

'The Power of the Physician': Doctors and the 'Dying Maori' in Early Colonial New Zealand

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THROUGHOUT MOST OF THE NINETEENTH CENTURY IT WAS A commonplace that Maori were either reducing in numbers, or dying out. Virtually all authors writing about New Zealand at the time commented on it, as have most authors since. The gradual depopulation of Maori was a contemporary *locus classicus* of 'native' extinction, discussed from the British parliament to Bengali journals.¹ The elegy for the Maori race was delivered many times; testimonials were given, and monuments were built. Today, such a general decline in the nineteenth-century Maori population is still accepted, but the timing, extent and causes of this have been considerably revised. The size of the nineteenth-century Maori population remains robustly contested.² Even the government censuses, the first solid figures when they were finally taken, have been shown to be inaccurate.³

Perhaps it is unsurprising, given more than a hundred years' hindsight, that nineteenth-century explanations and musings

1. Regarding the latter, see David Arnold, "An Ancient Race Outworn": Malaria and race in colonial India, 1860–1930', in *Race, Science and Medicine, 1700–1960*, Waltraud Ernst & Bernard Harris (eds), Routledge, London, 1999, pp. 137–8. I would like to thank Asma Siddiki, Dr Linda Bryder, Professor Megan Vaughan, Helen Tilley, Zoë Laidlaw and especially Dr Derek Dow for help and advice in preparing this paper.

2. Ian Pool's conservative estimates are most often used, though others, such as Anne Salmond, place the figures initially much higher. Ian Pool, *Te Iwi Maori: A New Zealand Population Past, Present & Projected*, Auckland University Press, Auckland, 1991; Anne Salmond, *Between Worlds: Early Exchanges between Maori and Europeans 1773–1815*, Viking, Auckland, 1997, p. 265. This was also a contemporary sticking point; settlers accused one governor of exaggerating Maori numbers in order to use the spectre of Maori to manipulate government policy towards settlers. John Dorset, *et al.* to Earl Grey, 8 October 1850; enclosed in Grey to Earl Grey, 24 December 1850, GBPP (1851), XXXV, pp. 87–8.

3. Kate Riddell, A 'Marriage' of the Races? Aspects of Inter-marriage, Ideology and Reproduction on the New Zealand Frontier, MA thesis, Victoria University of Wellington, 1996; Kate Riddell, "Improving" the Maori: Counting the ideology of intermarriage', *New Zealand Journal of History (NZJH)*, vol. 34, 2000, pp. 80–97.

about Maori population decline are often seen unkindly or cynically. In the nineteenth century, many talked of ‘smoothing down the pillow’ of dying Maori.⁴ Such views have been seen at best as naïve or quaint, and at worse convenient legitimisations of European voracity. Those who talked (a phrase much quoted and discussed) are generally seen as odious imperialists. Even a leading recent history follows this trend. James Belich takes moderate stances on the size of the Maori population and its reduction, and is well aware of the limitations of nineteenth-century understandings of demography, but he considers European attitudes to be ‘exaggerations’. Preconceptions that a dark race died out whenever confronted with a white one ‘made European observers see what they expected to see’, he writes. ‘Fatal impact thinking both pre- and post-dated its evidence.’⁵ In his estimation, news of the death of the Maori was not only exaggerated; it was wishful thinking.

Yet as medical historians have noted, the New Zealand colonial government was rare in applying medical knowledge to a ‘native’ population in the nineteenth century.⁶ The European population was growing and healthy, while the Maori population was falling and in failing health. A critical test of the effectiveness of medical knowledge came to be the size of the Maori, not the European population; the reverse of places such as India. However, the decrease of the Maori population was first and foremost a state of emergency for Maori communities.

This essay is concerned with doctors who were involved with Maori in the first thirty years of colonisation. Among

4. This was a phrase coined by Dr Isaac Featherston in 1856; see Derek Dow, ‘“Smoothing their Dying Pillow”: Lingering longer’, *New Zealand Doctor*, 21 January 1998, p. 45; Ross Galbreath, ‘Images of Colonisation: Native rats and dying pillows’, *The Turnbull Library Record*, vol. XXV, 1993, pp. 37–9; John Stenhouse, ‘“A Disappearing Race before we Came Here”: Dr Alfred Kingcome Newman, the dying Maori and Victorian scientific racism’, *NZJH*, vol. 30, 1996, pp. 123–40.

5. James Belich, *Making Peoples: A History of the New Zealanders*, Penguin Books, Auckland, 1996, pp. 173–8.

6. Roy Macleod, ‘Introduction’, in *Disease, Medicine, and Empire: Perspectives on Western Medicine and the Experience of European Expansion*, Roy Macleod & Milton Lewis (eds), Routledge, London, 1988, p. 9; Donald Denoon, ‘Temperate Medicine and Settler Capitalism: On the Reception of Western Medical Ideas’, *ibid.*, p. 124.

these doctors, the Maori population decline was a matter of intense and rigorous speculation, debate and study. But during this period, colonial government had not gained ascendancy over most Maori communities; it was a markedly different time from that which followed. Yet this period is not unimportant, nor merely the first steps in the tautology of the European domination to follow. In New Zealand, European understandings of Maori population decline were severely altered by the end of the century: the European domination of New Zealand, natural selection, revisions in racial understanding, and advances in medicine had enormous impact. The views of the 1880s were not identical to those of the 1840s and 1850s.⁷ It would seem worthwhile to explore this 'time before', as doctors contested and tried to make understandings, at the same time as the colonial polity was struggling to assert itself and control New Zealand's people and resources.

As well as being colonial agents, mediators and healers, doctors were perhaps the major set of 'scientific' intellectuals resident in early colonial New Zealand. They are found at an interesting juncture of practice and 'theory'. Considering Maori population decline this is particularly so; for not only was this a major intellectual concern in colonial New Zealand, it was also a problem with which doctors were concerned professionally, and upon which they could have direct influence. Doctors' understandings of this population decline were varied, as were their responses, and their degree of interest. This article attempts to place doctors and their concern with Maori depopulation within a number of important contexts, which most doctors involved with Maori shared. It explores how the complicated colonial milieu affected medical understandings of Maori depopulation by examining colonial politics, some of the doctors' ideas, and an important and common medical pastime—'botanizing'.

7. It is common when discussing race, in New Zealand as elsewhere, to talk of 'nineteenth-century views', and favour the last third of the century.

The 'dying Maori' seemed in some ways a local articulation, or repetition, of a wider process. By the 1830s and 1840s in Britain, it was almost universally believed that colonisation had in the past resulted in the destruction of indigenous populations. This was most striking in the Americas, but was buttressed by more recent developments in Australia and southern Africa.⁸ The colonisation of New Zealand was supposed to be different. A superior kind of 'native', Maori, and a better planned and organised settlement was intended to have improved results. Colonisation would, some went so far as to say, secure the lives and property of Maori, then thought to be in the balance.⁹ From the outset of settlement in New Zealand, the health of Maori was a genuine and central concern. Thus, although in a wider imperial context the involvement of medicine with Maori may seem unusual, within the logic of New Zealand colonialism it was not, as recent studies have affirmed.¹⁰

Yet with respect to Maori the medical profession was potentially caught in a bind. On the one hand, doctors came as healers, and often tried to remedy sickness and stabilise or increase the Maori population. Yet, on the other hand, they came as physicians of a new 'body politic', wielders of a new authority and minding the health of settlers; they were a part of a new colonial order. This echoed the predicament of colonial government. In the 1830s and 1840s the destruction of 'native' populations was no longer simply acceptable in Britain; colonial officials had to find a way to 'govern the New Zealanders, without destroying them'.¹¹ An integral part of negotiating this situation was through the means of medical care.

8. For example: Public Record Office (PRO), Colonial Office (CO) 209/2, Lord Glenelg to Lord Durham, 29 December 1837, fo.410; CO 209/145, Thomas Gore Browne to Henry Labouchere, 18 February 1858, fos.123–6; William Howitt, *Colonization and Christianity: A Popular History of the Treatment of the Natives by the Europeans in all their Colonies*, Longman, London, 1838. Belich calls this 'fatal impact', recalling Alan Moorehead, *Fatal Impact: An Account of the Invasion of the South Pacific, 1767–1840*, Penguin Books, Harmondsworth, 1966.

9. Compare different views in the Colonial Office: CO 209/8, James Stephen to Vernon Smith, 28 December 1840, fo.446; *ibid.*, Smith to Russell, 29 December 1840, fo.451.

10. Derek A. Dow, *Maori Health & Government Policy 1840–1940*, Victoria University Press, Wellington, 1999; Raeburn Lange, *May the People Live: A History of Maori Health 1900–1918*, Auckland University Press, Auckland, 1999.

11. Robert Fitzroy to Lord Stanley, 17 September 1845, GBPP, 1846, XXX, p. 137.

‘Powerful engines’: doctors, colonisation, and Maori depopulation

By the late 1840s colonial government had already established itself as a provider of medical care to Maori. The primary means of this was the doctor, and the most important institution was the hospital, of which by the early 1850s there were four.¹² Derek Dow has described the institutional context of these hospitals, and Malcolm Nicolson has studied the way these hospitals sought to ‘amalgamate’ both Maori and Europeans.¹³ These were multi-faceted institutions. Dr John Patrick FitzGerald, an early emigrant to New Zealand and an important influence upon early medical dealings with Maori, was put in charge of the first hospital built near Wellington.¹⁴ It was, in his words:

a beautiful one, as fine as any you would see in England for its size. It is a powerful engine for gaining an influence over the Native Mind, for the alleviation of suffering. . . . those alone who have seen the Warlike Chiefs prostrated on the bed of sickness can estimate the power of the Physician amongst an Aboriginal Race.¹⁵

This power was clearly not purely medical, or even personal, but of a much broader political and moral character. ‘Hospitals carefully carried out, and doctors devoted to their

12. These hospitals were located in Wellington and Auckland (1847), New Plymouth (1847) and Wanganui (1851). Dow and Lange appear to disagree over the significance of government-provided or subsidised doctors outside of hospitals; Dow, *Maori Health & Government Policy*, pp. 35–46; Lange, *May the People Live*, pp. 71–3.

13. Dow, *Maori Health & Government Policy*, pp. 23–35; Malcolm Nicolson, ‘Medicine and Racial Politics: Changing Images of the New Zealand Maori in the Nineteenth Century’, in *Imperial Medicine and Indigenous Societies*, David Arnold (ed.), Manchester University Press, Manchester, 1988, pp. 66–104.

14. On FitzGerald see: R. J. Towers, ‘Dr John Patrick FitzGerald, Colonial Surgeon, First Racial Officer, Wellington Hospital, Friend of the Maori People’, Alexander Turnbull Library (ATL) Ms-Papers-3512; Laurie Barber, ‘John Patrick FitzGerald’, *New Zealand Dictionary of Biography (NZDB)*, 1, pp. 128–9; R. Donaldson, ‘Dr J. P. FitzGerald: Pioneer Colonial Surgeon, 1840–1854’, *New Zealand Medical Journal*, vol. 101, 1988, pp. 636–8, and R. Donaldson, *Dr John Patrick FitzGerald: Pioneer Colonial Doctor 1840–1860*, MPhil thesis, Waikato University, 1988.

15. Durham University Library, Third Earl Grey Papers, J. FitzGerald to Earl Grey, 2 March 1855, GRE/B86/2/7.

Profession’, FitzGerald wrote, ‘were some of the best civilizers of Savage Races’.¹⁶

As these passages indicate, many of FitzGerald’s concerns were not only medical. When he observed that there ‘was a great work to be done by my Profession for the Gov[ernment]’, he meant politically as much as medically.¹⁷ Hospitals brought Maori in from the proverbial cold, and were one of the few government institutions that could seem both useful to colonists and beneficent to Maori. The government largely concurred with FitzGerald’s assessment, as did the Colonial Office. The colonial hospitals were an object of particular favour for the Secretary of State for the British Colonies, the third Earl Grey (formerly Viscount Howick). Earl Grey hoped they might prove a genuine remedy for Maori depopulation, an effort to ensure Maori ‘preservation’.¹⁸ But the political dimensions were at least equally as important; when Earl Grey sent a personal gift to the hospital, it was not of money, medical supplies or such material, but took the form of a box of books and an engraving of Queen Victoria.¹⁹

The arrival of Earl Grey’s present was used as the premise for a large and important gathering of local settler and Maori leaders along with colonial officials. A majority of Maori leaders from around Wellington, including Te Rauparaha (fresh from his release), showed up.²⁰ They were joined by government officials and naval officers, as well as other gentlemen and the press. It was an effort to make sure Maori, settlers and government remained cooperative and ‘warm friends’. The banquet was:

perfectly European, and never did a party of European Gentlemen behave with more decorum. It would not be saying too much to declare that never in the house of Commons did Members get up with more order to address the Speaker than

16. *ibid.*, FitzGerald to Earl Grey, 2 January 1894, GRE/B86/2/40. (In his later years, FitzGerald retired to live in lands neighbouring those of Earl Grey, who remembered him).

17. *ibid.*, FitzGerald to Earl Grey, 31 March 1858, GRE/B86/2/11. Also *ibid.*, FitzGerald to Earl Grey, 7 October 1855, GRE/B86/2/9.

18. *ibid.*, FitzGerald to Earl Grey, 24 February 1849, GRE/B86/2/49.

19. *ibid.*, FitzGerald to Earl Grey, 24 February 1849, GRE/B86/2/49.

20. Te Rauparaha was the Ngati Toa leader who dominated the Cook Straits region from the late 1830s; he had been abducted and detained by colonial forces under Sir George Grey’s instructions

did those Chiefs . . . the most important thing of all was that they were all assembled in town at the time a native was executed for a barbarous murder. They approved of his sentence . . . and expressed their abhorrence of the crime. . . . [T]hese Chiefs are clever intelligent rational beings but proud and warlike.²¹

FitzGerald and the Wellington hospital were as much treating the Maori 'body politic' as Maori bodies themselves. Indeed, the latter were often viewed as a way to treat the former, and individual bodily illnesses were often considered as symptoms or extensions of an illness in the former.

These two strands of colonial politics and medicine were generally inseparable. This was apparent when FitzGerald wrote about how to improve health in letters published in the government's Maori newspaper.²² Some of these might be perceived as strictly 'medical', but other recommendations were not so. Even critics of the colonial hospitals criticised not the hospitals' dual medical-political purposes, but their efficacy in effecting these purposes. William Fox, for example, agreed that hospitals 'might be of the greatest use as a sort of political agency among the natives, and a medium of their civilization'. His qualms were that they were not well sited, or well used: that the colony was not getting value for money. (Fox later introduced New Zealand's first Public Health Bill in 1869.)²³ At the Colonial Office Fox's criticisms served only to generate more praise for the colonial hospitals. 'Mr. Fox affects to sneer at them', Earl Grey noted, 'and tho [*sic*] no great insight would probably be attached to his statements by those who really know the value of them, they may mislead'.²⁴ So the hospitals were again praised publicly.²⁵ The Colonial Office knew the real value of these 'engines' of colonisation.

21. *ibid.*, FitzGerald to Earl Grey, 29 April 1849, GRE/B86/2/3.

22. *Te Karere o Nui Tireni*, 3, 8, 1 August 1844.

23. William Fox, *The Six Colonies of New Zealand*, John W. Parker, London, 1851, pp. 65–6; also CO 209/4, Sir George Grey [of the Colonial Office], 'Remarks on Mr Fox's First Minute', fos.487–93; Fox, minute; enclosed in Fox to Francis Peel, 24 January 1852, GBPP (1852), XXXV, pp. 6, 11–12. On Fox's public health role, see D. A. Dow, *Safeguarding the Public Health: A History of the New Zealand Department of Health*, Victoria University Press, Wellington, 1995, pp. 22–3.

24. CO 209/102, Earl Grey to Elliot, [10? August 1852], fo.98.

25. CO 209/51, Stephen to Hawes, 17 June 1847, fo.211; *ibid.*, Stephen, minute, 28 September 1847, fo.279; CO 211/2, George Grey, address, 5 October 1846, fo.143.

Whether they were in hospitals or outside of them, the doctors who treated or otherwise dealt with Maori were a part of colonial expansion. Yet, doctors were having to deal with a variety of concerns of their own. For one thing, they were working out their training and education in a new milieu, on a people new to them. For another, they were in search of opportunities, trying to make their livings as well as crafting their profession and institutions.

Nineteenth-century observers were not at a loss to explain the decline of the Maori population, or any other ‘native’ population for that matter. Rather, there was a surfeit of explanations, from the supernatural to the mundane.²⁶ Most interpretations were multi-causal, offering a selection of factors responsible for the decline. Charles Hursthouse, a New Zealand settler, catalogued the various factors that had been rehearsed. There were the inadequacies of Maori diet and dress; the ravages of European diseases; alcohol-related problems; too few Maori women to men (and many of these women were married to European men or polygamist Maori); the overworking and mistreatment of women, who were often under-fertile or sterile; ‘a blighting sense of inferiority and degradation in the presence of the white man’; and, most broadly, ‘the ethnological law that the black savage shall disappear before the white settler’.²⁷ Hursthouse left out some other popular explanations, such as the treatment of the ill, infanticide, and the in-breeding of Maori (that their race had ‘run out’), but on the whole he registered the range quite accurately.²⁸

26. An important, and perhaps solitary, exception was Dr Edward Shortland, who thought that Maori numbers were not declining, but that they had simply been initially overestimated. He believed the initial ‘checks’ to Maori population had already subsided by 1850. Edward Shortland, *The Southern Districts of New Zealand; a Journal with Passing Notices of the Customs of Aborigines*, Longman, Brown, Green & Longman’s, London, 1851, pp. 39–78.

27. Charles Hursthouse, *New Zealand, or Zealandia, The Britain of the South*, Edward Stanford, London, 1857, I, pp. 159–60. Hursthouse thought diseases, the ‘ethnological law’, and diet and dress were not factors; he blamed a drop in Maori morale, the sexual imbalance, and infertility.

28. Francis D. Fenton, *Observations on the State of the Aboriginal Inhabitants of New Zealand*, Government Print, Auckland, 1859, p. 31.

This debate was a contested field, and doctors had no monopoly on diagnosis. But doctors were disease specialists, and they could generally be more precise and detailed about which diseases they believed were causing Maori deaths. Measles, different kinds of consumption, whooping cough, influenza, and venereal disease were all named.²⁹ Yet although demographers today find it most compelling, to mid-nineteenth-century doctors, disease was not a sufficient explanation. For one thing, there were no special diseases that seemed to be causing Maori deaths. In New Zealand, one doctor noted, there were no fevers or 'miasmatic diseases', but only coughs and consumption.³⁰ 'Their Diseases are something like our Diseases', wrote another.³¹ What was killing Maori was what killed Europeans, the only difference being the numbers. Epidemics were not evenly distributed between settlers and Maori, but they were clearly not race specific. Further unsettling all of this was that doctors' diagnostics were not matched by their powers of treatment. Familiar these diseases might be, but they could do very little to stop their patients dying.³² On a matter in which they were authorities, doctors lacked capability.

This inability posed a further difficulty, because medical knowledge and expertise was an important part of the golden cargo of British civilisation. Some doctors, for instance, saw the technology of medicine not only as a way of gaining trust, but also as something to 'wow' the natives.³³ It has been often noted that a much higher opinion of early nineteenth-century

29. See, especially, A. S. Thomson, *The Story of New Zealand: Past and Present & Savage and Civilized*, 2 vols, John Murray, London, 1859, I, pp. 212–19; Lange, *May the People Live*, pp. 29–35.

30. Dieffenbach, evidence, 'Report from the Select Committee on New Zealand', GBPP, 1844 (556), XIII, p. 618.

31. John Watkins, evidence, 'Report from the Select Committee of the House of Lords to inquire into the present State of the Islands of New Zealand', GBPP, 1838 (680), XXI, p. 13. Also see Ernest Dieffenbach, *Travels in New Zealand; with Contributions to the Geography, Geology, Botany, and Natural History of that Colony*, John Murray, London, 1843, II, pp. 13–23; Tawell, evidence, 'Report from the Select Committee of the House of Lords to inquire into the present State of the Islands of New Zealand', GBPP, 1838 (680), XXI, p. 121. Samuel Martin, another doctor, did however point to intemperance and disease; S. M. D. Martin, *New Zealand; in a Series of Letters*, Simmonds & Ward, London, 1845, pp. 56, 278–80, 316–17.

32. Against smallpox, doctors were more effective and they did actively immunise Maori. Dow, *Maori Health & Government Policy 1840–1940*, pp. 48–55.

33. FitzGerald to Earl Grey, 7 October 1855, GRE/B86/2/9.

medicine was sometimes held by contemporaries than was warranted.³⁴ Maori were not so easily impressed. One surgeon who had visited New Zealand was asked: ‘What was [the Maori] Opinion of your Profession; did they consider that you had a supernatural Power of healing Diseases, or that it was in consequence of the Study of the Art?’ The surgeon’s answer was honest and humbling. ‘They consider it now to be the Consequence of Study . . . and they consider themselves fully equal to it if put into the Way of it.’³⁵ But not only were doctors’ powers for healing diseases somewhat less than supernatural, what treatments they could provide were always dependent on Maori willingness, trust and participation; an agency Maori were only too ready to deploy.

But doctors also mobilised explanations similar to those favoured by laypersons. Though it seems few gave any credence to so vague an explanation as what Hursthouse called ‘the ethnological law’—even Hursthouse, it should be noted, did not—other factors were explored by doctors. FitzGerald blamed the blanket, for example, at the time a ubiquitous Maori garment and possession.³⁶ William Davies, another colonial surgeon, blamed the Maori ‘mode of living’: their clothes, food, and the amount of time they spent outside.³⁷ These were similar to observations made by other doctors. The entire Maori way of life became a cause of their decline. Doctors began to propose ways of reorganising Maori life for reasons of their own health. Maori youths, for instance, could be saved by being removed from native life. As one doctor suggested, the Maori population might recover through institutions such as government schools, ‘by transplanting at an early age a portion of the rising generation’.³⁸ The Maori body politic was ill, and doctors were offering to be its physician. And why not? Their credentials were political as well as medical; hospitals were, after all, ‘powerful engine[s] for

34. Lange, *May the People Live*, p. 52; Denoon, ‘Temperate Medicine and Settler Capitalism’, pp. 121, 134

35. John Watkins, evidence, ‘Report from the Select Committee of the House of Lords to inquire into the present State of the Islands of New Zealand’, GBPP, 1838, XXI (680), pp. 21–2.

36. FitzGerald to Grey, 7 February 1852; enclosed in Grey to Earl Grey, 13 February 1852, GBPP, 1854, XLV, pp. 73–4.

37. William Davies to Grey, 1 January 1849, enclosed in George Grey to Earl Grey, 10 March 1849, GBPP, 1850, XXXVII, pp. 29–30.

gaining an influence over the Native Mind'.³⁹ Largely incapable of treating the diseases they could diagnose, doctors began to diagnose problems with Maori 'life', essentially as other kinds of pathogens.

Not only did Maori independence render most such proposals moot, but these were pronouncements in areas in which others also felt themselves to be knowledgeable.⁴⁰ The best example of this was the panel of experts convened on native affairs by Thomas Gore-Browne, after he arrived as governor. These expert opinions were later added to by solicited contributions from resident magistrates and missionaries, and compiled by Francis Fenton (resident magistrate in the Waikato).⁴¹ This was a competent piece of synthesis and discussion, although the tribe-by-tribe population statistics were largely estimates. As the state of the art, the government was proud of it, and it was widely disseminated.⁴² The London-based Aborigines Protection Society pronounced it 'the most important document of [its] kind we have yet seen',⁴³ and it sparked debate domestically and overseas.⁴⁴ But what was most significant was that doctors were largely excluded from this debate. There were more bishops

38. Rees to Grey, 8 February 1853; enclosed in Grey to Sir John Pakington, 15 February 1853, GBPP, 1854, XLV, p. 193. See also Lange, *May the People Live*, pp. 75–82; J. M. Barrington & T. H. Beaglehole, 'A Part of Pakeha Society': Europeanising the Maori Child', in *Making Imperial Mentalities: Socialisation and British Imperialism*, J. A. Mangan (ed.), Manchester University Press, Manchester, 1990, pp. 163–83 (though they mostly neglect the crucial dimension of health in government schools, see pp. 176–7.)

39. FitzGerald to Earl Grey, 2 March 1855, GRE/B86/2/7; other doctors agreed: Martin, *New Zealand; in a Series of Letters*, pp. 56, 278–80, 316–17.

40. 'It is not surprising that the struggle of men against disease should be mirrored in the struggle of men for recognition'; Macleod, 'Introduction', p. 7.

41. Fenton, *Observations on the State of the Aboriginal Inhabitants of New Zealand*.

42. It was sent to other colonies such as the Cape Colony, Victoria, New South Wales, Tasmania, and South Australia, as well as the Hawaiian government, both the Wesleyan Missionary Society (WMS) and the Church Missionary Society (CMS), the Statistical Society, the Society of Arts, Manufacturers and Commerce, and the British Museum. National Archive (NA), Internal Affairs (IA) 1 1860/1223; Cape colony secretary to colonial secretary, 27 September 1859; Victorian secretary to colonial secretary, 19 August 1859; New South Wales secretary to colonial secretary, 7 July 1859; Tasmanian secretary to colonial secretary, 21 July 1859; South Australian secretary to colonial secretary, 19 July 1859; Hawaiian consul, 18 June 1859; WMS secretary to colonial secretary, 17 October 1859; CMS secretary to colonial secretary, 19 October 1859; Statistical Society secretary to colonial secretary, 19 October 1859; Society of Arts, Manufacturers and Commerce secretary to colonial secretary, 20 October 1859; British Museum to colonial secretary, 5 April 1860.

43. *The Colonial Intelligencer, or the Aborigines' Friend*, January–June 1859, pp. 80–81.

44. IA 1 1860/1223, Bishop Williams (of Waiapu) to colonial secretary, 3 April 1860; *ibid.*, Tancred, minute, 26 April 1860.

than doctors among the contributors, and government officials such as resident magistrates and land purchasers far outnumbered them. By this time, FitzGerald, the most politically active of colonial physicians, was at the Cape Colony, and the most publicly visible of those who remained was an army surgeon, Arthur Thomson, who greatly relied on government officials for his information.

Doctors had, in a sense, become marginal to this crucial debate, and their continued participation depended upon their ability to make some sort of distinctive contribution; this they primarily did through the notion of ‘climate’.

The climate of medical opinion

Though it most resembles ‘environment’, there is no modern notion that encompasses the capriciousness and breadth of the nineteenth-century notion of ‘climate’. An object of concern for non-specialists as well as diverse kinds of specialists, ‘climate’ was almost omnipresent. ‘The single word of Climate’, one commentator remarked, ‘expresses one of the most important relations of Man to the natural world around him—a relation which concerns human existence in its every part.’⁴⁵ Authors debated how important climate was and, in particular, how it related to race. An emerging debate about whether all human races were of one species or several (monogenesis versus polygenesis) came partially to hinge on the question of climate.⁴⁶ Was the power of external factors, of which climate was the principal, sufficient to explain the

45. [Henry Holland], ‘Man and Nature’, *Edinburgh Review*, vol. 120, 1864, p. 473; also, for example, James Wilson, ‘Animal Kingdom’, in *Encyclopædia Britannica*, 7th edn, MacVey Napier (ed.), Edinburgh, 1842, 3, p. 161; ‘Man’, *ibid.*, 14, pp. 197–8. The relevant literature is immense, but important works include, David Arnold, *The Problem of Nature: Environment, Culture and European Expansion*, Blackwell, Oxford, 1996; Clarence J. Glacken, *Traces on the Rhodian Shore: Nature and Culture in Western Thought from Ancient Times to the End of the Eighteenth Century*, University of California Press, Berkeley, 1967; Richard Grove, *Green Imperialism: Colonial Expansion, Tropical Island Edens and the Origins of Environmentalism, 1600–1860*, Cambridge University Press, Cambridge, 1995.

46. See Stephen Jay Gould, *The Mismeasure of Man*, Norton, New York, 1981, pp. 30–73; Nancy Stepan, *The Idea of Race in Science: Great Britain 1800–1960*, MacMillan, London, 1982, pp. 1–46.

differences between races?⁴⁷ Though this debate was some time in being resolved, it was generally agreed that particular races had, over time or by individual creation, become suited to particular climates. The world had a certain arrangement of 'natural divisions', and each had a distinctive grouping of flora, fauna, and people.⁴⁸ Races, be they animal, vegetable or human, had their own particular areas or climates. Which is to say, broadly, that races had their proper places.⁴⁹

The question of whether races could move from their native climate to a new and different one was of crucial importance. Could 'acclimatisation', as it was known, take place. This was a recurrent concern of naturalists, scholars, agriculturists and horticulturists, as well as laypersons and colonial officials.⁵⁰ In a sense, colonisation was itself a grand acclimatisation, the introduction of races of people, animals, plants, laws and institutions to a new land. Certainly, a number of examples were often raised to show that 'acclimatisation' could either *not* occur, or that it would eventually result in deterioration. The utter failure of the Niger expeditions and problems with European health in India were often cited as proofs of the former; South America, the American South, and the Caribbean might be mobilised in favour of the latter.⁵¹ The 'tropics' were marked as places dangerous for Europeans to live, whereas the climate of New Zealand—cooler, free from

47. [Anonymous], 'Man', in *Encyclopædia Britannica*, 7th edn., 1842, p. 198; as for what 'climate' signified, see [Sir John Leslie], 'Climate', *ibid.*, VI, pp. 743–64.

48. For example, John Finch, *The Natural Boundaries of Empires; and a New View of Colonization*, Longman, Brown, Green, & Longman's, London, 1844, p. 65; William Whewell, *History of the Inductive Sciences, from the Earliest to the Present Times*, J. W. Parker, London, 1837, III, p. 571.

49. Nancy Stepan, 'Biological Degeneration: Races and Proper Places', in *Degeneration: The Dark Side of Progress*, J. Edward Chamberlin & Sander L. Gilman (eds), Columbia University Press, New York, 1985, pp. 97–120.

50. There were some who maintained, as the prominent comparative anatomist Robert Knox had, that acclimatisation was simply not possible: '*In historical times, either man . . . who is taken far from his medium does not alter his type, or he entirely disappears . . . nature punishes him for having overstepped the limits*'. But others thought quite the contrary, and argued that man, and Europeans particularly, acclimatised very well. Georges Pouchet, *The Plurality of the Human Race*, Hugh J. C. Beaven trans., Anthropological Society of London, London, 1864, pp. 87, 89 (italics in the original). Robert Knox, *The Races of Man: A Fragment*, Henry Renshaw, London, 1850.

51. See, for instance, David Arnold, *Colonizing the Body: State Medicine and Epidemic Disease in Nineteenth-Century India*, University of California Press, Berkeley, 1993, pp. 28–50

certain diseases and other African or Indian hazards—was marked as ‘temperate’.

Thus, from the colony’s beginning its climate was a wide-ranging and important concern. It was universally depicted as safe and inviting, from the vulgarised notions found in children’s books to the literature on emigration.⁵² ‘The climate favours every kind of production,’ wrote one governor, ‘animal as well as vegetable, in an extraordinary manner.’⁵³ Later governors mentioned climate only to say its obvious excellence need not be restated.⁵⁴ William Fox wrote:

The climate of New Zealand is, for the purposes of health and production, probably about the finest in the world. . . . Whatever will grow in England will grow there . . . There are no diseases peculiar to it, while many English ones either do not exist at all (as small pox), or with less frequency and virulence, as colds and consumption.⁵⁵

Even compared to other temperate colonies New Zealand’s ‘great natural superiority’ was upheld.⁵⁶ But it was not just a great climate, it was one especially suited for the British races. In New Zealand the British race were thought even healthier than back in Britain, the children ‘ruddy and robust’, not sickly pale as in tropical colonies.⁵⁷ Some went so far as to say that the New Zealand climate was even ‘superior to that of Great Britain’.⁵⁸ Such views of the New Zealand

52. Mrs Percy Sinnett, *Hunters and Fishers: or, Sketches of Primitive Races in the Lands beyond the Sea*, Chapman & Hall, London, 1846, p. 97; ‘Social Effects of Colonies on England’, *Fisher’s Colonial Magazine*, vol. 1, 1840, p. 292; Select Committee Report, GBPP, 1840, VII (582), p. vi; Henry William Petre, *An Account of the Settlements of the New Zealand Company*, 3rd edn., London, 1841, p. 59.

53. Fitzroy to Stanley, 16 September 1844, GBPP, 1845, XXXIII, p. 141.

54. Gore Browne to Molesworth, 14 February 1856, GBPP, 1860, XLVI, p. 185; also, for example, CO 209/125, Robert Wynyard to Sir George Grey [of the CO], 11 December 1854, fo.229.

55. Fox, *The Six Colonies of New Zealand*, pp. 12, 16.

56. *Tait’s Edinburgh Magazine* (1839), p. 611; ‘New Zealand’, *Dublin Review*, IX, 1840, pp. 211–13; Martin, *New Zealand, in a Series of Letters*, p. 238; ‘Report from the Select Committee of the House of Lords to inquire into the present State of the Islands of New Zealand’, GBPP, 1838 (680), XXI, p. 126.

57. R. G. Jameson, *New Zealand, South Australia and New South Wales*, Smith, Elder & Co., London, 1842, p. 256; John Dunmore Lang, *New Zealand in 1839: or Four Letters to the Right Honourable Earl Durham*, Smith, Elder & Co., London, 1839, pp. 53–4.

58. John Walton, *Twelve Months’ Residence in New Zealand*, W. R. McPhun, Glasgow, 1839, p. 9.

climate were supplemented by claims to its having geographical and physical advantages. She was the 'Great Britain of the Southern Hemisphere', with the ideal geographic position and harbours as well as climate.⁵⁹ This was the setting on which the 'dying Maori' was being staged.

Of course, not all these descriptions can be taken at face value, as many were explicitly or implicitly promotional literature. They emphasised the suitability of New Zealand for settlement, attempting to lure British people half the world away. Edward Gibbon Wakefield and the New Zealand Company promised that they would bring a society out, root and branch, to New Zealand. This society's survival, both literally and figuratively, was premised on the similarity of climate between New Zealand and Great Britain.⁶⁰ Unsurprisingly, some immigrants were disappointed both with the climate, and with Maori (most were disappointed with the New Zealand Company). The climate, some found, was not the perfection that had been described, and Maori were not the expected race of 'astronomers' keen to sell their land and help settlers to 'get on'. But even the harshest critics did not deny that the climate was excellent, even if it was not perfect.⁶¹

Because of its ubiquity, climate could be a blunt intellectual and medical instrument. What doctors did in New Zealand was not simply to authorise popular opinions of climate, but to extend and refine them. Doctors had agreed that New Zealand's climate was good from the very beginning of settlement. 'The climate', one doctor told an 1844 parliamentary committee, 'frequently produces an extraordinary effect upon plants'.⁶² The New Zealand Company's scientist (also a doctor) observed that 'no country is better suited for

59. The depiction of New Zealand as a future Great Britain of the South was already, by 1842, *passé*. CO 209/3, CMS Petition, [January 1838], p. 162;

60. [John Ward and Edward Gibbon Wakefield], *The British Colonization of New Zealand*, John W. Parker, London, 1837, pp. 75–9; [Edward Gibbon Wakefield], *A Statement of the Objects of the New Zealand Association*, Black & Armstrong, London, 1837, pp. 6–10; John Ward, *Information Relative to New Zealand, Compiled for the Use of Colonists*, John W. Parker, London, 1840, *passim*.

61. John Wood, *Twelve Months in Wellington, Port Nicholson*, Pelham Richardson, London, 1843, pp. 13, 28–9, 62–3.

62. George Butler Earp, evidence, 'Report from the Select Committee on New Zealand', GBPP, 1844, (556), XIII, p. 125.

a colony of the Anglo-Saxon race than New Zealand'. In New Zealand, he argued, Anglo-Saxons recovered better and faster, and underwent fewer 'alterations from the original stock'.⁶³ But in many ways, these comments seemed impressionistic; there needed to be some considerable investigation and codification before understandings of New Zealand's climate could be considered scientific, or be medicalised.

The growth of such a scientific, medicalised understanding of climate can be traced through various reports compiled by doctors, especially colonial surgeons. One such was George Rees, who authored *A Report on the Medical Topography of the Wanganui District*. This described weather, soil, animals, vegetation, minerals and *materia medica* in the vicinity; in short, it was recognisably a study of the Wanganui 'climate'.⁶⁴ This report was considered impressive at the Colonial Office, which looked to send it to an appropriate society (although they ultimately decided that it would get the best 'publicity' by being published in the Parliamentary Papers).⁶⁵ Another example was Colonial Surgeon Peter Wilson's first annual report for the hospital at New Plymouth, which began with a lengthy description of the climate. This described the local soil, flora, fauna, weather and geology. The links between climate and health were again directly related to health; there were no marshes, Wilson noted, no fevers, nor malaria.⁶⁶ Wilson then moved on to a discussion of Maori depopulation, noting that there were more Maori men than women, and that Maori had fewer children than Europeans.

Arthur Saunders Thomson, an army surgeon stationed in Auckland with the 58th Regiment from 1847 until 1858, had a more sophisticated approach to climate. Thomson had previously served in India, where he had written some

63. Dieffenbach, *Travels in New Zealand*, I, p. 183.

64. CO 209/92, George Rees, 'Report on the Medical Topography of the Wanganui District'; enclosed in Grey to Earl Grey, 14 August 1851, fos.27-49.

65. CO 209/92, George Gairdner to Elliot and Merivale, 3 January 1851; Merivale, minute, 10 January 1851, fo.25; Gairdner, minute, 29 January 1851, fo.25. Also see CO 209/95, Francis Hawkins to Hawes, 19 April 1851, fo.297; Hawkins to Merivale, 9 October 1851, fo.312.

66. P. Wilson, first annual report [New Plymouth hospital], enclosed in Grey to Earl Grey, 24 January 1850, GBPP, 1850, XXXVII, pp. 111-13. On Peter Wilson, see G. Lambert, *Peter Wilson, Colonial Surgeon*, Dunmore Press, Palmerston North, 1981.

important articles on European health in the north of India, arguing that Europeans could not live there healthily for prolonged periods.⁶⁷ He quickly brought his expertise on climate to bear on New Zealand, and wrote an article on the North Island climate at the behest of the governor, George Grey. The difference from his Indian work was striking: Thomson argued that the North Island climate actually decreased and checked ‘pectoral consumption’; it was a climate that was not only harmless, but also healing. Thomson argued that the North Island climate meant that it could be a place of recuperation for European convalescents from India and China, a kind of overseas hill station.⁶⁸

Perhaps most interestingly, Thomson began to quantify the healthy effects of the environment. As an army surgeon he could more easily keep statistics, and the topic was strongly informed by his student thesis.⁶⁹ In 1849 Thomson found that the soldiers in New Zealand averaged ten deaths per thousand; in 1850 they averaged eight and a quarter per thousand. This compared to fourteen deaths per thousand soldiers a year in Britain. As Thomson put it, New Zealand’s ‘genial climate . . . saves the lives of five men annually’. For Thomson this was pretty good proof; he loudly sang the praises of New Zealand as a place of relief ‘from the exhaustion of an Indian life’.⁷⁰

67. A. S. Thomson, ‘On the Doctrine of Acclimatization’, *Madras Quarterly Medical Review*, vol. 2, 1840, pp. 69–74; A. S. Thomson, ‘Could the Natives of a Temperate Climate Colonize and Increase in a Tropical Colony and Vice Versa’, *Transactions of the Medical and Physiological Society of Bombay*, vol. 6, 1843, pp. 112–38. On Thomson’s work see David N. Livingstone, ‘Human Acclimatization: Perspectives on a Contested Field of Inquiry in Science, Medicine, and Geography’, *History of Science*, XXV, 1987, pp. 69–76. An excellent short essay on Thomson is Michael Belgrave, ‘Arthur Saunders Thomson’, *NZDB*, 1, pp. 534–6; Rex Wright-St Clair, ‘Arthur S. Thomson, Army Medical Officer, Statistician and Epidemiologist’, *New Zealand Health Review*, vol. 4, 1984, pp. 17–18.

68. A. S. Thomson, ‘Observations on the Influence of the North Island of New Zealand in the Production and Preservation of Disease among Emigrants from Great Britain and Ireland, with a few Remarks on the Advantage which the Island Possesses as a Convalescent Station from India and China’, enclosed in Grey to Earl Grey, 16 October 1859, GBPP, 1851, XXXV, pp. 51–5; Thomson, *The Story of New Zealand*, I, pp. 36–50, II, pp. 309, 319.

69. Arthur Saunders Thomson, *Prize Thesis: Observations on the Influence of Climate on the Health and Mortality of the Inhabitants of the Different Regions of the Globe*, Edinburgh, 1837.

70. Thomson, ‘Observations on the Influence of the North Island of New Zealand’, pp. 51–5.

This was no passing interest for Thomson, or for Governor Grey who offered him continual support. Thomson kept working on this topic and updated his report, which was again sent to Britain. By this time, 1853, the death rate among soldiers had fallen to eight deaths a year in New Zealand, and had risen to sixteen per annum in England. Thomson argued that even the elderly military pensioners who retired to New Zealand seemed to live longer, and that in New Zealand consumption was also checked. In Thomson's words there was 'no evidence of the trying nature of the climate of New Zealand for the Anglo-Saxon race'. In New Zealand maize and potatoes could even be grown side by side, which Thomson believed you could not do in Europe.⁷¹

Thomson's statistical investigations set the scene for larger ones during the New Zealand wars of the 1860s, when more than ten times as many soldiers passed through New Zealand. The British Army's statistics have been used by historian Philip Curtin to show just how significant to British soldiers were the benefits of relocating to New Zealand. Only Tahiti, with its French garrison, promised such a healthy environment for Europeans. In New Zealand soldiers were more likely to die from accident or in battle, a situation that Curtin suggests might have been unique in the nineteenth century.⁷² Thus, there seem to be 'real' reasons for the prevailing view of the New Zealand climate, although none of these alone explain the particular forms such views as Thomson's took.

The New Zealand climate was so good that a politician argued Europeans did not even really need doctors, while, on the other hand, he observed that 'the annihilation of the New Zealanders as a race, will occur in about fifty years at longest'.⁷³ Here was the crux of the issue, the point where European and Maori health converged. Living with the same diseases, and in the same climate, Europeans were flourishing, and Maori were dying out. It seemed almost as if the

71. A. S. Thomson, 'Observations on the Climate of the North Island of New Zealand'; enclosed in Grey to Newcastle, 29 December 1853, GBPP, 1860, XLVI, pp. 16–23; also see Thomson, *The Story of New Zealand*, II, pp. 319–22.

72. Philip D. Curtin, *Death By Migration: Europe's Encounter with the Tropical World in the Nineteenth Century*, Cambridge University Press, Cambridge, 1989, pp. 7–17. Curtin does not seem to be aware of Thomson's researches.

73. Fox, *The Six Colonies of New Zealand*, p. 54.

climate was designed to be better for Europeans than for Maori. This was heightened by the ‘medicalisation’ of the New Zealand climate, a point explicitly made by Thomson. He did not think it strange that Maori were unhealthy in this climate when Europeans seemed almost supernaturally healthy. They had a bad diet, and were ‘badly clad and worse housed’; the way Maori lived would have made Europeans unhealthy. But crucially, Thomson used the local climate to account for the Maori decline. He argued that Maori were not actually natives: ‘*they originally migrated from a tropical country, and are therefore children of the tropics*’.⁷⁴

Thomson explored Maori depopulation in other ways. He made a study of Maori reproductive cycles, patterns, and habits, which led him to remark that one-third of Maori women were sterile.⁷⁵ He also studied the physical health and strength of Maori men. He concluded that the Maori race was not as strong physically as the English, and that there was no significant difference in height or weight (it had often been observed that Maori were taller, larger, and stronger than Europeans).⁷⁶ Thomson’s range of studies seemed to conclude that savages were not as strong or as robust as civilised men.⁷⁷ The Maori decline was a matter for which: ‘the state of the generative organs furnishes no good explanation, nor does the low scanty diet . . . May it not be that races of men, like individual men, have their years of growth, prosperity,

74. A. S. Thomson, ‘Observations on the Climate of the North Island of New Zealand’; enclosed in Grey to Newcastle, 29 December 1853, GBPP, 1860, XLVI, p. 22 (emphasis in the original). In places, it seemed that Thomson was almost surprised at how well Maori were faring: there was no example, he wrote, ‘save that of the New Zealanders, of the aborigines of the tropics having suddenly migrated to the temperate zone without becoming extinct’. Thomson, *The Story of New Zealand*, I, p. 213; also Thomson, *Prize Thesis: Observations on the Influence of Climate*, pp. 8–10, 75–100. Thomson was not alone in thinking this: [Henry Chapman], ‘The Polynesians and New Zealand’, *Edinburgh Review*, vol. 91, 1850, pp. 443–71.

75. Auckland Public Library (APL), GNZMSS 25, A. S. Thomson, ‘Questions Relative to the System of Generation among the Natives of New Zealand’.

76. One account, for instance, described Maori as commonly reaching seven feet; [Aborigines Protection Society (APS)], *Colonisation of New Zealand*, [originally from *Morning Chronicle*, August 1839], p. 7.

77. A. S. Thomson, ‘Observations on the Stature, Bodily Weight, Magnitude of Chest, and Physical Strength of the New Zealand Race of Men’; enclosed in Grey to Earl Grey, 1 April 1851, GBPP, 1854, XLV, pp. 7–11. This was forwarded to the Royal Geographical Society (Grey to Grey, 21 April 1851, *ibid.*, p. 291), who published it in their journal: *Journal of the Royal Geographical Society*, XXIII, 1853, pp. 87–93; CO 209/95, Norton Shaw to [Merivale?], 18 November 1851, fo.315.

decrease and decay?’ Perhaps, Thomson mused, the New Zealanders have ‘finished their destiny’ and are ‘now in the progress of decay, soon to become extinct’.⁷⁸ But chief of his explanations, and compatible with all, was his observation that Maori had not acclimatised. Just as the British could not acclimatise in India, Maori could not in New Zealand. The climate, in a medical opinion, could explain both the success of the European population, and the Maori population’s apparent failure.

Doctors as botanists and the ‘replacement’ of species

From the very beginnings of European involvement with New Zealand, the study of New Zealand’s flora and fauna (and people) was associated with those who were medically trained. The ubiquitous naval surgeon was usually an amateur botanist, and from these ranks came most of the ten or so competent botanists who had visited New Zealand prior to 1840.⁷⁹ But by the 1830s the lure of ‘new’ botanical specimens had already begun attracting the gentleman-doctor, who was also explorer-botanist. John Watkins and John Downing Tawell were perhaps the first of these. Watkins had taken himself to New Zealand for three months for ‘the Opportunity of traversing the Country and searching for Flowers and natural Curiosities—botanizing’.⁸⁰ Tawell had also gone to New Zealand, ‘following the ordinary Pursuits that would Interest a Man of Science’.⁸¹ Botany was, among other things, another

78. APL, GNZMSS 25, Thomson, ‘Questions Relative to the System of Generation’. See Thomson, *The Story of New Zealand*, II, pp. 283–316.

79. J. D. Hooker, *Handbook of New Zealand Flora*, Reeve, London, 1864, I, pp. 9–13. By 1853 New Zealand had been botanised by upwards of thirty-five people; J. D. Hooker, *The Botany of the Antarctic Voyage of H.M. Discovery Ships Erebus and Terror in the Years 1839–1843*, 6 vols, Reeve, London, 1844–60, 2 [*Flora Novae-Zelandiae*, London, 1853], p. v. It was also in this capacity that Thomas Henry Huxley and Joseph Dalton Hooker visited New Zealand. Janet Browne, ‘Biogeography and Empire’, in *Cultures of Natural History*, N. Jardine, J. A. Secord & E. C. Spary (eds), Cambridge University Press, Cambridge, 1996, pp. 306–7, 309–10.

80. John Watkins, evidence, ‘Report from the Select Committee of the House of Lords to inquire into the present State of the Islands of New Zealand’, GBPP, 1838, (680), XXI, p. 12.

81. John Downing Tawell, evidence, *ibid.*, p. 108.

way for doctors to approach, study and understand the New Zealand 'climate'. This was not an activity restricted to doctors, of course, but it is striking just how many doctors were keen botanists, and how many of the best known New Zealand botanists were doctors.⁸² Botany was also a way in which New Zealand doctors continued to participate in a wider imperial scientific culture.

The links between botany and medicine were multiple and old. From the 'physic gardens', cultivating herb cures and treatments, this relationship had evolved with new understandings of plants, diseases and illness. By the turn of the nineteenth century, these links had been both canonised and institutionalised. Medical doctors were lectured on botany when students, and the gardens of physic had given way to botanical gardens throughout the empire, with the Royal Botanic Garden at Kew the most notable.⁸³ The various kinds of study that one might, as shorthand, describe as 'botany' were very, and importantly, different. Probably the types of botanical practice that spring most to modern minds are the classificatory kinds of study, typified by the work of Linnaeus, or the process of collecting various specimens. But there were many other ways to study the 'vegetable kingdom'. Perhaps most important in an imperial context was what Janet Browne has called 'biogeography'. Biogeography studied the way that different species of plants and animals were spread throughout the world, and sought either to establish the patterns of this, or to understand the historical processes that had led to such an arrangement.⁸⁴ But, as Malcolm Nicolson has shown, there was a crucial difference between the study of the various species of plants, and the study of those plants as a collective phenomenon: as vegetation.⁸⁵ Botany was a broad and complex field; but that meant, at the very least,

82. R. Glenn, *The Botanical Explorers of New Zealand*, A. H. & A. W Reed, Wellington, 1950.

83. Which became a public institution in 1840. Richard Drayton, *Nature's Government: Science, Imperial Britain, and the 'Improvement' of the World*, New Haven, 2000, pp. 1–220.

84. Janet Browne, *The Secular Ark: Studies in the History of Biogeography*, Yale University Press, New Haven, 1983, especially pp. 32–110; also Browne, 'Biogeography and Empire'.

85. Malcolm Nicolson, 'Alexander von Humboldt, Humboldtian Science and the Origins of the Study of Vegetation', *History of Science*, XXV, 1987, pp. 166–94.

there were all sorts of opportunities for participation. Moreover, it was a useful pursuit, one that was popular, which gave legitimate purpose to exploration and networking, with which most doctors had a familiarity, and which grappled with the issue of climate.

The leading New Zealand botanist was the former missionary William Colenso, but second to him was Andrew Sinclair.⁸⁶ Sinclair, an Edinburgh-trained physician, never actually practised in New Zealand. He had intended to be a physician in New Zealand, and then offered to be a kind of government-employed explorer; he ended up as New Zealand's colonial secretary.⁸⁷ His patient was the New Zealand body politic; he had little to do with Maori (whom he did not seem to particularly like), and it was the indigenous flora, not people that drew Sinclair's attention.⁸⁸ Botany was his passion, but it was also a way to remain connected with his scientific and medical past. He combined his botany with his colonial duties. Many of his 'explorations' or 'campaigns' took place on trips to buy land.⁸⁹ Sinclair sent botanical specimens to the British Museum, and kept up a regular correspondence with scientific worthies in England; but he saw himself more as a collector than a writer, and never published.⁹⁰ His interests were primarily botanical, but he was an explorer almost 'Humboldtian' in his interests.⁹¹ Such explorations were hard, physical work, involving extremely long periods on horseback or foot, swimming, and climbing hills, mountains, and even cliffs.⁹² His collecting was admired,

86. Hooker, *Handbook of New Zealand Flora*, I, pp. 11–13.

87. ATL MS-1809–1812, Andrew Sinclair Papers, 1, FitzGerald to Sinclair, 6 December 1843; Sinclair had studied in Edinburgh, around 1814–15; see items 1–5, *ibid.*, 1. Brian P. J. Molloy, 'Andrew Sinclair', *NZDB*, 1, p. 397.

88. Sinclair thought Maori were ungrateful (a common perception among Pakeha), and he called them 'half-savages'. ATL Ms-Papers-1947, Andrew Sinclair Letters and Journals 1844–1856, 2, Andrew Sinclair, diary, 25 October 1860, 14 February 1860.

89. Sinclair Letters and Journals, 2, Sinclair, diary, 23 February 1858.

90. Sinclair Papers, 1; FitzGerald to Sinclair, 21 August 1848; J. Forrhall to Sinclair, 11 November 1848. Sinclair Papers, 2; Sinclair to [?], 20 June 1859 [unfinished draft].

91. In a single entry in his journal while on an official journey, for example, Sinclair mused on the volcanic origins of the landscape, local geography, seismology, history, as well as the fauna and flora (counting '36 species of fern *within the space of 100 yards!*'). The same day he visited, in his official capacity, 'the great Te Whero Whero', the future first Maori King. Sinclair Letters and Journals, 2, Sinclair, diary, 18 February 1851. On Humboldtian science, see, for example, Michael Dettelbach, 'Humboldtian Science', in Jardine, Secord & Spary (eds), *Cultures of Natural History*, pp. 287–304.

92. Sinclair Letters and Journals, 2, Sinclair, diary, 21 October 1860.

even if his politics were not. A contemporary thought is that he was ‘an ignoramus as far as political matters are concerned, tho [*sic*] a clever botanist and a great land jobber’.⁹³

Other medical men showed a similar interest in ‘botanizing’.⁹⁴ The German-trained doctor Ernst Dieffenbach had signed on as the ‘scientific man’ on the New Zealand Company’s first expedition in 1839.⁹⁵ Dieffenbach took advantage of the opportunities offered by the company, and ranged all over New Zealand in ‘Humboldtian’ fashion collecting specimens and data, and studying geography, geology, flora, fauna, and people. By the time Dieffenbach left he held Maori in extremely high regard, a point that was repeatedly driven home in his report for the company.⁹⁶ He had also, by then, compiled a preliminary analysis of New Zealand’s botany.⁹⁷ For many years after publication, Dieffenbach’s writings were thought by many to be the most authoritative on New Zealand.⁹⁸

As a subject, and as a genre of writing, botany clearly overlapped with questions of human origins and diversity. Vegetation, almost all naturalists agreed, was an indicator of the earth’s divisions.⁹⁹ Plant geography ‘was a crucial link between the natural sciences and the sciences of Man’.¹⁰⁰ The vocabulary of botany explicitly treated plants much like people. Plants were, of course, to be found in ‘races’. But they were also found in ‘nations’, ‘provinces’, ‘tribes’, and ‘societies’; if there were ‘individual’ plants, there were also plants

93. Constantine Dillon to Lady Dillon, 7 February 1848, in *The Dillon Letters: The Letters of the Hon. Constantine Dillon, 1842–1853*, C. A. Sharp (ed.), A. H. & A. W. Reed, Wellington, 1954, p. 58.

94. For example, W. Lauder Lindsay (see his *Contributions to New Zealand Botany*, William & Norgate, London, 1868), Charles Knight, and David Monro.

95. CO 208/185, Minutes, 17 April 1839, fo.131; also *ibid.*, 19 April 1839, fo.131; *ibid.*, 22 April 1839, fo.132. This was on Wakefield’s urging, and was perhaps by means of Hodgkin’s patronage of Dieffenbach. On Dieffenbach, see Gerda Bell, *Ernest Dieffenbach: Rebel and Humanist*, Dunmore Press, Palmerston North, 1976; *idem.*, ‘Ernst Dieffenbach’, in *The German Connection: New Zealand and German-speaking Europe in the Nineteenth Century*, J. N. Bade (ed.), Oxford University Press, Auckland, 1993, pp. 134–44.

96. *Twelfth Report of the Directors of the New Zealand Company*, London, 1844, pp. 66–96f; also, for example, Ernest Dieffenbach, *New Zealand and its Native Population*, Smith, Elder & Co., London, 1841, pp. 27–8.

97. Dieffenbach, *Travels in New Zealand*, I, pp. 419–31.

98. Prichard acknowledged in the text that he was much ‘indebted’ to Dieffenbach and quoted from him extensively. J. C. Prichard, *Researches into the Physical History of Mankind*, 3rd edn., Sherwood, Gilbert & Piper, London, 1836–47, 5 [1847], pp. 129–33.

99. Browne, *The Secular Ark*, pp. 56–7.

100. Nicolson, ‘Alexander von Humboldt’, p. 167.

that were ‘colonists’, ‘parents’, and even plants that were ‘married’. Botany, scientific exploration, and publication also offered a way of participating in the developing scientific culture of Britain. Botany was one of the most important disciplinary links tying New Zealand and its interests to Britain. In intellectual terms, this meant they were engaging with a wider group of minds, and were in a position to facilitate exchange about the decline in the Maori population. (Dieffenbach’s writings, for example, refocused Charles Darwin’s attention on the question of Maori depopulation.)¹⁰¹

Consequently, botany and Maori depopulation were involved with each other in subtle ways, not only through their joint association with ‘climate’. This was most apparent in the study of European plants acclimatised in New Zealand, a favourite topic of Joseph Dalton Hooker, a medically qualified naturalist/botanist who visited New Zealand as part of a Royal Navy expedition to explore the Antarctic. Hooker was a Victorian luminary, a good friend of both Darwin and Thomas Huxley, who succeeded his father, William Hooker, in the charge of the Royal Gardens at Kew. With the patronage of the New Zealand and imperial governments, Hooker published the first book on the flora of New Zealand and an accompanying *Handbook of New Zealand Flora*.¹⁰² In *Handbook* Hooker wrote:

The rapidity with which European weeds, and especially the annuals of cultivated grounds, are being introduced into and disseminated throughout New Zealand, is a matter of much surprise to all observers, and not only to professed naturalists. It is a point of very great significance ... in reference ... to the superior powers of propagation and establishing themselves, which the plants as well as animals of some countries display, as contrasted with others; and when, as in the case of New Zealand, the result is the actual displacement

101. Darwin had read his book and one of his articles and was ‘much interested’ in the depopulation of Maori. Darwin to Dieffenbach, 2 October 1843, and Darwin to Dieffenbach, 16 December 1843, in *The Correspondence of Charles Darwin*, Frederick Burkhardt & Sydney Smith (eds), Cambridge University Press, Cambridge, 2, 1985–, pp. 391, 423.

102. CO 209/105, Earl Grey to Pakington, 25 October 1852, fos.304, 311–12.

and possible extinction of the native flora by the introduced, the facts may well arouse the interest of the most listless colonist.¹⁰³

Hooker believed that these 'European' plants were 'already actually driving the native plants out of the country'; that the European plants would soon be, in effect, the natives.¹⁰⁴ Hooker had not only stated that he considered 'European' plants to possess 'superior powers', but had implicitly suggested that this might be true of European people.

Hooker made his views clearer in the 1860s. In an article he published in 1864, Hooker included a passage taken from a letter that Julius Haast (a government geologist in New Zealand) had sent to Charles Darwin. Hooker approvingly quoted Haast:

The native (Maori) saying is, 'as the white man's rat has driven away the native rat, so the European fly drives away our own, and the clover kills our fern, so will the Maoris disappear before the white man himself'. It is wonderful to behold the botanical and zoological changes which have taken place since first Captain Cook set foot in New Zealand.¹⁰⁵

Haast went on to make the point that not only the rat and the fern but also the European mouse, cat, dog, pig, and the house fly had overrun native fauna. Hooker called this phenomena 'replacement', and his article quickly put into circulation Haast's 'native saying', which reproduced much like the European pig. This was by no means the first reference to the power of the 'white man's rat', as Ross Galbreath has shown; but it was perhaps the most influential. One of Britain's leading scientific figures had endorsed it; and others quickly utilised Hooker's article, including Darwin, John Lubbock, Robert Brown, Charles Dilke, and Herbert

103. Hooker, *Handbook of New Zealand Flora*, II, p. 757. See also Hooker, *Flora Novae-Zelandiae*, 2, Reeve, London, 1855, pp. 320–2.

104. Hooker, *Handbook of New Zealand Flora*, II, p. 757.

105. J. D. Hooker, 'Note on the Replacement of Species in the Colonies and Elsewhere', *The Natural History Review*, n.s 4, 1864, p. 126.

Spencer.¹⁰⁶ There were some critics, but none of such a scientific calibre.¹⁰⁷

Galbreath has argued that the idea of the European rat displacing the Maori rat became a predominant 'image' of Maori population decline.¹⁰⁸ But it seems to me that there is much more to this development than simply the fashioning of a motif. As Nancy Leys Stepan has shown, such scientific metaphors and analogies were carefully chosen and lie as much at the root as at the surface: they are 'constitutive elements'.¹⁰⁹ Moreover, following Max Black, Stepan argues that metaphors are interactive, that 'they join together and bring into cognitive and emotional relation with each other two different things, or systems of things, not normally so joined'. Metaphors and the analogies they mediate can, in an elemental way, condition what and how matters are perceived and studied. A metaphor or analogy can serve 'as a program of research' or 'create new kinds of knowledge', reorganising understandings about, say, structure or causality.¹¹⁰ This, it seems, is exactly what was going on within what Hooker called 'replacement'.

It was not simply that plant-related metaphors were being used to describe colonisation. This was not novel; nations had long 'planted' colonies and the metaphor of 'transplantation' was the dominant one in the literature about New Zealand.¹¹¹ Moreover, as I have argued above, the same language was used to describe plants as was used to describe people; the same was true of animals.¹¹² But through the analogising of

106. Charles Darwin, *Descent of Man, and Selection in Relation to Sex*, John Murray, London, 1871, I, pp. 239–40; John Lubbock, 'On the Origin of Civilization and the Early Condition of Man', *British Association for the Advancement of Science: Transactions*, 1867, p. 120; Robert Brown, *The Races of Mankind: Being a Popular Description of the Characteristics, Manners and Customs of the Principal Varieties of the Human Families*, 4 vols, Cassell & Galpinn, London, 1873–76, III, p. 205; Herbert Spencer, *Principles of Biology*, William & Norgate, London, 1894, I, p. 389; [C. J. Bayley], 'Dilke's Greater Britain', *Edinburgh Review*, 129, 1869, p. 463.

107. Thomas Hodgkin, in APS, *Annual Report*, 1861, p. 39. Also APS, *Annual Report*, 1863–1864, p. 34.

108. Galbreath, 'Images of Colonisation', pp. 33–42.

109. Nancy Leys Stepan, 'Race and Gender: The Role of Analogy in Science', in *Anatomy of Racism*, David Theo Goldberg, (ed.), University of Minneapolis Press, Minneapolis, 1990, pp. 38–57.

110. *ibid.*, pp. 44, 49.

111. Anthony Pagden, *Lords of All the World: Ideologies of Empire in Spain, Britain and France c.1500–c.1800*, Yale University Press, New Haven, 1995, p. 79.

112. Harriet Ritvo, *The Animal Estate: the English and Other Creatures in the Victorian Age*, Harvard University Press, Cambridge, Mass, 1987.

native rats, grasses, and people, very different causal relationships were both assimilated and reshaped. Of course, the 'replacement' analogy was not new, nor was it entirely peculiar to New Zealand (nor has it entirely gone away or lost all of its power, as Alfred Crosby's *Ecological Imperialism* shows).¹¹³ But no attempts were ever made by Europeans either to help or to save the native rat, nor the native grasses; this was not true with regard to Maori. Each was decreasing for different reasons, and human agency in each, even in nineteenth-century understandings, were varied. Such an analogy obscured these vital differences. It also moulded a research agenda: when Hooker called for more research into 'replacement', he explicitly meant on animal and plant species.¹¹⁴ In New Zealand, as in the empire, acclimatisation was a burgeoning and significant field of research.¹¹⁵ Hooker would not have denied that Maori people were more important than plants. But he would have argued that such research into plants would tell him about Maori people. This was a research agenda that shaped away from the overwhelming complexities of Maori *people*, while still dealing with the problem of the Maori *population*.

Conclusion

When in the early part of the nineteenth century doctors were confronted with the problem of the dying Maori, their medical knowledge and techniques failed to gain much purchase on this critical concern. Try as they could, from the 'engines' to 'medical topography', they could find no treatments that

113. Alfred W. Crosby, *Ecological Imperialism: The Biological Expansion of Europe, 900–1900*, Cambridge University Press, Cambridge, 1986.

114. Hooker, 'Note on the Replacement of Species in the Colonies and Elsewhere', p. 127.

115. J. E. Alexander, *Incidents of the Maori War, New Zealand in 1860–61*, Richard Bentley, London, 1863, pp. 382–3; Auckland Public Library, Taylor papers, GNZ MSS 297/50, 'Acclimatisation', fos.26–35; *The Natural History Review*, 1, 1854, p. 139; W. L. Travers, 'Additional Observations on the Diffusion of European Weeds and their Replacement of the Indigenous Vegetation', *The Natural History Review*, n.s 4, 1864, pp. 617–19. CO 854/7, circular, 29 July 1861, fo.288–326. This also included *Acclimatisation Society of Victoria, First Annual Report*, Melbourne, 1862; cf. CO 854/6, circular, 29 July 1861, fo.376. See also R. M. McDowall, *Gamekeepers for the Nation: The Story of New Zealand's Acclimatisation Societies, 1861–1990*, Canterbury University Press, Christchurch, 1994.

they could effectively administer or control. Derek Dow has shown that government devoted greater resources than has been suspected to Maori health; it might be said that more could have been given. However, this would not have helped considerably; the aspects of the problem that defeated doctors were more qualitative than quantitative. In this way the inabilities of doctors mirrored some of those of the colonial government. Ultimately, doctors could do very little, and responded by turning elsewhere: on the one hand to solutions which, seeking to treat the Maori 'body politic', were far more invasive to Maori communities; on the other hand, to concerns with climate. The former trend, mostly nullified by Maori independence, also brought them into competition with other forms of colonial expertise, and it seems that by the start of the 1860s individual doctors had been partially marginalised as Maori 'experts'. The latter trend, to some degree, focused doctors away from medical interventions, towards observation (as suggested by their 'botanizing') where their purposes were more heuristic.

It is clear that in stopping the decline of the Maori population, doctors had little effect. But their studies of the problem were much more than lazy endorsements of colonial rapacity; rather, they were the results of a rigorous engagement with what was an incredibly complex and difficult situation. The issues were widely and thoughtfully debated, studied and considered, with metropolitan and colonial experts consulted. In important ways this was a problem that crystallised some distinctive features of a new medicine, shaping the forms it took, the investments it extended to Maori communities, and its involvement with the developing colonial polity. Maori and their predicament played a crucial, if unintentional, role in defining this process. Yet as this was happening Maori continued to die. This was emblematic of the colonial predicament, where histories might be linked but not shared.¹¹⁶

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116. Nicholas Thomas, *In Oceania: Visions, Artifacts, Histories*, Duke University Press, Durham NC, 1997, p. 13.