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ABOUT US

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

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'EDITORIAL INTRODUCTION'

JAMES BEATTIE

Welcome to the first issue of 2009. Much of this issue is given over to a special edition of selected papers from *Developing Trans-Tasman Perspectives: Historical Geography Workshop*, organised by Dr. Matt Henry and Professor Mike Roche, held at Palmerston North, Massey University, on 19 November 2008.

Dr. Paul Star's article – the only article not presented at the conference – leads the issue. Star provides an extremely timely and upbeat discussion of the nature of environmental history and its disciplinary distinctiveness. He makes a strong case of the importance of New Zealand environmental history in part by discussing its historical exceptionalism, but also by noting that: 'we as New Zealanders can learn more from Australian researchers than they can from us, but the intriguing aspect of the environmental comparison, for scholars in both countries, is the absolute contrast between the two places.'

The remaining three articles – each presented at the *Developing Trans-Tasman Perspectives: Historical Geography Workshop* – develop the Australasian environmental comparisons Star calls for. Dr. Matt Henry examines the making of a trans-Tasman airspace in the interwar years, noting the important role meteorology and science played in the construction of such a space. The other two peer-reviewed articles examine the trans-imperial careers of two signficant individuals whose lives spanned Australasia and beyond. Dr. James Beattie explores the changing environmental ideas of the New Zealand and Australian colonist, Alfred Sharpe (1836–1908). Professor Mike Roche examines L.M. (McIntosh) Ellis, the Canadian-born forester and first Director of Forests in New Zealand's State Forest Service.

Finally Paul Star reviews Kirstie Ross' recent book, *Going Bush: New Zealanders and Nature in the Twentieth Century*.

Postscript: Geoff Park (1946-2009)

Just before going to press, Dr. Geoff Park, ecologist and eco-historian, and friend to many, passed away. Well-known for his lyrical works on New Zealand's enivronmental history, *Ngā Uruora: The Groves of Life: Ecology and History in a New Zealand Landscape* (Wellington: Victoria University Press, 1995) and *Theatre Country: Essays of Landscape and Whenua* (Wellington: Victoria University Press, 2006), Geoff will be sorely missed by many. His obituary will follow in a later issue of the journal.

ENVIRONMENTAL HISTORY AND NEW ZEALAND HISTORY

PAUL STAR[1]

I practise environmental history. I have found that this kind of history is still often poorly understood by other historians, as well as by New Zealanders in general. Many neither really know what it is nor appreciate its worth. This is a sorry state of affairs, and all the more so in 'a land to which not only Europeans, but also humans of any kind, came late'.[2] The present paper pursues that point among others, in the course of specifying eight reasons for studying New Zealand environmental history in particular.

But, to start with, what *is* environmental history? The definition I favour states, simply enough, that environmental history is 'the study of relationships between humans and the environment over time' – especially the changes in that relationship. I want to differentiate this from historical geography, which is a sub-discipline that was identified much earlier, but which at least overlaps with it. In fact, it's tempting to define historical geography as 'environmental history as practised by geographers'.

Environmental history, historical geography and ecological history

When I was a thirteen-year old schoolboy I was given the option of studying *either* history or geography, but not both, so regrettably I learnt very little geography thereafter. I've had a lot to do with geographers in recent years, however, and I find their psyche is markedly different from that of historians. Broadly speaking, geographers always think first about space and place, while historians always think first about time.

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[1] An earlier version of this paper was given at a seminar in the University of Waikato's Department of History in September 2008. I thank that university for a small research grant that enabled my visit.

[2] Paul Star, 'New Zealand environmental history: A question of attitudes', *Environment and History* Vol 9 No 4 (2003), p 463.

Historians also *always* think about things in terms of people, whereas geographers only *sometimes* do – They train in both 'physical geography' and 'human geography', with 'historical geography' appearing as a subdivision of the latter. Given this framework, we can see why geographers got into 'historical geography' earlier than historians got into 'environmental history'. 'Environment' is 'place', and it can exist with or without people, whereas 'people' can't exist without 'environment'. But if you're not trained to regard place and space as so important, it's hard to get away from thinking of change purely in terms of people, which is what historians tend to do.

I therefore define historical geography simply as 'the study of relationships between the environment and humans over time'. In other words, it's much the same as 'environmental history', but with a stimulating change of emphasis in terms of what you look at first.

There is a third sub-discipline I want to identify, which I call 'ecological history', though I've seen the term used interchangeably with 'environmental history', which leads to confusion. In my definition, 'ecological history; describes 'the study of biotic relationships within an ecosystem or the environment over time' – once more with the emphasis on changing relationships, whether or not a particular progression or 'succession' of relationships is recognised. 'Biota' is the term for everything alive in both the plant and the animal kingdoms, including humans.

The key point about this kind of study is, that it doesn't necessarily pay particular attention to the role of humans. In fact, it can be a study of biotic relationships with no human component whatsoever – for instance, alteration to the range of nothofagus and mixed podocarp forest ecosystems as a consequence of climatic variation in pre-human New Zealand. This is the kind of angle pursued by some ecologists and paleobotanists, but it is not what I mean by 'environmental history', which is *narrower* in its scope, insofar as it only looks at the situation when people are on the scene.

Those trained as historians, like myself, find it even harder to adopt this ecologist's view than to the geographer's view. But, on the other hand, it is also hard for ecologists to think like historians, and that this is where our input can be particularly useful. Geoff Park is, in my view, the New Zealand ecologist who

has most successfully managed to research and think like a historian, and this is one reason why his book *Nga Uruora* is so significant. The ecologist Philip Simpson has also made a significant contribution with his books on the cabbage tree and on rata and pohutukawa. As yet I don't think any significant New Zealand historian has got properly to grips with both ways of thinking. One or two geographers, like Peter Holland in Otago, have managed much better.[3]

Environmental history and mainstream historiography

From 1969 to 1971 I studied British and European history at Cambridge, and the position of economic history then, in relation to history in general, was rather like the relationship now of environmental history to general New Zealand history. There was good stuff being done by economic historians about fluctuations in cotton imports and population dynamics and all the rest of it, but most historians found it incredibly boring even while grudgingly accepting that it was an approach which had some value. This was certainly true of the attitude shown by my director of studies, Derek Beales, who was much happier discussing why Lord John Russell was more significant than Sir Robert Peel.

Beales was (and is) of the generation who, had he been a New Zealand historian, would have contributed an excellent chapter to the first edition of the *Oxford History of New Zealand*, which was published in 1981. There's a lot of political history in that volume, a respectable amount of social, economic and Maori history, but virtually nothing about the New Zealand environment. At least, not *specifically* so. You can find material on changes in the ownership of land, and development in resource use, which is of course very pertinent to environmental history, but there is no focus that draws this, and other unmentioned material, together.

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[3] Geoff Park, *Nga Uruora (The Groves of Life): Ecology and History in a New Zealand Landscape*, Victoria University Press, Wellington, 1995; Philip Simpson, *Dancing Leaves: The Story of New Zealand's Cabbage Tree, Ti Kouka*, Christchurch, 2000; Philip Simpson, *Pohutukawa and Rata: New Zealand's Iron-hearted Trees*, Te Papa Press, Wellington, 2005; Peter Holland, 'Cultural landscapes as biogeographical experiments: A New Zealand perspective', *Journal of Biogeography*, Vol 27 (2000) pp 39-43.

Nor is there in the second edition, published in 1992, which is still a 'standard textbook for undergraduate courses in New Zealand history'. The older single-author New Zealand histories, like Keith Sinclair's Pelican *History*, also didn't include environmental history.[4]

It has, however, made a definite appearance in works of the last decade, and notably in 'twin-peaked Mount Belich', as Michael King called it, and in King's own *Penguin History* of 2003. King specifically 'commended' the 2002 volume, *Environmental Histories of New Zealand*, edited by the historian Tom Brooking and the geographer Eric Pawson, and it is this volume, more than any other, that has put New Zealand environmental history on the academic map.[5] New Zealand environmental history is also creeping into university course lists, Tom Brooking having led the way with a second year paper at Otago.

The *New Oxford History of New Zealand*, edited by Giselle Byrnes of Waikato University, is due to appear in 2009. This work will include one chapter specifically of environment history, which I have written.[6] I think acceptance of the need for such a chapter in such a book shows that environmental history has definitely now "arrived" in New Zealand, even though still rather grudgingly accepted by some historians. I find it rather striking, though, that this is only one chapter among about thirty that is going to deal with the environment, while the others, with one or two partial

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[4] W H Oliver and B R Williams (eds), *The Oxford History of New Zealand*, Oxford University Press, Wellington, 1981; Geoffrey W Rice (ed), *The Oxford History of New Zealand*, 2nd edn, Oxford University Press, Auckland, 1992, p vii; Keith Sinclair, *A History of New Zealand*, Pelican Books, Harmondsworth, Middlesex, 1959.

[5] James Belich, Making Peoples: *A History of the New Zealanders from Polynesian Settlement to the End of the Nineteenth Century*, Allen Lane, The Penguin Press, Auckland, 1996; James Belich, *Paradise Reforged: A History of the New Zealanders from the 1880s to the Year 2000*, Allen Lane, The Penguin Press, Auckland, 2001; Michael King, *The Penguin History of New Zealand*, Penguin Books, Auckland, 2003, Eric Pawson and Tom Brooking (eds), *Environmental Histories of New Zealand*, Oxford University Press, Melbourne, 2002.

[6] Paul Star, 'Humans and the environment in New Zealand, about 1800 to 2000', in Giselle Byrnes (ed), *The New Oxford History of New Zealand*, Oxford University Press, Auckland, 2009 (forthcoming).

exceptions, have little or nothing to do with it. The rest of the book, in other words, still displays the tendency of most historians to study and write exclusively about a human's relationships with other humans, or a group of humans' relationships with other groups.

I intend this as an observation rather than a criticism. I would say, though, that while I also find interactions among people significant and fascinating, the interactions between people and the environment are equally significant, and can be equally fascinating – and nowhere more so than in New Zealand! My claim is that the environmental history of New Zealand is particularly interesting and worthy of study. I can identify at least eight reasons for this.

Motives for studying New Zealand environmental history

The first and most important reason is that people arrived so *late* in New Zealand. The time that the first humans reached here is, of course, disputed, and there may well be further revisions to the most commonly held view at present, that the first Polynesians reached here about 800 years ago. But even if this date is a few centuries wrong, it is still in striking contrast to the situation in other large landmasses in the world, where humans have had a presence for millennia, and so have had time to co-evolve with their environment. It is also in striking contrast with the situation in the nearest other large landmass, Australia, where Aborigines have been co-evolving with their environment for perhaps 60,000 years.[7] Assuming these datings are roughly correct, the time ratios for co-evolution with their current environments for Australian Aborigines, New Zealand Maori and New Zealand Pakeha are about 240:3:1.

Secondly, not only humans but also all their closest relatives – the other land mammals – were also exceptionally late in reaching New Zealand. Until the Polynesians brought kuri (dogs) and kiore (rats), there were probably no land mammals here except two or three species of bat. This means that, when you are thinking of the capacity for ecological alteration that arrived

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[7] King, *The Penguin History of New Zealand*, p 19; Libby Robin, *How a Continent Created a Nation*, University of New South Wales Press, 2007, p 7.

with humans – with what is rather more subjectively called the 'ecological invasion' – New Zealand got a "double whammy".

The third special feature of New Zealand's environmental history is the *rapidity* of ecological transformation. Whether or not you are looking at events after Polynesian arrival or after European arrival, change occurred far more quickly – that is, in the space of a very few generations – than in any other landmass of similar size.

Now, I find all this tremendously exciting! The three factors combined of lateness of change, depth of change, and rapidity of change to the New Zealand environment surely make this the unique and most significant aspect of *New Zealand* history and therefore the aspect most worthy of study in the global scale of things. This was recognised early on by the celebrated geographer A H Clark, who studied *The Invasion of New Zealand by People, Plants and Animals* in the 1940s, and by the world historian Alfred Crosby, who developed his ideas on *Ecological Imperialism* in the 1980s by using the New Zealand example as his main case study.[8]

The title of Clark's book underlines that the invasion was not just by humans and mammals – but also other animals – fish and birds, notably – and by plants as well. Crosby, furthermore, laid particular stress on the role of exotic weeds and 'varmints', or animal pests, and on pathogens and disease. Of these different kinds of 'portmanteau biota' – that is, the biological baggage' of human settlers, rather than their 'cultural baggage' – not enough historical study has been done so far of insects, or of microbes. Big organisms catch the eye more easily.

Most scholars of New Zealand's past have shown little interest in the country's biota, big or small, but instead have concentrated on subjects like the development of socialism, national identity, women's rights in the New Zealand context, and the confrontation and interrelationship between European and Maori. I am also interested in these matters, which have great significance for New Zealanders living here now, and are obviously appropriate subjects for New Zealand historians. I do claim, however, not only that New Zealand's environmental

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[8] Andrew Hill Clark, *The Invasion of New Zealand by People, Plants and Animals: The South Island*, Rutgers University Press, New Brunswick, 1949; Alfred W. Crosby, *Ecological Imperialism: The Biological Expansion of Europe, 900-1900*, Cambridge University Press, Cambridge, 1986.

history is equally worthy of study, but also that it has this *particularly* unique aspect to it, from a global point of view. The same cannot quite be said of New Zealand's race relations or male/female relations, despite the exceptional aspects of the Waitangi Tribunal or the lead New Zealand took on women's suffrage.

A fourth significance of New Zealand environmental history is the lateness of the arrival of *European* humans to New Zealand. This is a different point to my first one – the lateness of human arrival of any kind – and was not quite unparalleled. Graeme Wynn points out, for instance, that Europeans settled on the northwest American coast, around British Columbia, at much the same time as other Europeans settled New Zealand.[9]

The great significance of the arrival of Europeans, when it occurred in non-European parts of the world, was their greater capacity for environmental change through greater *technical* knowledge, global communication networks and capital accumulation. There was also continuing reference back to Europe – return journeys for more people, more biota, more supplies and more knowledge.

One could argue that the Polynesian impact on the New Zealand environment was more profound than the later European impact, given that the Polynesians really *did* confront a pristine environment. Even so, the loss of links with their past meant an inability to reinforce and recharge the impact with further boosts from the country of origin. The environmental impact of Polynesian people upon the environment prior to the arrival of Europeans was restrained by their entrapment within a 'closed circuit'. Perhaps over time this necessitated the development of a more harmonious relationship with their environment than Europeans needed in New Zealand. May be for this reason Maori, despite the comparative recency of their settlement *are* truly indigenous in the same way that Aborigines are in Australia. In other words, may be indigeneity should be gauged more by the way a people treat a place than by the duration of their presence.

My main point here, however, is that *because* of their isolation the Maori established *few* new species, therefore the

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[9] Graeme Wynn, '"Shall we linger along ambitionless?" - Environmental perspectives on British Columbia', *BC Studies*, Nos. 142-3 (2004) pp. 5-67.

later arrival of Europeans had a correspondingly greater potential for environmental impact. European settlers came to an environment that was certainly not 'pristine', but there were still relatively few humans, much of the original forest cover and most wetlands remained, and so did many of the flightless birds that had evolved in the absence of mammalian predators.

The fifth importance I see in the study, specifically, of New Zealand environmental history, is again an allied point. It relates to the fact that the most dramatic time of change – the European period of the last couple of centuries – coincided with the flowering, world wide, of written and photographic documentation. There is a vast amount of documentary evidence of the people-environment relationship in New Zealand newspapers and government records, as well as in private papers, photos, pictures and maps. It's been particularly exciting in the last year or two to be able to word-search a couple of dozen nineteenth century New Zealand newspapers through PapersPast on the Net – a free service set up by the National Library which, I believe, is not yet available in this form anywhere else in the world.[10]

Sixthly, there is a special fascination and significance in the peculiar combination of people and environment in New Zealand. Many historians are deeply interested in the coming together of the culturally very different Maori and European, and of how they have dealt with one another since. With environmental history, however, the concern is rather with how they both dealt with the environment they held in common.

For me, most interest lies in the European relationship with the New Zealand environment, particularly in the nineteenth century. What is striking here is the coming together of a Western culture with a singularly unWestern environment. Europeans came here imagining they had reached what was, potentially, the Britain of the South, but the one thing the two landmasses had in common – a temperate climate – masked tremendous differences. It meant it was *possible* to grow lush English grass in New Zealand, as feed for introduced cattle and sheep, but only at tremendous environmental cost. It meant the rapid removal of the existing vegetation, destruction of the existing fauna, the application of artificial fertilisers and the utilisation of oil-based technologies.

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[10] See http://paperspast.natlib.govt.nz/cgi-bin/paperspast

None of this denies that it also meant financial gain and the chance for a prosperous Western-style society in a southern land, at least for a couple of centuries.

For the past four years I have been part of the 'Empires of Grass' team. This is a Marsden-funded group, headed by Tom Brooking and Eric Pawson, looking specifically at the history of the reclothing of New Zealand in English grasses. This is a fundamental example of how Europeans superimposed their cultural expectations, and their plants and animals, upon a landscape which had not only worn a different biology, but which continued to have a different geology and physiography.

Of course, all this is also true of Australia, which witnessed European settlement at much the same time. In this case, however, the otherness of the environment was soon evident to Europeans, whether prompted by the sight of rivers without water or of duck-billed platypuses laying eggs. It could also scarcely be ignored that most of Australia, unlike New Zealand, was tropical rather than temperate. But at least Australia had, and always has had, mammals, and in common with Europe it had a very long history – long unrecognised – of anthropogenic environmental modification.

Australian and New Zealand environmental historians can both draw on the two main schools of their discipline – the American and the European – to elucidate the changing relationships between their humans and their – if it is 'their' – environments. The published corpus of American environmental history, after forty years of solid academic endeavour, is rich and deep. Much of this deals with pioneering settlement, particularly of the West, at much the same time and same pace as in the Antipodes. There are parallels of experience, in other words. But, at the same time, the cultural background of most settlers in both Australia and New Zealand was not American but directly European, and the experience and traditions they sought to apply to their new found lands were British. This means that we have as much to learn from European and especially British environmental historical studies, even though they describe a far more gradual environmental modification.

The American and European schools of the discipline are represented by two international journals – *Environmental History* in America, and, rather confusingly, *Environment and History* in Britain. The latter is published in the Outer Hebrides, which is a

neat example of what is possible thanks to computers and the Net. New Zealand environmental historians have published quite widely in the British journal, which had this special issue in 2003 edited by the Brooking-Pawson combo.[11] Over half of the November 2008 issue also deals with New Zealand.

We can also draw on the work of a *third* school of environmental history, emanating from Australia. This is particularly strong at ANU in Canberra, thanks to the husband and wife team of Tom Griffiths and Libby Robin. Its strengths are apparent in another recent issue of *Environment and History*,[12] which contains articles by a *new generation* of young Australian environmental historians. There is a regular workshop in Canberra specifically for PhD students writing environmental history theses.

At present we as New Zealanders can learn more from Australian researchers than they can from us, but the intriguing aspect of the environmental comparison, for scholars in both countries, is the absolute contrast between the two places. They were completely different environments even before one was modified by an ancient indigenous people, the other by a recent indigenous people, which were then both modified over by much the *same* group of mostly British immigrants. Tim Flannery has something to say of this in his book, *The Future Eaters*.[13] Rather like those studies of identical twins brought up by different parents, comparisons between Australian and New Zealand environmental histories should provide insight into the respective roles of cultural and environmental influences.

I maintain that New Zealand historians, by studying their environmental history, will not only colonise academic ground previously occupied by geographers, but will also catch up with overseas academic trends. But, more importantly, and seventhly, it can widen the base of understanding of New Zealand history in general. This is because environmental history is now sufficiently well developed to provide a framework for environmental factors

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[11] Tom Brooking and Eric Pawson (eds), 'Special Issue: New Zealand', *Environment and History* Vol 9 No 4 (2003).

[12] Libby Robin and Mike Smith (eds), 'Special Issue: Australia Revisited', *Environment and History* Vol 14 No 2 (2008).

[13] Timothy Flannery, *The Future Eaters: An Ecological History of the Australasian Lands and People*, Reed Books, Chatswood NSW, 1994.

when describing human history. There is no better example of this approach than William Cronon's book, *Nature's Metropolis*,[14] which is a study of Chicago, but which describes the city's development primarily in terms of the exploitation of the America's natural resources.

Of course there has always been some understanding among New Zealand historians that there are factors, other than human factors, that have shaped our history, though this has more often become explicit for geographical than biological factors. There has been plenty of talk about the effect of location and isolation on both New Zealand and Australia – 'distance looks our way', and Australia experiences 'the tyranny of distance'. The consequences of mineral distribution - gold in New Zealand, but not iron – have been noted. So has the influence of climate, at least upon our agricultural history. It was the mildness of New Zealand's winter – meaning that stock could stay outside all year - that counterbalanced the additional cost of sending produce half way round the world to market. I would encourage all New Zealand historians, however, to think constructively about the environment in relation to their own particular fields of study. The relationship of the pre-European Maori to their environment is acknowledged as crucial, but how much attention do mainstream historians give to environmental factors post-1800?

A grounding in Maori history has proved useful to the many historians who have found employment with the Waitangi Tribunal. New Zealand's environmental history, in turn, will prove useful within a society increasingly concerned with biodiversity, climate change, sustainable management, resource use, and renewable energy. The final reason for studying environmental history, therefore, pertains to its marketability.

Historians often try to justify their existence, and apply for research grants, maintaining that the past helps to explain the present, or that the study of history can help to reduce similar mistakes in the future. This idea should become more widely accepted as the length of the European presence – and hence of mistakes in treatment both of indigenous people and the environment – increases. Much as Tribunal reports have a strong historical component, I think that reports on resource

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[14] William Cronon, *Nature's Metropolis: Chicago and the Great West*, W.W. Norton, New York and London, 1991.

management issues will make increasing reference to the history of human interaction with particular ecosystems or resources.

Much of the work on current environmental and energy problems is by people with a scientific training. In my experience, this won't have equipped them with skills to explore the historical background. If they need to include this kind of research, they should commission historians who know how to look into archives and who are familiar with the environmental approach. This role for environmental historians is made clear in the work of Stephen Dovers of Canberra. It is also evident in a recent Australian symposium entitled, cheekily, 'Can Environmental History Save the World?'[15]

A piece of work I did earlier this year, concerning Waituna Lagoon in Southland, illustrates how this kind of research work might apply in the New Zealand context. Maori traditionally used to hunt and fish in and around the lagoon, and it was recognised as an area of cultural significance to them under the Ngai Tahu Claims Settlement Act of 1998. It's also a wetland of international significance, and was registered as the first Ramsar site in New Zealand in 1976. And it has been a place of recreation during the hundred years or so for local Pakeha, who introduced Australian swans and European trout, and who have farmed the land north of the lagoon, with varying intensity. In the same period, the water quality of the lagoon, and the healthiness of the ecosystem it supports, has been under threat. Since 2001 a local Landcare Group, in co-operation with the Department of Conservation, has sought to achieve 'a workable balance between environmentally sympathetic and cost effective land management practices' near the lagoon.[16]

A research team with expertise in water health has now been commissioned to look into this. They will preface their

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[15] Stephen Dovers (ed), *Australian Environmental History: Essays and Cases*, Oxford University Press, Melbourne, 1994; Sarah Brown et al, 'Can environmental history save the world?' *History Australia* Vol 5 No 1 (2008) pp 3.1-3.24.

[16] Waituna Landcare Group, 'Lifting economic and environmental outcomes by improving land management practices in Waituna Catchment, Southland', http://www.maf.govt.nz/sff/about-projects/search/05-160/index.htm

report with a description of how settlers have lived and worked there over the years and the effect this might have had on the lagoon. Since the team has no background in historical or archival research, they subcontracted me to look at the evidence in this light. I produced a 'working paper' for them that illustrated how the ways the land was worked would have affected Waituna Stream and the lagoon it flowed into. It was a description of wasteful milling techniques, earth removal for rail and road building, burning, drainage with mole ploughs and tile drains, ploughing and regrassing, flax farming and flax dumping; of the introduction of sheep then dairy cattle; and more recently of the intensification of dairy farming and fertiliser usage, with consequential increases in profit, eutrophication and pollution.

Conclusion

In this paper I have sought to identify what environmental history is and why it is worthy of pursuit. I have argued that New Zealand's environmental history has unique features that render it particularly fascinating, significant and available as a subject for study. What I would stress finally is a further point: its potential relevance to decision-making processes in contemporary New Zealand. The Waituna Lagoon report I have referred to is just one among hundreds of environmental reports that cry out for a historical perspective. I believe benefits will be conferred both upon professional historians and upon society in general as this becomes more widely recognised. I have tried to define and account for environmental history within a New Zealand context. It remains to more fully consider, in time, where it can take us.

TRANS-TASMAN METEOROLOGY AND THE PRODUCTION OF A TASMAN AIRSPACE, 1920-1940

MATTHEW HENRY[1]

MASSEY UNIVERSITY

Abstract

On 10-11 September 1928, the *Southern Cross* crewed by Charles Kingsford Smith, Charles TP Ulm, HA Lichfield and TH McWilliam successfully crossed the Tasman Sea. In doing so the flight profoundly altered the geographies of connection between New Zealand and Australia. Prior to the flight the only means of connection across the Tasman Sea was by ship or via the trans-Tasman telegraph cable that had been laid in 1876. This paper examines the efforts by meteorologists in New Zealand and Australia to orchestrate existing shipping and telegraphic networks in order to produce the Tasman as a meteorologically knowable 'airspace' within which aircraft such as the *Southern Cross* could begin to reliably circulate.

Introduction

At 9.20 a.m. on 11 September 1928, the *Southern Cross* crewed by Charles Kingsford Smith, Charles TP Ulm, HA Lichfield and TH McWilliam touched down at Sockburn aerodrome near Christchurch. Amidst the ecstatic reaction that followed, the editor of Auckland's *New Zealand Herald* (NZH) stressed the attention to detail that had characterised the flights of the *Southern Cross*, writing that, "There has been no stupid trusting to luck…The whole world may well applaud them for their courage, their endurance and their skill, and add a meed of praise for their refusal to take hazards blindly".[2] A quiet measure of appreciation for some of the help that the aviators received in preparing for the

[1] Address all communications to: Matthew Henry, Geography Programme, Massey University, Private Bag 11 222, Palmerston North, New Zealand. E-mail: M.G.Henry@massey.ac.nz.

[2] *New Zealand Herald*, 12 September 1928.

flight arrived a few days later in a letter addressed to Edward Kidson, Government Meteorologist within the recently established Department of Scientific and Industrial Research (DSIR). In this letter the co-commanders of the *Southern Cross* praised Kidson for the extra work that he had put in to provide special weather forecasts for the successful flight, and they promised once they arrived back in Australia to prepare a report detailing the weather conditions they had experienced on their flight.[3]

Kidson's role in providing weather forecasts for the *Southern Cross* flight represented part of a long cycle of work carried out by him and others in order to create a Tasman 'airspace' that scientists found knowable and predictable. This involved the knitting together of diverse communications technologies, instrumentalities, institutional spaces, and priorities. In this work Kidson and his colleagues were actively engaged in the production of new forms of scientific territory; places, however, that helped constitute new geographies of connection.[4] In these new places we can begin to see the glimmerings of what Paul Edwards has called the 'infrastructural globalism' within which things such as the weather emerged as objects of knowledge and as realms of human action. Such geographies were never characterised by a smoothly unfolding regularity, but as Miles Ogborn has argued, by a contingent, messy hybridity.[5]

In charting the assemblage of trans-Tasman 'airspace' and in particular the role of meteorological scientists within that process, the paper traces the production of a form of territoriality that intersected with, but was not contained by, the nation-state. It highlights the intricate piecing together of the informational and material infrastructure (or at least one small aspect of it) with

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[3] Kingsford Smith and Ulm to Kidson, 17 September 1928, Archives New Zealand (ANZ), ABLO 8/9/5/1. These observations were later published in: Edward Kidson, 'Meteorological Conditions During the First Flight Across the Tasman Sea', *Quarterly Journal of the Royal Meteorological Society*, 55, (1929), pp. 53-4.

[4] David Livingstone. *Putting Science in its Place: Geographies of Scientific Knowledge*.(Chicago and London, The University of Chicago Press, 2003).

[5] Miles Ogborn*, Spaces of Modernity: London's Geographies*, *1680-1780*, (New York, The Guilford Press, New York, 1998).

which we know and act in the world, but whose implications are largely taken-for-granted. Moreover, it examines the complex territorialisation of that infrastructure in ways that challenge what John Agnew has called the 'methodological nationalism' which continues to position the nation-state as the privileged container of our understandings of the world.[6]

The construction of airspace

In her recent book, Liz Millward explores the production of a gendered British Imperial 'airspace' following the end of World War One (WW1).[7] While the *Oxford English Dictionary* defines 'airspace' as a physical container consisting of the 'space in the air directly above an area of the earth's surface', in contrast Millard's definition of 'airspace' highlights the socio-political construction of 'airspace' by referring to the shifting assemblage of material and imaginative objects and relationships that enabled the sky to be transformed into a controllable and governable, geopolitical and economic resource. The construction of 'airspace', Millward notes, required the orchestration of "tickets, petrol, gasoline and benzol mixtures, contracts, aircraft manufacturers, women making aeroplane wings, legislative controls, national prestige, engines, ground crew, aerodromes, Imperial Airways, colonial airlines, the Royal Air Force (RAF), and aircrew training and licensing".[8] It also required knowledge of the weather, and the means of disseminating that knowledge.

However, the air was, and remains, a fluid actor in the constitution of 'airspace'. It is at once the canvas, the atmosphere or the sky, upon which 'airspace' is drawn, but as weather it is also able to deform the technoscientific relationships upon whose durability 'airspace' depends. Despite longstanding efforts to both know and control the weather, it remains outside direct control and only partially knowable. Here then a powerful and enduring theme in early twentieth century meteorology was a relentless drive to accumulate more information about weather patterns

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[6] John Agnew, 'The Territorial Trap: The Geographical Assumptions of International Relations Theory', *Review of International Political Economy*, 1 (1994), pp. 53-80.

[7] Liz Millward, *Women in British Imperial Airspace, 1922-1937*, (Montreal & Kingston, McGill-Queen's University Press, 2008).

[8] Millward, *Women in British Imperial Airspace*, p. 85.

and the dynamics of the upper atmosphere.[9] From the middle of the nineteenth century, this drive increasingly led to efforts to connect up the different sources of meteorological information that were being collected by individual observers and increasingly, national, weather bureaus.[10]

If 'the weather' was problematic because of its ability to deform the technoscientific relationships that constituted the emerging networks of civil aviation, then it was particularly problematic vis-à-vis the territorialisation of airspace that was institutionalised following the end of First World War (WW1). The production of 'airspace' as a particular territoralisation was deeply enmeshed in the discourses of 'airmindedness' which emerged around WW1. 'Airmindedness' had a number of dimensions.[11] The exultation of power, speed and freedom which often accompanied aircraft and aviators found its corollaries in other technoscientific artefacts such as the railways and power stations that Graham and Mavin argue helped constitute the 'technological sublime' as a characteristic feature of the modern imagination.[12] Understood in this sense the aircraft seemed to offer a means of escaping the ravaged, disordered world that followed the end of WW1. Such sentiments found homes in diverse political movements: from the Italian futurists such as Filippo Marinetti who saw air power as the route to national rejuvenation; through to the proponents of a global

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[9] Paul Edwards, 'Meteorology as infrastructural globalism', *Osiris* 21 (2006), pp. 229-50.

[10] For a discussion of these efforts to create 'national weather', as well as professionalise the aims, objects and actors of meteorology see: Kristine Harper, 'Meteorology's Struggle for Professional Recognition in the USA', *Annals of Science*, 63 (2006), pp.179-199; Simon Naylor, 'Nationalizing Provincial Weather: Meteorology in Nineteenth-Century Cornwall', *British Journal for the History of Science*, 39 (2006), pp.407-432.

[11] Here I follow Rose's definition of territorialisation which stressed the combination of imagination, discipline, and bio-politics in the creation of governable places defined by regimes of inclusion and exclusion. See: Nicholas *Rose, Powers of Freedom: Reframing Political Thought*, (Cambridge, Cambridge University Press, 1999).

[12] Stephen Graham and Simon Marvin, *Splintering Urbanism: Networked Infrastructures, Technological Mobilities and the Urban Condition*, (London, Routledge, 1999).

internationalism for whom the aircraft and aviation represented the means of transcending nationalist squabbles. Following the end of WW1 these various positions were expressed in debates about the relationship of aviation to the state which were conducted between proponents of a 'free sky' in which national borders would have no place and those who advocated for the extension of state sovereignty into the realm of aviation. In 1919, the Paris Convention Relating to the Regulation of Aerial Navigation crystallised these debates by effectively extending the state's borders vertically and according to each state sovereign rights over the sky as defined by its territorial borders. Airspace became legally congruous with state space. The state territorialisation of airspace was at odds, however, with both the effort to promote international networks of meteorological information exchange through the International Meteorological Organisation (IMO), and the very fluidity of the weather itself as weather patterns circulated without heed to the terrestrial territorialisation of the sky following the 1919 Paris Convention. Aviation meteorology, then, as an essential part of the fabrication of airspace was shaped by a constitutive tension between its legal framing within the boundaries of state sovereignty and the fluid character of its core actor which made effective knowledge of it almost inevitably international in scope.

Airmindedness and meteorology in New Zealand

In New Zealand the political framing of 'airmindedness' and 'airspace' can be seen articulated in the debates around the Aviation Bill in 1918. At one level, the Bill simply sought to regulate the licensing of pilots, but as the Attorney-General, Sir Francis Bell recognised, "I merely regard this as the beginning of legislation…The world will become changed through this new process of travel", while for Henry Wigram aviation would require much work in the laying out of the "highways of aerial navigation."[13] In an echo of his pre-WW1 comments in which he had highlighted the dangers to New Zealand of Germany's Zeppelin programme, Wigram imagined aviation in terms of its

[13] 'Aviation Bill'. *New Zealand Parliamentary Debates* (henceforth, NZPD), 183 (1918), pp. 717-20, the quotes come from p.717. Wigram Airforce Base near Christchurch (formally Sockburn Aerodrome) was established in 1923, and was named in Henry Wigram's honour.

ability to help defend New Zealand since, "the late adventures of the war have shown that the power of the air is materially increasing –and increasing rapidly."[14] Wigram's view of the future utility of air power was taken up by other commentators. Samuel, for example, suggested the establishment of a fleet of aircraft and submarines to replace an extensive naval fleet.[15]

The intersection of aviation, security and meteorology in the creation of New Zealand 'airspace' was highlighted after the war by the Government Meteorologist, DC Bates, in his report on the London Imperial Meteorology Conference which had been held in September 1919.[16] Based on his observations in Europe, aviation, asserted Bates, would become increasingly central to the defence of New Zealand. He noted that, "though I am not very sanguine about the immediate prospects of commercial or civil aviation…I firmly believe that something will have to be done, and that it is necessary to encourage it and have it in the background as a support to the defence of this Dominion."[17] Given this context, the Director concluded that, "For the development of aviation the prime necessity is the extension of the meteorological service."[18] However, its extension, he feared, would be beyond the capacity of a service which he argued was both understaffed and underequipped as it already stood.

Bates repeated his concerns regarding the relationship between meteorology and aviation in New Zealand when he was asked to comment on a proposed Empire mail service. Addressing his superiors in the Marine Department, he argued that "I have warned the Secretary of the Post Office that until great improvements in the meteorological service of the Dominion, it would, in my opinion, be very dangerous to institute regular services in this country."[19] Specific worries about aviation

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[14] NZPD, 'Aviation Bill', p. 717.

[15] NZPD, 'Aviation Bill', p.719.

[16] DC Bates, Dominion Meteorological Office to Secretary, Marine Department, 20 January 1920, ANZ MET 1 8/8 Pt 1.

[17] Bates to Secretary, Marine Department, 20 January 1920, ANZ MET 1 8/8 Pt 1, p. 5.

[18] Ibid.

[19] Bates to Secretary, Marine Department, 13 February 1920, ANZ MET 1 8/8 Pt 1.

meteorology were framed within wider concerns about the inattention and inadequacy given to meteorology by the government. On this latter point he fumed that, "The Government does not realise the importance of the climate and weather forecasting to this country. While launching on tremendous schemes for electrification, agriculture etc it has neglected the main item with regard rainfall, temperatures, wind etc."[20] The consequence of such neglect was such that the current workload could not be met, "in a way that would be satisfactory to the honour of the country" and that moreover, "we are dependent entirely upon Post Office officials in a manner obtained in England between fifty and sixty years ago, and is now regarded as most obsolete and unreliable."[21] Viewed through Bates' eyes, aviation represented what Mitchell Dean has termed a 'salient', an emerging sphere of socio-technical activity which problematises existing assemblages of knowledge and practice.[22] For Bates, the demands for meteorological forecasts to support an emerging aviation industry threatened to significantly overwhelm the capacity of the existing system of information collecting and forecasting which had been developed in the preceding decades. As Bates acknowledged, the meteorological system was already inadequate for normal forecasting and could not meet the demands of a nascent aviation industry. Bates' concerns also illustrated a slippage between the confident incorporation of aviation into the boundaries of state sovereignty at the 1919 Paris Conference, and the rather more difficult creation of durable technoscientific relationships that could ensure the predictability and controllability of 'airspace'.

Bates' complaints about a lack of attention to the importance of meteorology can be placed within wider disciplinary and intellectual shifts in scientific practice and organisation.[23] Ruth Barton, among others, has examined the

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[20] Ibid.

[21] Ibid., p.2.

[22] Mitchell Dean, 'Putting the technological into government', *History of the Human Sciences*, 9 (1996), pp. 47-68.

[23] For an overview in the New Zealand context see: Erik Olssen, 'Towards a New Society', in Geoffrey Rice (ed.), *The Oxford History of New Zealand*, 2nd Edition (Auckland, Oxford University Press, 1992), pp.254-284.

intricate processes of professionalization that reshaped scientific practice, organisation and subjectivities from the mid-nineteenth century onwards.[24] Processes which saw the forging of new relationships between scientists and states, between scientists and paid employment, and between the newly solidifying disciplines that were dividing up and patrolling the field of intellectual labour. In this context the emerging discipline of meteorology faced a number of challenges. Intellectually, it needed to define itself, and be recognised as a 'rigorous' scientific discipline distinct from the weather watchers who tended to focus on the odd and extraordinary and from the rich tradition of weather prognosticators and their myriad explanations regarding the relationship between weather, climate and human activity.[25] Organisationally, meteorology because of its vast informational requirements needed state patronage in order to work at both a national and international level.[26] Framed by these challenges

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[24] Ruth Barton, 'Men of Science': Language, Identity and Professionalization in the Mid-Victorian Scientific Community, *History of Science*, 41 (2003), pp.73-119; Steven Shapin, *The Scientific Life: A Moral History of a Late Modern Vocation*, (Chicago, University of Chicago Press, 2008),

[25] Kristine, Harper, 'Meteorology's struggle for professional recognition in the USA', *Annals of Science*, 63 (2006), pp.179-199. For a broader perspective on the demarcation of legitimate and ill-legitimate science see: Thomas Gieryn, *Cultural Boundaries of Science: Credibility on the Line*, (Chicago and London, The University of Chicago Press, 1999). For a specifically New Zealand focused discussion of some of these issues see: Michael Belgrave, 'Medicine and the Rise of the Health Professions in New Zealand, 1860-1939', Linda Bryder (ed.), *A Healthy Country: Essays on the Social History of Medicine in New Zealand*, (Wellington, Bridget Williams Books, 1991), pp. 7-24; Ross Galbreath, 'DSIR: making science work for New Zealand: themes from the Department of Scientific and Industrial Research, 1926-1992', (Wellington, Victoria University Press in association with the Historical Branch, Department of Internal Affairs, 1998); Galbreath, *Scholars & Gentlemen Both: G.M. & Allen Thomson in New Zealand Science & Education*, (Wellington, The Royal Society of New Zealand, 2002).

[26] Paul, Edwards, 'Meteorology as infrastructural globalism', *Osiris*, 21 (2006), pp.229-250. Naylor, 'Nationalizing provincial weather: meteorology in nineteenth-century Cornwall, British', *Journal for the History of Science*, 39 (2006), pp.407-432.

Bates' worries about state indifference to meteorology are understandable as they represented a threat not only to his immediate work, but also to the status of the very discipline. These concerns led Bates, for example, to involve himself in a variety of rainmaking and frost prevention schemes whose purpose was in part to demonstrate the rigour of professional meteorology vis-à-vis amateur weather making.[27] In hitching meteorology to aviation, both Bates and his successors were reframing the discipline as an essential element in a field of activity that was becoming the paradigmatic expression of technoscientific rationality, and of indeed modernity.

Meteorology and trans-Tasman flights

Despite his fears, Bates was soon asked to provide help for budding trans-Tasman aviators. In July 1921 he received a letter from his colleague HG Hunt, Commonwealth Meteorologist in the Australian Government's Department of Home and Territories asking for his support for Lieutenant FS Briggs' proposed flight from Hobart to Bluff. The New Zealand Meteorological Office, suggested Hunt, could help the flight by regularly supplying the Meteorological Bureau in Australia with, "such information and anticipations regarding the conditions over and approaching the southern end of the South Island as the additional sources at your command would enable you to give."[28] Such 'anticipations' would be supplied in addition to the ongoing meteorological information that was already regularly passing across the Tasman Sea. Hunt's request provides is with a glimpse into the relationship that

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[27] James Beattie, 'Rethinking Science, Religion and Nature in Environmental History: Drought in Early Twentieth-Century New Zealand', *Historical Social Research*, 29 (2004), pp.82-103; John de Lisle, 'The New Zealand Meterological Service -The Beginnings 1861-1927', in M.E. Hoare and L.G. Bell (eds.), *In Search of New Zealand's Scientific Heritage* (Wellington, Royal Society of New Zealand in conjunction with the Alexander Turnbull Library, 1984), pp.17-23.; John de Lisle, *Sails to Satellites: A History of Meteorology in New Zealand*, (Wellington, New Zealand Meteorological Service, 1986).

[28] Hunt to Bates, 21 July 1921, ANZ ABLO 8/9/5/1. Briggs was eventually banned from flying across the Tasman by aviation authorities in Australia because of their concerns about his equipment.

already existed between the respective New Zealand and Australian meteorological services insofar as weather information collected in both countries had been flowing across the Tasman via the telegraph cable that had been first laid in 1876.[29] Simultaneously, however, Hunt's use of the phrase 'anticipations' provided a telling recognition of the limitations of the weather information available to both services.

Systematically organised weather reports had been circulating across the Tasman since 1885, made possible by a longstanding arrangement between the respective country's post departments and telegraphy companies. Between 1885 and 1902 weather cables across the Tasman had been transmitted via the Eastern Extension Company free of change, but these services were transferred to the Pacific Cable Board when its trans-Pacific cable began operation. These trans-Tasman connections echoed the efforts of the IMO to encourage the international exchange of information. Indeed on the foundation of the IMO the United States (US) and Swiss delegates supported the principle that existing informational networks needed to be extended into a global system of observations. As part of this effort, the US Army Signal Office started publishing the *Bulletin of International Meteorological Observations Taken Simultaneously* which contained synoptic maps based on the collation of national meteorological information.[30] In 1905, the French meteorologist Leon Teissrenc proposed, and the IMO supported, a telegraph-based weather network (*Reseau Mondial*) which would collect, calculate and distribute pressure, temperature and rainfall information from weather stations within each ten degree latitude/longitude quadrangle. Ultimately the *Reseau Mondial* would come to encompass about 500 stations, but the reality of coordinating the system pointed to the intricate difficulties that accompanied the extension of such networks. Problems such as the lack of standardisation in instruments and observing practices, a lack of geographic reach in both observations and communications infrastructure and the voluntary nature of the scientific relationships at the core of the network made the coordination of meteorological information patchy. Moreover,

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[29] Bates to Minister, Marine Department, 16 February 1915, ANZ MET 1 8/8/2.

[30] Edwards, *Meteorology as infrastructural globalism*, p. 232.

limitations in the capacity of the global telegraph network meant that Teissrenc's vision of instantaneous information collection and distribution was impossible to implement.[31] Indeed, the network's first data set collected in 1911 was not published until 1917.

Within the more limited, and to some extent more controllable, scope of the Tasman Sea, the telegraphic arrangements between the New Zealand and Australian meteorological agencies did enable meteorologists to begin constructing a more predictable 'weatherscape', particularly given the prevailing westerly origin of much of New Zealand's weather patterns.[32] The compression of space-time, and the expectations of simultaneity produced by the use of the telegraphic organisations introduced new demands into the network. For example, during WW1 Bates was repeatedly critical of the censors in both Australia and New Zealand for delaying weather cables, delays which he argued were dangerous because they stopped the prompt formulation of forecasts and storm warnings.[33] Writing in early 1927, Bates reflected on continuing problems in the transmission of the Australian weather cables, pointing out to his superiors that, "delays occur through the stress of business, especially at times when they are most wanted: for example at Christmas and Easter etc. Land delays frequently occur between Auckland and Wellington on account of 'faults' or the Murry system not tuning up properly."[34] Faults in the 'Murry system' and the limited capacity of the telegraphic network highlighted the delicacy of the technoscientific relationships required to enable weather cables, and indeed any telegraphic cables, to circulate. Bates, however, was not shy in supplementing his technoscientific

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[31] Some indication of the problem of capacity has be garnered by the fact that when the trans-Pacific cable was established in 1902 by the Pacific Cable Board its regular operating speed was approximately 100 words a minute.

[32] It is interesting to note that while New Zealand was a consumer of Australian meteorological information the reverse was not commonly the case. In this sense the relationship was of more importance to New Zealand meteorologists than their Australian colleagues.

[33] Bates to Minister, Marine Department, 16 February 1915, ANZ MET 1 8/8/2.

[34] Bates to Permanent Secretary, Department of Scientific and Industrial Research (DSIR), 22 February 1927, ANZ MET 1 8/8/2.

accounts of delay with accounts that stressed the commercial and bureaucratic origins of delay. “Delays are dangerous” he argued, “and the principle of the whole of the morning forecast being subject to the exigencies of the Pacific Company’s business is simply unthinkable.” In continuing to complain about the irregularity of the emerging network, Bates stressed the importance of knowing the weather as an integral feature of national interest that needed to be considered beyond ‘partial considerations’.[35]

Alongside the technical and bureaucratic problems dogging the swift and stable transmission of meteorological information across the Tasman there was the informational void that was the Tasman itself, a particular problem for the production of a secure, trans-Tasman airspace. The utility of marine observations for meteorologists had long been recognised. By the 1860s naval weather logs were being collected and circulated despite a lack of standardisation that hampered their usefulness.[36] In his report on the Imperial Meteorological Conference in 1919 Bates highlighted, as one of most important issues arising out of the conference, the need to extend maritime forecasts and the concomitant need to equip ships with meteorological instruments. Bates’ concerns about instrumentation reflected one of the problems that had emerged prior to WW1 when the promise offered by the increased use of wireless sets on ships had been tempered by the non-standardisation of ships’ meteorological instruments and observation procedures.[37] On the flip side, however, while observations from ships might be unreliable they at least offered a glimpse into a hitherto hidden place. On the flip side while observations originating from ships were problematic the New Zealand Meteorological Office through the Post and Telegraph Department, had since 1912 been forwarding forecasts to vessels

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[35] Bates to Permanent Secretary, Department of Scientific and Industrial Research (DSIR), 22 February 1927, ANZ MET 1 8/8/2, p.2.

[36] James Fleming, *Historical Perspectives on Climate Change*, (New York and Oxford, Oxford University Press, 1998).

[37] John de Lisle, *Sails to Satellites: A History of Meteorology in New Zealand*, (Wellington, New Zealand Meteorological Service, 1986).

within the 600 mile range of the Wellington Radio Station's transmitter.[38]

Bates followed up his 1919 conference report with further correspondence on his ideas for maritime reports and standardised instrumentation. In the case of the former, he laid out the advantage of using ship based observations, writing, "Ships travelling between New Zealand and Australia, home boats, and the islands of the Pacific" he noted, "could furnish us with valuable scientific information with regard to barometric changes and the subsequent movement of atmospheric disturbances."[39] At the moment such information was generally sent to either the British or United States meteorological authorities, but Bates argued that neither of these authorities could be expected to deal with New Zealand's specific meteorological problems and that consequently, "it is our duty to utilize the information now taken by shipmasters and wasted on log records."[40] In the first instance this duty meant making more use of the observations recorded in ships' logs either by copying such records or requiring captains to produce special meteorological reports. Not surprisingly the use of wireless would significantly aid the circulation of ships' reports, but only if, "they could be depended upon."[41] Bates' letter ended with the plea that such work could only be successfully achieved through an extension of the Meteorological Office's staff and its funding.[42] In separate correspondence Bates reminded the government that the compulsory equipping of ships with meteorological instruments had been agreed to by the delegates

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[38] Patrick Day, *The Radio Years: A History of Broadcasting in New Zealand, Volume One*, (Auckland, Auckland University Press in association with the Broadcasting History Trust, 1994).

[39] Bates to Secretary, Marine Department, 1 March 1920, ANZ MET 1 8/8 Pt 1.

[40] Ibid.

[41] Ibid.

[42] The use of this trope of duty in order to leverage additional funding for the Meteorological Office was one that Bates frequently and not necessarily successfully utilised. Likewise his successor Edward Kidson used the rise of aviation as a lever to lobby for greater funding for the agency. In neither case did failure to secure extra monies prevent the men from supporting aviation meteorology.

at the IMO in Paris. It appeared that such measures had already been taken by ships sailing under Dutch authority, but that, "there seemed to be no uniformity in regard to British ships."[43] To help remedy this problem he suggested that statutory provisions be included in the next Shipping Bill requiring ships to carry meteorological equipment and to record observations. Bates' suggestions were not taken up quickly. Speaking before Wellington's Rotary Club in early 1924, he noted the importance of weather reports from ships at sea, but added that, "Only a quarter of the information was received from ships which should be received".[44] As a way of increasing that proportion, Bates thought that some form of 'return' needed to be made to those ships. While he was not specific about what form that 'return' should take, implicitly at least he seems to have recognised that taking and transmitting weather observations imposed a cost on ship owners that needed to be reimbursed.

Bates' fears about the lack of uniformity in ship-based weather reporting extended beyond a quantitative concern with the number of ships providing reports, although one of his legacies was the knitting together of a progressively more extensive network of land and ship based reporting stations. He also expressed concern about the quality of information being recorded. Thus, Bates put forward to Ernest Marsden a series of points that the latter needed to discuss with his colleagues in the Australian Government's Central Meteorological Bureau including: the standardisation of recording and instrumentation, and the relationship between the respective meteorological bureaus and the emerging radio companies.[45] In response to Marsden's questioning, AG Ackroyd spelt out the Central Meteorological Bureau's approach to marine meteorology. This involved equipping ships with instruments from the Bureau, and incorporating ships within a system of reporting and

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[43] Bates to Secretary, Marine Department, 1 March 1920, ANZ MET 1 8/8 Pt 1.

[44] *Dominion*, 28 March 1924. In this address Bates reminded his audience of the recent visit of the British airship mission and the likely expansion of aviation services within the Dominion, and in this context he reiterated the need for expanded meteorological services to meet these new demands.

[45] Bates to Secretary, DSIR, 2 November 1926, ANZ MET 1 8/8/3.

acknowledgement. Ackroyd also pointed out, however, that the number of ships that could be thus equipped far exceeded the Bureau's resources. Consequently, the provision of meteorological equipment was, "perhaps the most urgent immediate requirement of marine meteorological activity in Australian waters."[46] Nonetheless given the existing network of ships reporting meteorological observations, Ackroyd recommended that New Zealand's needs could be simply met by arranging for the receipt of those radio messages which ships were already preparing for the Australian authorities.[47] To this end, the Australian Bureau was prepared, "to inform the New Zealand Meteorological Bureau of the nature and condition of equipment in use of any vessel already forwarding reports to this Office, and would be prepared to notify the New Zealand Office of any defective records discovered in or by means of the meteorological records received by mail."[48]

While Ackroyd, notwithstanding the issue of instrumental reliability, pointed to the continuing usefulness of marine meteorology for weather forecasting Edward Kidson, Assistant Director at the Central Meteorological Bureau articulated a more fundamental challenge.[49] Kidson dismissed the reports from ships as being, "irregular and frequently somewhat unreliable."[50] Of more use, he contended, would be the extension of the geographical scope of the weather information being sent to New Zealand to include land based stations along Australia's eastern and southern coast as well as stations in Western Australia. He

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[46] AG Ackroyd to Commonwealth Meteorologist, 22 November 1926, ANZ MET 1 8/8/3.

[47] The receipt of these reports not only required the standardisation of instrumentation, but also the use of common trans-Tasman codes through which weather information could be cheaply and reliably re-represented and transmitted.

[48] Ackroyd to Commonwealth Meteorologist, 22 November 1926, ANZ MET 1 8/8/3.

[49] Kidson was recruited as Dominion Meteorologist to the New Zealand Meteorological Office in 1927. A biographical sketch can be found in the Dictionary of New Zealand Biography (www.dnzb.govt.nz).

[50] Kidson to Commonwealth Meteorologist, 23 November 1926, ANZ MET 1 8/8/3.

also suggested broadening the types of weather information being transmitted to include the intensity, movement and location of pressure systems as well as the more generally recorded pressure, wind, temperature and weather information.

Kidson's discounting of ship based observations vis-à-vis land stations can be interpreted within the light of the efforts to create national weather systems, efforts which dominated the activities of state meteorological agencies from the late nineteenth and century onwards. Such networks required constant work in order to maintain the chains of veracity (calibration, standardisation and regularity) that meteorologists required in order to produce synoptic forecasts: chains which even within national networks, let alone outside those systems, frequently broke down. One only has to look at the inspection work of Bates contained in the archival files in order to appreciate the magnitude of the task that land stations alone presented meteorologists. Bates agreed with Kidson about the value of New Zealand receiving more information from an extended network of Australian land stations, although he continued to press for more marine reporting.[51] In particular, Bates was keen to get twice daily reports from both Sydney and Hobart, and a daily report from Melbourne summarising weather reports from Perth, Adelaide, Alice Springs, New Caledonia and Brisbane. He also expressed his hope that the Australia government would quickly establish a weather station at Lord Howe Island in the North Tasman.

Notwithstanding Kidson's dismissal of the use of ship based meteorological observations, Bates persevered in attempting to extend and regularise the information coming from that source. These efforts continued to be dogged by problems as illustrated by the trouble the SS *Rimutaka* faced in trying to send weather reports to the Meteorological Office. In this case, the problem was not the state of the ship's instruments, nor the ship's record. The issue had been that while the ship had been trying to send reports to Wellington, "the Wellington Radio Station would not accept them unless the ship was prepared to pay for them."[52] Such problems indicated a shift in the policy of the radio companies, which, as Ackroyd had noted in his advice in late 1926, had been to send and receive meteorological messages free of

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[51] Bates to Secretary, DSIR, 13 December 1926, ANZ MET 1 8/8/3.

[52] Bates to Secretary, DSIR, 23 December 1927, ANZ MET 1 8/8/3.

charge. The upshot, argued Bates, was that the Meteorological Office continued to miss out on a wealth of information, and that it was a matter of urgent policy that, "an agreement be reached with the Post & Telegraph Department whereby all weather messages addressed to us by vessels in southern latitudes between 130^{0}W and 155^{o}E should be accepted and transmitted to us without charge to the ship."[53]

The Tasman as a "weatherscape"

It is within the context of an emerging patchwork of weather reports, tentatively pieced together through the mobilisation of new technologies, and new ways of interpreting and representing those reports, that the Tasman Sea gradually became an increasingly knowable and visible weatherscape in the first decades of the twentieth century. Thus, by late 1920s the Australasian meteorologists were increasingly being asked to furnish reports for the prospective pioneer flights across the Tasman that were capturing the attention of the public and the government on both sides of the Tasman. In late 1927, New Zealand's newly appointed Dominion Meteorologist, Edward Kidson, was requested to liaise with the Australian meteorological authorities to provide meteorological support for the planned trans-Tasman flight of the New Zealanders Captain George Hood and Lieutenant Robert Moncreiff. On the day of the planned flight Kidson sent a special weather report to the aviators in Sydney indicating that the pair could expect light to moderate South-easterly winds and good visibility over the Tasman Sea.[54] On 10 January 1928, Hood and Moncrieff took off from Sydney's Richmond airfield in their Ryan B1 monoplane 'Aotearoa' at 2.44 a.m. with the expectation that they would land in Wellington at Trentham before darkness fell. They never arrived in Wellington. Various explanations for their disappearance were proposed including the theory that they had overflown New Zealand and ditched in the Pacific, or that they had crashed into the Rimutaka Ranges. Despite air and sea searches no trace of the aircraft was

[53] Ibid.

[54] *Evening Post*, 10 January 1928.

detected, and by 17 January the *New Zealand Herald* had declared the loss a 'futile tragedy'.[55]

A couple of days after the *Herald*'s declaration, the Division Meteorologist in Sydney, Mr Mares, received a letter from Kidson regarding the disappearance of Hood and Moncreiff.[56] In it, Kidson anticipated some form of inquiry being held in New Zealand, and asked Mares to send him a copy of any information that had been given to the two aviators, either publically or confidentially, by the Commonwealth Meteorological Bureau. While he considered it unlikely that the meteorologists would be made responsible for the failure, he could not rule it out. In response, Mares explained that he had supplied Hood and Moncreiff with a succession of forecasts, ships' observations and maps right up until their departure on the morning of 10 January, and while the weather was not expected to be ideal it was the best possible, and indeed, "such proved the case over a much longer period than was considered necessary for the flight."[57] In hindsight, Kidson reflected that in his opinion the aviators, "were apprehensive of bad weather and lacked the experience which would have fitted them to meet it under the best conditions." He again expressed the hope that the loss of Hood and Moncreiff would not lead to an inquiry because although there were those who sought to apportion blame and gain political advantage from such events, "The aviators knowingly took a sporting risk and luck was against them". Nonetheless he advised Mares that both of them needed to be prepared to answer questions about their actions in supporting the flight. Kidson recognised that despite the disappearance of Hood and Moncreiff, further attempts to fly cross the Tasman Sea would be made. In this context he noted that, "I am very glad that the Australian Government is adopting an attitude that will ensure that any future flights will be undertaken under satisfactory conditions as regards equipment" both for the sake of the aviators involved, and because, "too great a responsibility is liable to be thrown upon the Meteorologist". Here Kidson implicitly

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[55] *New Zealand Herald*, 17 January 1928.

[56] Kidson to Mares, Divisional Meteorologist, Meteorological Bureau, Sydney, 19 January 1928, ANZ ABLO 8 9/5/1.

[57] Mares to Kidson, 25 January 1928, ANZ ABLO 8 9/5/1.

recognised the limitations of both the knowledge and the network that had been constructed about the sky above the Tasman.[58]

Concerns about risk can be also seen framing the preparations for Kingsford Smith and Ulm's flight later that year. In mid-July Kingsford Smith's navigator on the proposed flight, HA Litchfield, and EW Timeke, Acting Divisional Meteorologist in Sydney both approached Kidson for meteorological assistance.[59] Timeke suggested that Kidson adopt the system which he had used for the ill-fated Hood and Moncrieff flight earlier that year. This would involve the Sydney office sending special cables to Wellington containing any information above and beyond the regular meteorological cables. In return, Kidson would send Timeke information about conditions over New Zealand, the Tasman Sea, and the Pacific immediately preceding the departure of the flight. Kidson confirmed this arrangement with Timeke and Litchfield, pointing out to the latter that given a planned landing at Sockburn in Christchurch it would be advisable to fly over Cook Strait and Wellington rather than risk flying over the Southern Alps.[60] Currently, wrote Kidson, the Meteorological Office issued forecasts at noon and 6 p.m., but it could be arranged to send further forecasts from both Wellington and information from selected observers in places such as Farewell Spit, Stephen's Island, Cape Campbell and Christchurch throughout the flight. Kidson also indicated that he planned to use a balloon to gather atmospheric information in Christchurch and that this information would be transmitted in code to the flyers over the Tasman.[61] Notwithstanding the orchestration of this information, Kidson made it clear to Timeke that he "would not express an opinion as to the advisability of starting or otherwise. The responsibility for taking the decision must rest with the aviator. The Meteorologist's responsibility ends with the provision of all available information and forecast of probabilities and possibilities."[62]

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[58] Kidson to Mares, 30 January 1928, ANZ ABLO 8 9/5/1.

[59] Timeke to Kidson, 12 July 1928, ANZ ABLO 8 9/5/1.

[60] Kidson to Timeke, 17 July 1928, ANZ ABLO 8 9/5/1.

[61] Kidson to Litchfield, 17 July 1928, ANZ ABLO 8 9/5/1.

[62] Ibid.

Kidson's efforts, along with his predecessor Bates, to meet the expanding demands of the aviation pioneers in the years after WW1 eventually led to the creation of a dedicated aviation section within the Meteorological Office in late 1935. In addition to the central office in Wellington, specialist meteorologists were also attached to the major aerodromes in Auckland (Dr WF Macky), Wellington (Dr MAF Barnett) and Christchurch (JR Simmers). Collectively, argued Kidson, these men, "will be able to give accurate forecasts of the weather as much as five hours ahead for pilots" while at smaller aerodromes, "there will be other men who will take records which will be forwarded to headquarters in Wellington."[63] In Wellington these flows of information would be collected, collated and forwarded to the forecasters at each of the aerodromes. Seen in relation to aviation, the Meteorological Office emerges as a hybrid organisation framed in one sense as a 'centre of calculation' to transform observations and flows of information into weather forecasts through the skills of individuals such as Kidson. Yet at the same time, both Kidson and Bates had explicitly articulated the limits of such 'calculation' arguing in the cases of Hood and Moncreiff, Kingsford Smith and Ulm that the final decision for the flights rested with the aviators themselves rather than with the meteorological expert. In this context rather than operating as a decision-making nexus, the meteorologists provided a clearing house for weather information which would enable others to calculate risk.[64]

The flight of the 'Southern Cross' was successful. All the relationships that were required to hold firm did hold firm. Within this network, the work of Kidson in Wellington and Timeke in Sydney enabled the atmosphere of the Tasman to be temporarily transformed into an airspace that was predictable enough for the purposes of Kingsford Smith and Ulm on one day in early September 1928. The bundle of relationships that enabled that flight to had required long years of networking from actors such as Bates and Kidson, Hares and Timeke. It involved enacting a diverse set of technoscientific intermediaries in such a way that 'the weather' could be translated into forms that could be transmitted from one place to another. It involved intellectual and technical work to ensure a degree of representational congruence

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[63] *Evening Post*, 9 December 1935.

[64] Felix Driver, *Geography Militant*, (Oxford, Blackwell, 2001).

between the play of forces in the atmosphere and 'the weather'. It also required the orchestration of socio-political relationships within which knowing 'the weather' emerged as essential to securing national and imperial interests in the production of trans-Tasman 'airspace'. The successful flight did not mean that the networks which had temporally held had suddenly solidified into a durable system of control over trans-Tasman aviation, or that those relationships extended beyond the Tasman itself. Planes continued to fly and to disappear. Indeed Kingsford Smith himself disappeared on a flight over Burma in 1935. Meteorology offered knowledge about a paradigmatically fluid set of relations, knowledge that deepened as the reach, and intensity, of informational flows increased. But as both Bates and Kidson suggested in their reflections on risk, meteorology never offered total predictability or control: rather it provided a glimpse mediated by the expertise of the meteorologist in a spatially and temporally unknown present and future. It provided a means of managing risk.

Conclusion

The trans-Tasman airspace that was produced by the flight of the *Southern Cross* was framed by a voluntary internationalism negotiated between the respective meteorologists operating within national meteorological systems. Beyond the Tasman 'airspace' the growth of new air routes within New Zealand and across the Pacific required the assembling of new 'airspaces', the production of new meteorological networks, and new meteorological knowledges to support those 'airspaces'. Each of these new gradually assembled 'airspaces' had subtly different alignments of interests, materialities and knowledge. For example, by the mid-1930s the nascent trans-Tasman airspace was being joined by plans for a trans-Pacific route between San Francisco and Auckland. Following an agreement between the Labour government and Pan Pacific Airways in 1936, Kidson was asked to prepare a report on the meteorological needs of the new route. He pointed out that there already existed a network of stations centred on Suva and Apia in the Southwest Pacific which could form the basis of a meteorological service for civil aviation. Nonetheless, this network contained large gaps, which led Kidson to argue that the network needed both significant physical

expansion and investment in the training of meteorological officers. Beyond this point, wider questions centred on the control of the network, an issue which had been absent from the assemblage of the trans-Tasman 'airspace'. Here meteorology meshed with Pacific geopolitics.

For Kidson, the importance of meteorology for trans-Pacific transport was such that control of the meteorological network would invariably strengthen the hand of the power which held it, and thus,

> With an organisation once established their position would, obviously, be a very strong one. The question is, therefore, raised as to whether or not these ground services are of such national significance that the New Zealand Government should retain control.[65]

Kidson provided his own answer to the question that he posed, arguing

> The Meteorologist [Kidson] calls attention to the extreme importance of the existence and control of a meteorological service in the Southwestern Pacific for defence purposes in case of attack on New Zealand or Australia from the North, and urges that the Government should accept the responsibility.[66]

At one level, Kidson's call directly echoed the ways in which aviation had been framed in terms of national security since Wigram's comments in 1909 through to Bates' report on the Imperial Meteorological Conference in 1919. Yet it also marks a significant shift from the production of a Tasman 'airspace' based on reciprocal, voluntary relationships between meteorologists on each side of the Tasman to a situation framed by a recognition of the infrastructural power that would accrue to those states able to shape the production of further 'airspaces' in the Pacific. Such a

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[65] Kidson to Secretary, DSIR, 7 May 1936, ANZ, MET 1 8-10. Kidson's broader concern was the growing presence of the United States in the Pacific.

[66] Ibid.

change need not be seen in evolutionary terms with one supplanting the other. Rather it reflects the existence of a variety of socio-political relationships marked by differences in power and degrees of prescription from which a multiplicity of 'airspaces'could and would emerge.

Kidson's foray into Pacific geopolitics pointed to the continuing tension between the state territorialisation of airspace provided for by the 1919 Paris Convention and the realities of meteorological work, and indeed aviation more generally which required the assemblage of intricate 'geographies of connection' that reached across state borders, and in doing helped constitute new hybrid places outside but not beyond the state. It also reflected a recognition that the emergence of such 'geographies of connection' provided a significant source of infrastructural power for those able to shape and control them. Beyond these concerns the processes of assemblage and the territories that were created in the Tasman and later in the Pacific should alert us to the need to continue thinking beyond the national geographies and histories which are familiar and to consider the importance of those places, constituted by but outside the territorialisation of state space, to the development of what are paradigmatic elements of the modern world.

THIS ARTICLE HAS BEEN PEER REVIEWED.

EXPLORING TRANS-TASMAN ENVIRONMENTAL CONNECTIONS, 1850S-1900S THROUGH THE IMPERIAL 'CAREERING' OF ALFRED SHARPE[1]

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As Libby Robin and Tom Griffiths observe, Australians and New Zealanders have tended to keep their backs turned to the Tasman Sea, preferring instead to foster relations with other areas rather than with each other.[2] Such an attitude – combined with nationally distinct scholarship – masks the dynamic trans-Tasman connections that intertwined the lives and ecologies of Australia and New Zealand at various points from the late eighteenth century. Large-scale human migration exchanged not only people, but also ideas, plants and practices; while correspondence and plants also snaked across the Tasman.[3]

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[1] I sincerely thank Roger Blackley who, a number of years ago now, encouraged my interest in Alfred Sharpe. Roger collected Alfred Sharpe's writings and generously deposited them in the E. H. McCormick Research Library (RC 2000/7), Auckland Art Gallery Toi o Tamaki. I also benefitted immensely from discussions with colleagues in my former department, of History, Art History and Theory, University of Otago: especially Associate Professor Mark Stocker, Dr. Roger Collins, Dr. Peter Stupples, Dr. Peter Leech, Associate Professor Tony Ballantyne; and Professor Eric Pawson, University of Canterbury. Part of this article, with permission, has appeared in Alfred Sharpe's forest consciousness in New Zealand and Australia, 1859-1908", in Michael Calver et al., eds., *Proceedings of the 6 th National Conference of the Australian Forest History Society Inc.* (Rotterdam: Mill Press, 2005), 17-25. Finally, I thank the anonymous comments of the peer reviewer for helping to improve this paper.

[2] Libby Robin and Tom Griffiths, 'Environmental history in Australasia', *Environment and History*, 10, 4 (November, 2004), 440.

[3] On some Australasian political, social and medical connections, see Donald Denoon and Phillipa Mein-Smith with Marivic Wyndham, *A History of Australia, New Zealand and the Pacific* (Oxford: Blackwell, 2000); Denis McLean, *The Prickly Pair: Makinging Nationalism in Australia and New Zealand* (Dunedin: Otago University Press, 2003);

This article seeks to provide a brief overview of scholarship on trans-Tasman environmental connections. Second, it explores some Australasian transfers of environmental ideas and matter using the case-study of Alfred Sharpe.

Trans-Tasman scholarship on environmental connections

Robin and Griffiths examine what could be termed parallel yet separate environmental histories. They note that both Australia and New Zealand, for instance, faced similar environmental problems, but due to diverse social and environmental factors experienced and dealt with such problems differently. It is, I think, important to emphasise the differences, as much as the similarities, between these areas.[4] Australia is, as Libby Robin and Mike Smith note, 'a lean landscape, with shallow soils, deficient in nutrients and trace elements, where the legacy of the last Ice Age is salt and salinised soils.'[5] New Zealand by contrast is, for the most part, an island country, much younger tectonically, and with an overall far greater rainfall than its Tasman cousin.[6]

In examining people's interactions with such environments, a significant body of work has explored the comparative environmental dimensions of these areas, particularly during the settler period. Thomas R. Dunlap's pioneering study, for instance, situates the experiences of the 'English Diaspora' (one might wonder about the Scots, Irish, and others) in the comparative context of settlement of the 'neo-Europes': North America and Australasia. Dunlap's

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Tasman Relations: New Zealand and Australia, 1788-1988, ed. by Keith Sinclair (Auckland: Auckland University Press, 1987). A recent project explores these connections. See the most stimulating book that has resulted from this project: *Remaking the Tasman World,* ed. by Philippa Mein-Smith, Peter Hempenstall and Shaun Goldfinch, with Stuart McMillan and Rosemary Baird (Christchurch: Canterbury University Press, 2008).

[4] Robin and Griffiths.

[5] Robin and Mike Smith, 'Australian Environmental History: Ten Years On', *Environment and History*, 14, 2 (May, 2008), 136.

[6] See Eric Pawson and Tom Brooking, eds. *Environmental Histories of New Zealand* (South Melbourne: Oxford University Press, 2002)

conceptualisation of 'neo-Europes' was drawing upon Alfred Crosby's innovative work that ushered in a re-assessment of interpretations of European imperialism. Crosby argued that the plants, animals and pathogens Europeans brought to 'neo-Europes' like Australia, New Zealand, South America and South Africa played as significant a part in their colonisation as imperialists' guns and technical know-how. More recently, Don Garden's somewhat apocalyptic comparative environmental history of *Australia, New Zealand and the Pacific* firmly situates Australasia in the wider Pacific region – an important reminder of its oft-forgotten relationship to the Pacific so firmly established by Alfred Wallace and others.[7] Whether situated in relationship to the Pacific or North America, these works have examined both broad-based and finely grained comparative histories of Australia and New Zealand. But what, one may ask, of the *connections* between these geographical areas, connections that waxed and waned over the nineteenth century?

Many of the papers heard at the 'Developing Trans-Tasman Perspectives' Historical Geography Workshop 2009, held at Massey University on 19 November 2009, examined the fascinating environmental *interconnections* that tied together Australia and New Zealand at different points over the past 200 years. Papers there, as well as some of those presented at the 2007 Forest History Conference held at the University of Canterbury, examined a variety of Australasian contrasts and interactions. Scholars explored the Trans-Tasman timber trade, recruitment and use of prison labour in plantations, emergence of forestry schools in Australia and New Zealand, and burgeoning

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[7] Thomas R. Dunlap, *Nature and the English Diaspora: Environment and History in the United States, Canada, Australia, and New Zealand* (Cambridge: Cambridge University Press, 1999); Alfred W. Crosby, *Ecological Imperialism: the Biological Expansion of Europe, 900-1900* (Cambridge: Cambridge University Press, 1986); Don Garden, *Australia, New Zealand, and the Pacific: An Environmental History* (Santa Barbara: ABC-Clio, 2005). On the Pacific connection, note: Timothy Fridtjof Flannery, *The Future Eaters: An Ecological History of the Australasian Lands and People* (London: Secker & Warburg, reprint, 1996); and earlier, O.H.K. Spate, *Australia, New Zealand and the Pacific* (Oxford: Oxford University Press, 1956).

trans-Tasman plant trade.[8] These works firmly suggest the dynamic relationships of various kinds – material, intellectual and economic – that intertwined parts of Australia and New Zealand. The present article therefore adds to this growing historiography, as well as trying to provide some framework for situating these connections.

Approaching Australasian connections

Analysing these interconnected relationships can prove difficult, particularly when researchers examine extremely complex multiple pathways of knowledge or plant exchange.[9] With these challenges in mind, I wish here to discuss two ways of conceptualising Australasian connections and whose utility I will apply to the case-study of an individual and his environmental views and plant introductions.

The first model relates to the conceptualisation of knowledge connections within and beyond empire. Beginning in the 1960s, scholars have put forward a variety of models to describe the flows of knowledge between different areas. One of these was George Basalla's now classic model from 1967. Basalla conceived of scientific knowledge radiating from a European core to a colonial periphery. Others challenged his paradigm. Historian of science Roy MacLeod argued for what he termed the 'moving metropolis' to explain colonial scientific development. For MacLeod, colonial scientific ideas and institutions developed in stages, leading eventually to the emergence of an independent scientific research culture. While such a model usefully highlighted the existence of 'cores' and 'peripheries' within regions and explained well Australia's scientific development, it did not adequately account for scientific development in regions such as India or Africa, where scientific cultures already existed

[8] *Environment and History*, 10, 4 (November, 2008).

[9] On which, note William Beinart and Karen Middleton, 'Plant Transfers in Historical Perspective: A Review Article', *Environment and History*, 10, 1 (February 2004), 3-29; Eric Pawson, 'Plants, Mobilities and Landscapes: Environmental Histories of Botanical Exchange', *Geography Compass*, 2, 5 (2008), 1464-1477.

prior to European imperialism.[10] Much more recently Tony Ballantyne, an imperial historian, has introduced the notion of 'webs of empire'. Unlike for example a simple diffusionist or core-periphery model, Ballantyne's model acknowledges the emergence at different times and different places of multiple nodes and centres for facilitating the exchange of information, policies and objects. It is a model that also acknowledges the dynamic, ever-changing nature of connections between places and people.[11]

Webs of course do not operate in an ether. They were initiated, sustained and broken by individuals. A focus on individuals can provide particularly rich 'insight', as David Lambert and Alan Lester note, 'into the heterogeneity of the empire'. It can also demonstrate 'how ideas, practices and identities developed *trans-imperially* as they moved from one imperial site to another'.[12] To refer to these trans-imperial connections, Lester and Lambert have coined the term 'careering'. This term, they note, 'captures a sense of volition, agency and self-advancement, but also accident, chance encounter and the impact of factors beyond the control of the individual'.[13] Investigating an

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[10] Roy MacLeod, 'On Visiting the "Moving Metropolis": Reflections on the Architecture of Imperial Science', *Historical Records of Australian Science*, 5, 3 (1982), 1-16; MacLeod, From 'Imperial to National Science', in *The Commonwealth of Science: ANZAAS and the Scientific Enterprise in Australasia 1888-1988*, ed. by Roy McLeod (Melbourne: Oxford University Press, 1988), 40-72

[11] Tony Ballantyne, *Orientalism and Race: Aryanism in the British Empire* (London: Palgrave Macmillan, 2001), 13-17; Ballantyne, 'Empire, Knowledge and Culture: From Proto-Globalization to Modern Globalization', in A.G. Hopkins, ed, *Globalization in World History*, London, 2002, pp. 115-140; Ballantyne, 'Race and the webs of empire: Aryanism from India to the Pacific,' *Journal of Colonialism and Colonial History*, 2, 3 (2001), 1-25.

[12] David Lambert and Alan Lester, 'Imperial Spaces, imperial subjects', in Lambert and Lester, eds., *Colonial Lives Across the British Empire: Imperial Careering in the Long Nineteenth Century* (Cambridge: Cambridge University Press, 2006), 2.

[13] Lambert and Lester, 'Imperial Spaces', 21.

individual's environmental ideas is particularly valuable. It provides a sense of the complexity of views on nature and hints at the importance of particular places and intellectual influences in a person's intellectual development. Contextualised within wider flows of knowledge or plant transfer, it can illustrate the complexity of idea formation and the multi-dimensional flows of environmental knowledge into and beyond empire.

The imperial 'careering' of Alfred Sharpe

The individual whose imperial 'careering' I examine is the artist and environmentalist, poet and park designer, Alfred Sharpe[14] (1836–1908). Sharpe spent his first twenty years in Birkenhead, England, his next (nearly) thirty in the Auckland area, and his remaining twenty in Newcastle, New South Wales (NSW). Sharpe's life offers a fascinating case-study of someone whose environmental views responded to multiple influences much in the way that Lambert and Lester have identified. Sharpe's environmental views were fashioned by the particular places he lived in, his experience of their local physical environments, and the interaction between these places and his romanticism.

Investigating Sharpe's developing – but also sometimes constant – environmental views between these three different sites is significant for a number of reasons. First, Sharpe has left behind a treasure trove of sources through which to explore his changing environmental ideas. Second, the written testimony of Sharpe's rich environmental ideas allows examination of the complexities and contradictions inherent in individuals. Such complexities and contradictions are rarely presented in studies of social groups or mass movements, simply because it is difficult to do so. A fine-grained analysis of Sharpe's views therefore allows a rich picture of one settler's viewpoints to emerge.[15] In time, a

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[14] On Sharpe's life, note: Roger Blackley, *The Art of Alfred Sharpe* (Auckland: Bateman and Auckland Art Gallery, 1992).

[15] On some fascinating environmental history biographies of note for New Zealand, see: Ross Galbreath, *Scholars & Gentlemen Both: G.M and Allan Thomson in New Zealand Science and Education* (Wellington: The Royal Society of New Zealand, 2002); Jennifer Robin Hodge, 'Nature's Trustee: Pérrine Moncrieff and Nature Conservation in New Zealand 1920–1950' (Ph.D. Diss.: Massey University, 1999); Mary McEwen, *Chalres Fleming: Environmental Patriot* (Nelson: Craig Potton Publishing, 2005).

number of studies of individual environmental views will accumulatively build up a more complex picture of such trans-Tasman 'careering'. Third, many existing studies of environmental ideas and policies in the nineteenth century neglect the actions of private individuals, instead focussing on officials or official organisations as agents of environmental transformation or policy direction.[16] Fourth, studies of private individuals are very important. For one thing, much of the environmental transformation of Australasia took place through non-state efforts financed by private capital and energy. Many of New Zealand's present landscapes exist because of the actions of individuals in the colonial period.[17] The role of such private actors is also particularly apparent, for instance, in the vigorous acclimatisation movements that swept through the Australasian lands.[18] As the case of Alfred Sharpe further underlines, private individuals were also responsible for significant trans-Tasman plant introductions and for articulating a consistent aesthetic critique of colonial policies.

Sharpe's environmental influences

First and foremost, Sharpe's environmental views and painting style owed much to his Birkenhead upbringing. It was there that he came under the sway of romanticism, and specifically, of the ideas of John Ruskin (1819-1900), that most influential art critic and vehement opponent of industrialisation. In Birkenhead, Sharpe was coming to maturity just as romanticism was reaching

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[16] Note, for instance, Michael Roche, *History of Forestry* (Wellington: New Zealand Forestry Corporation in association with GP Books, 1990); Ross Galbreath, *A History of the New Zealand Wildlife Service* (Wellington: Bridget Williams Books and Historical Branch, Department of Internal Affairs, 1993); David Young, *Our Islands, Our Selves: A History of Conservation in New Zealand* (Dunedin: Otago University Press, 2004).

[17] On which, see Paul Star, 'Tree Planting in Colonial Canterbury, 1850-1890', *Environment and History*, 14, 4 (November, 2008), 563-582; Roche briefly discusses private afforestation, noting its significance: Roche, *Forest Policy in New Zealand: An Historical Geography, 1840-1919* (Palmerston North: Dunmore Press, 1987), 54-57.

[18] For a brief history, note: Paul Star, 'From Acclimatisation to Preservation: Colonists and the Natural World in Southern New Zealand, 1860-1894' (Ph.D. thesis, University of Otago, 1997).

its heady height in the mid-nineteenth century. Romanticism infused European society. Artists, poets, writers and politicians responded in different ways to its calling, exclaiming wonder at the power and majesty of the natural world. Romanticism forced a passionate and heated reaction, or so its proponents believed, to the cool reason and cold humanity of the Enlightenment.[19] Better understood as a 'mood rather than a movement', romanticism influenced fashions, art, writing, and intellectual life – even the way Europeans saw non-Europeans.[20]

In Australasia Sharpe expressed disgust at the destruction of plants and landscapes that he considered beautiful. In expressing such criticisms, Sharpe was guided by romanticism and in particular by his interpretation of Ruskin's admonitions both to hold in trust the environment for future generations and to accurately depict aspects of the natural world before they changed irrevocably. Directed by these criteria, Sharpe judged local Australasian landscapes according to their congruence with European picturesque conventions. The picturesque accorded significance to the composition of a picture, valuing framing trees, distinct plains and pastoral settings.[21] Sharpe's painterly technique also followed closely the realism or naturalism (such as the use of bright colours and an attention to minute detail) of the Pre-Raphaelite Brotherhood, a group of young artists formed in 1848 whom Ruskin famously admired.[22]

Sharpe found the picturesque environments he so appreciated readily enough around Auckland, luxuriating in lonely rambles in the New Zealand forest – behaviour consistent with a

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[19] Fernand Braudel, *A History of Civilizations,* translated by Richard Mayne (New York: Penguin, 1993), 26.

[20] Peter Gay, *The Naked Heart: The Bourgeois Experience, Victoria to Freud*, vol. 4 (Glasgow: Harper Collins, 1998), 37-102; *The Cambridge Cultural History: Volume 6: The Romantic Age in Britain*, ed. by Boris Ford (Cambridge: Cambridge University Press, 1992).

[21] Gina Crandell, *Nature Pictorialized: "The View" in Landscape History* (Baltimore and London: Johns Hopkins University Press, 1993), 109-160.

[22] On Ruskin's influence on Sharpe, see Beattie, 'Alfred Sharpe, Australasia, and Ruskin'. On the Pre-Raphaelite landscape tradition, note Allen Staley, *The Pre-Raphaelite Landscape* (Oxford: Clarendon Press, 1973).

devotee to romanticism. His poetry clearly attests to the romantic aesthetic at work. In 'The Forest Temples of New Zealand', Sharpe wrote of his visit to New Zealand's forests as an act of devotion. 'He to forest temple goes', he declared, '...gives God service there'. A forest was holiest: 'Where man's foot hath seldom trod'.[23] Such concern for what Sharpe regarded as untouched nature reflected the romantics' regard for the natural world as a retreat from the artificiality and corruption of urban living. This is further evident in his poem, 'Earth is Fair'. Recognising that 'man, His creation, hath dimmed' the 'bright tone' of the natural world created by God, regardless Sharpe held that 'this bright earth' existed both for the enjoyment and uplift of humanity and as a 'shadowy type, of what heaven will be'.[24] The originality of the romantic message was that observers made this connection with the divine through their experience and sensitivity towards nature.[25] Romantics 'believed that God's presence was revealed through an aesthetic awareness of nature's beauty.'[26]

Decrying the deforestation around Auckland and later Newcastle, where he moved to in the late 1880s, Sharpe fought for the preservation of certain indigenous and introduced species growing in selected areas. In 1876, he attacked 'the substitution of karaka trees for the fine old oaks so wantonly destroyed in Government House grounds', Auckland 'The oak', he wrote,

> is always picturesque, - whether in winter, with its gnarled and twisted branches; in spring, with its lovely green frondage; in summer, with its massive leafage and shade, and in autumn, with its rich colouring of russet and yellow. To compare that with the never varying, stiff, awkward looking, dark green karaka is an absurdity.

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[23] *New Zealand Herald* (henceforth, NZH), 12 June 1888, 2.

[24] Newcastle Morning Herald and Miners' Advocate (henceforth, NMH), 20 February 1888, 2.

[25] Gay, Naked Heart.

[26] Max Oelschlaeger, *The Idea of Wilderness: From Prehistory to the Age of Ecology* (New Haven and London: Yale University Press, 1991), 99.

Oak trees, he continued, harboured strong memories 'endeared to us by old associations as reminiscences of old England'. They had 'taken 25 years to grow, and are unique in the colony and irreplaceable in our generation, while karakas…can be seen by groves any day, in many parts of the country.'[27] Sharpe valued trees according to their rarity and appearance, and whether they stood as living symbols of past memories. For centuries Europeans have esteemed trees – and particularly oaks – as important repositories of memory and meaning.[28] For Sharpe, the age, appearance and memories of homeland the unique oak grove at Government House evoked, demanded preservation.

On another occasion in Auckland, Sharpe attacked 'the monstrous vandalisms now being perpetrated in the Domain, under the name of arboriculture'.[29] Sharpe highlighted the cropping of 'hundreds of fine young oak trees into imitation cauliflowers, and generally…[turning] the loveliest part of the [Auckland] Domain…into the similitude of the abomination of desolation, spoken of by Daniel the Prophet'.[30]

Sharpe brought his criticism of city deforestation from New Zealand to Australia.[31] Assailing a new Australian arboreal attacker, in 1893 he railed against 'a horde of larrikins' who had destroyed the trees along Newcastle's Pacific Street.[32] Sharpe's environmental protection of urban areas is significant historiographically. Environmental historians, as Eric Pawson has observed, have tended to focus attention almost exclusively on

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[27] NZH, 24 August 1876, 6.

[28] Simon Schama, *Landscape and Memory* (London: Harper Collins, 1996); Daniels, Stephen, 'The political iconography of woodland in later Georgian England', *The Iconography of Landscape: Essays on the symbolic representation, design and use of past environments* (Cambridge: Cambridge University Press, 1988), 43-82.

[29] NZH, 5 October 1880, 6.

[30] NZH, 12 October 1880, 6.

[31] NMH, 7 September 1891, 5.

[32] NMH, 9 March 1893, 9.

rural areas,[33] while only recently have scholars of Australasian environmental history begun to investigate the richness its urban environmental histories.[34]

Urban pollution

Sharpe extended his concern about the visual pollution of urban environments to pollution of their waters and airs. His concern with health arose, as I have argued elsewhere, in response to the broader aesthetic and health concerns of Ruskin.[35] Ruskin loudly decried the pollution and despoliation of nature, believing that any form of environmental pollution – whether visual or physical – broke humanity's duty of stewardship passed onto it by God.[36]

In Auckland and Newcastle Sharpe threw himself into campaigns against water and air pollution. In 1882, for instance, Sharpe penned a vicious parody of the ineffectual efforts of the various Auckland sanitary boards to improve the city's health:

> Flaunts Fever's scarlet banner
> O'er Newton and Parnell.
> The gutter whiffings fan her,
> While "Boards" cry, "All is well."
> The foul putrescence lieth
> On each side of the street,
> And, in each festering backyard,
> Slops welter in the heat.
> The cess-pits belch forth gases
> On fever-laden air,
> And fever-damp unrolleth

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[33] Eric Pawson, 'On the Edge: Making Urban Places', *Environmental Histories of New Zealand*, 200-213.

[34] Beattie, 'Colonial Geographies of Settlement: Vegetation, Towns, Disease and Well-Being in Aotearoa/New Zealand, 1830s-1930s', *Environment and History*, 14, 4 (November, 2008), 583-610.

[35] Beattie, 'Alfred Sharpe, Australasia, and Ruskin'.

[36] David Carroll, 'Pollution, defilement and the art of decomposition', in Michael Wheeler, ed., *Ruskin and the Environment: The Storm-Cloud of the Nineteenth Century* (Manchester and New York: Manchester University Press, 1995), 58-75.

From sewer-gullies there.
Death grins, 'twixt each fence paling,
Upon each passer-by,
And the earthless privy boxes
Cry out, "Prepare to die."[37]

The poem clearly and wittily articulates Sharpe's concern. Its style is of additional interest: it has the rhythmic consistency of a hymn while its first line is a play on a nineteenth century jingo, 'Fever's/Freedom's scarlet/sacred banner'.[38] Although he wrote no further poems on the topic, Sharpe maintained his battle for Auckland to have a better water supply, even recommending, in 1883, the establishment of an Auckland-wide water corporation, though apparently without much success.[39]

Sharpe brought these concerns to Newcastle. Beginning in the 1890s, Sharpe crusaded against the pollution of Newcastle's beaches.[40] In 1902, for instance, he penned a number of letters drawing attention to this disgrace. When attempts to stop pollution began early that year, he initially nodded appreciatively at how 'the power of public opinion...can rattle the dry bones of parochial obstruction and private animosity'.[41] Triumph, however, soon turned to tribulation. A couple of weeks later, Sharpe reported irritably that 'about ten loads of street filth have been deposited there during the last two days'.[42] Later still, winds blowing more rubbish onto the beach prompted Sharpe to ask breathlessly and with great frustration: 'Why? and why? and

[37] NZH, 11 March 1882, 6.

[38] Thanks to Dr. Julian Kuzma for this information.

[39] 'Our Water Supply', NZH, 17 April 1880, 6; 'The Water-Supply', NZH, 24 April 1880, 6; 'The City Water Supply', NZH, 19 December 1883, 3. On Sharpe's suggestion for a water corporation, see 'The Water Question', NZH, 15 December 1883, 37.

[40] See, for instance, 'Sea bathing', NMH, 3 January 1894, 7.

[41] 'On Beach Reserve', NMH, 15 January 1902, 7.

[42] Incidentally, in perhaps the greatest irony, Sharpe also refused to reply to the correspondent 'Bather', since, as Sharpe explained, he did 'not wish to enter into unprofitable discussions with people who make wild assertions under cover of a non de plume'! 'Baths and Beach', NMH, 24 January 1902, 6.

why?'[43] 'Can anything be done to check this howling nastiness? Must the citizens be left to apply to the Supreme Court for an injunction?', he asked in a subsequent letter.[44] After a brief and angry discharge of salvoes against the mayor's (Mr Cann) description of the beach pollution as 'harmless', Sharpe wrote in to the paper again on 19 February. He expressed satisfaction with Cann's decision to 'stop the deposit of garbage on our sanatorium [the beach]'.[45]

Localism, aesthetics and nationalism

As Thomas Dunlap and many others have argued, by the 1890s settlers were beginning to see in their country's nature a symbol of their own nationalism and independence.[46] Central to emerging settler nationalisms from the late nineteenth century were settlers' growing identification with native nature. Employed in various ways – on stamps, in literature and poetry, music, the visual arts, in politics – aspects of native nature as well as aspects of indigenous culture became symbols of new found nationalism. As Paul Star notes, near the end of that century, 'the indigenous remnant had begun to capture the hearts of the settlers.'[47] Across Europe, America and Australia, societies were also emerging with the aim of creating parks and preserving aspects of the natural environment. Ruskin's romanticism inspired a number of conservation movements in Britain.[48] For most of these, a division

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[43] 'The Rubbish Tip', NMH, 29 January 1902, 7.

[44] 'The Ocean Beach', NMH, 31 January 1902, 3.

[45] 'The Mayor and the Beach', NMH, 13 February 1902, 6; 'Beach Sanitation', NMH, 19 February 1902, 3.

[46] Dunlap, Nature and the English Diaspora.

[47] Star, 'From Acclimatisation', 246.

[48] See also James Winter, *Secure from Rash Assault: Sustaining the Victorian Environment* (Berkeley and Los Angeles: University of California Press, 1999), 189-208; Konrad Ott, Thomas Potthast, Martin Gorke and Patricia Never, 'Über die Anfänge des Naturschutzgedankens in Deutschland und den USA' [On the beginnings of the Concept of Nature Protection in Germany and the USA'], ed. by E.V. Heyen, *Jahrbuch für Europäische Verwaltungs geschichte. Naturnutzung und Naturschutz in der europäische Rechts- und Verwaltungsgeschichte* [*Yearbook for European Administrative History. Exploitation and Protection in the History of European Law and Administration*] (Baden-Baden: Nomos,

often developed between the protection of nature and the betterment of urban environments.[49]

Sharpe's views, however, complicate the dating, inspiration and formulation of such settler nationalisms. Sharpe demonstrates that settler concerns about environmental change sometimes rested solely at the local level and at other times extended beyond this. In one sense they reinforce Nicholas Thomas' assertion that nationalisms arose in response to local nature, but challenge them in others.[50] Sharpe's campaigns were essentially local in vision, although sometimes national in appeal.

Throughout his time in northern New Zealand and eastern Australia, Sharpe expressed concerns about local nature that he considered picturesque, but never participated in any national campaigns to save forests or to prevent pollution, either in Australia or New Zealand. He occasionally made national appeals, but only to the extent of wanting to save local areas. In 1886, for instance, Sharpe wrote imploringly to the *Observer and the Free Lancet* of the national need to preserve kauri trees, citing the example of the United States Government and its reservation of Yellowstone. Many kauri trees are being lost, he wrote, thanks to the 'short-sighted greed of landed proprietors on the Waitakerei [sic], who have exterminated almost every accessible kauri tree of any value as a show tree'. Surely, he asked, 'our Government might reserve a single beggarly square mile of about the only existent uncontaminated kauri forest we have'?[51] Sharpe echoed his occasionally nationalist appeals in Australia when it suited him to have local areas conserved. In 1890, for instance, Sharpe re-published his 'Hints for Landscape Artists in Water Colour' in the *Newcastle Morning Herald…*, giving it an Australian or trans-Tasman bent by substituting references to New Zealand with those of Australia or a trans-Tasman identity through use of the

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1991), 1-55; Tim Bonyhady, *The Colonial Earth* (Carlton South: Melbourne University Press, 2001), 219-247.

[49] Ott et al., 'Über die Anfänge', 48.

[50] Nicholas Thomas, *Possessions: Indigenous Art/Colonial Culture* (London: Thames and Hudson, 1999), 12.

[51] *Observer and Free Lancet* (OFL), 2 January 1886, 11.

term Australasia.[52] In 1901, too, he labelled his watercolour, *The last dying remnant of the grand ti tree forests, between Adamstown and the Glebe*, as an area 'which should have been preserved and reserved as a fine park when the Government appropriated our 3,000 acre reserve.'[53]

Sharpe also sometimes struggled to aestheticise some areas around Newcastle into European artistic conventions. He found its 'open gum forests around' particularly challenging, describing them as 'unutterably wearisome in their unchanging monotony'.[54] This attitude probably led him, in 1895, to recommend using 'the illimitable quantities of timber at our doors' either for paving Newcastle's streets or for exporting overseas.[55] These sentiments seem greatly at odds with his advocacy of the protection of certain forested areas around Newcastle and around Auckland, but can be understood within the framework of his support for the picturesque. Anything which did not conform to its parameters, did not justify preservation. This provides another example of the significant ways that different environments could challenge environmental ideas and elicit different responses.

Together Sharpe's concerns reveal the importance of local and international factors in shaping his ideas about nature and nationalism. As Rollo Arnold notes of the 1880s and 1890s, settler identity was complex. Provincial attachments, along with a 'continuing affection for the distant homeland, remained stronger than the various other competing frames of reference, which included federation, nationalism, even provincialism and Pacific federation.'[56] Settlers could reference multiple identities. An individual could identify at once as a Presbyterian and a New

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[52] For instance, in the version of 'Hints' published in Australia, he changed 'from a New Zealand standpoint' to 'from an Australasian standpoint.' 'Hints', NMH, 11 March 1890, 8. 'Hints', 131.

[53] quoted in Blackley, *Art of Alfred Sharpe*, 116. Image on 107. Note, too, 2 January 1886. *Observer and Free Lancet* (*OFL*), 11.

[54] 'Hints: General Notes', NMH, 8 April 1890, 6.

[55] 'Newcastle Resources', NMH, March 1895, 3.

[56] Rollo Arnold, 'Some Australasian Aspects of New Zealand Life, 1890-1913', *New Zealand Journal of History*, 4, 1 (April, 1970), pp.54-76. Quote from p.54.

Zealander but so too express pride in being a Scot and a proud member of the British Empire, for instance.[57]

Like many Australasian settlers, experience of local environments shaped Sharpe's understanding of his world. Deforestation around Auckland and later Newcastle spurred his concern with local nature. Sharpe also drew his frames of reference from the local worlds of his youth as well as the international ideas of romanticism and specifically those of Ruskin. These views validate Rollo Arnold's observations that the 1880s New Zealand 'settler community was essentially a village world, but a village world that was responding to ideas and influences that were global in the scope of their origins.'[58]

Urban conservation

Historians of conservation in this period have primarily focussed on the reservation of native forests and areas in New Zealand symptomatic of growing nationalism. They present earlier conservation initiatives teleologically, as leading towards the emergence of nationalism and settler appreciation of 'native' nature. This has led them to ignore settler conservation and appreciation of non-native nature.[59] It has also led them to ignore battles over urban conservation that took place before the late 1880s, and to underplay the role of individuals such as Sharpe in articulating anxieties about urban environmental change.

Paul Star and Lynne Lochhead, for instance, have studied urban preservation societies in New Zealand, beginning with the first of those, the Dunedin and Suburban Reserves Conservation

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[57] On settler life narratives and assessments of their own histories, note Rosalind McLean, ' "Writing my history": Seven Nineteenth-Century Scottish Migrants to New Zealand revisit their pasts', *Migrations & Identities*, 1, 1 (2008), 45-73.

[58] Rollo Arnold, *New Zealand's Burning: The Settlers world in the mid 1880s*, Wellington, 1994, 118-121. Quote from 118.

[59] See, Beattie 'Wilderness found, lost and restored: the sublime and picturesque in New Zealand, 1830s-2000s', *The Future of Wilderness in Aotearoa New Zealand*, ed. by Richard Reeve and Mick Abbott (publisher not yet confirmed: forthcoming).

Society (1888).[60] Sharpe's endorsement of protection for both introduced and indigenous plants in the 1870s predates the formation of these groups, and indicates longer-standing concerns about urban protection.[61] Sharpe also demonstrates that some settlers sought to protect introduced as well as indigenous nature. This complicates portrayals of settlers as solely concerned with the preservation of indigenous nature. Finally, the timing of concerns – coterminous with continuing destruction – challenges many historians' arguments that, towards the end of the nineteenth century, early settlers' actions of conquest and destruction were giving way to appreciation of native nature.[62] Sharpe suggests that appreciation for the natural world existed at the same time as its destruction.

Acclimatisation

As a re-designer of most of Newcastle's city parks, Sharpe also introduced into that city some of his favourite New Zealand trees, most notably karaka and pohutakawa, thereby neatly demonstrating, as Lambert and Lester observes, the manner in which 'other places could [also] be present' with such mobile individuals.[63] Such activities highlight the degree to which he incorporated some of New Zealand's species into his European aesthetic. Finally, they illustrate the crucial manner in which private individuals could transfer plant species between Australia and New Zealand.

Placed in context, the acclimatising activities of Sharpe serve to modify the dominant historiographical interpretation of the process of settlement and acclimatisation, formed by Crosby's influential *Ecological Imperialism*.[64] Crosby's work raised two important points about the nature and direction of acclimatised plant species. First, Crosby argued that plant material flowed in a

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[60] Paul Star and Lynne Lochhead, 'Children of the Burnt Bush: New Zealanders and the Indigenous Remnant, 1880-1930', *Environmental Histories*, 124-125.

[61] On which, see Beattie, 'Colonial Geographies of Settlement'.

[62] Dunlap, *Nature and the English Diaspora*.

[63] Lambert and Lester, 'Introduction', 26.

[64] Crosby, *Ecological Imperialism*.

one-way direction to the neo-Europes from Europe. Second, he presented non-European people and plants as passive victims of European colonization and the organisms they brought with them. More recently, Eric Pawson has challenged Crosby's analysis, presenting a sophisticated series of case studies and models to illustrate the complexity of plant transfers. He notes, for instance, that such transfers created 'hybridised landscapes and plants' and that certain New Zealand species successfully acclimatised elsewhere.[65] Other authors have investigated in detail certain aspects of plant exchanges involving New Zealand in this period. Both John P. Adam and Alan Grey, for instance, have independently highlighted the significant environmental connections between New Zealand and North America.[66] My own work has investigated the ties connecting New Zealand with worldwide transfers of Asian plants.[67]

Sharpe's example of the acclimatisation of karaka, pohutukawa and other New Zealand species exemplify wider and long-standing Tasman plant transfers. In 1834, for instance, the traveller George Bennett recorded the cultivation of New Zealand species around Sydney. He noted that *Cordyline terminalis* 'grows and flowers well not only in these gardens, but is frequently seen planted in front of the dwelling houses in and about Sydney'. On Mr H. McArthur's property, the "Vineyard", he found karaka in 'thriving condition, having reached the elevation of from six to nearly fourteen feet, and borne fruit.' [68]

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[65] Eric Pawson, 'Networks of Botanical Exchange and the Production of New Landscapes', *Meeting of New Zealand Historical Geographers*, University of Canterbury, Christchurch, 14 September 2007.

[66] Alan Grey, 'North American Influences on the Development of New Zealand Landscapes, 1800-1935', *New Zealand Geographer*, 40, (1984), 66-77; J.P. Adam, '"True California Gardens..." and the Australian connections', *Twenty Fifth Annual Conference of the Australian Garden History Society: "Browned Off". Old Gardens in a New World*, 15 October, Sydney, 2004.

[67] Beattie, 'Acclimatisation and the "Europeanisation" of New Zealand, 1830s-1920s', *ENNZ: Environment, Nature and New Zealand*, 3, 1 (February, 2008), 1-25.

[68] George Bennett, *Wanderings in New South Wales, Batavia, Pedir Coast, Singapore, And China; Being the Journal of a Naturalist in those countries*

Australia proved important as a node in the introduction of Eurasian species into New Zealand, underlining the complexity of environmental exchanges. Wellington surveyor Robert Stokes, for instance, enumerated an impressive list of vegetable and ornamental species growing in the nascent New Zealand Company settlement, and ended by noting that 'I find there cannot be less than 2000 fruit trees in the Colony…The greater part of these have been brought from Sydney and Van Diemen's Land but some have been sent from England.' He enumerated an important list of vegetables and fruit acclimatised into Tasmania and then sent onto New Zealand:

> An ample supply of vegetables, rhubarb, strawberry, raspberry, gooseberry, black, white and red currants, the peach, nectarine, apricot and fig, several varieties of plum, several varieties of apples and pears. Also cherries, filberts, mulberries, and quinces, magnolia, camellia, daphne, oleander, passionflower, honeysuckle, jasmine, ranunculus, tulip, picotee and a very nice collection of roses, also elder, privet, watercress, a few blackthorns, a good sized asparagus bed (plants of which were raised from seed and will be ready for cutting next spring)

All of these, he concluded, 'were mostly obtained from Sydney and I have every reason to think they will do well.'[69] As for his own purchasing, Stokes bought trees directly from Sydney Botanical Gardens, arranging in September 1842, for instance, for six cases of plants to be shipped.[70]

The case of Stokes, Sharpe and others point to the importance of the private Hobart and Sydney plant trade. This interpretation is reinforced by plant advertisements of the time. As Charlie Challenger's research on colonial Canterbury in the

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during 1832, 1833, and 1834, vol. I (London: Richard Bentley, 1834), 336.

[69] Robert Stokes, *New Zealand Journal*, 1842, quoted in Winsome Shepherd, *Wellington's Heritage: Plants, Gardens, and Landscape* (Wellington: Te Papa Press, 2001), 155.

[70] Shepherd, *Wellington's Heritage*, 158.

period 1840s to 1860s demonstrates, Australian nurseries advertised extensively in New Zealand, often having agents or auctioneers working in New Zealand on their behalf.[71] Later still, Australian nurseries supplied collectors with many of the rarer Asian species, such as from the remarkable Australian nurseryman, Thomas Lang (1815-1896).[72] In 1875, for instance, the Auckland nursery firm of Mason Bros bought from Messrs. Lang and Co., a 'very superior' collection of '30 varieties' of conifers - *thuja*, *auracaria* (sic), *penela* (sic), junipers, *retinosporus*, *taxus*, *abies*, *cupresses*, *podocarpus*.[73] The acclimatisation of New Zealand trees in Newcastle by Sharpe also reinforces the interpretations of historian of science Jim Endersby. Examining botanical exchange as in Sydney Botanic Garden, Endersby argues that plant exchanges played a crucial role in maintaining colonial scientific connections through their role as gifts.[74]

Conclusion

The 'imperial careering' of Alfred Sharpe highlights the complexity of settler identification and engagement with different colonial natures. It points to the manner in which an individual's environmental ideas changed and interacted with the local environments of Birkenhead (England), Auckland (New Zealand) and Newcastle (NSW). Examining the environmental webs sustained by one individual challenges important historiographical assumptions about settler environmental

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[71] Charlie Challenger, 'Pioneer Nurserymen of Canterbury, New Zealand (1850-65)', *Garden History*, 7, 1 (Spring, 1979), 25-64; R. Polya, *Nineteenth Century Nursery Catalogues of South-East Australia, A Bibliography* (Bundoora: La Trobe University Library, 1981), 17, 26.

[72] Paul Fox, *Clearings: Six Colonial Gardeners and Their Landscapes* (Melbourne: Miegunyah Press, 2004), 35-59; Beattie, J. Heinzen and J.P. Adam, 'Japanese Gardens in New Zealand, 1850-1950: Transculturation and Transmission', *Studies in the History of Gardens and Designed Landscapes*, 28, 2 (April-June, 2008), 219-236.

[73] *Daily Southern Cross*, 24 November 1875, 3.

[74] Jim Endersby, 'A Garden Enclosed: Botanical Barter in Sydney, 1818-39', *British Journal for the History of Science.* 33, 118 (September, 2000), 313–334.

interactions and the formation of conservation movements. The case-study of Alfred Sharpe contests both the timing of urban conservation in New Zealand and interpretations of settler nationalisms, complicating too models of information and plant transfers. Finally, Sharpe's imperial 'careering' hints at the rich possibilities for exploring individual environmental views and their changes over different colonial sites.[75]

THIS ARTICLE HAS BEEN PEER REVIEWED.

[75] Ian Tyrrell, *True Gardens of the Gods: Californian-Australian Environmental Reform, 1860-1930* (Berkeley and Los Angeles: California University Press, 1999); Beattie, *Empire and Environmental Anxiety, 1800-1920* (Houndsmills: Palgrave Macmillan, forthcoming, 2010).

LATTER DAY 'IMPERIAL CAREERING': L.M. ELLIS - A CANADIAN FORESTER IN AUSTRALIA AND NEW ZEALAND, 1920-1941

MIKE ROCHE

Canadian born University of Toronto forestry graduate L.M. (McIntosh)[1] Ellis was appointed as the first Director of Forests in the (New Zealand) State Forest Service in 1920, a position that he held till his resignation and departure to Australia in 1928. From then until to his death in 1941 Ellis worked as a forestry consultant with afforestation companies, ultimately finding employment with Australian Paper Manufacturers (APM). This paper seeks to recover the 'lost years' of his career in Australia and to view them from the vantage point of 'imperial careering'.

'Imperial careering' is a term coined by geographers David Lambert and Alan Lester in studying careers spent overseas in the service of Britain's Empire in the nineteenth century.[2] In line with their critique of simple metropole to periphery or periphery to metropole flows of people, commodities and ideas, the paper particularly considers trans-imperial movements. The focus is on forestry science which was an applied adjunct to existing studies of what Lambert and Lester refer to as 'natural scientific study'.[3]

Lambert and Lester's examination of 'imperial careering' shifts the discussion away from flows of information and commodities, but at the same time it is more than biography; 'careers' is forward looking whereas biography tends to have a retrospective feel. At the same time they also allow that 'career…captures a sense of volition, agency and self-advancement, but also accident, chance encounter and the impact

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[1] Even the spelling is problematic. His birth certificate suggests McIntosh but he frequently used MacIntosh, particularly after he moved to Australia.

[2] A. Lambert and A. Lester, 'Imperial Spaces, imperial subjects', in A. Lambert and A. Lester, eds., *Colonial Lives across the British Empire: Imperial careering in the long nineteenth Century,* Cambridge University Press, Cambridge, 2006, 1-26.

[3] Lambert and Lester, 2006, 11.

of factors beyond the control of the individual'.[4] To this they add two points. Firstly, that knowledge of trans-imperial careers can create new historical debates and unsettle old categories and secondly that they can produce new research agendas that substitute comparison for actual historical (dis)connections between imperial locations. At the same time, they concede that some networks were more powerful and empowering than others (for instance within the European tradition of scientific state forestry, sustained yield management of natural forests had more purchase than exotic afforestation). Finally, obliquely critiquing much old and new imperial history they note that, 'Professional career, family obligations and love were intertwined, and a historiography that insists on separating them - especially separating professional from emotional - is likely to be incomplete'.[5]

To some extent Lester and Lambert's 'imperial careering' intersects comfortably with Phil McManus, who used a variant of Actant-Network Theory (ANT) to reconsider the development of nature-forestry relations in Australia and Canada.[6] While the present paper largely focuses on human action, something that McManus in common with most advocates of ANT argues against, it endeavours to place Ellis in a wider network of forestry ideas. It does extend the approach taken by McManus in at least one way in that Ellis was not of the most senior of the imperial, European or and North America foresters; rather he was, apart from his time in New Zealand, more of a middle management figure. In consequence the careering and the networks also occupy a different stratum than that filled by many of individuals studied in detail in Lambert and Lester.

Using 'imperial careering' as a lens through which to study Ellis' forestry career requires some temporal and spatial extensions of Lambert and Lester's original concept. Ellis' working career spanned from 1910 to 1941 whereas Lambert and Lester concentrate on the nineteenth century. In forestry terms, the centre of the Empire was originally India rather than Britain. Ellis'

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[4] Lambert and Lester, 2006, 21.

[5] Lambert and Lester 2006, 26.

[6] P. McManus, 'Histories of Forestry: Ideas, Networks and Silences', *Environment and History* 5, 1999, 185-208.

career was, however, largely trans-imperial, being played out primarily in Canada, New Zealand and Australia. It is the comparatively undocumented Australian years that are concentrated on here so that his fuller career can be understood.

The Pathway to New Zealand

Ellis' pathway to the position of Director of Forests in New Zealand began with a degree in forestry from the University of Toronto where Bernard Fernow was Dean (1907-1919). Fernow represented a direct link to European forestry practices and came to the position after founding the first North American forestry school at Cornell.[7] There were few professional foresters in Canada at this time and Fernow set high academic standards and made strenuous efforts to heighten public awareness of the profession. As one of the first graduates, Ellis subsequently placed considerable weight on the Fernow connection; he had been taught by an internationally recognised figure in the forestry profession. Following graduation in 1910 Ellis worked for Canadian Pacific Railways (CPR) as Assistant Superintendent of its Forestry Department, based in Calgary (Table 1). His duties were wide ranging and spanned forest management, protection, utilisation, silviculture, botany, and forestry economics. This included forest survey, reconnaissance and valuation work. He also spent time on fire prevention working plans, logging engineering, re-afforestation, and the preparation of forest working plans.[8]

In 1916 Ellis enlisted in the Canadian armed forces and served in France as Assistant Chief Forest Officer in the Forestry Division, rising to the rank of Captain. McKelvey has traced Ellis' wartime forestry duties and concluded that he was impressed by French forestry practice with its 'strict control of yields' and 'careful matching of land use to soil fertility,' the range of forest products, and wider social goals so that revenues and wood

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[7] M. Kuhlberg, 'Bernhard Fernow guided the Faculty of Forestry from its founding a century ago through the tragic losses of the First World War'. Url: http://www.magazine.utoronto.ca/07spring/forestry.asp; downloaded 14 October 2008.

[8] F, Application; Director of Forests, F W1921 1, Archives New Zealand, Wellington.

volumes were not maximised at the expense of local communities.[9] Through his war time contacts with officers who later served on the Board of Agriculture for Scotland, Ellis joined its Forestry Division in June 1919. It was from here, barely a month later that he applied in July for the newly created Director of Forests position in New Zealand.

Table 1 Ellis' Career Path in Forestry 1910 to 1941

Period	Place	Organisation	Motivation
1910-16	Canada	CPR Assistant Superintendent of Forests	First permanent job
1919	UK	Advisory Forestry Officer Board of Agriculture	Opportunity, advancement, & experience
1920-28	NZ	State Forest Service Director	Professional advancement, salary, opportunity to marry
1928-32?	Australia (NSW)	Technical Director Amalgamated Forests (Australasia Ltd), Queensland Forests Ltd and a forestry consultant	Salary and opportunity
1932-35	Australia (NSW, SA, Vic)	Forestry consultant	Economic necessity
1936-41	Australia (Vic)	APM Timber Procurement Officer	Secure employment

[9] P. McKelvey, 'L. MacIntosh Ellis in France', *New Zealand Forestry,* 35, 1989, 16.

Ellis in New Zealand

Following a successful interview in London in November, Ellis arrived in 1920 having married his American fiancé Ima [Adele] Dunn (1894-1983) in Seattle enroute to New Zealand. His appointment was the culmination of a long campaign by influential farmer politicians and tree planting enthusiasts and some key public servants to have a professional forester appointed to head an administratively independent forests department.[10]

On arrival Ellis produced a report on forest conditions in New Zealand that included recommendations for new forests legislation and the organisation of the new department. The challenges facing him were considerable and included concerns about a coming timber famine, a timber industry accustomed to paying minimal royalties for timber, and a farming sector that regarded forest land as potential farmland. Such legislation as there was to control forests management was outdated and fragmented. There were subsidiary problems related to fire as well as damage by browsing animals. On the other hand, early experimentation had shown that a range of exotic tree species grew easily and speedily in the New Zealand setting.

Under Ellis, the State Forest Service (SFS) initially sought to introduce a sustained yield management approach to the harvesting of indigenous forests. Almost in parallel, however, Ellis was taken with the possibilities that exotic plantation forestry offered in New Zealand. In 1923 he returned to Canada to represent New Zealand at the second Empire Forestry Conference.[11] On his return to New Zealand he wrote that, 'it is evident that this Dominion leads the Empire, with the exception of India, in afforestation; in forest-tree nursery technique; and in plantation practise plus fire record and interest in community forests'.[12] In addition, with 400 cu ft/acre [28 cu m/ha] softwood increments, he claimed that New Zealand also led the Empire in terms of growth rates. Against this, he balanced lags in forestry

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[10] M. Roche, 'Ellis, McIntosh 1887 – 1941'. *Dictionary of New Zealand Biography*. URL: http://www.dnzb.govt.nz

[11] L. M. Ellis, *Forest and Forestry in New Zealand. Prepared for the Imperial Forestry Conference, Ottawa*, Wellington, 1923.

[12] Ellis, 'The Empire Forestry Conference', *New Zealand Life and Forest Magazine,* 3, 1923, 6.

education, forest research, and the application of sustained yield management to indigenous forests.[13]

On the basis of a national forest inventory of indigenous forests from 1921-1923, Ellis predicted that demand would exceed supply by the mid 1960s and quickly implemented a bold ten year 300 000 acre [121 403 ha] exotic state planting scheme. The state has been involved in tree planting since 1898, but Ellis' plan was vastly larger in scale and envisaged a series of regional timber supply forests. Much of the planting was concentrated at Kaingaroa where 'bush sick' cobalt deficient Crown Land, uncontested by the farming sector, was available for planting.[14]

The private sector also quickly responded to the possibilities of growing mature timber within 25 years and a number of afforestation companies were formed to buy and plant freehold bush sick land adjacent to state forest lands in the central North Island. From about 1925 Ellis also actively contemplated that these state forests would form the basis of a pulp and paper industry; the prescience is more apparent when it is realised that it was not then known how to pulp *Pinus radiata* or whether it would even produce pulp suitable for newsprint. Ellis soon anticipated that 'New Zealand must surely become the timber farm storehouse for Australasia, for in the growth, production, and exploitation of pine-fir softwoods timber forest crops she is unexcelled.'[15]

Ellis' appointment was by three year contract, rather than as a permanent member of the public service. He faced ongoing frustrations over recompense for travel expenses. In addition some officials considered his estimates of the future harvest yields from exotic trees and the eventual extent of the afforestation programme excessive (Ellis speculated about 5 million acres [2.02mill ha])[16]. In December 1927, Ellis went privately to

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[13] L.M. Ellis, 'The Empire Forestry Conference', *New Zealand Life and Forest Magazine,* 3, 1923, 6.

[14] M. Roche, 'Ellis, McIntosh 1887–1941', *Dictionary of New Zealand Biography*. URL: http://www.dnzb.govt.nz

[15] Ellis, 'New Zealand – The Timber farm of Australasia', *New Zealand Life*, 4, 1925, 7.

[16] By 2006 the net stocked area of plantation forest all ownership classes amounted to 1.8mill ha. See *New Zealand Forest Industry Facts and Figures 2007/2008*.

Australia to investigate job prospects. After his return, he was offered a further three year contract but with his £1000 salary fixed at 1920 levels. Ellis initially accepted this before resigning abruptly in early March 1928 effective from the end of the same month, to pursue 'private proprietary timberland and afforestation activities in Australia and New Zealand'.[17]

Ellis in Australia

Ellis was 41 at the time he sailed to Sydney and returned to the private sector. His new employer was presumably able to offer an attractive salary, particularly by New Zealand public service standards. Ellis' absence in Australia caused speculation amongst some of his staff that he was considering an afforestation job in Queensland; the salary was put at £1500.[18] Previously I have taken the view that Ellis, in keeping with his bold and outspoken character had suddenly resigned and departed. I now see his decision as more considered so that when the New Zealand government offer did not meet his needs (or when the Australian firm increased theirs) he opted for the position in Sydney. What is intriguing is the question of what interests Ellis intended to pursue in New Zealand – was he hoping to facilitate Australian involvement in the afforestation boom? But if it was a move made in haste it was to be repented at leisure for Ellis was never to emulate the success of his New Zealand career in Australia.

Upon his arrival in Sydney Ellis, took up a position with E.S. and E.C. Moulton, a Queensland registered finance and development company that among other things promoted bond selling afforestation companies. Ellis was involved simultaneously in the management of Queensland Forests Ltd and Amalgamated Forests (Australasia) Ltd, two of Moulton's subsidiary companies.

Url: http://www.maf.govt.nz/statistics/forestry/other-forestry-releases/facts-figures/facts-figures-07-08.pdf

[17] *The Dominion*, 10 March 1928.

[18] Ward to Entrican, 6 June 1928, F W607 5f, Miscellaneous 1927-1930, Archives New Zealand, Wellington. This involved not only Ellis. New Zealand Perpetual Forests, for instance in 1926 had successfully recruited H.A. Goudie formerly Conservator of Forests for Rotorua and a local expert on Australian eucalyptus species in New Zealand (see B. Healy, *A Hundred Million Pine Trees*, Auckland, 1982).

Moulton's advertised Queensland Forests Ltd to potential investors in April 1928 in *Smith's Weekly*, melding nationalist rhetoric about seeing 'Australia completely self-supporting in timber and forest products' to the possibilities of pulpwood production along with large scale afforestation schemes for north Queensland. Bond holders were promised £100 return for each £5 bond purchased.[19] Ellis was used in company promotion. Referred to by his wartime rank of Captain, he was extravagantly described in the press as 'one of the greatest forestation experts within the Empire' having been appointed to the New Zealand position because of his 'international reputation' and now was heading the company's technical staff.[20] In advertising material published later in that year, Ellis having made an inspection tour of Queensland was quoted making lavish claims such as 'Nature certainly intended this ideal region [of north Queensland] for the growth of high-quality timber and it has protection against forest fires'.[21] Ellis had identified some potential forest land for purchase by Queensland Forests near Johnstone River in North Queensland immediately after his arrival in 1928. This led unexpectedly to a major semi-commercial project in which Ellis had a financial stake. With typical flair he persuaded the company to go ahead with the formation of a 60 acre [24 ha] plantation of Tung trees (*Aluerities fordii*) at Johnstone River, even though it was not part of its original planting objective. Oil produced from Tung oil nuts was superior in many ways to Linseed oil and an important ingredient of paints and varnishes in the 1920s. Ellis had become particularly interested in this species immediately before leaving New Zealand.[22]

In 1929 Moulton's floated Amalgamated Forests (Australasia) Ltd where Ellis was listed as both a director and Director of Technical Operations. In the latter role, he promptly investigated timber resources in New South Wales, Victoria, South

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[19] E.S. Moulton, 'Capitalise Opportunity', *Smith's Weekly,* 4 April, 1928. The time elapsing before the return on the investment was paid was not clear in advertising material.

[20] Anon, 'A Man of Great Achievement', *Smith's Weekly*, 5 May, 1928.

[21] Queensland Forests Ltd*, Smith's Weekly*, 5 August, 1928.

[22] Roche, 'Tung Oil in Australasia; A network perspective' *Geographical Research,* 47 (forthcoming 2009).

Australia, Western Australia and Melville Island in Northern Territory. Amalgamated Forests also bought 787 ac [318 ha] of forest in Queensland expecting to resell this for a four fold sum within five years. As Director of Technical Operations, Ellis was instrumental to these acquisitions. A further 2104 acres [826 ha] containing an estimated 5mill sp ft [11799 cu m] was purchased in the Johnstone Valley in Queensland.[23] The 'Australasia' part of the company name hints that the original plan may have included afforestation development in New Zealand, but this did not eventuate as general economic conditions deteriorated and raising capital by bond selling became more difficult. His hopes for brokering forestry initiatives in New Zealand were unrealised. He appears to have left Amalgamated Forests to work on his own account as a forestry consultant some time in the early to mid 1930s before joining APM in 1936. Throughout this time he undertook some independent consultancy work - a point he negotiated as part of his contract.[24] He also had a short-lived involvement in tobacco growing.[25]

Though he had left state forestry for private sector forestry Ellis continued to maintain a peripheral involvement in the former on both sides of the Tasman. From Australia he maintained an active interest in the forestry scene in New Zealand. This led him to vigorously oppose the proposed merger of the SFS with the Department of Lands and Survey in 1931. In a letter to Wellington's *Dominion* newspaper, he mixed pleas of Empire and nationalism in forestry policy while positioning himself as, 'one who loves New Zealand' and predicting that it was 'destined to be one of the chief tree depots of the Empire'.[26] This did not prevent him incurring official ire in New Zealand with his 'fantastic estimates' of an exportable surplus of 50mill sp ft [117 990 cu m]

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[23] E.S. & R.C. Moulton Ltd, AANI W3219 93 29/5/0A, Australian Forestation Companies General File 1929-1947, Archives, New Zealand, Wellington.

[24] F1/48/2/21, Tung Oil part 2 1929-1930, Archives New Zealand, Wellington.

[25] Ellis to Entrican, 8 December 1931 F W607, Correspondence A.R. Entrican with L. McIntosh Ellis, Archives New Zealand, Wellington.

[26] *The Dominion*, 4 July 1931.

within a decade.[27] His expertise was also drawn on by Roy Vincent, the New South Wales Minister of Forests, when he was looking to restructure the state's forest service in 1933, but Ellis operated mainly in the private sector.[28] Lane Poole, the Commonwealth Inspector-General of Forests who feared Vincent was backing away from a professional model for forestry vilified Ellis as 'the Director of a discredited bond selling plantation company'.[29]

In 1934 Ellis returned to New Zealand to give evidence before the Commission of Inquiry into the bond selling methods of afforestation companies.[30] This was to be his last trip to New Zealand. Ellis expressed the opinion of most professional foresters in Australia when he spoke against the excesses of this form of forestry promotion. When new company's legislation curtailing bond selling was enacted in NSW early in 1935, Ellis expressed his pleasure to Dr Howe, the Dean of the Forestry School at Toronto, noting that, 'I have been battling for this for years and take credit for getting legislation down'.[31] This possibly overstated Ellis role.

Sinclair indicated that Ellis was sent by APM to South Australia around 1934-1935 to investigate whether it would be possible to secure thinnings from plantation forests to supplement its mill supplies.[32] In the longer term it was considered that a mix of pine and eucalypt wood fibre would produce the best paper. Swain had also been engaged by APM and the South Australian government in 1933 and 1934 to report on paper pulp resources in the state. Ellis was then probably working in the role of forestry consultant rather than as company employee. In any case, the publication of the 1936 Report of the

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[27] Entrican to Swain, 17 August 1935 F W607 2b, PSA Appeals, Archives New Zealand, Wellington.

[28] Ellis to Entrican, 20 October 1933, F W607 2b, PSA Appeals, Archives New Zealand, Wellington.

[29] J. Dargavel, *The Zealous Conservator, a Life of Charles Lane Poole*, Crawley WA, 2008, 159.

[30] T 67 6 Original Evidence Commission of Inquiry into Company Promotions Methods, Archives New Zealand, Wellington.

[31] Ellis to Howe, 1935 (Pers. Comm. Dr Mark Kuhlberg, 2008).

[32] E.K. Sinclair, *The Spreading Tree. A History of APM and AMCOR 1844-1989,* Allen and Unwin, North Sydney, 1990.

Royal Commission on Afforestation, by which time he was on the APM staff, would have caused a more introspective individual some concern, for although Ellis was not a witness, his words appeared in several places in the commission's report. Previous correspondence from Ellis to former South Australian Conservators of Forests, E. Julius and G.J. Rodger was quoted. In the latter case this was merely a glowing statement about being 'amazed' at the growth rates of the pine plantations.[33] Having only recently returned from New Zealand where he had appeared as a witness in front of the Company Promotion Commission, he had slammed the existing APM proposals: 'it would be absolute suicide for the Government to alienate its pine plantations on the basis proposed by the Australian Paper Manufacturers' and supported the orthodox forestry view that the pulping operations should be ancillary to saw log production.[34] The APM proposal he thus also condemned for silvicultural reasons: 'if you extract 50 to 60 per cent of the stand in the manner suggested, it practically means the destruction of the balance and the desiccation of the soil'.[35] On the other hand, he also reported from contacts in the USA pulp industry of technical developments that had made it economically feasible to build much smaller capacity plants.[36] In 1934 when the South Australian Royal Commission was sitting, Ellis was still clearly able to think like a public service forester and be critical of the timber and pulp industry gaining overly cheap access to timber from state forests

He made an unsuccessful attempt to re-enter the public service in 1935 when he applied for the position of Commissioner of Forests for NSW. This had been left vacant when Jolly's contract came to an end in 1932. The controversial E.F.H. Swain, formerly Director of Forests in Queensland, became the successful applicant.[37] Lane Poole, the Commonwealth government's

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[33] *Report of the Royal Commission on Afforestation*, South Australian Parliamentary papers No 56. 1936, 18.

[34] *Report of the Royal Commission*, 37.

[35] Ibid.

[36] *Report of the Royal Commission*, 41.

[37] This was a highly-charged appointment in that Lane Poole of the Commonwealth Forestry Bureau had attempted to urge the appointment of a professionally qualified forester to the position;

Inspector-General of Forests, saw a conspiracy. In his infamous 'Swain dossier' he even asserted APM had exerted political influence to have Swain appointed.[38] The New Zealand government's reply to a confidential inquiry from the NSW Premier about Ellis was damning with faint praise noting only that: 'He did valuable work in organising and controlling a progressive forest policy but is unduly optimistic impulsive and somewhat difficult to get on with'.[39] There is doubt over the seriousness of Ellis' application for he had earlier urged Entrican to apply for the job (which the latter did unsuccessfully). On the other hand this could be read as a further instance of Ellis' opportunistic behaviour. This was a critical juncture in his Imperial journey, a point at which Ellis might have been able to restore his career as a senior public sector forester. It led Ellis to look again to the corporate sector for his future.

Around 1936 Ellis joined APM as Wood Procurement Officer. In this capacity he was involved in at least two episodes of significance to the story of Australian industrial forestry. This move may have finally provided him with financial security, Lane Poole noted that that Ellis has: 'Swain's job at A.P.M. and is stated to be receiving £1600!'.[40] APM by the mid 1930s had decided to build its Maryvale kraft paper mill in Victoria. Trial operations began in 1937. Ellis had worked for Laurentide Pulp and Paper Company over summer breaks while an undergraduate; doubtless he drew on this prior experience and was able to present himself as having expertise scarce in the Australian context. He played a major role in AMP's Gippsland wood resources survey and was

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Australian born Swain had no formal qualifications. See J. Dargavel, *The Zealous Conservator, a Life of Charles Lane Poole*, Crawley WA 2008).

[38] Lane Poole to Howie, 10 February 1936, AA1975/142, Swain Dossier, National Archives of Australia, Canberra. Digital copy bar code 2165649 (downloaded 14 November 2008).

[39] Thomson to Ransom, 2 May 1935, F W607 4, Leon McIntosh Ellis, Archives New Zealand, Wellington.

[40] Lane Poole to Howie, 10 February 1936, AA1975/142 Swain Dossier, National Archives of Australia, Canberra. Digital copy bar code 2165649 (downloaded 14 November 2008). By 1936 the New Zealand Director of Forests salary is not shown in the public service lists of the time but with cuts to state salaries in the early 1930s was unlikely to have been close to this figure.

responsible for the organisation of the pulpwood contracts for the mill. To do this he had to complete the first basic studies in accurate measurement of pulpwood species in the region.[41] As before, he appears to have undertaken some consultancy work in addition to his duties with APM.

The fires of Friday 13th January 1939 destroyed much of Victoria's forest lands in one of the worst conflagrations since European settlement This was to be the subject of a Royal Commission chaired by Justice Stretton.[42] In the immediate aftermath of the fires, FCV Chairman Galbraith estimated that 1.25 million [505 847 ha] acres representing 26% of reserved forest had been burnt. An even greater 3.0 million acres [1.21mill ha] of protected forests and 900 000 acres [364 210 ha] of private forest land was also burned.[43] This would have touched Ellis personally for his former assistant, John Barling, who had returned to the Victorian Forests Commission, was amongst the 72 who perished in the fire.[44] The APM mill at Maryvale was saved, however, and Ellis was sent to survey the smouldering forests. Again he had valuable prior experience in this area having undertaken a valuation of fire damaged forests when working for CPR.[45] He returned: 'weary and dispirited to report the almost total loss of their prime source of pulpwood in the areas designated by the Forests Commission for APM's use'.[46]

Ellis himself seemed to recover his spirits and later in 1939 was corresponding with Entrican, soon to become Director of Forests in New Zealand, about the limitations of the statistical section of the NZFS annual report and about how Whakatane Paper Mills pulping operations were proceeding while intimating that the Maryvale plant would be producing a 100 per cent

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[41] E. K. Sinclair, *The Spreading Tree. A History of APM and AMCOR 1844-1989*, North Sydney, 1990, 95.

[42] The fires and their aftermath are discussed in T. Griffiths, *Forests of Ash, an Environmental history*, Cambridge, 2001.

[43] A. V. Galbraith, A.V. 'The Disastrous Forest Fires of January 1939, in Victoria', *Empire Forestry Journal,* 18, 1939, 14.

[44] Sinclair, *The Spreading Tree*, 98.

[45] F, Application; Director of Forests, FW 1921, 1, Archives New Zealand, Wellington.

[46] Sinclair, *The Spreading Tree*, 99.

eucalypt pulp by August, a claim which Entrican replied to in a sceptical tone.[47]

Ellis maintained his Sydney residence for some time, although by 1939 his forest consultant's letterhead gives a Melbourne address - the Hotel Alexander in Spencer St, Melbourne. By 1941 he is no longer listed in the Sydney directories and his wife and family had returned to the USA a decade earlier. He was, now in poor health and in November 1941 Ellis died of complications from long term kidney disease aged 54.[48] Ellis died intestate and court documents point to the reduced financial circumstances that he found himself in middle age. He owned shares to the value of £1143 and had furniture worth £165 in storage in Sydney. The list of shares identifies retrospectively some projects in which he had invested high hopes but which had failed. These included 200 shares in Amalgamated forests (Australasia) Ltd recorded as being in liquidation and 101 shares in Tung Oil Industries Ltd marked as valueless by his trustees.[49]

Discussion

Lambert and Lester pay attention to the ways in which local environments shaped the attitudes of 'imperial careerists.' In this respect it is revealing to appreciate how Ellis interpreted his time in New Zealand and Australia. In his 1919 New Zealand application, Ellis described himself as 'Canadian Scots'. He later claimed to have given New Zealand 'the ten best years of my life'.[50] In Australia he repeatedly lauded the possibilities offered by the country to Alex Entrican, whom he had hired as the State Forest Service's Engineer in Forests Products in 1921. Their personal correspondence began when he left New Zealand and continued until Ellis' death in 1941. Ellis was invigorated by what he saw as a more entrepreneurial business attitude, though his timing was

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[47] Ellis to Entrican, 16 May 1939 Entrican Papers, Acc 73-103 No 7 Personal File 7, Alexander Turnbull Library, Wellington.

[48] This segment of Ellis' career as outlined here is still somewhat tentative and requires further investigation.

[49] Leon MacIntosh Ellis 4/278628 box S1 1542 Probates, State Records, NSW, Sydney.

[50] *The Dominion*, 4 July, 1931.

bad and the Great Depression must have diminished his prospects. Later however, he praised the possibilities of the Australian environment and proposed making use of the introduced Tung tree plantations (*Aluerites fordii*) as the solution to the problem of north Queensland's empty lands. He lauded Queensland as: 'the finest state in the British Empire in its array of natural wealth and liveability'.[51] Australia was a land of opportunity for the bold individual and he on more than one occasion suggested that Entrican should join him in Australia in a variety of business ventures. Swain, in turn, labelled Ellis a 'Canadian-Australian.'

Despite his enthusiasm for Australia Ellis did not achieve the financial rewards and security he sought there. His at times almost frenetic behaviour in Australia, especially his overly optimistic remarks about plantation softwood yields and enthusiasm for high risk and off beat investment ventures (which Entrican generally managed to hold at arms length) was in keeping with his temperament. Perhaps there is also an element of the gambler at play here hoping to recoup his loses and come out ahead and thus deep down to justify his move to Australia. But then again Ellis was not one to sit in one job in one place for an extended period of time. Swain's obituary for Ellis hinted that he had changed, that he had come to terms with his circumstances, a situation that may have been reinforced by his health problems in his last years.[52]

How was Ellis remembered in New Zealand and Australia on his death? The *New Zealand Journal of Forestry* obituary of 1942 began by noting that he had been a long time in Australia and with his: 'divorcement from public forestry for over 12 years' his death had gone almost unnoticed.[53] In 1928 the predecessor journal *Te Kura Ngahere* had written, on the occasion of his resignation, of Ellis': 'intense energy, boundless enthusiasm and determination [that] were vital factors in building up in a very

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[51] Ellis to Entrican, 28 February 1931, F W607 2f, Correspondence A.R. Entrican with L. McIntosh Ellis, Archives New Zealand, Wellington.

[52] E.F.H. Swain, 'Vale Leon MacIntosh Ellis – Forester', *Australian Timber Journal,* 7, 1941, 535.

[53] Anon, 'Leon McIntosh Ellis BSci F', *New Zealand Journal of Forestry,* 1942, 5, 6. Admittedly obituaries penned close to the time of the events at hand may conceal as much as they reveal.

short space of time from very small beginnings, an efficient forestry organisation'.[54] Memory is fickle.

Swain was more direct, the *Australian Timber Journal* noting that, he: 'died an honored member of that [APM] organisation, at aged 54, before he had realised the full possibilities of an unusually high potential' and that: 'MacIntosh Ellis had greatness – and possibly some very human weaknesses – and withal as a big man capable of big things'.[55] Showing his own loquaciousness, Swain continued that:

> There are many in the widespread British Empire who will feel a private pang of regret at the passage of this man, and none will not forgive whatever defects of human-ness made up Leon MacIntosh Ellis – a courageous, sagacious, and creative Canadian-Australian who worked powerfully, suffered somewhat, acquired wisdom, and gathered friendship.[56]

Swain and Ellis' paths would have crossed more than once. Swain was Director of Forests in Queensland when Ellis was with Queensland Forests Ltd. Likewise Swain had prepared a lengthy report for APM on plans to establish a softwood plantation based pulp mill in South Australia about the time Ellis visited them and was appointed as Commissioner of Forests for NSW in 1935.

Ellis' time at CPR gave him a broad experience in forestry matters and the capacity to plan boldly on a large scale. War service in France enabled him to see at first hand Normandy's well-managed forests. France and Germany can lay claim to being the European cores of modern forestry science. New Zealand, however, offered Ellis the opportunity to exercise high level professional leadership and vision in a senior public service position.

Ellis responded by placing state forestry in New Zealand on a firm foundation administratively and legislatively, in a very short space of time. He also initiated a 300 000 acre [121 403 ha]

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[54] Anon, 'Notes', *Te Kura Ngahere,* 2, 1928, 36.

[55] Swain, 'Vale Leon MacIntosh Ellis', 535.

[56] Ibid.

state exotic afforestation planting boom that in some ways moved away from an orthodox forestry position[57]. Ultimately, salary issues propelled Ellis to Australia. Presumably Ellis did not resign easily, even though as he signalled in his application he saw himself as a man of action rather than contemplation. To be head of a national forest service was in many ways the pinnacle of a professional forester's career and Ellis reached it a mere 13 years after graduating at the comparatively young age of 33. Perhaps Ellis believed that Australia offered more scope for him. In some senses it did in terms of a range of consulting work and a return to employment in the pulp and paper industry, but never again was he to have the same degree of responsibility and public profile. His attempt to re-enter the public forestry sector in 1935 was unsuccessful. There are signs that Ellis' personal life was under pressure; around 1931 Mrs Ellis returned to her native USA with their three children though the couple were never divorced. When Ellis wrote in 1931 that he gave New Zealand 'ten of the best years of his life' this was to prove to be a prophetic statement in both professional and personal terms.

As a member of what was still a comparatively new profession in the 1920s, Ellis also maintained formal links and connections via a raft of memberships that included the New Zealand Institute of Foresters for which he served as inaugural president for a time in 1928. More importantly he also belonged to the Canadian Society of Forest Engineers (founded in 1908), the Society of American Foresters (founded in 1900) and the Society of Foresters of Great Britain (founded in 1925). He was a Fellow of all of these but was not a member of the Institute of Foresters of Australia. This was not incorporated until 1935 and membership was restricted to university and Australian Forestry School graduates.[58] On the point of joining APM, Ellis arguably showed a degree of shrewdness in keeping his distance. Ellis' professional world was one that pivoted around North America, Britain, and New Zealand. In terms of training and early work experience, however, it was centred on North America. Fernow's influence at Toronto and Ellis' own first-hand experience of French forestry meant that for Ellis the 'Empire' was not overwhelmingly centred

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[57] Roche, 'Ellis, McIntosh 1887 – 1941'.

[58] J. Dargavel *The Zealous Conservator, a Life of Charles Lane Poole*, Crawley, WA, 2008, 167.

on Britain. Indeed the manner in which he reported on Indian forestry practices suggests that it was not until the Empire Forestry Conference of 1923 that it even became particularly 'Imperial'. Even so, as Powell has recently pointed out the Indian forestry model in itself was not as portable as some of its proponents argued.[59] But Ellis was still part of what Dargavel refers to as an: 'international cadre of cheery, beery foresters…with a widely shared set of beliefs, values and friendships.'[60]

Conclusion

Forestry has a complex 'geography' in imperial terms and Britain itself was not the major node although with the post war series of Empire Forestry Conferences British foresters sought to assume a greater role. Ellis provides a good example of trans imperial mobility, being a Canadian forester who moved from industrial forestry in Canada to the public sector in Scotland and New Zealand and then to private consulting and finally back to industrial forestry in Australia The forestry conditions were diverse but foresters such as Ellis believed that they had the knowledge to understand how to manage indigenous forests in the long term and to create exotic softwood plantations in a range of environments. In doing so he was buttressed by a network of professional societies that legitimised their efforts. While Ellis was a member of the Society of Foresters of Great Britain, he also belonged to older forestry societies as well as the New Zealand Institute of Foresters; what Lambert and Lester refers to as trans-imperial and extra-imperial networks were important to Ellis, but seemingly it was not an either or situation for he maintained his membership of the British and US organisations. He also embarked on an extensive exotic afforestation programme while in New Zealand, an endeavour that took him beyond the bounds of much conventional forestry practice. Factors beyond his control shaped Ellis' career in Australia, notably the impact of the Great

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[59] J.M. Powell, '"Dominion over palm and pine"; the British Empire Forestry conferences, 1920-1947', *Journal of Historical Geography*, 33, 2007, 852-877.

[60] J. Dargavel, *Fashioning Australia's Forests,* Oxford University Press, Melbourne, 1995, 67.

Depression and legislative changes constraining forestry company promotion. Victoria's 'Black' Friday (13 January 1939) fires would also have markedly changed his work at APM.

This examination of Ellis' career in forestry shows that during the period between the 1920s and 1940s the 'complex spatiality of empire' and 'networked notions of empire' became even further complicated and entangled than that portrayed by Lambert and Lester in the nineteenth century. The situation became increasingly complicated as the Empire contained a number of self governing Dominions and subsequently moved towards redefining itself as the Commonwealth and ultimately the end of the links of formal empire. [61]

Lambert and Lester also write of the importance of bringing together the professional and the emotional. Ellis' surviving locatable correspondence tends to be overwhelmingly professional, although there is some 'work gossip' about forestry contemporaries and exchanges of family pleasantries with Entrican, especially when they both had young families. What is known, however, is that Ellis' family did not remain with him in Australia but returned to the USA. Simultaneously he was facing difficulties as his prospects with Queensland Forests and Amalgamated Forests faded. In the following years he unsuccessfully attempted to return to state forestry circles and worked precariously as a consultant until again securing regular employment with APM.

Lambert and Lester's 'imperial careering' provides a useful framework for studying the degree of mobility that was still possible within the empire for white male professionals even in the interwar period and allows an alternative to studying the emergence of forestry as a national development narrative. Ellis himself wrote jointly about Australia and New Zealand as the 'Antipodes'. In his career as a forester Ellis was closely engaged with making and remaking landscapes, notably in New Zealand the pinus plantations of Kaingaroa, so in both his surviving professional writing as well as on the ground his imprint remains. Other than that being in Australia freed Ellis' entrepreneurial streak which was doubtless much constrained in a pubic service setting in New Zealand, there is little evidence of 'clear changes in

[61] Powell, '"Dominion over palm and pine"', 852-877.

personhood that came from dwelling in different places'[62] The limitation resides not so much within 'imperial careering' as a concept as in the fragmentary resource material about Ellis' time in Australia.

Ellis was already ready to seize new opportunities and to take calculated risks. This is evident in the way in which he moved post war from the Board of Agriculture in Scotland to New Zealand and then on to Australia. The exotic planting boom in New Zealand was innovative and contained some risks to do with monoculture vulnerability, narrow age class distributions of the forests and some unknowns about milling and processing. The difficulties were overcome by later foresters but in Australia, Ellis never achieved similar success. The Great Depression ruined his business aspirations and some riskier ventures such as Tung Oil plantations did not produce the anticipated profits. He was also peripherally caught up in the contest between the professionally trained foresters and non-qualified forestry officials for control of forest administration at the state level. In New Zealand Ellis demonstrated considerable leadership ability in sometimes difficult circumstances. In Australia he accepted roles as a team player. Ellis remained optimistic about his prospects in Australia, at odds with the evidence about his family circumstances and professional difficulties. This was not however out of character for he was more interested in action than reflection about what might have been.

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I wish to thank Dr John Dargavel (ANU) for helpful comments and encouragement in preparing this preliminary assessment of Ellis' career in Australia and New Zealand and Professor Mark Kuhlberg (History Department, Laurentian University) who has completed a major study of the Forestry School at the University of Toronto for sharing material about Ellis. The usual disclaimer applies.

THIS ARTICLE HAS BEEN PEER REVIEWED.

[62] Lambert and Lester, 26.

KIRSTIE ROSS, *GOING BUSH: NEW ZEALANDERS AND NATURE IN THE TWENTIETH CENTURY*, AUCKLAND UNIVERSITY PRESS, AUCKLAND, 2008.

PAUL STAR

Harry Orsman, in his *Dictionary of New Zealand English* (1997), shows that the phrase 'to go bush' has been used since at least 1941 to mean 'to leave urban life for that of the rural outdoors; to practise or revert to a rough or outdoor way of life'. This is the meaning behind the title of Kirstie Ross' book, *Going Bush*, though she perhaps also wants us to keep in mind that New Zealand's 'bush', its prime indigenous environment, was indeed 'going' when European settlers got serious about going into it for recreation or re-creation. 'Today', she notes, 'environmental issues seem to proliferate at a rate inversely proportional to the amount of pristine nature remaining' (p 168).

This, however, is not primarily a work of environmental history, but rather one of social history, about the people going bush, far more than about the bush itself. The subtitle, *New Zealanders and Nature in the Twentieth Century*, not only identifies the approximate time period under consideration (Ross actually begins with the 1890s), but also confirms that her subject is New Zealanders first and nature only second. 'The overarching aim is to show how ideas about nature…have broadly shaped New Zealand society, and how Pakeha have translated the nature of New Zealand into a national culture' (p 3). It is altogether appropriate, therefore, that this book is published as one of Auckland University Press's 'Studies in Cultural and Social History'.

Going Bush follows a roughly chronological sequence, and is neatly divided into four chapters sandwiched between an introduction and conclusion. Chapter One begins by discussing Arbor Day, first celebrated in 1892 and devised as an encouragement to plant trees to counteract deforestation, but concludes that it was 'no more than a symbolic moral gesture in a land with an economy that was, first and foremost, agricultural' (p 50). More of the chapter concerns the development of nature

study as a school subject from 1905, under new regulations introduced by George Hogben as Secretary for Education. Nature classes, the school gardens that supplemented them and the emphasis given to nature in the *School Journal*, are presented as having a more lasting influence than Arbor Day in developing a new generation's awareness of nature.

This is most interesting, but there is fuzziness about what 'nature' was studied. Ross, later in the book, appears to accept that nature is not a fixed entity, but rather 'a cultural process…always subject to revision' (p 165). Undoubtedly under European settlement, the distribution and constituents of New Zealand's biota changed rapidly, and (as Ross demonstrates) Pākehā New Zealanders' attitudes also changed towards this moving target, with greater appreciation of its indigenous elements. But since school gardening or cottage gardening soon morphed into 'elementary agriculture', the emphasis at this time was evidently still very much more upon exotic and/or useful plants than on native flora or the 'pristine' bush. There is evidence in Chapter One of a sort of nature awareness, but not of bush awareness.

In Chapter Two we learn of some Pākehā experiencing the bush as a 'landscape for leisure' from 1919 onwards, as members of organised tramping clubs. There is useful material on the expansion of this activity from 1932, with the introduction by the Railways Department of 'mystery tramps' that sometimes resulted in the pillaging of indigenous plants. Among club members, however, Ross identifies a move 'to foster the appreciation and protection of native flora and fauna' (p 56). Whether or not we agree that this 'demonstration of environmental stewardship' was stimulated by a wish from the 1920s to confirm trampers' rights, this is a clearer indication than anything in the previous chapter of an increasing Pākehā interest in nature as expressed through the indigenous biota. By taking her account through to the passing of the Native Plants Protection Act of 1934, Ross confirms this trend.

Chapter Three focuses on the later 1930s and describes different aspects of Pākehā engagement with the New Zealand landscape. Ross links the flooding of the Esk Valley in 1938, as dramatically experienced by members of the Heretaunga Tramping Club, with growing awareness of wider environmental problems and the absence, at that time, of central government mechanisms to deal with them. She then hones in on the activities of Joe Heenan and his colleagues at the Centennial Branch of the

Department of Internal Affairs. In the build-up to the celebrations of 1940 they emphasised the importance of memorial tree planting, which both 'acted as a historical marker that divided national life into the past and the future' (p 110) and also, supposedly, fostered conservation. Ross notes, however that 'symbolic tree planting in town parks was a futile gesture towards soil protection' (p 123), a subject which only received constructive treatment with the Soil and Rivers Protection Act of 1941.

The fourth chapter, following on a time when 'national security, not national parks, absorbed everyone's attention' (p 125), looks at the years after the Second World War when nature – though now more often described as 'the environment' – took its place on centre stage. Ross refers to the work of the Tourist Development Committee in the years preceding the comprehensive national parks legislation of 1952, and to the development of an infrastructure to improve access to and enjoyment of the bush. During the 'fifties, she finds, national parks became 'an accepted part of New Zealand's domestic life and...one of the natural habitats of New Zealand holidaymakers' (p 155).

Given the greater numbers spending leisure time in the bush, an explanation is provided for the unprecedented degree of public opposition to government's proposal in the 1970s to raise Lake Manapouri for a hydro-electric scheme, to the detriment of the surrounding bush. Ross states, rather simplistically, that in 1973 'the power of the people...triumphed over power in the park, and confirmed that New Zealand's nature belonged to New Zealanders' (p 158). In fact a compromise position was reached, with the level of the lake raised less than first proposed. Ross does not refer to the parallel, and unsuccessful, attempt by environmentally-conscious Australians to prevent or scale down the flooding of Tasmania's Lake Pedder. This is one of many instances where, given the space, some comparison with settler/environment relationships overseas could have enriched Ross's study. One endnote does at least mention the recent work by Australian author Libby Robin on *How a Continent created a Nation* (2007).

Starting with the evidence Ross provides from the 1930s, we begin to see not just an appreciation of and concern for the bush and concern for the bush but association of the bush with New Zealandness. Indigenous nature was increasingly portrayed

as a significant aspect of national identity, and 'nature as national culture' is specified as the conclusion's theme. Having summarily described events from the mushrooming of environmental ideas in the 1970s to the rise of the Green Party in the 1990s, Ross ends with an ironic reference to the 'cultivated reproduction of ... lost bush but association of the bush with New Zealandness. Indigenous nature was increasingly portrayed as a significant aspect of national identity, and 'nature as national culture' is specified as the conclusion's theme. Having summarily described events from the mushrooming of environmental ideas in the 1970s to the rise of the Green Party in the 1990s, Ross ends with an ironic reference to the 'cultivated reproduction of...lost bush' that Tourism New Zealand sponsored for the Chelsea Flower Show in 2004, 'to show the successful transformation of colony into nation, nature into culture, and that by settling and unsettling these islands we had become "ourselves"' (p 170).

This is a book about *Pākehā* going bush, not about Māori going bush. Ross accepts that 'Pakeha New Zealanders' "proper sense of place" is now inextricably linked to debates about the legitimacy of occupation...[and that] they must define themselves in relation to another culture – not just through nature' (p 167). This comment comes at the book's tail end, however, and points to one of the book's silences rather than addressing it. The occasional mention of Māori is sometimes simply used to exemplify the view that, until the end of the period, Pākehā failed to give Māori much consideration.

Another silence in this book relates to those many twentieth century Pākehā who went into the bush not as trippers or trampers, but as hunters. Ross refers frequently to what I would call the 'forest and bird' tradition, but has nothing on the equally significant tradition of 'fish and game'. While hunters have, for the most part, sought exotic game like pigs and deer, they have done so within a context of indigenous nature, growing as aware of it as trampers. Indeed, while most trampers stick with the human-made tracks and signs that are, in Ross's terms, among the most powerful indications of the claiming and occupying of recreational space, hunters move away from them to seek a different kind of 'sign', sometimes resulting in a deeper ability to read and understand the country's landscapes.

Ross includes a famous photograph of Bill Parry as Minister of Internal Affairs with a rifle in his hand. She writes,

however, only about his wish in 1939 to 'democratise the scenic hinterland…[through] a scheme of state-supervised commercial tramping' (p 88). While we learn that he evolved his plan when deer hunting, this fact is not reflected on. Thomas Donne who, as head of the Tourist Branch, impacted strongly on how New Zealanders regarded the bush at the beginning of the twentieth century, was informed by his recreational interests as a hunter. The poet Brian Turner, an influential commentator on the environment's importance for Pākehā culture at the end of that century, experienced nature as a freshwater fisherman. Ross mentions nether Donne nor Turner. Fair enough, perhaps, in a book of only 170 pages. I am surprised, though, at the complete absence of reference to New Zealand's extensive hunting and fishing literature (other than one line about Barry Crump), and to the role of acclimatisation society members as interlocutors between nature and culture.

Nevertheless, this book is a very useful addition to the literature on New Zealanders and nature, where scholarly attention has too often focussed on the period before the First World War without properly getting to grips with what has happened since. David Young's history of *Our Islands, Our Selves* (2004) marked a significant step forward in this regard. Ross' book takes us further, revealing new gems found within the holdings of Archives New Zealand in Wellington in particular. The text is supplemented by a stunning selection of beautifully reproduced black and white photographs and other images, almost all from North Island sources.

By exploring an area of overlap between the subject matter of environmental and social historians, Kirstie Ross has uncovered and analysed material of interest to both groups, which may help each to better appreciate the other. She has done more than this, in then turning her findings into this handsome, well-written and well-illustrated book. *Going Bush* will be a 'good read' not only for scholars, but for those many other New Zealanders who take an interest in their nature.