

Owning the Otago Peninsula

THE ROLE OF PROPERTY IN SHAPING ECONOMY, SOCIETY AND ENVIRONMENT, 1844–1900*



UNCOVERING THE HISTORICAL OPERATION of property systems can show us the blueprint of our desires and reveal the patterns of human endeavour within nature's economy. Economic, social and ecological relationships are all manifested in the way we see the world as property, which we then express in law. As William Cronon has observed, because 'law is the foundation on which property rests', it is 'the formal expression of a community's relationship with nature'.¹ This article explores how Kāi Tahu whānui and British settler systems of property in land (real property, as the lawyers say) engaged with the ecology of Muaupoko, the Otago Peninsula, north-east of the present-day city of Dunedin.² By examining how different systems of property worked to shape the peninsula's human and ecological history I intend to help redress some thematic and spatial gaps in our historical understanding. New Zealand's historians have paid close attention to some of the roles played by concepts of property in colonisation, but have seldom examined their interaction with ecological change. Further, the almost complete neglect of human interaction with the coasts and seas surrounding these islands is surely one of the most glaring omissions in New Zealand environmental history.³

A landmass of some 9700 hectares, dominated by volcanic cones clothed in broad-leaved podocarp forest and fringed by a harbour, estuaries, wetlands and white sand beaches, the Otago Peninsula has been a key site of Māori and settler encounter. The density of Māori settlement on the peninsula and the continuity of occupation is unparalleled in Otago.⁴ The peninsula was a vital part of the 'middle ground' that developed in Murihiku through Kāi Tahu interaction with early European traders. The peninsula, as the site of the Weller Brothers' principal whaling stations, was especially significant for shore and bay whaling, but it also was a site for sealing and flax trading.⁵ In 1844 the Ōtākou Purchase split control of the peninsula between Māori and Pākehā. This was, in the words of Erik Olssen, the key 'rupture' in the history of Otago.⁶ Kāi Tahu sold 160,000 hectares (400,000 acres) to the New Zealand Company for £2400, providing the basis for the 'systematic colonisation' of Otago. The question of who would control the peninsula was the most contested aspect of negotiations that spread over several weeks. The Kāi Tahu communities of Ōtākou retained the northern quarter, some 2700 hectares (6665 acres); the rest became the property of the New Zealand Company. The subsequent histories of Kāi Tahu and British settlers were lived in parallel on their respective portions of the peninsula.

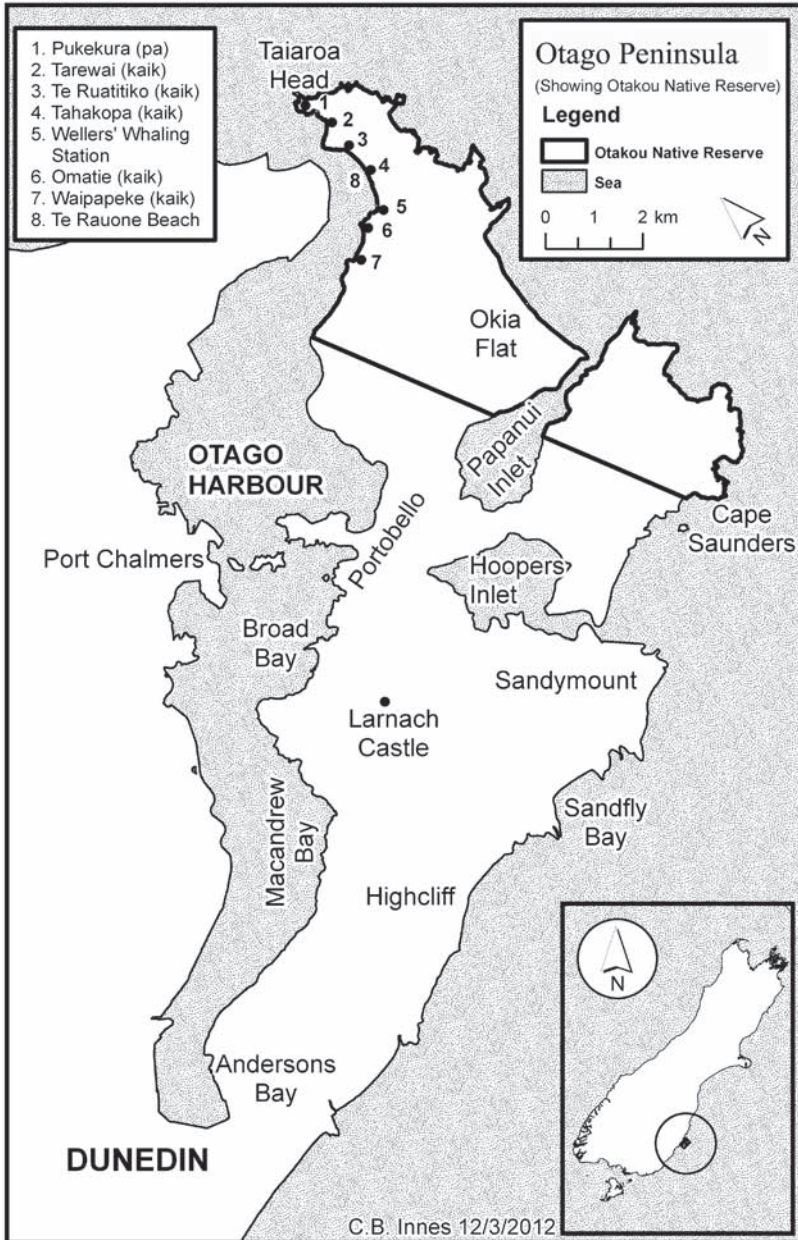


Figure 1: Otago Peninsula locations

To best understand the complex of power that constitutes settler colonialism I suggest we begin with specific colonial sites, where we assess the displacements of people (and ecology) that happened there, and only then proceed to identify their principal causes.⁷ Examining the workings of the empire from the ground up, as it were, better embeds us in ‘the materiality and actuality of colonial experience’.⁸ And property, I contend, is an ideal lens through which to focus such an integrated local study.

This is an approach somewhat at odds with the broad-brush and large-scale approaches which have characterised most writing about New Zealand’s environmental history, and to a lesser extent recent histories of settler colonialism. Alfred Crosby’s depiction of ecological imperialism, for example, has been tremendously influential not least in New Zealand, where it was the first environmental history, so called. Crosby argued that the ‘Neo-Europes’ demographic takeover of indigenous peoples depended on the colonists’ biological luggage, a *portmanteau biota* of plants, animals and pathogens.⁹ But, as Tom Griffiths and Libby Robin amongst others have noted, Crosby removes too much human agency. The ‘displacement’ of the indigenous comes to seem, as it did to some settlers in the nineteenth century, an expression of an immutable law of nature.¹⁰

Recent transnational work by John Weaver and Stuart Banner has foregrounded how the interaction of conceptions of property with political power and law shaped colonial engagements with indigenous peoples and transformed environments.¹¹ Weaver and Banner show that ideas and institutions of property, ‘laws about possessory rights, individualised titles, transferability of title, and — most important — an insistence on improvement’, were central to the ways settler colonies emerged from resource frontiers on the edges of the British Empire.¹² While the British obsession with property rights and the ideology of improvement has been widely recognised,¹³ Weaver details the mechanisms through which it operated, tracing the development of a panoply of technologies which facilitated the creation and transfer of property in land, the principal resource for and object of the colonial enterprise. His transnational approach also shows how lessons and techniques learnt in one colonial context were applied in the next. By the time British settlers arrived in New Zealand they were members of a colonising culture geared to create, develop and exchange property in land. They fine-tuned this capacity in the political economy of nineteenth-century New Zealand, obsessively tinkering with the statutory and policy settings that organised property in land.¹⁴

Property rights were equally important to Māori. Indeed, as Banner suggests, only the ‘centrality of property within the thought of both peoples’ explains why the transformation and subjugation of the Māori property system by its English counterpart so revolutionised Māori life: ‘[r]eligious belief, engagement with the market economy, political organization — all were bound up in the systems by which both peoples organised property rights.’¹⁵ This transition between property systems led to a revolution in ecological relationships.

However, as I discuss shortly, there are limits to the broad-brush and transnational approaches to ecology and colonialism. The economy and ecology of Kāi Tahu, and hence the way they distributed property rights, also

differed in important respects from that of other Māori. Weaver, Banner and Crosby were not attuned to such differences, since for all the power of their arguments, they were visitors writing about 'New Zealand' for international audiences. Home-grown historians, as Paul Star pointed out in 1998, have the task of 'taking a closer look at the paint', though they have been slow to do so.¹⁶

Tom Brooking and Eric Pawson have suggested we need detailed, localised histories to act as 'the bedrock of environmental history'.¹⁷ The state of New Zealand environmental history in 2012 resembles that of New Zealand history in 1950 when Keith Sinclair called for 'a generation of pedants'.¹⁸ We still have comparatively few local histories generally — let alone local environmental histories.¹⁹ Those that touch on property have focused outside Otago.²⁰ The abiding and widespread appeal of Herbert Guthrie-Smith's *Tutira*, an extraordinary account of the minutiae of ecological transformation on his Hawke's Bay sheep station, should remind us of the intrinsic importance of intimate and localised experience.²¹ And, without such grounding, debates over the structure of the dialectic between people and place on regional and national scales, or explorations of transnational interactions and global structures, will simply be sterile polemics. Cronon, himself inspired by *Tutira*, reminds us: '[i]n the end the abstract questions we ask about environmental history resolve themselves into small human actions at very particular times and places.'²²

On the other hand, as Brooking and Pawson rightly insist, local studies must situate particular places within much wider processes and larger scales of time and space.²³ While New Zealand is a rare case where a national environmental history makes any sense, it is also ideally placed to help those such as Peter Gibbons, Giselle Byrnes and Tony Ballantyne, who wish to use the macro and the micro to 'press against the ascendancy of an aggregated and naturalized national history'.²⁴ Local histories cannot avoid the fraught questions of how far they can be said to illuminate broader categories of analysis. A local history ought ideally to sustain an indissoluble (but creative) tension between conveying a solid and convincing sense of its particularity while simultaneously explaining how this fits within, and supports, much broader narrative arcs that characterise change in region, nation, empire and even Earth.

Property, in its fundamental sense, denotes the norms and rules that shape who can access and control resources.²⁵ It therefore has an inherently social character: it is *always* about relationships between people. This reminder may help avoid the polarising idea that property for the British amounted to the simple 'ownership' of things (land in particular) and, on the other hand, the idea that Māori did not 'own' things (again, land in particular).²⁶ For both peoples, rights in property expressed a wide range of possible relationships with other people, and with nature.

Under Māori customary law, communities held political authority over a territory (takiwa) by virtue of whakapapa — their descent from the earth of that place.²⁷ Kāi Tahu communities commonly contained members of multiple hapū, but community authority was still usually vested in a rangatira who, however, possessed nothing simply by virtue of his status.²⁸ As Sydney

McCormack of Kāi Tahu put it, 'A chief owned everything and he owned nothing'.²⁹

People's property rights also derived from whakapapa. Any person could activate affiliations to different lines of descent, so claims could be asserted to resources both inside and outside the community territory in which an individual was usually resident; but these latent rights needed to be activated and maintained by use.³⁰ Beyond the agricultural frontier, in comparatively vast, temperate and sparsely occupied southern Te Wai Pounamu, such property rights could be very widely distributed indeed. As Harry Evison points out: 'a Ngai Te Ruahikihiki chief living at Otakou would have hereditary rights at Banks Peninsula, Taumutu, Arowhenua, and perhaps Foveaux Strait, and his family and adherents would share in these.'³¹ Particular property rights were, however, distributed on a functional rather than purely geographic basis. Rights in one place might be distributed among several different people, one having rights to berries, another rights to birds, another to eels.³² The nature of property rights also reflected a species' spatial and temporal distribution and the method of its harvest. Some species' habitats, for example, were divided into well-defined family preserves named wakawaka, a word derived from the discrete sections of the tail of the pīwakawaka, the fantail.³³ These species were either distributed in patterns (such as tuaki, or cockles, found in patches) or taken in ways (such as rats and birds taken in snares) that made competition for resources highly inefficient.³⁴

The upshot was that the peninsula communities were fluid, their changing congregations shaped by seasonal patterns of fission and fusion. Together the community village, the seasonal cycle and a particular bundle of property rights, defined environmental relationships. Much of the year was spent travelling far and wide, mostly in whānau groups, in movements calibrated to match the scattered seasonal flushes of plenty characteristic of the temperate climate. Only during winter would whānau cluster together at communal villages, several of which have been located on the peninsula. Ecological patterns and social structures thus mirrored and reinforced one another through the distribution of property rights, forming what is generally known as the mahika kai economy.³⁵

The ecological relationships that the mahika kai economy reflected were considerably altered by contact with takata pora, the people of the ships. Settlement patterns altered as communities clustered around the Europeans at favoured anchorages, such as Otago Harbour. People now stayed at their villages for longer to cultivate and harvest potatoes for winter food and for a trade surplus. The cultivation of commodities for trade therefore initiated self-reinforcing processes that increased the Māori population of the peninsula, and focused it in several communities at the harbour mouth (see figure 1).³⁶ There was further intensification after a family of Sydney entrepreneurs established a shore whaling station on the peninsula in 1832.³⁷ The Wellers drew the Otago Peninsula firmly into the Tasman world, and the Ōtākou communities became an important part of a node in networks linking a wider Pacific economy.

By 1844 the Kāi Tahu communities of Murihiku had, therefore, some 50 years' experience in dealing with takata pora.³⁸ Those at Ōtākou had lived

alongside a fairly substantial European population for almost 15 years, and they had engaged in transactions involving property in land even longer.³⁹ We cannot assume, therefore, that '[i]n the absence of commonly shared perceptions of land and property, it was inevitable that both parties would talk past each other'.⁴⁰ We need to ask what sort of understandings interaction might have enabled.⁴¹

Transactions in land varied enormously. Some, such as 'sales' to passing ships' captains, were pure speculation by both parties, where neither party was particularly interested in what the other thought was being exchanged.⁴² Other transactions were understood by all largely according to Māori custom. Octavius Harwood, manager of the Wellers' whaling station, purchased an acre around his house at Ōtākou in the early 1840s, a title Ōtākou Māori never contested, and indeed subsequently confirmed before the Native Land Court in 1868. Harwood himself not only emphasised to the Old Land Claims Commission the improvements he had made, but outlined why Māori accepted his entitlement: his marrying into the Ōtākou leadership, and raising as his own his wife's son by a previous partner.⁴³

Other bargains were forged on a 'middle ground' where neither party had control, and understandings were precarious.⁴⁴ This did not prevent transactions being sufficient for their purpose. Kāi Tahu at Ōtākou co-existed with the whalers throughout the 1830s in a context where each needed the other (and knew that the other needed them). They negotiated daily, and developed a considerable functional knowledge of one another's culture, including attitudes to property. Harwood allowed rangatira to run up large amounts of credit at his store, for example, a situation of delayed reciprocity with which rangatira were quite familiar.⁴⁵ Similarly, as Edward Shortland recorded, whalers had by the early 1840s a fair idea that Kāi Tahu regarded their repeated 'purchases' as providing for something like a squatting lease in New South Wales, a tenure known to Kāi Tahu as 'he noho noa iho'. Shortland felt that 'in fact one expression is almost a translation of the other'.⁴⁶ They allowed whalers to operate stations (which required considerable timber, fuel, fresh water and cultivations) and extract resources from the sea adjacent to their purchases; Kāi Tahu simply required that this relationship involved periodic renegotiation.⁴⁷

Kāi Tahu in Murihiku knew by 1844 of the radically different character of the New Zealand Company's activities in the territory of iwi such as Ngāti Toa. They were not dissuaded from dealing with the company, but made efforts to ensure clear demarcation of respective property rights. George Clarke Junior, Sub-Protector of Aborigines, later recalled that: 'The Maoris knew too much about the Company's purchases in the North, and did not believe in making over the whole block and then leaving it to us to say what portions should be assigned to them.'⁴⁸

The Crown and even the New Zealand Company took much the same lessons from the failures of the tenths policy and the disaster of the Wairau affray, for which reason it is very significant that the Otago purchase was the only one during which Kāi Tahu could credibly maintain a similar threat of violence.⁴⁹ The result was that all concerned in the Otago Block purchase prioritised clear and mutually agreed boundaries between Māori and settlers' land.⁵⁰ In the

event, throughout the prolonged discussions between Kāi Tahu and the New Zealand Company representatives, overseen throughout by Crown officials from the Protectorate, the Otago Peninsula was the only place whose fate was in real dispute.

Kāi Tahu would not contemplate selling the lands on which they were living at Ōtākou, one of their very oldest and largest settlements. They were quite determined also not to relinquish any part of the peninsula. Muaupoko is a very rare example in southern New Zealand of a place that Māori communities have consistently used as a home.⁵¹ The peninsula's appeal to Māori — and the reason why Kati Māmoe and Kāi Tahu so consistently contested control over it — was the ecological cornucopia in the surrounding seas.⁵² Cape Saunders juts out closer to the rich ecological boundary at the edge of the continental shelf than anywhere else on the South Island's east coast. Fish, seabirds and marine mammals are all abundant around its shores.

Frederick Tuckett, who had charge of initial negotiations for the New Zealand Company, regarded the peninsula as vital to the proposed Scottish Free Church colony too. Pukekura, the headland at the peninsula's very tip (latterly known as Taiaroa Head), overlooks the harbour entrance, and has an obvious strategic advantage.⁵³ Tuckett wanted the peninsula's forests, and the land for farms. He also wanted to prevent the Europeans 'squatting' near the kaik⁵⁴ at Ōtākou from becoming the nucleus of a rival settlement.

Rangatira who lived at Ōtākou such as Karetai and Hoani Wetere Korako were vehement about retaining all of Muaupoko.⁵⁵ However, Tuhawaiki and Taiaroa, with greater interests elsewhere, were readier to compromise, and the division of the peninsula was brokered. Nevertheless, Tuhawaiki was instrumental in rebuffing William Wakefield who, after arriving to complete the purchase, again tried to buy the entire peninsula. Tuhawaiki settled the issue by taking Wakefield to Ōhinetu hill above Ōtākou to describe a landscape dense with the recently deceased: '[o]ur parents, uncles, aunts, brothers, sisters, children...lie thick around us.'⁵⁶

With the question of the peninsula at last decided, ten days were spent viewing the purchase's boundaries. Excepting the straight line bisecting the peninsula, these followed traditional landscape divisions.⁵⁷ Tuhawaiki then took some of his dead from Koputai (now Port Chalmers) across the harbour to the unsold land on the peninsula; the deed of sale was repeatedly explained, and then signed by some 20 Kāi Tahu rangatira. In Māori the deed referred to Ōtākou and the other lands withheld from sale as 'Ngawahi wenua kua kotia mo matou moa a matou tamariki': 'The portions of land that we have cut away entirely for us, for our children.'⁵⁸ The overwhelming impression given by the negotiations is that, as Harry Evison argues, the Kāi Tahu leaders 'were by now aware of the implications of selling land to Europeans'.⁵⁹ Certainly Karetai, the key rangatira with the strongest ancestral ties to Ōtākou, emphasised the need for mutual respect for one another's lands, to avoid disputes.⁶⁰

I am not, however, suggesting complete accord. As Vincent O'Malley and Richard Boast have noted, Māori regarded such transactions as akin to a treaty, marking the establishment of a relationship.⁶¹ Tuckett himself captured this difference, writing, 'I have not yet effected the purchase, but the Maoris

are gathering for the treaty'.⁶² The British settlers who arrived in the wake of the purchase, however, did not share this perception. The persistent efforts of Kāi Tahu leaders to establish relations with their settler counterparts were singularly unsuccessful. As Tiramorehu wrote to Governor Gore Browne in 1856: 'We have not been pleased with Captain Cargill, with McAndrew's set, with all the men of Scotland. Though seven years have passed they do not know anything of us, nothing at all of the Maori from Murihiku to Waitaki.'⁶³

To mid-nineteenth-century Britons, civilisation and progress were both cause and consequence of clearly defined property rights in land. Secure property rights motivated industrious 'improvement' to put land to its most efficient use; improvement justified property rights. In lowland Scotland and England the passion for improvement had propelled the enclosure of almost all common land. The complicated ladders of tenures and overlapping estates associated with customary rights to the commons were swept away. By the late eighteenth century much of the peasantry was cleared from the countryside.⁶⁴ Most Otago settlers descended from people driven into towns, in search of wage labour, by a comprehensive revolution in the organisation of property in land. But, while many came to New Zealand yearning to own land in a recreated rural idyll, there was no possibility of returning to the systems of property that had sustained their dispossessed forebears.

English land law as now applied in New Zealand retained the feudal doctrine of tenure only in the technical sense that the Crown acquired a radical title to the entire colony on the acquisition of sovereignty.⁶⁵ This principle was reaffirmed in the Treaty of Waitangi provision for Crown pre-emption, and New Zealand's courts have always upheld it.⁶⁶ Governor FitzRoy's waiver of pre-emption notwithstanding, the New Zealand Company purchase remained provisional pending the award of a Crown grant; this it gained from Governor Grey on 13 April 1846.⁶⁷ This grant underpinned Captain Cargill's confident reminder to the first Otago settlers when they arrived in 1848, that the British people already living on the peninsula and who had waved to them in welcome were only a 'few squatters' cultivating and running stock 'on the hills you are to graze'.⁶⁸

Otago's settlers sought their own Crown grants to the fee simple estate in land (commonly called freehold ownership).⁶⁹ The largest form of estate in land known to English law, the fee simple entitles the possessor to exercise every aspect of ownership legally imaginable (until limited by statute). The freehold was in large part legitimated by its association with improvement, and by its role in entrenching capitalist systems of agricultural production. Indeed as a verb 'improvement' originally meant to put to a profit, and in particular applied to the enclosing of waste or common land.⁷⁰

Improvement, Tony Ballantyne suggests, was 'the colonial keyword'.⁷¹ For Stenhouse and Beattie, similarly, it was 'the ideological heart of ecological imperialism'.⁷² Incorporating the world as property fulfilled God's plans for both humanity and nature; empire was rendered as providence.⁷³ The very highest form of improved land use was intensive mixed farming of crops and stock on precisely defined property parcels. A party of surveyors led by Charles

Kettle was sent ahead to Otago to define such parcels. In one of the first uses of trigonometric techniques in New Zealand, Kettle carefully measured out natural space to reflect the territorial imperatives of the proposed colony.⁷⁴ Kettle laid out a grid of 10-acre 'suburban' sections over the southern margins of the peninsula at Anderson's Bay, and strung them in a strip along the water-frontages of the harbour and the peninsula's estuaries, where he envisaged water communication would allow small villages to develop. These would form nuclei for the farms created from combinations of 50-acre blocks on the remainder of the settlers' peninsula lands.

The early Otago settlers did not share a sophisticated grasp of Wakefield's systematic colonisation. They desired an agrarian community knit tight by family and church, forming a landscape that the Reverend Thomas Burns envisioned as 'waving with the yellow corn and the pursuits of rural husbandry; the pretty farms, "the busy mile," and the happy smiling cottages by the wayside or nestling amid the trees in some bosky dingle or sylvan dell'.⁷⁵

The leaders of the early settlement, Burns and Captain William Cargill, clutched at the idea that a 'sufficient price' for land would help them maintain 'concentration and contiguity' in their followers.⁷⁶ They shared Wakefield's sense that aspirant labourers should be allowed reasonably rapid entry into the charmed sphere of land ownership.⁷⁷ But Wakefield's stress on concentration reflected his desire to replicate efficient capitalist divisions of labour, and avoid a subsistence economy; his landowners were to be capitalists who would immediately hire labourers in turn.⁷⁸

Indeed, the transition from labourer to capitalist landowner was the flywheel of Wakefield's economic model, a dynamic designed to avoid creating 'a stagnant peasant semi-subsistent economy with a low division of labour and little market development'.⁷⁹ Allocating 50-acre farms, however, seemed designed to produce the very outcome Wakefield feared; certainly, the belief that Otago smallholders 'would employ labour at the outset to a considerable extent' was naive.⁸⁰

Burns knew that he, at least, needed much more land to model British mixed farming for his flock, and he fashioned a property of some 130 acres at sunny and accessible Anderson's Bay, across the harbour from Dunedin on the southern fringes of the peninsula. Burns was one of the few early Scots settlers to fully absorb the new methods of farming that the cult of 'improvement' had fostered in the wake of the enclosures, and he was one of very few settlers with substantial capital. As the largest employer in the colony's first years, he was able to comparatively rapidly clear and fence his land, and lay down crops. He then pioneered grain exports to Australia, modelling how the colony was eventually meant to pay its way.⁸¹

Burns had some success: though land clearance proved costly, and despite losses to insect pests, he had high overall crop yields.⁸² He therefore remained committed to mixed farming as the ideal land use, but he retained few illusions about what was necessary to establish landholdings on this principle: 'No man who is above working for wages himself can embark as a settler in Otago without at the very least £500 in his pocket when he leaves the ship's side, and even then he would have to set an example by working like a horse.'⁸³ Without

such a sum, a man would be driven into the labour market at a disadvantage, or be forced to set out 'as some young men are doing, with a cow or pig or goat, and flour, trusting to shoot pigeons'.⁸⁴ Independence could be achieved in this way, but only after 'a desperate struggle for a livelihood in some crazy hut of tree branches and wet clay'.⁸⁵

Through the first 15 years of Otago only a few settlers trickled out on to the peninsula to face this struggle. Though wages were sufficient to buy land quite quickly, Otago suffered from a lack of capitalist employers.⁸⁶ While profits could be made in pastoralism, the provincial government fought off the Governor's attempts to give pastoralists cheap access to Crown land. It clung to the ideal of close settlement by maintaining high prices for rural land until 1856, and requiring improvements before awarding title until 1863.⁸⁷

In sum, the early Otago settlement struggled to overcome some quite intractable economic and ecological contradictions. Only the Otago gold rushes of the 1860s extricated it from this situation. The rushes completely changed the balance between capital, labour and land. The local market in a matter of months moved from village to small city, through which flowed immense influxes of capital. Otago was suddenly able to forge ahead with cadastral surveys, and those of the southern peninsula were completed by the mid-1860s.

As Brad Patterson has suggested, 'the intricate patterns of cadastral inscriptions discernible in any particular landscape may be considered a crude mirror of the settlement history of that landscape, and of the hopes and aspirations of those who settled it'.⁸⁸ The cadastre the authorities laid over the peninsula completed Kettle's original plan. It retained the original conception of the 50-acre block as the basis for a farm, patterns of which were now laid out over the peninsula's broken topography. The terrain precluded a rigid grid; the effect was more 'a cobblestone'.⁸⁹ The need to run road lines along ridges and give each block access to them was key to the patterning, though the terrain is sufficiently difficult that many remain 'paper roads'.⁹⁰

Settlement on the peninsula was borne abreast of the thrusting optimism of the boom times. It spread so quickly in the surveyors' wake that the settlers' portion of the peninsula was all owned by the early 1870s. The rural land was largely taken up by families of Scots farmers.⁹¹ But the 1878 cadastral map of the peninsula highlights the ambition the boom had engendered. Very dense suburban settlement was envisaged all over the south end, with speculative subdivisions describing villages nestled in every bay along the waterfront, and smallholdings even abutting the boundary of Ōtākou.⁹² In these areas land speculation was rife, and there were many absentee owners.⁹³ Speculation in land was a primary form of generating wealth in the colony, aided by the introduction to New Zealand in 1870 of the Torrens system of title registration, which greatly simplified land conveyancing.⁹⁴ Settlers establishing themselves in this period therefore often carried substantial debts; those at Portobello, for example, typically owed at least £50 and as much as £400, and debt repayment represented a substantial economic burden.⁹⁵

William Larnach, one of the country's leading bankers and capitalists — and personally responsible for financing several of the subdivisions —

embodied the spirit of this time, when private capital was sought for a railway line to Portobello, and a harbour bridge to the peninsula was proposed in all seriousness.⁹⁶ Larnach accumulated 1000 acres at Highcliff and Sandymount, in the process buying the peninsula's last unsold Crown land for an extraordinary five guineas an acre. This land was then so steep and remote that at the auction a contemporary remarked, 'Let him have it, for a goat cannot get to it'.⁹⁷ But Larnach expended enormous sums in transforming this holding, making of it an estate that for a time was the heart of the peninsula, employing large numbers of people, developing dairy farming as a specialised capitalist venture, and generally providing a model of progressive farming for other settlers to emulate.⁹⁸ His spectacular fall after the 1870s reflected the national bust of the 1880s and 1890s.

The depression's effects on the peninsula can be seen in the cadastral map of 1896, which shows no discernible change on the southern peninsula from that of 1878. The subdivisions sputtered, and many remained farm land. The railway to Portobello did not eventuate, and as rail networks emerged elsewhere peninsula settlers became increasingly isolated; for a period Balclutha was effectively closer to Dunedin's markets than Portobello.⁹⁹ The depression caused some rural land holdings to increase a little in size, as some over-leveraged settlers failed to cope with falling commodity prices. This also allowed some of the sons of established farmers, who otherwise had to leave the peninsula, an opportunity to buy land and consolidated the dominance of a tight network of intermarried families, both Māori and Pākehā.¹⁰⁰

At the close of the nineteenth century, the peninsula remained near the forefront of farming in New Zealand. Over two hundred farms had been established there. These were not subsistence farms. They were highly progressive and specialised enterprises. Dairy farming had become the overwhelmingly dominant land use. This reflected the peninsula's social structure of families that formed close-knit communities — which in turn largely derived from the rapid take-up of the cadastre defined in the 1860s.

Dairying needed little land, but it did require specialist skilled labour by both men (who ran the cows) and women (who made the butter and cheese). It also gave scope for cooperative ventures. The peninsula was the site of New Zealand's first cheese factory, begun in 1871, and peninsula farmers were also integral to establishing the Taieri and Peninsula Dairy Company, which by the late nineteenth century operated several creameries on the peninsula.¹⁰¹ By then the peninsula was sometimes referred to as 'one large dairy farm' (though in fact a few sheep farmers had taken larger holdings on the roughest outlying ground).¹⁰² Almost all the farmers' efforts, and almost all the ecological capacity of the land, were poured into the production of a few key commodities for sale at market: milk, butter, cheese and pork (pigs were fattened on skim milk). Grain was no longer grown for market; crops were devoted almost exclusively to fodder for cows and horses.¹⁰³

To understand how this economy transformed the peninsula's ecology, we should start with the fact that property shapes where and why people work. Within their boundaries, proprietors worked extraordinarily hard to establish

successful farms. Beyond their fences, they did comparatively little — albeit, they spent a considerable amount of time helping their neighbours in the early years. For each farmer the crucial work needed to exert control over ecology involved removing the bulk of the forest on their particular landholding, fencing, with a priority on protecting land to be planted in crops and vegetables, and gradually readying ground for the plough.

The density of small holding ensured the peninsula's forest cover was stripped off quickly. Only some 10% remained by the turn of the century.¹⁰⁴ Some of the forest on the inner harbour was milled, and timber boated to Dunedin; some post and rail fences were made from the very durable kowhai and broadleaf. But, as elsewhere in New Zealand, the difficulty in accessing markets meant that the great bulk of the forest was burnt, regardless of its quality.¹⁰⁵ Patterns of property determined the distribution of forest remnants. Most dairy farmers deliberately retained a small patch of forest, typically on steeper, colder, south-facing slopes which could not be ploughed, and where grass growth was poor.¹⁰⁶ There, forest remnants were comparatively useful as a source of winter feed and shelter for cattle, as well as providing the farmer with fuel and fencing material.¹⁰⁷ Browsing and trampling by cattle gradually rendered these forest patches hollow shells, but most remained nominally intact until sheep farming became the predominant land use after the First World War, from which point many farmers desired every blade of grass possible.¹⁰⁸ Today, only 5% of the peninsula retains any native forest or scrub, and many species are restricted to only one or two sites.¹⁰⁹

Intensive farming rotates crops and animals in patterns designed to maintain fertility and maximise productivity. Such activity requires maintaining strict divisions between different land users and uses. The widespread use of quickset hawthorn hedges and much dry-stone walling in Britain is linked to the spread of this system.¹¹⁰ Fencing was thus sign and symbol of the enclosures, which in Scotland had caused 'a more or less total revolution in the appearance of the landscape.... In a way not found in most of England, it was geometrised by all these changes.'¹¹¹

The settlers gradually made the peninsula into a patchwork of paddocks and fences. The dairying areas in particular were densely fenced into small paddocks, because of the need for complex rotations of heavy animals and crops. Settlers made their fences with many materials — initially simply piles of trunks and brush, sometimes even cut firewood, but later live fences (mostly of gorse), post-and-rail constructions and (ideally) dry-stone walls. These last were durable (dry-stone walls still mark the boundaries of many of the original landholdings) and made use of the stone littering the ground after initial burning, which in combination with matted masses of tree roots and stumps, precluded ploughing.¹¹²

Ploughing land aerates soil and kills off the plants that would otherwise compete with crops; it attempts to return land to an ecological blank slate. In Scottish fashion, it was customary to plough if possible right to the fence — to exert complete control over every inch of ground within one's boundaries.¹¹³ However, not quite half the farmed area of the peninsula is ploughable, so in many areas stock animals always had important roles in clearing unwanted

species through browsing and trampling the soil.¹¹⁴

Property owners' cumulative efforts to gain control over the ecology of their farms had profound consequences, some sufficiently dramatic that they were widely remarked upon at the time. The land itself altered considerably. In the wake of vegetation clearance and trampling by heavy stock, sudden erosion events on the peninsula's greasy slopes became common, and landslides of liquid mud sheared off whole hillsides, sometimes engulfing houses.¹¹⁵ Fragile dune environments treated as grazing commons deteriorated, so that smothering sand-blows spread inland.¹¹⁶ Wetlands were drained and ploughed, and most of the peninsula's numerous small watercourses dried up too, as water more quickly ran off slopes.¹¹⁷ The peninsula, it must be said, is not well suited to heavy stocking by dairy cows.¹¹⁸

The most widely discussed ecological changes, then as now, were in the composition of flora and fauna. If decline and disappearance was the fate of too many native species, this was not a universal story. Clearing forest and planting crops opened ecological niches even as they closed others. Some species, especially insects, were quick to take advantage. Insects caused early settlers in coastal Otago constant torments to both person and property. Mosquitoes, sand flies and fleas were all ubiquitous.¹¹⁹ The native blowfly 'swarmed everywhere' too, so that all woollen cloth had to be wrapped in calico bags when not in use; it was rare to see blankets not 'indelibly stained by burst eggs'.¹²⁰

The lessons settlers took from such insect plagues are telling. Observers such as the Canterbury etymologist R.W. Fereday learnt that man '[i]n his blindness, is ever breaking, or throwing out of gear, some wheel of the great cosmical machine, and disorder necessarily follows.'¹²¹ The remedy was more intervention: widespread and systematic introductions of insectivorous British birds. Even if some soon caused colonists considerable problems of their own, these did check the 'blasting plagues of insects'.¹²²

As early as 1872, when writing the first report of the Dunedin Naturalists' Field Club, Peter Thomson could see that 'some of the native plants are becoming scarce, and will soon be extinct — clearing the land, the grazing of cattle, and the ravages of fire, are the main causes of this. The larger native birds, too, are gradually dying out; there are very few in the bush near town, while cats and rats are common.'¹²³ But by 1900 George Thomson, author of the magisterial *The Naturalisation of Animals and Plants in New Zealand*, could grasp that something much more extraordinary had occurred.¹²⁴ 'If a Rip Van Winkle among naturalists could arise here', he wrote: 'one who had known the natural conditions in 1849, and if he could be dropped down in Dunedin now, he would be astounded at the changes which had taken place.... A very large proportion of the indigenous flora and fauna has disappeared. The ferns and other delicate plants which formerly filled up the bush are nearly all gone, dried up and exterminated. The big trees have disappeared long ago. The undergrowth consists very largely of European plants, the birds are those of the old land, the whole face of Nature is altered'.¹²⁵

As noted earlier, several of New Zealand's environmental historians have suggested a prevalent colonial belief in 'displacement' — the notion that superior European species perforce evicted natives whenever brought into

competition with them. The underlying tenor of this belief was perhaps that there was nothing much to displace; as the *Otago Witness* editorialised, for example, 'to introduce birds, beasts and fishes into Otago was something like writing upon the blank page of a child's mind'.¹²⁶

Yet 'displacement' had required active and concerted human effort. This was most obvious with respect to plants.¹²⁷ Very few introduced plants could successfully invade indigenous forest or wetlands.¹²⁸ On the other hand, many were pre-adapted to become weeds in the bare ground conditions farmers created. And, ironically enough, the spread of weeds was not seen as demonstrating displacement, but as illustrating poor farming. Yet weed seed was unstoppable: it came on the wind, was brought by birds, or spread by stock. Even the seed farmers sowed contained many unwanted pasture species.¹²⁹ The result, as an *Otago Witness* editorial despairingly noted in 1872, was that 'there are still thousands of acres in the most thickly populated parts, which are supposed to be laid down in English grasses, but which really are more than half covered with weeds'.¹³⁰

Weeds spread wild more easily still on disturbed ground beyond boundary fences, so that 'wherever roads or tracks have been cut and the ground disturbed, introduced species of plants have mainly taken possession of the soil'.¹³¹ Property owners had to be cajoled into acting for the collective benefit. The minutes of the local road boards (the real political forces in the everyday lives of peninsula settlers) repeatedly refer to forcing property owners to clear gorse, in particular, from roads adjacent to their holdings.¹³² But ultimately the very unwillingness of property owners to engage with the ecology over their fences also meant that roadsides were where vestiges of the peninsula's original flora and fauna clung on.

Scotch thistle was another emblematic species which quickly became a weed. Immigrants had been urged to bring out 'some haws and some Scotch thistle and a bit of heather with a root', and these new arrivals were at first cared for assiduously.¹³³ But thistles, like gorse, flourished best in the uneasy interstices between political authority and private property rights. Scotch thistles spread rapidly to colonise much of the land around peninsula settlements. By the 1870s some peninsula settlers had become seriously concerned about the viability of their infested properties.¹³⁴

The provincial government required all property owners to control thistles on their land from 1862. Conscientious property owners found their efforts frustrated by seed described as 'snow adrift'.¹³⁵ There was no official means of identifying non-compliance; peninsula settlers complained the law was inoperative unless they 'laid informations [sic] against their neighbours'.¹³⁶ In addition, the strictures did not apply to Crown or Māori land. The regional ordinance was repealed as useless in 1870, but complaints and appeals were so persistent they caused a reinstatement for the peninsula alone in 1875.¹³⁷

However, no one could agree who ought to take responsibility for enforcement. Of the two key road boards only one wanted to enforce the ordinance; the other argued it was best left to individual settlers.¹³⁸ In the event, the system of provincial government was disbanded the following year, obviating the measure.¹³⁹ As a result, one commentator argued, nothing

was ‘spreading faster and thriving better than “Scotchmen”’, which had ‘a monopoly of the soil as thorough, the land yielding almost no more return than when the Maori was lord in the land, as when the primeval forest was as yet unmolested’.¹⁴⁰

Throughout the debates over thistles, settler politicians and their constituents often blamed Ōtākou Māori for the problem.¹⁴¹ Because clearance had begun much earlier on their land than anywhere else, it was inevitably a primary source of thistles; in 1864 thistles covering ‘fully twenty acres’ so dense ‘that horses and cattle cannot pass’ were described there.¹⁴² To settlers, however, the presence of thistles was a prime example of how Māori were being held back from properly improving their land by the vestiges of their ‘primitive’ system of property rights.

Ōtākou Māori were guilty of two cardinal sins in the settlers’ eyes: their property rights were (mistakenly believed to be) held ‘in common’, and they declined to stay on their reserve, to ‘settle’. They instead persisted in harvesting resources from various widespread mahika kai. Individualisation of their property rights in land was seen as an essential cure. As John Weaver observes, ‘improvement and property rights have had a reciprocal relationship since the Enlightenment. People who improved land deserved property rights. Property rights improved societies.’¹⁴³ The comments of Otago’s Commissioners for Native Reserves in 1858 show how tightly these ideas interlocked. While Ōtākou Māori held their land in common, ‘they have no individual interest in improvements.... [Individualisation] would tend to settle them down on the soil.... besides it seems to us a principle somewhat inherent in human nature that the possession of an exclusive Title to land has a tendency to increase the desire for improving the worldly circumstances and to encourage self-respect, and obedience and respect to the ordinances of Law and good Government; and as a means to these ends it has a tendency to increase the desire for mental improvement.’¹⁴⁴

As we have seen, Māori property rights were not necessarily always, or even often, held in common. However, Ōtākou Māori were struggling to maintain customary property rights. Their primary problem was that tribal land continued to be sold in the late 1840s and 1850s, most infamously in the Kemp Purchase of 1848, which purportedly alienated some 20 million acres. Kāi Tahu had then been allocated only minuscule reserves in this vast territory.¹⁴⁵ And, as settlers took up their vast domain, they gradually began to enforce their property rights of exclusion.¹⁴⁶

The Ōtākou community found it had to accommodate people whose primary ancestral interests most naturally lay elsewhere. By 1853, of 110 Māori living at Ōtākou, only 17 had traditional rights.¹⁴⁷ Hori Kerei Taiaroa also emphasised that the community had difficult decisions to make over how to accommodate ‘half-castes’, largely families abandoned by Pākehā men.¹⁴⁸ They also lived alongside increasing numbers of settler lessees of their land. Nevertheless, Ōtākou Māori were well accustomed to incorporating outsiders, and Ōtākou retained its character as a distinctive and cohesive Māori community.

Ōtākou Māori had by now a long history of engagement with a mercantile economy. And in supplying bay and shore whalers with various commodities,

both traditional and new, they had shown an agile capacity to adapt to the opportunities offered by the world of mercantile marine capitalism. For all the upheaval of the nineteenth century, incorporating modernity was for Kāi Tahu primarily an economic problem, not a cultural one.¹⁴⁹

Māori customary property rights reflected an economy, and a relationship to ecology, that state and provincial authorities determinedly undermined.¹⁵⁰ Until 1862 Māori could not in any way legally alienate land — even arrange a lease — to anyone except the Crown.¹⁵¹ This meant, most crucially, that they could not raise capital against the value of their land. Crown monopsony also placed them at a substantial disadvantage in trying to set a fair price for their land.¹⁵² The provincial authorities likewise forced Ōtākou Māori in 1851 to agree not to ‘disturb’ the leasing arrangements they had already reached with settlers.¹⁵³ Ōtākou Māori were therefore constrained in renegotiating with the Europeans squatting on their land. Taiaroa pointed out in 1857 that this occupation was illegal, but the settler authorities were not inclined to enforce the law, nor to allow Taiaroa the authority to renegotiate commercial arrangements.¹⁵⁴ Instead, sufficient pressure was applied to persuade Ōtākou Māori to relinquish control over the reserve to the Crown, which from 1866 briefly held the land in trust, appointing a commissioner to organise leases, and seeking to compel Ōtākou Māori to ‘a change in ideas in respect of property in land, and to do away with the communism which is the chief obstacle to their progress’.¹⁵⁵

Ōtākou Māori had in fact already taken the first step in this direction in 1859 when Karetai and Matenga Taiaroa divided Ōtākou in two between them. After their deaths soon after, Ōtākou Māori further subdivided the land, allocating portions to individual owners, typically heads of households.¹⁵⁶ These subdivisions were surveyed, recognised by the Native Land Court in 1868, and Crown Grants awarded.¹⁵⁷ In this process, many who by rights belonged elsewhere were granted land at Ōtākou.¹⁵⁸

Ōtākou Māori divided their land into long narrow strips. These strips, typically running from hilltop to shore, allowed most proprietors to access a range of habitats, from forest, through littoral shore, to the ocean, into which each owner’s property right was held to continue (at least to low water).¹⁵⁹ These strips only stopped short of the shore at Okia Flat and Akapatiki Flat, important sources of flax fibre, waterfowl and floundering grounds, where Hori Kerei Taiaroa and Hoani Wetere Korako jointly held title on behalf of the wider community. At Ōtākou the ecologically diverse and productive shoreline, which provided important kai moana (sea food) and access to the sea beyond, had become critical.

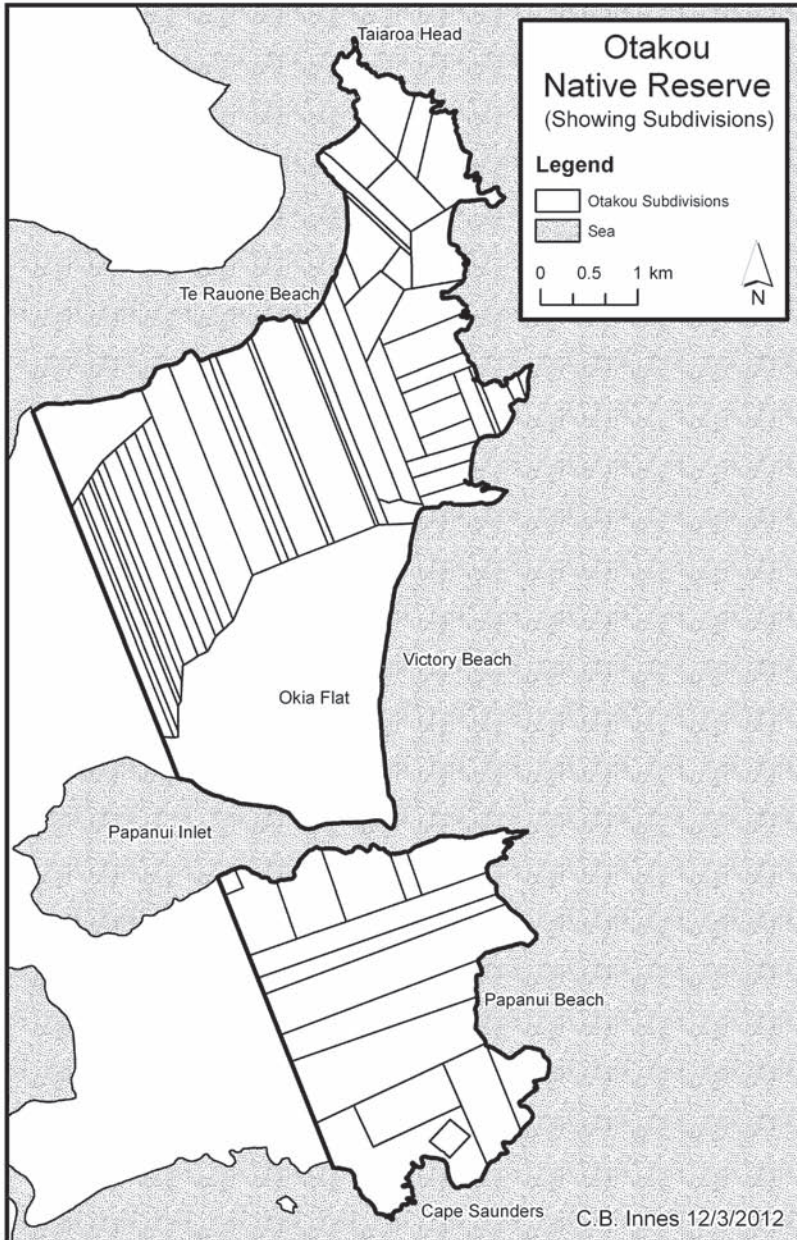


Figure 2: Subdivision of the Ōtākou Native Reserve 1868

Ōtākou Māori had attempted to reach a compromise between two different systems of property, and two different ways of constructing an economy in relation to ecology. They tried to allow whānau exclusive use of areas for farming, and also to provide them access to existing resources, especially those of the shore and sea.

For those few whānau who received substantial holdings this arrangement worked fairly well. Taiaroa, for example, had in 1881 moved with 31 of his people to other lands he retained at Taumutu. But in 1891 he still owned 1706 acres at Ōtākou.¹⁶⁰ As a member of Parliament he had the Taiaroa Land Act 1883 passed, which specifically allowed him to deal with his land exactly as Europeans did.¹⁶¹ His statutorily privileged position then helped him raise mortgages against his large Ōtākou holdings.¹⁶² But for most the subdivision proved unworkable. Most properties were impractical as farms: many were just too small, few contained enough arable land, and fencing them was a challenge.¹⁶³ Fencing their narrow strips forced some to lease parts of their land to meet the expense of bounding the rest.¹⁶⁴ Some land was also sold, most of it poorer country around Mangahoe (Papanui Inlet). By 1900 the bulk of the reserve was under lease to settlers, most running sheep or fat cattle.¹⁶⁵ Ōtākou Māori then occupied less than 500 acres of their land.¹⁶⁶

Dairy farming was made possible for a few by the establishment of a creamery at Ōtākou in the 1890s. Even so, dairying at Ōtākou was difficult. Much of the land was just too rugged for dairy cows. Ōtākou was, more generally, the most isolated area of the peninsula, and had no roads. Ōtākou lands were not rated, and the road boards declined to extend the coastal road past the edge of their reserve.¹⁶⁷ Māori had to sledge goods back and forth from the road end through the sand dunes.

The spread of sand over Ōtākou was for some owners the very worst problem. By the 1860s the shoreline at Ōtākou had been burnt over and grazed for 30 years. It had long become subject to terrible sand-drift.¹⁶⁸ Sand swamped the Tahakopa lagoon and the church and school beside it, and twice buried Ōtākou's largest kaik, Te Ruatitiko, which was first shifted up the slope before being finally abandoned sometime in the late 1860s.¹⁶⁹ But, in 1893, Taiaroa told the House of Representatives that since Ōtākou Māori had subdivided, the problem had become much worse, because he now lacked the capacity to force collective action. Taiaroa claimed that, when asked, the other owners refused to fence their land or grow grasses, 'and there was no law to compel them'. The consequence, Taiaroa went on: 'was it was still in the same condition now. When some of them fenced their land, the other owners refused to do it, and nothing could be done to stop the sand from covering over their fences. At the present time there were between 900 and 1000 acres of land covered with sand-drift'.¹⁷⁰

Another crucial consequence of the fact that most land at Ōtākou was leased by settlers was that comparatively little effort was put into intensifying production. Most land remained rough, running sheep or fat cattle. As a result, much larger areas remained in tussock, scrub and forest than on the southern peninsula.¹⁷¹

Ōtākou Māori had envisaged that the resources of the sea were as likely

as the land to sustain them and to provide a marketable surplus. They had some success selling fish in Dunedin during the 1850s and early 1860s, mainly barracouta, but also hāpuku, crayfish and oysters.¹⁷² They also led a small-scale resumption in whaling in the 1870s (which quickly exterminated the few returning whales).¹⁷³ Fishing was not particularly profitable, however, perhaps largely because Ōtākou Māori generally had to stay overnight in Dunedin to bring fish to market. Other than between 1859 and 1863 when they had access to a native hostelry, this imposed significant costs.¹⁷⁴

During the 1860s the settlers too started exploiting foreshore and marine environments around the Otago Peninsula. Soon some 30 small boats fished its inshore waters.¹⁷⁵ They gleaned Māori knowledge of when to seek fish. Peter Thomson, who had lived among Ōtākou Māori, could tell his readers in October of 1864 that as the 'goai' (kowhai) had just bloomed, they could expect the barracouta to begin running.¹⁷⁶

Seine netting inside Otago Harbour initially proved most profitable, but the fishery was limited. It took longer for settlers to find out where best to fish in the open ocean beyond the harbour. That knowledge was held as the property of particular Māori whānau, who located their grounds while at sea by using a 'running fix' that triangulated their position relative to significant landscape features.¹⁷⁷ However, from 1868 settlers started trawling both in Otago Harbour and around the peninsula's outer coasts, using much larger vessels that could stay at sea longer. They had immediate success, catching large quantities of hāpuku, blue and red cod, trumpeter and other fish. Several fishing companies were soon in operation, and curing establishments were set up at Port Chalmers.¹⁷⁸ These technologies rendered redundant whatever competitive advantages Ōtākou Māori had enjoyed through superior ecological knowledge.

Ōtākou Māori, however, did not believe they had relinquished their property rights to foreshores or to their fisheries. They sought in various ways to assert them. At Ōtākou itself they ran their boundary fences over the foreshore and out into the sea, demarcating their rights to shellfish beds and floundering grounds — the type of particularised rights to those resources they had always held.¹⁷⁹ Insisting that Māori abandon 'communism' in land ownership was an awful irony, given that the settlers then asserted access to marine and coastal resources should be a free for all.

Taiaroa tried to establish why settlers believed they had extinguished Māori rights to marine and coastal resources. In 1877 he asked the Native Affairs Minister John Sheehan what authority Europeans had to fish in Mangahoe Inlet 'while the Native title thereto has not been extinguished?', and whether they would cease doing so until 'some arrangement for the extinguishment of the Native title has been made?'¹⁸⁰ Taiaroa said he had applied for title to the inlet, in 'the midst' of his land, but 'Europeans were in the meantime plundering all the oysters and fish from the place, and selling them in Dunedin'.¹⁸¹

Taiaroa never received a satisfactory answer to his questions. At common law the Crown was the presumptive owner of the foreshore, and the Native Land Court had already decided Māori customary rights could not displace Crown ownership. Ōtākou Māori could have hoped to gain at most exclusive

rights of fishery.¹⁸²

The closest Ōtākou Māori came to any recognition of such fishery rights was through the Fish Protection Act 1877, the first general attempt to regulate New Zealand's fisheries. The abuse of Ōtākou fisheries, for flatfish in particular, was a principal reason this Act was introduced, and amended to protect Māori fishing rights held under the Treaty of Waitangi. But because the Act did not say what these rights were, it was treated as a dead letter, despite continuing Kāi Tahu assertions that they should have authority under the Treaty to control fishing adjacent to their lands.¹⁸³

Ōtākou Māori also sought acknowledgment of their property rights to marine resources before the Middle Island Native Land Purchases Commission (the Smith-Nairn Commission) of 1880. One list drawn up of their former resources included seven islands surrounding the peninsula, and claimed these were 'Kihai i hokona kia Wairawake' (not sold to Wakefield); seals were the only resource associated with these islands.¹⁸⁴ Ōtākou Māori also listed the channel of Otago Harbour, Papanui and Hoopers Inlets, and Tomahawk Lagoon as 'Awa moana, kaore i tukua kia Wairareke' (seaways not released to Wakefield). The resources noted for these seaways included whales, sharks, and several fish and shellfish species.¹⁸⁵ The British settlers never conceived of recognising Ōtākou Māori proprietary rights in seaways. Since the sea, unlike the land, could not be enclosed, or improved, the ideological justifications upon which the British based their systems of property in land had no purchase. They had no tradition of allowing such property rights in the sea.¹⁸⁶

During the period of open access free-for-all the prized inshore fisheries of Otago Harbour and Mangahoe had been plundered. Trawling in Otago Harbour was particularly damaging.¹⁸⁷ Regulation came too late, and was besides too difficult for a limited state apparatus to effectively enforce. Fish once common in Otago Harbour such as enormous hāpuku, and delicacies such as oysters, had completely disappeared, and the flounder fishery was very badly depleted.¹⁸⁸ Too much capital was now required for Ōtākou Māori to compete effectively with trawlers in deeper waters. Only one Māori man at Ōtākou called himself a fisherman during the 1890s.¹⁸⁹

The speed and comprehensiveness of New Zealand's environmental transformations has been much remarked upon. So too has the rapidity of the dispossession of southern Māori. Less clear, however, is what gave those processes such momentum. I suggest that a large part of the answer can be found in unpicking how the distributions of property in land channelled the restless energy of colonial capitalism. This requires attention to the variegated patterns of property found in particular landscapes.

Landholders on the Otago Peninsula benefited from early and accurate surveys, allowing settlement to spread rapidly in the wake of the gold rushes. A close-knit society of settler families on small landholdings took advantage of the prolonged economic boom that followed, to create a highly controlled ecology in which the productive capacity of each landholding was increasingly geared to production for market of a very few commodities. Yet the very intensity of the peninsula's settlers' efforts in developing a highly progressive dairy

farming economy caused many unpredictable ecological phenomena. Weeds burst out of the seams of the landscape, along its roads and other margins, where there also lingered the vestiges of the original ecology. Other outbreaks, of insects and sand blows, could be controlled by further introductions. But the extirpation of species populations, widespread erosion and the loss of streams were all irrevocable events.

The settler system of property was equally antithetical to the ecological relationships that underpinned the Māori mahika kai economy. In the aftermath of the Ōtākou Purchase and succeeding land sales, Ōtākou Māori continued to show considerable flexibility in adjusting their systems of property to better suit the demands of colonial capitalism. But since land was the primary source of wealth, most were enormously disadvantaged. Simultaneously, their attempts to maintain authority and assert property rights over marine resources were flatly denied by settler authorities, whose very reluctance to exercise any control allowed those resources to suffer badly. Ōtākou Māori therefore struggled to sustain an economy based on new ecological relationships with their part of Muaupoko, and so much more of the original ecology remained on their portion of the peninsula. There are many ironies in this history. As Atholl Anderson has noted, the purchases that confined Kāi Tahu to meagre reserves can be equated to 'that act of appropriation which many of our forebears, not least Pakeha, held in abhorrence; the enclosure of the commons'.¹⁹⁰ The settler insistence that Māori abandon 'communism' also quite failed to recognise the considerable extent to which property rights were held by individuals. The settlers themselves then refused to recognise particular property rights to the foreshore and marine environments, in the face of peninsula Māori protest. And, finally, we cannot ignore the fact that today the productive economy of the peninsula is largely based on exploiting the desire of the wider world to see what little of that ecology survived the settlers' assault.

JONATHAN WEST

Waitangi Tribunal Unit, Wellington

NOTES

* The views expressed in this article are those of the author and do not claim to represent the views of the Waitangi Tribunal or the Ministry of Justice.

1 William Cronon, 'Kennecott Journey: The Paths out of Town', in William Cronon, George Miles and Jay Gitlin, eds, *Uncommon Ground: Rethinking America's Western Past*, New York and London, 1992, p.43.

2 Kāi Tahu whānui is an appellation which signals recognition of the blended whakapapa of southern Māori. While I will use Kāi Tahu as a convenient shorthand, many Māori on the peninsula maintained primary identities as Kati Māmoe, and even, in some instances, Waitaha.

3 The major analysis of environmental history in New Zealand to date, Eric Pawson and Tom Brooking, eds, *Environmental Histories of New Zealand*, Dunedin, 2002, ignores these environments. For other scholars calling for greater attention to marine and maritime history in New Zealand see Michael J. Stevens, "'The ocean is our only highway and means of communication": Maritime Culture in Colonial Southern New Zealand', *Journal of New Zealand Studies*, 10 (2011), pp.155–69; James Beattie, 'Greener Pastures: Future Research Topics on New Zealand's Environment', *ENNZ: Environment and Nature in New Zealand*, 1, 2 (2006), p.12: http://fennerschool-Associated.anu.edu.au/envirohist/newzealand/journal/2006/nz_news06august_beattie.pdf.

4 The 'Southern Hunters' research programme led by Atholl Anderson showed that most village sites in southern New Zealand were occupied for no more than a few generations. Atholl Anderson and I.W.G. Smith, 'The Transient Village in Southern New Zealand', *World Archaeology*, 27 (1996), pp.359–71; Atholl Anderson, Brian Allingham and Ian Smith, eds, *Shag River Mouth: The Archaeology of an Early Southern Maori Village*, Canberra, 1996; Jill Hamel, *The Archaeology of Otago*, Wellington, 2001, especially p.16.

5 The phrase 'the middle ground' derives from Richard White, *The Middle Ground: Indians, Empires, and Republics in the Great Lakes Region 1650–1815*, Cambridge, 1991.

6 Erik Olssen, *A History of Otago*, Dunedin, 1984, p.29.

7 See Cole Harris, 'How Did Colonialism Dispossess? Comments from an Edge of Empire', *Annals of the Association of American Geographers*, 94, 1 (2004), pp.155–56; Ballantyne makes similar points in calling for histories of colonial colonisation to be reconnected to economic history, and in grounding that reconnection in specific locales. See Tony Ballantyne, 'Culture and Colonization: Revisiting the Place of Writing in Colonial New Zealand', *Journal of New Zealand Studies*, 9 (2010), pp.11, 15, 17–19 especially. See also, Tony Ballantyne, 'On Place, Space and Mobility in Nineteenth-Century New Zealand', *New Zealand Journal of History* (NZJH), 45, 1 (2011), especially p.65.

8 Harris, pp.166–67.

9 Alfred Crosby, *Ecological Imperialism: The Biological Expansion of Europe, 900–1900*, Cambridge, 1986.

10 Tom Griffiths and Libby Robin, 'Introduction', in Tom Griffiths and Libby Robin, eds, *Ecology and Empire: Environmental History and Settler Societies*, Edinburgh, 1997, p.2. For discussion of the role of displacement theory in nineteenth-century New Zealand settler culture, see Ross Galbreath, *Working for Wildlife: A History of the New Zealand Wildlife Service*, Wellington, 1993, pp.65–108; Ross Galbreath, 'Displacement, Conservation and Customary Use of Native Plants and Animals in New Zealand', *NZJH*, 36, 1 (2002), pp.36–50, and also Paul Star, 'From Acclimatisation to Preservation: Colonists and the Natural World in Southern New Zealand, 1860–1894', PhD thesis, University of Otago, 1997.

11 John Weaver, *The Great Land Rush and the Making of the Modern World 1650–1900*, Montreal & Kingston, 2003; Stuart Banner, *Possessing the Pacific: Land, Settlers, and Indigenous People from Australia to Alaska*, Cambridge (MA) and London, 2007; Stuart Banner, 'Two Properties, One Land: Law and Space in Nineteenth Century New Zealand', *Law and Social Inquiry*, 24, 4 (1999), pp.807–52; Stuart Banner, 'Transitions Between Property Regimes', *The Journal of Legal Studies*, 31, 2, Part 2 (2002), pp.359–71. Mark Hickford's work on the development of imperial and colonial policy on Māori property rights is also relevant. See Mark Hickford, "'Vague Native Rights to Land": British Imperial Policy on Native Title and Custom in New Zealand, 1837–53', *The Journal of Imperial and Commonwealth History*, 38, 2 (2010), pp.175–206; Mark Hickford, 'Decidedly the Most Interesting Savages on the Globe: An Approach to the Intellectual History of Māori Property Rights, 1837–53', *History of Political Thought*, 27, 1

(2006), pp.122–67.

12 Weaver, p.88.

13 Richard Drayton, *Nature's Government: Science, Imperial Britain, and the 'Improvement' of the World*. New Haven and London, 2000. On New Zealand see James Beattie and John Stenhouse, 'Empire, Environment and Religion: God and the Natural World in Nineteenth Century New Zealand', *Environment and History* (EH), 13, 4 (2007), pp.413–46; Ballantyne, 'Culture and Colonization', pp.1–22.

14 Weaver, p.64; Tom Brooking, 'Use it or Lose it: Unravelling the Land Debate in Late Nineteenth Century New Zealand', *NZJH*, 30, 2 (1996), pp.141–62 especially pp.141–43; Tom Brooking, *Lands for the People? The Highland Clearances and the Colonisation of New Zealand: A Biography of John McKenzie*, Dunedin, 1996, pp.79–80. For the centrality of statute in shaping New Zealand's constitution and legal framework, especially in the context of land law, see Richard Boast, 'Maori Fisheries 1986–1998: A Reflection', *Victoria University of Wellington Law Review*, 30, 1 (1999), pp.111, 120–21; Richard Boast, "'An Expensive Mistake": Law, Courts, and Confiscation on the New Zealand Colonial Frontier', in Richard Boast and Richard Hill, eds, *Raupatu: The Confiscation of Maori Land*, Wellington, 2009, pp.148–49.

15 Stuart Banner, 'Two Properties', p.808.

16 Paul Star, 'New Zealand's Changing Natural History: Evidence from Dunedin, 1868–1875', *NZJH*, 32, 1 (1998), p.60.

17 Pawson and Brooking, 'Introduction', in Pawson and Brooking, p.14.

18 Keith Sinclair, *The Maori Land League: An Examination into the Sources of a New Zealand Myth*, Auckland, 1950, p.3.

19 Ballantyne, 'On Place, Space and Mobility', pp.54–55 especially; Caroline Daley, 'Taradale Meets the Ideal Society and its Enemies', *NZJH*, 25, 2 (1991), p.131.

20 Brad Patterson, Geoff Park, Rollo Arnold and Brad Coombes, for example, examined ecological change elsewhere, mostly in the North Island, as have almost all environmental histories produced for the Waitangi Tribunal's district inquiry hearings. Brad Patterson, 'Reading Between the Lines: People, Politics and the Conduct of Surveys in the Southern North Island 1840–76', PhD thesis, Massey University, 1984; Geoff Park, *Nga Uruora: The Groves of Life*, Wellington, 1995; Rollo Arnold, *New Zealand's Burning: The Settlers' World in the Mid Eighteen Eighties*, Wellington, 1994; Brad Coombes, 'The Historicity of Institutional Trust and the Alienation of Maori Land for Catchment Control at Mangatu, New Zealand', *EH*, 9, 3 (2003), pp.333–59. Michael Stevens's work is an obvious exception; see Michael Stevens, 'Kai Tahu me te Hupū Titi ki Rakiura: An Exception to the Colonial Rule?', *Journal of Pacific History*, 41, 3 (2006), pp.273–91 and Michael Stevens, 'Muttonbirds and Modernity in Murihiku: Continuity and Change in Kai Tahu Knowledge', PhD thesis, University of Otago, 2009.

21 Herbert Guthrie-Smith, *Tutira: The Story of a New Zealand Sheep Station*, Seattle and London, 1921.

22 Cronon, 'Kennebec Journey', p.47.

23 Pawson and Brooking, p.14.

24 See in particular Peter Gibbons, 'The Far Side of the Search for Identity', *NZJH*, 37, 1 (2003), p.45; for quote see Ballantyne, 'On Place, Space and Mobility', p.54.

25 The recognition that property primarily concerns relationships between people is central to the 'bundle of rights' depiction of property, now dominant in legal and moral philosophy. For exposition and critical analysis of this idea by a New Zealand scholar, see Lyndsay Te Ata o Tu Macdonald, 'The Political Philosophy of Property Rights', PhD thesis, University of Canterbury, 2009.

26 See, for example, E.T. Durie, *Custom Law*, discussion paper circulated by the New Zealand Law Commission, January 1994, p.67: 'The term "ownership" is inappropriate in Maori customary contexts, western 'ownership' vesting the several rights of use, benefit, control, transfer, reversion and identification in a single proprietor divorced from community relationships.' This argument conflates a particular form of ownership with the concept of ownership per se.

27 To insist this was 'lore' is pointless and condescending. See Richard Boast, *Buying the Land, Selling the Land: Governments and Maori Land in the North Island 1865–1921*, Wellington, 2008, pp.80–81, fn.127. Also Waitangi Tribunal, *Muriwhenua Land Report*, Wellington, 1997, p.24.

28 Atholl Anderson, 'Evidence of Dr Atholl Anderson on Mahinga Kai', Wai 27, Document H1, pp.71–72.

29 Bill Dacker, He Raraka A Ka Awa, updated, annotated and sourced manuscript for the book *Te Mamoe Me Te Aroha*, originally published in 1994, unpublished, Misc-MS-1716, Hocken Collections, University of Otago (HC), Dunedin, p.82, fn.8.

30 *Muriwhenua Land Report*, p.24.

31 Harry Evison, *Te Wai Pounamu the Greenstone Island: A History of the Southern Maori during the European Colonization of New Zealand*, Wellington, 1993, p.7.

32 For the contrast between geographic and functional distributions, see Banner, 'Two Properties', p.807.

33 See Atholl Anderson, 'Wakawaka and Mahinga Kai: Models of Traditional Land Management in Southern New Zealand', in J.M. Davidson, G. Irwin, B.F. Leach, A. Pawley and D. Brown, eds, *Oceanic Culture History: Essays in Honour of Roger Green*, Dunedin, 1996, pp.631–40. See also Jim Williams, "'E Pakihi Hakinga a Kai": an Examination of Pre-Contact Resource Management Practice in Southern Te Wai Pounamu', PhD thesis, University of Otago, 2004, p.120.

34 William Cronon notes Indians in New England developed a very similar system of property rights, and there similar differences emerged between Indians able to practise agriculture and those who sustained themselves by hunting and gathering. See William Cronon, *Changes in the Land*, New York, 1983, pp.60–64.

35 Atholl Anderson, *The Welcome of Strangers: An Ethnohistory of Southern Maori*, Dunedin, 1998, pp.111–20.

36 *ibid.*, pp.72–75.

37 Ian Church, 'Introduction', in Ian Church, ed., *Gaining a Foothold: Historical records of Otago's Eastern Coast, 1770–1839*, Dunedin, 2008, p.xxi.

38 Murihiku is generally considered to be the territory between the Waitaki River and the Waiau River, though there are some dissenting opinions. See Williams, 'E Pakihi Hakinga a Kai', pp.45–46.

39 The first being the provision for a whaling station in Preservation Inlet in 1828.

40 Giselle Byrnes, *Boundary Markers: Land Surveying and the Colonisation of New Zealand*, Wellington, 2001, p.113.

41 As Vincent O'Malley points out the tuku whenua debate has 'too often descended into rather pedantic arguments of an essentially linguistic rather than historical nature'. Vincent O'Malley, 'Treaty-Making in Early Colonial New Zealand', NZJH, 33, 2 (1999), p.154. I would also emphasise that in the Ngāi Tahu hearings the primary questions at issue before the Tribunal were whether agreements had been honoured, not whether agreements were understood.

42 Also the spate of late 1830s purchases such as those by the Weller brothers, fuelled solely by the fact British colonisation was imminent.

43 Extract from 'The Memorial of Octavius Harwood...to His Excellency Captain Robert Fitzroy...Governor', Church, p.322; Alexander Mackay, *A Compendium of the Official Documents Relative to Native Affairs in the South Island*, Nelson, 1873, II, p.247.

44 White, *Middle Ground*.

45 In 1842, for example, Tuhawaiki received a whaling boat from Octavius Harwood for which he agreed he would pay three tons of dressed flax and a ton of potatoes, orders he fulfilled over the course of the following year. Octavius Harwood, 'Accounts Ledger of Store Customers and Any Debts Incurred', MS-0604/003, HC, Dunedin. Also see Copy of Octavius Harwood Journals 1838–1842, G.C. Thomson Papers, MS-0438/03, HC, Dunedin.

46 Edward Shortland, *The Southern Districts of New Zealand: A Journal, with Passing Notices of the Customs of the Aborigines*, London, 1851, pp.86–87.

47 *ibid.*, pp.85–97.

48 George Clarke, *Notes on Early Life in New Zealand*, Hobart, 1903, p.62.

49 Superintendent Matthew Richmond reported to Governor FitzRoy that 'an influential chief' had written to another saying that 'if the Pakehas did not make all straight they had only to repeat the scene of the Wairau'. See 'His Honour M. Richmond, Superintendent to His Excellency the Governor, Wellington, 23 May 1844', in Mackay, I, p.98.

50 Michael Belgrave, *Historical Frictions: Maori Claims and Reinvented Histories*, Auckland, 2005, pp.140–42; Alan Ward et al, 'A Report on the Historical Evidence: The Ngai Tahu Claim', Wai 27, Document T1, pp.91–92.

51 This statement is supported by Kāi Tahu traditions which state that Te Rapuwai were the first inhabitants of the area; by the extraordinary density of archaeological sites on the peninsula,

including some which are clearly large early village sites, and by historical evidence. Most obviously, 'Otago' was so described to John Boulton in 1826. See Michael Stevens, 'The Names Are in the Land, Our History Is in the Land', BA Hons dissertation, University of Otago, 1976; Anderson, *Welcome of Strangers*; Jill Hamel, *The Archaeology of Otago*, Wellington, 2001; A. Charles Begg and Neil C. Begg, *The World of John Boulton*, Christchurch, 1979, p.107.

52 Te Maire Tau and Atholl Anderson, eds, *Ngāi Tahu a Migration History: The Carrington Text*, Wellington, 2008, p.71; Anderson, *Welcome of Strangers*, pp.31, 54–55; Stevens, 'The Names', pp.64–66.

53 Ward et al, pp.88, 90. Pukekura was separated out in the purchase as a government reserve. The development of Taiaroa Head as a military installation dates from fears of Russian designs on the southern Pacific in the 1890s.

54 Kaik is the southern Māori term for kainga or village.

55 *Appendices to the Journals of the House of Representatives* (AJHR), 1891, G-7, pp.38–39.

56 Clarke, pp.62–63. Various commentators, Erik Olssen and Atholl Anderson among them, have emphasised that Clarke's account of this speech needs to be treated with caution. See, in particular, Anderson, *Welcome of Strangers*, pp.192–94. However, recent research by myself and others confirms that the measles epidemic to which Tuhawaiki attributes dramatic mortality did occur in 1835. See, for example, Jonathan West, 'An Environmental History of the Otago Peninsula', PhD thesis, University of Otago, 2009, pp. 221–33; Peter Entwisle, *Behold the Moon: European Occupation of the Dunedin District 1770–1848* (revised edition, in press), p.122.

57 Harry Evison, *The Ngāi Tahu Deeds: A Window on New Zealand History*, Christchurch, 2006, pp.56–57.

58 Evison, *Te Wai Pounamu*, p.206.

59 *ibid.*

60 Symonds to Richmond, 2 September 1844; William Wakefield to Harington, 31 August 1844, in 'Supporting Documents to Evidence of Ann Rosemary Parsonson in respect of the Ōtākou Tenths', Wai 27, Document C2-7, pp.1–2 and C2-11, pp.57–58.

61 O'Malley, pp.137–54. See also Alan Ward et al, pp.12–14. It was certainly conducted with much more ceremony and care by both Māori and the British than the signing of the Treaty of Waitangi at Ōtākou.

62 Letter from Frederick Tuckett, 14 June 1844, Copies of Papers Relating to Frederick Tuckett 1842–1849 & 1887–1891, PC-1049, HC, Dunedin.

63 Cited in Tony Walzl, 'Evidence on Ngai Tahu reserves 1848–1890', Wai 27, Document M14, p.28.

64 The history of the transition in Britain away from feudal systems of property towards capitalism is a subject with an enormous literature. For England E.P. Thompson's classic studies provide a starting point. For lowland Scotland see in particular Tom Devine, *The Scottish Nation: A History, 1700–2000*, New York, 1999; Rosemary Gibson, *The Scottish Countryside: Its Changing Face, 1700–2000*, Edinburgh, 2007.

65 See *Ngati Apa and others v Attorney-General* [2003] 3 NZLR 643.

66 As a matter of political policy, colonial political authorities have always accepted that Māori still owned all of New Zealand, and that land had to be purchased from Māori (with the very significant exceptions of land covered by water: the foreshore, seabed, large lakes, and navigable rivers). However, the courts would not enforce this point against the Crown. That is, until very recently, Māori customary property rights were *not* treated as historically justiciable in the ordinary courts of New Zealand. They remained, like the Treaty that purported to guarantee them, a matter for the honour of the Crown. See Hickford, 'Vague Native Rights to Land', p.193 especially; David Williams, *A Simple Nullity?: The Wi Parata Case in New Zealand History*, Auckland, 2011; David Williams, 'The Queen v Symonds Reconsidered', *Victoria University of Wellington Law Review*, 1989, pp.385–402.

67 Ward et al, p.112.

68 *The Otago Journal*, No.III, November 1848, p.38.

69 Technically, the tenure is 'free and common socage', and the estate is the fee simple.

70 Drayton, p.45.

71 Ballantyne, 'Culture and Colonization', p.14.

72 Beattie and Stenhouse, p.431.

73 For discussions of improvement in the context of empire see Drayton. In the New Zealand context see Tom Brooking, 'Use it or Lose it'; Beattie and Stenhouse; Ballantyne, 'Culture and

Colonization’.

74 Kettle’s survey culminated in the ‘Index Map of the Otakou Settlement Middle Island New Zealand – Surveyed in the years 1846 and 1847’, 1 mile to 1 inch, 1890 x 650 mm, DAAK, D205/5, Archives New Zealand (ANZ), Dunedin. For discussion of the uses of maps as ‘preeminently a language of power’ see the classic essay by J.B. Harley, ‘Maps, Knowledge, and Power’, in Denis Cosgrove and Stephen Daniels, eds, *The Iconography of Landscape*, Cambridge, 1988, pp.277–312. Quote on p.301.

75 Burns to Cargill, 30 January 1847, cited in Ernest Merrington, *A Great Coloniser the Rev. Dr. Thomas Burns*, Dunedin, 1929, p.266.

76 Tom Brooking, ‘The Great Escape: Wakefield and the Scottish Settlement of Otago’, in *Edward Gibbon Wakefield and the Colonial Dream: A Reconsideration*, Wellington, 1997, especially pp.128–29.

77 John E. Martin, ‘“A Small Nation on the Move”: Wakefield’s theory of colonisation and the relationship between state and labour in the mid-nineteenth century’, in *Edward Gibbon Wakefield and the Colonial Dream: A Reconsideration*, pp.111–12.

78 *ibid.*, p.111; Brooking, ‘Great Escape’, p.128.

79 Martin, p.110.

80 *The Otago Journal*, No.VIII, August 1852, p.115.

81 Merrington, p.209.

82 Thomas Burns, *Early Otago and the Genesis of Dunedin: The Letters of Reverend T. Burns*, Dunedin, 1916; ‘Diary of Reverend Thomas Burns 1848–51’, MS C 017, Otago Settlers Museum, Dunedin.

83 Burns, *Early Otago*.

84 *ibid.*

85 *ibid.*

86 A.H. McLintock, *The History of Otago*, Dunedin, 1949, p.395.

87 *ibid.*, pp.388–405; W.R. Jourdain, *Land Legislation and Settlement in New Zealand*, Wellington, 1925, pp.64–65.

88 Patterson, p.1 (Abstract).

89 *ibid.*

90 See generally David Allen, ‘Paper Roads and Walkways on the Otago Peninsula’, BA Hons dissertation, University of Otago, 1993.

91 *Otago Witness* (OW), 12 October 1888, p.15; John Huggett, ‘The Historical Geography of the Otago Peninsula’, MA thesis, University of Otago, 1966, pp.134–36.

92 G.P. Wilson, ‘The Survey Districts of North Harbour and Blueskin, Lower Harbour West, North East Valley, Upper Harbour West, Sawyers Bay, Upper Harbour East, Otago Peninsula, Andersons Bay, Portobello Road 1878’ [bound in folder of 50 cadastral maps published by Lands and Survey Department], 80 chains to 1 inch, DABB D101 409/7, ANZ, Dunedin.

93 Katrina Hogg, ‘“Newlands”, a new home: The Development of a Community at Portobello 1848–1882’, BA Hons dissertation, University of Otago, 1991, pp.18, 37, 42.

94 See Douglas Whalan, ‘The Origins of the Torrens System and its Introduction into New Zealand’, in G.W. Hinde, ed., *The New Zealand Torrens system: Centennial Essays, Written to Commemorate the 100th Anniversary of the Passing of the Land Transfer Act 1870*, Wellington, 1971, pp.1–32.

95 Hogg, p.83.

96 OW, 3 December 1881, p.23; OW, 2 July 1886, p.8.

97 OW, 12 October 1888, p.15.

98 Fleur Snedden, *King of the Castle: A Biography of William Larnach*, Auckland, 1997, p.85. Larnach drove stock improvement, for example, and his herd of stud Alderney cattle were much sought after, as was Larnach himself as a judge at the peninsula’s Agricultural and Pastoral shows.

99 OW, 9 March 1867, p.9; ‘A Place called Pinkieburn’: Sim Family History and Account Book, 2000/08/01-03, Otago Settlers Museum, Dunedin.

100 Hardwicke Knight, *Otago Peninsula: A Local History*, Dunedin, 1979, pp.105–106.

101 Minute Book of the Otago Peninsula Cheese Factory Co. Ltd 1871–1884, MS-0186-A, HC, Dunedin. Also see John Huggett, ‘The Historical Geography of the Otago Peninsula’, MA thesis, Victoria University of Wellington, 1966, pp.144ff; Knight, p.96.

102 See generally Huggett; also Jonathan West, ‘An Environmental History of the Otago Peninsula’, PhD thesis, University of Otago, 2009.

103 West, pp. 400–402.

104 For discussion of the timing and processes of the peninsula's deforestation, see generally Huggett and West. For figures on the peak of deforestation see Huggett, p.149.

105 Paul Star, 'Humans and the Environment in New Zealand, c.1800–2000', in Giselle Byrnes, ed., *The New Oxford History of New Zealand*, Melbourne, 2009, p.51.

106 The distribution of forest is mapped most precisely in W.T. Neill, 'Military Topographical Survey of Otago Peninsula, 1922', 40 chains to an inch, S07-520b, HC, Dunedin. This map is based on a 1901 survey conducted at 10 chains to the inch.

107 See, for example, OW, 20 February 1875, p.10.

108 Knight, p.105. Khyla Russell, pers. com.

109 Peter Johnson, *Otago Peninsula Plants: An annotated list of vascular plants growing in wild places*, Dunedin, 2004, p.8.

110 Gibson, pp.36–40; I.G. Simmons, *An Environmental History of Great Britain: From 10,000 Years Ago to the Present*, Edinburgh, 2001, p.124.

111 Simmons, p.129.

112 See Catherine Higham, 'Agricultural dry stone walls in the Dunedin area', BA (Hons) dissertation, University of Otago, Dunedin, 1986.

113 West, p.327. For an American parallel see Cronon, *Changes*, pp.130–38.

114 Collated data from the District Valuation Rolls of 1897 indicate a little over 200 landholdings of more than five acres, totalling just under 20,000 acres. Of this almost 9000 acres were deemed ploughable.

115 OW, 17 February 1877, p.7.

116 Peter Thomson, 'On the Sand Hills, or Dunes, in the Neighbourhood of Dunedin', *Transactions and Proceedings of the New Zealand Institute* (TPNZI), 3 (1870); OW, 24 December 1870, p.9. Problems with sand drift in Otago are also discussed in James Beattie, 'Environmental Anxiety in New Zealand, 1830–1920: Settlers, Health, Environment, Conservation', PhD thesis, University of Otago, 2005.

117 Michael Crozier, 'Mass-Movement in Eastern Otago: The Relationship of Slope Instability to Environmental Factors and its Importance to Slope Development on the Otago Peninsula', PhD thesis, University of Otago, 1970, pp.109–110; OW, 10 August 1910, p.6.

118 Cattle were not allowed over much of the peninsula during the later twentieth century. Only one dairy farm survives there today.

119 'My Young Life in Otago: Reminiscences of John McLay', Otago Settlers Museum, Dunedin, pp.30, 32, 40; Robert Gillies, 'Notes on Some Changes in the Fauna of Otago', TPNZI, 10 (1878), pp. 312–13.

120 Eileen Soper, *The Otago of Our Mothers*, Christchurch, 1948, p.308; Gillies, pp.42–43.

121 R.W. Fereday, 'On the Direct Injuries to Vegetation in New Zealand by Various Insects, Especially with Reference to Larvae of Moths and Beetles Feeding Upon the Field Crops; and the Expediency of Introducing Insectivorous Birds as a Remedy', TPNZI, 5 (1872), pp.289–94; Guthrie-Smith, p.343; James Drummond, *Our Feathered Immigrants: Evidence for and against Introduced Birds in New Zealand; Together with Notes on the Native Fauna*, Wellington, 1907, p.2; West, p.378. This topic has been most thoroughly covered by Paul Star. See, for example, Paul Star, 'New Zealand's Changing Natural History', NZJH, 32, 1 (1998), pp.59–69.

122 Fereday.

123 OW, 3 August 1872, p.6.

124 G.M. Thomson, *The Naturalisation of Animals and Plants in New Zealand*, Cambridge, 1922.

125 OW, 28 September 1899, p.62.

126 OW, 12 September 1874, p.13.

127 Star, 'Native Bird Protection', p.127.

128 G.M. Thomson, 'Botany' in Alexander Bathgate, ed., *Dunedin and its Neighbourhood*, Dunedin, 1904, pp.34–35.

129 The New South Wales government examined 'grass and clover' seed imported from New Zealand in 1892 and found it to comprise 40% perennial rye grass, 20% creeping trefoil and 40% miscellaneous species, including 'goose grass, dock, sorrel, silver grass, plantain, wild amaranth, Yorkshire fog, and other useless weeds and grasses'. Their findings were concerning enough to be reported here. See The Department of Agriculture Annual Report, pp.49–50. For more localised evidence see OW, 1 April 1882, p.7.

- 130 OW, 28 December 1872, p.13.
- 131 Thomson, 'Botany', p.35.
- 132 For a sample see, 6 March 1890, p.26; 9 February 1893, p.20; 19 October 1899, p.34.
- 133 Soper, pp.40–41.
- 134 OW, 15 February 1873, p.11; OW, 21 February 1874, p.5; OW, 14 April 1877, p.8.
- 135 OW, 21 February 1874, p.5.
- 136 OW, 24 November 1866, p.7.
- 137 For discussion of regulation of thistles see Neil Clayton 'Weeds, People and Contested Places: Selected Themes from the History of New Zealanders and Their Weeds, 1770–1940', PhD thesis, University of Otago, 2007, pp.165–81.
- 138 OW, 11 December 1875; OW, 22 January 1876, p.17.
- 139 Clayton, p.181.
- 140 OW, 18 March 1876, p.9.
- 141 For example, OW, 7 May 1864, p.14; OW, 24 November 1866, p.7.
- 142 OW, 7 May 1864, p.14.
- 143 Weaver, p.28.
- 144 AJHR, 1858, E-4, p.13.
- 145 For a useful summary discussion, see Belgrave, pp.153–80.
- 146 AJHR, 1888, G-1, p.4.
- 147 AJHR, 1891, G-7A, p.3.
- 148 NZPD, 1876, 20, p.454; Angela Wanhalla, "'My Piece of Land at Taieri": Boundary Formation and Contestation at Taieri Native Reserve, 1844–1868', NZJH, 41, 1 (2007), p.46.
- 149 See especially Stevens, 'Muttonbirds'; Bill Dacker, 'The Prejudicial Effects of the Lack of Land with Particular Reference to the Otakou Block' Wai 27, Document F11, pp.78–79. Also Tahu Potiki, 'An Unfulfilled Promise in Southern New Zealand', Paper presented to the Human Rights Commission, 7 September 2006, unpublished, in author's possession.
- 150 Tony Ballantyne, 'Economic Systems, Colonization and the Production of Difference: Thinking Through Southern New Zealand', Paper given to the Eisenberg Institute for Historical Interpretation, University of Michigan, Ann Arbor, 2 December 2010.
- 151 This was the key effect of the Native Land Purchase Ordinance 1846, Governor Grey's reassertion of Crown pre-emption.
- 152 Banner, *Possessing the Pacific*, pp.75–76.
- 153 G.C. Thomson Papers, MS 0438/109, 'Agreement by Maori Chiefs Not to Disturb European Settlers at Otakou', HC, Dunedin.
- 154 See Walzl, 'Ngai Tahu Reserves', pp. 36–37.
- 155 See W. Rolleston, Under Secretary Native Affairs to Commissioner of Native Reserves, 1 September 1866, in Document 11: Maori Affairs Outward Letters 1850–1880, in 'Supporting Papers to the Evidence of Tony Walzl', Wai 27, Document M15, pp.254–56.
- 156 This was the decision-making process according to H.K. Tairaroa and Koroko Karetai in their evidence before the Native Land Court in 1868. Maori Land Court Minute Books, South Island Minute Books Books 1A, Reel 16. Also 'Return of Lands dealt with by the Native Land Court, in Otago, in May, 1868' in Mackay, II, pp.229–37; NZPD, 1862, p.248.
- 157 Mackay, II, pp.229–37. For another discussion, see Bill Dacker, *Te Mamae me te Aroha: A History of Kai Tahu Whānui in Otago, 1844–1994*, Dunedin, 1994, pp.45–46.
- 158 AJHR, 1891, G-7A, p.7.
- 159 Susan Hanham, "'Where Land Meets Water": Rights to the Foreshore of Otakou Maori Reserve', MA thesis, University of Otago, 1996, Dunedin, pp.81, 149; Dacker, *Te Mamae*, p.46.
- 160 Dacker, 'Prejudicial Effects', p.47.
- 161 *New Zealand Statutes*, 1883, p.408.
- 162 AJHR, 1886, G-12, p.15; Dacker, 'Prejudicial Effects', p.47.
- 163 AJHR, 1870, D-16, p.24.
- 164 Dacker, *Te Mamae*, p.34.
- 165 West, p.395; Dacker, 'Prejudicial Effects', p.83.
- 166 These figures are compiled from data extracted from 'District Valuation Rolls 1897', CAIH D121 83-90, ANZ, Dunedin. The figures Dacker cites from Stone's Directory suggest possibly a few more people were employed on farms too, especially after the creamery opened. See Dacker, 'Prejudicial Effects', pp.49–50.
- 167 OW, 26 August 1897, p.26.

168 Burning and grazing began with the Wellers' whaling station, and sand drift quickly became a problem. See Shortland, p.9; D. Monro, 'Notes of a Journey through a Part of the Middle Island of New Zealand', in T.M. Hocken, *Contributions to the Early History of New Zealand*, London, 1898, pp. 243–44.

169 P. Thomson, 'On the Sand Hills, or Dunes, in the Neighbourhood of Dunedin', TPNZI, 3 (1870), p.266; T.A. Pybus, *Maori and Missionary: Early Christian Missions in the South Island of New Zealand*, Christchurch, 2002, p.138; Knight, p.24.

170 NZPD, 1893, pp.602–603.

171 West, pp.397–98, 412–14.

172 Kāi Tahu involvement in fisheries was thoroughly traversed in evidence before the Waitangi Tribunal. Particularly useful for Ōtākou is Tony Walzl, 'Evidence of Anthony Walzl on Ngai Tahu fishing 1840–1908', Wai 27, Document S7; John McLay Papers, 'My Young Life in Otago: Part One of Reminiscences', Copy 70, Otago Settlers Museum, p.19; *The Illustrated New Zealander*, 18 March 1867, pp.14–15.

173 OW, 3 July 1868, p.8; OW, 14 September 1872, p.9; OW, 26 September 1874, p.14; West, pp.342, 353–54.

174 Dacker, *Te Mamae*, p.42; Waitangi Tribunal, *The Ngai Tahu Report*, pp.350–51.

175 AJHR, 1869, D-15, p.5.

176 OW, 29 October, 1864, p.16. Peter Thomson also provides a useful series of articles on early fishing in Otago. See Peter Thomson, 'Fish and Their Seasons', TPNZI, 9 (1876), pp.484–90; 'The Dunedin Fish Supply', TPNZI, 10 (1877), pp.324–30; 'Our Fish Supply', TPNZI, 11 (1879), pp.380–89.

177 AJHR, 1870, D-15, p.5. Waitangi Tribunal, *Ngai Tahu Sea Fisheries Report*, Wellington, 1992, pp.118–20. This technique is still used by some Otago fishermen; others rely on GPS technology.

178 Walzl, 'Ngai Tahu fishing', pp.42–43.

179 Waitangi Tribunal, *Sea Fisheries*, p.75; Williams, 'E Pakihi Hakinga a Kai', p.158; West, pp.350–51.

180 NZPD, 1877, 27, p.65.

181 *ibid.*

182 This was the effect of Chief Judge Fenton's decision in the famous Kauwaeranga case, 1870, which has been widely discussed. See, for example, the Waitangi Tribunal's Muriwhenua and Ngai Tahu fisheries reports.

183 Waitangi Tribunal, *Sea Fisheries*, pp.58, 137–38; AJHR, 1891, G-7A, p.7.

184 Evison, *Ngai Tahu*, pp.51, 54. I am unsure which islands these were, since the major islands around Otago were all named and listed in the Otago deed of sale as sold.

185 Williams, 'E Pakihi Hakinga a Kai', pp.274–75.

186 Cole Harris, *Making Native Space: Colonialism, Resistance, and Reserves in British Columbia*, Vancouver, 2002, p.xxii.

187 Walzl, 'Ngai Tahu fishing', pp. 76–77.

188 See AJHR, 1869, D15; George Habib, 'Report on Ngaitahu Fisheries Evidence', Wai 27, Document T4, 1989; Walzl, 'Ngai Tahu fishing', pp. 45, 76–77; Thomson, *Fishing Otago Harbour*, p.487; Also David Graham, *A Treasury of New Zealand Fishes*, Wellington, 1974.

189 Dacker, 'Prejudicial Effects', pp.49–50.

190 Anderson, 'Evidence on Mahinga Kai', p.83.