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THE  
HANDBOOK  
OF



BY  
The Rev. C. C. Nicolay

SC  
CRCB



316

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THE  
HANDBOOK  
OF  
WESTERN AUSTRALIA,

BY

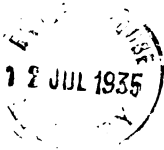
THE REVEREND F. G. NICOLAY,  
FELLOW OF KING'S AND QUEEN'S COLLEGES, LONDON.

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PERTH:  
BY AUTHORITY: RICHARD PETHER, GOVERNMENT PRINTER.

1880.

mt by R. Burnell



TO HIS EXCELLENCY

GOVERNOR SIR W. C. F. ROBINSON, K.C.M.G.,

ETC.,

ETC.,

ETC.

SIR,—In fulfilment of the trust which I had the honour to receive from you, I have completed the M.S. for a Hand-book of Western Australia, in which I have endeavoured to carry out your instructions and to make it as generally useful as the space to which it was limited would permit.

There has been much difficulty in the selection of materials, still more in deciding what might be omitted. I can scarcely hope to have been altogether successful, but I shall be well satisfied if I obtain your approval, and if I have succeeded in affording such information about the Colony as those having interest or desiring to settle in it might require, and which is not to be found elsewhere.

I have the honour to be,

Your obliged and obedient Servant,

C. G. NICOLAY.

Perth, 31st August, 1877.



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These six give the principal outlines as well as the geological formations of the Colony, and both will be found in accordance throughout it.

## PREFACE.

THE information proffered in the following pages to those who desire some more general knowledge of Western Australia than has been accessible hitherto, more especially to such as may be seeking a new field for the employment of their labour or capital, has been derived from so many and various sources that reference to all, or indeed to many, has been found impracticable. When collected, the material at the disposal of the Editor might well be termed "*ruda indigestaque moles*"; it is not, however, the less to be relied upon, as the larger portion is based on documents existing in the different public offices and returns furnished by heads of departments in the public service. Yet, in the selection from and arrangement of so large an amount of matter, it can scarcely be expected that some omissions will not have been made and some errors crept in; but if the work supply an immediate want, and lead up to something more perfect hereafter, the labour will not have been in vain.

An unexpected delay in the publication has given opportunity for the insertion of additional matter of interest which was not available when the original M.S. was sent to press.

The principal events which have occurred in the interval are the following in the order of arrangement in the text.

In 1879, Alexander Forrest explored the country to the East and North beyond the DeGrey River. His route was first to Beagle Bay, and from thence crossing to King Sound he traced the course of the Fitzroy River, which he found broad, deep, and rapid, flowing through an open well-grassed valley to the junction of its affluent, the Margaret, but failing to penetrate the rugged passes of the Leopold Ranges, from which the main stream descends, he followed their course to Collier Bay, and from thence returning on his tracks, and proceeding up the valley of the Margaret, he discovered extensive well-watered plains, of which he writes, "These which are of granitic formation comprise not less than 1,000,000 of acres, and, judging from the richness of the herbage, would carry, I imagine, no less number of sheep. This is, in my estimation, the finest part of West Australia that I have seen, and I hope that before long it will be covered with flocks and herds,"—a hope which is already in process of realization. Proceeding Eastward over much good country, A. Forrest came to a river some 200 yards wide and running strong to the North, which he concluded must flow into the sea in Cambridge Gulf, and which he named the Ord, after Sir H. Ord, then Governor of the Colony; but some of his party being



sick, having only twenty-five days rations left, and being then still three hundred miles from his ultimate destination, the Adelaide and Port Darwin Telegraph Line, he was unable to trace the course of the river; and proceeding Eastward, after much hardship, at length successfully accomplished his long and arduous exploration. He reports the limestones found to the West of King Sound as similar to those near Eucla.

The principal events during the Government of Sir H. Ord were:—

The opening of the railway from Geraldton to Northampton.

The establishment of a fortnightly mail service with Europe.

The raising a loan for £200,000, principally for railway communication between Fremantle, Perth, and the Eastern Districts.

The abandonment of all proposed harbour improvements at Fremantle, in consequence of the report made by Sir John Coode.

The increase of the Volunteer Force by a Company at Albany, and formation of a Naval Artillery Company.

The occupation of the Gascoigne District.

Sir H. Ord left the Colony the 8th of April, and was succeeded by Sir W. C. F. Robinson, K.C.M.G., who returned to the Colony from the Government of the Straits Settlements, and was sworn in on the 10th of the same month. Since then the railway has been completed from Fremantle to Perth, and will be ready for traffic to Guildford by the beginning of 1881. Also, the Pensioner Force has been disbanded, and a subsidy of £4,000 a year given by the Imperial Government for the increase of the Local Force, which was thus rendered necessary.

The Revenue and Expenditure for the years 1878-9 were

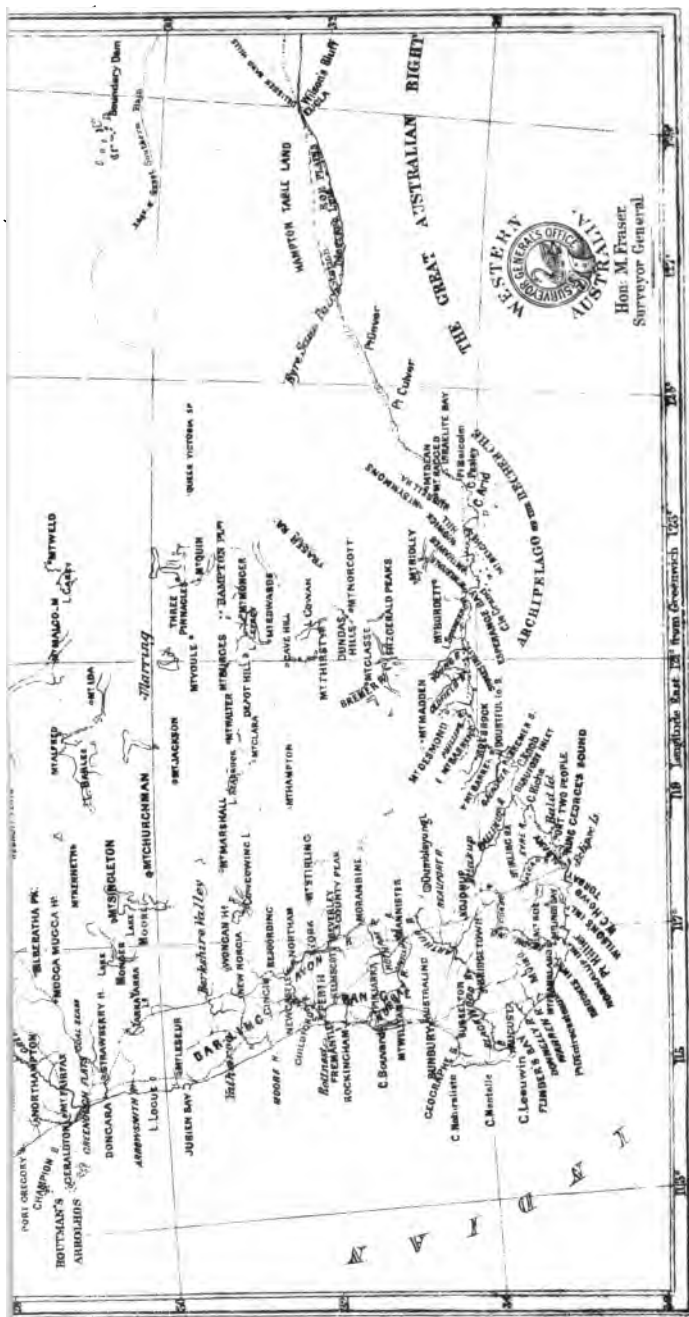
	£	s.	d.		£	s.	d.
1878—Revenue	150,094	8	9	Expenditure	196,243	8	3
1879— Do.	184,065	0	11	Do.	195,812	4	5

and during the same period the trade of the Colony was represented by

	£	s.	d.		£	s.	d.
Imports, 1878—	74,496	16	10	Exports, 1878—	428,491		3
Do., 1879—	86,978	0	8	Do., 1879—	494,883		10

To the schools of the Colony has been added one for the education of girls, established by the Bishop of Perth.

The staff of the Protestant Episcopal Church has been increased by Clergy stationed respectively in the Williams River District, at Dongarra, and at Nickol Bay.



Photolithographed at the Surveyor General's Office, Perth, Western Australia.  
 C. Woodhouse, Jan. 1887.




THE  
HANDBOOK  
OF  
WESTERN AUSTRALIA.

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*Introduction.*

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DISCOVERY.

ERRA AUSTRALIS INCOGNITA, the great unknown South Land, was visited by the Portuguese Menezes, first of all Europeans, in the year 1527, when exploring the Indian Seas; and the memory of this discovery is perpetuated in the name given to the group of rocky islets on the West Coast, still known as the Abrolhos, a term frequently applied by the early voyagers of that nation to dangerous outlying islets and reefs, indicating the necessity for a good look out, and being a contraction of the words which in that language mean "open your eyes."

The Portuguese were closely followed by the Dutch, who examined and gave name to the districts of the Western Coast and its most notable features. In this will be found the only interest which their discoveries now command, as their surveys and descriptions of the places they visited have been superseded by those made since Great Britain took possession of the country.

In the year 1598, Houtman, who projected the Dutch East India Company, gave his name to the Abrolhos, which they still retain; and in 1629 Pelsart suffered shipwreck upon them. In 1616, the *Endraght*, of Amsterdam, made Sharks Bay and the island since known as *Dorée*, more properly *Doore*, and so named after Peter Doore, her pilot. Dirk Hartog gave his name to the island on the Western side of that bay, which still retains it, and an inscription was placed on its Northern point, Cape Discovery, now known as Cape Inscription. In 1619, Edel gave his name to the district round Sharks Bay; and Cape Leeuwin (or Lioness) was so named in 1622, after the vessel from which it was first seen. In 1627, the coast to the East of Cape Leeuwin received the name of Nuyts' land, from a passenger on board the *Gulde Zeepart*, or Good Shepherd, on her voyage to Japan. In 1628, the captain of the *Karien*, De Witt, gave his name to the land to the North, and the North coast was visited by Tasman more than once after his voyage in 1642. In 1665, the Dutch Government gave the name of New Holland to the whole country, thus marking the priority of claim to its possession.

In 1689, during the reign of William and Mary, Dampier was sent in the *Roebuck* to examine the North and West Coasts. He entered, and named, Sharks Bay, and he also gave names, his own notably, to Dampier's land and Archipelago, as well as to other islands and places on the North coast.

In 1697 Vlaming, in the *Gielvink*, discovered and named the Swan River, and took back to Europe that "rara avis" the, till then unknown, black swan. From that time until 1770, when Cook discovered and took possession of Botany Bay, Australia appears to have been generally neglected.

The first land seen by Cook was Point Hicks, now in the Colony of Victoria; his successor, Vancouver, entered and named King George's Sound, in 1791; and the French expedition under Baudin and Freycinet, in the *Geographe* and *Naturaliste*, examined the Western coasts and sent boats up the Swan River. Flinders and Bass extended the discoveries of Cook to the West in 1798, and were followed by Murray, in 1802; and in the same year Flinders, now commanding the *Investigator*, sailing Eastward from King George's Sound, made and named Fowler's Bay, at the present Western limit of South Australia, just anticipating the visit of the French expedition under Baudin, who, nevertheless, claimed the discovery and took possession, giving the country the name of Napoleon. When, however, after his captivity of seven years in the Mauritius, Flinders published an account of his discoveries, his rightful priority was conceded.

In 1801, the French corvettes *Geographe* and *Naturaliste*, with the galliotte *Casuarina*, which had been attached to the expedition at Port Jackson, made Cape Leeuwin in the month of June, and the names of the three vessels and their officers still maintain, on the Western coast, many reminiscences of their visit. The Vasse River was so named after a Dutch sailor, who accompanied the expedition and was drowned off its mouth. The coasts of Endraght land, De Witts' land, and Sharks Bay were examined and named; returning southward, the Swan River was entered by boats, June 17, and explored as far as the islands above Perth Water, which were named after M. Hierrisen, Enseigne de Vaisseau. M. de Peron, the historian of the expedition, gave a very particular account of the river, which, however, was not confirmed in its details

by the officers of the *Success*, in 1827. A large number of names given by the French are still retained and familiar to the ears of Western Australians, but some have been replaced by English appellations, as the *Moreau*, now the *Canning*, while others have undergone a process of translation, as *Port Two-people*.

The Northern coasts were surveyed by Capt. King, in 1820 to 1824, and his work was supplemented by Captains Wickham and Stokes, in the *Beagle*, between the years 1837 and 1843; the latter completing the survey of *Sharks Bay*.

The coasts of Western Australia being then sufficiently known, and it having been ascertained that the French had determined to establish themselves there, the Governor of New South Wales, in 1826, sent a party of about 75 persons, principally soldiers and convicts, to occupy *King George's Sound*, and, the next year, *H.M.S. Success*, to select a place for a settlement on the West coast, with special reference to the *Swan River*, off the mouth of which that vessel dropped her anchor on the 6th of March, and the next day the gig and cutter were sent, with their crews well armed, and with provisions for a fortnight, to examine the river, to proceed if possible to its source, ascertain the nature and productions of the country, and fix on an eligible site for a settlement. The boats, having reached *Hierrisen's islands*, were hauled over the flats, and ascended the river until stopped by fallen timber. In returning the gig was sent to examine the *Canning River*, and during the absence of the boats, the shores and waters of *Gage's Roads* had been examined.

Mr. Frazer, the Colonial botanist, accompanied the expedition, and he notices with much pleasure the

beauty of the scenery, the vivid green of the foliage, and the astonishing luxuriance of the herbaceous plants, which he described as exceeding anything he ever saw on the East coast. Indeed the river, still beautiful, must, before its banks were denuded of the forest trees which then clothed them "so magnificently," to use his own expression, have afforded "a great treat" to one accustomed to the ever brown Eucalyptus of Port Jackson."

The reports made by Captain Stirling and Mr. Frazer, on the return of the *Success* to Sydney, determined the Governor to recommend that a settlement should be formed on the Swan River, and Captain Stirling was, in consequence, sent out in 1829, to give effect to his recommendation. Hitherto, nothing had been known of Western Australia but the coast line, and that imperfectly, with the lower course of the rivers Swan and Canning, and the lake or estuary into which they have their outlets. On his arrival, Captain Stirling lost no time in obtaining further knowledge both of the coast and of the interior of that country which it had become his duty to develop for the advancement and future prosperity of the Colony of which he was the founder; indeed, even before Stirling's arrival, Captain Fremantle (*H.M.S. Challenger*) had already hoisted the British flag at the place which now bears his name, and had explored the country lying between Cockburn Sound and the Canning River.

While Mr. James Drummond, the botanist, who accompanied Captain Stirling, was at his work near the coast, Ensign Robert Dale, of the 63rd, explored the country to the Eastward, and reached the valley of the Avon, at Mt. Bakewell; and afterwards, starting from thence, proceeded Eastward for about 60 miles to Mts.



Stirling and Caroline, returning by a more Southern route past the mount which bears his name. Meanwhile, Lieut. William Preston, R.N., with Dr. Alexander Collie, had reached Leschenault, to the South; and Lieut. Archibald Erskine examined the Darling Range. Dale again, in the end of the year 1830, went to trace the course of the Helena River, and Captain Thomas Bannister started from the Swan River to cross the country to King George's Sound. On the South, Captain John Molloy had discovered the Blackwood, and Governor Stirling with the Surveyor General, Lieut. J. S. Roe, R.N., having visited Leschenault and Augusta, military detachments and settlers were established at both places. Nor had those at King George's Sound been idle, and the names of Lieut.-Col. Lockyer, Captain Wakefield, Lieutenants Tollemache and Kent, and especially that of Dr. Wilson, Resident Magistrate at Albany, will not be forgotten.

In the work of exploration none were more active than the Governor himself, who, with the Surveyor General, examined the course of the Collie and Preston Rivers, and the latter explored the country beyond the range of hills, which the Governor named after him, Roe's range; but the first exploration of any length, or presenting any serious difficulty, was that made from the Swan to King George's Sound, by Captain Thomas Bannister, who, in consequence of the inaccuracy of the calculations of the surveyor sent with him, only succeeded in reaching, after much hardship, the coast near the mouth of the Frankland, having discovered in his journey the Bannister and other affluents of the Murray, as well as those of the Blackwood and Frankland. He first noticed the gigantic growth of the trees near the South coast.

The next year, Collie and Dale, removed to King George's Sound, proceeded to explore that district. Collie from Oyster harbor about the King and Kalgan or French River, as it was then called, and the Porongurup Range, while Dale was sent to Tood-e-rup, a part of the Stirling Range, to search, but without success, for a cereal plant said to be used as food by the natives. This year also, 1831, Mr. J. G. Bussell examined the country between the Blackwood and the Vasse, as well as the coast to the West of those rivers.

In 1833, Mr. Alfred Hillman, a surveyor in the employ of the Government, explored the South coast from Albany as far as Nornalup inlet. In 1834, Mr. G. F. Moore made the junction of the Avon and Swan; Mr. Thomas Turner ascended the Blackwood; Mr. John Butler explored the Lake district to the North of Perth; Mr. C. R. B. Norcott, Superintendent of Police, the Murray River valley; Mr. F. Ludlow traversed the country between Augusta and the Swan River; and Mr. W. K. Shenton, a draughtsman attached to the office of the Surveyor General, examined the Collie River.

In 1835, Hillman visited the Avon, Hillman, and Williams Rivers; Mr. Patrick Taylor examined the upper course of the Kalgan and Hay; Surveyor Thomas Watson the Murray; and Moore the Upper Swan; but that year is most notable for the expedition under the command of the Governor himself, attended by the Surveyor General, which, traversing the country about the head waters of the Murray and Blackwood, struck the course of the Palinup or Salt River, and returning from the West of the Stirling Range (so named after Governor Stirling), descended the valley of the Kent, and proceeded along the coast to King George's Sound.

From thence they went in H.M.S. Sulphur to Cape Knob and Dillon Bay, and on their return Mr. Roe went back by York to the Swan River.

In 1836, further exploration was made by Hillman and Williams between the Avon and Williams Rivers; by Moore and Drummond about the sources of Moore River, and by Lieut. H. W. Bunbury in the valley of the Williams, and between the sources of the Dale and the Murray. In 1837 the Governor went by the valley of the Murray to Kojonup; and that year is notable for the landing of Lieuts. Grey and Lushington on the North coast, and for the discovery, by them, of the beautiful and fertile valley of the Glenelg River. Grey, however, having been severely wounded in a skirmish with the natives, returned with his party to Mauritius, to restore his health and prepare for a fresh descent on the North coast. Meanwhile, Hillman with his party was surveying the country, and laying out a road from Perth to King George's Sound.

It was, indeed, for the purpose of connecting the scattered settlements in the new Colony, that most explorations were now made. The settlers in the South-West very naturally desired that the road from Perth to Albany should pass near their locations, and the journeys of Messrs. W. Nairn Clarke, R. H. Bland (afterwards Colonial Secretary), F. C. Singleton, and Lieut. G. E. Egerton Warburton, were continued for the three following years with that object. At this time, also, Captain John Scully made further exploration on the Moore River, as did surveyor H. M. Ommaney (formerly a lieutenant in the army), on the coast to the West of Busselton, while Clarke examined the coast and its inlets between King George's Sound and Point D'Entrecasteaux.

Grey, by the advice of Sir William Nicolay, then Governor of Mauritius, had come to the Swan River to re-organise his party for further exploration on the North coast; but as it was supposed that the main drainage of the interior would prove to be to the West, the rivers of the North coast being apparently of sufficient magnitude, and the limits of the basin of the Glenelg being known, he went by sea to Sharks Bay, into which a considerable river had been reported to flow from the East, and was landed with three whale boats and stores on Bernier island, where he made his *dépôt*, and from thence proceeded across the bay, and after much danger and difficulty, succeeded in tracing its Eastern shore and entering the mouth of the Gascoigne River; but returning to his *dépôt* one of his boats was broken up, the others shattered, and his stores destroyed in a violent storm, so that he was obliged to attempt to return to Swan River by sea in two boats, now unfit for service, and with a very insufficient stock of provisions. Attempting to land near the South of Gantheaume bay, his boats were destroyed in the surf on the beach, and it only remained to reach, if possible, the Swan River, on foot. In this terrible journey the party separated, but Grey and a faithful native named Kaibor, having reached Perth, sent back assistance to the rest, who, with the exception of Frederick Smith, a young volunteer who had attached himself to Grey, and Mr. Walker the surgeon, who had reached Fremantle unassisted, were picked up by a party sent to their relief under the Surveyor General. Smith died of exhaustion near the small river which bears his name, after having shown himself, by his courage and patient endurance of hardship and famine, worthy of his cousin Florence Nightingale. In this journey of nearly 300 miles, Grey discovered and passed over all the rivers of the West coast,

from the Murchison to the Swan, and his description of the country led ultimately to its settlement. His accuracy was much disputed by some, but subsequent knowledge has fully confirmed his report. It was in this year that Eyre arrived at King George's Sound, having lost all his party except his native guide, in his journey along the coast from Port Lincoln. Captain Stokes, in the *Beagle*, this year surveyed the Abrolhos and Champion bay, which had been previously entered by Lieut. Helpman in the Colonial schooner of that name.

The views of the early settlers had been directed principally to agricultural pursuits; but after this time, as it had appeared from the explorations of Governor Stirling and Mr. Roe and their followers, that a large portion of the interior country was more fitted for pasturage, their attention was turned more especially to that industry, and with this object Drummond and Scully made explorations to the Victoria Plains, as did Mr. Henry Landor to the South-East of Beverley, and in 1843, with Mr. H. Maxwell Lefroy, he made an excursion into the Lake district to the East of York, where their names and discoveries are still perpetuated.

During the years 1847-8, Dr. F. Von Sommer, who, having a reputation for knowledge in natural science, had been taken into the employ of Government, examined and reported on the geology of the Victoria, Moore River, and Avon districts, and the country about Capes Riche and Naturaliste. In the latter year the Surveyor General, accompanied by Mr. Augustus Gregory, started on a journey of exploration to the East of the Stirling Range. Gregory had just returned from an expedition to the Murchison, on which river he had discovered lead and copper lodes (thus first directing

attention to the mineral wealth of the Champion Bay district), as also the small harbor which bears his name; and on the Irwin River his brother, Mr. F. H. Gregory, had found what has since been commonly known as the coal seam, and this, with the reports of Von Sommer, led to the supposition that there were vast deposits of that mineral extending from the Irwin along the base of the Darling Range.

Surveyor General Roe, descending the Palinup, crossed to Cape Riche, and, returning on his track to the North-East, reached Bremer Range, whence, directing his course to the South and East, and crossing the sources of the Fitzgerald and Phillips Rivers, he proceeded as far as Russell Range, near Cape Arid, at the Western extremity of the Great Australian Bight; and returning to Cape Riche, he found on the middle course of the Phillips, and lower course of the Fitzgerald, deposits similar to those found by Gregory on the Irwin, and in consequence, another discovery of coal was proclaimed. On reaching Cape Riche, he made a direct course to Bunbury and thence to Perth. The same year Helpman and Gregory returned by sea and land to make further examination of the reported coal measures, but the result was not satisfactory. They were again very carefully examined in 1875, by the Rev. C. G. Nicolay, who was sent by the Government for that purpose, but without the least indication of coal measures being perceptible.

It will appear, from this brief record, that before the year 1850 the coast of Western Australia, from Sharks Bay to the Great Australian Bight, had been explored, and a general knowledge obtained of the basins of the rivers from the Moore to the Phillips. The names of the early explorers, by whose labors this knowledge was

acquired (and to those given in the above list several more might be added), should be familiar to those who now enjoy the benefits resulting from them. From 1850 exploration has been continued on a more extended scale, in a more systematic method, with more definite ends, at longer intervals, and for the most part by professional surveyors.

A. Gregory was occupied during the years 1852 and 1853 in the valleys of the Blackwood and Gordon, and made a short expedition from the Murchison to Sharks Bay. In 1854, surveyor Robert Austin with a large party, including several young volunteers since well known in the Colony, left the valley of the Avon, and proceeding East and North, reached Mt. Magnet, in the Lake district, nearly 300 miles due East from the mouth of the Murchison, and thence by a North-West course entered the upper basins of that river, and (after making vain attempts to reach the Gascoigne, where Mr. G. Phillips, with supplies sent by sea, awaited him) was obliged, with much suffering, to return, and with great difficulty reached the river. It was from this journey that some knowledge of the country about the head waters of the Murchison, now being so rapidly taken up for pastoral purposes, was first obtained. F. H. Gregory was on the Murchison in 1857, and the next year traced the courses of the Lyons and Gascoigne Rivers to the sea, and, by his discoveries, opened an easy route overland to the North-West coast, along which both sheep and cattle were driven by E. T. Hooley without difficulty in 1865.

In 1861, F. H. Gregory, landing with a party at Nicol Bay, explored the valleys of the Fortescue, Ashburton, Shirlock, Yule, and DeGrey rivers as far as Mt. Macpherson at the source of the Oakover; this led

to the settlement of the North-West coast, as it is still called. This year, also, the brothers Dempster made explorations to the East of Northam, and from the South coast to the Lake district, in which H. M. Lefroy made a still more extended exploration in 1863, in consequence of which, surveyor Hunt was sent with a party organised for well digging and to make a road by which cattle might be taken into it. Messrs. Cook and Clarkson were exploring its Northern limits at the same time.

In 1864, Austin, with Dr. Martin and others, entered the mouth of the Glenelg and explored the Western portion of the basin of that river as Grey had the Eastern; and, a settlement having been formed at Roebuck Bay, surveyor James Cowle traversed the country between that place and Nickol Bay. In 1870, surveyor John Forrest traced the coast from Albany to Eucla, and proceeded from thence to Adelaide, without suffering from want of water as Eyre had done.

Of the interior of the country nothing was known as yet beyond the Lake district, but in 1856 A. Gregory, with a party from Queensland, entered the territory of Western Australia from the North-East and found Sturt's Creek in a sandy desert; and—reports respecting white men, supposed to relate to Leichardt and his party, of whose fate nothing is known, having been received from the natives of the Lake district,—in 1869 John Forrest extended his search to the Eastward of Champion Bay as far as the 123rd meridian, and in 1871 his brother Alexander somewhat further beyond Hampden Plains. In 1872, surveyor W. C. Gosse attempted to cross from South Australia, but was driven back by want of water before reaching the 126th meridian. Colonel Warburton, however, the year



following, succeeded in reaching the Oakover, the Northern branch of the DeGrey River, by the assistance of camels. It was reserved for John Forrest to cross the centre of the Colony from the Murchison, and thence to the Northern telegraph line of South Australia, with the ordinary equipment of a bushman.

The journals, reports, and maps of the explorers whose names have been recorded, and which are preserved in the office of the Surveyor General, with those of Mr. H. Y. L. Brown, Government Geologist from 1870 to 1873, furnish materials for the description of the Colony, both geographical and physical, as well as for the account of discovery already given; all of which might be enlarged with much advantage.

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FALLS OF THE SERPENTINE.

## PART I.

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### GEOLOGY AND PHYSICAL GEOGRAPHY.

As the horizontal contours of any portion of the earth's surface must depend on the vertical, or, in other words, the various features which are marked on the map—the coast line, plains, rivers, vallies, lakes, hills, mountains, &c., being consequent on the different elevations of the various portions of the surface above the level of the sea; and as those elevations are the results of geological formation, a general knowledge of the geology of any country is the best introduction to a knowledge of its geography.

The geology of Western Australia is in its general features very simple. Upon an undulating surface of granitoidal rocks, passing, as is common elsewhere, into gneiss and other forms of metamorphic rock, have been deposited strata, for the most part horizontal, of sand-

stones and limestones, the greatest thickness of which does not probably in any place exceed 700 feet. These form flat-topped ranges, and by process of denudation and consequent separation from the mass, detached masses and peaked hills, which are characteristic features of the country over a large portion of its area. The arenaceous and cretaceous deposits have, in process of denudation, been cut into valleys and gullies, in the courses of which the base rock is commonly laid bare; but as these deposits, even when obviously similar in formation, are found at different elevations, and as science has recently confirmed the possibility of similar deposits having been made at different periods under similar conditions, it will not follow that these are all of the same period in time, or that they have even been continuous. On the contrary, it would seem that the different positions in which such deposits are found are due to gradual or successive elevations of the land from its Western Coast, but, in addition to these causes of the superficial formation, recent examination of the Southern district of the Colony has shown that its area has been traversed by elevations of eruptive rocks. The same features have been observed in the upper basins of the Murchison River, and the highest and most prominent hills and ranges throughout the country have been so formed; those on the South being granitic or schistose, while those to the North are described as basaltic, trappean, or volcanic. Those erupted rocks, both on the South and in the Murchison District, form well-defined ranges culminating in bold rocky peaks trending from East and North to South and West, and, about the sources of the Murchison, divide a series of parallel valleys forming the basins of its affluents. True basalt has been found in its crystalline forms in the South Western angle of the Colony at Bunbury on the

North, and Cape Beaufort on the South, but connexion between these eruptive masses has not been determined.

Two geological maps of the South-Western part of the Colony have been published; one by F. H. Gregory (Arrowsmith, London, 1860) including the Gascoigne river, which is now very scarce, and the other by H. Y. L. Brown, giving the result of his surveys when employed as Government Geologist during the years 1870-73, which will be found with detailed maps, sections, &c., in the volumes of Council papers published by the Government during the years 1872-73. This of course is the more valuable, as of later date, and the work of a professional Geologist, but Mr. Gregory's map, including a much larger area both to the North and East, and marking the appearance of granitoid rocks in the river courses and elsewhere, as well as many erupted masses not included in Mr. Brown's map, gives valuable assistance in considering the general geological features of the Colony. Granitoid rocks appear in great masses, forming capes and headlands on the Southern Coast, as also in dome-like elevations and bare escarpments on the summits and sides of the principal water-sheds of the country. These, in many places, and more especially from Champion Bay to the Murchison River, are traversed by dykes of greenstone and similar rocks, in which rich lodes of copper and lead are found; and on the surface, in other places, there are extensive deposits of brown hæmatitic iron ore. Silver exists in small quantities in the lead ores, and gold has been found both in alluvium and quartz reefs, but not as yet in quantity to make its working remunerative. Among the erupted schistose rocks on the Irwin, Phillips, and Fitzgerald rivers have been found, as probably there will be elsewhere, strata con-

taining a semi-bituminous deposit which has been taken for coal. Tin and zinc have also been reported as existing in several places, but have not yet been discovered in workable quantities. Mr. Brown attributes the argillaceous clays, shales, and schists to the Silurian period, the bituminous shales to the Carboniferous, the sandstones and limestones to the Oolitic, but the coast limestone, evidently a more recent concretion, must be excepted, which, with its accompanying beds of calcareous grit and sandstone, he attributes to the Tertiary period. Some of the fossils which these limestones contain, differ but little from species still existing on the shores of the Colony; but Mr. Brown seems to think that the clays and laminated rocks found at the base of the hills may underlie them.

This outline sketch of the Geology of Western Australia may be sufficient to account for its most apparent physical features, but some further Geological notices will be required in considering them more in detail. On examination, the coast line of Western Australia will be seen to present three deep indentations—at King George's Sound on the South, Shark's Bay on the West, and King's Sound on the North coast, all trending to the Westward of North. To the West of King's Sound there is an extensive bight, reaching nearly to the N.W. angle of the Colony, while, on the South coast, the Great Australian Bight stretches Eastward from Cape Arid; and lines drawn from Fowler's Bay (beyond the Eastern limit of the Colony) to King's Sound, and, parallel to it, Northward from Cape Arid and Southward from Shark's Bay, will divide the Colony into three districts, trending about N.N.W. and S.S.E.

1. The Desert district, continuous beyond the Eastern limit of the Colony.

2. The Lake district, extending to the head waters of the Greenough and Murchison.
3. The Coast district, including the basins of all rivers South of the Greenough.

To these must be added the Coast districts of the North and South, including the basins of all rivers falling into the sea in those directions.

These divisions accord well with what is known of the Geology of the Colony, as a line drawn N.N.W. from Point Culver at the Western end of the Great Australian Bight will pass along the Western limit of the granitoid rocks on the edge of the great desert, and strike the mountains at the head of the Fortescue; while a similar line drawn from Fowler's Bay, at the head of the Bight, where Mr. Delisser found granite, will pass between Mounts Elvire and Fort Mueller granitic rocks, on Forrest's track, near the Eastern edge of the great desert. It is also apparent that a similar line, drawn from the Eastern shore of the Great Bight, would come out on the Northern coast in the deep indentation to the East of Cape Londonderry. These lines, and others drawn at right angles to them, will also be found to correspond generally with the coast line, so that, within a parallelogram of 1000 miles in length by 700 in breadth, which may form the normal figure of the Colony, its area to the West of a line drawn from King's Sound, S.S.E., would be included. If, however, the Southern limit of such a parallelogram were to be a line drawn through Point Culver, the Western coast limit of surface granite, in the desert district, it would pass to the North of that great mass of oolitic rock which appears on the shore of the Great Bight; and this exclusion would be consistent with the fact that this formation is exceptional, and differs from all other known geological formations in the Colony; the



coast of the Great Bight extending at the foot of a limestone range of perpendicular cliffs, named after Governor Hampton. The limestones here found are of various qualities, and have never been sufficiently examined, but, from the fossils they contain, which in all are numerous, and of which some entirely consist, they may probably be classed as approximating to the Great oolite of England. They are too dense to contain water, unless in fissures or caverns which are common in them. Their surface is grassed but waterless, though water, fit for stock, is found in Roe's Plains, at their base near the sea. Their Northern limit has not been observed. They present materials for building, for lime burning, and for such ornamental uses as marble is applied to. A similar line drawn from N. W. Cape, S.S.E., would exclude the projecting mass to the East of King's Sound, which has also its own characteristic difference.

The Desert District, which had only been entered from the East and West until it was in the present decade crossed by Warburton, Forrest, and Giles, appears, so far as our present knowledge extends, to be a level expanse of sandstone, with some granitic elevations and depressions forming hills and pools, the surface covered by what is locally known as spinifex, thinly wooded with belts of mulga and other shrubs, and with scattered white gum trees near the pools of water. To the South, Giles found it waterless, but Forrest found water nearly throughout his whole route across the centre. It is therefore probable that water may exist in many places, but the district, so far as is known, offers no inducement even to further exploration; yet Forrest, in 1853, found a sandstone range extending into it under the parallel 28°30' South Latitude, and reports many natives, and much game in its interior; it may

therefore possibly be more varied in character than is commonly supposed.

Of the Lake District more is known, but by no means as much as is to be desired. It presents an irregular undulating surface of granitic rocks, very varied, as is usual, in composition and structure, traversed by dykes of dioritic quartzose and schistose rocks, the general direction of which may be found to correspond to the normal lines already indicated. Masses termed indifferently trap or basalt by explorers, and cairns of granite, form isolated hills and ranges, the relations of which have yet to be determined. Quartzose and schistose dykes in erupted masses appear to be most common in the South, and trap or basalt in the North.

Upon the undulating surface of the primitive rocks of this district horizontal strata of sandstone, but of no great thickness, have been deposited; the elevations are separated by broad irregular shallow troughs, the depressions in the surface of the primitive rocks, in which are deposited clays and sands disintegrated from them, which act as receptacles for water, and form lakes of greater or smaller extent, according to the amount of the rainfall, and which uniting in very wet seasons may have given rise to the report, once prevalent, of an inland sea. The lakes or swamps thus formed may probably cover one-third of the entire area of this district South of the sources of the Murchison river.

The disintegration of the surface rocks, even of the granite, from the quantity of feldspar contained in it, but more especially of the sandstone and schistose rocks, is effected with great rapidity both here and elsewhere in the Colony, and is not confined to wet periods, but is continuous from atmospheric action during the whole year; and it may be assumed that where sandstones pre-

dominate, the process of evaporation, by which only the surface waters are diminished, there being no known outfall for them, not only leaves in deposition any saline matters that may be present in them, but also may cause the formation of crystals of gypsum, as Mr. Brown supposes, and consequently the lakes so formed are salt; while those of which the clay basins are formed by the disintegration of granitic or erupted rocks are fresh, as are the springs commonly found at the bases of elevations of those rocks.

A considerable portion of this district is, after rains, richly grassed, and has been utilized for grazing sheep and cattle; but as rain falls at very irregular periods, and often at long intervals, it is therefore unfit for agricultural purposes. Long belts of a thick but low growth of small Eucalypti are found traversing it at intervals. It may probably be found hereafter rich in those minerals which accompany or are contained in granitic transition or erupted rocks.

The Lake district may be considered as a shallow basin on a plateau of 300 miles square, and is buttressed up on three sides by elevations which form the watersheds of the rivers, the valleys of which open to the coasts of the Colony. The superior ranges, which separate the river basins, commonly present bare surfaces of granitoid rock; the inferior are, for the most part, covered with a concretionary rock, frequently appearing as a conglomerate, known in the Colony as iron-stone, which is also common in the valleys and on the flanks of the ranges on the West Coast, while to the North and South sandstones predominate. As is commonly the case, the highest points project in front of the main mass, but it is not probable that any attain to 2000 feet above the level of the sea, and the greatest elevations

will be found in the South-West and North-West ; in the former about the middle of the river basins, and in the latter near the sources of the rivers.

As the basins of the larger rivers naturally divide the Coast Districts into areas having characteristic differences, they may be best considered separately, and, as the principal settlements are on the West Coast, it may claim priority in description. A line of about 300 miles, from the sources of the Blackwood to those of the Irwin, may represent the South-Western watershed of the Colony. This great mass of granitic rock,—the Western escarpment of which is known as the Stirling Range, which forms the watershed of the rivers of the South as well as West, and the spurs from which separate their basins—has its greatest elevations to the South and West. The height of but few of these has been correctly ascertained, but Mt. William, at the source of Meares River, to the South of the Murray, rises 1685 feet above the level of the sea.

To the West and South another range has been thrown up, forming a sort of terrace below the main range, and this is marked by Roe's Range, of which Mt. Lennard on the Collie is the culminating point ; beneath this, as has been noted, on the coast, both to the West and South, basaltic columns have been protruded at Bunbury and at Cape Beaufort ; and beyond, about thirty miles to the West, the Coast Range, some points of which are nearly 800 feet above the sea, has by its elevation directed the course of the Blackwood to the South. This is also granitic, but has deposits of limestone and saliferous sandstones upon it. The former, probably of the same formation as the Coast limestone, are hollowed into numerous caverns containing fossils and fossiliferous deposits, while, in the lowlands at the

base of the main range to the East, there are superficial masses of gravel containing fossil bones of large animals which have not yet been examined. The line of this coast range is apparently continued in the reefs which fringe the coast, the outer one being known as the Five Fathom Bank, possibly terminating in Houtman's Abrolhos.

The great granitic mass of the South-Western Ranges slopes downward to the North, where the strata of sandstones and limestones about Moore River and the rivers of the Victoria district to the North, and which rest upon it, give a distinct character to that portion of the Colony. The formation of these is not sufficiently well known, but it would seem that they are related to the schistose deposits on the Irwin and the South coast. The Blackwood, having had its lower course directed Southward by the interposition of the rock masses on the West Coast, from Cape Leeuwin to Cape Naturaliste, assumes an intermediate position in the South, as the Gascoigne, falling into Shark's Bay, does to the North. The rivers Murchison, Greenough, Swan, and Murray, the basins of which open to the West coast, have their sources in the main watershed, and mark the principal divisions of the Coast district; while the Hutt, Bowes, and Chapman, the Irwin and Moore, the Serpentine, Harvey, and Collie, have their sources in the outer slopes of the ranges which form the upper basins of the larger rivers, as other inferior rivers, so called, have their sources still nearer the Coast line. The rivers of the Colony are indeed, for the most part, water courses, down which torrents rush in wet seasons, which occur only occasionally and sometimes at long intervals; and their courses are at other times marked by sand and gravel, brought down by the floods, and pools formed in

the bottom rocks, in which, as being below the general level of the river bed, water remains after a flood, and in some of which it is maintained by natural springs; these are fresh or saline, too frequently the latter, according to the conditions in which they are found. The lower course of the rivers commonly opens into lakes, lagoons, or (as they are termed) estuaries, often formed by elevations or depressions in the rocks near the coast, and shut in from the sea by a bar of rock and sand, a passage through the latter being opened in time of flood, to be immediately closed by the action of the sea, when the force of the current of the river is no longer sufficient to keep it open. Some few of the rivers have, however, a stream continuous throughout the year, and of fresh water; these will be found on the South-Western and Northern coasts of the Colony. It will be seen that the main, as well as the lateral valleys of the river basins, are generally in the direction of the normal lines already indicated.

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#### DESCRIPTIVE GEOGRAPHY.

WHEN Captain Fremantle hoisted the British flag at the mouth of the Swan river, he took possession formally of all the land in the Great Island Continent now known as Australia not included in the Colony of New South Wales. Subsequently the Colony of Western Australia had its Eastern limit defined by the 129th meridian of longitude East from Greenwich, and in 1861 that also was made the Western boundary of the Colony of South Australia; the whole area to the West of that meridian is therefore within the limits of and subject to the Go-

vernment of this Colony. By the supplementary commission granted to the Governor in 1873, the boundaries of the Colony were defined "as extending from the parallel of thirteen degrees thirty minutes South latitude to West Cape Howe, in the parallel of thirty-five degrees eight minutes South latitude, and from the Hartog's Island on the Western Coast, in longitude one hundred and twelve degrees fifty-two minutes, to one hundred and twenty-nine degrees of East longitude, reckoning from the meridian of Greenwich, including all the Islands adjacent in the Indian and Southern Oceans within the latitudes and longitudes aforesaid.

The positions of the extreme points of the Colony are:—

	S. Lat.	E. Long.
On the North, Cape Londonderry ... ..	13·45	126·57
On the West, Dirk Hartog Island, Cape Inscription	25·29	112·57
On the South, Peak Head, S. of King George's Sound ... ..	25·13	117·57

The extent and area of the Colony, as estimated in the Office of the Surveyor General, are:—

Length from North to South ... ..	1490	English miles
Breadth from East to West ... ..	865	do.
Length of line including the coast ... ..	3500	do.
And in English square miles ... ..	1,060,000	
„ acres ... ..	678,400,000	

It is therefore the largest of the Colonies of Australia, and more than 80 times as large as the United Kingdom of Great Britain and Ireland.

The Swan River, as the centre of the population and industry of the Colony, and as having on its banks the capital, Perth, and at its mouth the principal port, Fremantle, may claim precedence in description. Its name was, moreover, that at first given to the new

Colony, and is even yet more familiar to those engaged in trade than the more general and proper appellation of Western Australia.

The first land usually made by vessels on the West coast of Australia is Rottnest (*i.e.*, Rat-nest) island. This is of irregular shape, having its greatest length on the transverse axis, from W. to E., *i.e.*, from Cape Vlaming to Pt. Phillip,  $7\frac{1}{2}$  miles in length, and being from Pt. Parker to North Point,  $2\frac{1}{2}$  miles in breadth; it is 10 miles from the coast. The West point forms a small peninsula; and, on the East there are lagoons from which salt is extracted by native aboriginal convicts, who are confined on the island. Their prison, the superintendent's house, and other buildings have been erected, and a small farm is cultivated by them. There is also on the East side, on the shore of Thomson's Bay, a marine residence for the Governor of the Colony. A lighthouse stands on a hill 154 feet high, the lanthorn being 211 feet above the sea, and the light visible 21 miles. To the South of the island, in a line on the main axis of elevation, two miles from its Eastern extremity, a series of rocks and reefs extends for seven miles to Carnac, a rocky islet, and is continued from thence for two miles to Garden Island, which has its greatest length of  $5\frac{1}{2}$  miles to within one mile of John's point to the North of Cape Peron, from which the mainland is continuous to the East and North, thus forming apparently an extensive and sheltered harbor 17 miles in length from North to South. The Southern portion, Cockburn Sound, is indeed a spacious basin, 8 miles long by  $3\frac{1}{2}$  wide, having 7 fathoms water within less than a cable's length of the East shore, but it is rendered inaccessible from the North by Parmelia bank, stretching from Woodman's Point to Carnac, which, although it



affords protection from that quarter, has only  $1\frac{1}{2}$  fathoms water on its crest. To the North of this, Owen's Anchorage has 4 fathoms water close to the shore, but this is again covered to the North by Success bank, which, however, has a channel between it and the Stragglers to the West, with  $3\frac{1}{4}$  fathoms. The entrances between the reefs into these anchorages from the sea are narrow, tortuous, and difficult, which makes them at present inaccessible to large vessels in bad weather. The entrance between Garden Island and John's point is barred by the South flats, with only about  $1\frac{1}{2}$  fathoms water on the crest. The North channel has been recommended by the Admiralty Surveyor as affording entrance to the largest vessels, if properly lighted and buoyed, and with the removal of one rock. The Challenger Passage, however, he entirely condemns. Owen's Anchorage and Cockburn Sound are, however, resorted to by vessels drawing 16 feet when detained during winter months at Fremantle; the latter, besides its extensive area of some 28 square miles, with from 9 to 12 fathoms water, having the snug anchorage of Careening Cove, at the South-East point of Garden Island, three-quarters of a mile in width, and with five fathoms close to the North shore; and Mangles Bay to the South, one mile and a half broad, with seven fathoms within less than half a cable's length of the shore.

Between Rottnest and the main are Gage's Roads, but the reefs which extend to the North from Carnac on the line to Rottnest, limit their breadth to five miles from thence to the shoal water on the coast; they are from 9 to 13 fathoms deep, and are a safe anchorage for vessels, excepting, possibly, in very strong gales from the North, and, with the sounds and harbors to the South, naturally appertain to the embouchure of the Swan.

The river itself, however, is only about 400 yards wide at the mouth, which was closed all but a very narrow channel to the South under Arthur's Head, by a reef, until a similar channel was opened under Rous' Head to the North. As these are seldom accessible to vessels drawing more than 6 feet, and as the rise of the tide does not commonly exceed 18 inches, the trade of the port at Fremantle has at present to be carried on by means of lighters, which either discharge their cargoes from vessels in the roads, at the jetty, or take them up the river to Perth and Guildford. Outward-bound vessels have to be loaded in the same manner. For the first two miles the river is narrow, and for the most part shallow, ledges of rock projecting into it from the shores on which sandbanks have been formed; but beyond it opens into a series of broad lake-like reaches for some 11 miles to the narrows above Perth, which should perhaps be considered, more properly, the real mouth of the river. Perth water is nearly land-locked and shallow, but from thence to Rocky Bay there are some 8 square miles of water, a large portion of which is deep, carrying a channel of six fathoms, affording access to a coastline of 25 miles. The country about these waters has an undulating surface of limestone, the greatest elevations of which do not much exceed 250 feet. It has been, for the most part, covered with large timber trees, of which, however, but few remain. Perth water forms a pretty lake, on the West of which Mt. Eliza rises about 180 feet in a steep escarpment; it is about one mile and a half in length, and a mile in breadth. Perth, the capital of the Colony, is built on its North bank. Below Perth water the Canning, a small river rising in the face of the Darling Range, has its outlet in Melville water. It is navigable for boats and barges for some 12 miles, to the mills of Messrs. Mason & Bird, and affords

means for taking the timber brought down their tramway, to Perth, or to Fremantle for shipment. Above the islands to the East of Perth water, the river has a tortuous course, forming a succession of broad reaches to the confluence of the Helena, a small stream from the East, above which it bends to the East round the town of Guildford, and thence, ascending the stream Northward, to Ellen's Brook, a distance of about 20 miles direct from Perth, which drains the base of the range to the North, whence the valley trends North-East to Toodyay, where it is joined by the Avon from the South-East. This is, indeed, the main river, but had been so named at York before its connexion with the Swan was known. The lateral valley of the Avon, and its affluent the Dale, from the South, extend about 60 miles in a direct line, and the main river about 50 miles from Toodyay to Perth.

The upper basins of the river present, as is usual in West Australia, chains of pools, for the most part formed in rock, connected only in times of flood by water, at others by deposits of sand. Granite is largely developed in the surface of the hills about the Avon valley, which is one of the most fertile, as well as beautiful, parts of the Colony. Throughout the whole course of the river the flats on the banks are very rich with springs of fresh water from the drainage of the ground above them; some are still uncultivated, but it is occupied nearly throughout its entire length, the land having been taken up in the early days of the Colony. The banks have been throughout well wooded, and are so now in many places. The tertiary and alluvial clays and sands of marine formation, which extend along the base of the Darling Range to the South coast across the valley of the Blackwood, present an apparently level

surface, broken by small lakes, and crossed by numerous rivers. The coast limestone ranges, which in some places appear to have been deposited upon the tertiary strata, in some others may be clearly perceived to rest on granitic rocks. About the mouth of the Swan they have been found below the bed of the river resting on solid cretaceous sandstones. The superficial limestones, however, form ranges of low hills along the coast, between which are extensive lagoons, two of which only, Peel and Leschenault inlets, communicate with the sea, but neither are accessible to vessels; the former will not, but the latter will, admit the entrance of boats. Peel inlet extends 20 miles to the South in Harvey inlet and receives the waters of the Murray, with the smaller streams of the Serpentine and Harvey, which have their sources in the valleys in the face of the Darling Range, and with other rivers of the same class to the South, run a rapid course, broken by falls before reaching the plain at the foot of the hills. The falls of the Serpentine and Meares are most remarkable for their height and the picturesque scenery about them.

The Murray has its Northern sources—the Bannister and Hotham—near those of the Avon and Canning; while its Southern, which unite in the Williams, interlock with the Hillman and Arthur, the Northern affluents of the Blackwood. The lateral valleys of the Murray extend about 45 miles, and its main valley is in a direct line from its watershed to the confluence of the Williams and Hotham, about 50 miles in length, and from thence to Peel inlet about 50 more. It receives the North and South Dandalup, from the base of the range on the the North, in its lower course. Upon these, as on all the rivers of this coast, there is much fertile land, which however has been in occupation since the early days of

the Colony. The mouth of the Murray is obstructed by sandbanks, but its lower course is navigable for small craft to Pinjarrah.

The area enclosed between the Murray and Blackwood is drained by the Collie, which receives the Brunswick and Wellesley from the foot of the range in its lower course; the Preston, with its affluent stream, the Dardanup, flowing into Leschenault inlet from the South, as the Vasse and other small streams do into Geographe Bay. The valley of the Margaret opens the the coast range to the West, as Turner's River does to the South, the interior being accessible from those points. The Blackwood drains the largest area of all the rivers in the South of the Colony, but, in consequence of the secondary elevation of the ranges to the South-West, is confined to a narrow valley in its middle course of some 60 miles in direct distance, through a mountainous and well wooded country, in which there are, however, many fertile flats and well grassed banks. Its lower course for 40 miles is of the same character as the rivers of the West coast; but it has a much greater breadth and depth, and when in flood rises more than 20 feet above its ordinary level. The lateral valleys of the upper basin have an extent of about 75 miles, and from the sources of the Beaufort on the South, to its confluence with the Arthur from the North, may be 50 miles; about 15 miles below this it is joined by the Balgarup, also from the South, from whence to the sea it has no affluent stream worthy of notice, though it is fed by numerous torrents from the mountains on either side. As the lateral valleys of the Murray are separated from those of the Swan, so the head waters of the Arthur and Hillman are separated from those of the Murray and Collie by narrow watersheds, thus

dividing the hill district of the South-West into their several basins, and, in like manner, the basins of the rivers of the South coast open from the reverse of the watershed of the sources of the Blackwood. These are the Gordon, formerly called the Frankland, the Kent or Macquoid, Hay, Kalgan, and Palinup, which drain the area from Cape Chatham to Point Henry at Dillon Bay on a coast line of about 180 miles, all having their sources in the flanks of the great granitic mass of the South-West; as has the Warren between Cape Beaufort and Point D'Entrecasteaux, near which are the smaller rivers Donnelly and Gardner, formerly known as the Gordon, and the Shannon and Chesapeake, which fall into Broke's inlet from the North-West. On these there is much good land, and the country about them is well grassed, and consequently has been taken up by stock owners. The forests are from 15 to 20 miles from the coast, but there are groves of peppermint and other trees on the low sandy ranges between the inlets.

The Gordon, rising between the sources of the Palinup and Beaufort, has a westerly course of 60 miles, when it is joined by the Frankland from the North, which formerly gave its name to the whole river; from thence it has its course through a narrow valley to the rapids at the foot of the hills, and is from thence navigable for small craft to its mouth in Nornalup inlet, which is, however, obstructed by sandbanks. There are many fertile flats and well grassed slopes throughout the valley of this river. The Kent and Kalgan have their rise in a district of small lakes on the outer slopes of the basin of the Gordon. The former has a course of about 70 miles, with no considerable affluents, to Irwin inlet, and is on a smaller scale similar to the Gordon; as is the Hay, falling from the Southern slopes of its watershed,

which is about 35 miles from its source to its mouth in Wilson's inlet; this also receives the smaller streams of the Denmark on the West, and the Sleeman and Teutor on the East.

The Palinup and Kalgan are intermediate in character, for on their courses the granitic hills and forests die out; the Porongurup, extending in solitary grandeur to the East, and culminating 2145 feet above the sea, while between them the schistose peaks of the Stirling Range rise in rugged masses for 30 miles; Tolbrunup, near the centre, rising 3341 feet; Ellen's peak to the East, 3420 feet, and the highest points between the two 3640 feet above the sea, as recently estimated by Capt. Archdeacon. Across the lower course of the Palinup, a comparatively level plain extends to Doubtful Island Bay, formed by sandstone deposits on the granitic floor, which is apparent in the channels of the rivers, and has its surface partly covered with timber to the West, and numerous fresh water lakes, those to the East being marked by the belts of yeat and tea-trees which surround them. The Kalgan has its course of 75 miles round Porongurup Range, and falls into Oyster harbor, which opens into King George's Sound. It is, like the rivers to the West, a constantly flowing water, but the Palinup is, except in rare seasons of flood, marked only by occasional pools; it has its outlet after a course of about 100 miles, during which it receives only two small affluents from the North, in an estuary of about five miles in length, which lies in a very beautiful valley surrounded by lofty hills, but it is closed from the sea by a bank of sand.

The sandstone rocks are well developed on either side of the estuary of the Palinup, presenting steep escarpments to the sea of some 60 feet in height, but they

attain their greatest elevation on the Fitzgerald River, which flows (when it does flow, which is at intervals of several years) between lofty cliffs in its middle course, having its sources beyond the granitic outcrop to the South of the district of the Lakes, which crosses the Palinup in its middle course, extending towards Cape Arid. The sandstones occupy less of the valley of the Phillips, and it is therefore more fertile; but the erupted schists, which are so largely developed in parallel lines near the coast of Doubtful Bay, cross the lower course of both rivers, and culminate in the three Mounts Barren. All the waters of the Fitzgerald are saline, but Hamersley's River, an affluent of the Phillips, on the North of Eyre's Range, is fresh. There are also deep and large fresh water pools on the Nicolay and Gardner Rivers, which traverse the centre of the plain, and have their estuaries in Bremer and Doubtful Island Bays. St. Mary's River drains the Eastern and Northern slopes of West Mount Barren, and is remarkable for the beauty of its estuary, and the romantic development of the schistose rocks at St. Mary's crags, on its middle course. There are also fresh water pools on the lower course of the Palinup, where the granitic rocks appear on the surface.

Mr. Price's recent survey of the coast from Bremer Bay to Eucla has given accurate knowledge of its physical features. Granitic rocks present themselves in ragged peaks at intervals to Cape Arid and Cape Pasley. The Steere falls into Cullum inlet to the East of the Phillips, some 20 miles beyond which the Judacup communicates with a chain of lakes; 25 miles further East is the Oldfield. The Young and Lort fall into Stoke's inlet, and here limestones begin to appear above the granite floor. At Barker inlet the limestone



cliffs are 250 feet in height, beyond which Gray's River communicates with the lake of the same name; and other lakes and lagoons, both salt and fresh, are continued to the Eastward. At Esperance Bay the granite is again developed in high peaks, rising at Cape le Grand 1040 feet above the sea level. Thomas River to the East and the Weeanenginup Creek are the last waters on the South-east coast of the Colony, the latter being between Capes Arid and Pasley. The limestone cliffs of Hampden Range extend to Wilson's Bluff 7 miles beyond the landing place at Eucla; and Ross plains, beneath these, have an extreme breadth of 25 miles; they are covered with samphire bushes, and afford only water fit for stock.

The Western coast of the Colony presents a range of low sandhills, varied with occasional points of limestone rock, to beyond the Moore River; but the Southern rises in bold granitic headlands at Cape Chatham on the West, 820 feet above the sea, and at Mount Manypeake, to the East of King George's Sound, 1855 feet; Warricup and Bald island are both 1020 feet high; Bennet's Range, to the North of Parry's inlet, culminates in Mt. Lindsay, 1469 feet above the sea; and Kalganup, to the North of Nornalup, at 1384 feet. Between West Cape Howe and Cape Chatham are many extensive inlets,—Burkes,  $7\frac{1}{2}$  miles long, Nornalup  $2\frac{3}{4}$ , Irwin's, and Parry's, and Wilson's, 8 miles long, of which Nornalup alone is accessible to small craft. There are, however, at Point D'Entrecasteaux, Capes Leeuwin and Chatham, the mouth of Nornalup, and Point Hillier, as well as in Tor Bay, anchorages sheltered by islets and reefs; but, as the Admiralty survey now in progress is complete only in the coast line without soundings, nothing can be said certainly respecting them. King

George's Sound, however, in the centre of this coast, is accessible to vessels of any class and at all times, and has a circular area of some six miles in diameter, protected to the East by Michaelmas and Breaksea, rocky islands, and surrounded for the most part by granitic hills; on the North it terminates in a sandy beach of three miles in length, on the East of which is Oyster Harbor, accessible to vessels drawing 14 feet, and carrying that depth to the mouth of King River, having a small area of deeper water within; to the South-East is an inner harbor, named Princess Royal, of which, though a great portion to the West is, as in Oyster Harbor, shallow, it is on the North capable of receiving the largest vessels; and here, at the town of Albany, at the base of Mt. Gardner, a granitic mass rising 860 feet above the sea, the mail steamers deliver their mails and passengers, and take in coal for their further voyage. This harbor is entirely landlocked, a long point crossing it to the East, rising in Quarantine hill, 260 feet, and the entrance being only three cables broad. The survey of King George's Sound is completed and published, as are those of the ports of Fremantle and Champion Bay.

A chain of fresh water lakes stretches to the North of Perth water for 30 miles towards the Moore River; and from thence to the Bowes River, beyond Champion Bay, the granite floor has a more even surface, and the sandstones and limestones are more largely and regularly developed, so that the ranges throughout this district, of which the principal near the coast are Gardner and Moresby's flat-topped ranges, have a level surface, varied only by the valleys of the rivers and by detached conical hills. Granite, however, forms elevated masses to the North of Moore River in Mounts Peron and Lesueur,

which rise to more than 1000 feet above the sea, and on the Greenough River, and forms the surface of the greater portion of what is known as the Mines district, to the North of Champion Bay; it also appears in the Victoria Plains, where the Moore and Arrowsmith rivers take their rise about 50 miles from the coast. The rivers of this district are therefore mere watercourses, with occasional deep pools in the rocks, but in rainy seasons are filled with broad, deep, and rapid torrents. On and about their banks occasional flats of rich land are found, but the country is obviously more fitted for pastoral than agricultural pursuits. To this there are, however, two marked exceptions; one in the plains along the base of the hills below the upper valleys of the rivers, and the other in the lacustrine basins between the Irwin and Greenough, in which there is a large extent of rich alluvium, in the latter mostly under cultivation. The Moore, Arrowsmith, and Irwin have their sources in the Western slopes of the Northern spurs of the Darling Range, but the sources of the Greenough are in the North-West angle of the Lake district, and overlap those of the Irwin. The Chapman has its sources in the outer slopes of the basins of the Greenough, as the smaller rivers of the coast, the Buller, Oakagee, and Bowes, have from without the valley of the Chapman. The Greenough may have a direct course of more than 150 miles, and its lateral valleys may extend 100, but this part of the Colony has not been surveyed, although triangulations have been carried from Perth to the Weld Range, beyond the Murchison, under the direction of the Surveyor General, from which it appears that the principal elevations are Mt. Dalgeranger, to the East of the sources of the Greenough, 2100 feet, and Mt. Lulworth, the culminating point of Weld Range, 2330 feet above the sea.

Forrest found Mt. Hale, under the 26th parallel, composed of magnetic iron ore with brown hæmatite, similar to the peak in consequence named Mt. Magnet by Austin; and several other peaks in this and the Lake district are of the same formation.

The Murchison River is exceptional both in size, position, and character. It is the longest river of the Colony, has its upper basin in the North-West angle of the Lake district, to the Eastward of the Greenough and Gascoigne, and on its banks the first specimens of the fauna and flora of the North coast are apparent. It has a deep channel above its mouth. The river, in its middle and lower courses, winds through an irregular valley, rich in minerals, for more than 100 miles in a direct line without an affluent. The upper valleys of the Murchison have not been mapped, but it has several affluents, the Sanford, Impey, and Roderick, the valleys of which have an extent of from 100 to 200 miles. Forrest found the Eastern watershed under the 120th meridian, after passing over some 100 miles of undulating well-grassed country, traversed by numerous watercourses, the most important lateral valley being that of the Sanford, the waters of those to the North being fresh, and those to the South, for the most part, saline. Mounts Bartle and Russel, at the Eastern source, are in latitude  $26^{\circ} 5'$  South, and the valley lies to the South of Robinson Range. In ordinary seasons the course of this river is only marked by its bed, either of rock or sand, or by occasional pools; but in times of flood a vast volume of water is poured down to the sea, into which it passes through cliffs of limestone. The plains about the head waters of the Murchison and to the East of the Greenough are being rapidly occupied by sheep farmers, especially those of the

Champion Bay district, to whom they have proved a most valuable means of extending their runs and increasing their flocks. Mr. Forrest discovered large surfaces of well-grassed land, and many pools and fresh water springs on the main source of the river. The Gascoigne and its affluent, the Lyons, form the connecting links between the rivers of the West and those of the North coasts, the head waters of the one interlocking with those of the Murchison, and of the other with those of the Ashburton. The Lyons flows at the foot of the South face of Barlee Range, as the Ashburton does at the North of Capricorn Range, under the Southern tropic, the Spinifex district of the coastline extending to the Eastward between them.

The basin of the Upper Gascoigne is marked by lofty hills of erupted rock, trap, and basalt, as well as by schists and slates. It is rich in minerals, has many available arable and pastoral locations; it may present an irregular curved area of 200 miles in length by 60 in breadth. The Lyons joins the Gascoigne about 75 miles from the sea, at the base of the sandstones, which have here their escarpment on the North face of the Kennedy Range, through which the course of the river passes to the sea in Sharks Bay. About the mouth there is much good pastoral land, which has been taken up and is in course of occupation. The mouth of the river covered by Babbage island forms a harbor accessible by the Southern channel to vessels drawing 14 feet. Sharks Bay will probably become the centre of the trade of the Upper Murchison, as well as of the Gascoigne; it is a vast sheet of water having a low Eastern coast of about 130 miles covered by mangrove flats on the South of the Gascoigne, and rising in the sandhills of Lyell's Range to the North, unbroken, save by the mouth of

that river. This great gulf is divided at its Southern extremity into two large bays or sounds by Peron Peninsula, extending 70 miles to Cape Peron. The Eastern is again divided into two parts by Point Petit and Faure island. Durham Sound, on the West, is broken into several deep inlets, and terminates in Freycinet harbor. Sharks Bay is covered to the West by Dirk Hartog's island, about 70 miles in length by six in breadth, to the North of which Doore and Bernier islands, with their connecting reefs, extend 50 more. The Naturaliste channel, between Dirk Hartog and Bernier islands, is 15 miles broad, and the Geographe Channel, to the North, 50. There can be no doubt that this must become hereafter an important naval station. Dirk Hartog's island has been long occupied as a sheep station by Mr. F. von Bibra. These islands are all rocky. Dirk Hartog's rises 435 feet above the sea at the Northern extremity.

From the Murchison a barren sandstone plain extends to the coast near the mouth of the Ashburton, broken only by the lower course of the Gascoigne, and supposed to be waterless. With the valley of the Ashburton the pastoral district of the North-West coast commences, and extends for 300 miles to the DeGrey. Throughout this district from Exmouth Gulf the coast is generally low and covered with mangroves, while to the West it is bold and rocky, yet granitic rocks appear in many places. The principal rivers—the Ashburton, Fortescue, and DeGrey—have their sources among the granitic ranges of the interior, and their middle in the sandstone ranges which flank them, and from which the surface descends gradually to the sea, and below which the inferior rivers—the Cane, Robe, Maitland, Harding, and Yule—have their rise. F. H. Gregory describes three

distinct terraces rising from the sea to the South. Although much of the land is very fertile, yet, as the rainfall is uncertain, and often at long intervals, this district is not well fitted for agriculture; but as there is water for stock, and the natural grasses are permanent, it has become one of the most important grazing districts in the Colony.

The sources of the Gascoigne and Ashburton may be 1500 feet above the sea, and there are many points of considerable elevation about them. Mount Augustus, on the Lyons, was estimated by Gregory to be 3480 feet in height; here he found porphyritic, schistose, and metamorphic sandstone rocks; and the ridges, which separate the head waters of all the rivers, are commonly highly siliceous. Plutonic and erupted rocks, diorite, trap, and basalt have been also noticed by explorers in many parts of their valleys.

The Ashburton has a course of nearly 200 miles to the sea, and is 100 yards wide at the mouth, with deep water, but has no safe anchorage. It receives two considerable affluents on the right, Hardey River and Duck Creek, and has good alluvial land and well-grassed plains throughout its course. The upper basin may be 75 miles in width. The Fortescue may be in extent equal to the Ashburton, but has no considerable affluent; this river has much richly grassed country throughout its course, especially below Hamersley Range, which culminates in Mt. Pyrtton, 2700 feet above the sea, and from the flanks of which a stream of fresh water, known as the Mill stream, debouches through a gorge. Here first are seen the palm-trees of the North coast. To the North-East of this river, about the sources of the Sherlock and Yule, plains covered with spinifex are found, which again extend beyond the

DeGrey, limiting the area of the pastoral land ; but Mr. Cowle saw splendid country to the South, and there is good land in patches on the DeGrey and its affluent, the Oakover ; but the valley of the Strelly is closed in by granite ranges, with volcanic ridges appearing through them (F. H. Gregory), and similar rocky hills limit the valley of the Shaw to the West. On the Sherlock the sandstone hills rise in bold bluffs 300 feet above the pools of permanent water, and sandstone forms the surface of the spinifex district towards the East. Throughout this district scattered trees are found on the plains, and white gums in many of the river valleys, as well as about the sources of the Sherlock. The long low coastline is broken, near the centre, by the promontory which forms Nickol Bay and its adjacent islands ; but neither Cossack, on its South-Eastern side, nor Tien Tsin, beyond Cape Lambert, its Eastern boundary, afford good accommodation for trade. Port Robinson has, however, been recently opened in Hampton Sound to the West ; it is protected by Enderby and other islands to the North, and is accessible by Mermaid Passage, between them and the Legendre islands, to the North-West of Nickol Bay. Beyond Cape Latouche Treville, to which the plains of spinifex extend, the face of the country changes its character, presenting an aspect totally different from that of any other part of the Colony. The coast becomes rocky ; the points and headlands are extended in numerous islands, of which also there are many outlying the coast, which is indented with bays and harbors throughout its entire length, many of the first class, with deep water close to the shore. Beyond Cape Leveque, King Sound opens to the South-East, and is about 90 miles in depth by 25 in greatest breadth, and, further Eastward, Prince Regent's River and many other narrow but deep inlets, with



steep rocky sides, stretch deep into the land. This coast will be found clearly detailed on the Admiralty chart, but is too intricate and broken for general description. The only portion of the interior at all known is the valley of the Glenelg, which was examined by both Grey and F. H. Gregory; and if it may be taken as typical of the rest, the future importance of this part of West Australia can hardly be over estimated.

The Glenelg has its sources in the sandstone precipices of Stephen Range, the limit of Grey and Lushington's explorations, to the South of the 16th parallel of South latitude, and has its final outlet to the sea in Doubtful Bay, some 35 miles to the West, under the same parallel; and the line between these points forms the chord of the irregular arc of the course of the river. After descending from the rocky gorges of the sandstone range it flows with a deep and rapid current for about 20 miles in a North-West direction, through a valley rich with the disintegrations of the basaltic hills which now bound its valley to the East, and from which descend numerous streams of fresh water, to the base of the hills of the same character, rising at the foot of the sandstone range which separates it from Prince Regent's River, from which, at this point, it is distant only about 12 miles. These ranges trend North-West and South-East, as do the inlets of the coast, showing a change here in the axis of elevation, and, in consequence, the valley widens to the North-West, so that its affluent, the Gardner, which drains this part of the valley, has an extent of 15 miles, and the northern portion is a net work of running waters. From its North-East angle, where it falls over rocks, the course of the Glenelg is Westerly at the base of Mounts Eyre, Sturt, and Lyell, basaltic peaks rising 700 feet above the plain, which is everywhere fertile

and rich in vegetation, and, for the most part, thinly wooded with large timber. This plain rises gradually to the North, to Harrington Downs, which are well grassed and watered. The sandstone ranges to the North-East are clothed with a forest of pine timber. From the rapids at the North-East angle, the Glenelg is broad and deep, and navigable for 20 miles, but its mouth, in Maitland Bay, is divided by an island into two narrow channels, accessible only to vessels of about 100 tons. It was entered by the Flying Foam, schooner, 32 tons, in 1864. George water is about 7 miles long and 4 broad, and is probably connected with Brecknock harbor, some 15 miles to the North; it opens by two narrow channels into Doubtful Bay, which has an area 8 miles in length by 6 in breadth, with deep water and sheltered to the West by islands forming a safe and commodious harbor. The Eastern shores are, however, formed of mangrove swamps, and it is separated from the valley of the Glenelg by rugged sandstone hills rising 700 feet above the sea.

Prince Regent's River may be taken as an example of others on this coast. It opens to the sea in Brunswick Bay, among numerous islands which, with the indentations of the coast, form many large and safe harbors. Its entrance is covered to the North-West by a group of islands, which also protect Hanover Bay to the East. Below these it is 4 miles wide with 30 fathoms water; about 5 miles further it narrows to about  $\frac{3}{4}$  of a mile, and then expands in St. George's basin, a noble sheet of water 10 miles long and nearly 7 broad, with two islands to the North-West, and from 8 to 14 fathoms water. Beyond the basins the river is continued through a narrow gorge for 15 miles, with water shoaling gradually to 2 fathoms. From the extremity, and from every gorge and ravine on

either side, perennial streams of fresh water pour down. These are clothed with luxuriant vegetation (forests of pine trees were found by Grey on the hills on the South side), among which the pandanas and fern are most notable; and the whole country is not less rich in animal than in vegetable life, both by land and water.

The tides on this coast rise from 25 to 35 feet.







ST. MARY'S LAKE.

## PART II.

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### CLIMATE AND PRODUCTIONS.

As the geological conformation of the Colony divides it into districts distinct in character, so in connexion with their position it has determined their climate and productions. The great granitic masses of the South-West are covered by forests, the trees to the South being of gigantic growth, showing not only the fertility of the soil, but the greater humidity of the climate, of which also the greater abundance of fresh water gives sufficient proof; moreover, the forest growth prevents the great rapidity of evaporation which is experienced on the plains of the North, Centre, and South-East of the Colony; these causes determine the distribution and occupations of the inhabitants. The South-West must ultimately prove the most populous and generally pro-

ductive portion of the Colony, having the most varied surface, the best climate, and affording agricultural as well as pastoral districts. No country is capable of producing a greater abundance of fruit and vegetables. It is, emphatically, a land of corn, wine, oil, fruits, flowers, milk, and honey. The more extensive pastoral districts must necessarily prove less populous, yet in them there are agricultural areas, as at the mouths of the Greenough and Irwin, and mineral districts, as at Northampton, near Champion Bay, which can afford occupation for large numbers of people. The agricultural areas of the pastoral districts, although comparatively small and scattered, may be estimated as sufficient to provide food for any future population. The settled districts of the Colony are connected with the coasts by the rivers, and it is of these only that the climate and productions can be stated with any certainty. The results of meteorological observations in the different districts are given in the following tables:—

The average temperature and atmospheric pressure, taken from the observations made by the late W. H. Knight, Esq., at Perth, are, during the years 1867-8-9:—

Barometer,	Max.	30·47	May, Aug., 1868, and June, 1869
Do	Min.	30·13	January, 69
Thermometer,	Max.	107	March, 68
Do. Min.	} day	40	July, 1867, August, 1869
		night	38
Daily Mean,	Max.	79·8	February, 1867
Do.	Min.	57·1	July, 1869

The greatest rainfall was in the month of June, having been 13·91 inches in 1868, the average of the three years being 10·85 inches for that month. The least rainfall was in December, 1867, ·01, and in January, 1868, ·01 inch; in the months of February and March no rains fell.

The number of days on which rain fell, and the total rainfall, were:—

1867, days	114,	fall	37·82	inches
1868, „	109,	„	38·29	do.
1869, „	84,	„	27·68	do.

The averages being 102·3 days and 34·57 inches.

During the year 1876 the following results were obtained by observations taken at the Surveyor General's Office, Perth:—

Barometer, highest reading,	30·463	on 25th July
Do. lowest do.,	29·319	on 13th Nov.

Giving a range for the year of 1·144 inches

Thermometer, max. in shade, 112° on 20th Feb.

Do., min. do.,	34·7	on 24th July
Highest mean for one month,	93·7,	February
Lowest do.,	46·8,	August

The total rainfall for the year 28·73 inches, which fell on 110 days.

Maximum for one month, 8·45 inches in June

Minimum do., 0·04 do. February

This year is to be noted for the small amount of the rainfall.

The Official Report from Bunbury for the year 1876 gives the following results:—

Barometer, highest,	...	...	30·39	in July
Do. lowest,	...	...	29·05	in Nov.
Highest average of 12 months	...	...	30·17	
Lowest do. do.	...	...	29·49	
General average do.	...	...	29·83	
Thermometer, highest,	...	...	83	January
Do. lowest,	...	...	54	June
Highest average 12 months	...	...	74·7	
Lowest do. do.	...	...	59·5	
General average do.	...	...	67·1	
Rainfall, highest ...	...	...	9 $\frac{5}{8}$	in June
Do. lowest ..	...	...	0	in March
Total for year	...	...	43 $\frac{9}{16}$	inches



Prevailing winds January to May, E. a.m. and W. p.m. ; June, W. and N.W. ; July, E. and N.E. ; August, W. and N.W. ; September to January, S.W. and W.

At Breaksea Island, King George's Sound, the averages from observations taken at the lighthouse during four years, from 1873 to 1876, were:—

Barometer, highest, 30·156 inches in November

Do., lowest, 29·010 do. June

Thermometer, highest, 80 in February

Do., lowest, 45 in June and October

At Champion Bay the highest range of the thermometer for three years was before a storm in the month of March, viz., 110°, the highest ordinary range was 104 in January, the lowest 44 in July. In the North-West district the thermometer had risen in a tent to 115° and in a room to 110°. The lowest range observed by Mr. Sholl was 48°, he also observed, during the hurricane of 1872, the mercury in the barometer fall to 28·96 inches; this is of course an extreme case, the highest known reading has been 30·35 inches.

The prevailing winds are on the South coast from S.E. to S.W., variable, but more Easterly during the summer. On the West Coast from November to March; Easterly in the morning and blowing fresh from the S.W. in the afternoon; the Southerly winds are cold; and during this period the Easterly winds are hot. A hot wind sometimes blows from the East for two or three days in succession. During the winter months the Easterly winds are cold, the winds are variable, calms frequent, generally preceding gales with wind and rain from the N.W.; these commence in the East and die out when they have worked round to the West. Exceptional gales are experienced from the East as well as from the West.

On the North coast hurricanes have been experienced in December, February, March, and April. The most destructive on record, that of 20th and 21st March, 1872, commenced from the South-East, and having veered to North, there was a calm for about half-an-hour; it then began to blow from the North-West and by West to South-East, when it dropped to a calm; the greatest force of the storm was at the middle points, East and West.

The climate of the North-West is for the most part dry, with occasional tropical rains and strong winds from December to April inclusive; exceptional rains with moderate winds in June and July.

Ice has been seen on the Ashburton and from thence to the South coast, especially in the upper valley of the Murchison River, but in no part of the Colony has it been observed to last many hours. Hail is rare, but occasionally, even on the North coast, severe. Thunder storms are not frequent, more common towards the North, where damage has occasionally been done by lightning; they are periodical in the summer in the Murchison District.

There are of course in West Australia, as elsewhere, the usual differences resulting from locality, but the healthfulness of the climate of West Australia will appear from the following facts:—

In 1869 the population was 24,785 persons, the deaths only 334, or 13·47 in 1000: this may be taken as a fair average year. In 1875 the population was 26·709, and the deaths 473, or 21·0 in 1000, this was an un-

usually unhealthy year. Taking the principal causes of death, there were from

	1869.	1875.
Miasmatic diseases ... ..	73	129 deaths
Diseases of Respiratory Organs	35	56 do.
Do. Nervous System ...	33	53 do.
Phthisis ... ..	8	27 do.
Disease of Digestive Organs ...	30	24 do.

In 1869 no deaths from alcoholism are recorded, but in 1875 there were three. The deaths from accident average 25. Comparing the death rates of England and the other Australian Colonies with that of West Australia, it appears that:

In England the death rate is	22·40	in	1000
New Zealand	do.	11·38	do.
Tasmania	do.	13·76	do.
West Australia	do.	13·47	do.

Tasmania and New Zealand being relatively the highest and lowest of the other Australian Colonies; but great allowance must be made for immigration. In New Zealand in 1871 the number of persons born in the Colony were 64·052; and of immigrants, 192·341, those born in the Colony being less than one-fourth of the whole number. The introduction of so large a number of young and healthy persons must necessarily have decreased the death-rate very materially. The same argument might be applied to the three other Colonies of Australia, and West Australia may therefore be assumed to be more healthful than any other part of Australasia, as immigration can have had no effect on the death-rate of West Australia, for in 1875 only 447 persons arrived in the Colony, and it was in that year emigration to the Colony recommenced. The character and mode of life of the convict population would also tend to increase rather than diminish the death-rate.

Although the returns given show that the climate is very healthful, yet it must be remembered that health does not depend on climatic influences solely, but equally, if not more especially, on the customs, habits, and manner of living of the people in any country. The healthfulness of the climate of West Australia is, no doubt, consequent on the dryness and elasticity of the atmosphere throughout the greater part of the year; but the cold southerly winds, which blow almost daily in summer, and with great strength on the South-West coast; and, on the other hand, the occasional hot easterly winds, must affect those who are by necessity exposed to them. In the outlying districts the diet of the people is confined within very narrow limits: meat and bread, often unleavened, are the common food; tea, drunk frequently and in large quantities, the ordinary beverage; and, as a natural consequence, beer and spirits are largely consumed when opportunity is afforded. The nature of the occupation of the colonists exposes many of them to accidents, and evil climatic influences; medical aid is often unattainable. The death rate is therefore larger than it might be, and some diseases result from the diet and habits of the people, which, under improved circumstances, will disappear. It is therefore no exaggeration, speaking generally, to say that the climate of West Australia is one of the most healthful in the world. From the tables given above it will appear that it varies less than, from the great extent of its surface, might be expected. It is also to be noted that the districts in which the personal labours of the white population are most necessary, are those most suited to European constitutions. In the North coast and the Murchison River, for instance, the stock-owners employ the natives as shepherds, and for other labour on their stations which they are well able to perform; but they are

not so capable of agricultural labour, cutting timber, or clearing the ground; and, as the South-West requires, so it will support and reward the labor of a larger white population than the North or East.

Although exposure, at all seasons, and for a long period, must necessarily prove more or less injurious to man, yet there are few countries where less protection from the elements is required. Disease has been almost unknown among the explorers, who have traversed the country in all directions, and who, in the early days of the Colony at least, seldom carried any shelter with them. In the towns, as well as in the country, the healthy appearance of the children cannot escape notice.

The most important natural productions of the vegetable kingdom are the grasses and "scrub," which cover the plains, and form the food of the kangaroo and of the sheep and cattle pastured on them; the timber, which forms the forests of the South-West; the pine timber of the North; sandalwood, which is found scattered over the hilly districts in most parts of the Colony; and lead and copper ore, which, abounding in many other places, are at present worked only in the Champion Bay district, the Murchison river, and on the North-West Coast.

The district of forests is estimated by the Commissioner of Crown Lands to have an area of 30,000 square miles, and extends over the hill country, from the North of the Moore river to the South Coast, as well as on the plains to the South-West and to the East of King George's Sound, where it dies out. The forest trees are of the genus *Eucalyptus*; the approximate

areas covered by the principal species are given in the following table:—

	Square miles.
White Gum, <i>Eucalyptus Viminalis</i> ,	10000
Jarrah, <i>Eucalyptus Marginata</i> ...	14000
Karri (Blue Gum) <i>Eucalyptus Diver-</i> <i>sicolor</i> , mixed with jarrah ...	2300
Tooart, <i>Eucalyptus Gomphocephala</i>	500
Red Gum, <i>Eucalyptus Robusta</i> ...	800
York Gum, <i>Eucalyptus Coxocephala</i>	2400

The York Gum, though of smaller size, is common as far North as the Murchison river. The Jarrah is becoming well known for its good qualities, strength, durability, and especially for its immunity from the attacks of submarine animals and the white ant, if cut at the proper age, and time of year, and well seasoned before using. For ship building, bridges, wharfs, jetties, &c., it is therefore of great value, and the more so, as iron bolts and nails driven into it do not loosen from rust, as in most other woods; it is in consequence one of the most important staples of the trade of the Colony. The Karri or Karrie tree is confined to the extreme South and West; its gigantic proportions excite the admiration of all those who see them; indeed the Karri timber is so huge that, though of much value, it is comparatively little used. Captain Bannister in 1830 measured trees 18 feet in circumference, and estimated the branches at 100 feet; since then many of much larger dimensions have been observed. Governor Weld measured some 150 feet to the branches; they are commonly 6 feet in diameter, and have been observed of double that size. White Gums are found for the most part in the beds and on the banks of all the rivers of the Colony. The Tea Tree, or Paper Bark, is charac-

teristic of the water courses and lake margins, as the yeat is found in and about the shallow lakes to the East of King George's Sound; belts of Mulga and other shrubs intersect the plains in the East and centre of the Colony, and Marlock thickets cover the flanks of the sandstone ranges of the South-East. There are many other smaller trees, the wood of which is useful for the several purposes enumerated below, and some yield valuable resins. At the Intercolonial Exhibition held in Sydney in the year 1873, Mr. George Whitfield exhibited specimens of 14 different sorts of Eucalypti found in the Toodyay district, viz., Jarrah, Twatta, a small kind but very valuable for wheelwright's work; Coolan, growing in moist ground, a soft wood; Morral, growing to 3 feet in diameter and 90 feet in height, straight, heavy, close in grain, and useful in house building, and cabinet-maker's work; Wandow grows to a large size, splits well for fencing, is very hard, and does not warp; Worlock, growing to three feet in diameter and 80 feet in height, splits well for fencing and hurdles; Dardeback is rather smaller, tough, but does not split well; Mallet is light, splits well, and is much used for making hurdles; Melyerick grows to 6 feet in diameter and 70 in height, and when seasoned is the hardest of the timbers of the Colony; Marlock is of small growth but very tough; of Coorup, the largest of all, the young timber is much used in coach building, and the gum valuable as a powerful astringent; this is probably nearly related to the Red Gum, the gum of which is very bitter to the taste, and has the same valuable medicinal property, as it is specific in cases of dysentery and diarrhoea; Parral grows to the height of 100 feet, is sound, light, and splits well for fencing; Wanderock grows to 2 feet in diameter and 40 in height, splits well, is long in the grain, and valuable especially for dray shafts; Hardham

forms large thickets in the interior, seldom exceeds 6 inches in diameter, is very tough, and said to be equal to lance wood.

The wood of the Mangar or Raspberry Jam tree, so named from its peculiar scent, is extremely hard and excellent for turning, and for furniture, as is the native pear; the Tea Tree, or Paper Bark, is useful for boat and carriage building; the Peppermint and Swamp Banksia for cabinet work; Shea Oak and Jarrah are used for shingles; the latter will not easily take fire; White and Red Gum are most commonly used in carriage and cart building, and the bark of the Black Wattle for tanning. In 1873, a slab of Tooart, or White Gum, was exhibited, sawn from a log cut in 1862, and which had been lying exposed to sun and rain near Capel Bridge from that time; also four plates, and four columns used in making a platform for the exhibition of the ores of the Colony: these were cut from piles which had been 33 years partly under water in the sea, and partly exposed, and all were still sound, and had resisted the attacks of the sea worm. A baulk of Karri timber had been in the wash of the tide at Augusta for 26 years and was still sound. It may therefore be safely asserted that few, if any, countries have a greater variety of valuable natural woods than West Australia.

In addition to these the Pine timber of the North-East coast is large, and of good quality, and would supply logs, boards, and spars. Pine of smaller growth is also found in the Murchison district. Jarrah timber is placed on Lloyds' list of timbers for ship building in table A line 3, and, as it does not require sheathing, with these two timbers ship-building might become one of the most important and lucrative industries of the Colony (*vide*



Appendix A). The timber trees of West Australia have less development of leaf than those of most other countries, and do not consequently afford the same amount of shade, or beauty of outline, but some of the larger, especially the Karri, Red Gum, and Peppermint, are very ornamental; and the Jam trees, when scattered over pastures, are not only extremely pleasing to the eye, but afford grateful shade.

The Black Boy, Grass trees, and *Zamia* are characteristic of the vegetation of West Australia; they are indigenous and connect the present flora with that of the carboniferous geological period, and may be described as built up of the successive vegetation of every year. The Black Boy, so named from its appearance, has the thicker and shorter stem with tuft-like rushes on the crown; the Grass tree is taller, thinner, and the tuft more grass-like. The *Zamia* is like a gigantic pine apple, with a crown of fronds like a palm tree. The Black Boy and Grass tree yield oils of carbon; and their crowns, which are composed of long rush-like grass, are used for thatching. Black Boy gum may be used with advantage for the same purposes as pitch, and will protect wood from the attack of the sea worm. Arrowroot can be made from the *Zamia*. *Banksias* and *Wattles* are also characteristic of Australian vegetation. West Australia does not possess native fruits of any importance, but there are some roots used by the natives for food which might prove worthy of cultivation if those introduced from Europe did not supersede them.

There are, however, plants which must be noted as more or less dangerous or fatal to sheep, cattle, horses, &c., eating them, and which are commonly known as

the poison plants. Four of these are small shrubs.—The York road poison, which is the most common and most dangerous, the box, heart leaf and rock (the latter being found usually near granite), and the Kandinup poison, a small herbaceous plant with a blue flower, common near the South coast. The former are most dangerous in the spring of the year, especially after fires, when their green shoots tempt the cattle, or when proper food is scarce. They are easily distinguished from other plants, and may be destroyed in enclosed lands.

The vegetation of the North is, of course, tropical, and has its own peculiar characteristics. Of these the gouty stemmed tree, in this similar to the *Adansonia* and to the *Barriguda* of Brazil, is remarkable for the swelling of the trunk, giving it a clumsy deformed appearance, yet it is valuable as affording fruit enclosed in a rind about the size of a cocoa nut; the seeds, closely resembling almonds, are very palatable, and commonly used by the natives for food; the bark yields a nutritious white gum which, Grey says, in taste and appearance resembles *maccheroni*, and which, when soaked in hot water, affords an agreeable mucilaginous drink. Pine trees fit for spars and timber grow on the hills, and in the gorges and ravines, through which the surface waters descend from them in clear and rapid streams. Lofty *Eucalypti*, with Paper Bark, and graceful pendent foliage, rise from a matted undergrowth, above which *Pandanas* and wild Nutmeg trees form a dense forest with rich grasses and climbing plants. The *calamas* or rattan is common on this coast, and leguminous plants are numerous, one at least of which is well known and cultivated in other parts of the Colony. Grey describes the trees in the valley of the *Glenelg* as the largest he had seen in Australia; and, from the fertility

of the soil and abundance of water everywhere, there can be no doubt that rice, cotton, coffee, tobacco, and other valuable productions, with all useful tropical fruits and vegetables, might be cultivated there. The Pine forests would afford timber, boards, and spars, for use and exportation. There are also in the North vegetable fibres of bark and grass used by the natives for making lines and nets for fishing, and which are remarkable for toughness. The mangrove, which is found on all the shallow parts of the coast, supplies firewood, and is otherwise much utilized for domestic purposes.

All the fruits and vegetables of sub-tropical and temperate regions flourish when cultivated in the South-West parts of the Colony. The stone pine may be found by the side of the araucaria, and the apple by the loquat; but the vine, fig tree, olive, and orange, the almond and its congeners, seem peculiarly adapted to the soil and climate, as indeed are mulberry, tobacco, and cotton. The castor oil plant grows freely on rubbish, or in any neglected corner. The melon tribe, and all leguminous plants flourish in great luxuriance. Of the cereals wheat will not probably be found to flourish North of the Murchison, but maize may be cultivated throughout the Colony; in the South and West the rose and geranium are naturalized.

The native animals are the dog, a wolf-like animal with bushy tail, very destructive to sheep; the kangaroo, of which three species are found in the open woods, the thickets, and on the plains. The red kangaroo, a smaller kind, is found only among rocks so barren of vegetation as to make the means of its subsistence doubtful; the wallaby, a still smaller species, is found in the thickets near the coast and on the plains; the existence

of wallaby on the Abrolhos, more than 30 miles from the coast, suggests the probability of depression, as well as upheaval of the coast line; the opossum is plentiful in the woodland districts.

Of reptiles the guana and lizard are found, with several species of snakes, both land and water, the bite of which is poisonous; and some, especially to the North, are constrictors.

The principal land birds of West Australia are the emu, the bush turkey, a species of bustard, the gnaw, a gallinaceous bird remarkable for piling its eggs in a conical heap with leaves, and not sitting to hatch them. The great eagle hawk frequents the rocky cliffs and smaller birds of prey the rocky plains, cockatoos, black and white, parrots and parroquets, pigeons and quails are common, and in the North the pheasant cuckoo. The birds of the Colony are more remarkable for beauty of plumage than for their powers of song, yet the wattle birds and some others have melodious notes, but the bush is more often disturbed by the screeching of parrots, cockatoos, and magpies, and at night by the sad note of the weelow. The water birds are: the black swan, still numerous in some of the Southern waters of this Colony, formerly throughout it. The British Officers who first visited the Swan River were astonished at their number, but suggested that the time might come, as indeed it has already, when their absence would make it doubtful why the river should have been so named. The pelican, several species of duck, and many sea fowl frequent the coast and islands; to the North these are so numerous that there are large deposits of guano. Gallineaux are abundant in the Lake district, and sometimes migrate Westward, and there are several kinds of waders.

Fish are abundant in all the waters; mullet, bream, taylor, cobblers, schnappers, whiting, herring on the coasts and in the estuaries of the rivers; whales and seals are still found, though not so abundant as formerly; sharks are common, especially on the North coasts, where alligators are also said to be found occasionally; cray fish are abundant on all the coasts, and a small species in the fresh waters; oysters in many places; pearl oysters from Sharks Bay, Northward, where also the dugong is found, a marine animal yielding oil of especially good quality, and having its skin of great thickness, and very valuable for making leather. The trepang or bêche-de-mer is abundant on the North coast.

If West Australia does not possess any great number or variety of useful native animals, her climate and vegetable productions are admirably suited to the life of those most useful to man; sheep, horses, cattle, goats, and pigs run wild when permitted, and, with the exception of sheep, have thus in some parts increased until they become a nuisance, and have to be destroyed; gallinaceous birds also thrive wild in the bush. In fine, there are none of the necessaries, and few of the luxuries of life which may not be produced with moderate care, labour, and expense in the Colony, few physical wants that are not already supplied, and more that might be. There are some natural pests in West Australia as in other countries: flies are the plague of the North, green ants of the sandstone ranges of the N.W., and mosquitoes near water throughout the Colony.

The mineral wealth of the Colony is undoubtedly very great. The precious metals have not yet been found in any considerable quantities, though gold has been in many places, as at Kendenup in the upper valley of the Palinup, and near Glengarry on the

Greenough, in quartz reefs, and at Peterwangy on the Upper Irwin in alluvial deposits. Silver is found in some lead ores. Specimens of tin have been found, and it may probably be discovered in large quantities among the red granites of the interior. Coal, often searched for, and still more often reported, has not yet been found, though veins of lignites, and semi-bituminous substances have. The most important metals are lead and copper, the ores of which, especially the former, are abundant and widely diffused over the surface of the Colony from North to South, but are worked now only in the Champion Bay district; iron ores, specular and hæmatitic, are found in abundance in many places; salt is deposited in large quantities in the lakes of the interior, and the lagoons of the coast, and might be made a profitable article of export. In these, also, gypsum is found, as it is on the flats in the valleys of the sandstone ranges. Materials for building are abundant everywhere; in some districts clays for brick making, as well as finer sorts for pottery, and kaolin for porcelain, as also fire clay in others; various rocks, granitic, gneissose, siliceous, calcareous, and cretaceous, the latter for lime burning, are abundant on the coasts, and are found in many parts of the interior.

From the catalogue of natural productions given above, it will appear that there are abundant materials for capital in money and labor to be applied to their utilization, with profit on both. The returns of the principal exports, given in another place, indicate that many of these, and not the least valuable, are still unutilized; for example, many of the woods, the pine timber of the North especially; the rattan, which is imported; copper, which is abundant, but as yet little worked; many valuable sand, lime, and other stones; while the





FREMANTLE BRIDGE.

## PART III.

### HISTORY.

THE history of a Colony so isolated as Western Australia is rather that of social than of political change and progress. Captain Stirling landed from the *Parmelia*, 1st June, 1829, with a staff of eight persons and ten artisans and mechanics, with their wives and families and servants, 51 head of cattle, 200 sheep, 33 horses, some pigs and poultry. A large supply of fruit trees, plants, and seeds had been contributed by the Horticultural Society of London and at the Cape of Good Hope, which were immediately planted on Garden Island. The names and offices of these founders of the Colony were Captain James Stirling, Lieut.-Governor, and family of six persons, and George Eliot, aged 11 years; Peter Brown, Colonial Secretary, Mrs. Brown and two children; Lieut. J. S. Roe, R.N., Sur-



veyor, and Mrs. Roe; C. Sutherland, Assistant Surveyor, and Mrs. Sutherland; H. Morgan, Storekeeper, and Mrs. Morgan; W. Shilton, Clerk to the Secretary; J. Drummond, Agriculturist; also the widow and five children of Assistant Surgeon Tully Daley, 63rd Regt., who had died on the passage out. In July the Sulphur arrived with a detachment of a Light Company of that Regiment, and shortly after the Rev. J. B. Wittenoom, the first Colonial Chaplain, landed.

The first emigrant ship, the *Calista*, arrived on the 5th of August, bringing about 100 passengers of all classes, men, women, and children, among whom the names of Leake, Samson, and Scott have prominence; and from that time many vessels followed in rapid succession, bringing immigrants of all classes and occupations, stock and goods, so that in January, 1830, the Governor was able to report a population numbering 850 persons; property of the assessed value of £41,550; 39 locations effected; 204 head of cattle; 57 horses; 1096 sheep; 106 pigs, &c. The year 1830 witnessed a still larger immigration.

Captain Stirling acted at first as Lieut.-Governor under instructions, but with almost unlimited authority. On his return to England in 1831, however, a commission under the Great Seal was issued, appointing him Governor and Commander-in-Chief of H. M. Settlements on the West Coast of Australia or New Holland, and, by letters patent, Vice-Admiral; the limits of his authority being from Cape Londonderry, Lat. 13 deg. 44 min., to West Cape Howe, Lat. 35 deg. 8 min. South, and from the Hartog's Island, Long. 112 deg. 52 min. to 129 deg. East from Greenough, thus including the small settlement of military and convicts which had been established at King George's Sound by

the Governor of New South Wales in 1827. These limits, as already noted, were corrected by a supplementary commission granted to Governor Weld in 1873. By his commission Governor Stirling had authority to appoint an Executive Council, to make provision for the defence of the Colony, to divide it into districts, counties, and townships, to dispose of the land according to instructions, in which also those who might act for him in his absence, according to seniority, were named; any one sitting as Judge being excepted.

At first a board of Council and Audit to assist the Governor in the assessment of property brought into the Colony as an equivalent for land, was established, the members of which were nominated by him from time to time as might be convenient; but the Executive Council consisted of the Officer commanding the troops (Captain Irwin), the Colonial Secretary, the Surveyor General, and the Advocate General. This Council, with slight changes in its constitution, has been continued to the present time. The law was administered by W. H. Mackie, a name still remembered with honor, as Commissioner of the Civil Court and Chairman of Quarter Sessions, with G. F. Moore as Advocate General; an arrangement continued, against the expressed opinion of the Commissioner as to the validity of his jurisdiction in certain criminal cases, until 1851, when his successor, now Sir A. P. Burt, affirming that opinion, was appointed the first Judge of the Supreme Court, and G. F. Stone Crown Solicitor and Attorney General. Governor Stirling also appointed Resident Magistrates in the more settled localities, as G. Leake at Fremantle, H. Whitfield at Guildford, Col. J. Molloy at Augusta, and Sir R. Spencer at Albany, and these have been continued, and their number from time to time increased,

and their functions extended, especially since the introduction of convicts in 1850. A mounted police force was enrolled, which has been also continued, and by its means the law enforced throughout the Colony. A Legislative Council was formed of the members of the Executive Council with two nominated members, the Governor presiding. The nominated members were afterwards increased to four, and ultimately to six, but, in 1870, the Legislative Council became elective and, since then, the official members have been the Colonial Secretary, the Attorney General, and the Surveyor General. A Speaker was at the same time elected in the person of Mr. Luke S. Leake, now Sir L. S. Leake, who still holds that office.

The history of the Colony is at first principally that of the Land Regulations and their consequences. The Imperial Government, being anxious for the settlement of the country, to anticipate any such measure being taken by that of France, offered land in return for property introduced, at one shilling and sixpence for an acre, as well as allotments for every immigrant; and on these terms, in the year 1832, 1,349,209 acres had been allotted, of which three lots exceeded 100,000; ten 20,000; eighteen 10,000; and fifty-two 5,000, acres each. Thomas Peel and others had 250,000 acres; Col. Latour 113,100, and Governor Stirling 100,000 in consideration of his not having any salary attached to his office, but his salary, afterwards fixed at £800 a year, was ultimately paid from the date of his appointment. The necessary consequence of this extravagant distribution of land was that the small population was widely scattered from Albany and Augusta to the Avon Valley. Much difficulty, confusion, and waste of time by the Surveyors, also resulted from the instructions under

which the Surveyor General had to divide the country into counties, townships, and sections of equal fixed dimensions, and by the selection of reserves for public purposes. Moreover, the sparseness of the population soon provoked attacks from the natives, who, though originally peaceable and friendly, could not view with indifference the occupation of their hunting grounds by strangers without any compensation being made, and the boldest soon found able and dangerous leaders, so that the small military force in the Colony was found scarcely sufficient for the protection of life and property. Very severe measures were therefore adopted—many natives were killed and some executed. Besides these, other causes operated disadvantageously, for although property had been introduced to the value of £94,281 of which £21,655 was in stock, very much was unsuited to the wants of an infant Colony. Mr. Peel, Col. Latour, and others had not been so careful as they should have been in providing for the shelter, maintenance, employment, and supervision of the laborers introduced by them; the selection of sites for their residence was, in some cases, unwise, and the consequences were, in too many instances, distress and disorganisation, disease and death; hence arose disputes between masters and men; and, as hired labor was both scarce and dear, there was every temptation for servants to free themselves from their contracts, which, indeed, the masters were not always able to fulfil. The rapid increase of immigrants, and the general want of system and providential arrangements for their shelter and maintenance, exposed many to privation and hardships which they had not anticipated, and for which they were unprepared and unfitted. Food became scarce and dear. For the supply of animal food, flour, potatoes, &c., the settlers were dependent principally on the

Cape of Good Hope and Tasmania. Kangaroo flesh was, for many years, commonly sold, and its provision became a regular occupation; and this again caused distress among the natives, for want of their ordinary food and clothing which those animals had supplied. Those families whose hunting grounds had been occupied by the settlers, intruded on the territory of others, and contests, retaliations, and permanent feuds were consequent among them. Kangaroo meat sold for 10d. when beef was 1s. 6d., and mutton 1s. 5d. the pound; bread was at one time 2s. 2d. the 4lb. loaf. The number of vessels which arrived at Fremantle made proper mooring and accommodation for them and their cargoes impossible, and the loss of many, in consequence, gave the port a bad name; it ceased to be a place of call for those trading to other ports, and shipowners in England became shy of sending vessels there. These unhappy conditions tended not only to check immigration, as did the price of land (which had been raised to five shillings an acre), but led to the emigration of such as Mr. Henty and many others, who sought elsewhere a better market for their capital and labor, but who might have been of the greatest service to the infant Colony. Mr. Henty had taken up 62,035 acres of land and introduced with his two brothers, 12 laborers and mechanics, 6 women, and 15 children, with much valuable stock, as a first instalment on his estate. Mr. Peel had claimed land on account of 170, and Colonel Latour on account of 85 persons introduced by themselves.

Governor Stirling had commenced by making settlements at Augusta, Leschenault, Kelmscott, Guildford, and in the Avon Valley. He fixed on the North, instead of the South side of Perth water, as had been originally intended, for the site of the Capital of the

Colony, thus placing the estuary of the river between it and the port of Fremantle. There were as yet no roads, and, though the river afforded a water way, there were no vessels or boats fitted for the transport of cargo. The land on the Swan, and between the Swan and the Vasse, had been for the most part taken up, and the time and labor of an increasing staff of surveyors, and even of the Governor himself, soon became occupied in finding new locations for settlement, and means of communication between already inhabited places. The want of system and concentration of strength tended greatly to neutralize the strenuous and persevering efforts of the colonists, who had to labor on for many years under depressing circumstances. It is not therefore surprising that, in the early days of the Colony, there should have been some discontent, and a desire for change in the land laws, and for the protection of Colonial produce, which could be undersold by that imported; and these conditions obtained, more or less, for many years.

These causes continued in operation, and the land in the settled districts of the Colony being all taken up, and servants and laborers who had saved money being unable to purchase, emigration increased; and as many as 42 left the Colony at one time.

Governor Stirling had discovered, in the course of his explorations, that the greater part of the land in the Colony was more fitted for pasturage than agriculture; and it soon became necessary for the settlers, who were sheep and cattle owners, to seek more extended runs for their stock, beyond the settled districts of the Colony. This caused a still greater dispersion of the already small population, which, in 1840, amounted only to 2,354 persons. The price of land had now

been raised to £1 an acre, in pursuance of the then fashionable Wakefield system, which however was not fully carried into effect; and so, during Governor Hutt's tenure of office, the attention of the Colonists was mainly directed to reducing the price of land, making it more available for the depasturing stock, and the obtaining labor. Small efforts at immigration were made, and, in the interest both of the settler and farmer, in 1841, remission on the purchase of land was granted to any one who succeeded in training a native to be an useful farm servant. A society was also formed for diffusing knowledge respecting the Colony; but the most important effort to develop its resources by increasing its population was made by the West Australian Company at their settlement of Australind, near Leschenault. The Company had purchased Colonel Latour's property there, which they now proposed to re-sell at £1 an acre, in farms of 100 acres, and Mr. M. W. Clifton was sent out with a sufficient staff of surveyors, &c., to prepare for the reception of the first immigrants. The Colonial Government, however, proposed to resume those lands in forfeiture, and Mr. Clifton sought another location in the country discovered by Grey about Champion Bay; this proved in his estimation of inferior value, and by agreement with the Local Government he returned to his original location to prepare for the reception of the new settlers who arrived to the number of 457; but the Company in London broke up, the work was stopped, and the fair promise of the commencement was not fulfilled. The settlement had been named Australind, in anticipation of its becoming a place of resort, if not residence, for invalids and others from India. At this time also, the application of the Wakefield system on a large scale in New Zealand and South Australia, where it was carried

out in its integrity, directed the attention of intending emigrants to those Colonies, and as the depressed state of the agricultural interest had caused a corresponding collapse in trade (in 1848 there was no sugar in the Colony), and there was no hope of obtaining labour by immigration, on the accession of Governor Fitzgerald to office, a large number of the colonists petitioned for the introduction of convicts to bring labour and money into the Colony, and supply a market for produce,—not, however, without opposition on the part of the few, who thought that these benefits would be more than neutralized by the evil influence which the presence of a large number of convicted felons might exercise on the morals of the people. To this petition the Imperial Government, then in want of a place to which they might transport convicts, acceded, and the first body arrived on the 1st of June, 1850. The result has proved the correctness of the anticipations of both parties; the Colony has profited much by convict labour and by the money spent on the convict establishment, and on the military and pensioners who were sent out simultaneously. The criminal calendar will show the less pleasing consequences of this measure; during the 10 years, from 1860 to 1869 inclusive, the convictions in the Supreme Court show 254 of the convict class against 53 free persons; in 1875 30 expirees, 11 free men, and two ticket-of-leave holders; but probably more evil influence was exercised, at this time, by the sealers who had established their head quarters on Middle Island at the Recherche Archipelago, in the Great Bight on the Southern Coast, and who seem to have rivalled in their habits those recorded of pirates and buccaneers. It had been part of the agreement in making Western Australia a Convict Colony, that free immigrants should be sent from England in number equal to the convicts,



and in July, 1850, the first instalment of 219 persons arrived in the *Sophia*, and a detachment of sappers and miners the next year, some of whom remained in the Colony and proved valuable members of society. In this year also juvenile immigrants, 51 in number, were first introduced, some of whom afterwards proved adepts in crime, though many became useful members of society, and 125 more were sent, but at the request of the colonists that plan for immigration was abandoned; some Chinese were also introduced, who proved, as usual, thrifty and industrious. The depressed state of affairs in the Colony had not been less felt by those in the employ of the Government than by the settlers, and many had supplemented their insufficient salaries by trading.

Notwithstanding all drawbacks, the Colony had gradually increased in population and production. The white inhabitants numbered 6661 persons; the area of land under cultivation in cereals was 4,122 acres, there were 141,123 sheep, 10,919 head of cattle, 2,095 horses, some 3,000 pigs, and 1,431 goats; the imports had reached the sum of £45,411 6s., and the exports of £29,598 9s. The labours of the colonists had been most successful in horticulture by the production of most of the valuable fruits, vegetables, and flowers, now under cultivation, most of which had been introduced by the Government and by the first settlers.

The introduction of convicts forms so important an era in the history of the Colony that the effects produced by it require separate consideration, but, pursuing the course of general history, the most important event during Governor Fitzgerald's term of office was the opening up of the Victoria District now so largely occupied by sheep stations and so productive in

mineral wealth; a convict dépôt was formed there and subsequently at Lynton, Port Gregory. In visiting that district the Governor was attacked and wounded by the natives near White Peak. This district was also rendered attractive by the report of coal having been discovered on the Upper Irwin, by Messrs. Gregory (who in consequence received a grant of 2,500 acres of land), as well as by the lodes of lead and copper also found by them on the Murchison River. Guano was also discovered on the islands, and exported from Sharks Bay, as also shells, supposed, and which proved to be, those of the pearl oyster. The discovery of gold in other parts of Australia induced the offer of rewards for its discovery in the Colony, but though claims have been made from time to time, they have never yet been admitted. The gold fields of Victoria attracted many emigrants to that Colony from West Australia, but other sources of trade were opened. 1851 saw the first shipment of horses to India, and the rich alluvial deposits about the lower course of the Greenough became known; an export trade in timber was also commenced. A more regular and intimate intercourse with the outer world was now established; in August 20, 1852, the first vessel of the Australian Royal Mail Company, the *Australian*, Capt. Hoseason, arrived in King George's Sound, and an overland mail service was arranged from Perth to Albany. The first steam boat was placed on the Swan River; a Savings' Bank was established. The productions of the Colony did not, however, keep pace with the requirements caused by the presence of the convicts and military. In 1854 the cost of imported breadstuffs amounted to £40,000.

In 1855 Governor Kennedy arrived. There had been for some time a growing dissatisfaction on the part

of the colonists with the Executive—there was an outstanding debt, and an export of specie consequent on difficulty in obtaining treasury bills; interference with magistrates and officials, and with publicans' licenses was complained of; and the land regulations, especially the high price for land, were thought to be detrimental to the interests of the Colony. It was spoken of as "a land of corn, wine, and oil, copper, lead, iron, and coal—held by few, but requiring occupation by many." It was considered that the Legislative Council did not represent the opinions of the colonists, and that the natural and proper remedy would be the establishment of a Representative Council.

The farmers in the Eastern districts also complained that they did not derive their fair advantages from the introduction of the convict system, the Commissariat having purchased flour from South Australia, and, in consequence, a protective duty was desired. The Government claimed the right to obtain supplies in the cheapest market. One farmer, however, soon followed the example of Government by purchasing flour to fulfil a contract. The removal of convict dépôts from the agricultural districts was also objected to; but the camps of the kangaroo hunters had become the resort of vagabonds of all classes, and were a refuge for runaway convicts. The demand for a Representative Council was dropped for fear that it might lead to the removal of convicts altogether. Nevertheless, the Colony was progressing, the imports of 1857 exceeded those of 1850 by double the amount, and the income by £8,498; yet there was illicit trade carried on in the South-West, principally with American whale ships. The Champion Bay district was filling, and a cattle company had located on the Irwin river; surveys also,

in contemplation of railroads, were made by Lieut. Chapman from Perth to King George's Sound, and by Surveyor Evans in the mining district of the North. In 1859 the regular troops were withdrawn, and a Force of Enrolled Pensioners organised; Volunteer companies were also formed at Perth and Fremantle and a corps of mounted rifles at York; the corps at Pinjarrah was not formed till 1864.

In 1862 Governor Hampton succeeded Governor Kennedy. This was a year of unprecedented floods, the Swan river rising 7 feet above its usual level, many bridges were destroyed, and the lowlands at the back of Perth were inundated, causing much loss and expense both to the Government and to individuals, and Lieut. Oliver was drowned crossing the Causeway near the Swan at Perth. Prospecting for gold was now commenced, and Mr. Hargraves from Victoria was employed, but without success; from Victoria also came a proposition to form a settlement on the North-West Coast, but the Mystery was first sent there with sheep and cattle by Mr. Padbury. In 1864 the settlements were farther extended; Mr. Dempster took sheep to Esperance Bay, on the South Coast; a company was formed which sent sheep and cattle to Camden Harbour on the North-West, as Messrs. Brown did also to Sharks Bay and Mr. F. Von Bibra to Hartog's Island; the next year an attempt was made to form a station on St. Magnus river, Doubtful Bay. The pearl fishery, which had been commenced in Sharks Bay, was now extended to Nickol Bay.

Emigration had continued at intervals, but now many mechanics left the Colony, unable to compete with convict labour.

Governor Hampton gave great attention to public works, and to economizing the cost of Government ; by the former he obtained a lasting reputation, and by the latter he secured an excess of income. Among other important works he commenced, what Governor Weld completed, the bushing the sand hills to the South of Geraldton, which threatened, in their Northward progress, to overwhelm the houses ; in 1867 he was able to report that during the past year 371 miles of road had been repaired, 132 cleared, and 32 made ; 33 bridges built, seven repaired, and three in course of erection ; five jetties constructed, two extended, and two repaired ; besides the works on the Government House, Perth, Residency at Champion Bay, Lunatic Asylum, Post and Police Offices, Schools, &c., in many places. At this time a step was made towards the representation of the people by permitting the selection by vote of persons for nomination by the Governor to be members of the Legislative Council, and accordingly Messrs. J. G. C. Carr, J. G. Lee Steere, W. Bateman, S. Phillips, and J. W. Hardey were so nominated. In 1868 the desire that the unofficial members should be elected by the people was strongly expressed, and this was followed by a report on the division of the Colony into electoral districts, and by a petition for a Representative Constitution under 13th and 14th Vic., c., 59. In that year also, the last convict vessel arrived, having on board some Fenians, which raised fears, subsequently proved to be just, by the escape of several so assisted in 1876, that the " Yankee brotherhood " would endeavour to rescue them.

1869 was marked by efforts to ascertain the existence of gold and coal ; borings were made near Perth to the depth of 200 feet, as subsequently in 1874, but without

success; £5000 were offered for the discovery of a gold field, and money voted for a Geologist to examine and report on the Colony.

The arrival of Governor Weld, in September, 1869, gave an impulse to further efforts in favour of Representative Institutions, it having been concluded, from words spoken publicly and officially in England, that he was fully prepared to further them with the consent of the Imperial Government; and accordingly in 1870 An Ordinance, No. 13, was issued for the division of the Colony into electoral districts and the election of members to the Legislative Council, under the provisions of 13th and 14th Vic., c. 59, which was accordingly constituted. It consisted of five nominee members, three being official, viz.: the Colonial Secretary, the Attorney General, and the Surveyor General, and two unofficial; the number of elected members was ten; subsequently two were added and one nominee member. The Council met the same year. It did not, however, realize fully the anticipations which had been formed respecting it, for although the control over the finances, and freedom of voting of nominee members were conceded, the ultimate decision in all cases was still reserved to the Imperial Government. An opposition was accordingly organized, and, the forms of the Imperial Parliament having been adopted, the Colonial Secretary assumed the duties of Prime Minister and Chancellor of the Exchequer. The constitution of elected Town Trusts and Road Boards was another step towards self-government made at this time. By the Education Act all denominational religious teaching was made optional in the Government Schools, and by the transfer of the stipends of Colonial Chaplains from the accounts of the Establishment to the Miscellaneous

Services, the Church of England in the Colony was placed on the same footing as other religious communities, which led immediately to Synodical action and government. The operation of the Government, at this time, was very energetic; a loan for public works of £100,000 was proposed, but only £25,000 permitted by the Imperial Government; a survey of the coast of the Colony was commenced, at the joint expense of the Imperial and Colonial Governments; a steam vessel was subsidised and placed on the coast to carry mails and passengers; an electric telegraph, which had been commenced between Perth and Fremantle by a company, was bought up; and in 1873 a loan bill passed for £100,000 to be employed in telegraph extension, and a railway in the mining district.

Red rust having destroyed the grain crops, seed was procured and employment on public works provided for those who were in need.

At the meeting of the Legislative Council in 1874, the desire for Responsible Government expressed itself by a petition, *nemine contradicente*, from the Council to the Governor, requesting that he would bring forward a Bill for its institution, in accordance with which a Bill was presented by the Colonial Secretary, contemplating a Legislature of two houses, one to be nominated and the other elected, with a civil list to provide for the Executive. As, however, the Bill was not accepted in its entirety, the Governor dissolved the Council, and on re-election, three members were found in opposition to the establishment of Responsible Government in the Colony, but the majority held to their former opinion.

The extension of the timber trade by the formation of new companies and by grants of land, the erection of crushing machinery and working a quartz reef at Kendenup by the Plantagenet Gold Mining Company, the commencement of sericulture, the placing establishments on the Abrolhos for fishing, and on Barrow Island for turtle catching, the commencement of a system of assisted immigration and of the mines railway, and of the extension of the telegraph line to Eucla in connexion with the Government of South Australia, mark this period.

On the arrival in 1875 of Governor, now Sir Wm. C. F. Robinson, K.C.M.G., the Imperial Government decided against conceding Responsible Government to the Colony, considering that it was not prepared for so great a change. The removal of the convict prisoners from all other places to Fremantle, had given warning of further change in that department, and in 1877 it was intimated that there would be a reduction in the Imperial grant for police services.

The year 1876 witnessed the necessity for a further loan of £26,000 for the completion of the Mines railway, in which great alterations and improvements were obviously necessary. The appropriation of £18,000 out of Revenue for the completion of the Telegraph to Eucla was the more satisfactory, because the line from Bremer Bay to Eucla was in process of survey by Mr. Price and a sufficient party, and was progressing rapidly.

The decision as to harbour works at Fremantle was now also brought to an issue. From the earliest days of the Colony it had been in contemplation to make at the principal port a more secure harbour for vessels than nature had provided, and numerous suggestions



and plans had been made from time to time for that purpose, but all resolving themselves into four principles.

The first in time, originating indeed with the officers of the *Success* in 1827, was to make the estuary of the Swan between Perth and Fremantle accessible by cutting a canal from Rocky Bay to the sea, a distance of about a quarter of a mile; the others were, to enclose an area by a breakwater to the South of the mouth of the Swan; at the mouth of the Swan; or to obtain access to the mouth of the river, and make it available as a dock or harbour. In 1871 Mr. Doyne, and in 1873 Mr. Wardell, had reported on these, but unfavourably; now the different plans were at last submitted to the judgment of Sir John Coode, and his report is still (August, 1877) in expectation.

Now also the schemes, which had been ventilated for a long time, for a railway from Fremantle to Perth and Guildford, were formally brought forward, and it was proposed to bring in a Bill for providing a guarantee of six per cent. on the amount of capital necessary for its construction; this was delayed till the next year, that surveys and estimates might be made, which were accordingly proceeded with, but the Bill was ultimately withdrawn, pending the decision of the Imperial Government on the question of guarantee.

This year, also, supplementary regulations were published respecting grants to pensioners and volunteers; and cutting timber and mining, by which the land regulations of the Colony were completed; a Commissioner of Public Works was appointed; immigration continued; Sunday diving forbidden in the pearl fishery; the money order system extended; the free list tariff extended to articles necessary for food, ship chandlery, &c.; the light house on Point Moore, at Champion Bay, contracted

for of iron instead of stone; a deep sea telegraph suggested from Point Galle to Western Australia, with Cocos Islands for an intermediate station; a vote taken for the establishment of a high school; the ballot proposed as a preventative against bribery; and a jetty at Owen's anchorage determined upon. These many and considerable works occupied the period of Sir Wm. C. F. Robinson's Government, who left the Colony 1st September, 1877, to proceed viâ Sydney to his new Government at Singapore. He was succeeded by the present Governor, Major-General Sir Harry Saint George Ord, K.C.M.G., C.B.

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#### THE ABORIGINES.

ANY account of the Colony would be very incomplete without some notice of the aboriginal inhabitants, the effects which its occupation by white men have produced on them, and the influence they have exercised with respect to its settlement and progress; and as these cannot be appreciated without some knowledge of those things which have directed that influence, some account of their character, habits, manners, customs, and especially of the laws by which these are governed, becomes necessary in the first place.

The aborigines of the West are the same in origin, language, customs, and laws, as those of other parts of Australia. The evidence adduced by Sir George Grey is alone sufficient to establish this fact. It may be well, on the other hand, to record the opinion of Mr. J.

Forrest, (which, however, does not disprove a similarity of origin), respecting the difference between the aborigines of the interior and those of the coast. The latter, he says, have very little intercourse with the former, "whom they much fear, considering that all illness and its cure are attributable to the wise men of the East," but they have annual meetings for the exchange of commodities. They have been too often placed by writers, ignorant or careless of truth, among the very lowest of savage races, physically, mentally, and morally, but all experience concurs to prove that they deserve a higher place in the scale of humanity. Examples may be found of physical development equal to that of Europeans—morally they are certainly not inferior, if tested by their submission to the laws they themselves recognise, according to St. Paul's rule. Mental development must be the result of time, but there is sufficient proof at hand to show that they are far from being incapable of it.

The physical development of man will be the consequence of his mode of life, his occupation, and his food. The aborigines of West Australia, in their native state, have therefore only the qualifications of hunters, and those whose food is the natural product of the country, and they are, though capable of great fatigue and endurance, not so fitted for continuous bodily labor as those to whom for generations continuous labor has been customary.

Their mode of life makes them improvident. Their only enjoyments must necessarily be sensuous; but notwithstanding any generally received prejudice that they are incapable of improvement, and the opinion, still occasionally expressed, that they are not to be considered as men and have no souls, they have, both physically

and mentally, the powers, capacities, sympathies, and affections which distinguish man from all other animals, that one touch of nature which makes all men kin. These assertions might be fully justified by the accounts of explorers, the records of the law courts, the reports of the Protectors of Aborigines, and the results of the Benedictine Mission at New Norcia, and the other native institutions at Fremantle, at Perth, and its neighborhood, and at Annesfield, and Albany. Yet, nevertheless, the aboriginal inhabitants are decreasing in number, and deteriorating in character, unless in the northern districts, before the advance of settlement. The civilized man has introduced his characteristic vices and their consequent diseases, rather than the virtues which should distinguish him, and the ultimate result contemplated by most, and placidly by many as inevitable, is that in West Australia, as in many other parts of the world, the native race must die out. Yet the necessity for this is not apparent. The accounts of those who have most carefully studied and recorded their experience of the aborigines of West Australia agree in all important points. Their submission to their own laws is the most notable feature in their character, and their moral and social condition is determined by their laws. The most remarkable are those which relate to affinity, which govern the operation of those relating to marriage, inheritance, and the infliction of punishment for offences, whether judicially or by retaliation. The division of the people is into families, and not, as often represented, into tribes. The Levirate law prevails. Children take the name and become attached to the family of the mother, and inter-marriage between those of the same family is not allowed. Polygamy is permitted, and in the operation of the Levirate law becomes necessary; a man may have several families of children

by different wives, but each family will become attached to and incur the responsibilities of that of the mother, and as all such relations become involved in the guilt of any crime, if the offender cannot be reached, any other relative may have to suffer instead. The nearest relative is bound to inflict punishment in case of death from violence, and indeed, as death is not considered natural, but if from disease the consequence of witchcraft or sorcery, and as the Bolyas or sorcerers would probably be bribed to inflict disease, or, in any case, would be of some other family, retaliation is immediately sought on those thought most likely to have been the cause. Homicide in obedience to law is therefore common among them. Their law is blood for blood, an eye for an eye, and a tooth for a tooth. But it must not be forgotten that it is not so many years since such laws were in force in some parts of Great Britain and Ireland, and that they are similar to those of Moses. Females are betrothed when young, often from their birth, and may be claimed at any time. On the death of the husband the wives and children pass to the brother. A father's property is divided among his male children. All property in land is held for hunting and obtaining food. The limits are well known, and trespassers, for those purposes, punished by law severely.

The aborigines of West Australia are very fond of music and dancing; their songs are sometimes traditional, some often extempore, and by such songs the women often excite the men to acts of violence. The women are severely punished by the men, even for trifling offences, and, when incited by jealousy, fight furiously with their wannas or digging sticks, some of which are about five feet long, one and a half-inch in diameter, and of hard heavy wood, like small quarter staves.

The dances or corroborees of the natives are adapted to the various circumstances of their lives, marriage, birth, death, hunting, or war. It is commonly said that women do not take part in them except as spectators, but on occasions, no doubt comparatively rare, they mix with the men, and their dances then resemble those of the islanders of the Pacific, as described by Cook, and the women carry a peeled stick tufted at one end like the thyrsus of the ancient Bacchanals. These dances are now often performed solely for the amusement of the settlers, and are therefore becoming less characteristic. The effects of these laws and customs on the relations between the natives and settlers in the Colony will be readily apparent.

The occupation of the land of any family would cause, of necessity, their intrusion on that of others. The cohabitation of the women with the white men (whom they naturally prefer as the more powerful race, and as more able to give what to them are luxuries, and as, generally, treating them with more kindness and consideration,) would call for the immediate punishment of both parties; the death or wounding of any native, from whatever cause, equally required retaliation, to the same or greater amount of injury, by the nearest relation.

Female children, when taken charge of out of kindness by settlers, were liable to be forced away by, or for, those to whom they had been betrothed. These, and similar causes, will account for most of the crimes perpetrated by natives on settlers, but, in addition, there was the temptation offered by sheep, cattle, food, clothing, commonly exposed and unprotected, and as the Benedictine Father Garrido justly remarks "they would find a difficulty in defining the difference between

killing a sheep and a kangaroo," especially if found feeding on their own hunting ground. The offences of the natives against the settlers are naturally held more in remembrance, but the crimes of the whites against the natives, which,—if fairly computed from the records of the criminal courts (and such an estimate has been made) would fully counterbalance those of the natives against them, both in number and enormity, notwithstanding that they were committed by those who, from civilization and religion, and sometimes from office and station in life, should have known and done better,—have resulted not always from provocation but were often committed without any such excuse. Moreover, the remuneration given for labor to the natives has always been very inferior to that given to white men for the same services; it has also been very uncertain and unequal; the superiority of the white race has always been asserted, often arrogantly, not unfrequently with contempt or violence. The native therefore has naturally preferred the "bush walk" and a life of independence with the means of subsistence afforded by it, to a scanty, precarious, and servile dependence on the invading race, whom, in his ignorance of their intentions and of the numbers who would follow them, he had at first welcomed to his shores, and, indeed, whom he had imagined to be his deceased relations and friends returning in new forms from the West, to which their spirits had departed. The life of a native in West Australia, when not in the settled districts, is one of indolence broken occasionally by violent excitement, as of the chase, domestic feud or war. It is a common error to suppose that they are often wanting food, though, no doubt, in unfavorable seasons, and in the less fertile districts, they are sometimes in a state of starvation; as indeed the settlers might be but for the

power of importing food. Grey enumerates the kinds of food common to them, among which the Knownat, the gum of the swamp Mimosa, is a favorite; this was imagined by the first settlers to be a kind of grain, and to search for it an expedition was sent, as before noticed, to the Stirling Range. He reckons, also, six kinds of kangaroo, fourteen smaller animals, the native dog, and two opossums, twenty-nine sorts of fish, besides occasionally the whale and seal, three of turtle, emu, wild turkey, and many other birds, especially water fowl. Turtle, tortoise, and shell fish, frogs, seven sorts of lizards, four kinds of grubs, twenty-nine roots, seven fungi, four gums, two kinds of manna, four fruits, four nuts, and two of the Zamia, which are poisonous without proper preparation, the seeds of many leguminous plants and the flowers of the Banksia. Most of those Grey himself had tasted, and some, as for instance the grubs, which might appear disgusting, he found most delicate eating. It is admitted that cannibalism is practised, and that not always from hunger; it is not however universal or common, and appears confined to some of the families of the North and East.

As the natives in their wild state live on the natural productions of the country, their weapons are suited for the chase as well as for war. These are the codja or hatchet, the meera or throwing stock, the guichi or spear, the dowark (a short stick which they throw with great force and precision or use as a club), and the kiley or boomerang, a curved piece of wood which they also throw with great skill, the gyrations of which now commonly known are yet very irregular and unaccountable. Some of the more northern use long narrow shields of soft wood with a handle in the centre, and the surface covered by small grooves in parallel lines, which



assist in deflecting the spear when it strikes. The axe, spear, and dowark were headed with silex, of which also knives and chisels were made; but broken glass is now commonly used, and knives and tomahawks obtained from the settlers. Their skill in hunting, either alone or in numbers, is remarked by all who have witnessed it. Weirs were made for fish, stakes driven to intercept the kangaroo at their watering places, and lines and nets manufactured for catching fish, which are also commonly speared both by day and by torchlight. On the North Coast a clumsy raft is also used for sea fishing. Their mias or huts vary in construction from a slight shelter made of brushwood to a dome of logs covered with clay, large enough to contain several persons.

To particularise crimes and their perpetrators is both invidious and painful. It may be well, however, to call to mind those things in which natives have been and still are found useful, since as early as 1849 some 500 were in the employ of the settlers, at first as guides to exploring parties. It may be safely asserted that the longer explorations could never have been successful without their aid, and the names of Kaiber, Warrup, Pierre, Tommy Windich, and others will be always remembered. Mr. J. Forrest writes of the natives about the upper district of the Murchison:—"Altogether they are tractable and willing to work, and were of great service to me." As assistants to the Police they have been invaluable from their power of tracking. They have been employed as letter carriers. They have even done good work in road making, especially on the Sound Road, and are still useful as shepherds, teamsters, stock riders, messengers, and servants. At Rottneest they have been employed as builders, agriculturists, and in salt making. They have often themselves up

for punishment—a rare occurrence among civilized men. They are by no means, more than other men, deficient in gratitude; and, as in the Swan District some of the heads of families were most useful to the Government in assisting to preserve peace and harmony between their people and the settlers, so in the North a chief whose name, Mullagough, should be recorded, was the means of the white men being admitted to peaceful settlement. Commonly the virtues of civilization are credited to all the settlers, collectively, and the vices of savage life, ignoring all virtues, to each native individually.

The natives of West Australia are, like other savages, very superstitious. The power, especially for evil, of their Bolyas or sorcerers is a constant source of terror to them; they have also their Karakols or medicine men, able to inflict as well as cure diseases; and probably the caves in which rude paintings and carvings have been found, especially on the North Coast, were appropriated to their use. They also have great fear of an evil spirit, Jingy, whom they suppose to inhabit the more deep and gloomy recesses of the hills; and of an imaginary monster, Wangul, inhabiting the fresh waters, whose principal victims are the women. Each family has its Kobong or cognizance, some animal or vegetable for which they have a superstitious reverence, and which is therefore not used as food by the family who adopt it.

Circumcision is practised by some families. Mr. J. Forrest says the natives who practise circumcision are found to the East and North of a line drawn from Point Culver on the South Coast by Mounts Ragged, Jera-mungup and the Wongon Hills to the Geraldine Mine on the Murchison River, where the line from thence carried Northerly approaches nearer the coast. The sexes are

kept separate for a certain period of the year. Some of their other domestic and personal habits resemble those inculcated by the laws of Moses. Their social intercourse is regulated by very strict and ceremonious customs, but both superstitions and customs are becoming less influential in proportion to their intimacy with the settlers.

The attention of the Government has always been directed to the welfare of the aborigines—and yet but little has been done. In the early days of the Colony there was a sort of refuge to which they might resort for food and shelter, where the Invalid Dépôt now is under Mount Eliza. Protectors were also appointed for them, but their opinions did not, as they were not likely to, accord with those of many of the colonists. Great difficulties also resulted from the antagonism of the British Laws, to which, as subjects of the Crown, they were amenable, and the native laws and customs. Schools were, however, established at Perth and Fremantle with some useful results, and the school conducted by the Wesleyans, at Wanneroo, near Perth, afterwards removed to York, gave the first proof that they were capable of adopting the habits of civilized life, and of conversion to Christianity. The ultimate failure of these efforts is to be attributed to the first having been made in the towns, and that at Wanneroo to the mistake in selection of the locality and the small quantity of land available for it. To the Benedictine Monks was reserved the full and satisfactory proof of these facts, which are apparent at their settlement of New Norcia, which was originally established by the Fathers Serra and Salvado, mainly by assistance rendered them by some Protestants in Perth. An account of it will be found in another place. Further evidence

was afforded by the results of the Protestant School established at Albany; and the Church of England and Roman Catholic Orphanages, now in active operation in Perth, and at Subiaco in the neighborhood, unite in the same testimony. The results of the penal establishment at Rottneſt, already noticed, might also be adduced in evidence; but this is not so conclusive, the work there being done under compulſion.

In 1848 Sir George, then Captain Grey, ſubmitted a memorial to the Imperial Government in accordance with theſe facts, which was adopted and forwarded to the Colonial Governments for their direction, and had conſiderable influence on the treatment of the natives in Weſt Australia. In 1871 a Select Committee of the Legislative Council reported, as deſirable, that grants of land ſhould be made to aboriginal natives, recommended by the Principal of any Native Industrial Inſtitution, on condition that ſuch land ſhould not be ſold, transferred, or let, without the conſent of the Governor, and that it might be reſumed by him if not improved or cultivated for three consecutive years; and in 1875 an Act was paſſed giving power to the Principals of ſuch Inſtitutions to act as trustees of orphan native children or others entrusted to them by their natural guardians.

The opinion of thoſe in charge of the Inſtitutions at New Norcia and Albany (ſince transferred to Perth) are to be found in the reports made by them, which were published with the Council Papers for 1871.

Biſhop Salvado ſays that the natives are generally not capable of continuous hard work, either corporeal or mental, and that he conſiders condemnation to hard labor condemnation to death; he found it neceſſary to combine both, giving three hours daily to bodily, three to mental labor in the ſchool, and the reſt of the day to

relaxation, gymnastics, games, music, dancing, &c. He considers the labor of a well-conducted farm most suitable as a means of civilization. Tailoring, shoe-making, and harness making, have been successfully taught and practised, but require too long continued and regular labor for natives generally. The young men become good agriculturists, and four reaped 190 bushels of wheat of their own in the year 1871. All labor at New Norcia is paid for at customary rates, and the property of individuals is respected. He finds that the diseases from which the natives suffer most are not so amenable to the ordinary course of medical treatment adopted by European medical men as they are in the case of the settlers, but that they more often recover under their native remedies. They suffer much from "home sickness," and occasional hunting is allowed them on this account.

Father Garrido reports that they have been found good shepherds and teamsters, and first-class stockmen, but, like Bishop Salvado, he prefers agricultural labor, as more tending to civilization; that in one year 5413 sheep were sheared at New Norcia by natives, one shearing 1421 sheep in 25 days, and earning £15 19s. 8½d. The girls, he says, are taught to wash, cook, and work with the needle; several couples have been married, and those living in cottages on the estate of the Monastery have adopted the habits, manners, and dress of civilized life.

Mrs. Camfield, who had charge of the school at Annesfield (Albany), reports specially on the fondness of the natives for music. One girl, sent to Sydney, played for some time the harmonium in St. Philip's Church, and gained her living by teaching; several others married civilized natives from institutions in the

other colonies, having become good housewives, able to make bread, cook, wash, cure fruit and meat, and use their needle well; some are now employed as school teachers. She also notes the fondness of the boys for mechanical arts. They are, she adds, easily taught to be neat and clean in their persons, being very observant and great admirers of dress.

The land of the Colony has been one principal source of income to the Government and of capital to the settler. That land was the possession of the natives, and was taken from them without payment or other consideration, nor even were reserves made for them as in North America. The proportion between the income derived from land and the expenditure on the natives was, from 1837 to 1845, one-sixth; from 1845 to 1855, one-third; from 1855 to 1865, one-tenth; and from 1865 to 1875, one-twentieth. In 1875 the receipts from land amounted to £33,286 0s. 7d., and the expenditure on natives to £803 0s. 9d. There were then, besides the large area held in fee simple, 21,315,290 acres held in lease for sheep and cattle runs. The revenue of the Colony was £141,180 14s. 5d. The imports were, in value, £349,840, and the exports £391,217 3s. 4d., which, without estimating the amount of wealth accumulated by the colonists in houses, fenced and cultivated lands, stock, machinery, &c., may give some indication of the profit derived from the labor and capital expended on the vast estate which has been taken from the aboriginal inhabitants. These figures would seem to show that the advantages which the settlers have derived from the natives have been much greater than any which the natives have received from them.

In these days, responsibilities so accruing are more generally acknowledged than formerly; yet, as has been

already noticed, both the Imperial and Colonial Governments recognised a duty and endeavoured to fulfil it. As early as 1834, on the organization of the mounted police force, the Governor gave instructions to the officers to make themselves acquainted with the names, numbers, movements, habits, and haunts of the natives, their prejudices, and how they might be conciliated; subsequently, as above noticed, protectors were appointed. There were, however, obstacles to the accomplishment of this desire; experience alone could teach what ought to be done, and, had that then been known, men might not, in so small a community, have been found able and willing to do it. Moreover, in the early days of colonial life, prompt action is required to produce immediate results. The Colony is now prosperous, the laws respected, the natives in the settled districts submissive, and in the North they supply labor for the pastoral settlements and the pearl fishery, and are probably progressing towards civilization by their residence among the settlers. In other districts they are decreasing in number, and lingering out a poor and degraded existence.

There is no trustworthy estimate of the number of the aboriginal inhabitants of West Australia. In the settled districts they may average one to ten of the white population.

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#### CONVICTS.

The introduction of convicts entirely changed the political and social condition of the Colony, by (1) introducing a large number of men subject to the Imperial Government, and because (2) the men so

introduced suffering under the penalty for crime, even when let loose among the people and permitted to work for themselves, were, until the expiration of their sentence, subject to the surveillance of the magistracy and police, and thus isolated from the general mass of the people.

These circumstances, and their having of necessity become intimately known to each other while in the condition of prisoners, could not fail to form a bond of union between them, which would be maintained, in some degree, even after they had become free men. The inhabitants of the Colony were henceforth divided into two classes, bond and free.

Some soon received tickets-of-leave, and found employment according to their conduct and capacities, afterwards obtaining conditional pardons and becoming free in all respects, except that they might not leave the Colony. Their term of penal obligation being ended, they, as expeires, were in all respects in the same condition as the other inhabitants, with the exception of these disabilities—they might not sit as members of the Legislative Council, or practise in the law courts. The first convicts sent out were all men selected for good conduct while in confinement; but afterwards no selection was made, the authorities in England not finding it practicable; and many were therefore men well skilled and practised in crimes requiring dexterity and intelligence, who introduced their criminal arts into the Colony. Some succeeded in escaping, and for a time became bush-rangers and leaders of the natives in plunder and violence until again captured. The great majority, however, became useful members of society; some being skilled artisans and mechanics, exercised their abilities for the benefit of the community; some



engaged in trade successfully; others became agriculturists and stock and cattle owners; and not a few, who had been educated in the liberal arts and sciences, obtained professional, literary, and clerical employment. The Colony has not only profited, therefore, by their labors when in the bond class, but in a greater degree when they became free men.

The labors of the bond class accelerated greatly the material progress of the Colony, to the increase of its wealth and prosperity. The great want had been means of communication between the widely scattered settlements, the interior and the seaboard, resulting from the manner in which its first settlement was made, and the vast area in consequence occupied by a small population, thus making the transport of goods and produce, whether internal or external, in all cases difficult, in many impossible. To the labors of the convicts the Colony owes most of its roads, bridges, and public works, which are still far in advance of the number of its population. By their introduction a new market was opened for produce, and production was largely increased by the purchases made for their maintenance; and the expenditure of the salaries of officials attached to the department, and of the magistrates and police in the pay of the Imperial Government, formed a not inconsiderable item in the trade of the Colony.

Convicts were introduced in 1850, and Mr. Knight, in his remarks in the Census papers of 1870, concludes that "the large proportion reclaimed and absorbed into the general population, and the infrequency of crime, are the best proofs that the system 'was not only well considered and arranged' but has been judiciously and efficiently carried out and borne good fruit." It is true that a paid magistracy, and a large and efficient body of

police have been maintained by the Imperial Government; but, in all probability, there is no country in which life and property are safer than in West Australia. The benefits which have been derived by the Colony from the introduction of convicts must therefore be considered as far out-weighting any disadvantages resulting from it. One, however, of these must be noticed as of considerable importance. The convicts have been all males, and their numbers have greatly increased the disproportion between the sexes which existed before their introduction. To this very many of the crimes committed by them, and indeed by others, must be directly or indirectly imputed, and its evil influence has affected the natives even more than the colonists.

A few years more must bring the operation of the system to an end. Transportation ceased in 1868. In 10 years more, probably, the bond class will no longer exist, having been exhausted by death, or by the termination of penal sentences, and the distinction between bond and free be a remembrance of the past.

The number of the bond class has been already considerably diminished by death, as well as by many, who had made money, having left the Colony for other lands, where their past condition would not be known. Transportation ceased in West Australia in consequence of the remonstrances of the Eastern Colonies, which still watch jealously against the introduction of convicts, and will not permit them to enter until they have been free men for three years. Yet the East was first opened to colonization by convicts, and many of the wealthy and influential inhabitants are descendants of that class. From South Australia alone they have always been excluded. The direct effect produced by the transporta-

tion of convicts on the population of West Australia will appear from the following estimates:—To the year 1868, 9680 had been landed. In 1875 the number of ex-pirees and men holding conditional pardons was about 4478, of ticket-of-leave holders 350, in confinement 280, with 4 invalids. The total convict element in addition to the free immigrant population must be therefore above 5000, but the number of their descendants cannot be estimated.

Besides these, between the years 1850 and 1858, 1780 military pensioners, some with wives and families, and 2,888 free emigrants were sent out at the expense of the Imperial Government, and from 1858 to 1876 2243, making a total of 7086, or some 2500 less adults than the number of convicts. It had been part of the agreement that the numbers should be equal, but differences arose as to expenses incurred after landing in the Colony, and at times labor was not in demand.

The effect of the introduction of convicts on the finances of the Colony may be estimated from the following figures:—The expenditure on account of the Colony by the Imperial Government from 1832 to 1850, was £355,772 13s. 3d., from 1850 to 1870, £1,932,850 9s. 2d.

The results of convict labor are apparent in the Government House, Town Hall, and Prison at Perth, the Prison and Lighthouse at Fremantle, as well as in other buildings in those places and throughout the Colony. Mr. Knight, in the Census Papers of 1870, estimates a total length of 1100 miles of road, and that, out of 16,294 feet in length of bridges, 9589, including all the most important and most expensive, with 79 small bridges of a single span, and an innumerable number of culverts, to have been made by their labor.







GLENGARRY.

## PART IV.



### PROGRESS OF THE COLONY—FINANCIAL, INDUSTRIAL, AND MATERIAL.

WESTERN Australia has not, like the other Australian Colonies and New Zealand, had any rapid increase of population, either from immigration, under associations having large capital at command, or induced by the discovery of gold fields. The progress has therefore been slow, but it has also been regular; the only stimulus it has received has been from the introduction of convicts in 1850; in other respects it has been dependent on the industry of its small population.

In 1849	the value of Imports	was	£28,534	and of Exports	£26,156.
" 1850	"	"	£52,451	"	£22,134.
" 1854	"	"	£90,465	"	£27,224.
" 1859	"	"	£125,315	"	£93,037.
" 1869	"	"	£256,729	"	£205,502.
" 1876	"	"	£386,036	"	£397,292.

In the years 1854, 1859, and 1869, statistical tables were made and published with the Census Papers, and those years have therefore been selected for comparison.

The trade is carried on principally with the United Kingdom, the Imports from which were, in 1876, to the value of £205,845, and the Exports to £186,566. Victoria, South Australia, Mauritius, China, and Singapore follow in order of importance, but the Exports to South Australia are greater than to any of the others, amounting, in the same year, to £81,139. This trade, in the year 1876, employed 145 vessels of 40,159 tons, exclusive of the monthly mail steamers, and was thus distributed:—

Shipping entered at	British.		Foreign.		Total.	
	Ships.	Tonnage.	Ships.	Tonnage.	Ships.	Tonnage.
Albany ... ..	30	10376	7	1976	37	12352
Bunbury ... ..	4	1335	3	774	7	2109
Champion Bay... ..	5	1816	...	...	5	1816
Cossack ... ..	23	1171	2	428	25	1599
Fremantle ... ..	58	17564	2	760	60	18324
Vasse ... ..	10	3509	1	450	11	3959
Totals ...	130	35771	15	4388	145	40159

The number of mail steamers entered at Albany, during the year, was 28, of 38,949 tons burden, making a total of 173 vessels and 79,108 tons. The export trade of the year employed 129 vessels of 36,069 tons, or, including the mail steamers, 157 vessels of 75,018 tons. The coasting and fishing trade was carried on by one steamer of 320 tons, carrying the mail, and by 65 vessels of 3058 tons, distributed as follows:—Albany 4 vessels, of 369 tons; Fremantle 5 vessels above 150 tons, 1426 tons; 24 from 25 to 100 tons, 998 tons; and 33 vessels of less than 25 tons, 970 tons, in all, 61 vessels 2908 tons. There are, besides, two steamers plying between Perth and Fremantle of 62 and 24 tons respectively, with several

steam flats and lighters, which carry cargo as high as Guildford, and occasionally some miles beyond that town; there is also a small steamboat plying regularly to the Vasse; there are also several small yachts, both at Perth and Fremantle.

THE REVENUE AND EXPENDITURE of the Colony has kept pace with the trade, and the Expenditure with the Revenue, as will appear from the following table:—

Year.	Colonial.	Imperial Grant-in-aid.	Total Revenue.	Expenditure.
1849	£9,596	£7,134	£16,731	£17,061
1854	£26,781	£5,434	£32,216	£33,694
1859	£48,754	£9,191	£57,945	£54,918
1869	£88,652	£15,610	£103,662	£103,124
1876	£147,335	£14,853	£162,189	£179,484

This is exclusive of the expenditure incurred by Great Britain for the Convicts, Pensioners, &c., which in 1876 amounted to £55,773, making the total expenditure for that year £235,257. The cost of the Convict Department has, however, much decreased, the amount expended in 1868 for Military and Convicts was £115,628.

The Colonial Expenditure (with the exception of £655 19s. 5d. in 1876 for the Volunteer Corps), is for Civil Services, including Schools, Clergy, &c. By the Ordinance "to provide for the establishment of a Legislative Council" (No. 13, 1st Session 1870), the sum of £4,480 was made payable, out of the Revenue of the Colony, to the Crown for the maintenance of the Executive, and thus appropriated:

Governor	...	...	...	...	£700
Private Secretary and Clerk of Executive Council	...	...	...	...	£250
One Clerk	...	...	...	...	£80
Chief Justice	...	...	...	...	£1000
Colonial Secretary	...	...	...	...	£800
Surveyor General	...	...	...	...	£600
Attorney General	...	...	...	...	£500
Treasurer	...	...	...	...	£550
					<hr/> £4480



In 1877 the salary of the Attorney General was raised by vote of the Legislative Council to £600. The principal items of Expenditure were, in 1876, Police Department £23,442 16s. 5d., Postal and Telegraph Department £16,321 19s. 10d., Administration of Justice £9,374 3s. 5d, Works and Buildings £11,425 11s., Survey Department £7,584 17s. 6d.

The principal sources of revenue are the Customs, which in 1876 produced £85,177 13s. 10d., the Land Revenue £23,706 14s. 3d., Land Sales £8,460 15s. 6d., and Postages and Telegrams £8,988 14s. 9d.

The Revenue of the Customs is derived principally from duties on spirits, which in 1876 produced £28,564 11s. 6d., Tobacco, Snuff, Cigars, £11,018 3s. 3d., Wine and Beer £9,493 11s., and on goods *ad valorem* £20,543 13s. 7d. As all might be produced in the Colony, these duties, amounting to £69,619 19s. 4d., must be considered as an unnecessary drain on its resources, which may be removed by change of habit in the consumption of colonial produce, and by greater industry in the manufacture of the articles which now produce nearly one-half the Revenue of the Colony.

Western Australia is, however, less taxed in proportion to her population than most other countries. The amount per head being £3 6s. 7 $\frac{3}{4}$ d. This is owing, in a great measure, to the smallness of her public debt, which is only £135,000, being £12,305 less than the Colonial Revenue for 1876; the amount per head is only £4 8s. 9 $\frac{3}{4}$ d., while in other Australian Colonies it varies from £14 to £45. This, however, must not be considered altogether in favor of Western Australia, since a judicious expenditure of borrowed money on remunerative public works and immigration might greatly increase both her population and productiveness, and therefore her prosperity.

**BANKS.**—There are three banks in the Colony. The Western Australian Bank, established in 1841, a Joint Stock Company managed by a Board of Directors in Perth, having a capital of £50,000 in 5000 shares. It has a branch at Geraldton and an Agency at Fremantle. Its agents in London are the Bank of South Australia, 54 Old Broad Street, as also in South Australia; the Bank of New South Wales in that Colony, Victoria, Queensland, and New Zealand; the Oriental Bank Corporation in India, Mauritius, and Singapore; the Commercial Bank of Van Dieman's Land, and the Chartered Bank of India at Batavia. In the times of financial difficulty in the Colony, previous to the introduction of convicts, this Bank assisted the Government with loans.

The National Bank of Australia, was established in Victoria and South Australia in 1858, and in Western Australia in 1866. This is also a Joint Stock Company under the management of a Board of Directors at Melbourne, having a paid-up capital of £750,000 and a reserve fund of £250,000. The London Office is 149 Leadenhall Street, E.C., where there is also a Board of Directors. It has branches at Fremantle, Geraldton, and Albany within the Colony, as also 40 Branches and Agencies in Victoria, and 39 besides the head office at Adelaide, in South Australia, where also are Local Directors. Its Agents are the National Bank of Scotland; in Ireland the Provincial Bank, the National Bank, and the Ulster Banking Company; in New South Wales the Commercial Banking Company of Sydney; also the Queensland National Bank, the Bank of New Zealand, the Commercial Bank of Van Dieman's Land; in India and China, the Chartered Mercantile Bank of India, the Agra Bank, the Chartered Bank of India; also the

London and South African Bank; at Valparaiso F. Huth Gruning & Co.; San Francisco, Hellman Bros.; and the English Bank of Rio Janeiro.

The Union Bank of Australia has now (1878) established branches at Perth and York. It is, like the others, a Company, having a paid-up capital of £1,250,000, with reserve funds amounting to £450,000, and was established in 1837. The principal office is at 1 Bank Buildings Lothbury, London. Its Bankers in London the Bank of England, and Messrs. Glyn & Co., and in addition the National Provincial Bank of England, and the London and County Bank. It has also Agents at Liverpool, Lancaster, Carlisle, Manchester, Warrington, York, Leeds, Halifax, Huddersfield, Bradford, Boston, Birmingham, Nottingham, Dudley, Stafford, Northampton, Leighton-Buzzard, Cambridge, Colchester, Portsmouth, Southampton, Bristol, Glamorganshire, Gloucestershire, Chester, Devon, and Cornwall, in the latter at Penzance, Truro, Redruth, Launceston, and Hilston; the principal Banking Companies in Ireland, and Scotland; the Bank of British North America; the Chartered Banks of India, London, and China, and of India, Australia, and China; the Mauritius Commercial Bank; the Hong Kong and Shanghai Banking Corporation; the Standard Bank of British South Africa; the New London and Brazilian Bank; the London and River Plate Bank; the London and San Francisco Bank, and at San Francisco as well, Messrs. Hellman Bros. & Co., and the Anglo-Californian Bank; Messrs. F. Huth Gruning & Co., Valparaiso, and the Bank of Rotterdam. It has branches at Melbourne, and 12 other principal places in Victoria; at Sydney, Wagga Wagga, Hay, and Deniliquin in New South Wales; at Brisbane and

Rockampton in Queensland; at Adelaide, and Port Adelaide in South Australia; at Hobart Town, Launceston, Oatlands, and Latrobe in Tasmania; and at Auckland, and 21 other principal places in New Zealand.

The banks issue notes, discount bills, keep cash accounts, give letters of credit, and transact all ordinary banking business.

The average weekly amount of notes in circulation in the Colony, is £18,000. The coin now in the Colony is estimated at £75,000.

English money is current in West Australia.

IMPORTS AND EXPORTS.—The principal Imports, besides those already mentioned, are apparel and “slops,” boots and shoes, showing the want of skilled labor; drapery, millinery, and haberdashery, grindery, hardware, and cutlery, ironmongery and iron in bars, &c., oilman’s stores, oils, paint, and colors, saddlery and harness, soap and candles, apothecary’s wares; cheese, which might be produced in the Colony, as well as corn, grain, and meal; tea and sugar, bags and sacks, agricultural implements, steam engines; flour was imported in 1876, to the value of £19,302 12s.

The principal Exports are horses, whale oil, copper and lead ore, pearls and shells, sandalwood, timber, and wool.

Generally speaking, all articles necessary for food, and all materials for industry, as well as machinery, enter duty free; but potatoes, rice, salt, and tea pay duty, and there is a duty of ten per cent. *ad valorem* on all goods not excepted by 40th Victoria, No. 6.

An export duty of one shilling is levied on every kangaroo skin, of five shillings per ton on sandalwood, £2 per ton on pearl shells, and a royalty of ten shillings per ton on guano.

THE INTERNAL REVENUE is levied on the transfer of landed property, by licenses under the Wines, Beer, and Spirit Act, to sell by auction, to keep dogs, to collect bark, cut timber, cut or remove sandalwood from the Waste Lands of the Crown, for boats and boatmen, and for boats and ships engaged in the pearl shell fishery, also from judicial fines. Fees are also taken at the different public offices, for registry, copies of official documents, applications, searching records, taking affidavits, &c., in the Sheriff's Office, the Small Debts' Court, and the Insolvent Court.

INDUSTRIES.—The progress of the different colonial industries will appear from the following comparative tables. The agricultural produce was gathered from the area of acres under cultivation, thus distributed:—

				Year 1849.	Year 1876.
Albany or Plantagenet	...	...	...	258	521
Champion Bay	...	...	...	...	1314
Fremantle	...	...	...	...	...
Greenough and Irwin	...	...	...	...	13017
Murray	...	...	...	473	738
Perth	...	...	...	158	1512
Sussex	...	...	...	216	1050
Swan	...	...	...	1747	3390
Toodyay...	...	...	...	873	9113
Wellington	...	...	...	595	3006
York	...	...	...	1559	8991
Williams	...	...	...	...	3276
				6027	45933
			Totals	...	...

The proportions of the different crops cultivated were, in acres, wheat 18,769, barley 6,245, oats 1461, rye 731, potatoes 370, maize 70, vineyard 784, kitchen garden 628, beans, &c. 19, hay or green crop 16,856, from

which it will appear that 27,206 acres were cultivated in cereals or what might be used for bread to nearly an equal number with the population.

The number of stock in the different districts was:—

	Horses.	Cattle.	Sheep.	Goats.	Pigs.
In 1849	2340	11741	144033	804	3129
In 1876	33502	54058	899494	5561	18108

They were in the latter year distributed thus:—

District.	Horses.	Cattle.	Sheep.	Goats.	Pigs.
Albany ... ..	1242	1671	67759	34	377
Champion Bay ... ..	3282	2738	125920	949	736
Greenough ... ..	1861	1840	71928	681	2223
Murray ... ..	1572	3491	11029	457	553
Perth ... ..	1577	3773	4126	785	1489
Sussex ... ..	2029	9681	10127	29	452
Toodyay ... ..	7346	7138	155125	1322	5403
Wellington ... ..	3458	11160	25861	278	1054
York ... ..	3685	2545	148259	332	3425
Williams & Kojonup	2111	1347	122164	55	1223
North District ... ..	2116	3201	134540	236	14

The average of produce is low, that of wheat being to the acre 14 bushels, barley 17, oats 17, rye 11, maize 22, and of potatoes  $2\frac{1}{2}$  tons to the acre; the crop of hay scarcely averages 1 ton to the acre, but this is, unquestionably, the result of want of capital, scarceness of labour, and bad cultivation. The averages in the early days of the Colony were much higher, as is the yield in many cases now. The average price of wheat in 1876 was 6s. 3d. a bushel, of barley 5s., of potatoes £9 2s. a ton, of hay £6; but when the cost of carriage is increased by distance, or bad roads, the prices are much higher, as wheat 7s., barley 6s., potatoes £11, and hay £9.

HORTICULTURE, where land has natural springs to provide water in summer, is a most profitable though not largely increasing industry. The first colonists introduced nearly all the vegetables and fruits now under cultivation, which include almost all those of temperate

regions, such as are cultivated in the open garden in England, and many tropical fruits. Those most to be noted at present are the grape, fig, olive, as producing articles of export, to which tobacco might well be added from the experience recorded at New Norcia, and the mulberry, as affording food for the silkworm.

**WINE.**—Since 1870 the acreage of vineyard has increased by 59 acres, which may represent the production of from 2000 to 3000 gallons. The demand for colonial wine is much increasing, and, as the produce has been spoken highly of in England and gained prizes at the exhibition at Sydney, this may be looked to as not only a future source of domestic supply, but of exportation also. The same may be said of dried fruits, raisins, figs, and of olives, all of which may be cultivated and cured to advantage.

**SERICULTURE.**—The mulberry is now being largely cultivated, with the view to sericulture. Silk exhibited at Sydney, 1873, which had been cultivated for amusement by John and George, sons of Mr. H. R. Strickland, obtained certificates, and immediately afterwards a Government plantation was formed as a nursery near Perth, at first under the care of Mr. Dale who was succeeded by Mr. Clayton, from which many thousands of young trees have been distributed. A nursery for the worm was also established, and cocoons and seed sent from thence to Europe have been highly approved. In 1876, M. Beurteaux exported the first bale of cocoons, weighing 1cwt. It may, therefore, reasonably be expected that sericulture will become an important industry in West Australia, and more especially because it may be considered as a domestic labour, affording employment for women and children.—*Vide* Appendix B.

**WOOL.**—The great staple of the Colony is wool. Of this, in 1876, 2,831,174 lbs. were exported, which at 1s. 2d. per lb. would be in value £165,161 16s. 4d. The increase of this pastoral industry will appear, not only from the increase in the number of sheep already noted, but still more clearly from the fact that in 1860 the number of pounds exported was only 656,817, and in 1869, 1,880,426, or more than double, while in the six years following it had again increased by one-half.\* The great extension of area taken up for sheep runs during the last few years, promises as large an increase of produce for the future.

**HORSES AND CATTLE.**—The export of horses and cattle may also be expected to increase with production. Up to the year 1870 for ten years there is no export recorded. In 1872 the value exported, at £12 each, was for 427 horses £5124; in 1876 the number exported was 773, and the estimated value, at £14 each, £10,822. These are mostly sent to India for remounts for the army, and, at the contract price £45, should yield a good profit.† Horses of high blood and lineage were, as has been already noted, introduced by the first colonists. Governor Stirling selected his stud from that at Petworth, and his horse Greylegs was own brother to Château Margeaux; and from that time many colonists have imported stock of equal character. There can be no lack of good blood among the horses of the Colony. Besides the blood stock imported from England, Ireland, and the other Australian Colonies, several high-bred Arabs imported from India, have assisted to give character to the West Australian horse. Mr. Maitland Brown, M. L. C., is the only

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\* In 1877, 3,992,487 lbs. were exported, of the estimated value of £199,624; but for Exports of 1877 see Appendix C.

† Vide Appendix D.



colonist who has as yet made the breeding horses for the market a specialty, though many valuable animals are bred yearly by other colonists; his stables at Neu-marra-carra, some 18 miles East of Geraldton, contain six sires of unquestioned form and lineage, and in his paddock of 20,000 acres there are about 200 mares, many of which would not disgrace any stud in Europe.

As for the horse so for cattle, much good stock has been from time to time introduced, and, climate and soil considered, with butter at 2s. a pound, dairy farming should be, as indeed it is, a most profitable occupation in the Southern districts of the Colony.

THE TIMBER TRADE is, at present, confined to the South-west and South districts of the Colony. There are timber companies with trains and railroads at the Canning, Rockingham, and on the East and West sides of Geographe Bay. Timber is also cut near to, and exported from Albany, but that on the South Coast to the West of Tor Bay, is as yet untouched, as is the Pine timber of the North Coast and the Victoria District. There are six steam saw-mills, and three water saw-mills at work. The value of timber exported was, in 1860, £4,932; in 1865, £15,693; and in 1869, £14,274; in 1872 it had decreased to £2,590, but in 1874 it rose to £24,192; in 1875 it was £23,965; in 1876, £23,743, thus showing a steady demand and a sufficient supply.

SANDALWOOD, although one of the largest exports of the Colony, is not so much to be depended upon for continuance, either of supply or demand, for as the cutter has to go back farther from the place of export, so his expenses increase, and his profits diminish, these

latter seem now reduced nearly to a possible minimum in consequence of the cost of transport. As those employed in it pass their time in the woods, on the roads, and in the towns when delivering their loads, the trade is not favorable to the moral development of those engaged in it. In 1860, the value of sandalwood exported was £16,360; in 1863, it rose to £25,265; in 1869, to £32,998; in 1873, to £62,916; in 1874, to £70,572; in 1876 it declined to £65,772; these estimates are made at £10 a ton, but the price has varied considerably with the demand.

THE FISHERIES of Western Australia should be more productive than they are, although no doubt the number of whales and seals on the coast is much less than formerly. In the early days of the Colony the whale fishers of the United States were constantly on the coast, making use of its harbors, and carrying on a trade, profitable to both, with the colonists. It was not uncommon to see six or seven large vessels in King George's Sound; the Vasse was also much frequented; sealers also searched every inlet and island for their prey, but in 1854 only 3 tons of whale oil were exported, valued at £25; in 1860, the value of the oil exported was £717; in 1865, £2,950; in 1869, it had fallen to £495; in 1873, it rose again to £1,872; the following year it was only £128; in 1874, £347, but in 1876, it rose to £6,673, showing that whales are still to be had for the seeking; this rise is probably due to the opening of the fishery on the North Coast. Another valuable oil is that of the Dugong, a marine animal found on the Coast from Shark's Bay Northward, but of this only to the value of £3 was exported in 1876, and none the preceding year. The abundance of fish and salt, on all parts of

the coasts of the Colony, would suggest that the curing of fish, both for home and foreign consumption, would be a profitable industry. Small quantities are cured, but of no importance to the trade of the Colony. Tortoise shell is also exported, but this trade is at present inconsiderable, though in 1869 to the value of £483 was exported. The most important fishery is that for pearls and pearl shells, which commenced, as has been noted, in Sharks Bay, and was carried to the North-West Coast, where the supply of the pearl oyster seems inexhaustible; banks, supposed to have been worked out one year, having been found replenished the next; yet the time seems to be approaching when some regulation of the fishery, to prevent waste, will prove essential. In 1862, the pearl shells exported were valued at £250; in 1865, there were not any; in 1869, the export was to the amount of £6,490; in 1872, £25,890; in 1873, £28,388, with pearls to the estimated value of £6,000; in 1874, shells £62,162, and pearls £12,000; in 1875, shells £64,642, pearls £12,000; and in 1876, shells £75,292, and pearls £8,000. These amounts, though not probably showing the true market price, yet sufficiently prove the importance and progress of the trade. The shells at Sharks Bay are of small value compared with those of the North Coast. The trade was formerly carried on by means of Malay divers, but, the cost of these having debarred them from use, it has been found possible to continue it with native divers only.

GUANO was exported from Sharks Bay as early as the year 1840. Grey, when in the bay, found several vessels loading; the supply, however, was soon exhausted. In 1876 the export of guano from the Lacepede Islands off the North-West Coast commenced; £357, at 10s. a ton,

represented the value exported that year, but six vessels were wrecked in a hurricane; now however as an officer in charge is located there, it may be presumed that the trade will be regularly prosecuted. *Vide* Appendix E.

LEAD MINING is one of the most promising industries of the Colony, but is at present only carried on in the Champion Bay District; its commencement has been noticed in the history of the Colony, and the early progress of it as well as of copper mining, will be found in Appendix F. The proposal for a line of railway from the centre of the Mines district at Northampton to the port at Champion Bay gave fresh impulse to this industry, of which the following returns from the two principal mines will show the present state; there are many other lodes worked, and many still untouched equal to them in value; the want of capital in money and labour alone limits the quantity produced.

The actual shipments from the Narra Tarra mine have been 862 tons, within the twelve months ending December, 1877; but the yield has been much larger, and might be still increased, if greater facilities for exportation were afforded, as it has now a sufficient plant of machinery.

The produce of the Wheel Ellen is about equal to that of the Narra Tarra; but 3,000 tons could be easily raised within the year, if it could be exported. This mine was first opened in 1872, and has in six years produced 4,300 tons of ore, with an average number of twenty-one miners. The lode, which bears about 35° East of North, has been laid open for about 300 fathoms in length, and the deepest point reached is 14 fathoms, so that only surface machinery on a small scale has been required. Of the ores of lead, Galena is the

most abundant, but other ores are worked to profit. The percentage is from 68 to 82½, and the highest price obtained for one whole shipment £14 14s. per ton. The strike of the lode and quality of the ore may be taken as generally applicable to all the mines in this district. The number and extent of the known lodes make the extension of this industry dependent on the demand for the ore in the market and the supply of capital in money and labour introduced into the Colony; and as the railway from Northampton to Champion Bay, when opened throughout its entire length, which it will very shortly be, must reduce, as it does even now, the cost of transport, the profits on this industry will be proportionately increased.

THE POPULATION of the Colony was, in 1876, calculated at 16,166 males, and 11,155 females, in all 27,321 persons; the births during the year were 918, and the deaths 383, giving a natural increase of 535; the arrivals by sea were 727, and the departures 650, giving an addition of 77, making the actual increase during the year only 612. When this is compared with the increase in other colonies from immigration, there can be no surprise at the comparatively slow progress of West Australia.

Nearly one-fourth of the population is collected on the lower valley of the Swan, Perth having a population of 4,606, and Fremantle of 3,303 in 1876. So small a population, scattered over so large a surface, has required the construction of roads to a much greater extent than would otherwise have been needed. Roads, passable for wheel carriages and, in many places excellent, in all with the rivers and gullies bridged, extend from Perth to Albany, by Bannister, Williams, and Kojonup; to the Vasse, by Pinjarrah and Bunbury;

to Guildford, and from thence to Newcastle, York, and Northam, and by Bindoon to Victoria Plains, and to Fremantle. The Swan is navigated by passenger steamers to Perth, and by lighters beyond Guildford.

THE ELECTRIC TELEGRAPH is carried to all the principal centres of population, from Perth to Albany on the South coast, with stations at Williams and Kojonup; and from Albany to Eucla the line is now completed for connection with the South Australian lines, and so with Great Britain and the rest of the world; from Perth also to the Vasse on the South-west, and Geraldton on the North, by the Victoria Plains, Dongarra, and Greenough, and from Geraldton to Northampton, by the line of railroad. There is a Post Office in every town and village. There is only one line of public railroad in the Colony, now in the course of completion, viz., between Geraldton and Northampton. Its length is 34 miles, the gauge 3ft. 6in.; there are thirteen bridges of timber, varying from 1 span of 10 feet to 5 spans of 30 feet. The cost has been considerably more than £3,000 a mile. The stations will be at either end, with intermediate platforms at which trains will stop by signal.

MAILS.—The Colonial steamer carries the mails and passengers monthly to and from Geraldton to Albany, touching at Fremantle, Bunbury, and Vasse, and making short intermediate trips with passengers and cargo, &c. Passengers to or from the Colony by mail steamers can be transhipped to any of those ports. The mail is carried overland from Perth to Albany twice a month, and to Geraldton once a week; a passenger-van runs once a month from Perth to Albany and returns in time for the mail; and the mails are carried in vans with passengers twice a week to the Avon Valley and Bunbury, and daily to Fremantle and Guildford.

**PERTH**, the capital, beautifully situated on the estuary of the Swan, is gradually assuming the appearance of a considerable city, with an area of about one mile and a half in length by half a mile in breadth, and consisting of three principal and several cross streets, Government House, the Town Hall, the Public Offices, and the Cathedral of the Church of England lying in the centre, and the Barracks and Roman Catholic Cathedral at either end; the Wesleyan and Congregational Chapels are also conspicuous buildings. It has a cemetery, public garden, park, and recreation ground, and a rifle range on Mt. Eliza above the town. It has institutions for mechanics, working men, and for young men of the Church of England and Rome; two hospitals, two orphanages, a native mission house; nine inns, hotels, and public houses; a gaol, a poor house, and manufactories for coach building, boiler-making, iron-founding, soap-making, brewing, tanning, and boat-building. There is a Club named after Governor Weld, a Freemasons' hall, a market under the Town Hall, and a museum attached to the Mechanics' Institute. The road to Guildford is carried over the Swan and its islands above Perth water, by bridges and causeways 4,109 feet in length.

**FREMANTLE**, built on both banks of the Swan, is connected by a bridge 954 feet in length. The principal part of the town is on the South side of the river, where a bay is formed by Arthur's head—a mass of limestone, on which is a lighthouse, gaol, and court house, where boats can put ashore at all times, and where two jetties are placed for landing and shipping goods. Fremantle has many public buildings, and is dominated by the Convict Establishment, which has accommodation for 800 prisoners with the necessary staff; it has a marine

residence for the Governor, a lunatic and a convalescent asylum, three churches, schools, several inns, hotels, and public houses, equal to its wants as a seaport, a Freemasons' hall with club attached, and barracks for the Pensioner Force. Both Perth and Fremantle are fully supplied with stores and shops.

There are four newspapers published in Perth. The West Australian Times twice a week, and the Inquirer once, the Catholic Record and St. George's Journal monthly; at Fremantle, the Herald weekly; there are, besides, the Temperance Advocate, and the Christian Herald. A Government Gazette is published weekly. Telegrams from all parts of the Colony, public, commercial, and meteorological, are posted at the chief office daily.

In all the towns, both small and large, in addition to churches and schools, there will be found inns, as also in many places by the roadside, especially on the Sound road; mechanics' institutes, and various societies; there are agricultural societies and turf clubs, with exhibitions and races, in all the principal districts, also cricket clubs in most; at Perth, Fremantle, and Geraldton there are yacht clubs; total abstinence and temperance societies exist in all parts.

ASSISTED IMMIGRATION has been made during the last two years; £1,690 was expended in 1875, £999 in 1876, and £7,000 was voted for 1877. In 1875, 262 males and 156 females arrived from England, and 26 males and 3 females from the other colonies. In 1876, 515 males and 212 females arrived in the Colony. The vote for 1878 will increase the number, but not in proportion to the wants of the Colony. The conditions regulating immigration will be found in Appendix G.



Assisted immigration has, of course, only reference to the so-called laboring classes, mechanics, agricultural laborers, shepherds, grooms, gardeners, domestic servants &c. For these the demand among so small a population must necessarily be limited, but to persons having small money capital at their disposal Western Australia offers advantages which the more populous colonies do not. There are in the mines district near Champion Bay many lodes of lead ore, some worked, and others not yet touched, which require only the application of simple machinery and additional labor to make them highly productive. The pastoral areas of the Colony are by no means fully stocked, and there are numerous localities in which the industries already noted might be carried on with profit, if there were sufficient capital to commence with. On reference to the Land Regulations, it will be seen that land for any such purposes may be obtained on such terms as will not exhaust the capital which may be more profitably applied to its improvement and cultivation.

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ROE'S ROCK, FITZGERALD RIVER.

## P A R T V.

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DIVISIONS OF THE COLONY—REPRESENTATION—  
GENERAL AND LOCAL SCHOOLS—LAW—POLICE—  
MEDICAL—MILITARY—ECCLESIASTICAL—LAND.

DIVISIONS.—In pursuance of the instructions originally given to the Surveyor General, the South-Western portion of the Colony was, for administrative purposes, divided into counties or districts, the limits of which were never accurately defined, but the names of which are still in use. Commencing from the North of the Moore River, there are

Melbourne, Glenelg, Grey, Carnarvon,  
Twiss, Victoria, Durham, Lansdown,  
Perth, York, Howick, Beaufort,  
Wellington, Wicklow, Peel,  
Sussex, Nelson, Goderich, Hay,  
Lanark, Stirling, Plantagenet, Kent.

The Wellington district extends from Peel inlet to the Vasse. Sussex occupies the country between Geographe and Flinder's Bays, and Plantagenet that to the South of the Stirling range, the valleys of the Hay and Kalgan Rivers, and on the coast from Wilson's inlet, including King George's Sound, to Port Two-people. Kent extends eastward to Doubtful Island Bay.

There are reserves for town sites in all the principal centres of population, except the Greenough, some of which contain, however, only a few houses. In 1876 there were 8 only with more than 50 houses, viz. :—

Perth	Houses	801	Population	4606
Fremantle	„	588	„	3303
Albany	„	247	„	840
York	„	139	„	820
Guildford	„	106	„	518
Geraldton	„	86	„	748
Newcastle	„	57	„	215
Vasse	„	51	„	209

Of these, Perth, the Capital and seat of Government, is the centre of trade for the Avon Valley and the Eastern Districts, the roads from which diverge at Guildford. Fremantle is the principal port of entry for the greater part of the trade of the Colony, although that for the North is gradually being transferred to Geraldton in Champion Bay. The population of Geraldton is rapidly increasing, in anticipation of the opening of the railroad from thence to Northampton. The Vasse is the outlet for the large surrounding agricultural and pastoral district as well as for the timber trade; it was formerly a favorite station for the deep sea whalers. Albany, the best port now in use in the Colony, is not only the centre of the trade and com-

merce of the South, but the port of call for the mail steamers, for which there is a coal dépôt there. It is also a station for the whale fishery. These, therefore, represent the commercial divisions of the Colony.

REPRESENTATION.—The Ordinance (No. 13) to provide for the establishment of a Legislative Council, issued 1st June, 1870, divided the Colony into ten electoral districts, viz., Perth, Fremantle, Geraldton, York, Toodyay, Swan, Greenough, Wellington, Vasse, Albany, to which were added subsequently Williams River and the North, each of which return one member, excepting Perth and Fremantle, which return two each.

The qualification for members of the Legislative Council, under 5 and 6 Vict., c. 76, s. 8, was to be a natural born or naturalized subject of the Crown, and seised in lands and tenements in Western Australia of the yearly value of £100, or of the value of £2000; but this was reduced by the Amendment Act of 1871 to an estate of the value of £1000 or of £50 annually.

The qualification for electors (13 and 14 Vict., c. 59, s. 4):—To be a natural born or naturalized subject of the Crown or legally made denizen of Western Australia having a freehold estate of £100 value, or to be a householder occupying a dwelling house of the annual value of £10, or to hold a license to depasture lands within the district for which his vote is to be given, or a leasehold estate value £10 per annum, provided that there has been six months occupancy, and that all rates and taxes have been duly paid.

The Municipal Institutions' Act of 1871 was amended by that passed in 1876, by which all persons seised or in occupation of land, house, or tenement, within the limits of any municipality, have the right of voting for

the Council, provided that they have paid all municipal rates and assessments, and have not received public relief during the year. Property rated below £25 qualifies for one vote, under £50 for 2, under £75 for 3, and above that amount for 4. All persons qualified as voters are also qualified as Councillors, but the Chairman must have the qualification to serve on the Grand Jury required by the Jury Act of 1871. Uncertificated and undischarged bankrupts or persons holding office of profit under or having interest in any contract with the Council, are excluded.

The Municipal Councils have power over roads, drains, wharves, public buildings, pounds, boundaries, fences, as well as over all sanitary regulations, whether for food or otherwise, and to appoint Inspectors, make rates, and borrow money for such purposes.

There are Municipalities at Albany, Bunbury, Busselton, Fremantle, Geraldton, Guildford, Newcastle, Perth, and York.

By the District Roads Act, 1871, amended in 1876, voters for members of Roads Boards must be seised as in occupation of rateable property within the district to the value of £5, 1 vote for under £10, 2 for under £25, 3 for under £50, and 4 for £50 and upwards. These Boards have not only the care of repairing and making roads and raising money for those purposes, but also (Act No. 12, 1875) of "making regulations directing the manner in which the leading horses in teams shall be driven or yoked."

SCHOOLS.—Schools, assisted by Government, were established in Perth and Fremantle in 1833, but the first systematic attempt to organise public schools was made in 1847, when the Governor issued a commission

to the Rev. J. B. Wittenoom, with Messrs R. W. Nash, G. F. Stone, and F. Lochée, to form themselves into a committee to consider the subject. On their recommendation two committees were appointed, one of ladies, the other of gentlemen, to superintend, respectively, the girls' and boys' schools at Perth. Subsequently, in 1856, a general Board of Education was appointed by the same authority. The Colonial Secretary was the chairman, and the other four members the Lord Bishop of Perth, the Roman Catholic Bishop residing in Perth, and the ministers of the Wesleyan and Congregational communions. The Roman Catholic Bishop however refused to act. The Board had a paid Secretary. Local Boards were also appointed to act, under instructions from the General Board, in the different districts of the Colony. The system of instruction in its main features corresponded with that of Ireland. In the first year there were 11 schools only, with 429 scholars attending. In 1870, there were 55 schools and 2188 scholars.

In 1871 the Elementary Act, still in force, was passed by the Legislative Council, and £6,181 were placed on the estimates for educational purposes. By this Act the constitution of the Central Board was altered. The Colonial Secretary still remained the chairman, but the other four members were to be laymen, appointed by the Governor for three years, no two of whom might be of the same religious denomination.

The principal provisions of this Act are that the Central Board shall exercise general supervision over all schools receiving Government aid, but in secular instruction only, with a more special direction over purely Government schools; appoint and instruct an Inspector of Schools; make by-laws and regulations;



apportion and distribute funds; communicate with local Boards; confirm the appointment or dismissal of teachers; regulate their salaries and the fees to be paid by pupils, with power to grant exemption to such as were unable to pay such fees; and superintend the establishment of new schools, district boards, and regulate endowments.

The local boards are elected by the inhabitants of the different districts, and consist of five members, holding office, like those of the Central Board, for three years, and exercising the same authority; they are however subject to its control.

The schools consist of two classes, general and assisted. In the former the instruction given is purely secular, and occupies four hours in the day; one hour being allowed, in addition, for such religious instruction as may be given by the religious body to which the children respectively may belong,—but no catechism, or distinctive religious formulary may be used by the teacher of the school, nor may the Inspector inquire into the proficiency of any scholar in religious knowledge.

Schools founded by voluntary efforts may be assisted by Government aid to the amount of the income derived from fees, or other contributions, but only such as have 20 scholars. No grant-in-aid for building purposes may be made to such schools.

All children between the ages of 6 and 14 years are required to attend Government schools, unless residing beyond the distance of three miles from any school, or receiving efficient instruction elsewhere. District Boards are empowered to make by-laws for enforcing compulsory attendance. The amount of the instruction

given in the Government schools may be estimated from the highest standard (No. 7)—viz.:—

1. Reading—To read with fluency, ease, and expression, an ordinary book, or passage from a newspaper, prose, or poetry.
2. Writing—Mercantile writing, to write on paper, from dictation, any ordinary passage, or to make an abstract from memory.
3. Arithmetic—Compound proportion, interest, decimal fractions, and the higher rules of arithmetic.
4. Geography—That of the world generally.
5. Grammar—Syntax, prefixes, and affixes, and the analysis of a simple sentence.

From this it will appear that the instruction given in the Government Schools is, in secular matters, sufficient for the ordinary demands of colonial life. There are now more than 60 schools scattered over the Colony and accessible to most of the population; there are also 21 Assisted Schools, 18 of the Church of Rome and three of the Church of England. Many efforts have been made from time to time to establish schools of a higher class, but never successfully. In 1863 the Bishop of Perth, by the aid of the Society for the promoting of Christian Knowledge, and local contributions, established a Grammar School at Perth, known as the Bishop's School, at which some of the leading men at present in the Colony were educated; it ultimately, however, failed to receive sufficient support, and has been continued as a private school until now; but in 1876 a bill was passed, and a grant made by the Legislative Council, for the establishment of a High School; and, under the provisions of this Act, a Council was appointed to organize and arrange it, and it was opened on 1st March, 1878.

This school has been established for the purpose of giving to boys an education similar to that given in the grammar and advanced schools in the other Australasian Colonies. The instruction given in the school is entirely secular, but the house masters pay special attention to the religious and moral training of the boys committed to their care. For the purposes of the school, the year is divided into terms, as follows:—From 20th January to 20th April, from 10th May to 10th August, from 20th September to 20th December. The holidays are:—From 20th April to 20th May, from 10th August to 20th September, from 20th December to 20th January. The school fees (payable in advance) are:—For boys under twelve years of age, £3 per term; for boys over twelve years of age, £4 per term; drawing, if required, £1 1s. per term. This is, of course, exclusive of books and stationery. A discount of 10 per cent. is allowed when more than one boy comes from the same family. Headmaster, Mr. Richard Davies, B.A., of Corpus Christi College, Cambridge; Assistant Master, Mr. E. W. Haynes, of Queen's University, Ireland. Boarders are received by the masters at the school house, and by the Rev. F. Coghlan. Terms, including school fees:—For boys under 12 years of age, £50 a year; for boys over 12 years of age, £60 a year.

**LAW.**—The judicial system of West Australia consists of a Supreme Court, presided over by a Chief Justice, and of Courts of Quarter and Petty Sessions, which are presided over by Justices as in England. The Magistrates are appointed for the Colony and not for particular districts; but the country is divided into districts, each of which has a paid Justice, styled the Resident Magistrate, who is a Justice of the Peace and has power to sit alone in all cases; while in all but very minor cases,

two Justices are required to form a Court. The Courts of Petty Session exercise summary jurisdiction in minor offences, and, under 12th Vict. No. 18, have power to try in a summary manner aboriginal natives, and to punish them with not more than three years' imprisonment for any offence save murder, assault with intent to do bodily harm, arson, or rape. They have also a similar jurisdiction over convicts at large on tickets-of-leave in all indictable cases not punishable with death (16th Vic. No. 18, Sec. 2, 3, 4). Offences not punishable summarily are heard by Justices ministerially, and offenders committed for trial as in England, either in the Supreme Court, or, if within the jurisdiction of a Local Court of General or Quarter Sessions, at such Sessions.

The Ordinance 12 Vict. No. 2, making perpetual 9 Vict. No. 4, gives power to the Governor to establish Courts of General or Quarter Sessions in such districts as he may see fit. In pursuance of which Act, such courts have been established at Albany, Geraldton, and Roebourne, of which the Resident Magistrate is the chairman. These have power to try any offence committed within certain limits not punishable with death; cases so punishable being committed for trial at the Supreme Court, and, if so committed, the matters are brought before the Attorney General, who, by 18 Vict., No. 5, has vested in him the powers of a Grand Jury; and if he, in the exercise of his discretion, decides to prosecute an offender, by the 21st section of the Supreme Court Ordinance, 20 Vict., No. 15, he is prosecuted by information at the suit of the Attorney General.

At Courts of Quarter Sessions the chairman examines witnesses and otherwise conducts the prosecution, and sums up the evidence for the jury. The jury, in both Courts consists of twelve, summoned and selected under

the provisions of the Jury Act (1871). Prisoners may defend themselves or be defended by counsel, and any one admitted as a practitioner in the Supreme Court may practise either as Counsel or Attorney.

With respect to civil cases there is, in the district of each Resident Magistrate, a Local Court or Courts constituted under 27th Vict., No. 21, after the model of the English County Courts. In these the Resident Magistrate presides, with such other Justices of the Peace as may attend. The practice, procedure, and jurisdiction of these Courts are the same as of English County Courts as originally constituted.

The Supreme Court has also Civil Jurisdiction both at Common Law and in Equity, all actions being triable there with or without a jury, at the option of the parties. The Supreme Court is also a Court of Vice-Admiralty, of Probate and Divorce, and of Bankruptcy.

The Supreme Court has its regular staff of officers, besides the Chief Justice and the Attorney General. These are the Crown Solicitor, Registrar, Master, Bankruptcy Officer, Sheriff, Bailiff, &c.

Thus it appears that the entire judicial system of the Colony is based on that of England.

The three Resident Magistrates at Geraldton, Albany, and Roebourne have the titles and precedence of Government Residents, and there are also Resident Magistrates at Bunbury, Busselton, Fremantle, Greenough, Murray, Newcastle, Swan, Williams, and York. There is a Police Magistrate at Perth, who holds a weekly Court at Guildford.

**POLICE.**—The Police Force is commanded by a Superintendent, and consists of 20 officers, and 137 mounted and foot constables, of whom 40 are aboriginals.

Head quarters are at Perth, and the more important stations are at Albany, Bunbury, Dongarra, Fremantle, Geraldton, Guildford, Kojonup, Newcastle, Roebourne, Williams and York.

A body of Water Police has stations at Fremantle, Albany, Champion Bay, Bunbury, Vasse, and the Lacedpede Islands.

Under this head may be noticed the existence of a small schooner, which, on the part of the Government, overlooks the pearl fishing fleet. Her commander is in the Commission of the Peace.

Besides the Gaol for convict prisoners on the Imperial Establishment there are Gaols at Perth, Fremantle, Albany, and Geraldton, and an establishment for native convicts at Rottneest.

**MEDICAL.**—From the sparseness of the population of the Colony it has been necessary that the Government should assist in providing medical attendance throughout its several districts. The introduction of convicts and establishment of local dépôts made this a part of the system. Medical men were therefore established in all the more important centres of population, besides the Medical Officer resident in the convict prison at Fremantle.

There are now hospitals at Albany, Bunbury, York, Toodyay, Champion Bay, Guildford, Perth, and Vasse, besides a Lunatic Asylum at Fremantle. The Medical establishment of the Colony is under the superintendence of the Colonial Surgeon residing at Perth, and there are Medical Officers at Albany, Bunbury, Fremantle, Geraldton (Champion Bay), Greenough, Pinjarrah, Roebourne, Toodyay, York, and Williams.

**MILITARY.**—There is a force of Enrolled Pensioners constituted in all respects as regular soldiers, quartered

in barracks at Perth and Fremantle, consisting of 230 Non-Commissioned Officers and men.\* These are commanded by a Field Officer on the Staff, having command also of whatever troops there may be in the Colony, and two other Staff Officers; there is a Surgeon-Major in charge of the Hospitals, and a Deputy Commissary in charge of stores. There are attached to this force two twelve-pound breech-loading Armstrong guns, two six-pound muzzle-loading field pieces, and two twelve-pound Howitzers. The men are armed with Schneider breech-loading rifles. There are also some 30 Enrolled Pensioners distributed at Geraldton, Greenough, York, Northam, Kojonup, Guildford, and Albany.

Date of formation of Corps.	Description of Corps.	Captains.	Subalterns.	Non-Commissioned Officers and men.	No. of horses.
June, 1872	Western Australian Troop of Volunteer Horse Artillery	1	1	30	32
Oct., 1862	Pinjarrah Mounted Volunteers ...	1	2	28	31
June, 1877	Wellington do. do. ...	1	2	57	
June, 1872	Metropolitan Rifle Volunteers ...	1	3	128	
Oct., —	Fremantle do. do. Company ...	1	2	99	
Nov., 1874	Guildford do. do. ...	0	1	61	
Oct., 1876	Geraldton do. do. ...	1	2	61	
	Total ... ..	6	13	464	63

The Troop of Artillery has the use of two twelve-pound breech-loading Armstrong guns belonging to the Pensioner Force, but the guns are harnessed and horsed at the expense of the Colony.

Every Volunteer, whether officer or private, who shall have served continuously for a period of five years, and qualified under the regulations, has claim to a grant of 50 acres of land, to be assigned by occupation-

\* Orders for disbanding the Staff and the Pensioner Force at Perth have been received since the above was in type.

certificate, exchangeable, at any time within three years after date, for grants in fee simple, on proof that improvements have been made to the value of £25. The present qualification is to have attended at least the Infantry 12 parade drills and the Cavalry 8 parade drills; and, should a camp of instruction be formed, at least three days' field service in each year; to have at all times held one's self ready for duty and obtained a certificate of good conduct and efficiency. This force is reported as efficient.

Pensioners also may have lots of 20 acres assigned in the same manner exchangeable for grants in fee simple, after three years, on proof of good conduct, good service in the Force, and such improvements on the land as the Governor may from time to time specify to be necessary and publish in the *Government Gazette*.

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#### ECCLESIASTICAL.

THE religious establishments in Western Australia, being now independent of the Government, require separate consideration. The information which is given respecting them is derived from the heads of the different churches.

The Government has from the first contributed both in money and land to the Ecclesiastical Institutions of the Colony, and to the schools and charities connected with them. The Church of England was, until 1871, in connection with, and its ministers were chaplains under, the Government, as were also some of those of the Roman Catholic Church.

The amount expended by the Government for Ecclesiastical purposes, was in 1870 £2,540, and in



1876 £3,464. By the last Census, taken in 1870, there were 14,619 persons of the Church of England; 7,118 Roman Catholics; 1,374 Wesleyans; 882 Independents; 583 other Protestants; and 209 Jews. By the returns of marriages given below it would appear that the relative proportions have altered:—

Marriages.	1869.	1876.
Church of England ...	64	74
Roman Catholics ...	49	36
Wesleyans ...	22	41
Independents ...	31	32

From the following accounts of the different establishments it will appear that the offices of religion and ministration of the Clergy are more generally accessible throughout the Colony than from its scattered population might be anticipated.

**THE CHURCH OF ENGLAND.**—The ministerial staff of the Anglican Church in this Colony consists, at the present time, of a Bishop, Dean, Archdeacon, and 18 licensed Clergymen in Priest's Orders. A layman awaits ordination prior to his taking charge of a district, and there are also two theological studentships founded by the Society for Promoting Christian Knowledge to further the training in the Colony of candidates for Holy Orders. There are 16 Parochial Districts, and two about to be formed. The financial affairs of the Church are under the control of an Incorporated Body, called the Standing Committee, which consists of the Bishop, three clerical and four lay members; all, with the exception of the Bishop, elected by the Synod at its annual session. The Synod is composed of all the licensed Clergy of the Diocese and of two lay representatives from each Parish. The Bishop is President, and has the power, never probably to be exercised, of putting a veto upon any Bill introduced for enactment.

There are 33 consecrated churches, and 25 school-rooms and private houses in which Divine Service is celebrated. There are 12 parsonages, and the Bishop's House. The ecclesiastical edifices, while they display for the most part (as must be the case in the early days of every struggling Colony) a great absence of resources both in money and art, are sufficiently numerous and substantial to show the earnestness and zeal of the church people in securing the ministrations of religion.

A brief sketch of the history of the Church in this Colony may be interesting. The first clergyman officially connected with the Colony was the Rev. John Burdett Wittenoom, M.A., of Brasenose College, Oxon, who came here shortly after the Colony was founded, and held the Colonial Chaplaincy in Perth until his death at the close of 1854. Upon the constitution of the See of Adelaide, Western Australia was attached to that diocese, and formed a separate Archdeaconry, to which the Rev. John R. Wollaston, M.A., Christ College, Cambridge, was appointed. By the aid of the Society for the Propagation of the Gospel and of the Colonial Church and School Society, as the latter was then called, supplemented by the Local Government, the number of the clergy was increased. Some of those whose services were thus engaged had received ordination at home, while two of the early settlers in the Colony received ordination from Bishop Short. The introduction of convicts in 1850 made the country settlers anxious to obtain more efficient spiritual oversight, and in answer to their appeal the Imperial Government, in 1852, sent out three Chaplains, one to Fremantle, one to York, and the other to Bunbury. From that date, the Imperial Government for many years made all appointments to

the Chaplaincies, the Colonial Government co-operating in its provision of (one half of) the stipend. In 1857, the See of Perth was constituted, and Dr. Mathew Blagden Hale, a graduate of Trinity College, Cambridge, who had been for several years Archdeacon of Adelaide, was appointed to the Bishopric. Dr. Hale arrived here as Bishop in 1858; but some months before his arrival Archdeacon Wollaston had entered into his rest. A long official journey undertaken in the heat of summer was followed by a brief illness, and his death. He is a man to be had in remembrance for his patient untiring zeal, and for the great simplicity and unselfishness of his character. Bishop Hale's episcopate lasted from 1857 to 1875. During it the Church of England here passed through many stages of progress. The vacant Archdeaconcy was filled up, a Dean appointed, and a site purchased for the Bishop's residence, which was subsequently erected in a great measure at the Bishop's cost, with lodgings for the Clergy in proximity to it. A little later, new chaplaincies were formed, a second Archdeaconry (now for some years in abeyance) founded at the North; various Churches and Parsonages erected, and Synodical action established.

A great effort was made, supported by the munificence of the Society for Promoting Christian Knowledge, to establish a good Collegiate School, after the model, on a smaller scale, of St. Peter's School in Adelaide. Local contributions to the amount of £550 met the Society's grant of £1100, and after the opening of the school many endeavors were made to release it from accumulating debt, and to render it self-supporting. Unhappily, a few were left to struggle against the difficulties that the interest of the many would have surmounted, and the school was closed and the premises

let to a gentleman keeping a private school, some years before Bishop Hale's resignation of the See.

The Native Mission, removed from Albany to Perth, was taken up by the Bishop at the request of the leading Church people of the Diocese, and placed under his sole charge. The present Mission House was built, and the boys and girls as they reached adult age sent to the more advanced institution at Poonindie, South Australia.

During Bishop Hale's episcopate, a change, slow in its operation, but most serious in its character, was made in the relation hitherto existing between the Church and the Colonial Government. In passing the Public Estimates through the Legislative Council, for 1872, the Ecclesiastical staff of the Church of England was removed from the Fixed Establishments, and the amount voted for Church purposes placed, with the grants for the Roman Catholic and Nonconformist Communions, under the general heading of "Ecclesiastical." The change seemed one of words, and excited little interest, but it involved the question of "Church and State," and within a day or two the Legislative Council passed a resolution affirming that this change in the Estimates was not to act prejudicially to the interest of existing Chaplains. One effect of this change was to rouse Churchmen to see clearly that when the vested interest of the Chaplains then in office shall have expired, the Church must find internal means of pecuniary support. To this awakening the institution of a Sustentation and Endowment Fund in the latter part of Bishop Hale's episcopate is due. The Society for Promoting Christian Knowledge and that for the Propagation of the Gospel agreed generously to contribute £200 each, annually, for a fixed period, to meet an annual contribution in the Colony of three times the amount.

Upon Bishop Hale's translation to Brisbane, Dr. Henry H. Parry, a graduate of Balliol College, Oxon, for several years coadjutor Bishop of Barbadoes, was appointed to the See of Perth. During the short period of his administration, the affairs of the Church have received a great impulse. The Clergy have been considerably increased in number; grants have been made by the Parent Church Societies at home to meet our necessities, and a foundation laid by the generosity of the Society for Promoting Christian Knowledge towards the training of a native Ministry. The Church serving as a Cathedral is now condemned as unworthy of the noble purposes which a Cathedral is designed to discharge, and the erection of a handsome Parish Church, a more suitable and the only available representative of what we want, has been resolved upon. Towards its erection between £5000 and £6000 have been raised, (part of it conditionally) in the Colony, while the Society for Promoting Christian Knowledge has given £500 to this object. The erection of the material edifice will be accompanied by measures for establishing a small staff of Clergy in the capital, who shall personally carry out to the outlying districts far and near the evidence of that central power and energy which the Mother Church is designed more silently to express.

In the furtherance of religious education, the disused Collegiate School-house is to be opened as a boarding house for the children of churchmen, feeding a secular High School established by the Government, while it honors and cherishes the first principles of our faith.

A scheme is also maturing by the Bishop for a dutiful, voluntary taxation of all classes of adult church-people in all parts of the diocese. Diligent

inquiries have also been set on foot as to the best method of teaching the native and half-caste population, so as to christianize and civilize them.

This sketch may suffice to show that, with grounds of humiliation within her communion, and with discouragements from without, God has hitherto helped her on her way.

**ROMAN CATHOLIC CHURCH.**—In the year 1843, on the petition of the few Roman Catholics residing in the Colony, Dr. Polding, Archbishop of Sydney, sent the Rev. J. Brady as his Vicar General, accompanied by the Rev. J. Joosteens. A grant of land having been obtained from the Government, the building of a church was commenced.

The Rev. J. Brady then proceeded to Rome, and on his giving an account of the new mission, the Congregation de Propaganda Fide recommended its erection into a new Diocese; and accordingly he was consecrated the first Bishop of Perth in May 1845. Desirous not only to supply the religious wants of the European population, but to civilize and christianize the Aborigines, he secured the assistance of Don Joseph Serra and Don Rosendo Salvado; also of some other religious persons from France, and some catechists, and nuns of the Institute of our Lady of Mercy for the education of children and the visitation of the sick. With those the Bishop arrived at Fremantle in January 1846, when schools for boys, girls, and infants were commenced by the good ladies the Sisters of Mercy, who gained the sympathy of many parents of other religious denominations, who gladly availed themselves of their services for the education of their children.

The Bishop distributed his clergy in four divisions; the first to King George's Sound; the second to Port

Essington, on the North coast, without the limits of the Colony; those two missions failed within two years; the third, composed of the two Benedictine Monks Don J. Serra and Don R. Salvado, with some catechists, went to the North viâ Toodyay, in search of a site for their mission, which, guided by some aborigines they fixed on a pool of the river Maura about 80 miles from Perth, to which they gave the name of New Norcia. The principal object of this mission was to civilize and christianize the natives; so, following the example of St. Benedict, the two monks, aided by some natives, began to clear and cultivate some 50 acres of land granted them by the Colonial Government, and thus laid the foundation of "The Great Benedictine Mission," dedicated to the civilization and christianization of the aborigines.

The mission at Perth meanwhile progressed gradually. A convent for the Sisters of Mercy, school rooms, and residence for some native girls and for boarders were built. A house in Fremantle was bought and converted into a little convent, and a room set apart for a chapel, which was served on Sundays by a priest from Perth.

In 1848 the Bishop sent the Rev. J. Serra, his Vicar General, to Europe, to solicit alms and procure more missionaries for New Norcia; and 1,250 acres of land adjoining the mission were purchased with the collections made by him, and sheep and cattle for the support of the mission were pastured there. Father Serra was consecrated Bishop Coadjutor to Dr. Brady, and returned with large sums of money, and with missionaries in the ship of war "Ferrolana," which the Spanish Government had commissioned for that purpose, arriving in Fremantle in December 1849. This personal and material reinforcement gave new impulse to the missions. Chapels

and schools were enlarged in Perth and Fremantle, and schools were established in York, Toodyay, and subsequently in other places. In 1849 Dr. Brady sent Don R. Salvado to Europe, who took with him two christian native boys; he also collected large sums of money, and a number of missionaries versed in agriculture and various trades, and having been consecrated Bishop of Port Essington or Victoria, returned to Perth in 1853, and went with his party to New Norcia.

In 1852 Bishop Brady retired to Ireland, and in 1853 Bishop Serra again visited Europe, and brought back with him in 1855 more missionaries, and four Sisters of St. Joseph from France, whom he placed in the convent at Fremantle. Until this time there were no resident priests out of Perth and Fremantle, but now the establishment of clergy, building of chapels, schools, &c., commenced in different districts on the grants of land made by the Government for that purpose. In 1856, availing himself of the lay brothers trained in building, carpentry, &c., Bishop Serra commenced the Presbytery at Fremantle, and the Episcopal residence in Perth, which was finished in 1859; the churches at Bunbury, Dardanup, and Toodyay, and the monastery at Subiaco, near Perth, were also built at that time, and the mission at New Norcia enlarged. In 1860 that mission was separated from the jurisdiction of the Bishop of Perth, of which we will speak again below.

In 1859 Bishop Serra left the Colony, and the Rev. Martin Griver became Administrator Apostolic of the Diocese. In 1860 the churches of Fremantle, Guildford, and York were commenced, and the first stone of the Cathedral at Perth was laid in 1863, funds having been provided by the councils of the Propagation of the Faith, and private gifts aided by the Imperial and Colonial



Governments; it was opened on 29th January, 1865; it had cost £3,975 exclusive of the altar, church articles, and furniture.

In 1870 a building having been erected at New Norcia, and a matron appointed, the native girls were removed from Perth to the mission. The experience of more than twenty years had shown the capability of the natives for receiving instruction. "At the annual examinations, some of the native girls exhibited as much proficiency both in religious and secular knowledge as some of the most advanced town children." But after some years five or six died, and others having married young men educated at the mission, the removal of the girls there was determined upon.

The Sisters of Mercy and of St. Joseph had from the first taken charge of some few destitute children. It was now proposed that those of their faith should be taken from the Poor House, and placed under their charge, the Government paying for their maintenance what they would have cost in the Poor House; and to this, in 1868, Governor Hampton consented. This was the commencement of the Orphanage; the girls were taken to the convent, and the boys to the old monastery at Subiaco. In these they are trained for service, and with such happy results that the demand from settlers of all denominations is greatly in excess of the supply. As the Government allowance is only eightpence a head per diem, these orphanages have to depend greatly upon charitable contributions.

The Very Rev. Martin Griver, Apostolic Administrator of Perth, was consecrated Bishop of Tloa, *in partibus*, in 1869, and on the death of Dr. Brady succeeded to the See of Perth, which Diocese is

co-extensive with the Colony. The distribution of churches and clergy in the Colony is at present (1877):

The Cathedral Church, Perth, the Right Rev. Dr. Griver, Bishop. The Very Rev. M. Gibney, Vicar General.

St. Patrick's Church, Fremantle, Rev. J. O'Reily and Rev. B. Delaney.

Guildford, Rev. J. Dooley.

York, (not finished) Rev. P. J. Gibney.

Newcastle, Rev. Canon Martelli.

Northam, (not finished) do. (monthly)

Irishtown, do. do.

Bunbury, Rev. H. Brady.

Dardanup, do. (periodically)

Vasse, do. do.

Geraldton, Very Rev. Archd. Lecaille.

Northampton, do. (periodically)

Greenough, do. do.

Albany, (not finished) Rev. F. Mateu, who also visits Kojonup.

The settlements in the Melbourne District, Victoria Plains, subject to the jurisdiction of the Bishop of Perth, are visited by the priests from the Benedictine Mission of New Norcia, and sometimes by the priests of the Diocese.

The religious orders are:—

The Sisters of Mercy in Perth (13) have various schools, attended by 350 children. Three members of their order have also the charge of a boys' orphanage at Subiaco, three miles to the west of Perth, 47 boys; eightpence a day is paid by Government towards those whose admission it authorizes; they have also a branch house

and school at York, 60 miles to the east of Perth.

The Sisters of St. Joseph are ten in number, but expect daily others of the order, to establish branch houses at Albany and Geraldton. The convent and schools of the order are at Fremantle.

There are schools in all the principal settlements under the control of the church, the Government paying the sum of £1 15s. for each scholar on the average attendance of 180 days in the year.

Untoward circumstances had nearly brought the mission work at New Norcia to a standstill, until the return of Bishop Salvado in 1853. In that year he built a chapel 40 feet by 17; three cottages for native families 24 feet by 15; a workshop; 50 acres of land was cleared, and 2,600 sheep placed on the run.

In 1854 a stone building was erected for a granary and cornmill.

In 1871 a cruciform chapel, 102 feet long by 20 wide; a pro-monastery 120 feet by 20, 3 stories high; two wooden dwelling houses 100 feet by 18 for native boys and girls; seven stone and brick cottages 30 feet by 17 with two rooms each, for married natives; work shops, and out-houses, and a stone cottage for the police, were built, with a barn and stable 100 feet by 20; 300 acres of land had been cleared, 200 of which were under cultivation, yielding 3,000 bushels of wheat and barley, and 15 tons of hay; 3 acres were planted with vines, from which 200 gallons of good wine was made; there was a large and productive garden, and about 1 ton of tobacco was produced. The number of aborigines was 50.

The Community of New Norcia Mission, West Australia, September, 1877, consisted of:—

Benedictine Brothers: Spaniards ...	64	
Italians ...	3	
	—	67
Married civilized aboriginals ...	34	
Their children ... ..	14	
Native boys ... ..	14	
Native girls ... ..	16	
	—	78
European servants, shepherds, saw- yers, splitters, brickmakers, &c.	30	
	—	30
		<hr/>
Total ... ..	175	<hr/>

WESLEYANS.—The Wesleyan communion in Western Australia had its commencement from the arrival of the barque “Tranby,” which arrived in Gage’s Roads on the 3rd February, 1830, with members of the families of Hardeys of Barrow, in Lincolnshire, and the Clarksons of Holme House, in the East Riding of Yorkshire, who brought with them servants and farm laborers, and farming stock and implements. Other immigrants accompanied them. The Peninsula farm was at that time a Government reserve; but Governor Stirling, desiring to have a number of practical farmers located near the capital, made a grant of the reserve to the passengers of the “Tranby,” to be divided among themselves in due proportions. Of this the Hardeys and Clarksons had the largest share, being allowed to claim on account of those whose passage they had paid for. A committee was appointed, and under its direction the land was surveyed by Mr. G. Johnson and allotted.

The late Mr. Joseph Hardey was an accredited local preacher of the Wesleyan denomination in England, and on his arrival conducted the first Wesleyan service held in the Colony, at Fremantle. At the Peninsula a regular Sabbath service was maintained; Perth and Guildford were occasionally visited. Mr. Hardey conducted the first public Wesleyan service in Perth, in the open air under a mahogany tree. The father of Messrs. Clarkson, also a local preacher, came out about two years after them, and at that time a regular prayer meeting was established in Perth. Subsequently a room was erected and set apart for religious services, and to be used as a Sunday school, Mr. J. Inkpen having given a portion of his allotment for the purpose; and this formed the nucleus of the present Wesleyan trust property in Perth. On application being made to the Wesleyan Missionary Society, the Rev. John Smithies was sent out, who arrived in 1840. In 1841 another chapel was erected, and the first was then occupied as a schoolroom. A chapel had also been built at Fremantle—there was also a congregation assembling at York—the Sunday schools at Perth and Fremantle were flourishing. In 1852 Mr. Smithies was succeeded by the Rev. W. Lowe.

The present Wesley Church, Perth, was built in 1869-70, at a cost of over £5,000, including the organ. In York, Geraldton, and Albany, ministers are now stationed and chapels built; Perth and York have each a manse, and one is soon to be erected at Albany.

The statistics of the Wesleyan community, according to returns for 1877, are:—Ministers 4; local preachers, 5; churches and chapels, 10; manses, 2; sabbath schools, 8; scholars, 625; teachers, 69.

The church members and communicants are in number 147, but the total number of attendants is estimated at 1,870.

The cost of church property held by the Wesleyan body in the Colony is estimated as:—

For churches and chapels	...	£8,800
Schoolhall and library	...	2,000
Manses ... ..	...	1,200
		<hr/>
		£12,000

The Perth Wesleyan Native Mission was established in 1841 by the Rev. John Smithies; in it native children of both sexes were received, clothed, boarded, and taught to read and write; the girls were well instructed in various household duties; the boys were taught gardening and farming. The institution was placed under the superintendence of Mr. F. F. Armstrong, Native Interpreter, who had about 100 children under his care; of those a large number learned to read and write; all were quick in receiving instruction; their memories were so good as often to surprise their teachers, and they sang sweetly; five hours of each week day were devoted to religious and secular teaching. Children were received at an early age, and when old enough were sent out to service in various parts of Perth, returning each day to school. All admitted were children of aborigines.

A serious mortality prevailed among the children, and the school having been removed to Wanneroo as the more suitable locality, it continued, to the great discouragement of the promoters. The native parents, in consequence, refused to give up any more of their children as they said "to death"; medical men were of

opinion that this was caused by the European habits of life in which they were educated.

The school was afterwards removed to York, and shortly after discontinued, after it had lasted fourteen years, and a sum of more than £12,000 had been expended upon it,—a large portion of which was contributed by the Wesleyan Missionary Society in London.

CONGREGATIONALISTS.—The Congregationalists have three churches in Western Australia, viz.:—Perth, Fremantle, and Bunbury.

The church now worshipping in Trinity Chapel, Perth, was formed in the year 1847: its present officers are the Rev. Thomas G. Rose, Pastor, and Messrs. H. Trigg and E. Saw, Deacons. It embraces in its membership the Paedo-Baptist, and Baptist Congregationalists, and also Presbyterians. Baptism is administered to children and adults by sprinkling, and to the latter by immersion, on personal profession of faith in the Lord Jesus Christ, if desired. Members and communicants of other churches are cordially welcomed to the communion of the Lord's Supper, which is celebrated the first Sunday of every month.

There is a Sunday school in connection with the church, and also Bible classes both for young men and young women.

The services of the church are:—On Sunday morning at 11 o'clock; Evening at 7 o'clock; Thursday evening, lecture in winter at 7 o'clock, in summer at 7.30.

In accordance with Congregational principles, all the expenses connected with the maintenance of public worship, and the support of the various institutions of

the church, are entirely thrown upon the freewill offerings of the people. The revenue of the church is derived from pew rents, and the weekly offertory, and occasional collections.

Within the last thirteen years, a new chapel, a spacious schoolroom, and a commodious manse have been built at a cost of over £4,000. The chapel will hold three hundred, and there are two hundred children in the Sunday school.

In the year 1852 a meeting, consisting of six persons, was held in a private house at Fremantle, to promote the establishment of an Independent or Congregational Society in that town. The Rev. Jos. Leonard and Mr. H. Trigg, of Perth, were requested to apply to the Congregational Missionary Society for a minister; and subscriptions having been obtained, the first stone of a chapel was laid September 7th, 1852. The building was not, however, completed until June 1854, but the Rev. J. Johnston, formerly a missionary at Tahiti, who was sent by the Society, arrived in June 1853, and commenced Divine Service in his own house, and re-established a Sunday school.

In 1857 the chapel was found to be too small for the congregation, and was accordingly enlarged.

In 1862 a manse was erected for the minister's residence; the cost of the chapel and manse was £1,300. As the congregation was composed of members of various religious denominations, the practice of open communion was observed until 1869, when it was deemed desirable to form the communicants into a church on the Congregational model; a basis of union was adopted by twenty-six members, and Mr. G. B. Humble was chosen Deacon.



In 1875 the chapel being found too small, the foundation stone of a new building was laid on Christmas Day, and it was opened for service on Sunday, July 22nd, 1877. It is of gothic design, and accommodates four hundred persons on the ground, and is sufficiently lofty to admit of galleries being built when needed; it has been designated the "Johnston Memorial Church." The total cost of the building was £1,600.

The number of families in this congregation is at the present time 70—of children in the sunday school 260, with a staff of 26 teachers. Divine Service is held on Sundays at 11 a.m., and 7 p.m.; Thursday evenings at 7.30 p.m.

A young mens' Mutual Improvement Society holds its meetings every Wednesday evening, and a similar society for young women every Monday evening.

At Australind about thirty years ago a small Congregational Society was formed by some who had been in the habit of meeting for religious worship in the house of the late Mr. John Allnutt; and a cottage was purchased and converted into a chapel, where Divine Service was held every Sunday morning by Mr. Allnutt, and a Sunday school established. Having been invited to hold Divine Service at Bunbury, the workshop of Mr. Gibbs was used for that purpose. At length a chapel was erected, and a church in accordance with Congregational principles was formed in Bunbury, of which Mr. Allnutt was acting pastor whilst he lived. After his death the Colonial Missionary Society sent out the Rev. Andrew Buchanan, during whose pastorate of eight years, the chapel at Bunbury was enlarged, and a manse built for the minister's residence; a small chapel was erected at Busselton, and another at Quindalup.

Mr. Buchanan having accepted a pastoral charge in South Australia, Mr. Gibbs has conducted Divine Service at Bunbury. It is hoped that Mr. Buchanan's place will be supplied ere long by the Colonial Missionary Society.

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#### LAND.

ALTHOUGH the Land Regulations now in force revoke all those previously made, yet, as this alteration does not affect contracts, or engagements made under them, and as the various changes in the laws for the sale or lease of Crown Lands (all land not alienated by grant or purchase belonging to the Crown) have had much influence on the prosperity of the Colony, it may be well to give a brief account of them, and of the general results which they have produced.

The original grants of 453,000 acres to three persons, as already noted, were made under circular A, issued in 1829; but by circular B, which superseded it immediately, grants were made at the rate of 40 acres of freehold land for labour or material to the estimated value of £3 introduced into the Colony. 52,500 acres were thus allotted among 68 families, subject to conditional improvement, or forfeiture. By circular C, which applied to all immigrants arriving after December, 1830, one acre was granted for every three shillings of capital invested, and 100 acres for every servant introduced, subject to reversion if not improved; but, in 1831, circular D appeared, doing away with all free grants,

excepting to officers retiring from the army or navy for the purpose of emigration, and offering land at an upset price of five shillings an acre. The result of such sales by auction was very inconsiderable. In 1835, to reduce the area of occupied lands, and as some lands had become liable to forfeiture from the persons to whom they had been granted not having been able to complete the necessary improvements, remission on the purchase of fee simple lands, or a grant in fee of three acres for every 10 surrendered were offered, and, accordingly, 316,749 acres were given up, and titles to 95,025 acres obtained in exchange. In 1841 the price of land was raised to 12 shillings and again to £1 an acre, to be sold in blocks of not less than 160 acres, with right of commonage; and this price was maintained by the Imperial land sales Act (5 and 6 Vict., c. 56) by which all lands were divided into town, suburban, or country, the latter to be sold in lots of not less than 160 or more than 640 acres, and those more distant from settlement by auction at an upset price.

In 1850 division into Classes was first made with respect to leased lands for pasture or tillage, Class A including all lands on the sea coast, or on rivers, or about towns, and Class B all other lands. Tillage Leases might be granted in either division for 8 years, renewable for 8 years, with right of pre-emption, and of payment for improvements on relinquishing a lease, in lots of not less than 10,000 acres at £5, or 10 shillings for 1000 acres. Under this arrangement 42,000 acres were purchased and 400,000 leased.

In 1860 the price was reduced to 10 shillings an acre, and the least quantity purchasable to 40 acres; and again in 1864, new regulations were proclaimed, and, in 1865, special regulations for mining leases. Crown

Lands were now divided into town, suburban, country, and mineral. The two former might be sold by auction, at upset prices to be regulated by the Governor; country lands at fixed price and limit as to quantity.

Pastoral Lands were classed A, B, and C. Those under Class A could only be let for one year, under depasturing licenses, at the annual rent of two shillings for each hundred acres; but holders of land within a Class A license might run one head of great stock for every 10 acres. Class B lands might be leased for 8 years, with preferable claim to renewal, in lots of not more than 10,000 acres, but any number of lots to one person at £5 yearly rent, subject to the same depasturing rights as in Class A; and tillage leases, of not more than 320 acres, but any number to any one person, at one shilling an acre.

There was a further division made of Northern and Eastern districts, the former to the North of the Murchison River, and the latter from 30° South latitude to the coast, and between the meridians of 121 and 129 degrees East. In these, Class A included all land within three miles of the sea coast, and Class C the remainder. The lands in Class A were for annual license, at a rent of five shillings a year for every 1000 acres for the first four years, and of 10 shillings for the next four years; those in Class C might have the lease extended to 8 years on the same conditions, by paying a fee of £5 at the commencement of the lease.

Mineral lands were those known, or supposed, to contain minerals, and might be sold, on application, in lots of not less than 80 acres each at £3 an acre, payable in three years, and in three instalments. Mining Licenses might be granted for one year subject to renewal, at the rate of two shillings the first year, and four shillings the

second year for each acre. The holder of a mining license, or other holder on approved application, might obtain a mining lease for any period, not exceeding 10 years, at an annual rent of 8 shillings an acre.

The last great change in the Land Regulations was commenced in 1871. To this some amendments were made in 1873, also in 1874, and these were supplemented in 1875 by further regulations as to free grants to immigrants and by timber licenses, an epitome of which will be found at the end of this section. The results have been most satisfactory, as the following comparison will show. By the Census papers of 1870 it appears that the occupied lands of the Colony were thus distributed to that year:—

		GRANTS.	ACRES.
In occupancy	...	17	511 $\frac{1}{2}$
In fee simple	...	443	1,200,132 $\frac{1}{2}$
In do. by purchase, 1868-9		2,823	253,464 $\frac{1}{4}$
	Total	3,283	1,454,108 $\frac{1}{4}$
Lands held under lease from the Crown:—			
Class A	... ..		5,476,624
Class B	... ..		4,745,918
Class C	... ..		689,400
Tillage	... ..		89,108
North (free)	... ..		4,059,000
East (free)	... ..		100,000
Mining	... ..		260
			15,160,310

In the year 1870 the land sold amounted to 358,875 acres, or 105,411 acres more than in the years 1868-9 together, and the amount of acres held in fee simple had increased to

The leases and licenses were distributed as follows:—

		GRANTS.	ACRES.
B	... ..	13	130,816
T	... ..	453	50,370
1	... ..	1,936	12,334,706
2	... ..	762	4,922,550
3	{ A ... ..	38	434,324
	{ C ... ..	363	4,620,903
Poison lands	{ 108 Reg. .	7	30,968
	{ 110 „	15	202,758
Special occupation leases		53	5,848
Do. licenses	... ..	467	55,108
Mining leases	... ..	10	640
Do. licenses	... ..	28	5,580
Giving a total of ... ..			22,794,571

The amount received for the sale of land was in 1869 £8412; in 1876 £8460; but the Revenue derived from licenses, leases, &c., had increased from £15,077 to £23,706, or by more than one-half as much again, and this without any large increase to the population from immigration, the increase during the year 1876 having been only 612 persons. It is obvious that any large increase of land sales must be expected only from the introduction of persons with capital.

From the report of the Commissioner of Crown Lands for 1876 it appears that the proceeds of land sales were less than in 1875 by £2,444 17s. 9d., but that from rents there was an increase of £1,326 6s. 11d., and he makes the following pertinent remarks on the operation of the present law:—

“The facility by which land is acquired by paying a portion of the redemption money annually, necessarily affects direct sales. A reference to the returns with

this shows that 111,226 acres were, at the end of 1876, held by tillage lease holders, and special occupiers; none of the redemption money for these lands is credited to the sales, but classed as rent charges. The accruing claims of Pensioners, Volunteers, and Immigrants already threaten to amount to 70,000 acres (which at ten shillings an acre is £35,000,) disposable in lots of 20 to 50 acres and upwards. When I mass together the whole of these, and take certain other claims for scrip which are outstanding, the large area of nearly 200,000 acres of the best of the Crown Lands appears pledged in the future. I am an advocate for the policy that if bonâ fide settlement on the land is obtained, direct revenue from the sale is not material, and if the result of this liberality in disposing of the public lands is such as the designers meditated, well and good; but I cannot conceal from myself the fact that when all these land orders and occupation certificates are going into the hands of the public, there will be something like a scramble for the pick of the country, and I fear the chief benefit may be to those of the runholders whose means and carefulness enable them to acquire large quantities of ground; and after they have simply complied with the conditions on which the grants are issued, will then be able to hold the country locked up in their hands. How long the present system shall be maintained, will be a question ere long to be considered. The cost of locating these selectors must be a heavy expense, and a considerable portion of the actual receipts from Crown Lands will have to be appropriated, in order to provide proper surveys of the plots and blocks for which no money is paid in return."

**TRANSFER OF LAND.**—The "Torrens System" was introduced into this Colony by an Act which became law in

1875, and which is as nearly as possible a reprint of that which is in force in Victoria. Land is brought under its operation in two ways, involuntarily and voluntarily; that is to say, all lands granted out by the Crown after July, 1875, are *ipso facto* amenable to its provisions, while lands already alienated are entitled to its advantages on the application of persons who are able to show a good title. It is not a little singular that, though all England was under such a system in the days of the Conqueror, it should have fallen into disuse, and that it should not have been adopted on the foundation of a Colony.

The advantages resulting from this Act are:—

- 1.—That the conveyance of land is reduced to the simplest and cheapest form.
- 2.—No investigation of title is necessary on the part of a purchaser or mortgagee, but the certificate speaks for itself and discloses any subsisting encumbrances.
- 3.—The Act of registration passes the property, thus preventing fraudulent conveyances; and the forms of transfer, mortgage, &c., are very concise.
- 4.—Instead of having a heap of cumbrous documents, and those not readily understood, the title is concentrated into one plain and portable compass, while its counterpart is in the Registry and of official record.

The expense of bringing land under its provisions is:—

- 1.—An application fee of about  $\frac{1}{2}$  per cent. on the value of the property.
- 2.—A contribution to the assurance fund of one half-penny in the pound.
- 3.—The costs of advertisement.



*The following information for Emigrants and Others wishing to select Land in Western Australia has been arranged by the Commissioner of Crown Lands.*

THE Crown Lands are specially classed as Town, Suburban, Rural, and Mineral.

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### Town and Suburban Lands.

Town and Suburban Lands are offered by Public Auction at an upset price determined by the Commissioner of Crown Lands and approved by the Governor in Council, and are put up either by order of the Commissioner, or upon the application of any one who, at the time of making the application, deposits one-tenth of the upset price; this, if no advance on the upset price be made, is considered as part payment for the purchase. Where lands are put up by the order of the Commissioner, the one-tenth of the whole purchase money has to be paid on the fall of the hammer. In either case the balance must be paid within thirty days after the sale; in default of this, the person to whom the land has been knocked down forfeits the deposit money and all title to the land. If any lands put up are not sold, they may be purchased at any time afterwards at the upset price, without going to auction. Every auction sale of land has to be notified in the *Government Gazette* at least twice before the day of sale. The lands to be offered, and the upset prices at which they are to be offered, then and there are stated.

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### Rural Lands.

Rural Lands are sold at ten shillings an acre, and the smallest quantity is forty acres; but any plot that is so shut in as not to contain forty acres may be sold, at a price to be fixed by the Governor in Council.

After payment of the purchase-money and fulfilment of conditions, a Permit to Occupy is issued by the Commissioner, which has to be given up when the Crown Grant is received.

A breadth of not more than one-fourth of the depth of any selection is allowed on a frontage line, unless in a special case by

the express permission of the Commissioner. A frontage line means the boundary of a road, river, public reserve, sea-coast, permanent stream or lake. When from any particular cause this rule cannot be accurately observed, the form is determined as nearly as circumstances allow, but the depth must not be more than three times the breadth in any selection, which must also be in one block, and as a rule of a rectangular shape; and if found on survey to differ in any respect from what is intended by a purchaser, the Government will not be responsible for any loss or inconvenience; nor will the purchase money be returned, unless the whole extent of land in the selected locality falls short of the quantity paid for, and then only so much as exceeds the price of the land to be conveyed.

Lands for special occupation may be taken up in sections of not less than one hundred acres, nor more than five hundred acres, at ten shillings an acre, upon conditions of deferred payments and improvements. The conditions are these, given in the words of the Regulations:—

1. The annual fee to be paid yearly, in advance: the first payment to be made at the time of the granting the application, and to be at the rate of one shilling an acre, or fractional part of an acre.
2. The licensee shall not, during the currency of the license, sub-let, assign, or transfer his or her right, title, and interest therein, except by permission of the Commissioner of Crown Lands, and on payment of a fee of ten shillings; and the license shall become absolutely void on the assignment of license, except as above provided.
3. The licensee shall, within the term of his license, or before he can claim the grant either by payment or otherwise, enclose the land described in his license with a good and substantial fence, and have cleared and cropped at least one-fourth of the whole area.
4. If the licensee shall by himself, his tenant, or agent, during the period of three years have occupied the allotment for not less than two years and a-half, and provided and made the improvements of the nature in the previous condition mentioned, and shall prove to the satisfaction of the Commissioner of Crown Lands, by such evidence as may be required, that he has complied with all the conditions of the said license, he shall be entitled, at any time within thirty days after three years from the commencement of the license, to demand and obtain a Crown Grant, upon the payment of seven shillings for each acre or fractional part of an acre; or failing compliance with the above conditions he may obtain a lease of the said allotment; and every such lease shall be for a term of seven years, at a yearly rental (payable in advance) of

one shilling for every acre or fractional part of an acre so demised, which shall contain the usual covenant for the payment of rent, and a condition for re-entry for non-payment thereof; and upon the payment of the last sum due on account of the rent so reserved, or at any time during the term, upon payment of the difference between the amount of rent actually paid—such being calculated at the rate of one shilling a year per acre—and the entire sum of ten shillings for each acre, the lessee or his representatives, if he or they have fulfilled all the foregoing provisions in regard to improvements, shall be entitled to a grant in fee of the lands leased; and every such grant shall be subject to such covenants, conditions, exceptions, or reservations as the Governor in Council may direct; Provided that in the case of the death of the licensee during the currency of such license, it shall not be obligatory on the executors or administrators to comply with the said conditions of occupation.

Common Lands may be set apart for the benefit of the settlers, collectively and individually.

For the encouragement of any one planting vineyards, orchards, or gardens, the Governor has power to sell in blocks of not less than ten acres, at ten shillings an acre.

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### Mineral Lands.

Any person, on application to the Commissioner of Crown Lands, or to the Collector of Revenue of the District, may, on approval, and on payment of a registration fee of two shillings and sixpence, obtain a license to search (for a period of two years) for minerals in any Crown Lands excepting Town, Suburban, or lands let under Tillage Lease, Special Occupation lease or license, and except gardens, stockyards, and buildings on runs: but no mining license or lease shall be granted within the limits of an occupied Tillage Lease, except to the lessee of such Tillage Lease, or to others with his written consent.

A person registered as above, on defining a block of not more than two hundred acres, describing the position of a post placed in centre of such block, and on payment of a fee of £1, may obtain a right to mine over such land for a period of twelve months, renewable for a further period of twelve months, on payment of a fee of £1. During the currency of mining right, lessee shall be entitled to remove not more than five tons of ore for purpose of testing, but no person shall hold more than one mining right at the same time. Leases of portions of land not exceeding two hundred acres nor less than twenty acres, will be granted for purposes of mining for any metal or mineral excepting precious metals, for term of seven years; the rent to be five shillings an acre or fractional part of an acre.

Any person or company holding a mining license or lease, who shall show to the satisfaction of the Commissioner of Crown Lands that he or they have erected on the land held under such lease or license all the plant, buildings, and machinery necessary for the due and proper working of the mine, or who shall enter into a bond with sureties to put up such permanent buildings and machinery within a certain time, shall be entitled to a grant from the Crown on payment of three pounds for each acre; payment may be made, if desired, in three annual instalments of one pound an acre; but the Crown Grant will in no case be issued until the whole payment be completed and the fees for grant and registration paid. The quantity of land to be so sold and granted shall not be less than twenty acres, but in case such a quantity does not exist the price at which the plot may be sold shall be fixed by the Commissioner of Crown Lands and approved by the Governor in Council, provided the same be not less than three pounds an acre.

If the lease of a mine be forfeited or not renewed, the lessee may remove or otherwise dispose of all machinery, improvements, and minerals brought to the surface within three months of notice being given by Government, in default of which the same will be liable to forfeiture. If any lease shall remain unworked and undeveloped for a period of twelve months, it will be liable to forfeiture. Rent has to be paid on the first day of January in each year, in advance; and no less than one year's rent shall be received. Every lease issued during the year will be dated from the first January preceding. Lessees may determine their leases by giving three months' notice in writing, but no rent will be in any case refunded. Applications to lease mineral lots must be addressed to the Commissioner of Crown Lands, and accompanied by a receipt showing that the rent thereupon has been paid to the Treasury on account. Every application for a lease must be in the form provided, and contain a full description and boundaries of the land to be included in the lease asked for. Every lease shall be in the form of a parallelogram, but in no case shall the length be more than three times the breadth. Annual returns of ores raised must be furnished to the Commissioner of Crown Lands. Nothing in the Regulations prevents the lessee from transferring or sub-letting, on approval of Commissioner of Crown Lands, and on payment of a fee of ten shillings. The lessee of a mining lease shall pay to the lessee of any pastoral lease full compensation, according to agreement or approved valuation, for all lawful improvements which may have been made by such last-mentioned lessee on any portion of his lease that may be thus absorbed for mining purposes. In no case will the holder of a mining lease be entitled to any compensation for improvements, or for outlay of any description, after the abandonment or forfeiture of his holding. The lands available for selection as mineral lands, or for mining leases, are all the waste lands of the Crown open to general selection for purchase, lease, or license; and all lands under pastoral lease or license except such homesteads as may have been or which may hereafter be

selected under authority of any existing Regulations. All rents chargeable for mining leases are payable to the Collector or to a Sub-Collector of Revenue, within 15 days next after the established rent day named in any such lease; failing which payment, a lease will be absolutely and indefeasibly forfeited, unless within 30 days after such rent day the lessee duly pays the full amount of the annual rent, together with an additional sum equal to one-half of the same. But the Governor in Council, on the recommendation of the Commissioner of Crown Lands, may cancel any such forfeiture, on sufficient grounds shown, and on the lessee duly paying, within 60 days next after such rent day, a sum equal to twice the established rent for the current year. The residue of any unexpired term for which a forfeited or abandoned mining lease may have been granted shall not afterwards be disposed of, unless the applicant for the same shall duly pay, in manner aforesaid, such sum in addition to the established rent as the Governor may direct. All deposits and instalments which may have been paid on account of mineral lands will be forfeited, together with all claims to the land, if by any default of an applicant for the same a lease shall not be duly completed. There is no right of way or thoroughfare through or over any enclosed portion of mineral land leased under the Regulations except by recognized roads, or for Government purposes. In all other respects the rules for the sale, letting, and disposal of the waste lands of the Crown in Western Australia apply to all lands therein which may be required for mineral purposes. Nothing in the Regulations contained are deemed to apply to auriferous lands. Before any mineral lands are abandoned or forfeited, it is obligatory on the occupant to inclose, by a substantial fence, all shafts and dangerous cuttings made by him during his occupancy.

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### Pastoral Lands.

The Pastoral Lands are divided into two classes, called 1st Class and 2nd Class.

First Class lands comprehend all Crown Lands within the following boundaries, viz:—

On the *South* and *West* by the sea coast, on the *North* by the Murchison River, and on the *East* by lines from the summit of Bompas Range, on the great *North* bend of the said River through the summit of Wongan Hill and Mount Stirling to the mouth of the Fitzgerald River on the South Coast.

The Second Class comprehends all other lands in the Colony open for lease.

In First Class Pastoral Land any person may obtain an annual license to occupy for pastoral purposes, in blocks not less than three thousand acres, and a lease for fourteen years, to occupy for

such purposes, in blocks of not less than ten thousand acres. All second class pastoral lands now unoccupied shall be open for leasing for a term not exceeding fourteen years in blocks of not less than twenty thousand acres, at a rental of five shillings for the first seven years and ten shillings for the remainder of the lease for each thousand acres or part of a thousand acres contained therein.

A lessee in the occupation of his lease is entitled to claim from the purchaser of any portion of it the fair value of any lawful improvements made by him on such portion (these may be either buildings, wells, tanks, dams, cultivation, grass paddocks, fencing, or any beneficial work done on the run to increase its productiveness and powers of carrying stock); which, however, shall in no case be estimated at more than the actual outlay made by the lessee. The valuation is made by one competent person appointed by the purchaser and one by the lessee. Any difference of opinion between such valuers to be determined by an umpire to be appointed by themselves, or in case they cannot agree in such appointment, by the Governor.

The occupier of a depasturing lease has the right to purchase in the proportion of ten acres to each one thousand acres leased; each lot to contain one hundred acres; improvements have to be made in each allotment to the extent of twenty-five pounds declared value: to be redeemed in five years, at five shillings an acre. A pasturage license or lease entitles the holder to the exclusive right of pasturage over the land on the terms stated. A license or lease gives no right to the soil or to the timber, and immediately determines over any land reserved, sold, or otherwise disposed of under these Regulations. The Commissioner of Crown Lands is authorized to insert in any lease such conditions and clauses of forfeiture as may seem to him to be required for the public interest; as also a clause permitting the lessee to cut such timber as may be required for domestic uses, for the construction of buildings, fences, stock-yards, or other improvements on the land, but not for sale or removal off the land.

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### Forest Lands.

Any Resident Magistrate can issue the required License to cut timber after payment in advance of the fees. The fees chargeable for Licenses to cut timber are:—For any quantity not exceeding 640 acres of Land, £20 per annum; for any quantity exceeding 640 and not exceeding 1280, £40 per annum; or 10s. per month for each pair of Sawyers; to cut Sandal Wood, 2s. 6d. per month for each man. No license shall be issued for a period less than one nor more than twelve months. The names of the parties applying for a license are inserted therein, and no license is transferable.

The Governor or Officer Administering the Government, with the advice of the Executive Council, may grant Special Licenses to cut and remove timber from the Waste Lands of the Crown for any period not exceeding 14 years, anything to the contrary notwithstanding in the existing Land Regulations contained; and such licenses will be subject to such rents, fees, conditions, and reservations as the Governor in Council may prescribe, but shall not entitle the licensees to any right of renewal at the expiration of the term.

**LIMITS OF PASTORAL LANDS 1871-5.—Altered in present Regulations.**

The Pastoral Lands are divided into three classes, called 1st Class, 2nd Class, and 3rd Class.

First Class Lands comprehend all Pastoral Lands within the following boundaries, with the exception of land set apart for special occupation purposes, viz. :—

On the South by the sea coast, to the mouth of the Fitzgerald River, thence by a line running in a North-westerly direction through Mount Stirling to the summit of Wongan Hills, thence by a North line of about thirty-four miles in length, thence by a West line, through a spot twenty miles North from the centre of Dandaraga Spring, thence by a North line to a spot five miles East from the Coal Seam near the Irwin River, thence by a West line five miles in length to the said Coal Seam, and thence by a direct line to the great Southern bend of the Murchison River, next below the Geraldine Mine; on the North by the said River downwards to the sea coast; and on the West by the sea coast between the South and North boundaries above described.

The Second Class comprehends all other lands in the Colony open for lease, except those in Class Three.

The Third Class comprehends all the lands that are at present comprised within the North District,—bounded on the West and North by the sea coast, including the islands adjacent to it; and on the South by the River Murchison, and by a true East line through the summit of Mount Murchison,—and the East District, comprised between the longitudes 121 and 129 degrees East, and between the latitude 30 degrees South and the South coast, including the adjacent islands.

First Class lands are let at £1 per 1000 acres per annum.

Second Class lands are let at 10s. per 1000 acres per annum.

**FREE GRANTS OF LAND AND RETURN OF PASSAGE MONEY TO IMMIGRANTS.—Omitted from present Regulations.**

Each adult Immigrant of the laboring classes introduced into the Colony with the sanction, or wholly or partially at the expense of the Imperial or Colonial Government, after two years' residence therein, may, with the permission of the Governor or Officer Administering the Government, select from any unimproved Rural Crown Lands open to selection, a lot not exceeding fifty acres; and, subject to the same conditions, each such Immigrant between the ages of sixteen and twenty-one may select a lot not exceeding twenty-five acres of such land; Provided that no greater quantity of land than 150 acres in all be allotted under these Regulations to any one family. Such lots, when selected, are to be allotted in the first instance to such Immigrants by Occupation Certificates, which may be exchanged for grants in fee simple at the expiration of three years from the date of such Certificate respectively, on proof to the satisfaction of the Commissioner of Crown Lands that the whole of the land so allotted shall then have been properly fenced in, and that at least one-fourth of it is under cultivation. Provided that if at the end of the said term of three years the above conditions, or any of them, be not fulfilled, the lot in respect of which default shall have been made shall revert to the Crown with any improvements that may be thereon.

An immigrant not introduced into the Colony at Government expense who can prove that he or she has fulfilled the above conditions with regard to improvement, shall be entitled to have remitted to him or her an amount equal to the passage money, but not to exceed £15 a-head, paid by such immigrant on account of himself or herself, family, and servants, to be accounted for as paid, either as rent or otherwise, as the case may be, if such immigrant selects within lands set apart for special occupation, within a period of six months from date of arrival in the Colony, and shall immediately occupy such lands after selection in accordance with the terms of these Regulations.

## APPENDIX A.

*Extracted from Notes on the Timber of the Eucalyptus Marginata, locally known as Jarrah, or Swan River Mahogany, appended to Catalogue of Exhibits at Paris Exhibition, 1878.*

“Jarrah or Swan River Mahogany is a local name. The tree is not in any way connected with the genus *Swietenia*, nor does it resemble it in growth. The term Mahogany has been accepted from the wood in some instances bearing a resemblance to that from Honduras and the neighborhood. Although it is one of the Eucalypti peculiar to the Australian Continent, yet this variety is alone to be found in the South-western Districts of the Western Colony. The finest trees grow on the summit of the granite and ironstone ranges, south of Perth, the Capital; those grown on the sandy plains nearer the sea yield a timber of inferior quality, twisted and short in the grain, and not very durable. The forests are of considerable extent, full of noble looking trees springing from among rocky boulders to a height, clear of branches, of from 50 to 60 feet, straight as a mast, and having a girth of from 10 to 20 feet; the foliage evergreen, and just after the hot season covered with large bunches of white sweet scented flowers. When the girth stated is exceeded, the trees generally exhibit signs of decay; but this, the writer has observed, arises from the oldest trees being unable to resist the action of bush fires, which sweep through the forests nearly every year, and from the effects of which only the younger growth can recover.”

“Undoubted authority, to be found in the records of the Colony, has declared that Jarrah Timber cannot be equalled, and is, under certain conditions, indestructible. Following are a few extracts: The late Governor of the Colony, His Excellency Sir F. Aloysius Weld, K.C.M.G., in a communication to Earl Kimberley, then Secretary of State for the Colonies, on the subject of Jarrah for marine purposes, says, “that after strict enquiry and the collection of a vast amount of information from sources likely to set at rest all doubts, he takes on himself the responsibility of its introduction to ‘Lloyds.’” The Committee of Lloyds’, on Governor Weld’s representations, informed Earl Kimberley that they had “determined to rank this “timber with those named in line No. 3, Table A, attached to the “Society’s Rules for the construction and classification of ships.” According to this estimate it was second only to English and American live oak, and standing before sal (*shorea robusta*) and



teak (*tectona grandis*), the two highest class timbers of India, and also before the celebrated greenheart (*nectandra rodiei*) of Guiana."

"In the old jetty work at the port of Fremantle, piles which had been driven 30 years, and others only about one year, could scarcely be distinguished, both being equally sound; large iron bolts through them have entirely corroded away, leaving the holes clean and sound. Round piles with only their bark peeled off, driven before seasoning, appear to stand as well, if not better, than those which were squared and seasoned. Young, as well as matured wood, had effectually resisted the attack of sea worms. A cargo boat upwards of 20 years old, exposed all the time, as often high and dry as afloat, is as sound as when it was launched. Coasting craft which had been more than 10 years afloat without copper sheathing, are perfectly seaworthy, not a plank perforated or a butt end rotten. A sapling pole which had been set up to mark a shoal near Fremantle, sheathed with copper and guyed with iron chains, was found on inspection to be uninjured after 20 years' exposure; a chip was taken from the water line with a pocket knife and looked like cedar: the copper sheathing and iron chains had both perished. Land boundary posts put in 40 years since show neither weathering, rot, nor injury from termites; letters cut on them are still clean and sharp. This is the case also with slabs in the cemetery at Perth, bearing inscriptions dating as far back as 1834. Flooring of cottages, wet and dry according to the season, being laid on the ground without joists, after 25 years shows no signs of decay on either side. As Jarrah has been the timber generally used throughout the Colony ever since its foundation, 49 years ago, there are numerous examples to refer to, proving its durability."

"The durability of this timber depends in a great measure, as in the case of timbers of other countries, on the season it is felled. Here, that is when the sap is down, in the hot weather between the months of November and May; it is considered injurious to ring the trees to kill them; it has a tendency, too, to loosen the annular rings; trees are selected, felled, and at once taken to the mill, or, if too awkward to get out, sawyer's pits are dug under them; they are cut up while green, as the saws get through faster and with less labour; if a tree is felled and barked for some time before conversion it gets nearly as hard as ebony. Contrary to the usual condition of many timbers—oak, for instance—the heart-wood of the Jarrah is of inferior quality, and in overgrown trees is generally rejected as doubtful or worthless; the best timber is selected from outside slabs, and if it shows waney edges or sap wood, they are considered marks of first class quality. Some of the early consignments to India were condemned on account of sapwood. It has been proved since that it does not perish, that termites will not touch it, and that after some time it is harder and stronger than other parts of the timber. The timber being cut up green it requires to be stacked, sheltered from the sun and hot winds,

otherwise it warps and twists in a most extraordinary manner. Cracks, however, in sound wood, running with the grain, are not serious defects, as they generally close (if not from the ends) in the course of a year or two's exposure; the gradual drying, besides preventing torsion or sag, adds to durability; although this is not considered of much account by the owners of timber mills, it is an important point in the matter of stability of structures. Properly cut, properly dried, the material would prove in practice as durable as iron, and under some circumstances would outlive it. The time occupied in drying ought to be one month for every inch in thickness, if timber is sawn or hewn; if round, only banded at the ends to prevent splitting, and sunk in water or buried in sand or mud."

"A great quantity is now being shipped to the Eastern Colonies, for public works in New Zealand and South Australia; it is also finding its way gradually to India, Ceylon, and the Mauritius, chiefly as piles and railway sleepers. The declared value of last year's timber export was over £33,000. Repeated orders coming in shew that consignments give satisfaction."

"The specific gravity of the timber averages about 1.12; if well dried, small scantlings will float in the sea, but when saturated sink. Specimens direct from the mill weigh from 71 to 76lbs. per cubic foot. Careful experiments as to its strength have not yet been systematically gone into, but, so far as represented, the modulus of elasticity in lbs. on the square inch is 1,157,000, and of rupture 20,238. These figures were arrived at by the late Captain Fowke, R.E., from sleepers sent to Ceylon some years ago, they may therefore be considered as minimum values, the quality of such timber being doubtful. A few experiments taken at random with timber not selected: square sawn rods 36 inches long, 1 inch square, laid loose on to bearings 3 feet apart, bore 180lbs. suspended in the centre, without any very great deflection, and without permanent sag. After long saturation, the wood becomes as dark and dense as ebony; old trunks dug out of swamps have somewhat the appearance of bog oak."

"Prices vary according to demand and supply of labor; at present they are considered high, and not likely to rise. The following list may be safely entered in estimates, timber being of first-class quality and sound in every respect, delivered at the ship's side in Gage's Roads, Fremantle, Cockburn Sound, or Geographe Bay:—

#### PRICES.

The load is 50 cubic feet, British; 1.4158 cubic metres, French.

Round peeled piles gently tapering from 20 to 40 feet in length, diameter at their head  $\frac{1}{10}$ th of their length, according to size, per foot run, 1s. 8d. to 2s.

Sawn slabs 12 to 24 feet long, 12 to 24 inches thick, and 24 to 48 inches wide, 85s. per load; if hewn, 75s. per load.

Sawn slabs up to 30 feet long, same dimensions in width and thickness as above, 90s. per load.

Hewn slabs up to 40 feet long, same dimensions in width and thickness as above, 110s. per load.

Longer lengths up to 60 feet and 48 inches square, as per agreement, but about 42s. per foot, run say  $\frac{1}{3}$  of a load.

Ordinary sawn scantling for building purposes up to 24 feet lengths, 75s. to 85s. per load.

Wedges and trenails for ship building, 100s. per 1000.

Knees for ship building, natural bend, in pairs, according to size.

Sawn shingles for roofing, 24 inches by 4 inches by  $\frac{1}{4}$  inch, 30s. per 1000, with waste to cover two squares.

Selected timber for furniture, in slabs, any length up to 30 feet, width up to 60 inches, thickness up to 12 inches, according to description of grain and markings required, but from ordinary at 100s. per load to very superior, proved by high finished specimens, 180s. per load.

The prices quoted are inclusive of all charges and agency on orders of 100 loads and upwards; on smaller orders 5 per cent. extra on estimates. Freight, insurance, home delivery charges, and exchange have to be added. To regular orders an allowance would be made in measurement for rough ends and untrue sawcuts, on fair representation. Measurements on shipment are not very close, a fair margin being allowed for defects should there be any found."

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## APPENDIX B.

*Letters from W. C. Brocklehurst, Esq., M.P., relative to the samples of Silk forwarded from the Government Establishment, Perth, Western Australia, to Messrs. Louis Desgrand & Co., of Lyons, to be reeled.*

Macclesfield, August 12, 1876.

DEAR SIR,—I have the honor to acknowledge the receipt of the communication dated May 15, 1876, which His Excellency Governor Robinson, C.M.G., has been pleased to forward to me through you.

According to the intimation contained in your letter, I received on the 1st of this month 10lbs. of reeled silk from Messrs. Louis Desgrand & Co., of Lyons. These 10lbs. were reeled by them from the 40lbs. of cocoons alluded to by you.

This result is considered by experienced reelers to be exceedingly favorable. It is seldom that so large a return can be obtained, even from good European cocoons.

The quality is pronounced by capable judges to be almost incomparable; the reeling by Messrs. Louis Desgrand & Co. has been very carefully attended to; the quality of the cocoons must have been excellent.

Under a separate cover I have forwarded, addressed to yourself, for the inspection of His Excellency, one skein as a sample.

According to His Excellency's wish, I will give directions to have the bulk manufactured into some description of fabric suitable to show the capabilities of the silk, probably a satin, which is the severest test to which silk can be submitted. There is no doubt but that the result will be quite satisfactory.

This successful experiment leads me to express the opinion that the production of silk in Western Australia cannot fail, in course of time, to become a most important and valuable industry.

I have, &c.,

WM. C. BROCKLEHURST, M.P.,

The Honorable A. O'Grady Lefroy,  
Acting Colonial Secretary,  
&c., &c., &c.,  
Perth, Western Australia.

Macclesfield, Dec. 2, 1876.

DEAR SIR,—On the 11th of August I wrote to inform you that I had directed the silk produced at the Government silk-worm establishment at Perth, should be thrown and manufactured into a fabric suited to exhibit its capability and quality, according to the wish of His Excellency Governor Robinson, C.M.G., expressed in your letter of May 15, 1876. This has now been accomplished, and I have the pleasure to inform you that a piece of Golden-colored Silk Satin, 50 yards long, made *entirely and wholly* from that silk, has been forwarded to-day by steamer to His Excellency's address, Colonial Secretary's Office, Perth, Western Australia.

The value of the silk in its manufactured state is estimated at fully 12s. per yard, reckoned on the basis that the organzine (warp) and the tram (weft) were each worth 48s. per lb in the gum.

(No doubt Mr. Clayton will be able to explain these technical terms).

As I take much personal interest in the subject of Silk Culture in Australia, I wish to be allowed to present any expense expended in this experiment to the Colony. Every one here connected with the trade is satisfied that the result is most satisfactory; and there can now be no doubt but that the production of silk must become a very valuable industry in the Colony.

Some delay was occasioned by the hesitation as to the selection of the color. On the question being referred to Mrs. Niell, that lady decided in favor of gold, as appropriate to the "Fleece."

I have, &c.,  
WM. C. BROCKLEHURST.

The Honorable A. O'Grady Lefroy,  
Acting Colonial Secretary,  
&c., &c., &c.,  
Perth, Western Australia.

## APPENDIX C.

*General Exports from the Colony of Western Australia, during the year ended 31st December, 1877.*

Articles.	Quantity.	VALUE IN STERLING.		Average Value.
		Total.		
		£	s. d.	
<b>Animals Living—</b>				
Horses ... ..	632 No.	7900	0 0	£12 10s. each.
Cows ... ..	125 do.	875	0 0	£7 each.
Dogs ... ..	131 do.	393	0 0	£3 each.
Beche-de-mer ... ..	...	520	0 0	
Bark ... ..	...	30	0 0	
Bones ... ..	...	81	0 0	
Cuttle Fish ... ..	...	70	0 0	
Fish ... ..	...	231	0 0	
Guano ... ..	1212 tons	6060	0 0	£5 7 ton.
Gum ... ..	...	1173	0 0	
Hides ... ..	...	262	0 0	
Horse Hair ... ..	...	8	0 0	
Honey ... ..	...	2	0 0	
Lead, Pig ... ..	...	15	0 0	
Leather ... ..	...	1462	0 0	
Oil, Whale ... ..	...	6344	0 0	
Ore, Copper ... ..	53½ tons	802	10 0	£15 7 ton.
Ore, Lead ... ..	3955½ do.	47466	0 0	£12 7 ton.
Pearls ... ..	...	10000	0 0	Estimated.
Provisions and Pro- } vender }	...	5422	0 0	
Sandalwood ... ..	4246½ tons	31850	12 6	£7 10s. 7 ton.
Skins ... ..	...	570	0 0	
Specimens ... ..	...	26	0 0	
Shells, Mother o' Pearl	103½ tons	12450	0 0	£120 7 ton.
Timber ... ..	6723½ loads	36929	5 0	£5 10s. 7 load.
Tallow ... ..	...	103	0 0	
Tortoise Shell ... ..	...	105	0 0	
Whalebone ... ..	...	244	0 0	
Wine ... ..	...	37	0 0	
Wool ... ..	3992437 lbs.	199624	7 0	1s. 7 lb.
Wax, Bees ... ..	...	90	0 0	
<b>Total Exports, produce of the Colony...</b>		<b>371245</b>	<b>14 6</b>	
<b>Value of Imported Articles re-exported</b>		<b>2106</b>	<b>5 0</b>	
<b>Total Value of all Exports... ..</b>		<b>373351</b>	<b>19 6</b>	

## APPENDIX D.

*Facilities offered by the Indian Government to Shippers of Horses from Australia.*

No. 57.—C.S.O.

*Colonial Secretary's Office,  
Perth, 26th March, 1878.*

HIS Excellency the Governor directs the publication of the following letter, with its enclosure, for general information.

By His Excellency's Command,  
ROGER TUCKER<sup>D</sup>. GOLDSWORTHY,  
Colonial Secretary.

Horses.Remounts.

*(It is requested that the above heading, with the number and date of this communication, may be quoted in any subsequent correspondence on the subject.)*

No. 1037.

GOVERNMENT OF INDIA,  
MILITARY DEPARTMENT.

*Fort William, the 22nd Feby., 1878.*

To the Honorable the Colonial Secretary, Western Australia.

SIR,—I am desired by the Right Hon'ble the Governor-General in Council to forward for general information, the accompanying notification, with rules and regulations for the management of the Government Remount Landing Depôt, Calcutta, for landing and stabling horses imported for sale as remounts, and to request that under the orders of His Excellency the Governor it may be published in the leading journals and circulated as extensively as possible.

I am,

Sir,

Your most obedient servant,  
H. K. BURNE, Colonel,  
*Secretary to the Govt. of India.*

GOVERNMENT OF INDIA.

*Military Department,  
Fort William, the 22nd February, 1878.*

## NOTIFICATION.

With a view to assist shippers of horses, and to save the risk and expense which has been hitherto incurred in landing and stabling horses imported to Calcutta, it is notified for general information that the Government of India have authorized arrangements being made at the Government

Remount Depot, 13 Garden Reach, for the reception of horses arriving from Australia under the terms laid down in the following rules and regulations.

In such cases as may appear necessary, the Government of India are also prepared to advance the amount of freight required to clear the consignment of horses from the ships, together with Captain's and other fees connected with the voyage. Such advances to be recovered from the shippers on payment by the Remount Agent of the value of horses purchased by him.

*Rules and Regulations.*

1. Every shipper landing any horse or horses at the Government Remount Landing Depot, Garden Reach, Calcutta, shall be subject to the rules hereinafter detailed, and to any such directions as the Remount Agent, Calcutta, may give regarding the horses stabled in Government stables, and every shipper shall sign an agreement on landing to this effect, and that he will not remove any horse or horses without the special leave of the Remount Agent.

2. Every horse landed at the Government Remount Landing Depot shall be subject to a charge of Rs. 10 per horse.

In return for this charge the horses will be stabled in the depot until presented for approval to the Remount Agent.

3. The actual cost of landing the horses and surplus forage remaining at the end of the voyage will be borne by the shipper. The work will be carried out in the most economical way possible, the shipper and his assistants performing their due share of the work.

4. The shippers may, if they wish it, feed their horses on the remainder of the forage put on board their ships for the voyage. Grain, bedding and fodder will be supplied, as required, under instructions from the Remount Agent, to be paid for by the shipper at such rate as will cover the total cost of such supplies.

5. Syces and the necessary native establishment will be provided by the Remount Agent, as required, and the shipper will be charged at the actual rate for wages of such establishment.

6. Veterinary attendance will be given by the Assistant Remount Agent, free, and medicines supplied at actual cost rates.

7. Horses landed at the Remount Landing Depot will be inspected with a view to purchase as soon as the Remount Agent considers them fit for inspection. Horses which have not been landed at the Government Landing Depot will not be inspected until all the horses awaiting inspection in the Landing Depot stables have been submitted for the approval of the Remount Agent.

8. All horses not selected by the Remount Agent for Government must be removed from the Government Landing Depot within four days after the completion of the Remount Agent's inspection on behalf of Government.

9. No horse is to be removed from the Government Landing Depot without the permission of the Remount Agent.

10. Should the stables at the Government Landing Depot be insufficient to accommodate all the horses landed at one time, horses shall be selected from the first arrivals and be removed to the remount depot at Ballygunge to await inspection of the remount officer. Such removal is to be at the risk of the shipper and the horses are to stand at the Ballygunge Remount Depot on the same terms in every respect as if they were at the Landing Depot at Garden Reach.

11. All charges of every kind whatsoever against the shipper will be recovered from him on payment being made for the remounts selected for Government by the Remount Agent.

(Signed) H. K. BURNE, Colonel,  
*Secretary to the Govt. of India.*



## APPENDIX E.

*Extracts from Analytical Report on Samples of Guano from the Lacepede Islands.*

## WESTERN AUSTRALIA.

*Colonial Secretary's Office, Perth, 30th October, 1877.*

GENTLEMEN,—By direction of His Honor the Administrator, I have this day forwarded to you, by the Overland Mail, a small box containing specimens, as per enclosed list, of Guano from the Lacepede Islands; and I am directed to request you will be good enough to have the said specimens analysed, and a report of the result of such analysis duly forwarded for the information of this Government.

I have, &amp;c.,

ROGER TUCKERD. GOLDSWORTHY,  
Colonial Secretary.

The Crown Agents for the Colonies, Colonial Office Building,  
Downing Street, London.

No. 80/70. Downing Street, London, 2nd February, 1878.

SIR,—I have the honor to acquaint you, for the information of His Excellency the Governor, that the samples of Guano referred to in your letter of the 30th October last, have been submitted to Dr. Augustus Voelcker, F.R.S., who is considered to be one of the best analysts in London for Guano; and I enclose herewith a copy of his report.

I have, &amp;c., M. F. OMMANNEY.

The Hon. the Colonial Secretary of Western Australia.

Analytical Laboratory,

11 Salisbury Square, Fleet Street, E.C.

January 22nd, 1878.

SIR,—I beg leave to submit to you a report on the chemical composition and commercial and agricultural value of eight samples of natural and prepared Lacepede Islands' Guano which you sent me for examination on the 3rd of January, '78, on account of the Crown Agents for the Colonies, and have the honor to be

Your obedient servant,

M. F. Ommanney, Esq.

AUGUSTUS VOELCKER, F.R.S.

*Report on Eight Samples of Lacepede Islands' Guano, W.A.*

ON the 3rd of January, I received for examination eight samples of Lacepede Islands' Guano.

By these eight samples I find those marked No. 1, No. 2, No. 3, No. 4, and No. 6 are natural Guano deposits, and the specimens marked No. 5, No. 7, and No. 8 are compound artificial manures, obtained by the addition of chloride of ammonium to Guano phosphates from Lacepede Island Guano.

The agricultural and commercial value of Guano, similar in character to the specimens of natural Guano found on Lacepede Islands, is mainly regu-

lated by the percentage of phosphoric acid which different samples yield on analysis.

Lacepede Guano belongs to the class of phosphatic Guanos, and in addition to phosphate of lime, upon which its chief value depends, contains variable proportions of organic matters, yielding more or less nitrogen, which contributes to the fertilizing and commercial value of the Guano.

The presence of considerable proportions of oxide of iron and alumina, and of carbonate of lime in some kinds of phosphatic guanos, detracts from the commercial value which the phosphoric acid possesses in specimens in which the phosphoric acid is solely combined with lime as phosphate of lime, and which practically speaking are free from oxide of iron and alumina and carbonate of lime.

All the samples sent to me for examination, I find, are virtually free from oxide of iron and alumina and carbonate of lime, and the phosphate of lime contained in them consequently possesses as high a commercial value as the best phosphatic guanos of commerce, containing an equal percentage of phosphate of lime.

After these preliminary observations I beg to direct attention to the results which I obtained in carefully analysing the several specimens.

*Composition of Sample No. 1.*

Moisture	...	...	...	...	7.39
*Organic matter and water of combination	...	...	...	...	25.36
**Phosphoric acid	...	...	...	...	26.76
Lime	...	...	...	...	33.94
Magnesia, Sulphuric acid, and other constituents not determined	...	...	...	...	4.39
Insoluble siliceous matter	...	...	...	...	2.16
					100.00
*Containing nitrogen	...	...	...	...	1.34
Equal to ammonia	...	...	...	...	1.63
**Equal to tribasic phosphate of lime...					58.42

The sample No. 1 contains a considerable proportion of organic matter, yielding on decomposition  $1\frac{1}{4}$  per cent. of ammonia in round numbers, but it is poorer in phosphate of lime than any of the other natural guano deposits from Lacepede Islands, and in consequence is the least valuable of the 5 specimens analysed by me. It is, however, sufficiently rich in my opinion for exportation.

A guano, equal in composition to the sample No. 1, at present probably would realize in England about £5 5s. per ton in the wholesale market.

In this money estimate I assume that phosphate of lime would fetch about 1s. 5d. for each unit per cent. of phosphate of lime; and ammonia 16s. per unit per cent. per ton.

*Composition of Specimen No. 2.*

Moisture...	...	...	...	...	3.75
*Organic matter and water of combination	...	...	...	...	5.31
**Phosphoric acid	...	...	...	...	37.80
Lime	...	...	...	...	45.47
Magnesia, sulphuric acid, and other constituents not determined	...	...	...	...	5.18
Insoluble siliceous matter	...	...	...	...	2.49
					100.00
*Containing nitrogen	...	...	...	...	.35
Equal to ammonia	...	...	...	...	.43
**Equal to tribasic phosphate of lime					82.52

The specimen No. 2 it will be seen is much richer in phosphate of lime than No. 1, but it contains less nitrogenous organic matter.

It is a high grade phosphatic guano, and as in high grade phosphatic materials, the unit per cent. of phosphate of lime sells at a comparative higher rate than in low grade samples, and probably would realize 1s. 10d. in the specimen No. 2; the commercial value of No. 2 will be about £8 a ton.

At that price, I believe Lacedpede guano, equal in composition to the specimen No. 2, would find a ready market in England at the present time.

*Composition of Specimen No. 3.*

Moisture... ..	3.74
*Organic matter and water of combination ... ..	5.55
**Phosphoric acid ... ..	37.64
Lime ... ..	45.78
Magnesia, sulphuric acid and other constituents not determined ... ..	5.40
Insoluble siliceous matter ... ..	1.89
	<hr/>
	100.00
*Containing nitrogen ... ..	.39
Equal to ammonia ... ..	.47
**Equal to tribasic phosphate of lime	82.17

No. 3 closely resembles in composition No. 2 and possesses about the same value, i.e., about £8 a ton.

*Composition of Specimen No. 4.*

Moisture... ..	4.65
*Organic matter and water of combination ... ..	14.80
**Phosphoric acid ... ..	36.71
Lime ... ..	39.59
Magnesia, sulphuric acid and other constituents not determined ... ..	3.20
Insoluble siliceous matter ... ..	1.05
	<hr/>
	100.00
*Containing nitrogen ... ..	.54
Equal to ammonia ... ..	.65
**Equal to tribasic phosphate of lime	80.14

This is a valuable deposit and worth nearly as much as No. 2 and No. 3, i.e., about £8 a ton or a few shillings less per ton, the slight deficiency in phosphate being nearly made up by the somewhat larger proportion of nitrogen—No. 4.

*Composition of Specimen No. 6.*

Moisture... ..	1.59
*Organic matter and water of combination ... ..	9.02
**Phosphoric acid ... ..	40.93
Lime ... ..	43.05
Sulphuric acid ... ..	2.02
Magnesia and other substances not determined ... ..	3.05
Insoluble siliceous matter ... ..	.34
	<hr/>
	100.00
*Containing nitrogen ... ..	.73
Equal to ammonia ... ..	.89
**Equal to tribasic phosphate of lime...	89.35

This specimen is what is called in commerce a crust guano, and as will be seen by the preceding analysis very rich in phosphate of lime. It also

yields nearly 1 per cent of ammonia on decomposition and is almost entirely free from silica.

The proportion of lime found in the analysis is insufficient to combine with the phosphoric acid to tribasic phosphate, from which it appears that the crusts contain bi-paric phosphate of lime, which adds to its value.

In specimen No. 6 the unit per cent. of phosphate of lime, I am of opinion will fetch 2s. per ton, the commercial value of crust guano equal to Specimen No. 6, accordingly, will be about £9 10s. per ton, taking into account the ammonia which this specimen yields on decomposition.

The three remaining samples appear to be prepared manures, obtained by adding chloride of ammonium to the burnt phosphatic guano from Lacepede Island. They may be considered under the same heading with all the more propriety, inasmuch as they are similar in composition; and their manufacture has not my approval.

In burning Lacepede Guano, the organic matter which has some value is destroyed, and the phosphates are left behind in a less porous and less available condition for the use of plants than they are in the natural guano deposits.

Moreover, the addition of chloride of ammonium to the burnt phosphatic guano, cannot be recommended, inasmuch as chloride of ammonium is too expensive, and if it should be found desirable to manufacture from Lacepede Guano artificial manures containing ammonia salts, commercial sulphate of ammonia, a much cheaper salt than chloride of ammonium, may be employed with more advantage, and the efficacy of the guano may be increased by treating it with acid, whereby the phosphates are rendered soluble.

*Composition of Specimens marked No. 5, No. 7, and No. 8.*

(No. 5 phosphates procured from No. 2; Specimen No. 7, phosphate obtained from burnt guano. Specimen No. 8 obtained from sample No. 6.)

	No. 5.	No. 7.	No. 8.
Moisture ... ..	11·94	6·06	7·77
*Ammonia salts and a little organic matter ...	40·31	41·09	36·63
**Phosphoric acid ...	20·06	23·08	27·81
Lime ... ..	24·76	26·34	25·81
Magnesia, &c. ...	2·73	3·23	1·67
Silica ... ..	·20	·20	·31
	100·00	100·00	100·00
*Containing nitrogen ...	10·24	10·56	8·24
Equal to ammonia ...	12·43	12·82	10·01
**Equal to tribasic phosphate of lime ...	43·79	50·38	60·71

AUGUSTUS VOELCKER, F.R.S.,  
 Consulting Chemist to the Royal  
 Agricultural Society of England.

## APPENDIX F.

*Extracts from Report of Mr. Brown,  
Government Geologist, 1872:—*

“The number of mines which have been in operation since the opening of the district is about 10 \* \* \* of these only two are now at work, the Geraldine and Oakagee. The chief causes of the abandonment of many mines has, in my opinion, been the mode of working and want of capital or its proper employment. The manner in which these mines are or have been worked, mostly is in conformity with the anxiety of those interested to receive immediate returns by the expenditure of little capital.”

“The following information with regard to the depth of the lowest workings and the quantity of ores raised, is all that I can gather from authentic sources:—

Name of Mine.	Deepest level in feet.	Ore in Tons.		Date of year.	Value at Swansea.
		Lead.	Copper.		
Wheal Fortune	300	2475	985	1862 to 1868.	
Geraldine ...	320	1634	...	November 1869,	
Yanganooka ...	108	...	458	to December	£ 5,881
Gwalla ...	200	...	901	1870.	£16,573
Wanerenooka ...	180	...	...		
Gejira ...	100	...	300		

The total amount of lead ore exported from 1860 to 1865 was 1,363 tons. Copper ore exported during the same period was 4,500 tons.”

APPENDIX G.

*Government Notices relative to Assisted Immigration.*

Immigration from the United Kingdom.

*Colonial Secretary's Office,  
Perth, 6th April, 1875.*

HIS Excellency The Governor has been pleased to direct the publication of the following particulars, for general information:—

1. An arrangement has been made by the Local Government for the introduction of Immigrants from the United Kingdom in ships to be despatched by the firms of Messrs. James McDonald & Co., of 17 Finsbury Circus, London, E.C., and Messrs. Felgate & Co., 12 Clements Lane, London, E.C., to whom application must be made by intending Immigrants in the United Kingdom, or their friends in this Colony.

2. A Committee of gentlemen has been formed in London, and recognized by His Excellency The Governor, for the inspection of all immigrants on whose behalf application for free passages may be made as above. On the certificate of three members of this Committee, that the persons inspected are likely to prove useful as colonists, free passages will be provided at the public cost, by the firms above named.

Additional inducements for immigrants:—

LAND REGULATIONS.

*Free Grants of Land to Immigrants.*

1. Notwithstanding anything to the contrary in the existing Land Regulations contained, each adult Immigrant of the laboring classes introduced into the Colony with the sanction, or wholly or partially at the expense of the Imperial or Colonial Government, after two years' residence therein, may, with the permission of the Governor or Officer Administering the Government, select from any unimproved Rural Crown Lands open to selection, a lot not exceeding fifty acres; and, subject to the same conditions, each such immigrant between the ages of sixteen and twenty-one may select a lot not exceeding twenty-five acres of such land; Provided that no greater quantity of land than 150 acres in all be allotted under these Regulations to any one family.

2. Such lots, when selected, are to be allotted in the first instance to such immigrants by Occupation Certificates, which may be exchanged for grants in fee simple at the expiration of three years from the date of such Certificate respectively, on proof to the satisfaction of the Commissioner of Crown Lands that the whole of the land so allotted shall then have been properly fenced in, and that at least one-fourth of it is under cultivation. Provided that if at the end of the said term of three years the above conditions, or any of them, be not fulfilled, the lot in respect of which default shall have been made shall revert to the Crown with any improvements that may be thereon.

By Command,  
FRED. P. BARLEE,  
Colonial Secretary.

**Immigration from the Australasian Colonies.**

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*Colonial Secretary's Office,  
Perth, 30th March, 1875.*

In accordance with the recommendation of the Legislative Council that encouragement be afforded to private individuals who may introduce Europeans from the Eastern Colonies, His Excellency the Governor directs it to be notified, for general information, as follows:—

1. Passage money at a rate not exceeding Six pounds for each statute adult will be paid to persons who may prove to the satisfaction of the Governor that they have introduced from the Australasian Colonies European Immigrants of the laboring classes, who may be open to general engagement on arrival.

2. Assistance towards the passages of the wives and families of persons so introduced will be given in like ratio. Unmarried females of adult age for whom passage money is sought, must comply with the rule as to general engagement.

3. Each adult immigrant so introduced may, after two years' residence in the Colony, obtain permission to select, from any unimproved Rural Crown Lands open to selection, a lot not exceeding fifty acres, and each such immigrant between the ages of sixteen and twenty-one may select a lot not exceeding twenty-five acres of such land; provided that no greater quantity of land than 150 acres in all be allotted to any one family.

4. Such lots, when selected, are to be allotted in the first instance to such immigrants by Occupation Certificates, which may be exchanged for grants in Fee Simple at the expiration of three years from the date of such certificate respectively, on proof to the satisfaction of the Commissioner of Crown Lands that the whole of the land so allotted shall then have been properly fenced in, and that at least one-fourth of it is under cultivation.

Provided that if at the end of the said term of three years the above conditions, or any of them, be not fulfilled, the lot in respect of which default shall have been made shall revert to the Crown, with any improvements that may be thereon.

By Command,

FRED. P. BARLEE,  
Colonial Secretary.

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## ERRATA.

- Page 9 line 8—insert date, 1839.
- „ 16 „ 31—for *South and West* read *West and South*.
- „ 26—in table of extent, for *And* read *Area*.
- „ 32 line 15—read *Elevation of the secondary ranges*.
- „ 34 „ 8—for *East* read *South*.
- „ 36 „ 10— „ *Hampden* read *Hampton*.
- „ 36 „ 26— „ *Burke's* „ *Broke's*.
- „ 37 „ 21—*Chart of King George's Sound* not yet published.
- „ 45 „ 18—for *formed of* read *covered by*.
- „ 51 „ 7— „ *East* „ *West*.
- „ 59 „ 4— „ *Kandinup* „ *Kandiup*.
- „ 64 „ 2— „ *Yams* „ *Jams*.
- „ 66 „ 32— „ *Greenough* „ *Greenwich*.
- „ 77 „ 2— „ *Chapman* „ *Crossman*.
- „ 85 „ 9—read *Amesfield Albany*.
- „ 90 „ 19—for *at first* read *And first*.
- „ 90 „ 35—read *often given themselves up*.
- „ 94 „ 30—for *Annesfield* read *Amesfield*.
- „ 107 „ 1— „ *Rockampton* „ *Rockhampton*.
- „ 121—heading of Part 5—for *local* read *assisted*.
- „ 122 line 23—for *from* read *to*.
- „ 131 „ 31—insert *Guildford*.
- „ 154—last line, insert 1,729,512½

Western Australia.



# LAND REGULATIONS

FOR THE

# KIMBERLEY DISTRICT.

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Being all that portion of the Territory of Western Australia  
lying to the North of the parallel of  
19 deg. 30 min. South Latitude.

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*Proclaimed 29th November, 1880.*

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P E R T H :

BY AUTHORITY: RICHARD PETHER, GOVERNMENT PRINTER.

1880.



# LAND REGULATIONS

FOR THE

## KIMBERLEY DISTRICT.

*Proclaimed 29th November, 1880.*

1.—All that portion of the territory of Western Australia lying to the North of the parallel of 19° 30' South Latitude shall henceforth be designated and known as "The Kimberley District." The Southern boundary of the Kimberley District shall henceforth be the North boundary of the Northern District of Western Australia.

2.—Except as herein is specially provided, the Land Regulations of the fourteenth of September, one thousand eight hundred and seventy-eight, shall apply to the Waste Lands of the Crown in the Kimberley District. Except where herein altered present Regulations to apply.

### AS TO FREEHOLD LANDS.

3.—The minimum price of Rural and Suburban Land in fee simple shall be ten shillings per acre. The minimum area of Rural Sections shall be two hundred acres. Sections of less area when so shut in by private lands or other bounds as not to contain two hundred acres may be purchased in fee simple at a price not less than ten shillings per acre; and all such land may be sold by auction or private contract as the Governor in Council may from time to time approve. Price and area of Freehold Sections. Mode of Sale.

4.—Rural Sections shall, if possible, be right-angled parallelograms, with a frontage on a lake, river, or main stream not exceeding one-third of the average depth. Shape.

5.—The application for the purchase of any such land in fee simple shall be accompanied in each case Applications for Purchase.



Expenses of  
Survey.

Boundaries.

with a sketch of the boundaries, which shall be fixed, wherever possible, with reference to some natural or permanent artificial object, and also showing the position of the land with reference to any lake, river, or main stream, and also to land held by or in the occupation of any other person; and also showing all permanent water holes and springs within its area. Such applications may be made at any time before a permanent survey shall have been made by the Crown. The expenses of survey shall in all cases be borne by the applicant, and in the event of his becoming the purchaser be repaid to him by the Crown, at rates to be fixed by the Surveyor General, or his deputy in the District, but not exceeding in any case one-half the amount of the purchase money. And the boundaries of lands fronting on lakes, rivers, and main streams shall be limited in every case where possible by straight lines, which shall be plainly marked on the ground by Surveyors.

6.—Access to water holes and springs on such land, with roads leading thereto, may be provided for in the deed of grant. If at any time after these Regulations shall come into force, any portion of such land may be deemed by the Governor in Council necessary to resume for the purpose of being included within the limits of a township, such land may be resumed for that purpose, and notice thereof shall be published in the *Government Gazette*. Upon such resumption the owner of such land shall be compensated for such resumption, either by a grant of the fee simple of land in the District equal in area to that resumed, or to a refund of the original price of the resumed portion. And in the event of any improvements having been made on the resumed portion he shall be entitled to compensation, to be assessed in manner provided by section 59 of the Land Regulations of the fourteenth day of September, one thousand eight hundred and seventy-eight.

Bonus on  
Products.

7.—If at any time within one year from the date when these Regulations shall come into force any one person, firm, or company shall apply for the purchase in fee simple of land in the District, and at the same time notify his intention of growing thereon tea, sugar, coffee, rice, cotton, tobacco, or any other merchantable tropical or semi-tropical product, and such person, firm, or company shall, within five years from the date of such application being approved, prove to the satisfaction of the Governor in Executive Council, or officer appointed on that behalf, that such products or any of them have been grown on such land, in any one year,

and exported from the District, and have been sold for a sum not less than five hundred pounds, he or they shall be entitled to have from the Crown a grant of the fee simple of five hundred acres of rural land, to be selected in the first instance in immediate contiguity to the land on which such products shall have been grown, and if there shall be no such land, then from any rural land in the district. Such selections shall be made within three calendar months after such satisfaction of the Governor in Council shall have been notified in the *Government Gazette*.

8.—The first two several persons, firms, or companies who shall prove that he or they respectively has or have effected such sales in manner aforesaid, shall be each entitled to a similar grant of one thousand acres. Preferential Bonus.

#### AS TO LEASEHOLDERS.

9.—Leases of blocks of Pastoral Land shall be in the form shown in the Schedule hereto; and, unless with the special permission of the Governor in Executive Council, shall not contain less than fifty thousand acres when on a frontage nor less than twenty thousand acres when any part of its boundary shall not be on a frontage; and shall be held for a term not extending beyond the thirty-first day of December, one thousand eight hundred and ninety-three. The Lessee of any frontage block may, with the approval of the Governor in Executive Council, obtain a lease of any contiguous Pastoral Land, to the extent of not less than ten thousand acres, on the same conditions and for the same term as his original block. Leases of Pastoral Lands.

10.—A frontage block shall be such as has its lesser boundary on a lake, river or main stream, or other water channel, or on an estuary or the sea shore. Its boundaries shall be rectangular so far as the area and the shape of the land allows, and its mean depth shall not be less than three times its mean breadth. Frontage Blocks.  
Boundaries.

11.—No Lessee shall have any pre-emptive right of purchase, but he, his allowed assigns, or under-tenants shall be entitled to claim the fair value of any lawful improvements on the land, as is provided by the General Regulations with reference to first class pasture lands in the events therein specified. No pre-emptive rights.

12.—The minimum rental of all pastoral lands within the Kimberley District shall be ten shillings per annum for every one thousand acres and fraction of one Rental.

thousand acres payable in advance. And every lease shall be subject to the condition, whether expressed in the instrument of lease or not, that before the expiration of the second year of the term the land comprised therein shall have on it at the rate of at least two head of large stock or twenty sheep, the actual property of the Lessee, for every one thousand acres, and that such proportion of stock and sheep shall not be diminished during the said term, and that in default the said lease shall be thereby absolutely forfeited to the Crown, and such forfeiture shall be forthwith notified in the *Government Gazette*, whereupon the land comprised in such lease shall be open for selection.

Returns of  
Stock.

13.—Every tenant shall make and send yearly, to the officer named by the Governor for such purpose, a return verified by declaration under the 18th Victoria, No. 12, of all cattle, horses, and sheep, and other stock his property, depasturing on his Pastoral Land, with a full description thereof, including ownership and brands; and any person making a false return shall forfeit all his Pastoral Lands in the District, and be debarred from having any further application approved for such land.

No assign-  
ment or sub-  
letting,  
except with  
consent.

14.—No Lessee shall assign or sub-let the whole or any portion of his land to any person or persons without the consent in writing thereto endorsed on the Lease by the Commissioner of Lands, or his Deputy for the District, for which consent a fee of ten shillings shall in each case be payable.

#### GENERAL, AND AS TO RESERVATIONS.

If Grants of  
Fee-simple  
reserve  
metals,  
jewels, &c.,  
Governor  
may exempt  
any such  
from such  
reservation,  
and make  
regulations.

15.—In addition to the powers of resumption by the Crown of land for public purposes, and of cutting and taking away indigenous timber, and of searching and digging for building and repairing materials, and to the reservation of mines of gold, silver, and other precious metals in and under lands to be granted by the Crown, with all rights of entry, the Governor in Council may, from time to time, by order under his hand, direct whether any of the precious metals existing in the form of alluvial deposits, or any inferior metals, or any gems or jewels, shall be in like manner reserved to the Crown, in which case the forms of Deeds of Grant will be modified accordingly. The Governor in Council may also grant licenses from time to time to any person or persons on such terms and conditions as may be deemed sufficient, as well for the purposes of such Licensee as for the protection of the

interests of the owner or occupant of the land to be entered on, to enter on any lands, freehold or leasehold, to stay on and examine the said land, and to search, dig for, and carry away such metals, gems, or jewels; and the Governor in Council may also in like manner sell by auction or private contract, in whole or in part, the subject of any reservation not being gold or silver.

16.—The names of Lessees and a description of their lands shall be from time to time notified in the *Government Gazette* as soon as practicable after the approval of applications.

Names of Lessees to be published in *Government Gazette*.

17.—The Governor in Council may from time to time, by order under his hand, to be published in the *Government Gazette*, prescribe the forms of deeds of sale and leasing, or other instruments requisite for carrying into effect the above regulations; and also by like order regulate the cutting and disposal of timber, and other trees, shrubs, and plants, whether for internal consumption, or for exportation, living or dead, being or growing on the lands in the District held otherwise than in fee simple.

Governor in Council may prescribe forms of Deeds, &c.

## PASTORAL LEASE, No.

## FIRST CLASS.

## DISTRICT OF KIMBERLEY, WESTERN AUSTRALIA.

VICTORIA, by the Grace of God, of the United Kingdom of Great Britain and Ireland, Queen, Defender of the Faith, &c., &c. To all to whom these presents shall come, GREETING: Know Ye that We, of Our especial Grace, and in consideration of the sum of \_\_\_\_\_ to our Collector of Revenue for the Colony of Western Australia, already paid by \_\_\_\_\_ in the said Colony, the Lessee in these Premises, and also in consideration of the rents hereinafter reserved on the part of the said Lessee, his Executors, Administrators, and allowed assigns to be paid, and in exercise of the powers in this behalf to Us given by an Act of the Imperial Parliament, intituled "An Act to repeal the Acts of Parliament now in force respecting the disposal of the Waste Lands of the Crown in the Australian Colonies, and to make other provisions in lieu thereof," and by certain Regulations for the sale, letting, disposal, and occupation of the Waste Lands of the Crown within the said Colony, proclaimed and published by Our Governor of Our said Colony, made in pursuance of the provisions of the said Imperial Act, do by these Presents demise and lease unto the said Lessee, ALL THAT piece or parcel of land described in the Schedule hereunder written, with the appurtenances; EXCEPT and always reserved to Us, Our Heirs and Successors, full power during the term hereby granted, from time to time to sell to any person or persons all or any unsold portion of the said demised Premises, subject to any claim for improvements that may be lawfully made in pursuance of the said Regulations; also full power and absolute authority, at any time during the continuance of this demise, to make grants or sales of all or any part or parts of the said demised premises for public purposes, and also to except from sale, and reserve to Us, Our Heirs and Successors, or to resume and enter upon or dispose of in such other manner as for the public interest to Us, Our Heirs and Successors, may seem best, such part or parts of the said demised Premises as may be required for Public roads, or other internal communications by land or water, or for the use and benefit of the Aboriginal inhabitants of the Country, or for purposes of Military defence, or as the sites of places of public worship, schools, or parsonages, or other public buildings, or as places for the interment of the dead, or places for the recreation and amusement of the inhabitants of any town or village, or as the sites of public quays or landing places on the sea coast or shores of navigable streams, or for the construction of railways or railway stations, or for the purpose of sinking shafts, and digging for gems and jewels, and for coal, iron, copper, lead, or other minerals and metals, or for any other purposes of public defence, safety, utility, convenience, or enjoyment, or for otherwise facilitating the improvement and settlement of the Colony; and also permanently or for temporary use to lay out, declare open, and make public roads into, through, and out of or over any part of the said demised Premises; with liberty to Ourselves, Our servants, agents, and workmen, to enter upon the said demised Premises, and dig for, quarry, and take away any indigenous produce, rock, soil, or other material required for public purposes; and to fell, cut, and remove all or any timber, sandalwood, or other woods growing or being thereon, and to issue licenses to any person or persons, authorising him or them to cut, remove, and cart away the same, with full and free liberty to such licensed persons, at all reasonable times, of ingress, egress, and regress, for such purposes; also to sell any mineral land comprised within the said demised Premises; and subject to any rights of the Lessee aforesaid, to license to occupy, or to sell any other portion of the said premises at any time, and with a right of immediate entry; also to depasture on the unenclosed or enclosed but otherwise unimproved portions of the said demised Premises, any horses or cattle in the employment of the Government, working on or passing over the said demised Premises;

also for any person or persons to enter, pass over, through and out of any such part of the said demised Premises, while passing from one part of the country to another, with or without horses, stock, teams, or other conveyances, on all necessary occasions; and full right to the Aboriginal natives of the said Colony at all times to enter upon any unenclosed or enclosed but otherwise unimproved part of the said demised Premises for the purpose of seeking their subsistence therefrom in their accustomed manner; and also full right to any person or persons to enter on any part of the said demised Premises to examine the mineral capabilities thereof, and to do all things necessary for the purpose of effectually making such examination, but paying, nevertheless, full compensation for any damage arising therefrom. To HAVE AND TO HOLD the Premises hereby demised (except as aforesaid, and subject to the powers, reservations, and conditions herein and in the said Regulations contained, and with all the rights, powers, and privileges conferred by such of the said Regulations as are applicable hereto), unto the said Lessee, h Executors, Administrators, and allowed assigns, for the term of \_\_\_\_\_ to be computed from the first day of \_\_\_\_\_ 18 \_\_\_\_\_, YIELDING AND PAYING the sum of \_\_\_\_\_ for the same, always in advance, during the said term, unto Us, Our Heirs and Successors, on or before the first day of March in each year, without deduction, except such deduction as the said Lessee, h Executors, Administrators, or allowed assigns may be entitled to under the present existing or any future Land Regulations; the first of such annual payments to be made on or before the first day of March next, and all of such annual payments to be made to the Collector of Revenue of Our said Colony, at Perth, or to the Sub-Collector of Revenue residing nearest to the said demised Premises. Provided, nevertheless, and it is hereby declared, that if the said rent be not paid in advance as aforesaid, on or before the first day of March in each and every year, then, and in all or any of such cases, these presents shall become void, and the term hereby granted shall be absolutely and indefeasibly forfeited; and it shall thereupon be lawful for Us, Our Heirs and Successors, into and upon the said demised Premises, or any part thereof in the name of the whole, to re-enter, and the same to have again, repossess, and enjoy, as if this deed-poll had never been executed, without making any compensation to the said Lessee, h Executors, or allowed assigns. Provided that the said Lessee, h Executors, Administrators, or allowed assigns, may at all times during this demise, on any part of the said demised Premises, fell, cut, and use any timber for h domestic and farm purposes, or for the construction of any buildings, fences, stock-yards, or other improvements, and use any other materials for the like purposes, but so, nevertheless, that the said Lessee, h Executors, Administrators, and allowed assigns shall not sell the said timber or material, or use the same, or suffer it to be used, except on the said demised Premises. Provided, and it is hereby declared, that the term hereby demised shall not be transferable without the written approval of Our Commissioner of Crown Lands, and unless such transfer, when so approved, shall be made in the form endorsed on these presents; and that any transfer made or attempted to be made, without such consent, or in any other form than last aforesaid, shall be altogether inoperative at law and in equity, and shall not confer any right or interest to or in the said demised Premises upon the transferee. And that We, Our Heirs and Successors, are not, nor shall be liable or responsible for any error in the descriptive boundaries or quantity of land hereby demised, or in respect of any claims which may be set up by any other person or persons to any part or parts of the said demised Premises. Provided, lastly, and it is hereby declared, that We, Our Heirs or Successors, shall not be liable to compensate the said Lessee, h Executors, Administrators, or allowed assigns, for any loss or damage arising from the exercise of all or any of the powers or rights hereby reserved to Us, Our Heirs and Successors, save and except in so far as the same may be provided for by the said Regulations.

## SCHEDULE HEREIN REFERRED TO.

In witness whereof We have caused Our Commissioner of Lands to affix  
hereto his seal, and set his hand, this                    day of                    18 .

.....Commissioner of Crown Lands.

## FORM OF TRANSFER.

I hereby transfer all my right, title, and interest in Pastoral Lease  
No.                    of                    acres in the District of                    Western  
Australia, to

Dated this                    day of                    18 .

Witness.....

Signature.....

Received the Fee of Ten shillings on this Transfer.

.....Commissioner of Crown Lands.

I approve the said Transfer.

.....Commissioner of Crown Lands.

EXTRACT FROM "GOVERNMENT GAZETTE".  
OF 18TH JANUARY, 1882.

To His Excellency Sir William Cleaver Francis Robinson, Knight  
Commander of the Most Distinguished Order of Saint Michael  
and Saint George, Governor and Commander-in-Chief in and  
over the territory of Western Australia and its Dependencies,  
&c., &c., &c.

The Legislative Council has the honor of submitting to Your Excellency the following Resolution adopted this day:

"That it is desirable that all leases of lands in the Kimberley District issued prior to 31st December, 1881, shall, notwithstanding any regulation to the contrary, not be liable to forfeiture for non-fulfilment of stocking conditions till 31st December, 1884.

"That all leases issued between 31st December, 1881, and 31st December, 1882, shall not be liable to forfeiture for non-fulfilment of stocking conditions till 31st December, 1885.

"That all leases issued between 31st December, 1882, and 31st December, 1883, shall not be liable to forfeiture for non-fulfilment of stocking conditions till 31st December, 1886.

"That all leases issued between 31st December, 1883, and 31st December, 1884, shall not be liable to forfeiture as aforesaid till 31st December, 1887.

"That all leases issued between 31st December, 1884, and 31st December, 1885, shall not be liable to forfeiture as aforesaid till 31st December, 1887.

"And that it is desirable to rescind that portion of Clause 12 of the Kimberley Regulations requiring that the proportion of stock provided for therein shall be upon the land comprised in each and every lease, and it is desirable to provide in lieu thereof that it shall be sufficient if the said stock shall be within the District. And further that the possession of the stock by the lessee shall for the purposes of the Regulations be considered a sufficient compliance therewith."

16th September, 1881.

*Telegram from Earl of Kimberley to Governor, Western Australia.*

London, 17th January, 1882.

Sixteenth. Kimberley Leases. Delay in stocking approved. Also principle of moving stock by genuine occupiers. Despatch follows.

KIMBERLEY.









