

## Islands as Arks: Nature Protection and the Preservation Ethic, 1898-1918

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Island worlds have long been a wellspring of inspiration to the scientific imagination. Consider the example of Bernier Island in Western Australia's Shark Bay. Twice visited by the Baudin Expedition of 1800-04, the island's environment so excited the young savant François Péron that he interpreted his geological and zoological collections in light of the catastrophist and transmutationist theories fashionable in the Parisian scientific circles he inhabited.<sup>1</sup> Later in the nineteenth century, the English naturalists Charles Darwin and Alfred Russel Wallace found their own inspiration in insular floras and faunas. At the Galapagos Islands and St Helena, and across the Malay Archipelago, Darwin and Wallace respectively gathered acute evidence to support the theory of evolution by natural selection. Darwin's *On the Origin of Species* then precipitated the Darwinian revolution, 'perhaps the most fundamental of all intellectual revolutions in the history of mankind', transforming for all time ideas about the place of humans in nature and the role of deities in the creation and workings of the Earth.<sup>2</sup>

There is no coincidence that these scientists found in remote islands the inspiration for ideas that shaped or defined the intellectual climate of their times. Fernand Braudel points out that isolation is a relative phenomenon: the ocean may be an effective barrier, but islands brought within the ambit of seafarers can rapidly become microcosms of historical forces operating on a larger temporal and geographical plane.<sup>3</sup> Such is the case with Western Australia's offshore

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1 I am grateful to Claes Hallgren for providing translations of material relating to Mjöberg's expedition, and to Damien Hassan for assistance in locating archival records.

François Péron outlined these interpretations in his *Voyage de Découvertes aux Terres Australes* (1807). See F. Peron, *Voyage of Discovery to the Southern Lands* Volume One, translated by C. Cornell, The Friends of the State Library of South Australia, 2006, pp. 92-8. For context see E. Duyker, *Francois Peron, An Impetuous Life: Naturalist and Traveller*, Miegunyah Press, 2006, pp. 212-13.

2 E. Mayr, 'The Nature of the Darwinian Revolution', *Science*, New Series, vol. 176, no. 4038, 1972, pp. 981-9.

3 F. Braudel, *The Mediterranean and the Mediterranean World in the Age of Philip II*, Volume One, translated by Siân Reynolds, Collins, 1972, pp. 149-50.

islands. Rising seas during the early Holocene formed each of the major groups: the Recherche Archipelago, Garden, Carnac and Rottneest Islands, the Abrolhos Islands, Dirk Hartog, Bernier and Dorre Islands, Barrow and the Monte Bello Islands, and the Dampier and Bonaparte Archipelagoes. Mostly these islands remained free of human contact until the arrival of Europeans heralded the onset of diverse and changing usages. Scientific investigations were initiated by early explorers, and have continued at intervals ever since.<sup>4</sup> After colonisation other interactions unfolded, as different islands were exploited for natural resources such as minerals, turtles or guano; settled by pearlsharers, pastoralists or fishers; used for military installations and nuclear tests; supported industrial developments; or accessed for tourism and recreation.<sup>5</sup> Some islands became pivotal to the history of European-Aboriginal relations. Rottneest was used as a prison for Indigenous offenders between 1838 and 1931, Sunday Island after 1898 for a mission established for the protection of the Bardi people, Bezout Island for a leprosarium between 1909 and 1912, Bernier and adjoining Dorre Island as 'lock hospitals' for the treatment of venereal and other introduced diseases between 1908 and 1917.<sup>6</sup> And islands have been important to the state's environmental history, acting as reserves for the protection of native wildlife since the early years of the twentieth century.

This essay examines the origins of nature protection on Western Australia's islands. The first island reserves were created at the same time as the establishment and early operation of the offshore hospitals, leprosarium and mission station, and the argument here is that the connections run deeper than this coincidence of dates. The case of the lock hospitals is revealing. Born out of humanitarian impulses and Victorian-era attitudes to sexual morality, the hospitals soon came to typify the racism and callousness that existed at this time towards Aboriginal people, who were shipped in chains to these remote islands and provided with a minimum of treatment for the introduced diseases that, all too often, proved fatal.<sup>7</sup> One of the more infamous accounts of this experiment in Indigenous healthcare comes from the ethnologist Daisy Bates

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4 J. Christensen, 'Shark Bay 1616-1991: The Spread of Science and the Emergence of Ecology in a World Heritage Area', PhD thesis, The University of Western Australia, 2008, pp. 4-10.

5 See M. Hercoc, 'Islands' in J. Gregory and J. Gothard (eds), *Historical Encyclopedia of Western Australia*, University of Western Australia Press, 2009, pp. 492-3; I. Abbott, 'The Islands of Western Australia: Changes Over Time in Human Use', *Early Days*, vol. 12, pt. 6, 2006, pp. 635-53; V. Serventy, 'Islands of Western Australia' in G. Dutton (ed.), *The Book of Australian Islands*, Macmillan, 1986, pp. 108-28.

6 For the prison at Rottneest, see N. Green, *Broken Spears: Aboriginal and European Relations in the Southwest of Australia*, Focus Education Services, 1984, pp. 167-72. For the lock hospitals, see M.A. Jebb, 'The Lock Hospitals Experiment: Europeans, Aborigines and Venereal Disease' in B. Reece and C.T. Stannage (eds), *Studies in Western Australian History VIII: European-Aboriginal Relations in Western Australian History*, University of Western Australia Press, 1984, pp. 68-87. For the leprosarium, see W.S. Davidson, *Havens of Refuge: A History of Leprosy in Western Australia*, The University of Western Australia Press, 1978, pp. 15-17. For the Sunday Island mission, see P. Biskup, *Not Slaves Not Citizens: The Aboriginal Problem in Western Australia 1898-1954*, University of Queensland Press, 1973, pp. 54-5.

7 Jebb, 'The Lock Hospitals Experiment', pp. 68-87.

(1863-1951), who visited the islands during the Cambridge Expedition of 1910, and described the hospitals in these terms:

Dorre and Bernier Islands: there is not, in all my sad sojourn among the last sad people of the primitive Australian race, a memory one-half so tragic or so harrowing, or a name that conjures up such a deplorable picture of misery and horror unalleviated, as these two grim and barren islands of the West Australian coast that for a period, mercifully brief, were the tombs of the living dead.<sup>8</sup>

It was this same mindset that led Bates elsewhere in her work to define her approach to Indigenous welfare as, in another infamous phrase, 'smoothing the dying pillow' of Aboriginal society.<sup>9</sup> She was far from alone in holding these views. One of the monuments of the period, James Batty's *Cyclopaedia of Western Australia* of 1911-12, stated that Aboriginals were the archetype of primitive humanity and that most tribes in the settled districts seemed destined for 'absolute extinction', before adding that this outcome would largely obviate the problem of providing for their welfare.<sup>10</sup> Such ideas were part of mainstream thought, trickling down from elites such as Bates and Batty to become part of popular dialogue, where they could be expressed in the crudest of forms (see Figure 1).

The mindset that Bates exemplified is that of Darwinism. Although previously distinguished from Social Darwinism, the historical interconnections between evolutionary theory in the scientific and social realms are such that the distinction is arguably no longer tenable.<sup>11</sup> The influence of this Darwinian world-view on attitudes to Aboriginal Australians has received considerable scholarly attention.<sup>12</sup> Darwinism fuelled pre-existing racial prejudice by endowing assumptions of cultural and physical superiority with a quasi-scientific basis, and through the notions of the 'struggle for existence' and the 'survival of the fittest', provided philosophical vindication for land dispossession and other forms of exploitation and abuse. The aim in what follows is to demonstrate how this worldview shaped attitudes and understandings towards nature protection and species preservation, using the origins of island wildlife sanctuaries in the early twentieth century as a case study. Islands became arks in this period

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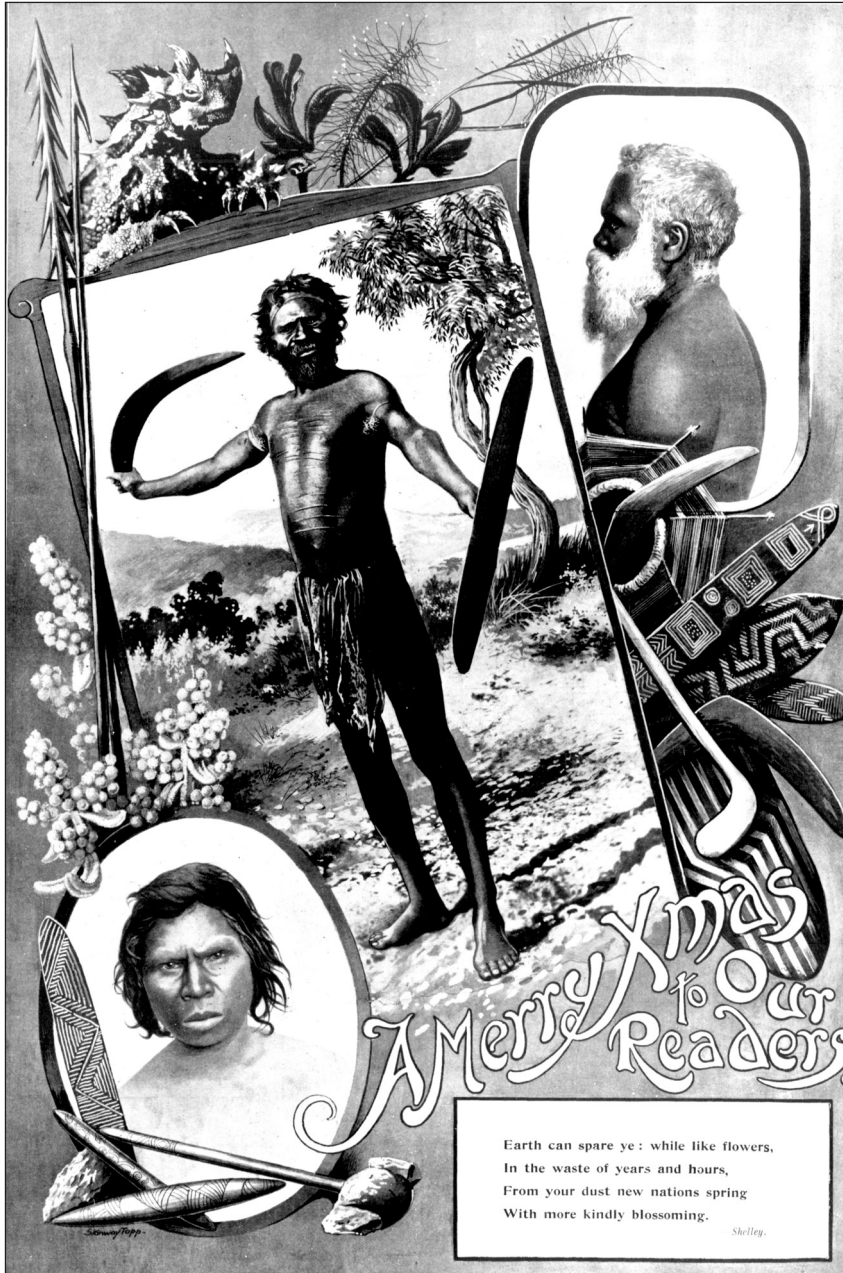
8 D. Bates, *The Passing of the Aborigines*, John Murray, 1966, pp. 96-7.

9 B. Reece, *Daisy Bates: Grand Dame of the Desert*, National Library of Australia, 2007, pp. 4-7.

10 J.S. Batty, *The Cyclopaedia of Western Australia*, Volume 1, 1910, Hesperian Press, 1985, p. 46.

11 B. Butcher, 'Darwinism, Social Darwinism and the Australian Aborigines' in R. MacLeod and P.F. Rehbock (eds), *Darwin's Laboratory: Evolutionary Theory and Natural History in the Pacific*, University of Hawaii Press, 1994, p. 371.

12 For examples and reviews of this literature see Butcher, 'Darwinism, Social Darwinism and the Australian Aborigines', pp. 371-94; D.J. Mulvaney, 'The Darwinian Perspective' in I. Donaldson and T. Donaldson (eds), *Seeing the First Australians*, George Allen and Unwin, 1985, pp. 68-75. For a Western Australian perspective, see I.M. Crawford 'Aboriginal Cultures in Western Australia' in C.T. Stannage (ed.), *A New History of Western Australia*, University of Western Australia Press, 1981, pp. 3-34. For general discussions see G. Claeys, 'The "Survival of the Fittest" and the Origins of Social Darwinism', *Journal of the History of Ideas*, vol. 61, no.2, 2000, pp. 223-40; M. Hawkins, *Social Darwinism in European and American thought, 1860-1945: Nature as Model and Nature as Threat*, Cambridge University Press, 1997, pp. 21-38.



**Figure 1:** 'Earth can spare ye'. The *Western Mail* opened its 'Christmas Number' for 1904 with this premonition of the decline of Indigenous Australians. The Darwinian world-view which emphasised the primitiveness of Australian nature (note *Moloch horridus*, top right) and predicted the extinction of Aboriginal society was expressed here with lines from the English poet Shelley. This same world-view, applied to native fauna, influenced the origins of nature protection on Western Australia's islands. Source: *Western Mail, Christmas, 1904*.

in response to the aggressive form of ecological imperialism that took hold following the expansion of pearling and pastoralism into the north-west districts and the opening of the Murchison and Eastern goldfields, and which struck at both Indigenous society and native marsupials and birds with unrelenting intensity. To the European settlers who witnessed this destruction, the fatal impacts of colonisation were part of a single process, attributable as much to the primitiveness of the continent's peoples and landscapes as to the ferocity and force of their own invasion. The paradox in the case of nature protection is that Darwinian ideas provided impetus to the emergence of this important early stream of Western Australian environmentalism, at the same time as constraining the preservation ideology that underpinned the creation of the first island sanctuaries.

### **'Dying out here as fast as the Aboriginals': the case for nature protection**

Just when populations of native marsupials and birds were declining through the impact of land clearing, introduced predators, exotic diseases and hunting for the fur and plumage trades, several factors worked to foster zoological interest in the Australian fauna, creating a race against time for the discovery of new species or the collection of increasingly rare species in the wild. Evolutionary science had focussed attention onto the systematics and zoogeography of the fauna, and the establishment of new museums and universities as well as the expansion of established institutions in Europe, North America and Australia created a demand for specimens that could only be met by collectors on the ground.<sup>13</sup> Several expeditions visited Western Australia during the late nineteenth and early twentieth centuries, with many remaining for several months and travelling widely on the new railway system and coastal shipping network to the edges, or even beyond, the frontiers of European settlement.<sup>14</sup> Locally, scientific activity was stimulated greatly by the founding of the Western Australian Museum in 1892. The Museum's inaugural Director, Bernard Woodward (1846-1916), adopted a policy of establishing a representative collection of the colony's fauna for local study and display, sending out collectors regularly for this purpose until the start of World War One, with the cost of field-work often subsidised by the sale of specimens to institutions and private collectors overseas.<sup>15</sup> Among the results of these endeavours was the realisation that offshore islands had become sanctuaries for animals that had become either rare or absent altogether on the mainland.

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13 L. Gillbank, 'The Life Sciences: Collection to Conservation' in R. MacLeod (ed.), *The Commonwealth of Science: ANZAAS and the Scientific Enterprise in Australia, 1888-1988*, Oxford University Press, 1988, pp. 99-106.

14 D.L. Serventy, 'History of Zoology in Western Australia', *Journal of the Royal Society of Western Australia*, vol. 62, 1979, pp. 33-43.

15 B.H. Woodward, 'The Fauna', *Western Australian Year-Book for 1900-01*, Government Printer, 1901, p. 211.

This realisation dawned during the late 1890s. One of the first to recognise the emerging importance of Western Australia's islands was the naturalist Richard Helms (1842-1914), who served for a time as a biologist with the colony's Department of Agriculture. During 1897 Helms visited the Abrolhos Islands in the company of Otto Lipfert (1864-1942), a taxidermist and collector with the Western Australian Museum.<sup>16</sup> Helms later lectured on the results of his visit to the Mueller Botanic Society, the colony's main scientific body at the time, concluding his address by asking the Society to consider the need to protect populations of mammals and birds such as he had encountered in order to safeguard zoological resources for future scientific investigations.<sup>17</sup> The idea of using islands as nature reserves had earlier been raised by the Australasian Association for the Advancement of Science (AAAS), which approached the newly-formed Western Australian Natural History Society<sup>18</sup> in 1893 to propose that either Rottnest Island or the Abrolhos Islands be set aside to preserve native flora and fauna.<sup>19</sup> Although neither option had been entertained at the time, the proposal did prompt the Society's President Sir John Forrest and Secretary Bernard Woodward to secure an extensive flora and fauna reserve in the Darling Scarp near Pinjarra. Threatened continually for resumption to allow logging, this short-lived reserve was cancelled in 1911, but nevertheless became an important precedent for the creation of other reserves in the state.<sup>20</sup>

The next call for the protection of island wildlife was more successful. It was made by the zoologist Guy Chesterton Shortridge (1880-1949), a longstanding collector for the British Museum of Natural History who worked in Western Australia between 1904 and 1907 under the auspices of the Balston Expedition.<sup>21</sup> Shortridge's assignment was to obtain specimens of the south-west Australian fauna to augment the British Museum's collections, which were based largely on specimens obtained in the 1840s by John Gilbert under the direction of John Gould.<sup>22</sup> Setting out to obtain specimens of the same species gathered by Gilbert, and often visiting many of the type localities for the species later described by Gould, Shortridge completed the first thoroughgoing zoological expedition in the

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- 16 W.B. Alexander, 'Obituary: Mr Richard Helms', *Journal of the Royal Society of Western Australia*, vol 1, 1914-15, pp. xxviii-xxix; D.M. Renwick, 'Otto Lipfert: Taxidermist to the Western Australian Museum', *Journal of the Royal Western Australian Historical Society*, vol. 10, 1989, pp. 57-71.
- 17 R. Helms, 'Houtman's Abrolhos', *The Producers Gazette and Settlers Record* [later the *Journal of the Department of Agriculture*], vol. 5, pt. 6, 1898, pp. 409-31.
- 18 After several name changes this organisation became the Royal Society of Western Australia in 1914. C.F.H. Jenkins, 'A History of the Royal Society of Western Australia, and its Role in the Community', *Journal of the Royal Society of Western Australia*, vol. 48, pt. 2, 1964, pp. 33-44.
- 19 B.H. Woodward, 'National Parks and the Flora and Fauna Reserves in Australasia', *Journal of the Western Australian Natural History Society*, vol. 3, 1907, pp. 13-20.
- 20 B. Moore, 'Tourists, Scientists and Wilderness Enthusiasts: Early Conservationists of the South West' in B.K. deGaris (ed.), *Portraits of the South West*, University of Western Australia Press, 1993, pp. 130-2.
- 21 Biographical notes on W.E. Balston in 'Balston Papers 1904-1962', Acc. 1050A, Batty Library (hereafter BL).
- 22 H.M. Whittell, 'The Visits of John Gilbert, Naturalist, to Swan River Colony', *Journal of the Royal Western Australian Historical Society*, vol. 4, pt. 5, 1953, pp. 23-53.

south-west corner of the continent since the early years of British colonisation. In so doing, his Balston Expedition revealed the extent to which forms regarded as characteristic of the south-west fauna had become rare or even locally extinct in areas where European settlement had become established.

Shortridge's work took place in two stages. In the initial stages he toured mainly through the more accessible areas, visiting the Avon Valley, the Wongan Hills, the South West towns, Albany and the King River district, and the Eastern goldfields.<sup>23</sup> These initial endeavours yielded disappointing results, prompting him to concentrate his efforts during 1906 and 1907 in the more remote districts in the hope of broadening his collection of marsupials and birds.<sup>24</sup> He spent much of his time around the edges of the fast-expanding wheatbelt, visiting Stockpool, Pingelly, Dwaladine and the Dale River, and in journeying through the Gascoyne pastoral region. During the course of these latter travels he also made his visit to a Western Australian island, calling at Bernier Island for several days in the early part of June 1906.<sup>25</sup>

In a letter written on the eve of his departure Shortridge wrote confidentially of his prospects for obtaining species that had proved elusive elsewhere.<sup>26</sup> The zoological importance of the Shark Bay and north-west islands had been confirmed some years previously by the local collector John Thomas Tunney (1871-1929), who worked for the Western Australian Museum around the turn of the century. Tunney's three visits to Bernier and Dorre Islands in 1896 and 1899 and sole visit to Barrow Island in 1900 had produced examples of several prized species. At Bernier and Dorre Island he had obtained specimens of the burrowing bettong *Bettongia lesueur*, the western barred bandicoot *Perameles bougainville*, and the banded hare-wallaby *Lagostrophus fasciatus*, all described from collections made at Shark Bay by the Baudin Expedition, as well as the western hare wallaby *Lagorchestes hirsutus*, described by Gould from specimens originally found by Gilbert on the Avon River.<sup>27</sup> At Barrow Island Tunney secured the rock wallaby *Petrogale lateralis* and the spectacled hare-wallaby *Lagorchestes conspicillatus*, rediscovered the euro *Macropus robustus isabellinus* (known only from a skull described by Gould and collected by John Lort Stokes of HMS *Beagle* in 1840), and discovered a new subspecies, the Barrow Island golden bandicoot *Isoodon auratus barrowensis*.<sup>28</sup> Shortridge's visit to Bernier Island in

23 Serventy, 'History of Zoology in Western Australia', p. 37.

24 O. Thomas, 'List of Further Collections of Mammals from Western Australia, Including a Series from Bernier Island, Obtained for Mr. W.E. Balston; with Field-Notes by the Collector, Mr. G.C. Shortridge', *Proceedings of the Zoological Society of London*, 1906, pp. 767-77.

25 Serventy, 'History of Zoology in Western Australia', p. 37.

26 Shortridge to Thomas, 4 June 1906, in 'Letters of Oldfield Thomas, 1904-06', Acc. 835A., BL.

27 W.D.L. Ride, and C.H. Tyndale-Biscoe, 'Mammals' in W.D.L. Ride, G.F. Mees, A.M. Douglas, R.D. Royce, C.H. Tyndale-Biscoe and A.J. Fraser, *The Results of an Expedition to Bernier and Dorre Islands, Shark Bay, Western Australia, in July 1959*, Department of Fisheries and Fauna, 1962, pp. 62-3.

28 L. Glauert, 'The Development of Our Knowledge of the Marsupials of Western Australia', *Journal of the Royal Society of Western Australia*, vol. 34, 1950, pp. 115-34; also A.A. Burbidge and A.R. Main, *Report of a Visit of Inspection to Barrow Island, November 1969*, Department of Fisheries and Fauna, 1971, pp. 1-13.

1906 was similarly rewarding. He obtained complete specimens of the banded hare-wallaby and western hare-wallaby, although he only found a single skull of the western barred bandicoot, later concluding erroneously that the animal had become extinct on the island. He additionally found specimens of two species of native mice previously unrecorded from the region, the ashy-grey mouse *Pseudomys albocinereus* discovered by Gilbert and described by Gould, and a second species he initially mistook for another of Gould's forms, *Pseudomys gouldi*, but which was later classified as a separate species, *P. fieldi*.<sup>29</sup> Several birds including wrens from the genus *Sericornis* were also taken during his stay.

This result came like a revelation, and the impact was immediate. At the end of 1906 Shortridge was interviewed by the *West Australian* on the progress of his field-work, and his message was that widespread extinctions of marsupials and birds would soon occur unless action was taken to protect surviving populations.<sup>30</sup> In a second interview published on 18 June 1907, just prior to his departure from the State, he again spoke at length on his belief in the necessity of protecting native fauna:

I have visited every part of the State south of the tropics, and the chief information I gathered, and the most unfortunate, is that the mammals are dying out here as fast as the aboriginals. Animals which were plentiful here in 1840 are now extinct ... On the islands of Bernier and Dorre, off Carnarvon, there are several kinds of animals which are almost, if not quite, extinct on the mainland, and every effort should be made to protect them ... One of the chief islands suitable for the protection of fauna along the Western Australian coast is Barrow Island, off Onslow, on which there are at present a very large number and variety of animals, particularly because none found there are known to exist on the mainland. Specimens have been obtained by naturalists from there, but none of the animals are to be found anywhere else in Australia.<sup>31</sup>

Shortridge supported his statements by pointing to the zoological significance of the fauna to be protected and the financial returns that could be expected from visits of future expeditions or the sale of rare animals to museums and zoological gardens, suggesting that it would be 'a decidedly commercial proposition' to establish island reserves.<sup>32</sup> Appealing to economic considerations was sensible, considering that the commercial exploitation of natural resources to the fullest extent possible was the essence of environmental management at the time, although it was the Darwinian connotations of his statement that resonated loudest with his audience. So much was revealed the day after his second

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29 G.C. Shortridge, 'An Account of the Geographical Distribution of the Marsupials and Monotremes of South-West Australia, Having Special Reference to the Specimens Collected by the Balston Expedition 1904-1907', *Proceedings of the Zoological Society of London*, 1909, pp. 803-48; W.R. Ogilvie-Grant, 'On a Collection of Birds from Western Australia, with Field-Notes by Mr. G.C. Shortridge', *The Ibis* 9<sup>th</sup> Series, vol. 3, pt. 12, 1909, pp. 650-89, and W.R. Ogilvie-Grant, 'On a Collection of Birds from Western Australia, with Field-Notes by Mr. G.C. Shortridge, Part II', *The Ibis*, 9<sup>th</sup> Series, vol. 4, pt. 13, 1910, pp. 156-91.

30 *West Australian*, 25 December 1906, p. 2.

31 *West Australian*, 18 June 1907, p. 6.

32 *ibid.*



interview appeared in the *West Australian*, when the newspaper editorialised on his call to protect native fauna:

He has visited every part of the State south of the tropics, and his text is the undoubted fact that the marsupials are dying out here as fast the aboriginals- both fading before the products of a tougher civilisation...He would hold to such relics of bygone eras. The timid creatures of the Australian bush which fade before burlier and more brutal animals of Europe, so far ahead of them in any contest of the survival of the fittest, find in him a champion.<sup>33</sup>

At the time some measure of protection was afforded by the *Game Act*, but this legislation could not prevent the ravages of feral predators, land clearing, or bacterial infections, leaving the creation of special reserves under the *Land Act* as the best way to safeguard wildlife from destruction. Shortridge's comments initiated a chain of events that led to the first such reserves being declared on Western Australia's islands.

The second interview was certainly well-timed to have an effect. Three weeks beforehand Bernard Woodward had spoken to the Natural History Society on the 'National Parks and the Fauna and Flora Reserves in Australia', ending his lecture with a motion calling upon the State Government to upgrade the Pinjarra flora and fauna reserve to full National Park status.<sup>34</sup> A letter was then prepared by the Society to support Woodward's attempt to protect the reserve from logging, and in the wake of Shortridge's interview, a statement requesting protection for Barrow Island, one of either Bernier or Dorre Island, and Mondrain Island in the Recherche Archipelago was added to the document, which was presented to the Government on 9 August 1907.<sup>35</sup> At this very time the future usage of the north-west islands was being considered by the Government, a fact that the Society and perhaps even Shortridge may have understood. Bernier and Dorre Islands were then held under pastoral lease, with grazing already proceeding on the former, whilst Barrow Island had been recently set aside for the establishment of an 'Aboriginal hospital' for the detention and treatment of Aborigines affected with syphilis, gonorrhoea and tuberculosis.<sup>36</sup> Fauna preservation now emerged as another factor bearing upon the future of the islands, and as the Lock Hospitals moved from proposal to reality, the policy of nature protection on the islands also materialised.

The Government's response to Shortridge's comments was to declare a 'reserve for native game' over Dorre Island, which prohibited all shooting of wildlife

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33 *West Australian*, 19 June 1907, p. 6.

34 Woodward, 'National Parks and the Flora and Fauna Reserves in Australasia', pp.13-20.

35 Letter signed by President and Vice-Presidents of the Natural History Society and addressed to the Minister for Lands, 9 August 1907, in Lands and Surveys Department file 2507/1893, 'Reservation of Areas for Preservation of Flora and Fauna', vol. 2, Acc. 1755, State Records Office of Western Australia (hereafter SROWA).

36 See correspondence between the Chief Inspector of Fisheries to the Under Secretary, Colonial Secretary's Office, in June 1907, in Lands and Surveys Department file 14578, 'Nature Reserves-Barrow Island', vol. 1, Acc. 5588, SROWA.

unless under permit.<sup>37</sup> Precedents for such a scientific reserve already existed in the State through reserves created in the early 1900s in localities home to prize botanical specimens, such as plants in the genus *Boronia*.<sup>38</sup> The matter then rested whilst the establishment of the Lock Hospital remained pending. During 1908 the Government decided to forgo Barrow Island in favour of building two separate facilities for male and female inmates on Bernier and Dorre Islands. The hospitals opened later the same year.<sup>39</sup> With Barrow Island overlooked, the Natural History Society renewed efforts to have it declared a fauna reserve. On 25 September 1908 a deputation from the Society led by the President John Burton Cleland waited upon the Western Australian Premier to formally request that the island be declared 'an absolute Fauna and Flora Reserve for all time'.<sup>40</sup> In March 1909, Barrow Island was also made a reserve for native game. Later in 1909, after the island became subject to an application for an exclusive lease to capture turtles, the Society again approached the Government with a request to having the reserve status upgraded.<sup>41</sup> Early in 1910 these wishes were fulfilled, when Barrow Island was declared an A Class Reserve, the highest legal form of protection for the environment then available in Western Australia.<sup>42</sup>

### **'At present even their intrinsic value is very great': roots of the preservation ethic**

Shortridge's call for the creation of island reserves stemmed from his recognition of the scientific importance of the species he hoped to protect. Preservation, or 'the attempt to maintain in their present condition such areas of the earth's surface as do not yet bear the obvious marks of man's handiwork and to protect from the risk of extinction those species of living beings which man has not yet destroyed', has been advocated historically on a number of grounds.<sup>43</sup> In *Man's Responsibility for Nature* (1974), John Passmore suggests that arguments in favour of preservation can be divided between two distinct perspectives: an instrumental view, where protection is sought for species and landscapes because they are useful to humans; and an intrinsic view, where species and

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37 See proclamation dated 31 July 1907 in Lands and Surveys Department file 14578.

38 Australian Academy of Science, *National Parks and Nature Reserves in Western Australia*, Australian Academy of Science, 1962, pp. 55-9.

39 Jebb, 'The Lock Hospitals Experiment', pp. 75-6.

40 J.B. Cleland, President of the Western Australian Natural History Society, to the Premier of Western Australia, 25 September 1908, in Department of Land Administration file 7608/1907, 'Nomenclature - Historical - History of Barrow Island'. In March 2009 this file was kept at the Landgate office in Midland awaiting transfer to the State Records Office of Western Australia. The statement is reproduced in the *Western Mail*, 10 October 1908, p. 14.

41 See Colonial Secretary to the Minister for Lands, 23 December 1909, in Lands and Surveys Department file 14578, Acc. 5588, SROWA.

42 See correspondence in Lands and Surveys file 14578, Acc. 5588, SROWA.

43 The quote is from J. Passmore, *Man's Responsibility for Nature: Ecological Problems and Western Traditions*, Duckworth, 1974, p. 101. A recent history of wildlife preservation in the United States examines the development of arguments for preservation; see M. V. Barrow, *Nature's Ghosts: Confronting Extinction from the Age of Jefferson to the Age of Ecology*, The University of Chicago Press, 2009, pp. 6-10.

landscapes are credited with a 'right to exist', and protection is sought on the basis of values independent of human interests and concerns.<sup>44</sup> Shortridge based his reasoning on scientific utility and associated economic value, so he can be grouped into the former category. In holding a utilitarian preservation ethic he was no different to most early Australian conservationists, who invariably defined preservation in conservationist terms, that is, as husbandry of scarce resources, rather than the notion of rights or an ethical basis for protecting species or landscapes from destruction.

Not that a broader conception of preservation did not exist at the time. The clearest indication of this came during the Natural History Society's deputation to the Premier in September 1908. At this meeting, the Society's President (Sir) John Burton Cleland (1878-1971) put the argument for protecting Barrow Island to preserve fauna in these words:

We feel that the time has come when Western Australia must do its utmost to preserve from absolute extinction some of its many rare and unique animals in suitable localities adequately guarded from the vandal. This is a duty we owe not only to ourselves, but to posterity, for whom we hold in trust the natural resources of our State. Bitterly will they complain that no relics are left to indicate the natural Fauna of the land they inhabit. Unless energetic and thorough measures are at once undertaken, this result must invariably ensue. Already several priceless native animals belonging to this State have disappeared off the face of the earth to return no more. Their remaining skeletons and skins ... will doubtless, being of much scientific value, command unthought of sums of money ... At present even their intrinsic value is very great, and as years roll on must increase.<sup>45</sup>

'Intrinsic value' is contrasted here to scientific and economic value of endangered species, becoming an additional reason for creating a reserve. The statement shows that Cleland held a broader view of nature protection than Shortridge's comments allow for, and he can be placed into the second category of preservation in which belief in inherent rights of species to exist is accommodated. In this sense his views were exceptional, and stand as something of a forerunner to the ideas and values of a later generation of environmentalists.

The roots of Cleland's views are unclear, although two possibilities are most likely. The first is a perspective that harkens back to the concept of the *scala naturae* or Great Chain of Being, and which posited that each species occupied a vital position in the order of nature. Each species, in turn, derived inherent worth from its essential place in this structure.<sup>46</sup> Challenged by palaeontologic research that proved the reality of extinction and contradicted assumptions of a stable and orderly nature, and cast into further doubt by the Darwinian revolution's demonstration of a natural law governing biological evolution, these ideas nevertheless continued to find expression in natural theology during

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44 Passmore, *Man's Responsibility for Nature*, p. 101.

45 J.B. Cleland to the Premier of Western Australia, 25 September 1908, in Lands and Surveys Department file 7608/1907, Landgate Office, Midland.

46 F.N. Egerton, 'Changing Concepts of the Balance of Nature', *The Quarterly Review of Biology*, vol. 48 no. 2, 1973, pp. 322-50.

the nineteenth century.<sup>47</sup> Contemporaries of Cleland appear to have held such views. His predecessor as President of the Natural History Society was the leader of the Church of England in Western Australia, Archbishop Charles Riley, an enthusiastic natural theologian and supporter of nature protection. Riley professed a belief in the balance of nature, which, in the context of the campaign against the plumage trade, he feared would be upset by faunal extinction, and he is notable for casting the debate over nature conservation in Western Australia in ethical terms, imploring the Society on the occasion of his presidential address in 1907 that it would 'not only be a pity, but almost a crime' if the state did not act to preserve its flora and fauna.<sup>48</sup> It is significant that Cleland was a committed Anglican, one of several in the Natural History Society at this time. He may therefore have been speaking to this perspective when addressing the Premier in 1908.<sup>49</sup>

The second possibility is romantic natural history. Another legacy of the eighteenth and nineteenth centuries, this tradition lingered on into the twentieth century in Western Australia through the naturalist and conservationist Jose Guillermo Hay (1848–1923). Hay's career was crowned by two main achievements. He was responsible for forming the inaugural Western Australian branch of the Gould League of Bird Lovers, and was the driving force behind the creation of the Stirling Range National Park, which for many years was the largest national park in Australia. The romanticism embodied in his longstanding support for conservation was inspired by a strong attraction to the aesthetic appeal of wilderness areas, enjoyment of outdoor activities, and in the case of his campaign for the protection of avifauna, an arcadian vision of the rural landscape and a related concern that the balance of nature was upset through the destruction of wild animals in settled areas. Hay was also a supporter of the movement to protect island wildlife, advocating the establishment of reserves at the Recherche Archipelago during 1911.<sup>50</sup> He contributed frequently to public discussion on flora and fauna conservation during the early twentieth century, and it may have been that Cleland was alluding to Hay's standpoint in his remarks during the deputation.

But whilst natural theology and natural history had their adherents in the Australian colonies during the nineteenth century, in the eastern colonies both traditions had been marginalised to the fringes of science by the end of the century. The rise of modern biology, and of a new class of professionally-trained scientists, had underpinned this transition, and often evolutionary ideas were emphasised to distance the new class from traditional, amateur naturalists.<sup>51</sup>

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47 R.F. Nash, *The Rights of Nature: A History of Environmental Ethics*, University of Wisconsin Press, 1989, pp. 42-5, and D. Worster, *The Wealth of Nature: Environmental History and the Ecological Imagination*, Oxford University Press, 1993, pp. 184-202.

48 *West Australian*, 21 September 1907, p. 4.

49 R.V. Southcott, 'Cleland, Sir John Burton (1878-1971)', *Australian Dictionary of Biography*, Volume 8, Melbourne University Press, 1981, pp. 23-5.

50 J. Christensen, 'An Early Western Australian Conservationist: The Romantic Figure of Jose Guillermo Hay', *Early Days*, vol. 12, pt. 5, 2005, pp. 488-505.

51 C.F. Finney, *Paradise Revealed: Natural History in Nineteenth Century Australia*, Museum of Victoria, 1993, pp. 131-35.

At the very time that Cleland spoke in favour of nature protection, a similar process was beginning in Western Australia. In fact, Cleland himself was part of this process. A young microbiologist, he belonged to the new generation of professional scientists who arrived during the early twentieth century to fill newly-created positions at the Museum, Zoological Gardens, in Government Departments, and after 1911, at the University of Western Australia.<sup>52</sup> His presidential address in July 1909 touched upon an area of his speciality by discussing 'the Australian flora and fauna and exotic invasions', and on this occasion he couched his statements in the rhetoric of Darwinism, stating that the outcome of colonisation was that 'the fair woods have fallen, the self-neglecting aboriginal has become a diseased and decaying creature, the wild birds have left their desolated homes, and the emu and kangaroo are doomed'.<sup>53</sup> His address became a precursor to more concerted public engagement with the theory of evolution. In September 1909 the agricultural journalist William Catton Grasby (1859-1930) published a review essay on the current state of evolutionary science in the *Western Mail* to celebrate the centenary of Darwin's birth, and in October 1909 the educator and botanist Cecil Andrews (1870-1951) lectured at the Museum on the recently re-discovered principles of Mendelian heredity.<sup>54</sup> A few months later a series of fossil remains from extinct marsupials collected by the Museum's Ludwig Glauert (1879-1963) from caves in the south-west district went on display at the Western Australian Museum, which as well as confirming both the antiquity and fragility of the Australian wildlife to the layman, was a boon to researchers interested in the evolutionary development of the continent and its fauna.<sup>55</sup>

The changing tenor of local science was also reflected in the transformation of the Natural History Society, which was renamed the 'Natural History and Science Society' in 1909, before becoming the Royal Society of Western Australia in 1914.<sup>56</sup> The transition occurred at the expense of traditional approaches to natural history. After Riley no amateur naturalist, let alone a natural theologian, served as President in the state's premier scientific organisation. In some cases the process was marked by disharmony. During 1907 J.G. Hay had left the Natural History Society after being overlooked for the post of Secretary in favour of a Museum biologist newly arrived in Western Australia, and after rejoining in 1910, he fell into dispute with the organisation again in 1911 when his repeated requests to present papers at regular meetings were refused on account of the elementary nature of his work.<sup>57</sup> In 1910 the botanist Oswald Sargent (1880-

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52 Christensen, 'An Early Western Australian Conservationist', pp. 492-3.

53 J.B. Cleland, 'The Australian Fauna and Flora and Exotic Invasions', *Journal of the Natural History and Science Society of Western Australia*, vol. 4, 1909-10, pp. 12-18. The address was reproduced in the *West Australian*, 7 July 1909, p. 9.

54 W. Catton Grasby, 'Darwinism and Modern Science. Commemoration Essays: A Review of Recent Progress' *Western Mail*, 25 September 1909, p. 34; C. Andrews, 'The Science of Heredity: Principles of Mendelism Explained', *Western Mail*, 2 October 1909, p. 45.

55 *Western Mail*, 5 February 1910, p. 17.

56 Jenkins, 'A History of the Royal Society of Western Australia', p. 34.

57 Christensen, 'An Early Western Australian Conservationist', pp. 500-1.

1952) also quit the Society in an angry protest against by-laws that prohibited the formal discussion of theological topics at meetings.<sup>58</sup> Their marginalisation was not without consequence for the expression of preservationist ideas in the years that followed.

### **'Already the eleventh hour': extinction and preservation**

The question of extinction lay at the centre of understandings of preservation. By endowing nature with intrinsic value, natural theology and romantic natural history enabled the loss of any species to be understood in ethical terms, lending a moral imperative to actions designed to prevent this loss. Darwinism did not permit such exhortations. Evolutionary science mandated extinction as a law of nature, essential to biological progress as a whole. 'Rights' could therefore be restricted to the right of the fittest to survive, and according to Darwin's apostle Thomas Huxley in his *Evolution and Ethics* (1893), the lesson of evolution was that ethical relationships did not extend beyond civilisation to the kingdom of nature.<sup>59</sup> By no means was there any inherent link between evolutionary science and these views, because Darwin had implied that humans were merely another species of animal, and this breakthrough had led many observers to conclude that the common origins of life justified the extension of rights to all animate beings.<sup>60</sup> Rather, the broad application of these ideas to society and politics in a manner that reinforced existing prejudices and justified established patterns of exploitation, which is the very essence of 'Social Darwinism', led ethics in the direction of utilitarian expression. Thus was humanitarianism towards Aboriginal peoples often restricted to the kind of fatalistic charity for which Bates is notorious, and fauna protection founded upon the scientific utility and associated commercial value of native wildlife.

The link between the Darwinian worldview and perceptions of scientific utility was revealed in the context of Glauert's work on marsupial fossils. Commenting on the discoveries, Daisy Bates asserted that the forebears of Indigenous Australians had lived contemporaneously with these extinct marsupials, citing the 'native legends' of 'the few old people remaining' as evidence, before lamenting 'the loss that science has sustained in the extinction of this most interesting remnant of the aboriginal inhabitants of Australia'.<sup>61</sup> From here it was only a small step to link extinction and the scientific value of the fauna into a utilitarian preservation ethic, as Shortridge had already done. The next to take this step was the Swedish zoologist Eric Georg Mjöberg (1882-1938).

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58 See O. Sargent to President, Natural History and Science Society, 7 October 1910, and O. Sargent to Secretary, Natural History and Science Society, 21 October 1910, in Mueller Botanic Society and W.A. Natural History Society, Correspondence 1908-1912, Manuscript 673, Acc, 2722A/9, BL.

59 Nash, *The Rights of Nature*, pp. 41-3.

60 D.E. Allen, *The Naturalist in Britain: A Social History*, Allen Lane, 1976, pp. 200-1.

61 D. Bates, 'Evolution of Australia: the Recent Discovery of Fossil Remains', *Western Mail*, 12 February 1910, p. 2.

Mjöberg was the leader of the Swedish Scientific Expedition to North-West Australia, an eight member expedition that included the ethnologist Yngve Laurell and the ornithologist Rudolf Söderberg.<sup>62</sup> It was despatched by the Swedish Academy of Sciences to acquire biological and ethnological collections for the Swedish Museum and other institutions to provide answers to pressing zoogeographical and ethno-historical questions of the day.<sup>63</sup> The expedition arrived in Western Australia in June 1910 and remained until the end of August 1911, spending most this period exploring the West Kimberley region and collecting over 200,000 specimens from across the different zoological orders plus numerous ethnographical objects.<sup>64</sup> Included amongst these latter items were the remains of several Aboriginal people that Mjöberg took surreptitiously from burial sites located in the Kimberley; these remains were repatriated to the region by the Swedish Museum of Ethnology in 2004. He later published a popular account of his travels, *Bland Vilda Djur och Folk i Australien (Among Wild Animals and Man in Australia, 1915)*, before embarking alone on a second Australian expedition to the Cape York Peninsula.

It was in a farewell interview similar to Shortridge's, appearing in the *Western Mail* on 2 September 1911, that Mjöberg outlined his views on nature protection:

It is rather a pity that the flora and fauna of the State show every appearance of dying out, and it is this connection that I feel it is my duty to this State, which is of so much interest to me, to speak ... In this young State, where the practical branches of life are going ahead so rapidly, people are apt to forget science and the unpractical side. There are many evidences that both plants and animals, among both of which there are some exceedingly interesting features, are going back in numbers every year. We, who have been prosecuting research work in the North-west, know that Western Australia especially has a peculiar plant and animal life, and I feel that it is high time that the Government did something to try to preserve as much as possible of the flora and fauna ... Personally, I can mention some of the things which should be protected. There are living on some of the islands of the coast of Western Australia a number of marsupials such as wallabies, and there is one species on Barrow Island that is only to be found there; it is extinct on the mainland. On Bernier and Dorre Islands are to be found species of marsupial life which are practically extinct on the mainland. On these islands then, there exist types of animal life which are not to be found in any other part of the world ... I consider that it is absolutely the duty of the State to make provision for their protection, and it must be borne in mind that it must be gone almost at once, for it is, as we might say, already the eleventh hour.<sup>65</sup>

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62 Information supplied by Claes Hallgren. Accounts of the Expedition's progress can be accessed in the *West Australian*, 10 September 1910, p. 12; 29 September 1910, p. 3; 11 February 1911, p. 13; 24 March 1911, p. 4; 19 August 1911, p. 11; 24 August 1911, p. 8; 26 August 1911, p. 11.

63 For more on Mjöberg see Å. Ferrier, 'Dr Eric Mjöberg's 1913 Scientific Exploration of North Queensland's Rainforest Region', *Memoirs of the Queensland Museum, Cultural Heritage Series*, vol. 4, pt. 1, 2006, pp. 1-27.

64 I. Trägårdh, 'The Swedish Australia Expedition of 1910-1913', *Geografiska Annaler*, vol. 7, 1925, pp. 18-22.

65 *Western Mail*, 2 September 1911, pp. 21-2.

Mjöberg based his reasoning for protection on the zoological importance of the native fauna, without extending the argument to take account of the economic value attached to scientifically-interesting animals in the same way that Shortridge had argued. His comments are instead remarkable for the sense of urgency that arose from his fear of the impending extermination of the fauna, and in the case of marsupials and birds he believed it was 'only a question of a few years or so before they pass out of existence'.<sup>66</sup> Similar views were later expressed in his popular account of the expedition.<sup>67</sup>

The impulses that drove Mjöberg to advocate nature protection on these terms can be investigated further in light of his experiences on the expedition. In the first instance he was an ardent Darwinist, and the belief that Aborigines represented a primitive type of humanity was fundamental to his plan for the expedition and to the fervour with which he sought out skeletons in the Kimberley. He encountered many signs of what he took to be the destruction of Indigenous societies, observing victims of venereal disease in chains en route to the lock hospitals at several locations, and finding mixed-race children at each of the stations and missions that the expedition visited.<sup>68</sup> Mjöberg was particularly critical of 'antiquated humanist and religious values', which he thought stood in the way of a biological outlook, and contributed to the destruction he witnessed.<sup>69</sup> Later, in the account of his Queensland expedition *Bland Stenåldersmänniskor I Queenslands Vildmarker (Among Stone Age Men in the Wilderness of Queensland, 1918)*, he proposed the creation of a reserve to protect indigenous peoples. Other signs led him to his dire prediction for the fate of native wildlife. At Derby Mjöberg had seen birds and marsupials being shipped for the plumage and fur trades, and when in Perth he had learnt from an employee of the Western Australian Museum (almost certainly Lipfert) that local collectors had begun to stockpile specimens of rare marsupials in the expectation that values would rise once each species became extinct.<sup>70</sup> More alarming still were the indications he garnered during his travels that a foreign epizootic, which he believed was bacterial in origin, had become established in Western Australia and was a major cause of the disappearance of localised populations.<sup>71</sup> These factors led him to his dire predictions on the fate of the fauna and his concern to preserve

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66 *Western Mail*, 2 September 1911, p. 22.

67 E. Mjöberg, *Bland Vilda Djur och Folk i Australien* Stockholm, 1915, pp. 58-9. I am indebted to Claes Hallgren for providing a translation of these pages.

68 This information can be found in the diaries of expedition members. Mjöberg's original diaries are in the California Academy of Sciences, San Francisco, and those of Söderberg and Widell in the private possession of Inga Söderberg, the wife of the now deceased son of Rudolf Söderberg. The Stockholm Museum has copies of all available diaries, and translated extracts were supplied by Claes Hallgren.

69 C. Hallgren, 'Eric Mjöberg and the Rhetoric of Human Remains' in P. Turnbull and M. Pickering (eds), *The Long Way Home: the Meaning and Values of Repatriation*, Berghan Books and the National Museum of Australia, 2010, pp. 135-46.

70 Mjöberg, *Bland Vilda Djur och Folk i Australien*, pp. 58-9.

71 Mjöberg, *Bland Vilda Djur och Folk i Australien*, pp. 58-9. Also see I. Abbott, 'Mammalian Faunal Collapse in Western Australia, 1875-1925: The Hypothesised Role of Epizootic Disease and a Conceptual Model of its Origin, Introduction, Transmission and Spread', *Australian Zoologist*, vol. 33, no. 4, 2006, pp. 530-61.



wildlife for the benefit of science, and sometime after giving his interview to the local press he wrote to the Western Australian government to again press the case for the creation of reserves at Bernier and Dorre Islands.<sup>72</sup>

When the lock hospitals closed in 1918 the two islands were once again gazetted as pastoral leases, although representations from the Western Australian Museum resulted in Bernier Island being also made a reserve for native game, and the pastoral leases were eventually abandoned before grazing ever resumed. In the late 1950s a renewed effort was made to protect remnant populations of native wildlife, and on 21 November 1957 both Bernier and Dorre Islands joined Barrow Island in being designated A Class reserves for the purpose of nature protection.<sup>73</sup> During the 1950s vast oilfields had been discovered underneath Barrow Island, and industrial development occurred in the following decade within the A Class reserve, with naturalists and conservationists such as Vincent Serventy and Harry Butler working to ensure the impact on the native fauna was minimised.<sup>74</sup> Bernier and Dorre Islands fared differently. Rarely visited by humans, in 1991 the islands became part of the Shark Bay World Heritage property, and remain today as one of the great wilderness areas of Australia.

### **But to what purpose? Islands in a Darwinian stream**

A number of scientists visited Western Australia's islands in the early twentieth century, but few left a legacy like the English biologist Elliot Lovegood Grant Watson (1885–1970). Naturalist to the Cambridge Expedition, Watson spent several months on Bernier and Dorre Islands in the company of Daisy Bates and the anthropologist Radcliffe-Brown (1881–1955) in 1910. His output included the novel *Where Bonds are Loosed* (1914), set amongst the medical staff at the lock hospitals, and sections of his autobiography *But to What Purpose* (1946) and Australian travelogue *Journey Under Southern Stars* (1968).<sup>75</sup> The autobiography dealt particularly with the natural environment of the Islands, containing precise descriptions of different animals and landscapes and displaying a preoccupation with one of the main themes of Watson's writings, the inadequacy of Darwinism as an explanation for such observable qualities in the natural world as the beauty of the markings on a butterfly's wings.<sup>76</sup> He was not alone in questioning Darwinism in later writings. Claes Hallgren recounts how, shortly before his death, Mjöberg published the science fiction novel *På Giftets Vingar* (*On the Wings of Poison*, 1934) based on hallucinations the author had whilst undergoing treatment for a rare tropical disease. In this strange book a hyper-intelligent race

72 See J.G. Hay in 'Report of the Select Committee of the Legislative Council on the Game Bill', *Votes and Proceedings of the Western Australian Parliament*, vol. 2, 1911-12, pp. 21-3.

73 W.D.L. Ride, G.F. Mees, A.M. Douglas, R.D. Royce, C.H. Tyndale-Biscoe and A.J. Fraser, *The Results of an Expedition to Bernier and Dorre Islands, Shark Bay, Western Australia, in July 1959*, Department of Fisheries and Fauna, 1962.

74 K. Morris and A.A. Burbidge, 'Bountiful Barrow', *Landscape*, Autumn 2002, pp. 20-4.

75 S. Faulkner, *The Imago: E.L. Grant Watson and Australia*, University of Western Australia Publishing, 2011.

76 Christensen, 'Shark Bay 1616-1991', pp. 191-5.

of extraterrestrials, bearing a strong similarity to Aboriginal Australians, visit Earth and introduce the narrator to a new way to perceive human evolution.<sup>77</sup> Both Watson and Mjöberg can be read as presaging the decline of the Darwinian world-view, which, debased beyond redemption as a result of its incorporation into Nazi ideology, lost most of its influence after the Second World War.

During the 1970s and 1980s attitudes towards nature protection were transformed in Western Australia by the rise of environmentalism. Often this new perspective materialised in the form of a biocentric outlook, in which plants and animals, or even entire ecosystems, were approached with a renewed sense of intrinsic value and a new concept of rights that could be invoked to defend species or landscapes threatened with destruction or harm.<sup>78</sup> This new outlook was apparent when, in the 2000s, Barrow Island became the site for an unprecedented development of natural gas production facilities. Opposition to the development was mounted by groups such as the Australian Greens and the Conservation Council of Western Australia, which sought to protect the island's biological heritage and ecological integrity by having the development moved to the mainland.<sup>79</sup> Their campaign demonstrated the extent to which ideas of preservation had evolved since the early 1900s. In *Green Imperialism*, Richard Grove observes how the experiences of European colonists on tropical oceanic islands were central to the formation of environmental thought in Western society, encouraging early critiques of developmentalist ideologies and fostering pioneering attempts at large-scale ecological restoration.<sup>80</sup> Western Australia's islands functioned like something in the reverse, providing havens for native animals in offshore wildernesses cut off from the ecological havoc that colonisation unleashed on the mainlands. What makes these islands unique is the role that evolutionary ideas played in ensuring their protection at the same time as shaping, if not constraining, the preservation ethic enshrined in their reservation.

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77 Hallgren, 'Eric Mjöberg and the Rhetoric of Human Remains'.

78 See A. Gaynor, 'Conservation and Environmentalism' in J. Gregory and J. Gothard (eds), *Historical Encyclopedia of Western Australia*, University of Western Australia Press, 2009, pp. 228-31.

79 Conservation Council of Western Australia, *Submission on Gorgon Chevron Texaco Environmental, Social and Economic Review of the Gorgon Gas Development on Barrow Island*, Conservation Council of Western Australia, 2003.

80 R.H. Grove, *Green Imperialism: Colonial Expansion, Tropical Island Edens and the Origins of Environmentalism, 1600-1860*, Cambridge University Press, 1995, pp. 1-15.