



from acclimatisation towards ecology

THE INFLUENCE OF ENVIRONMENTAL THOUGHT
IN MELBOURNE'S PUBLIC PARKLAND

CA1850 – 1920

Georgina Whitehead

B App Sci (Landscape Architecture)

A thesis submitted in fulfilment
of the requirements for the degree
Master of Landscape Architecture
School of Architecture & Design
Design & Social Context Portfolio
RMIT University

November 2007

Declaration by Candidate

I certify that:

Except where due acknowledgement has been made, this work is that of the candidate alone;

The work has not been submitted previously, in whole or in part, to qualify for any other academic award;

The content of the thesis is the result of work which has been carried out since the official commencement date of the approved research program; and

Any editorial work, paid or unpaid, carried out by a third party is acknowledged.

Georgina Whitehead

date

Cover illustration: View from Studley Park, 1864.

Acknowledgments

I thank everyone who has helped me in different ways to undertake this study. Of those people at RMIT University's School of Architecture and Design, my supervisor Harriet Edquist offered valuable advice and encouragement whenever needed, as did Doug Evans at the Graduate Research Conferences held at RMIT each year. Jane Shepherd deserves special appreciation as without her coercion I would never have enrolled as a graduate student.

The research I undertook for *Civilising the City: A History of Melbourne's Public Gardens*, 1997 provided the foundation for this study and I owe a debt of gratitude to those people acknowledged in the book's preface. In more recent years staff at the State Library of Victoria and the Public Record Office, Victoria, especially Phillippa Nelson, were as always very helpful, as was Jill Thurlow at the Royal Botanic Gardens, Melbourne. I would like to thank Mark Ryan, Parks Victoria, and Shane Goodwin and staff, Land Victoria, for allowing me access to departmental files, and am grateful for the assistance provided by the Box Hill Historical Society and Dorothy Benyei, Archivist of the Kew Historical Society. In particular, I would like to thank Sheila Houghton and Gary Presland of the Field Naturalists Club of Victoria for their advice and providing access to the Club's archives and journal.

In the course of her own research Jill Orr Young came upon papers relating to Clement Hodgkinson's work at Elsternwick, which she kindly photocopied for me, and Philippa McMahon passed on information she had found while pursuing her PhD candidature that she thought I might find useful. My thanks also go to Paul Fox for his support at all times and his advice early on in my candidature. Finally, Ron Jones has given many hours to discussing and proof-reading various drafts, for which I cannot thank him enough, and his generosity in assisting in the design and technical production of the final document is deeply appreciated.

Contents

Abstract	1
Introduction	3
Ferdinand von Mueller & the Melbourne Botanic Garden	11
Clement Hodgkinson & Melbourne's Parks	41
Public Parks & the Field Naturalists Club of Victoria	75
Conclusion	101
Appendix: Comparison between <i>Man and Nature</i> & the 1865 Victorian Forests Report	112
Bibliography	113
List of Illustrations	120

Abstract

This study considers how environmental concerns helped shape Melbourne's public parkland in the period 1850-1920, when Melbourne's first parks were developed and during which ecology began to replace natural history as the determinant of environmental thought. Theories propounded by such figures as Alexander von Humboldt and George Perkins Marsh profoundly influenced land management around the world during this period, and by relating specific parkland developments to professional and popular ideas about the environment the study aims to place the parkland in an international context. Previous research has given little thought to the effect of environmental thought on Melbourne's parks, except for Ferdinand von Mueller's development of the Melbourne Botanic Garden where the influence is evident. Such influence has not been considered in Clement Hodgkinson's contemporaneous development of the city's other parks and gardens even though, like Mueller, Hodgkinson was closely involved with environmental issues of the day. The Field Naturalists Club of Victoria, of which Mueller was a member, has long been credited with influencing Wattle Park's development early in the 20th century, although there is little critical analysis of the extent to which it was able to bring popular concerns about the environment to bear on park design. The relationship between Mueller's environmental views and actions and his development of the Botanic Garden is discussed first. Connections are then made between Hodgkinson's early experiences as a surveyor, his later work as Victoria's foremost land manager, his association with Mueller, and his design of Melbourne's first parks and gardens. Finally, the FNCV's involvement in park development is examined while exploring the changing nature of environmental thought. Clearly, environmental thought did influence the development of some parkland, but only those reserves administered by Mueller and Hodgkinson and only while the two men remained in control. The success of the FNCV in influencing the future direction of any Melbourne park or garden is not so easily discernible, with little evidence that the Club played an important role in Wattle Park's development.



Figure 1: Plan of Melbourne and its Suburbs, 1858.

- A: Royal Park
- B: Studley Park
- C: Albert Park
- D: Flagstaff Gardens
- E: Fitzroy Gardens
- F: Melbourne Botanic Garden

Introduction

This study looks beyond notions of fashion or utilitarianism to consider how ideas about nature and the environment helped shape Melbourne's public parkland between about 1850 and 1920. Theories propounded by Alexander von Humboldt and George Perkins Marsh profoundly influenced land management around the world during this period, including the work of Ferdinand von Mueller and Clement Hodgkinson in Victoria. Mueller, in turn, influenced international and local land practices through the Melbourne Botanic Garden as well as becoming a dominant figure in Australian amateur science through the Field Naturalists Club of Victoria. By relating specific parkland developments to professional and popular ideas about the environment the study aims to place the parkland in an international context.

Nineteenth century environmental thought differed markedly from our present appreciation of the natural world, which is understood through the perspective of ecological science. Today's 'environmentalism' – a word coined early in the 20th century – did not exist in the 19th century. Nevertheless, the protection, conservation, and science of the natural world was of great concern and interest during that period. Perhaps the most striking difference is that direct benefits to human beings and their society were seen as central to any evaluation of the environment.

The 'improvement' of nature was a distinctive aspect of 19th century thought, and was achieved through introducing plants and animals into places where they did not occur naturally to supplement the indigenous flora and fauna. Botanic gardens provided crucial testing grounds for plant introductions, and acclimatisation societies were formed to provide popular support. It was hoped that the economy would profit through the development of local industries centred on successful introductions, and recreational and other benefits were also envisaged. Ferdinand von Mueller carried blackberry seed with him on his botanising expeditions, scattering it along the way so that the fruit would nourish future travellers.¹

¹ A. Parkin, 'Mueller, Acclimatiser and Seed Merchant', *The Victorian Naturalist*, 113, 1996, p. 214.



Figure 2: The Acclimatisation Society of Victoria's medal, 1868.



Figure 3: Picking flowers (*Crinum flaccidum*) on river flats in the Mildura district, Victoria.

Even the early national parks were 'improved' by introducing exotic flora and fauna to increase their appeal as recreational facilities for an urban population. And at places rich in native flora like Audley (now Royal National Park) south of Sydney, Australia's first national park established in 1879, visitors were encouraged to pick large quantities of flowers. Staff would clear away less-attractive plants to make the spectacular waratahs and Gymea Lilies more accessible.²

The possibility that animals and plants could become extinct in a particular locality was of less concern than today. With a few exceptions such as efforts to preserve flora and fauna by members of the Field Naturalists Club of Victoria, there was greater enthusiasm among natural historians in discovering new species rather than protecting those already known.

Scientific, economic, utilitarian, aesthetic, and spiritual or ethical elements contributed to 19th century environmental thought. William Howitt was appalled at what gold mining had done to the landscape in the 1850s: 'Every tree is felled; every feature of

² I. Tyrrell, *True Gardens of the Gods: Californian-Australian Environmental Reform, 1860-1930*, University of California Press, Berkeley, 1999, p. 32.

Nature is annihilated'.³ It was recognised by some that uncontrolled tree clearing increased flooding and erosion, although forest conservation was more often to preserve timber supplies. Mueller also considered forests 'a sacred patrimony': 'I regard the forest as a heritage given to us by nature, not for spoil or to devastate, but to be wisely used, reverently honoured, and carefully maintained'.⁴

Forests were of great interest whether the issue was deforestation, reforestation or, in another manifestation of 'improving' nature, afforestation, where trees were planted in naturally treeless areas. Trees were needed for lumber and fuel, a crucial resource for rapidly growing towns and industries. The erroneous belief that tree cover increased rainfall was also important.⁵ This theory was proposed by the German naturalist Alexander von Humboldt (1769–1859), whose writings inspired many in the western world, including Charles Darwin (1809–1882). Humboldt's 'great work, *Cosmos*, was an attempt to unify the world and reconcile art and science, reason and sentiment'.⁶ His environmental philosophy promoting 'unity between man and nature'⁷ was particularly influential in the French and British colonies, as was his insight into the disastrous effects of deforestation on evaporation, stream flow, and erosion, drawn from his observations in Venezuela.⁸



Figure 4: The landscape denuded by gold mining, Clunes, Victoria, ca 1861.

³ W. Howitt, *Land, Labour & Gold*, as quoted in J.M. Powell, *Environmental Management in Australia, 1788-1914; Guardians, Improvers and Profit: an Introductory Survey*, Oxford University Press, Melbourne, 1976, p. 37.

⁴ As quoted in Powell, *Environmental Management in Australia*, pp. 71-2.

⁵ P. Fox, 'Over the Garden Fence', *Historic Environment*, 4 (3), 1985, p. 32.

⁶ T.R. Dunlap, *Nature and the English Diaspora: Environment and History in the United States, Canada, Australia, and New Zealand*, Cambridge University Press, New York, 1999, p. 44.

⁷ R.H. Grove, *Green Imperialism: Colonial Expansion, Tropical Island Edens and the Origins of Environmentalism, 1600-1860*, Cambridge University Press, New York, 1995, p. 253.

⁸ Grove, *Green Imperialism*, pp. 364-68.

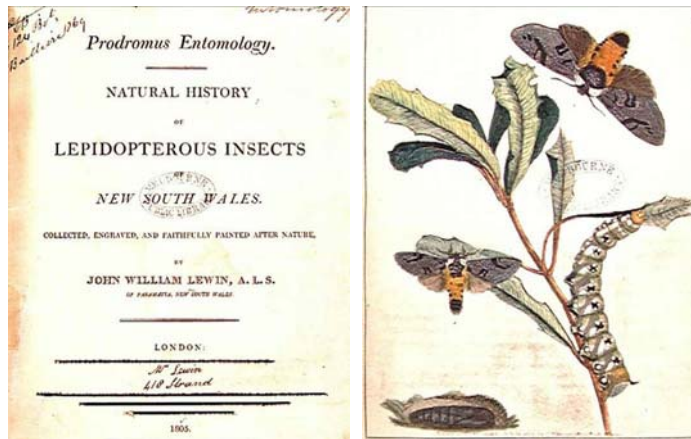


Figure 5: Title page and plate from John William Lewin, *Natural History of Lepidopterous Insects of New South Wales*, London, 1805.

For 200 years natural history was the embodiment of that branch of science dealing with all natural objects whether animal, vegetable or mineral, a field where there was no professional training as such.⁹ Collecting and classifying material was central to the study of geology, botany, zoology, and the other branches of natural history. Anyone with an interest could participate even if only at an elementary level, although some amateurs became experts in their field. In the 1850s doctors, engineers and leading public servants with close social and professional ties established Australia's first scientific societies, which collected and disseminated information, and debated the environmental questions of the day. From 1880 on, as a result of a huge popular interest in natural history, the Australian field naturalist societies were formed. Unlike the elite learned societies their members were drawn from a wider social spectrum, but they too generated scientific enquiry and discussion and provided a forum for disseminating results.

The development of ecology as a discipline in the late 19th century, foreshadowed by work such as Humboldt's on the relation between the distribution of plants and animals to climate and latitude, changed the nature of environmental thought. Its theories became intellectually more advanced and were often couched in technical terms. Where amateurs could practise natural history, ecology was the province of professionals trained in universities where the discipline had originated. Arriving somewhat later in Australia from the more developed academic centres of Britain and the United States, ecology matured and consolidated its scientific and academic standing between the First and Second World Wars.¹⁰

⁹ Dunlap, *Nature and the English Diaspora*, p. 6.

¹⁰ Dunlap, *Nature and the English Diaspora*, pp. 14-15, 44.

Despite fundamental differences between the old natural history view and our modern ecologically driven view of the environment, there are links between the two. While the concept of ‘improving’ nature is foreign to contemporary thought, it represents a shared concern about the ongoing health and availability of natural resources that is expressed in the recently minted word ‘sustainability’. Similarly, forest management was and still is of great popular, ecological and political interest. The many acts of recording nature were also recognition of possible and in some cases imminent loss of habitat and species.

The study period circa 1850 to 1920 has been chosen for two reasons. There was little development of Melbourne’s parkland prior to 1850. The Melbourne Botanic Garden was in its infancy, occupying only a fraction of the area that Mueller later brought into cultivation, and the rest of the parkland was little more than lines on a plan, if it had any substance at all. The development that occurred over the next 70 years corresponded with the changing nature of environmental thought, which by about 1920 was beginning to be reshaped by ecology.

Recreation grounds were first created with public funds in the 19th century as a response to ideas of social reform. For the most part they have been the subject of fairly limited research, except for a handful of notable exceptions such as New York’s Central Park. Their design is generally discussed in terms of style, such as gardenesque, Italianate, subtropical, formal, informal, etc. Only with botanic gardens has it been thought necessary to acknowledge other influences in order to accommodate the scientific and economic imperatives that brought about their foundation.

Mueller’s life, contribution to science and his development of the Melbourne Botanic Garden has only been examined in any depth in the past 10 or 15 years. The centenary of his death in 1996 prompted the publication of special issues of the *Victorian Historical Journal* (Vol. 67, No. 1, 1996), *The Victorian Naturalist* (Vol. 113, No. 4, 1996), and *Historical Records of Australian Science* (Vol. 11, No. 3, 1997). They provide a valuable insight into his life and work and help place him in an international context, and Tyrrell (1999) provides an exemplary account of Mueller’s involvement in the exchange of native plants between California and south-east Australia. The three volumes (Vol. 1, 1998; Vol. 2, 2002; Vol. 3, 2006) of *Regardsfully Yours: Selected Correspondence of Ferdinand von Mueller*, edited by Home et al., covering the years 1840 to 1896, are critical to this study; preceded by informative essays covering the period of each volume,

a large body of primary material has been drawn together from many different sources, much of which is not readily available.

Except for Mueller's development of the Melbourne Botanic Garden, previous research has given little thought to the effect of environmental thinking on the development of Melbourne's parks and gardens before 1920. Attention has focussed on other factors such as garden style, horticultural technique, the achievement of a particular landscape effect, cultural heritage, and social history. Prompted by concern for loss of heritage, the motive for much of this research has been the preparation of conservation plans, which focus on physical fabric and the events that led to its development – what was built when and by whom.

Of the limited research touching on Melbourne's public parkland outside the realm of local history, Neale (1998, 2003, 2005) examines La Trobe Bateman and his garden design through art history, which is consistent with the typical emphasis on stylistic development as a basis for understanding design. In contrast, Fox (2004) offers a rare exploration of colonial science and environmental thought in its application to the landscape, although the area of overlap with this study is limited. Wright (1982, 1988, 1989) presents the most exhaustive body of research available into Clement Hodgkinson's role in Crown land management. It provides an invaluable tool to more fully investigate Hodgkinson's development of parks and gardens, which this study further explores by close reading of Hodgkinson (1845) and examination of departmental files held by the Public Record Office, Victoria.

The Victorian Naturalist (Vols. 1–54; 1884–1937) published by the Field Naturalists Club of Victoria is the main primary resource for information regarding club activities during the study period. A special issue of *The Victorian Naturalist* (Vol. 122, No. 6, 2005) was published to celebrate the Club's 125th anniversary. This along with the Wilsons Promontory Centenary issue (Vol. 115, No. 6, 1998), the special Mueller issue noted above, and occasional articles appearing in the club journal over the years, constitute much of the research into the FNCV. Faithfull (1992) drew on *The Victorian Naturalist* to compile a report on Wattle Park, which was used to furnish historical information for a conservation plan by Allom Lovell & Associates, and John Patrick (1993). These two documents form the major part of research into Wattle Park, and

while Faithfull draws conclusions regarding the influence of the FNCV on park development, they are not fully substantiated.

The role of environmental thought is evident in Mueller's development of the Melbourne Botanic Garden because of the nature of the garden and the ideas he articulated. However, the question as to whether environmental thought played a similar role in Hodgkinson's contemporaneous development of the public parks and gardens has not been considered even though, like Mueller, he was closely involved with the environmental issues of the day. Pursuit of this line of enquiry should reveal a new aspect to his park design. By examining Mueller's development of the Botanic Garden in the light of his environmental concerns, and Hodgkinson's park design through his engagement with environmental issues as a land manager, it is hoped to reveal connections between the environmental goals of the two men and their development of parkland.

Mueller's professional endeavours in botany were united with the efforts of amateurs through his membership of the Field Naturalists Club of Victoria. The Club spans the period during which ecology replaced natural history as the determinant of environmental thought, in parallel with the decline in amateurs' ability to contribute to science. Although the FNCV was not in a position to direct the development of any recreation reserve, it has long been credited with influencing Wattle Park's development early in the 20th century, despite little research into the matter. Critical analysis of the Club's activities with respect to Wattle Park and other metropolitan reserves, and their subsequent development, should establish the extent to which the FNCV was able to bring popular concerns about the environment to bear on park design.

The first chapter 'Ferdinand von Mueller & the Melbourne Botanic Garden' discusses the relationship between Mueller's environmental views and actions and his development of the garden. The second chapter 'Clement Hodgkinson & the Melbourne Parklands' looks at connections between Hodgkinson's early experiences as a surveyor, his later work as Victoria's foremost land manager, his association with Mueller, and his design of Melbourne's first parks and gardens. The third chapter 'Public Parks & the Field Naturalists Club of Victoria' examines the Club's involvement in park development while exploring the changing nature of environmental thought. The final chapter presents the conclusions reached by this study.



Figure 6: Alexander von Humboldt.
(1769–1859)

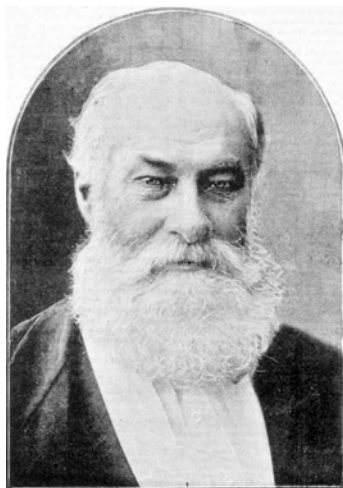


Figure 7: Clement Hodgkinson.
(1818–1893)



Figure 8: Ferdinand von Mueller.
(1825–1896)



Figure 9: Carl von Martius.
(1794–1868).



Figure 10: Charles Darwin.
(1809–1882).



Figure 11: George Perkins Marsh.
(1801–1882).



Figure 12: William Hooker.
(1785–1865)
Director of the Royal Botanic
Gardens, Kew, 1841–1865

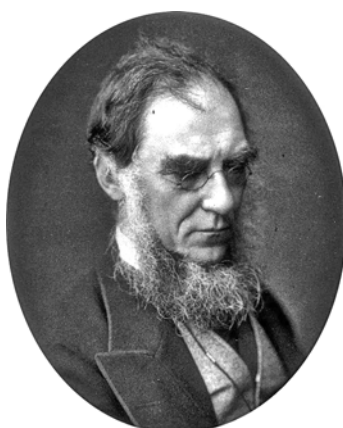


Figure 13: Joseph Hooker.
(1817–1911)
William's son and Director of Kew
Gardens, 1865–1885



Figure 14: William Thiselton-Dyer.
(1843–1928)
Joseph's son-in-law and Director of
Kew Gardens, 1885–1905

Ferdinand von Mueller & the Melbourne Botanic Garden

Above all, the colonial botanical garden provided the basis for the institutional emergence of environmentalist ideas.¹

Within a few years, Mueller was widely recognized as one of the foremost scientists in the Australian colonies, and by the time of his death in October 1896 he was generally and justifiably acknowledged to have been the greatest scientist yet to have made his career in Australia.²

Ferdinand von Mueller's botanic garden embodied much of what 19th century environmental thought represented. During his directorship between 1857 and 1873 the Melbourne Botanic Garden was home to many experimental plantings of exotic and Australian species that might in some way benefit the world at large and Victorian colonists in particular. Plants obtained by exchange and purchase or collected in the wild by Mueller and others formed an extensive living collection, a counterpart to the herbarium of dried plants he amassed for the colony until his death. In his voluminous correspondence, lectures and reports Mueller sets out how the Garden was integral to his work as one of the leading environmental lobbyists and scientists of his day.

Mueller was born in 1825 in the port town of Rostock in Mecklenburg, the son of a customs officer. He attended the town's best grammar school until his father's death, when he moved with his mother and sisters to Schleswig-Holstein where his mother's family lived. As part of a prosperous and hardworking family of businessmen and women, young Ferdinand was apprenticed to a pharmacist when he was fourteen. Here he developed a passion for plants and botany.³

After completing his apprenticeship he enrolled in the Pharmacy course at the University of Kiel. His apprenticeship had required him to put together a herbarium of the local flora, which he enlarged at university. Mueller explored the countryside to

¹ Grove, *Green Imperialism*, p. 475.

² R.W. Home, 'Ferdinand Mueller: Migration and the Sense of Self', *Historical Records of Australian Science*, 11 (3), 1997, p. 311.

assemble what would become a substantial collection of over 5000 species, far beyond what was expected of a young student, and the knowledge and expertise he acquired in this enterprise won him access to Schleswig-Holstein's leading botanical collectors. The herbarium formed the basis of his PhD thesis, which he completed shortly before leaving for Australia in 1847, while the relationships he forged at university would form the basis of a world-wide network of scientists and other like-minded men and women he assiduously developed for the rest of his life.⁴

It is important to understand why Mueller chose to leave Europe for a country as distant and undeveloped as Australia. In part, his emigration was prompted by the deaths of his parents and elder sister from tuberculosis, and he believed that his two surviving younger sisters needed to live in a warmer climate. Initially, Mueller himself planned to stay away for only two years.⁵ But why choose such a remote destination? There was of course his interest in plants, and Australia offered boundless opportunities for the discovery of new species. But Mueller provides a clue to a more compelling rationale in a lecture he gave to Melbourne's German community in 1859, which commemorated Alexander von Humboldt's 90th birthday, the Prussian naturalist having died only a few months previously. Mueller regarded Humboldt as 'the greatest genius of this century',⁶ and in speaking of the influence Humboldt had exerted over his life, he said:

Humboldt's journeys . . . left an unspeakable and ever unquenchable impression on my youthful mind, an impression that determined the direction to my life's plan . . . Humboldt's works . . . also inspired me to contribute to investigations of the realms of nature, drove me as well, with endless longing, to distant places in order to give the great master a few, potentially valuable stones for the construction of the palace of science.⁷

The 19th century was an extraordinarily exciting period when men like Humboldt, Charles Darwin, and the environmental thinker George Perkins Marsh, were remaking our understanding of the earth and our place in it through their work and writings, particularly Humboldt's *Cosmos*, Darwin's *On the Origin of Species*, and Marsh's *Man*

³ Home, 'Ferdinand Mueller: Migration and the Sense of Self', pp. 311-313.

⁴ Home, 'Ferdinand Mueller: Migration and the Sense of Self', pp. 313-14, 319-20.

⁵ Home, 'Ferdinand Mueller: Migration and the Sense of Self', pp. 314, 317.

⁶ As quoted in Home, 'Ferdinand Mueller: Migration and the Sense of Self', p. 321.

⁷ As quoted in G.L. McMullen, 'Getting to Know Dr Muller: Accounts of Ferdinand von Muller in Victoria's Mid-Nineteenth-Century German-Language Newspapers', *Historical Records of Australian Science*, 11 (3), 1997, p. 326. McMullen suggests that Humboldt influenced Mueller in his choice of vocation and place of professional practice.

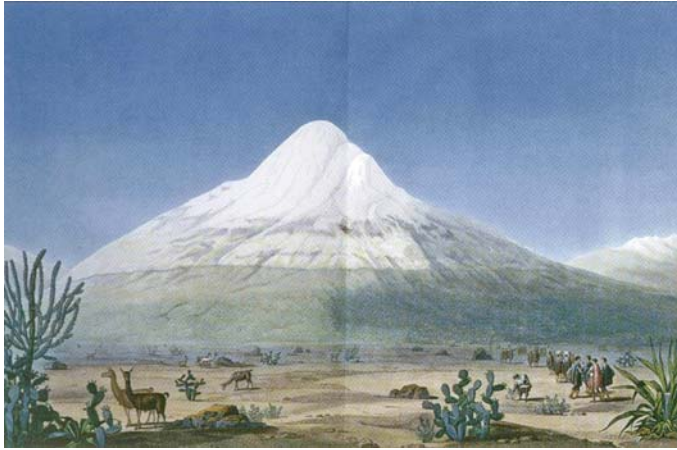


Figure 15: Humboldt plant-collecting at the foot of the volcano Chimborazo, Ecuador, 1810.

and Nature. Home proposes that Mueller constructed an identity for himself as a scientist based on Humboldt's vision in which 'nature was "one great whole, moved and animated by internal forces", and the chief task of science was to arrive at an understanding of the inter-relations between these forces, the effects of which we observe'.⁸ Extensive travel and precise observation of natural phenomena were critical to this world view. The Humboldtian botanist was not only charged with discovering and identifying new species, but also with determining relationships between plant distribution, soils, rainfall, elevation, and other geophysical data. Home mounts a convincing argument that Humboldt, as well as Charles Darwin, 'perhaps the greatest "Humboldtian" scientist of them all', were instrumental in leading Mueller to Australia.⁹

The 22 year old Mueller arrived in Adelaide at the end of 1847 with his two sisters Clara and Bertha, whose thoughts at being transported to the far ends of the earth to further their brother's ambitions are unknown. As other passengers were busy disembarking, Mueller commenced his Australian collections by gathering seaweeds over the side of the ship.¹⁰ Throughout the following four and a half years in South Australia he made many collecting trips, most on foot and some through very inhospitable country to places as remote as Lake Torrens and the northern Flinders Ranges. Like Humboldt and Darwin, and more recently his countryman Ludwig Preiss who botanised in Western Australia in the early 1840s, Mueller intended publishing an account of his travels and collections on his return to Germany. However, his uncle advised him not to go back as war had broken

⁸ Home, 'Ferdinand Mueller: Migration and the Sense of Self', p. 320.

⁹ Home, 'Ferdinand Mueller: Migration and the Sense of Self', p. 321.

¹⁰ 'Introduction', R.W. Home et al., eds., *Regardfully Yours: Selected Correspondence of Ferdinand von Mueller*, Vol. I: 1840-1859, Peter Lang AG, European Academic Publishers, Bern, 1998, p. 19.

out with Denmark in Schleswig-Holstein. Bertha, too, had broken off her engagement and Mueller's absence would leave his sisters unchaperoned.¹¹

Instead, he moved to Melbourne in August 1852 intending to set up his own pharmacy, an idea that was soon abandoned. He carried a letter of introduction from the South Australian politician Francis Dutton to Victoria's Lieutenant-Governor Charles La Trobe, who took a keen interest in natural history. For several years Mueller had been sending seeds and specimens to the Melbourne Botanic Garden, which had been established by La Trobe in 1846. Three months after Mueller's arrival in Victoria La Trobe created the new position of Government Botanist, to which he appointed Mueller, who as soon as he started work early in 1853 set off on his first major survey of Victoria.¹²

From his camp on Darebin Creek Mueller wrote to Sir William Hooker,¹³ initiating a life-long correspondence with the directors of the Royal Botanic Garden at Kew, the focus of British imperial botany: first William Hooker, then Joseph Hooker his son, followed by Joseph's son-in-law William Thiselton-Dyer. Mueller's relationship with the Hookers not only gave him access to the resources at Kew, but put him in touch with leading British scientists of the day, including Charles Darwin. These relationships were crucial to his determination to describe and name new species, highly unusual in a colonial outpost which lacked many of the necessary resources for such an activity.¹⁴ He was more than successful in this enterprise, although at times he put Kew's botanical noses out of joint. Not susceptible to regulation, he was accused of playing 'fast and loose' with the conventions of taxonomic nomenclature,¹⁵ and Joseph Hooker and George Bentham expressed their disapproval at Mueller's habit of publishing descriptions of new species in journals to which they had no convenient access.¹⁶

¹¹ R. Grandison, 'Mueller's Excursions in the Murray Scrub 1848-1851', *The Victorian Naturalist*, 113, 1996; Home, 'Ferdinand Mueller: Migration and the Sense of Self', p. 317.

¹² 'Introduction', Home et al., eds., *Regardfully Yours*, Vol. I, pp. 22-23; R.T.M. Pescott, *The Royal Botanic Gardens Melbourne: A History from 1845 to 1970*, Oxford University Press, Melbourne, 1982, p. 25. Henry Ginn, Victoria's Colonial Architect and honorary secretary of the Botanical Gardens Management Committee, noted that Dr Muller of Adelaide had sent a 'valuable addition of Seeds', in Botanical Gardens, *Victorian Parliamentary Papers*, 1852.

¹³ Mueller to W. Hooker, 3 February 1853, Home et al., eds., *Regardfully Yours*, Vol I, p. 139.

¹⁴ 'Introduction', Home et al., eds., *Regardfully Yours*, Vol. I, pp. 23-24.

¹⁵ J. Moore, 'Green Gold: The Riches of Baron Ferdinand von Mueller', *Historical Records of Australian Science*, 11 (3), 1997, pp. 374-76.

¹⁶ R.W. Home et al., eds., *Regardfully Yours: Selected Correspondence of Ferdinand von Mueller*, Vol. III: 1876-1896, Peter Lang AG, European Academic Publishers, Bern, 2006, p. 34.

Believing it necessary to examine plants in the wild to be able to accurately distinguish different species,¹⁷ and emulating his hero Humboldt, the intrepid Mueller, often travelling alone, proceeded to explore the colony. Over the next few years he covered thousands of kilometres, his reports and letters describing the many adversities he encountered along the way: how he climbed Mt Buller, although ‘not accomplished without considerable danger’,¹⁸ attempted to penetrate the Bogong Range, but was ‘compelled to retreat by the extensive bush fires then raging’,¹⁹ and at other times enduring bad weather, illness, and the occasionally ‘hostility of the natives’.²⁰ Unlike some collectors such as John Gould Veitch, who would only explore and collect ‘where European missionaries had “civilised” the heathen’,²¹ Mueller’s desire to contribute to the advance of science was so strong it overrode many considerations for his own health and safety.

Always looking for ways in which the indigenous vegetation might benefit colonists or the world at large, he collected herbarium specimens new to science as well as seeds for Melbourne’s Botanic Garden, noted possible medicinal and economic properties of the species surveyed, compared Victoria’s flora with plants growing in similar conditions elsewhere in Australia and other parts of the world, and listed some of the ‘gorgeous’ plants he thought would be suited for garden culture. Plants eaten by the Aborigines interested him. He thought that the root of one, ‘a favourite food of the natives – would form, if enlarged by culture, an agreeable substitute for . . . Asparagus’; and another which the Aborigines called Gunyang and were ‘passionately fond’ of ‘promises to become an additional fruit shrub of our gardens’.²² He also reported indications of minerals, most notably coal deposits near Wonthaggi,²³ and provided tips for travellers such as the water to be found in the root of a eucalypt, or the leaves of a *Baeckea* from Mt Aberdeen that ‘might serve travellers in those desolate localities as tea’.²⁴

¹⁷ First General Report of the Government Botanist on the Vegetation of the Colony, *Victorian Parliamentary Papers*, 1853, p. 4.

¹⁸ First General Report of the Government Botanist, p. 3.

¹⁹ Second General Report of the Government Botanist on the Vegetation of the Colony, *Victorian Parliamentary Papers*, 1854, p. 4.

²⁰ Mueller to W. Hooker, 22 January 1855, Home et al., eds., *Regardfully Yours*, Vol. I, p. 198.

²¹ P. Fox, *Clearings: Six Colonial Gardeners and their Landscapes*, The Miegunyah Press, Carlton, Vic., 2004, p. 15.

²² Mueller to W. Hooker, 1 March 1855, Home et al., eds., *Regardfully Yours*, Vol. I, p. 201.

²³ Mueller to W. Lonsdale, 27 June 1853, Home et al., eds., *Regardfully Yours*, Vol. I, pp. 148–49.

²⁴ First General Report of the Government Botanist, p. 7.

On his first expedition Mueller visited Wilsons Promontory, which caught his imagination both for its indigenous plants and its potential for forestry. Although at that time access to the Promontory was only possible by boat, a sawmill had already been set up at Sealers Cove prior to this first visit. He spent several weeks there examining the vegetation for similarities with the Tasmanian flora, and at Sealers Cove was excited to find for the first time on the mainland the Tasmanian beech (*Nothofagus cunninghamii*), 'otherwise closely allied to the Beech-tree of Patagonia'.²⁵ He was so impressed with the timber that he returned in 1854 to obtain samples of 24 trees to send to the 1855 Paris exhibition. He took seeds and live plants back for the Botanic Garden as well.²⁶

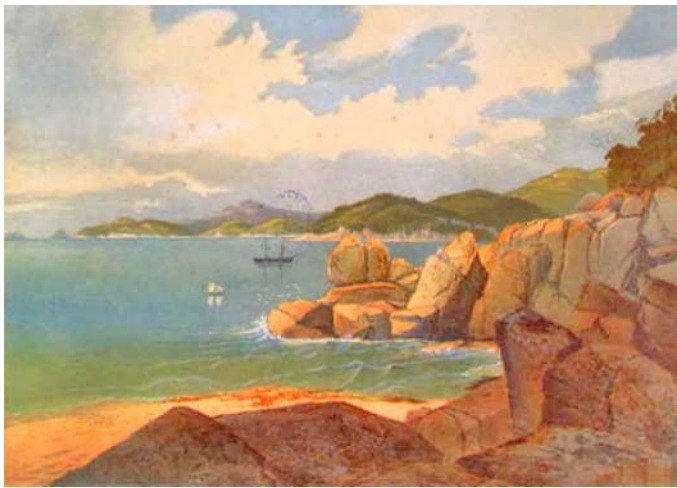


Figure 16: Refuge Cove, Wilsons Promontory, 1865.

Again in 1857 he sent one of his men to Sealers Cove to obtain further timber samples and to collect plants on a large scale to grow in the Garden. He wanted 'ferns and young plants of the indigenous evergreen beech (*Fagus Cunninghamii*), of the native Sassafras tree (*Atherosperma moschatum*), and of other trees and shrubs of that locality, either rare, useful, or ornamental',²⁷ which were valuable not only as part of a collection, but as items of exchange with other institutions. Not long after this the sawmill closed having taken out most of the accessible timber, although the owners established another mill across Corner Inlet and continued to assist by sending Mueller large tree ferns. He made his final trip to Wilsons Promontory in 1874 to visit areas that had not yet been surveyed.²⁸

²⁵ Mueller to W. Lonsdale, 27 June 1853, Home et al., eds., *Regardfully Yours*, Vol. I, pp. 147-48.

²⁶ L. Gillbank, 'The Wood and the Trees: A Muellerian Memoir of Wilsons Promontory by the late Baron Ferdinand von Mueller (1825-96)', *The Victorian Naturalist*, 115, 1998, p. 288.

²⁷ As quoted in Gillbank, 'The Wood and the Trees', p. 290.

²⁸ Gillbank, 'The Wood and the Trees', p. 290.

Governor La Trobe was thrilled with Mueller's early achievements, and after the first survey trip he wrote to the Tasmanian botanist Ronald Gunn:

My clever little Botanist has returned having done quite as much as I expected & more than any but a german, drunk with the love of his Science, – & careless of ease – & regardless of difficulty in whatever form it might present itself – could have effected in the time & under the circumstances.²⁹

La Trobe left for Europe the following year on completing his term of office. He did not forget Mueller, sending him a book about the fungi of Switzerland, a country in which he had spent much time and had close personal ties through marriage.³⁰ Mueller was soon to return the compliment, naming *Eremophila latrobei* after his benefactor, a plant he discovered in early 1856 as a member of Augustus Gregory's North Australian Exploring Expedition. He 'noted that this "noble species" was "well worthy of bearing the name of the excellent Charl. Jos. La Trobe, a great patron of Botany, and to whose love for science the botanical department under my administration owes its origins"'.³¹

By 1855 amid the economic and social upheavals of the gold rush, and now without La Trobe's support, Mueller became concerned that his position would be abolished. This was in fact proposed, but instead he was granted leave to join Gregory's expedition as botanist, thus sparing the Government his salary.³² Mueller was not only interested in the botanical rewards of exploration, he was deeply committed to the advancement of geographical knowledge and the benefits he envisaged this would bring to mankind. Later, his personal experiences made him an authority on exploration and his advice was often sought when new journeys were planned.³³

Gregory's dangerous and gruelling expedition covering 5000 miles across the Northern Territory, Arnhem Land, and Far North Queensland was a triumph, and Mueller returned to find himself held in high regard. He resumed his duties as Government Botanist in the middle of 1857, and in August was given added responsibility by being appointed to the newly created position of Director of the Melbourne Botanic Garden,

²⁹ La Trobe to Gunn, 30 June 1853, Home et al., eds., *Regardfully Yours*, Vol. I, pp. 768-69.

³⁰ S. Maroske, D. Sinkora, and H. Cohn, 'Ferdinand von Mueller's Library', *Botanic Magazine*, 4, 1991, p. 20.

³¹ L. Gillbank, 'Mueller's Naming of Places and Plants in Central Australia - Victorian Eponyms', *The Victorian Naturalist*, 113, 1996, p. 220.

³² H.M. Cohn, 'Botanical Researches in Intertropical Australia: Ferdinand Mueller and the North Australian Exploring Expedition', *The Victorian Naturalist*, 113, 1996.

³³ 'Introduction', R.W. Home et al., eds., *Regardfully Yours: Selected Correspondence of Ferdinand von Mueller*, Vol. II: 1860-1875, Peter Lang AG, European Academic Publishers, Bern, 2002, pp. 36-39.



Figure 17: Scene from the North Australian Exploring Expedition, 1855-56. This watercolour by Thomas Baines was attached to an 1857 letter from Mueller to Sir William Hooker.

which had previously been managed by Superintendent John Dallachy under the direction of a committee that included Mueller. The new directorship, however, carried no additional salary beyond that of Government Botanist.³⁴

A botanic garden was crucial to Mueller's work. It was there that he could conduct research into the properties of plants and evaluate their potential for commercial, environmental or other useful application.³⁵ From the very start of his career as Government Botanist he had advised Dallachy and sought help on his behalf from the Royal Botanic Garden at Kew.³⁶ In his first official report in 1853 he had taken the opportunity to set out his concept of a botanic garden:

I trust, therefore, that the Botanic Gardens, as an establishment so desirable for the diffusion of knowledge, for the experimental introduction of foreign plants into our adopted country, or for multiplying the treasures which our own Flora offers, and as a healthy locality for recreation, will continue to receive the support of the Government and the Legislature.³⁷

At all times Mueller contended that the most important purpose of the Garden was scientific. His aim was 'to give precedence to *utilitarian and industrial culture*' while 'mere ornamental cultivation' warranted less attention.³⁸ He was scathing of 'many of the numerous local gardens passing under [the name of botanic garden], particularly in these colonies, [that] have no claims whatever to such a designation'.³⁹

³⁴ 'Introduction', Home et al., eds., *Regardfully Yours*, Vol. I, pp. 30-33.

³⁵ S. Jeffries, 'Alexander von Humboldt and Ferdinand von Mueller's Argument for the Scientific Botanic Garden', *Historical Records of Australian Science*, 11 (3), 1997, pp. 303-304.

³⁶ 'Introduction', Home et al., eds., *Regardfully Yours*, Vol. I, p. 27.

³⁷ First General Report of the Government Botanist, p. 7.

³⁸ Mueller to J. MacPherson, 29 September 1869, Home et al., eds., *Regardfully Yours*, Vol. II, p. 517.

³⁹ F. Mueller, *The Objects of a Botanic Garden in Relation to Industries*, Mason, Firth, and M'Cutcheon, Melbourne, n.d. [ca 1871], p. 2.

He waxed lyrical about his adopted country, which possessed ‘those happy latitudes of a warm temperate zone, in which Nature with a prodigal hand offered prominently, amidst so many other gifts, the Cerealia, the Olive, and the Vine, and to which we there have added from the far East, the Orange, the Tea; from India, the Rice; and from the New World, the Maize, Cassava, Arrowroot, Tobacco, and so many other treasures of the vegetable world, on which mankind now rely for luxury and support’.⁴⁰ The term ‘acclimatisation’ was used to describe the introduction of native plants and animals of one country into another, or even those indigenous to a particular locality into one in which they did not naturally occur, such as the plan by Edward Wilson, former editor and co-owner of the *Argus* newspaper, to introduce Murray Cod into the Yarra River.⁴¹ The Acclimatisation Society of Victoria, of which Mueller was an office bearer and active member, wanted to ‘stock this country with new, useful, and beautiful things, to add to our national wealth, to suggest new forms for our colonial industries . . . and to add new elements to the food of the entire people’.⁴²

Mueller’s botanic garden was a laboratory in which he could study exotic and Australian plants under controlled conditions for their possible acclimatisation. In his first year as director he doubled the number of plants to about 3,300 species, not including ‘mere garden varieties’ or ‘those endless numbers of hybrid plants which supersede in gardens generally too much the simple forms of nature’.⁴³ He acquired them through exchange, collecting expeditions, donations, and through purchase, with many of his sources located abroad. His reports always listed plants from the ornamental to the useful growing in the Garden that he believed were of particular interest: bananas, cotton, the Desert Clianthus (‘figured as a notable flower already by Captain Dampier’) and waratah, the bottle tree of Sir Thomas Mitchell, the Chinese Grass-cloth plant, Cochineal Cactus, the Giant Pine of California, and Kauri Pines from East Australia, Polynesia, and New Zealand. Mueller also highlighted the Aborigines’ Gunyang seen on his first expedition as Government Botanist, and which he was growing in 1858.⁴⁴

⁴⁰ Second General Report of the Government Botanist, p. 7.

⁴¹ Powell, *Environmental Management in Australia*, p. 45.

⁴² From Acclimatisation Society of Victoria 1864 report as quoted in Tyrrell, *True Gardens of the Gods*, p. 27.

⁴³ Annual Report of the Government Botanist and Director of the Botanic Garden, *Victorian Parliamentary Papers*, II, 1858, p. 5.

⁴⁴ Annual Report of the Botanic Garden, 1858, p. 7.

Over the next few years he greatly expanded the area under cultivation to realise his vision of a botanic garden. By 1860 he was able to report that ‘the principal arrangement of our ground may be considered as decided on’.⁴⁵ This arrangement was depicted in a detailed plan published in 1865 showing not only the layout and principal plantings within the Garden but also Government House Reserve, the Domain and part of Yarra Park across the river, all of which Mueller had pressed into the service of science.⁴⁶ Small and large, evergreen and deciduous, thousands of trees from every Australian colony, New Zealand, the Mediterranean, northern Europe, Africa, North America, and Asia were planted along the miles of paths dissecting these reserves to ascertain which species would form suitable avenues. Mueller agreed with Edward Wilson, a leading light of the Acclimatisation Society, who pointed out with uncanny prescience – given the large number lining Melbourne streets today – that the Oriental Plane tree was probably ‘one of the most suitable of all deciduous trees for planting along public promenades’.⁴⁷ In 1862 Mueller claimed to have planted Australia’s first avenue of this ‘exquisite’ tree.⁴⁸

The Botanic Garden proper contained a formal system garden with species arranged according to their taxonomic relationships so as to instruct ‘the botanical enquirer’.⁴⁹ Elsewhere plants were grouped either geographically, such as ‘Collection of Queensland Plants’, or by type, such as ‘Collection of Acacia’ or ‘Collection of distinct varieties of fruit trees and Vines’. Even the large conservatory displayed plants arranged ‘for



Figure 18: Melbourne Botanic Garden, the Director's residence and garden, 1867-69.

⁴⁵ Annual Report of the Government Botanist and Director of the Botanical and Zoological Garden, *Victorian Parliamentary Papers*, IV, 1859-60, p. 4.

⁴⁶ Annual Report of the Government Botanist and Director of the Botanic Garden, *Victorian Parliamentary Papers*, IV, 1864-65.

⁴⁷ Annual Report of the Government Botanist and Director of the Botanic and Zoologic Garden, *Victorian Parliamentary Papers*, III, 1860-61, p. 6.

⁴⁸ Annual Report of the Government Botanist and Director of the Botanic Garden, *Victorian Parliamentary Papers*, III, 1861-62, p. 4.

⁴⁹ Annual Report of the Botanic Garden, 1858, p. 3.

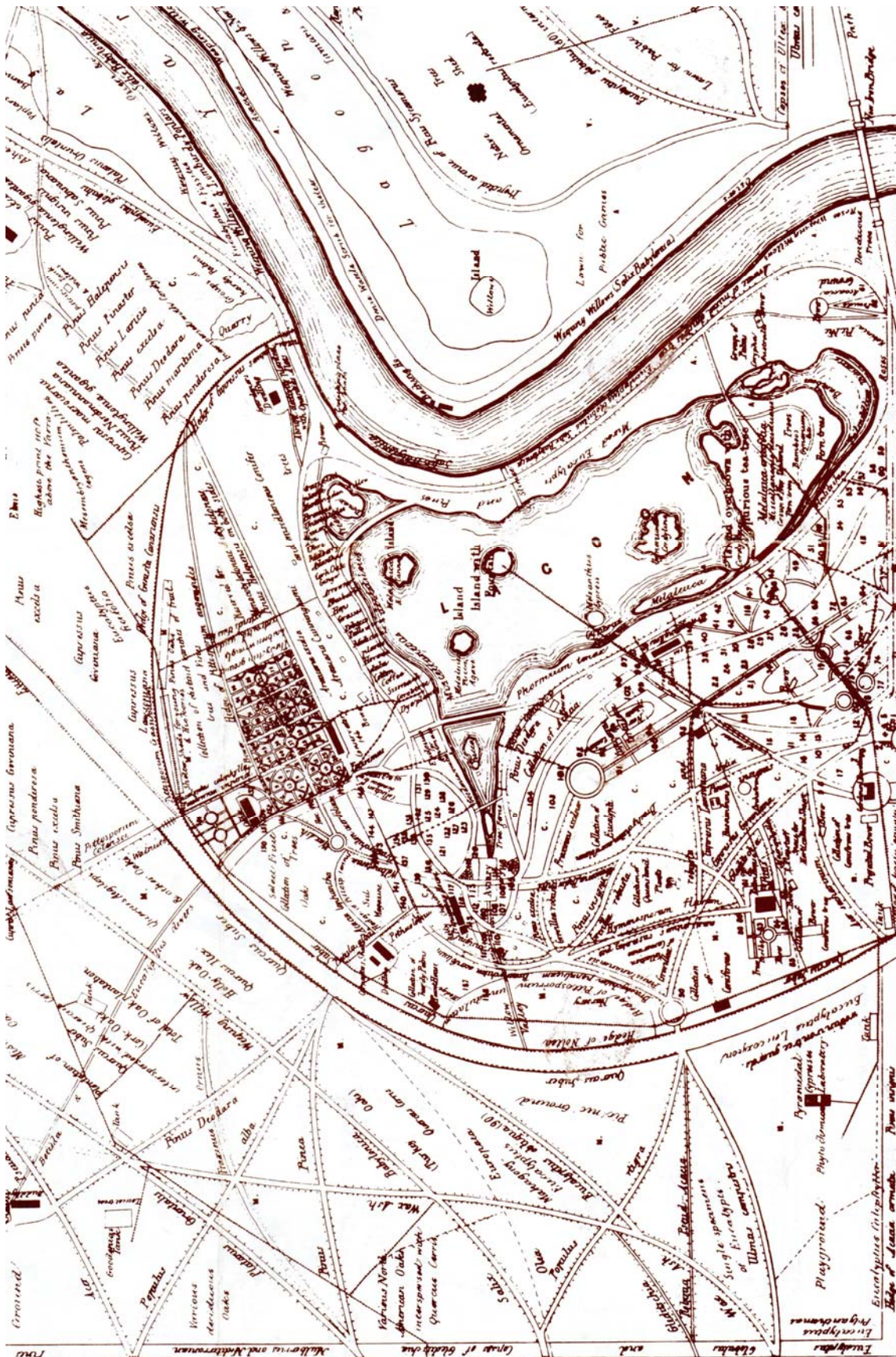


Figure 19: Mueller's plan of Melbourne Botanic Garden, 1865 (detail).



Figure 20: Melbourne Botanic Garden, view from the Pinetum, looking eastward over the lagoon. Three araucarias are pictured, two Norfolk Island Pines and a Hoop Pine.

instruction's sake, along both sides of the stages, so as to represent those of the Western and of the Eastern hemispheres separately'.⁵⁰

Many conifers from around the world had only recently been discovered and named by Europeans, generating much scientific and popular interest, while Australia has few indigenous softwood species, a timber that Victoria required. This led Mueller to establish a pinetum in his first year as director:

The barren declivity which fronts the western portion of the lagoon has been planted for the formation of a future Pine forest, with lines of Aleppo pine, with rows of Moreton Bay and Norfolk Island Araucarias, and with groups of miscellaneous Coniferae, comprising 226 trees, many of great rarity, and all equally calculated to beautify the spot and to become an ornament in our landscape.⁵¹

He hoped that this collection containing species from every quarter of the globe would 'on inspection persuade the visitor of the desirability of having these useful and noble pines planted copiously throughout the country'.⁵² There was also an area where crops were grown experimentally with a view to their commercial cultivation in Australia:

Among the kinds of Tobacco, the Connecticut variety has proved most prolific, and experiments instituted at Ipswich, in Queensland, with various kinds of tobacco from this Garden have yielded in the warmer climate there similar results . . . For Coffee, as might be anticipated, the climate has proved here too variable . . . By seeds, however, distributed from this establishment, the best variety of Mocha Coffee has been introduced, and now for plantation purposes been established in the Feejee group.⁵³

⁵⁰ Report of the Government Botanist and Director of the Botanic Garden, *Victorian Parliamentary Papers*, III, 1869, p. 5.

⁵¹ Annual Report of the Botanic Garden, 1858, p. 3.

⁵² Annual Report of the Botanic Garden, 1860-61, p. 7.

⁵³ Annual Report of the Botanic Garden, 1864-65, p. 6.

As for tea, the optimistic Mueller wrote that India and China's advantage of cheap labour might be countered by 'our superior ingenuity in the application of apparatus and machinery . . . while the engagement of labor, especially of the juvenile and infirm, might still be rendered remunerative for the gathering of the leaves'.⁵⁴

As a committed acclimatiser, he established an aviary and menagerie in the Garden in 1858 on behalf of the government's newly formed Zoological Committee, of which he was secretary. Many of the original birds came from the Philosophical Institute of Victoria, the intention being to domesticate and distribute 'foreign song birds over Australia'.⁵⁵ Mueller was president of the Institute, which was also interested in the 'utility and practicability of introducing the Camel and other useful animals'.⁵⁶

By 1860 the Garden contained an eclectic assortment of native and exotic species, including angora goats, llamas, alpacas, deer, monkeys, English squirrels, porcupines, kangaroos, emus, koalas, platypus, game birds, native owls and hawks, white and black swans, one iguana, and even fish. Mueller now styled himself Director of the Botanic and Zoologic Garden. He believed that in 'adding to the animal riches of the colony from abroad', he would 'afford new material for our industry . . . afford food to the multitude', and 'render the country adopted as our home yet more homely and delightful'.⁵⁷

Whilst in the Alps the northern species of deer would browse on many plants similar to those they enjoy in North Europe, our unoccupied desert tracts would afford appropriate retreats to some of the South African game, whereas probably under the singularly mild climate in the forests of the eastern portion of our territory many tropical animals would prosper.⁵⁸

The picture he drew seems alarming now, although humorous – did he envisage lions and elephants in the outback or, more likely, zebras and gazelles? From a scientific point of view and his experiences on the North Australian Exploring Expedition, Mueller knew that the Australian desert was not 'unoccupied', but brimming with life. However, from a cultural perspective it was not occupied by animals that were useful in his eyes, and therefore empty. As it turned out, the desire to improve on nature was not at all 'homely' or 'delightful' and resulted in enormous damage by goats, foxes, rabbits, and

⁵⁴ Annual Report of the Botanic Garden, 1864-65, p. 6.

⁵⁵ Annual Report of the Botanic Garden, 1858, p. 4.

⁵⁶ As quoted in L. Gillbank, 'A Tale of Two Animals: Camel and Alpaca - Zoological Shaping of Mueller's Botanic Gardens', *Victorian Historical Journal*, 67, 1996, p. 84.

⁵⁷ Annual Report of the Botanic Garden, 1860-61, p. 10.

⁵⁸ Annual Report of the Botanic Garden, 1860-61, p. 10.

other exotic animals, many introduced through the efforts of the Acclimatisation Society of Victoria and its members. Although Mueller had no inkling of the environmental and economic disaster waiting to occur, he was not unaware of the dangers of acclimatisation.

On his first survey trip as Government Botanist he expressed concern at the spread of exotics 'naturalized beyond the possibility of extirpation' with the capacity to 'overpower the more tender indigenous plants'.⁵⁹ And in 1861, when English Magpies escaped from their cage in the Garden and could not be recaptured, Mueller shot them after observing how destructive they were of smaller native birds, thereby incensing some of his fellow acclimatisers. That same year when the Zoological Committee metamorphosed into the Acclimatisation Society, with Mueller as vice-president, the animals were removed from his immediate care and installed in Royal Park where they were to become the foundation of the Melbourne zoo.⁶⁰

Throughout his directorship Mueller acquired large numbers of plants for the Garden through exchanges, while what went out from his establishment was staggering. In one year alone he distributed 51,920 packages of seed, '31,455 plants, comprising many thousand seedlings of pines, young elms, poplars, white cedars, Gleditschias, weeping willows, and other useful or ornamental trees, and 36,474 cuttings',⁶¹ which went mainly to Victoria's parks and gardens, cemeteries, schools, town halls and other public reserves. Not only did such largesse assist the embryonic reserves, but it enabled Mueller to assess how well the plants grew under varying conditions.⁶²

Australian plants from the Melbourne Botanic Garden were similarly dispatched abroad: 'A copious supply of seeds of our heat-resisting trees and grasses were transmitted to the British Consul at Jerusalem, for aiding in his endeavours to restore forests in some now timberless wastes of the Holy Land'.⁶³ Undoubtedly the British Consul's seeds included the Blue Gum (*Eucalyptus globulus*), the plant most associated with Mueller. He planted many in the Botanic Garden and Domain, and along St Kilda Road, and managed single

⁵⁹ First General Report of the Government Botanist, p. 4.

⁶⁰ L. Gillbank, 'Acclimatisation' in R. Aitken and M. Looker, eds., *The Oxford Companion to Australian Gardens*, Oxford University Press, South Melbourne, Vic., 2002, p. 5; R.N. Paddle, 'Mueller's Magpies and Marsupial Wolves: A Window into "What Might Have Been"', *The Victorian Naturalist*, 113, 1996, p. 215.

⁶¹ Annual Report of the Botanic Garden, 1860-61, p. 3.

⁶² Annual Report of the Botanic Garden, 1869, pp. 6-7.

⁶³ Annual Report of the Botanic Garden, 1861-62, p. 6.

handedly to export his 'Prince of Eucalypts'⁶⁴ around the world where, in some countries such as Portugal, it displaced the natural vegetation.⁶⁵ When in 1871 the King of Württemberg elevated him to the hereditary rank of Baron, Mueller chose 'two erect branches of *Eucalyptus globulus* intertwined at their base' for his coat of arms.⁶⁶

Mueller's letter to the botanist Carl von Martius, famous for his explorations in Brazil,⁶⁷ indicates how influential Mueller was in spreading Australian plants around the world:

I shall be happy, to carry out your desire to introduce the fast growing Australian trees, especially the eucalypts, casuarinas, and acacias, into the waterless areas of Brazil . . . I have given the opportunity for a greater distribution of those trees to Natal, the Indian highlands, Jerusalem, the Atacama desert and the Plata plains, and the French Emperor is so convinced of the importance of the tree cultivation in Algeria, which I am greatly supporting, that His Majesty requested me to expound my ideas in a direct letter to the Emperor. Even just with this mail an eminent gentleman requests my help for the prairies of Kansas, and Count Maillard de Marafy desires the same assistance in the interests of the Egyptian Government.⁶⁸

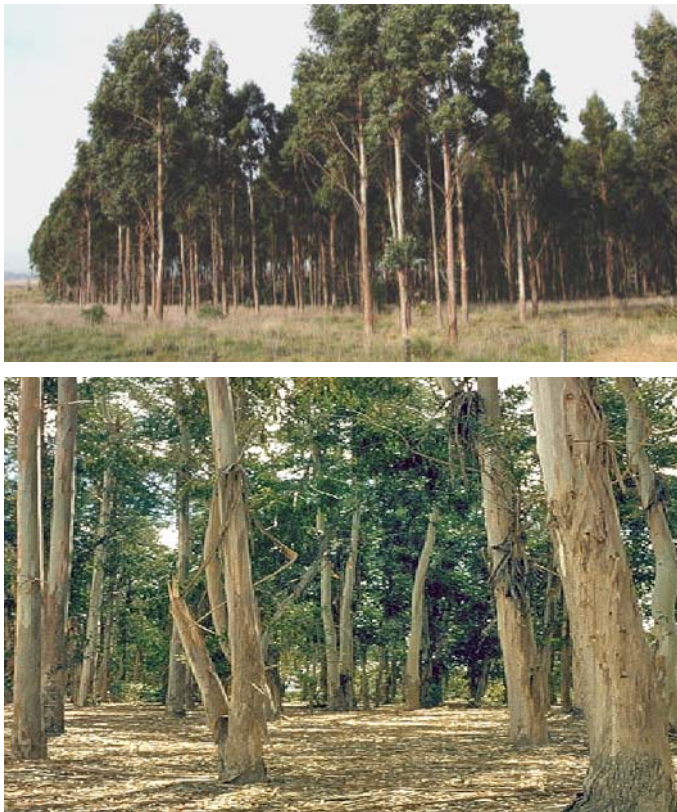


Figure 21: Blue Gum plantations in Argentina (top) and Andalusia, Spain (bottom).

⁶⁴ F. Mueller, Baron von, *Eucalyptographia: A Descriptive Atlas of the Eucalypts of Australia and the Adjoining Islands*, John Ferres, Govt Printer, Melbourne, 1879-1884.

⁶⁵ Parkin, 'Mueller, Acclimatiser and Seed Merchant', p. 214.

⁶⁶ King of Wurttemberg to Mueller, 6 July 1871, Home et al., eds., *Regardfully Yours*, Vol. II, pp. 581-582.

⁶⁷ 'Introduction', Home et al., eds., *Regardfully Yours*, Vol. II, p. 29.

⁶⁸ Mueller to C. von Martius, 22 May 1868, Home et al., eds., *Regardfully Yours*, Vol. II, p. 465.

In his study of the exchange of environmental knowledge and practice across the Pacific, *True Gardens of the Gods: Californian–Australian Environmental Reform, 1860–1930*, Tyrrell also describes Mueller as the figure ‘who most inspired the plantings of Australian natives in California’,⁶⁹ then another isolated 19th century colonial outpost sharing a similar climate and many of the same environmental problems arising from aridity, and sheep and cattle grazing. In common with south-eastern Australia, California had also experienced the consequences of a major gold rush. The timber shortages this generated through the destruction of vast areas of forest to support a largely ephemeral activity was of great concern, and a spur to reforestation and afforestation on both continents.⁷⁰

The movement of plants across the Pacific was not a one-way street. Although Mueller’s ‘work was a powerful influence in remaking nature in the American southwest’,⁷¹ Mueller himself was influenced by the writings of George Perkins Marsh, 19th century America’s outstanding environmental thinker and author of *Man and Nature*, which was published to international acclaim in 1864. They do not appear to have corresponded, but Marsh used Mueller’s research into eucalypts to promote their ‘prodigious growth and potential’,⁷² while Mueller considered Marsh the authority on the relationship between forests and climate and the environmental importance of trees.⁷³ In his 1871 lecture on forest culture he recommended his audience read *Man and Nature*, that ‘admirable work of Geo. P. Marsh’.⁷⁴

The Giant Pine of California (*Pinus radiata*) was discovered by the Scottish plant-collector David Douglas in 1832. Known in the United States as Monterey Pine and in Australia as Radiata Pine, it appeared in the 1858 Catalogue of Plants Under Cultivation in the Melbourne Botanic Gardens under its old name of *Pinus insignis*. During the 1860s Mueller was responsible for thousands of these trees being planted in the Botanic Garden, Domain, Royal Park where he was on the committee of management, and throughout country Victoria. Tall and of rapid growth with a limited distribution in

⁶⁹ Tyrrell, *True Gardens of the Gods*, p.26.

⁷⁰ Tyrrell, *True Gardens of the Gods*, pp. 4–8.

⁷¹ Tyrrell, *True Gardens of the Gods*, p. 17.

⁷² Tyrrell, *True Gardens of the Gods*, p. 26.

⁷³ Tyrrell, *True Gardens of the Gods*, p. 26. See Chapter 1, ‘Renovating Nature: Marsh, Mueller and Acclimatization’.

⁷⁴ F. Mueller, ‘Forest Culture in its Relation to Industrial Pursuits,’ in *Lectures and Documents Bearing on Industrial Researches*, Mason, Firth & M’Cutcheon, Melbourne 1871, p. 6.

central coastal California, it was never grown commercially in the United States because its timber is inferior to other American softwoods. Although it was left to others to fully realise the potential of the Radiata Pine in the southern hemisphere and establish its importance to the timber industry, Mueller influenced its introduction to Australia and promoted its economic value.⁷⁵

He made his work on acclimatisation readily available by publishing the encyclopaedic *Select Extra-Tropical Plants readily eligible for Industrial Culture or Naturalization with indications of their native countries and some of their uses*. It was a compilation of knowledge gained through his work in the Botanic Garden as well as his and assistant Georg Luehmann's extensive reading, and included plants for medicinal and economic purposes, as well as sections on the best plants for avenues, hedges, edging garden beds, cemeteries, and scenic purposes, among others. The handbook grew out of reports that were intended to guide colonists and which Mueller prepared for the Acclimatisation Society of Victoria, but he expanded its scope to reach a world-wide audience. It was the most successful of his many publications, going through nine editions in English between 1876 and 1895, including Indian and American editions, and was also published in German, French and Portuguese.⁷⁶

The great reduction in tree cover since European settlement concerned many people because of its effects on the environment leading to desertification, as Marsh had articulated in *Man and Nature*, as well as a shortage of timber for industry. The Victorian government prepared its first official statement on forest policy in a report to parliament in 1865, which borrowed heavily from Marsh,⁷⁷ and Mueller was prominent in trying to educate people about the benefits of forest conservation.

Others whose livelihoods relied on timber clearing or timber use saw this approach as inimical to their interests. The NSW politician L. Fane de Salis, MLC, who saw man as 'a conquering fighting animal', went for the jugular:

⁷⁵ A.L. Mitchell and S. House, *David Douglas: Explorer and Botanist*, Aurum Press, London, 1999, p. 157; Tyrrell, *True Gardens of the Gods*, p. 88. See Chapter 4, 'The Remarkable Pines of Monterey: Californian Softwoods in Australasia' for a full account of the development of *Pinus radiata* as a mainstay of forest culture.

⁷⁶ 'Introduction', Home et al., eds., *Regardfully Yours*, Vol. III, p. 28.

⁷⁷ Powell, *Environmental Management in Australia*, pp. 60, 89-91.



Figure 22: Ringbarked trees in the Otways, Victoria, ca 1910.

I know that it is man's instinctive right and function to extirpate all interfering insects, beasts, trees, vegetables, fungi – everything opposed to man's progress – and that acting in direct accordance with this truth – however German professors [Mueller] may slander the present climate of these countries – our forefathers in England, Ireland, Scotland, France, Germany, Belgium, Holland did right in cutting down the forests – AND HISTORY PROVES MY ASSERTION.⁷⁸

Mueller believed the only way to counter such attitudes was through the establishment of a bureaucracy to manage the colony's timber resources. He commenced his 1871 lecture 'Forest Culture in its Relation to Industrial Pursuits', in which he set out his ideas about the nature and value of the environment and what was needed to preserve and improve it, by criticising the lack of any forestry department in the whole of Australia. One of the main objects of his address, he announced, was 'to show in what manner a well-organised and yet inexpensive system of forest administration might check the indiscriminate destruction of the woods'.⁷⁹

⁷⁸ As quoted in Home et al., eds., *Regardfully Yours*, Vol. III, p. 84.

⁷⁹ Mueller, 'Forest Culture in its Relation to Industrial Pursuits,' p. 6.

His system not only encompassed 'the supervision, enrichment and utilisation'⁸⁰ of native forests, but also the creation of new forests in areas that were naturally treeless. Unlike today's commercial mass plantings of a single species, Mueller and others favoured mixing species together, as with the collection of pines, araucarias, cypresses, and evergreen oaks Mueller established in the Domain. He hoped this plantation would eventually provide large quantities of fresh seed for a future forest industry, 'a branch of State economy which demands to be initiated ere many more years pass away'.⁸¹ Several years later he was still anticipating that the Domain's 'not less than 21,000 Pines, representing very many species' would form a 'nucleus for forest culture . . . when not merely the protection but also the enrichment of the native forests will become an object of legislative enactments'.⁸² In this he was to be disappointed.⁸³

Mueller believed that due to variations in climate, vegetation, population, and labour costs, European forestry practices had only limited application, and therefore Australia would need to devise its own system. Using the Australian colonies, North America, and Europe as examples, his 1871 call to action covered the ever-increasing demand on timber to supply industry, and the urgency of supplementing a rapidly diminishing resource. He did not believe Australia could contemplate importing timber as a matter of course as the problem was world-wide, and foresaw that the rapid increase in world population would lead to shortages not only of timber, but of other forms of energy such as coal, which in turn would cause massive price increases.

Based on his achievements at the Botanic Garden, he went on to describe in detail methods to stabilise sand dunes, renovate forests, produce charcoal and potash, and distill eucalyptus oil; and he proposed harvesting seed and tree ferns for export, and using railway reserves for plantation trees and shrubs. He contemplated 'enriching the resources of our woods'⁸⁴ by cultivating plants that over the years he had grown in the Melbourne garden – tea, cork oak, opium, hops, berries, quinine-producing cinchona, and peanuts among others. Before concluding with a eulogy to the beauty, moral power

⁸⁰ Mueller, 'Forest Culture in its Relation to Industrial Pursuits,' p. 7.

⁸¹ Annual Report of the Botanic Garden, 1864-65, p. 5.

⁸² Annual Report of the Botanic Garden, 1869, p. 3.

⁸³ Although George Perrin was appointed Conservator of Forests in 1888, it was not until 1908 that Victoria's Forests Department was created under a Minister for Forests. See Dept of Sustainability and Environment, Victoria's Forest History, http://72.14.235.104/search?q=cache:PE3e3s63_jwJ:www.dse.vic.gov.au/CA256F310024B628/0/E335694B2A89AC2FCA2571950007E239/%24File/Victoria%27s%2BForests%2BHistory.pdf+Victoria+forest+commission&hl=en&gl=au&ct=clnk&cd=2 (p. 3, accessed 28 December 2006).

and benign influence of the forest and natural world, Mueller drew attention to his work in distributing plants to Victoria's public reserves. He maintained that one of the main objects of this program had been to form seed banks, so that 'within comparatively few years, seeds should almost everywhere become available in masses from local tree-plantations; and that thus the efforts now made for parks and pleasure-grounds should be enlarged for creating more or less extensive forests'.⁸⁵

Mueller's lecture on forest culture, which he delivered in Melbourne's Industrial and Technological Museum, soon bore fruit when he was appointed to a government commission charged with reporting on the introduction of European industries into rural Victoria. In addition, it was to report 'on the best means of promoting the culture, extension and preservation of State forests in Victoria, and the introduction of such foreign trees as may be suitable for the climate and useful for industrial purposes'. The ensuing recommendations included many that Mueller had incorporated into his museum lecture.⁸⁶ And Ellwood Cooper, a prominent horticulturist in Santa Barbara, California, who promoted the cultivation of eucalypts, ensured that Mueller's ideas travelled beyond Australia. In 1876 he published *Forest Culture and Eucalyptus Trees*, which was for the most part a compilation of Mueller's pamphlets and speeches, including 'Forest Culture in its Relation to Industrial Pursuits'.⁸⁷

Mueller's concern to preserve native forests did not translate into preserving what remained of the indigenous vegetation within the Botanic Garden. Although he retained surviving eucalypts and regretted that some of the indigenous trees had been cut down before the Garden was established,⁸⁸ he believed that a primary aim of a botanic garden was to convert 'tracts of wildernesses into useful and reproductive verdure'.⁸⁹ Undoubtedly he would have taken care to preserve any plant then considered rare or endangered found growing within the Garden, but in the 1870s there was still much natural bushland close to Melbourne for those who were interested in the local vegetation.

⁸⁴ Mueller, 'Forest Culture in its Relation to Industrial Pursuits,' p. 41.

⁸⁵ Mueller, 'Forest Culture in its Relation to Industrial Pursuits,' p. 48.

⁸⁶ L. Gillbank, '19th Century Perceptions of Victorian Forests: Ideas and Concerns of Ferdinand Mueller', *Australia's Ever-Changing Forests II: Proceedings of the Second National Conference on Australian Forest History*, 1993, p. 12.

⁸⁷ Tyrrell, *True Gardens of the Gods*, p. 60.

⁸⁸ Annual Report of the Botanic Garden, 1859-60, p. 3.

⁸⁹ Mueller, *The Objects of a Botanic Garden in Relation to Industries*, p. 32.



Figure 23: Remnant eucalypt in the Melbourne Botanic Garden, ca 1869-70.

However, the Garden was a refuge for plants growing elsewhere in Australia that Mueller thought were in danger of extinction. *Eucalyptus alpina*, found only in the Grampians, was among the many species from all over the continent, some newly discovered and never before cultivated, growing in the Melbourne Botanic Garden at that time:

Here however a hope may be expressed, that plants of such extreme rarity should not be allowed as in St Helena (and as unfortunately also in many other parts of the globe) to be swept away and even utterly annihilated, when intelligent foresight might protect them . . . The danger of *E. alpina* becoming extinct is lessened by its being brought into culture in our Botanic Garden, where I reared it from seeds gathered by myself in 1853.⁹⁰

He also hoped that other plants could be saved by being given ‘a permanent footing in horticulture abroad’, such as the very ornamental *Eucalyptus macrocarpa* that he feared would ‘by the methodic “burning off”, to which the “scrub-lands” are subjected by the settlers, . . . pass altogether out of natural existence like so many other local plants of Australia’.⁹¹

Obviously Mueller was not alone in responding to contemporary scientific, environmental, and economic demands. Charles Moore at Sydney, Francis Abbott at Hobart, George Francis and later Richard Schomburgk at Adelaide, and Walter Hill at Brisbane, were in charge of major botanic gardens for which the Royal Botanic Gardens at Kew provided the model. They corresponded and exchanged plants with Kew and other international and local institutions and individuals, including Mueller. Like him

⁹⁰ Mueller, *Eucalyptographia*.

⁹¹ Mueller, *Eucalyptographia*.

they distributed plants to civic bodies, practised acclimatisation, and collected in the wild, although not all had a herbarium or library. Mueller honoured Hill and Moore by naming new species after them, and proposed Moore as a Fellow of the Linnean Society.⁹² However, the curators of these other Australian gardens did not share Mueller's botanical ability or ambition to create a garden of international scientific standing.⁹³

As Mueller pointed out, many provincial gardens dignified by the inclusion of 'botanic' in their name had no real claim to such a designation. The Daylesford Botanic Garden was a typical example where, during a period of great interest in botany and horticulture, and possibly inspired by Mueller's reputation and work in Melbourne, local councillors were keen to establish a botanic garden in their town.⁹⁴ W. E. Stanbridge, the first council chairman in 1859, may have been influential in that he owned a splendid garden and donated plants or seeds to the Melbourne Botanic Garden on at least one occasion.⁹⁵ In 1862 the government set aside nine hectares in Daylesford as a public – not botanic – garden, to which Mueller sent conifers and other plants.⁹⁶ Although the appellation 'botanic' continued to be applied over the years to the Daylesford garden, there was little real development or any sort until 1884 when William Sangster prepared a design.⁹⁷

In contrast, the Geelong Botanic Garden under the curatorship of Daniel Bunce between 1857 and 1872, when he died, was a rare example of a provincial garden that did possess attributes Mueller considered essential to a botanic garden. Bunce was a horticulturist with botanical ambitions. When he arrived in Hobart from England in 1833 he immediately set about collecting plants on Mt Wellington,⁹⁸ and at his Denmark Hill Nursery he arranged the stock along taxonomic lines. Although Ronald Gunn, who corresponded with William Hooker, thought him a charlatan, Bunce had a genuine interest in botany and plant collecting. A few years after Melbourne was first settled he

⁹² Mueller to G. Bentham, 24 September 1862, Home et al., eds., *Regardfully Yours*, Vol. II, p. 166.

⁹³ 'Introduction', Home et al., eds., *Regardfully Yours*, Vol. I, p. 34.

⁹⁴ Anon., *History of the Wombat Hill Botanical Gardens*, Shire of Daylesford and Glenlyon, [n.d.], p. 1.

⁹⁵ Annual Report of the Botanic Garden, 1864-65, p. 17.

⁹⁶ *Government Gazette*, 23 December 1862; S. Maroske and A. May, "'Horticultural Embellishments': Public conferment from the Melbourne Botanic Garden, 1870", *Australian Garden History*, 4 (4), 1993, p. 10.

⁹⁷ Anon., *History of the Wombat Hill Botanical Gardens*, p. 3. William Sangster of the nursery firm Taylor & Sangster was an acclaimed horticulturist and designer who mainly worked in the private sector.

⁹⁸ G. Jones, 'Bunce, Daniel' in Aitken and Looker, eds., *The Oxford Companion to Australian Gardens*, pp. 113-14.

travelled overland to Westernport Bay collecting plants, accompanied by several Aborigines. Not only did he attempt to understand the vegetation in terms of European natural history, but his interest in Aboriginal culture led him to learn the names his companions gave to the various species and how they used the plants. Later, in the guise of naturalist and botanist, he joined Ludwig Leichhardt's second exploring expedition.⁹⁹

Within a few years of his appointment Bunce had greatly extended the cultivated area of the Geelong garden beyond the small nursery area. In 1860 he published a catalogue of the 2325 plants he was growing at that time, many of which were Australian. These included 41 unnamed 'newly discovered' species from Western Australia, and others that were grown from seed he had collected on the Leichhardt expedition. His extensive collection of exotic plants included many less common species. Like the curators of the capital city botanic gardens he exchanged plants with a wide network of national and international collectors, distributed large quantities of surplus plants, and with the help of the Acclimatisation Society of Victoria displayed birds and animals.¹⁰⁰

He sent plants to the Melbourne Botanic Garden regularly, and in 1869 Mueller included the 'Botanical Garden, Geelong' in a list of donors¹⁰¹ that included such eminent institutions as the Kew, Calcutta, Ceylon, Mauritius, Trinidad, St Petersburg and Vienna gardens.¹⁰² Mueller honoured Bunce by naming a grass *Panicum buncei*.¹⁰³ Bunce disseminated the knowledge he acquired through various publications, papers, and newspaper articles, including 'Tree Planting in Towns' and 'A List of Plants Capable of Resisting Long Drought', and he continued to collect.¹⁰⁴ His knowledge and skill in growing Australian species suited to poor soils and a restricted water supply must have been important to his success in developing such a large garden, which after his death slowly contracted in size until it occupied only the site of the nursery area. Despite the

⁹⁹ Fox, *Clearings*, pp. 64-72.

¹⁰⁰ Chris Dance Land Design Pty Ltd, Geelong Botanic Gardens and Eastern Park Conservation and Management, prepared for the City of Greater Geelong & Friends of the Geelong Botanic Gardens, ca 1995, pp. 16-22. Much of the information about the Geelong Botanic Garden's history contained in this report is taken from G. Jones, *Growing Together*, George Samuel Jones, Belmont, 1984.

¹⁰¹ Annual Report of the Botanic Garden, 1869, pp. 17-21.

¹⁰² D.P. McCracken, *Gardens of Empire: Botanical Institutions of the Victorian British Empire*, Leicester University Press, London, 1997, p. ix.

¹⁰³ J.H. Maiden, 'Records of Victorian Botanists', *The Victorian Naturalist*, 25, 1908, p. 104. The name *Panicum buncei* is no longer current.

¹⁰⁴ G. Jones, 'Bunce, Daniel' in Aitken and Looker, eds., *The Oxford Companion to Australian Gardens*, p. 113.

botanic qualities of Bunce's garden, however, it was more generally appreciated by Geelong's inhabitants for its recreational value, which later curators built on.

Despite Mueller's preoccupation with the Melbourne Botanic Garden's scientific purpose, he was well aware that they were also expected to provide an attractive setting for recreation. He formed ornamental shrubberies and flower borders, designed rockeries to 'embellish many spots', erected 'bowers' from which views could be enjoyed, used 'plants of grand or phantastic form' to make the Garden more picturesque, and found that the drought tolerant South African and West Australian shrubs made an 'exceedingly gay and ornamental' contribution.¹⁰⁵ He also had an appreciation of place:

In a climate like ours, which admits of the culture of so many tropical plants without glass protection, it is always an important object to group the greatest possible number of prominently remarkable plants from various parts of the globe suitably together. This, indeed, is one of the greatest charms in our horticulture.¹⁰⁶

He considered the ornamental possibilities of plants such as the West Australian Flowering Gum, *Eucalyptus ficifolia*, introduced to the Garden in 1860, which 'should have a place in every select ornamental arboretum in zones free of frost and excessive heat';¹⁰⁷ or *Eucalyptus macrocarpa*, which had 'claims for ornamental culture, especially when scenic effect is desired, as the flowers are so large and handsome, while the ashy grey of the foliage contrasts remarkably with the ordinary green of shrubberies'.¹⁰⁸



Figure 24: Melbourne Botanic Garden, near the aviary, ca 1860.

¹⁰⁵ See annual reports of the Botanic Garden 1859-60, 1860-61, 1861-62, 1864-65.

¹⁰⁶ Annual Report of the Botanic Garden, 1869, p. 4.

¹⁰⁷ Mueller, *Eucalyptographia*.

¹⁰⁸ Mueller, *Eucalyptographia*.



Figure 25: Melbourne Botanic Garden, near the emu enclosure, ca 1865.



Figure 26: Melbourne Botanic Garden, eastern entrance, ca 1870.



Figure 27: Melbourne Botanic Garden, ca 1865.

Mueller found that funding for the Botanic Garden was inadequate to undertake what he believed should be the work of such an establishment, and he paid for additional books, equipment and staff from his own salary.¹⁰⁹ He was loth to spend money on ‘mere ornamentation’, such as the statues and fountains that embellished the Fitzroy and Flagstaff Gardens, and he avoided labour intensive plants if their purpose was mainly decorative.¹¹⁰ He did dream of fountains ‘enhancing the beauty’¹¹¹ of the Garden, and

¹⁰⁹ H. Cohn and S. Maroske, ‘Relief from Duties of Minor Importance - The Removal of Baron von Mueller from the Directorship of the Royal Botanic Gardens’, *Victorian Historical Journal*, 67 (1), 1996, p. 120.

¹¹⁰ Annual Report of the Botanic Garden, 1864-65, p. 7.

after the Yan Yean water supply was connected he ran a pipe to one of the islands in the lake, which threw a plume of water high into the air. A number of empty tin packing cases painted a stone colour were arranged around the pipe to represent rocks. This crude feature was short-lived because of the unreliable supply and poor pressure of the Yan Yean water.¹¹²

Despite his best attempts, by 1869 the Fitzroy Gardens were celebrated as Melbourne's premier garden, and Mueller was under pressure to provide similar effects. Almost grudgingly, he now agreed that 'since the main planting operations have been effected, it is but too desirable that a few appropriate statues and monumental works should add to the embellishment of the very varied vegetation, and stand with it in bold or beautifying contrast'.¹¹³ They would also be instructive as Mueller proposed 'works of art, constructed of the most varied material; the Carrara marble, all the cement compositions, the various blendings of ore, might all be brought together for illustration'.¹¹⁴ However, the acquisition of statuary progressed no further than this vague intention.

As early as 1862, Victoria's nursery and horticulture trades had attacked Mueller with a petition to the Government accusing him of injuring their interests through his plant distributions. Sustained hostility from members of the horticultural industry, along with mounting criticism in the press of the Garden's lack of beauty, led to the appointment in late 1870 of a Board of Inquiry to report on how the Botanic Garden should be run. The Board chairman died before the enquiry was complete, while two of the remaining three members included horticulturists William Sangster, whose firm had been a signatory to the 1870 petition sparking the enquiry, and Josiah Mitchell, Mitchell having attacked Mueller only two months earlier when writing for the *Leader* newspaper. Whatever the merits of the criticism, Mueller's treatment at the hands of politicians was unfair and uninformed by any understanding of science or the purpose of a botanic garden. The ensuing witch hunt, tainted by racism and fanned by some parts of the popular press, led to his dismissal in 1873 as director of the Botanic Garden.¹¹⁵

¹¹¹ Annual Report of the Botanic Garden, 1859-60, p. 4.

¹¹² E. Almond, 'A Garden of Views: Photographic Records of the Royal Botanic Gardens, 1860 to 1910', *Victorian Historical Journal*, 67 (1), 1996, p. 41.

¹¹³ Annual Report of the Botanic Garden, 1869, p. 5.

¹¹⁴ Annual Report of the Botanic Garden, 1869, p. 5.

¹¹⁵ Cohn and Maroske, 'Relief from Duties of Minor Importance', pp. 103-127.

Mueller was devastated. Although he retained his position as Government Botanist, at a slightly increased salary, he had thrown himself into developing 'the only botanic garden in Australia which in any way approached Kew in scope and reputation',¹¹⁶ and which he saw as integral to his scientific work. The Melbourne garden with its attached museum and herbarium collection represented his achievements in the scientific world – in botanical taxonomy, plant geography, forestry, agriculture, horticulture, paleobotany, and pharmacy – for which he was honoured internationally.¹¹⁷ As well as his German title and the honorific 'von', he had been knighted by Queen Victoria, was a recipient of the French Legion d'Honneur, Charles Darwin had backed him for fellowships of the Linnean and Royal Societies, and he was elected to many other societies and received other honours of a more minor nature.¹¹⁸



Figure 28: Medal with bust of Galileo. This was awarded to Mueller by the Florence Natural History Museum in 1870.

He had fought tooth and nail to retain the directorship, and had not expected to lose, placing his faith in the power of science to persuade. Jeffries argues that culturally different German and British concepts of science prevented Mueller and his opponents from understanding each other's point of view. Mueller believed in the general pursuit of knowledge and, most importantly, its useful application. The more specialised British understanding pertained only to the investigation of the natural sciences. Thus Mueller's work in plant acclimatisation – the major influence in his development of the Botanic Garden – was not valued as scientific.¹¹⁹ Mueller later acknowledged the two different concepts in his inaugural address to the Australasian Association for the Advancement of Science in 1890:

¹¹⁶ Cohn and Maroske, 'Relief from Duties of Minor Importance', p. 120.

¹¹⁷ S. Maroske, 'Introduction', *The Victorian Naturalist*, 113, 1996, p. 128.

¹¹⁸ 'Introduction', Home et al., eds., *Regardfully Yours*, Vol. II, pp. 35-6.

¹¹⁹ Jeffries, 'Alexander von Humboldt and Ferdinand von Mueller's Argument for the Scientific Botanic Garden', p. 306.

The word 'science' seems in British communities often to be understood, to apply to researches in the domain of nature exclusively. The acceptance of the word in this sense would exclude from our scope much of the best *éclat* of what we desire to accomplish, whereas we would wish to embrace in our discussions and operations, what was meant by the ancient word 'scire' [L. to know] and hence 'scientia'.¹²⁰

Jeffries's argument is undermined to some extent by the fact that several years earlier Joseph Hooker, the archetypal British scientist, had been placed in the same situation as Mueller. Despite the achievements of acclimatisation projects at Kew resulting in the commercial development of rubber and cinchona bark, Hooker was forced to appeal – successfully in his case – to the Prime Minister when it was proposed to separate botanical and horticultural control.

Hooker's experience demonstrates that there was a shift in the perception of a botanic garden's purpose, and a desire to separate the botanic garden from the pleasure garden that was not restricted to colonial Melbourne. Even in Germany pleasure and botanic gardens were no longer strictly separated as in Mueller's youth: a popular desire for more floral displays and greater consideration of garden aesthetics was starting to relegate scientific activities to academic institutions.¹²¹ The trend continued in Queensland. When Walter Hill retired from the Brisbane Botanic Garden in 1881 the position of colonial botanist and garden curator was separated for the first time.¹²² Mueller's situation may have been exacerbated by the local desire to label many ordinary public gardens as botanic, thus leading to a confusion in public expectations of what a botanic garden should look like.

Mueller did not see the botanic garden and the pleasure garden as mutually exclusive. Just as he believed the study of Australia's indigenous vegetation would provide 'to well trained and intelligent minds pure recreative and healthful pleasures'¹²³ as well as intellectual insight, 'the "garden of knowledge" was a source of both "scientific

¹²⁰ As quoted in Jeffries, 'Alexander von Humboldt and Ferdinand von Mueller's Argument for the Scientific Botanic Garden', p. 306.

¹²¹ Jeffries, 'Alexander von Humboldt and Ferdinand von Mueller's Argument for the Scientific Botanic Garden', p. 307.

¹²² J. Deppeler-Hagan, 'Frederick Manson Bailey' in Aitken and Looker, eds., *The Oxford Companion to Australian Gardens*, p. 67.

¹²³ Mueller circular, 1876, in Home et al., eds., *Regardfully Yours*, Vol. III, p. 70.

refinement” and “pure pleasure”.¹²⁴ This was not the view of his successor William Guilfoyle, the son of a nurseryman. Guilfoyle reworked the Garden brilliantly, sweeping away what he saw as ‘landscape beauty . . . sacrificed to correct geographical classification’.¹²⁵ Mueller swore that he would never enter the Botanic Garden again, and expressed his sense of extreme hurt, humiliation and betrayal in a letter to Joseph Hooker in which he described the Garden as no longer ‘a scientific institution’.¹²⁶ Nor over time did he become reconciled to the loss, as a letter he wrote six years later on Christmas Day to geologist Julius von Haast painfully reveals:

I am almost completely *ruined* socially, financially and domestically . . . O God! how the times have changed unhappily for me . . . Since I was driven out of my creation and thrown on the street, I am of course excluded from all commissions and a quite uneducated gardener [William Guilfoyle], who simply copies the Sydney *flower* garden (because he never saw anything else in his life) is the *colleague* of Hooker (*not I*), and this unworthy person can not only daily give himself airs before the public with *my* treasures . . .¹²⁷

One has to feel compassion for Mueller’s overwrought perspective, but however tragically he viewed these events they did not affect his high standing in the scientific world. Nor was he without supporters. In 1877 a parliamentary board of enquiry was set up under the chairmanship of Dr Louis L. Smith to review his situation. The board was favourably disposed towards Mueller and recommended that he be given land near ‘the present Botanic Gardens, and that it be termed the “Scientific Botanical Garden”’,¹²⁸ but Mueller declined the ten acres offered as inadequate. Home makes the point that the board’s suggested name for this new garden ‘implied a recognition that the existing Garden could no longer in any meaningful sense be regarded as scientific’.¹²⁹ Other recommendations including additional staff, a new laboratory, and an area of State Forest devoted to experimental plantings, were not acted upon.¹³⁰

At the age of 48 Mueller was still a relatively young man with another 23 years as Government Botanist ahead of him. The ‘Humboldt of Australia’, as the great German

¹²⁴ Jeffries, ‘Alexander von Humboldt and Ferdinand von Mueller’s Argument for the Scientific Botanic Garden’, p. 305.

¹²⁵ Gardens and Parks: Report of the Inspector-General of Gardens, Parks, and Reserves, *Victorian Parliamentary Papers*, III, No. 81, 1873, p. 9. (Monthly Report of the Curator of the Botanical and Domain Gardens forms part of this paper.)

¹²⁶ Mueller to J. Hooker, 15 July 1873, Home et al., eds., *Regardfully Yours*, Vol. II, pp. 681-82.

¹²⁷ Mueller to J. von Haast, 25 December 1879, Home et al., eds., *Regardfully Yours*, Vol. III, pp. 173-76.

¹²⁸ L. Smith to G. Berry, 11 July 1877, Home et al., eds., *Regardfully Yours*, Vol. III, p. 753.

¹²⁹ ‘Introduction’, Home et al., eds., *Regardfully Yours*, Vol. III, p. 9.

¹³⁰ ‘Introduction’, Home et al., eds., *Regardfully Yours*, Vol. III, pp. 9-12.

geographer August Petermann termed him,¹³¹ continued to attend to his botanical affairs with the same passion, corresponding relentlessly with his scientific colleagues around the world. He was to remain a central figure of Australian science, not only in its professional aspect; he also exerted a major influence in the affairs of the Field Naturalists Club of Victoria following its formation in 1880. But although he continued to promote acclimatisation through his writings and actions, he never recovered his botanic garden, that establishment he considered so 'desirable for the diffusion of knowledge, for the experimental introduction of foreign plants into our adopted country, or for multiplying the treasures which our own Flora offers'.¹³²



Figure 29: Illuminated manuscript commemorating Mueller's 70th birthday. It was given to him in 1895 by the Deutsche Verein, Melbourne.

¹³¹ 'Introduction', Home et al., eds., *Regardsfully Yours*, Vol. II, pp. 38-39.

¹³² First General Report of the Government Botanist, p. 7.

Clement Hodgkinson & Melbourne's Parks

*Hoddle may have laboured with greater pragmatism, La Trobe with nobler purpose and Clarke with more dash, but none was to prove as important in the colony's land affairs as Clement Hodgkinson.*¹

Clement Hodgkinson developed Melbourne's first public gardens between 1858 and 1874, the same time as Ferdinand von Mueller was developing the Melbourne Botanic Garden. Hodgkinson was vitally interested in the natural environment and concerned about its management. But because of the largely recreational nature of his parkland, as distinct from the scientific and economic imperatives of a botanic garden, and the lack of written evidence such as Mueller provided linking landscape design with his environmental ideas, the influence of such thinking on Hodgkinson's parks and gardens is not immediately apparent. Parallels can be drawn, however, between his landscape design and other aspects of his work in which his environmental views were influential. Hodgkinson's parkland expressed a different facet of 19th century environmental thought to Mueller's botanic garden, one that characterised his interests and professional responsibilities.

He was, like Mueller, regarded as an 'expert' by his contemporaries.² In his study of the administration of Crown land reserves, *The Bureaucrats' Domain: Space and the Public Interest in Victoria 1836–84*, Wright reveals that Hodgkinson was 'widely regarded as the most powerful government land manager in Victoria'³ between 1857 and 1874. He was one of a handful of officials responsible for implementing Crown land reserve policy 'who, beyond public scrutiny and independent of unstable parliaments, shaped policy, advised ministers, interpreted legislation and controlled extensive field staffs, and in so doing imposed their own definitions of the public interest on town and country'.⁴

¹ R. Wright, *The Bureaucrats' Domain: Space and the Public Interest in Victoria 1836–84*, Oxford University Press, Melbourne, 1989, p. 98.

² Wright, *The Bureaucrats' Domain*, p. 165.

³ Wright, *The Bureaucrats' Domain*, pp. 99.

⁴ Wright, *The Bureaucrats' Domain*, p. xiii.

Unlike Mueller, Hodgkinson's surviving correspondence focuses on the immediate discharge of his formal duties, and little is to be gleaned as to his thinking behind his development of Melbourne's recreation reserves. In order to draw some greater meaning out of his decisions rather than merely credit them as being pragmatic or even arbitrary, it is necessary to examine his earlier interests and experiences, particularly in light of his administrative power and the part his personal philosophy was allowed to play in reserve management. It is also useful to look at his relationship with Mueller, who from 1872 reported to Hodgkinson within the departmental hierarchy, and compare their work in parkland and forest development.

Seven years older than Mueller, Clement Hodgkinson was born in Southampton, England in 1818, the son of a 'gentleman'. His father died when he was a young boy, and whatever Hodgkinson senior's financial position had been, his son's circumstances required that he earn a living. His mother remarried and the family moved to the Channel Islands where he may have learned to speak French.⁵ This perhaps explains why he studied civil engineering in France, which was apparently considered a leader in the field. On his return to England he worked as a surveyor until, at the age of 21, he came into an inheritance from his father and set off for Australia with the intention of becoming a pastoralist.⁶ Arriving in Sydney in 1839, he purchased a partnership in a cattle station near Kempsey in coastal northern New South Wales. It lay on the rich alluvial plains of the MacLeay River, and was named Yarra-Bandini after the local Aboriginal people. Along with grazing he experimented in growing various crops, but his share in the station was not enough to support him.

To make ends meet, in 1840 Hodgkinson took up contract surveying under the direction of Sir Thomas Mitchell and Samuel Perry in Sydney, which he carried out for two years.⁷ This was survey work far removed from his English experience. It involved exploring wild and rugged country for many weeks at a time. Hodgkinson's surveying

⁵ A. Neale, 'Bateman, Millais and Hodgkinson: Brothers in Art & Brothers in Life', unpublished lecture delivered to the Australian Garden History Society, 4 July 2005.

⁶ Death of Mr Clement Hodgkinson, *Age*, 7 September 1893, p. 6; K.A. Patterson, 'Clement Hodgkinson (1819[sic]-93)', *Victorian Historical Magazine*, 39, 1968, p. 127; Wright, *The Bureaucrats' Domain*, pp. 99-100.

⁷ C. Hodgkinson, *Australia, from Port Macquarie to Moreton Bay: with descriptions of the natives, their manners and customs; the geology, natural productions, fertility and resources of that region, first explored and surveyed by the order of the Colonial Government*, Boone, London, 1845, p. 12; Wright, *The Bureaucrats' Domain*, p. 100.



Figure 30: North-Eastern NSW, 1843.
Hodgkinson's map of the area in which he lived
and travelled between 1839 and 1843.

parties were 'well armed with carbines, pistols, and swords',⁸ although he was on good terms with the Aborigines generally. On one excursion he was startled to hear 'the loud shrill *couis* of the natives, who turned out to be some old friends of mine belonging to the Tanban tribe', and he persuaded a couple of them to come along and lend their help.⁹

This period of his life turned the young man into a hardened bushman who could negotiate swamps and dense rainforest, strip bark to make a shelter from the rain, dine off possum, dew-lizard and parrot, and survive the bite of a venomous snake. Most importantly, he developed his interest in the natural world. Few people were in such a fortunate position to study first hand a primeval wilderness teeming with wildlife, able to observe plants and animals only recently discovered or still unknown to science, and he took full opportunity of the situation.¹⁰

It was also a sad time as his wife Matilda, whom he possibly married in Australia, died in 1843. This, and the 1840s economic depression, saw his return to England.¹¹ Just as Mueller had intended to publish an account of his travels and discoveries on his return to Europe in the manner of Humboldt and Darwin, Hodgkinson likewise decided to turn his field notes and journal, perhaps written with an eye to future publication, into a book. *Australia, from Port Macquarie to Moreton Bay; with Descriptions of the Natives, their Manners and Customs; the Geology, Natural Productions, Fertility, and Resources of that Region; First Explored and Surveyed By order of the Colonial Government* was published in London in 1845. It illustrates his curiosity in the natural world and his capacity to evaluate the forces acting upon it, both environmental and human.

The book is divided into four sections. In the fourth he discusses the customs, habits, and organisation of the different Aboriginal tribes in the region of his station as he perceived them. He also included observations on bush life in general, and the Australian fauna, mainly as to what made good shooting and eating. The third section comprises an enquiry into the causes of the New South Wales depression, and an examination as to whether future investment in sheep, cattle, and certain types of agriculture for an export market would be profitable. But the first two sections form the major part of the book, in which Hodgkinson describes the MacLeay River and the country between it and the

⁸ Hodgkinson, *Australia, from Port Macquarie to Moreton Bay*, p. 27.

⁹ Hodgkinson, *Australia, from Port Macquarie to Moreton Bay*, p. 28.

¹⁰ Hodgkinson, *Australia, from Port Macquarie to Moreton Bay*, pp. 32, 43, 44.

¹¹ Wright, *The Bureaucrats' Domain*, p. 100.

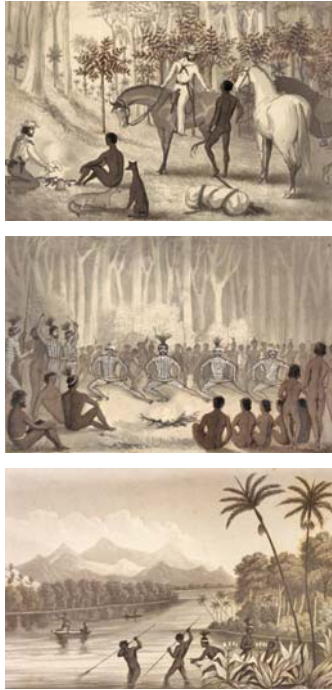


Figure 31: Illustrations from *Australia, from Port Macquarie to Moreton Bay*, 1845, depicting Hodgkinson's experiences.

Top: Halt near a fern tree scrub

Middle: Dance at the conclusion of the Cawarra ceremonies

Bottom: Natives spearing fish on the Bellengen River

Clarence River to the north in the first part; and in the second the Hastings River and Port Macquarie district to the south, the area of the Clarence, Richmond, and Tweed Rivers, and the country in the vicinity of Moreton Bay and the Brisbane River.

He addresses the geology and soils of the region, its plants, topography and climate, and puts forward observations of cause and effect, his own and other people's. He quotes Sir Thomas Mitchell's 'valuable dissertation on the geology of the eastern part of New Holland',¹² refers to Captain Sturt's observations on the connection between the geology and vegetation of Australia, and even cites 'the celebrated Humboldt', although second hand as the German naturalist's words are 'extracted from Prof. Jameson's valuable notes'.¹³ Full of confidence, he goes so far as to question one of Humboldt's findings with the remark that he had frequently seen vegetation growing on steeper slopes in Australia than Humboldt seemed to think possible in the Upper Hartz Alps of Germany.

Hodgkinson's description of the country near his station expresses his interest in the plant world and aesthetic appreciation of his surroundings, as well as a sense of being lord of his domain:

¹² Hodgkinson, *Australia, from Port Macquarie to Moreton Bay*, pp. 8-9.

¹³ Hodgkinson, *Australia, from Port Macquarie to Moreton Bay*, p. 22. Jameson was Professor of Natural History at the University of Edinburgh. See NAHSTE, Edinburgh University Library Special Collections Division, Papers of Robert Jameson, http://www.nahste.ac.uk/cgi-bin/view_isad.pl?id=GB-0237-Robert-Jameson&view=basic (accessed 28 December 2006).



Figure 32: Stotts Island on the Tweed River. Today this river forms the border between NSW and Queensland.

Mount Yarra-Hapinni is densely wooded to the summit, with an almost impenetrable forest of gigantic trees, but its spurs towards the sea descend in beautiful verdant park-like declivities to the beach, the grass growing luxuriantly, even within reach of the salt spray of the ocean. At the south extremity of Trial bay, the granite again rises in a lofty conical grassy forest hill, to which I gave the native name of Arakoon; its gullies are enveloped in brushes of bangalo palms, cabbage palms, and gigantic ferns. In ascending the MacLeay river, from its entrance, the first objects which meet the eye on both banks are extensive mangrove flats, with thickets of myrtle, palm, and swamp oak, which, a few miles further on, are superseded by dense alluvial brushes, rising like gigantic green walls on both sides of the river.¹⁴

He goes on to describe the ‘brush’ (or rainforest) made up of ‘trees of almost endless variety, and very large dimensions, totally differing in appearance from the ordinary Eucalypti and Casuarinae [with] a rich umbrageous foliage of bright shining green’, and follows with the ‘popular names of the most remarkable brush trees . . . Red Cedar, White Cedar, Mahogany, Tulipwood, Rosewood, Ironwood, Lightwood, Sassafras, Corkwood, the Australian Tamarind, Box, the numerous and elegant varieties of trees of the Myrtle genus, the Australian Palms, and the Brush Fig-tree’. His page notes to this list reveal a working knowledge of the major trees of the world, for example: ‘Red cedar, *Cedrela Toona*, is quite different from the Lebanon cedar, *Pinus Cedrus*, and also from the American Pencil cedar, which is a species of juniper. The White cedar, *Melia Azederach*, appears to be identically the same as the Pride tree of Asia’.¹⁵

¹⁴ Hodgkinson, *Australia, from Port Macquarie to Moreton Bay*, p. 3.

¹⁵ Hodgkinson, *Australia, from Port Macquarie to Moreton Bay*, pp. 3-5.

As he recounts his experiences charting the coastal regions of northern NSW Hodgkinson maintains a running commentary on the landscape through which he is travelling, describing the vegetation, how its character changes with the topography, and what sort of situation particular plants seem to enjoy. Trees are the plants that occupy most of his attention, and he often provides a botanical name as well as common name, not all the time, but presumably when he knows what it is. By the time he left the colony he had acquired a reasonable knowledge of the various species found between Port Macquarie and Moreton Bay, and had discovered valuable cedar and rosewood stands, many of the trees with trunks six feet in diameter and 90 feet tall before throwing out a single branch.¹⁶

It is impossible to gauge just how conversant he was at that time with the Australian flora more generally, beyond his personal experience. Judging from his references to Mitchell and others, he had read some of the major works on Australia's natural history. He is aware that the box tree of northern New South Wales is a different species from the box found elsewhere in Australia, and that the Moreton Bay (or Hoop) Pine, *Araucaria*



Figure 33: Port Macquarie district, ca 1910. Although 70 years after Hodgkinson's sojourn in the area, this view gives some indication of the forested land in the vicinity of his cattle station.

¹⁶ Hodgkinson, *Australia, from Port Macquarie to Moreton Bay*, p. 40.



Figure 34: 'The Norfolk pine, N.S. Wales', ca 1826.



Figure 35: Hoop Pine forest in the Richmond Range, near the Clarence River in northern NSW.

cunninghamii, is totally different from the *Callitris* of the interior, also known as a pine. However, his description of the Bunya Bunya Pine as a 'species of palm' or Australian date tree is incorrect. This species was formally named *Araucaria bidwillii* the year he left Australia; had it occurred earlier he may not have been misled by second-hand reports.¹⁷

When he saw the *Araucaria cunninghamii*, Hodgkinson was captivated. He marks a stream as 'worth noticing, as being *the farthest point south*, and consequently, the nearest point to Sydney, at which I have found the magnificent variety of pine, generally known as "the Moreton Bay pine"'. Whenever he comes upon this tree he points out that it is present in the vegetation, and he thinks it and the Norfolk Island Pine (then called *Araucaria excelsa* but now *A. heterophylla*), 'are the most beautiful and stately of all the genus Coniferae in the known world'. He devotes a couple of pages to them both, and includes a passage from Murray's *Encyclopaedia of Geography* by the botanist Alan Cunningham after whom the Moreton Bay or Hoop Pine was named.¹⁸

¹⁷ Hodgkinson, *Australia, from Port Macquarie to Moreton Bay*, pp. 15, 25, 112.

¹⁸ Hodgkinson, *Australia, from Port Macquarie to Moreton Bay*, pp. 24-26. Hodgkinson and his extract from the *Encyclopaedia* refer to the Norfolk Island Pine as indigenous to northern NSW and southern Queensland, which it is not.

Rocks fascinated Hodgkinson. Microscope to hand, he examined the soil to divine what was not immediately apparent, and freely quoting from Professor Jameson and other luminaries, he discusses the local geology at length. He observes that the limestone ranges are covered in rainforest with large turpentine, iron bark, box, and myrtle trees, appreciating that the soil's composition affects its fertility and helps determine which plant species it will support.¹⁹ And using Humboldt's observation that excellent wine was produced from grapes growing on black clay-slate on the slopes of the Rhine Valley, he concludes that the clay-slate ranges in the vicinity of Dongai Creek 'would be pre-eminently suitable for the growth of the vine'.²⁰

He was particularly interested in grape cultivation: 'All persons of intelligence in New South Wales, who have acquired some knowledge of the resources of that colony, entertain the same opinion of its peculiar adaptation to become a great wine country'. Sixteen pages of Part III are devoted to the production of wine as an export. A period of living in south-west France seem to have given him an interest in viticulture sufficient to permit his discussion of Continental techniques and how they could be adapted, including training vines through native 'apple' trees (*Angophora lanceolata*) instead of elms or sycamores as was done in France and Italy. Although in later life Hodgkinson was known as a Presbyterian and non-drinker, in NSW he 'drank some very good wine, the produce of the vineyards of the Messrs. Macarthur, &c'.²¹



Figure 36: A native 'Apple Tree', Clarence River, NSW.

¹⁹ Hodgkinson, *Australia, from Port Macquarie to Moreton Bay*, pp. 7-9, 15-16, 18-19, 38.

²⁰ Hodgkinson, *Australia, from Port Macquarie to Moreton Bay*, p. 16.

²¹ Hodgkinson, *Australia, from Port Macquarie to Moreton Bay*, pp. 101, 123, 179-195.

With some of Mueller's zeal for acclimatisation, he explains that he has written about northern NSW 'partly with a view of shewing its adaptation for the culture of many of the productions of tropical countries',²² specifically for export. However, 'it would never answer to clear [these rich brush lands] of the dense mass of indigenous vegetation which encumbers them, for the culture of the mere ordinary agricultural productions of New South Wales'.²³ Rather, he proposed that with the introduction of cheap Chinese labour the rainforest could be 'diversified' with plantations of sugarcane, tobacco, rice, cotton, and the like.²⁴

Hodgkinson valued the scenic beauty of the natural environment highly, and includes many descriptions of 'towering precipices' and 'tremendous cataracts' that 'cannot fail to strike the spectator with admiration'.²⁵ It is interesting to catch a glimpse of his later interest in park design when he comments disparagingly:

There is a signal want in Australia, even among the higher classes, of that just appreciation of the beauties of nature, and that innate taste in taking advantage of them, to enhance the picturesque effect of their neatly-arranged dwelling-houses, which, according to Washington Irving, characterize the English nation, from the peer to the peasant. There are some places in New South Wales, few and far between, where considerable taste has been displayed in the arrangement of the grounds, but in general the *ne plus ultra* of colonial landscape gardening is a square patch of land, laid out in straight walks, and surrounded by hideous pailings, whilst no flowers, or even culinary vegetables, enliven the dwellings of the labouring classes, unless some stray melon or pumpkin sends its long shoots round their huts.²⁶

He began work on his book during the return voyage to England. Notwithstanding a few extravagant claims for the 'inexhaustible richness of the soil'²⁷ and Australia's great superiority of climate compared to the United States,²⁸ *Australia, from Port Macquarie to Moreton Bay* was the first environmental appraisal of this then remote region in its early years of European settlement. It demonstrates that by the age of 26 Hodgkinson was knowledgeable about the relationships between geology, topography, hydrology, soils, climate, and plants, and had an appreciation for the natural world along with the desire to improve it.

²² Hodgkinson, *Australia, from Port Macquarie to Moreton Bay*, pp. v-vii.

²³ Hodgkinson, *Australia, from Port Macquarie to Moreton Bay*, p. 122.

²⁴ Hodgkinson, *Australia, from Port Macquarie to Moreton Bay*, p. 122.

²⁵ Hodgkinson, *Australia, from Port Macquarie to Moreton Bay*, pp. 14-15, 19.

²⁶ Hodgkinson, *Australia, from Port Macquarie to Moreton Bay*, p. 94.

²⁷ Hodgkinson, *Australia, from Port Macquarie to Moreton Bay*, p. 1.

²⁸ Hodgkinson, *Australia, from Port Macquarie to Moreton Bay*, p. 108.

According to the book's preface Hodgkinson planned to return to Australia almost immediately. It seems unlikely that he did so as he was working as a railway engineer in England, France, Belgium and Holland between 1844 and 1846. He then taught in London for the next five years at the Putney College of Geodetic Engineering. But in 1851 he once again departed for Australia with his second wife Amelia, whom he had married in 1848, and their three children. This time he disembarked in Melbourne.²⁹

Although he had intended to take up life as a 'squatter' once more, his arrival coincided with the start of the Victorian gold rush and a colony in turmoil. This and his wife's ill health led him at the start of 1852 to accept a job as temporary draftsman in the Survey Office under the Surveyor General, Robert Hoddle. If not for his wife, he said, 'I should have experienced great interest and pleasure in surveying the roughest and most remote mountainous regions'.³⁰ Of particular relevance, given Hodgkinson's subsequent role in developing Melbourne's parkland and Victoria's forest reserves, is that among the skills enumerated in his application to Hoddle he described himself as 'a naturalist with a particular interest in trees'.³¹

In just under ten years Hodgkinson rose through the ranks of the Department of Crown Lands and Survey to become head of its administrative arm. He went from draftsman to surveyor, district surveyor, then Acting Surveyor General, Deputy Surveyor General and member of the first Victorian Board of Science, culminating in his 1861 appointment to the newly constituted position of Assistant Commissioner of Crown Lands. As Assistant Commissioner he was a member of the Board of Land and Works, the mechanism by which the Lands Department was managed. The Minister for Lands, also known as the Chief Commissioner of Crown Lands, was the Board president, while the Assistant Commissioner and Surveyor General filled the other two positions. The Minister plus one other constituted a quorum, thus providing abundant opportunity for personal influence. The separation of technical and administrative responsibilities, as occurred with the creation of Hodgkinson's role as Assistant Commissioner, passed real power from the Surveyor General to Hodgkinson.³²

²⁹ Patterson, 'Clement Hodgkinson', pp. 128, 138; Wright, *The Bureaucrats' Domain*, p. 100.

³⁰ C. Hodgkinson to R. Hoddle, 2 April 1852, 52/1001, Unit 6, VPRS 2878, Public Record Office of Victoria (PROV).

³¹ Wright, *The Bureaucrats' Domain*, p. 100.

³² Wright, *The Bureaucrats' Domain*, pp. 78-80, 100-101, 105, 108.

During his first ten years in Melbourne Hodgkinson indulged his scientific interests, most conspicuously as a member of one of Victoria's earliest scientific societies. In response to the formation in 1852 of a geological society, which lasted less than a year, Governor La Trobe called for a broader organisation embracing 'the whole range of natural history'.³³ Two such groups were formed in 1854, the Philosophical Society of Victoria and the Victorian Institute for the Advancement of Science. The colony could not sustain two competing societies, and they amalgamated in 1855 to form the Philosophical Institute of Victoria, which in 1859 changed its name to the Royal Society of Victoria.³⁴

Hodgkinson joined the Philosophical Society whose object was stated as 'embracing the whole field of science, with a special reference to the cultivation of those departments that are calculated to develop the natural resources of the country'.³⁵ Andrew Clarke, the Surveyor-General, and Mueller who suggested the society's name, were both founding members. The following year Hodgkinson had the honour of delivering his paper 'On the favourable geological and chemical nature of the principal rocks and soils of Victoria, in reference to the production of ordinary cereals and wine' at the first meeting of the newly formed Philosophical Institute, held at the Museum of Natural History.³⁶

He delivered other papers on railway earthworks, hydrology, and the geology of the Upper Murray, but his most notable contribution as a member of the society was to argue, along with the Secretary for Mines Robert Brough Smyth, the need to use Australian rather than European calculations of evaporation and precipitation in siting Melbourne's first reservoir for domestic water supply. Their success in championing the importance of local environmental knowledge led directly to the government choosing Yan Yean on the Plenty River. Hodgkinson was elected a vice-president of the society in 1856, along with Redmond Barry, and again in 1858 with Mueller also a vice-president. He remained an active member of the by then Royal Society of Victoria until 1861, the

³³ As quoted in M.E. Hoare, 'Learned Societies in Australia: the Foundation Years in Victoria, 1850-1860', *Records of the Australian Academy of Science*, 1 (2), 1967, p. 11.

³⁴ Hoare, 'Learned Societies in Australia', pp. 10-11, 16-18.

³⁵ As quoted in Australian Science and Technology Heritage Centre and the Royal Society of Victoria, *Science and the Making of Victoria*, p. 11, <http://www.austehc.unimelb.edu.au/smv/smv.html> (accessed 28 December 2006).

³⁶ *Science and the Making of Victoria*, pp. 10, 17, (accessed 28 December 2006).

year he was appointed assistant commissioner, when he abandoned all outside activities to devote his time entirely to departmental work.³⁷

His workload was very heavy, especially so because he found it difficult to delegate routine matters. Although responsible for all aspects of Crown land administration, he was particularly involved in issues concerning the colony's forest reserves and the day-to-day management of Melbourne parks and gardens. Forest management was of major importance to the colony's welfare, but the development of public recreation grounds was of far less significance and normally would not warrant the personal supervision of the departmental head. The extraordinary attention he devoted to this pursuit, largely conducted out of office hours,³⁸ demonstrates a great interest and enjoyment in landscape design, and his undoubted success in the field was acknowledged by his bureaucratic peers and the public alike.³⁹

By 1860 the environmental devastation that had occurred in Victoria after less than 30 years of European settlement was causing public concern, and the press was calling on the government to take action. Anxiety about the environment was not confined to the Australian colonies. In his book *Man and Nature: Or, Physical Geography as Modified by Human Action*, published in 1864, the American polymath George Perkins Marsh argued that people had profoundly affected the earth's environment, and he called for mankind to remedy the damage before it was too late. Lowenthal places *Man and Nature* next to Darwin's *On the Origin of Species* as 'the most influential text of its time to link culture with nature, science with society, landscape with history'.⁴⁰

It was the first book to spell out the need for reform, and nominated Australia as the country that could provide answers to questions of how much pioneer settlement had modified the environment.⁴¹ An international success, with Marsh's ideas rapidly

³⁷ *Science and the Making of Victoria*, pp. 159, 164 (accessed 28 December 2006); Hoare, 'Learned Societies in Australia', pp. 13-14; Wright, *The Bureaucrats' Domain*, pp. 89-90.

³⁸ Wright, *The Bureaucrats' Domain*, pp. 172-76.

³⁹ William Wardell, head of the Public Works Dept, begged Hodgkinson to lay out the Treasury Reserve, see Wardell file note, 24 August 1866, Rs 3888, Land Victoria; *Melbourne Punch*, 25 May 1871, p. 162 extolled his 'gardening' abilities in 'Pathetic Ode to Clement Hodgkinson'.

⁴⁰ D. Lowenthal, *George Perkins Marsh: Prophet of Conservation*, University of Washington Press, Seattle, 2000, p. xv.

⁴¹ G.P. Marsh, *Man and Nature: Or, Physical Geography as Modified by Human Action*, ed. D. Lowenthal, The Belknap Press of Harvard University Press, Cambridge, Mass., 1965 (first published 1864), pp. ix, 48-49.

adopted in Europe,⁴² *Man and Nature* arrived in Melbourne to great acclaim: 'It soon provided the substance of leading articles and editorials, was regularly quoted and plagiarized in parliamentary debates and reports, and inspired a wide range of public speakers over the next forty years'.⁴³

Marsh's longest chapter by far was 'The Woods' where he described the benefits provided by forests and pointed out the perils of indiscriminate tree felling such as erosion and loss of moisture retention. Hodgkinson must have found this of great interest as one of the most pressing environmental concerns during his time with the Lands Department, and one he was vitally interested in, was the destruction of the colony's trees. Gold mining had greatly accelerated the loss begun by the settlers and other industries, and the depredations had become so widespread that Melbourne's public recreation reserves were being plundered for firewood.⁴⁴



Figure 37: Timber trackers, Mt Macedon, ca 1873.

Hodgkinson's correspondence reveals that he was engaged in a constant battle with the unlawful axemen. His reasons in trying to preserve the native timber were various. At the very least there was its monetary value to the Crown; even the sale of dead trees in the parks and gardens was a source of revenue.⁴⁵ A greater consideration was the perceived threat to rainfall. A petition signed by members of the Whittlesea timber trade complaining about a lack of roads was rebuffed by Hodgkinson: 'The part of the country alluded to is that reserved for gathering grounds in connexion with the Yan Yean water

⁴² Marsh, *Man and Nature*, p. xxii.

⁴³ Powell, *Environmental Management in Australia*, p. 60.

⁴⁴ R. Wright, 'Clement Hodgkinson: Father of Victorian State Forestry', *Trees and Natural Resources*, 30 (4), 1988, p. 11.

supply. I think it very inexpedient that these ranges should be denuded of timber, as the quantity of the water supply would be lessened if the dense forest on the slopes of Mt Disappointment ceased to attract rain clouds'.⁴⁶

There was the loss of scenic values to be considered. When his trusted lieutenant Nicholas Bickford, Crown Land bailiff, reported the unlawful felling of she-oaks on Mt Martha Reserve, Hodgkinson sent an urgent message to the Chief Commissioner of Police asking for greater vigilance in checking timber cutting around Port Phillip Bay as it was 'not only most detrimental to the picturesque aspect of the land but also productive of a serious decrease in its value as sites for Marine residences'.⁴⁷ Dromana's local road board was given control of the Esplanade 'specially for the purpose of its improvement for promenade, and the strict protection of the trees and other indigenous vegetation thereon'.⁴⁸ Removal of native vegetation around the bay also led to encroaching sand that required the Lands Department to oversee remedial works.⁴⁹

However, the main thrust of Hodgkinson's interest in tree preservation lay not in these ad hoc local attempts but in his efforts to develop a policy that would end the large-scale squandering of resources and ensure the colony had enough timber for its future needs. Wright notes that although he was not alone in this, he was the principal architect of plans to manage the indigenous forests by virtue of his ability to control Crown land reservation procedures, and deserving of the title "father" of Victorian state forestry'.⁵⁰ In late 1865, the same year that *Man and Nature* reached Melbourne, the first official statement on timber policy was jointly produced by Hodgkinson, Charles Ligar the Surveyor-General, and Brough Smyth the Secretary for Mines, in a report to parliament entitled 'The Advisableness of Establishing State Forests'.⁵¹

A catalyst for the report was the rapid destruction of native forests in the vicinity of the goldfields. The authors observed that more timber was destroyed than was used and the

⁴⁵ There are many examples in Unit 586, VPRS 44, PROV of Hodgkinson authorising the sale of dead trees in parks and using the money to buy plants.

⁴⁶ Hodgkinson minute, 17 October 1867, File 67/P12998, Unit 99, VPRS 44, PROV.

⁴⁷ Hodgkinson minute, 11 May 1861, File 61/D4053, Unit 577, VPRS 44, PROV. The police commissioner received a similar urgent message instructing the Brighton police 'to prevent the destruction of the scrub, and to punish persons who cut it', Hodgkinson minute, 19 September 1872, File 72/G19707, Unit 351, VPRS 44, PROV.

⁴⁸ Hodgkinson minute, 25 June 1872, File 72/F12360, Unit 351, VPRS 44, PROV.

⁴⁹ Hodgkinson minute, 5 November 1872, 72/E24539, Unit 352, VPRS 44, PROV.

⁵⁰ Wright, *The Bureaucrats' Domain*, p. 153; Wright, 'Clement Hodgkinson: Father of Victorian State Forestry', pp. 11, 12, 15.

⁵¹ Wright, *The Bureaucrats' Domain*, pp. 153, 155.

resulting waste left on the forest floor contributed to bushfires causing even further destruction. To support their case for the need ‘to enforce a more economical use of native timber, and to conserve the forests’, the report drew on international experience:

In Spain, Italy, France, Poland, Switzerland, Syria, and Palestine, and also in the islands of Trinidad, Martinique, and San Domingo, much injury has been done by unwise interference with the natural forests. Caimi, Dussard, Clavé, Marschand, Asbjørnsen, and others, have dealt with this subject, and shown its importance in relation to local climate and cultivation. Numerous instances could be adduced of the improvements which have been effected by planting woods. In Algeria, in Southern France,—where, guided by past experience, the Government is planting largely,—in Italy, and in Lower Egypt, many districts have been made fruitful which, since the destruction of the old forests, had been barren.⁵²

Although Marsh is not acknowledged as a source for any of the report’s content, there is no doubt that *Man and Nature* supplied material relating to climate, forestry, and hydrology, particularly the overseas experience where there has been little attempt to alter Marsh’s wording.⁵³

The report recommended proclaiming large forest reserves near Ballarat and other gold mining centres, but the rest of the proposals were more concerned with the planting of new trees, such as the suggestion to establish ‘a large wood of indigenous and imported trees on the present treeless basaltic plains’ near Rokewood. A mixture of Australian and exotic species were recommended for this situation: the ‘more valuable kinds’ of eucalypt such as the West Australian mahogany and blue gum, blackwood (*Acacia melanoxylon*), and ‘all kinds’ of conifers. Not only were the indigenous forests to be conserved, but with their proper management all the ‘*overgrown trees*’ would be removed and ‘other valuable trees planted in the vacant spaces’. The report gave examples of what these should be:

In the rich soil and moist climate of the elevated wooded tracts of country proposed to be reserved for state forests at Bullarook, Macedon, Mount Disappointment, &c., the most useful deciduous trees, such as English oak, Turkey oak, elm, ash, walnut, hickory, locust, maple, ches[t]nut, alder, &c., would thrive well; and also all the best timber-producing kinds of coniferous trees, including the Himalayan cedar (*Cedrus Deodara*), the Lebanon cedar (*Cedrus Libani*), the *Cedrus Atlantica*, and all the best pines of Europe and America.⁵⁴

⁵² Report on the Advisableness of Establishing State Forests by the Surveyor-General, the Assistant Commissioner of Lands and Survey, and the Secretary for Mines, *Victorian Parliamentary Papers*, IV, No. 77, 1864-65, p. 5.

⁵³ See Appendix: Comparison between *Man and Nature* and the 1865 Victorian Forests Report.

⁵⁴ Advisableness of Establishing State Forests, p. 5.

Species selected for lower elevations included ‘the beautiful and rapidly-growing pines and cypresses of California and Oregon’, which had only recently been introduced to cultivation. Among those especially noted were the radiata pine (*Pinus radiata*), then known as *P. insignis* and at the time in the process of being popularised by Mueller, the Wellingtonia (*Sequoiadendron giganteum*) and Monterey Cypress (*Cupressus macrocarpa* but referred to in the report as *C. Lambertiana*). Many of the pines recommended for sandy coastal soils were from the Mediterranean. All this accorded with Marsh’s belief that ‘the sooner a natural wood is brought into the state of an artificially regulated one, the better it is for all the multiplied interests which depend on the wise administration of this branch of public economy’.⁵⁵ The forests report ended with a recommendation to vest the new reserves in trustees, who would not only frame regulations and exercise control over the state forests and revenue derived from the sale of timber, they ‘would also correspond with foreign governments, and arrange for the exchange of seeds and plants’.⁵⁶



Figure 38: Plates from *The Pinetum Britannicum: A Descriptive Account of Hardy Coniferous Trees*, 1867.

Top left: Radiata Pine
Top right: Wellingtonia
Bottom left: Monterey Cypress
Bottom right: Deodar Cedar

⁵⁵ Marsh, *Man and Nature*, p. 260.

⁵⁶ Advisableness of Establishing State Forests, p. 6.

Although it is not possible to distinguish with certainty each author's particular contribution, it is probable that at least those parts of the report referring to plant species were Hodgkinson's, given his longstanding interest in trees. Those references and the directive to exchange seeds and plants with foreign governments – something that Mueller had been doing for a long time – are significant when considering Hodgkinson's work relating to parks and gardens (which Mueller influenced with a steady supply of plants from the Botanic Garden). Hodgkinson had always tried to exercise control over trees in the city's recreation reserves, such as the concession granted to cricket clubs in allowing them to enclose a piece of land temporarily if they planted 'a certain number of trees of kinds specified by the Board of Land and Works',⁵⁷ but his direct involvement in designing and laying out Melbourne's parkland began in 1858 with the Fitzroy Gardens.

Success in turning a rough paddock into the Fitzroy Gardens led to his contemporary reputation as a landscape gardener, a reputation enhanced by his creation of the Flagstaff Gardens begun in 1862 and Treasury Gardens in 1867. In 1873 he was appointed Inspector-General of Gardens, Parks, and Reserves in recognition of this work. Hodgkinson was not responsible for all Melbourne's parkland while assistant commissioner: Studley and Albert Parks, and the Flagstaff, Treasury and Fitzroy Gardens came under his control; the Melbourne City Council managed Fawkner, Princes and Yarra Parks, and the Carlton Gardens until 1872 when they were taken over by the Board of Land and Works – in effect Hodgkinson – for several years. In 1872 Mueller's botanic garden and the Domain were also transferred to the Board of Land and Works.⁵⁸

Hodgkinson's success lay in understanding physical constraints and economic limitations, his engineering skills and executive powers, a knowledge of trees and soils, and at the least a modest ability in creating landscape designs. Wright refers to these as 'sturdy copies of the English "gardenesque"',⁵⁹ which is misleading. Hodgkinson himself acknowledged that in all three city gardens he abandoned 'strict adherence to the rules of landscape gardening, with regard to the grouping of trees, &c.,'⁶⁰ because of the need to check the inroad of dust from the surrounding unmade streets and provide shade along the paths. Consequently, instead of setting out picturesque groups of trees, shrubs and

⁵⁷ Hodgkinson to Town Clerk, 24 September & 25 October, 1862, 62/8953 & 62/8008, Unit 731, VPRS 3181, PROV.

⁵⁸ Wright, *The Bureaucrats' Domain*, pp. 172-73.

⁵⁹ Wright, *The Bureaucrats' Domain*, p. 176.

⁶⁰ Parks and Gardens, *Victorian Parliamentary Papers*, III, No. 50, 1873, p. 1.



Figure 39: The Hotham Walk,
Fitzroy Gardens, ca 1870.

flower beds in expansive lawns as recommended in English garden journals or as William Guilfoyle was to do in the Botanic Garden, Hodgkinson lined his paths with rows of leafy trees, especially elms, backed up by dense masses of conifers and evergreen shrubs.

It is useful to contrast Hodgkinson's design of the 26 hectare Fitzroy Gardens with an earlier plan for the same reserve by Edward La Trobe Bateman to show how functional issues drove Hodgkinson's landscape designs rather than any imposed design aesthetic. Bateman, a cousin of Governor La Trobe, was a talented artist who arrived in Victoria shortly after Hodgkinson in 1852. In England he had been a friend of the Pre-Raphaelite Brotherhood of artists, who dubbed him 'the Illuminator' for his hand-drawn copies of medieval manuscript illuminations and his beautiful floral and bird illustrations accompanying the poetry of Mary Ann Bacon in three lavish volumes published by Owen Jones. In Melbourne he made his living sketching the houses and gardens of the well-to-do, drawing and painting botanical subjects, a number of which Mueller commissioned, and illustrating books. The decorative alphabetical headings and finals he devised for *The Catalogue of the Melbourne Public Library for 1861*, using an Australian plant with the same first initial as the particular letter of the alphabet he was depicting, are his best known illustrations.⁶¹

⁶¹ A. Neale, 'Flora Australis: Native Plants in the Art, Design and Gardens of E. L. Bateman', *Studies in Australian Garden History*, 2003, pp. 36-43.

Bateman also undertook private and public commissions in garden design, or what he termed 'ornamental gardening',⁶² to supplement his income. In 1856 the Melbourne City Council paid him the large sum of £500 to draw up plans for the Carlton and Fitzroy Gardens,⁶³ both then under its control, and in 1868 it again employed him to prepare plans for Yarra, Princes and Fawkner Parks (for the more frugal figure of £150).⁶⁴ The Carlton Gardens design was the only one to be fully implemented, although some works may have been carried out in the parks. His rendered drawing for laying out the Fitzroy Gardens is as much an elegant piece of graphic art as it is of garden design, for all his disposition of trees in approved clumps. The creek running north-south through the centre of the reserve is turned into a series of ornamental ponds to form a major feature, with an intricate pattern of sweeping curvilinear paths arranged symmetrically around this axis. In the event, the government relieved the Council of its responsibility for the Fitzroy Gardens, and Hodgkinson discarded Bateman's plan for one of his own.

The City Council proceeded to build the Carlton Gardens, employing William Hyndman as the Corporation gardener to implement Bateman's plan, probably on Bateman's recommendation as the two men appear to have worked together on the Melbourne University system garden.⁶⁵ Despite Hyndman's experience and reputation as a gardener, the Carlton Gardens as designed by Bateman were not a success, perhaps because the Council had even less money than the Colonial government to devote to its development.

Hodgkinson may well have admired the artistry of Bateman's extravagant design for the Fitzroy Gardens, but he would also have recognised that its execution was not possible given the limited funds the government was prepared to spend on park development. The ornate path layout would have been difficult and expensive to implement well, especially over a site scarred by quarry holes, while the water feature would have been immensely costly to excavate and maintain.

⁶² A. Neale, 'Edward La Trobe Bateman (1816-1897)', *Australian Garden History*, 9 (4), 1998, p. 24.

⁶³ R. Swanson, *Melbourne's Historic Public Gardens: A Management and Conservation Guide*, City of Melbourne, 1984, p. 10.

⁶⁴ Melbourne City Council Health Committee Minutes, 15, 22 July, 2, 9 September, & 7 October 1868, 26 May & 7 July 1869, Unit 1, VPRS 4038, PROV.

⁶⁵ G. Pascoe, 'Hyndman, William' and 'System Gardens' in Aitken and Looker, eds., *The Oxford Companion to Australian Gardens*, pp. 323-24 & 585.



Figure 40: Edward La Trobe Bateman's book binding design for Louisa Anne Meredith's *Some of My Bush Friends in Tasmania*, 1860.

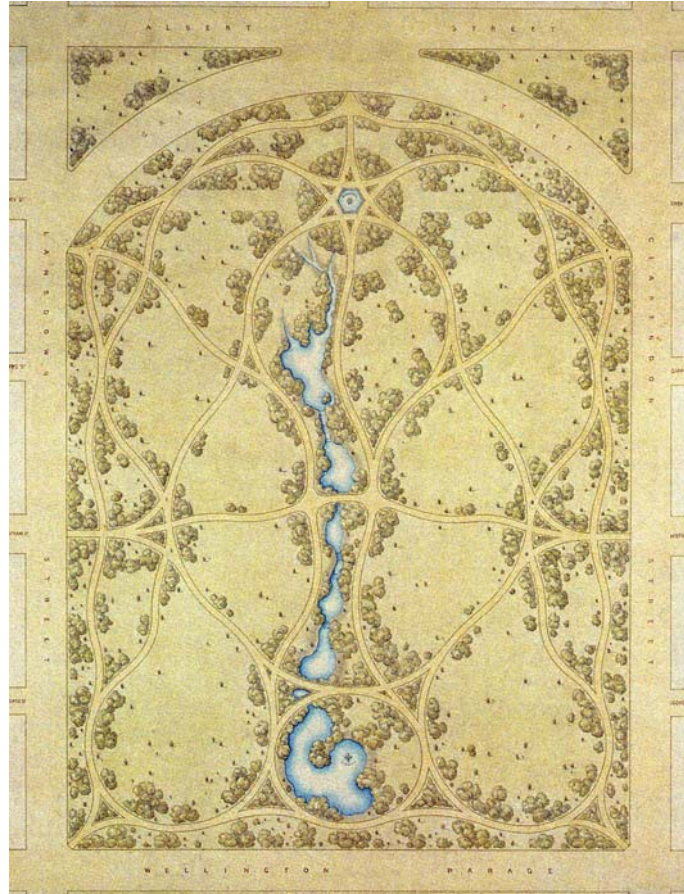


Figure 41: Bateman's design for the Fitzroy Gardens, ca 1860.

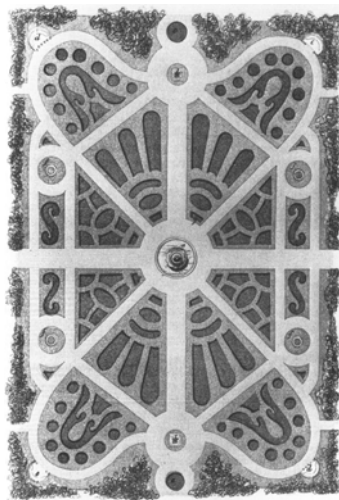


Figure 42: Garden design, Joseph Paxton, 1838.

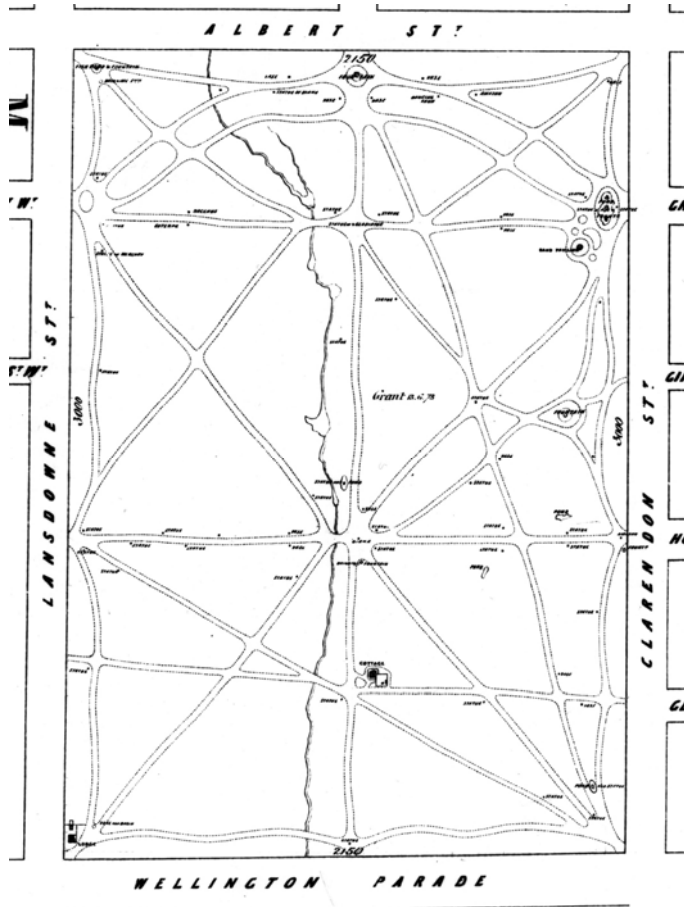


Figure 43: Hodgkinson's plan of the Fitzroy Gardens, ca 1866. Bateman, Paxton and Hodgkinson all propose paths layouts forming links across the site, but the geometric contrivance in Paxton's and Bateman's designs is absent from Hodgkinson's work.

Hodgkinson devised a simple path system that responded directly to the surrounding street pattern. At a time when walking was the most common means of getting around, the paths provided direct routes across the gardens for those going elsewhere as well as a place for leisurely promenade. He relied on trees for his main planting effect, explaining that flowers required too much labour and water to be grown extensively.⁶⁶ In their stead he lined the paths with copies of ancient and modern statues. Most were cast in cement from the collection held in the Melbourne Public Library, and painted white, which provided ornament that was instructive as well as decorative. Several fountains, a classical bandstand, and rotunda followed. He ornamented the Flagstaff Gardens with similar statuary, but not the Treasury Gardens although it too had few flowers, and designed path layouts for both that again responded to the pattern of the surrounding streets. Open grassed areas were scarce and the paths were fenced in an attempt to keep people out of the plantations of trees and shrubs.⁶⁷



Figure 44: Fenced path and statues, Fitzroy Gardens, 1872.

Hodgkinson used the same palette of plants in all his gardens. Like Mueller he admired the conifers, which were a major feature of his planting design. Many had only been discovered in the previous fifty years in the Americas, Himalayas, China, East Asia, and Australia making them a popular subject for private and public parks and gardens. In Australia they were especially fashionable between about 1850 and 1870.⁶⁸ Hodgkinson

⁶⁶ Parks and Gardens, p. 1.

⁶⁷ G. Whitehead, *Civilising the City: A History of Melbourne's Public Gardens*, State Library of Victoria in association with the City of Melbourne, Melbourne, 1997, pp. 14-20.

⁶⁸ R. Spencer, 'Conifer', in Aitken and Looker, eds., *The Oxford Companion to Australian Gardens*, pp. 155-57.

achieved local success in growing different kinds, particularly the pines and cypresses from California and Oregon described in the 1865 report on establishing state forests, which had been borne out by his personal experience in growing them in these gardens. Many of the trees listed in a memorandum attached to his 1867 plan for the Treasury reserve⁶⁹ were included in the forests report as recommended species – Wellingtonia, Monterey Cypress, Radiata Pine, Himalayan Cedar, Atlas Cedar, Canary Island Pine, as well as deciduous oak, elm and chestnut, and the Australian Blue Gum.

Rainforest species from northern New South Wales and southern Queensland were the other group of plants that Hodgkinson used repeatedly. It is hard to know how much influence his experiences in that region had on his plant selection as species such as the Hoop or Moreton Bay Pine that he thought so beautiful in the wild, Moreton Bay Fig (*Ficus macrophylla*), and Silky Oak (*Grevillea robusta*) were popular with other garden designers. Fox draws a clear parallel with William Guilfoyle's redesign of the Botanic Garden and his experiences in the Tweed River district some 25 years after Hodgkinson's sojourn there. On one occasion Hodgkinson, supporting Guilfoyle's proposal to plant species indigenous to the floodplains of northern NSW next to the lagoon, explained that it 'would prevent the soil from being "swept away by floods", as "such vegetation was known to withstand the effects of much higher and more violent floods than those which occur in the Yarra"'.⁷⁰

Like Guilfoyle, Hodgkinson had found the scenery magnificent – 'nature unadorned by art'⁷¹ – and northern NSW-southern Queensland rainforest plants were an important component of his gardens too, although in Hodgkinson's case they were mainly trees. In correspondence relating to his design for the Treasury Gardens he refers to the Norfolk Island Pine, which in 1845 he had mistakenly believed indigenous to the region, and the Moreton Bay Fig as '*indispensable plants*'; and he 'intended to produce the principal effects in that Reserve by grouping together large numbers of Norfolk Island Pines, Moreton Bay Pines, Moreton Bay Figs, Picea [from Europe, Asia, North America] and other kinds of ornamental trees'.⁷²

⁶⁹ Plan for the Improvement of the Treasury Reserve Designed by Clement Hodgkinson, CE, Assistant Commissioner of Lands & Survey, Melbourne, 30 April 1867, Features Plan 664, PROV.

⁷⁰ Fox, *Clearings*, p. 126. See also pp. 125-134.

⁷¹ Hodgkinson, *Australia, from Port Macquarie to Moreton Bay*, p. 15.

⁷² Margin note, Mueller to Chief Secretary, 3 May 1867, 67/P5749, Unit 750, VPRS 44, PROV.



Figure 45: Norfolk Island Pines and other conifers in the Fitzroy Gardens, ca 1890.

Although Mueller supplied Hodgkinson with large numbers of trees from the Botanic Garden, Hodgkinson went to a great deal of expense in buying plants from commercial nurseries as well, including hundreds of Norfolk Island Pines.⁷³ These purchases included rainforest species from northern NSW and southern Queensland: *Araucaria bidwillii* and *A. cunninghamii*, *Grevillea robusta* and *G. hilliana*, *Macadamia ternifolia*, *Ficus macrophylla* and *F. rubiginosa*, the palms *Livistona australis* and *Archontophoenix cunninghamiana*, the Native Frangipani *Hymenosporum flavum*, lilly pillies *Acmena pendula*[?] and *A. kingiana*[?], *Lophostemon australis*[?], *Cordyline stricta*, and *Pittosporum undulatum*. He also bought other Australian species, including many Cypress Pines (*Callitris* sp.), a very good timber tree.⁷⁴

There was one exception to Hodgkinson's almost complete reliance on trees to achieve his landscape effects, and these were the ferns he acquired for the Fitzroy Gardens. Bateman's plan had envisaged enlarging the eroded creek bed running north-south through the centre of the reserve into an elaborate series of ponds, but Hodgkinson resorted to the simpler strategy of turning it into a fern gully (some ten years before Guilfoyle created a similar feature in the Botanic Garden). Ferns were immensely popular during the Victorian era, the wealthy building elaborate conservatories and

⁷³ Margin note, Mueller to Chief Secretary, 3 May 1867, 67/P5749, Unit 750, VPRS 44, PROV. Even Mueller states in his memo that 'I have to obtain [Norfolk Island Araucarias] by purchase myself', although Roger Spencer of the Royal Botanic Gardens, Melbourne could not offer any explanation as to why given Mueller's expertise and resources.

⁷⁴ 'Vouchers for expenditure from 19th March 1864 to 30th June 1871 of money derived from sale of grass, dead trees, &c in Parks and Garden under control of Board of Land and Works', Unit 279, VPRS 44, PROV. Revised botanical names have been used where known, and question marks signify names no longer valid, although the genus given indicates a rainforest species from the area under discussion.



Figure 46: Ferntree Gully in the Dandenong Ranges, 1857.



Figure 47: Fern gully in the Fitzroy Gardens, ca 1872.

shade houses to display their collections. At times Hodgkinson's work took him to the Dandenong Ranges where the great beauty of the natural fern gullies could not have failed to excite his aesthetic sensibilities.⁷⁵ These gullies were much admired, and part of the Fern Tree Gully was to be reserved in 1882 for public recreation.⁷⁶ They may also have been the inspiration for redevelopment of the Fitzroy Gardens creek bed.

Although Hodgkinson purchased tree ferns through commercial suppliers, he was aided by his knowledge of the Dandenong Ranges and the bounty they harboured. In 1870 he instructed Robert Thompson, the Resident Bailiff of Crown Lands at Ferntree Gully, to make up a collection of ferns, to which Thompson responded that he had assembled '34 lots': '7 of them in cases measuring 2x3 feet, the others are sections of Fern and Musk trunks bearing different sp. – the whole will be too much for one dray'. In a six page letter Thompson provided details of the various ferns and allied species he had collected, where they had come from and what conditions they preferred, as in '14 *Blechnums* from

⁷⁵ For example, see Hodgkinson memo, 11 April 1867, 67/P4204, Unit 586, VPRS 44, PROV.

⁷⁶ T. Griffiths, *Secrets of the Forest: Discovering history in Melbourne's Ash Range*, Allen & Unwin, St Leonards, NSW, 1992, p. 82.

Fern Tree Gully and the mountain top, site partial shade, soil either *wet* or dry, poor gravely soil very *wet* grows the largest sp.'. Lots 19 and 24 were 'musk branches with creeping fern – 24 has the bottom of a Lyre Birds nest attached'. Thompson doubted the ability of 'Collins St horses not accustomed to such places as Wheelers hill' to transport this authentic piece of the Dandenongs back to the Fitzroy Gardens.⁷⁷

Thompson also included two grasses indigenous to the area, their species unknown, but 'whether they are Fescues or Poas they are lawn grasses and it is strange that sp. so suitable has been so long neglected'. It seems likely that they, too, would have been planted somewhere in the gardens to see if they would live up to expectations. Hodgkinson was 'much pleased with the zeal and attention' Thompson had displayed. The cost to the department of what was obviously a labour of love for the bailiff seems to have been the provision of a horse and permission to fence in a paddock 'where in time a cow might be kept'.⁷⁸

There was little native vegetation remaining when Hodgkinson came to lay out the Melbourne gardens. Horses, goats, and other grazing animals along with timber cutters and quarrymen had left some eucalypts and not much else. Hodgkinson considered that there were 'other trees possessed of more beauty, umbrageous foliage and longevity than the indigenous trees', but he also believed in 'the importance of carefully preserving, in Fitzroy-gardens and in the other metropolitan reserves, the major portion of the indigenous vegetation'.⁷⁹ In an immature garden they helped soften its stark appearance and provide shelter for new planting.



Figure 48: Remnant eucalypt, Fitzroy Gardens, 1860s.

⁷⁷ Thompson to Hodgkinson, 30 June 1870, 70/W16057, Unit 211, VPRS 44, PROV.

⁷⁸ Thompson to Hodgkinson, 30 June 1870, and Hodgkinson minute, 7 July 1870, 70/W16057, Unit 211, VPRS 44, PROV.

⁷⁹ *Argus*, 7 April 1863, p. 5.

This was in contrast to Bateman's treatment of Yarra Park, at that time managed by the Melbourne City Council. Bateman had marked about a hundred trees, many alive, that he wanted removed because they were unsightly or an obstruction.⁸⁰ Three years earlier, when Hodgkinson was told the Council was going to fell 600 trees in Richmond Park, he had rushed off a letter calling for restraint: 'It is felt that so sudden and extensive a demolition of trees will destroy the hitherto picturesque and park like appearance of the reserve, and that any clearance of even dead trees that might be required preparatory to the introduction of [E]nglish or other trees might with equal success be gradually accomplished.'⁸¹

The only Melbourne reserve in which there was an unambiguous desire to preserve the native trees was Studley Park. Initially it was treated in the same fashion as Albert Park where belts of mainly pines, cypresses and other coniferous trees were planted.⁸² However, Albert Park was swampland and naturally without much tree cover while Studley Park had retained a significant proportion of its natural vegetation, perhaps due to its large size and steep topography where it sloped down to the river. In 1866 Hodgkinson recommended that in future no live indigenous trees be removed from the park to make room for exotic species.⁸³ And in 1873 he reported to parliament in his guise of Inspector-General of Gardens, Parks, and Reserves that as regards Studley Park 'no further extension has been made in the planting out therein of non-indigenous trees, as it has been deemed desirable that one of the metropolitan parks should continue to afford a fair representation of ordinary Australian forest land.'⁸⁴

Just what prompted this attempt to preserve Studley Park's bushland? The belief that there would soon be little evidence of the pre-European landscape within the metropolitan area seems implicit in the foregoing statement, and Marsh's book *Man and Nature* may well have played an important part. It had arrived in Melbourne only the year before Hodgkinson recommended that the park's indigenous trees be retained. As far as American soil went Marsh believed that for both 'poetical' and 'economical' reasons it was

⁸⁰ Park Ranger to Chairman, Health Committee, 20 February 1871, 71/247, Unit 734, VPRS 3181, PROV.

⁸¹ Hodgkinson to Town Clerk, 17 July 1866, 66/3059, Unit 732, VPRS 3181, PROV.

⁸² Hodgkinson memo, 30 August 1964, 64/17843, Unit 586, VPRS 44, PROV.

⁸³ Hodgkinson correspondence, 24 November 1866, 66/N16237, VPRS 227, PROV. This letter has not been located, although its receipt and one-line description is recorded in the department's Register of Inward Correspondence.



Figure 49: The Yarra River and Studley Park, ca 1865.

desirable that some large and easily accessible region . . . should remain, as far as possible, in its primitive condition, at once a museum for the instruction of the student, a garden for the recreation of the lover of nature, and an asylum where indigenous tree, and humble plant that loves the shade, and fish and fowl and four-footed beast, may dwell and perpetuate their kind, in the enjoyment of such imperfect protection as the laws of a people jealous of restraint can afford them.⁸⁵

Studley Park fitted the criteria of being large and easily accessible to city dwellers. It was a popular resort for picnics and natural history enthusiasts, and in the 1880s it became a hunting ground for the Field Naturalists' Club of Victoria. Unfortunately, retention of the park's native vegetation was compromised by the continuation of grazing, which provided welcome revenue and helped prevent fires by keeping the grass down. Gravel and sand were also extracted, and exotic trees continued to be planted, probably in previously cleared areas. Despite the equivocal nature of these actions the intention to preserve 'near Melbourne the primitive character of the Australian bush' was maintained.⁸⁶ It was one of the first explicit expressions by the Victorian government of the desire to preserve indigenous vegetation on Crown land beyond the need to conserve timber for future use.

In 1873 the government resumed control of Carlton Gardens and Yarra, Princes and Fawkner Parks, which the Melbourne City Council had managed for nearly 20 years. In Yarra Park Hodgkinson moved large numbers of trees, some 18 feet high, from the Fitzroy and Treasury Gardens into 'thirteen picketed enclosures, wherein ground has

⁸⁴ Gardens and Parks: Report of the Inspector-General of Gardens, Parks, and Reserves, p. 6.

⁸⁵ Marsh, *Man and Nature*, pp. 203-204.

been trenched, drained, and fertilized for their reception'.⁸⁷ They included many of his old favourites – araucarias, Wellingtonias, cedars, cypresses, Radiata and other pines, Moreton Bay Figs, Silky Oaks, and various exotic deciduous trees such as English elms and oaks.⁸⁸ The West Australian eucalypts planted outside the fenced enclosures were apparently considered less valuable and more able to withstand the vicissitudes of life in the open.

That was also the year in which Mueller was dismissed as director of the Botanic Garden. Home credits Hodgkinson as being something of a personal friend of Mueller.⁸⁹ This is not surprising given their similar interests and experiences, and Mueller honoured Hodgkinson by naming a small ornamental tree *Hodgkinsonia ovatiflora*.⁹⁰ However, the two 'experts' did not always see eye-to-eye. On one occasion snide criticism of Mueller by the *Argus* in relation to plants proposed by Hodgkinson for the Treasury Gardens resulted in the two men defending their positions in long letters and memos with copious minutes and margin notes. On reading the article Hodgkinson had written privately to Mueller saying how vexed he was at the misrepresentation, but the damage had been done, and soon Hodgkinson was protesting 'against Dr Mueller's apparent desire to dictate to me what kinds of trees I shall plant'.⁹¹



Figure 50: *Hodgkinsonia ovatiflora*.
Mueller may have named this small ornamental tree found in the coastal forests of northern NSW in recognition of Hodgkinson's exploration of that area.

⁸⁶ Bickford memo, 5 May 1875, B?21874, Bickford minute, n.d., 75/S1801, and sketch plan Studley Park, May 1882, P14808, contained in Rs 406, Land Victoria.

⁸⁷ Gardens and Parks: Report of the Inspector-General of Gardens, Parks, and Reserves, p. 5.

⁸⁸ In 1864 Hodgkinson had written to Mueller asking for more trees from the Botanic Gardens: 'The trees deemed most eligible for the reserves vested in the Board of Land & Works in and near Melbourne are the quick growing pines and cypresses of Oregon and California, the Australian species of Araucaria, and Western Australian Gums'. Home, *Regardfully Yours*, Vol. II, p. 264.

⁸⁹ 'Introduction', Home et al., eds., *Regardfully Yours*, p. 48.

⁹⁰ W.R. Elliott and D.L. Jones, *Encyclopaedia of Australian Plants Suitable for Cultivation*, Vol. 5, Lothian Publishing, Melbourne, 1990, pp. 367-68.

⁹¹ Mueller to Chief Secretary, 3 May 1867, and Hodgkinson memo, 17 May 1867, 67/P5749, Unit 750, VPRS 44, PROV.

While holding similar views on the importance of managing the colony's timber resources, they differed on the detail. Mueller believed it was not sufficient to merely protect the native forests, but that they also needed to be enriched with exotic species. Hodgkinson retaliated that it would be too costly to clear land within the forest for plantations, which would be at risk from fire and wild goats. He also countered Mueller's argument against planting exotic species in naturally treeless areas by pointing out that 'Mr Chirnside has created on the bleak exposed Werribee plains some extensive plantations of non indigenous trees some of which have already attained a considerable height'.⁹² Mueller also believed that 'the systems of forest culture, which with so excellent results are adopted in Germany, France and Scandinavia are only to a small extent applicable here, where quite different circumstances prevail in reference to climate, population, labor, native trees and trees eligible'.⁹³ In contrast, Hodgkinson was busy promoting 'the economical system of tree planting in operation in Prussia, France, Denmark, &c'.⁹⁴

There is a strong sense that each felt the other was trespassing on his territory, with Mueller stating: 'It being expected that the Government Botanist would be best able to advise the Government on the special requirements for forest culture in this country, I have the honor to express my readiness to wait on the Hon. the Minister of Lands to give my professional views on this important question, for which purpose in all the forest management no opportunity has been afforded me officially during the last three years'.⁹⁵ A month later in July 1871 both men were appointed members of a Royal Commission on Foreign Industries and Forests, which recommended the formation of a central administrative body to manage Victoria's forests.⁹⁶ Mueller and Hodgkinson were members of the Board of Trustees that managed Royal Park, and on Mueller's proposal it was resolved to comply with the desire of the Royal Commission to establish plantations of olives and other industrial trees in the park where they would provide shade and shelter.⁹⁷

⁹² Hodgkinson memo, n.d., no file no., in response to Mueller to Chief Secretary, 10 June 1871, 71/Z7466, Unit 279, VPRS 44, PROV.

⁹³ Mueller to Chief Secretary, 10 June 1871, 71/Z7466, Unit 279, VPRS 44, PROV.

⁹⁴ Hodgkinson memo, 22 May 1871, 71/Y6613, Unit 279, VPRS 44, PROV.

⁹⁵ Mueller to Chief Secretary, 10 June 1871, 71/Z7466, Unit 279, VPRS 44, PROV.

⁹⁶ Home et al., eds., *Regardfully Yours*, p. 583.

⁹⁷ 18 September 1871, Royal Park Zoological Society Letter Copy and Minute Book, 1862-85, A345, Mitchell Library, State Library of New South Wales.

Their differences of opinion were relatively minor, and Hodgkinson had not agreed with all the findings of the 1871 Board of Enquiry leading up to Mueller's dismissal in 1873. He was particularly critical of the section condemning the 'dense planting of trees in the Garden and Government House Reserve', pointing out that park precedents based on European rather than the quite different Australian climatic conditions, had been used to criticize Mueller's work.⁹⁸ In 1872, at the instigation of the Minister of Lands and Agriculture, he formulated a plan for the future management of the Botanic Garden and Domain. Hodgkinson proposed separating the 'scientific and practical' from the purely recreational, the former being mainly the 78 acres of the original gardens that would be under Mueller's exclusive control, while the remaining 200 acres would be managed by 'an energetic and practical man of proved taste in landscape gardening'.⁹⁹

In the scientific garden the 'common flowers' would be replaced by the 'botanical grouping of plants' labelled with their botanical name, country of origin, age, economic use, and climate and soil best suited to successful growth. 'It may be thought', said Hodgkinson, 'that, by placing varieties of any kind of tree in the same group, pleasing contrasts of foliage would be unattainable. Such an impression would, however, be erroneous; for instance, what greater contrast could be desired during autumn than that afforded by the glowing red tint of the foliage of the American scarlet oak and the amber-brown tint of the decaying leaves of the Turkey oak, or by the pale glaucous green of cupressus Uhdeana, and the bright grass-green of cupressus Goveniana.' The area for public recreation was 'to be judiciously modified so as to afford a good example of landscape gardening', with however 'the minimum amount of interference with such trees as Baron von Mueller has planted'.¹⁰⁰

Hodgkinson's decision to split the annual budget equally between the two sections and direct most of a capital sum already earmarked for building works to reclamation of the Domain lagoon horrified Mueller, who considered the plan 'ruinous to the Botanic Garden'.¹⁰¹ Hodgkinson was obviously regretting his involvement when he wrote that

⁹⁸ Pescott, *The Royal Botanic Gardens Melbourne*, p. 87. The original correspondence cannot be consulted. It does not appear in the Reserve file cited by Pescott, which would appear to be incorrect as it does not cover the appropriate period, and the file in which the correspondence is probably located has been with the Crown Solicitor's office for seven years, and is now considered 'lost'.

⁹⁹ Hodgkinson to Commissioner of Lands and Survey, 19 August 1872, 'Govt Botanist 1872-73', Unit 750, VPRS 44, PROV.

¹⁰⁰ Hodgkinson to Commissioner of Lands and Survey, 19 August 1872, 'Govt Botanist 1872-73', Unit 750, VPRS 44, PROV.

¹⁰¹ Hodgkinson memo, 4? November 1872, 72/H232, Unit 750, VPRS 44, PROV.

the report 'was written very reluctantly by me, and solely in compliance with a positive order', stating emphatically that 'I was activated by no motive inimical to Baron Von Mueller, or adverse to his interests as Govt Botanist, and scientific director of the Botanic Garden proper'.¹⁰² Wright suggests that these proposals were part of a Cabinet plan to remove Mueller¹⁰³ and, less than a year later, Hodgkinson wrote to Mueller informing him he was no longer director.¹⁰⁴

The new director William Guilfoyle was closely supervised by Hodgkinson, who although broadly supportive of the planned renovations was concerned with the future of the 'numerous rare and choice plants . . . some of which are of great economic value', and anxious that his earlier plan for labelling them be introduced. On discovering the Botanic Garden contained more than 200 chinchona plants, the 19th century fever tree so important in producing quinine to treat malaria, he immediately directed 175 of them be distributed to five different sites in Victoria he considered suited to their cultivation.¹⁰⁵ When Guilfoyle wanted to dispose of some eucalypts, Hodgkinson agreed 'on the understanding that a few of the picturesque specimens of *Eucalyptus Robusta* in the central part of the Garden be left'.¹⁰⁶ As Guilfoyle needed Hodgkinson's permission, which was not always given,¹⁰⁷ for anything other than maintenance, it was possibly with some relief he learnt of the Assistant Commissioner's resignation in May 1874 following a clerk's systematic theft of departmental funds.¹⁰⁸

Nicholas Bickford, Hodgkinson's loyal right-hand-man in park matters,¹⁰⁹ took over parkland management and was given the new title Curator of Metropolitan Parks and Gardens. Although Hodgkinson held him in high regard, Bickford did not have the same talents, power, or prestige as the assistant commissioner, so there was little new development.¹¹⁰ In retirement Hodgkinson did not entirely fade from view. He sat on a number of government boards and commissions, including the Melbourne Harbour Trust for which he conducted experiments with Australian timbers to determine their

¹⁰² Hodgkinson memo, 4? November 1872, 72/H232, Unit 750, VPRS 44, PROV; see also

¹⁰³ R. Wright, 'A Troubled Start: The Domain, Melbourne, 1872-73', *Victorian Historical Journal*, 53 (2-3), 1982, p. 140.

¹⁰⁴ Home et al., eds., *Regardfully Yours*, Vol. II, pp. 671-672.

¹⁰⁵ Hodgkinson minute, 12 July 1873, re Guilfoyle's progress report to Minister of Agriculture, 9 July 1873, 73/K13988, Unit 750, VPRS 44, PROV.

¹⁰⁶ Guilfoyle to Hodgkinson, 27 September 1873, 73/L21660, Unit 750, VPRS 44, PROV.

¹⁰⁷ Guilfoyle to Minister of Lands, Item 75/U24923, Unit 577, VPRS 44, PROV.

¹⁰⁸ Wright, *The Bureaucrats' Domain*, pp. 206-207.

¹⁰⁹ Hodgkinson minute, July 1867, Item 67/8288, (1867 Part 2) Unit 8, VPRS 6908, PROV.

¹¹⁰ Wright, *The Bureaucrats' Domain*, pp. 229-30.

suitability for use in piers and docks.¹¹¹ His reputation as a landscape gardener persisted, and in 1878 he advised the Ballarat council on what street trees to plant.¹¹²

In 1880 the Brighton council requested his help in improving the Beach and Elsternwick foreshore reserves. Hodgkinson had seen it all before – destruction of the indigenous vegetation leading to encroaching sand drifts. This was even the same location that eight years earlier he had tried to protect with one of his ‘urgent’ communications to the Chief Commissioner of Police requesting ‘every endeavour to be used by the Local Constables to prevent the destruction of the scrub, and to punish persons who cut it’.¹¹³ Drawing upon his experience and observation of the local landscape, he advised planting a mixture of Australian and exotic species, including pines, especially the Mediterranean *Pinus maritima*, Moreton Bay Figs, and his beloved Hoop Pine, *Araucaria cunninghamii*, among others. Many of the plants he recommended were still growing naturally around Port Phillip Bay, and perhaps recalling his success in obtaining ferns from the Dandenong Ranges, he suggested ‘sending a trustworthy man with a spring waggon to some part of the coast near Frankston where seedlings of these indigenous trees are procurable’.¹¹⁴

Hodgkinson had a final opportunity to influence the development of the city parkland when in 1882 he was appointed to the newly formed Metropolitan Parks and Gardens Committee of Management as a public representative. This committee with initially two representatives each from the Lands Department, Melbourne City Council, and the public, was formed to oversee the management of a number of parks, gardens, and squares, including the Fitzroy, Flagstaff, and Carlton Gardens, of which Bickford was curator.¹¹⁵ One of the committee’s first jobs was to renovate the northern section of the Carlton Gardens, which had been laid waste by the 1880 Melbourne International Exhibition. This was done in typical Hodgkinson style with broad gravelled paths lined with ‘shade trees’ forming ‘convenient lines of communication across the garden between Melbourne, Carlton, and Fitzroy’. There were no flower beds owing to ‘the small amount of money available’.¹¹⁶

¹¹¹ Patterson, ‘Clement Hodgkinson’, pp. 136-37.

¹¹² *Argus*, 16 May 1878, p. 5.

¹¹³ Hodgkinson memo, 19 September 1872, Item 72/G19707, Unit 351, VPRS 44, PROV.

¹¹⁴ Planting Committee’s Report No. 1, 18 May 1880, Archives, Brighton Historical Society.

¹¹⁵ Swanson, *Melbourne’s Historic Public Gardens*, pp. 13-14.

¹¹⁶ A.J. Skene et al., Report on the Metropolitan Public Parks and Gardens by the Committee of Management Thereof, 1883, Item No. 607, Box 740, VPRS 3181, PROV.

In fact the 1883 committee report reveals little had changed since Hodgkinson's time, except for the luxuriant growth of many trees. Some condescension can be discerned about 'too many common kinds of trees' in the Fitzroy Gardens (perhaps emanating from Joseph Harris, the other public representative who was a nurseryman), which was excused by 'the difficulty of procuring the best kinds of ornamental trees when this garden was first planted, and to the small amount of money at that time available for the purchase of trees from nurserymen' (undoubtedly coming from Hodgkinson). Money was still scarce, the same practices were being followed, and the committee was recommending that many of the same trees be planted – elms, oaks, Moreton Bay Figs, araucarias, cedars, and 'ornamental kinds of eucalyptus', although these were destined for Yarra Park.¹¹⁷ It is interesting to note that pines, which were no longer very fashionable, were not included among the recommendations, although only two years earlier Hodgkinson had proposed they be planted on the Brighton foreshore.

When Bickford retired at the end of 1890 everything was to change. John Guilfoyle was appointed in his stead, and with William in charge of the Botanic Garden the Guilfoyle brothers now held the two most important positions in park management in Victoria. Within a month of starting work Guilfoyle had drawn up plans to redesign the Fitzroy and Flagstaff Gardens 'on English landscape principles'.¹¹⁸ His major achievement was to forge a professional parks and gardens department with a skilled workforce, and in so doing began the transformation of Hodgkinson's woodland gardens filled with 'leafy foliage . . . and sylvan glades'¹¹⁹ into today's horticultural landscapes of lawns, flower beds, and specimen trees. Hodgkinson died in September 1893.¹²⁰ Unlike his friend and colleague Ferdinand von Mueller, he was destined to slip into obscurity.

¹¹⁷ A.J. Skene et al., Report on the Metropolitan Public Parks and Gardens, 1883, Item No. 607, Box 740, VPRS 3181, PROV.

¹¹⁸ Guilfoyle to Parks and Gardens Committee, 5 February 1891, Unit 747, VPRS 3181, PROV.

¹¹⁹ *Argus*, 22 August 1905, p. 7.

¹²⁰ *Age*, 7 September 1893, p. 6.

Public Parks & the Field Naturalists Club of Victoria

The study of nature is no longer a hidden mystery, to be unveiled only to a few initiated ones . . . the aim of our Club is the popularisation and domestication of science.¹

Between 1880 when the Field Naturalists Club of Victoria was formed and about 1920 the nature of environmental thought changed radically in Europe and the United States, which resulted in the ability of amateurs to contribute to science being greatly reduced. In Australia this change was slower to unfold, and throughout the 1920s amateurs were still important contributors to biological fieldwork. The FNCV, whose membership was a mix of amateur and professional naturalists that included Ferdinand von Mueller, presents the emerging ecological perspective through the pages of its journal. Unlike Mueller and Clement Hodgkinson the Club did not have the power to directly shape reserves, although where it believed its interests were concerned it did seek to influence events. In this respect the FNCV has long been linked to the development of Wattle Park, although there is little surviving evidence that the park incorporated many of its members' ideas.

The FNCV was created when 30 people responded to a notice in the *Argus* inviting people interested in forming such a club to attend a meeting at the Athenaeum on the evening of 6 May 1880. The notice had been placed by five young men who met regularly at the home of thirty-seven year old Charles French in the Melbourne Botanic Garden where he worked as propagator and manager of the glasshouses.² Although natural history clubs were popular in Britain at that time, the FNCV was the first of its kind in Australia. Similar groups were soon formed in Geelong, Ballarat, and beyond Victoria,

¹ J.J. Halley, 'President's Address', *The Victorian Naturalist*, 2, 1885, p. 6.

² S. Houghton and G. Presland, *Leaves from our History: The Field Naturalists Club of Victoria 1880-2005*, The Field Naturalists Club of Victoria, Blackburn, Vic., 2005, p. 5; A. Taylor, 'Baron von Mueller in the Field Naturalists' Tradition', *The Victorian Naturalist*, 113, 1996, pp. 132-33.

although many did not survive the 1890s depression, unlike the FNCV which continues to shape our understanding of the indigenous flora and fauna today.³

By 1883 150 members⁴ were delving into everything from botany, ornithology, entomology and geology to oology and conchology. The membership included people from backgrounds as diverse as their various fields of study: amateur and professional practitioners, captains of industry, parliamentarians, and other men of influence, many more humble employees, women as well as men, had joined a club founded 'for the purpose of affording observers and lovers of Natural History regular and frequent opportunities for discussing those special subjects in which they are mutually interested; for the Exhibition of Specimens; and for promoting Observations in the Field by means of Excursions to various collecting grounds around the Metropolis'.⁵

A few recruits did not remain in the Club for long, such as R. Laing and W. G. Bruce of the softgoods importers Paterson, Laing and Bruce. Others like Henry Tisdall, head teacher at Walhalla State School, Congregational minister the Rev. J. J. Halley, the photographer Nicholas Caire whose photographic skills were enlisted to capture 'the Field Naturalists at work',⁶ and medical entrepreneur Dr. Louis L. Smith who as chairman of the 1877 parliamentary board of enquiry had supported Mueller in his position as Government Botanist, were typical of members who contributed papers, served on committees, and participated in excursions and other club activities. Most lived in Victoria, but a few were resident in other Australian colonies and even overseas, as was Henry Edwards 'the distinguished actor' who on revisiting Melbourne from his home in the United States attended meetings and published descriptions of Victorian lepidoptera in the club journal.⁷

The desire to acquire eminent men as members initially led to the practice – at times without their knowledge or approval – of electing people like Frederick McCoy, Professor of Natural Science at the University of Melbourne, and not charging them a membership fee. Unintentionally, this behaviour resulted in the Club's policy of encouraging women to join. In 1881 the lawyer and parliamentarian Dr Frank Stanley

³ L. Gillbank, 'Field Naturalists' Clubs and Societies' in Aitken and Looker, eds., *The Oxford Companion to Australian Gardens*, pp. 215-16.

⁴ Anon., *The Victorian Naturalist*, 1, 1884, p. 1.

⁵ 'Supplement to "The Victorian Naturalist", February 1894' (see cover).

⁶ Anon., *The Victorian Naturalist*, 1, 1884, p. 46.

⁷ Anon., *The Victorian Naturalist*, 8, 1891, p. 80.

Dobson was elected a member without his knowledge. On learning of his new status from a newspaper report Dobson, who later went on to become club president, asked that his wife also be allowed to join, a request difficult to refuse given the circumstances. In 1885 the committee consisted of eight 'gentlemen' and three 'ladies', of whom Mrs Dobson was one, although it would take another 62 years before a woman was elected President.⁸

There were twenty 'sisters of science' in 1885, and in his presidential address that year the Reverend Halley foresaw that with 'higher education of women an accomplished fact . . . whether we men will or will not, sooner or later we shall have to open, without distinction of sex, the doors of all our intellectual and scientific societies'. He stressed the importance of women in what he called 'the domestication of science': 'The happy home is certainly the intelligent home – the home where each member is able to add something to the common stock of thought and knowledge'.⁹ Occasionally whole families did join such as the four members of the Lange family from East St Kilda, while across the generations Charles French's son and grandson, both named Charles as well, followed him into the FNCV.

The Club attracted many who were or had been working in science, environmental management, and horticulture. They included the Government Astronomer Robert Ellery, Dudley Le Souëf, Assistant Secretary of the Zoological and Acclimatisation Society of Victoria, William Archer who had replaced Clement Hodgkinson as head of the Lands Department (although Hodgkinson was not a club member), George Perrin the Conservator of Forests, Joseph Harris the parliamentarian and nurseryman, and Baldwin Spencer, Professor of Biology. William Guilfoyle, Director of the Botanic Garden, was an active member who joined in 1881, contributing papers and botanical specimens at meetings and exhibitions. John Guilfoyle, his younger brother, joined in 1892 after he was appointed curator of the Melbourne City Council's parks and gardens.¹⁰ But of all the club members none carried greater weight than Baron Ferdinand von Mueller.

⁸ Australian National Botanic Gardens, Australian Plant Collectors and Illustrators (D), www.anbg.gov.au/bot-biog/bot-biog-D.html (accessed 28 December 2006), lists Hon. Dr Frank Stanley Dobson, lawyer and politician, 1835-95 as a plant collector; Anon., *The Victorian Naturalist*, 2, 1885, p. 2; S. Houghton, 'If it is not against the rules': Women in the FNCV 1880-1980', *The Victorian Naturalist*, 122, 2005, p. 290.

⁹ Halley, 'President's Address', pp. 4, 5.

¹⁰ Members Register 1880-1890 (-1894), Field Naturalists Club of Victoria Archives.

Although not a founder, Mueller was one of the 'original' members elected at the first two meetings in June and July 1880. He was a generous supporter of club activities who attended meetings regularly to exhibit specimens or deliver papers. On five occasions he was offered the presidency, but declined, until in 1886 at the age of sixty-one and at his own instigation he was appointed Patron. Dobson, when he became President, noted the lack of any field guide to Victorian plants, remarking on the usefulness of the Reverend W. W. Spicer's handbook of Tasmanian plants: 'I may mention that I never take a walk in the bush in this colony without my Spicer in my pocket. Even when loaded with gun and cartridges I always find room for this little volume'.¹¹ At his request Mueller agreed to write the two-volume *Key to the System of Victorian Plants* (1885 and 1887-8), a laborious task, which was to remain Victoria's only descriptive Flora for the amateur botanist until 1931.¹²

Mueller strongly supported the club journal. *The Victorian Naturalist*, launched in January 1884, was aimed not only at the FNCV membership but was intended to reach a wider audience as a means of popularising science. Published monthly, it was sold through booksellers and members had to buy it in addition to their subscriptions. Initially the journal struggled to repay printing costs and Mueller offered to subsidise its production. This prompted the Committee to rule that authors of papers not read before the Club should be charged five shillings per page for their publication. In 1886 Mueller's generosity was repaid when he was offered 'two pages free of cost in each number of the *Naturalist* for the publication of your descriptions of new plants, also one or two more as the Editor can spare them'.¹³

While the journal was intended to be 'as interesting as possible to the general public',¹⁴ it took its scientific objectives seriously. In the first issue Charles French,¹⁵ later to be appointed Government Entomologist, published the first of his eleven-part series describing every Victorian orchid species then known. As well as contributing articles of interest Mueller used *The Victorian Naturalist* to publish type descriptions of newly discovered plants. Some of these he named after club members, such as the orchid *Caleya*

¹¹ F.S. Dobson, 'President's Address', *The Victorian Naturalist*, 1, 1884, p. 42.

¹² Taylor, 'Baron von Mueller in the Field Naturalists' Tradition', pp. 131, 134, 135.

¹³ S. Houghton, 'Baron von Mueller and *The Victorian Naturalist*', *The Victorian Naturalist*, 113, 1996, p. 140.

¹⁴ Anon., 'Hon. Secretary's Fourth Annual Report', *The Victorian Naturalist*, 1, 1884, p. 49.

¹⁵ L. Gillbank, 'French, Charles' in Aitken and Looker, eds., *The Oxford Companion to Australian Gardens*, pp. 235-36.

sullivani found near the summit of Mt Difficult by Daniel Sullivan,¹⁶ the teacher in charge of Moyston School, *Hypsophila halleyana* after the Reverend Halley, and *Prasophyllum frenchii*, the Maroon Leek Orchid collected by French's young son George. At times Mueller also offered the journal material originally intended as part of a larger body of work, but which he had not the time to complete.¹⁷ In 1895 it was recorded that *The Victorian Naturalist* was the only monthly natural history journal in Australasia, and was sent free or in exchange to 44 libraries and societies throughout the world.¹⁸

As its name suggests, field work was the Club's main purpose. It was both a recreational and scientific activity, good for the body and the mind, and importantly, socially acceptable for men and women. This type of club was distinguished from the more academic societies by its field excursions and meetings that provided members with the opportunity to observe, collect, and discuss specimens with each other. Notwithstanding the popular versus exclusive nature that characterised the two different groups, the FNCV meetings were held in the Royal Society of Victoria's rooms, and some members like Mueller belonged to both societies. At the monthly meetings, and at the annual *conversazioni* held on the anniversary of the Club's foundation to which friends were also invited, members exhibited specimens relating to the particular branch of natural history in which they were interested.¹⁹



Figure 51: The first *conversazione* of the Field Naturalists Club, 1881. It shows the president reading his address, the drawing of an insect, and men, women and children inspecting the glass display cases.

¹⁶ Australian National Botanic Gardens, Biography, Sullivan D. (1836-1895), www.anbg.gov.au/biography/sullivan-d.html (accessed 28 December 2006).

¹⁷ Dobson, 'President's Address', p. 37; Houghton, 'Baron von Mueller and *The Victorian Naturalist*', pp. 140-41; Maroske, 'Introduction', p. 129.

¹⁸ Anon., *The Victorian Naturalist*, 12, 1895, p. 27.

¹⁹ L. Gillbank, 'Rambles, Reports and Reserves: The FNCV's Early Conservation of Victoria's Natural Heritage', *The Victorian Naturalist*, 122, 2005, p. 259; Houghton and Presland, *Leaves from our History*, p. 5; Taylor, 'Baron von Mueller in the Field Naturalists' Tradition', p. 132.

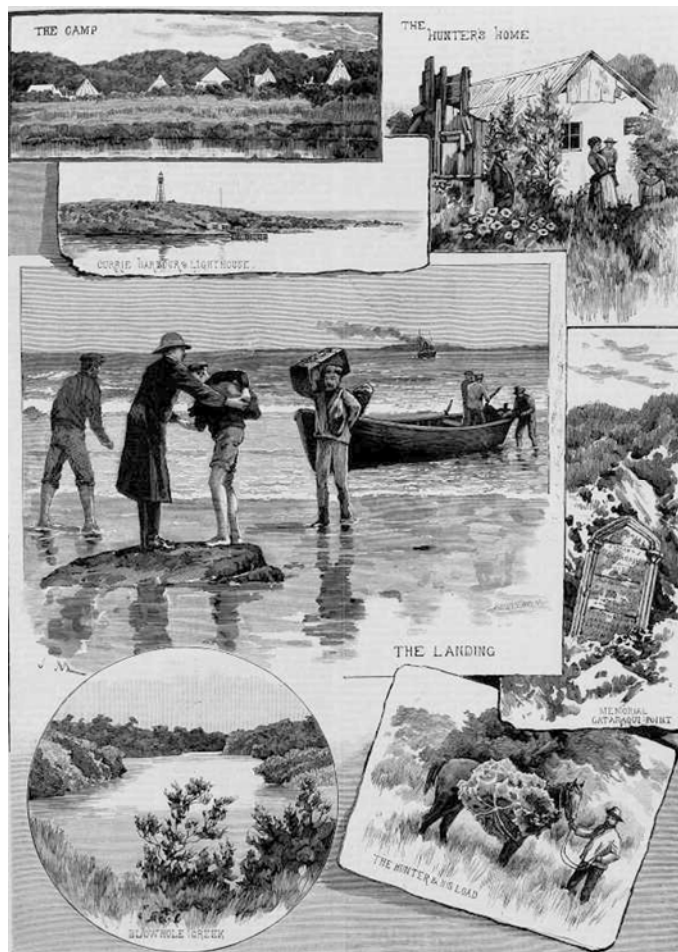


Figure 52: The FNCV expedition to King Island in Bass Strait, 1887. 'The camp – The hunter's home – Currie Harbour and lighthouse – The landing – Memorial Gatarau Point – Blowhole Creek – The hunter & his load'

Scores of slaughtered birds featured prominently among exhibits, and plants and eggs known to be uncommon were eagerly sought. At the Club's first 'camp out' at Olinda Creek near Lilydale in 1884 excursionists arrived on the Saturday and settled in. The next day 'Being Sunday the guns were left behind till the morrow', and instead the opportunity was taken to procure large numbers of birds eggs, one prize being the nest and eggs of a rare species of honeyeater.²⁰ The field naturalists' collections had their origins in the 17th century when the wealthy and powerful collected natural history specimens for their 'cabinets of curiosities', actually room-sized collections of objects often gathered on trading and exploratory expeditions, which were the forerunners of Europe's natural history museums.²¹ Significant natural history collections were not limited to institutions in the 19th century, and personal collections could be 'magnificent' such as that belonging to T. A. Forbes-Leith who exhibited 65 species of Australian

²⁰ Anon., *The Victorian Naturalist*, 1, 1884, p. 110; Houghton and Presland, *Leaves from our History*, p. 2.

²¹ Wikipedia, Cabinet of Curiosities, http://en.wikipedia.org/wiki/Cabinet_of_curiosities (accessed 28 December 2006).



Figure 53: 'Nest of the White-Bellied Sea Eagle', Lower Clarence River district, 1898. The passion that collecting could engender is evident from this photograph taken by S W Jackson on 14 August 1898, as he and his brother Frank robbed a nest about 100 feet above the ground – finding a prize of three eggs.²²

²² A.J. Campbell, *Nests and Eggs of Australian Birds including the Geographical Distribution of the Species and Popular Observations Thereon*, Pawson & Brailsford, Sheffield, 1900, p. 18.

parrot at the 1885 Annual Conversazione. The collections of some members were sent to London as part of the 1886 Indian and Colonial Exhibition.²³

The development and wealth generated by Melbourne's 1880s land boom was rapidly expanding and transforming the metropolis. The orchards, market gardens and dairy farms on the city's outskirts became the burgeoning suburbs of Kew, Northcote, Malvern, and Elsternwick among others, in the process overrunning many of the field naturalists' old haunts. Charles French ruefully noted:

In the good old days of orchid collecting, twenty years ago, Mr Schlipaulis and myself found the plant [*Calochilus campestris*] growing rather plentifully in the scrub lining the swamp, near which the Caulfield race-course grand stand now rears its pretentious head, the former grand stand (which many of you may remember) being composed of four pieces of hard-wood quartering, and a paling roof. This inelegant edifice suddenly disappeared, and with it, evidently the *Calochilus*, for neither he or I could ever find it there afterwards. So much for civilization.²⁴

Melbourne's population grew by about one-third between 1881 and 1891, when Footscray, Brunswick, and Hawthorn each went from 5,000 to 20,000 inhabitants.²⁵ This, too, took its toll on the landscape. *The Victorian Naturalist* noted that in Studley Park 'natural history objects are becoming very scarce' owing to the public's 'ruthless destruction of trees and shrubs'.²⁶ From time to time group excursions were made to the park, which was an important collecting ground for FNCV members, particularly those interested in botany who often exhibited plants collected there at the monthly meetings.

Frank Reader, a chemist in Dimboola,²⁷ carried out a survey of the park's flowering plants, which he read before the Club in January and February 1885. He urged anyone wishing to put together a herbarium within a short period and almost within the city to explore Studley Park, pointing out that except for marine algae 'species of every order of the vegetal kingdom are represented, from the lofty eucalyptus down to the microscopic unicellular algae'.²⁸ Mueller and Guilfoyle helped Reader to identify species, and in the tradition of 19th century botanists, Reader listed the uses to which various park plants

²³ Anon., *The Victorian Naturalist*, 2, 1885, p. 3, and 3, 1886, p. 4.

²⁴ Anon., *The Victorian Naturalist*, 1, 1884, p. 56.

²⁵ Plan of General Development Melbourne: Report of the Metropolitan Town Planning Commission. Government Printer, Melbourne, 1929, p. 24; M. Cannon, *The Land Boomers*, Melbourne University Press, Carlton, Vic., 1966, p. 13.

²⁶ Anon., *The Victorian Naturalist*, 1, 1884, p. 81.

²⁷ J. Galbraith, 'Botanists and the FNCV: the first 30 years', *The Victorian Naturalist*, 97, 1980, p. 119.

could be put. He described the wood of the indigenous *Bursaria spinosa* as 'exceedingly hard and fine-grained, adapted for turnery, and many implements', and noted that *Hymenanthera dentata* made a good hedge; the exotic *Capsella bursa pastoris* or Shepherd's Purse could be 'applied to cuts, and made into a poultice'. He counted 271 plant species of which 204 were indigenous. Many of the 67 'aliens' were 'thoroughly established', some having replaced native species.²⁹

Reader also drew attention to 'the wanton destruction' of trees and shrubs in the park, and trusted that 'ample and permanent protective measures will be accorded that beautiful and picturesque spot of our large and magnificent city'.³⁰ The Club had already decided that strong action needed to be taken in this regard, and a deputation was sent to wait upon the Minister of Lands, who promised to consult with the police. Instructions were later issued to prosecute anyone caught destroying park vegetation.³¹ Over the years Studley Park continued to be of interest to members. In a paper read before the Club in 1910 Frederick Pitcher remarked that there was still sufficient native vegetation 'to indicate, in part, the character of the natural vegetation which existed on the site of our city prior to its discovery and subsequent settlement',³² echoing Clement Hodgkinson's resolve expressed some 40 years earlier that 'one of the metropolitan parks should continue to afford a fair representation of ordinary Australian forest land'.³³



Figure 54: View from Studley Park, ca 1890.

This photograph was taken by well-known photographer Nicholas Caire, a member of the FNCV.

²⁸ F. Reader, 'The Phanerogamous Plants of Studley Park, Kew, Near Melbourne (Part I)', *The Victorian Naturalist*, 1, 1885, p. 173.

²⁹ Reader, 'Phanerogamous Plants of Studley Park (Part I)', pp. 173-76. Shepherd's Purse was used during World War I to stem the bleeding of wounds according to F. Bodkin, *Encyclopaedia Botanica*, Angus & Robertson Publishers, North Ryde, NSW, 1986, p. 212.

³⁰ Reader, 'Phanerogamous Plants of Studley Park (Part I)', p. 174.

³¹ Anon., *The Victorian Naturalist*, 1, 1884, pp. 81, 83, 97.

³² F. Pitcher, 'Victorian Vegetation in the Melbourne Botanic Gardens', *The Victorian Naturalist*, 26, 1910, p. 164.

³³ Gardens and Parks: Report of the Inspector-General of Gardens, Parks, and Reserves, p. 6.

Studley Park was just one of a number of public landscapes that the FNCV concerned itself with in trying to preserve native plants and animals. This ranged from attempting to ban the use of shanghais in Melbourne parks and gardens to lobbying the Minister of Lands against throwing open part of the Dandenong State Forest for selection.³⁴ Although the Club expressed concern about the loss of flora and fauna to metropolitan development, which may have been seen as inevitable, its influence was more effective beyond the city. Baldwin Spencer's account of a trip to Croajingalong in East Gippsland made by him and four other members, in which they described huge Cabbage Palms and waratahs 50 feet high, deeply affected the audience who strongly felt the 'importance of preserving portions of the district from occupation, in order that this gorgeous native vegetation might gladden the eyes of posterity'. In response to a club deputation the Minister of Lands added about 8500 acres to the forest reserve in the Cabbage Tree Creek district, expressing the hope that 'the noble palm trees' will be 'secured from destruction'.³⁵

The FNCV's single most notable achievement as regards conservation of the natural environment was the reservation of Wilsons Promontory as a national park. In the 1850s Mueller had undertaken the arduous journey there on horseback and by boat. Thirty years later when club members Arthur Lucas a biology teacher, John Gregory a lawyer, and George Robinson an engineer made the trip in pursuit of 'health, recreation and specimens',³⁶ the railway had been built across Gippsland. They caught the train from Melbourne to Trafalgar, then walked south across the Strzelecki Ranges through 'untouched fern gullies and virgin forest'³⁷ and on to the Promontory, astonishing the lighthouse keeper as they were apparently the first tourists to arrive overland. They then walked back to Dandenong to catch the train home.³⁸ On their return Mueller helped identify the plants collected and McCoy the shells, and an account of their trip was read before the Club. The men were excited by what they had seen and its potential as a 'summer haunt of lovers of nature and scenery'.³⁹

³⁴ Anon., *The Victorian Naturalist*, 1, 1885, p. 133; Anon., *The Victorian Naturalist*, 10 (2), 1893, p. 18.

³⁵ Anon., *The Victorian Naturalist*, 6, 1889, p. 47.

³⁶ L. Gillbank, 'Of Land and Game: The Role of the Field Naturalists Club of Victoria in the Establishment of Wilsons Promontory National Park', *The Victorian Naturalist*, 115, 1998, p. 266.

³⁷ As quoted in S.C. Ducker, 'An Early Overland Expedition to Wilsons Promontory', *The Victorian Naturalist*, 115, 1998, p. 294.

³⁸ Gillbank, 'Rambles, Reports and Reserves', p. 262.

³⁹ Gillbank, 'Of Land and Game', p. 266.

Two years later in 1887, following the threat of subdivision, political lobbying commenced with a club resolution to secure the Prom as a reserve vested in a board of trustees 'for the purposes of a national park, for the preservation of the fauna and flora, for the conservation of the fisheries, and for public recreation'.⁴⁰ When enlisted to help in this enterprise, Mueller was far from enthusiastic. He stated that reservation of such a large area would reduce government revenue, and that it was too far from Melbourne for most people to travel. More importantly, he believed that the mild climate was suited to growing 'many products, not hardy in Victoria, except in frostless places' and that 'the equable humidity [was] also advantageous for tillage there'.⁴¹ And his trips during the 1850s had left him very favourably impressed with the promontory timber and its potential for forestry.

Mueller's ambivalence in regard to Wilsons Promontory seems to have largely grown out of his commitment to economic botany and acclimatisation, interests which were not entirely absent from the pages of *The Victorian Naturalist*. In 1903 it highlighted a report by the Conservator of Forests for South Australia, Walter Gill, in which a 20-year-old Aleppo pine from the Wimbarra Forest had been turned into timber for 16 fruit cases: 'Mr Gill points out that the growing of pine timber could be largely entered upon in Australia, and that the Ninety-Mile Desert, between the Murray and the Victorian border, could be made a vast pine forest, to the manifest advantage of fruit-growers'.⁴² Mueller was certainly not opposed to creating reserves to protect indigenous vegetation. However, he saw the vegetation of Wilsons Promontory as less important to preserve than the Cabbage Palms and waratahs of East Gippsland, and therefore actively supported the Club in its successful attempt to conserve their habitat.⁴³

His Presidential Address to the 1890 conference of the Australian Association for the Advancement of Science, which attracted many FNCV members as delegates and speakers, set out his views on the subject of preserving Australia's flora and fauna. With his often quaint selection of words, which provoked mirth from some quarters,⁴⁴ he said that 'Choice areas, not necessarily very extensive, should be reserved in every great country for some maintenance of the original vegetation, and therewith for the

⁴⁰ As quoted in Gillbank, 'Of Land and Game', p. 267.

⁴¹ Gillbank, 'The Wood and the Trees', p. 286.

⁴² Anon., *The Victorian Naturalist*, 20, 1903, p. 112.

⁴³ Gillbank, 'The Wood and the Trees', p. 286.

⁴⁴ Home et al., eds., *Regardfully Yours*, Vol. III, pp. 754-55.

preservation of animal life concomitant to peculiar plants'; and from which rural activities 'with their disturbing influence on primeval harmonies' should be excluded:

Furthermore, to such places of security should be transferred plants and animals of exceptional rarity occurring near these seclusions. "Floral commons," thus established, would soon be among the most attractive features, not only for pleasure excursionists, but also for travellers from abroad, and would afford future generations in various territories some idea of the wondrous natural beauty of vegetable and animal life in its once unique loveliness, pristine grace and unimpaired freedom . . . Under intelligent supervision such places, through restricted concessions, might be made to yield a greater income, than accruable through ordinary rural occupation. Who would not plead in this cause? As our Field Naturalists' Club has indeed so fervently done already. More and more of rarities are commencing to succumb and to be made unrestorable, and scarcely a spot seems safe on the face of the globe against the defacing hand of man!⁴⁵

His concept of introducing rare plants and animals into what could be rather small reserves not only as a means of conservation but also for the pleasure and interest of tourists is akin to that of the Acclimatisation Society of Victoria's zoological collection at Royal Park, of which Mueller was a director. On the other hand his 19th century perspective is startling in its anticipation of today's eco-tourism industry.

Despite Mueller's lack of enthusiasm, the FNCV supported by other organisations succeeded in having Wilsons Promontory temporarily reserved in 1898, and after many setbacks it was permanently reserved as a national park in 1908. By then Mueller had died. The FNCV was intimately involved in arranging his funeral in October 1896, more so than any relative according to his sister Clara, and it later bought the adjoining plot to double the area for his memorial in St Kilda Cemetery.⁴⁶ On the first anniversary of his death the Club's annual spring wild flower exhibition was held over, and native flowers sent from Victoria, New South Wales, and Western Australia were laid on his grave. 'The Baron', as he was affectionately known to members, rapidly became a club tradition, especially while those who knew him were still alive.⁴⁷ Although Mueller's Humboldtian approach to his work was a step in the direction of ecological science, in a simplistic way the death of that arch acclimatiser can be seen as a marker separating the natural history past – with its emphasis on improving the natural environment to benefit mankind – from the ecological future.

⁴⁵ F. Mueller, 'Inaugural Address by the President,' in *Report of the Second Meeting of the Australasian Association for the Advancement of Science*, ed. W.B. Spencer, AAAS, Melbourne 1890, p. 10.

⁴⁶ Maroske, 'Introduction', p. 128.

⁴⁷ Taylor, 'Baron von Mueller in the Field Naturalists' Tradition', p. 135.

Charles Sutton hinted at such a future in October 1910 when he read his 'Notes on the Sandringham Flora' before the Club. An important area for study and collection by members, this 'formation' had once stretched between Mordialloc and the city, but had been displaced by the suburbs of St Kilda, South Melbourne, Prahran, Malvern, and Caulfield. Sutton believed that before long only fragments would remain, and for this reason he wanted 'to attempt its description in terms of the œcologists'. His guide in the matter was *Œcology of Plants* by Eugene Warming, a Danish scientist. For those unfamiliar with this approach he described Warming's definition of the term formation as a plant community with a certain fixed appearance due to its composition of species, and used Warming's classification to identify the Sandringham flora as *maqui* similar to that of the Mediterranean and South Africa. In concluding Sutton recommended that members pay greater attention to plant associations during excursions rather than merely enumerating species seen, although he excused this previous neglect by Warming's quotation of the American pioneer on plant succession, Frederic Clements, who said that 'œcology is only in its infancy'.⁴⁸

The separation between amateur and professional science grew in tandem with the development of ecology, which mainly occurred inside universities. Initially the FNCV and those institutions had possessed a common outlook: 'All were in hot pursuit of new species, new kinds of rocks and minerals, and so on; it was a world of exploration'.⁴⁹ And as Griffiths notes, prior to say 1890 more of Victoria's distinguished scientists worked outside the university than within it.⁵⁰ Mueller's expeditions, collecting activities, and his belief in the importance of botanists seeing plants growing in their natural habitat fitted well with the FNCV's emphasis on field work. Through its members the Club brought the various branches of natural history together, which benefited from the interaction, as expressed in 1884 by President Dobson: 'The circle of sciences is so complete that hardly one can stand alone'.⁵¹ But all this was to change as science became increasingly sophisticated, theoretical, and specialised.

⁴⁸ Dunlap, *Nature and the English Diaspora*, pp. 146-48; C.S. Sutton, 'Notes on the Sandringham Flora', *The Victorian Naturalist*, 28, 1911, pp. 5-7, 14.

⁴⁹ E.D. Gill, 'Contribution to science by early geologists of FNCV', *The Victorian Naturalist*, 97, 1980, pp. 112-13.

⁵⁰ T. Griffiths, *Hunters and Collectors: The Antiquarian Imagination in Australia*, Cambridge University Press, Melbourne, 1996, p. 133.

⁵¹ Dobson, 'President's Address', p. 36.

In 1902 President Thomas Hall spoke in honour of the Club's 21st birthday. This biologist, geologist, palaeontologist, and university lecturer, reminded members that the FNCV had not been founded to produce true scientific papers but to assist like-minded people help each other study natural history. He listed birds, butterflies, and orchids as warranting greater study because their wide distribution, beauty, and grace made them particularly popular, while there were far fewer members interested in areas such as microscopic fungi or fossil echinoids, which should only be treated in an introductory or explanatory fashion: 'We are, before all, a "popular" scientific Club'.⁵²

This was a different perspective from the 1880s when Mueller published type descriptions of species new to science and other specialist material in *The Victorian Naturalist*, or when Francis Barnard found a new species of micro-fungi in Studley Park, which was named *Phragmidium barnardi* after him when he sent it to England for identification.⁵³ The tension between popular and professional science within the Club continued. Several years after Hall's 1902 remarks Alfred Ewart, Government Botanist and Professor of Botany at the University of Melbourne,⁵⁴ began his series 'Contributions to the Flora of Australia', which was published in *The Victorian Naturalist* along with other of his mainly taxonomic articles over the years.⁵⁵ Ewart was club president 1909–1910.

The passion for collecting that had characterised the Club's first two decades had abated to some extent by the early 20th century. No longer were dead birds in such abundance at the monthly meetings; with the help of modern cameras popular sentiment was changing from 'hunting and collecting to watchful observation'.⁵⁶ At the same time nature study along with the celebration of Arbor Day, Wattle Day, and Bird Day became a feature of Victorian schools.⁵⁷ The FNCV had always encouraged junior naturalists with a reduced subscription, but in 1904 the rate for members under 18 was lowered from five to one shilling and monthly excursions for junior members commenced.⁵⁸ This successful initiative was complemented by individual members like Arthur Lucas, the teacher who

⁵² T.S. Hall, 'President's Address', *The Victorian Naturalist*, 19, 1902, p. 44.

⁵³ Anon., *The Victorian Naturalist*, 2, 1885, p. 40.

⁵⁴ <http://www.anbg.gov.au/biography/ewart-alfred.html> (accessed 8 October 2007).

⁵⁵ J.A. Baines, 'Author index 1884-1975 with addendum 1976', *The Victorian Naturalist*, 1976.

⁵⁶ Griffiths, *Hunters and Collectors*, p. 130.

⁵⁷ Griffiths, *Hunters and Collectors*, p. 142.

⁵⁸ W. Clark, 'The Junior Group: 62 years of encouraging young naturalists', *The Victorian Naturalist*, 122, 2005, p. 315.

had walked from Trafalgar to Dandenong via Wilsons Promontory in his summer holiday. He wrote *An Introduction to the Study of Botany* with Arthur Dendy in 1892, in which like Mueller he used Australian plants as examples, and went on to write *Animals of Australia* (1909) and *Birds of Australia* (1911) with W.H.D. Le Souëf,⁵⁹ both published by Whitcombe & Tombs which specialised in low priced schoolbooks.

The first Bird Day was celebrated in October 1909, when members of the FNCV along with the Ornithologists Union and Bird Observers Club talked to children in suburban classrooms. The Gould League of Bird Lovers was inaugurated on the same day and 50,000 children joined; the Club hoped this movement would greatly reduce the amount of egg and nest collecting 'which takes place on every holiday'.⁶⁰ The following month several members of the FNCV were invited to accompany the Governor of Victoria and Director General of Education on an ambitious nature study excursion to Werribee Gorge by 550 pupils of the Melbourne Continuation School.⁶¹ Unlike Bird Day, which was purely for children, the influence of Wattle Day extended far beyond the schoolyard. It grew out of Australia's burgeoning nationalism as federation approached, and the general community's sentimental regard for wattle blossom.

Archibald Campbell, an eminent ornithologist, author of many newspaper articles about nature, and a prominent FNCV member, was closely involved with its introduction. He held a life-long interest in promoting wattle as Australia's national emblem, and in 1899 formed the Wattle Club, which each year at the start of September held excursions around Melbourne to view wattles in bloom.⁶² In the spring of 1908 he gave a lecture to the Working Men's College photographic clubs entitled 'Wattle-Time or "Yellow-Haired September"'⁶³ in which he described in terms as romantic as they were botanical various species 'of aurelian beauty'. His reasons for giving the talk were clear: 'Since Australia possesses something like 400 species, out of a world total of about 500, surely it may justly be regarded as our national flower, and should be worshipped accordingly'.⁶⁴ A

⁵⁹ Ducker, 'An Early Overland Expedition to Wilsons Promontory', p. 295.

⁶⁰ Anon., *The Victorian Naturalist*, 26, 1909, p. 95.

⁶¹ Anon., *The Victorian Naturalist*, 26, 1909, p. 120.

⁶² D. Giese, 'Wild Places and Advancing Science', *NLA News*, November 2003, <http://www.nla.gov.au/pub/nlanews/2003/nov03/article2.html> (accessed 22 March 2006); L. Robin, 'Nationalising Nature: Wattle Days in Australia', *Journal of Australian Studies*, 2002, p. 12, <http://cres.anu.edu.au/people/wattle-day.pdf> (accessed 22 March 2006).

⁶³ Robin, 'Nationalising Nature', p. 12.

⁶⁴ A.J. Campbell, 'Wattle-Time, or "Yellow-Haired September"', *The Victorian Naturalist*, 26, 1909, p. 86.



Figure 55: Two of A J Campbell's 'Wattle Time' images, ca 1908.
Left: *Acacia baileyana*
Right: *Acacia dealbata*

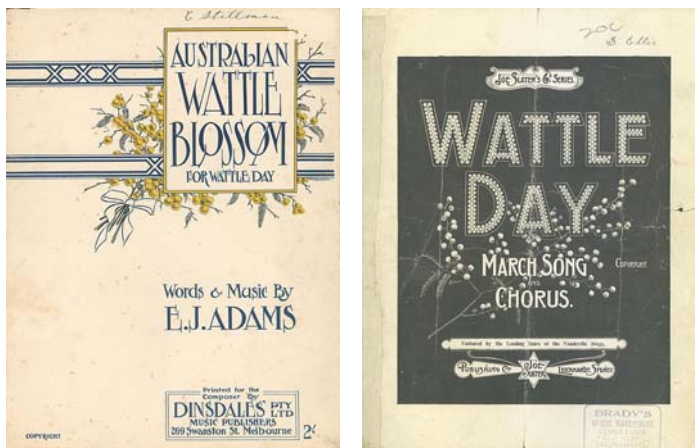


Figure 56: Wattle Day sheet music covers.

prolific photographer, he accompanied the lecture with lantern slides of various wattles, each tree accompanied by a young woman dressed as a nymph in flowing robes 'for idealistic purposes'.⁶⁵

The Australian Natives Association had also campaigned to make wattle the national flower along the lines of the English rose, Scottish thistle and Irish shamrock, and in 1890 it formed a Wattle Blossom League in Adelaide.⁶⁶ This was a precursor to the Wattle Day League inaugurated in Sydney under the auspices of Joseph Maiden, Director of the Sydney Botanic Garden, in 1909.⁶⁷ That year Archibald Campbell again delivered his 'Yellow-Haired September' lecture, this time to the FNCV, and soon after he enlisted the Club's active support through a motion put at a monthly meeting that it help promote Wattle Day. He must have been sorely tried by the chairman's declaration

⁶⁵ Campbell used some of these images to illustrate A.J. Campbell, *Golden Wattle Our National Floral Emblem*, 1921. Full title page only with links to illustrations available from Australian National Botanic Gardens, <http://www.anbg.gov.au/campbell.wattle/index.html> (accessed 22 March 2006).

⁶⁶ Robin, 'Nationalising Nature', pp. 9-10.

⁶⁷ World Wide Wattle, <http://www.worldwidewattle.com/infogallery/symbolic/wattleday.php>, (accessed 22 March 2006).

that he thought the eucalyptus a more suitable national flower, although excursions to enjoy the spectacle of wattle in full bloom and concern over its destruction from at least 1899 show that members were equally fascinated. When Campbell succeeded in forming a Victorian branch of the Wattle Day League in 1910, the *Victorian Naturalist* advertised the inaugural meeting at the Temple of the Winds in the Botanic Garden.⁶⁸

In 1913 the League's Wattle Day Conference was opened in Melbourne by Prime Minister Andrew Fisher, who announced that wattle was to be included in Australia's new coat of arms; and the first Australian stamp to feature wattle was issued in December that year. When the First World War began in 1914 wattle blossom became a patriotic symbol, and throughout the war Wattle Day was used by the Red Cross and other organisations to raise funds.⁶⁹ This heightened perception of wattle was just as relevant to FNCV members, whose sons and daughters along with some of the younger members enlisted in the armed forces. Francis Barnard, for many years editor of *The Victorian Naturalist*, was among those who lost a son in the war.⁷⁰

It is not surprising that at a time of such fervent patriotism the 137 acres purchased in 1916 by the Hawthorn Tramways Trust for public recreation was named Wattle Park. The Trust had been constituted and incorporated in 1914 under an act of parliament to build and operate an electric tram service from the city to the corner of Riversdale and Warrigal Roads (in what is now the suburb of Surrey Hills). The impetus for developing a park opposite the terminus may have come from the Trust's manager who was from the United States where transport companies had built 'trolley parks' across the country close to their tram networks as a means of raising revenue through increased patronage and entry fees. Initially there was some concern that public money would be used to build a commercial venture, but the Trust was only empowered to charge fees for the use of sports facilities by clubs, not for the park as a whole.⁷¹ The previous owner Mrs Eliza Welch, who lived at the Windsor Hotel in the city, had used the property as a country retreat, and was only persuaded to sell on condition it was used as a public park.⁷²

⁶⁸ Anon., *The Victorian Naturalist*, 16, 1899, pp. 34, 36, 58; 25, 1908, p. 89; 26, 1910, p. 122; 27, 1910, p. 79.

⁶⁹ World Wide Wattle, (accessed 22 March 2006).

⁷⁰ Anon., *The Victorian Naturalist*, 37, 1920, pp. 75-6.

⁷¹ Hawthorn Tramways Trust, Agency Description, VA 2978, PROV (the Trust was dissolved in 1920 when the Melbourne & Metropolitan Tramways Board was formed); Allom Lovell & Associates and John Patrick, Wattle Park: 1012 Riversdale Road Surrey Hills Heritage Conservation Plan, prepared for Melbourne Parks and Waterways, August 1993, pp. 16-17.

⁷² Allom Lovell & Associates and John Patrick, Wattle Park, pp. 7-9.



Figure 57: View from Wattle Park, ca 1913.

Much of the land had been farmed and grazed since the 1860s, and it contained a house with stables and garden. Although there were exotic trees and shrubs including elms and Norfolk Island Pines,⁷³ W. J. Stephen, a member of the FNCV, recognised the value of the surviving indigenous vegetation and the potential for conservation. He wrote to the Club ‘drawing attention to the danger of the land . . . becoming a common recreation ground’,⁷⁴ and proposed it urge the Trust that Wattle Park ‘as far as possible be kept in its natural state, and if any replanting is required preference should be given to native trees and shrubs; also that, if possible, it be declared a sanctuary for native fauna’. The Club liked the idea but resolved ‘it would not be advisable to ask for too much restriction in [the park’s] use’ as there was sufficient space to provide for both ‘recreation and a sanctuary’.⁷⁵ This was not the first time the Club had been active in trying to preserve indigenous vegetation in what was rapidly becoming the suburbs. In 1908 it had supported the Moorabbin Shire Council’s proposal to acquire the Black Rock estate near Sandringham for a public reserve, with the added provision that it should be left ‘as much as possible in its present wild state’.⁷⁶

One FNCV member had a vision for Wattle Park’s future development that went beyond merely conserving Australian plants and animals. It was expressed in a single intriguing sentence contained in the *Victorian Naturalist’s* report of the April 1917 meeting: ‘Mr St John suggested that the land offered a good opportunity for the formation of a suburban forest on similar lines to those of France’.⁷⁷ Perhaps Percy St John, a noted botanist and former committee member, had Fontainebleau in mind. This

⁷³ Allom Lovell & Associates and John Patrick, Wattle Park, p. 11.

⁷⁴ The Field Naturalists Club of Victoria, Minutes of General Meeting, 15 January 1917, Minute Book 18 April 1913 to 28 May 1919, No. 059, FNCV Archives.

⁷⁵ Anon., *The Victorian Naturalist*, 33, 1917, p. 145.

⁷⁶ Anon., *The Victorian Naturalist*, 25, 1908, p. 58.

⁷⁷ Anon., *The Victorian Naturalist*, 34, 1917, p. 2.

French royal forest had been opened up to 'nature tourism' over 60 years earlier by Claude-François Denecourt, who had compiled an inexpensive guide book and designed new paths that penetrated the heart of the forest. Day trippers from Paris reached Fontainebleau by train in less than an hour and a half, not much longer than the tram trip from the city to Wattle Park.⁷⁸ However, nothing more was said about a suburban forest in Surrey Hills, at least in the public domain.

Wattle Park was officially named and opened by the Governor, Sir Arthur Stanley, at the end of March 1917. Fifty wattles comprising some 18 species were planted by him and representatives from local government, progress associations, and the Wattle League, as well as the President of the FNCV.⁷⁹ Very little had been done to the park before this, although the Tramways Trust had acted on the Club's request that the native fauna be protected and the land had already been proclaimed a sanctuary under the *Game Act*. Encouraged by the Trust that it would consider any suggestions put forward, the first club excursion to Wattle Park just prior to the opening ceremony provided members with some further ideas for its development. The party included Percy St John, who may have formulated his idea of a suburban forest during this visit.⁸⁰

Francis Barnard prepared a report on behalf of the excursionists. They found a 'fair amount' of the park at the eastern end 'well timbered with its original vegetation in the shape of eucalypts of several species, which, though not large trees, are very picturesque'; and while it was not the season for wildflowers some early orchids were in bloom. The highest land, which afforded fine views in all directions, had been cleared and farmed, and the deep valley intersecting the park offered 'great possibilities to the landscape artist for improvement by tree-planting'. The report proposed that as the Trust intended 'to beautify the land by tree-planting, etc, and, if possible, to use only Australian trees, it might be suggested that these should be planted in masses rather than single specimens, which often fail for want of mutual protection'. It concluded with the remark that 'it might be a further inducement to members to take an interest in the park if an acre or so of the eastern portion was set aside and enclosed, in which members could plant shrubs, etc, brought from other parts of the State'.⁸¹

⁷⁸ N. Green, *The Spectacle of Nature: Landscape and Bourgeois Culture in Nineteenth-century France*, Manchester University Press, Manchester, 1992, pp. 171-78.

⁷⁹ *Argus*, 2 April 1917, p. 13; Anon., *The Victorian Naturalist*, 34, 1917, p. 2.

⁸⁰ Anon., *The Victorian Naturalist*, 33, 1917, p. 157 and 34, pp. 3-5.

⁸¹ Anon., *The Victorian Naturalist*, 34, 1917, pp. 3-5.

The Club had been interested in the cultivation of Australian plants in a garden setting as distinct from examining and collecting them in the wild for some time. It established a Plant Names Sub-Committee in 1907 in an endeavour to supply vernacular names for native species to help those who found botanical names difficult and an obstacle to their involvement with Australian plants.⁸² The annual wildflower exhibitions, which for many years were a major club activity, may have encouraged members to experiment growing native plants in their suburban gardens. The first display was held in 1885 in the Royal Society of Victoria's rooms. Flowers were sent to Melbourne from around Victoria for this event, which grew over the years in size and duration, and for some time incorporated flowers from other states. The Lord Mayor opened the 1918 Wildflower Show in the Melbourne Town Hall, commenting 'on the suitability for cultivation of many indigenous plants, as evidenced by the splendid collection from the Melbourne Botanic Gardens'.⁸³

Eight years earlier Frederick Pitcher had written 'Victorian Vegetation in the Melbourne Botanic Gardens', which he read before the Club in January 1910. Pitcher, who was Assistant Curator, wanted to draw attention to the remnant indigenous vegetation in the hope of preserving it for as long as possible, but also he wanted to show there were numerous 'species of our beautiful native flora' that could be readily grown in the Melbourne area. He believed that 'our native plants should not be overlooked when [members planted] their estates or city or suburban gardens' as many could not be surpassed for their beauty and ease of cultivation, and would prove 'valuable for mingling judiciously with other familiar and desirable exotic vegetation'; he listed 60 species he considered suitable for various purposes.⁸⁴ Pitcher was not alone in his interest in cultivating native plants in a domestic situation.

A few months earlier *The Victorian Naturalist* had drawn attention to an article in the *Australasian* newspaper concerning a fellow member's efforts in establishing a section for native plants in his garden.⁸⁵ Andrew Rutter Clarke, a lawyer, had set aside a special area within the grounds of his new residence Warrawee for his collection of Australian (as distinct from Victorian) plants. The Walter Butler designed mansion was surrounded by accoutrements befitting a wealthy man such as a tennis court and croquet lawn, and

⁸² Houghton and Presland, *Leaves from our History*, p. 2.

⁸³ Houghton and Presland, *Leaves from our History*, pp. 17-18.

⁸⁴ Pitcher, 'Victorian Vegetation in the Melbourne Botanic Gardens', p. 171.

formal gardens with exotic plants. A large area straddling a gully was planted with what the article described as the only known private collection of native plants. It numbered several hundred and included 48 *Acacia*, 30 *Eucalyptus*, 12 *Hakea*, and 11 *Grevillea* species among many others.⁸⁶ At least amongst his peers, Rutter Clarke's garden was not the only one to feature native plants, especially wattles and eucalypts. Rosecourt in Brighton, Illabarook, Broceliande and Miegunyah in Toorak, Gulpha in Box Hill, Ballangeich in Alphington, all had native gardens, even if the plants did not constitute a collection.⁸⁷

Apart from the attention given to Australian plants as a result of federation, Edquist proposes that these early bush gardens designed to accompany large Arts and Crafts houses like Warrawee were an interpretation of the English wild garden then in vogue, and that the smaller informal Craftsman-style bungalows lent themselves to a more naturalistic garden. She also surmises that the physical proximity of some of these gardens in Toorak and the professional and social relationships between their owners and architects might well have been influential.⁸⁸ For example, Harold Desbrowe-Annear designed Ballangeich for Rutter Clarke's clients Norman and May Macgeorge, keen naturalists although not FNCV members. Desbrowe-Annear was a former colleague of Percy Oakden, his mentor, whose practice Oakden and Ballantyne had designed Illabarook, which retained some of its indigenous vegetation. Oakden 'objected to "the uprooting of our native trees, and felt that if these trees received the same care and attention they deserved, our blue gums, box trees, and many other of the larger type, along with the smaller, as the honeysuckle [banksia], would be easily adaptable to our special conditions"''.⁸⁹

Frederick Pitcher's call to preserve what was left of the indigenous vegetation in the Melbourne Botanic Garden echoed a general concern about the loss of native vegetation in metropolitan Melbourne. On a visit to Studley Park and environs in 1911 members observed that only traces remained of 'the once abundant Silver Wattle' along the riverbank, and that of Frank Reader's 1885 survey of the park's indigenous plants 'very

⁸⁵ Anon., *The Victorian Naturalist*, 26, 1909, p. 120.

⁸⁶ *Australasian*, 13 November 1909, p. 1227 (article refers to Warrawee as Merriwa); H. Edquist, 'Arts and Crafts Gardens in Melbourne and their Legacy,' in *Planting the Nation*, ed. G. Whitehead, Australian Garden History Society, Melbourne 2001, pp. 100-01.

⁸⁷ Edquist, 'Arts and Crafts Gardens in Melbourne and their Legacy,' pp. 101-05.

⁸⁸ Personal communication with the author.

⁸⁹ Edquist, 'Arts and Crafts Gardens in Melbourne and their Legacy,' p. 102.

many are now absent or difficult to find'. This was attributed to the horses agisted there, and on crossing the river to Yarra Bend they were happy to discover that a patch of *Styphelia strigosa* was flourishing within a small enclosure put up by the Asylum at the Club's instigation some years previously. Safe from grazing cattle, other plants were also 'reaping the benefit of the protecting fence, though it is of a very simple character'.⁹⁰

On an earlier excursion to Cheltenham Park members had noted a large number of native plants, and 'it was remarked that this park would be a suitable place for the conservation of the native flora of the district, more especially as the adjoining land is gradually being brought under cultivation, or being used for residential purposes'. However, it was also understood that the park was to be 'converted into golf links, which will probably put an end to the native plants'.⁹¹ In a precursor to the Club's request that part of Wattle Park be enclosed to plant Victorian species, Pitcher put forward a similar suggestion in his 1910 lecture:

It may be possible to further develop an increasing interest in our native flora by enlarging the area devoted to Australian vegetation in the [Botanic] Gardens for Victorian species, and in indicating by a specially tinted label in that plantation all such species, so that they may be readily observed by visitors; or by setting apart an additional area in the vicinity or elsewhere exclusively for Victorian plants.⁹²

The intent behind this proposal, that is to increase interest in Victoria's flora, is quite different from the idea of using Cheltenham Park to help conserve the flora of the local area. What did the FNCV hope to achieve in fencing off an area for Victorian plants in Wattle Park? Perhaps, like Pitcher, it wanted to promote interest in the Victorian flora, or were members looking to protect and regenerate the indigenous vegetation as had occurred at Yarra Bend? There are some similarities with Mueller's idea put forward 27 years earlier of establishing small reserves to preserve the original flora and fauna, but not necessarily only species found within the reserve. Members would also have been interested to experiment in cultivating plants outside their natural habitat as Gustav and Kate Weindorfer were doing in Tasmania, where they transplanted conifers from Cradle Mountain to their lowland garden at Kindred.⁹³

⁹⁰ Anon., *The Victorian Naturalist*, 27, 1911, p. 185.

⁹¹ Anon., *The Victorian Naturalist*, 27, 1910, p. 125.

⁹² Pitcher, 'Victorian Vegetation in the Melbourne Botanic Gardens', p. 170.

⁹³ Anon., *The Victorian Naturalist*, 26, 1909, p. 120.

Most likely it was a mixture of motives that inspired the Club to ask for a special area to plant in Wattle Park, although there is no record of what they might have been apart from the hope that it might induce members to take an interest in the park. Significantly, apart from a further visit in 1918 noting that the wattle plantation formed the previous year was doing well, and although members enjoyed the excursion the park was not ‘a prolific hunting-ground’,⁹⁴ nothing more was published in *The Victorian Naturalist* – the major source of information about FNCV involvement in developing Wattle Park. A short reference to an excursion there nearly 20 years later shows that the Club was successful in getting an area reserved for its own use:

About forty members and friends met at Wattle Park on September 18, in a gale of wind. Several isolated groups of native flora were inspected en route to the large plot reserved for native flora only, and which was planted by members of this Club . . . a downpour of “red rain” added to the discomforts of the party, and only a few remained to be shown several nests in the eastern end of the Park, which has been left practically in its natural state.⁹⁵

Setting aside the wishes of the FNCV for Wattle Park’s future treatment, how did the Hawthorn Tramways Trust and later the Melbourne & Metropolitan Tramways Board actually develop the park? During the 1920s and 1930s features intended to increase patronage of the tramline were built: a sports oval, picnic ground with obsolete cable tram cars as shelters, ornamental lily pond and fountain, children’s playground, tea house, band rotunda, tennis courts, putting green, and in 1937 a nine-hole golf course. Thousands of exotic trees such as poplars, willows, and plane trees along with Australian natives – especially wattles – were established. FNCV members planted correas in a boomerang-shaped bed near the wattles planted at the 1917 opening ceremony.⁹⁶

When the golf course was proposed in 1924 W. J. Stephen, the FNCV member who had initially alerted the Club to the desirability of conserving the indigenous vegetation, wrote to the *Argus* with his concerns:

it is to be hoped that before the matter is decided full consideration may be given to a scheme which found favour with members of the Hawthorn Tramways Trust . . . more than seven years ago. That original scheme comprised the preservation of a fine bit of existing forest covering an area of perhaps 60 acres in the eastern portion, and also the making of Australian vegetation a special feature in the park . . . the opening of the park was celebrated by the Governor, Sir Arthur Stanley,

⁹⁴ Anon., *The Victorian Naturalist*, 35, 1918, pp. 17-18.

⁹⁵ Anon., *The Victorian Naturalist*, 54, 1937, p. 101.

⁹⁶ *Age*, 18 February 1956, p. 20; Allom Lovell & Associates and John Patrick, Wattle Park, pp. 31-33.

and other public men, planting a number of wattle trees of nearly a score of varieties. Most of these trees have flourished, and show that they have been cared for. The western portion of the estate is cleared land, large enough to afford ample scope for landscape gardening and recreation purposes without encroaching on the well-timbered land at the east.⁹⁷

Two years later the 'new scheme of beautification' comprising a sports ground, ornamental pond, and children's playground envisaged that the eastern area would 'be left in its virgin state, as it is felt that to destroy the old and gnarled gums which abound over the main portion of the grounds would be to ruin the natural beauty of the place'.⁹⁸ In 1928 the park curator showed the Canterbury Progress Association committee around, explaining that the 'motor road through the park from east to west' was only half built, and that a single large bed was to be 'devoted to native shrubs'. It is not clear whether this was a new FNCV initiative, another reference to the boomerang-shaped correa bed, or even the fenced area proposed by Barnard in 1916. He also pointed out that 'some 50 acres of the eastern portion will remain a beautiful example of native "bush"'.⁹⁹

That piece of remnant bushland survives today. It is rich in native grasses, lilies, and orchids and 'gives the park its special character',¹⁰⁰ according to Ian Faithfull in his 1992 report on Wattle Park's history and management prepared on behalf of the FNCV for Melbourne Water, the then manager. On the basis that the Hawthorn Tramways Trust "expressed itself as willing to meet the Club's wishes as far as possible", Faithfull is of the opinion that the 'preservation of the ind[i]genous habitats thus became an accepted objective of Park management'.¹⁰¹ Although the Trust had the park declared a game reserve at the Club's request, it is difficult to accept this assertion unequivocally without further evidence.

Funding restraints connected with developing such a large area may have been equally or more important in bringing the FNCV's interests and that of management into line. In 1953 the Melbourne & Metropolitan Tramways Board formed a Wattle Park Control Committee to investigate ways of reducing the financial losses incurred by the park.¹⁰²

⁹⁷ *Argus*, 15 April 1924, p. 8.

⁹⁸ *Box Hill Reporter*, 13 August 1926.

⁹⁹ *Box Hill Reporter*, 28 September 1928.

¹⁰⁰ I. Faithfull, *The Natural History and Management of Wattle Park, Burwood: A Report to Melbourne Water by the Field Naturalists Club of Victoria*, 1992, File 340-002, FNCV Archives, p. 2.

¹⁰¹ Faithfull, *The Natural History and Management of Wattle Park, Burwood*, p. 3.

¹⁰² Wattle Park Control Committee Minutes, Unit 1, VPRS 7816, PROV.



Figure 58: Remnant indigenous bushland, Wattle Park, 2006.



Figure 59: Lemon Scented Gums from Queensland and other Australian plantings, Wattle Park, 2006.

Even whether the Club's desire to make Australian vegetation a special feature was deliberately pursued is debateable as a pin oak was chosen to commemorate Sir Stephen Morell, Melbourne's former Lord Mayor and member of the MMTB.

Apart from references to the enclosure for native plants and the correa bed directly linked to the FNCV, Faithfull notes that Wattle Park 'contains a large collection of non-indigenous native trees often planted in groups'.¹⁰³ This suggests that Barnard's 1917 recommendation that the Tramways Trust plant Australian trees in masses for their mutual protection rather than single specimens was adopted by park management. Many years later a member recalled that FNCV members Edward Pescott and Charles French Jnr, who both lived within walking distance of the Wattle Park tramline, originally influenced the Trust's planting of native trees and shrubs.¹⁰⁴ In early 1916 Pescott 'had given the Trust the benefit of his experience in the laying out of the ground surrounding

¹⁰³ Faithfull, *The Natural History and Management of Wattle Park, Burwood*, p. 2.

¹⁰⁴ *The Victorian Naturalist*, 70, 1953, p. 65.

the Car Depot¹⁰⁵ in his capacity as principal of Burnley horticultural college, so it is quite possible he also advised them on Wattle Park. Although the thousands of wattles planted were more the result of the park's name and the influence of the Wattle League rather than the FNCV,¹⁰⁶ Faithfull argues that it is likely that lists of wattles produced on behalf of the League by Pescott and Archibald Campbell, members of both organisations, formed the basis for the first plantings.¹⁰⁷

The FNCV continued in its quest to influence the planting of Australian species. In 1920 it congratulated the Camberwell City Council for its purchase of Maranoa – FNCV member John Watson's private garden of Australian and New Zealand plants – as a public reserve. It expressed the hope that 'visitors may become acquainted with the value of Australian vegetation for decorative purposes', and suggested that native trees and shrubs only be planted in the adjoining Beckett Park so 'that the area may be made a distinct attraction to visitors as a collection of entirely Australian plants'.¹⁰⁸ On his retirement as Government Entomologist Charles French Jnr was appointed curator of Maranoa Gardens.¹⁰⁹

The sale of 'young native plants of varieties suitable for growing in suburban gardens' was a feature of the FNCV's 1928 wildflower show at the St Kilda Town Hall: 'The Club realises that in a few years wildflowers in their native state will disappear from the environments of Melbourne, and is therefore trying to wean people from gathering to cultivating'.¹¹⁰ The 19th century naturalist's obsession with collecting had passed, and in the metropolitan area where the indigenous vegetation was rapidly becoming only a memory, its reintroduction – rather than acclimatising the exotic – began to be seen as innovative and experimental.

¹⁰⁵ Hawthorn Tramways Trust Minutes, p. 2, Unit 2, VPRS 7798, PROV.

¹⁰⁶ *Box Hill Reporter*, 13 August 1926.

¹⁰⁷ Faithfull, *The Natural History and Management of Wattle Park*, Burwood, p. 4.

¹⁰⁸ *The Victorian Naturalist*, 37, 1920, p. 49.

¹⁰⁹ L. Gillbank, 'French, Charles' in Aitken and Looker, eds., *The Oxford Companion to Australian Gardens*, p. 236.

¹¹⁰ *Table Talk*, 13 September 1928, p. 7.

Conclusion

There are a number of conclusions to be drawn regarding the influence of environmental thought on Melbourne's parkland between the 1850s and 1920s. Clearly, it did influence the development of some parks and gardens during the period under review, but only those reserves administered by Mueller and Hodgkinson and only while the two men remained in control. The degree to which environmental as opposed to other interests such as contemporary fashion in garden design affected development is not always clear, particularly with regard to Hodgkinson. It would be prudent to assume that there was a mix of influences. However, the relative importance of environmental ideas is supported by Mueller's writings, close parallels between some features of Hodgkinson's park design and other work of his that was explicitly environmental, and several observations that set Hodgkinson's garden design outside contemporary fashion.

Neither Mueller nor Hodgkinson started with the aim of achieving particular visual or scenic effects, whether picturesque, formal or otherwise, although they thought it important that public recreation grounds should be pleasing to the eye and worked towards achieving this result. Mueller's guiding principles were scientific, with the intention to instruct and to discover new crops, medicines, and the like. Hodgkinson's approach was less ambitious and commensurate with the differing nature of his parkland. He approached garden design as an applied science rather than an art, consciously disregarding current fashion to respond principally to site conditions and local climate in order to provide pleasant surroundings. Both men's approaches reflect the 19th century environmental philosophy of making the world a better place for people.

Mueller's many publications, government reports, and voluminous correspondence show that he developed the Melbourne Botanic Garden and Domain with the aim of improving nature and benefiting mankind. His vast collection of living plants embodied the various facets of 19th century environmental thinking. Each tree was valued for its possible contribution to forestry, shading a public thoroughfare, ornamenting a private garden, the survival of an endangered species, or other useful, economic, ecological, or

aesthetic purpose, as was the rest of the collection. Although it is plain Hodgkinson was also influenced by environmental issues in developing the city parkland as a setting for recreation, to what extent is more difficult to determine as he left no body of documentation similar to Mueller's.

Unlike the Botanic Garden, established by a colonial elite interested in exploring and exploiting nature in a largely unknown and untried land, Hodgkinson's recreation grounds were merely charged with improving the social welfare of a community and perhaps ornamenting the city. This reservation of parkland was the result of action by newspapers and the Melbourne council representing the interests of ordinary townspeople. Their concern was only with bodily and mental health, not the greater good of science or commerce. Yet, despite the lack of direct evidence, a number of inferences can be drawn supporting the thesis that Hodgkinson's environmental ideas influenced his development of the city parkland, as much if not more than the social and aesthetic concepts that are usually regarded as the formative influences on the design of 19th century public parks.

The relationship between garden aesthetics and environmental management during the period is ambiguous. Many of the trees Hodgkinson chose to plant, conifers in particular, were fashionable subjects for ornamental use as well as being considered highly appropriate for forest purposes. And as his youthful remarks on the state of the Australian garden in *Australia, from Port Macquarie to Moreton Bay* show, he was interested in landscape design as art even though his overwhelming interests were scientific. Hodgkinson did, however, claim and demonstrate an aloofness from fashion, for example with his remarks about adopting a planting style that ignored contemporary design practice in order to check dust from adjacent unmade roads. As well, his recommendation to plant conifers along the Brighton foreshore after they had fallen out of fashion indicates that this preference grew out of a belief they were environmentally suited to local conditions as much as an appreciation of their aesthetic or other qualities.

Perhaps the most compelling testimony is provided by the 1865 parliamentary report on 'The Advisableness of Establishing State Forests'. The close correlation between species recommended for forest and garden cultivation cannot be accidental coming from a man who had spent much of his life studying trees and who played a major role in founding Victoria's forest industry. This link between landscape design and forestry was not

unique to Hodgkinson. The 19th century view that the 'wise use of resources' was a form of environmental conservation was to put the forestry profession at the forefront of the conservation movement in the first half of the 20th century, and for many landscape architects environmentalism was first seen through forestry.¹

Hodgkinson's stated ambition to preserve Studley Park as a representative piece of Australian forest or woodland makes it the only reserve where his environmental beliefs can be attributed unequivocally to its development. Notably, it was only the native trees he nominated for preservation rather than the indigenous vegetation as a whole, and from that point of view the damage inflicted by the continuation of grazing was less of a problem. It indicates that his interest in plants was largely confined to trees, unlike Mueller or the Field Naturalists for whom Studley Park was important for its full range of living organisms.



Figure 60: Hay stacks in Richmond Park, early 1900s.

Melbourne's parks, which were used for sports and agistment, were more rustic and had more open space than the gardens. Little artistry was needed in laying them out, unlike the gardens that called for an appropriate setting in which people could enjoy a stroll in their leisure hours. But the difference between Hodgkinson's designs for parks and for gardens was mainly in the finish applied rather than in the fundamental approach. Path layouts in each were practical circulation links. Except for Studley Park, Hodgkinson's choice of trees for parks and for gardens was much the same. Their woodland character

¹ A. Saniga, 'Eternally Teething? Environmental Protection and the Landscape Architect in Australia', *the Landscape Architect*, May 2006, pp. 147-48, <http://www.aila.org.au/ONLINE/LA/2006/docs/AILA%20Journal%20Saniga.pdf> (accessed 13 October 2006).



Figure 61: Flagstaff Gardens from the law courts, 1881.

was their most striking feature. The parks – still used as grazing land – were relatively open, but photographs taken in the 1870s show the Fitzroy, Flagstaff and Treasury Gardens to be small forests dissected by paths. In creating ‘gardens’ by placing white painted statuary against a dark background of trees he thought important species for forest cultivation, Hodgkinson blurred the boundaries between art and science.

Despite their local popularity they did not reflect Anthony Trollope’s expectations of an ‘English’ garden. The novelist remarked after a visit to Melbourne in 1871: ‘These gardens are not in themselves well kept. They are not lovely, as are those of Sydney in a super-excellent degree. Some of them are profusely ornamented with bad statues. None of them, whatever may be their botanical value, are good gardens’.² John Guilfoyle’s plan to redesign the Fitzroy and Flagstaff Gardens in 1891 ‘on English landscape principles’ also indicates they did not look English to contemporaries. If anything they resembled the less formal peripheral woodlands pierced by walks found in Italian or French gardens such as Boboli, Versailles or Fontainebleau, which Hodgkinson may well have seen while working in Europe. However, any resemblance was probably a coincidence given that his only comment with regard to design intent was having departed from ‘the rules of landscape gardening’. Therefore it seems likely that his gardens acquired their rather wild or unkempt forested nature, lacking more conventional lawns and bright flowers, because of his environmental interests (and the constraints of the time) rather than conscious adoption of any recognisable garden style.

Mueller and Hodgkinson shared many similarities in their lives. They were well-educated men from fairly affluent families, dedicated to their professions, who attained positions of influence and power in the colony’s administration through talent and hard work. Each was responsible for developing Melbourne’s earliest and most important gardens

over the same period of about 15 years, and both came to grief in their working lives at much the same time. As young men they had enjoyed the rigours of exploring virgin bush with its opportunity to observe the country's still pristine natural history. The two also shared common scientific interests, which brought them together as members of the same societies. They had similar opinions regarding the need to pay heed to Australian environmental conditions rather than mindlessly applying European precedents, and in areas where their work overlapped, such as forest management, their views were remarkably alike.

A parallel can be drawn with the way in which Mueller despatched many thousands of trees to public reserves and Hodgkinson's efforts to have trees of his own choosing planted in parks over which he had no direct control by stipulating that if a club wanted to enclose a piece of ground it must plant specified numbers of particular trees. It is interesting to speculate that Hodgkinson's association with Mueller, made even closer through his regular procurement of plants from the Botanic Garden, may have encouraged him to consider the recreation grounds as providing him with the same opportunities for experimental plantings as Mueller enjoyed. The directive contained in the 1865 forests report to exchange seeds and plants with foreign governments supports the notion that he had adopted some of the practices normally associated with a botanic garden. It is also tempting to think that he may have planted the mature *Eucalyptus microcorys* or tallowwood presently growing in Yarra Park. This is a slow-growing valuable timber tree³ named by Mueller which Hodgkinson would have seen growing in the wild in northern



Figure 62: Tallowwood log at Warrell Creek, northern NSW, ca 1905.

² As quoted in Whitehead, *Civilising the City*, p. 33.

³ W.R. Elliott and D.L. Jones, *Encyclopaedia of Australian Plants Suitable for Cultivation*, Vol. 4, Lothian Publishing, Melbourne, 1986, p. 147.

NSW. It is commonly grown for forestry purposes in many countries and is the sort of tree Hodgkinson would have been interested in planting, and could easily have done so with Mueller's help.⁴

One particular question arises from comparing the work of Mueller and Hodgkinson: Why were the Fitzroy Gardens popularly considered a superior pleasure ground to the Melbourne Botanic Garden by the end of the 1860s? Even though the Fitzroy Gardens were decorated with statuary, neither man paid much attention to decorative floral displays or followed conventional wisdom in laying out a pleasure ground. Photos taken in the 1860s of the Botanic Garden and in the 1860s and 1870s of the Fitzroy Gardens do not show them looking significantly different from each other. Both displayed many conifers and eucalypts, dense shrubbery, and were not very manicured. The Botanic Garden was more open with expanses of rough grass, and special areas for the system garden and conservatories, but they were similar enough in appearance for an image of the path approaching the aviary in the Botanic Garden to be mistakenly identified in Rex Swanson's *Melbourne's Historic Public Gardens* as being in the Fitzroy Gardens.⁵ The Fitzroy Gardens were soon eclipsed in popularity by the Botanic Garden once William Guilfoyle took over.

Was the public's expectation of what a botanic garden should look like influenced by ordinary public gardens wanting to call themselves botanic, thus confusing the boundaries between the two? Mueller's botanic garden was a serious research facility, and no doubt many parts of it would have visibly reflected that role, whereas any 'research' aspect of plantings in Hodgkinson's gardens would not have been so evident to the general public. If an appearance of ornament rather than research determined the character of most of the so-called 'botanic gardens' that people knew, they may have come to expect this even of genuine botanic gardens.

The power of the horticultural industry in determining garden design, leading on from Mueller's dismissal from the Botanic Garden, also warrants further investigation. Mueller's dismissal, if not engineered by the horticultural industry, was certainly influenced by some of its members. The horticulturally ambitious Guilfoyle brothers, in

⁴ However, no evidence has been found to indicate that Hodgkinson requested *E. microcorys* for planting, and there is no record of Mueller having planted it in the Botanic Garden.

⁵ See Almond, 'A Garden of Views', Plate 2, p. 31; Swanson, *Melbourne's Historic Public Gardens*, Plate A14, p. 225.

charge of Victoria's leading public gardens, directly influenced garden design through the dramatic changes they made to the outward appearance of their gardens, but just as importantly, by their formation of professional horticulture departments. And as the environmental sciences and other professions became more and more specialised and distinct from one another, public parks and gardens became firmly attached to just a single discipline, that of horticulture. This was in marked contrast to Mueller's and Hodgkinson's multi-disciplinary approach.

While it is clear that the environmental interests of Mueller and Hodgkinson affected the development of parkland under their control, the success of the Field Naturalists Club of Victoria in influencing the future direction of any Melbourne park or garden is not so easily discernible. The Club's activities as recorded in *The Victorian Naturalist* reflect the changing nature of environmentalism between the 1880s and 1920s. The field trips and the importance placed on collecting can be equated with Mueller's survey expeditions. However, the later separation of amateur and professional science led to the FNCV placing greater emphasis on education and the more popular aspects of natural history to foster public awareness of the environment and attract members.

The Club's sporadic deputations and letters to park managers show that over the years members took an interest in trying to preserve the indigenous vegetation of metropolitan parkland, particularly Studley Park and Wattle Park. However, their early efforts were concentrated in securing Wilsons Promontory as a national park, and this along with the rise of ecology and the inevitable spread of suburbia, may have banished much of their concern with preserving the natural environment to the bush. Generally, remarks about the imminent demise of local suburban vegetation were regretful but delivered with a degree of resignation. Action taken in the 1880s to preserve the vegetation in Studley Park, an important metropolitan collecting ground, was not sustained and appears to have had little impact. Although popular opinion has credited the FNCV with playing an important role in preserving the indigenous vegetation of Wattle Park and influencing its character through the use of Australian plants, there is little evidence to support this view.

It is significant that *The Victorian Naturalist* gave very little coverage to Wattle Park after it recorded the initial enthusiasm in contributing to its future design. This was not the case with Wilsons Promontory, which occasioned numerous articles and references

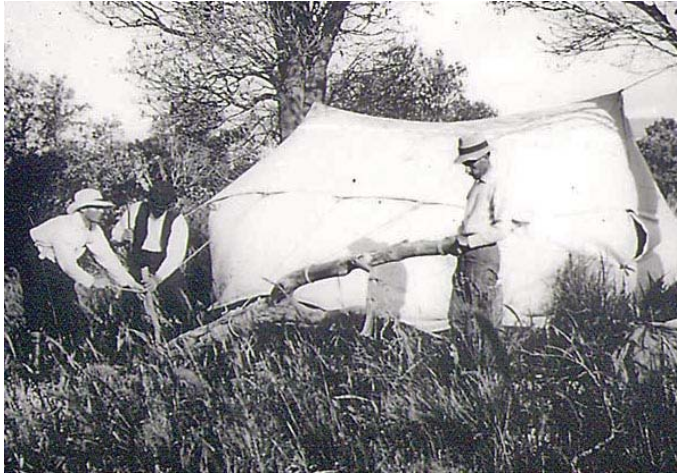


Figure 63: FNCV camp at Oberon Bay, Wilsons Promontory National Park, 1905.

about its biology and administration. The declaration that the Club had been successful in having Wattle Park declared a sanctuary for native fauna, its participation in planting wattles at the opening ceremony in 1917, and allocation at an unknown date of a plot in which to grow species of its own choosing, is the only firm evidence that it was involved in the park's early development. Although club members Edward Pescott and Charles French Jnr may well have influenced the Hawthorn Tramways Trust in planting Australian species initially, they were not necessarily representing the FNCV. It is more likely Pescott provided advice in his capacity as head of Burnley, as he had done previously in laying out the ground around the Car Depot, and French was employed by the Department of Agriculture.

The idea that the FNCV was responsible for initiating a strategy to preserve the indigenous vegetation cannot be substantiated. Surely *The Victorian Naturalist* would have reported any such success, as it did with the successful declaration of the park as a sanctuary. Correspondence between the FNCV and Wattle Park's managers does not appear to have survived, but it was part of a larger collection held by the Tramways Trust that included letters from organisations such as the Melbourne Botanic Garden, Australian Wattle Day League, Canterbury Progress Association, and individuals, all interested in some way.⁶ This suggests that rather than any one organisation having a major effect on the park's development, the Trust may have been influenced by a number of sources, including the FNCV. It is probable, however, that a lack of funding was more important than any advice offered.

⁶ Minutes, Hawthorn Tramways Trust, 2 March & 8 June 1917, 19 July 1918, Unit 2, VPRS 7798, PROV; Minutes, Hawthorn Tramways Trust Committees, 5 June 1917, Unit 3, VPRS 7801, PROV.

Only because Mueller and Hodgkinson were such powerful government bureaucrats, who personally administered the parks and gardens under their control, were they able to put their ideas into practice. The Field Naturalists Club of Victoria was at a disadvantage in its attempt to influence the development of Wattle Park. It would seem that only a section of the membership was really interested rather than a majority of members, and the Club was not represented on the managing committee.

The Melbourne City Council's lack of success in making a respectable recreation ground out of the Carlton Gardens at the same time as Mueller and Hodgkinson were making their mark with their gardens is not surprising. Bateman was engaged only briefly as designer, and implementation of his plan was left in the hands of Hyndman, a humble gardener, who was overseen by a council committee with few resources and, most likely, little understanding of the problems involved. Any underlying concept that may have contributed to the garden's development was bound to be lost or fragmented. By the time the Melbourne council again had an opportunity to develop public gardens, when it successfully built the Queen Victoria Gardens early in the 20th century, it was far wealthier and the problem of development by committee was mitigated to some extent by the horticultural skills of an established parks and gardens department.

Wattle Park suffered from similar management problems as the Carlton Gardens: development overseen by a committee with little money whose members were liable to change, and whose interests and possibly expertise were aligned primarily with running a public transport system rather than with developing a park. The ability of the FNCV to interest such a body in environmental issues was limited, especially as the Club was not particularly forceful in its approach. It may also have had less influence by then than in the early decades of its existence when amateur and professional were more closely aligned and there was a greater possibility of finding like-minded Trust members, and when the club membership included such political luminaries as Dobson.

Even when environmental consciousness and the power to apply those ideas to parkland were united in Mueller and Hodgkinson, it was only a little more than 15 years before it had run its course. The later separation of professional and amateur interests and the increasing specialisation of professionals, which led to a lack of breadth in the single person, meant that enthusiastic amateur natural historians with professional duties that used that amateur knowledge, such as Hodgkinson, became increasingly rare.

Changing influences, particularly the discontinuity of management as when Mueller was supplanted by William Guilfoyle and John Guilfoyle took over from Hodgkinson's lieutenant Nicholas Bickford, are an inherent problem in the development of landscapes to reflect particular ideas. This is especially pertinent when, despite widespread recognition that the natural environment needed to be treated with care as exemplified by the intense interest *Man and Nature* generated in the 1860s, there was no general appreciation that ideas to do with environmental management might usefully be applied to public parks and gardens.

Environmental discussion was more generally focussed on non-urban areas, which the FNCV's commitment to Wilsons Promontory and the evolution of 20th century environmental sciences encouraged. The development of ecology and concomitant shift in attitude towards the natural environment that viewed practices such as acclimatisation and other 'improvements' as despoliation removed any 'theoretical' foundation supporting Hodgkinson's and Mueller's landscape designs. The conflict between the old 'wise use of resources' as a form of environmental conservation and modern attitudes to wilderness preservation made Hodgkinson and Mueller not just outmoded but 'wrong' in their responses to environmental concerns. The negative attitudes to pine plantations held by many people today with 'green' leanings would mystify the two men.

At first Mueller's plant collection and its arrangement were seen as appropriate to a botanic garden, but were later criticised as detracting from the recreational experience, and the environmental aspect of Hodgkinson's tree plantings in relation to the development of forest industries was not recognised. Although both men stressed the importance of discarding European models and developing forms appropriate to Australia, John Guilfoyle put forward the opposite view when he said that he would redesign the Fitzroy Gardens using what he referred to as English landscape principles. It is not surprising that Hodgkinson's pursuit of 'environmental principles' in his landscape design has not been generally recognised as designed landscapes have been discussed for centuries mainly in terms of defined styles or aesthetic representations. Guilfoyle's 'English' style has been reinforced over the years not only through horticulture but by the introduction of symbolic features like the Fairies' Tree, Cook's Cottage, and the Tudor Village into the Fitzroy Gardens.

The landscapes of Mueller and Hodgkinson were very much a product of their time and place. They reflected the demands of an earlier colonial society, just as subsequent gardens created by the Guilfoyles were similarly indicative of their times, and the public recreation grounds created to conserve and recreate indigenous vegetation, such as Blackburn Lake, were a response to environmental concerns after the Second World War. Hodgkinson's parks and gardens are unlikely to be the only 19th century examples of Australian landscapes developed for public recreation by amateurs in the field of natural history who sought to give their ideas practical expression. Daniel Bunce, for one, would appear to have had more in mind than merely making a pleasant or interesting place for recreation when he developed the Geelong Botanic Garden.

It is only in the last twenty years or so that environmental thinking has again influenced the Melbourne parkland established in the 19th century. The 1984 masterplan for Royal Park drew on the indigenous landscape for its inspiration,⁷ while a five-hectare wetland was created there recently by collecting stormwater to provide habitat for native birds and deliver recycled water for park use.⁸ Long Island in the botanic garden has also been redeveloped recently to reflect its pre-European landscape.

Along with the tendency to discuss designed landscapes purely in stylistic terms, it would seem that the change in environmental thinking from an appreciation of the natural world for how it could benefit mankind to the modern idea of it possessing its own intrinsic value has contributed to a lack of recognition that environmental thinking influenced park design before the 20th century. Hodgkinson demonstrates, however, that his admired 19th century landscapes were the expression not only of an interest in garden design but more significantly of his environmental concerns.

⁷ [Laceworks Landscape Collaborative], Submission for Stage II of the Royal Park Masterplan Design Competition sponsored by the Melbourne City Council. This winning entry was partially implemented. Its philosophy has been maintained in a subsequent masterplan.

⁸ City of Melbourne, Warren Tam-Boore (Bellbird Waterhole), <http://www.melbourne.vic.gov.au/info.cfm?top=179&pg=1302> (accessed 15 November 2006).

Appendix: Comparison between *Man and Nature* & the 1865 Victorian Forests Report

The text below compares passages from Marsh, *Man and Nature*, 1864 and the Report on the Advisableness of Establishing State Forests by the Surveyor-General, the Assistant Commissioner of Lands and Survey, and the Secretary for Mines, 1865 tabled in the Parliament of Victoria.

Man and Nature

The narratives of travellers show the deplorable consequences of felling the woods in the Island of Trinidad, Martinique, San Domingo . . . In Palestine and many other parts of Asia and Northern Africa . . . similar consequences have been experienced . . . On the other hand, examples of the beneficial influence of planting and restoring the woods are not wanting. In Scotland, where [many] miles square have been planted with trees, this effect has been manifest, and similar observations have been made in several places in Southern France. In Lower Egypt . . . since Mehemet Aali and Ibrahim Pacha executed their vast plantations . . . there now falls a good deal of rain . . .

[Chapter III, The Woods, p. 164]

Victorian forests report

In Spain, Italy, France, Poland, Switzerland, Syria, and Palestine, and also in the islands of Trinidad, Martinique, and San Domingo, much injury has been done by unwise interference with the natural forests. Caimi, Dussard, Clavé, Marschand, Asbjörnsen,* and others, have dealt with this subject, and shown its importance in relation to local climate and cultivation. Numerous instances could be adduced of the improvements which have been effected by planting woods. In Algeria, in Southern France,—where, guided by past experience, the Government is planting largely,—in Italy, and in Lower Egypt, many districts have been made fruitful which, since the destruction of the old forests, had been barren.

[p. 5]

*The findings of Caimi, Dussard, Clavé, Marschand, and Asbjörnsen are discussed throughout *The Woods*.

Bibliography

Manuscript Sources

Brighton Historical Society

Brighton Borough Council. Planting Committee's Report No. 1, 18 May 1880

Field Naturalists Club of Victoria

Members Register 1880-1890 (-1894)

Minute Book 18 April 1913 to 28 May 1919

Land Victoria

Departmental Files

Rs 406 Boroondara Public Park – Studley Park

Rs 3888 Treasury Gardens

Mitchell Library, State Library of New South Wales

Royal Park Zoological Society Letter Copy and Minute Book, 1862-85, A345

(copy kindly made available by the 'Correspondence of Ferdinand von Mueller Project', Royal Botanic Gardens, Melbourne)

Public Record Office, Victoria

Victorian Public Record Series

- 44 Dept of Crown Lands and Survey: Inward Registered and Unregistered Correspondence, 1839-1930
- 227 Dept of Crown Lands and Survey: Registers of Inwards Correspondence [microfilm copy of VPRS 70], 1856-1876
- 2878 Colonial Secretary's Office: Inward Registered Correspondence II [Land Branch], 1851-1852
- 3181 Melbourne City Council: Town Clerk's Files, Series I, 1842-1909
- 4038 Melbourne City Council: Health Committee Minutes, 1869-1933
- 6908 Dept of Crown Lands and Survey: Inwards Registered and Unregistered Correspondence Files, 1853-1876
- 7798 Hawthorn Tramways Trust: Minute Books, 1914-1920
- 7801 Hawthorn Tramways Trust: Minute Books – Committees, 1916-1919
- 7816 Melbourne and Metropolitan Tramways Board: Minute Books – Wattle Park Control Committee, 1953-1953

Victorian Agency

- 2978 Hawthorn Tramways Trust: Agency Description

Newspapers

Age (7 September 1893, 18 February 1956)

Argus (7 April 1863, 16 May 1878, 22 August 1905, 2 April 1917, 15 April 1924)

Australasian (13 November 1909)

Box Hill Reporter (13 August 1926, 28 September 1928)

Melbourne Punch (25 May 1871)

Table Talk (13 September 1928)

Official Publications

Plan of General Development Melbourne: Report of the Metropolitan Town Planning Commission. Government Printer, Melbourne, 1929.

Victorian Government Gazette (23 December 1862)

Victorian Parliamentary Papers

Botanical Gardens, 1852.

First General Report of the Government Botanist on the Vegetation of the Colony, 1853.

Second General Report of the Government Botanist on the Vegetation of the Colony, 1854.

Annual Report of the Government Botanist and Director of the Botanic Garden, II, 1858.

Annual Report of the Government Botanist and Director of the Botanical and Zoological Garden, IV, 1859-60.

Annual Report of the Government Botanist and Director of the Botanic Garden, IV, 1864-65.

Annual Report of the Government Botanist and Director of the Botanic and Zoologic Garden, III, 1860-61.

Annual Report of the Government Botanist and Director of the Botanic Garden, III, 1861-62.

Report on the Advisableness of Establishing State Forests by the Surveyor-General, the Assistant Commissioner of Lands and Survey, and the Secretary for Mines, IV, No. 77, 1864-65.

Report of the Government Botanist and Director of the Botanic Garden, III, 1869.

Parks and Gardens, III, No. 50, 1873.

Gardens and Parks: Report of the Inspector-General of Gardens, Parks, and Reserves, III, No. 81, 1873.

Unpublished Reports

Allom Lovell & Associates and John Patrick. Wattle Park: 1012 Riversdale Road Surrey Hills Heritage Conservation Plan. Prepared for Melbourne Parks and Waterways, August 1993.

Chris Dance Land Design Pty Ltd. Geelong Botanic Gardens and Eastern Park Conservation and Management. Prepared for the City of Greater Geelong & Friends of the Geelong Botanic Gardens, ca 1995.

Faithfull, I. The Natural History and Management of Wattle Park, Burwood: A Report to Melbourne Water by the Field Naturalists Club of Victoria, 1992.

[Laceworks Landscape Collaborative]. Submission for Stage II of the Royal Park Masterplan Design Competition sponsored by the Melbourne City Council.

Electronic Sources

- Australian National Botanic Gardens. Australian Plant Collectors and Illustrators (D).
www.anbg.gov.au/bot-biog/bot-biog-D.html (accessed 28 December 2006).
- Australian National Botanic Gardens. Biography, Sullivan D. (1836-1895).
www.anbg.gov.au/biography/sullivan-d.html (accessed 28 December 2006).
- Australian National Botanic Gardens. <http://www.anbg.gov.au/campbell.wattle/index.html>
(accessed 22 March 2006).
- Australian Science and Technology Heritage Centre and the Royal Society of Victoria.
Science and the Making of Victoria.
<http://www.austehc.unimelb.edu.au/smv/smv.html> (accessed 28 December 2006).
- City of Melbourne. Warren Tam-Boore (Bellbird Waterhole).
<http://www.melbourne.vic.gov.au/info.cfm?top=179&pg=1302> (accessed 15 November 2006).
- Dept of Sustainability and Environment. Victoria's Forest History.
http://72.14.235.104/search?q=cache:PE3e3s63_jwJ:www.dse.vic.gov.au/CA256F310024B628/0/E335694B2A89AC2FCA2571950007E239/%24File/Victoria%27s%2BForests%2BHistory.pdf+Victoria+forest+commission&hl=en&gl=au&ct=clnk&cd=2 (accessed 28 December 2006).
- Giese, D. 'Wild Places and Advancing Science'. *NLA News*, November 2003.
<http://www.nla.gov.au/pub/nlanews/2003/nov03/article2.html> (accessed 22 March 2006).
- NAHSTE, Edinburgh University Library Special Collections Division, Papers of Robert Jameson, http://www.nahste.ac.uk/cgi-bin/view_isad.pl?id=GB-0237-Robert-Jameson&view=basic (accessed 28 December 2006).
- Robin, L. 'Nationalising Nature: Wattle Days in Australia'. *Journal of Australian Studies*, 2002. <http://cres.anu.edu.au/people/wattle-day.pdf> (accessed 22 March 2006).
- Saniga, A. 'Eternally Teething? Environmental Protection and the Landscape Architect in Australia'. *the Landscape Architect*, May 2006, pp. 145-155.
<http://www.aila.org.au/ONLINE/LA/2006/docs/AILA%20Journal%20Saniga.pdf>
(accessed 13 October 2006).
- Wikipedia. Cabinet of Curiosities. http://en.wikipedia.org/wiki/Cabinet_of_curiosities
(accessed 28 December 2006).
- World Wide Wattle,
<http://www.worldwidewattle.com/infogallery/symbolic/wattleday.php>, (accessed 22 March 2006).

Lectures

- Neale, A. 'Bateman, Millais and Hodgkinson: Brothers in Art & Brothers in Life' (unpublished). Delivered to the Australian Garden History Society, 4 July 2005.

Plans

- Plan for the Improvement of the Treasury Reserve Designed by Clement Hodgkinson, CE, Assistant Commissioner of Lands & Survey, Melbourne, 30 April 1867. Features Plan 664, Public Record Office, Victoria.

Books and Articles

- Aitken, R., and Looker, M., eds. *The Oxford Companion to Australian Gardens*. Oxford University Press, South Melbourne, Vic., 2002.
- Almond, E. 'A Garden of Views: Photographic Records of the Royal Botanic Gardens, 1860 to 1910.' *Victorian Historical Journal*, 67 (1), 1996, pp. 28-65.

- Anon. *History of the Wombat Hill Botanical Gardens*. Shire of Daylesford and Glenlyon, [n.d.].
- . 'Hon. Secretary's Fourth Annual Report.' *The Victorian Naturalist*, 1, 1884, pp. 47-50.
- Baines, J.A. 'Author index 1884-1975 with addendum 1976.' *The Victorian Naturalist*, 1976.
- Campbell, A.J. *Nests and Eggs of Australian Birds including the Geographical Distribution of the Species and Popular Observations Thereon*. Pawson & Brailsford, Sheffield, 1900.
- . 'Wattle-Time, or "Yellow-Haired September".' *The Victorian Naturalist*, 26, 1909, pp. 86-95.
- Cannon, M. *The Land Boomers*. Melbourne University Press, Carlton, Vic., 1966.
- Clark, W. 'The Junior Group: 62 years of encouraging young naturalists.' *The Victorian Naturalist*, 122, 2005, pp. 315-318.
- Cohn, H., and Maroske, S. 'Relief from Duties of Minor Importance - The Removal of Baron von Mueller from the Directorship of the Royal Botanic Gardens.' *Victorian Historical Journal*, 67 (1), 1996, pp. 103-127.
- Cohn, H.M. 'Botanical Researches in Intertropical Australia: Ferdinand Mueller and the North Australian Exploring Expedition.' *The Victorian Naturalist*, 113, 1996, pp. 163-168.
- Dobson, F.S. 'President's Address.' *The Victorian Naturalist*, 1, 1884, pp. 36-44.
- Ducker, S.C. 'An Early Overland Expedition to Wilsons Promontory.' *The Victorian Naturalist*, 115, 1998, pp. 292-295.
- Dunlap, T.R. *Nature and the English Diaspora: Environment and History in the United States, Canada, Australia, and New Zealand*. Cambridge University Press, New York, 1999.
- Edquist, H. 'Arts and Crafts Gardens in Melbourne and their Legacy.' In *Planting the Nation*, edited by Whitehead, G. Australian Garden History Society, Melbourne, 2001.
- Elliott, W.R., and Jones, D.L. *Encyclopaedia of Australian Plants Suitable for Cultivation*. Vol. 5. Lothian Publishing, Melbourne, 1990.
- . *Encyclopaedia of Australian Plants Suitable for Cultivation*. Vol. 4. Lothian Publishing, Melbourne, 1986.
- Fox, P. *Clearings: Six Colonial Gardeners and their Landscapes*. The Miegunyah Press, Carlton, Vic., 2004.
- . 'Over the Garden Fence.' *Historic Environment*, 4 (3), 1985, pp. 29-36.
- Galbraith, J. 'Botanists and the FNCV: the first 30 years.' *The Victorian Naturalist*, 97, 1980, pp. 114-120.
- Gill, E.D. 'Contribution to science by early geologists of FNCV.' *The Victorian Naturalist*, 97, 1980, pp. 107-113.
- Gillbank, L. '19th Century Perceptions of Victorian Forests: Ideas and Concerns of Ferdinand Mueller.' *Australia's Ever-Changing Forests II: Proceedings of the Second National Conference on Australian Forest History*, 1993, pp. 3-14.
- . 'Mueller's Naming of Places and Plants in Central Australia - Victorian Eponyms.' *The Victorian Naturalist*, 113, 1996, pp. 219-226.
- . 'Of Land and Game: The Role of the Field Naturalists Club of Victoria in the Establishment of Wilsons Promontory National Park.' *The Victorian Naturalist*, 115, 1998, pp. 266-273.
- . 'Rambles, Reports and Reserves: The FNCV's Early Conservation of Victoria's Natural Heritage.' *The Victorian Naturalist*, 122, 2005, pp. 258-274.
- . 'A Tale of Two Animals: Camel and Alpaca - Zoological Shaping of Mueller's Botanic Gardens.' *Victorian Historical Journal*, 67, 1996, pp. 83-102.

- . 'The Wood and the Trees: A Muellierian Memoir of Wilsons Promontory by the late Baron Ferdinand von Mueller (1825-96).' *The Victorian Naturalist*, 115, 1998, pp. 286-291.
- Grandison, R. 'Mueller's Excursions in the Murray Scrub 1848-1851.' *The Victorian Naturalist*, 113, 1996, pp. 152-162.
- Green, N. *The Spectacle of Nature: Landscape and Bourgeois Culture in Nineteenth-century France*. Manchester University Press, Manchester, 1992.
- Griffiths, T. *Hunters and Collectors: The Antiquarian Imagination in Australia*. Cambridge University Press, Melbourne, 1996.
- . *Secrets of the Forest: Discovering history in Melbourne's Ash Range*. Allen & Unwin, St Leonards, NSW, 1992.
- Grove, R.H. *Green Imperialism: Colonial Expansion, Tropical Island Edens and the Origins of Environmentalism, 1600-1860*. Cambridge University Press, New York, 1995.
- Hall, T.S. 'President's Address.' *The Victorian Naturalist*, 19, 1902, pp. 44-48.
- Halley, J.J. 'President's Address.' *The Victorian Naturalist*, 2, 1885, pp. 3-13.
- Hoare, M.E. 'Learned Societies in Australia: the Foundation Years in Victoria, 1850-1860.' *Records of the Australian Academy of Science*, 1 (2), 1967, pp. 7-29.
- Hodgkinson, C. *Australia, from Port Macquarie to Moreton Bay: with descriptions of the natives, their manners and customs; the geology, natural productions, fertility and resources of that region, first explored and surveyed by the order of the Colonial Government*. Boone, London, 1845.
- Home, R.W. 'Ferdinand Mueller: Migration and the Sense of Self.' *Historical Records of Australian Science*, 11 (3), 1997, pp. 311-323.
- Home, R.W., Lucas, A.M., Maroske, S., Sinkora, D.M., and Voigt, J.H., eds. *Regardfully Yours: Selected Correspondence of Ferdinand von Mueller*. Vol. I: 1840-1859. Peter Lang AG, European Academic Publishers, Bern, 1998.
- , eds. *Regardfully Yours: Selected Correspondence of Ferdinand von Mueller*. Vol. II: 1860-1875. Peter Lang AG, European Academic Publishers, Bern, 2002.
- Home, R.W., Lucas, A.M., Maroske, S., Sinkora, D.M., Voigt, J.H., and Wells, M., eds. *Regardfully Yours: Selected Correspondence of Ferdinand von Mueller*. Vol. III: 1876-1896. Peter Lang AG, European Academic Publishers, Bern, 2006.
- Houghton, S. 'Baron von Mueller and *The Victorian Naturalist*.' *The Victorian Naturalist*, 113, 1996, pp. 140-142.
- . '"If it is not against the rules": Women in the FNCV 1880-1980.' *The Victorian Naturalist*, 122, 2005, pp. 290-306.
- Houghton, S., and Presland, G. *Leaves from our History: The Field Naturalists Club of Victoria 1880-2005*. The Field Naturalists Club of Victoria, Blackburn, Vic., 2005.
- Jeffries, S. 'Alexander von Humboldt and Ferdinand von Mueller's Argument for the Scientific Botanic Garden.' *Historical Records of Australian Science*, 11 (3), 1997, pp. 301-310.
- Lowenthal, D. *George Perkins Marsh: Prophet of Conservation*. University of Washington Press, Seattle, 2000.
- Maiden, J.H. 'Records of Victorian Botanists.' *The Victorian Naturalist*, 25, 1908, pp. 101-117.
- Maroske, S. 'Introduction.' *The Victorian Naturalist*, 113, 1996, pp. 128-130.
- Maroske, S., and May, A. '"Horticultural Embellishments": Public conferment from the Melbourne Botanic Garden, 1870.' *Australian Garden History*, 4 (4), 1993, pp. 8-14.
- Maroske, S., Sinkora, D., and Cohn, H. 'Ferdinand von Mueller's Library.' *Botanic Magazine*, 4, 1991, pp. 17-23.

- Marsh, G.P. *Man and Nature: Or, Physical Geography as Modified by Human Action*. Edited by Lowenthal, D. The Belknap Press of Harvard University Press, Cambridge, Mass., 1965 (first published 1864).
- McCracken, D.P. *Gardens of Empire: Botanical Institutions of the Victorian British Empire*. Leicester University Press, London, 1997.
- McMullen, G.L. 'Getting to Know Dr Muller: Accounts of Ferdinand von Muller in Victoria's Mid-Nineteenth-Century German-Language Newspapers.' *Historical Records of Australian Science*, 11 (3), 1997, pp. 325-333.
- Mitchell, A.L., and House, S. *David Douglas: Explorer and Botanist*. Aurum Press, London, 1999.
- Moore, J. 'Green Gold: The Riches of Baron Ferdinand von Mueller.' *Historical Records of Australian Science*, 11 (3), 1997, pp. 371-88.
- Mueller, F. 'Forest Culture in its Relation to Industrial Pursuits.' In *Lectures and Documents Bearing on Industrial Researches*. Mason, Firth & M'Cutcheon, Melbourne, 1871.
- . 'Inaugural Address by the President.' In *Report of the Second Meeting of the Australasian Association for the Advancement of Science*, edited by Spencer, W.B. AAAS, Melbourne, 1890.
- . *The Objects of a Botanic Garden in Relation to Industries*. Mason, Firth, and M'Cutcheon, Melbourne, n.d. [ca 1871].
- Mueller, F., Baron von. *Eucalyptographia: A Descriptive Atlas of the Eucalypts of Australia and the Adjoining Islands*. John Ferres, Govt Printer, Melbourne, 1879-1884.
- Neale, A. 'Edward La Trobe Bateman (1816-1897).' *Australian Garden History*, 9 (4), 1998, pp. 24.
- . 'Flora Australis: Native Plants in the Art, Design and Gardens of E. L. Bateman.' *Studies in Australian Garden History*, 2003, pp. 35-53.
- Paddle, R.N. 'Mueller's Magpies and Marsupial Wolves: A Window into "What Might Have Been".' *The Victorian Naturalist*, 113, 1996, pp. 215-218.
- Parkin, A. 'Mueller, Acclimatiser and Seed Merchant.' *The Victorian Naturalist*, 113, 1996, pp. 213-14.
- Patterson, K.A. 'Clement Hodgkinson (1819[sic]-93).' *Victorian Historical Magazine*, 39, 1968, pp. 127-138.
- Pescott, R.T.M. *The Royal Botanic Gardens Melbourne: A History from 1845 to 1970*. Oxford University Press, Melbourne, 1982.
- Pitcher, F. 'Victorian Vegetation in the Melbourne Botanic Gardens.' *The Victorian Naturalist*, 26, 1910, pp. 164-179.
- Powell, J.M. *Environmental Management in Australia, 1788-1914; Guardians, Improvers and Profit: an Introductory Survey*. Oxford University Press, Melbourne, 1976.
- Reader, F. 'The Phanerogamous Plants of Studley Park, Kew, Near Melbourne (Part I).' *The Victorian Naturalist*, 1, 1885, pp. 172-176.
- Sutton, C.S. 'Notes on the Sandringham Flora.' *The Victorian Naturalist*, 28, 1911, pp. 5-20.
- Swanson, R. *Melbourne's Historic Public Gardens: A Management and Conservation Guide*. City of Melbourne, 1984.
- Taylor, A. 'Baron von Mueller in the Field Naturalists' Tradition.' *The Victorian Naturalist*, 113, 1996, pp. 131-39.
- Tyrrell, I. *True Gardens of the Gods: Californian-Australian Environmental Reform, 1860-1930*. University of California Press, Berkeley, 1999.
- Whitehead, G. *Civilising the City: A History of Melbourne's Public Gardens*. State Library of Victoria in association with the City of Melbourne, Melbourne, 1997.

- Wright, R. *The Bureaucrats' Domain: Space and the Public Interest in Victoria 1836-84*. Oxford University Press, Melbourne, 1989.
- . 'Clement Hodgkinson: Father of Victorian State Forestry.' *Trees and Natural Resources*, 30 (4), 1988, pp. 11-15.
- . 'A Troubled Start: The Domain, Melbourne, 1872-73.' *Victorian Historical Journal*, 53 (2-3), 1982, pp. 138-151.

List of Illustrations

Cover: View from Studley Park. Lithograph by Edward Gilks, 1864. La Trobe Picture Collection, State Library of Victoria, Accession No. 30328102131686/16. Available at www.museum.vic.gov.au/caughtandcoloured/Gilks.aspx?img=219606 (accessed 5 January 2007).

Figure 1: Plan of Melbourne and its Suburbs, 1858. State Library of Victoria, Accession No. NLA00/01/58/5. Available at <http://www.slv.vic.gov.au/miscpics/0/1/6/doc/mp016915.shtml> (accessed 21 January 2007).

Figure 2: The Acclimatisation Society of Victoria's medal, 1868. Wood engraving. La Trobe Picture Collection, State Library of Victoria, Accession No. IAN20/06/68/8. Available at <http://www.slv.vic.gov.au/miscpics/0/0/1/doc/mp001338.shtml> (accessed 11 January 2007).

Figure 3: Picking flowers (*Crinum flaccidum*) on river flats in the Mildura district, Victoria. Melbourne Museum Ref. No. MM 005252. Available at <http://flyaqis.museum.vic.gov.au/paimages/mm/005/005252.htm> (accessed 27 June 2005).

Figure 4: The landscape denuded by gold mining, Clunes, Victoria, ca 1861. Port Phillip and Colonial Gold Mining Co., Clunes. Richard Daintree. La Trobe Picture Collection, State Library of Victoria, Accession No. H36588. Available at <http://www.slv.vic.gov.au/pictoria/b/2/6/doc/b26802.shtml> (accessed 22 January 2007).

Figure 5: Title page and plate from John William Lewin, *Natural History of Lepidopterous Insects of New South Wales*, London, 1805. State Library of Victoria.
Left (title page): Accession No. 30328102131769/1, available at <http://www.slv.vic.gov.au/platebk/0/0/0/doc/pb000619.shtml> (accessed 22 January 2007);
Right (Plate No. 9): Accession No. 30328102131769/10, available at <http://www.slv.vic.gov.au/platebk/0/0/0/doc/pb000628.shtml> (accessed 22 January 2007).

Figure 6: Alexander von Humboldt. Self portrait, Paris, 1814. Available at http://en.wikipedia.org/wiki/Image:Alexander_von_Humboldt-selfportrait.jpg (accessed 12 January 2007).

Figure 7: Clement Hodgkinson. Obituary, *Illustrated Australian News*, 2 October 1893. La Trobe Picture Collection, State Library of Victoria, Accession No. IAN02/10/93/16. Available at <http://www.slv.vic.gov.au/miscpics/0/0/6/doc/mp006368.shtml> (accessed 13 January 2007).

Figure 8: Ferdinand von Mueller. John Oxley Library, State Library of Queensland, Image No. 67885. Available at http://enc.slq.qld.gov.au/logicrouter/servlet/LogicRouter?PAGE=object&OUTP_UTXSL=object_enc36ui.xslt&pm_RC=PICTQLD&pm_OI=29559&pm_GT=Y&pm_IAC=Y&api_1=GET_OBJECT_XML&num_result=0 (accessed 12 January 2007).

- Figure 9: Carl von Martius. *L'Illustration Horticole*, 1858. Available at <http://www.br.fgov.be/SCIENCE/COLLECTIONS/HERBARIUMS/SP/IMG/martius.jpg> (accessed 13 January 2007).
- Figure 10: Charles Darwin. Painting, George Richmond, ca 1840. Available at http://en.wikipedia.org/wiki/Image:Charles_Darwin_by_G._Richmond.jpg (accessed 12 January 2007).
- Figure 11: George Perkins Marsh. Daguerreotype, ca 1850. Available at <http://memory.loc.gov/service/pnp/cph/3c00000/3c09000/3c09900/3c09923v.jpg> (accessed 28 October 2007).
- Figure 12: William Hooker. Painting (detail), Spiridione Gambardella, 1843. Linnean Society of London. Available at <http://concise.britannica.com/ebc/art-11690> (accessed 11 January 2007).
- Figure 13: Joseph Hooker. Thompson Cooper, *Men of Mark: a gallery of contemporary portraits etc.*, London, 1876-1883. Available at <http://www.imagesonline.bl.uk/britishlibrary/controller/textsearch?text=Hooker&y=6&x=12&startid=32453&width=4&height=2&idx=2> (accessed 12 January 2007).
- Figure 14: William Thiselton-Dyer. Available at http://www.kew.org/heritage/people/thiselton_dyer.html (accessed 13 January 2007).
- Figure 15: Humboldt plant-collecting at the foot of the volcano Chimborazo, Ecuador, 1810. Alexander von Humboldt and Aimé Bonpland, *Vues des Cordillères, et monumens des peuples indigènes de l'Amérique*, 1810. Available at <http://www.botany.org/bsa/psb/2002/humboldt.jpg> (accessed 26 January 2007).
- Figure 16: Refuge Cove, Wilsons Promontory, 1865. Chromolithograph, Nicholas Chevalier. State Library of Victoria, Accession No. 30328102131785/9. Available at <http://www.slv.vic.gov.au/platebk/0/0/0/doc/pb000385.shtml> (accessed 26 January 2007).
- Figure 17: Scene from the North Australian Exploring Expedition, 1855-56. Watercolour, Thomas Baines, Royal Botanic Gardens, Kew, as reproduced in *Regardfully Yours: Selected Correspondence of Ferdinand von Mueller*, Vol 1, (frontispiece).
- Figure 18: Melbourne Botanic Garden, the Director's residence and garden, 1867-69. Attrib. William Trevor. Mitchell Library, State Library of NSW, as reproduced in E. Almond, 'A Garden of Views', *Victorian Historical Journal*, Vol. 67, April 1996, p. 39.
- Figure 19: Mueller's plan of Melbourne Botanic Garden, 1865 (detail). Facsimile, *Victorian Historical Journal*, Vol 67, April 1996, supplement.
- Figure 20: Melbourne Botanic Garden, view from the Pinetum, looking eastward over the lagoon. National Library of Australia. Available at <http://nla.gov.au/nla.pic-an10608594-42> (accessed 26 January 2007).
- Figure 21: Blue Gum plantations in Argentina (top) and Andalusia, Spain (bottom).
Top image available at <http://www.inta.gov.ar/balcarce/info/documentos/agric/forest/eucalyptus/foto4.htm> (accessed 26 January 2007);
Bottom image available at <http://www.univ-ubs.fr/ecologie/futaie.html> (accessed 26 January 2007).
- Figure 22: Ringbarked trees in the Otways, Victoria, ca 1910. Train leaving tunnel at Beech Forest section – near Colac, Victoria, ca 1910. State Library of NSW, Call No. BCP 06147. Available at <http://libapp.sl.nsw.gov.au/cgi-bin/spydu/ENQ/PM/FULL1?394159,I> (accessed 22 January 2007).
- Figure 23: Remnant eucalypt in the Melbourne Botanic Garden, ca 1869-70. Donald McDonald. La Trobe Picture Collection, State Library of Victoria, as reproduced in

E. Almond, 'A Garden of Views', *Victorian Historical Journal*, Vol 67, April 1996, p. 42.

Figure 24: Melbourne Botanic Garden, near the aviary, ca 1860. La Trobe Picture Collection, State Library of Victoria, Accession No. H10757/1. Available at <http://www.slv.vic.gov.au/miscpics/0/0/0/doc/mp000131.shtml> (accessed 26 January 2007).

Figure 25: Melbourne Botanic Garden, near the emu enclosure, ca 1865. La Trobe Picture Collection, State Library of Victoria, Accession No. H10761. Available at <http://www.slv.vic.gov.au/miscpics/0/0/0/doc/mp000135.shtml> (accessed 26 January 2007).

Figure 26: Melbourne Botanic Garden, eastern entrance, ca 1870. La Trobe Picture Collection, State Library of Victoria, Accession No. H10759. Available at <http://www.slv.vic.gov.au/miscpics/0/0/0/doc/mp000133.shtml> (accessed 26 January 2007).

Figure 27: Melbourne Botanic Garden, ca 1865. La Trobe Picture Collection, State Library of Victoria, Accession No. H10764. Available at <http://www.slv.vic.gov.au/miscpics/0/0/0/doc/mp000137.shtml> (accessed 26 January 2007).

Figure 28: Medal with bust of Galileo. Obverse: Bust of Galileo, inscription R.MUSEO DI FISICI STORIA NATURALE DI FIRENZE. Reverse: Olive wreath, inscription A FERDINANDO MUELLER / APRILE 1870. Available at http://www.museum.vic.gov.au/coins/1865/ferdinand_von_mueller_medal.html (accessed 21 January 2007).

Figure 29: Illuminated manuscript commemorating Mueller's 70th birthday. Royal Botanic Gardens Melbourne, as reproduced in *Regardfully Yours: Selected Correspondence of Ferdinand von Mueller*, Vol 3 (frontispiece).

Figure 30: North-Eastern NSW, 1843. C. Hodgkinson, *Australia, from Port Macquarie to Moreton Bay*, 1845.

Figure 31: Illustrations from *Australia, from Port Macquarie to Moreton Bay*, 1845, depicting Hodgkinson's experiences. National Library of Australia:
Top: Halt near a fern tree scrub, available at <http://nla.gov.au/nla.pic-an6617599> (accessed 27 January 2007);
Middle: Dance at the conclusion of the Cawarra ceremonies, available at <http://nla.gov.au/nla.pic-an6617603> (accessed 27 January 2007);
Bottom: Natives spearing fish on the Bellenger River, available at <http://nla.gov.au/nla.pic-an10127639> (accessed 27 January 2007).

Figure 32: Stotts Island on the Tweed River. State Library of NSW. Available at <http://libapp.sl.nsw.gov.au/cgi-bin/spydus/ENQ/PM/FULL1?193270,I> (accessed 27 January 2007).

Figure 33: Port Macquarie district, ca 1910. Buggy on the road from Port Macquarie to Wauchope, near the "White House" – Port Macquarie, NSW. State Library of NSW, Call No. BCP 04660. Available at <http://libapp.sl.nsw.gov.au/cgi-bin/spydus/ENQ/PM/FULL1?392700,I> (accessed 27 January 2007).

Figure 34: 'The Norfolk pine, N.S. Wales', ca 1826. Augustus Earle. National Library of Australia. Available at <http://nla.gov.au/nla.pic-an2854120> (accessed 28 January 2007).

Figure 35: Hoop Pine forest in the Richmond Range, near the Clarence River in northern NSW. Charles H. Kerry, Kerry and Co., ca 1884-1917. Powerhouse Museum, Object No. 85/1284-262. Available at <http://www.powerhousemuseum.com/tyrrell/show.php?id=70> (accessed 6 February 2007).

Figure 36: A native 'Apple Tree', Clarence River, NSW. Charles H. Kerry, Kerry and Co., ca 1884-1917. Powerhouse Museum, Object No. 85/1284-733. Available at

<http://www.powerhousemuseum.com/tyrrell/show.php?id=171> (accessed 6 February 2007).

Figure 37: Timber trackers, Mt Macedon, ca 1873. Samuel Calvert. National Library of Australia. Available at <http://nla.gov.au/nla.pic-an10324779> (accessed 28 January 2007).

Figure 38: Plates from *The Pinetum Britannicum: A Descriptive Account of Hardy Coniferous Trees*, 1867. Author, Edward James Ravenscroft.

Pinus insignis (Radiata Pine). Available at

http://www.donaldheald.com/prints/prints_detail.php?cat=Botany&aut=Ravenscroft&pg=2&itemnr=4916891&ordernr=17903 (accessed 26 January 2007).

Sequoia Wellingtonia. Available at

http://www.donaldheald.com/prints/prints_detail.php?cat=Botany&aut=Ravenscroft&pg=1&itemnr=4916866&ordernr=14365 (accessed 26 January 2007).

Cupressus lambertiana (Monterey Cypress). Available at

<http://www.nytdstore.com/ViewLargeImage.aspx?id=NSAP866> (accessed 26 January 2007).

Cedrus deodara. Available at

http://www.donaldheald.com/prints/prints_detail.php?cat=Botany&aut=Ravenscroft&pg=1&itemnr=4916886&ordernr=17897 (accessed 26 January 2007).

Figure 39: The Hotham Walk, Fitzroy Gardens, ca 1870. Charles Nettleton. La Trobe Collection, State Library of Victoria, Accession No. H616.

Figure 40: Edward La Trobe Bateman's book binding design for Louisa Anne Meredith's *Some of My Bush Friends in Tasmania*, 1860. As reproduced in Anne Neale, 'Flora Australis: Native Plants in the Art, Design and Gardens of E. L. Bateman', *Studies in Australian Garden History*, Vol. 1, 2003, p 42.

Figure 41: Bateman's design for the Fitzroy Gardens, ca 1860. Public Record Office, Victoria, as reproduced in Whitehead, *Civilising the City: A History of Melbourne's Public Gardens*, 1997, p. 92.

Figure 42: Garden design, Joseph Paxton, 1838. From *Paxton's Magazine of Botany* as reproduced in David Stuart, *The Garden Triumphant*, Viking, London, 1988, p 117.

Figure 43: Hodgkinson's plan of the Fitzroy Gardens, ca 1866. Public Record Office, Victoria, as reproduced in Whitehead, *Civilising the City: A History of Melbourne's Public Gardens*, 1997, p. 92.

Figure 44: Fenced path and statues, Fitzroy Gardens, 1872. Charles Nettleton. La Trobe Picture Collection, State Library of Victoria, Accession No. H82.43/90. Available at <http://www.slv.vic.gov.au/pictoria/b/1/7/doc/b17835.shtml> (accessed 29 January 2007).

Figure 45: Norfolk Island Pines and other conifers in the Fitzroy Gardens, ca 1890. Charles Rudd. National Library of Australia. Available at <http://nla.gov.au/nla.pic-an10638277-24> (accessed 28 January 2007).

Figure 46: Ferntree Gully in the Dandenong Ranges, 1857. Eugene von Guérard. National Gallery of Australia. Available at <http://www.nga.gov.au/OutandAbout/Large/36997.htm> (accessed 28 January 2007).

Figure 47: Fern gully in the Fitzroy Gardens, ca 1872. American & Australasian Photographic Company. Mitchell Library, State Library of NSW, Call No. ON 4 Box 32 No 9. Available at <http://libapp.sl.nsw.gov.au/cgi-bin/spybus/ENQ/PM/FULL1?65364,I> (accessed 30 January 2007).

Figure 48: Remnant eucalypt, Fitzroy Gardens, 1860s. Charles Nettleton. Royal Historical Society of Victoria, as reproduced in Whitehead, *Civilising the City: A History of Melbourne's Public Gardens*, 1997, p. 93.

Figure 49: The Yarra River and Studley Park, ca 1865. Chromolithograph, Nicholas Chevalier. State Library of Victoria, Accession No. 30328102131785/3. Available at

<http://www.slv.vic.gov.au/platebk/0/0/0/doc/pb000379.shtml> (accessed 29 January 2007).

Figure 50: *Hodgkinsonia ovatiflora*. Elliott and Jones, *Encyclopaedia of Australian Plants*, Vol. 5, 1990, p. 368.

Figure 51: The first conversazione of the Field Naturalists Club, 1881. *Australasian Sketcher*, 4 June 1881. La Trobe Picture Collection, State Library of Victoria, Accession No. A/S04/06/81/180. Available at <http://www.slv.vic.gov.au/miscpics/0/0/9/doc/mp009174.shtml> (accessed 29 January 2007).

Figure 52: The FNCV expedition to King Island in Bass Strait, 1887. Wood engraving published in the *Illustrated Australian News*, 12 December 1887. La Trobe Picture Collection, State Library of Victoria, Accession No. IAN21/12/87/213. Available at <http://www.slv.vic.gov.au/miscpics/0/0/5/doc/mp005943.shtml> (accessed 17 January 2007).

Figure 53: 'Nest of the White-Bellied Sea Eagle', Lower Clarence River district, 1898. S.W. Jackson, reproduced in A.J. Campbell, *Nests and Eggs of Australian Birds*. Pawson & Brailsford, Sheffield, 1900, facing p. 18.

Figure 54: View from Studley Park, ca 1890. Nicholas Caire. National Library of Australia. Available at <http://nla.gov.au/nla.pic-an24027004> (accessed 29 January 2007).

Figure 55: Two of A J Campbell's 'Wattle Time' images, ca 1908. A.J. Campbell, Golden Wattle Our National Floral Emblem: Being a particularly unique Series of Photo-Pictures of Wattles, or Australian Acacias, in full flower (with the introduction of a figure for idealistic purposes), and some scenes of Wattle Wilds, together with descriptive letterpress, Osboldstone & Co. Pty. Ltd., Melbourne, 1921. Reproduced on Australian National Botanic Gardens web site, <http://www.anbg.gov.au/campbell.wattle/index.html> (accessed 13 January 2007).

Figure 56: Wattle Day sheet music covers. National Library of Australia.
Left: Australian Wattle Blossom for Wattle Day, words and music by E.J. Adams. Dinsdales Music Publishers, Melbourne. Available at <http://nla.gov.au/nla.mus-an5420778> (accessed 29 January 2007).
Right: Wattle Day March song and chorus by Joe Slater. Joe Slater Publishing Co., Sydney. Available at <http://nla.gov.au/nla.mus-an6631844-s1-v.jpg> (accessed 29 January 2007).

Figure 57: View from Wattle Park, ca 1913. La Trobe Picture Collection, State Library of Victoria, Accession No. H2006.34/16. Image and catalogue information in the library data base are mismatched. Image available at <http://www.slv.vic.gov.au/pcards/0/0/4/doc/pc004145.shtml> and descriptive information at <http://www.slv.vic.gov.au/pcards/0/0/4/doc/pc004144.shtml> [where photo Road to YWCA Upwey is displayed] (accessed 29 January 2007).

Figure 58: Remnant indigenous bushland, Wattle Park, 2006. R. Jones.

Figure 59: Lemon Scented Gums from Queensland and other Australian plantings, Wattle Park, 2006. R. Jones.

Figure 60: Hay stacks in Richmond Park, early 1900s. H.J. Winch. Yarra-Melbourne Regional Library Corporation. Available at http://www.picturevictoria.vic.gov.au/site/yarra_melbourne/Richmond/9686.html (accessed 7 February 2007).

Figure 61: Flagstaff Gardens from the law courts, 1881. Composite of two photos by Charles Nettleton, 1881. La Trobe Picture Collection, State Library of Victoria, Accession Nos. H853 and H858.

Figure 62: Tallowwood log
at Warrell Creek, northern NSW, ca 1905. Tallow-wood log on jinker drawn by A.A. Teague's bullock team at Warrell Creek – Warrell Creek, NSW. State Library of NSW, Call No. BCP 04232. Available at <http://libapp.sl.nsw.gov.au/cgi-bin/spybus/ENQ/PM/FULL1?392272,I> (accessed 22 January 2007).

Figure 63: FNCV camp at Oberon Bay, Wilsons Promontory National Park, 1905. Historic Places Section, Department of Natural Resources and Environment (Victoria), Image Ref. 1(110). Available at <http://www.nre.vic.gov.au/virtualexhibition/parks/park15m.htm> (accessed 29 January 2007).

This document has been produced in Microsoft Word 2003 and EndNote 7.0.0, using the Garamond Premier Pro font family, with 11 point body text at 1.5 line spacing.