

'Bunyips, battues and bears': wildlife portrayed in the popular press, Victoria 1839-1948

Stephen M. Legg

School of Geography and Environmental Science, Monash University, Clayton Victoria 3800

ABSTRACT

A 110-year-long time-series of metropolitan newspapers is analyzed for its portrayal of wildlife, and nature more generally, in Victoria between 1839 and 1948. The research identified and categorized approximately 19,000 items (leaders, articles, letters, etc.) related to various aspects of natural history and nature conservation. Newspapers, and published indexes thereof, are examined to create an historical overview of the major themes, issues and trends, and to consider the potential for using these documentary sources for reconstructing past environments and the human impact on nature. Typical of the colonial experience elsewhere, the newspapers reveal a society preoccupied with the transformation of the natural environment until relatively late in the study period. This is despite a long and complex history of scientific interest and conservation concerns. It was generally not until long after the passing of the settlement frontier that indigenous wildlife became sufficiently valued for the emergence of coordinated and systematic campaigns for their preservation. Always a dynamic mix of foreign and domestic ideas, both popular and official conceptions of nature gradually challenged the widespread notion of the inferiority of Antipodean plants and animals. This attitudinal shift was shaped by, and in turn fostered, the increasing institutionalization of science, growing popularity of natural history, and expanding government support for conservation. It was also a response to a series of major environmental disturbances created by the settlers themselves, and partially the outcome of adaptation to what were initially very alien surroundings. An increasingly national and ecological vision, forged near the end of the century, became characteristic of the press coverage of nature after the Great War.

Key words: environmental history, Victoria, popular press, wildlife, content-analysis

Introduction

Historical geographers and, more recently, environmental historians are expanding the dialogue between the humanities and sciences to reconstruct past environments and the human impact on nature. Disciplinary boundaries have been blurred by a number of trends, including the transposition of traditional scholarship, as historians deal increasingly with conventionally 'scientific' subject matter, and scientists contribute to the re-interpretation of history. These studies often incorporate an exploration of contemporary interpretations of the natural world, and many include examinations of early records of plants, animals, landscapes, environmental conditions and processes. All involve historical methods, but, regardless of the approach taken, environmental reconstructions necessitate the synthesis and analysis of a wide range of source materials to form the foundation for studying various aspects of the human encounter with the natural environment.

This chapter deals with the incorporation of alien and occasionally hostile environments into the expanding world of European settlers and their descendants in south-eastern Australia by examining the state of environmental knowledge contained in the popular press. The principal aim of the empirical study of Melbourne's newspapers presented here was to examine the historical context within which we might interpret documentary evidence

of forest fauna. For that reason, as well as the relative paucity of articles eventually found to be specifically useful to detail the human impact on forest fauna in particular locations, the chapter may be seen as more broadly about the newspapers' engagement with nature in general and wildlife in particular. The first section ('introduction') deals with the social, historical and geographical setting, focusing in particular on the context within which particular attitudes towards nature emerged and were ultimately portrayed in the popular press. The second ('sources and methods') details the approach taken and the documentary sources used in the content analysis that comprises the bulk of the study. The third ('newspapers') examines the documentary sources in more detail – their size, structure, periodicity, editorial positions, and their contribution to Victorian life. Finally, the fourth and fifth sections ('findings' and 'overview') describe the substantive findings in narrative form, structured by decades. Given the large size of the sample of newspaper articles and the invidious choice of selecting particular articles, the narrative is generalized to give a broad overview of each decade, and of the entire study period. The key themes and issues are identified for each period, and content-analysis is used to portray sampled years in considerable detail (one year every decade in 'findings', then in total for each of the three major eras in the study period in the 'overview').

Newspapers have long been a neglected documentary source for environmental studies until recently when advances in digital technology have made discourse and content analyses of electronic versions of modern newspapers relatively simple. Modern conservation issues have become a focus of these analyses (Dargavel *et al.* 1995; Myerson and Rydin 1996), but conventional methods, such as those incorporated in this survey, are still required to gain access to, and interpret, the vast bulk of newspapers. Earlier studies of nature writing, the history of science and the development of natural history have traditionally been based on journal entries, letters, and scientific papers (see for example Chisholm 1964; Moyal 1976; Finney 1984; Mabey 1995). Incorporating numerous references from newspapers, Bonyhady's (2001) recent environmental history is a notable exception, although like Smith's seminal 1960 work, it has a strong focus on nature in art, which was often a precursor of historical studies of nature (Bolton 1976; see also McLean 1999). The collection of essays by McGaughey, Johns, Sayers and Kornhauser (Johns, Sayer and Kornhauser 1998) analyzing nineteenth century landscape painters' conception and portrayal of nature in Australia and the United States is also instructive in regard to artistic reflections of influential scientific debates in natural history. Together with Bonyhady (2001), it provides a novel insight into the development of Antipodean ideas about nature. For example, changing artistic styles and subject matter in landscape art sometimes reflected the debate on catastrophism or uniformitarianism, the age of the Earth, evolution or creation, the nature and age of fossils, and the evolutionary position of aborigines. Two useful theses dealing with changing attitudes to nature in nineteenth century Australia are Smith (1952) and Evans (1982), both cited in Griffiths (1989). A more general treatment of changing perceptions of the environment in terms of Australia's cultural history is given by Rickard (1988), whereas valuable studies of Victoria are given by Powell (1976), Blainey (1980) and Dingle (1984).

Australia is rich in suitable primary historical documentation for environmental history reconstructions and there has been much attention paid to the formation and contribution of environmental knowledge. Put simply, conventional studies since the 1960s have examined both 'official' and 'popular' appraisals of nature in the New World (Heathcote 1965, Powell 1970). The official view covers the role of the state (legislature, judiciary and executive) and its legitimizing institutions such as institutionalized science (*i.e.* formal, professional scientific bodies usually communicating knowledge through peer-reviewed journals) and the Church, while the popular view deals with the perceptions, attitudes and beliefs of the common folk. A critical awareness of the popular press is essential to our understanding of the state of environmental knowledge in particular times and places because, historically, newspapers represented an important interface between these two major appraisals. The press was central to the gathering and interpretation of information from both the top down and the bottom up. It informed key decision-makers in the economic and political sphere (with 'commercial' and 'political' intelligence respectively – the latter especially in

the days before the introduction of *Hansard* to the Victorian parliament in 1865). And, for the common folk, newspapers provided a context within which to interpret nature as well as a forum for protest through correspondence and reports on public 'indignation' meetings. In increasingly literate and secular societies, the press took a leading role in selectively communicating, promoting and reinforcing particular views of the natural world (including those of the Church and institutionalized science). This leading role by the press was occurring despite the fact that a wide range of specialist scientific journals with limited readership was established during the early colonial period and expanded considerably during the late nineteenth century (Gillbank 1988; McLeod 1988; Griffiths 1996).

By the late 1830s, when the permanent European occupation of Port Phillip began, the pursuit of natural history in Australia had already been institutionalized far beyond the early focal point of Sydney (Moyal 1976; Finney 1984). The Tasmanian Society for the Advancement of Natural Science established by Governor Sir John Franklin and his wife, Lady Jane, in 1837 (later the Royal Society from 1844, the first outside of Great Britain) played a significant role in the development of natural history in Victoria, especially given the proximity of the two colonies and the fact that Victoria was settled by Europeans only a couple of years before. Close ties in settlement, commerce and society cemented the role of the Tasmanian Society, many of whose members were prominent residents of the Port Phillip community. A novel and 'moderately expensive' course in botany, mineralogy, geology, and zoology was taught at Sydney's Australian College from January 1842 by Mr James Rennie M.A., New South Wales' first 'Professor of Natural History' (*Port Phillip Patriot* 17/1/1842). Prospective pupils were promised that the course would be 'an acquisition of considerable utility', 'accessible to all' and 'not insuperably difficult' even when their instruction included the appropriate Greek technical terms in natural history, as well as 'field reporting and drawing of the natural productions of various field sites in the vicinity'. Instruction was in the early morning to enable attendance by 'young gentlemen in business' as well as 'pupils from schools', but the classes were small.

Biology, botany and microscopy were generally part of the official discourse on natural history throughout colonial Australia, but botany and natural history also became a folk pursuit. Briton Gilbert White's *The Natural History of Selbourne* (1789) and American Henry David Thoreau's *Walden* (1854) provided popular models for natural history writing, albeit from two very different styles, and both books did much to popularize the amateur pursuit of natural history (Griffiths 1989). Enabled by ample leisure, and often for the glorification of God, the 'amateur gentleman scientist' remained influential in colonial 'polite society and public life' until late in the nineteenth century particularly in the fields of ornithology, entomology, botany, conchology and palaeontology. There was also an integration of official and popular appraisals as leading scientists, such as the botanist Ferdinand von Mueller, maintained extensive

networks of amateurs who supplied him with specimens and local information. 'Economic Botany' was one of the earliest officially-sanctioned life sciences, and government botanists were among the first scientists to be appointed in each of the colonies because of the apparent utilitarian, and specifically commercial, directions of their work. Museums, libraries and the burgeoning Mechanics' Institutes offered important opportunities for amateur naturalists. They could compare their specimens with expert collections, discuss their findings and expand their knowledge with the surprisingly large holdings of books and periodicals from around the world. From the 1860s, meticulous observations from keen amateur 'improvers' were periodically reported in the press as being vital to the success of the acclimatization movement, while from the 1880s, and especially after the turn of the century, nature writers encouraged amateur naturalists to contribute local field observations to their weekly newspaper columns.

Australian newspapers played an important role in popularizing science in every colony, through a variety of techniques including the publication of correspondence and queries, presentation of book reviews and reports on journal articles, conference papers and public meetings. They also commented on many of the key scientific debates of the day. Tom Griffiths (1989) demonstrates the profound influence on the Melbourne press from the 1880s, and especially from 1904, of a small coterie of natural history writers (although it should be noted that natural history columns of the *Acclimatist* and the *Australasian* began long before, in 1861). Donald McDonald writing for the *Argus* and *Australasian*, and, later, Charles Barrett in the *New Idea* and *Herald* were among the most notable in popularizing natural history. Fellow members of their 'Woodlanders' group, along with John Stanley James ('The Vagabond', see Cannon 1981), Francis Myers ('Telemachus'), T.S. Hall ('Physicus'), and Baldwin Spencer (Melbourne University Professor of Biology and distinguished anthropologist) were also instrumental in promoting the pursuit of natural history. Collectively, these writers assisted an increasingly urban society in coming to terms with a rapidly disappearing bush, although even what was ostensibly their most 'scientific' work sometimes romanticized nature and championed outdoor activity with an underlying theme of 'boys, nature, race and war'. Of equal significance, Griffiths' article suggests the value of biographical approaches to deepen our understanding of what may otherwise appear to be an impersonal and amorphous popular press, and more broadly focuses attention on the role of human agency in history. A range of specialist journals and newsletters of conservation organizations from the late nineteenth and early twentieth centuries, such as the *Victorian Naturalist*, *Gum Tree* and *Emu* dealing with natural history, forest and bird conservation respectively, were also published, and these have proved a useful resource for environmental historians in Victoria.

The popular press became an instrumental political agent, social institution and cultural artefact in colonies that were peculiarly reliant on the folk contribution to the incremental and cumulative learning process by which communities

came to terms with their surroundings (Meinig 1962; Powell 1970; Cameron 1981; Legg 1984). The geographers Meinig (1962) and Powell (1988a; 1988b) have shown how the press periodically 'fanned the flames' of popular discontent with the 'croaking pessimists' who made sober, scientific assessments of environmental potential for agricultural development in the late nineteenth and early twentieth centuries. More recently, Paddle (2000) has shown that the populist Tasmanian press did little to prevent the construction of the 'scientific innocence' which contributed to the extinction of the Thylacine, and the destruction of carnivores in general. More subtly, it may be what the press did not say (the so-called 'non-decisions') that were of significance, but an examination of non-decisions is beyond the scope of the present study. The 'progressive' press was generally supportive of colonial and national science, even if the alignment of technology with economic progress has paradoxically hidden much of the history of Australian science from view (McLeod 1988). Furthermore, the popular press was often a leading agency promoting conservation, even if the campaigns were of little immediate effect (on forest conservation see Legg 1995).

Through a comprehensive two-way system of correspondents' reports, extracts and summaries, the press was also a significant intermediary between domestic affairs and the wider world. Typically, the news was delayed by at least three months' sailing time until the coming of the 'clipper ships' on the Great Circle Route in the 1850s and especially telegraphic connection with the wider world in 1872 (Blainey 1966). The telegraph sped the news to the extent that, by the last quarter of the century, important reports from Europe could reach Melbourne in only five hours (see *Argus* extracts 'Conquest of Space' and 'Electricity Annihilates Space' in the *Ballarat Star* 17/3/1888 and 6/4/1893 respectively). Nevertheless, legislative changes requiring Colonial Office approval from London typically involved six month delays because of the long 'turn-around-times'. Communication with and instruction from 'home', Great Britain, was of fundamental significance well into the 1930s. British capital, markets, migrants and mores were powerful influences until a fundamental re-orientation was forced by strategic considerations during the Second World War. Although different 'visions' of the environment have been identified (Heathcote 1972), successive Euro-centric perspectives long influenced many aspects of society, including our engagement with nature. Until at least the late 1930s, Australian society was notoriously insular and subject to feelings of inferiority due to a combination of the tyrannical effects of distance (Blainey 1966), cultural cringe (Serle 1987), imperialism and neo-colonialism (Fitzpatrick 1949), and prolonged social and economic criticism (Goodwin 1974).

In the field of the natural sciences this Antipodean cringe was reinforced by the prevailing European wisdom of the inherent inferiority of nature in the New World (Glacken 1967; Christensen 1999). This became a powerful foundation for both the study of evolution and the development of the colonial 'acclimatization' movement during the 1860s (Powell 1976; Roche 1987; Low 2001).

On both sides of the unsettling Darwinian revolution after 1859, the sense of inferiority was exacerbated by a number of factors (see Leakey 1979 for a useful historical context on Darwinism). These included the incredibly alien qualities of antipodean nature, especially the seemingly ancient and inferior marsupials, and the apparent lack of commercial value of most of the terrestrial fauna and flora. The rise of nationalism and the failure of the improver's dreams of acclimatization from late in the nineteenth century provided the first serious challenge to the myth of New World inferiority, and was a significant force in the National Parks movement and conservation campaigns between the 1890s and 1930s. The change in these ideas about nature was often shaped by, and reflected in, the popular press.

As was typical of most of the New World, the spread of newspapers in Victoria reflected the settlement process (Figure 1). Towns large enough to provide adequate readership and commercial opportunities for the establishment of newspapers first grew with the pastoral occupation of the grassy coastal plains of the Western District and Port Phillip region from the mid-1830s and later the north east (Figure 2 shows the locations mentioned throughout the text). The stimulus to newspapers offered by the gold rushes in the central and eastern woodland regions from the early 1850s was remarkable. Many small towns were built as mining centres over the next 70 years, while in Melbourne and Geelong a massive increase in circulation and advertising opportunities resulted from the huge expansion in population - a five-fold increase in the 1850s alone. The heyday of the popular press in Victoria was based on two trends that emerged during the 1860s and 1870s. First was the consolidation of corporate mining of the ancient 'deep-lead' river beds and quartz reefs deep underground once the surface alluvial diggings

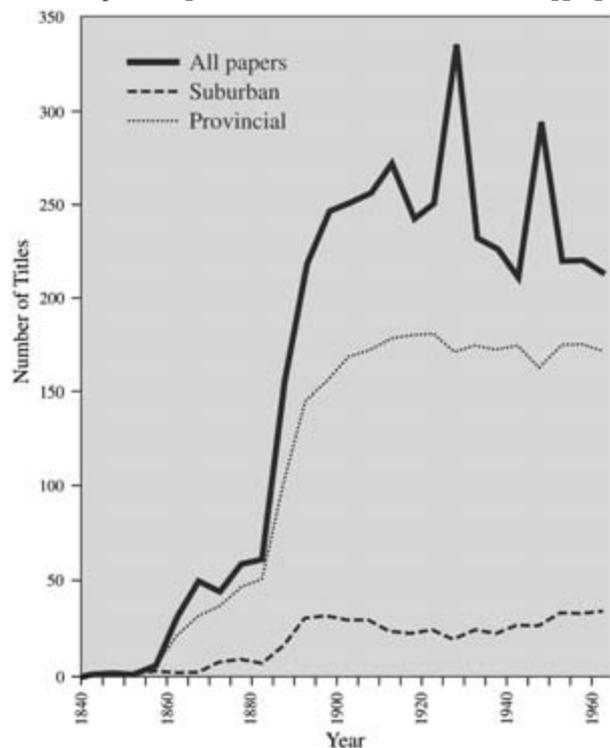


Figure 1. Victorian Newspapers, 1840-1960 (source: State Library of Victoria. c. 1960).

were worked out. Second was the spread of the densely-populated small-farm frontier on to the more distant Wimmera and drier Mallee plains under radical 'selection before survey' legislation, before settlers encountered the densely forested hill country of South Gippsland and the Otways (Legg 1984).

These rural developments were followed much later by the suburbanization of the metropolis. Suburbanization generally resulted from a combination of increased personal incomes, abundant cheap land, and transport innovation (the latter especially after the development of suburban railways from the 1880s and later with the spread of the motor car after the Second World War). The number of Victorian newspapers rose steeply from the early 1880s to the 1920s before peaking at 336, of which 54 per cent were provincial (small town). The number of provincial papers remained remarkably steady despite population decline in rural areas (Figure 1). Most small towns had two competing newspapers and the larger suburbs in Melbourne had one, although those papers with smaller circulations were generally published between one and three times a week. These smaller papers typically comprised four pages, the dailies eight or ten, and the weeklies (and Saturday editions of the dailies) sixteen or more. Periodic supplements of two to four pages were regularly used to present the backlog of news or for special coverage, especially the arrival by ship with the latest European news. Monthly, or more frequent, summaries for 'home' were also published to meet the latest mail ship. Although dominated by the two Melbourne dailies, the *Age* and *Argus*, Victoria's metropolitan newspapers peaked at 73 different publications in the 1890s. Most were specialist journals with a small circulation, and there were generally at least 50 newspapers in Melbourne until 1960 (State Library of Victoria c.1960).

Sources and methods

The core of this case-study is a systematic analysis of four Melbourne newspapers covering the period from 1839 to 1948. The papers are the *Port Phillip Patriot and Melbourne Advertiser* for 1839-46, *The Argus* for 1847-69 and 1910-48, *The Yeoman and Australian Acclimatiser* for 1861-4 and its successor *The Australasian* for 1864-1910. For at least every second year between 1839 and 1948, the newspaper and/or its index were systematically read and an annotated index of all major (and most minor) entries was developed. This included all leaders, correspondence and articles, and incorporated information about nature within items ostensibly dealing with other topics as well as items directly concerned with natural subjects. For each year, every issue of the paper was read 'from cover to cover' or a substitute index was perused and selectively checked for verification with the original newspaper. Each of the approximately 19,000 entries was then placed in one of only 27 subheadings for content analysis and graphic presentation. These were derived from the hundreds of subject headings used in published indexes (including Suter 1990 and *Australasian* 1864-91). But the major influence was the original subject headings used in the *Argus Indexes*, 1910-48 (see Appendix 1). Each

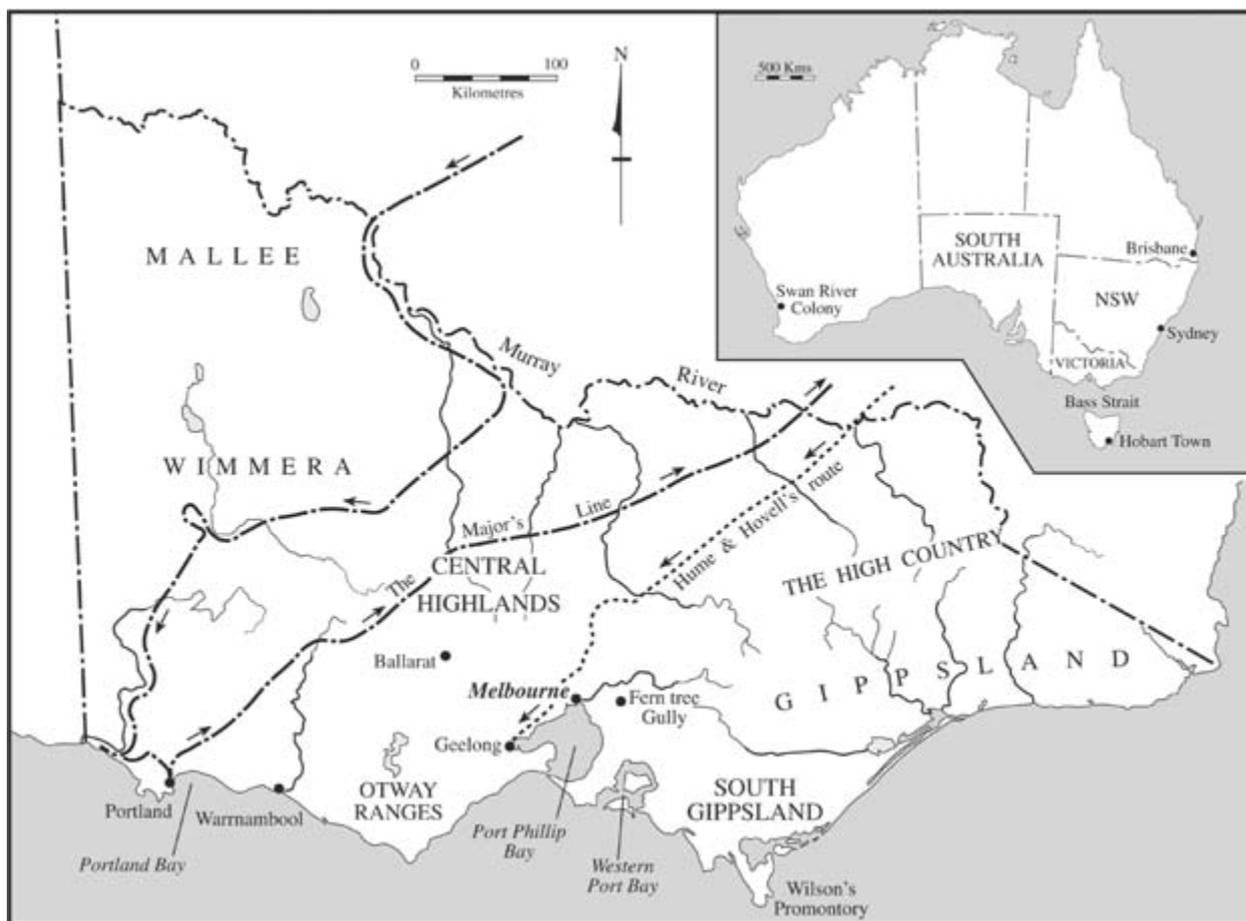


Figure 2. Victoria: the study region.

individual entry in all of the indexes was categorized on its major theme and contribution and may not have remained in the indexes' original subheading. The use of the *Argus Indexes* throughout the study period allowed for comparability with the *Australasian* and *Acclimatiser*, both of which were from the same publishing house as the *Argus*. Methodological and other problems are discussed below where appropriate.

Although most articles could be categorized under a variety of different headings, the designation chosen here relates to the principal contribution of the article. Thus, articles on 'Indian mongoose' were listed under 'acclimatization' if the author intended the information for 'improvers' to gauge the merits of the animal for introduction. The fact that the same article might be categorized under snakes, India, or the name of the person who proposed the scheme of introducing mongooses is of secondary importance. Similarly, an article dealing with kangaroo hunting in the Victorian Wimmera would be classified under 'hunting'. A multiply cross-listed index is possible with the data gathered, but is not presented here. For this reason, as well as the sheer size and complexity of some of the larger categories, the content-analysis graphs below are intended only for broad comparative and illustrative purposes.

The discussion below also draws on information from a larger research project dealing with conservation, forest management and land degradation in both metropolitan and provincial newspapers. For the forest management

project, every issue of the *Argus* was read and indexed every fifth year between 1855 and 1900 (preliminary results in Legg 2002), and this provided a useful adjunct for the current research. In addition, provincial newspapers had been read and indexed for selected periods. These included 10 papers from major rural centres throughout Victoria in the 1860s, the *Bendigo Advertiser* for various years in the 1860s and 1870s, the *Ballarat Star* from 1865 to 1910, and six central Gippsland papers from 1861 to 1990 (the latter for a regional history project, see Legg 1992). I had also earlier made extensive use of the *Melbourne Argus*, *Age*, and *South Australian Register* for studies of the history of forest management in Victoria and South Australia (Legg 1995). For the present study, only the *Patriot*, *Argus*, *Acclimatiser* and *Australasian* were included in the content analysis. Valuable information for environmental history reconstructions, such as reports on bushfires, and geographical, meteorological and climatological information, was found to be voluminous in the surveyed papers but, for brevity, is not included in this survey. It warrants further research, especially with the cross referencing of neighbouring local newspapers.

For this chapter, the initial focus was forest fauna, but as far as practicable, all dealings with animals, plants and natural history were included to provide as much historical context as possible. It is hoped that a systematic analysis of such a long sequence can contribute to works on the *longue duree* of environmental history (Lowenthal 2001), as well as forming an alternative to the traditional

selective search of newspapers around key dates. The current chapter represents only an overview of the source materials used, and despite explicit targeting to the 'man on the land', the papers surveyed represent a predominantly metropolitan perspective. Given the fluidity, ambiguity and complexity of 'nature' and related terms (Coates 1988; Arnold 1996), it is neither possible nor instructive to impose anything but a broad and dynamic definition for the content-analysis and broader discussion.

It is not claimed that the newspaper coverage represents a direct indicator or proxy of the encounter between Victorian society and nature, no matter how narrowly defined the focus or how large or representative the popular press' readership. Regardless of the sheer complexity of that encounter, and the difficulties of analyzing such a large discourse, many intervening factors need to be considered. The newspapers weren't passive recorders – there was always intervening variables such as human agency in editorial policy, journalistic licence, word limits and deadlines, linguistic and other representational constraints, technological and geographical limitations, target audiences, and the prevailing state of knowledge. Then there was an even more diverse set of variables related to the observers, theoreticians, activists, or correspondents whose ideas were being reported on (see Legg 1984 on environmental perceptions). For example, many of the first observers and common folk on the frontier were illiterate, and the observations of literate common folk were less likely to be reported than those of the middle class or aristocracy. Furthermore, many aspects of environmental change were simply rarely recorded – examples of land degradation were noticeably absent from the popular press, or even from meticulous private records such as the Clyde Company Papers, the journal of a Western District sheep station (Brown var. dates). Nevertheless, it is argued that detailed, systematic, comparative studies of the press to which the preliminary study below contributes can offer a valuable insight into the environmental history and historical geography of this part of the world. It especially provides a framework for future historical and geographical studies of wildlife conservation in Victoria.

In general, researchers will find that three types of newspaper index exist. The first is the detailed index published at the time (either annually as with the *Argus* from 1910 to 1949, or more frequently such as with the *Australasian's* four-month-long and *Acclimatiser's* six-month-long volumes). The *Australasian* and *Acclimatiser* volumes did not coincide with calendar years, so aggregation needs to be done carefully. In these indexes the categorizations and descriptions of each item accurately reflect the contemporary style and context, and all items were indexed (except for advertisements and public notices in the 'classified pages', which are themselves of great historical value). A remarkable series of now fragile leather-bound volumes continues the *Australasian* index between 1891 and 1933 (Anon c.1965). The index for the first one and a half years is in typescript, the remainder is handwritten and is more selective, with some information from relevant categories such as hunting and coursing subsumed by the subtitle 'turf'.

The second type is the reliable and exhaustive systematic modern indexes, such as those compiled for the *Argus* for the 1860s (Suter 1999). These potentially run the risk of presentism, *i.e.* where the compiler's values, perceptions and terminology can give misleading impressions or emphases from modern categorizations never intended by the original authors. In this particular case, however, the descriptions of individual entries are sufficiently accurate to avoid any confusion with their placement under questionable category subheadings. Suter's generally comprehensive cross-listing of entries with additional information or different perspectives allows most categorizations to be verified without recourse to the original articles. This cross-listing can be problematic for content analyses of the indexes because considerable care needs to be taken to avoid double-counting multiple-listings with different titles of the same item. Suter's team has highlighted a wide variety of environmental topics amongst others, so it is particularly useful for the current research.

The third type of index is those that are inadequate because of omission of the relevant articles. These indexes were published independently years after the original articles by selective compilers interested in other issues. The natural environment was generally ignored until the spread of environmental awareness from the late 1960s. However, the indexes often do not reflect this change until the late 1980s. For example, there is virtually no reference to environmental topics in either the Mitchell Library card index of the *Port Phillip Gazette*, or Bayley's (1976) index dealing with the *Town and Country Journal* a New South Wales weekly with striking similarities to both the *Australasian* and the *Weekly Times*. Feeley's (1976; 1978) indexes, dealing with the *Argus* between 1846 and 1859, were examined and found useful on selected issues but its findings were not included in the content-analysis graphs, a personal search of the original papers being preferred. The vast majority of newspapers have no suitable index, although great progress has been made by community-based historical societies.

The newspapers

Geoffrey Serle's richly crafted histories of Victoria after the 1850s gold rushes (1968; 1970; Grant and Serle 1978) and Alan Shaw's (2003) comprehensive history of Victoria before separation in 1851 contain detailed commentaries on the colonial press. In addition, there are useful specialist academic theses in the areas of journalism and Australian history, but the following general comments can be made. The *Patriot* was, by only a few months, the second newspaper published during the early colonial, pre-gold rush period in what, before the long-awaited news of official separation from New South Wales came in 1850 (formally proclaimed on 1 July 1851), was officially designated the Port Phillip District. The locals preferred the glowing term 'Australia Felix' given by Surveyor-General Sir Thomas Mitchell during his 1836 expedition (for a concise account of the Port Phillip region's early development see Peel 1974 and especially Shaw 2003). Established by Melbourne's principal founder, John Pascoe Fawkner, and edited by William Kerr, (both of whom later became Melbourne City Councillors) the

Patriot was, like most of its contemporaries, unashamedly but pragmatically parochial. It opportunistically aligned itself when necessary with the competing port settlements of distant Portland Bay, and later nearby Geelong, against the apparent neglect and perceived tyranny of remote rule from Sydney or the Colonial Office in London (Jeans 1975). Because Fawkner was the 'leading spirit' of the second party, after Batman's, formed by Van Diemen's Land squatters searching for new pastures (Wood 1961; Shaw 2003), the *Patriot* retained sympathies for the Vandemonians across Bass Strait. The *Patriot* regularly reported on even the humblest of Van Diemen's Land affairs, and Governor Franklin and his wife, Lady Jane, received the type of coverage later reserved only for royalty. Not surprisingly, the mysterious disappearance of Sir John Franklin while exploring the Arctic in 1847 was a source of debate in the Melbourne newspapers for decades. But while sympathetic to Hobart, the *Patriot* saw Melbourne as the coming entrepot for the entire Southern Hemisphere and stridently attacked the South Australians, the Swan River colony, and those within the Limits to Location (the 'nineteen counties' around Sydney) and their satellites who might dampen that vision.

The *Patriot* was stridently British, protestant, capitalist, specifically pro-squatter, and, at least until the alarming spread of the 'native outrages' of the mid-1840s, notably sympathetic to the Aborigines. It railed against the convict system and promoted the immigration of free settlers and labourers to swell the ranks of the 'Austral Felicians'. It pandered to a transplanted English society less constrained by the convict system than New South Wales or Van Diemen's Land, but no less materialistic, than those in Sydney or Hobart. The *Patriot's* perceived role was to foster trade and investment in the fledgling colony through advertising and the supply of commercial intelligence suitable for mariners, merchants, investors, and owners. It was both facilitator and forum for political agitation for the colony's interests in the wider world (especially the campaign for political separation from New South Wales), and it accepted a broader social role for the advancement of the civilizing hand of the arts and science. Its moral compass included periodically fanning sectarian flames, and campaigning against the reintroduction of the transportation of convicts. Initially weekly (and hand-written for the first few months) it became published twice-weekly until 1845. Like most of its contemporaries, it was largely dependent on advertising revenues, subscriptions from its essentially middle-class readership, regular visitors (particularly mariners) and the episodic but unpredictable demand from 'new chum' arrivals. There were dozens of papers like the *Patriot* in young colonies throughout the British Empire, but the *Sydney Gazette* lamented, somewhat unfairly, that 'common decency, not to say cultivated taste, must be at a very low ebb in the "happy" land, if a paper . . . like the *Port Phillip Patriot* can meet with remunerative support' (Shaw 2003, 79).

Melbourne was the second oldest (after Portland Bay) but largest of the ports of what was to become Victoria. Most of the *Patriot's* attention was on its immediate environs, but it became more outward-looking when dealing with opportunities for trade, the imprint of central authority, and the context of Empire. When the *Patriot* was first published,

Melbourne was four years old, with its principal links to, and early inhabitants from, Van Diemen's Land to the south across Bass Strait. The overlanders from Sydney far to the northeast were rapidly taking up the readily accessible grasslands and open woodlands of Australia Felix, having brought their stock down Hume and Hovell's route (1824) and the 'Major's line' (1836) then wresting the land from the Aborigines. The tenuous early marine staples of whales and seals were soon superseded by wool, but the *Patriot* was always eager to hear of new natural resources. Small and relatively short-lived, the *Patriot* ceased publication in 1848, just as Port Phillip was making a remarkable economic recovery and growing more rapidly than other settlements in Australia (Shaw 2003).

Founded in 1846, the *Argus* became one of Melbourne's two great cosmopolitan papers over the next century before closing in 1957. Initially published twice weekly, the *Argus* became a daily (except Sundays) in 1848 and dominated Melbourne's press in the 1850s under the brilliant editorship of the liberal firebrand Edward Wilson (Serle 1968). Stridently protestant, British, and opposed to the squatter's near monopoly over land, it mellowed during the 1860s and became identifiably capitalist and upper-class compared with its larger metropolitan rival, the *Age* (Serle 1968, 1980). It soon became Australia's leading conservative paper (Bonyhady 2001), and was regarded by some as 'the best daily paper published out of England' and second only to the London *Times* on which it was modelled (Twopenny in Grant and Serle 1978, 169). The real rivalries between the two papers emerged during the later nineteenth century as the *Argus* aligned itself with the free trade movement, in contrast to the protectionist *Age*. For this reason the *Argus* became the self-styled champion of rural, mercantile and investor interests and remained politically conservative, in contrast to the urban, industrial, and labour appeal of its rival. By the 1880s, the transformation from early reformer to friend of the upper-class and capital had become so pronounced that the *Sydney Bulletin* dubbed the *Argus* the *Squatter's Friend and Vested Interests' Guardian* (Serle 1980, 31). Both the *Argus* and *Age* championed the momentous liberal movements of the day. These included miners' rights during the gold-rush of the 1850s, free selection during the 1870s and 1880s, progressivism in its various forms including 'scientific agriculture', scientific advances, the somewhat inimical interests of acclimatization and conservation, and closer settlement from the 1890s. They both promoted the federation of the colonies at century's end (as well as periodically from the 1850s), but disagreed vehemently on the radicalization of the labour movement through the miners' and shearers' strikes of the 1890s. More than its rivals, the *Argus* appealed to both city and bush. It is an ideal indicator of urban, rural and international (particularly imperial) attitudes to nature. In the twentieth century, the *Argus* and *Australasian* championed the movement for the conservation of wildlife. This was an uncomfortable position given the dictates of fashion and the resilient penchant for hunting amongst a small but powerful group of their readership.

The *Argus* and its major contemporaries all catered for the specialist needs of 'the man on the land' with daily

but necessarily limited treatment of rural and provincial affairs. They had systematic coverage of 'Country News' with correspondents' daily reports from the major rural centres, to bring the country to the city. The weekly *Australasian* was a spin-off from, and largely the rural arm of, the *Argus*, and by contrast was designed in part to bring the city to the bush. Its immediate predecessor was the *Yeoman & Australian Acclimatiser* published between 1861 and 1864 before being expanded into the *Australasian*. The *Acclimatiser's* early issues borrowed heavily from both the *Argus* and the *Field and Country Gentleman's Newspaper*, and its principal aim was to foster the colony's development by augmenting Victoria's resources. It would accomplish this, in part, by informing its readers of useful foreign plants and animals for introduction and suitable methods for their successful acclimatization. But its final editorial (*Acclimatiser* 24/9/1864) alluded to the public's impatience at any information 'not leading to immediate profit' and the constraint of an Australian population 'fast attaining to two millions'. A larger and more commercially oriented paper, the *Australasian*, was required. The publishers achieved this by combining the *Acclimatiser*, the *Weekly Argus*, and the *Examiner*. The link between the interests of the *Argus*, *Acclimatiser* and *Australasian* in environment, conservation and acclimatization is primarily through their proprietor, Edward Wilson, who was one of the principal instigators of the acclimatization movement (Peel 1974).

Arguably more than any other popular Victorian paper, the *Australasian* became a public forum for natural history and related topics, in part because they were perceived as of interest to its uncomfortably-juxtaposed target audience of yeoman farmer and landed gentry. For both, it was a useful adjunct to farm management, to the latter it represented a major interest for the leisured classes (De Serville 1980, 1991). Related topics such as hunting, coursing and angling were covered assiduously and in great depth. Each issue of the *Australasian* was published in both Country and Town editions (the latter with more recent metropolitan news). Along with the monthly *Victorian Review* (Bonyhady 2001, 8), and the long-lived *Weekly Times* (1869 to the present), the *Argus* and *Australasian* led the metropolitan conservation movement from the 1860s. Nevertheless, the role of provincial newspapers such as the *Ballarat Star* has been grossly underestimated, especially in relation to the conservation of forests and water (Legg 2002).

Despite the emergence of (initially patronizing) 'columns for ladies' by the 1860s, the *Patriot*, *Argus*, *Acclimatiser* and *Australasian*, like their contemporaries, were the product of a patriarchal society and they did little to change the status quo. Much has been made in recent years, particularly by feminist scholars such as the environmental historian Carolyn Merchant (1989) of the impact on nature of the enormous gender bias in western society. This bias caused a singular perception and portrayal of nature (on Australian women in natural history see Cowley 2002, Griffiths 1989, and on their limited access to knowledge see *Argus* 19/11/1858). This patriarchal view was most evident in the colonial period, but had changed little even with the political and increasingly economic emancipation of women after the turn of the century.

Recent postmodern analyses and specifically post-colonial studies have broadened our conception of the complexity of historical discourses and their documentary sources by challenging conventional notions of environment and human interaction with it (on forests see Legg 1999; Williams 2000; Gururani 2002). The lack of incorporation of the environmental knowledge and practices of native peoples as well as women and other less powerful groups and classes such as rural workers (see Evans 1975), itinerants or convicts in settler societies may be a major contribution for this more recent research.

Finally, it is important to stress, as did the press at the time, that colonists often found it difficult to 'love' their colony. The colonial experience was often transitory or begrudged even in the largely convict-free society of Victoria, and the materialistic focus of the masses was pervasive. This antipathy deeply coloured colonial perceptions of the natural environment, and contributed to the already well-known difficulty in accurately portraying an essentially unfamiliar nature (Powell 1976; Ryan 1996; Haynes 1998; Bonyhady 2001).

Findings

With the invidious choice of some 19,000 items, I have avoided reference to specific articles where possible, and structured the narratives around decades. Similarly, the text omits much of the finer detail and diversity in favour of broad trends or landmark events. Given the difficulties of visually reproducing such a large and complex database in its entirety, only selected years have been chosen to show the distribution of topics (every second year of each decade) and summary graphs are produced showing the distribution of topics for the total number of entries for each of the surveyed newspapers. Simple line graphs are also presented showing the number of entries in each of the sampled years, although for the period 1866-91 these relate only to volume numbers. There was insufficient time in the research phase to disaggregate all of the entries in published indexes into individual years (the volumes not coinciding with calendar years, and the entries only referring to page numbers).

1840s

Due to financial hardship, the *Patriot* was not published during 1838 and the beginning of 1839. Nevertheless, the period 1839-48 reveals no more than a few dozen articles dealing with nature each year, and with relatively few categories. Despite this being essentially a frontier society, there was little apparent engagement with nature for non-utilitarian purposes. With 50 years' experience in New South Wales and Van Diemen's Land, there was apparently little else in Australia Felix but variations on an antipodean theme, although valuable observations were made about seasonal changes and the odd piece of exotica or curiosity. Most items dealt with the potential or actual commodification of nature – the exploitation of natural resources for export, usually back 'home' to England. During the 1840s, the English wool market was depressed, so tallow from the 'boiling down' of livestock was an important adjunct to wool production.

Despite falling bark prices, there was a small trade in wattle stripping for the leather tanning industry. Wattle bark played a little known part in Port Phillip's development, Captain Hart of Launceston having described the fine country he found while bark stripping around Western Port and Port Phillip to Batman and Fawkner (*Argus* 25/4/1854). By the late 1840s, bark-stripping threatened the destruction of wattles accessible from the coast, and pit-sawing and the first few steam sawmills were supplying timber from nearby forests to the larger towns. But most construction timber and furniture were imported and would remain so for most of the century. The press largely ignored the 'inferior animals' of the forests. By 1846 Port Phillip contained 11,974 people in Melbourne and 32,895 outside, and its population was to double in the next five years thanks largely to immigration by assisted passage from Britain.

Most attention to wild animals involved marine creatures: whales, seals, fish and occasionally crustaceans. Consequently, the observations were often highly seasonal, and the readers would have become familiar with the seasonal expectations of the arrival of whales at Port Phillip Bay, Portland Bay and Western Port around April, and the ensuing whaling season until October. Many articles detailed whaling ventures along the coast, in Bass Strait and in Tasmanian waters. Sealing around Wilson's Promontory and the Bass Strait islands, and the various fishing activities in coastal and eventually deeper waters are recorded. The discovery of fishing grounds and unknown fish, seal and whale species (the latter being regarded generally as 'fish') was avidly recorded along with the activities of the Hobart Town and Portland whalers. The capture of an elephant seal in Port Phillip Bay in 1840 created enormous public interest, in part because of curiosity about the 'monster' as well as excitement at the potential wealth in 'oil' (blubber). The marine discoveries of commercial interest ranged as far afield as information from the much-vaunted Antarctic expedition by Captains Ross and Crozier in the early 1840s, but most related to the bays, estuaries and major rivers of Australia Felix. The *Patriot* and *Argus* reported on fishing elsewhere around the globe, and there were periodic reports on whaling in the Arctic (along with the prices of 'sperm oil' and other whale products on distant markets). Exports of sperm oil, black oil, whalebone and sealskins earned 69,000 pounds sterling in 1848. Despite serious fluctuations in whale numbers, whale and whaling remained a small but persistent theme in press coverage through the entire study period over the next century (for an overview of the economic significance of whaling and sealing in early Port Phillip see Shaw 2003, and Bach 1976 for the broader Australian context).

Hunting received infrequent and episodic attention from 1839, mainly as the sport of private parties of gentlemen rather than as a commercial venture. The press promoted field sports such as hunting as 'elevating' pursuits that encouraged 'manliness of character, patriotic attachment to the colony, and a spirit of enterprise and adventure' (*Acclimatiser* 5/10/1861). There were occasional advertisements for opossum skin rugs and kangaroo skin leather, but most articles dealt with the use of dog packs by horsemen to 'run down' dingoes or kangaroos or occasionally an emu or wallaby. Margaret Kiddle (1983, 85) notes that 'at every hut and home station

a pack of kangaroo dogs – lean, muscular creatures derived from the greyhound - were kept for the purpose of running down' . . . the kangaroos and dingoes. There was a small but regular extraction of foreign journals on hunting, with British fox-hunting the main focus in the early forties. From the earliest papers, cruelty to animals was a persistent concern, and this was galvanized by the passage of the celebrated 'Martin's Act' in England against cruelty to animals. Regular coverage in Port Phillip dealt with court cases over the ill-treatment of domestic animals. Occasionally this prompted deeper philosophical treatments of man's inhumanity to 'dumb beasts' as well as their fellow man, but it wasn't long before the issue of 'brutality' challenged selected aspects of hunting and thereby shaped public perceptions of wild creatures. The transition was partly through steeple-chasing (that 'murderous amusement of hurdle leaping') so the sympathies were with both the horses and the wild prey. But neither the hunting nor the opposition to it were highly organized in the 1840s. Kangaroo and, much later, rabbit battues where the 'vermin' were herded together before being clubbed to death, were often community events because of the need for sufficient labour to complete the slaughter. Sometimes pits were dug into which the animals were herded prior to clubbing, and natural gullies were frequently incorporated in the drives. Clubbing animals to death was commonly reported in the press: sealers clubbed their quarry, the Melbourne constabulary periodically used 'the baton' to destroy the many hundreds of stray dogs wandering the streets, and in 1850 a celebrated fifteen day long rat battue in Paris supplied 600,000 rat skins at 10 centime each to a London entrepreneur for manufacture into ladies gloves. In 1848, class conflict became more explicitly attached to hunting, with indignation that the Warrnambool magistrates were abusing their position of power to jail poachers found 'kangarooing' on their land. Game laws were already in place throughout the colony, but it seems they were difficult to uphold and generally inadequate. They could however be bent to suit the needs of the aristocracy – the 'hunting, shooting, or trapping of kangaroos being positively interdicted' . . . 'on the preserves of their High Mightinesses the Squatters' (*Patriot* 18/7/1848; on hunting by the squatters see Kiddle 1983, Cannon 1985, de Serville 1991).

Although still largely utilitarian, scientific interest in nature in Melbourne was clearly evident by the mid-1840s, with the establishment of a museum of natural history in Melbourne and a proposal for a national institution in Sydney in 1844. The Melbourne museum, housed initially in a tiny room attached to the Lecture Hall, was administered by the Mechanics' Institute to house its collection of almost 4,000 specimens. These had been obtained from collectors and learned societies around the world, but many were donated from private individuals throughout the colony. These comprised minerals, skins, preserved animals, plant specimens, fossils, curiosities and a continuous stream of Aboriginal artefacts including complete and partial skeletons. These specimens were regularly used by amateur naturalists to systematize and reference their own collections. Monthly press reports recorded the donors and specimens, along with new additions to the Institute's library and the various public lectures, many on natural history. Review articles and

reports on scientific papers from British and other foreign Learned Societies were published widely throughout the 1840s, and there was continued interest in the marsupials, monotremes and birds (especially with the publication and promotion of Gould's great ornithological work in 1841). Entomology, conchology and ornithology were pursued by amateurs throughout the colony. Palaeontology was already a major adjunct to the pursuit of natural history with many important discoveries by amateur collectors being reported, particularly those relating to extinct marsupials. The 1843 Order in Council exempting natural history specimens from British import duties fostered the trade in colonial natural history collections (*Argus* 4/3/1844).

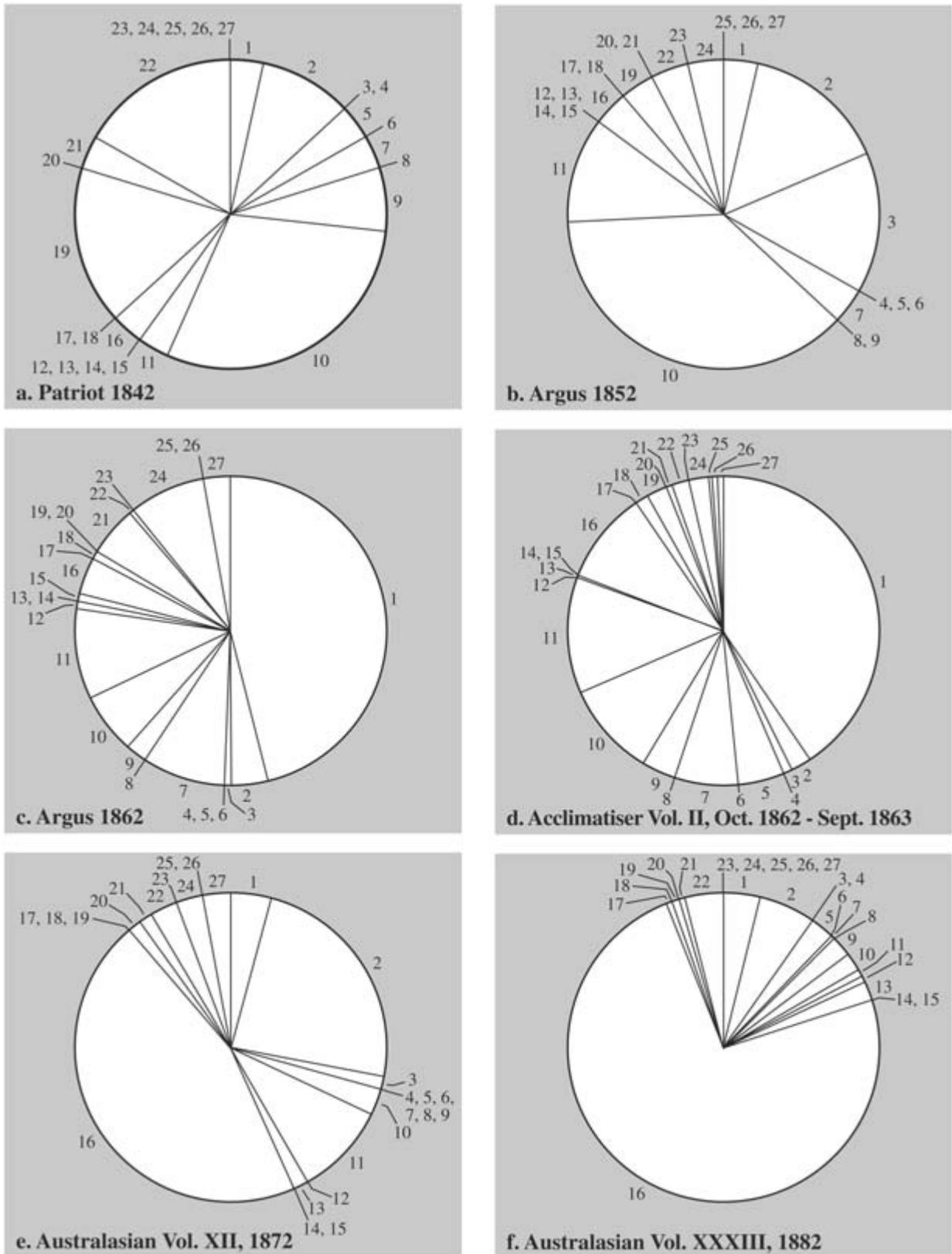
Nevertheless, limitations on the growth of natural history due to other government actions included restrictions on the public patronage of learned societies, and more indirectly the increase in export duties which severely restricted the import of New Zealand newspapers and led to a greater reliance on correspondence as a source of natural history information from that colony (*Argus* 6/3/1850 and 28/3/1842 respectively). Moyal (1976) notes that 'passive receptivity' by the British Museum and a lack of direction from London delayed systematic studies in Australian natural history until the 1830s, about the time of the European colonization of Port Phillip. Notably, natural history and science in general remained fairly descriptive. Palaeontology developed rapidly, especially given the rich field of exotic specimens in the Antipodes, and growing acceptance of the uniformitarian theories espoused by British geologist Charles Lyell, German geographer Alexander von Humboldt and even prominent art critic John Ruskin (Johns 1998). The uniformitarians challenged the traditional view of a static Earth and suggested that Nature was in a constant state of flux. They hypothesized that current processes were little different to the forces that gradually shaped the Earth over a very ancient past, a view which promoted natural history by valuing and encouraging accurate observations of Nature. Such a view rejected the catastrophism, with which generations of naturalists had interpreted fossilization and extinction as the result of 'convulsions of the Earth' (see *Argus* 10/7/1846). Von Humboldt theorized that the Earth functioned as an intricate totality (Johns 1998) and later scientists such as Agassiz, Russell and Darwin did much to revolutionise the prevailing interpretation of Nature (just as Herschel had changed scientific views on the size of Space, see *Port Phillip Patriot* 24/6/1841). From the mid 1840s until late in the century, scientists experienced almost unprecedented theoretical turmoil, and the colonies played an important role in shaping the new science.

Curiosity fuelled much of the colonial interest in natural history, and the bunyip was an issue of serious scientific interest and periodic public alarm. One account, by a stockman fishing in the Eumerella River in southwestern Victoria, noted that 'he was of a brownish colour, with a head something the shape of a kangaroo, an enormous mouth, apparently with a formidable set of teeth, long neck covered with a shaggy mane which reached halfway down his back; his hindquarters were under water, so that we could not get a full view of him – but if one might judge from what was seen, his weight must be fully equal to a very large bullock' (*Argus* 18/7/1848). Only a few months

later, the paper reported that local residents were alarmed by the unearthly nocturnal howling of a bunyip in the lake at the Melbourne Botanic Gardens. The *Argus* noted that here 'was a rare chance for some of our sprouting Nimrods; there can be no great difficulty in beating up the monster's quarters when we have got him so snugly ensconced so close to the City, and nothing short of immortal fame will be the reward of the man who first furnishes a veritable bunyip for the museum of the Mechanic's Institution' (21/11/1848). Other reports continued to flow from throughout Victoria through the mid 1850s and even later, although the official scientific attitude was increasingly skeptical. In 1858, the *Argus* demonstrated the demise of the myth when it reported on the performance of 'an amusing burlesque absurdity at the Princess Theatre: "The Bunyip", originally titled the Mermaid, but the proprietor of a traveling show in order to meet the demand of the public for novelty, extemporizes a Bunyip, which mythical creature is represented by the tight rope dancer of the establishment' (28/10/1858).

Expeditions were other important sources of natural history news. The discoveries of Eyre, Sturt, and Leichhardt in central and northern Australia received much coverage and they were elevated to heroic status for their achievements – the latter was particularly championed even though 'he wasn't one of our countrymen'. Botany gained a higher profile thanks to the organization of horticulture in local societies as well as the recent expeditionary findings. In Melbourne, botanist Daniel Bunce published a popular gardener's almanac that transferred European techniques to the antipodean climate and seasons, and he made a good living as a nurseryman specializing in European trees. In 1841 Bunce made an unsuccessful bid to establish a Botanic Gardens along commercial lines, the government developing one the following year. In the late forties he returned to his earlier extensive career in exploration (having accompanied Leichhardt overland from Sydney to Port Essington) with an expedition through the Murray lands as far as Lake Alexandrina and the Coorong. The 'indefatigable' Bunce returned to Melbourne in February 1850, and the *Argus* published his voluminous journal in fourteen instalments over the next four months. His work proved popular and it took little inducement for him to prepare for publication later that year a second (twelve-part) series dealing with his observations on Leichhardt's second expedition. Bunce was later appointed the inaugural curator of the Geelong Botanical Gardens (Ducker 1981) and later still the *Argus* published his regular reports from the gold diggings. Like other colonial naturalists, Bunce did a brisk trade exporting natural history 'collections' of exotica and curiosities. His work was published widely in England, and in Port Phillip it did much to promote natural history but precious little to divert attention from the growing 'California fever' that was drawing hundreds of hopefuls away to San Francisco to join the '49ers' in search of gold. The migration could not be stemmed by either the improved wool prices on the London market in the late forties, or receipt of the long-awaited news of separation from New South Wales in November 1850.

Figure 3a shows the distribution of indexed items from the *Patriot* in 1842. The predominant categories that year were 'naturalists' (mostly the natural history of foreign, and especially British, animals), 'trees' (the merits of specific



- | | | | | |
|-------------------|-----------------|-------------|-----------------|------------------|
| 1 Acclimatisation | 7 Birds | 13 Skins | 18 Palaentology | 23 Town Planning |
| 2 Pests | 8 Soils | 14 Opossoms | 19 Sensational | 24 Snakes |
| 3 Welfare | 9 Fauna & Flora | 15 Reptiles | 20 Ostriches | 25 Spiders |
| 4 Deputation | 10 Naturalists | 16 Hunting | 21 Parks | 26 Crocs |
| 5 Bees | 11 Fish | 17 Roos | 22 Trees | 27 Zoos |
| 6 Beach | 12 Sharks | | | |

Figure 3. Newspaper content-analyses, 1842-1882.

trees and promotion of horticulture generally), 'sensational' stories (especially big-game hunting in Africa and India), 'pests' (affecting local agriculture and grazing) and 'fauna & flora' (fleeting observations of native animals).

1850s

The 1850s brought undreamed-of wealth to Victoria with the discovery of gold from 1851. In the early fifties the *Argus* reflected the turmoil of a colony swamped by a tide of gold-seekers moving through Melbourne and on to the many gold-fields of the Victorian central highlands. Wilson's *Argus* made a fortune from classifieds and government notices and it was not until 1856 that the semblance of a normal newspaper coverage returned. Gradually there was a reduction in the hundreds of daily shipping notices, notice of rewards for stolen horses, labour calls in a colony stripped of its workers in almost every walk of life, and advertisements for imported merchandise (the per capita importation of goods having had no historical parallel, *Argus* 25/3/1854). Goldfields management, law and order issues and the massive population influx were eventually stabilized after 1854 (the Eureka rebellion occurred in December that year), and in 1856 and 1858 about 100 items on nature appeared each year. In 1854 the population had reached 260,000 and had doubled by decade's end. The *Argus'* increased coverage of nature in the rest of the world reflected the increasingly cosmopolitan character of Victorian society – although the dramatically different views of the Aborigines and the recently arrived Chinese were largely ignored. This was despite public lectures on Aboriginal customs, along with the publication of Bunce's journals and William Buckley's sensational memoirs that collectively stimulated a minor interest in indigenous cosmology (convict Buckley had escaped from the penal colony at Sorrento in 1803 and lived the next 31 years with the Wathaurung Aboriginal people on the western shores of Port Phillip Bay).

The 'fisheries' expanded considerably during the 1850s, in part because of the substantial promotional efforts of the Melbourne Industrial Association which commissioned a series of reports on Port Phillip's natural resources (*Argus* 23/5/1850). Compared to the forties, there was an increased engagement in the press with terrestrial fauna and flora. News of 'snake encounters', bites and cures became commonplace and hunting was increasingly organized and expanded with the establishment of Hunt Clubs and the importation of expensive dog-packs by wealthy gentlemen. In 1856, Weinwritter's 'Kangaroo Hunt Polka' became popular among the colonial aristocracy (*Argus* 19/12/1856). After the British victory in the Crimean War in the same year, funded substantially by some of the annual average of 100 tons of gold shipped from Victoria to London during the fifties, the *Argus* became more strident and frequent in its glorification of heroic Englishmen slaughtering big game. The destruction of dangerous animals throughout the empire was seen as a civilizing force, and the great white hunters were portrayed as mighty public benefactors (*Argus* 26/3/1858). The articles fuelled a morbid fascination with terrifying attacks on humans by wild beasts, especially bears, buffalo, big cats and wolves. These made the local quadrupeds

appear tame by comparison. The increased confidence in Imperial military power and the fabulous wealth pouring from the ground in Victoria seemed to add to a palpable growth in the sense of mastery over nature. Nature was 'red in tooth and claw' and, long before the emergence of 'Social Darwinism' later in the century, this struggle was seen as a part of 'human nature'. To some extent, hunting stories became allegories, and often vindications, of war. In general, the press anthropomorphized nature (see *Argus* 23/5/1850 portrayal of the valorous attack on a 'worm-hunting robin' by a butterfly 'trying to protect its children and grandchildren'). The encounter with nature was often an engagement with ourselves, and outside of nature writing, nature metaphors were commonplace – for example, 'walking into the lion's den' was often used in political and business articles. One debate considered the transcendental impacts of nature, especially whether forests could 'change men's hearts', or whether 'he who has not found happiness in society, will seldom meet it in a forest' (*Argus* 7/3/1850). Ironically, the forests on the goldfields were rapidly being decimated. One correspondent described the 'ransacking' of 'every particle of verdure' from the land, which now appeared as 'nothing but gravel or chalk-pits and stone quarries' (*Argus* 17/3/1852). Much worse was to come, although the forest conservation movement focused primarily on the loss of 'mining timber' (Legg 2002). The *Argus* published both Longfellow's haunting 'Hiawatha' (1855), lamenting the destruction of natives and environment in America, and the vicious responses lampooning the poem by both the London and Melbourne *Punch* the following year. Admittedly, the latter recognized both the destruction of the natives and 'the rest of nature': 'From the fast decaying nations, which our gentle Uncle Samuel, Is improving very smartly, From the face of all creation, Off the face of all creation' (*Argus* 22/5/1856).

Apart from the dozens of foreign newspapers and specialist literary journals used for extracts on natural history and hunting, the following books were some of those used by the *Argus* to give sensational accounts in the early 1850s: McLean's *Hudson's Bay Territory*, Cumming's *Adventures in Southern Africa*, Cheney's *Life in the Woods*, Colonel Capadose's *Sixteen Years in the West Indies*, *Facts and Reflections by a Subaltern in the Indian Army*, Napier's *Excursions in Southern Africa*, Von Wrangell's *Polar Seas*, Livingstone's *Africa*, Du Corets' *Exploration Journals*, Broadgood's *Leaves from the Note Book of a Naturalist*, Abd El Kaber's *Account of the Arabian Horse*, Dicken's *Household Words*, Bayle St. John's *Subalpine Kingdom*, Gosse's *History of the Birds of Jamaica*, *Reminiscences of a Huntsman*, *Adventures in Oriental and Western Siberia*, *Sketches Scandinavia*, and Humboldt on 'Nocturnal Life in the Primeval Forests of the Orinocco'.

The press was confident that the engine of unfettered capitalism and British administration would harness science to transform the environment. A Philosophical Society, formed under Governor Brisbane's patronage in Sydney, had long before been disbanded when in January 1850, Dr Nicholson attempted to form a local Melbourne institution to be called the Australian Philosophical Society (*Argus* 29/1/1850). The Victoria Institute formed

in 1854 was the precursor of a renewed Philosophical Society (1855) and eventually the Royal Society (1859). Collectively, these societies fostered a keen interest in natural history that became increasingly systematized and institutionalized especially after the shift of the museum to the recently established Melbourne University in 1856 (where the influential Frederick McCoy was appointed first Professor of Natural Science; within the next two years he was also made Palaeontologist to the Geological Survey and Director of the Victorian National Museum). In 1858, the Victorian government established an innovative Board of Science to advise on policy matters (Moyal, 1976). Science was maturing in Victoria, although there was no doubting the prophetic utilitarian sentiments of poet Charles Mackay, at the annual dinner of the Philosophical Society in 1858, as he championed a science to 'make the woods and wildernesses the happy home of men' (*Argus* 13/4/1858). Victorian 'Superintendent' Lieutenant Governor Charles Joseph La Trobe was a patron and keen member of the society. A deeply religious man, La Trobe was an experienced teacher, travel writer, and amateur naturalist and so gave legitimacy to colonial science (Shaw 2003). William Blandowski was appointed Government Zoologist, and like his botanical counterpart von Mueller, traveled extensively through the colony in the fifties on collecting trips. In the same year that Mackay and La Trobe celebrated the Philosophical Society's achievements, the much-beloved Leichhardt's expeditionary party disappeared somewhere in northern Australia. Debate on his whereabouts raged for many years, with hopeful search parties being planned even in the 1860s. His tragic disappearance did much to feed the general antipathy towards the bush, as well as adding further caution to colonial dealings with the natives. Both tended to legitimize destruction rather than preservation, although in natural history lay a quest for greater understanding. Much of the natural history effort was channeled to the glorification of God. However, geological and palaeontological developments, particularly from 1801 (see Winchester 2001), had already caused considerable disquiet long before the publication of Darwin's (1859) *Origin of Species*. This was markedly so with the collection of fossils from the 1830s in Victoria and especially in a mining community from the 1850s where The Scriptures and the Age of the Earth as revealed deep underground seemed so at odds. The debate was particularly voluminous and strident throughout 1858, one year before the publication of Darwin's *Origin of Species* (for example *Argus* 30/7/1858, 6/8/1858, 13/8/1858, 20/8/1858).

Noxious weeds and vermin became a major issue in the fifties partly because so much land had become idle as agricultural labour rushed to the goldfields. Scotch thistle, Bathurst Burr and a host of lesser weeds caused widespread alarm, and added to the pastoralists' concern with scab and catarrh in sheep and pleuropneumonia in cattle. The renewed depredations of dingoes and kangaroos gave added justification for hunting but there was no doubt by 1856 that gentlemen (and the increasing number of ladies in the Melbourne and Geelong Hunt Clubs) needed a greater challenge (*Argus* 16/9/1856).

Even the pigeon-shooting and coursing matches organized periodically by the hoteliers did not suffice. The cry for the importation of game animals increased during the late fifties with particular attention being paid to deer (initially brought from Sydney where the movement was strong, see *Argus* 16/8/1856) and foxes. In 1854 the introduction of stag hunting raised the ire of the recently formed Humane Society (the terrified animal being crated between successive chases). The Society highlighted the apparent injustice of magistrates freely pursuing the stag on the weekends after severely penalizing common folk for cruelty to domestic animals.

As early as 1854 there was also a strong demand for the importation of live salmon, and many articles dealt with the difficulties of their successful shipment through the tropics and introduction to an alien environment. By 1858, anglers had successfully introduced Victorian Murray Cod and Bream to 'virgin' ponds, lakes and streams. Filling the silent antipodean skies with songbirds was a persistent concern of the 'improvers' from 1853 and more than a dozen species were introduced by land-owners and merchants during the decade. By 1858, after five years as Government Botanist, Ferdinand von Mueller could report on the pleasing progress of the collection in the menagerie at the Melbourne Botanic Gardens (later moved to a new site as the Zoological Gardens at Royal Park). Mueller had been appointed chair of the Philosophical Society in 1858. The 'naturalisation' of exotic animals of commercial and aesthetic value to the colony was one of the Society's recent policies and became one of von Mueller's personal crusades for almost 40 years. But the sentiments were not new. The introduction of exotic species into remote areas had for centuries been regarded as a duty not only for the provisioning of live meat for future shipwreck survivors, but also as part of a civilizing mission. As early in this survey as 1839, the press was reporting that on the expedition to northwest Australia by Lieutenants Grey and Livingston, they 'introduced and left there several animals, as ponies and goats, & c., and in short done everything in their power to make their visit a blessing to the natives and the country' (*Patriot* 29/4/1839).

The press regularly reported on the expanding parks and gardens movement, the increasing use (and abuse) of these reserves for recreation and the beautification of the towns. The parks movement had spread from Europe and gave an important, yet stylized, outlet for public encounters with nature away from the somewhat sensationalized rigours of the wild. In addition to the push for recreational and aesthetic animals, the press promoted the diversification of agriculture away from the staples of wheat and hay through the introduction of a variety of exotic crops (cotton, olives, sugar cane, vines, mulberries for sericulture, etc) and livestock (camels, angora, and especially alpaca). Despite the continued efforts of Dr Thomas Embling MLC in the late fifties, the Victorian Legislative Council remained unmoved on support for the systematic introduction of exotic species. The Council was more amenable to the introduction of camels that would assist the proposed exploration of the 'ghastly blank' of the continental interior (*Argus* 1/9/1858) and a huge correspondence developed over the next few years on the merits of camels, horses and mules in the

lead-up to the departure of the Burke and Wills expedition. The resistance to Embling's plans for alpacas was to change dramatically late in December 1858 with the publication of a 'visionary' call by *Argus* editor Edward Wilson from London for the 'acclimatisation' of exotic animals. Wilson had toured Europe extensively and investigated the potential for a more advantageous global redistribution of animals and plants, a theme rapidly emerging in the fashionable salons of both London and Paris where 'Acclimatisation Societies' had recently been formed. It took a further fourteen months of organization but upon Wilson's return to Victoria 'his' society was formed at an 'influential' public meeting presided over by Governor Barkly and attended by the colony's leading scientists, parliamentarians and many of the leading land-owners (*Argus* 22/2/1861, 26/2/1861).

Figure 3b shows the distribution of indexed items from the *Argus* in 1852. The predominant categories that year were 'naturalists' (both the growth of institutions dealing with, and information on, natural history), 'pests' (increased because of the neglect of croplands and livestock during the gold-rush), 'welfare' (a huge increase in concern with cruelty to animals), and 'fish' (expanding whaling, commercial fishing and fisheries including recreational angling; many articles described particular fish species).

1860s

In the 1860s, the colonial press was dominated by the organized acclimatization movement with many hundreds of articles being devoted to this and related topics each year during its heyday between 1859 and 1871. This largely explains the enormous increase in the total number of items dealing with nature in the press after 1858 (Figure 4). Perhaps no single environmental issue has been so intensively promoted by the Victorian press,

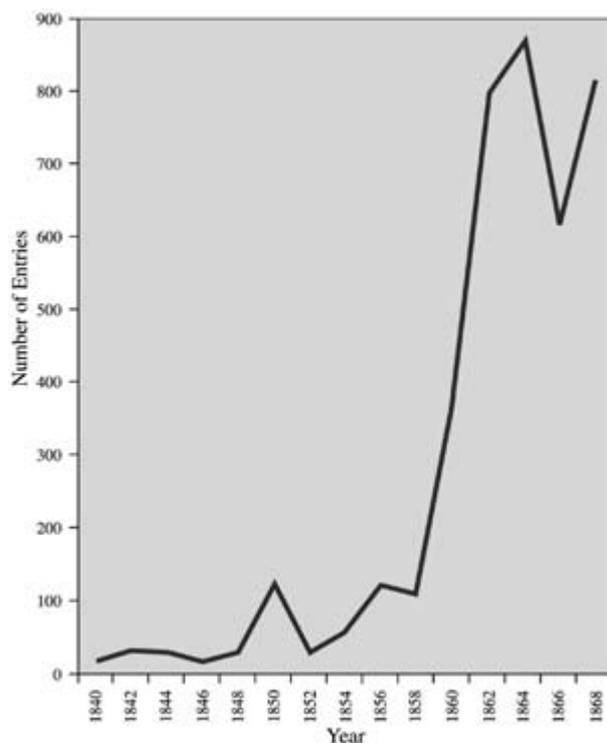


Figure 4. Number of articles, *Patriot & Argus*, 1840-1868.

even compared to the coverage of environmentalism that peaked in the 1980s. Arguably few movements have had such profound ecological effects – although it is easy to underestimate the impact of less 'exotic' or less intentional introductions such as the weeds brought in with imported chaff. The consequences of some of the more notorious species' introductions have been discussed (Rolls 1969; Low 2001). Despite the works of historians of science like Gillbank (1980, 1986) and Lever (1992), much of this voluminous and extremely detailed primary data remains untouched and the movement itself has been underestimated. If the problem of geographical scale can be adequately addressed, it will be of particular interest to bio-geographers and ecologists who can map the well-documented sites of introduction and the rate of spread of the literally hundreds of exotic species subjected to acclimatization.

The press coverage of acclimatization falls into five broad types. The first incorporates reports on potentially valuable species (often extracted from foreign journals). Second comprises minutes of the Acclimatization and Zoological Societies, Experimental Farms, Botanical Gardens, Horticultural Societies, Royal Society and public lectures from the University and Mechanics Institutes describing plans for and progress of introductions. Acclimatization Societies were established in each colony and provincial bodies were established throughout many of the colonies. Periodic reports and correspondence from each were included, and these were avidly reproduced in the provincial press. The third comprises correspondence on the merits of particular species, experience with their management, and discussion of appropriate techniques. Fourth are field observations on introduced species from around the colony. Fifth are the regular reports (often extracted from an admiring local press such as the *Geelong Advertiser*) of the great private 'parks' such as Lyall's Harewood House, Austin's Barwon Park, and Learmonth's Ercildoune where wealthy landowners were at the forefront of the introduction of game and other exotic animals. The 'acclimatization' category used in the content analysis also includes many Australian native species because there was a considerable trade swapping live specimens between menageries, and gifts were commonplace for both diplomatic and scientific reasons. Even considerable interchange occurred among the Australian colonies with apparently similar species. One country's commonplace species were exotica elsewhere, and there was a determination not to let Providence determine the assemblage of plants and animals available to different communities. The issue of what amounted to an imperfect biological distribution remained a significant theological, as well as scientific, challenge

At the same time that Victorian society was 'coming to terms with its natural environment' by learning about native flora and fauna, there was a significant move by the acclimatizers to promote knowledge of Old World species. In effect they wanted current and future generations to complete their personal understanding and appreciation of the nature of 'home' even though they were far removed in an antipodean transplanted society. That educational

process had been stalled by colonization but could be reinvented first hand by acclimatization and second hand through the pursuit of appropriate knowledge from the printed and spoken word and artistic representations. The acclimatization movement was attempting to create a new society based on a transformed nature.

With such a large population and inadequate agricultural production (the latter blamed on a combination of disruption from the gold-fields, poor farming techniques, and squatters' land monopoly), Victoria's fishing industries expanded greatly to meet the demand for protein. Fishing received much press attention, especially regarding the imposition of harsh legislation to prevent the destruction of local bay fisheries. The other large index categories during the 1860s were snake stories, not only because of the increased incidence of snake encounters, but because of the voluminous debate and considerable pseudo-scientific experimentation on snake-bite cures. The standard first-aid measures were amputation or ammonia injection, and of course the acclimatizers advocated a range of measures including the introduction of the mongoose and the encouragement of snake-eating birds such as the Laughing Jackass (kookaburra). The third notable category was the diverse 'naturalists' grouping which reflected an increased coverage of natural history, particularly of 'lesser' creatures principally of scientific curiosity such as small plants, fungi, insects and microscopic organisms.

Significantly, the acclimatizers focused disproportionately on animals. This was despite the expanding interest in botany (led ably by von Mueller who had publicized the virtues of various native plants from the mid fifties), the 'awakening' to forest conservation from the late 1860s (Powell 1976; Legg 1995), and the limited spread of afforestation in the treeless plains of the Western District. Press campaigns on forest conservation generally predated those calling for wildlife preservation by almost half a century (although some sites and selected species were the subject of attention late in the century). The many thousands of items dealing with forest conservation identified in my related research were omitted from this chapter for a forthcoming publication (although an analysis of the *Argus* from 1910 to 1939 is presented in Legg 1995, and provincial newspaper coverage of forest conservation from the gold rush era is included in Legg 2002). In the last quarter of the century, it was common for the acclimatization theme to pervade the forest conservation debate with widespread support for the view that introduced tree species were inherently far superior to those from native forests. The power of the timber merchants, the general preference for working with softwoods, and the fact that the leading acclimatizers often led the forest conservation movement, all helped maintain support for the belief in the inferiority of native forests.

Surprisingly and despite the many reasons given to conserve forests (maintain timber supply for strategic and economic purposes, increase rainfall, reduce dessication, maintain soil fertility, increase water supply, control soil erosion, preserve sylvan beauty spots, improve health including combatting malaria, etc), forest fauna was very rarely used as a justification for forest conservation.

However, it was a primary reason given by politicians and local landowners for forest destruction (and is therefore often entered under 'pests' in the present content analysis). It would not be until after the turn of the century, and generally not until the 1920s that wildlife preservation became an element in arguments for the conservation of Victoria's forests (and then only as a minor consideration). Furthermore, throughout the study period, the portrayal of wildlife in the press was always more fragmented, episodic and diverse than the surprisingly intense, cumulative, cosmopolitan and dynamic debate on forest conservation. Topics such as scientific agriculture, water conservation, acclimatization and pest management attained a similar intensity and longitudinal profile to that of forest conservation. Despite their scientific and aesthetic appeal, the lack of apparent economic value of native animals (and plants to a lesser degree) in a basically agricultural colony marginalized press coverage on wildlife for most of the nineteenth century. And with predominantly coastal plain and open woodland settled by Europeans by the late 1860s, engagement with forest fauna was still relatively limited. Furthermore, with the decline in labour-intensive alluvial gold digging in the late fifties, agricultural settlement by the tens of thousands of diggers drifting away from the goldfields became the primary political concern in the colony from the 1860s (Powell 1970, Legg 2002). Thus, there was no respite from the earlier environmentally destructive attitudes and impacts, especially in regard to forest lands where a new confrontation was soon to begin on the small farm frontier.

Despite the unprecedented promotion of acclimatization, and the regular coverage of nature-related topics, the press still lamented that Australian natural history was almost 'utterly neglected by the public'. Tony Dingle (1984) notes that laws were introduced in 1858 and 1862 for the protection of introduced species and native game animals during the breeding season, because the penchant for bird eggging and hunting was so popular and indiscriminate that it threatened both the careful work of the acclimatizers and limited the hunters' 'bag'. The provincial press, who 'vied with each other for more sensational snake stories' and lay observers were accused of failing their civic duty to record and forward their observations of nature more assiduously and regularly in the newspapers for the advancement of science, colonial development and the edification of all (*Acclimatiser* 24/9/1864). This suggests limitations of using the press for environmental reconstructions, because of the unsystematic and highly selective nature of the published accounts (especially in the period before natural history columns became popular from the 1890s). Furthermore, while a large majority of articles included geographical descriptors, the locations were often general and seldom included precise environmental information. Nevertheless, this still leaves many hundreds of useful items in this sample and presumably many thousands in contemporary newspapers around Victoria that may include crucial information. For example, Mr Rumsley, gold receiver at Woods Point in the Gippsland high country reported that his captive platypus had 'laid two eggs thereby solving the naturalists' debate about whether the connecting link between birds and mammals lays eggs or bears live young'

– unfortunately Rumsley discarded the eggs before they were able to hatch (*The Woods Point Mountaineer*, 29/8/1864). These items are of great historical value, and there is enormous potential for studies of geographical variation in environment, attitudes and actions if the local press can be included in a systematic, comparative analysis. Given that classification was one of the major tasks perceived by the scientific community, it is not surprising that the scientific names of species were often carefully recorded in the press when reports of scientific meetings or literature were made. However, the vast majority of items incorporated only the common names of animals or local variants thereof and, while historically and etymologically important, this limits the value of these observations for environmental reconstructions.

Figure 3c shows the distribution of indexed items from the *Argus* in 1862. The categories of 'birds' and 'snakes' reflect the increasing concern with native fauna, although the latter effectively substituted for much of the 'sensationalism' of the previous two decades. The 'acclimatization' category was overwhelmingly significant, forming almost half of the entries that year, as it did in the *Acclimatiser* the following year (Figure 3d). Not surprisingly given its target audience and perceived role, the *Acclimatiser* focused on the recreational aspects within the 'fish', 'hunting', and 'naturalists' categories as well as the commercial potential of 'acclimatization'.

1870s and 1880s

Four interrelated trends dominated the press coverage in the 20 years after 1871. The first trend was the alarming spread of pest species, many of them related directly (i.e. introduced) or indirectly (favoured by later ecological disturbance) to the acclimatization of noxious animals. These include rabbits, hares, foxes, sparrows and starlings – the first three introduced as game, the last two as reminders of 'home'. The second trend was the decline in interest in acclimatization as its commercial value, utilitarian benefits and scientific validity were eroded by a furry and feathered plague of pests. Initially the surfeit of game could be dismissed as a windfall for local hunters and the meat industry, but the wisdom of their introduction became more doubtful during the late 1880s with drought and the push of agricultural settlement into the marginal semi-arid plains of the remote Mallee country. In addition, few of the exotic agricultural animals proved of lasting value, and the deaths of Burke and Wills in 1861 had already cast a long shadow on the use of camels. There were 'notorious' critics of acclimatization during the 1860s (such as England's Dr. Gray, see *Argus* 9/1/1865) but their arguments had been largely dismissed. By the 1880s, the critics' voices were commonplace and influential (*Argus* 19/1/1889).

Third was the spectacular growth of coursing as a popular, affordable, organized outdoor sport between 1873 and 1891 (Figure 5). Throughout Australia, suburban and provincial coursing clubs were established by yeoman farmers and members of the urban working class. Soon the racing of greyhounds using live rabbits and hares became a common sight. As a corollary, the 'welfare' category in this survey expanded as attention was turned to the question of

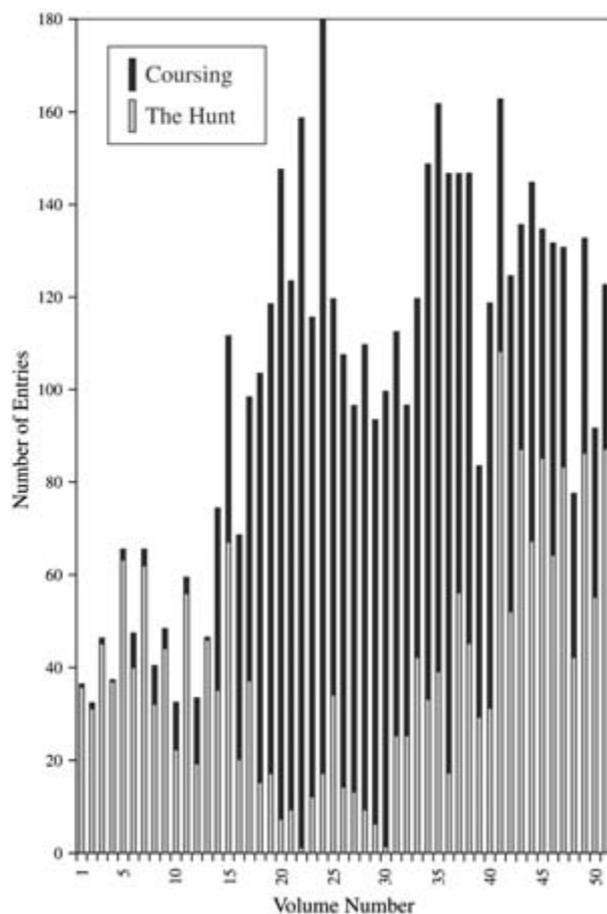


Figure 5. Number of articles on coursing and the hunt, *Australasian* 1864-1891, Vols. 1-50.

cruelty to the hare. Fourth was the expansion in hunting, particularly from 1882. Kangaroos and dingoes remained a stalwart for the chase in rural areas but the use of foxes and deer increased. Press coverage of game management, legislation and preservation expanded considerably.

An unrelated but noticeable trend was the rise in coverage of apiary, a small but significant industry exploiting the forests. And in 1882, the forests at Fern Tree Gully were reserved for public recreation and nature study. The output of the Learned Societies on natural history was regularly and assiduously reported during this period and it was notable that the earlier 'genuine' articles on the bunyip were replaced by a recognizably mythical creature of fiction and farce. A significant trend was the development of regular press columns of interest to amateur naturalists, although these were predominantly extracted from foreign journals and generally dealt with exotic animals. Tony Dingle (1984, 146) notes a 'dramatic reversal in attitudes' towards nature in Victoria in the early 1880s. He shows that the Field Naturalists' Club members who had previously seen the outdoors as 'an extended garden' now treated economic development as incompatible with nature. Further, the Australian Ornithological Union and the Bird Observers' Club were both formed to observe rather than collect, and a more ecological approach was emerging as exemplified by A.J. Campbell's 1885 campaign to preserve habitat rather than particular species (as under the antiquated game laws).

This change in sentiment was evident episodically in this newspaper survey during the 1880s, but it remained much more subtle than Dingle suggests, and the debate was often confined to the specialist journals and naturalists' clubs. Both popular and official attitudes continued to be generally inimical to wildlife conservation

Figures 3e and 3f show the distribution of indexed items from the *Australasian* in 1872 and 1882 respectively. The huge size of the hunting category in 1872 and its growth over the decade are remarkable, much of this being due to the popularity of coursing (Figure 5). Agricultural 'pests' received great attention in 1872 due principally to the 'rabbit question', and even though the proportion of 'pests' category items was considerably less in 1882, the number of items had actually increased slightly (17 to 19). This relates to the considerable fluctuation in the number of entries per volume in the *Australasian* between 1864 and 1891, the first sample volume (in 1872) having only half the total entries on nature of that in 1882 (Figure 6).

1890-1920

The *Australasian* sample between 1894 and 1908 was obtained from a selective handwritten index that excluded many eligible entries in the hunting and coursing categories (by omitting or subsuming them under 'turf'), but the major features are clear. The period was dominated by the depredations of pest species and the concerted effort to eradicate them, especially the rabbits that consolidated their occupation during the long drought around the turn of the century. Dingoes became more problematic in the increasingly neglected drought

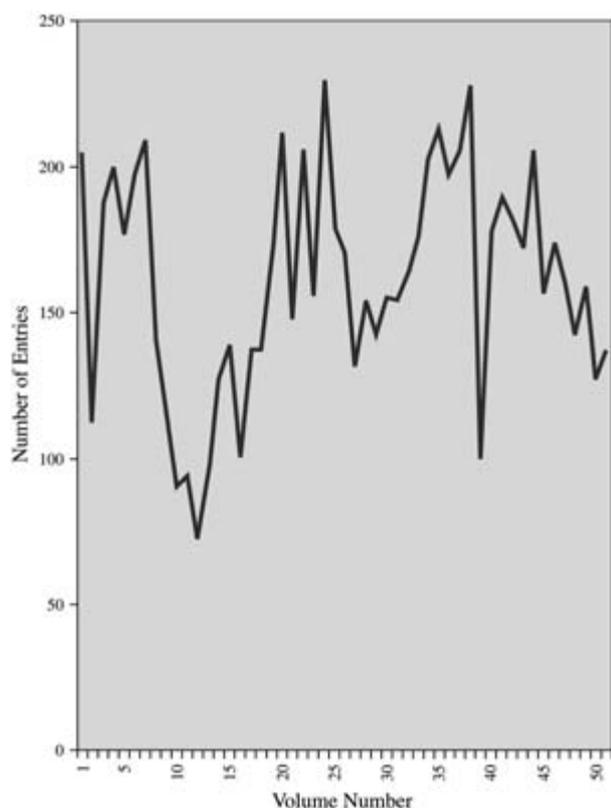


Figure 6. Number of articles, *Australasian* 1864-1891, Vols. 1-50.

ravaged Mallee country and periodically in the densely forested ranges of the high country where they were accused of becoming emboldened and more vicious.

Four important conservation movements affecting forest fauna emerged from the late 1880s. The first related to forests, with considerable coverage of Arbor Day from 1892, and the establishment of the long awaited Royal Commission on Forests between 1896 and 1901 receiving much press attention. Despite landmark legislation in 1907 and the establishment of Forest Leagues (1912) and Wattle Day in 1899 (see Robin 2002) to champion the cause, real change was not forthcoming until the establishment of the Forests Commission in 1918. In the early 1900s, Arbor Day, Bird Day, Wattle Day, and Discovery Day were introduced into Victorian schools by Education Director Frank Tate and natural history writer and journalist James Barrett (Griffiths 1989). This institutionalization into the primary curriculum helped to consolidate and expand natural history study in general and wildlife conservation in particular.

The second trend was the National Parks movement and the push for the establishment of wildlife sanctuaries. Many articles described the formation of Wilson's Promontory and five other National Parks between 1898 and 1909 thanks largely to the efforts of the Victorian Field Naturalists Club and the episodic struggles to prevent their excision or deterioration, such as the opposition to tin mining on Wilson's Promontory in 1918. Fern Tree Gully National Park was finally permanently reserved in 1922, forty years after it had been set aside.

The third trend received moderate attention in terms of press coverage, but was no less significant. Dingle (1984, 146) notes that, beginning with the lyrebird, between 1888 and 1902 the Victorian government was pressured into introducing laws to protect 'thirty five species of bird as well as all native wildlife (except snakes) living in national parks and public gardens'. Hunters supported the laws in an effort to sustain their sport, and they also accepted a range of measures, such as the outlawing of swivel guns, and the reduction in bag limits, designed to save wildlife. Nevertheless, there was still very limited coverage of small forest fauna; little more than a few articles each year on the biology and habits of individual species such as phascogales, gliders, native cats, owls, bats, lizards and snakes and much more on the common or curious lyre-bird, platypus, magpie, koala, kookaburra, opossum, cockatoo, wombat, wallaby, mallee fowl, brush turkey, emu, dingo and kangaroo. But the coverage before the 1920s was still largely from a natural history rather than an ecological perspective. And, of course, fascination with 'the bunyip' continued.

The fourth, and highest-profile conservation trend in terms of press coverage was the enormous expansion in interest in ornithology and the related spread of Bird Lovers' Leagues and Bird Day (from 1909). This was partly fuelled by a successful alignment of nationalism with iconic images of Australian birds at a time when photography was being introduced to lavishly illustrate even the mainstream press. But it was indicative of a deeper appreciation of native species and a move away from the focus on foreign and

exotic animals so prevalent up to the 1880s. The increasing proportion of the native-born population and the effective mobilization of national sentiments by the Australian Natives Association were both instrumental. Between 1906 and 1908, great inroads were made in the movement for the preservation of game animals and birds. Increasing criticism of the traffic in wild and caged birds and especially the Edwardian 'feather and plume' trade supplying women's fashions did much to focus attention on the need for bird preservation. Both caused major challenges to the hunting culture. Ironically hunters moved away from mammals to target ducks and quail, a relatively short-lived expedient before the bird-lovers mounted their attack once more. Native insectivorous birds had been praised in the press since before the gold-rush, but this had been overtaken by the passion for acclimatization of exotic species. *Australasian* and *Argus* nature writer Donald McDonald played a significant role in this trend; his 'Nature Notes and Queries' (from 1904) and 'Notes for Boys' (from 1909) columns became highly influential (Griffiths 1989). McDonald was a member of the increasingly popular Gould League for Birds and was a major political activist for wildlife preservation (as well as being the preeminent cricket writer and an accomplished war correspondent). McDonald's columns were continued after his death in 1932 by naturalist Alec Chisholm. Given that regular 'naturalist', 'science', and related columns with natural history information ('yeoman', 'man on the land', 'farm and dairy', 'station news', 'general news', 'bee keeper', 'acclimatisation', 'hunting', 'angling', 'the garden', 'notes and queries', etc.) were produced and meticulously indexed by the metropolitan press from at least the beginning of the 1860s, there is ample material for a more comprehensive analysis of the nineteenth century press coverage of the type provided for the twentieth century by Griffiths (1989).

The next important trend was less obvious and more gradual, particularly given the highly formalized structure of the newspapers, the compartmentalization of information into familiar topics and the traditional divorce of species from their environment as discrete biological entities. Nevertheless, a much more ecological approach emerged from the mid-1890s and especially after the Great War (and about a decade or two after that noted by Dingle 1984). This both informed, and was fed by, the conservation movement. The conservation of fauna and flora became increasingly portrayed as a question of the preservation of suitable habitat, and descriptions of fauna increasingly incorporated environmental information. Other subtle changes in the Edwardian period included the new aestheticism in which nature played a major role in the decorative arts, and the new appreciation of environment from middle class tourists and recreationalists after the end of the early 1890s economic financial crisis. Press coverage of natural history waned during the Great War 1914-18, but the use of military metaphors in nature description was evident.

Ironically, after the turn of the century, increased advertising space, the lavish use of photography (replacing the lithography of the late nineteenth century), the sheer growth and increasing complexity of the metropolis, changing public taste, shifts in editorial policy, and the emergence of competing specialist journals, all contributed to a reduction in the column space devoted to the typical regular detailed

fare so characteristic of the mid nineteenth century press. Although there was a sharp increase in press coverage on wildlife, this was achieved at the expense of the many weekly and monthly reports of learned societies, church sermons, local council minutes and voluminous government reports that had previously inflated the coverage.

Figure 7a shows the distribution of indexed items from the *Australasian* in 1892 (total items for the whole year, not just one representative volume as in Figures 3e and 3f). The predominant categories that year were 'hunting' (very little coursing was mentioned in the hand-written indexes of the *Australasian* for that period), 'pests', 'fish', and 'trees'. The hunting entries in the *Australasian* index decreased spectacularly from 114 in 1892 to only one in 1902 (Figure 7b), before stabilizing at one or two dozen each year until 1910. The 1902 sample of the *Australasian* (Figure 7b) shows a wide range of categories, of which 'bees' was the only one that had not previously received much attention. The *Argus* for 1912 (Figure 7c) shows more diversity, with the larger than previous proportions of 'birds' and 'parks' reflecting the increased concern with wildlife conservation issues noted in the section above.

1922-48

Even ignoring the unprecedented debate on forest conservation during the 1920s and 1930s (Legg 1995), this was the era during the study period with the greatest press coverage, public concern, and degree of organization by activists in relation to forest fauna. The destruction of small marsupials by foxes and feral cats and the threatened disappearance of species as a result of various anthropogenic forces were highlighted from the end of the Great War. The long and arduous campaigns to save the koala and opossum from the skin trade began in 1922 (the term 'possum' was almost never used in the sampled newspapers throughout this survey). During the 1920s, bitter opposition led by the Victorian Society for the Protection of Animals failed to have the one-week open season on opossums closed, and 300,000 skins were 'taken' in 1926 alone. With employment for 6,000 trappers, and 7,000 pounds in annual license fees during the depression years of the 1930s, there was little incentive for government action. In 1936 the Brisbane sales cleared 2,000,000 skins from the July open season. By that year the Save the Koala campaign was finally gathering momentum, and through the late 1930s there were many calls for the reservation of 'native bear' sanctuaries and reports on reforestation of their habitat. Lyrebird and platypus conservation was also prominent during the inter-war years, and articles dealing with the natural history and biology of small marsupials increased noticeably. These campaigns were promoted and recorded in the *Argus* by high-profile naturalists including Donald McDonald, Charles Barrett, Alec Chisholm, David Fleay, and Sir James Barrett. Sir James Barrett's prolific writings and speeches were instrumental in the parks movement, and, for the five years of its life, David Fleay's platypus, *Splash*, the first born in captivity, provided a symbol for the new-found appreciation of native mammals.

Opposition to cruelty was one component of the conservationists' stance with much harsher penalties and markedly more frequent convictions from 1924. Throughout

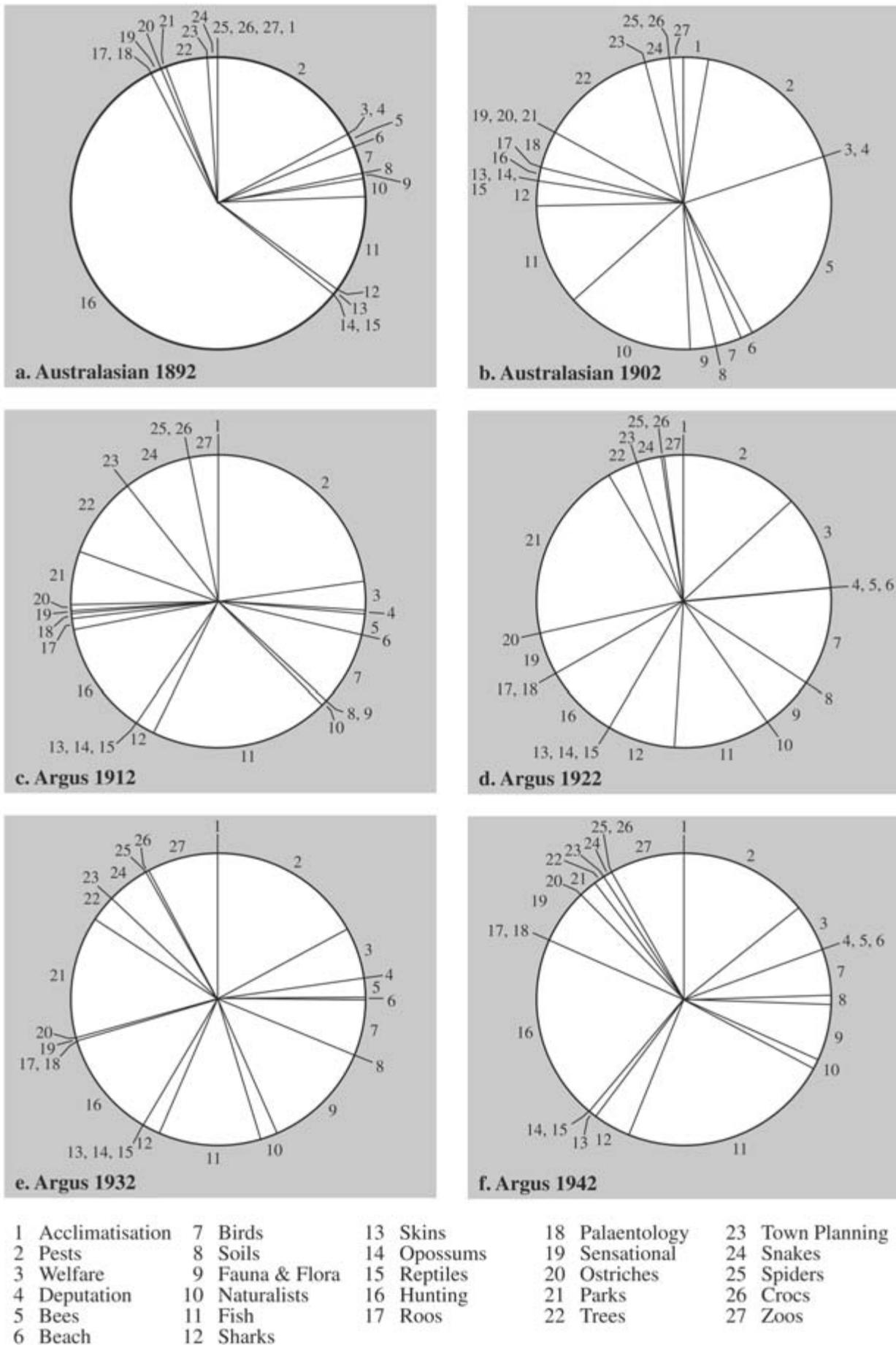


Figure 7. Newspaper content-analyses, 1892-1942.

the 1920s and 1930s conservationists and the Society for the Prevention of Cruelty to Animals occasionally succeeded in arguing that cruelty was sufficient grounds to prevent the culling of kangaroos and other marsupials. Lort Smith championed the welfare of domestic animals during this era. Coursing was continued, but mechanical hares largely replaced live lures after the Great War. The increased popularity of trout-fishing brought more anglers to the streams of the mountain forests, with 12,000 eagerly awaiting the season opening in 1936.

The National Parks movement became effectively aligned with the town planning movement during the 1920s and 1940s, thanks in part to campaigners such as Sir James Barrett who was a member of the National Parks Committee of the Town Planning Association of Victoria (Griffiths 1989). The massive struggle to prevent the excision of parkland in urban areas and to reserve sufficient public space in both town and country was coordinated by The Town Planning Association. Unfortunately, the long-awaited select committee report on Town Planning for Victoria was tabled in 1930 on the eve of the Great Depression, but the vision of 'planning to avert chaos' persisted until it was resurrected under post-war reconstruction.

Articles dealing with environmental deterioration during the 1930s and 1940s focused on plagues of grasshoppers and mice in northern Victoria, St. John's Wort and dingoes in the northeast, the problems of soil erosion from water following deforestation in the high country, sand drift from wind in the Mallee, and the decline of the hill country in the Strzelecki Ranges and Otway Ranges due to a combination of bracken, ragwort, rabbits and wombats (see Legg 1984; 1992). Reports in the metropolitan press included management advice in the 'Man on the Land' column and less frequent leading articles on more newsworthy items such as Ministerial visits, deputations, the release of major land settlement renewal or rationalization schemes, legislative changes, and relevant parliamentary debates. Editorials highlighted land degradation problems more frequently and stridently than ever before, and increasingly ecological interpretations linked environmental change directly to poor management, neglect or apathy. Not surprisingly, the metropolitan coverage was less frequent and detailed than that found in the provincial press describing local problems, but the state-wide coverage provides a valuable context. This underscores the need to cross-reference the metropolitan and larger rural papers with their local counterparts – the metropolitan papers can be used to identify key periods and events which can then be traced in more detail through the local press; alternatively, the metropolitan press should be used to contextualize what might otherwise be too parochial concerns reported in the local press (although there was always a remarkably high degree of interchange through extracts and summaries between both groups of newspapers). Summaries with quite detailed historical overviews on particular issues prove particularly valuable, and this type of coverage was common before the introduction of relevant parliamentary bills (e.g. on wildlife or forest conservation).

A series of massive and deadly bushfire conflagrations in 1898, 1926, 1939 and 1944 showed how destructive on the forests was 'the hand of man', and this eventually forced a more conservative and restricted use of fires in

rural areas. The destruction of native plants and animals and the disturbance to hydrology and soils was recognized and lamented in the press, although the human toll, and economic consequences received most attention. After the lull in nature articles during the desperate war years (1939-45), the final conservation campaign in the study period was the unsuccessful attempt by the Field Naturalists Club to prevent the slaughter of 2,000 seals along the Victorian coastline in 1948. Fishermen had faced many years of scarce fish stocks and record high prices and were now pushing for the cull, a historically common response. Despite the serious conservation concern and the long-delayed attention to forest fauna by naturalists, the staple articles following the Great War related primarily to curiosity and sensationalism, albeit with a domestic rather than foreign focus. Perhaps in reaction to the miseries of war and depression, the lighter fare comprised photographic essays on zoo animals along with the continued morbid fascination with circus incidents, shark attacks and snakebite.

The three graphs showing the distribution of categories in 1922, 1932 and 1942 (Figures 7d, 7e and 7f respectively) reflect the growth of the conservation movement in the interwar years, with the increased proportion of 'parks' (both the National Parks movement and the related attempt to prevent the excision of urban parklands), 'fauna and flora' (mainly related to the conservation of birds, seals, koalas, opossums and the platypus), 'birds' (celebrating Australian birds) and 'hunting' (the latter mainly critical articles relating to opossum and koala hunting). Again, differences in the actual number of entries in the sampled years need to be remembered (Figure 8).

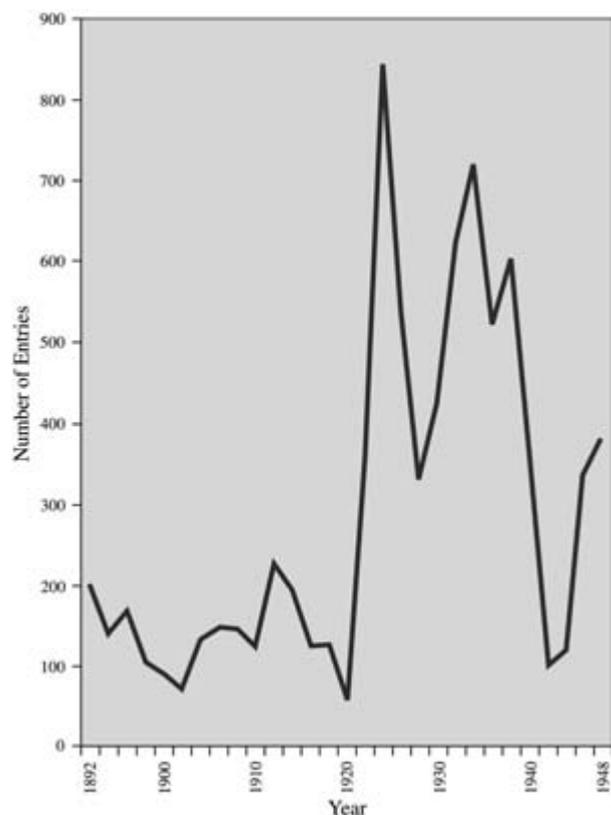


Figure 8. Number of articles, *Australasian* & *Argus*, 1892-1948.

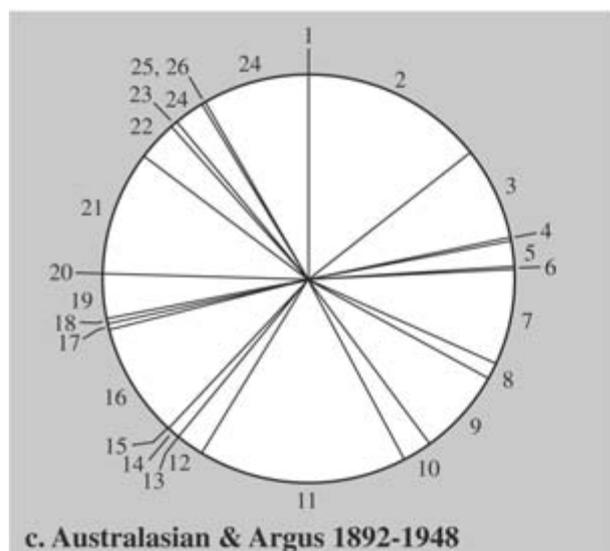
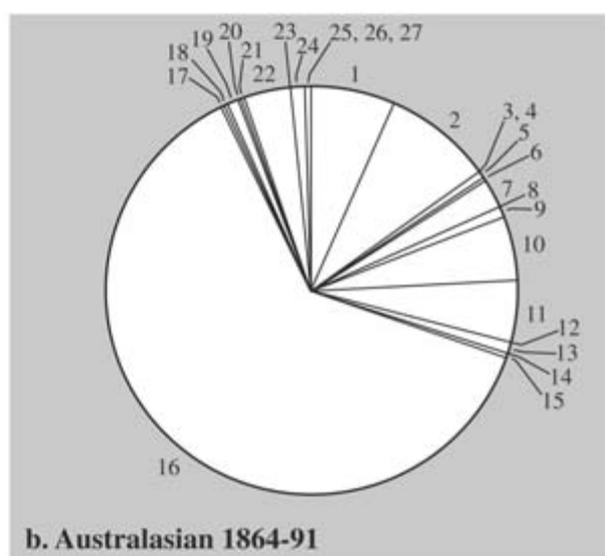
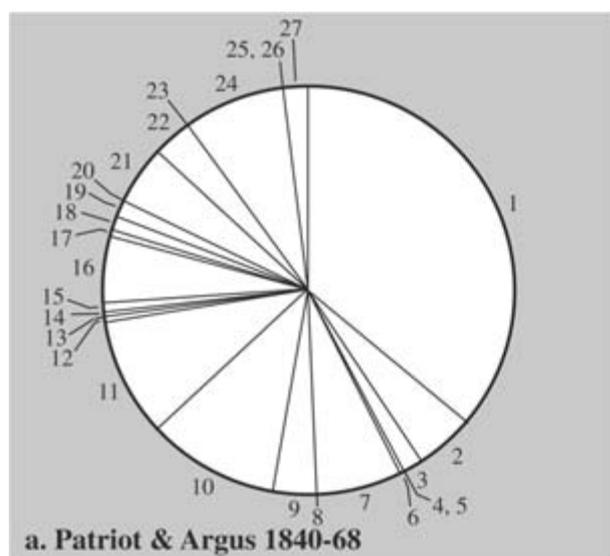
The spectacular growth in the number of entries in the early 1920s and mid 1930s due to conservation concerns is particularly noticeable, as is the decline in coverage during the Great War, Great Depression and Second World War. The pragmatic concerns in 1942 during some of the darkest days of the war in the Pacific are not surprising ('fish', 'pests' and 'hunting' received most attention). The significance of the lighter fare of 'zoos', and morbid curiosity ('sharks', 'snakes', 'sensational', etc) since 1912 is also evident.

Overview

Finally, Figures 9a, 9b and 9c present some broad overviews by focusing on the three major eras in the study period (1840-68, 1864-91, and 1892-1948 respectively). The sheer bulk of items on acclimatization overwhelms most other categories in the first period (Figure 9a), the decade 1858-68 in particular being disproportionately concerned with acclimatization. Acclimatization represented 36 per cent of the 4033 items in this period. The dominance of articles on hunting, specifically including 24 per cent on 'the hunt' compared with an additional 38 per cent on

'coursing', is most remarkable from the distribution of the 8,203 items indexed from 1864-91 (Figure 9b). By contrast, the long period 1892-1948 (figure 9c) reveals much greater diversification in its 7,078 articles. As an interface between human action and the natural environment, the sampled newspapers were heavily affected by editorial policy, the dictates of their perceived market, and increasingly the penchants of a small number of regular natural history columnists. The newspapers sampled here are selective indicators at best. Other Victorian newspapers may reveal different perspectives, interests and opinions, but the historical trends would probably be similar.

In terms of Victoria's environmental history, the trends evident in Figure 9 confirm that the first two periods involved a difficulty with, and unwillingness to, engage with native flora and fauna other than for essentially commercial purposes (even though some small degree of scientific and recreational interest was always evident). Victoria's colonial society was determined to recreate the Old World in the New and so the transformation of nature in Victoria (via acclimatization) and its destruction (through hunting and



- | | |
|-------------------|------------------|
| 1 Acclimatisation | 15 Reptiles |
| 2 Pests | 16 Hunting |
| 3 Welfare | 17 Roos |
| 4 Deputation | 18 Palaentology |
| 5 Bees | 19 Sensational |
| 6 Beach | 20 Ostriches |
| 7 Birds | 21 Parks |
| 8 Soils | 22 Trees |
| 9 Fauna & Flora | 23 Town Planning |
| 10 Naturalists | 24 Snakes |
| 11 Fish | 25 Spiders |
| 12 Sharks | 26 Crocs |
| 13 Skins | 27 Zoos |
| 14 Opossums | |

Figure 9. Newspaper content-analyses, summary: 1840-1948.

the extermination of pests) were dominant themes. Reports on the environmental disturbance that ensued, particularly with the spread of vermin and noxious weeds, were also pervasive in the press. Forest and water conservation were major campaigns omitted from this study and while they grew markedly from the 1860s, the conservationists' arguments rarely included wildlife as a reason for forest preservation until after the Great War. Only in the third and last period surveyed (1892-1948) was there a serious and prolonged engagement with wildlife conservation, albeit largely as a reaction to the destruction of birds, opossums, koalas and platypus. A popular revaluation of native fauna and flora had taken place from the 1890s and especially from the early 1920s, and this was to focus largely on forest species. The new-found sentiments were shaped by emerging national and ecological visions. These challenged, but did not replace, the old attitudes. Instead, a more complex, contrasting and geographically varied vision of the natural world and our place in it had emerged in which the popular press played a leading role. Paradoxically, at the peak of their power, the Great War decimated the aristocrat dynasties which had so profoundly influenced acclimatization and hunting (Cannon 1985). The War also reaffirmed Australia's ties with Britain precisely at the moment, popular sentiment has it, that the national image was forged.

More tentatively, and given that the popular engagement with nature was, in part, a search for an understanding of ourselves, the revaluation of indigenous wildlife and the resultant growth in conservation (especially of iconic species like the koala, platypus and lyrebird) reflected the beginning of a profound shift in the Australian identity.

Similar changes were occurring throughout the continent at the time, so the trend was not exclusively Victorian. Nor was nationalism a precondition to conservation; the Americans were at the forefront of the movement long after they had broken ties with Britain. Both Australians and North Americans were rejecting the stigma of a New World fauna long regarded by Europeans as inferior and of mainly curiosity value, but this was insufficient reason to significantly alter government policy. As middle class numbers and values grew, the fashion for outdoor recreation contributed to the National Parks movement, and the increasingly influential urban progressives promoted an engagement with nature that was markedly different to that of traditional rural society. Notwithstanding these philosophical changes, there were other imperatives. A far less profligate exploitation of natural resources was being forced by the recognition that the game animals were disappearing, the fisheries were being depleted, and the Victorian environment was experiencing profound ecological disturbances caused by agriculture, mining and the acclimatization experiment. The costly and occasionally tragic 'Closer Settlement' era that involved the subdivision of existing farms from the 1890s heralded the closure of the frontier (and therefore, abundant cheap land) and soon only distant or marginal lands remained for 'pioneer development'.

Acknowledgement

I am grateful to the anonymous referees who examined a draft of this chapter.

References

- Anon c.1965. *Indexes to the Australasian, 1892-1933*. State Library of Victoria. (manuscript).
- Arnold, D. 1996. *The Problem of Nature: Environment, Culture and European Expansion*. Oxford University Press.
- Australasian 1864-1891. *Indexes to Volumes I-LI*. Australasian.
- Bach, J. 1976. *A Maritime History of Australia*. Pan Books, Sydney.
- Bayley, W.A. 1976. 'Index of the *Town and Country Journal*', 1870-1919. (manuscript).
- Blainey, G. 1966. *The Tyranny of Distance*. Sun Books, Melbourne.
- Blainey, G. 1980. *A Land Half Won*. MacMillan, Melbourne.
- Bolton, G. 1976. 'The historian as artist and interpreter of the environment'. pp 113-124 in *Man and Landscape in Australia – Towards an Ecological Vision*. edited by Seddon, G., A.G.P.S., Canberra,
- Bonyhady, T. 2001. *The Colonial Earth*. Melbourne University Press, Carlton.
- Brown, P.L. (ed.) various dates. *Clyde Company Papers*. (Vol. I, 1821-35, 1941; Vol. II, 1836-40, 1941; Vol. III, 1841-45, 1958; Vol. IV, 1846-50, 1959; Vol. V, 1851-57; Vol. VI, 1854-58; Vol. VIII, 1859-73, 1971). Oxford University Press. London.
- Cameron, J.M.R. 1981. *Ambition's Fire – The Agricultural Colonization of Pre-Convict Western Australia*. University of Western Australia Press, Nedlands.
- Cannon, M. (ed.) 1981. *Vagabond Country – Australian Bush & Town Life in the Victorian Age*. Hyland House, Melbourne.
- Cannon, M. 1985. *The Long Last Summer – Australia's Upper Class Before the Great War*. Nelson, Fitzroy.
- Chisholm, A.H. 1964. *Land of Wonder – The Best Australian Nature Writing*. Angus & Robertson, Sydney.
- Christensen, B. 1999. 'From Divine Nature to Umbrella Species – The Development of Wildlife Science in the United States'. Pp 209-229 in *Forest and Wildlife Science in America*, edited by Steen, H.K., Forest History Society, Durham, N.C.
- Coates, P. 1988. *Nature: Western Attitudes Since Ancient Times*. Polity Press.
- Cowley, D. 2002. 'Women's Work: Illustrating the Natural Wonders of the Colonies'. *The La Trobe Journal* 69: 11-29.
- Dargavel, J. Jackson, G. and Tracey, J.L. 1995. 'Environmental events in the forests of northern New South Wales: a second order'. *Australian Journal of Environmental Management*, 2 (4): 224-33.
- Darwin, C. 1859. *On the Origin of Species by Means of Natural Selection*. Watts, London.
- De Serville, P. 1980. *Port Phillip Gentlemen and Good Society in Melbourne Before the Gold Rushes*. Oxford University Press, Melbourne.
- De Serville, P. 1991. *Pounds and Pedigrees – The Upper Class in Victoria, 1850-80*. Oxford University Press, Melbourne.
- Dingle, T. 1984. *The Victorians – Settling*. Fairfax, Syme, & Weldon Associates, McMahons Point.
- Ducker, S.C. 1981. Facsimile edition of Hannaford, S. 1860. *Sea and River-side Rambles in Victoria*, Heath & Cordell, Geelong.

- Evans, M. 1982. 'Taking to the Bush: Australian Landscape as a Condition of Practice for the Field Naturalists' Club of Victoria, 1880-1900'. Bachelor of Arts (Honours) thesis, University of Melbourne.
- Evans, W. (ed.) 1975. *Diary of a Welsh Swagman, 1869-1894*. Sun Books. Melbourne.
- Feeley, J.A. 1976. *Index to the Argus, 1846-54*. Library Council of Victoria, Melbourne.
- Feeley, J.A. 1978. *Index to the Argus, 1855-April 1859*. Library Council of Victoria, Melbourne.
- Finney, C.M. 1984. *To Sail Beyond The Sunset – Natural History in Australia, 1699-1829*. Rigby Australia, Adelaide.
- Fitzpatrick, B. 1949. *The British Empire in Australia*. Melbourne University Press, Carlton.
- Gillbank, L. 1980. The Acclimatisation Society of Victoria. *The Victorian Historical Journal* 51 (4): 255-270.
- Gillbank, L. 1986. The Origins of the Acclimatisation Society of Victoria. Practical Science in the Wake of the Gold Rush. *Historical Records of Australian Science* 6 (3): 359-375.
- Gillbank, L. 1988. 'The Life Sciences: Collections to Conservation'. Pp 99-129 in *The Commonwealth of Science – ANZAAS and the Scientific Enterprise in Australasia, 1888-1988*. edited by MacLeod, R., Oxford University Press, Melbourne.
- Glacken, C. J. 1967. *Traces on the Rhodian Shore – Nature and Culture in Western Thought From Ancient Times to the End of the Eighteenth Century*. University of California Press, Berkeley.
- Goodwin, C.D.W. 1974. *The Image of Australia – British Perception of the Australian Economy from the Eighteenth to the Twentieth Century*. Duke University Press, Durham, N.C.
- Grant, J. and Serle, G. 1978. *The Melbourne Scene, 1803-1956*. Hale and Iremonger, Neutral Bay, NSW.
- Griffiths, T. 1989. 'The Natural History of Melbourne: The Culture of Nature Writing in Victoria, 1880-1945.' *Australian Historical Studies*, 23 (93): 339-365.
- Griffiths, T. 1996. *Hunters and collectors : the antiquarian imagination in Australia*. Cambridge University Press, Melbourne.
- Gururani, S. 2002. 'Forests of Pleasure and Pain: gendered practices of labour and livelihood in the forests of the Kumaon Himalayas, India'. *Gender, Place and Culture* 9: 3, 229-243.
- Haynes, R.D. 1998. *Seeking the Centre – The Australian Desert in Literature, Art and Film*. Cambridge University Press, Melbourne.
- Heathcote, R.L. 1965. *Back of Bourke*. Melbourne University Press, Carlton.
- Heathcote, R.L. 1972. 'The Visions of Australia, 1770-1970'. Pp 77-98 in *Australia as Human Setting – Approaches to the designed environment*. edited by Rapoport, A., Angus and Robertson Education, Sydney.
- Jeans, D.N. 1975. 'The impress of central authority upon the landscape: south-eastern Australia, 1788-1850'. Pp 1-17 in *Australian Space, Australian Time – Geographical Perspectives*, edited by Powell, J.M. and Williams, M., Oxford University Press, Melbourne.
- Johns, E. 1998. 'Landscape Painting in America and Australia in an Urban Century'. Pp 23-52 in *New Worlds From Old – 19th Century Australian & American Landscapes*. edited by Johns, E.; Sayers, A.; Kornhauser, E.M. National Gallery of Australia, Canberra.
- Johns, E.; Sayers, A.; Kornhauser, E.M. 1998. *New Worlds From Old – 19th Century Australian & American Landscapes*. National Gallery of Australia, Canberra.
- Kiddle, M. 1983. *Men of Yesterday – A Social History of the Western District of Victoria, 1834-1890*. Melbourne University Press, Carlton.
- Kornhauser, E.M. 1998. '"all Nature is new to Art": Painting the American Landscape, 1800-1900'. Pp 71-91 in *New Worlds From Old – 19th Century Australian & American Landscapes*, edited by Johns, E.; Sayers, A.; Kornhauser, E.M. National Gallery of Australia, Canberra.
- Leakey, R. 1979. *The Illustrated Origin of Species*. Oxford University Press, Oxford.
- Legg, S.M. 1984. 'Arcadia or Abandonment? – The Evolution of the Rural Landscape in South Gippsland, 1870 to 1947'. M.A. thesis, Department of Geography, Monash University, Melbourne.
- Legg, S.M. 1992. *Heart of the Valley – A History of the Morwell Municipality*. City of Morwell.
- Legg, S.M. 1995. 'Debating Forestry – An Historical Geography of Forestry Policy in Victoria and South Australia, 1870 to 1939'. Ph. D. thesis. School of Geography and Environmental Science, Monash University, Melbourne.
- Legg, S.M. 1999. 'Through a glass darkly? – Leaves from the post-modern forest'. Pp 372-388 in *Australia's Ever-changing Forests IV*. edited by Dargavel, J. and Libbis, B., CRES, Australian National University, Canberra.
- Legg, S.M. 2002. 'Localism in Victorian forest conservation before 1900'. Pp 49-72 in *Australia's Ever-changing Forests V*. edited by Dargavel, J., Gaughwin, D. and Libbis, B., CRES, Australian National University, Canberra.
- Lever, C. 1992. *They Dined on Eland: The Story of the Acclimatisation Societies*. Cimino Publishing Group, London.
- Low, T. 2001. *Feral Future – The Untold Story of Australia's Exotic Invaders*. Penguin Books, Ringwood.
- Lowenthal, D. 2001. 'Environmental History, from Genesis to Apocalypse'. *History Today*. 39: 36-42.
- Mabey, R. (ed.) 1995. *The Oxford Book of Nature Writing*. Oxford University Press, Oxford.
- MacLeod, R. (ed.) 1988. *The Commonwealth of Science – ANZAAS and the Scientific Enterprise in Australasia, 1888-1988*. Oxford University Press, Melbourne.
- McCaughey, P. 1989. 'Likeness and Unlikeness: The American – Australian Experience'. Pp 15-22 in *New Worlds From Old – 19th Century Australian & American Landscapes*. edited by Johns, E.; Sayers, A.; Kornhauser, E.M. National Gallery of Australia, Canberra.
- McLean, I. 1999. 'Under Saturn: Melancholy and the Colonial Imagination'. Pp 131-162 in *Double Vision: Art Histories and Colonial Histories in the Pacific*. edited by Thomas, N. and Losche, D., Cambridge University Press, Melbourne.
- Meinig, D.W. 1962. *On the Margins of the Good Earth: the South Australian Wheat Frontier, 1869-1884*. Association of American Geographers, Chicago.
- Merchant, C. 1989. *Death of Nature*. Harper and Row. New York. 2nd edn.
- Mitchell Library, Sydney. Undated. 'Card Index to the *Port Phillip Gazette*, October 1838- April 1845'. (manuscript).
- Moyal, A.M. 1976. *Scientists in Australia: A documentary history*. Cassell Australia, Stanmore.

- Myerson, G. and Rydin Y. 1996.** *The Language of Environment – A New Rhetoric*. U.C.L. Press, London.
- Paddle, R. 2000.** *The Last Tasmanian Tiger - The History and Extinction of the Thylacine*. Cambridge University Press, Melbourne.
- Peel, L. 1974.** *Rural Industry in the Port Phillip Region, 1835-1880*. Melbourne University Press, Carlton.
- Powell, J.M. 1970.** *The Public Lands of Australia Felix*. Oxford University Press, Melbourne.
- Powell, J.M. 1976.** *Environmental Management in Australia, 1788-1914*. Oxford University Press, Melbourne.
- Powell, J.M. 1988a.** 'Protracted Reconciliation: Society and the Environment'. Pp 249-271 in *The Commonwealth of Science – ANZAAS and the Scientific Enterprise in Australasia, 1888-1988*. edited by MacLeod, R., Oxford University Press, Melbourne.
- Powell, J.M. 1988b.** *An Historical Geography of Modern Australia – The Restive Fringe*. Cambridge Studies in Historical Geography 11, Cambridge University Press, Cambridge.
- Rickard, J. 1988.** *Australia – A Cultural History*. Longman, Essex.
- Robin, L. 2002.** 'Days of nature in Australia'. Pp 324-341 in *Australia's Ever-changing Forests V*. edited by Dargavel, J., Gaughwin, D. and Libbis, B., CRES, Australian National University, Canberra.
- Roche, M.M. 1987.** *Forest Policy in New Zealand – An Historical Geography, 1840-1919*. The Dunmore Press, Palmerston North.
- Rolls, E. 1969.** *They All Ran Wild: The Story of Pests on the Land in Australia*. Nelson, Sydney.
- Ryan, S. 1996.** *The Cartographic Eye – How Explorers saw Australia*. Cambridge University Press, Melbourne.
- Sayers, A. 1998.** 'The Shaping of Australian Landscape Painting'. Pp 53-70 in *New Worlds From Old – 19th Century Australian & American Landscapes*. edited by Johns, E.; Sayers, A.; Kornhauser, E.M., National Gallery of Australia, Canberra.
- Serle, G. 1968.** *The Golden Age – A History of the Colony of Victoria, 1851-1861*. Melbourne University Press, Carlton.
- Serle, G. 1970.** *The Rush to be Rich – A History of the Colony of Victoria, 1883-1889*. Melbourne University Press, Carlton.
- Serle, G. 1987.** *The Creative Spirit in Australia – A Cultural History*. William Heinemann, Richmond.
- Shaw, A.G.L. 2003.** *A History of The Port Phillip District – Victoria Before Separation*. Melbourne University Press, Carlton.
- Smith, B. 1952.** 'The Interpretation of Australian Nature during the Nineteenth Century'. Bachelor of Arts (Honours) thesis, University of Sydney.
- Smith, B. 1960.** *European Vision and the South Pacific, 1768-1850 – A Study in the History of Art and Ideas*. Oxford University Press, Oxford.
- State Library of Victoria. c.1960.** Holdings of Victorian Newspapers. Chronological List, 1840-1960. (manuscript).
- Suter, G. 1999.** *Indexes to the Argus*. [5 volumes: 1860-61 to 1868-69]. Argus Index Project, Melbourne.
- Williams, M. 2000.** 'Putting "Flesh on the bones" of forest history'. Pp 35-46 in *Methods and Approaches in Forest History*, edited by Agnoletti, M. and Anderson, S. Wallingford, CAB International.
- Winchester, S. 2001.** *The Map That Changed the World - The Tale of William Smith and the Birth of a Science*. Viking, London.
- Wood, F.L.W. 1961.** *A Concise History of Australia*. Dymocks, Sydney.

APPENDIX I Appendix I. Categories and Subheadings, after *Argus* Indexes 1910-48

Category	Subheading (useful to begin a search within for relevant items)
1. Acclimatization:	acclimatisation; acclimatisation society; [misc.]
2. Pests:	agricultural pests; ants; dingoes; dogs; flies; foxes; insects; mice; mice plague; mosquitoes; noxious vermin; noxious weeds; vermin destruction; wire-netting; wombats; pests; pests and diseases; prickly pear pest; rabbits; rabbits and hares; thistles; [misc., especially agriculture]
3. Welfare:	animals; animal welfare; Animal Welfare League/Week; cruelty to animals; vivisection; wild Australian stampede; [misc., especially hunting and coursing]
4. Deputations:	Australian Natives Association; deputations; [misc.]
5. Bees:	apiary; apiaries; apiarists; bees; honey, bees and c.
6. Beach:	barrier reef; beaches and foreshores; [misc.]
7. Birds:	birds; ornithology; Ornithologists Union; [misc.]
8. Soils:	erosion; soils; soil erosion; soil conservation; [misc.]
9. Fauna & Flora:	Australian fauna; fauna; fauna and flora; flora; native fauna; [misc.]
10. Naturalists:	botany; microscopical society; naturalists; natural history; research; science and scientists; veterinary; [misc. esp. various individual naturalists, collectors and biological scientists; aquarium; herbarium; museum; university; etc.]
11. Fish:	angling; crabs; fish; fisheries; fishing; pearling industry; porpoises; seals; sea serpents; whales; whales and whaling
12. Sharks:	sharks
13. Skins:	feather and plume trade; fur; fur and skins; hides; [misc.]
14. Opossums	opossums; possums
15. Reptiles	frogs; lizards; toads; tortoises; turtles
16. Hunting:	coursing; deer; duck; game; gun shooting; hunting; pigeons; [misc.]
17. Roos:	kangaroos; kangaroos and wombats; wallaby [misc.]
18. Palaeontology:	evolution; fossils; man or ape; man – prehistory [misc.]
19. Sensational	circuses and circus incidents; illustrated articles; special articles; misc. news items
20. Ostriches:	ostriches; ostrich farming
21. Parks:	national parks; natural resource preservation; parks, gardens and reserves; parks and reserves; parks and resources; Wild Nature Exhibition [misc.]
22. Trees:	Arbor Day; wattle; Wattle Day; Wattle League; Wattle Industry; firewood; [misc., especially forestry; horticulture]
23. Town Planning:	town planning
24. Snakes:	snakebite; snakes; snakes and snakebite
25. Spiders:	spiders
26. Crocs:	alligators; crocodile
27. Zoos:	camels; elephants; lions; zoological; zoological gardens; Zoological Society