individuals), close management and monitoring of populations on offshore islands was long seen as the only hope.

Despite this, one century on from the creation of New Zealand's first island reserve, a new idea evolved – the 'mainland island' concept – which has recently stolen some of the limelight from island reserves. It concentrates, similarly, on the indigenous fauna, but this time in a mainland setting, and one of the goals for 'islands' of this new kind is to act as transit stations for the reintroduction of threatened species – in the long run even of currently endangered species – to parts of the mainland where they have become locally extinct. The very term, 'mainland island', implies that the idea has emerged on the conservation scene as a kind of corollary to the already prominent 'offshore island'.

Diane Campbell-Hunt's first book, *Developing a Sanctuary* (2002), which dealt specifically with New Zealand's first mainland island, traced its history back to '1990 when James [Lynch] was asked to assist the Wellington Branch of the Royal Forest and Bird Society in preparing a strategic plan for conservation in the Wellington area'.¹⁴ Two years later, Lynch proposed a nine-kilometre exclusion fence around 250 hectares of well-forested ground (previously the Kaikorai Valley water supply reserve) owned by Wellington City Council. The idea was taken up, and Karori Sanctuary resulted.

Evidently this was a locally inspired initiative. The *Wikipedia* article on mainland or 'ecological islands' notes that 'the concept

¹³ Possums also eat the eggs of native birds, and their control is also supported because, as carriers of bovine tuberculosis, they threaten the country's dairy, beef and deer-farming industries.

¹⁴ Diane Campbell-Hunt, *Developing a Sanctuary: The Karori Experience* (Wellington: Victoria Link, 2002), 13.

... was pioneered in New Zealand and arose mainly from the particular circumstances of that country's history'.¹⁵ As when Resolution Island became an island reserve, this seems to have been a 'world first', based on private initiative but sustained by government support – only this time the fence was man-made rather than natural. Maybe rabbit proof fences, constructed by Australian and New Zealand runholders in the late nineteenth century to halt this exotic pest's advance into sheep country, could be seen as some sort of precedent. New Zealand never had anything to compare with the 700 mile fence which, by 1893, extended outward from Dubbo in New South Wales,¹⁶ but at much the same time a 46 mile rabbit proof fence was built in South Canterbury, and others elsewhere, to equally little avail.

The recently published *Ecosanctuaries: Communities Building a Future for New Zealand's Threatened Ecologies* (2013), written by Diane and Colin Campbell-Hunt, contains nothing about the origins of fenced mainland islands (that is, 'ecosanctuaries'), nor about island reserves. This is not their concern. The above paragraphs, however, may suggest how the environmental historical approach throws up information, perspectives, and hopefully insights, which could supplement those presented by an ecologist such as Diane Campbell-Hunt (who died in 2008) or an expert in business studies such as her husband Colin.

While I have approached mainland islands by looking to the past, the Campbell-Hunts, by regarding the present state of these 'ecosanctuaries', seek to find the key to their survival into the future. 'The objective of this study', we are told, 'is to identify the conditions under which community-based biodiversity sanctuaries might be sustainable' (p. 58).

Interviews with people involved in these sanctuaries, which Diane undertook in 2006-2008, are quoted throughout this book. These all either exemplify the opinions of those involved in sanctuaries or detail incidents that occurred in the course of their sanctuaries' creation and management. Remarks are classified insofar as they indicate the need to ensure a sustainable ecology within the fence,

¹⁵ http://en.wikipedia.org/Ecological_island accessed March 31, 2014.

¹⁶ Eric C. Rolls, *They All Ran Wild: The Story of Pests on the Land in Australia* (Sydney: Angus and Robertson, 1969), 119-124.

to sustain community support for the sanctuary, to make it into a sustainable economic enterprise, and to achieve a sustainable relationship with government. The conclusion reached is that you need the lot, for, 'if sanctuaries are to realise their initial vision, they will have to remain committed to all four sustainability objectives: protect a self-sustaining ecology *and* earn sufficient income to cover costs *and* retain the strong support of the local community *and* maintain their autonomy in relationships of partnership with government agencies' (p. 256).

Unfortunately it is not the current situation that is described and reflected upon. Five of the six fenced sanctuaries used as case studies more than doubled their lifespans between when most information-gathering ended and when analysis of the data was published (five years later, in 2013).¹⁷ Little attempt is made to include *actual* later developments in the book's discussion of how sanctuaries might best stand the test of time. Where recent events are mentioned – notably the failure of Karori Wildlife Sanctuary (now Zealandia) to meet expectations of greater financial self-sufficiency, and the breakdown of solidarity among stakeholders at Maungatautari Ecological Island – few details are given, and then only in endnotes. One can understand Colin Campbell-Hunt's inability to properly update his wife's research after her death – but it means that this book, although still valuable, does not quite have the relevance or feel of immediacy that any discussion of ecosanctuaries deserves.

Elsewhere, however, Colin has contributed directly to ongoing debate about the relative value of island reserves and mainland islands.¹⁸ Paul Scofield and others, in the *New Zealand Journal of Ecology* in 2011, asked, 'are predator-proof fences the answer to

¹⁷ The six case studies are of Maungatautari Ecological Island, Orokonui Ecosanctuary, Bushy Park Homestead, Karori Wildlife Sanctuary (Zealandia), Rotokare Scenic Reserve, and Tawharanui Open Sanctuary. A broad overview is also provided in Dave Butler, Tony Lindsay and Janet Hunt, *Paradise Saved: The Remarkable Story of New Zealand's Wildlife Sanctuaries and How They are Stemming the Tide of Extinction* (Auckland: Random House, 2014).

¹⁸ Recently he also actively campaigned against oil and gas exploration off the New Zealand coast. See "Is the 'Aberdeen of the South' an Idea Past its Time?" and "Deep Sea Drilling: A Local Perspective" at <http://oilfreeotago.com/tag/colin-campbell-hunt/>.

New Zealand's terrestrial faunal biodiversity crisis?', maintaining that sanctuaries created in this way were often 'little more than ... expensive zoos surrounded by degraded habitat that will never be able to sustain the animal and plant species contained within'. They felt that 'islands suitably far from shore are better than fences at (1) restricting ongoing need for expenditure on fencing, maintenance and monitoring, (2) eliminating the probability of predator reinvasion, and (3) providing a low-cost long-lasting conservation benefit'. Consequently, they recommended a continuing emphasis on the 'island ark' approach.¹⁹

In response, in the same journal in the following year, John Innes et al (including Colin Campbell-Hunt) argued that offshore islands had 'different environmental conditions from those found on the mainland and both need consideration to achieve representative reserve networks'. There was, they pointed out, limited availability of suitable offshore islands for reserves. Furthermore, only mainland restoration could effectively utilise community support, and only mainland islands were directly surrounded by landscapes in which endangered species might eventually re-establish.²⁰ Both parties have since agreed that, even given the need for swift response to ecological crisis and the constraints imposed by financial crisis, more analysis and comparison of results is required, and that 'no single approach will ever be adequate by itself'.²¹

With island reserves and mainland reserves, then, it is not a question of 'either/or'. Currently, both are playing a part in the attempt to retain or restock New Zealand's indigenous biota, as are habitat restoration and pest control, and as may genetic manipulation. For many indigenous species, if they are to survive

¹⁹ R. Paul Scofield, Ross Cullen and M. Wang, "Are Predator-proof Fences the Answer to New Zealand's Terrestrial Faunal Biodiversity Crisis?", *New Zealand Journal of Ecology* 35 (2011): 312-317.

²⁰ John Innes, William G. Lee, Bruce Burns, Colin Campbell-Hunt, Corinne Watts, Hilary Phipps and Theo Stephens, "Role of Predator-proof Fences in Restoring New Zealand's Biodiversity: A Response to Scofield et al (2011)", *New Zealand Journal of Ecology* 36 (2012): 232-238.

²¹ R. Paul Scofield and Ross Cullen, "Fenced Sanctuaries Need Critical Evaluation: A Reply to Innes et al (2012)", *New Zealand Journal of Ecology* 36 (2012): 239-242.

or spread beyond the narrow confines of small reserves, there is a need not only for large 'national parks' but also for suitable micro-environments well outside the DOC estate and for participation from the wider public. And it is not just the future of terrestrial biota that needs to be addressed, given that we live at a time when riverine and marine ecosystems are also under threat. The increased pace and heightened awareness of climate change (whether anthropogenic or not) highlights the interconnectedness of all environmental histories.

Maybe some day New Zealand will again have flourishing populations of currently endangered native birds and other fauna 'out in the open', in line with the late Sir Paul Callaghan's vision of a predator-free country.²² At present, though, this vision feels like a pipe dream. The Department of Conservation seems confident that new or refined methods of predator control will at least maintain (and perhaps expand) populations of some indigenous fauna beyond the contained environments of offshore and mainland islands. Currently, sodium fluoroacetate (1080) is applied in the absence of any other effective or economically feasible way to significantly reduce predator impact over large areas of remote mainland. Some, however, claim that this poison, which kills both rats and possums (and can reduce stoat numbers through secondary poisoning), also has a permanently damaging effect on the numbers of native birds. In response to DOC stepping up its poisoning programme in 2014, one correspondent provocatively suggested that 'the only way to settle the issue over bird deaths would be to arial poison one of the predator-proof sanctuaries with 1080-laced carrots and cereal-based baits, then get independent monitors to carry out a grid search post-poisoning'.²³

²² Sir Paul Callaghan, "The Zealandia Vision for a Predator-free New Zealand", <http://www.youtube.com/watch?v=noIP5lbuJHk> accessed March 25, 2014.

²³ Lewis Hore, letter to the editor, *Otago Daily Times* February 20, 2014. Carrots are no longer used as bait by DOC. The recorded effects of 1080 on non-target species are summarised in A.A.C. Fairweather, K.G. Broome and P. Fisher, "Sodium Fluoroacetate Pesticide Information Review, Version 2014/1", Unpublished report docdm-25427 (Hamilton: Department of Conservation, 2014).

Richard Henry's translocations of the 1890s suggested both the possibility and the parameters of any 'sanctuary' approach. Experiments conducted on Resolution Island since 2008, over a century after Henry focussed on that insufficiently remote landmass, confirm how far off the coast an effective island reserve must be, and how very difficult it remains to keep any other unfenced area predator free.²⁴ On the other hand, Henry's actions have been a source of inspiration for several successful translocations in recent years,²⁵ and increasing community efforts to protect mainland native bird habitats have produced some encouraging results, by no means all within fenced sanctuaries.²⁶

Mainland islands, and Diane and Colin Campbell-Hunt's analysis of them, must be placed within this wider context of conservation efforts in New Zealand. The common factors behind all such endeavours are hard work and strong hope. The Campbell-Hunts' study is valuable because it provides reasoned and evidence-based conclusions, at least with regard to 'ecosanctuaries', about where work and hope might be most rewardingly directed. Feasibility, after all, is the crucial component as we as a country attempt to switch from 'future-eating' to 'future-saving'.

²⁴ 'Stoats continue to persist on the island despite more than 2500 traps having been checked and reset three times a year ... 556 stoats have been captured in 18 trapping sessions between July 2008 and July 2013 ... The mean annual immigration rate was estimated to be ... approximately 7 stoats every 10 years ... If the trapping programme was stopped, the stoat population would rebound to its starting population size within 2–3 years.' Dean Anderson, Andrea Byrom, Peter McMurtrie and Kerri-Anne Edge, "Eradication or Control to Zero Density on Near-shore Islands?: Lessons from a Stoat-removal Operation on Resolution Island, Fiordland", *Kararehe Kino* 23 (February 2014): 5-7.

²⁵ See Marty Taylor, "Resolution for Richard Henry", *New Zealand Geographic* 83 (2007): 78-88.

²⁶ See, for instance, Lyndsay Blue and Greg Blunden, "(Re)making Space for Kiwi: Beyond 'Fortress Conservation' in Northland", *New Zealand Geographer* 66 (2010): 105–123.

REVIEW:

David Young, *Rivers: New Zealand's Shared Legacy* (Auckland: Random House, 2013). 240 pp. ISBN 9781775534501. NZ\$59.99 hardback.

Joanne Whittle¹

David Young is a professional writer in the fields of sustainability, history and environmental management. His books include the substantial *Our Islands, Our Selves: A History of Conservation in New Zealand*, published in 2004, and *Woven By Water: Histories from the Whanganui River*, a study of relations between Maori and Pakeha on and around that river. In his new book, *Rivers: New Zealand's Shared Legacy*, Young takes us with him on an engaging series of journeys in and around eleven extraordinary New Zealand rivers. It offers a revision and significant update of Young's earlier book, *Faces of the River*, published in 1986. The first edition provided one of the few collective descriptions of the country's waterways, and this book provides an equally valuable and highly readable series of expansive essays that reflect the author's deep appreciation of, and feeling for, these rivers. Before detailing what *Rivers* is about, it is important to note what it is *not*. It does not purport to be an ecological textbook and it is light on statistics and figures (although it does provide a useful appendix of the 'vitals' on the country's major rivers). Nor is it a visitor's guide or a coffee table book of the 'New Zealand beautiful' variety; we are being taken on a series of vigorous journeys, and we can expect to get our feet wet. And it will certainly do little to buttress New Zealand's dubious '100% Pure' branding. As Young points out in his introduction, it can no longer be assumed that our waterways are safe and healthy to swim in. On our journeys Young not only expects us to get wet, but warns us that we can also often expect to get dirty.

The book is very much a narrative of individuals and communities whose lives are entwined with the rivers where they dwell, work and play. Young's rivers therefore tell us something about ourselves, now and in the past. Each river story has its own

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central thread or theme, suggested as much by landscape and history as by hydrography. The Rakaia is a tale of irrigation and salmon fishers; the story of the Manawatu is dominated by flooding, runoff and some disturbing statistics (an average flow the equivalent of a 5-tonne truckload of dry soil is carried into the river every two minutes due to runoff into its tributaries), while that of the West Coast's Taramakau is shaped by the history of alluvial gold mining and dredging. Rivers like the Rangitikei and the Motu are described from the 'wet seat', from the point of view of canoeists and various paddlers on, in and at times under the water.

The text meanders from topic to topic, moving from the general to the highly particular, and between present time to historical and to the geological past, in an ultimately coherent and purposeful 'conversation' about the rivers. Each chapter can be read quite separately but there are similarities between the stories of the different rivers, with repeated motifs of Maori connections with their rivers, and European settlement with its attendant attraction to and battle against these rivers. Other elements common across the different rivers are: hydro-electric development, which was either threat or reality on so many of these rivers; irrigation; urban and agricultural runoff; flooding and drought.

The chapters are differentiated by the unique human stories associated with the rivers. Each chapter contains contemporary descriptions, individual encounters and historical snapshots. Young revisits some of those whose stories were told in the first edition to see how their lives and their rivers have changed in the intervening period. He takes the role of story-teller, but also offers the voices of a range of other 'river guides' both historical and contemporary: conservation campaigners, kaumatua, fishers and hunters, farmers, kayakers, engineers and officials. To give just one example, Brian Cameron, chair of the Lower Rakaia Irrigation Committee, speaks of the despair of farmers beset by drought. Cameron gives a vivid description of sitting in the first spray of water pumped out of his new irrigation well, 'watching the water falling upon the parched ground.' Young quickly puts this individually sympathetic image in a wider context; nearly 60% of all New Zealand's water for consumptive use is allocated in Canterbury, where the dairying industry has expanded

enormously over the last 20 years, and there are still more eager landowners 'hungrily' eyeing the waters of the Rakaia.

As the book's subtitle indicates, Young is addressing his message to the locals: we who live in this country and for whom the rivers are at once an assumed birth right, a vital resource and a shared responsibility. The first word he addresses to his readers is 'our', with reference to the 'deep, complex and fundamental' national connection to the river. *Rivers* is as much an appeal for joint awareness and action as it is a celebration of these water bodies as fundamental elements in our landscapes. The rivers we have in common may unite New Zealanders in experience and appreciation but, as Young shows, they have very often divided people. The analysis of the ways in which people have treated that resource over time, as Young observes, provides a good picture of New Zealand society and what it values. The divisions are most clearly illustrated in Young's coverage of the middle distance of politics and rivers from 1980s to the present. Here are competing viewpoints and standoffs, often ending in a series of clashes in resource consent hearings, Environment Court and other adversarial forums where opposing interests assert their different truths over how rivers should be utilised or preserved.

There have been enormous changes in New Zealand's society and in its landscapes since the publication of *Faces of the River*, including major population increases, the growth of the national dairy herd to 6.5 million animals and the escalating impacts of climate change. In 1986 the Fourth Labour Government had only been in power for two years, the Department of Conservation (DOC) had yet to start work and the Resource Management Act (RMA) was still some years away. Young's new book reflects the loss of the faith of the late 1980s and early 1990s that the mainstreaming of environmentalism into legislation would lead to better environmental outcomes. There has been a major shift from the assumption that central and local government had the expertise and political will to achieve these goals, and Young blames the decline of water quality around the country since the publication of his earlier book on 'poor policy, often indifferent management and resistance to the environmental voice for change at the highest levels of government.'

Young is particularly critical of the ineffectiveness of the RMA, the so-called 'omnibus' integrated resource management legislation that was enacted in 1991. He argues not only that there has been a systematic failure to activate the instruments inherent in the Act that would have provided direction and certainty for water management but also that, by its very nature, the RMA encourages divisive processes that undermine its own goals. While I believe this last point is open to debate, and that there is nothing in the Act itself that precludes more collaborative, inclusive approaches, it is impossible not to feel his disappointment, and that of other commentators in the book, that the environmental promise of the late 1980s was not achieved.

The solutions to water quality problems are found increasingly in communities and iwi, in what Young calls 'forms of collaboration around respect and reverence for water,' and, more pragmatically perhaps, 'through hard-scrabble negotiation and collaborative decision-making.' His book gives examples of restoration and protection of rivers, from individual to region-wide projects, where improved water quality and instream values have been provided for, together with economic development and agricultural production. These have occurred, Young states, 'in spite of the lack of real political commitment to the task from successive governments.'

A particular strength of the revised edition is the snapshot it provides of iwi river management and Maori connections with rivers. It introduces readers to various attempts at co-management and inclusive resource management arrangements that have become an increasingly important part of river resource management in New Zealand over the last ten to fifteen years. This reveals another major shift in New Zealand society since the publication of *Faces of the River*. In the late 1980s very few readers would have been familiar with terms like 'kaitiakitanga' in respect of resource management, or understood an argument for kinship and spiritual connections of a people with their ancestral waters. Concepts such as 'restoration' and 'in-stream values', not part of popular vocabulary in 1986, are now widely used. In the face of increasing pressure on river environments and landscapes, communities are now well placed to take an active and directive role in environmental decision-making and river management.

The majority of the photographs in the book were taken by the author's daughter, Aliscia Young. Her photographs are illustrative and some are quite striking but they are not the most memorable scenes in the book. Young's written descriptions of the rivers are often better at capturing the varied character of the rivers than photographs. Memorable examples include the Canterbury plains where 'heat and wind lap at the land' and irrigators, 'like huge revolving clotheslines', spray water onto pastures at a rate of 1200 litres per minute; or the 'raging beauty' of the Clutha: 'this green ribbon of power as it uncoils through the harsh landscape. And when flow strikes obstructions, the opacity of its surface folds back in a show of underbelly whiteness.' Throughout, Young's landscapes are unashamedly anthropomorphised; weather is 'uncompromising', water 'rages and strikes' the shore, salmon 'plough provocatively' up the river, and stop banks are found 'running in terror along the riverbank'.

Each chapter is supported by a serviceable if Spartan map of the main course of the river, major tributaries and settlements. The maps are satisfyingly free of the distraction of state highways, the usual reference points for New Zealanders moving about their country, and thus remind readers of a different way of navigating – and comprehending – the geography of New Zealand. The main text is also broken by insert boxes about particular historical events or interviews with influential individuals. One includes a farmer's pithy recollection of the dangerously aged totara suspension bridge over the Rangitikei 'as brittle as a carrot', which later collapsed and caused a truck to plunge into the river, drowning the driver. Another provides a vignette of the experiences of Ken Smith who had the nerve-racking and never-ending task of painting railway viaducts like the Mangaweka and Makatote, perched high above the rivers without safety-harness or scaffolding.

This is largely a rural history with only fleeting visits to large towns or cities. There still remains plenty of scope for historians to explore the role that rivers have played and continue to play in the making and meaning of New Zealand's urban environments. Young's portrayal of the attitudes of early European settlers toward their adopted environment are sometimes over-generalised and do not reflect recent work by environmental

historians, such as James Beattie and Paul Star, who offer a much more nuanced perspective on European attitudes to the New Zealand forest. There is a small bibliography for each chapter but no footnotes, which was frustrating at times when I wanted to know the sources of particular quotes or statistics.

At some points Young can be caught contradicting himself. He criticises the effects of current irrigation schemes as 'extreme engineering' and 'inappropriate' and describes their negative effects on the ecological health of rivers. In other instances however, for example in the case of the Clutha River, farmers and orchardists are portrayed as the victims of big government-driven development and Young criticises the design of the Clyde Dam for not giving higher priority to providing local growers with irrigation water. It is in ambiguities like these that the fascination and veracity of environmental histories can be found. Young recognises these ironies himself, as when he describes how the remnants of the violent process of gold mining on the Clutha in the nineteenth century have come to be treasured as historical landscapes. Here the 'intervention in nature is old enough to be picturesque.' Given enough time, these highly modified human landscapes may even come to seem 'natural'.

Young is determinedly hopeful, if anxious, about the ability of New Zealanders to restore and protect their rivers into the future. *Rivers* is not simply a story of environmental decline from pristine to fatally compromised, and it is not just a call to action on river protection. It highlights the better understanding and greater range of tools now available to achieve solutions. It provides many positive examples and some light moments among the sobering facts about the state of our rivers, and its lavish descriptions will make us look again at rivers we thought we already knew. Hope particularly lies in the growing number and effectiveness of community-driven, collaborative resource management initiatives and iwi co-management arrangements, supported by good science and matauranga. As the examples in *Rivers* show, there 'is no reason why rivers should divide us, and every reason why they should bring us together.'

REVIEW:

Eric Pawson and Tom Brooking (Eds.), *Making a New Land: Environmental Histories of New Zealand* (Dunedin: Otago University Press, 2013). 391 pp. ISBN 978-1-877578-52-6. NZ\$40.00 paperback.

Ruth Morgan¹

The lands and waterscapes of Aotearoa New Zealand, their Māori and Pākehā understandings and their transformations, are the focus of *Making a New Land: Environmental Histories of New Zealand*. Edited by Eric Pawson and Tom Brooking, this volume revises and updates their 2002 collection, *Environmental Histories of New Zealand* (Melbourne: Oxford University Press) as a university-level textbook. A third of the chapters and figures in this edition are new, and earlier chapters have been revisited and refreshed, ensuring that each contribution is up-to-date, relevant and advances the scholarship of the field. In this review, I will focus on the most significantly reworked chapters and sections of this collection, particularly the twentieth-century section 'Modernising'; and 'Perspectives', which reflects on contemporary environmental issues and themes in environmental history.

Aside from a revised chapter on the grasslands in the nineteenth and early twentieth centuries, the first three sections of *Making a New Land* are largely unchanged from the earlier edition. Chapters in these sections – 'Encounters', 'Colonising', and 'Wild Places' – examine the interactions of Māori and Pākehā with a 'new land' and with each other, and the environmental impacts of colonial economies and resource management. In the first edition, geographers Peter Holland, Kevin O'Connor and Alexander Wearing examined the environmental consequences of pastoralism and farming for open-country landscapes. Over a decade later, Holland has partnered with historian Robert Peden to rework this chapter and engage with the grasslands scholarship arising from their productive collaboration with Tom Brooking

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and Eric Pawson in the Marsden-funded 'Empires of Grass' project. They show how the transformation of the open country into the 'engine room for the country's economic growth from the 1850s' (p. 105) exacted a heavy toll on soil fertility and productivity well into the twentieth century.

After an exploration of the 'wild places' of bush, mountains and swamps, this engagement with recent scholarship on grasslands continues in the following section, 'Modernising', which also features a new chapter on New Zealand garden history. Historians Tom Brooking and Vaughan Wood return to 'reconsider' (again) the so-called grasslands revolution of the twentieth century, which was driven, they argue, by an 'obsession with the development of grasslands at the expense of other land development strategies' (p. 193), particularly in the North Island. Here, they explore the impact and legacy of the intensification of land use and expansion of primary production that accelerated after the Second World War. In his chapter, "The Empire of the Rhododendron", historian James Beattie draws on the blooming literature of the mobilities and exchanges of people and plants to study New Zealand gardens in a superb example of what might best be described as the 'new' garden history. Continuing his important work on the Chinese environmental histories of New Zealand, Beattie complicates Crosby's notion of ecological imperialism through his examination of the role of the Chinese as 'agents of environmental transformation in the colony' (p. 243).

Pawson and Brooking reserve the most dramatic make-over of the new edition for their final section, 'Perspectives', in which contributors focus on the cultures and ecologies of New Zealand's post-colonial environments. These environments, Pawson argues, continue to be shaped by the 'lasting effects of colonialism' (p. 261). Historian Katie Pickles uses the exciting new approach of sensory history to destabilise 'comfortable' understandings of the relationships between people and place, and make explicit just how 'colonialism involved engaging with the environment in profoundly sensory ways' (p. 264). This study is especially relevant in the wake of the Christchurch earthquake as residents attempt to 'remake a place that is situated in its locale, rather than one that adheres to an imperial mindset' (p. 275). The following

chapter, however, suggests that old habits die hard: Nicola Wheen shows the persistence of historic legislative tensions between resource protection and developmentalism, particularly in the area of water management.

These debates also have significance for Māori communities, for whom water and water resources are central to their self-definition. As historian Michael J. Stevens demonstrates in his study of Ngāi Tahu, the iwi that holds mana whenua over much of the South Island, economic prosperity may come at a cost as dairying potentially threatens the 'environmental values and traditional lifeways of Ngāi Tahu families and communities' (p. 309). In the final chapter of the collection, Danish geographer Andreas Aagaard Christensen finds continuity amongst the changes described in *Making a New Land*; that is, he argues, 'the history of New Zealand was always a history of spaces and of the ability of its inhabitants to control space and resources cognitively, socially and physically' (p. 310). Since the arrival of Māori in the thirteenth century, spatial cultures and technologies have proven central to the ways that 'human societies have attained power over the environments of New Zealand' (p. 325).

A great improvement to this collection has been the addition of an epilogue, in which the editors Pawson and Brooking synthesise the themes of *Making a New Land* and suggest areas for further research. They advocate interdisciplinary approaches to understanding the relationships between people and place over time, and make a convincing case for the role of history in environmental planning in New Zealand, particularly in the areas of water, land and environmental instability. They also engage with the challenges of doing environmental history, of the possibilities of framing 'more optimistic stories' that offer hope over despair, of learning the languages of other disciplines.

Although *Making a New Land* features contributions from the humanities, social sciences and sciences, it wears its interdisciplinarity lightly such that the collection shapes as a series of conversations about New Zealand's past, present and future. Structured both chronologically and thematically, the chapters appear to speak to each other and to broader themes in

environmental history. With rural, (sub)urban and wild landscapes well-covered, and the different experiences and understandings of Māori, Pākehā and Asians explored, perhaps a third edition might consider more closely the gender and socioeconomic differences within these groups as they relate to New Zealand environments.

In his preface to the first edition, U.S. environmental historian Richard White observed, 'In its sweep, its curiosity, and its ambition, I do not know of an equivalent for any other country in the world' (2002, p. iv). This collection maintains these high standards and continues the fine tradition of New Zealand environmental history pioneered by Herbert Guthrie-Smith in his 1921 study of environmental change on his Hawke's Bay sheep station, *Tutira*. It is a text relevant not only to university undergraduates, who will benefit from the suggestions for further reading, but also to historians, geographers, ecologists, environmental managers and policymakers in New Zealand as well as in other contexts forged by settler colonialism. With scholarship of this calibre, it comes as no surprise that New Zealand holds a special place in the field of environmental history and will continue to do so for many years to come.

REVIEW:

James Beattie and Duncan Campbell with Wynstan Cooper (Images) and Sue Wootton (Poetry). *Lan Yuan: A Garden of Distant Longing* (Dunedin: Dunedin Chinese Gardens Trust and Shanghai Museum, 2013). 112 pp. ISBN 978-0-473-25799-6. NZ\$29.99 paperback.¹

Elizabeth Kenworthy Teather²

Lan Yuan, Dunedin's exquisite Chinese Garden, was opened to the public in 2008. Its English name, unrelated to the Chinese name, is *Garden of Distant Longing*, but it seems that Dunedinites just call it the Chinese Garden. Twenty years earlier, in 1998, Sydney's *Garden of Friendship* opened.³ This is the only comparable garden in Australasia, possibly in the Southern Hemisphere. The two cities are very different. Sydney sees itself as the pulsing heart of an extrovert nation. Dunedin, far smaller, still wears remnants of its reserved Presbyterian origins, and is regarded by most New Zealanders as remote from the centre of the action.

How it came about that Dunedin acquired this cultural gem, unobtrusively located between a shopping precinct and the newly refurbished Toitū Otago Settlers Museum, is quite a story, and it makes for a fascinating read in Beattie and Campbell's recent book. James Ng's 'Foreword' explains that, following a successful celebration of China Week in 1998, during the 150th anniversary celebrations of Otago's planned settlement, Otago's China Week Committee offered to gift a southern Chinese garden to the city. The garden was intended to be an enduring commemoration of

¹ See also James Beattie (Ed.), *Lan Yuan: The Garden of Enlightenment: Essays on the Intellectual, Cultural and Architectural Background to the Dunedin Chinese Garden*. (Dunedin: Dunedin Chinese Gardens Trust, c/o Cook, North and Wong, PO Box 867, Dunedin, New Zealand, 2008).

² Elizabeth Teather is a retired geographer who lived in Dunedin for ten years. She acknowledges with thanks the help of Margaret Bahr in sending the article in the *Otago Daily Times* referred to below, as well as other useful material.

³ Elizabeth has an attractive booklet named *Garden of Friendship* describing Sydney's Chinese Garden in some detail, which she bought well over a decade ago. There is no date or author, and the publisher is Mason Stewart Publishing Pty. Ltd., Sydney.

the early Chinese in Otago. The first of this book's three chapters, 'Origins', tells how events unfolded.

Dunedin is twinned with Shanghai, so it made sense for members of the newly established Dunedin Chinese Gardens Trust to visit Shanghai to see that city's famous historic gardens. Mutual understanding and enthusiasm culminated in outstandingly generous contributions from individuals and institutions in Shanghai that made this project achievable. Thus it came about that a Chinese Garden commemorating Cantonese miners and settlers in Otago came to be designed, and its building supervised, by Mandarin speakers from Shanghai. The closest city to the original home of Otago's Chinese is Guangzhou, a city with no comparable tradition of garden design, but which had been involved in the creation of Sydney's Chinese Garden.

It is appropriate that 'Origins' begins with a short account of the invitation that brought Chinese goldminers to Otago in 1865. It also describes the later immigration of men, and some women, who became, in the large, laundrymen and market gardeners. Photographs, some grainy and needing resort to a magnifying glass but well worth it, bring to life the contrast between the fertile low-lying environment the Cantonese villagers left, and the raw majesty of Central Otago. I was unaware of the enthusiastic response of Chinese market gardeners to Prime Minister Fraser's appeal to them during the Second World War to ensure the country's supply of fresh fruit and vegetables, something that surely contributed to the post-war improvements in their acceptance as legitimate New Zealanders.

Having briskly dealt with *Lan Yuan's* origins, the authors present the nuts and bolts of the project in some detail in the remaining two chapters, 'Construction' and 'Design'. These are supplemented by five Appendices. Appendix 3 shows in diagram form how the Trust and the Shanghai Museum established a working structure for the project. A set of photographs of every Chinese craftsman employed on the project follows in Appendix 4. These two Appendices are testament to the warm and efficient collaboration that appears to have taken place between all parties concerned, and the photographs are a tribute to the superb traditional craftsmanship involved.

The 'Construction' chapter gives an account of the site preparation, prefabrication in Shanghai and subsequent building of *Lan Yuan*, and it also explains the traditions behind the way the elements of *Lan Yuan* were developed into a design appropriate for a small site. The Chinese had worked out the principles of 'Modular Construction' many centuries ago. Buildings needed to be in proportion to one another and to the garden elements. Once their scale was determined, the traditional dimensions could be worked out, down to the size of every window. 'No nails were used to build Lan Yuan' (p. 41) and when the prefabricated components were brought to Dunedin, they were found to fit together perfectly – as, of course, the craftsmen knew they would. A series of photographs by Adrian Thein illustrates the process of construction, including the 'Rock Mountain' with its 970 tonnes of limestone rock sitting on six metres of fill (the water table is only two metres below the surface).

Three key texts on the design of Chinese Gardens were discussed in Chapter 2 (pp. 35-36). In Chapter 3, 'Design', the authors point out that 'Chinese private gardens are more about architecture than horticulture; more about rocks than plants' (p. 66). Thus, the placing of hard structures precedes that of plants. The authors also go into some detail about the several principles of contrast that Chinese Garden designers exploit, and how they are built into the design of *Lan Yuan*. Appendix 2 summarises, with a map, the plantings as at 2012.

Featured in Chapter 3 are the poems of Sue Wootton, meditative weavings of words inspired by the many elements of a garden that stimulate the senses and trigger associations. 'Stepping across Zig Zag bridge' is followed by an explanation of how she constructed the sequence of ten couplets, incorporating the design contrasts of, for example, straightness/curvature, movement/stasis. But I particularly enjoyed 'Pouring tea in steady rain with a steady hand' with its metaphor of the tea as a 'new green lake'.

This is a beautiful and businesslike book. It glories in photographs by Wynton Cooper, some of which clarify points made in the text. Others are simply breathtaking. Readers who want to delve into the bibliography of Chinese Gardens are provided with useful further reading. Missing is a reference to

Tung Chuin, mentioned in the opening paragraph of the Introduction as a 'great garden historian' (p. 13), but resort to the web will bring up a translation of Tung Chuin's work by none other than Duncan Campbell.

The authors have anticipated most questions that visitors to *Lan Yuan* might have. They explain the '*Lan*' in the garden's Chinese name but forget to point out that '*Yuan*' means 'garden'. I appreciated their translations, in Appendix 5, of the various inscriptions and couplets installed throughout *Lan Yuan*, and hope that they are available for those going round the garden. This was not the case on my first visit some years ago. It seems that the two characters for *Lan Yuan* are transposed on the Pailou. I wonder why, and also whose calligraphy is the model here. I am also puzzled that the first book inspired by *Lan Yuan* (Beattie, 2008) gave the Garden's English name as '*Garden of Enlightenment*' rather than the current '*Garden of Distant Longing*', which encapsulates the sense of loss of connection to the Motherland felt by expatriate Chinese.

How has *Lan Yuan* been accepted by Dunedin's citizens as 'their' garden? The ongoing costs are a controversial issue, and are under debate by the City Council as I write this review ("Delay Changes, Garden Manager Says", *Otago Daily Times* May 19, 2014). Marketing *Lan Yuan* as a thirty-minute stop on a tourist itinerary may bring in some dollars, but Dunedin's garden lacks the fortuitous location of Sydney's Chinese Garden located near the tourist hub of Darling Harbour and close to humming Chinatown. Dunedin is not an international tourist hub, and few overseas visitors to New Zealand will yet have heard of *Lan Yuan*. When I mentioned *Lan Yuan* to a hundred or so people attending a talk on Suzhou's gardens in Canberra recently, not one had heard of it.

With its roots in Otago's history and the commitment of Dunedin's long-established Chinese citizens, *Lan Yuan's* primary appeal should be to the city's residents, rather than to tourists. Being in such a garden is meant to be a regular and integral part of one's life. This raises the intriguing question of how a garden modelled on a private space can best operate as a public space. It isn't as if a group of local citizens can readily drop into 'their' garden on an invitation or a whim 'to marvel at the reflection of the moon, to

drink, compose poetry and paint' (p. 75). The celebrations of auspicious festivals organised by the Trust are civic events and can't replace gatherings of family and friends, sipping wine and waiting for the muse to descend (or just strumming an instrument, dozing or gossiping). Do Dunedinites have the opportunity to make space in their lives, to join the 'Slow' movement, and learn to savour their hours in the delightful surroundings of *Lan Yuan*? This book captures the first years of *Lan Yuan* superbly. But longer-term success will need continuing outreach to convince Dunedin citizens to take to their hearts this tiny, jewelled fragment of a culture that is unfamiliar to most of them.