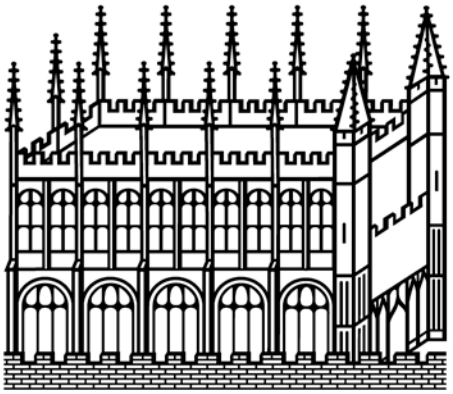

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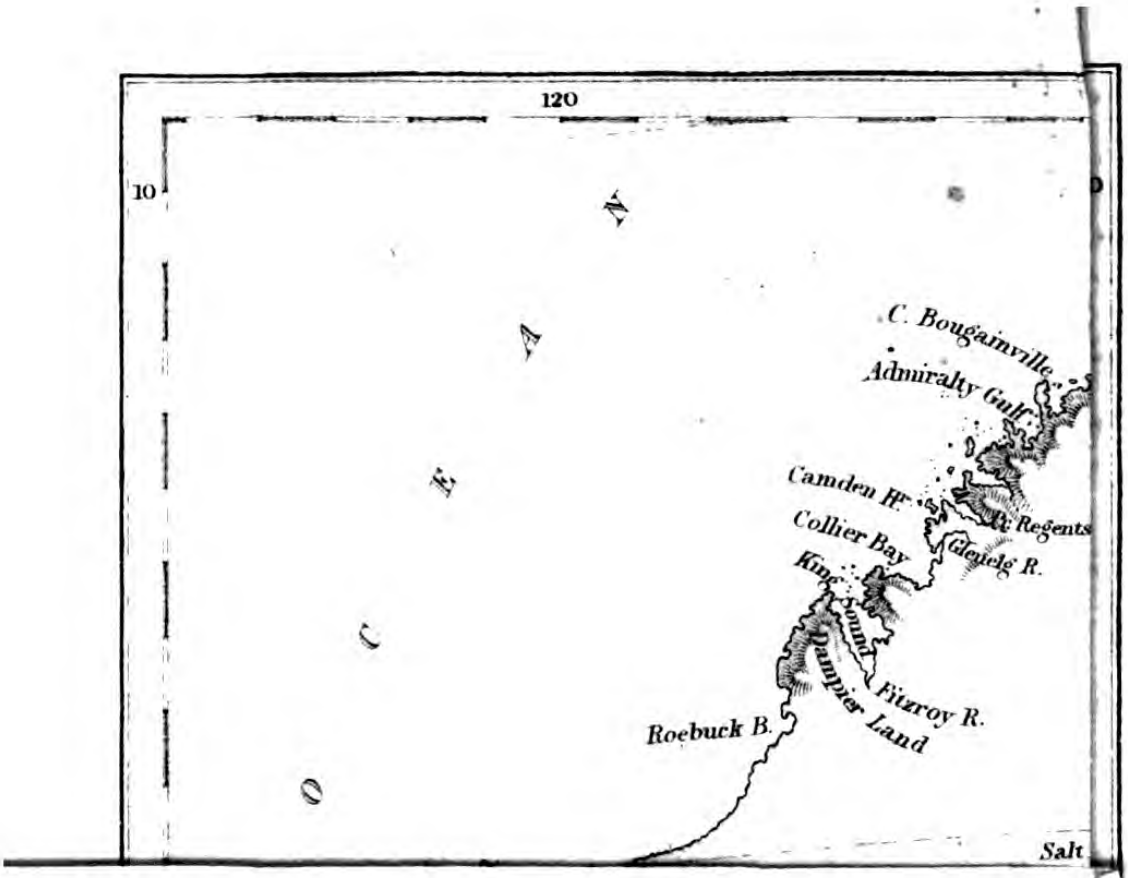
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Salt

AUSTRALIA;

A Popular Account

OF ITS PHYSICAL FEATURES, INHABITANTS,
NATURAL HISTORY AND
PRODUCTIONS.

WITH THE HISTORY OF ITS COLONIZATION.

PUBLISHED UNDER THE DIRECTION OF
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PREFACE.

THE object of this volume is to present to its readers, in a popular manner, such information concerning the Great Island-Continent of Australia as may enable them to form a general idea of its geographical and physical aspect, its aboriginal inhabitants, its natural productions, and the rise and progress of the vast British colonies which, during the past century, have established themselves upon its shores.

Unlike all other portions of the globe—with a flora and a fauna peculiarly its own—the "Great South Land" was long an unknown region to the civilized world. When Europe awoke from the slumber of the dark ages, and bold adventurous spirits went forth in their frail ships from Spain and from Portugal and from Genoa, doubling the Cape of Storms, and opening up to the nations a new western world, the Australian Continent remained still undiscovered. No ship ploughed its silent seas; no foot-fall save that of the wandering

savage broke the solemn stillness of its evergreen forests. A fair land, of vast extent—bearing the oldest living forms of tree and mammal, and peopled only by a thinly-scattered nomadic race of inferior type—lay cradled and unknown in the blue Southern Ocean, awaiting the good time when the finger of God should direct the exodus of millions of the Anglo-Saxon race to its shores.

Although the commander of the good ship "Duyfhen," in the year of grace 1606, was the first to discover the northern portion of the continent, near Cape York, and Tasman, another Dutch navigator, sailed round the south of Van Diemen's Land in 1642, it was not until the renowned Cook had undertaken his voyages of discovery in the southern hemisphere, and touched at New Holland in 1768, that Australia first engaged the attention of Europeans. On the 13th of May, 1787, six convict vessels, containing 565 men and 192 women, with a body of 160 marines and their officers, set sail from Spithead, and on the 20th January, in the following year, the "first fleet" cast anchor in Botany Bay. During the seventy-eight years that have elapsed since this company of prisoners landed on its shores, Australia has been explored from south to north; and, in most part, from east to west—great, populous communities have formed themselves into separate

colonies, each having its own local government, yet all acknowledging British rule—cities have been built, vying in splendour with those of Europe—flocks and herds have stretched in countless millions over the green pastures, far away into the interior—cornfields and vineyards smile around the settlers' peaceful homesteads—gold and copper are dug from the earth in fabulous quantities by thousands of brawny arms—ships of all nations crowd the harbours—the whistle of the locomotive startles the old primæval woods—the busy steamboat furrows the once silent river—and the flashing wire of the telegraph has already girdled half the land.

A recent writer says: "We do not exaggerate when we say that the grandest thing done by England—the chief of her many superb services to humanity—is that she has laid, in backwoods and prairies of the wilderness, as in a hundred islands, the foundations for future states to be built up after her own great type, speaking her own noble language, and inspired by her own magnificent traditions. English colonization is really epic in its grandeur; there has been no such gigantic feat in the whole history of the world—none so pregnant with meaning—none so full of happy auguries for the years that are to come. From these little islands in the grey

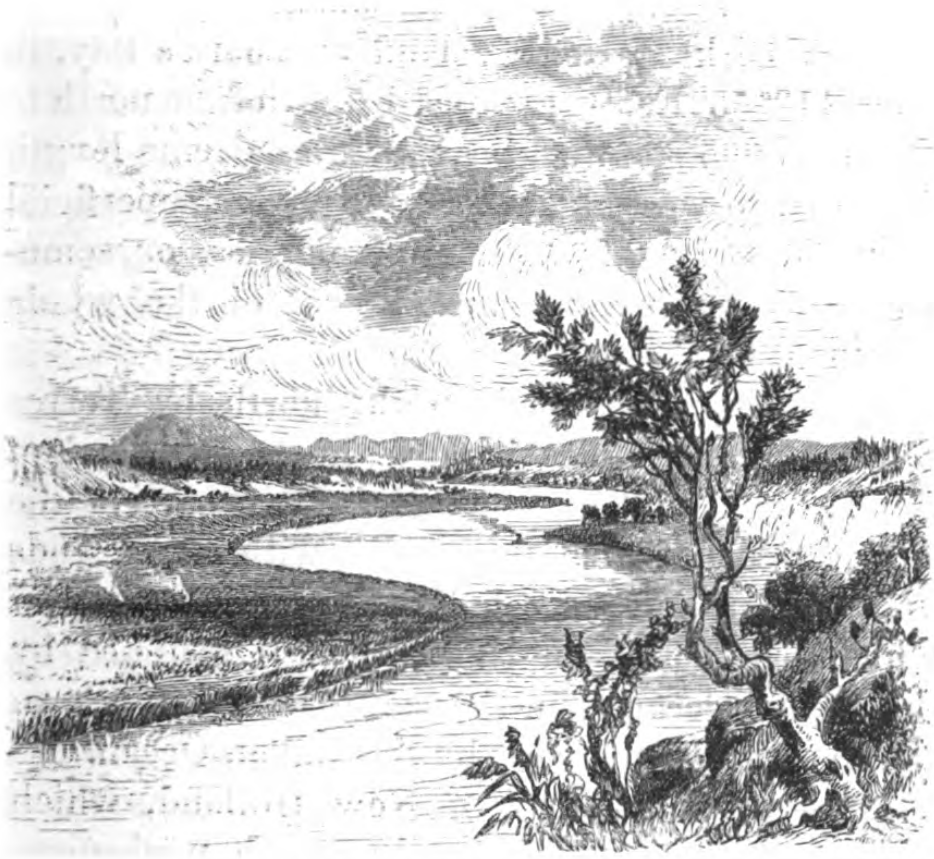
Northern Sea, it is our grand destiny to protect the growth and to shape the course of 'new Englands;' some of them destined, probably, in the fulness of time to be greater than ourselves." Hence it is well that we should make acquaintance with the history, productions, and resources of a portion of the globe so recently known to us, and yet so intimately connected with our country and our race; and one that bids fair to be, in time, the great centre of civilization in the southern hemisphere.

G. F. A.

AUSTRALIA.

CHAPTER I.

Introductory Remarks.



THE MURRAY, NEAR LAKE ALEXANDRINA.

Australia, the largest island on the globe, now more generally styled a continent by modern

geographers, is situated to the south-eastward of Asia, in that vast ocean which extends from the east coast of Africa to the western shores of South America. It lies entirely in the southern hemisphere, rather more than one-third of its surface being within the tropics. Its northernmost headland, at Cape York, is in lat. 10° 43′ S.; its extreme southern angle, at Wilson's Promontory, is in 39° 11′ S. lat.; beyond which lies the Island of Tasmania, separated from the mainland by Bass's Strait. Its easterly limit is at Cape Byron, in long. 153° 37′ E.; its westerly one at Cape Inscription, on Dirk Hartog's Island at Shark's Bay, in long. 112° 55′ E. Its greatest breadth from north to south is 1,965 statute miles; and its extreme length from east to west about 2,600—giving a superficial area of nearly 2,900,000 square miles, or somewhere about three-fourths of that of the whole continent of Europe.

Australia is bounded on the north by Torres Strait, which divides it from the large island of Papua, or New Guinea; and by that part of the Indian Ocean which is studded with the islands known as the Eastern Archipelago, the nearest of which is Timor. On the east it is bounded by the Pacific Ocean; on the south by the Southern Ocean; and on the west by the Indian Ocean.

Formerly the name of New Holland, which had been given by the early Dutch navigators, was applied to the entire continent; more recently that term was used to designate the western portion only; whilst that on the eastern side was

called New South Wales, by Captain Cook, its explorer. At the present time, however, the whole country is more appropriately known as Australia, a name by which it is now universally recognized and described.

Australia is at present divided into six political provinces or colonies, each under a distinct local government, but all subject to the imperial sway of Great Britain. These colonies are as follows:—

1. New South Wales, on the southern portion of the east coast.

2. Victoria, occupying the south-eastern extremity of the continent.

3. South Australia, which lies between Victoria and New South Wales, on the one side, and Western Australia on the other; and which, according to a recent Act of the British Parliament, has had its northern boundary extended to the sea in that direction.

4. Queensland, lying north from New South Wales, and comprising the north-eastern portion of the continent.

5. Western Australia, including all that vast extent of territory lying to the westward of South Australia.

6. Tasmania, being the island of the same name, and formerly called Van Diemen's Land, which is situated off the southernmost extremity of Australia.

The whole of the coast line of this great extent of country has now been carefully examined and explored; and our knowledge of the interior has

been of late years considerably increased, and its general features understood, owing to the exertions of the numerous explorers who have from time to time penetrated the continent in all directions, and have latterly succeeded in crossing it from south to north. The only portion of the country of which we still have no knowledge whatever is the region extending from Central Australia towards the west coast.

The principal mountain ranges are those extending parallel to the east coast, which terminate in the Australian Alps, and form the great Eastern Cordillera, in which most of the important rivers take their rise. In the south-eastern portion of the continent there is a range of mountains near the coast, running east and west. There is also a high range flanking Arnheim's and Tasman's Land, in the north-west; and a mountain belt extends on the west and south; so that the whole of Australia may be said to be surrounded with hills and elevated plains, at a distance of from 50 to 140 miles from the coast, of various elevations, alternating from a few hundred to 6,900 feet in height. The only exception appears to be on the north-west coast, from lat. 16° to 21°, where there are low sandy beaches, with no appearance of high land behind them. The rivers which flow to the coast, with the exception of the Murray, have their origin on the outer side of the mountains. Most of the streams emanating from the side next the interior lose themselves in its vast desert and sandy plains.

There is perhaps no country in the world with

8,000 miles of coast line that has so few navigable rivers. Descending from the mountains, most of these streams run, for a considerable distance north and south, parallel to the range; so that they have frequently a lengthened course, though the direct line from their source to the sea is only a few miles. The most important are those which belong to the eastern half of Australia, the western half of the continent being almost destitute of rivers throughout the greater portion of its territory. Those falling into the sea on the north coast are the Albert, the Roper, the Adelaide, and the Victoria. On the east are the Burdekin, the Fitzroy, the Brisbane, the Clarence, the Richmond, the Tweed, the Manning, the Hunter, the Hawkesbury, the Shoalhaven, and others. On the west is Swan River, with the Prince Regent and the Glenelg on the north-west. On the south are the Yarra Yarra and the Glenelg, together with the Murray, the most considerable river of all, which takes its rise in the Australian Alps, and its stream is perennially supplied from the melting of the snows which cover their summits. In the early accounts of New South Wales we meet with mention of the river Hume; this was the upper part of the Murray, so named from Mr. Hume who discovered it. It has a long winding course; but a considerable part of it is margined by an alluvial soil covered with lofty trees, and intersected by narrow lagoons, which render it often difficult to approach the main channel. The Murray receives the Murrumbidgee, or "the beautiful river," the

Darling, the Rufus, and several other tributaries. The Murrumbidgee runs between banks which are covered with herbage, vines, and creeping plants. The whole course of the Murray is about 1,500 miles. Once a year it floods the surrounding lands; but both the rise and fall are very gradual. Captain Sturt tells us that "the natives look to this periodical overflow of their river with as much anxiety as the Egyptians do to the overflowing of the Nile. To both they are the bountiful dispensation of a beneficent Creator; for, as the sacred stream rewards the husbandman with a double harvest, so does the Murray replenish the exhausted reservoirs of the poor children of the desert with fish." Most of the smaller rivers and creeks dry up during the summer, or become merely a chain of deep water-holes. There are many depressions in the soil in the immediate neighbourhood of rivers, which are at times filled with water, forming extensive lakes, whilst at others they are perfectly dry; they form receptacles for the overflowings of the rivers, and for the streams of water which run over the surface, after the heavy rains to which the country is subject.

Although Australia is deficient in rivers, it possesses many excellent harbours, together with capacious gulfs and bays, where secure anchorage may be obtained. The large Gulf of Carpentaria indents the north coast from 158° to 164° E. longitude. It has several harbours on its shores, with Melville Bay at its N.W., and York Harbour, or Endeavour Strait, at its N.E.

extremity. Moreton Bay, Port Stephen, Broken Bay, Port Jackson, Botany Bay, Jervis Bay, Bateman's Bay, and Twofold Bay, are the principal harbours on the east coast. On the south are Port Philip, Western Port, and Portland Bay; whilst further to the west lie the two extensive gulfs that so deeply indent the province of South Australia, viz., Spencer's Gulf and Gulf St. Vincent. The harbour of Port Adelaide is an inlet on the eastern side of the latter gulf. Nepean Bay is in Kangaroo Island, and Port Lincoln to the westward of Spencer's Gulf. In Western Australia are the harbours of King George's Sound, the Swan, and Shark's Bay. There are also several harbours and deep bays along the north-west angle of the coast, as also on the northern shores westward from the Gulf of Carpentaria, where Port Essington and Van Diemen's Gulf are situated. Tasmania, too, has some fine bays and harbours, including Storm Bay, Port Dalrymple, and Macquarie Harbour. The entrances of several of these bays are marked by prominent and lofty headlands, which descend abruptly to the sea; and there are many projecting capes, some of which are bold, naked promontories, whilst others consist of broken and precipitous masses of rock. The most prominent of these are Cape York, at the extreme northernmost point of the continent; Cape Howe, at its south-eastern extremity; Wilson's Promontory, Cape Otway, and Cape Northumberland, on the south coast, with Cape Grim, South Cape, Cape Pillar, and Tasman's Head, in Tas-

mania; Cape Lewin, at the south-west corner; with Cape Capricorn and North-west Cape on the west, and Cape Londonderry and Cape Van Diemen on the north coast.

The only island of importance on the Australian coast is that of Tasmania, which is separated from the most southerly point of the mainland by Bass's Strait. It is about 200 miles long, and nearly the same in width. The straits themselves are studded with numerous small islands, and towering pinnacles of rock; some of which are remarkable objects, as viewed when sailing through the straits.

Kangaroo Island is the next in size to Tasmania; it is situated at the entrance of Gulf St. Vincent, to which it acts as a natural breakwater. It is for the most part covered with a dense and inhospitable scrub, and has but a scanty supply of water, which is limited to one or two spots on the island. Following the coast westward, we fall in with numerous small islands, such as the Investigator's group, and the Archipelago of Nuyts, and that of the Recherche—clusters of islets lying opposite the shore, on either side of the Great Australian Bight. Houtman's Abrolhos and Dirk Hartog Island, so named by the early Dutch navigators, are barren sandy islands on the west coast.

Bathurst Island and Melville Island are situated at the entrance of Van Diemen's Gulf, in latitude between 11° and 12° S., at the north-west extremity of Arnheim's Land; they are divided by a narrow

arm of the sea called Apsley Strait. Both islands are of considerable extent, but they are low and swampy, and covered with impenetrable forests of mangroves.

There are several islands in the Gulf of Carpentaria, of which Groote Eylandt (or Great Island) is the most considerable. The Bountiful Isles were so called by Flinders on account of the number of turtles and their eggs which he found there. Torres Straits may be said to be almost one mass of islands, reefs, and shoals, extending between Cape York and the shores of New Guinea, and this renders the navigation peculiarly dangerous. In passing through these shallow straits in calm weather, Mr. Montgomery Martin tells us, "the beautiful light of the tropics is increased by the reflection of the nearly colourless bottom, covered with various mollusks, some perfectly transparent, others of various hues. Fish of all sizes, shapes, and colours, are seen; the voracious shark, eagerly pursuing his prey; the turtle, rolling along in his unwieldy shell; and sea-snakes of large dimensions and of glowing lustre may be traced in their rapid, gliding movements, as clearly as if they were flying in the air."

Booby Island lies at the western entrance of Torres Straits, and takes its name from being the resort of large flocks of gannets, called "boobies" by sailors, on account of their stupidity. It is situated in the ordinary track of sailing-vessels, and most of the ships which pass between Australia, India, and China touch there. On this island is a

small building, where are deposited pens, ink, and a book, in which any memoranda or directions may be entered. A supply of water, and some casks of salt meat, biscuits, and other provisions, are also stored there, for the sustenance of any boats' crews who may escape from the frequent wrecks that occur on the reefs and sandbanks of the straits. Letters are left here by ships, and notices entered in the book, announcing the date of their arrival or departure, the position of ship-wrecked vessels, and other information of importance.

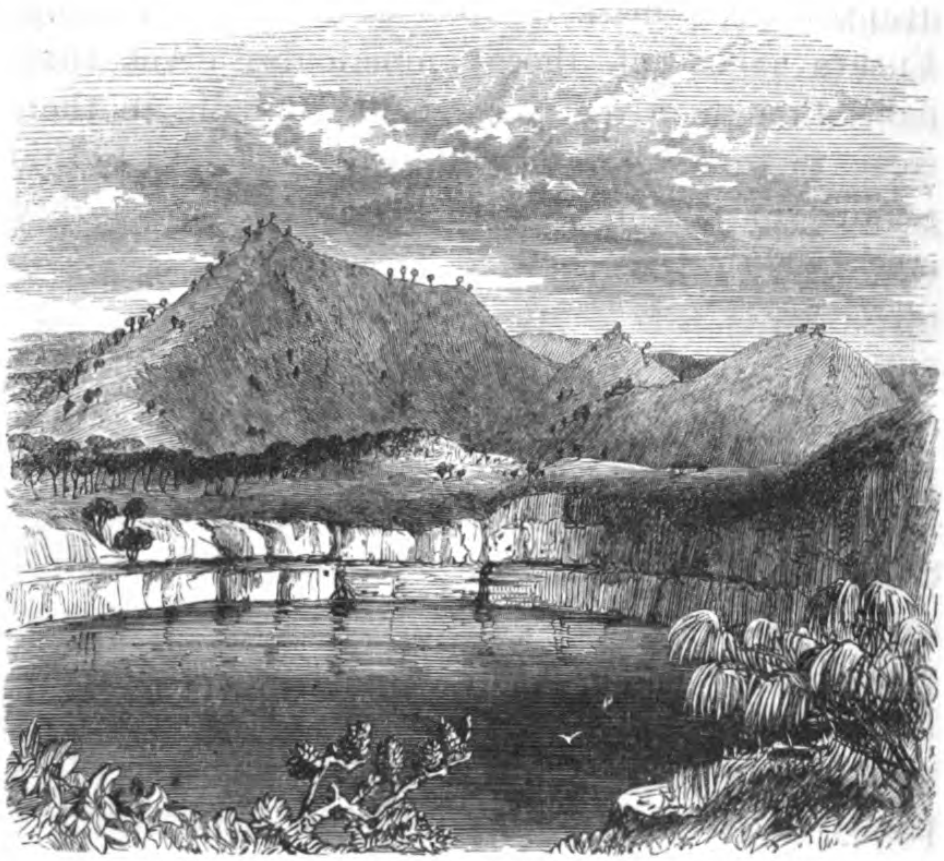
On the north-east coast are numerous small rocky islands, some of which are picturesque in aspect, having beautiful green and verdant spots. Lizard Island is granitic, 1,200 feet high, with open grassy plains, and good water. The Percy and Northumberland Isles are elevated masses, their ridges covered with pines and other trees. Keppel Island and Sandy Island lie further to the south; and Moreton and Stradbroke Islands, which are hilly and wooded in places, form the entrance to Moreton Bay.

A chain of coral reefs of great extent runs along the whole of the north-eastern coast of Australia, from the tropic of Capricorn to Cape York, which is called the Great Barrier Reef. Captain Flinders, who was wrecked upon one of them during his survey of that part of the coast, says: "Having landed on one of these creations, we had wheatsheaves, mushrooms, stags'-horns, cabbage-leaves, and a variety of other forms, growing

under water with vivid tints of every shade between green, purple, brown, and white. It seems to me that when the animalcules which form the coral at the bottom of the ocean cease to live, their structures adhere to each other, by virtue either of the glutinous remains within, or of some property in the sea-water; and the interstices being gradually filled up with sand and broken pieces of coral washed by the sea, which also adhere, a mass of rock is at length formed. Future races of these animalcules erect their habitation upon the rising bank, and die in their turn, to increase, but principally to elevate, this monument of their wonderful labours."

CHAPTER II.

Geological Features and Physical Aspect of the Country.



MOUNT GAMBIER.

The outline of the Australian continent consists generally of an even unbroken line along its four sides, having two deep indentations, one on the north and the other on the south, nearly opposite

to each other: the northern indentation is the Gulf of Carpentaria; the southern is formed by the Gulfs of Spencer and St. Vincent. From the fact that between these two approaches of the surrounding sea there extends across the continent a vast level tract of recent tertiary formation, extending to the primary rocks of the mountain chains east and west of it, geologists are led to suppose that at a former period Australia was divided by the sea into two or more separate islands. The mountain range of South Australia, running from Cape Jervis north to the lowlands about Lake Torrens, was probably isolated by the surrounding ocean at the same period; the bed of which former sea is now indicated by the extensive tertiary deposits of fossil shells, which occur on both sides of the primary cordillera.

North of Spencer's Gulf are desert flats stretching far away into the interior, which consist of limestone, with recent marine shells and salt water. Some portions of this desert are sandy, whilst others consist of immense beds of shingles, without shells. As the marine fossils of this central tertiary bed consist of forms corresponding with those which at present exist in the Australian seas, it is pretty certain that at some far distant period the ocean rolled between the eastern and western portions of the continent.

The mountain ranges of Western Australia are found to consist of primary rocks; and the cordillera which forms the backbone, as it were, of New South Wales, and extends from the snowy

Alps to Cape York, is composed of granite, porphyry, and other ancient rocks, which have never been covered by a tertiary sea.

This eastern cordillera, which terminates in the Australian Alps, takes a westerly sweep near the colony of Victoria. Some of the highest peaks of the Alps are covered with snow for a large portion of the year; and it is from the drainage of these mountain ranges that the principal Australian rivers have their supply, but the land through which they run is generally of a poor nature at any distance from the banks, as is the case with the Murray. This river, which, like the Nile, periodically floods its banks from the melting of the snow in the mountains whence it takes its rise, has a wide channel-bed worn through tertiary flats covered with mallée scrub, the sandstone cliffs on either side showing vast layers of fossil oyster-beds and other shells.

The height of the Australian Alps varies from 2,400 to 4,700 feet above the sea level, whilst Mount Kosciusko, the loftiest of all, is about 6,900; the view from its grassy summit sweeps over an area of 7,000 square miles. The rugged and savage character of these mountains far exceeds what might be expected from their height. By far the greater part of the chain, though wooded along, is crowned by naked needles, serrated peaks, and flat crests of granite or porphyry, mingled with patches of snow.

There is a large extent of country in the Portland Bay district, extending westward from

Geelong to Cape Northumberland, which displays unquestionable evidence of having been, at some remote period, subject to fearful volcanic eruptions. Mr. Lloyd, who resided for some years near Lake Colac, thus describes the peculiar scenery of this igneous region:—"The beautiful sheepwalks of the plains, as well as almost every other part of the district, are studded with conical-shaped hills, in each of which may be seen large craters, long extinct, representing a hollow, inverted cone, from 50 to 100 feet in depth, clothed with grass and copsewood. In the immediate vicinity of these—indeed I may say for miles around them—are to be found quantities of pumice and iron-stone, the former being light as a sponge: each mass, however, is perforated with holes, from having been at some time in a state of fusion. In the Warrian Hills, bounding Lake Korangamyte, there are several exhausted craters within a circuit of five miles. The bottom of each forms a beautiful little salt lake, fringed with evergreen shrubs, and covered with an abundance of wild fowl, which, when viewed from the heights around, appear like their respective kinds in miniature. Each sheet of water is divided from its neighbour by a lightly-timbered grassy bank, twenty or thirty feet wide at its summit, increasing to a proportionate width as it approaches the water-line or level. While, therefore, the visitor is awed by these vestiges of past convulsions, he cannot but feel exquisite delight and admiration at the peaceful and picturesque beauty of the scene.

Countless stony mounds and granite rocks prevail throughout the lowlands around the Warrian Hills, as well as for miles about the base of the dark-frowning Mount Parndon, which is densely wooded, and contains an immense extinct crater. There, mixed heaps of pumice, granite, and porous ironstone lie in confusion incredible, resembling the waves of a raging, short, cross sea; yet, in the midst of all this ancient ruin do stout-hearted men, with their wives and children, reside in thoughtless and happy security, not dreaming that the hand of Providence will ever again disturb those romantic scenes, or ordain a recurrence of such fearful visitations; and troubling their minds with no other thought than the welfare of their flocks and herds that daily traverse those intricate and densely-timbered pastures."

This volcanic region extends into South Australia, where, in the neighbourhood of the now flourishing pastoral township of Gambierton, in the south-eastern extremity of the colony, there exist several very remarkable extinct craters and volcanic lakes, of which Mount Gambier is the most interesting and extensive. The extinct volcano, which is included in the general title of Mount Gambier, is a chain of craters, extending nearly east and west, three of them having lakes at the bottom. Mr. Angas, who visited this district with Sir George Grey in 1844, thus describes the scenery of Mount Gambier:—"A ride of nine miles, through a rich country thickly studded with blackwood trees, brought us to the foot of Mount

Gambier, which is composed of the united shells or walls of three distinct craters (each containing a lake of water) that rise in abrupt peaks from a fertile and level country composed of a dark volcanic soil. After toiling up the outward slopes of the mountain at the most accessible place we could find, the sudden view of the interior of the largest crater burst upon us, and called forth our rapturous admiration. It was, indeed, a glorious and enchanting scene: a vast hollow basin, rising at one side into a lofty peak, shut out from the world by the walls of lava that surrounded it, and covered with emerald verdure, burnished to an almost metallic brightness on those eminences that caught the golden tints of evening, which now lit up with a fairy-like radiance the eastern walls of the crater. Small hillocks interspersed amongst miniature plains and valleys, carpeted with grass of the most velvet smoothness, and dotted here and there with a few trees, formed one portion of this enchanted dell. At its western extremity, terrace above terrace rose along the edge of the crater; and caverns of red cellular lava opened in its sides occasionally. But the most pleasing sight, as we stood gazing on this scene of natural beauty, was the deep, still lake that filled the other half of the crater: its dark-blue waters, never ruffled by the wind, lay in calm repose at the base of lofty cliffs of pure white coral limestone, every line of which was mirrored on its tranquil bosom. Some tern were skimming over the lake; and several small

lakes or ponds ornamented the green carpet of this wondrous spot. The declining sun threw orange and amber reflections across the sky; and, as the light faded away, the steep walls of the volcano loomed solemn and terrible, the cold mists of night settled down upon the lake, and the scene of fairy loveliness was changed to one of lonely grandeur. All was still save the shrieking of the podargus; and when the moon rose up from behind the dark peaks of lava, the effect was beautiful indeed; the soft light bathing every object in that vapory splendour which adds sublimity to the landscape. We bivouacked for the night within the crater, our fires glimmering like stars along the edge of the lake."

The eastern crater, called the "Blue Lake," is a large and deep body of water, of an oval shape, surrounded by steep banks or walls of volcanic soil from 200 to 300 feet high, and covered with verdure and small trees: the descent is so steep and rugged that it is impossible to approach the water excepting in one or two places. This lake is 240 feet deep in the middle, and from soundings it would appear that the bottom is flat and equal like a floor. Mr. Woods thus describes it: "Huge and craggy rocks descend precipitously for forty or fifty feet. These crags sometimes hang over the water, whose already dark-blue tint is rendered still more gloomy by the reflection of their black and stony fronts. The whole appearance of the lake is wild and sombre in the extreme. The deep indigo, or

rather inky aspect of the waters, the blackened precipices, which bear so plainly the tokens of fiery ravages, the thick and tangled nature of the brushwood, give the place an air of savage loneliness; and then the spot is so quiet, so still, that, but for the splashing of a solitary waterfowl, one might almost imagine nature to be at rest, tired with sending forth those volcanic fires which poured out ages ago."

The middle lake is merely a good-sized pond of moderate depth. The water in all these lakes is of exquisite purity, clear as crystal, and deliciously cool even in the hottest days of summer. The inhabitants of the township now established in the vicinity of Mount Gambier obtain an excellent supply of water from a cavern lake; and many volcanic basins occur in the coral limestone around, which afford never-failing reservoirs of the purest water, always obtainable by means of a pulley and bucket.

This region is peculiarly interesting in a geological point of view; an extensive coral reef has gradually upheaved from the sea, through which have burst forth from beneath it the lavas and ashes of raging volcanoes. There have been, successively, a coral reef, a desert, and a burning mountain, where beautiful lakes now rest, and each period has left behind it the evidences of its action.

The imposing crater of Mount Schank rises, like a truncated cone, rather abruptly from a wooded level country, a few miles to the south

of Mount Gambier. Its elevation is about 600 feet above the plain. The ascent is very steep, and is clothed with grass, and scattered here and there with shea-oak trees. Unlike Mount Gambier, there is no water at the bottom to give it that air of placid loneliness which the other possesses; but on gaining the summit, and standing on the rim or outer edge of the crater, a grand and stupendous scene opens to view. The interior is one vast hollow basin upwards of two miles in circumference, and so deep that the trees growing in the rich soil of the windless valley at the bottom appear like minute shrubs dotted over its surface. Looking beyond, the panorama is bounded only by the blue haze of immeasurable distance; and the line of the southern ocean stretches away, until it is broken by the high land at Cape Nelson. The windings of the Glenelg, separating South Australia from Victoria, Bridgewater and Discovery Bays—and the bold headland of Cape Northumberland, may all be traced from the brow of the crater. Heaps of black cellular lava lie around the base of Mount Schank; and at the foot of the cone, surrounded by wild masses of rock and tangled verdure, is a little lake of picturesque beauty, which appears to have been formerly a vent-hole as it were, from which steam issued during the active period of this volcano. Now, the trees and flowers quietly growing on the softened rocks in the crater itself tell us, by their tranquil growth, that the fire has long since fulfilled its Author's work and disap-

peared, leaving for ages the black and empty chasm staring into the heavens, lonely and desolate.

In the limestone country of South Australia there are numerous caves of great beauty and extent. Perhaps the most interesting are those called the Blanche Caves, about twenty-five miles north of Penola, on the Musquito Plains. The Rev. Mr. Woods thus describes them:—"In the midst of a swampy, sandy country, plentifully covered with stringy-bark trees, a series of caverns is found, whose internal beauty is at strange variance with the wildness of the scenery around. The entrance is merely a round hole on the top of a hill, which leads to a small sloping path under a shelf of rock. Descending this for about twenty-five feet, one gets the first glimpse of the magnificence enshrined below. The observer finds himself at the entrance of a large oblong-square chamber, low, but perfectly lighted by an aperture at the opposite end, and all around, above and below, the eye is bewildered by a profusion of ornaments and decorations of nature's own devising. It resembles an immense Gothic cathedral, and the numbers of half-finished stalagmites, which rise from the ground like kneeling or prostrate forms, seem worshippers in that silent and solemn place. At the further end is an immense stalactite, which appears like a support to the whole roof; not the least beautiful part of it being that it is tinted by almost every variety of colour, one side being a delicate azure, with passages of blue, green and pink intermingled; and

again it is snowy white, finally merging into a golden yellow. The second cave or chamber is so thickly studded with stalactites, that it seems like a carefully-arranged scene, which, from the interminable variety of form, and magic effect of light and shade, might easily be taken to represent some fairy palace. Very soon the cavern becomes as dark as night, and further exploration to the numerous chambers and fissures beyond has to be made with the assistance of torches.

"On leaving the last chamber we return to the light: a narrow passage, richly wreathed with limestone, is observable on the right hand going out. Proceeding a little way down, a large vaulted chamber is reached, so perfectly dark and obscure that even torches can do but faint justice to its beauty. Here, above all other portions of the caves, has nature been prodigal of the fantastic ornament with which the whole place abounds. There are pillars so finely formed and covered with such delicate trellis-work, there are droppings of lime making such scroll-work, that the eye is bewildered with the extent and variety of the adornment. It is like a palace of ice, with frozen cascades and fountains all around. At one side, there is a stalactite like a huge candle that has guttered down at the side; at another, there is a group of pillars, which were originally like a series of hour-glasses, set one upon another from the roof to the ground, and the parts bulging out are connected by droppings like icicles, making them appear most elaborately carved. In addition of

this, there is, above and below—so that the roof glistens, and the ground crackles as you walk—a multitude of small stalactites, which fill the whole scene with frostings that sparkle like gems in the torchlight."

It was in a crevice in one of the outermost of these caverns that the body of an aboriginal native was discovered, petrified by the droppings of the limestone. After it had remained for years in its stony shroud, an adventurous individual stole the body, and successfully carried it off for purposes of exhibition in Europe, baffling all the attempts which were made by the local government to recover it, and restore it to its original place in the cave.

At Wellington Valley, in New South Wales, there are some very fine caves, somewhat similar to those of South Australia, in which there are large deposits of the bones of extinct animals.

The tufa "biscuits," which occur on the flats about Lake Hawden, and other localities in the neighbourhood of Rivoli Bay, in South Australia, are remarkably curious, and have puzzled many persons as to their origin. They are round, flat pieces of limestone, of various sizes, as like biscuits as stones can possibly be. Sometimes they are small, that is, about the size of a penny-piece; at others they are as large as an ordinary ship-biscuit, covering the ground so thickly that nothing else can be seen on any side. The Rev. Julian Woods thus accounts for their formation:—"It has been already observed, that the ground is generally pitted over with little

depressions, in which the remaining water collects as soon as the dry weather sets in. These are the last to dry up. In doing so, a small quantity of lime and pipe-clay (in which soil only they occur) gets hardened into a cake at the bottom. When the summer goes on, they curl up to some extent, before they are quite dry, becoming detached from the ground; and, when quite hardened, the atmosphere and rain during the ensuing winter give them their rounded form. That this is the whole of the process may be easily perceived by any one who examines a few of the biscuits where they are thickly strewn, and then every stage of the process can be seen. Where there is more lime and pipe-clay, the mud (for such it is) gets detached in large fragments, and this is the cause of the large spherical masses. Where they are very small and thin, they appear to be formed from a large sheet of hardened sediment, which has cracked away and become subsequently broken small by the weather." In places where there is a mixture of sand and pipe-clay the soil has frequently another peculiarity. It is known by the name of "Dead-men's graves," or the "Bay of Biscay" ground. Large tracts of this kind of soil are seen covered with mounds, just like graves in a churchyard. Sometimes these mounds are two or three feet high, and then they are rounded in form; but, more commonly, they are no more than a foot in height, and then they are long and narrow, exactly like the objects the name of which

they bear. They are never seen except where there is a good deal of surface-water in winter; and they are probably caused by the unequal effect of water upon the soils on which it lies, together with the fermentation, which is the result of the chemical action of carbonate of magnesia and lime upon each other.

In speaking of the swamps of the south-east portion of South Australia, Mr. Woods says: "There is a curious circumstance connected with these swamps which have an underground drainage, which, in any other than a new country, would surely have been invested with a ghostly legend. Every evening, during spring and the early part of summer, distant groanings are heard, like the lowing of a large herd of cattle; generally, three such echoing sounds are heard, and then follows about half an hour's repose. I believe the sounds are entirely due to a column of air resisting a column of water which is draining through the limestone, and, finally, being driven backwards or forwards, according to the periodical increase of the weight of water. To one ignorant of the cause, the sounds are mournful and startling in the extreme; and they are not noticed in the day, probably because there are so many other sounds of cattle, &c., to mingle and be confused with them."

In the sandy deserts noises like distant artillery are frequently heard on windy days. Stuart mentions that one morning, when in the interior, amongst the red sand-hills of that inhospitable region, he was startled by hearing a loud, clear,

reverberating explosion, like the booming of artillery. In other sandy districts these noises have frequently been observed; they seem to come with an explosive echo from the sand-hills, and reverberate for a considerable time amongst the surrounding mountains.

Similar mysterious sounds have been heard by various explorers in the interior: they were observed by Burke and Wills near Cooper's Creek; and Captain Sturt, when on the Darling, in 1828, describes an extraordinary sound, which astonished himself and party about 3 P.M., one day in the month of February in that year. He says, "The day had been remarkably fine, not a cloud was there in the heavens, nor a breath of air to be felt. On a sudden we heard what seemed to be the report of a gun fired at the distance of between five and six miles. It was not the hollow sound of an earthy explosion, or the sharp, cracking noise of falling timber, but in every way resembled a discharge of a heavy piece of ordnance. On this all men agreed, but no one was certain whence the sound proceeded. Both Mr. Hume and myself, however, thought it came from the north-west. I immediately sent one of the men up a tree, but he could observe nothing unusual. The country around him appeared to be equally flat on all sides, and to be thickly wooded: whatever occasioned the report, it made a strong impression on all of us; and, to this day, the singularity of such a sound, in such a situation, is a matter of mystery to me."

Captain Grey thus describes the curious appearance of the table-land on the summit of some of the sandstone ranges near Hanover Bay, in North-Western Australia:—"Several acres of land on this elevated position were nearly covered with lofty isolated sandstone pillars of the most grotesque and fantastic shapes, from which the imagination might easily have pictured forms equally singular and amusing. In one place was a regular unroofed aisle, with a row of massive pillars on each side; and in another there stood upon a pedestal what appeared to be the legs of an ancient statue, from which the body had been knocked away.

"Some of these time-worn columns were covered with sweet-smelling creepers, while their bases were concealed by a dense vegetation, which added much to the singularity of their appearance. The height of two or three which I measured was upwards of forty feet; and as the tops of them were nearly upon the same level, that of the surrounding country must, at one period, have been as high as their present summits—probably much higher. From the top of one of these pillars I surveyed the surrounding country, and saw on every side proofs of the same extensive degradation—so extensive, indeed, that I found it very difficult to account for; but the gurgling of water which I heard beneath me soon put an end to the state of perplexity in which I was involved, for I ascertained that streams were running in the earth beneath my feet; and, on descending and creeping into a fissure in the rocks, I found, beneath the

surface, a cavern precisely resembling the remains that existed above ground, only that this was roofed, whilst through it ran a small stream, which in the rainy season must become a torrent. It was evident that, ere many years elapsed, the roof would give way, and what were now the buttresses of dark and gloomy caverns would emerge into day, and become columns clad in green, and resplendent in the bright sunshine."

In many parts of Australia the plains are studded with large, shallow, briny lagoons, the waters of which are, during the summer months, converted into beautiful salt, which glistens in the sun with a dazzling whiteness.

The Great Salt Lake of Korangamyte, fifty-seven miles west of Geelong, in the colony of Victoria, is at least eighty miles in circumference, very shallow, and excessively salt. The evaporation of its vast surface waters is so great during midsummer that its boundary line recedes for a long distance, the parched dry sands reminding the traveller of some level sea-shore at low tide. Although the waters of this extensive lake are so salt as to be undrinkable, yet it teems with myriads of black swans, ducks, pelicans, cranes, and other kinds of water-fowl. It is remarkable, that only four miles from Korangamyte, there is another lake, called Lake Colac, about five miles long by two broad, which consists of a beautiful sheet of fresh water, and has never been known to be impregnated with salt, even at the driest season of the year.

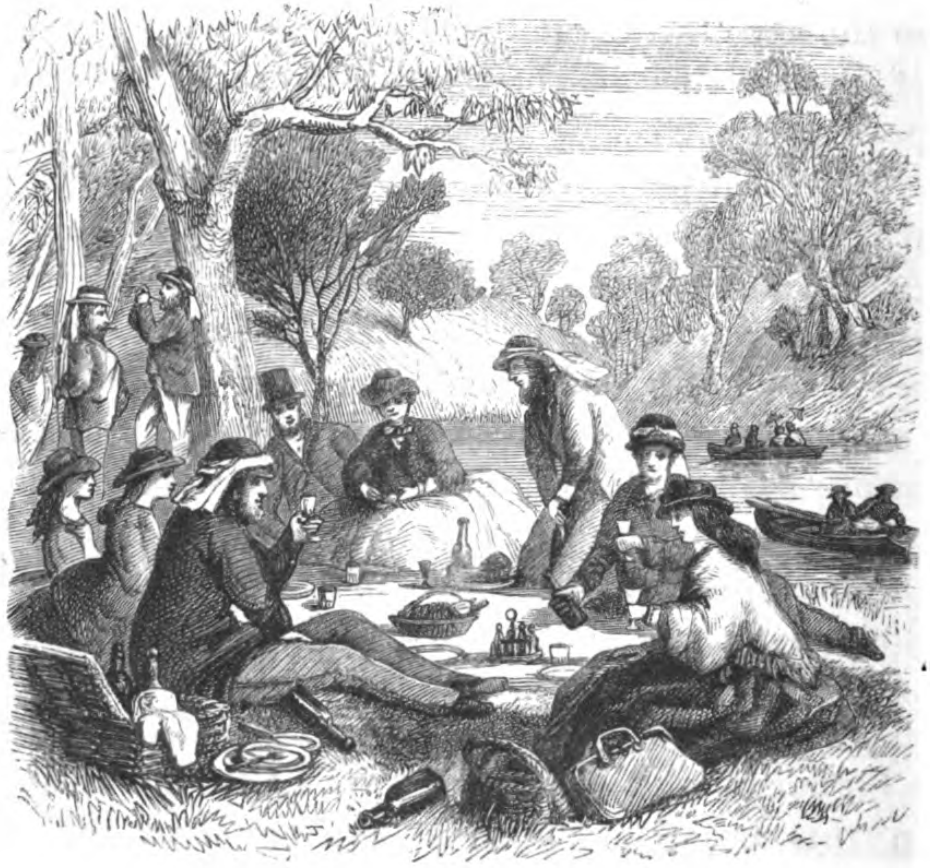
Mr. Lloyd says: "During the summer months a

considerable trade is carried on in the collection and transport of salt, from the innumerable shallow lagoons to be found on the extensive plains of the western or Geelong district to the seaports of Melbourne and Geelong. Hundreds upon hundreds of tons of the most pure and snow-white salt are annually procured from these natural sources, varying in kind, from that adapted for table uses to the fine clear crystallized sort, which has proved of great value in the preservation of beef and pork.

"On that portion of the South Australian coast which extends between the Lakes Alexandrina and Albert and Cape Northumberland, and which has, according to geological evidences, been under the sea at a comparatively recent period, salt pans or 'salinas' are not uncommon. These are immense basins filled with brine in the winter time, and with crusted salt in the dry season. The salt in these depressions is generally very coarse and dirty, somewhat bitter in taste, and always contains a small admixture of sulphates of lime and magnesia. Round most of these 'salinas' there is a border of whitish mud, of a very fetid odour, and in this large crystals of gypsum and natron occur."

CHAPTER III.

Climate, Rainfall, Droughts and Floods, Hot Winds, Bush Fires, etc.



CHRISTMAS DAY IN AUSTRALIA.

The climate of so large a space of country as Australia, extending as it does from 11° to 43° S., must necessarily be of a very varied character. At least one-third of the entire continent is situated within the tropics, and experiences the

regular monsoon winds and summer rains of that region. Southwards again is a latitude of uncertain climate, in which periodical floods and droughts occur; whilst the extreme southern portion of Australia, which is exposed to the prevailing south-west ocean winds, has a climate of winter rains, and comparatively dry summers.

At Coburg's Peninsula, in lat. 11° 5′, at the most northern extremity of the continent, the annual mean temperature of the air is 82°; in Sydney, in lat. 33° 51′, it is 61° 3′; in Adelaide, lat. 34° 55′, it is 64° 9′; at King George's Sound, in Western Australia, in the same parallel as Adelaide, it only reaches 60° 1′; whilst at Hobart Town, at the extreme south of Tasmania, in lat. 42° 53′, the mean temperature throughout the year is 53° 3′.

As regards the average and the variations of temperature, the east coast of Australia very nearly resembles that of the south-west coast of Portugal: thus, Sydney has a mean temperature very similar to that of Lisbon or Cadiz. Melbourne, on the south coast, may be compared with Bordeaux; whilst Adelaide, which lies further north, and is partly influenced by the heated plains of the interior, possesses rather the climate of Northern Africa.

In the interior of the continent the fluctuations of temperature are immensely increased. The heat of the air, as described by Captain Sturt, is fearful during summer; thus, in about lat. 30° S. and long. 141° E., he writes: "The thermometer every day rose to 112° or 116° in the shade."

Again: "At a quarter past 3 P.M. on the 21st January (1845) the thermometer had risen to 131° in the shade, and to 154° in the direct rays of the sun." In the winter the thermometer was observed as low as 24°, giving an extreme range of 107°.

These changes of temperature in the interior plains are often very sudden and severely felt. On one occasion, in Central Australia, Captain Sturt says: "The heat rose to 110° during the day, but a squall coming on, it fell to 38° at the following sunrise; it thus varied 72° in less than twenty-four hours." Sir Thomas Mitchell, on his journey to the north-west interior, had very cold frosty nights. On the night of May 22nd, the thermometer stood at 12° in the open air! still, in the day-time, the air was often warm, and the daily range of temperature enormous.

Owing, however, to the remarkable dryness of the air, these extreme heats are not nearly so much felt as if the atmosphere were charged with moisture, as is the case in tropical countries generally; were it so, it would be impossible for men to exist.

During the summer months hot winds blow at intervals from the north and north-west; occasionally with furious violence for many hours together, coming charged with the heated atmosphere of the arid and sandy plains of the interior, and resembling the blast from an oven. These are generally succeeded by a violent gale from the southward, which is termed by the colonists a

"Brickfielder." On such occasions the wind veers rapidly round, and blows tremendously for several hours, raising, in the towns, blinding clouds of dust, and carrying before it sticks, stones, and gravel in its resistless fury. At the same time the temperature falls so rapidly, that persons who were languishing with the heat half an hour previously, are glad to put on a greatcoat, or sit near a fire. When these hot gales are accompanied by extensive bush fires, as was the case on the memorable "Black Thursday," which occurred in the month of February 1851, the effects are terrible and destructive in the extreme. On that occasion vast tracts of country were on fire along the southern coast, and the wind, which blew a scorching hurricane off the land, carried such clouds of smoke, ashes, and sand along with it, as to envelop vessels many miles out at sea in a lurid and suffocating haze; whilst countless numbers of birds dropped dead on the vessels' decks. As the rolling fires swept on, many a once-flourishing homestead was reduced to ashes, and many families were burned to death in their vain attempts to escape from the flames that surrounded them on all sides. Not a dry season passes but the country is on fire somewhere. Many of these bush fires are caused by the blacks burning the scrub to drive out game; but in the settled districts they are generally owing to the carelessness of persons leaving their camp fires burning, or dropping matches in the dry grass, which ignites on the instant. The effects of these fires in the

forests that clothe the mountain ranges in South Australia is thus described by Mr. Angas: "The forests consist of tall primeval trees, their erect and massive trunks blackened in many places as high as twenty feet from the ground by the tremendous fires that sweep through these forests, and continue to blaze and roll along, day and night, for many miles in one continuous chain of fire. These conflagrations usually take place during the dry heats of summer; and frequently at night the hills, when viewed from Adelaide, present a singular and almost terrific appearance, being covered with long chains of flame, so that one might fancy them to be a range of volcanoes."

Mr. Launcelot thus describes a bush-fire in Victoria: "The emigrant may behold one of these fiery devastators leaping and sparkling over miles of country, reducing all it meets to ashes, and roaring and cracking like a thousand coke furnaces. Viewed from a convenient eminence after sunset, the spectacle is highly sublime, and the thought how many unfortunate bushmen have, on these occasions, fallen a prey to the ruthless element, awakens a shudder of horror. Before the impetuous conflagration is a paradise; behind, a blackened desert. The air is heated for miles around. Dense volumes of smoke fill the sky, and put out the bright stars. Myriads of long white flames are issuing from the trunks of lofty hollow trees, as from so many pillars of fire. Birds, snakes, quadrupeds, being driven from their hiding-places, are all rushing forward, in direful

confusion, before the coming destruction; and, commingled with the increasing crash of ancient gigantic trees, is heard the hissing of serpents, the screaming of birds, and the wild cries of the terror-stricken quadrupeds, amongst which the reiterated *hu! hu!* of the kangaroo resembles the human cough so closely, that the stranger would take it for nothing else."

In the Australian climate the rainfall is of an interesting and singular character. The greatest fall of rain is supposed to be upon the verge of the east coast of New South Wales, where the mean annual rainfall is, at Sydney forty-nine inches, and at Port Macquarie (two degrees further north) seventy-one inches; which exceeds double the average of that of London. On this part of the coast the wettest months in the year are those of autumn, viz., March, April, and May. The spring season appears to be the driest, summer and winter being intermediate. It is true that drought, or the want of water, is felt chiefly during the summer, but this is because the air is then hot and dry, and evaporation excessively rapid.

In Victoria and Tasmania the rain, although less in quantity, falls more evenly throughout the year; but the largest proportion falls in winter or spring. The same may be said of South Australia and Swan River, where there is a large excess of winter rains, while the summers are but little relieved from drought, except by occasional thunder-storms. In those parts of Australia which lie within the limits of the tropical monsoons, the

rainy season is during summer, when the sun is overhead, and north-west or westerly sea winds blow almost constantly. During the winter or south-east monsoon, the weather is chiefly dry, because the wind is then off the land.

It would appear that Western Australia, which is most exposed to south-west winds, and most strongly marked by winter rains, is also least liable to variations of the yearly rainfall; and that in proportion as the southern parts of Australia are sheltered from the westerly winds, they have a less preponderance of winter rains, and a greater liability to prolonged seasons of flood and drought.

While the extraordinary irregularity of the rainfall in Australia attracts attention, still more so do those singular eccentricities of the climate termed floods and droughts, which at uncertain intervals have impaired the prospects and endangered the lives of the settlers in New South Wales. In the year 1806, on the 22nd of March, the great and memorable flood of the Hawkesbury occurred, at which period the waters of the river rose ninety-three feet above their ordinary level. In the course of one dreadful day upwards of 200 wheat-stacks were swept into the stream. Nearly three hundred persons were placed in situations of more or less imminent danger, but by great exertions were mostly rescued from the tops of houses or trees to which they had climbed. Several persons, however, were drowned. Cries for help, and reports of muskets, the signals of distress, were heard both day and night, and added

greatly to the confusion of a scene which was throughout strange and terrible. An immense expanse of water, interspersed everywhere with submerged trees, stacks, and houses, having men, women and children clinging to them for protection, and shrieking out in an agony of despair for assistance, was the aspect the fertile valley of the Hawkesbury presented on that memorable day.

During the years 1814 and 1815 scarcely a drop of rain fell on the east coast of New South Wales. In 1827, 1828, and 1829, there was a long period of drought, during which the beds of rivers which had hitherto always had a deep and rapid stream, even in the driest weather, became totally dried up, and were traversable for miles: the state of the country was truly deplorable; not a blade of grass was to be seen, and the cattle perished in great numbers. From 1835 to 1839 a similar state of things occurred; and the season of 1849 was also a rainless one.

The year 1852 was marked by the great flood which destroyed the town of Gundagai, on the Murrumbidgee; and 1853 and 1857 were remarkable for floods of a serious and destructive character. Many marks, often apparently trivial, but nevertheless significant, have led travellers to conclude that the Australian climate has undergone great and long-prevailing changes. In the maps of New South Wales is laid down a lake, called Lake George, of considerable dimensions, and invitingly coloured blue. When Sir Thomas Mitchell first visited it in 1828, he saw a sheet of

water seventeen miles in length by seven or eight in breadth, a little brackish, but quite fit for use. Ridges surrounded the lake on all sides, while four mountain streams supplied it with water. On his second visit, eight years afterwards, he saw only grassy meadows extending over the site of the former lake.

Changes equally remarkable, but more extensive, have occurred to the rivers Macquarie and Lachlan. When Mr. Oxley, in the winter of 1818, traced down the course of the former river, he found it to spread out at all points from north-west to north-east, over very extensive plains covered by tall reeds. The horizon was clear, like that of the sea. Shortly afterwards he explored the Lachlan river, and was surprised to meet again with vast marshes, rendering his further progress impossible. From these facts many were led to suppose that a shallow inland sea occupied the unknown interior. Yet, when Captain Sturt visited the Macquarie, ten years later, after the continuance of the three years' drought, he found only an interminable expanse of arid soil, and not a drop of water.

Every river of Australia is subject to high floods at intervals often very long; and on the furthest and driest plains of the interior, explorers have observed signs of great inundations. High floods seem to be alternate with long-continued droughts; but it appears from the evidence we already possess, that these droughts are almost unknown in Western Australia, only slightly felt

in South Australia, more so in Victoria, and most severely in New South Wales.

Water of the purest quality is obtained from wells sunk in the sandstone and limestone formations; and, by means of artesian borings, good water has been found at greater depths in localities hitherto considered totally dry.

A remarkable peculiarity of the country along the southern shores of Australia is, that, where the sea-beaches are bounded by slightly elevated banks, or higher lands, good fresh water may, in the majority of cases, be obtained by digging to a depth of one or two feet, immediately above the line of high-water mark.

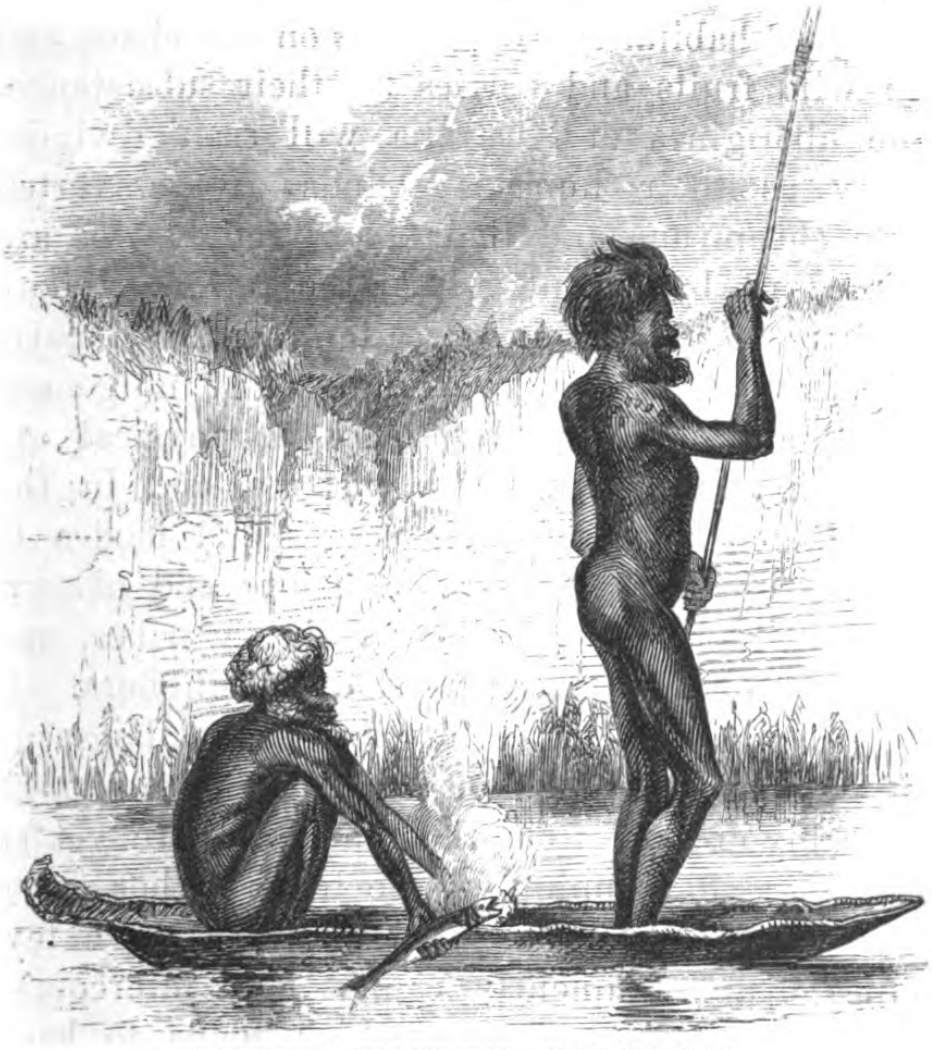
In the dense and arid mallee scrubs, where no surface-water exists, and where there are no ponds or rivers, the bountiful hand of Providence has supplied the sagacious savage with a means of obtaining water from the roots of the mallee itself. Laying the largest roots bare, from the surrounding sand, the black fellow with his tomahawk will strike close to the butt of the tree, and from the porous texture of the wood, which is easily severed, there issues a considerable quantity of fresh and limpid water. Thus the waters of the mallee-tree enable the untaught savage to cross these inhospitable regions, in which so many white men have perished.

During the autumnal months, the heavens at night are occasionally lit up with the "aurora australis," or "southern lights," which beautiful phenomenon may be witnessed in its utmost

splendour in the clear atmosphere of South Australia. At times, the entire southern portion of the sky, from the horizon to the zenith, is covered with shooting and quivering rays of a brilliant red colour, changing into orange, amber, or green alternately, and then fading away into colours of silvery white, only to resume again their original blood-red hue; at which period the effect is indescribably awful and grand.

CHAPTER IV.

On the Aboriginal Inhabitants of Australia.



NATIVES ON THE MURRAY, IN BARK CANOE.

As British colonization is gradually spreading over the Australian continent, so the primitive

inhabitants of the soil are fast dying out, and, in many places, they will, ere long, have totally disappeared. Wherever the white man locates himself, so surely do the inferior races give way: as the Red Indian and the Bushman have vanished before the colonists of North America and the Cape, so will the degraded nomads of Australia perish in like manner. A wandering race, without fixed habitations, depending on the chase and on wild fruits and berries for their subsistence, the aborigines of Australia will soon dwindle away as their hunting-grounds are converted into sheep-runs, and their roots and berries are turned up by the plough of the settler. There appears to exist, thinly scattered over all parts of this vast territory, only one race of indigenous inhabitants, differing but little in physical appearance, in manners and customs, and in the general character of their usages and modes of life; still there are certain habits and observances which are peculiar to single tribes, and totally unknown amongst their neighbours. It is remarkable that each tribe has a language of its own: these languages or dialects, though probably derived from the same root, are yet so distinct as to be unintelligible to any other tribe. Thus individuals occupying localities but a few miles apart, frequently cannot hold intercourse together; a circumstance which tends to keep up the clanship and the animosity which prevail to so great an extent between neighbouring tribes.

In stature, the Australian savage is generally below the average height of the European. The women are shorter in proportion, and their limbs are not so well formed as those of the men. The tribes who inhabit the sea coast, and the banks of the Murray and other large rivers, where fish and wild fowl are abundant, are more athletic and better made than those who seek a scanty sustenance amongst the scrubs and arid plains of the interior, where snakes, lizards, roots, and gum, are often their only and uncertain food. Occasionally men are met with who measure six feet in height, and others who are stout and robust; but these are exceptions to the mass, who frequently present limbs that are much attenuated, and forms extremely slight and thin. Amongst the ill-fed tribes, the limbs, especially of the young people, are miserably small and slender, whilst their stomachs become so distended by the frequent use of juicy and green food, as to appear unsightly.

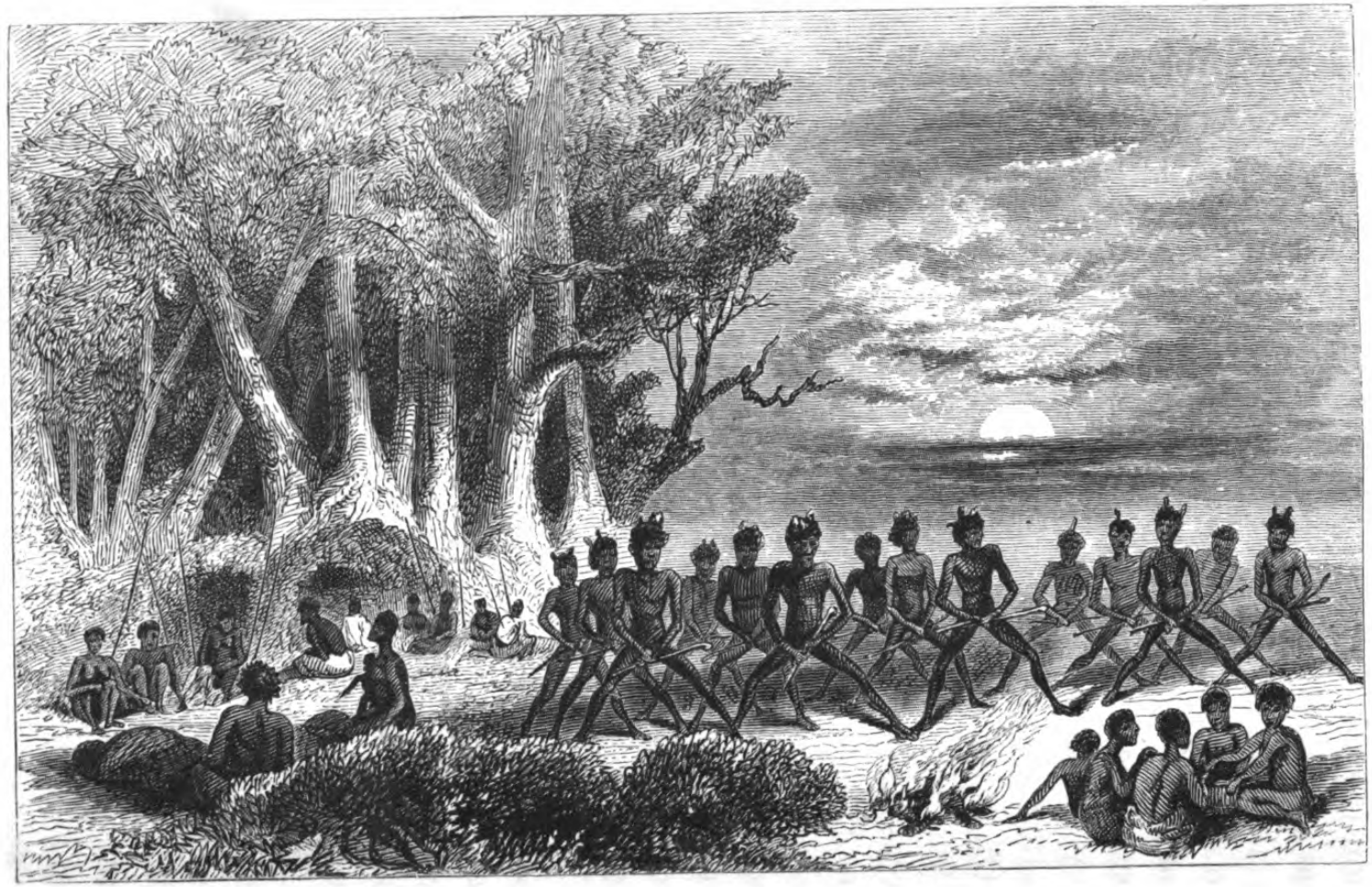
The true colour of their skin is so disguised by dirt, ochre, and clay, as to be hardly discernible: it is, however, of a purplish copper tint when clean, though the accumulation of dirt upon their bodies makes them appear nearly black. Their hair is black or very dark brown, coarse, generally in curls, but never woolly. The beards and whiskers of the men are strong and abundant, and the whole body is often covered with hair to a greater or less degree.

Their eyes are universally of a dark hazel, with very black lashes, and deep overhanging brows;

and the whites are tinged with yellow, and often bloodshot, which imparts a degree of savageness to their aspect.

These people are not wanting in the perceptive faculties, though in the reflective they are somewhat deficient. The skulls of the women are inferior to those of the men; they are elongated and very narrow, the development of the forehead in most cases being remarkably small. The cheek-bones are high and wide, the nose broad and depressed, with but little distance between the eyes; the mouth large, displaying a set of regular and beautiful white teeth. The jaw-bone is narrow and the chin diminutive and retiring. Independently of their want of cleanliness, there is a perceptible odour about them, which is rendered more offensive by the use of animal fat and fish oil, with which they anoint their bodies, to protect them from the burning sun and the stings of musquitoes and other venomous flies. Occasionally they may be seen with the entrails of fish upon their heads, frying in the sun until the oil runs down over their foreheads and shoulders.

In the summer-time both sexes may be said to go without clothing, especially when engaged in the pursuit of game or fish, or roaming about in search of eggs and roots. In cold weather, and at night whilst lying beside their fires, they wear a cloak of opossum or kangaroo skins, which the women sew together very neatly with sinews. The tribes on the Lower Murray manufacture round mats of grass or reeds, which they fasten



THE PALTI, AN ABORIGINAL DANCE.

upon their backs, tying them in front, so that they bear a quaint resemblance to the shell of a tortoise. In the upper portion of these circular coverings the mothers carry their children astride round the shoulders: the sharp eyes of the little creatures just peep over the edge of the mat, and if alarmed they suddenly pop down and nestle within its shelter.

On grand occasions—such as at a fight, or during a "corrobbory," or dance—the men adorn themselves with the feathers of the emu, the pelican, and the cockatoo, and paint their bodies with stripes and spots of red and white ochre, which gives them a hideous aspect. The hair, independently of being copiously anointed with grease, is often plastered with bright red ochre, and decorated with kangaroo teeth, fish bones, dogs' tails, or bunches of reeds or feathers. Some tribes wear a bone about six inches long through the cartilage of the nose, and their backs and shoulders are rudely tattooed with large scars or seams of cicatrized flesh; these prominent decorations being caused by deep gashes made with pieces of broken shell, and the flesh kept asunder for a considerable time, and filled with clay, in order that a bulky cicatrix may remain after the wound has healed.

They never cultivate the ground, but seek a scanty and precarious subsistence by wandering over large tracts of country in search of food, where the soil in its natural state produces but little comparatively for the support of the human race. This mode of life necessarily causes their dwellings to

be of a rude and temporary character. In the summer-time, a few green bushes broken off from a neighbouring tree, and stuck in a semicircle into the ground, constitute their only shelter from the wind. Under the lee of these bushes they light their fires, and wrapping themselves in their opossum rugs take their night's repose. On the sea-coast, and in exposed situations, during the winter, they construct round huts of boughs, grass, and bark, about four feet high, and open on one side. The inhabitants of the woods make use of a sheet of bark, bent in the middle, and placed on its two ends on the ground, affording shelter to only one person, the fire being placed a short distance from the hut.

On the east coast of Australia, where the stone of the country is in many places of a soft and sandy nature, and the rocks abound with caves, the natives have been accustomed, from time immemorial, to dwell in these caverns. In parts where they are now extinct, a very rich soil, consisting of shells, entrails of fish, and other animal refuse, is found at the mouth of the caves, affording evidence of their having been occupied by a primitive race, no doubt for ages past. With this soil the early settlers in New South Wales were accustomed to manure their garden-plots.

Their principal weapon is the spear, of which they manufacture several varieties. Some are long sticks merely pointed, others have one or more barbs cut in the wood, whilst some are

barbed with pieces of broken oyster shells, or sharp splinters of quartz or obsidian, cemented by means of a resinous gum. The spear is thrown like a dart, by means of an instrument called a throwing-stick, having a hook at one end, on to which the spear fits; thus they can strike any object at a distance of sixty or seventy yards, the throwing-stick remaining in the hand after the spear is discharged. Perhaps the most remarkable weapon used by the Australian savage is the "boomerang"—a sort of semicircular, flattened, wooden sword, which they throw with astonishing precision and dexterity. Some of these instruments are so contrived that after taking a circuit in the air for several hundred feet, they will return again to the precise spot from whence they were thrown; others, which do not recoil, are used for killing ducks. It is a singular fact, that in some of the fresco paintings of the ancient Egyptians, figures are represented in the act of flinging "boomerangs" at a number of aquatic fowl, as they escape from amongst the papyrus reeds; and Sir Gardner Wilkinson also mentions this instrument as occurring in the tombs at Thebes, in Upper Egypt. In the northern parts of Australia, where the myall-tree grows, the boomerangs and several other weapons, such as clubs and swords, are made out of its wood, which emits a pleasant odour, exactly resembling that of violets. They use shields, either of an oval or triangular form, which are manufactured out of wood or the thick bark of the gum-tree, and are variously

painted with red and white ochre. Their tools are rude and primitive—the "mogo," or stone hatchet, formed of a sharpened stone fastened between two pieces of wood, together with knives made of quartz, or of sharp fragments of shell and bone, constitute their principal implements, wherewith they fashion their bark canoes, and shape their spears, clubs, and shields.

An old writer on New South Wales, about the year 1803, remarks, when referring to the natives: "They have some taste for sculpture, most of their instruments being carved with rude work, effected with pieces of broken shell; and on the rocks are frequently to be seen various figures of fish, clubs, swords, and animals, not contemptibly represented." At the present day, many of these outline carvings upon the surfaces of flat rocks, representing men in the attitudes of the "corrobbory" dance, the kangaroo, sharks, &c., are to be met with on the headlands along the coast of New South Wales. Rude paintings of men and animals occur in caverns on the north and west coast. Many of these were found by Sir George Grey, during his expeditions in 1838; and more recently by Mr. Baines, the artist, who accompanied Gregory to the north coast.

Their canoes are simple enough. On the river Murray they consist of a single sheet of bark drawn together at the ends, and are paddled with a spear. At Twofold Bay they are also of bark, but more elaborate, and are kept open at the sides by means of small bows of wood. They are

moved by two small paddles, one of which is held in each hand. On the north-east coast, the natives have canoes of a more substantial kind, carved out of the trunks of trees, and about twelve or fourteen feet long. They are hollowed by fire, and shaped with the "mogo," or stone hatchet. Most tribes manufacture baskets of grass and reeds, and also nets for fishing and snaring game, from the root of the bulrush and the fibres of various plants.

The aboriginal Australians have no cultivated food; their garden is the waste, and their plantation the trackless forest. They go forth to the chase armed only with a slender spear and a short club—a "boomerang" or a "waddy"—depending more on their own subtlety and acuteness than on the efficiency of their weapons. At one season of the year they live chiefly on roots and vegetable productions. In the spring, eggs and young birds, lizards, snakes, and the larvæ of white ants and other insects, are sought after by them. The caterpillar of a large species of moth of the *cossus* tribe, which is drawn out of its hole by means of a long twig with a hook at one end, is regarded by them as an especial delicacy. Kangaroos and other wild animals are surrounded by large parties of natives in the scrub, who, closing on their game, drive them towards large nets, where they become entangled. Burrowing animals, such as the wombat, are either dug or smoked out of their holes. They can tell with astonishing precision whether an opossum has

recently ascended or descended a tree, the light scratches made by its claws upon the smooth bark disclosing the fact. As the gum trees frequently run up to thirty or forty feet without a branch, they ascend by making holes in the bark with a small stick, pointed and hardened by fire, just large enough to admit the toe, and thus they climb, from hole to hole, till they reach the boughs, in the hollow 'boles' of which they find the sleeping opossums. These they despatch by a blow on the head with their stick, and then send them tumbling down to their companions beneath.

Ducks, swans, and pelicans are snared in various ways. Even the great emu is taken by stratagem by these wily savages. When these birds approach the spot where they are accustomed to drink at sunset, a number of natives concealed by holding large boughs before them, will gradually creep up towards the emus, until they are sufficiently near to spear them; when the birds are wounded, they rush upon them, and despatch them with their clubs. Amongst the tribes who dwell on the banks of the Murray, the bulrush root is the staff of their existence—it is to them what bread is to the European. It is cooked in ovens over heated stones, in the same manner as is the flesh of the wombat and the kangaroo. Fish of all kinds, fresh-water turtle and their eggs, crayfish, and fresh-water mussels, all form important articles of food to the dwellers on the banks of the large rivers, whilst those on the sea-coast catch rock-fish with bone hooks, spear

mullet and turtle by torchlight, and devour large quantities of marine shell-fish. The fleshy leaves and fruit of the *mesembryanthemum*, a small apple-like fruit called "monterry," the nardoo seed, and, to the north, the pulpy rind of the *pandanus*, or screw-pine, together with the young shoots of various palms, and many tropical fruits, are all used as food by these wandering people.

Various reports are current as to the existence amongst them of cannibal tribes, and it is a well-authenticated fact that on the north and east coasts portions of the dead bodies of the deceased are eaten by their friends as a token of regard. A German missionary to some of the tribes in Queensland, stated to the author as follows: "At Moreton Bay, a lad having died, several men gathered round the body, and removed the head and the thick outer skin, which was rolled upon a stake, and dried over a slow fire. During this horrid ceremony the father and the mother stood by, loudly weeping and lamenting; and the thighs were then roasted and eaten by the parents. The liver, heart, and entrails were divided amongst the warriors, who carried away portions on their spears; and the skin and bones, together with the skull, were rolled up, and carried about by the parents in their grass bags or wallets."

The only animal which the natives cherish or domesticate is the dog: every warrior, or huntsman is attended by several of them; and it is frequently dangerous to approach an encampment, unless armed with a stout stick, to repel the

sudden attack of a horde of lean and half-starved curs that rush out with the utmost fury to worry the intruder.

Their dances, or "corrobbories," as they are generally styled, appear to have some reference to mystic rites; and are usually held at night, and by moonlight. Although these dances differ somewhat amongst various tribes, a description of one will suffice to give a general idea of them all. A writer who has been a careful observer of the manners and customs of the Australian natives says: "Of all their dances, not one, in point of uniqueness and dramatic effect, equals the Kuri dance," of which he gives the following account: "The night was mild—the new moon shone with a faint light, casting a depth of shade over the earth, which gave a sombre appearance to the dark masses of the gum-trees scattered around. In the distance, groups of dusky figures could be perceived under the trees, whence occasionally a shout and a burst of flame arose. These were the performers decorating themselves for the dance, and no one approached them while thus occupied. Two men, closely wrapped in opossum skins, noiselessly commenced clearing a space for the singers, who beat time with their sticks to a low, monotonous chant. All the spectators, men, women, and children, then sat down on the ground in semicircular rows, three or four deep. The dancers, in a state of nudity, were painted from the shoulders to the hips with broad white lines resembling the ribs of a skeleton: their faces were

also painted with red and white stripes, making the most hideous appearance, bunches of dry gum-leaves were tied round the legs, just above the knee, which, as they stamped about, made a loud switching noise. In their hands they held clubs and spears, from the top of which large tufts of emu feathers hung suspended. The dancers now moved in a compact body to within a short distance of the spectators. After standing for a few minutes in silence, they suddenly burst out into a deep, terrific yell, and the leader of the dance stepped forward and commenced stamping, the rest all joining in, and keeping time with the singers. The regular and alternate stamps, which seemed to shake the ground; the waving of the spears and emu feathers; with the loud switching noise of the gum-leaves, combined with the wild chaunting and unearthly shouts of these painted savages, formed a truly wild and exciting scene, as viewed by the glare of their fires, and the pale light of the moon. After going through various performances, intended to illustrate the hunting and capture of the red kangaroo, they all sank on their knees, and began to leap away in a mass, with a sort of grunting noise, while their bodies heaved and tossed to and fro: when they had got away about a dozen yards from the spectators they ceased, and giving one long terrible grunt or groan, dispersed. The rattling accompaniment of the singing ceased, the strain died gradually away, and the shouts and acclamations of the spectators rent the air."

Besides these moonlight dances, the natives have some peculiar ceremonies connected with their initiatory rites into the privileges of manhood. Those on the east coast knock out the front tooth of the candidate. About Port Lincoln they cut gashes in their backs with pieces of sharp quartz; and on the Murray they pluck out all the hair from their bodies, and anoint them copiously with red ochre and fat.

Perhaps in no country in the world are the dead disposed of in so many different ways as by the aborigines of Australia. Some tribes are buried in a bent posture, in a circular pit about five feet deep: sticks are placed horizontally across the top; leaves and grass are strewn over them; and finally, a mound of earth, like an ant-hill, is raised above the grave.

The natives of New South Wales were accustomed to burn their dead. The corpse was laid upon a pile of dry wood, about three feet high; the body being placed with the face towards the rising sun, with fishing apparatus, spears, &c., arranged beside it. The surviving relatives then covered it with large logs of wood, and set fire to the pile. On the following day, the calcined bones and ashes of the deceased were carefully buried.

Near the north-west bend of the river Murray, where they bury in a sitting posture, under small tumuli, the widows shave their heads, cover them with netting, and then plaster them with a thick coating of pipeclay, forming, when dry, a

skull-cap, or cast of the head, upwards of an inch in thickness, and weighing several pounds. These singular badges of mourning were found by Sir Thomas Mitchell during his explorations high up the Murray, lying scattered about near the native burying-places; and their appearance then caused numerous conjectures as to their origin and use.

Amongst the tribes on the Coorong, the skulls of the dead are taken away and used as drinking vessels by the relatives of the deceased. Favourite children are put into bags, and placed in the forked branches of a *casuarina* tree; whilst the bodies of aged women are pushed into wombat-holes in the ground, or into hollow gum trees, no attention whatever being paid to their remains.

Some of the South Australian tribes place their dead upon platforms, elevated about six or eight feet from the ground by means of posts; the body is covered with nets and rushes, and left to rot till the frail structure falls to pieces. On the banks of Lake Alexandrina these elevated tombs have a singular and somewhat melancholy aspect, standing up from amongst the tall reeds, through which the wind makes mournful music.

When a warrior is slain in battle, his corpse is set up cross-legged upon a platform, on a hill, with the face towards the rising sun; the arms are extended by means of sticks, the head is fastened back, and all the apertures of the body are sewn up. The hair is plucked off, and the fat of the corpse, mixed with red ochre, is rubbed all over the body. Fires are then kindled beneath

the platform, the friends and mourners remaining around it for several days, during the whole of which time the mourners are not allowed to speak. The weapons of the deceased are laid across his lap, and his limbs are painted in stripes of red and white and yellow. After the body has remained for several weeks on the platform, it is taken down and buried; the skull becoming the property of the nearest relation. Bodies thus preserved have the appearance of mummies: there is no sign of decay; and the wild dogs will not meddle with them, though they devour all manner of carrion.

One of the surest marks of the low position of the Australian savage in the scale of the human race is the treatment of their women. The men walk along with a proud, disdainful air; behind them, crouching like slaves, and bearing heavy burdens on their backs, with their little ones astride on their shoulders, come the despised and degraded women. They are the drudges in all the heavy work; and whilst their lords are finishing the repast which the women have prepared for them, these ill-used creatures sit contentedly at a distance, and gather up the bones and fragments, which the men throw to them across their shoulders, just as we should throw meat to a dog.

The native tribes have no distinct form of government; each man joins in the common hostility against an opposing tribe, and the men of most influence in matters of importance are the

old and successful warriors. Each tribe has its own hunting ground or fishing locality; and the infringement of these rights frequently leads to war amongst them.

Their battles usually take place at daybreak. The contending tribes meet on an open plain, naked, and painted, with their spears and shields; a bunch of emu feathers fastened at the end of a spear is sent as a challenge by one or other of the parties, and then, raising themselves to a dreadful pitch of excitement, using contemptuous language, and uttering horrid shouts and yells, they brandish their spears, and rush forward to combat.

They believe in the immateriality of the soul; and they have an idea, universally prevalent amongst them, that after death they change to white men. Of the general origin of things they have no definite conception. They acknowledge no Supreme Being, worship no idols, and believe only in the existence of a spirit whom they consider as the author of ill, and regard with superstitious dread. They are in continual fear of malignant spirits, or "bad men," who, they say, go abroad at night; hence they seldom venture from their encampments after dusk, even to fetch water, without carrying a firestick in their hands, which they consider has the property of repelling these evil spirits.

With a people so utterly savage and degraded, the work of the missionary has been, as may be supposed, attended with very partial success. It

is only by taking the children at an early age, and placing them in the schools set apart for the natives, that any good results have followed. In several of these excellent institutions, especially in South Australia, the children have shown an aptitude for learning equal to that of the Kaffir and the Hottentot. Many of the young people brought up in the schools speak English fluently, and can read and write well. They are willing to labour for European settlers, and make excellent stockmen and shepherds. As mounted police, for tracking the wild natives who may have committed depredations upon the flocks or herds of the farmers, they are remarkably useful: they will, however, frequently leave civilized life quite suddenly, and return to their savage state in the bush, casting off their clothes, and becoming to all appearance as barbarous as though they had never been educated or taught differently. Some years ago, the wife of one of the colonial governors took a girl from the Mission school, with the intention of thoroughly civilizing and Christianizing her: for several years the girl behaved remarkably well, acted as lady's maid to her mistress almost as satisfactorily as a European servant, attended church regularly, joining in the service with the congregation, and, in fact, was pointed out as a living proof that the natives were capable of the highest degree of civilization. One morning, however, black Sarah was nowhere to be found: search was made for her, but in vain; and it was feared the poor girl had met with foul

play from a tribe of wild blacks who had encamped near the town. Some weeks after this, her mistress, whilst visiting a distant part of the colony, happened to observe, amongst the occupants of a native encampment, her long-lost maid, covered with grease and ochre, and clad in a kangaroo skin, sitting contentedly beside a wild-looking young savage, to marry whom she had eloped from Government House.

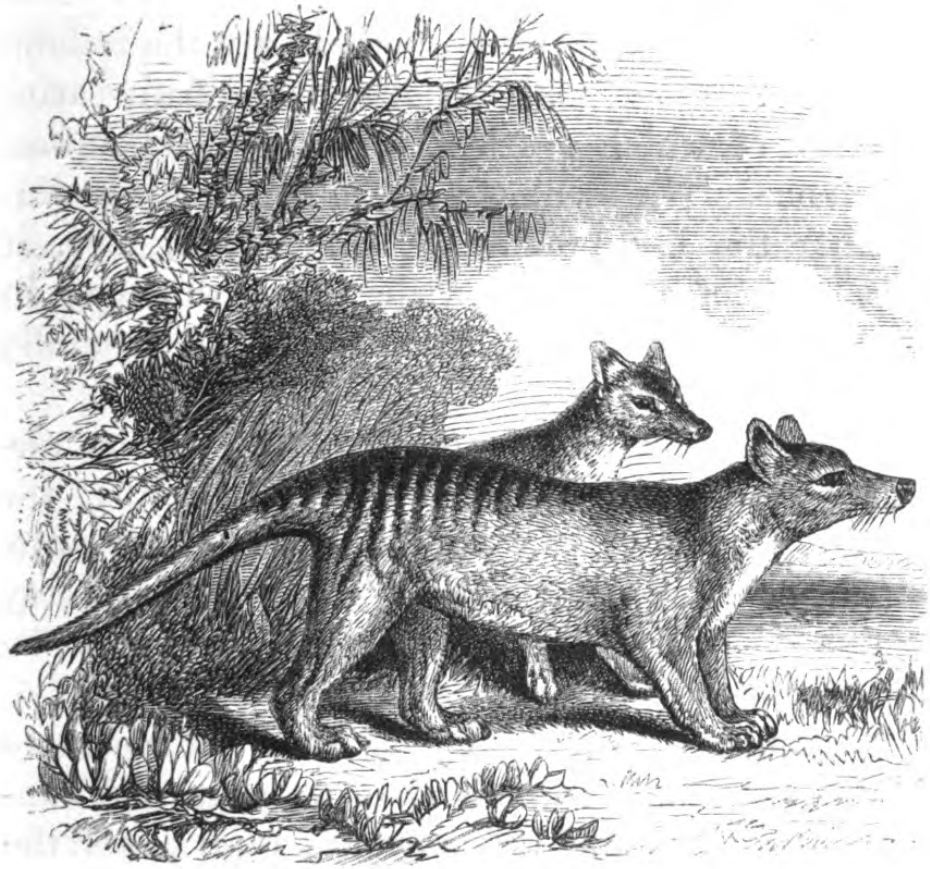
As regards the probable origin of the Australian race, it may be fairly presumed that they came from the Asiatic islands, and, crossing Torres' Strait, gradually spread themselves over the wide continent southwards. The Alfourous or Endamênes, who inhabit the interior of New Guinea, are a race whose physical appearance, manners, and language strongly resemble those of the Australian. Not only in New Guinea, but in the interior of other islands of the Indian archipelago, and in the forests of the Malay peninsula, does this inferior race exist, whilst the coasts are peopled by Papuans, with woolly hair, and a superior phrenological development.

In Tasmania the aboriginal inhabitants are all but extinct. They are described as being of a fierce and savage disposition, with *woolly* hair, their affinities belonging more to the natives of New Caledonia than to those of the Australian continent; hence it is supposed that they in the first instance came *round* Australia rather than *across* it. For many years after the settlement of Tasmania by Europeans, the natives were a source

of terror to the colonists, who, in their turn, avenged the atrocities of the blacks by shooting them down whenever opportunity offered. At last the Colonial Government decided upon removing the remnant of the aboriginal population to some of the uninhabited islands in Bass's Strait, and (this being accomplished) some five-and-twenty years ago, they were banished to Flinders' Island, where they were supplied with rations by the government. They however rapidly decreased in number, and are now, as a people, virtually extinct, the miserable remnant being transferred from Flinders' Island to Brown's River near Hobart Town, where one man and three old women are all that remain of a once savage and formidable race.

CHAPTER V.

On the Natural History of Australia · Mammals.



TIGER-WOLF (*Thylacinus Sarcophilus*)

Australia is the great country of the marsupials or pouched animals; they are everywhere distributed throughout its entire extent, from north to south, and from east to west; and their occurrence in the neighbouring islands, in New

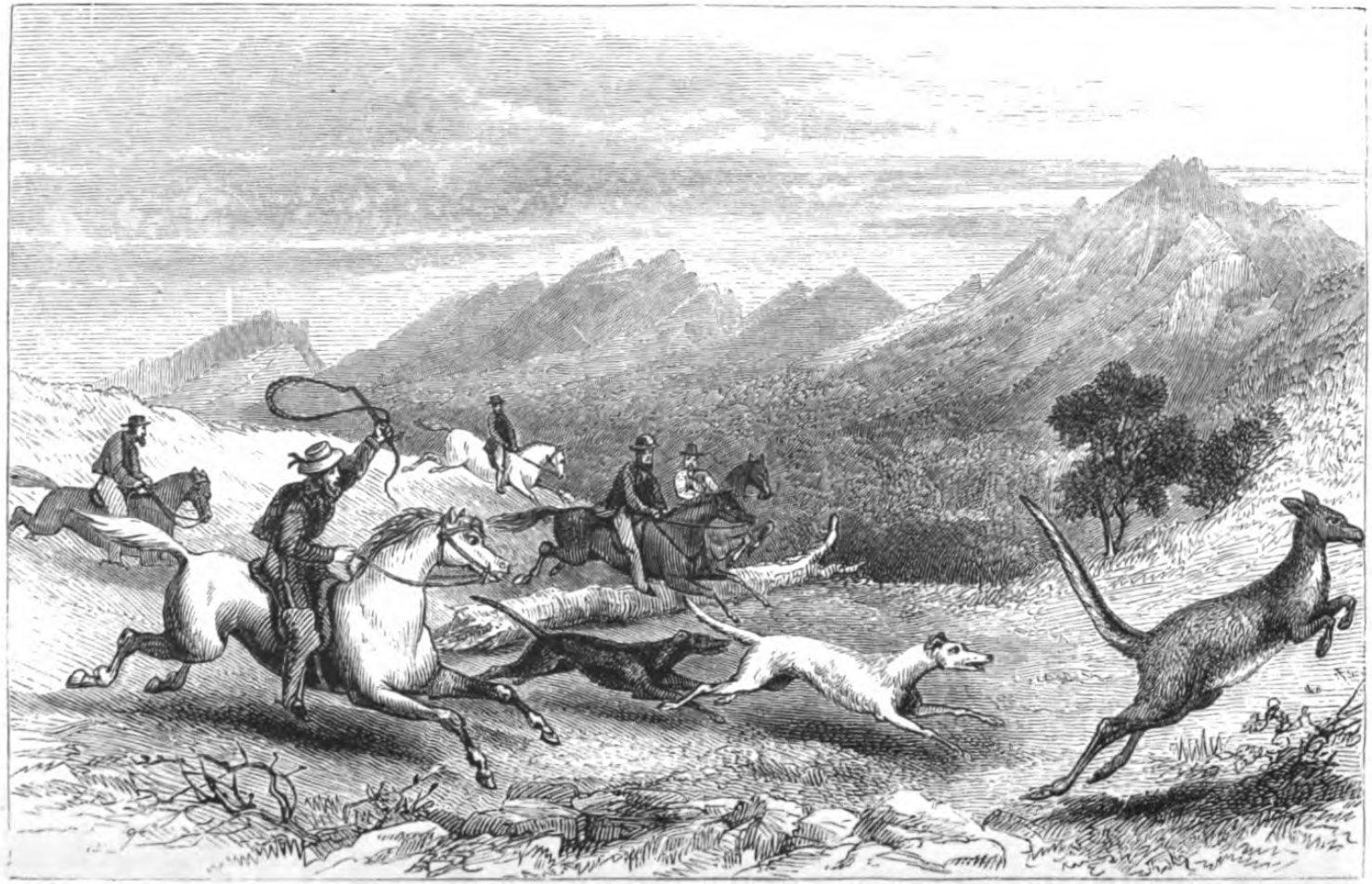
Guinea on the north, and in Tasmania on the south, testifies that these countries were formerly all united, constituting a great natural division of the globe, characterized by a similar fauna and flora.

The most highly organized animals in Australia, if we except the seals, and the dingo or native dog (which most probably was introduced by man at a comparatively recent period), are the rodents or rats, together with the insect and fruit-eating bats, all of which are low in the scale of animal existence. No monkeys are found in Australia; neither the lion, the tiger, the leopard, nor, in fact, any of the feline tribe, roam amongst its forests, to disturb the harmony of its generally peaceful quadrupeds.

None of the larger animals, such as the elephant, the rhinoceros, the hippopotamus, the giraffe, or the various species of deer and antelopes, are to be met with, yet the great grassy plains of this vast country would appear to be favourable for their existence.

Although it is generally believed that no more highly organized animals than wombats and kangaroos ever tenanted the extensive prairies and the luxuriant brushes of the Australian continent, yet, formerly, species existed of enormous size, as the huge skeletons of extinct kangaroos and other marsupials of gigantic proportions found in caverns and in alluvial beds, fully testify.

Amongst these huge fossil marsupials, the *Diprotodon*, a sort of primeval kangaroo, the skull



KANGAROO HUNTING, NEAR THE GRAMPIAN MOUNTAINS.

of which measures three feet in length, was perhaps the most remarkable. The *Nototherium*, a gigantic kind of koala, a wombat of the size of a lion, together with carnivorous marsupials of corresponding dimensions, were amongst the creatures that disported themselves in the Australian forests, or roamed across the wide plains of the interior, at a period far remote from the present.

Of the existing kangaroos there are a great many species, some of which are of large size, as the red kangaroo, which measures eight feet from the nose to the end of the tail; and the great grey kangaroo, which attains to nearly similar dimensions, and frequently weighs a couple of hundred weight. The flesh of the kangaroo is good eating, and the tail makes excellent soup. Kangaroo-hunting is a favourite sport with the settlers in the bush, who use dogs which partake of the nature of the greyhound and the deerhound, and which, from their strength, size, and fleetness, are well adapted for the purpose. When at bay, the kangaroo becomes fierce and desperate; and upon finding itself surrounded by the dogs, it clasps its short powerful forepaws around its antagonist, leaping away with it to the nearest waterhole, and there keeping it beneath the surface until drowned; at other times it will place itself upright against the trunk of a tree, and defend itself with its paws, catching the dogs as they spring at its throat, and inflicting dreadful wounds upon them with its powerful hind toe, frequently ripping them open with a single blow.

Although ferocious when thus attacked, the kangaroo is at other times a gentle, timid animal, fleeing at the approach of man, and retreating on the slightest alarm, with those flying bounds or leaps so peculiar to these singular creatures.

By far the most remarkable and anomalous of all the Australian quadrupeds is the *Platypus*, or "water mole," as it is called. It is about twenty inches long, having the body covered with soft brown fur, with short legs, large web feet, and a rather flat head, from which project two smooth lips or mandibles, exactly resembling the bill of a duck. So strange is the aspect of this creature, that it appears to form a connecting link between the quadruped, the bird, and the reptile; though from its anatomy and economy it is found to belong to the lowest form of existing mammals. The platypus inhabits most of the rivers and lagoons of the southern and eastern portions of Australia, and is also found in Tasmania. It makes long serpentine burrows in the river banks, at the bottom of which it constructs a nest for the reception of its young. Some of these burrows are from forty to fifty feet in length.

The *Echidna*, or porcupine ant-eater, somewhat resembles a large hedgehog in appearance. It is found in the most sandy and sterile districts, living upon ants, which it procures by means of its long flexible tongue, which is covered with a viscous secretion to which the ants adhere. The jaws are not furnished with teeth, but the snout is prolonged into a hard tubular muzzle, like the

beak of a bird. The entire upper surface of the body is covered with strong sharp spines, and when attacked, the animal rolls itself up into a ball, presenting nothing but a prickly surface to the intruders.

The *Perameles*, or bandicoot, of which there are several species peculiar to Australia, is a pretty little creature about the size of a guinea-pig, with a sharp nose and long claws, with which it digs up the roots and bulbs on which it feeds. The "koala," or "native bear," is a strange-looking, sluggish animal, about two feet in length, having somewhat the aspect of a sloth. It is covered with dense woolly fur of a grey colour, has large full ears, and a little sharp muzzle, which gives a peculiarly ludicrous expression to its face. It has no tail, and the limbs, which are large and powerful, are admirably adapted for its tree-climbing habits. Amongst the leafy branches of the great evergreen trees, in the forests of New South Wales, the koala remains asleep during the daytime; but at night it becomes more active, climbing to the topmost branches of the gum-trees, where it feeds upon the young and tender buds and shoots. These animals are often captured by the blacks, who esteem them as a dainty article of food. In confinement they are gentle and tractable, and will live for months if fed upon gum-leaves. All attempts to bring them away from the country have failed, in consequence of the impossibility of procuring suitable food for them during a voyage. Six species of opossum are

inhabitants of Australia. The most abundant kind is the common or vulpine opossum, which, like the rest of its congeners, lives in the hollow spouts and holes of the large gum-trees during the day, where it sleeps away the sunshine, coming out at night to feed upon the leaves and blossoms of the trees, or descending to the ground in search of herbs and roots. On moonlight nights the opossums may be seen gambolling amongst the boughs of the largest trees, running rapidly up and down their trunks, and uttering their shrill, sharp cry. In parts of the country where the gum-trees abound, opossum shooting is a favourite pastime with the settlers. A moonlight night is chosen for the sport, when the animals are easily seen, and vast numbers are annually destroyed in this manner. The fur of the opossum is much valued for the manufacture of rugs, from forty to sixty skins being required for each rug. The articles are generally made by the blacks, who sell them to the Europeans, although they formerly used them as articles of clothing for themselves before the introduction of blankets amongst them became so general. A good warm opossum rug is an indispensable companion to the bushman when "camping out" in the open air at night.

No animal is more used for food by the native blacks than the opossum: they climb the smooth trunks of the enormous gum-trees by cutting notches in the bark with a tomahawk as they ascend, into which they insert the great toe, and thus progress upwards until they reach the

diverging branches, from the hollow boles of which they drag forth the sleeping opossum. A blow on the head with the tomahawk renders the animals insensible, and the captor flings them to the ground, where they are gathered up by his companions. As many as a dozen are sometimes obtained in this manner out of a single tree.

The flying opossums, or Phalangers, are also nocturnal in their habits, and dwell during the day in hollow trees of the largest growth. They are remarkably beautiful animals, with long bushy tails, and possess a parachute-like membrane at their sides, between the fore and hind legs, which enables them to leap from tree to tree, floating through the air in a succession of graceful sweeps. The largest kind, which is nearly black, and measures about three feet in length, presents a startling appearance to a stranger, who, for the first time, sees by moonlight, in the stillness of the forest, this sudden apparition flit across his path.

In contrast to this large species is the smallest of the flying opossums, the beautiful little "opossum mouse" of the colonists. This tiny creature is one of the most elegant, as well as the smallest, of Australian animals. An ordinary-sized pill-box forms its nest when in confinement, and a more interesting or docile little pet cannot be imagined. In its wild state it feeds upon the honey contained in the flower-cups of the gum-blossoms, leaping from one bunch of flowers to another with the greatest agility.

The Dasyures, or native cats, are flesh-feeding marsupial animals, about the size of a rabbit;

they are fierce and untractable, preying upon small animals and birds, and dwelling amongst rocks and in holes in the ground. In appearance they somewhat resemble the pole-cat, and are of a brown or black colour, handsomely spotted all over with large white spots. Very beautiful rugs are made from the skins of these animals.

The *Thylacinus*, or "tiger-wolf," and the *Sarcophilus*, or "native devil," are the two largest and most ferocious of all the Australian carnivorous pouched animals. They are confined exclusively to the island of Tasmania, in the chapter descriptive of which a more lengthened notice of them will be found.

The wombat is a curious creature, of which four distinct species have been met with in the southern portion of Australia. It is a squat, thick, short-legged, and rather clumsy-looking quadruped, its figure and movements strongly reminding one of those of a bear. It usually measures about three feet in length, and is covered with coarse brownish or yellowish fur. In its habits it is strictly nocturnal, living in enormous burrows in rocky places, especially in barren districts, where the limestone crops out upon the surface. Although in such localities the holes are very numerous, the animals are rarely seen, as they only come out during the night to feed. The flesh of the wombat is much esteemed by the natives, who adopt various methods for its capture. In confinement it is docile and harmless, sleeping away a great portion of its existence.

Various kinds of rats are abundant in all parts of the country. In large cities, such as Sydney and Melbourne, European rats have been introduced from the shipping, and, in Sydney especially, have become a terrible pest. Of the native rodents the most remarkable are the "building-rats," one species of which, inhabiting the lofty gum-trees in New South Wales, builds a nest among the branches with leaves and twigs, like that of a bird. Another species, which abounds on the low, sandy, and sterile regions about Lake Torrens, and in the brushes of the Darling, is thus described by Captain Sturt: "It builds a nest of small sticks, varying in length from three to eight inches, and in thickness from that of a quill to that of the thumb, arranged in a most systematic manner, so as to form a compact cone, like a beehive, about four feet in diameter and three feet high: those at the foundation are so disposed as to form a compact flooring, and the entire fabric is so firm, as almost to defy destruction, except from fire. The animal, which is much like an ordinary rat, lives in communities, and traverses the mound by means of passages leading into the apartments in the centre. One of these nests or mounds had five entrances at the base, nearly equidistant from each other, with passages leading from them to a hole in the ground beneath, in which I am led to conclude they had their store."

The *Hydromys*, or "beaver-rat," inhabits the banks of the Murray and other rivers, and is also met with on some parts of the sea-coast.

One species, "the golden-bellied beaver-rat," is remarkable for the brilliant orange colouring of the under portion of its body.

Bats are very numerous in Australia, and some of them attain to a large size, especially the fruit-eating kinds, one of which, the grey-headed vampire, or "flying fox," as it is vulgarly called, measures nearly two and a half feet from one extremity of its wing to the other. These large bats during the day seek the recesses of the forests about Illawarra, and the dense brushes of the Clarence and other rivers of New South Wales and Queensland, where they may be observed hanging in clusters from the uppermost branches of the trees, which often bend so much under their weight that they appear as though they would break off and fall to the ground encumbered with their heavy load of bats. Occasionally they may, when disturbed, be seen flying about the tops of the trees during the day, when they so much resemble rooks at a distance as to have been mistaken by many persons for those birds. At times, during warm summer evenings, these enormous bats may be seen flying about in the streets of Sydney; but their favourite haunts are the mountain forests, from whence they come down during the night and commit sad havoc amongst the peaches and other fruit in the gardens of the settlers.

Both hair and fur seals inhabit the rocky shores of Australia and Tasmania. Amongst the islands of Bass's Strait they were formerly very numerous; but during the period since they were first

sought after by the sealers, they have been nearly exterminated. In 1798 Colonel Collins describes the rocks on the sea-coast of New South Wales "as being nearly covered with fur-seals of great beauty;" whereas at the present time they are but rarely met with. The two most important species are the great cowled seal and the sea leopard. The former has been occasionally seen on the South Australian coasts, and is still numerous amongst the low-lying islands of Houtmann's Abrolhos. The old males measure upwards of ten feet in length, and are as large in girth as a bullock: their colour is a dark brown, with the crown of the head and nape of the neck of a fawn colour. Mr. Gilbert, who landed on some of the islands on the west coast of Australia, says: "They have been so seldom disturbed that I frequently came upon several females and their young in groups under the shade of the mangrove-trees; and so little were they alarmed, that they allowed me to approach almost within the reach of my gun, when the young would play about the old ones, and bark and growl at us in the most amusing manner; and it was only when we struck at them with clubs that they showed any disposition to attack us, or to defend their young."

The sea leopard, although measuring ten feet in length, is less bulky than the cowled seal, and is of a greenish creamy-white hue, darker on the back, and spotted about the body with slate-coloured spots. This handsome animal is now but seldom seen; two or three individuals

have been cast ashore within the last few years on the New South Wales coast, having probably become disabled in the surf; one of these, captured near Newcastle on the Hunter, is set up in the Australian Museum at Sydney.

The "Dingo," or wild dog, which is found all over the Australian continent (though it does not occur in Tasmania), is about the size of an ordinary fox-hound, and has a wolf-like aspect. Its usual colour is reddish-chestnut, the tail being invariably tipped with white; but varieties entirely black, or piebald, are sometimes to be met with. Respecting the dingo, Mr. Gould says: "Without going into the probable origin of this race of dogs, or offering reasons why it should not be considered as indigenous, I may briefly state that I believe it has followed the black man in his wanderings from Asia, through the Indian islands to Australia. From what I have seen of the animal in a state of nature, I could not but regard it in the light of a variety to which the course of ages had given a wildness of air and disposition; indeed it appeared to have all the habits of a skulking, low-bred dog, and none of the determined ferocity of disposition of the wolf or jackal: in confirmation of this opinion, I may cite the facility with which the natives bring it under subjection, and the parti-colouring of its hairy coat." These animals are the terror of the sheepfold, and although, to a great extent, they have been destroyed in the more settled parts of the country, they still exist in great numbers in the wilder and more secluded districts. Where the wild dogs are numerous, it

is the custom for the shepherd to sleep during the night in a wooden watch-box close alongside the yard where the sheep are folded, so as to be ready with his gun on the slightest alarm; for when a wild dog approaches the sheep-pen, the timid animals rush about in the greatest confusion. When the dingo succeeds in entering a sheepfold, he not only wantonly kills a large number of the sheep, but scatters the remainder to such an extent as frequently to entail the loss of the whole flock. Like all dogs in a state of nature, the dingo never barks, but utters a sort of melancholy howl, the dismal and prolonged sound of which, echoing on a still night amongst the hills, is about the most awful noise it is possible to conceive of. Like kangaroo-hunting, the chase of the dingo affords capital sport to the Australian Nimrods, who hunt it exactly in the same way as the fox is hunted in England; the "brush" being retained as a trophy, and stuck up in some conspicuous place in the homestead of the settler.

Of the whales inhabiting the Australian seas, the gigantic sperm-whale is the most important, and many vessels are annually fitted out, both in Sydney and Hobart Town, for its capture, the oil forming a considerable article of export to Great Britain. Many other species of cetaceans are to be found along the vast seaboard of Australia, but as yet little is known of their habits. In the Sydney Museum there is a fine skeleton of the catodon whale, measuring about thirty-four feet in length, which was prepared from a dead specimen found floating on the sea outside the Heads, and

which was towed by a vessel into the harbour of Port Jackson.

One of the most interesting marine animals belonging to the Australian coasts is certainly the Dugong, or sea-cow of the colonists; its native name is the *yungan*. Belonging to the family of the whales and porpoises, it presents also some of the characters of the seal in its general aspect. It frequents the shallow waters of the bays on the N. E. coast, especially about Moreton Bay, where, before the dugong fishery was established, it might frequently be seen popping its head above water, or browsing peacefully upon the marine herbage that grows upon the flats. It frequently attains the length of from eight to ten feet; it rises to the surface to breathe; is generally found in pairs, and suckles its young with great tenderness. It is caught with the harpoon, but is with difficulty approached on account of its extremely acute sense of hearing. The flesh of the dugong is not only palatable and nutritious, but actually curative in a high degree for all forms of scrofula and other diseases arising from a vitiated condition of the blood. When fresh, it somewhat resembles beef, and when salted makes very good bacon. But the principal value of this animal consists in its oil, which is extracted from it in large quantities. It is said to possess, in a high degree, the virtues of the celebrated cod-liver oil of the Pharmacopœia. When properly prepared, the dugong oil is almost entirely free from any unpleasant odour; and has been prescribed by several of the Australian physicians, in a great

number of cases, and with very satisfactory results. Each animal, when full grown, yields from eight to twelve gallons of oil.

The footprints of buffaloes, which have been mentioned by explorers as having been observed by them on the northern coast, are, doubtless, those of animals which have been brought over by the Malays at various times, and have run wild in the bush. It is well known that at certain seasons of the year the Malays cross over in their prahus from Java, Timor, and other islands of the Indian archipelago, to fish for *trepang* (a sort of sea slug).

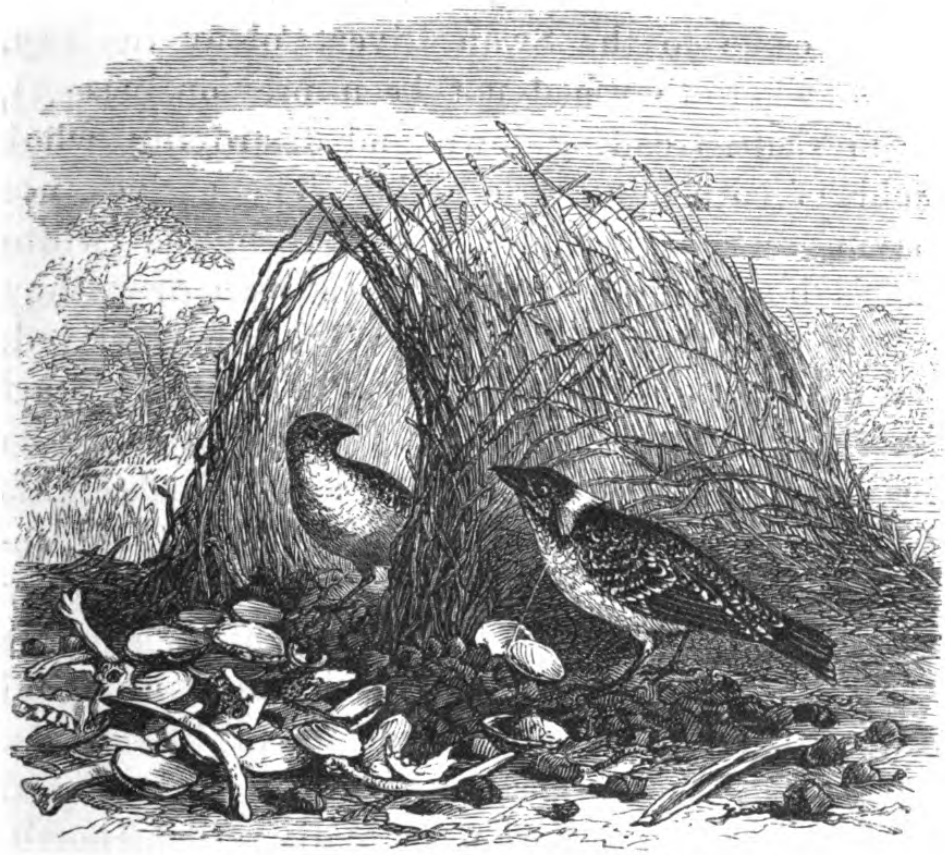
Professor Owen thus accounts for the fact that nearly all the Australian animals are *marsupials*, or pouched quadrupeds. He observes: "I have always connected with the long droughts in Australia—with the extensive tracts where there are no waters—with the difficulty of obtaining that necessary element of life, the singular peculiarity of organization which prevails amongst the quadrupeds of Australia. No matter whether they burrow like the wombat, climb like the phalanger, jump like the kangaroo, trot like the bandicoot, or fly like the petaurist — all these creatures are marsupial. They are creatures carrying their delicate, prematurely-born young about with them wherever they go. They have this condition, viz., a soft, warm, well-lined, portable nursery-pocket, or "perambulator." Take the case of one of our wild quadrupeds—a fox, or a wild cat: they make their nest; they have their litter. Suppose it should happen that they must travel one or two hundred miles to get a drink of water, and are

obliged to leave the little family at home, where would that family be when the parent returned from its journey? Why, starved to death. In order that quadrupeds should be fitted to exist in a great continent like Australia, where the meteoric conditions are such as to produce the dilemma I have instanced, those quadrupeds must possess an organization suited to such peculiar and climatal conditions. And so it is: that form of mammalian quadruped in this great continent, native to it, and born so as to make these migrations to obtain that necessity of life, has the superadded pouch, and genetic peculiarities, enabling them to carry their young ones wherever they go. And since we find that marsupial animals have lived in Australia from a very remote period, so we may infer that its peculiar climate has prevailed during as vast a lapse of time."

It is remarkable that the native tribes, throughout all portions of the country, speak of the existence of a large animal, or reptile, which they call the "bunyip." They say that it is exceedingly fierce, and dwells in the rivers and amongst the reeds of extensive swamps and lagoons, lying in wait for its prey concealed near their banks. Whether such a creature be fabulous or not, yet remains to be proved; but it is a singular fact that all their descriptions of the dreaded "bunyip" agree in the main points; and it does not seem unreasonable that some large water animal, still unknown to us, may be an inhabitant of the vast reedy lakes and fresh waters of the southern part of the continent.

CHAPTER VI.

On the Natural History of Australia : Birds.



THE SPOTTED BOWER BIRD (*Chlamydeta Maculata*).

In the variety, beauty of plumage, and peculiarity of habits, of its feathered tribes, the continent of Australia stands unrivalled. The number of species already known, equals, if it does not exceed, that of all Europe; whilst many of them are remark-

ably adapted to suit the conditions of the country they inhabit, and belong to groups unknown in other parts of the globe. As in Europe, many species are migratory at certain seasons of the year, whilst others disappear suddenly, are not met with for a lengthened period, and then again reappear in vast numbers. This is the case with the tribonyx, or "moor-hen," a bird not much given to flight. Of this bird Mr. Gilbert relates that they "came to the Swan River Colony in May, 1833 (where they had not been previously seen), in myriads, treading down and destroying whol fields of corn in a single night. The natives, not having seen them before, termed them the 'white man's birds.' After the harvest was over they nearly all disappeared as suddenly as they arrived, nor have they been observed since." Captain Sturt says this bird appeared suddenly in South Australia in 1840. "It came from the north, fresh flights coming up and pushing on those which had preceded them. It was, moreover, evident that they had been unaccustomed to the sight of man, for they dropped in great numbers in the streets and gardens of Adelaide, and ran about like fowls. They made their appearance in November and left in the beginning of March, gradually retiring northwards as they had advanced."

Enormous flocks of parrots and pigeons, of species previously unknown to the locality, will, during certain years, arrive in places all at once, remain for a few weeks, and then take their departure as mysteriously as they arrived.

Many of the Australian birds have, through the exertions of the Zoological Society in the Regent's Park, become acclimatized in this country; amongst which may be mentioned the cereopsis, or Cape Barren goose, the black swan, the emeu, the wonga-wonga and bronze-wing pigeons, and several species of parrots. That singular mound-building bird, the brush turkey, has also bred in confinement in the Gardens, and as its flesh, together with that of the great wonga-wonga pigeon, and the Australian bustard, is delicious eating, it may be hoped that these useful and elegant birds will, before long, be reared abundantly in this country.

Already many of our British singing birds, such as the thrush, the blackbird, the lark, linnet, and goldfinch, have been introduced into the southern colonies; and so successful have been the results, that English skylarks may now be heard pouring forth their melody in a state of freedom on the Barrabool hills.

Amongst the birds of prey inhabiting Australia the largest is the wedge-tailed eagle, a noble bird, about the size of the golden eagle of Europe, and not unlike it in general aspect. It is known by the colonists under the name of the "eagle-hawk," and commits sad havoc amongst the lambs and poultry, swooping down from the hills, and bearing off its prey in its enormous and powerful talons. It builds its nest at the top of the most lofty and inaccessible trees. Many of these birds measure upwards of seven feet from tip to tip of their pinions.

Another species, nearly as large, is the sea eagle, which constructs an enormous nest of branches and twigs, on rocks and uninhabited islands upon the coast. Captain Flinders, who observed them, says: "Near Point Possession were found two nests of extraordinary magnitude. They were built upon the ground, from which they rose about two feet, and were of vast circumference and great interior capacity; the branches of trees and other matter, of which each nest was composed, being enough to fill a small cart." In describing a rocky island off the South Australian coast, on which he landed, Mr. Angas says: "On the edge of a chasm, which had cleft the island nearly in two parts, there stood an eagle's nest, about four feet high, and built of layers of dead sticks. The white-tailed eagle was hovering round its eyrie, and a little robin had fearlessly constructed its nest amongst the sticks of that of the monarch bird."

There are four kinds of nocturnal owls, which prey on the numerous little marsupial animals that only make their appearance after sundown; and there is also a class of owls that fly about during the day time, feeding upon insects and small birds.

The podargus, or goatsucker, is a stupid-looking creature, with very large eyes, and an enormous mouth, fitted for capturing moths and other large insects during the night. All day the goatsucker sits asleep on the branch of a gum-tree, which it so nearly resembles in colour, as frequently to be mistaken for a piece of rotten

bark or a projecting fork. So soundly does it slumber that it may be knocked off with sticks or stones, and if its perching place be accessible, it may easily be taken by the hand. At the approach of night it becomes as lively and active as during the day it is lethargic and helpless. The cry of one of the night-owls greatly resembles that of the cuckoo; and in travelling through the Australian forests during the stillness of the evening, one is startled to hear the familiar sound associated with home and spring, at such an hour, and in so distant a region.

Swallows are numerous, and during the short period of winter they migrate northwards. They prove very useful in keeping in check the multitudes of gnats, musquitoes, and other insects that occur during summer. One species follows the habits of the European swallow, and builds its mud nest under the eaves, in the chimneys, or beneath the verandahs of the houses. The fairy martin constructs a large nest of clay in the shape of a bottle with the neck downwards.

The beautiful bee-eater, with its plumage of green, gold, and blue, is also a summer visitant to the southern colonies, spending the winter in North Australia, within the tropics. It makes holes in sandy banks, about three feet in length, at the end of which it lays its eggs, which are four or five in number, and of a pure white colour.

One of the most amusing and well-known birds throughout the settled districts of Australia is

the great brown kingfisher, or "laughing jackass." It may be seen perched on the dead limb of some old tree in almost every locality, about the homesteads, or in the woods of South Australia and New South Wales, though it does not occur in Tasmania. Of this kingfisher Mr. Gould says: "Independently of its large size, which in itself would tend to attract attention, its voice is so extraordinary as to be unlike that of any other living creature. In its disposition it is by no means shy, and when any new objects are presented to its notice, such as a party traversing the bush, or pitching their tent in the vicinity of its retreat, it becomes very prying and inquisitive, often perching on some dead branch of an adjoining tree, and watching with great curiosity the kindling of the fire and the preparation of the meal. Its presence, however, owing to the quietude with which it passes through the forest, and the almost noiseless manner in which it settles, is seldom detected until it emits its extraordinary gurgling, laughing note." Capt. Sturt says: "Its cry, which resembles a chorus of wild spirits, is apt to startle the traveller who may be in jeopardy, as if laughing and mocking at his misfortune." And Dr. Bennett remarks of the laughing jackass: "Its peculiar gurgling laugh, commencing in a low, and gradually rising to a high and loud tone, is often heard in all parts of the colony, the deafening noise being poured forth while the bird remains perched upon a neighbouring tree. It rises with the dawn, when

the woods re-echo with its gurgling laugh. At sunset it is again heard, and as that glorious orb sinks in the west, a last 'good night' is given in its peculiar tones to all within hearing."

The artamus, or wood swallow, has the extraordinary habit of clustering like bees on the branch of a dead tree. A few of the birds will suspend themselves beneath the branch, whilst the remainder attach themselves one to the other, in such numbers that the cluster attains the size of a bushel measure.

The musical magpie, or piping crow, is an interesting and amusing bird, and is frequently tamed and kept as a pet about the houses in the Australian bush. It has obtained its name of "magpie" from its pied black and white plumage; and the fact of its being so easily taught to whistle popular airs, together with its imitative powers and droll manners, has rendered it a general favourite. It has been asserted that "the Australian birds have no song;" but nothing can be more untrue, for many of them have very sweet notes, singing both by day and night. The full, deep, rich tones of the musical magpie may be heard at sunrise filling the woods with minstrelsy, and on summer nights when the moon is shining, they carol away as sweetly as ever. There is also a little warbler that sings at night in the gardens and vineyards in South Australia, whose notes almost vie with those of the most favourite of our British songsters.

In the dense brushes that clothe the seaward

slopes of the mountains on the eastern coast, and in the impenetrable forests of Gippsland, there dwells also a songster, which combines with its musical powers the faculty of imitating the notes and cries of all the other denizens of the forest. This is the lyre-bird, or mountain pheasant. It is about the size of a small fowl, of a brownish colour, the male being adorned with a very large spreading tail, somewhat of the shape of an ancient lyre, and composed of graceful and elegantly-formed feathers. A droll little bird, called by the colonists "the pheasant's mother," is frequently seen in company with the lyre-bird. It has the same habits of scratching up the earth into little hillocks, playing about, hopping over logs and stones, and, indeed, in all its actions seems a pheasant in miniature. It is the spine-tailed orthonyx of naturalists.

The "coach-whip," inhabiting the same dense forests as the preceding, is a handsome greenish bird, about the size of a thrush, with a loud full note, ending sharply like the cracking of a whip, with which the woods are constantly reverberating.

The "robins" of Australia, unlike the little black-eyed rufous-breasted favourite we greet in the snow-time in England, are gorgeously-coloured birds, with breasts of the most brilliant scarlet, yellow, or rose-colour. These beautiful creatures, together with the blue and fire-backed wrens, are amongst the gems of the feathered tribes, and gladden the glens and groves with their bright

hues, vying in splendour with the most showy blossoms.

Some species of the finch family are also remarkable for the great beauty of their plumage, and are the more interesting from the fact that they are easily tamed, and thrive well in captivity.

The "bower-birds" possess the singular habit of constructing bower-like structures of twigs upon the ground, which they decorate with gaily-coloured feathers, bones, and shells. Some of these bowers or runs are two or three feet long, arching over at the top, and are the resort of many individuals of both sexes, which run in and out of the bower in a sportive and playful manner. One of these bower-building species, about the size of a pigeon, is called the satin-bird, on account of its rich glossy black plumage, which exactly resembles satin.

Owing to the great quantity of honey-yielding blossoms which the trees and shrubs of Australia afford, the tribe of honey-suckers is very numerous, no less than fifty-eight species being known. They are graceful and elegant creatures, varying in size from that of a thrush to that of a wren; many of them display beautiful tints of green and yellow, and some kinds are furnished with singular fleshy appendages below the ears, which has gained for them the appellation of "wattle-birds."

The Australian crow, or raven, is a large, ominous-looking bird, which is constantly to be

met with in the neighbourhood of sheep and cattle stations, acting the part of scavenger, and greedily devouring any offal or dead animal that happens to be in the way. So far this bird may be useful enough, but its hoarse, melancholy cry is one of the most dismal and distressing sounds it is possible to conceive of, and seems to add to the mournful solitude of the shepherd's hut.

No country in the world possesses such a variety of the parrot tribe. The colours of many species are gorgeous and brilliant in the extreme; and whilst their gay plumage enlivens the sombre tints of the Australian forests, their noisy cries echo unceasingly throughout "the bush." The largest are the great black cockatoos, which have red or yellow tails, are very shy, and go in flocks of twenty or thirty together. Next in size come the white cockatoos, of which there are several kinds; the most common is the sulphur-crested one, a bird easily domesticated, of which numbers are annually brought to England: it learns to talk well, and from its gentle disposition and playful habits is a universal favourite. The pink cockatoo is a very handsome bird, with a large crest of yellow and scarlet feathers. There are about forty species of parrakeets, all of them remarkable for the beauty of their plumage. One group feeds upon the honey of the gum blossoms, but the greater portion of them are seed-eaters, and these thrive well in captivity. The little "warbling grass parrakeet" appears in vast flocks in South Australia during the summer, where it is

caught by means of nets, as many as a hundred sometimes being taken at once. They are shipped in large quantities to England, some vessels taking home several thousand individuals. Their plumage is bright green and yellow, prettily marked with zebra-like black lines, with several blue spots about the beak. They are about the size of a canary, very lively and amusing in their habits, and, unlike other parrakeets, they have a pleasing, inward warbling song, which in captivity is frequently carried on during the night.

Beautiful and numerous as are the parrots of Australia, the pigeons and doves are no less deserving of notice. The fruit-eating pigeons are mostly confined to the tropical portions of the country, and to the dense forests on the east coast, where the wild figs grow on which they feed. They are all brightly coloured, some species having orange or rose-coloured crowns, with the rest of the plumage golden green, purple, yellow, and white. The ground pigeons are more generally distributed, and comprise the "wonga-wonga," a large kind, which is esteemed a delicacy for the table in New South Wales; and the "bronze-wings," the metallic brilliancy of their wing feathers contrasting with the more sombre hues of the rest of their bodies. Altogether there are upwards of twenty species of pigeons peculiar to Australia.

The talegalla, or "brush turkey," the leipoa, and the megapodius, are very remarkable birds, which do not hatch their eggs by sitting upon

them, but construct immense mounds of sand, or decaying vegetable matter, in which their eggs are deposited, and left for the young to be developed by the heat engendered during the process of decomposition, or by that of the sun. The talegalla inhabits the cedar brushes on the east coast, from Cape Howe to Moreton Bay. The mounds are formed by the birds grasping the leaves and grass in their large powerful feet, and throwing them backwards to one common centre. A great many birds lay in the same mound, as many as a bushel of eggs having been obtained out of a single heap. The eggs are as large as those of a swan, of a white colour, and very thin.

The leipoa, or native pheasant, is an inhabitant of the dry and desert mallee scrubs of South and Western Australia. It is about the size of an ordinary fowl, with a crest on its head, and beautifully spotted plumage. Its mounds are formed of sand, about three feet high, and thirty feet in circumference. The eggs are pink, and are deposited in layers, in a perpendicular position.

The megapodius has its haunts in the dense jungles of the north coast, and is abundant about Port Essington. The mounds raised by this species are of gigantic proportions. Mr. Gilbert mentions one which he found at Knocker's Bay which "was fifteen feet in length and sixty in circumference at the base, and was entirely composed of the richest description of light vegetable mould."

Quails are numerous, and afford good amusement to the sportsman, on the open grassy plains where they are most found.

The largest bird peculiar to Australia is the emeu or New Holland cassowary, of which there are now known to be two distinct kinds. In size it is only exceeded by the African ostrich, being between five and six feet in height. It runs very fast, and may almost be called a wingless bird, these appendages being so small as not to be seen beyond the feathers of the body. Its nest is a rude hollow scraped in the ground, amongst the scrubs, in which it lays from nine to thirteen eggs of a dark-green colour, about six inches in length, and three and a half in diameter. The male bird takes its turn in sitting alternately with the female. The eggs are much valued in the Australian colonies, where they are mounted in silver and converted into elegant vases, sugar basins, &c.

The emeu is hunted with dogs in the same manner as the kangaroo: and a kick from one of its powerful legs frequently proves fatal to the dog that attacks it. It produces a quantity of oil, the skin of a full-grown bird yielding on an average six or seven quarts. This oil is considered a good embrocation for sprains and bruises, and is carefully collected by shepherds and stockmen for this purpose. The flesh resembles coarse beef, but the young birds are tolerably good eating. The Australian bustard is a noble bird, weighing from twelve to sixteen pounds; it is met with on the open grassy plains of the southern portion of the

continent, and is esteemed the greatest delicacy of all the indigenous game birds.

Plovers, peewits, snipes, and dottrels are numerous, and snipe-shooting is one of the favourite pastimes of the Australian sportsman.

Three species of ibis, the white, the straw-necked, and the glossy, are met with on the banks of the Murray, or in vast flocks, during some seasons, on the plains of the interior.

Next in size to the emeu is the Australian crane, or "native companion" of the colonists. This stately and graceful bird, when erect, measures about four feet in height. It is of a slate colour, with a red skin about the eyes, and inhabits the neighbourhood of rivers and swamps. It is easily domesticated, and will perform the most amusing antics; dance in a grotesque manner, pirouette like an opera-dancer, and follow its master about like a dog. It is a bird of powerful flight, and ascends so high, in a series of circles, as to become invisible to the eye.

The mycteria, or jabiru, is a fine bird, standing nearly as high as the crane; it has a large, powerful beak, with glossy green and white plumage, and bright-red legs. It is a shy bird, and but rarely seen. The banks of the Murray, and other large rivers and lagoons, are the resort of infinite multitudes of spoonbills, herons, egrets, and other wading birds; whilst vast flocks of black swans, ducks, teal, and other aquatic fowl actually darken the surface of the water in undisturbed localities.

The cereopsis, or "Cape Barren goose," was

formerly abundant on the islands of Bass's Strait; and the early voyagers describe them as being so tame that they could be easily knocked over with sticks and even captured by the hand. Its size is about that of the ordinary goose; its plumage grey, spotted with black, and its beak very small, having the upper portion covered with a yellow cere. It is easily domesticated, and breeds freely in the gardens of the Zoological Society. Owing to its pugnacious habits it has never been a favourite in the poultry yards of the colonists.

The black swan has been long known in Europe, and was first mentioned in a letter written about the year 1698 from Mr. Witsen to Dr. Lister: "Here," he writes, "is returned a ship, which by our East India Company (Dutch) was sent to the South Land, called Hollandia Nova;" and then he adds "that black swans, parrots, and sea cows were found there." In 1726 two were brought alive to Batavia from the west coast of Australia. Its colour is of a brownish black, with the extremities of the wings white: the beak is coral red and the feet black. It inhabits most of the large estuaries and rivers of the southern portion of the continent, though in many places where it formerly was most numerous, it has disappeared before the guns of the settlers, who destroy it for the sake of the beautiful down with which the breast of the bird is clothed. In the back-waters and lagoons bordering on the Murray they may still be seen in hundreds, gracefully floating on the surface of these lakes, amongst the reeds of

which, and on the miniature islands, they form their nests of dry sedge. They fly in flocks at a great height, arranging themselves in the shape of a wedge or letter V; and their song, as described by Mr. Bass, "exactly resembles the creaking of a rusty sign on a windy day." Like the cereopsis, the black swan breeds readily in confinement, is easily domesticated, and has now become thoroughly acclimatized in Europe.

The musk-duck is a singular bird that passes most of its time in diving, having the power of remaining under water for a considerable period: it emits, during the breeding season, a musky odour so strong as to be perceptible long before the bird itself is seen.

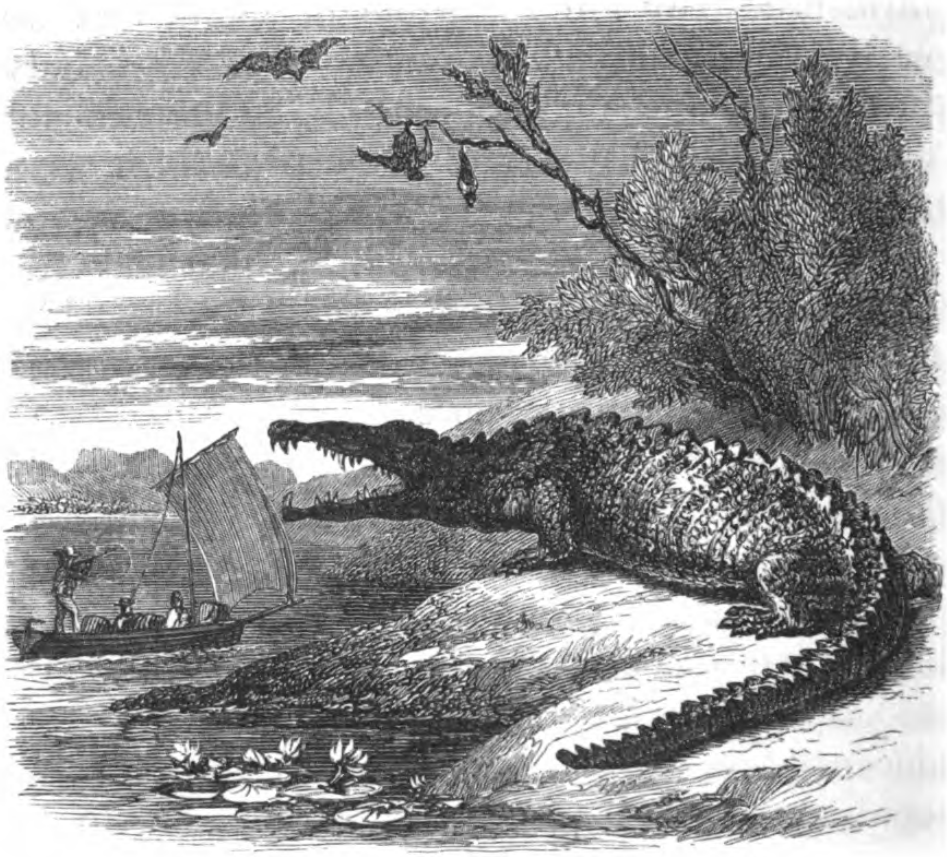
The pelican is by far the largest of all the web-footed birds of Australia, and is common both on the inland waters and upon the sea-coast. In describing a lagoon at the head of Nepean Bay, in Kangaroo Island, Capt. Flinders says: "On the small islands we found many young pelicans unable to fly. Flocks of the old birds were sitting upon the beaches of the lagoon, and it appeared that the islands were their breeding-places; not only so, but from the number of skeletons and bones there scattered, it would seem that they had for ages been selected for the closing scene of their existence."

Penguins are numerous on the southern coast, and amongst the islands of Bass's Strait. Mr. Angas says: "We visited an island lying off Cape Jaffa, which is called Penguin Island, from the

vast quantity of these strange birds which congregate there. The entire island was perforated with their burrows, and out of many of the holes we took their eggs, which resembled those of a common fowl, and were good eating. The species of penguin found here is about the size of a duck, and has scaly feathers of a bluish colour on the back, with a white breast. Owing to the extremely small wings with which these birds are furnished, they are incapable of flight, and we easily took them up with our hands; for it is only in the water that they appear to be in their proper element, and they always run towards it as a means of escape." Several kinds of albatross and petrel roam the Australian seas, and may frequently be observed close to the land. Boobies and frigate birds occur on the northern coast, and gulls abound on every shore.

CHAPTER VII.

On the Natural History of Australia: Reptiles, Fishes, Insects, and Mollusks.



CROCODILE-SHOOTING ON THE VICTORIA RIVER.

In those rivers of Australia which are situated within the tropics, there exists a species of crocodile which is a formidable and dangerous creature. Turtle abound in Torres' Strait, and on the coasts

of Queensland, from which latter place they form an article of export to Sydney, where they are made into soup.

At Moreton Bay the turtle is thus caught by the blacks: they either sail or pull gently in a whaleboat across the bays, or round the islands which the turtle frequent, and endeavour to keep in about eight or ten feet of water. One native stands in the bow of the boat, stark naked, and peers down into the clear water. If he sees a turtle he darts overboard headlong upon it, seizes it by the fin, turns it over on its back, and thereby disables it, so that with the assistance of those in the boat he is enabled to get it on board.

Lizards are numerous, some of them attaining a large size, as the monitor, or "iguana" of the colonists, which is from four to five feet long, and beautifully mottled with yellow and black. The most extraordinary reptile of the lizard tribe is the *Moloch horridus*, or "prickly devil:" it is found in rocky and stony places in South and Western Australia, and though not more than six inches long, is covered all over with a formidable array of sharp spines and prickly bosses, which give it a hideous aspect. The scaly lizards are sluggish, repulsive-looking creatures, having enormous mouths, and short rounded tails, and are protected with large thick scales, like a coat of mail.

In so warm a climate as that of Australia generally, it is not surprising that snakes should abound; and although many kinds are harmless, yet there are some of a very venomous and deadly

nature. Dr. Bennett says that "four-fifths of the snakes as yet sent from different parts of Australia are poisonous, and many are virulent."

The diamond snake, one of the boa tribe, frequently attains a length of from twelve to fifteen feet, and is the largest species yet discovered; it is very handsomely dotted upon the back with bright-yellow spots, on a black ground. Like all the large serpents of the boa family the diamond snake is, fortunately, quite harmless. The black snake is from five to eight feet in length, of a glossy black above, and crimson beneath. It is very poisonous, and chiefly frequents marshy places, or grassy flats in the neighbourhood of water. The natives on the banks of the river Murray are frequently bitten by them, whilst walking amongst the reeds and long grass, and in many instances the bite proves fatal. The method adopted to cure a person who has been thus bitten, is, after sucking the wound, and tying a ligature above it, to keep the patient running about, to prevent him sleeping. The poison causes excessive drowsiness, which, if yielded to, ends in convulsions and death. A gentleman on arriving one day at a small township in New South Wales, observed a man, who appeared as though he was intoxicated, running about the street, followed by a number of individuals who were beating him with gum saplings. Thinking that they were administering "Lynch law," he inquired of the bystanders, who informed him that the man had been bitten by a black

snake, and his friends were adopting this singular method of keeping him awake. The brown snake, equally venomous with the preceding is generally supposed to be the female of the black one; when attacked it has the unpleasant habit of turning round and darting at its pursuer. The "yellow snake" is also of a very deadly nature; it is of a dark olive-green colour above, and yellow below.

The death adder is the most venomous snake in Australia, and its bite generally proves fatal. It is common, even in the vicinity of Sydney, and is found in dry, sandy places. Dr. Bennett says of this serpent: "It frequently occurs on roads or pathways, where, when coiled up, so torpid is its disposition, that it does not move away on the approach of a stranger, a circumstance which renders it still more dangerous. I nearly stepped upon the first I met with in the colony; it was lying in the pathway, and was providentially perceived in time. From its short, thick, peculiarly-coloured body, broad head, and malignant eye, the stranger is warned of danger by its physiognomy, which is indeed so hideous, as only to be surpassed by the puff adder of the Cape, to which it seems to bear a close resemblance. The death adder is thick in proportion to its length, measuring from two to three feet in length, and about six inches in circumference. I have seen a full-grown dog, bitten by one of these reptiles, become strongly convulsed a few minutes afterwards, and die in less than an hour."

Not long since, a little boy about three years old was playing amongst the sand hills in the neighbourhood of Sydney, when, observing a death adder asleep, the child, attracted by its speckled coat, took it up, and carried it home in his pinafore to his mother, asking her to look and see what a "pretty fish" he had found. The terrified mother, on seeing the horrible reptile which her little one had selected as a pet, had the presence of mind to jerk it out of the pinafore, and, assistance being at hand, the adder was soon killed, and the child escaped unhurt!

The ringed snake, a small species beautifully banded with black and white, is also poisonous. Several kinds of sea-snakes are found on the coasts to the north, and one species has been observed in Sydney harbour: they have flattened tails, are beautifully coloured, and are all believed to be highly venomous.

Fishes, many of which are excellent eating, abound, in endless variety, on all parts of the Australian coast, and, were fisheries carried on in a more systematic manner, the dwellers in the seaport cities and towns need never be without a varied and choice supply of fish. That scourge of the seas of warm latitudes, the shark, is common on all portions of the Australian seaboard, infesting the bays and harbours, where it lurks about in search of prey. In Port Jackson several sharks of enormous size have been harpooned and killed by the fishermen. Dr. Bennett mentions one measuring twelve feet four inches in length, with

a girth of six feet seven inches, which was captured in Sydney Harbour, in 1858, and he says: "The contents of the stomach, when this voracious fish was opened, were found to be—half a ham, several legs of mutton, the hind quarter of a pig, the head and forelegs of a bull-dog with a rope round its neck, a quantity of horse-flesh, a piece of sacking, and a ship's scraper." Another shark, caught during the same year, near the same spot, measured thirteen feet in length; but the largest of which the capture is recorded was killed by some whalers near Kangaroo Island, in South Australia. This huge monster was only overcome after a fierce struggle, and measured twenty-five feet from snout to tail. The capacity of its jaws was so great that three persons could stand together within their circumference; the fact being frequently proved by persons at Port Adelaide, where the jaws were exhibited.

The tiger shark, the saw fish, and the hammer-headed shark are likewise numerous in some localities, and the stinging ray and the torpedo lurk upon the sandy flats in shallow water in the harbours: these two last-named fish are dangerous to bathers, the one inflicting a severe wound when trod upon, the other almost paralyzing the person who is unfortunate enough to come in contact with its electrical powers.

Two species of sword fish, both of large size, inhabit the Australian seas. They are formidable enemies to the shoals of bonito and albicore, which congregate about the sterns of vessels to

escape their attacks. Several instances have occurred of ships, trading between Sydney and Melbourne, having their planks penetrated for several inches by the powerful "swords" of these fish, which have broken off, leaving the end firmly imbedded in the timber.

The shell-grinding shark is peculiar to Port Jackson, and is remarkable for being the only living representative of a once numerous tribe of fossil fishes, whose jaws were armed with strong bony plates for the purpose of grinding down the shell fish which formed their food.

The "fishing frog," or "angler," as it is termed, is an ugly little squat fish, of a dark colour, and without scales. It creeps along upon the mud at the bottom of the water by means of its fins, which resemble feet; and from its upper jaw proceeds a curious appendage like a little scarlet flower, attached by a fine thread about an inch in length. Nearly concealing itself in the mud, the "fishing frog" lies in wait for its prey, wagging its scarlet tuft, and thus attracting the curiosity of smaller fishes, which quickly fall victims to their imprudence, in the capacious jaws of the "angler."

Some of the Australian fishes, especially those that frequent the reefs and rocky shores, are of the most beautiful and brilliant colours, vying even with the birds and butterflies in the splendour of their tints. Among these may be mentioned the numerous tribe of parrot fish, the chætodons, and the blue and gold glyphisodon, which latter is

only about three inches long, and forms a gorgeous object in a Sydney aquarium.

The principal fish with which the colonial markets are supplied are the schnapper, red bream, flathead, John-Dory, whiting, mullet, garr-fish, mackerel, and groper.

The introduction, with success, of salmon ova from Great Britain to the rivers of Tasmania and the southern portions of Australia will, it is to be hoped, in the course of time furnish the tables of the colonists with this noble and delicious fish.

In the Murray, and in some of the rivers of New South Wales, there occurs a large fish called the cod-perch, or "Murray cod." It is good eating, and in the Murray, where it is very numerous, is taken by means of lines baited with frogs, which are fastened overnight to the trunk of some tree on the bank of the river. Some of these fresh-water fish attain the length of three or four feet, and weigh from thirty to forty pounds.

Cray fish are found both in the rivers and on the sea coast. Large and delicately-flavoured prawns are also to be met with.

Oysters are abundant, and of several kinds. The rock oysters, with which the Sydney markets are chiefly supplied, are small, but of excellent quality. At Port Lincoln large mud oysters are dredged, and sent to Adelaide, but they are of an inferior description to those we get in England.

Pearl oysters also occur in many places. At Moreton Bay persons have from time to time been

engaged in the pearl fishery: but the pearls obtained being mostly small, and of a bad colour, it has not been regarded as a paying occupation.

Vast quantities of the pinna, or silk-bearing mussel, dwell in the sheltered bays and estuaries. Captain Flinders, in his description of Kangaroo Island, says: "Towards the bottom of Nepean Bay is a kind of marsh covered with seaweed, in which live, buried in the mud and sand, millions of *pinnæ marinæ*, or mussels. These shells furnish a silk equal, in all respects, to that obtained from similar animals along the coasts of Calabria and Sicily; but the European mussels dwell at a depth of thirty or forty feet, and the fishery is attended with great difficulty, whilst those of Kangaroo Island are covered with scarcely twenty-five to thirty inches of water, and thousands might with ease be collected in a few hours."

Many of the marine shells to be met with on the shores of Australia and Tasmania are very beautiful, especially those of the *volute* family, of which there are numerous species, which are highly prized by collectors. The *Trigonia*, the pearly iridescent valves of which are now so much used in England for brooches and ear-rings, is found in Bass's Strait, and in Port Jackson.

Leeches abound in most of the rivers and ponds. The best are taken in the shallow lagoons or "back-waters" of the Murray, many persons obtaining a livelihood by catching them to supply the chemists' shops in Melbourne and Adelaide.

On the northern shores the trepang, or "Beche-

de-mer," occurs plentifully. At certain seasons of the year the Malays visit that part of the coast in their prahus, and carry on a fishery for this marine slug, which is greatly esteemed as an article of food in the Chinese markets.

In Australia, as in other warm climates, insect life is prolific to an extraordinary degree. During the summer months, flies, both in and out of doors, are extremely numerous and annoying; and sand flies and musquitoes infest the neighbourhood of mangrove swamps, and such localities as are adjacent to water or to the rank vegetation of the brushes.

The common honey bee has long ago been naturalized in Australia; and owing to the genial climate, and the vast quantity of honey-bearing flowers which are indigenous to the soil, it has become very abundant. In the neighbourhood of Sydney, many of the poorer settlers derive a considerable amount annually from the sale of honey. These people are styled "bee-farmers," and dwell in wooden huts in those parts of the bush which abound most with wild flowers; at some of these places may be seen upwards of one hundred hives at work at the same time. In South Australia almost every homestead has its bee-house, the German inhabitants especially devoting their attention to the culture of these useful insects.

In some parts of New South Wales there is found a small moth, the caterpillars of which manufacture a beautiful silken web, forming, by the united labour of millions, sheets of delicate

webbing, some of which measure seventy-two square feet or more.

Those noisy insects, the *tettigonias*, or "locusts," as they are termed by the colonists, enliven almost every gum-tree during the summer months with their shrill, incessant music, which at times becomes quite deafening, especially on calm, sultry days. There are a great many kinds of wasps and hornets, one of the most singular of which is a black wasp, which preys upon spiders, seizing them from their webs and carrying them off to its cell. These wasps build remarkably neat nests of finely-tempered clay formed in layers of mud-pats like those of a swallow. Very large moths frequently fly into the camp fires at night, and also enter into the houses, attracted by the lights, on sultry evenings. The caterpillars or grubs of these moths, which are of the *cossus* tribe, are fat, repulsive-looking creatures, about the size of one's finger. They live in the wood of decayed trees, and are much sought after by the blacks, who esteem them as one of their choicest delicacies.

Excepting on the eastern and northern coasts, the butterflies are neither numerous nor remarkable for their beauty. The woods and bushes of Queensland produce some large and elegant species, the most showy of which is nearly five inches across the wings, and of a velvety black colour, striped with golden green.

The beetles are more abundant than the butterflies, and display many curious forms and brilliant

metallic colours. The most beautiful kinds are generally found in the blossoms of the mallee and other sorts of dwarf gums. The diamond beetle rivals its Brazilian namesake in the splendour of its jewelled wing-cases.

Ants are to be found everwhere. One large species, about an inch in length, is armed with strong sharp nippers, with which it inflicts a severe and painful bite. Another species constructs large nests of earth, resembling tumuli.

Those destructive creatures, the white ants, are very numerous, and do much damage to wooden buildings. They are fat, and sluggish-looking, about the size of a grain of wheat, and are of a dirty-white colour. They avoid the light, dwelling in vast colonies in damp places beneath dead logs, and decaying vegetable matter. As they attack the timbers and floors from underneath, and do not show themselves, their insidious ravages are frequently not discovered until the whole of the woodwork and planking of a house is reduced to a honeycomb, and crumbles at the touch. Many settlers' houses have been undermined and totally destroyed by the work of these wood-eating ants; nor do they confine themselves merely to timber; books, articles of clothing, pictures, and skins, if left undisturbed in a damp place for some time, are almost certain to be effectually ruined.

Wood-ticks occur in many places amongst the long grass, and persons walking in the brushes are very liable to be attacked by them. They

penetrate the skin, causing severe pain and irritation, and are with difficulty removed.

Fleas make their appearance in such numbers in deserted huts and buildings, especially in sandy districts, that it is impossible to enter one of them without being actually covered with fleas; as travellers who seek shelter in such places frequently find out to their cost.

The tarantula spider is a formidable creature, having its body and legs covered with hair. It frequently crawls into houses, where it lurks behind the furniture, or shelters itself in some secluded crevice. Its bite is almost as venomous as that of the scorpion.

Some of the smaller kinds of spider that are met with in the bush amongst the flowers, are of the most splendid colours, being spotted and striped with green, rose colour, scarlet, blue, purple, and yellow, in a singular variety of patterns.

There is a large brown spider in South Australia which constructs a tube-like nest in the hard ground. This retreat is lined with a fine silky web, and furnished with a sort of trap-door attached by a hinge of threads which the insect lifts up or down at pleasure. When in danger it retreats to its hole, shutting the trap-lid after it, which fits so closely that no trace of its abode can be discovered.

Those extraordinary insects called "walking-sticks," or "animated straws," are found climbing amongst the boughs of the gum-trees. They are

several inches in length, without wings, and have long jointed legs, looking as if they were formed of dried twigs.

The *Phasmidæ* are the largest of all the Australian insects, some of them measuring a foot in length. They are very showy, their large glassy wings when spread out displaying tints of various hues. They feed upon the young shoots of the gum-tree, and when their wings are folded it is difficult to discover them amongst the foliage, their bodies and legs being of the same colour as the leaves.

Scorpions and centipedes attain a considerable size. They are generally found under stones, or the loose bark of trees, and in old deserted houses, and decayed timber. Frequent instances occur of persons being bitten by these noxious creatures, when sleeping out in the bush, or chopping wood. The poison is very virulent, causing great inflammation and drowsiness, and in some cases even the loss of a limb has ensued from the bite of a large centipede.

CHAPTER VIII.

On the Botany of Australia: Trees, Shrubs, and Flowering Plants.

ILLAWARRA FOREST SCENERY.

The vegetable productions of Australia are varied

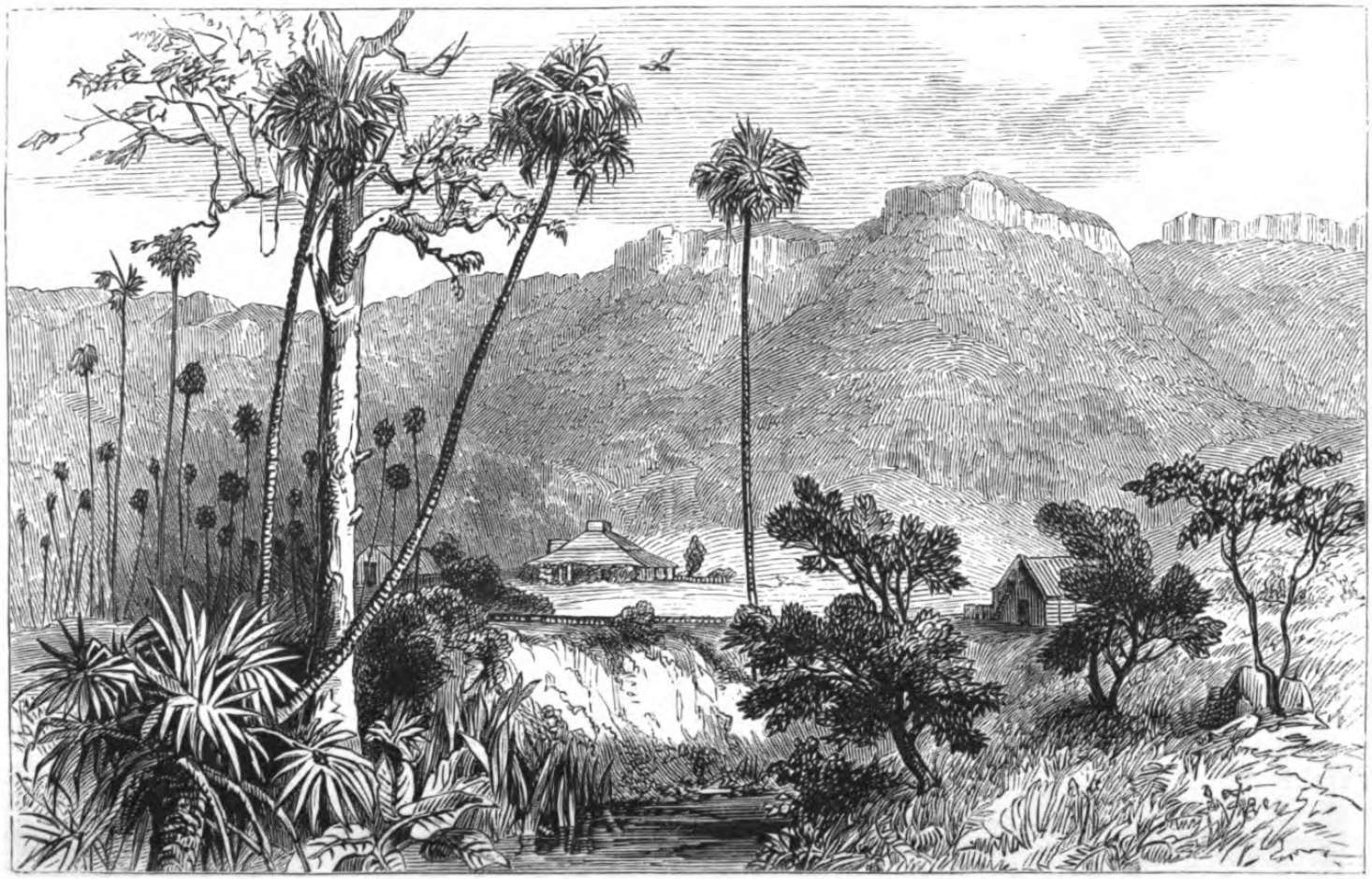
in character, and present many remarkable forms distinct from those of any other part of the globe. The dense forests bordering the northern coasts partake more of the nature of those of tropical regions generally; whilst by far the greater portion of that vast country displays a style of vegetation peculiar to itself. All the trees being evergreen, there is no perceptible difference in the landscape between summer and winter, except that the grass becomes, during the autumn, of yellow colour, like hay, contrasting strongly with the deep-green foliage of the trees.

Most of the mountain ranges are clothed with magnificent timber, consisting chiefly of stringy-bark, iron-bark, and other lofty species of gums. The plains are often entirely destitute of trees, stretching away for many miles in broad grassy meadows, which during the spring are enamelled with flowers of all colours. The gently undulating country, where the soil is good, presents the appearance of a park, with noble gum-trees scattered here and there, either singly or in clusters. The banks of the rivers are everywhere bordered with the blue gums, which grow to a large size, and mark the course of the stream from a long distance, as it meanders through open plains or low desert scrub. The parched and arid wastes of the interior, where rain seldom falls, have also their peculiar vegetation of mallee and *spinifex*; the latter is a low shrub, like a mass of sharp prickles, which is abundant in the stony and sandy deserts, and renders travelling difficult

and hazardous. In some localities nothing is seen but extensive tracts of the shea-oak tree, remarkable for having long, jointed, weeping filaments instead of leaves, through which on a stormy day the wind makes most mournful music. In other places there occur groves of the beautiful acacia, or golden wattle, which, when covered with its profusion of yellow blossoms during the spring, fills the air with an almost overpowering fragrance.

In the deep ravines and glens, and clothing the sides of the mountains that slope down to the Pacific, on the eastern coast of New South Wales, are forests of infinite beauty, teeming with vegetation in its wildest luxuriance. Mr. Angas thus describes the descent into one of these forests, from the brow of Mount Keerah :—

"On entering Illawarra it seemed as though we had become suddenly transported into a region of tropical verdure; and the scene all around us was totally new in aspect and character. We had passed into another climate: the dry, arid soil of the stringy-bark forest, with its stunted vegetation, was exchanged, as if by magic, for a damp, humid region, sheltered from the wind by colossal barriers of rock, and presenting a wealth of foliage almost inconceivable. Plants and trees were here altogether of different species from any we had before witnessed: the graceful cabbage-palm towered to a height of seventy and even a hundred feet; the Indian fig reared its tortuous branches high into the air, clothed with rich draperies of curious and spreading parasites; and



THE VALLEY OF DAPTO, ILLAWARRA, NEW SOUTH WALES.

the graceful tree-ferns, thirty feet high, flourished in the warm and damp atmosphere of these windless dells. In short, nothing can exceed the beauty of the scenery, as the traveller descends the winding and difficult path that leads down the mountain to the rich pastures below: here and there a group of palms shoot upwards towards the sky; and on either side the forest is so rank with creepers, ferns, and vines as to be quite impassable. Here we gathered wild raspberries, and beheld the gigantic stag-horn fern growing from the trunks of the loftiest trees."

Amongst the most striking and beautiful of the wild flowers that adorn the mountain forests of New South Wales are the "warratah" and the rock lily. The former is a slender shrub, growing with a single upright woody stem to a height of six or eight feet: at the top of which is a magnificent blossom of a deep crimson colour, in shape and size bearing a considerable resemblance to a full-blown peony, and distinguishable for a long distance amidst the sombre-coloured underwood.

The rock lily is a superb plant, generally growing on the edge of some rocky precipice, crowning a lofty ridge of cliffs with its giant form. The flower-stalk, issuing from a bunch of long pointed leaves, frequently attains an altitude of thirty feet, bearing at its summit a crown of scarlet lilies, several feet in circumference.

The gigantic stinging-nettle is abundant in the Illawarra forests, and is a formidable tree.

It grows to a height of forty or fifty feet, having large flat leaves. The poisonous fluid secreted from the foliage is very powerful, particularly in the younger leaves; and their sting is so virulent as to produce great suffering, not unattended by danger: so that where it crowds the forest with its spreading leaves, at no great elevation from the ground, it becomes a serious impediment to the traveller.

During summer, the highest ridges of these Illawarra mountains are rendered conspicuous by the blossoms of the flame-tree, which may be seen like fiery-red patches in the forest, by vessels passing at a distance of several miles from the shore.

On the north and north-west coasts of Australia the explorers in those regions have met with a most remarkable tree, called the baobab or gouty-stem tree. The trunks of these trees, resembling enormous yams, are filled with abundance of mucilage, not unlike gum tragacanth, forming a reservoir of aliment calculated for the climate in which these trees grow. One, measured during Gregory's Expedition, proved to be eighty-five feet in circumference, at two feet from the ground. At one season of the year the trees are covered with a bright dense foliage, with a profusion of large pendulous blossoms; these disappear during the time of rest, when the fruit, which is edible, and resembles a small gourd, may be seen hanging in clusters from the naked branches.

The "bunya-bunya" pine grows to an enormous size in some parts of Queensland, and is probably the most important of all the Australian trees that produce an edible fruit or seed. It yields a cone larger than a man's head, which contains many scores of seeds, each lapped in a separate leaf. The "bunya-bunya" produces its harvest once in three years, the fruiting season being the month of February. The blacks are so fond of these seeds that they travel hundreds of miles to obtain them, and the "feast of the bunya-bunya" is therefore a great festival with them for their corroborees, fights, and other ceremonies.

The noble Moreton Bay pine towers conspicuously above the principal trees in the luxuriant "brushes" or coast-forests of Queensland; it grows to a great height, and attracts the eye by the peculiar arrangement of its foliage. Its timber is largely used for building purposes.

The Moreton Bay fig, or Indian-rubber tree, delights also in the recesses of the forests, and the shelter of the mountain glens; where, clothed with parasitic masses and ferns, it spreads its giant roots like the Indian banian, and forms a rich canopy of shining dark-green leaves.

Amongst the anomalies of the Australian vegetable world are the "wooden-pear tree" and the native cherry: the former, which grows near Sydney, has a seed-vessel in size and aspect like an ordinary pear, but which consists entirely of hard wood, enclosing a few flat seeds in the

centre. The "cherry" is a beautiful evergreen of the cypress family, which bears a small fruit of a bright-red colour, having the stone *outside* the berry.

The white cedar-tree, or Australian lilac, emits from its pendulous clusters of lilac blossoms a delightful fragrance: the flowers, however, only exhale their perfume during the evening, and a few hours after sundown, being entirely scentless during the day.

A great variety of beautiful acacias occur in all parts of Australia, having for the most part clusters of yellow odoriferous blossoms. The pendulous acacia, or "myall" of the blacks, has a dark-coloured wood, which emits a strong odour of violets, and retains its powerful fragrance for many years. Being handsome in appearance as well as hard, heavy, and sweet-scented, it is much used by stockmen for whip-handles. The natives also esteem it for the manufacture of clubs and "boomerangs."

Many of the larger kinds of gum-trees shed their bark annually, which gives them a naked and ragged aspect at such times. Some of the noble red and blue gums attain an elevation of from fifty to sixty feet before sending out branches, their trunks measuring frequently as much as thirty feet in circumference. The gum-trees yield a hard, enduring timber, which is much used in all the colonies for fencing and rough building purposes.

Fine red cedar, which is cut in the brushes

of New South Wales and Queensland, is excellent for cabinet-work, most of the colonial houses being fitted up with it. There are, besides, a vast variety of native woods eminently adapted for manufacturing purposes.

The Banksias are singular-looking trees, somewhat like stunted oaks, bearing cylindrical clusters of blossom, which turn into large seed-cones, and impart a curious aspect to the branches.

A species of misletoe, with green and red blossoms, and bearing berries similar to those in England, is parasitical in the trees, and is devoted to the same festive purposes as the more northern plant.

The "Christmas-bush," a pretty evergreen shrub, with masses of pink blossom, is used in New South Wales instead of holly, as a decoration at Christmas.

Amongst the few barely edible fruits indigenous to Australia may be mentioned the wild fig, the native currant, the "monterrey" (which resembles a very small apple, and grows on a creeping plant amongst the sand-hills on the seashore), the "quondong" or wild peach (having a large round stone, covered with a bright scarlet pulpy skin), the "geebung," and the wild grape.

Many of the flowers adorning the sand-scrubs are remarkable for their beauty; during the spring the ground is in many places covered with terrestrial orchids of singular forms and various colours.

In Western Australia there occurs a species of pitcher-plant; and the sweet-scented white lily

and the purple calostemma grow on the banks of the Murray.

Northern travellers inform us that the ponds and lagoons in tropical Australia are covered with blue, pink, and white water-lilies.

The grass-tree is a peculiarly characteristic feature of the landscape in poor soil, and amongst barren rocky scenery. It has a rugged trunk or stem, varying in height from two to ten feet, at the top of which is a graceful tuft of thin, grass-like leaves, spreading over on all sides; whilst out of this springs a long blossom-spike, not unlike a bulrush.

In the settled districts, where the country has been much fed over by sheep and cattle, the indigenous kangaroo-grass entirely disappears, giving place to a narrow-bladed kind similar to that seen in England. When the first emigrants landed their flocks at Port Phillip, the kangaroo-grass was in many places six feet high, and afforded the most luxuriant and nourishing pasture.

Mushrooms are abundant in winter and spring, especially where the soil has been manured by cattle and sheep. In some parts of New South Wales there grows a luminous fungus, that shines with a bluish-green phosphorescent light, and imparts a curious appearance to the woods at certain seasons of the year.

CHAPTER IX.

Discoveries on the Coasts of Australia by the Early Voyagers.

THE "DEVIL'S TOWER," IN BASS'S STRAIT.

The original name given by the Dutch to the Great South Land, of which they claim to be the discoverers, was that of "Terra Australis." It was not until after Tasman's second voyage that

this appellation was changed to New Holland; but the new name applied only to the western half of the continent, the eastern portion being styled New South Wales by the early British navigators. Capt. Flinders, when speaking of New Holland and New South Wales in a collective sense, re-adopted the original term, "Terra Australis," which has, however, again become obsolete, though, singularly enough, in his preface to his "Voyage to Terra Australis," he suggests the very name which is at present applied to the Australian continent. He says: "Had I permitted myself any innovation upon the original term, it would have been to convert it into *Australia*, as being more agreeable to the ear, and in assimilation to the names of the other great portions of the earth."

There is a curious manuscript chart, now in the British Museum, bearing date 1542, which has caused some persons to hold the opinion that a part of Australia had been visited by Europeans nearly a hundred years prior to any authentic accounts we have of its discovery. On this chart an extensive country is laid down to the southward of the Moluccas, under the name of Great Java, "which," says Flinders, "agrees nearer with the position and extent of Terra Australis than of any other land; and the direction given to some parts of the coast approaches too near to the truth for the whole to have been marked from conjecture alone. But, combining this with the exaggerated extent of Great Java in a southern direction,

and the animals and houses painted upon the shores, such as have not been anywhere seen in Terra Australis, it should appear to have been partly formed from vague information, collected, probably, by the early Portuguese navigators, from the eastern nations, and that conjecture has done the rest. It may, at the same time, be admitted that a part of the west and north-west coasts, where the coincidence of form is most striking, might have been seen by the Portuguese themselves, before the year 1540, in their voyages to and from India."

There is little reason to doubt but that many portions of the north coast, adjacent to Timor and New Guinea, were visited by the Malays at an early period in their prahus; but the first authenticated discovery of any part of Australia was made by the Dutch, about the month of March, 1606.

On the 18th of November, 1605, the Dutch yacht, the "Duyfhen" was despatched from Bantam, in Dutch India, to explore the islands of New Guinea, and she sailed along what was then supposed to be the west side of that country, as far as 14° south latitude. This was in reality the north-west coast of Australia, and is thus described in the account of the voyage by Saris: "This extensive country was found, for the greatest part, desert, but in some places inhabited by wild, cruel, black savages, by whom some of the crew were murdered. For which reason they could not learn anything of the land or waters, as had been

desired of them; and from want of provisions, and other necessaries, they were obliged to leave the discovery unfinished. The furthest point of the land in their map was called Cape Keer-weer," or Turn-again.

In the same year, Luis Vaes de Torres, a Spanish navigator, sailed with three vessels from Callao, in Peru, for the purpose of searching for a continent which was supposed to be somewhere to the westward of South America. He discovered the straits which now bear his name, separating Australia from New Guinea, and passed through them to the south-west, sailing along 300 leagues of the coast. In the narrative of his discoveries, which Torres himself addressed to the King of Spain, he says, speaking of these straits, "that all over them there is an archipelago of islands without number. Some were very large, and inhabited by black people, very corpulent, and naked. Their arms were lances, arrows, and clubs of stone, ill-fashioned. We caught in all this land twenty persons of different nations, that with them we might be able to give a better account to your Majesty."

In 1616, Dirk Hartog, commander of the Dutch Indiaman the "Endragt," discovered that part of the west coast lying between 23° and 26° south latitude. He anchored in Shark Bay; and on one of the islands forming the roadstead there, a plate of tin was found, in 1697, bearing an inscription to the effect that the land had been visited by Dirk Hartog, on 25th October, 1616.

Three years later, the coast south from Shark Bay was visited by Edel, another Dutch captain, and that part of the country was named Edel Land, in honour of its discoverer. The great reef lying off this coast, known as Houtman's Abrolhos, was discovered at the same time. It was on this reef that Pelsert lost his ship, the "Batavia," in 1629.

That portion of the south coast extending from Cape Leeuwin in an easterly direction along the great Australian bight, towards Spencer's Gulf, was accidentally discovered by the Dutch ship "Gulde Zeepaard," in 1627; and called Nuyts' Land, after Pieter Nuyts, her commander.

In 1642, Captain Abel Jansz Tasman sailed from Batavia on a voyage of discovery, and fell in with the south coast of the island that is now called Tasmania after him, but to which he gave the name of "Anthony Van Diemen's Land," in honour, he says, "of the governor-general of Dutch India, our master, who sent us out to make discoveries." He anchored in Frederick Hendrik's Bay, "in a good port, in twenty-two fathoms; whitish good holding sand; wherefore we ought to praise God Almighty."

More than a century elapsed after the voyage of Tasman, before the eastern coast of Australia was made known. In the year 1770, Captain James Cook, after visiting Tahiti and New Zealand, proceeded to explore the eastern shores, from their southern extremity to Cape York, visiting Botany Bay and discovering Port Jackson.

This voyage of Captain Cook far surpassed in importance all that had been hitherto accomplished. The general plan, however, of the expedition did not admit of his entering minutely into the details of all parts of this extensive seaboard; thus some portions were passed in the night, many openings were seen and not examined, and the islands and reefs lying at a distance from the shore were only indicated. Cook reaped the harvest of discovery, but the gleanings remained for Flinders and other more recent navigators.

In 1777, Captain Cook again visited Australia, and carried out his discoveries along the coasts of Van Diemen's Land; and, in the following year, Captain Phillip arrived in Botany Bay, for the purpose of establishing the first British colony in the territory recently discovered by Captain Cook, and called by him New South Wales.

In December 1797, Mr. George Bass, surgeon of H. M. S. "Reliance," left Port Jackson in a whaleboat, for an expedition to the southward, taking with him a crew of six men, and six weeks' provisions. After carefully examining the coast for two hundred miles, these adventurous voyagers discovered Twofold Bay, and eventually rounded Cape Howe, and passed through the strait (Bass's Strait) which separates Australia from Tasmania, thus proving, for the first time, that the southern land, called Van Diemen by Tasman, was in reality an island. Pursuing their voyage westward, exposed to great dangers from the stormy

nature of the seas they had to navigate in their frail boat, they discovered Western Port, where they were detained for thirteen days by bad weather. The return journey was greatly retarded by contrary gales; and though Mr. Bass started with only six weeks' provisions, he managed, with the assistance of occasional supplies of petrels, seals' flesh, fish, and a few black swans, to prolong his voyage to eleven weeks, and to return safe from a daring enterprise, which was crowned with a degree of success not to have been anticipated from such feeble means.

During the time that Mr. Bass was absent on his whale-boat voyage, Flinders, in the "Francis" schooner, examined the islands in Bass's Strait, some of which he found covered with vast multitudes of seals and petrels. In the following year he joined Mr. Bass in a more extensive exploration of the straits, and discovered the northern coast of Tasmania, from Port Dalrymple to Cape Grim. Finally, they sailed entirely round the island, visiting the various bays and harbours, and returned again to Port Jackson, after an absence of three months.

In 1799, Captain Flinders, in the sloop "Norfolk," sailed along the east coast northward, to explore and report upon Moreton Bay and Harvey's Bay, two large openings seen by Captain Cook, but of which the entrances only were known.

It was, however, in July 1801, that Captain Flinders sailed from Sheerness in command of H. M. S. "Investigator," on his grand voyage

"for completing the investigation of the coasts of Terra Australis."

On this second voyage, Captain Flinders sighted the Australian coast at Cape Leeuwin: and King George's Sound was fixed upon as the best place in which to anchor, and prepare for the examination of the south coast. After conducting his explorations along the great Australian bight, visiting the various groups of small islands on the coast, and discovering Coffin's Bay, it was found that the coast once more took a northerly direction, and an ebb tide, from the north-east, was met, running out of some apparent inland sea. This was the entrance to Spencer's Gulf, which, together with Port Lincoln and Gulf St. Vincent, were discovered and carefully examined and surveyed by the captain of the "Investigator." It was in the stormy channel between Thistle Island and the mainland, at the entrance to Spencer's Gulf, that Flinders lost a boat's crew, consisting of two officers and six men, who had proceeded to the main to search for an anchoring-place where water might be procured. Continuing the survey of the coast to Kangaroo Island, Port Phillip, and Bass's Strait, the "Investigator" reached Sydney harbour in July, 1802, to refit; where the French Commander Baudin had previously arrived, also on a voyage of discovery.

At this early period of the infant settlement at Port Jackson, supplies were scarcely to be obtained, and their price was most exorbitant. Captain Flinders says: "In purchasing a sea-stock for the

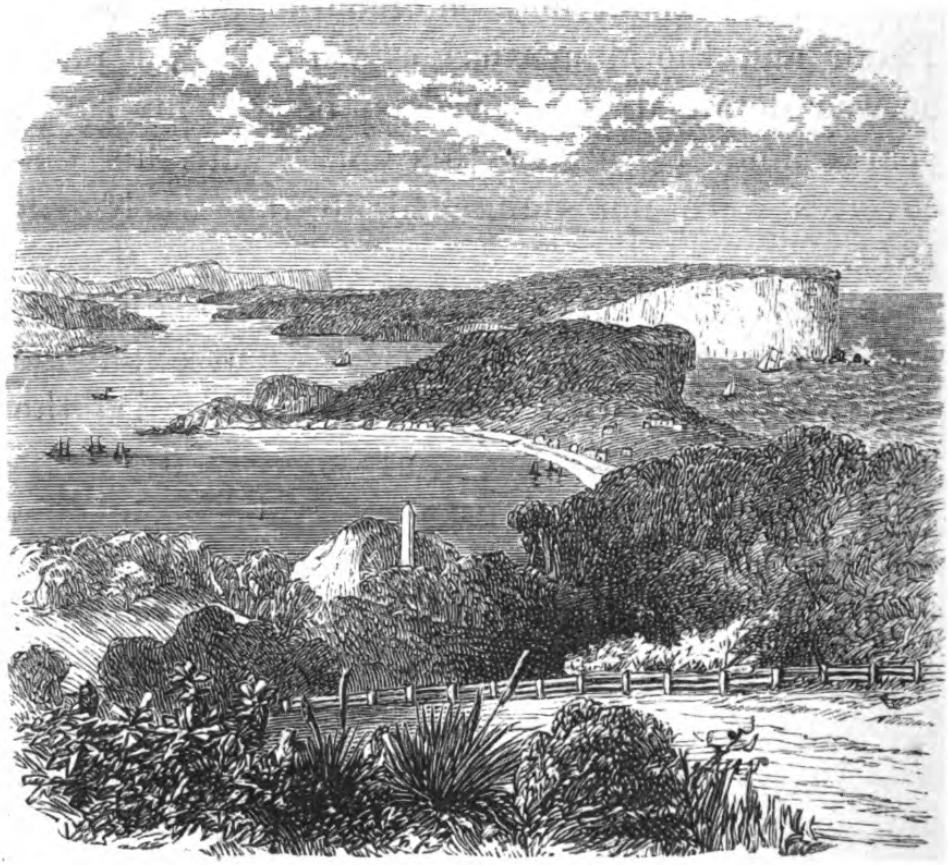
cabin, I paid 3*l.* per head for sheep weighing from 30 lb. to 40 lb. when dressed; pigs were bought at 9*d.* per pound, weighed alive; geese at 10*s.* each, and fowls at 3*s.*; and Indian corn for the stock cost 5*s.* a bushel."

After an examination of the east and north coasts, on which service Captain Flinders was engaged for about eighteen months, he sailed for Timor and the Mauritius; at which latter place he was detained as a prisoner of war for seven years; and, owing to this misfortune, his discoveries were not published to the world till 1814.

In 1837, Captain Wickham, and, subsequently, Mr. Stokes in the "Beagle," carried out extensive surveys of the coast in North-West Australia; the latter discovered a safe inner channel for vessels passing through Torres' Strait; and also made a careful and complete chart of Bass's Strait, rendering their navigation safe to the mariner.

CHAPTER X.

New South Wales.



SYDNEY HEADS, LOOKING NORTH.

The colony of New South Wales, the oldest of all the Australian colonies, was first established as a penal settlement in the beginning of the year 1788; a fleet of convict vessels, under convoy of a frigate, cast anchor in Botany Bay on the 20th of January; but the locality being found deficient in fresh

water, Captain Phillip, the governor, determined to examine the adjacent harbours lying to the northwards. The result was, that they found only a few miles further along the coast a magnificent and capacious harbour, capable of affording security to the largest fleet during all winds. On the governor's return to Botany Bay he gave directions for the immediate removal of the fleet to Port Jackson, where, at the head of one of the deep bays or coves of this indented harbour, he determined to fix his future seat of government. "The spot chosen for this purpose," says Colonel Collins, "was at the head of the cove (now called Sydney Cove), near a run of fresh water, which stole silently through a very thick wood, the stillness of which was then, for the first time since creation, interrupted by the sound of the labourer's axe."

New South Wales, before the separation from it of Victoria and Queensland, occupied the entire eastern portion of Australia, from the 141st degree of longitude (which divides it from South Australia) to the shores of the Pacific. Its extent is now, however, much limited, since it has been deprived of the large territories lying north and south; the former of which was constituted a separate and independent colony under the title of Queensland, in December 1859; whilst the latter, as Victoria, seceded from the parent state in July 1851, and is now, owing to its wonderful gold-fields, the most wealthy and flourishing colony under the British crown.

The present boundaries of New South Wales are, on the east, the Pacific Ocean—on the north a line from Point Danger, in S. lat. 28° 8′; thence by the mountain range, westerly, to the great dividing range; thence, following the course of the Macintyre to S. lat. 29°, and along this parallel to E. long. 141°—which is the western boundary—and on the south by a line from Cape Howe to the nearest course of the Murray, and thence by the course of that river to the borders of South Australia.

The coast of New South Wales comprises about 700 miles of seaboard, along which are numerous harbours, bays, and estuaries, which afford a more or less secure anchorage for vessels. Port Jackson is celebrated as being one of the finest harbours in the world. Twofold Bay, near Cape Howe, at the south-eastern portion of the colony, is also a secure haven for shipping, and the harbour of an important district. Newcastle, at the mouth of the Hunter River, though at times rather difficult of access, is, next to Sydney, the most frequented port on the coast, commanding, as it does, all the coal trade from the adjacent mines to the neighbouring colonies, as well as being the place of export for a vast amount of agricultural produce; the valley of the Hunter being considered the garden and granary of the colony. Broken Bay, a few miles to the north of Sydney, is at the entrance of the Hawkesbury River, also an old-established agricultural district, between which and Sydney a considerable trade is carried on. Port Stephen,

Jervis Bay, Botany Bay, Port Macquarie, and Wollongong are the other principal harbours on the coast.

Most of the rivers form bar harbours, the navigation into which is difficult, and at times dangerous; yet a number of steamers and small coasting vessels trade to and fro between Sydney and the Clarence, the Richmond, the Manning, the Shoalhaven, and other rivers.

In the northern portion of the Australian alps, the Murrumbidgee takes its rise, flowing westwards through a level country until it joins the Murray. The Lachlan, which rises near the Canobla mountains beyond Bathurst, also takes a westerly direction, inclining to the south, till it falls into the Murrumbidgee. The Darling, the longest river in New South Wales, is fed by the numerous streams of the western watershed of the cordillera, or dividing range of mountains which intersects the colony from north to south. This river, after watering an arid region for several hundred miles, also falls into the Murray near the South Australian boundary.

The Tweed, the Clarence, the Richmond, the Manning, the Bellinger, the Macleay, the Shoalhaven, the Clyde, and the Hunter have their rise on the eastern slopes of the mountain ranges, and empty themselves into the Pacific Ocean; whilst the western rivers all reach the southern ocean by the one outlet, the mouth of the Murray.

The Hunter is a noble stream, it and its tributaries being navigable for large steamers for a

distance of many miles: it flows through a rich and fertile district, and the important towns of Maitland and Newcastle are situated upon its banks. The Clarence is the largest river in the northern portion of the colony: it has thirteen feet water on the bar, and is navigable for vessels of 300 tons for sixty miles from its mouth.

Of the general aspect of the country a recent writer observes: "The interior may be called mountainous or hilly, and is covered with an open forest, occasionally intersected by brushwood thickets. On the sea-coast, along which the great Pacific Ocean rolls its tremendous surge, the country is bold and rugged; and for five or six miles from the coast, it wears in some places a bleak and barren aspect, presenting a soil composed mainly of drift sand, scantily covered with stunted trees and shrubs. But this would give an inadequate and unfair idea of the whole; for it is the most chequered country of good and bad land in the world. In the interior, rich and fertile valleys lie in the lap of the mountain ranges, such as the Vale of Clwyd, to the westward of the Blue Mountains; and extensive undulating grassy plains, like those of Maneroo and Liverpool Plains, are approached through a barren and rocky region. On the coast, also, the romantic and fertile district of Illawarra is surrounded by a desolate region of barren hills, and the rich valley of the Hunter River system of waters, contrasts with those of the Clarence and Richmond to the northward. Again, the tropical aspect of the jungles and mangrove swamps is so

different from that of the verdant prairies of the downs, almost destitute of timber, and with few streams, that the traveller could scarcely imagine them to be in the same country, within a thousand miles of each other, and yet they are contiguous."

The climate along the seaboard of New South Wales is more equable than that of the interior: it is less exposed to the influence of the hot winds, which three or four times every summer blow from the north-west like a current of air issuing from a heated furnace: the winters are also milder, frost being of rare occurrence; whilst the heats of summer are tempered by the sea-breeze, which sets in regularly every morning during the hot months, and blows strongly from the north-east till about sundown, when it is succeeded by a land-breeze from the mountains.

As the land rises from the ocean the temperature declines. Sydney may almost be said to have no winter, so genial and mild is that season there; whilst at Bathurst snow falls in its season, and the cold is often severe. On the highest ranges, heavy falls of snow take place during winter, which remain for a long time on their summits. At Blackheath, on the Blue Mountains, it is no uncommon thing to see boys sliding upon the ice, and snowballing each other on a July morning, although only distant from Sydney about seventy miles.

In the northern districts, abutting on Queensland, the climate partakes of a tropical character, and the pine-apple and the banana flourish luxuriantly in the open field; whilst on the Maneroo plains,

situated 2,000 feet above the sea, at the base of the Australian Alps, which are covered with snow for a greater portion of the year, the gooseberry, the raspberry, and the apple flourish in the keen sharp atmosphere.

Occasional droughts occur throughout the colony at periods varying from ten to fifteen years: and periodical floods of a destructive character have at various times caused a serious loss of life and property. The climate is on the whole highly salubrious and agreeable: its dry healing influence is beneficial in pulmonary consumption. Hydrophobia is unknown, although dogs abound. The Asiatic cholera has never yet visited the colony; dysentery, however, is prevalent amongst newly-arrived emigrants. Cases of heart disease are frequent, and cause the majority of sudden deaths. Ophthalmia, too, is a common complaint in some parts of the country during the summer and autumn months. The only epidemic is the influenza, which at intervals visits the colony, and is very severe in its effects. Yet, notwithstanding these facts, the climate of New South Wales has been pronounced by good authorities to be one of the most healthy and salubrious on the face of the globe; a great proportion of the mortality being owing to intemperance and to accidental deaths.

The agricultural produce of New South Wales includes all the cereals of Europe, as well as many which belong to tropical climates. All the culinary vegetables flourish admirably, and green

peas are obtainable in Sydney all the year round. For fruits of every description the colony is justly famous—peaches, apricots, oranges, lemons, citrons, grapes, loquats, plums, pomegranates, figs, mulberries, and melons attain the highest degree of perfection in the open air. Tobacco and maize are extensively cultivated; and wine of a very superior quality is made at Camden and on the Hunter.

The population of the entire colony of New South Wales, according to the census of 1861, amounted to 350,553; whilst that of the city of Sydney alone numbered 93,202 souls.

The exports from the colony to the United Kingdom amounted in 1863 to 2,220,149*l.*: whilst the imports of British manufactured goods during the same year were valued at 3,265,830*l.*; and those of foreign and colonial produce at 321,228*l.*

Horses are exported to India in great numbers from New South Wales, as they also are from South Australia, for the purpose of supplying the cavalry and artillery there. Cattle grow to a large size, weighing from thirteen to fourteen cwts. As a great wool-producing country the colony has been celebrated from its infancy: as long ago as the year 1797 Mr. John Macarthur introduced a small flock of pure Spanish merino sheep into New South Wales from the Cape: and it is to his enterprise that Australia owes the origin of her present great pastoral wealth. Up to the year 1805 no wool had been exported from the colonies, and Great Britain was entirely de-

pendent upon Spain for her supplies. In the year 1861, the enormous quantity of sixty-eight millions three hundred and thirteen thousand nine hundred and three pounds of wool was received into British ports from Australia only; the value of which, at 1*s.* 7*d.* per lb., amounts to the sum of 5,477,181*l.* sterling.

The introduction of the alpaca into New South Wales from the Bolivian Andes is an event which has been hailed as a new epoch in the advancement of the colony. In 1858, the indefatigable Mr. Ledger succeeded, after much opposition on the part of the South American Government, in safely landing at Sydney a valuable herd of nearly 300 of these useful animals. In 1860 the first export of their wool took place, amounting to 677 lbs.

The coal fields of the Hunter and of Illawarra promise, at no distant period, to yield results of which, at present, we can form no conception. The large fleet of intercolonial steamers are all supplied with excellent coal, the produce of New South Wales, which is also used in producing gas for Sydney, Melbourne, Adelaide, and other large towns.

The quantity of coal raised in New South Wales, in the year 1857, amounted in value to 148,158*l.*

The orange-tree was first introduced into New South Wales from Brazil in 1780.

The country round Sydney, and along the banks of the Parramatta and Hunter Rivers con-

tains many very extensive orangeries, the produce of which is a remunerative source of wealth to the proprietors, from 50*l.* to 1800*l.* per annum being realized as the profit of some of these plantations.

Dr. Bennett thus pleasantly describes the orangery of Mr. Richard Hill, at Lane Cove, near Sydney: "After an agreeable drive of about nine miles we arrived at the orangery. On entering the grounds the scene was beautiful; and it is impossible to describe the effect produced by the mass of bright-green foliage, studded in all directions with golden, luscious fruit, and redolent with the perfume of the flowers. The situation of the grounds is good, having a north-east aspect, well sheltered from injurious winds; the land gradually slopes down to a well-watered creek, and on the opposite side of this gradually rises again; on the brows of these sheltered hills, the rows of orange-trees are planted. At the entrance of the garden, I remarked some fine lemon-trees, forming an agreeable contrast, by the lighter green of their leaves, and the delicate hue of their pendulous clusters of fruit, with the darker tints of the orange-trees in their vicinity: the branches of these fine lemon-trees were so loaded with ripe fruit as to require the support of props to prevent them from breaking down. The fragrance of the blossoms attracted multitudes of insects, butterflies of various bright tints, and innumerable bees, the latter imbibing the nectar from the flowers to convey to their hives, which are kept upon the

grounds of this plantation. The air we breathed was filled with delicious odour, and the trees around were loaded with ripe and ripening fruit. Mr. Hill has already, during this season (1858), gathered and sold for exportation and home consumption 40,000 dozen of oranges, leaving about 20,000 yet unculled."

The country is now intersected in all directions with excellent roads. The mails are conveyed from Sydney to all the various towns and villages of the interior with punctuality and despatch. Four-horse coaches carry on daily communication along the northern, western, and southern roads; whilst the numerous seaports are connected with the metropolis by means of fast and powerful steam-boats.

A railway is being constructed between Sydney and Goulburn, and a great portion of the line is open to traffic. Another railway is formed between Newcastle and Maitland, along the valley of the Hunter; and other lines are in progress to the north and west.

The electric telegraph connects New South Wales with Queensland on the one side, and with Victoria and South Australia on the other.

Steam communication conveying the mails by the overland route, *viâ* King George's Sound and Melbourne, is carried on monthly between Great Britain and Sydney, letters being delivered within fifty days.

The colony of New South Wales is divided into sixty-eight counties, extending along the entire

sea-board, and about 180 miles into the interior: these are all thoroughly explored and surveyed, and are more or less densely populated by the settlers.

The entrance to Port Jackson from the Pacific Ocean is between two perpendicular cliffs called the North and the South Heads; and it appears as if the continuous wall of sandstone rock that forms this iron-girt coast had been abruptly rent asunder to form the portals of one of the finest harbours in the world. The width of the entrance is nearly two miles, the cliffs on either side, in height from one to four hundred feet, rising abruptly from the ocean that foams and lashes in fury at their base; the waves, during stormy weather, rushing into the hollow caverns below with a sound like thunder.

On the summit of the southern cliff stands a noble lighthouse, built of Sydney stone, which throws its friendly rays far and wide over the bosom of the Pacific. Near to it is the flagstaff and signal station, from whence the arrivals and departures are telegraphed to Sydney, a distance of seven miles. The enchanting scenery from the South Head is thus graphically described by Judge Terry: "As on a summer's eve one stands upon the well-known heights overhanging Vaucluse (whither the citizens of Sydney 'hie to gulp their weekly air'), with shrubs and wild flowers of dazzling hue springing beneath his feet, he beholds, as he looks seaward, the heaving swell of the huge billows of the Pacific outside the Heads;

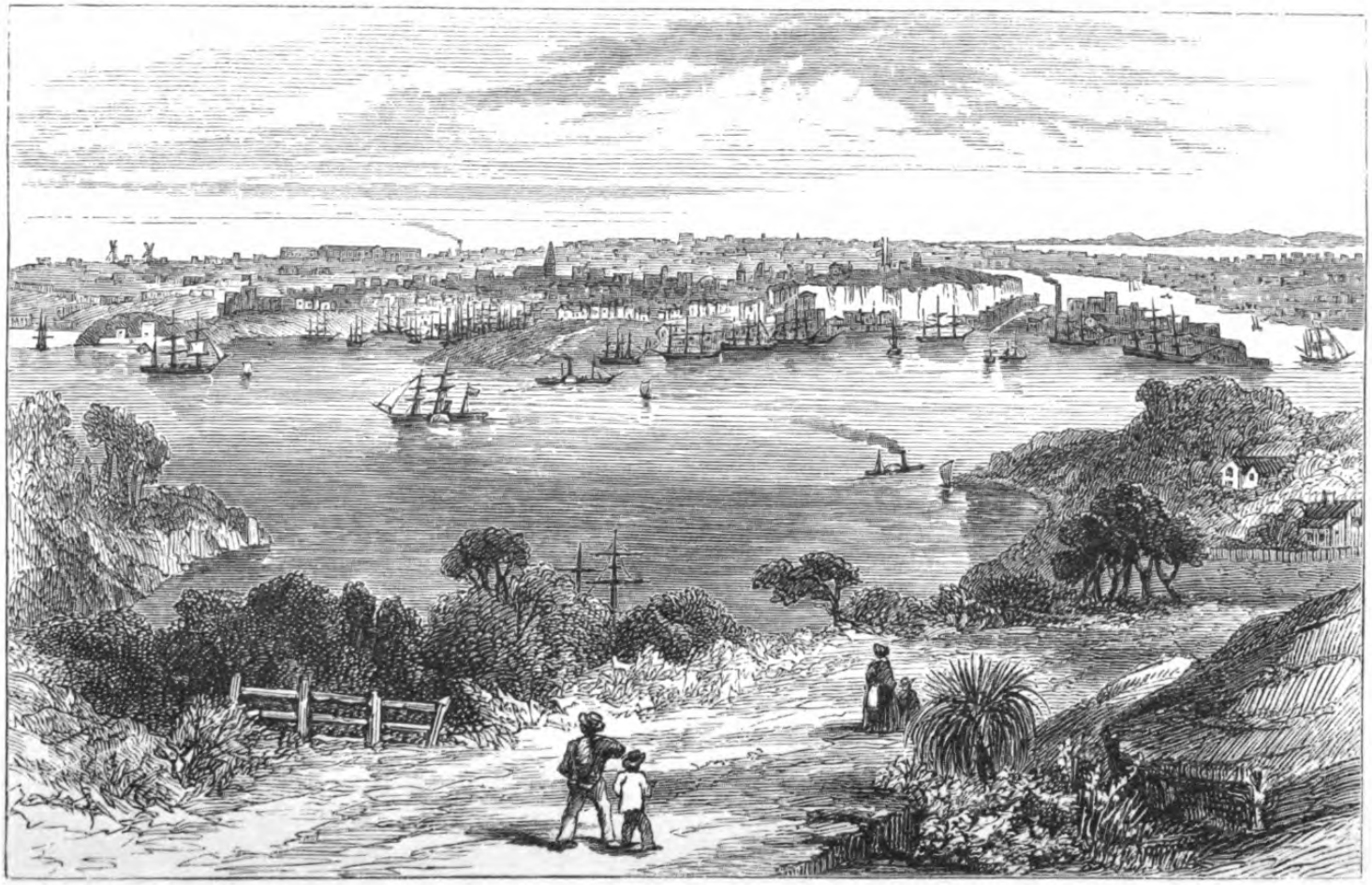
then, turning the eye towards Sydney, it rests upon the tranquil waters of the harbour within, smooth and motionless as a sheet of molten silver. Beyond, the spires of the city rise, and a distant glimpse of the Blue Mountains is obtained. Opposite to the spot where the spectator stands, with an intervening expanse of water about three miles in breadth, the white sands and cottages trellised with vines adorning the semicircular beach of Manly, glow with yellow tints reflected from the setting sun; the terraced orangeries and vineyards climbing the hill of Woollahra also come here finely into view. Often the interest and effect are heightened by a frigate, or a ship freighted with emigrants from England, outside the Heads, approaching the port, and light boats skimming the surface of the inland lake within. At such a time, as the sun languishes in the golden sky it creates, and pours its mild departing splendours on objects such as these—beautiful in their separate attractions, wonderful in their combination—it beams upon a panoramic landscape as vast, varied, and magnificent as any the world contains."

Yet it was just below this spot, beneath the lighthouse, against the tall frowning cliffs, that the ship "Dunbar" was lost on the night of the 20th of August, 1857. She was a fine vessel of 1000 tons belonging to Messrs. Green of Blackwall, and was endeavouring to enter the harbour on that awful night, during one of the tremendous south-east gales that occasionally visit the coast in

the winter months. Not seeing the lights, through the darkness and the gloom, and the driving rain, the ship was dashed to pieces against the cliffs, and out of 120 souls only one escaped. This was a young seaman who, as the vessel broke up, was carried by an enormous wave into a cavern in the rocks, where he managed to retain his footing, and to climb higher up the cliff: from which perilous position he was rescued two days afterwards by ropes from above. Since this sad catastrophe, a second lighthouse, called the "Hornby Light," has been erected lower down, and nearer to the entrance of the harbour, which it is hoped will prevent the recurrence of accident for the future.

After entering the Heads, and passing a small group of rocks called the "Sow and Pigs," on which are a light-ship and a beacon, the harbour appears completely landlocked, and in every direction the eye rests upon sloping hills scattered with trees and shrubs to the water's edge. The shores are indented by numerous charming little bays of sylvan beauty—winding up amidst bold rocky eminences, covered with deep, rich foliage —where the transparent blue waters murmur gently upon smooth sandy beaches of dazzling whiteness. Every promontory or hill side is studded with picturesque mansions, and handsome villas and cottages, which are surrounded with gardens and shrubberies, and are scattered about in the most pleasing and artistic manner. The numerous rocky islands that ornament the surface of the harbour with their bright evergreen

foliage, add much to the beauty of the scene; whilst stately ships at anchor, here and there, and the busy traffic of coasting vessels, steamers, and boats of all kinds tend to add life to the panorama. Beyond extends Sydney Cove, with the fair city rising terrace-like from the water, and surmounting the surrounding hills with its wealth of rapidly increasing stone buildings. The Government House, a handsome Gothic building, is situated on a projecting slope; passing this, and rounding one of the forts, a busy and animated scene suddenly opens to view. Ships, many of them the finest in the world, crowd the cove; and the broad stone quays are lined with merchantmen receiving the varied produce of the colony. The city of Sydney, built almost entirely of the beautiful white stone that forms its foundation, presents a gay and imposing appearance, when seen beneath the pure bright sunshine of an Australian sky. At one glance the eye takes in most of the principal structures. The churches, fortifications, public buildings, stores, and dwelling-houses all arrest the attention of the new-comer by their substantial and important appearance. On landing, the stranger is still more astonished at the wonderful progress of the place. Proceeding along handsome streets, lighted with gas, having elegant houses, well-paved footpaths, macadamized roads, and shops equalling those of many of our first towns in England; and seeing the highways traversed by coaches, omnibuses, cabs, and private equipages, and thronged with gaily-dressed pedestrians,



SYDNEY, FROM THE NORTH SHORE.

whilst an air of bustle and business pervades the whole city, he forgets that he is in Australia, and imagines that he has been suddenly transported back to the mother-country.

Sydney itself is separated from the large and populous suburb of Wooloomooloo by a broad elevated space called Hyde Park, which is laid out with fine gravel walks, and planted with ornamental trees. This forms the favourite promenade of the citizens, who resort thither in great numbers on summer evenings to enjoy the cool breeze.

The Domain, at one extremity of which the Government House is situated, is a beautiful park of some extent, contiguous to the city, and occupying a promontory which juts out into the harbour. The Domain is richly timbered, and laid out with carriage drives, which command a series of the most enchanting views of the surrounding scenery.

The Botanic Gardens are an attractive feature in the environs of Sydney, delightfully situated on the banks of a deep bay: the grounds and flower-gardens are alike enriched by the united beauties of nature and art. These gardens cover about thirty acres of ground, and were laid out by the government on the first formation of the colony. The entrance to them from the Domain is through a delightful avenue of robinias, bamboos, and other trees, which introduce the visitors to flowers of all kinds and from every climate. Fine specimens of the Norfolk Island pine-tree are here to be seen, towering to a height of eighty feet; their

broad lateral branches tapering as they ascend, with a singular regularity. Palms, bananas, olives, magnolias, acacias, and custard apples mingle with roses, jasmines, geraniums, and the various well-known garden flowers of Europe.

At one end of the garden is an extensive aviary, in which may be seen specimens, not only of the brightly-plumaged birds of the country, but also of the familiar blackbirds, thrushes, finches, and sparrows of Great Britain.

The weeping willow, although generally considered to flourish best in damp situations, and on the banks of rivers, here attains a size and luxuriance of foliage almost unequalled. The oak also thrives well, and many fine trees may be seen in the gardens and in the plantations around Sydney.

In a secluded part of these gardens is a shady dell overhung by willows, and beneath their green canopy is erected a simple obelisk of white marble, bearing the following inscription:—"To Allan Cunningham, the botanist."

The university, situated on a rising ground at the western extremity of the city, is a grand and imposing edifice, and takes rank as the finest building in the colony: and in close proximity to it are the affiliated colleges of St. Paul's and St. John's, belonging respectively to the Anglican and Roman Catholic communions. The university of Sydney was incorporated by an Act of the Colonial Legislature, which received the royal assent on the 9th December, 1851. It is empowered to confer degrees in arts, law, and physic;

and is endowed with an annual income of 5,000*l*. In the university of Sydney no religious test is imposed as a condition of membership, of honour, or of office. It possesses no theological faculty, but resembles, in respect of its secular faculties, the universities of Germany, Edinburgh, and London. The degrees of this university have, by imperial concession, been placed on an equality with those of like institutions in Great Britain. The suffragan colleges of St. Paul and St. John are founded for the especial tuition and residence of students belonging to their respective churches; each student being entered as a member of the university, and required to attend the lectures and examinations, for which he will be prepared in college.

The Wesleyans and Presbyterians are using endeavours to establish suffragan colleges on a similar plan, in connection with the university.

The Sydney grammar school was founded and endowed with an annual income of 1,500*l*., in the year 1854. It is intended as a connecting link between the national schools and the university.

There are now upwards of 110 schools scattered throughout the colony, under the direction and control of the Board of National Education, besides a still larger number of private schools and seminaries. Sydney possesses, likewise, a flourishing Mechanics' School of Arts, a Museum of Natural History (incorporated in 1853, by an act of the colonial parliament, and now undergoing extensive additions which will make it one of the finest

public institutions in the country), a subscription Library, a Mint, an Observatory, a Female School of Industry, an Infirmary and Dispensary, a Benevolent Asylum, and various other institutions connected with religion, science, and literature. The new Houses of Parliament, now in course of erection, will, when completed, be one of the noblest structures in Sydney. The Exchange is a fine building erected within the last few years, near the circular quay. The Barracks for the military at Paddington, and the Gaol at Darlinghurst, are extensive works of considerable magnitude and importance, and are well built of solid masonry. The numerous churches that adorn the city are many of them very beautiful; and from the belfries of several, the bells may be heard to peal as merrily as in Old England.

The new Markets are situated in the centre of the town, and are large commodious erections, supplied with fountains and every convenience: that portion devoted to the sale of fruit, displays during the season a show of which Covent Garden itself might be proud. The Post Office and the Custom House are also substantial buildings, and many of the banks and private residences vie with those of English cities. Of the places of interest in the neighbourhood of Sydney, Botany Bay, from its associations with the earliest records of the colony, deserves a passing notice. It is a large shallow bay full of mud flats and shoals, having, however, deep water and a good anchorage near the sea entrance. At the upper

portion of it the waters of George's and Cook's Rivers empty themselves into the bay. It is surrounded by low undulating hills covered with brushwood and belts of thick forests; and derives its name from the number of new and singular plants found there by Sir Joseph Banks and Dr. Solander, who accompanied Capt. Cook on his voyage to Terra Australis.

Botany Bay is situated about eight miles south of Sydney, from which it is separated by a tract of flat sandy country, covered with low scrub and interspersed with reedy swamps. Just inside the north head at the entrance to the bay there is a look-out tower, and a pilot station. Near this spot stands a monument erected by the French to the memory of the unfortunate La Perouse; and hard by is the well dug by Captain Cook's people, which is shaded from the sun by the overhanging branches of dark mimosa trees. In the face of the cliff beyond, a copper tablet is let into the rock, recording the date of the landing of Captain Cook's expedition. These are the "antiquities" of the colony, and as such are visited with interest at times by pleasure parties from the gay city that adorns the shores of the neighbouring harbour.

The chief attractions of Botany Bay, however, are the beautiful gardens of the Sir Joseph Banks hotel, which contain a fine collection of animals and birds from various parts of the globe. Elephants, lions, tigers, bears, and leopards may be studied here by the young Australian, together

with a variety of creatures indigenous to the colony.

Many of the numerous bays that indent the harbour of Port Jackson are lovely and romantic spots, and are the favourite resort of pic-nic parties, being easily accessible from Sydney by means of boats. Manly Beach, now called Brighton, is the marine watering-place of the capital, and although only established during the last few years, has risen rapidly in the public favour. It is charmingly situated at the head of North Harbour, within Port Jackson, on a narrow neck of land which intervenes between the placid waters of the landlocked bay, and the broad expanse of the Pacific Ocean. Small steamers ply at intervals during the day between Sydney and Manly Beach.

The town of Parramatta is, next to Sydney, the oldest in the colony. It formerly went by the name of Rose Hill, and some of the earliest farms were established in its vicinity. It is situated at the head of the navigation of a salt-water river of great width and commanding beautiful scenery, which extends inland from Sydney for about eighteen miles. It possesses a gaol, a lunatic asylum, and a tweed manufactory. The houses are large and old-fashioned, and built mostly of red brick; gardens, orangeries, and orchards abound; and the whole place has a quiet country appearance. The population is about 16,000 souls. It is distant from Sydney by water eighteen miles, and by land fifteen, and can be

reached either by rail or steamer. There are several small islands in the Parramatta River, one of which, called Cockatoo Island, is a depôt for prisoners undergoing penal servitude: from 400 to 500 convicts are usually stationed here, and are employed in quarrying, stone-cutting, and other kinds of labour. A large dry dock, for the use of government vessels, has been constructed by them at one end of the island. This prison-rock is guarded, day and night, by sentinels at all points, and no boats, except those of the police, are allowed to approach within a certain distance of its shores.

Further up this salt-water river the scenery becomes more open and pleasing; orange groves and peach orchards diversify the banks; the former revealing their wealth of golden fruit from amongst the deep foliage of the trees, and the latter clothed with a spring mantle of pink blossom.

Maitland, the capital of the Hunter river district, is a town of some importance. It is situated about three miles from Morpeth, at the head of the navigation of that fine river. It contains a population of about 16,000 persons, and is divided into East and West Maitland. It has railway communication with Newcastle, and steamers ply daily between Morpeth and Sydney.

Newcastle, at the mouth of the Hunter, is the shipping port of the surrounding colliery districts. Its population does not exceed 5,000. The coast and river scenery in the neighbourhood of New-

castle is beautiful and romantic. Raymond Terrace, situated on the river midway between Newcastle and Morpeth, is famous for its vineyards, the celebrated Irrawang wine being produced there.

Windsor, on the Hawkesbury River, and the neighbouring town of Richmond, are old-established places of some importance. They are distant about twenty-five miles N.W. from Sydney, in the county of Cumberland, in the midst of a fine agricultural district, having over 14,000 acres under cultivation, not including vineyards and gardens. The population of the district is estimated at 9,000.

The pretty little town of Penrith is situated on the Nepean, thirty-three miles westward from Sydney, with which it is now connected by rail. There are two steam tweed manufactories on the Nepean river, doing an extensive business; also two steam flour mills and two water mills.

Across the Emu Plains, beyond Penrith, rises the bold and rugged outline of the Blue Mountains, over which that monument of convict labour, the great western road, winds its way through grand mountain passes, and gloomy forests, till it reaches the open and fertile plains of Bathurst, on which the town of that name is situated. Bathurst, since the discovery of gold in that neighbourhood, has rapidly risen in importance. It is a neatly-built town, with a large gaol, a court-house, several churches, and other public buildings, most of which are constructed of red brick. It stands on the

banks of the Macquarie, but owing to the absence of trees, it has a bleak and somewhat uninviting aspect. The population of the Bathurst district is 12,000.

Liverpool is a dull, uninteresting place, about twenty miles S.W. from the metropolis. Campbelltown, some thirteen miles further on, is one of the oldest towns in the colony, and though the great south road passes through it, and it is connected with Sydney by railway, it has been in rather a declining state for some years.

Goulburn, about 125 miles S.W. from Sydney, is a flourishing town, the centre of an important pastoral district, which will shortly be brought into communication with the capital by the extension of the railway in that direction. Yass is also a thriving place, further to the westward.

Gundagai is situated on the Murrumbidgee, where the great southern road crosses that river. It occupies both banks, and is, in consequence, divided into North and South Gundagai. It was first settled in 1840; and in 1852, on the 25th of June, the whole town was swept away by a flood. In the dead of the night, the inhabitants were awakened by the deafening roar of the torrent which was madly rushing down the low lands of the Murrumbidgee. The entire valley became an inland sea, the swollen waters of which rolled with such fury and impetuosity as to carry everything before them. The inundated town disappeared; of seventy-eight buildings only seven, riddled and dilapidated, were left standing;

and out of a population of 250 souls 89 perished. The work of destruction was completed in a few minutes; and then the torrent bore away, through solitudes, the lifeless bodies of the inhabitants, mingled with the floating ruins of their houses.

After this dreadful catastrophe the site of the town was removed, out of the reach of the floods, to a more elevated position; where it has since rapidly increased, and at the present time is in a prosperous and flourishing state. It contains many large buildings—amongst which are two steam mills, seven hotels, three stores, and a commodious school-house, whilst several places of worship are in course of erection. Gundagai is 244 miles from Sydney, and 126 from Goulburn. The Tumut and Adelong gold-fields are twenty-five miles south of Gundagai.

On the 16th of September, 1858, Captain Cadell ascended the Murrumbidgee from the Murray, and arrived at Gundagai in his large steam-boat, the "Albury:" he thus proved the practical navigation of the noble Murrumbidgee, opened up the natural highway of commerce to the heart of this fertile territory, and brought it within a fortnight's reach of Adelaide by the inland waters.

Albury is situated on the right bank of the Murray, 378 miles from Sydney, and 200 from Melbourne, in the midst of a highly auriferous country. Within the last few years, in consequence of the gold-fields, and the steam communication on the river with South Australia, this place has made considerable progress. The

district is scarcely exceeded in fertility and beauty by any tract of land in Australia. The production of wheat and other cereals is rapidly increasing, and now amounts to upwards of 60,000 bushels. Albury is only 700 feet above the sea level, consequently the climate is very mild. There are many flourishing vineyards and beautiful gardens, in which tropical plants can be cultivated.

Mudgee, fifty miles from Bathurst, is the centre of a large gold district, with a population of 4,200 souls; and Tamworth is a rising town in the neighbourhood of the Liverpool Plains.

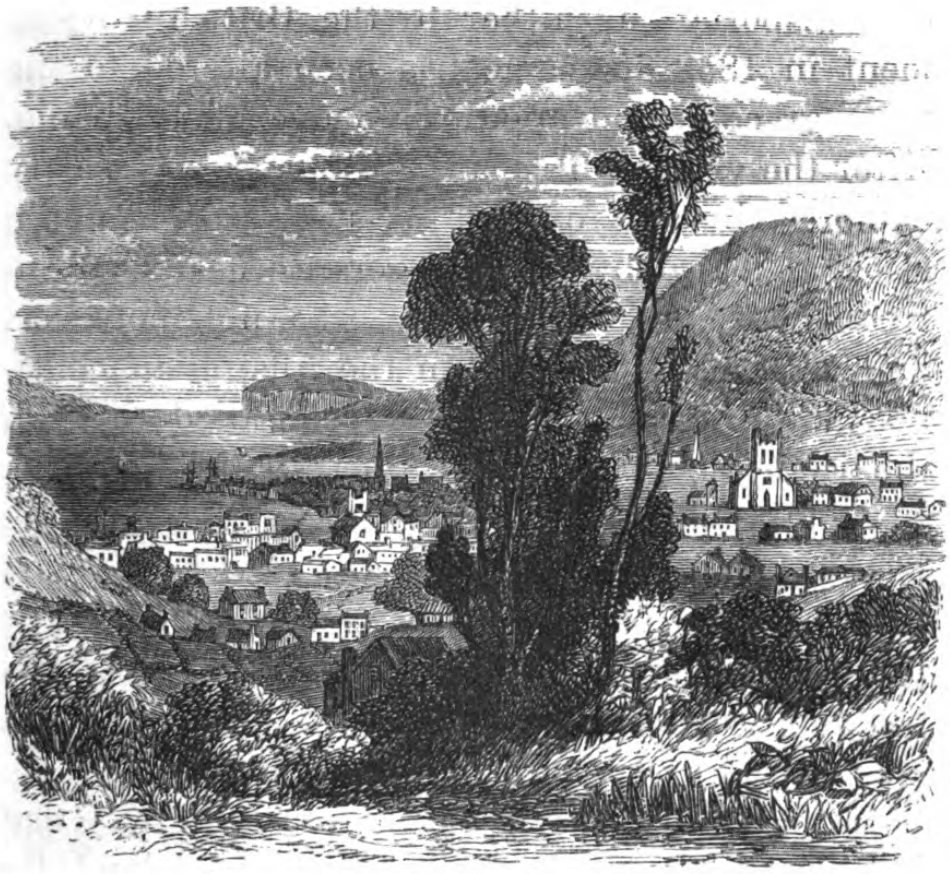
On the coast, about forty miles south from Sydney, lies the beautiful district of Illawarra, its verdant meadows and rich pastures stretching to the sea, and backed by a range of abrupt mountains, the sloping valleys of which are clothed with the most luxuriant and gorgeous vegetation. The port of this district, which is justly celebrated for its butter and other farm produce, is the town of Wollongong, delightfully situated on the sea-coast, and having regular steam communication with Sydney. The population of the district is about 5,000. Kiama and Shoulhaven lie further to the south, and are both fertile districts, containing many fine farms and much cultivated land. Broulee and Moruya are small ports likely to rise into importance; and Eden is the township at Twofold Bay.

Grafton, on the Clarence River, is situated in the northern portion of the colony, and is rapidly

increasing in prosperity and population. The town already numbers above 2,000 souls, and the district about 4,000. There are large quantities of rich alluvial plains, cedar brushes, and swamps, on the river and its tributaries. Copper and gold have been found in several places; and on the Rocky River, a tributary of the Clarence, gold is being procured in considerable quantities. Numerous coasting vessels visit the Clarence for cargoes of cedar, and steamers also run between it and the metropolis.

CHAPTER XI.

TASMANIA.



HOBART TOWN.

TASMANIA, formerly called Van Diemen's Land, is a large island lying off the southernmost point of Australia, from which it is separated by Bass's Strait. It is bounded on the east by the Pacific, on the west by the Indian, and on the south by the Southern Ocean. In form it is somewhat like

a heart, measuring rather more than 200 miles from north to south, and about 190 from east to west, with an area of some 24,000 square miles.

This island was first discovered by Abel Janssen Tasman, in 1642, and subsequently received its name of Van Diemen's Land in honour of one of the governors of Dutch India. Since the abolition of transportation thither by the British Government in 1852, its name has been altered to the more graceful and appropriate one of Tasmania. After the visit of Tasman, the island was partly explored by our own great navigator, Captain Cook, and also by the voyagers Furneaux, D'Entrecasteaux, and others. It was not, however, known to be separate from the Australian continent until Bass, in the year 1798, sailed through the island-studded strait which bears his name. For 130 years after the discovery of Tasman the island remained unvisited; or, if any mariners touched there, such an event is unrecorded. The first Englishman who sighted its shores was Captain Furneaux, in 1773; and subsequently it was visited by Captain Cook in 1777.

In the year 1803 it was determined by Great Britain to take possession of this fine island, for the purpose of making it a penal settlement, and the British flag was then planted by Lieutenant Bower (who was commissioned by the then governor of the already existing penal colony of New South Wales) on the south-east part of the island, on the banks of the river Derwent.

At this spot the first settlement was made, and

the party pitched their tents and formed an encampment, which they called "Restdown," now corrupted into Risdon. Shortly afterwards, when Colonel Collins, the first lieutenant-governor, arrived, with about 400 convicts and a guard of some fifty mariners, the island was formally taken possession of in the name of King George III. The site of Hobart Town was then fixed upon; and in the same year, another penal establishment was formed at the north of the island, on the banks of the Tamar, where the town of Launceston now stands.

The population of Tasmania, at the present time, is somewhere about 85,000, of which only a very small proportion (under 3,000) are convicts, the expiring remnant of the old transportation system. In the year 1848 the population was thus classed:—Free, 43,692; convicts, 24,188; military, 2,246; and aboriginal inhabitants, 38. In December, 1850, this alarming number of prisoners was reduced to 21,437, of whom 4,421 were females. In 1854 the census returns were considerably diminished by the great exodus to the gold fields of Victoria and New South Wales. They have, however, again recovered, and the population is now steadily increasing.

The settled portions of Tasmania stretch across the interior from the north to the south-east coast, along the banks of the Tamar, the Derwent, and other rivers. Some portions of the south-western part of the island are, owing to the rugged and impassable nature of the country, not merely un-

settled, but hardly even explored. The search for gold which has been so vigorously prosecuted by the inhabitants of late, has, however, made us acquainted with many wild and romantic districts hitherto unknown.

The scenery is in many places mountainous and grand. Lofty ranges, covered with immense forests of evergreen trees of vast size, occupy the western parts. Here we have Mount Humboldt, which has an elevation of 5,520 feet; Dry's Bluff, Mount Arrowsmith, and Valentine's Peak, all of which exceed 4,000 feet in height, the latter being visible at sea at a distance of sixty miles. In the eastern ranges, which are less densely wooded, some lofty mountains also occur, such as Ben Lomond, which is 5,002 feet; Ben Nevis, 3,910 feet; and the snow-capped Mount Wellington, which rises close behind Hobart Town to an altitude of 4,200 feet, and forms a picturesque background to that charming city.

The interior of the country is agreeably diversified with plains and valleys which are clothed in places with fine timber, and interspersed with bold isolated mountain peaks. The soil is good, but owing to the prevalence of the forest, the labour of clearing has been great, and has considerably retarded the extension of agriculture. In some instances fine tracts of land, free from timber and underwood, stretch quite down to the coast, and many extensive plains, covered with luxuriant herbage, are to be found in various parts of the interior.

Count Strzelecki, in his "Account of Van Diemen's Land," says: "The agricultural districts are superior in appearance to those of New South Wales. The details of farms and farming are better understood and defined; and the practical results are such that no country reminds the traveller so much of the old one. The farms of the Van Diemen's Land Company are in a most advanced state; the rotation crops and mode of working the land being truly admirable, and present, together with the farm buildings and the residence and gardens of the Company's chief agent, an entirely English aspect. The soil of these farms is of a reddish-brown colour. It is fine-grained, of moderate cohesion, and friable, unctuous to the touch, porous, and easily dries up. It does not crack during drought, neither does it clog when wet. It is manured, and the principal crop it produces is wheat, of which forty bushels to the acre is the average return. The rotation is two crops of turnips and then a fine crop of wheat."

Mr. Mathew also speaks highly of the state of agriculture in this colony. He says: "There is a depression along the middle of the island, between the eastern and western ranges, commencing with the fine harbour, frith, and valley of the Derwent, on the south-east coast, and running at first north-west, and then north, along the valley of the Derwent, which flows south-east, and then along the valley of the Tamar, which flows north till it meets the sea, at the

mouth of that river in Bass's Strait. This depression consists of rich level land. It is chiefly in this protected low country, constituting the double basin of the Derwent and the Tamar, that the cultivation of wheat and potatoes is carried on; the mountain districts on both sides, of inferior quality, being more suited for grazing."

There are several large lakes in the interior, one of which is said to be many miles in circumference.

The northern coast, from Cape Grim on the west to Cape Portland on the east, is 160 miles long, in a straight line. Port Frederick and Port Dalrymple, formed by the mouth of the Tamar, are the principal ports on this coast. The east coast, from Cape Portland to Frederick-Hendrik's Bay, is 135 miles long, and has the Bay of Fires, St. Helen's Port, Great Swan Port, Oyster Bay, and Prosser's Bay in its range. The south-eastern coast reaches from Frederick-Hendrik's Bay to Whale Head, about sixty miles. In this space are a greater number of safe anchorages than are to be found, probably, in any other country of the same extent on the face of the globe, there being scarcely a mile along the whole coast which does not afford a safe and convenient anchorage. This is partly owing to a large island called Brune's Island, which extends along part of the coast, from 43° 4′ to 43° 30′ south latitude, and partly to two projecting promontories, called Tasman's and Forrestier's peninsulas, which, extending some distance from the shore, afford

great protection to vessels. The south coast, from Whale Head to South-West Cape, is fifty miles long, in a serpentine line. There are several bays and inlets on this coast, but the anchorage is not secure. The west side of the island, from Cape Grim on the north to South-West Cape, presents an iron-bound and precipitous coast line of some 240 miles, only broken by two large inlets, called Macquarie Bay to the north, and Port Davey to the south.

The principal rivers are the Derwent and its tributaries, the Huon, the North and South Esk, the Tamar, the Mersey, and the Forth.

The chief harbours are Storm Bay, leading to Hobart Town; and Macquarie Bay, on the west coast.

The settled portions of the colony are divided into fifteen districts. Hobarton, the capital, is in the district of the same name, on the Derwent, about twenty miles from its mouth, in lat. 42° 54′ south. It possesses one of the finest harbours in the world. The river, which here forms a fine sheet of water, is navigable for ships for three miles above the town, and continues to afford a safe passage for vessels of fifty tons, as far as New Norfolk, twenty miles higher up, where a ridge of rocks abruptly puts an end to navigation.

Hobarton is the capital of the island, and the seat of government: it is a large, well laid out, and neatly-built town, standing on the left bank of the Derwent. It is built on a gently rising

ground, which, gradually ascending, terminates in an amphitheatre of hills, thickly covered with trees, and presenting a picturesque and romantic appearance. These are overlooked by Mount Wellington, which forms a fine feature in the scenery when viewed from the town. The estuary of the Derwent is, in fact, a beautiful bay or arm of the sea, being of considerable width, and its water salt. The town covers more than a square mile of ground. The streets are regularly and carefully laid out, and are either macadamized or flagged. Many of the houses are built of brick or stone, but the greater number are of wood. The shops are large and handsome. Most of the houses are detached, villa-fashion, and each has a plot of ground attached to it. The public buildings and mercantile establishments are numerous. The population does not exceed 23,000 souls.

Launceston, the second town in the colony, is situated at the junction of the North and South Esk rivers, at the head of the navigable portion of the Tamar. It lies 124 miles north by west from Hobart Town, in a fine district. The scenery on the banks of the Tamar is of a most romantic description, rather thickly timbered, with comfortable-looking dwellings scattered here and there, having the land cleared in their vicinity. Launceston itself is a handsome town, with some good public buildings, amongst which are a handsome church, a Presbyterian chapel, and meeting-houses of other sects, a court-house, barracks, &c.

There is also an excellent exchange, or reading-room, well supplied with newspapers; and everything in the town forcibly reminds one of England. The population scarcely reaches 10,000. Longford, Evandale, and Perth are all improving towns in the Launceston district.

New Norfolk is a pleasantly-situated little town on the Derwent, twenty-two miles from Hobart Town, from which it is accessible by coach and steamboat.

Richmond, on the Coal River, about twelve miles north-east from Hobarton, has a population of 9,000.

Sorrel, another thriving town in the same district, has some good hotels, a church, parsonage, and gaol; the surrounding locality of Pittwater being extremely fertile, and possessing on all sides rich and highly-cultivated farms.

Oatlands is fifty-one miles from the capital, with well-built houses, military barracks, a gaol, an hotel, and several large stores within its boundaries. In the Clyde district, the principal town is Bothwell, which has a church, a court-house, and an excellent hotel. Campbelltown and Ross are also thriving and improving places.

In speaking of Tasmania, Count Strzelecki says: "The tasteful and comfortable mansions and cottages, surrounded by pleasure-grounds, gardens, and orchards; the neat villages, and prominently-placed churches, forming, as it were, the centres of cultivated districts, divided and subdivided by hedgerows, clipped or bushed, and through which

admirably-constructed roads wind across the island, are all objects which forcibly carry back the mind to similar scenes of beauty in England and Scotland."

The internal communication is by means of the rivers and roads. An excellent mail-coach road runs between Launceston and Hobart Town, having inns situated at a short distance from each other along its whole extent. There are other roads in different parts of the island, connecting the various townships, most of which are the result of the application of convict labour to the public works of the colony. The traffic everywhere is considerable, and the variety of vehicles almost as great as in the mother country. There are a number of good bridges erected in all parts over the rivers and mountain streams, which often become flooded after the heavy winter rains.

The communication with the other Australian colonies is kept up by steamboats, which frequently ply from Melbourne, Sydney, and Adelaide; as well as by a number of coasting vessels. The Church of England, under the Bishop of Tasmania, has sixty-six places of worship, furnishing 16,284 sittings, an attendance of 7,000 persons, and an ecclesiastical revenue of 14,030*l*. The Church of Scotland has thirteen places of worship, affording 3,108 sittings, an attendance of 3,000 persons, and an income of 3,624*l*. The Roman Catholics have three chapels, affording 660 sittings, attendance 1,600, total income 3,750*l*. Besides these there are Independents, Wesleyans, Baptists, and Jews.

The schools in connexion with the British and Foreign School Society are attended by nearly 3,500 pupils, at a cost of 3,000*l.* per annum. Besides these, the Queen's Orphan Schools have an average attendance of 460 pupils. There is a lunatic asylum, and several public hospitals. The local government pays considerable attention to the education of the rising generation, no less than twenty-nine schools being supported by public grants. The annual official expenditure for educational purposes exceeds 8,000*l.*

Several newspapers are published at Hobarton and Launceston; together with a yearly almanack, and a Government Gazette at the former place. The Royal Society of Tasmania issues reports and papers of a scientific nature, in connexion with the zoological and physical features of the island.

The exports of Tasmania amount to from 700,000*l.* to 800,000*l.* yearly; whilst the imports may be roughly estimated at a somewhat similar figure. Wool, wheat, flour, oil, whalebone, timber, and bark are the chief exports; furs and leather are also exported: the latter article is of an excellent quality, and much esteemed in the neighbouring colonies, the purest materials for tanning being abundantly produced on the island.

Several species of whales frequent the coast: from thirty to forty colonial vessels are employed in the whale fisheries, which constitute a valuable source of wealth to the colony.

The climate of Tasmania is pleasant and salubrious, and more equable than that of the main

land of Australia. "Its hilly character, its insularity, and its greater proximity to the south pole," says Mr. Sydney Smith, "have given it a climate much resembling the south of England." There is, however, a clearness and an elasticity in the air altogether unknown to the British islands. It is very healthy, and admirably suited to the constitutions of persons from the old country, the heat not being so intense as that of Australia, whilst the mornings and evenings are always cool and agreeable, even during the hottest months of the year. If the heat is not so great as in Australia, the cold is more so, and the winter of longer duration. On the high mountains the snow lies for several months during the year, whilst in the valleys and on the plains it seldom remains more than a few hours. There is a considerable difference between the climate of Hobarton and that of Launceston, the former being influenced by the range of mountains west of the town, and the neighbourhood of the open Southern Ocean; there, "heat, cold, rain and sunshine succeed each other with a rapidity which is rarely observable in any other part of the globe." Thunderstorms are less frequent than they are on the mainland, but the winds at times blow with terrific violence. The summer heat averages about 70°; though, at rare intervals, when a scorching hot wind has extended from Australia across Bass's Strait, the thermometer has risen to 100° in Launceston: this was the case during the celebrated "Black Thursday," which occurred some years since, when the

violence of the hot northerly gale swept over the entire island.

All the vegetable productions and fruits, as well as the domestic animals of Great Britain, seem to thrive admirably in Tasmania. The wheat (of which large quantities are grown not only for home consumption but for exportation) is of excellent quality, and generally weighs from sixty-two to sixty-four pounds per bushel. Barley, oats, potatoes, and peas arrive at perfection, but Indian corn is not cultivated, the climate being too subject to frosts for it to reach maturity. All English vegetables do well, and apples, gooseberries, currants, strawberries, and other hardy fruits attain a degree of excellence which is not to be surpassed. The gardens of the settlers display most of the flowers which are familiar to an English eye, and which lose none of their fragrance and beauty by their removal to so distant a soil; whilst the native flowers are many of them remarkable for their curious forms and brilliant colours.

The indigenous woods of Tasmania are applicable for every purpose of utility and ornament. The blue-gum is well adapted for ship-building, which is extensively carried on at Hobarton and on the banks of the Huon River, from twenty to thirty vessels being constructed there annually. The Huon pine is used for all building and domestic purposes, and is a very superior wood; it being valuable for the manufacture of organ pipes, which yield a more mellow tone than those made of a looser-grained timber. The musk

wood, the myrtle, the black wood, the cedar, and the sassafras are all excellent and useful for cabinet-making and other purposes. All the forest trees of Tasmania are evergreen, but none of them yield an edible fruit.

Sandstone and limestone, together with basalt, are amongst the most prominent of the geological features of the island; its mineral productions include gold, copper, iron, lead, manganese, zinc, salt, slate, and coal.

The extinction of the aboriginal Tasmanian race has been alluded to in another chapter. The long and disastrous feuds that existed between the savages and the white population are at an end. During the administration of Col. Arthur, in the year 1829, the murders and outrages committed by the natives had so exasperated the settlers, that the whole male population of the colony capable of bearing arms was called out for the purpose of driving them on to Tasman's peninsula. Owing to the wild and impracticable nature of the country, this raid, which was termed the "Black war," proved an utter failure, and cost the colony 27,000*l*. Some time afterwards, an active and intelligent man, named Robinson, who was well acquainted with the language and habits of the natives, undertook, and successfully performed, the singular task of bringing every black man, woman, and child peaceably and willingly into Hobarton, from whence they were shipped to Flinders' Island, in Bass's Strait. He went into the bush unarmed, and, accompanied by an aboriginal woman, his

sole companion, met the various tribes, and used such arguments and promises as sufficed at length to achieve his object, after having occupied many months in its pursuit. At a ball given at Government House at Hobarton, a few months since, there were present, neatly dressed in evening costume, one old man—the last male of his race—and three old women, all who remain of the once dreaded savages of Tasmania.

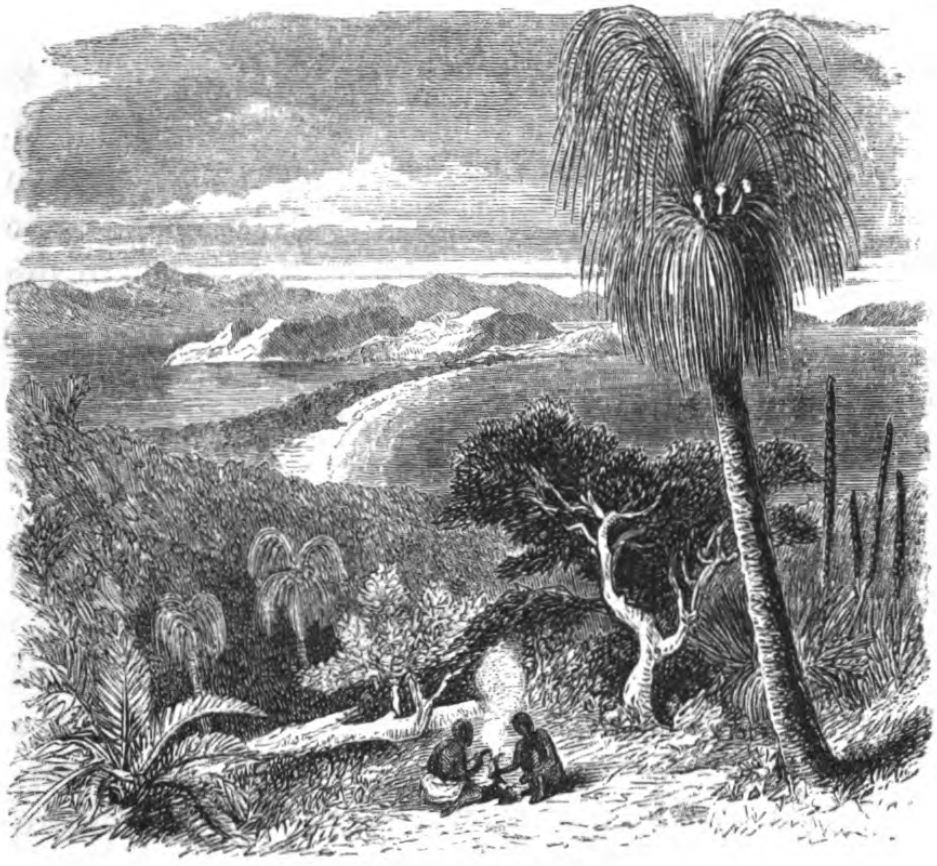
Although the animals and birds of Tasmania bear a considerable resemblance to those of the neighbouring continent of Australia, yet there are two animals, peculiar to the island, which are so remarkable as to demand especial notice. In the fastnesses of the rock gullies, and amid the impenetrable forests, dwells the most formidable and bloodthirsty of all Australian quadrupeds. This is a marsupial, or pouched wolf, the *Thylacinus*, known by the colonists under the various appellations of "tiger," "hyæna," "zebra-wolf," and "dog-headed opossum." Although not sufficiently powerful to attack man in ordinary cases, it commits sad havoc amongst the flocks of the settlers in the neighbourhood of the densely-wooded mountains, from whence it issues forth at night in search of prey. This creature has somewhat the aspect of a dog, with short thick legs, and, when full grown, measures upwards of six feet from the nose to the tip of its tail. Its colour is light brown, handsomely marked across the hind quarters with black bands or stripes.

The other animal referred to as peculiar to

Tasmania, is the *Sarcophilus*, or "native devil" of the colonists, which name was bestowed upon it by the early settlers in consequence of its black colour and disgusting and unsightly appearance. In disposition it is untameable and savage in the extreme, and is not only destructive to the smaller kangaroos and other native quadrupeds, but assails the sheepfolds of the farmer and the hen-roosts of the homestead, whenever an opportunity occurs. It measures nearly three feet in length, and is a short, thick-set, ungainly-looking animal, with a large head, and jaws armed with powerful teeth: it has a short, wabbling gait, and its pace is slow, when compared with most wild animals. In consequence of the depredations they commit amongst the flocks, pitfalls and traps are set for them by the shepherds; and during one winter at a station near Swan Port, no less than 143 "devils" were caught in a single pitfall. Like the *Thylacinus*, this animal is a carnivorous marsupial.

CHAPTER XII.

WEST AUSTRALIA.



KING GEORGE'S SOUND.

THE colony of West Australia was founded in 1829. It extends from 14° to 35° south latitude, and from 115° to 130° east longitude; thus occupying all that vast portion of the continent which lies

west of South Australia, with an approximate area of 1,019,000 square miles. A great part of this extensive territory is at present unexplored; the settled districts (originally known as the Swan River Settlement) only extend from about 30° to 35° south, and from the coast to about 120° inland; comprising an area of 90,000 square miles. One half of Western Australia may be considered within the influence of tropical meteorology, the other half within the temperate zone.

The Darling Mountains extend from north to south, nearly the whole length of this province. Their distance from the coast varies from fifteen to twenty-five miles, and they rise to an altitude of from 800 to 2,000 feet. This range passes to the eastward, inland from Swan River, and meets the sea at Cape Chatham in 34° 40′ south. There are two other ranges nearly parallel with the Darling Mountains, one of which lies near the coast, is of inferior altitude, and terminates at Cape Lewin: the other, the most easterly of the three, is the highest, and extends south to King George's Sound. The country between these ranges is occupied with ravines, bounded here and there with inaccessible cliffs; and wide valleys terminating in fertile plains, which skirt their entire length.

Several rivers rise in these mountains, some flowing to the eastward, and some to the west, according to the slope of the land on either side. Most of those having their rise in the Darling range empty themselves into the Indian Ocean on

the western shores of the colony. These rivers, which near their source are mere mountain torrents, become tame and turgid in the low lands, and, like most of the minor Australian rivers, are sometimes overflowing with water, and at other times almost dry. The principal river is the Swan, from which the first settlement took its name. It rises in the central range, and, after a winding course of over 100 miles, during which several tributaries augment its waters, it enters Cockburn's Sound by an estuary, into which the Canning also flows from the south. The Collie, the Preston, and the Blackwood disembogue into the sea on the west coast, or into Flinders' Bay; the Forth falls into the sea on the south coast, west of King George's Sound. The Denmark, Kent, Hay, and Steeman also flow southwards; whilst King's River has its embouchure in King George's Sound. There are, besides, many small streams or creeks; but the facilities offered for navigation by the rivers of West Australia are very few indeed. On the south coast mill-streams exist in great numbers; and the supply of water for domestic purposes appears to be sufficient within the settled districts.

The principal ports in the settled portion of the colony are—Doubtful Island Bay, which lies to the eastward, towards the archipelago of the Recherche, and affords safe access to the districts in its immediate vicinity — King George's Sound, at the most southern extremity of the colony, which possesses all the requisites for a good harbour,

and is certainly the best and finest in the western portion of Australia: it is here that the monthly mail steamers touch, both on their outward and homeward voyages, conveying the mails from Great Britain, *viâ* the Red Sea and Ceylon, to Adelaide, Melbourne, Sydney, and New Zealand—Parry's Inlet, Peel's Inlet, Port D'Entrecasteaux, Torbay, Collingwood Bay, Flinders' Bay, and Swan River. Shark Bay is a very extensive bay, lying north, beyond the settled districts, which is occasionally resorted to by whalers: but the surrounding country is of a peculiarly arid and desert character, and almost entirely destitute of water.

The territory, so far as it has yet been occupied or explored, appears to rest on a granite basis. The soil near the coasts is sandy and thin; but, in the interior, fine agricultural and pastoral tracts have been discovered. There is not, however, so much available land as in the other Australian colonies; and what there is is generally better adapted for pastoral purposes than for agriculture.

The climate is dry and healthy. The wet season commences in April, with slight showers, which continue to increase in number and force throughout May, June, and July; after which they begin to decrease, until they cease altogether in November, when the dry weather begins. These two seasons, with an intermediate spring following the conclusion of each, embrace the circle of the year. The cold season is usually

called the winter, and the dry season the summer; but neither of them has the character of the corresponding season in Europe. The prevailing wind at sea off Cape Lewin (the great turning-point between the south and west coasts) is westerly throughout the year; but on the coasts, nearer land, there is, during summer, a regular daily alternation of land and sea breezes. During the winter months gales from the north-west and south-west are frequent, and are usually accompanied by heavy falls of rain. In summer the atmosphere retains so little moisture that none but hardy and fibrous plants can withstand the drought; the atmosphere is then extraordinarily clear, and the reflection of the sun so great, that the thermometer in the shade, and near the ground, sometimes reaches 105°. The hottest months are January, February, and March; but the evenings and mornings are generally cool and pleasant: the mid-day heats are tempered by a refreshing sea-breeze from the south-west; and a land-breeze from the east prevails in the morning. Slight fogs occasionally hang over the rivers, and a copious dew falls at night; but, as there are no extensive marshes, the country is free from malaria and noxious vapours. In the months of June and August there are sometimes sharp hoar-frosts, and now and then a little ice; but all traces of these disappear shortly after sunrise. Hailstones of very large size fall now and then during thunder-storms; but snow is unknown. The greater part of the winter is temperate and fine, and during

the rest of the year nothing can be more delightful than the climate generally, and its invigorating influence on the human constitution renders it very suitable for invalids. The average mean temperature throughout the year is from 60° to 64°. The seasons have been found hitherto to return steadily and uniformly; and the agriculturist is thus enabled to carry on his operations with less interruption than in many other parts of Australia.

Perth is the chief town, and the seat of government. It stands on the north bank of the Swan River, about nine miles inland. It is prettily situated, and pleasantly surrounded with the gardens of the inhabitants, which abound in the ordinary fruits of warm climates.

Freemantle is the principal port of the colony. It stands at the entrance of the Swan River, on the south bank, and has long been a place of great business as a whaling station.

The township of Albany, at Princess Royal Harbour, King George's Sound, is picturesquely situated on the shores of that splendid harbour; and since the depôt has been established there for the coaling of the mail steamers, a considerable impetus has been given to the trade of this hitherto unimportant village.

The town of Guildford is on the Swan River, about seven miles eastward from Perth. Fifty miles further inland stands the town of York. Banbury is a place of some importance; here there is a pensioners' village, and a convict depôt.

Augusta is a small town on the Blackwood River, near Cape Lewin; and the other towns, or rather villages, in the colony are Helmscott, Peeltown, Busselton, and Kingstown.

The colony of Western Australia was founded in 1829, it being considered desirable that this portion of the continent should be occupied by Great Britain; and, in consequence of a favourable report from Captain Stirling, R.N., who surveyed the coast, several gentlemen in 1828 made proposals to the government of the day for leave to colonize the southern and western coasts, which proposals were, however, not agreed to. In the meantime, the government projected a scheme of colonization of its own, by which settlers prior to 1838 were to receive forty acres of land for every 3*l.* they were ready to invest for its improvement; and those who took over labourers were to receive 200 acres for every person introduced into the colony in that capacity. A certain number of acres was also allowed for children. Captain Stirling was appointed lieutenant-governor, with a grant of 200,000 acres; and a Mr. Peel, who was the principal mover in the original idea of colonizing this part of Australia, received a grant of 250,000 acres, on condition that he should take out 400 emigrants. The first party arrived at the Swan in August 1829, and first settled themselves on the banks of the Swan and the Canning Rivers. Tents were pitched till houses could be built; but the settlers found the immediate neighbourhood where they had en-

camped to be very unfavourable for colonization, and the want of labour exposed them to great inconvenience and expense, for they had to import almost everything they consumed. The land near the coast was poor and sandy; but as some of the more enterprising of the colonists pushed into the interior, they found tracts of land of a much better quality. The gradual introduction of cattle and sheep enriched the settlers to a certain extent, but it was years before anything like prosperity was given to the new settlement.

West Australia is a convict colony, happily the only one yet remaining; but even this will soon cease to be one, for the British Government, at the earnest petition of the other colonies, has at last decided on virtually abolishing transportation to any part of Australia after a period of three years. The Swan River colony was made a penal settlement in 1850 at the request of the inhabitants of Perth, who hoped to be enabled to improve their farms and public works by the aid of convict labour. So great a boon was the introduction of convicts considered by the West Australians, that they adopted a memorial to the Home Government in 1853 praying that transportation might not be abolished as regarded their own colony.

Sandal-wood promises to form a valuable article of export, being sent to Singapore and China. There is likewise an available supply of ship-building timber, which grows quite close to the sea: it is analogous to Honduras mahogany, is of

large size, resists the attacks of the teredo or ship-worm, and is not liable to split or warp; while, at the same time, it is more easily worked than almost any other Australian wood. It has been used in the colony for building small vessels, also for rafters, &c., for houses.

The vine, the fig, and the olive are being cultivated in some localities rather extensively. Wool is the chief article of export, besides small quantities of timber, whale-oil, and whalebone; together with occasional shipments of sheep, cattle, potatoes, and other produce, to Singapore and the Mauritius. Coal of good quality has been traced in veins of considerable thickness over a large surface, the cost and difficulty of getting it down to the ports of shipping being the only drawback to its utility.

Up to the year 1851 the colonists were dependent upon shipments of agricultural produce from the eastern colonies. In that year the number of acres under crop was only 7,298, arising, in a great measure, from the high price of labour, and the distressed state of the colony generally. Since the introduction of convict labour, many of the agriculturists have succeeded better, and a larger extent of land has been brought under cultivation. The extreme dryness of the climate, together with the devastating bush fires which, during summer, sweep through the forest lands, prevents that accumulation of mould from decayed vegetation which characterizes the virgin soils of other lands; hence the average yield

of wheat and other crops per acre is considerably less than in the more favoured colonies of South Australia and Tasmania. In the year 1859 the number of horses in the colony amounted only to 8,386. There were at the same period 30,990 horned cattle, and 234,815 sheep.

In 1859 the population, including military and convicts, was 14,837, of whom 9,522 were males, and 5,315 females. The revenue amounted to 45,775*l.*, the imports to 128,260*l.*; while the exports were only 36,245*l.*

The colony of Western Australia (formerly included within the diocese of the Bishop of Adelaide) has now a bishop of its own, created in 1857, and fifteen clergy. There is in Perth also a Congregational church, a Roman Catholic church, and a Wesleyan chapel.

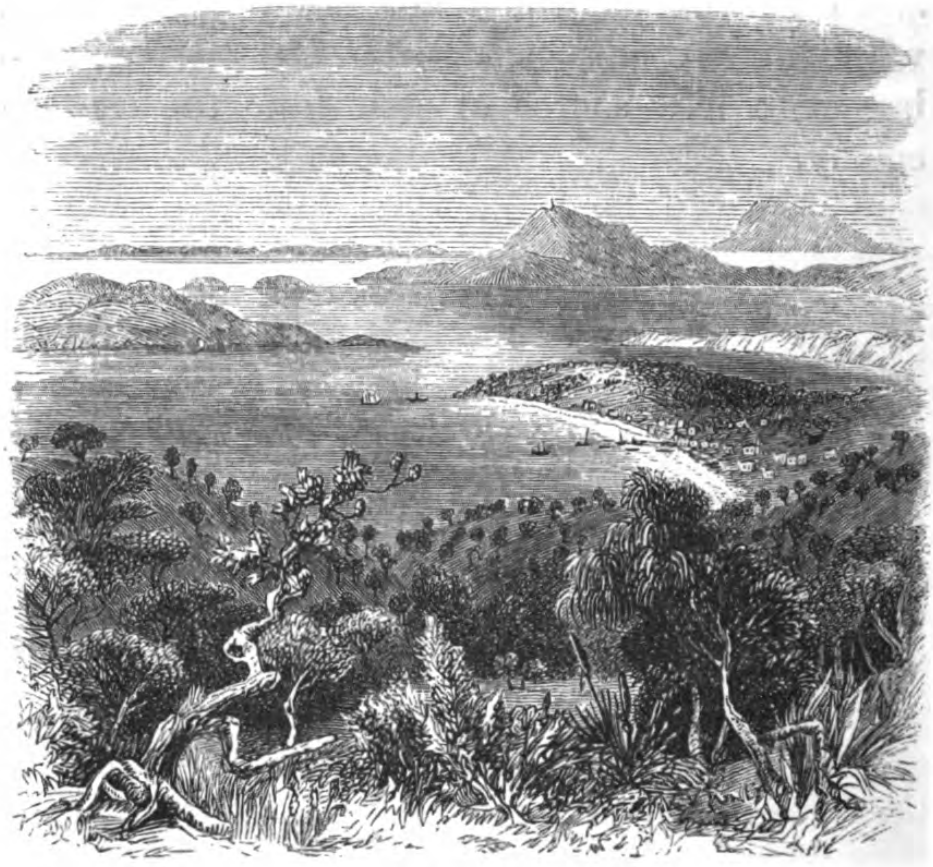
The educational institutions consist of the government colonial schools, under the superintendence of a general board of education, which also directs the local schools in the various townships. Parents who are unable to pay can send their children free of expense; those who can afford it are required to contribute a trifling sum per week. The Roman Catholics in Perth have three female schools, one free, for those of all denominations, a middle, and an upper establishment, as well as various schools in other districts. There is also a mechanics' institute under the patronage of the governor.

Although behind the sister colonies in wealth, population, and general prosperity, there is but

little doubt that Western Australia will ere long make considerable progress. The discovery of large tracts of fine pasture land at Roebuck Bay in the northern districts, together with the opening up of a good country, within the past year, 300 miles east of York, will give an impetus to sheep farming; whilst the extensive and rich deposits of copper ore at Wanneronooka, Wheal Fortune, and other mines which are now being worked with success near Champion Bay, promise to become a new source of wealth to the western colony.

CHAPTER XIII.

South Australia.



PORT LINCOLN.

This colony was occupied as a British province on the 27th November, 1836. It is bounded by Victoria and New South Wales on the east, and by Western Australia on the west; and although, at its foundation, the northern limit was fixed by

the 26th parallel of south latitude, the whole of the country north of that boundary, extending to the Indian Ocean, has recently been annexed to the colony of South Australia by a decree of the Imperial Government. This immense territory, therefore, now includes 27° of latitude, and 12° of longitude, its area extending over more than 750,000 square miles. The annexation of the northern territory has been granted with a view to expedite the settlement of the north coast, opposite Melville Island on the Adelaide River, and the pastoral occupation of a large portion of the intervening country, opened up by the recent explorations of Mr. Stuart.

Although Port Lincoln and other parts of the coast about Spencer's Gulf and Kangaroo Island were discovered by Captain Flinders in H.M.S. "Investigator" in the year 1802, and the south-eastern portion, between Encounter Bay and Cape Northumberland, by the French navigator Baudin in the "Geographe" about the same time, yet it was owing to the successful exploration of the Murray River by Captain Sturt in 1830, that attention was first turned to the rich and fertile lands extending to the westward of that great river. Captain Sturt and his party descended the Murray in boats from New South Wales, and traced its course to its embouchure into Lake Alexandrina. Owing to his representations of the importance of the newly-discovered country, and the desirability of ascertaining whether the lake emptied itself into the sea, Governor Darling, who was then

Governor of New South Wales, instructed Captain Barker to land at Cape Jervis, explore the eastern shore of Gulf St. Vincent, and find, if possible, the outlet of the lake. The party, consisting of seven persons, landed on the east side of the gulf, and proceeded inland over a beautiful and fertile country, never before trodden by civilized man, till they reached the main range of mountains called the Mount Lofty range, which they ascended, and from thence obtained a most extensive view of the gulf and the surrounding country on all sides. Seeing that this mountain chain trended northwards as far as the eye could reach, they satisfied themselves that the outlet of the lake must be towards the south, and accordingly traversed the country in that direction through fertile valleys clothed with luxuriant grass, and over occasional barren sandy tracts, till they reached Encounter Bay, where the lake empties itself into the sea through a dangerous channel between hummocks of sand. Captain Barker gallantly swam across this channel, with a compass, to ascertain its position from a lofty sand-hill on the opposite side. He was, however, never seen afterwards. The unfortunate gentleman was speared by three natives who were concealed amongst the bushes, and as he rushed into the water to escape from them, his body was carried out to sea by the tide.

The results of the observations of Captain Sturt, and Captain Barker's party, together with the favourable accounts Flinders had given of the

country about Port Lincoln and Spencer's and St. Vincent's Gulfs, induced an influential English association to select this part of Australia as the place at which to found a new settlement on certain principles of colonization, then comparatively new; but which have since been sanctioned by the ablest political economists, and the practical value of which has been fully confirmed by the success of the colony so founded.

Most of our colonies have been acquired either by conquest, or as penal settlements, but South Australia was founded upon a systematic and well-arranged plan, in order to economise its resources, and to secure a regular, and, at the same time, a rapid progress; and it is expressly provided for, by an Act of the British Parliament, that no convicts should ever be transported to any place within its limits.

The system on which the new province was to be colonized was this:—the land was to be disposed of in moderately sized blocks, at a reasonable price, and the proceeds to be employed in the introduction of free emigrant labour; and thus, as the arrival of population caused a demand for more land, the sale of that land enabled an additional supply of population to be introduced, and so on indefinitely. The conditions of the government were that the land should not be sold at less than 1*l.* per acre; and the control of the affairs connected with the working of the scheme was vested in a body of commissioners approved of by the Colonial Office. Under these auspices,

the first Governor (Hindmarsh) landed on the shores of Holdfast Bay in December 1836, and the colony was formally proclaimed in the presence of his staff and the emigrants who had accompanied them. Previously to this, however, several vessels were despatched by the South Australian Company from London, and so little did any one know about this part of Australia at the commencement of its colonization, that the Company's ships went to Nepean Bay in Kangaroo Island, and the first rights of land selection were exercised there. The fact of there being a tolerably good harbour, and the exaggerated reports of the suitability of this barren and densely-wooded island for a settlement, which were promulgated by whaling captains who had called there, probably led to this unwise selection. The town of Kingscote was founded, but in a very short period the Company's settlers removed their establishments to the mainland; and at the present time the place consists of not more than a dozen houses, where a few inhabitants dwell in patriarchal simplicity. After various spots along the shores of the gulfs had been visited by Colonel Light, the first surveyor-general, for the purpose of establishing the site of the future capital, the colonists encamped at Holdfast Bay, an anchorage a few miles to the south of the entrance to the present port, and where the popular watering place of Glenelg now stands. Finally, the city of Adelaide was established and laid out, on the banks of the river Torrens, about

four miles from Glenelg, and seven from the Port, which latter is situated on a broad salt-water river or arm of the sea on the eastern side of Gulf St. Vincent.

The Rev. Julian Woods says, in his "Geological Observations": "There is no country more interesting in its formations, or more varied in its mineralogical productions, than South Australia: lofty mountains, extensive plains, sandy deserts, and inland seas, are all included in its far-stretching boundaries: with a climate like that of the south of Spain, it possesses the scenery of the Highlands in some places, while in others are deserts like those of Arabia, and vying with them for bleakness, aridity, and burning heat. There are chains of salt lakes which render unprofitable a larger area than England; there are marshes and salt swamps more dank, and desolate, and extensive than any in the United States; there are rocky precipices, and chasms, and waterfalls to rival almost the Alps; there are extinct volcanoes of large dimensions, almost as numerous as those of Auvergne; and, finally, there are caves which exceed in magnitude the Guacharo caverns of Humboldt, and in stalactites the Antiparos of the Ægean Sea."

The Mount Lofty range is about thirty miles in length from north to south, the hills gradually increasing in elevation from either end till they approach Mount Lofty, which occupies a fairly central place, and is wooded to its summit. The majority of the other hills are also clothed with

trees, but some of them are bare and grassy, while their contour is beautifully broken and variegated, and full of such lights and shadows as no painter could do justice to. Towards sunset, particularly in spring and autumn, they will often suddenly assume a brilliant rose or purple hue, as if every blade and leaf upon them had been changed into blooming heather; and, again, in other states of the atmosphere they will display the most charming effects of mist and sunshine; and occasionally their apparent distance will be so reduced that a stranger might suppose they rose abruptly from the very end of the streets of Adelaide.

Mr. Angas, in his "Savage Life and Scenes," thus describes the scenery of these mountains: "The situation of Adelaide is pleasing and picturesque; it is built on a plateau or table land, slightly elevated above the surrounding plains with their park-like scenery, and backed, at the distance of a few miles, by a range of bold mountains that in their ever-varying tints afford a succession of delightful pictures throughout the day. In the early mornings of winter these mountains may be seen wrapped in mist, with here and there a peak struggling into the sunshine; or, anon, with black and angry clouds hanging about their summits. During the sultry heat of a January morning, before the sea-breeze has set in, they frequently assume a strange milky appearance, while in the afternoon they become radiant with mellow tints; but when the un-

clouded sun sets over the opposite gulf, the mountains are bathed in a violet splendour, known only to the brilliant climate of Australia. At the moment the dazzling sun, which has all day blazed in unclouded glory overhead, touches the deep blue horizon of the gulf, the whole range of mountains to the eastward exhibits an effect more like the result of some chemical fire than of the ordinary course of nature; sometimes it appears of a purple or violet hue, at others, the entire range glows with the most intense rose colour. This pageantry is, however, but of short duration; and it is a most beautiful sight to watch, from beneath the shade of some vine-trellised verandah, the changes from violet to purple, until the mountains stand out after sunset in hard relief against the still roseate sky, their masses appearing deeply blue in the clear evening atmosphere."

This range, beginning to rise about four miles to the eastward of Adelaide, is of vast advantage to the city, apart from its beauty and picturesque outline. For miles, the slopes are dotted with the villas, vineyards, and gardens of the wealthier citizens; while a good many people who can afford the luxury of special summer residences, have built their homes on the higher summits, even to within a hundred yards of the top of Mount Lofty, where they have the advantage of cool breezes and beautiful views both of sea and land. Among the Mount Lofty hills, the Onkaparinga, the Sturt, the Torrens, and the Para,

together with several smaller tributary streams, take their rise. Here are grown, in the highest perfection, those English fruits and vegetables which fail to thrive on the hotter and more arid soil of the plains. From one of the gorges of the hills Adelaide derives its abundant supply of excellent water; and the various shady and picturesque glens and gullies, with their several romantic waterfalls, afford pleasant retreats for the numerous pic-nic parties which resort thither from Adelaide on holiday occasions. The height of Mount Lofty is 2,412 feet above the level of the sea. Between the ranges and the Gulf of St. Vincent are spread the Adelaide Plains, with the Para and the Gawler Plains stretching northwards. These are cultivated for miles in every direction, and produce annually large crops of wheat, oats, barley, and hay, although at times the farmers suffer from the effects of hot winds and want of rain, more than they do in the hills and in the southern portions of the colony. To the eastward of these plains, across the range, is a large tract of hilly country, which extends for a width of about twenty miles, until it falls away into the wide belt of plain and scrubby country that borders the river Murray along a considerable portion of its course through South Australia. Much of this hilly country is thickly wooded with magnificent timber; and a large part is extremely fertile, yielding a vast amount of wheat and other agricultural produce.

Northwards, beyond the Gawler Plains, the

agriculturist has already a large hold of the country along the Light, and the Wakefield, and towards the great Burra-Burra mines; whilst in a direction north-east from Adelaide extend those rich lands of unsurpassed fertility which surround the picturesque range of the Barossa. Indeed, nothing can compare in the colony with this highly cultivated district, which, when first discovered, resembled a vast park clothed with luxuriant grass, and scattered over here and there with clumps of gigantic gum-trees. Now it presents the aspect of countless acres of waving corn, interspersed with large and thriving villages, which are surrounded by extensive vineyards, orchards, and gardens.

Beyond these limits, agriculture has not yet been attempted on an extensive scale, the country thence northwards being chiefly occupied by squatters for pastoral purposes.

To the south, a largely-cultivated agricultural district extends to the southern seaboard, and embraces the greater part of the country included between the Murray and St. Vincent's Gulf. Within these limits lie the well-populated and prosperous neighbourhoods of Morphett Vale, Willunga, Aldinga, Rapid Bay, the Valley of the Inman, and Encounter Bay. Beyond the Murray, and the extensive lakes at its mouth, lies the south-eastern portion of the colony, which extends as far as Mount Gambier and the Glenelg, to the Victorian boundary. The greater part of the land in this district is devoted to pastoral pur-

poses, although in the neighbourhood of Mount Gambier a considerable quantity of rich land is under cultivation.

For many years it was imagined that the vast extent of country lying north of Spencer's Gulf was barren and worthless; whereas at the present moment some of the finest northern sheep-runs occupy territory hundreds of miles beyond it. The climate, however, of this interior country is of a most uncertain character. It appears to be too far inland and too far north to secure with regularity the winter rains that visit the southern portions of the colony; while, on the other hand, it is not far enough north to come within the limits of the regular summer rains of the tropics. Sometimes in this region they experience droughts of two or three years' duration, mitigated only by scanty dews, or an occasional thunderstorm which fills the dry watercourses for a few hours. During the past two or three years rain has been tolerably abundant again in the "Far North," as this district is termed, and, in spite of all its dis advantages, it is closely occupied, and thickly stocked with sheep and cattle.

The Flinders Range runs like a backbone through a great portion of the northern part of the colony, commencing at Mount Remarkable, near the head of Spencer's Gulf, and extending from thence in a north-east direction. The range itself is generally high, barren, and precipitous, and in many places inaccessible to man and beast. Its highest peaks reach an elevation approaching 4,000 feet; and

rising in an abrupt manner from the adjoining plains they present a grand and imposing aspect. To the west of Flinders Range, and between it and Spencer's Gulf and Lake Torrens, there is a dead-level plain, destitute of grass, but largely covered with "salt-bush," on which sheep fatten admirably; water being obtainable by sinking deep wells. To the eastward are spread the wide Willochra Plains, which extend some fifty miles to the north, when the hilly country again extends itself in great broken ranges far to the east. Amongst these ranges are considerable tracts of available country and some of the best sheep-runs in the district. This hilly country falls away into the Great Eastern plains, which extend far into the interior, and become an arid and desolate region, without water, connecting themselves with Sturts' Desert of red sand.

The great horse-shoe curve of Lake Torrens, which in early maps of the colony occupied so much of its northern area, is, in reality, not an inland sea, as many would suppose, but merely a district of salt lakes scattered here and there over a low country having a drainage towards Spencer's Gulf.

The fine harbour of Port Lincoln is situated just within the western entrance of Spencer's Gulf, and affords a safe and secure anchorage for vessels of any size. There is a settlement at Boston Bay, which has regular steam communication with Adelaide; but owing to the limited extent of good land beyond it, it has never be-

come a large and thriving township. Kangaroo Island lies about twelve miles south-east of Cape Jervis, and forms a sort of natural breakwater at the mouth of St. Vincent's Gulf, protecting the navigation of that large expanse of water, and the approach to the Port of Adelaide, from the force of the Southern Ocean. It is rather more than a hundred miles in length from east to west, and about forty in breadth. At its north-eastern extremity is situated Nepean Bay, a well-sheltered harbour facing the gulf: it was here that the settlement of Kingscote was founded, but afterwards abandoned, by the South Australian Company. By far the greater portion of this large island is covered with an inhospitable scrub, composed of mallee and prickly acacia, which in many places is quite impenetrable. The soil is generally poor, and water is only found in one or two places. Before the European settlers landed at Kingscote, Kangaroo Island had been for many years the resort of whalers and sealers, who there led a Crusoe-like life without law or restraint; they hunted the fur-seal along the coast, and the wallaby through the scrub, and at certain periods bartered their skins for clothing, powder, tobacco, rum, and flour, &c. These articles were supplied them at enormous prices by a class of men who visited the island in small vessels from Hobart Town, and derived a lucrative profit from trading in these skins. The sealers went by the name of "Islanders," and lived in small huts in the various bays, especially at a spot called

American River. Occasionally they made excursions in boats across to the main land at Cape Jervis, where they would surprise the natives, and carry off their women for wives.

The only river of any importance in South Australia is the Murray; most of the smaller rivers, although they become foaming torrents during the wet season, are nothing more than a chain of deep waterholes, connected perhaps by an insignificant rivulet, throughout the summer months. The Murray, on the contrary, is a broad, deep, noble stream, periodically overflowing its banks, like the Nile. It rises in the snowy fastnesses of the Australian Alps, and after a course of more than a thousand miles, during which it receives the waters of the Murrumbidgee, the Darling, and other rivers, it flows into the large lakes Alexandrina and Albert, and eventually enters the sea at Encounter Bay.

The steam navigation of this river was commenced by Captain Cadell, in 1853, and forms an important era in the annals of colonial progress. The navigation proceeds upwards as far as the town of Albury, 378 miles from Sydney, and has been extended to the stations on the Darling and the Murrumbidgee. Captain Cadell, in 1858, succeeded in bringing his large steamer, the "Albury," up the Murrumbidgee to Gundagai, only 240 miles from the capital of New South Wales. By this means a regular water communication is kept up with a vast portion of the interior, where the settlers are so far removed from any sea-

port that land carriage becomes very tedious and expensive. A large and flourishing trade is now carried on by the numerous steamers along the river, taking up supplies and stores to the stations, and bringing back wool and other produce to the port of Goolwa, at the mouth of the lake, from whence it is conveyed by a tramway to Port Elliot, and shipped thence to Adelaide. This tramway is now being extended to Victor Harbour, a larger and more secure anchorage a few miles further along the coast, which is likely to become a place of some importance as the seaport of the Murray, the navigation of the mouth of the river being frequently unsafe, in consequence of shifting sandbanks and the heavy surf that rolls in during south-westerly gales.

The first sight of the Murray, after crossing the desert scrub that extends between it and Mount Barker, is thus described by Mr. Angas: "Suddenly we came in sight of the river, half a dozen miles above its junction with the lake. It was flowing gently beneath us, its deep blue waters meandering through a vast extent of reeds, the vivid green of which was truly refreshing to the eye. Its course was so gentle as to be barely perceptible: deep, and broad, and smooth as a glassy mirror, it flowed tranquilly and majestically onwards to the ocean."

The hills rising from the valley or basin of the Murray are in many places clothed with belts of cypress pine, beyond which on both sides extends an extensive region of mallee scrub.

Higher up the river the scenery is singular and picturesque. Towering and precipitous cliffs of yellow fossiliferous sandstone form a basin or valley about two miles in width, through which the Murray winds in a series of magnificent reaches from side to side, having ana-branches or back-waters here and there, which enclose long narrow islands covered with stately gum-trees. At one spot the cliffs descend abruptly to the water's edge; at another the river flows through verdant meadows, shaded by clusters of gigantic trees, the rich, deep foliage of which casts a broad shadow on each bank of the stream. Birds of the most brilliant plumage adorn the branches: thousands of white cockatoos and gay parrots keep up a perpetual and noisy chatter, and the soft cooing of the elegant crested pigeon is heard from the dark masses of the blue gum-trees.

The country about the lakes is undulating and grassy, scattered over with shea-oak and banksia trees; whilst the lakes themselves are bordered with extensive tracts of reeds and bulrushes.

The Coorong is a back-water inlet from the sea, commencing at the mouth of the Murray and the lake, and running parallel with the coast, in a south-east direction, for ninety miles; being divided from the ocean only by a ridge of stupendous sand-hills, varying in breadth from half a mile to two miles. The water is salt or brackish throughout, and the scenery wild and desolate in the extreme. It was on this lonely

coast that the passengers and crew of the "Maria," who had been shipwrecked near Cape Jaffa, were massacred by the savages some five-and-twenty years ago. After escaping the dangers of the reef where the vessel struck, the party—men, women, and children—toiled along the shore for eighty miles, in the burning sun, hungry, and thirsty, and barefoot, subsisting on roots and shell-fish, till they reached the Milmendura tribe. Two more days' march, they trusted, would bring them to the sea mouth of the Murray, where the Encounter Bay natives had communication with the whalers; and there they looked for an end to their sufferings. But these terminated only in death. The savages stripped them of their few remaining garments, and deliberately murdered them as they came up in straggling parties; knocking out their brains with waddies, or chasing them with the spear. Many of the bodies were afterwards discovered buried in the sand, some pushed into wombat holes, and others were never found at all. The fingers of some of the ladies had been cut off with shells to obtain the rings that adorned them, and in the huts of the natives were quantities of children's and other clothing all stained with blood. Several watches were found concealed in an incredible number of wrappers, the savages probably imagining them to be alive, or possessing powers of sorcery. Sovereigns also were passed in barter to the Encounter Bay natives, from whom the whalers obtained them for shirts and tobacco, which circumstance led to

the discovery of the fate of the murdered people. An armed and mounted party started off from Adelaide in search of them, scoured the Coorong in every direction, burnt the native huts to the ground, and succeeded in capturing two of the murderers, who were hung on a gibbet among the sand-hills as a warning to the rest.

The coast-line of South Australia is more indented and uneven than that of any other part of the continent. From its southern extremity at Cape Northumberland, in latitude 38° south, it runs up in a north-westerly direction for 200 miles to Encounter Bay: then commence the two deep Gulfs of St. Vincent and Spencer, divided by a long narrow tongue of land, called Yorke Peninsula. Spencer's Gulf is by far the larger of the two, and extends northwards nearly to latitude 32° south. To the westward of Spencer's Gulf the promontories about Port Lincoln again stretch to the south, where the sea is studded with rocks and small islands. Beyond this the coast trends rapidly to the north-west till it reaches the head of the Great Australian bight.

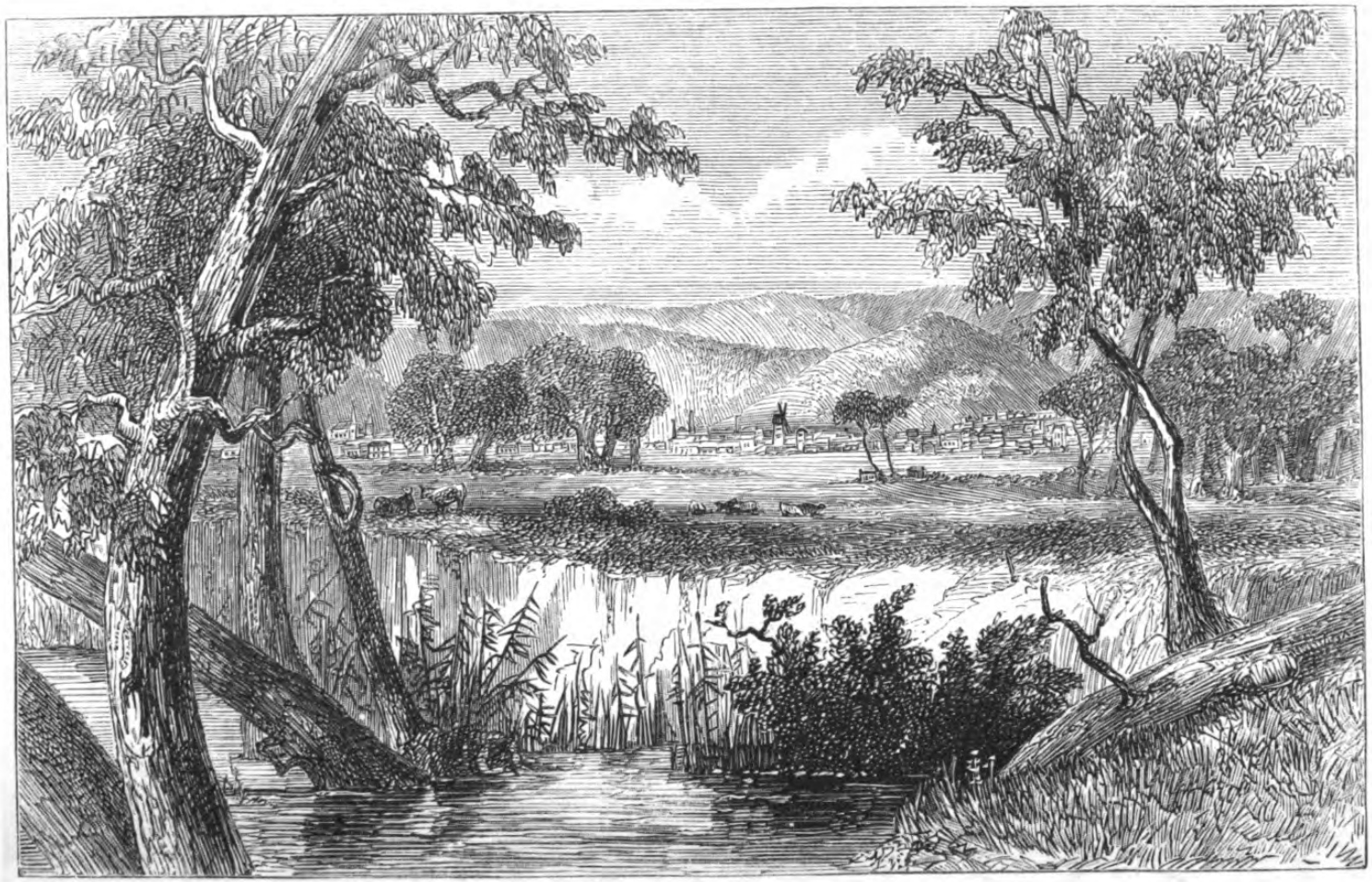
During the summer months, the atmosphere of the plains becomes so heated as frequently to produce most extraordinary effects of mirage; lakes of water, to all appearance, in which are reflected the trees and bushes beyond, glisten in the distance, and seem to hold out a refreshing welcome to the thirsty traveller. On advancing nearer, the phantom lakes seem to dance and wave about, changing their form, yet mirroring

distinctly every feature of hill and tree above; now appearing as chains of blue and cooling ponds, and anon stretching out along the plains like broad sheets of shining water.

Speaking of this phenomenon, Mr. Lloyd says: "Seeing a lake, as we thought, about three-quarters of a mile to our right, we galloped towards it, when, after a sharp canter of a mile and a quarter, to our great astonishment, instead of coming up to water, we became suddenly enveloped in a dense gaseous fluid, floating about our persons with a light rushing noise, and distinctly perceptible to the eye. To complete our surprise, ere one minute had elapsed the fleeting vapour had passed away to the distance of nearly a hundred yards. Upon seeing this we came to the conclusion that we had been in hot pursuit of a flying mirage."

When the atmosphere becomes thus rarified by extreme dry heat, most peculiar optical effects are the result. Occasionally vessels bound up St. Vincent's Gulf to Port Adelaide have been rendered visible by the mirage, their shadows being thrown high up in the air, whilst the vessels themselves were below the horizon; and in several cases these spectral vessels have been reported at the look-out station some days before the actual vessels made their appearance.

Again, the low shores of Yorke's Peninsula, some sixty miles across St. Vincent's Gulf, are, on ordinary occasions, invisible from the hills near Adelaide; yet at times the outline of the whole coast-line has been so raised through the



ADELAIDE, FROM THE REED BEDS.

medium of the heated air over the gulf, as to present a splendid view of headlands, cliffs, and bays, standing out with all the vividness of reality, and apparently only a few miles distant.

The city of Adelaide, the capital of South Australia, stands on an extensive plain, about six miles from the nearest point of the sea-shore, and between four and five from the hills.

The city is divided into North and South Adelaide by the river Torrens, a stream which rises in the Mount Lofty ranges, flows across the plains for fourteen or fifteen miles in a westerly direction, and then either loses itself in the swamps that lie inside the sand-hills of the gulf, or forces its way into the head of the salt-water arm of the sea near the port, according to the season and the volume of water that descends from the hills.

The ground on which South Adelaide stands rises from the sea so gradually that the gradients of the streets are nowhere more than sufficient for drainage purposes. The streets are wide, and are laid out at right angles to each other: there are also fine squares of handsome extent, enclosed, and planted with trees. Four terraces form the boundaries of South Adelaide, and front towards the four cardinal points of the compass from which they take their names. Each of these terraces looks towards an open, park-like space, scattered here and there with gum-trees, which are called the Park-lands, and comprise about 1,940 acres, which are set apart as a reserve for

the recreation of the inhabitants. South Adelaide covers 700 acres of ground, and is at the present time pretty well built upon, many of the public buildings, churches, shops, and warehouses presenting a substantial and imposing appearance. It is only here and there, however, that capitalists have raised rows of uniform and contiguous buildings. For the most part every man has built on his own land, according to his own means or taste, and the consequence is that handsome houses and shops are often flanked by rickety wooden edifices that look sadly out of place. King William Street is a very broad central street, in which stand many fine public buildings, including the Government Offices, the Post Office, Banks, Town Hall, Exchange, &c. Government House is prettily situated on the river slope looking towards North Adelaide, along which are many tasteful and elegant buildings, such as the Houses of Parliament, the Institute, the Hospital, the Lunatic Asylum, and the Mounted-police Barracks. Below Government House a substantial iron bridge spans the Torrens, and brings us into North Adelaide.

North Adelaide contains 342 acres, and is mostly occupied with private houses and gardens, the river and a strip of park-land tastefully planted dividing the two portions of the city. The position of North Adelaide is somewhat elevated and hilly, and the views from it over the Mount Lofty range, the plains, the gulf, and South Adelaide are remarkably beautiful. Many of the wealthiest citizens have chosen this portion of the town for

their dwellings, and have built spacious and elegant houses there. The river is crossed by three carriage-bridges, and by several wooden foot-bridges in various places. The suburban villages, especially toward the slopes of the hills, are numerous, and contain many pretty villas and cottages enclosed in gardens and shrubberies.

Adelaide is well supplied with water from a source about ten miles from the city, in one of the gorges of the range, where a weir has been built across the Torrens, from whence the water is conducted about three miles to a storage reservoir. This reservoir has a water area of twenty-six acres, and when full its greatest depth is forty feet. The water is conveyed to the city through an eighteen-inch pipe, from whence branch off upwards of forty-five miles of street-mains. There have also been nearly a thousand fire-plugs fixed, and as the service is constant, and the pressure high, fire-engines have been superseded. The entire cost of this important undertaking amounted to nearly 200,000*l*. Since the introduction of water into Adelaide, public baths have been established, adding greatly to the comfort of the inhabitants in so warm a climate.

Within the last twelve months gas has been introduced into the city, and the principal streets and buildings are now lighted with it.

The collegiate school of St. Peter's is a fine building, situated across the park lands, to the east of the town. The gaol is an octagonal brick building near the banks of the river, surrounded by a garden and vineyard; the average number

of prisoners confined within its walls does not exceed eighty. Fortunately the penal establishments of South Australia are not very extensive, the only other prison being the Stockade at Dry Creek, about seven miles from Adelaide, where some sixty convicts, sentenced to hard labour, are employed in breaking up the almost inexhaustible quarries of stone there, for the purpose of metalling the public roads of the colony.

The Botanical Gardens contain about forty acres of undulating ground, and are very prettily laid out, at the north-east corner of the town, their beauty having latterly been much enhanced by the introduction of fountains and ponds, the latter being stocked with various kinds of waterfowl. There are more than 3,000 species of plants represented in these gardens, which contain, besides, a collection of native and other animals, and are open free to the public daily.

The Mechanics' Institute is one of the most tasteful buildings in Adelaide. It was erected at a cost of 7,000*l*., and is supported by an annual grant from the colonial government. It contains a good library, an embryo museum of art and natural history, a school of design, and large reading and lecture rooms. The Adelaide Philosophical Society and the South Australian Society of Arts have lately been incorporated with the Institute.

The railways in South Australia are government undertakings, and there are at present two locomotive lines at work, having a common terminus near the centre of the city, between North

and South Adelaide. One of these, leading from the port, is about eight miles in length; the other, which extends northwards to Gawler and thence to Kapunda, is fifty-two miles long.

The electric telegraph connects most of the principal places in the colony with the capital, from whence communication is established with Melbourne, Sydney, and Brisbane.

Port Adelaide is situated on a broad salt-water creek, or arm of the sea, about four miles from its entrance to the gulf, and eight from the city of Adelaide. The position of the town is low and swampy, and the sides of the creek are bounded by extensive mangrove flats. There are several good wharves, alongside of which vessels of a thousand tons can lie in perfect security. There is a bar at the mouth of the creek, the channel to which is carefully marked out with buoys and beacons, and large vessels can only cross at high tide. The anchorage, however, outside in the gulf is good and safe, and a light-ship is stationed opposite the channel.

The Custom House, Court House, and Police Station at Port Adelaide constitute an extensive range of buildings in the Italian style. There are many large and substantial stores and warehouses, steam flour-mills, and a smelting establishment.

Gawler, the second place of importance in the colony, is a flourishing town about twenty-six miles north of Adelaide, at the junction of the North and South Para. It has a population of

nearly 5,000 souls, and contains many good buildings and stores, and a large steam flour and saw mills, a brewery, and an excellent mechanics' institute, including a library and museum.

Kapunda, twenty-five miles north of Gawler, bids fair ere long to become a considerable place. It owes its origin to the continued success of the Kapunda copper mine, the extensive works of which are carried on in close proximity to the town. The outlay at the mine is from 3,000*l.* to 4,000*l.* per month, nearly all of which sum is put into circulation in the immediate neighbourhood. It is a comparatively neat, well-built, and regular town, with a present population of about 3,000 inhabitants, a large proportion of whom are miners and their families. The Adelaide railway terminus is adjoining the town, and the buildings there are considered the best on the whole line. All the traffic from the northern part of the colony comes this way, including that from the Burra mines, and the agricultural district of the Upper Light.

The far-famed copper mines, known as the Burra, are situated about ninety miles from Adelaide, in a north-easterly direction, and, since their discovery in 1845, have yielded an enormous amount of wealth to their proprietors and shareholders. As at the Kapunda, an adjacent town has of necessity sprung up near these mines. The Burra town is called Kooringa, but with the exception of a handsome inn, and one or two other buildings, it is a miserable-looking place. The surrounding country, destitute of timber, has a

most barren aspect. Then the dwellings of the miners and others are small and ill-constructed, put down anywhere, without the least attempt at garden or adornment of any kind. These things, combined with the dust in summer and the mud in winter, both consequent upon the great traffic of drays and waggons laden with ore and fuel, render the township of Kooringa anything but an agreeable residence.

Many picturesque villages, surrounded with gardens and vineyards, are scattered about the country in all directions. Not the least interesting of these are several which are inhabited almost exclusively by German settlers. The first body of these people arrived in the colony in 1838. Religious persecution was the primary cause of their emigrating, they belonging to the Evangelical Lutheran Church. Unobtrusive in their manners, highly industrious, and of economical habits, the German settlers now form a very independent and prosperous portion of the community. By the last census it appears that there were 8,863 German residents in South Australia, nearly all of whom were devoted to agricultural pursuits.

The hottest months in the year are January, February, and March, when the temperature of the air on the plains about Adelaide sometimes exceeds 100° for several days together, at times rising as high as 115°. Generally on the third day the hot wind blows with violence from the north, raising clouds of dust; towards evening it

gradually veers round to west and south-west, when a cool, delicious sea-breeze sets in, and the temperature falls about forty degrees. A succession of cool pleasant weather follows for several days, until the wind settles in the east, when the heat recurs, and a sirocco again blows; and so on, more or less, through the three summer months. Owing, however, to the extreme dryness of the air, these extremes of heat are much more easily endured than many would suppose. Thus labourers in the hottest weather carry on their usual out-door avocations without danger; and long journeys of thirty or fifty miles a day are performed on horseback, with scarcely any more inconvenience than that experienced on a very hot but more humid day in England. It is to the dryness of the air that the general healthiness of the climate is attributable. During July, the coldest month, the mean temperature is 51°. The months from March to October are most pleasant; in fact, nothing can compare with the fine genial weather experienced for days together, even in mid-winter. Hoar-frost is general on the plains in July and August, and ice as thick as a penny-piece is met with amongst the hills. On one or two occasions snow has fallen in slight showers. The heaviest rains, which assume a tropical character, occur after a hot north-east wind, drawing round to the north-west, at which point upwards of an inch of rain has fallen within the hour, accompanied by thunder and lightning. Occasionally the rain is represented by tremendous

hail-storms, which do considerable damage to the gardens and crops, though they are very limited in their range. During the winter months strong north-westerly winds are frequent, accompanied with steady and long-continued rain, which clears off as the wind gets round to the south.

The diversity of climate presented by the hills and plains, and the geographical position of various parts of the colony, has been productive of benefit in several ways. Seasons favourable for the hills are less so for the plains, and *vice versâ*, and thus the general agricultural prosperity of the colony is more equalised than it would be if the whole province were of one character. Another advantage consists in the fact that the harvest operations are thus spread over a longer period of time than would otherwise be the case, so that the labourer's season of harvest earnings is more extended, and the farmers are not all crying out for hands together, to gather in their crops at one time. As the hay harvest precedes the wheat, and the extra demand for shearing fortunately occurs still earlier, even those that roam about and take the chances of the season for employment, are able to obtain good work at good wages during a large part of the year.

South Australia is a great wheat-growing country, and may be fairly termed the granary of the southern hemisphere. The actual number of acres under cultivation in 1863 was 494,511,

of which no less than 320,160 acres were under wheat, the harvest producing 3,841,824 bushels, or an average of twelve bushels to the acre; four-fifths of this vast crop being reaped by machine. The quantity of hay mown during the same year was 88,985 tons; and 30,000*l.* worth of fruit alone, irrespective of dried and preserved fruits, have been exported during the past five years. Dairy produce and eggs have also yielded a nearly equal amount.

The cultivation of the vine, and the manufacture of wine, has of late years become an important feature in the colony. The quantity shipped last year was over 20,000 gallons, 450,000 gallons being consumed in the colony. Upwards of 5,000 acres of vines are already planted, and many of the wines produced from them are excellent, and will bear favourable comparison with those of the south of Europe. Samples of the South Australian wines received high encomium at the Great International Exhibition of 1862.

Scarcely any country can excel South Australia in the quality and variety of its cultivated fruits. Apples, pears, cherries, plums, apricots, peaches, figs, walnuts, currants, gooseberries, strawberries, raspberries, melons, grapes, lemons, citrons, and loquats all thrive abundantly, and reach the highest degree of excellence. Indeed, fruit is so cheap and abundant, that within a few miles from town, it pays better to give the peaches to the pigs than to gather and cart them for sale.

Squatting—that is to say, sheep and cattle

farming on unsold lands rented in large blocks from the government—has, especially during the last twelve years, been the most remunerative pursuit carried on in the colony. The export of wool in 1862 amounted to 14,500,000 pounds; and the number of sheep at that time on the various runs was 3,431,000. The total number of cattle in the province is estimated at 260,000, and that of horses at 57,000, about 500 of which are annually exported to India for the supply of the cavalry service there. The quantity of land leased for depasturage at present amounts to 34,000 square miles.

The metal which has formed the great source of the mineral wealth of South Australia up to the present time has been copper; and the deposits of that ore have been found in an abundance almost as remarkable as that of gold in Victoria. The great richness of the Burra mines has long rendered them famous, while the astonishing yields of some of the mines on the Yorke peninsula makes it probable that the Burra itself will not be able eventually to hold its place as the richest of South Australian mines. In the districts north of Spencer's Gulf, also, mineral discoveries of the highest value have been authenticated, requiring only facilities for transit, and the introduction of adequate labour and capital, to make them highly remunerative.

The Burra mine yields direct employment to about 1,100 persons, and large smelting works are established in its vicinity. The produce of this

mine for the first six years amounted to nearly 80,000 tons of copper ore, of a richness surpassing anything ever before met with in the history of mining. Although the bulk of these ores had to be carted over a hundred miles of road to a place of shipment, and conveyed thence to a market some 14,000 miles distant, a profit was obtained on the working of the mines, for that period, of no less a sum than 438,552*l.*, nearly half a million sterling. The present annual yield of the Burra mine averages from 10,000 to 13,000 tons, worth to the colony at least 225,000*l.* per annum. During the earlier workings of the Burra, the miners and their families used to dwell in subterranean tenements which they scooped out in the precipitous sides of the creek, and they used to make their curious dwelling caves remarkably comfortable. They often contained several rooms, fireplaces, good cedar furniture, and household utensils; whilst the walls were hung with gaudy pictures, and a fine collection of malachites and other specimens of copper ores usually occupied a position on shelves or in glass cases. These underground dwellings were in some respects, however, inconvenient. Strangers walking on the banks of the creek were liable to tumble into holes which proved to be the chimneys of the Cornishmen; and every few years a flood would come down, and commit such havoc and devastation that these abodes have latterly fallen into disrepute.

The Kapunda mines, discovered in 1843, are situated in the county of Light, about fifty-two

miles north north-east of Adelaide. About 350 hands are employed in the various works, exclusive of a large number of woodcutters, carters, and others who are completely dependent upon the mines for their support. Two large thirty-six inch cylinder steam-engines are in use, the deepest level of the mine being sixty fathoms below the surface, at which depth it is kept drained. At the smelting works there are five ore-reducing furnaces, timber being used for fuel. The entire quantity of ore raised from the Kapunda mine, up to the close of September, 1863, was 40,714 tons; the total value of which amounted to nearly 600,000*l.*

The discoveries on the west shores of Yorke peninsula of vast deposits of copper of exceeding richness, in May, 1861, turned the attention of capitalists and speculators to that hitherto little-known locality. These mines have turned out so productive as to have entirely changed the face of that part of the country. Two rapidly-rising towns—Kadina and Wallaroo—with a population of about 4,000, and an active and increasing commerce, are now established where only little more than three years since there was nothing but a solitary sheep station. Apart from the productiveness of these mines and their proximity to the sea-shore, that part of Yorke peninsula where they are situated was singularly unfitted for the sudden reception of a large population, being a dense and inhospitable scrub, practically destitute of water. There was one little spring on the beach at Wallaroo, which scantily supplied in former years

the small wants of the adjoining sheep station, otherwise there was no other fresh water within twenty miles, all that could be obtained by digging proving salt. The expedient hit upon to overcome this drawback was distillation. Large distilleries were established, at which the salt water from the mines was purified; and now, perhaps for the first time in the records of the world, a population of some thousands, with all their horses, cattle, and other domestic animals, drink distilled water. The price of the water thus distilled is only 2*s.* 6*d.* per hogshead.

Wallaroo Bay is the shipping-place for all the various mines that have lately been discovered on the peninsula. A jetty has been constructed there, and a tramway laid down for several miles inland, to the neighbouring town of Kadina. The situation of the port of Wallaroo is pretty, and a cliff, immediately to the south of what is now the business part of the town, presents a fine site for the erection of future terraces of private houses.

About ten miles from Kadina, on the same peninsula, are the now famous Moonta mines, which, although but of comparatively recent date, are of immense promise. As at Wallaroo, there is no fresh water, and the miners have resort to distillation for their supply. Within a period of twenty months, 14,380 tons of very rich ore have been raised here, of the value of 211,800*l.* At the Wallaroo mines the deepest shaft is now down forty fathoms, and 25,000 tons of ore have been taken from the various workings since 1861. The

smelting works there are the largest out of Swansea, containing twenty-five furnaces, of the most complete description, which turn out about eighty tons of fine copper a week. Various other mines, some yielding lead and silver, are scattered over the colony; but a notice of the most important is sufficient to convey to the reader some idea of the great mineral wealth of South Australia.

The aggregate export of South Australian produce, during the last ten years, has amounted to thirteen and a half millions, of which the exports of flour and grain (after supplying the wants of the colony) amounted to over five millions; of wool to over four and a quarter millions; and of minerals, chiefly copper, to over three millions and a half sterling; the remaining half million being composed of miscellaneous products, raw and manufactured. In 1863 the total value of produce imported into Great Britain from South Australia alone was 1,097,795*l.* The population of the province, according to the government statist, was estimated, in 1864, to be 145,000 souls.

The South Australian Parliament consists of a Legislative Council and a House of Assembly. The former is composed of eighteen members, six of whom retire every four years, their successors being then elected for twelve years; nor is the governor able to dissolve this body. It is elected by the whole colony voting as one district, and the qualifications of an elector to the Council are that he must have a freehold of 50*l.* value, or a leasehold of 20*l.* annual value. The House of

Assembly consists of thirty-six members, elected for three years by seventeen districts, but liable to dissolution by the governor. These members are elected by universal suffrage and by ballot.

There is no state church in the colony, and for some years past the system of granting state aid to all denominations indiscriminately has been abandoned. Each sect has to support its own ministers; and from the vast number of chapels and places of worship scattered over the colony, many of the little villages having two or three, it would appear that the people of South Australia are not wanting in zeal and religious fervour. The clergy of the various sects have, however, often to eke out their incomes by school-keeping and other means. About 16,000*l.* per annum is expended by the government for educational purposes, and a Central Board of Education conducts the management of some 250 schools distributed throughout the settled districts, which afford instruction to upwards of 12,000 scholars.

Mr. Edward Wilson, of Melbourne, thus describes his first impressions of South Australia on entering the colony from the Victorian side: "At the very first step across the boundary we were met by a remarkable development of patient and painstaking industry. The same spirit is perceptible over the whole colony. Its resources may not bear comparison with those of some of its neighbours; but, whatever those resources may be, they are certainly in course of development in a very intelligent and industrious

manner. As soon as you reach Lake Alexandrina, patches of cultivation, comfortable homesteads, steam flour mills, and thriving townships appear on all sides; and you feel that you are in a country which is being rapidly awakened to the eager wants of a civilized people. I scarcely can experience again so delightful a sensation as was produced by a view suddenly bursting on the sight upon reaching the brow of a hill above the township of Willunga—a pretty little hamlet, about half-way between Goolwa and Adelaide. All day we had toiled on through a miserably barren country, with jaded horses and a wrecked vehicle, till both patience and temper had well-nigh given way. The dreary gum scrub, the endless alternation of hill after hill, had been but feebly relieved by occasional fine prospects and the profusion of beautiful wild flowers, which, in Australia, usually appear to select the most uninviting soils for their homes. But just as the sun sank, the gloomy scrub seemed suddenly to melt away behind us, and a scene broke upon the view unlike anything I have ever beheld since I left England. From the hill I speak of a tract of country is visible for miles in every direction—north, west, and south; and till it meets the sea, which fills up the background, it seems one continuous piece of cultivation. At a distance of thirty miles, the haze of a large city indicates the site of Adelaide; and everywhere else the dappled sides of the gentle hills, the enclosures over miles upon miles of plain, the hedged gardens, the well-grown or-

chards, and well-appointed homesteads, proclaim the possession of the land by an industrious and thrifty yeomanry."

Consequent upon the discoveries by Mr. Stuart of a practicable route across the continent from the settled districts of the colony to the north coast, the South Australian government have commenced the establishment of a settlement at Adam Bay, near the mouth of the Adelaide River, in Arnheim's Land. This locality is not far removed from the now abandoned depôt formed some years ago by the British authorities at Port Essington, on the Coburg peninsula. It is situated in the extreme northern portion of Australia, in about 12½° of south latitude.

Mr. Stuart, in the report, says: "I believe the country from the Roper to the Adelaide Rivers, and thence to the shores of the Gulf of Carpentaria, to be well adapted for the settlement of a European population, the climate being in every respect suitable, and the surrounding country of excellent quality and great extent. Timber—stringy-bark, iron-bark, gum, &c., with bamboo fifty or sixty feet high on the banks of the river—is abundant and at convenient distances. The country is intersected by numerous springs and watercourses in every direction. If this country is settled, it will be capable of producing any and everything; and would be a splendid region for the cultivation of cotton."

By a settlement in this fertile tropical territory, a vast amount of fresh country will be opened up

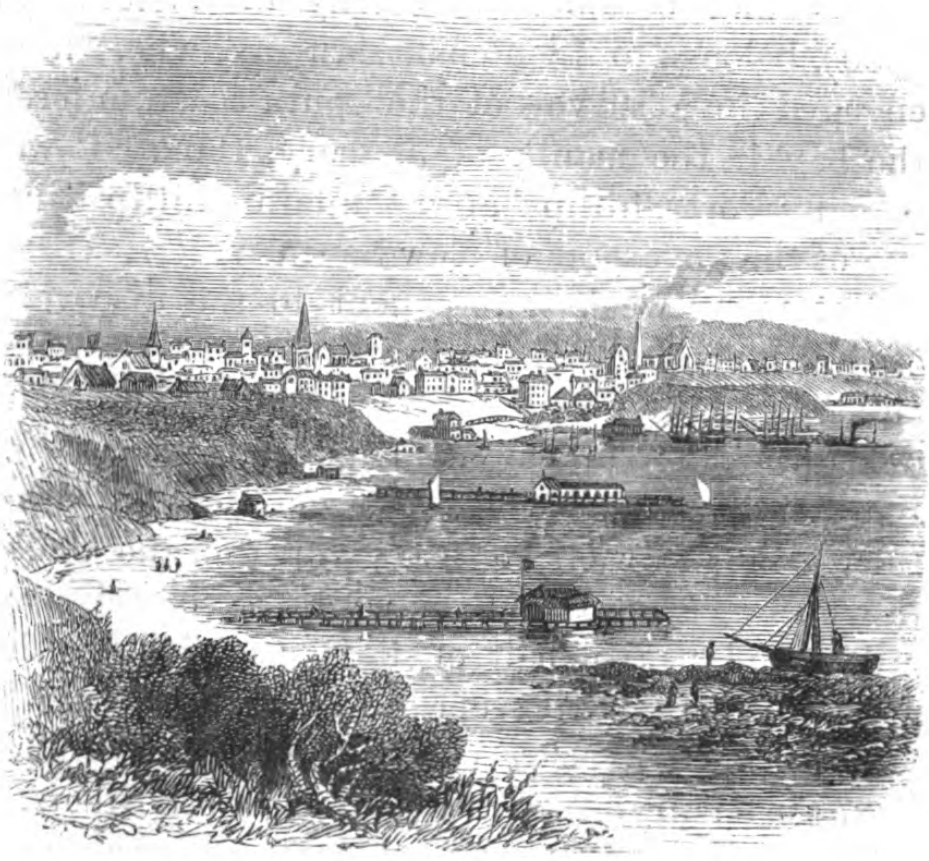
for the future annual increase of horses, cattle, and sheep, and for the growth of cotton, indigo, sugar, and other vegetable productions of the torrid zone. The new route across will, ere long, be available for the passage of horses to the best point for their shipment to India and China, saving several thousand miles of sea voyage; and the intermediate squatting stations that will be established, will facilitate the construction of a telegraph across the continent, bringing the whole of Australia into speedy communication with Europe by way of India.

The first party of volunteers, headed by Capt. Finniss (who was appointed government resident at the new settlement) left Port Adelaide in April, 1864, and proceeded by sea, *viâ* Torres Strait, to their place of destination, which was reached in about seven weeks. They landed their horses and cattle in good condition, and proceeded to examine the country with a view to the selection of a suitable site for the future capital. At present the camp is situated at Escape Cliffs, on the shores of Adam Bay. One of the party of pioneers thus describes the appearance of the country about the Adelaide River: "This river," he says, "is a magnificent one. The width at the entrance is about a mile, and from that point to about twenty miles up varies from 300 to 600 yards, and contains some really splendid reaches. From twenty miles up to fifty, the river narrows gradually to 170 yards. The country, for the most part, is low and swampy towards the seashore, and on each side of the river,

but, receding from it inland, it improves the further you go back. There it is undulating, the soil being rich almost to rottenness, and is well grassed, and interlaced with splendid and permanent creeks. These creeks are lined with high, umbrageous, and tropical-like trees, and cabbage-palms, which grow to the height of from seventy to eighty feet, as straight as a die, without branching off. They tower above the other trees, and look exceedingly graceful and pretty. The creeks all abound with fish, generally about a foot long. Some fine reaches of water which we saw were very deep and long--all running fast, and as clear as crystal." . . . "The climate at this season of the year (winter) is at once the pleasantest and most invigorating I ever experienced in my life; the nights temperate, the mornings cool, with a bracing wind from the east; whilst the mid-days are delightfully warm in the sun." Several other vessels from Adelaide have followed the first expedition, conveying intending settlers with their necessary stores and supplies; and a "North Australian Company" has been established in London for the sale of land. A considerable extent of land has already been taken up by the South Australians, but the ultimate success of the infant settlement remains to be proved.

CHAPTER XIV.

The Colony of Victoria.



GEELONG.

Victoria occupies the south-eastern corner of the great territory of Australia. It is bounded on the north by the river Murray, on the south by Bass's Strait, on the west by the colony of South Australia, and on the east by that of New South

Wales, from which it is separated by a line from Cape Howe to the sources of the Murray. It contains an area of about 86,000 square miles, is about 500 miles in direct length from east to west, and has an indented coast-line of 600 miles.

The honour of the discovery of the magnificent inlet of Port Phillip, from which the district took its name (until it was separated from New South Wales, and became the colony of Victoria, in 1850), belongs to Lieutenant Murray, who, whilst engaged in a survey of the south coast, entered the bay in the month of January, 1802. It was called "Port Phillip" after Captain Phillip King, one of the governors of New South Wales.

Not many weeks subsequent to the discovery of this important harbour, it was visited by Captain Flinders in the ship "Investigator." He thus describes it: "On the one hand it is capable of receiving and sheltering a larger fleet of ships than ever yet went to sea; whilst on the other, the entrance on its whole width is scarcely two miles, and nearly half of it is occupied by the rocks lying off Point Nepean."

The other harbours on the coast are Portland Bay, Port Fairy, Western Port, and Port Albert.

The principal rivers, next to the Murray, are, the Glenelg, the Yarra-Yarra, the Goulburn, the Snowy, and the Ovens. There are many smaller streams, which, during the dry season, appear only as chains of deep water-holes, but become swollen to resistless torrents after heavy and continued rain.

The features of the country present every variety

of aspect: bold ranges of hills clothed with lofty timber intersect vast grassy plains, which are sparingly scattered over with trees. Towards Gipps Land the scenery becomes wild and very mountainous; and the southern headlands of Cape Otway and Wilson's promontory are covered with dense and inaccessible forests.

The great chain of the Australian Alps runs through the eastern portion of the colony; they embrace the most lofty mountains in Australia, some of the peaks of which, as Mount Kosciusko, are from 7,000 to 8,000 feet in height, and covered with snow during the greater portion of the year. The Grampians and Pyrenees are situated north-west from Melbourne and Geelong; beyond these bold ranges the western portion of the colony becomes more level, and stretches away in extensive plains, studded with lakes and extinct craters of volcanoes, towards the great flat deserts of the mallee scrub, which extend to the banks of the river Murray.

The climate of Victoria, though colder and wetter during the winter than that of New South Wales, or South Australia, is, nevertheless, very warm occasionally in summer, being exposed to the hot northerly winds, which blow with great violence at certain times from the scorched and arid plains of the interior.

A gentleman many years resident in Victoria says: "The climate is admirably adapted to the European constitution. During the midsummer months, hot northerly winds occasionally visit the

towns and settled districts, and bring with them fearful and destructive bush fires, accompanied with clouds of smoke and dust, which have earned for such days the appellation of 'Black Thursday,' 'Hot Monday,' &c. As the country becomes settled and well fed down, most probably such evils will be considerably remedied. One redeeming point, however, in reference to the hot wind, is, that it is always succeeded, on its ceasing, at about four o'clock, p.m., by a delightfully cool and refreshing sea-breeze. These great and rapid changes of temperature occurring in England, would, no doubt, be injurious to people residing there, or in similar humid latitudes. A sudden change from 110° to 69° of Fahrenheit, within the period of twenty minutes, certainly does not bear the semblance of salubrity; nevertheless, it does not appear to injure the constitutions of the colonists in the slightest degree.

"The trees and shrubs retain their foliage without change for years, until they are destroyed by the sweeping fires of the bush, or yield to the effects of time. The annual amount of rain exceeds by eight inches the average of England, but, as it mostly descends in heavier showers, its beneficial results are more transient. The native sward, instead of presenting the grateful, soft, green appearance of the home meadows, wears, during six months of the year, an aspect describable by no other term than 'everbrown.' The aridity of the climate, however, has its compensations. A peculiar feature of the dry summer heat

is that it does not produce lassitude of the physical or mental energies. Such an unwelcome visitor as a genuine London fog is seldom, if ever, seen; neither is there that continuous clouded gloom which distinguishes the atmosphere of England; but, on the contrary, a cheerful sunshine prevails in these southern latitudes for at least 280 days in the year. The pure, delicious atmosphere is, moreover, so remarkably clear, that objects forty miles away appear to the eye as if but at half that distance.

"The winter, although generally unattended with snow and ice, is, nevertheless, sufficiently cold to astonish persons recently arrived from England. The white frosts are occasionally very severe, and there is almost as much demand for warm winter clothing, and as great a quantity of wood and coal is consumed in Tasmania and Victoria during the winter season, in proportion, as there is in the good old country."

The soil in many places is very fertile, and well adapted for the growth of wheat and other cereals, as well as for the culture of the vine, and most kinds of European fruits and vegetables, which thrive abundantly in the gardens of the settlers.

The country is open and grassy to a large extent, so that sheep and cattle farming have always been favourite and prosperous vocations with men of capital from the earliest settlement of the colony; and at the present time every available tract of pasture land throughout the entire territory is occupied with "squatters," as these Australian sheep-farmers are styled.

Notwithstanding the great extent of land devoted to the depasturing of stock, there is still a large amount of arable land under cultivation, upwards of 500,000 acres being under crop at the present time.

The gold-fields of the colony, which, since their discovery in 1851, have formed so prominent a feature in the history of Victoria, will be treated of more at length in a subsequent chapter.

In the year 1835, Mr. John Batman, in conjunction with several other persons residing in Tasmania, got up an association for the purpose of forming an extensive pastoral establishment at Port Phillip, on the south coast of Australia. Mr. Batman undertook an expedition to examine and report upon the nature and qualifications of the country; and the glowing accounts he gave of the unlimited extent of available land of the finest description, interspersed with rivers and creeks, and covered with luxuriant grasses, induced the promoters of the scheme to decide upon the colonization of Port Phillip, and to form a company for that purpose. Having gained the goodwill of the natives, Mr. Batman bargained with them, on the very hill that now bears his name, and which stands at the west end of one of the principal streets of the now great city of Melbourne, for as much land, including the present site of the city, as would form a German principality, and all this for a few blankets and some cheap cutlery. The association, with the assistance of some New South Wales blacks, who formed part of their

expedition, completed their transactions with these simple children of the soil, and at once commenced landing their flocks, which they brought across from Launceston in vessels purchased for the purpose.

The success of Mr. Batman's expedition, spread throughout the neighbouring colony of Tasmania by the local press, induced many hardy and industrious farmers to quit their homesteads, and migrate to these "plains of promise." Many of these energetic men, who "took fortune at the flood," are now included amongst the wealthiest and most esteemed inhabitants of Victoria.

Mr. Lloyd says: "The plans of Mr. Batman's association, contemplating, as they did, the acquisition by purchase, from a few poor mindless savages, of an area comprising in all nearly 700,000 acres of fine rich land upon which the British ensign had already been planted, were certainly not tenable in a common-sense point of view; yet, in the final adjustment of their claims by the home government, the members of the association were entitled to most liberal treatment. To their individual spirit and enterprise we owe this establishment of the noble colony of Victoria, many years before it could have been accomplished by the governments of New South Wales or Tasmania; and, in the adventure, the company expended upwards of 3000*l.* for the benefit of the aborigines alone. The Secretary of State for the Colonies confirmed to its members a remission order, by virtue of which 28,000 acres of land,

valued at 1*l.* per acre, were sold to them by the government at the rate of 15*s.*; and this was all their recompense for starting into life the finest and richest colony in the world."

In the year 1803, Colonel Collins was despatched by the home government to form a penal settlement and colony at Port Phillip: this was done, the party landing and pitching their tents on the most barren and sandy spot to be found around this extensive inland sea. The scarcity of water, and the general sterility of the soil at this particular spot induced the commandant to relinquish the settlement, and it was finally abandoned after some six or eight months' occupation. During this period four of the convicts managed to effect their escape from the vigilance of the authorities, and although three of them were destroyed by the natives, or otherwise perished, one man, named Buckley, was spared. Being an individual of gigantic stature, he had managed to ingratiate himself with the savages, and became a chief amongst them, adopting all their manners and customs. Thirty years afterwards, when found by some of the parties attached to Mr. Batman's expedition, he had forgotten his native language, and was elaborately greased, red-ochred, and armed, like the aboriginal warriors who accompanied him. From the peculiar circumstances of his case, together with his usefulness as a means of communication between his black friends and his countrymen, Buckley received a free pardon from the government, and

afterwards became a useful public servant in the shape of a constable. A few months after the treaty for the land was concluded with the natives, the white tents of the settlers began to be pitched on the banks of the Yarra-Yarra; and the columns of blue smoke curling up from their fires amongst the gum-trees, proclaimed that the colonization of Port Phillip had already commenced.

In the following year, Sir Thomas Mitchell, then Surveyor-General of New South Wales, undertook an expedition from Bathurst, crossing the continent in a south-westerly direction, till he arrived at the Glenelg, a considerable stream, flowing southwards. This river he navigated in a canvas boat almost to its mouth, and, after surveying its outlet, which was found to be impracticable for vessels, he proceeded eastwards towards Portland Bay. On his journey thence, he was not a little surprised to meet two gentlemen driving "tandem" through the beautiful park-like country, which he imagined had never before met the gaze of a white man. These gentlemen belonged to a whaling station, which had been established at the Bay, two years previously, by some enterprising merchants from Tasmania.

As he progressed further to the east, he received information that numerous settlers had already established themselves on the shores of Port Phillip; and on his return journey to Sydney he passed through, and explored, that splendid country, to which he gave the name of "Aus-

tralia Felix," and which now forms a part of the wealthy and prosperous colony of Victoria.

Although Sir Thomas represented in glowing terms the value of so fertile a territory to the colony of New South Wales, the home government appeared averse to any proposition for colonizing it, and turned a deaf ear to the reports which from time to time reached the head of the colonial office. At length, the arrivals of fresh parties of adventurers became so numerous that the government was reluctantly constrained to adopt the colony; and in 1837 the whole district was taken possession of as the property of the British crown.

On the 19th of May, 1837, the site of Melbourne was fixed upon for the capital of the new settlement, and from that time the tide of population began to flow rapidly into Port Phillip. The city of Melbourne shortly began to assume a busy aspect. Houses of wood and brick superseded the canvas tents of the first settlers, and the enterprise of the colonists soon developed itself in a great variety of ways.

During the years 1848–50, the Commissioners for Land and Emigration despatched many thousands of useful emigrants to Port Phillip, who availed themselves of the advantages held out by the demand for labour. At the same time many men of capital and skill embarked for the colony, and by their wealth and knowledge turned the resources of the young community to the best account.

The inconvenience of having the seat of govern-

ment at so great a distance as Sydney, combined with the fact that the country was sufficiently large and prosperous to form an independent state, induced the colonists of Port Phillip to petition for a separation from New South Wales, which request was granted by the British Parliament at the close of the year 1850, and the name of the colony changed from that of Port Phillip to "Victoria." At this time the population numbered upwards of 77,000 souls; Melbourne contained 23,000, whilst Geelong, the second town of importance, contained upwards of 8,000. The value of the imports was 1,056,437*l.*, and of the exports 1,422,909*l.*; the latter consisting chiefly of wool. The discovery, in 1851, of the great gold-fields of Ballarat, Mount Alexander, and Bendigo, gave a sudden impetus to the wealth and population of Victoria, which long years of ordinary prosperity would have failed to effect; and for several months in the following year of 1852 the yield of gold in the colony was estimated at not less than 400,000 ounces, or 1,600,000*l.* per month.

Mr. Lloyd says: "Let us now compare notes between the Australia Felix of Sir Thomas Mitchell in April of the year 1835, when its rich pastures, clad with myriads of modest little flowers, were grazed over only by flocks of the harmless kangaroo and emeu, and the Victoria of 1858. Its statistics, in reference to population, stock, exports and imports, for those years are briefly enumerated in the following statement:—

"CENSUS FOR 1835.

"Aboriginal population, number not known, but certainly not numerous.

"White population, Mr. J. Buckley *only*, from the year 1803! Sheep, cattle, &c., *nil!*

"Census for September, 1858, the colony having been established say, twenty-three years.

"European population:—

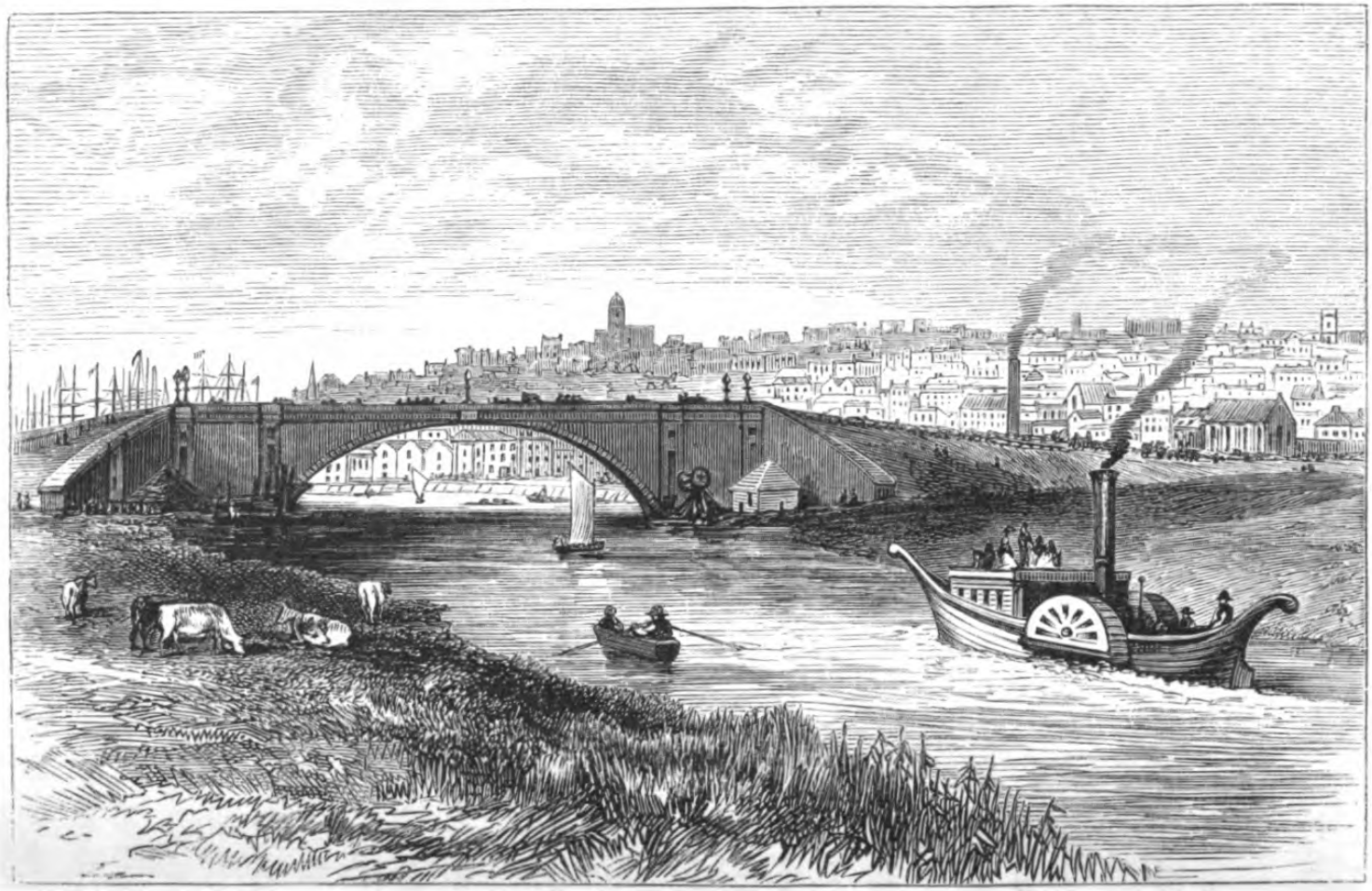
Males	308,983	
Females	176,786	
		485,769
Sheep, nearly		4,000,000
Cattle		400,000
Horses		184,000

"Imports and exports for the year 1858:—

Imports	£13,917,712
Exports	12,910,587
Balance against Victoria	£1,007,125

"In the year 1860 the population was 540,322; the imports amounted to 15,092,734*l.*, and the exports to 12,951,619*l.*

"If Victoria has risen to eminence, as it were, by enchantment, riches have poured into the laps of enterprising colonists by the same process. Large fortunes have, literally speaking, been thrust into the pockets of numbers, gentle and simple, to the utter astonishment of themselves and everybody around them. These have resulted mainly from the unprecedented rise in the fictitious value of every description of property. One half-acre allot-



MELBOURNE, FROM THE YARRA-YARRA, EAST OF PRINCE'S BRIDGE.

ment in Collins Street, Melbourne, measuring 165 feet frontage by a depth of 145 feet, purchased in 1838 for 200*l.*, was sold, early in 1852, at the rate of 200*l.* per foot frontage, and thus realized the enormous sum of 33,000*l.*, or 66,000*l.* per acre. This fact, incredible as it may appear, is, nevertheless, perfectly authentic."

The city of Melbourne, the capital of Victoria, has a population of about 130,000 souls. It is situated on the right or northern bank of the Yarra-Yarra, at the head of Hobson's Bay, in the harbour of Port Phillip. Although the river takes a circuitous course of several miles to the bay, the distance from Melbourne to the sea in a straight line is only two miles, an excellent railway connecting it with the port of Sandridge, where ships of the largest tonnage lie alongside the jetties, whilst those of smaller size only are able to ascend the river, and reach the city quays.

In form, Melbourne partakes somewhat of a crescent shape, covering the slopes of two hills, with a depression in the centre; the river, spanned by a noble bridge, forming a picturesque foreground; whilst on all sides its rapidly-increasing suburbs stretch away for a long distance.

The houses, built of brick and stone, are very handsome; and the streets are of a width seldom seen in the older cities of the leading nations of the world, and well macadamized; while handsome flagged pavements render the traffic for foot passengers agreeable at all seasons of the year. All the principal streets intersect

each other at right angles, and are a hundred feet wide.

Many of the public buildings are equal in importance and design to similar works in the mother country. The new Houses of Parliament and the University are amongst the principal architectural embellishments of the city; whilst the numerous churches and other places of worship, together with the substantial stone warehouses that line the quays, the stately banks, the noble public library, the well-built theatres, the post-office, the town-hall, the custom-house, the exchange, and the beautiful suburban mansions of the wealthy citizens, combine to render Melbourne a city of no mean importance. The shops in the leading thoroughfares are many of them costly and elegant, rivalling in decoration and plate-glass those of the best streets of London. Fountains are introduced in many places; the streets are well lighted with gas; omnibuses, carriages, and cars ply to all parts of the suburbs; and the general aspect of Melbourne is that of a bustling, populous, and wealthy metropolis.

The city is supplied with water from an immense reservoir, some 1,500 acres in extent, which receives the waters of the Plenty River, and several minor streams. This reservoir, which is called the Yan Yean, is situated twenty-two miles from Melbourne. The water is conveyed through iron pipes, and rises to the height of the loftiest buildings.

The University, which, when completed, will,

it is estimated, cost upwards of 100,000*l.*, is built in the Elizabethan style, and occupies a commanding position in North Melbourne. It has four professors, with an annual endowment of 9,000*l.* One portion of it contains the museum of natural history and economic geology, where may be seen not only a very fine and well-arranged zoological collection, but a most complete and interesting series of models and specimens illustrating the gold mines of the colony, and the various modes of working for the precious metal.

The Melbourne public library may well be described, in the words of a recent writer, as "a monument of colonial taste and liberality, richly stored with the treasures of the learning of all ages, and open to every one, free of cost or charge of any kind." The sum of 26,000*l.* was voted by the legislature in the year 1853 for the purchase of books and the erection of a suitable building to contain them. The design consists of a centre and two wings, with an elegant Corinthian portico; this is enclosed by a tastefully laid out shrubbery, a couple of acres in extent. The works to be found in this library comprehend every class of literature, and not a few of the richest treasures of typographic art that have issued from the British press.

The Botanical Gardens on the banks of the Yarra-Yarra are extensive and well laid out, and contain a very large collection, not only of indigenous plants and trees, but of those from nearly every portion of the globe.

The gardens of the Acclimatization Society are also in a flourishing condition, and possess a fine menagerie of animals and birds.

Within half an hour's pleasant drive from Melbourne is the fashionable and beautifully-situated watering-place of St. Kilda, on the shores of the bay. It is the favourite resort of the citizens in the summer months; and both this and the township of Brighton, a short distance further along the coast, afford excellent facilities for sea-bathing, boating, and other marine enjoyments.

A recent writer thus describes Geelong, the second town of importance in Victoria: "Let us now turn to the beautifully-situated town of Geelong, with its noble and commodious harbour, capable of containing thousands of ships in safety equal to that of the London Docks. Geelong also can boast of its fine stone edifices, public and private, its wide and well-metalled streets, gas-lighted shops, and convenient wharfage for large vessels. A continuous line of railway, from the grand terminus to the extreme point of the new government wharf, is now in full operation. Nor should we omit to make mention of the peculiarly rich arable and pasture land with which Geelong is immediately surrounded. Its English-like farms of the Barrabool and Bellerine Hills, its highly-cultivated vineyards, and its well-stocked market gardens, are all upon the richest and most productive soil. Neither do the members of its spirited community show want of energy in cater-

ing for the general progress of Victoria. Importance must necessarily be attached to Geelong, from the knowledge that the pastures and mines of its surrounding counties produce a greater amount of wool, fat stock, and gold than any other districts of the same extent throughout Australia. Fronting the noble bay of Corio, and having the sea within ten miles of the southern lines, it naturally as far excels Melbourne in climate as Tasmania does Geelong."

The distance from Melbourne to Geelong, across the harbour of Port Phillip, is about thirty-five miles, and steamers ply daily between the two places.

Railways now connect most of the leading towns in Victoria, extending from Melbourne and Geelong to Ballarat and other towns of the gold-fields, and are in course of construction to the river Murray and towards New South Wales. As the railway from Sydney to Goulburn is fast progressing, it is probable that before long the two great capitals of New South Wales and Victoria will be united by one grand trunk line.

Telegraphic communication extends from Melbourne westward to Adelaide, and the various towns of South Australia; eastward throughout New South Wales to Sydney, and thence north to Queensland; and a submarine cable crosses the sea to Tasmania.

Portland Bay is situated near the western boundary of the colony, and affords good anchorage for vessels, being sheltered from all winds

except the south-east. It was first settled by the Messrs. Henty, from Tasmania, who established a farm and a whaling station there. The flourishing town of Portland now occupies the site of the operations of these early pioneers, and the country around is thickly scattered with thriving farms and comfortable homesteads. The bay is the resort of numerous whalers, who call in for supplies.

On the most important gold-fields large towns have sprung up with marvellous rapidity, in the course of the last few years. Amongst these are Ballarat, Castlemaine, and Sandhurst—all large, busy, and flourishing places, which owe their existence solely to the gold discoveries. Kyneton, Kilmore, Maryborough, and the Ovens are also thriving country towns, and various other townships, too numerous to mention, are scattered over all parts of the colony.

Speaking of the commerce that characterised Victoria, and, indeed, Australia generally, prior to the present absorbing and prominent gold-mining, Mr. Westgarth says: "We could only fully appreciate the light-timbered or open grassy country of Australia, by observing the slow and toilsome process of removing a North American forest. Ere one, perhaps, of its innumerable giants had been cut down, the corresponding expanse of Australia was quietly occupied with sheep, which browsed on the natural grass, and each year yielded up the wealth of their valuable fleece, without the cost of capital, and almost

without the effort of labour. Ere the whole forest was swept off, the Australian downs had perhaps already assumed a new phase. Well-made roads passed between fields of grain, and the smoke of towns and villages told of industry and prosperity to increasing numbers of colonists. The sheep had disappeared, driven off with ready step to remoter pastures, equally accessible and useful to them, although as yet shut to the slower march of agricultural and city industry. The wealth derived from the facile export of the wool had already contributed to social amelioration and progress, and the labour power that was not required for the extirpation of a colossal forest had been free for application in other ways that may have proved more congenial to comfort and well-being. These considerations explain the prompt and rapid development of Australian commerce, and the marked prosperity of its colonization. Victoria was a country ready made at nature's hand. The squatter or sheep-holder at once used it, and, as fast as he could breed or import his stock, he spread them over its 55,000,000 of acres, of which two-thirds were available to him for pasture. In 1837 there were about 175,800 pounds of wool exported; in 1850 this quantity had increased to eighteen millions of pounds weight, with the additional export of 4,500 tons of tallow. In the earlier years the young settlement was still importing sheep and cattle from the two senior colonies to the north and south; but four years had scarcely elapsed ere the fat

stock of the Port Phillip pastures were already a promising article of export, and the subject of a trade whose increase and prosperity were interrupted only by that great event that has latterly made Australia the world's object, and introduced a marked change in this and many other of these colonies' earlier commercial and social developments."

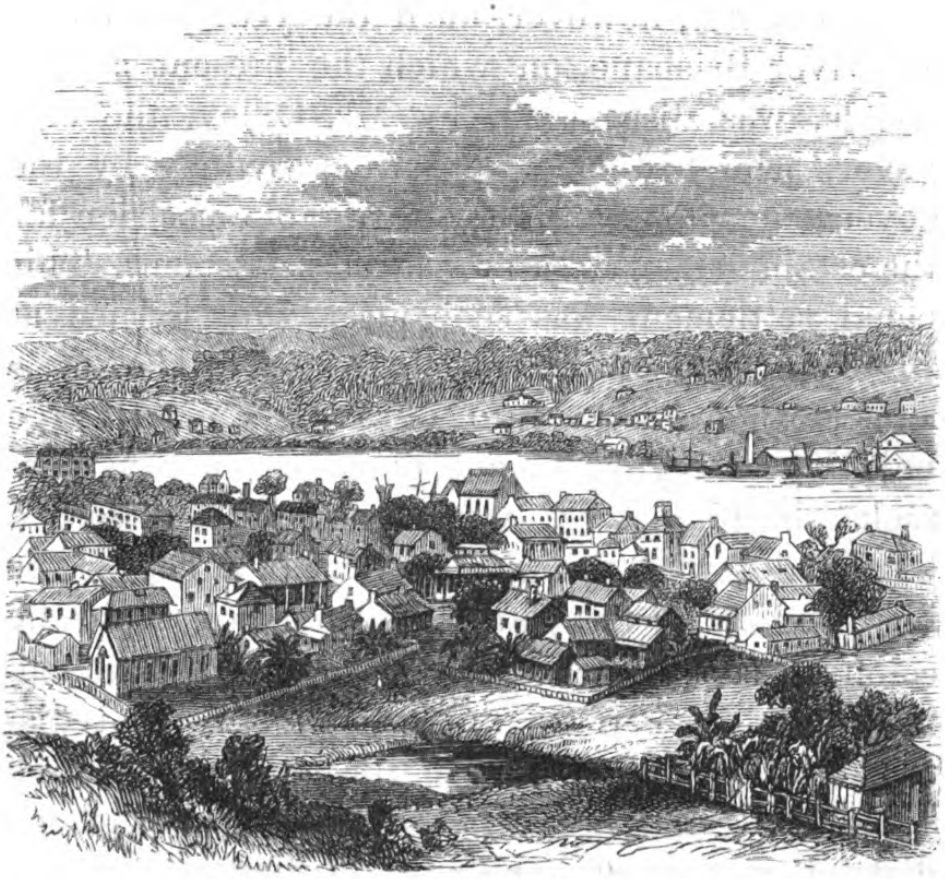
In concluding this chapter, we quote the words of Mr. Westgarth, who, writing on the commerce and finances of Victoria, says: "The principal production of this colony—that most attractive of all productions, gold—has brought its name conspicuously before us. The arrivals of the gold ships weekly, or still more frequently, already familiarize us with the curious spectacle of bills of lading and cargo of the precious metal. The colonists speak of their annual gold export by the hundred tons. As much as eight tons weight have arrived in this country by one vessel; and the winds which speed on or detain a few of these well-freighted ships will sensibly affect the great money-market of our country. Nothing of this commerce, or indeed of any other, existed in Victoria little more than five-and-twenty years ago. At that time a handful of settlers had just arrived upon the vacant scene—a scene that is now pervaded by well-made roads, substantial railways, and the electric telegraph, planted with between thirty and forty incorporated towns, and occupied by more than half a million of colonists. A few huts were then being erected on the site where has

since arisen the city of Melbourne, with 130,000 people, and having commercial relations with all parts of the world. The Heads of Port Phillip present the lively spectacle of a score or two of ships daily entering for and departing from this great emporium of the south. Already there emanates from the capital a great railway system, which, penetrating the interior in two main directions, presents 270 miles of a substantial, almost extravagant, construction, now on the eve of completion, at a cost of eight millions sterling. Melbourne is lighted with gas. A million has been expended on its broad and well-made streets, and another million in introducing a supply of fresh water. These streets are regularly watered like those of our own large towns, and some of them are quite as crowded with traffic and passengers as a London or Manchester thoroughfare. There is a combination of the utility, convenience, and enjoyment common to long-established town life. There is a parliament-house which has been erected at a cost of 400,000*l.*, a public library, already of colossal dimensions, and several theatres, of which the principal is not inferior, in dimensions at least, to the larger of the London houses. The population swarms forth with absorbing interest to its annual horse-races; and as each afternoon draws on, and the impetuous tide of business subsides, the open grounds of the suburbs are filled with the colonial youth intent upon the old English game of cricket. The mail recently brought us news of 2,000 Melbourne

Volunteers, who, attended by a great concourse of spectators, had been for four days campaigning, after home example, upon the grassy plains to the westward of the city. In short, there are all the diversities that usually attend great aggregations of humanity. Melbourne is not less known at the Bank of England and the Hall of Commerce for the gold and the fleece which it sends forth in such welcome quantity, than it is appreciated at Cognac for its enormous consumption of brandy."

CHAPTER XV.

QUEENSLAND.



CITY OF BRISBANE.

THE erection into a separate and independent colony, under the name of Queensland, of the large extent of country lying to the north of New South Wales, dates only from December,

1859. This colonial territory was previously known as the Moreton Bay district, and formed the northern portion of New South Wales, to which government it belonged.

Moreton Bay, from which the settlement took its name, is situated in about 27° south latitude, and was discovered by Captain Cook in 1770, being named by him in honour of the Earl of Moreton, then President of the Royal Society.

It was not, however, until the year 1823 that the river Brisbane, on which the present capital stands, was discovered, by Mr. Oxley, the surveyor, who had been sent from Sydney by the government to search for a suitable position for the establishment of a new penal settlement. This penal settlement was soon afterwards formed at Brisbane, some miles up the river of the same name, which flows into Moreton Bay. Large buildings for government purposes, such as barracks, hospitals, &c., were erected there; and a botanical garden was laid out and planted, for the introduction of tropical trees and fruits into the colony. In 1842, however, the convict establishment was broken up, and the fine pastoral districts of the interior were thrown open to free settlement. From that period the progress of the district was most rapid: enterprising squatters soon established themselves over the country, and the magnificent extent of the Darling Downs, and the wide-spreading pastures beyond the coast-range, were shortly occupied by countless flocks of sheep.

The gradually increasing prosperity of the northern colonists, and their great distance from the centre of government at Sydney, induced them to agitate for a separate administration, which, after some difficulty and several years' delay, was at length acceded to them by the imperial government, and Sir George F. Bowen was appointed the first governor in 1859.

In 1860 the pastoral settlements had extended northwards to Broad Sound, in south latitude 22°; and, at the present time, the newly-explored and available country around the river Burdekin is occupied by sheep-runs, and the stations of the flockholders are now to be found far into the tropics, within a comparatively short distance of the Gulf of Carpentaria.

Queensland possesses an area of more than 550,000 square miles, comprising an unusually large proportion of rich and fertile land, which is well watered, and clothed with luxuriant herbage. The interior, westward of the dividing mountain range, consists for the most part of elevated grassy downs, or table-lands, with a temperate climate, admirably adapted for sheep. On the coast, the land is in many places thickly timbered, and dense brushes of tropical vegetation occur, in which lofty pines mingle with the cedar, the palm, and the gigantic fig-tree. The low shores of the bays and estuaries are bordered with mangrove flats, and the pandanus, or screw-pine, forms a singular feature in the scenery near the coast.

Very nearly the whole of the area of this colony lies within the tropical region, beyond the belt of uncertain climate further south, with its extremes of hot and cold winds, of floods and of droughts. The tropical showers, which save northern Australia from the desert character of much of the central and southern interior, extend over and fertilize Queensland. The annual rainfall is double in quantity to that which takes place to the southward. At Brisbane, in south latitude 27°, the rainfall in one year amounted to fifty-five and a half inches, there being 131 days on which rain occurred.

The climate is healthy, although of a tropical character, and not being subjected to such sudden and trying changes of temperature as the more southern portions of Australia are, has been recommended by the medical men of Sydney and Melbourne to patients suffering from diseases of the chest. The mean annual temperature in the shade at nine A.M. is 68. In January, the hottest month, it reaches 79°—80°, under the same conditions; whilst in June it is reduced to 55°.

The population, according to the last returns in 1860, amounted to 28,056, of whom 16,817 were males, and 11,239 females. Since that period, however, it has rapidly increased.

In 1858 the live stock of the colony was estimated at 3,500,000 sheep, 450,000 cattle, and 50,000 horses.

During the year ending 30th September, 1860, the export of wool amounted to 4,826,500 pounds,

valued at 422,319*l.* Tallow to the value of nearly 35,000*l.* was also exported during the same year. The revenue for 1860 was over 178,000*l.*, principally derived from the proceeds of land-sales, squatting assessments, and customs duties. In 1864 the exports of the colony amounted to 1,247,000*l.*; the imports to 2,267,000*l.*; and during the same year no less than 15,000 ounces of gold have been shipped from Rockhampton.

The cotton-plant thrives admirably in Queensland, and the soil is well adapted for furnishing cotton, especially that of the finest quality, to any extent that may be required. During the year 1863 about 2,000 bales were exported from the colony.

The sugar-cane is also grown with success: indeed, the entire range of country along the coast, between the dividing range and the sea, is peculiarly suited for the cultivation of tea, coffee, rice, and other tropical productions.

The banana flourishes luxuriantly, and produces an abundance of fruit; whilst pine-apples are planted in the open fields and gardens, in rows, like cabbages, requiring no care whatever in their culture.

The eastern cordillera, or dividing range, which separates the affluents of the rivers flowing west from those which fall into the Pacific Ocean, runs through Queensland at a distance of from sixty to eighty miles from the sea: this range has a general elevation varying between 3,000 and 4,000 feet; but some heights in New England are much

more lofty, and Mount Lindsay, in a spur near Moreton Bay, rises to 5,700 feet above the sea. Mount Warning, near the boundary line of New South Wales, presents an imposing appearance as seen from vessels passing the coast, with its sugar-loaf peak towering into the clouds. Immediately on proceeding into the Queensland territory from the south, the mountains are seen to assume a peaked and volcanic shape: they are mostly granitic, and sandstone being less prevalent than in the adjoining colony of New South Wales, the soil is superior.

The country to the southward of Moreton Bay, for a distance of sixty or seventy miles, is a continuous forest of pines, some of very large size. The Moreton Bay pine grows from 100 to 150 feet in height, and yields an excellent timber for masts and spars. The bunya-bunya pine, the red cedar, iron-bark, blue gum, box, forest oak, rose and tulip woods, are all noble trees, which grow luxuriantly in the rich alluvial brush or flat land between the mountains and the coast.

Dyewoods and gums abound in great variety; honey is an article of commerce; turtle, and many sorts of excellent fish are numerous in the bays; and coal has been met with on both sides of the dividing range of mountains.

Gold has been found in small quantities, but only until recently to the extent to justify Queensland being included amongst the gold-producing colonies of Australia. In the beginning of August, 1858, it was reported that a gold-field

had been discovered near the Fitzroy River, which falls into Keppel Bay in latitude 23½°, being the boundary of the southern tropic. This was the scene of an episode in the history of the colony which is thus described by Mr. Westgarth: "The circumstances connected with the report of this gold discovery were a remote distance and an uninhabited locality; two circumstances, be it remembered, that must render even a rich Australian gold-field unprofitable, owing to the uncertainty, expense, and discomfort attending the means of existence. Almost immediately there commenced an extraordinary rush of people, first from Sydney, and afterwards from Melbourne and other parts of Victoria. By the end of September, 5,000 to 6,000 persons had gone to the new El Dorado. There was, indeed, a gold-field, a small flat, called Canoona, situated about seventy miles up the Fitzroy; and, although the spot was soon worked out, yet the surrounding region gave indications of being also auriferous. But the charm was almost instantly dispelled when such masses came together without any of the usual provision for settlement. A counter stream of those returning met those pressing forward, and soon the ship-loads of the latter refused to quit the vessels until they were taken back to Sydney. The incident, however, has resulted in the foundation of the township of Rockhampton, situated thirty miles up the Fitzroy; while the hope that Queensland may, like her neighbours, be a gold-producing colony, has induced the government,

during the first legislative session, to repeal the export duty on gold, a duty still retained by New South Wales and Victoria."

Brisbane, the capital of Queensland, is situated on the river of the same name, some miles above its junction with Moreton Bay. It is distant from Sydney about 640 miles, in a northerly direction. Few places have risen so rapidly in importance during the last few years, but this is not to be wondered at, when it is considered that it is the port of a most extensive grazing district, stretching about 400 miles to the west, besides the area that more immediately surrounds it on the north and south. The town is divided by the river, which is a broad and noble stream, into North and South Brisbane. The situation is pleasing, and the views from the surrounding hills are delightful on all sides. There are many good buildings, both public and private, and the place is rapidly assuming the appearance of a considerable town. The banks of the river are studded with farms and gardens; and the rich vegetation overhanging the water, clothed with beautiful creepers in blossom, renders the scenery in ascending the river, of a picturesque and sylvan character. At the entrance to the bay there is a sand-bar, which at certain states of the tide precludes the entrance of vessels of large tonnage. Regular steam communication is carried on once or twice a week between Brisbane and Sydney. The population of the electoral district of Brisbane is about 8,000.

The river is navigable as far up as Ipswich, about fifty miles beyond Brisbane. Ipswich, the second town of importance in the colony, is the port, as it were, of the great pastoral districts to the westward, being at the head of the navigation of the eastern waters. It is a place of considerable trade, and has a population, including the surrounding district, of about 5,000.

On the western side of the dividing range are the townships of Drayton and Toowoomba.

About 200 miles north of Moreton Bay is Wide Bay, a long and sheltered channel of the sea between Great Sandy Island and the main land. On the north bank of the Mary River, which flows into Wide Bay, is situated the port and town of Maryborough.

North again, another 200 miles or so from Wide Bay, is Port Curtis, where the township of Gladstone was established in 1854. Port Curtis is an excellent and secure harbour, protected from the sea by Facing Island, which forms a natural breakwater opposite the town.

A little beyond Gladstone, rounding Cape Capricorn, the noble Fitzroy River discharges itself into Keppel Bay. On this river is the rapidly increasing port of Rockhampton, likely to become a place of considerable trade in consequence of its facilities for shipping the produce and supplies of the extensive pastoral country now opened beyond it. Large crocodiles are abundant near the mouth of the Fitzroy; and the country is prolific with game and wild fowl of various kinds.

At Broad Sound a township has been laid out; and another at Port Denison, in latitude 20° south.

The scenery around Moreton Bay is of a peculiar and interesting character, especially at its northern extremity, where three remarkable and abrupt mountains rise suddenly above the level and thickly-timbered country. They were named by Captain Cook, who first observed them, the "Glasshouses," from their resemblance to these structures. The bay itself is very extensive, extending from north to south for about seventy miles: it is protected from the sea by two large islands, called Moreton Island and Stradbroke Island. On the former of these is a lighthouse, and the passage into the bay is round the northern end of the island. The entrance between the two islands, called the Middle Channel, is very dangerous, and but seldom attempted since the loss of the Sydney steamer there some years ago. The interior of the bay is studded with small islands, some of which are very picturesque. They generally have a crown of forest in the centre, around which is a belt of open grass and flowers; then comes a border of the pandanus, or screw pine, with its singular foliage and fruit; and lastly, a fringe of mangroves, the blossoms of which are covered with myriads of butterflies, and the roots and lower branches with oysters, connects the island with the surrounding water.

The Burdekin, one of the most considerable streams in north-eastern Australia, was discovered by Leichardt in 1844. In 1859, Mr. G. E. Dal-

rymple made an overland expedition from Brisbane to examine the country watered by this river, and to trace the stream to its mouth. He succeeded in reaching a position from which he inferred that it entered the sea at Cape Cleveland and not at Cape Upstart, as Leichardt supposed. Further progress was rendered impossible at the time, owing to the hostility of the natives, who were very numerous, and who have in that fertile region a well-favoured appearance as compared with those of other parts of Australia. A large extent of country of a promising character, and fitted alike for pasturage and the growth of cotton, sugar, and tobacco, was discovered in the valleys of the Burdekin. An expedition by sea in the following year was successful in finding the mouth of the river, which proved to be, as was supposed, in Cleveland Bay. Unfortunately, however, as is the case with so many of the Australian rivers, the mouth was closed by a bar which rendered navigation impracticable. A little to the south, however, a harbour was discovered, land-locked, capacious, and perfectly easy of access. It forms the inner or western side of Edgcumbe Bay, and was called Port Denison. It is described as being three miles in length, by two in breadth, and twenty-seven feet in depth, and is a valuable discovery for the settlers, who are already pasturing their flocks in the country watered by the Burdekin.

CHAPTER XVI.

Penal Settlements. The Convict System. Transportation.

BOTANY BAY, WITH THE MEMORIAL TO LA PEROUSE.

The earliest Australian colonization consisted of penal settlements, to which were transported the worst criminals from Great Britain. The distance

from the mother country, and the vast unoccupied territory that presented itself in the so-called "Terra Australis," were inducements to the government to banish thither such occupants of its overcrowded prisons and gaols as had been sentenced to long periods of punishment. New South Wales, and, shortly afterwards, Van Diemen's Land, were the fair and beautiful countries destined to receive the criminal population of Britain. On the 13th of May, 1787, a fleet, consisting of eleven sail of ships, including a frigate and an armed tender, and having on board 565 male and 192 female convicts, with 200 soldiers and their families, sailed from England to establish the first penal colony on the eastern shore of Australia. Botany Bay was proposed for the place of settlement, but being found unsuitable, the noble harbour of Port Jackson, ten miles further north, was selected for that purpose. Within this harbour, on the shores of Sydney Cove, the British ensign was hoisted on 26th January, 1788. During the first few years the young settlement progressed favourably, although at times much suffering was occasioned by a scarcity of supplies. After dwelling for some time in tents, wooden and mud houses were erected, and Sydney was founded by Captain Phillip, the first governor. It is said that "no founder of a colony ever went about his duties more judiciously than he did. When it is considered what description of people he had to deal with—that they were outcasts from their native land, banished from amidst their country-

men—it is most surprising how order was enforced, and how such a settlement ever came to attain the position it now occupies."

Shortly after the establishment of Sydney, Norfolk Island was settled, at first with a view to the cultivation of the flax plant, which had been found growing there in abundance by Capt. Cook; but it was afterwards made a convict establishment to which the most hardened and desperate of the prisoners were sent. Those who had been again convicted of crime, and were looked upon as irreclaimable, were re-transported to Norfolk Island, where they were worked in heavy irons, and fed on salt meat and maize bread; and although it is recorded that some of them, from time to time, underwent the extreme punishment of a thousand lashes each, they were as little reclaimable by the lash as if so many drops of water had been poured upon their backs. Judge Terry, in his "Thirty Years' Residence in New South Wales," says: "Happily for humanity, that abomination upon earth, Norfolk Island, as it then existed, is no more. From its disastrous and dread example the English nation and the nations of the world should take warning never to incur again the fearful responsibility of herding together a band exclusively of men the worst outcasts of society, and allowing them to live under a system from which the charities of life were excluded, and under which the lash, the dungeon, and the scaffold were the only instruments used to reform and reclaim fallen man."

Since the abandonment of Norfolk Island as a penal settlement, it has again been peopled by inhabitants of a very different character. The mild and gentle Pitcairn Islanders, the descendants of the mutineers of the "Bounty," have within the last few years been removed from their former home by the British government, and are now dwelling in the romantic and picturesque valleys of that lovely and fertile island.

Judge Terry observes: "Notwithstanding the terrors of Norfolk Island, and the dreadful exhibition of crime in our supreme and circuit courts, it is satisfactory to be enabled to testify that amongst the thousands transported to New South Wales many became reformed and really good men. This reformation was mostly observable in that class of convicts who were sent out for offences that did not partake of the character of base crime. Even amongst the more depraved, instances of reformation were numerous and gratifying. Pickpockets and convicts from the large towns of the United Kingdom, who from their childhood had been brought up in ignorance, and had led lives of habitual crime, if not from principle, yet from obvious motives of interest in the prospect of becoming independent in a land of abundance, altered their course of conduct and became industrious members of society. Being men not devoid of intelligence, they quickly acquired skill in some industrial pursuit during their period of service in the employment of masters to whom they were assigned. The useful

and not difficult arts of sowing and ploughing, and shepherding and herding cattle, they soon mastered. Many became rough mechanics and adepts in putting up a hut and farm buildings and fences. Some proved excellent stonecutters; many made hats from the fibre of the cabbage-tree palm; in short, they all became acquainted with some useful art or pursuit by which they could gain an honest livelihood." As the existence of fertile lands in the interior became known, criminals were allotted as assigned servants and labourers, without pay, to such of the free emigrants as required assistance on their farms. In this manner the early landowners reaped a rich harvest from the convict labour thus granted them by the authorities.

For many years the prisoners were employed on the public works of the colony, in the formation of roads and bridges, and in the erection of churches, barracks, gaols, and other buildings. The great western road over the Blue Mountains, from Sydney to the agricultural district of Bathurst, 120 miles in extent, was constructed wholly by convicts, and is a remarkable achievement of engineering skill, combined with an enormous outlay of labour.

The forts, quays, hospitals, and barracks in Sydney are all works of great magnitude, and excite the astonishment of the stranger on beholding so vast and wealthy a city at the antipodes. Whatever may be the defects of the convict system, it has done all this: the criminals of Great Britain

have built a city that has risen to be the metropolis of the South. Although Sydney and Hobartown were the head-quarters of the convict settlements in the two penal colonies of New South Wales and Tasmania, there were several other establishments formed for the reception of prisoners, who were employed on various government works at such places. The principal of these were Port Macquarie, Newcastle on the Hunter, and Parramatta, about fourteen miles from Sydney, where there was a large factory for female convicts. Moreton Bay, some 500 miles north, on the east coast of New South Wales, was also selected as a penal settlement in 1823, and large numbers of prisoners were at one time located there. In 1842, however, this fine district was thrown open to free settlement, and the convict establishment removed. In Tasmania, Macquarie Harbour, and Port Arthur were depôts where the worst class of criminals were condemned to the hardest labour.

Since the cessation of transportation to all the Australian colonies, excepting Western Australia (which is still a penal settlement), the several governments retain their own convicts, and employ them on public works within the limits of their respective colonies.

The last convict ship arrived in New South Wales in 1840, and though from the high cost of free labour an effort was made in 1849 to renew transportation, that effort was nobly resisted by the colonists. The discovery of the gold-fields, soon afterwards, gave an impetus to the progress

of the eastern colonies, so sudden and so remarkable, that all fear of any fresh arrivals of convicts from the mother country was at an end. One great drawback, however, to the safety and comfort of the vast population attracted to the gold diggings, was the large influx of expirees, and "ticket-of-leave men" from Tasmania, who managed to reach the "El Dorado," and by whom the greater portion of the robberies and murders that took place during the earlier days of the gold-fields were committed.

The chain, the lash, and the slip-knot, so freely resorted to under the old system of convict discipline, have since, happily, both at home and abroad, given place to laws and general treatment better calculated to imbue the minds of depraved men with a lively and sincere feeling of regret for the past, and to create an honest and ardent desire to regain the good opinion of their friends and the public generally. During the latter days of transportation to the Australian colonies, the condition of the convict was considerably improved. Catechists were appointed in many districts, and religious instruction was more liberally imparted to the disconsolate prisoner, which tended much to humanize his heart, and to solace his unhappy lot. This, combined with an amelioration in the very severe laws of prison discipline, produced so marked an improvement, that the desperate and reckless convict population became, comparatively, a respectable and well-behaved community.

At one time, in Tasmania, the escaped prisoners

who had been assigned out as servants to the settlers, on "ticket of leave," and had absconded from their employers, formed themselves into gangs of desperate bushrangers, who infested the woods to spread terror and dismay amongst the more peaceable members of the community; and the undisguised hate that had existed between many hard masters and their assigned servants, developed itself in acts of terrible atrocity and revenge. Thieving and sheep-stealing became so prevalent as to be regarded as matters of every-day occurrence; and no traveller in the "bush" was safe from attack, even in the vicinity of the towns and settlements. Lonely dwellings and homesteads were visited in the dead of night by gangs of armed ruffians with blackened faces, who, after ransacking the premises, would frequently ill-treat and even murder their victims.

At Macquarie Harbour, which is situated on the south-west coast of Tasmania, the most incorrigible convicts were formerly doomed to work in heavy chains, securely riveted, and attached to their ankles by ponderous rings: their occupation consisted in cutting and squaring timber for ship-building and other purposes, as might be required by the government. From time to time, to escape from a life worse even than death, many of these men made desperate attempts to regain their liberty, and in some cases were so far successful as to evade for a while the hand of justice, and reach the woods, where, however, most of them perished from starvation. A horrible account of the escape

of some convicts from Macquarie Harbour, which happened many years ago, is narrated by a gentleman long resident in Tasmania. We are forced to abridge the dreadful narrative. He says :—

"The hundred miles of country between Macquarie Harbour and the settled districts forms a considerable part of the island, and is clothed with one dense mass of heavy timber, and an undergrowth of fern, grass, and tea-tree, musk-plants, heaths, briars, and innumerable other shrubs, which are literally so thickly interwoven in some places as to be perfectly impenetrable. I heard of but one man in those days who succeeded in reaching the settled districts overland. His name was Jeffries. He and several other convicts at the penal settlement escaped the vigilance of their overseers and guards, and fled to the gloomy recesses of the wild bush. Unarmed, and unprovided with food, except mouldy scraps of biscuit they had hoarded from time to time from their allowance, they ventured to brave that long and difficult journey, inevitably courting death in its most appalling form.

"In the course of their route they were at length reduced to the extremity of casting lots for the immolation of one or other of their famished companions.

* * * * * * *

In the course of their miserable flight, six of these wretched men had thus successively succumbed to their unhappy lot. The two remaining survivors, Jeffries and O'Brien, were men of

tall stature, great physical power, and extraordinary endurance; all this was combined with determination of character which prompted each to swear that he would not die a voluntary death to prolong the existence of his comrade. Thus, day after day, guided only by the sun, did these two men prosecute their hopeless journey towards the civilized districts. Each eyed his partner with lynx-like pertinacity, ready at any unguarded moment to play the assassin, and plunge his knife into the heart of his last miserable brother in sin. In open daylight they never approached nearer than twenty yards to each other; and at night, each kindled his solitary fire, at a distance from his dreaded companion. Thus did these two felons keep a perpetual watch upon each other, until tired nature could no longer resist, and the slaughter of O'Brien was the result. Jeffries contrived, soon after, to reach the lone hut of a sawyer on the borders of the civilized country, where he actually murdered in cold blood the sawyer's wife and child, who were the only inmates at the time. Seizing upon a gun, some bread, meat, and such other necessaries as he could find, he then made off with all speed. His further career was, fortunately, of but short duration. A few weeks after the perpetration of the last crime, he was captured, doubly-chained, and incarcerated in the condemned cell, and died, I fear, an impenitent criminal of the deepest dye. To this day, every old colonist remembers the hateful name of Jeffries, the 'man-eater.' "

It has already been stated that the colony of Western Australia was in such a languishing state that the colonists actually petitioned the government to constitute it a penal settlement, so that they might have the benefit of convict labour. But it was felt by those who had carefully considered the matter, that it was an act of injustice to the neighbouring colonies to continue to land the criminals of Great Britain on any portion of the shores of Australia. Great complaints were made, and that justly, by the free settlers of South Australia and Victoria, that the convicts who had escaped from Swan River, and those who had been conditionally pardoned, found their way to these colonies in such numbers as greatly to swell their annals of crime; and it was urged upon the government that they should abolish transportation entirely, as far as the Australian continent was concerned.

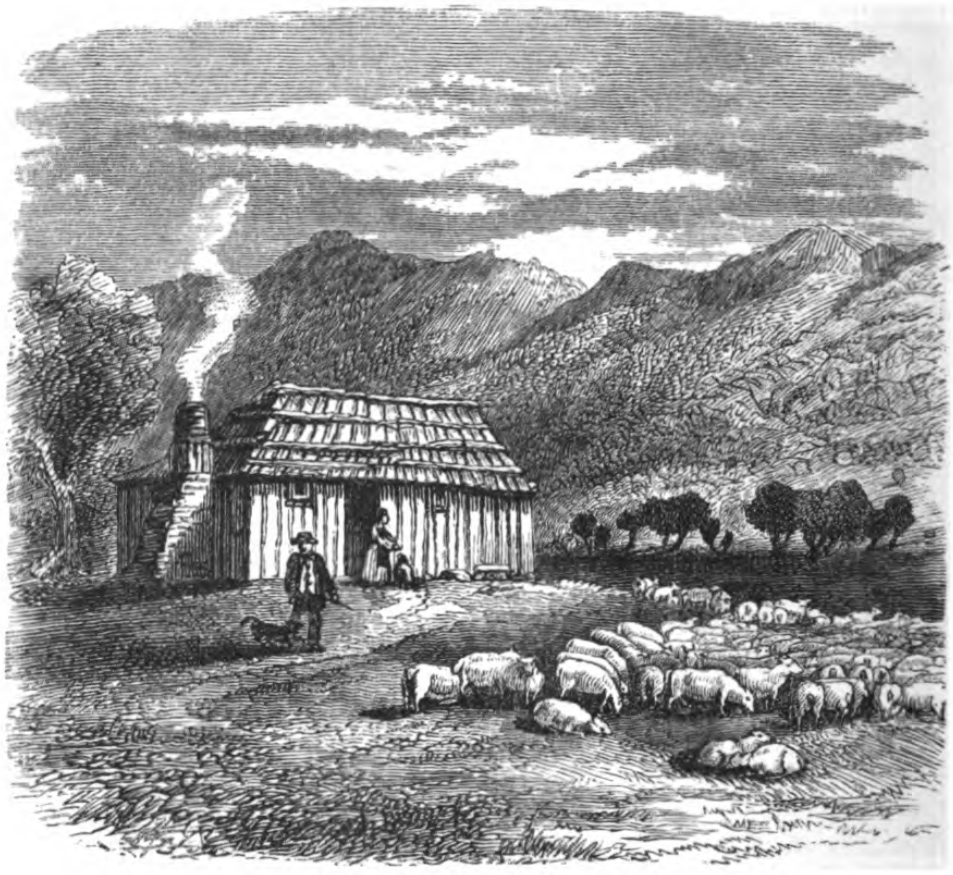
The justice of the appeal was admitted; and in 1865 it was officially notified that "Her Majesty's Government had determined to propose to Parliament, in the ensuing session, measures, which, if adopted, will in the short period of three years render it unnecessary any longer to continue transportation to Western Australia."

It is much to be regretted, that in New South Wales, although the convict system has been abolished so many years, bush-ranging is at the present moment as rife as ever it was in the most lawless days of the old penal settlements. Until conditional pardons are restricted to the

colony to which the convicts are transported, the danger exists that the free colonies will always be overrun with criminals whose time of service is unexpired.

CHAPTER XVII.

Pastoral Pursuits, and Bush Life in Australia.



SHEPHERD'S HUT.

Prior to the discovery of gold, the great source of wealth to Australia was found in the almost illimitable extent of pasture-land which it presented to the sheep or cattle farmer, in every

direction. No country is better adapted for the breeding of sheep or the production of fine wool; and the large sheep and cattle farms, or "stations," as they are termed in the colonies, are among the most important and interesting features of the bush.* Grazing is called in Australia "squatting;" and the graziers are known by the singular appellation of "squatters." They lease large tracts of land from the crown, over which they pasture their sheep or cattle, at a certain sum per annum, and an annual poll-tax is also imposed of a small sum per head, on sheep, cattle, and horses. Some squatters hold from sixty to a hundred square miles of country for their sheep-runs, and have as many as 50,000 sheep, besides several thousand head of cattle, and a great many horses. Many of those who landed with but slender means during the earlier days of Victoria and Queensland, are now in possession of enormous wealth; whilst others, having sold their flocks and the goodwill of their "runs," have returned home with independent fortunes. These regions were ready prepared by Nature for the support of stock; and the squatter at once availed himself of them. As fast as he could breed or import his cattle and sheep he spread them over a hundred millions of acres, more than half of which afforded good and available pasture. In this

* The "bush" is a colonial term signifying those parts of the country which are remote from towns and villages, and which are generally occupied for grazing purposes; men engaged in pastoral labour are hence styled "bushmen."

manner the flocks and herds increased to such an extent, that Australia may at the present time be fairly regarded as the greatest grazing country in the world.

There are usually from 400 to 500 ewes, or from 600 to 1,000 dry sheep, in a flock, and several flocks are often folded at the same station. In the morning, the shepherd drives each flock from the sheepfold out upon some portion of the run for pasture; at sundown the various flocks are brought back and counted over, being penned for the night in yards formed of hurdles, and guarded from the attacks of the wild dogs by the shepherd, who sleeps in a sort of watch-box close to the fold, and who is at once aroused by the barking of his dogs, should any alarm occur. In the lambing season, which is generally in the months of May and June, the ewes are usually withdrawn from the flock and kept separate till the lambs are strong enough to travel. At shearing, which occurs in October and November, and is the busy season of the squatter, the various flocks are brought in rotation to the home or head station to be washed and shorn. On large runs there are usually a number of out-stations, at each of which is a hut and a sheep-yard; the former being occupied either by the family of the shepherd, some member of which cooks his meals for him, or by a hut-keeper, whose office it is to cook the provisions and take charge of the hut in the absence of the shepherd. The fare in these primitive dwellings in the distant bush consists

invariably of tea, mutton, and "damper," (a large flat loaf or cake baked in hot ashes). Tea is universally drunk at every meal.

The head station, at which the owner or his superintendent generally resides, is so situated as to be nearly equidistant from the several out-stations, to which frequent visits are necessary. Mr. Heygarth thus describes a home-station in the interior of New South Wales: "The principal buildings are generally placed upon a gentle eminence, slightly removed from the rest, and consist of the owner's residence, the kitchen, and the store; the two latter, situated behind the former, are generally mere huts, built after the ordinary bush fashion, of wooden slabs, white-washed on the outside, and roofed with the bark of trees; the proprietor's abode has, however, greater pretensions to comfort and external effect; the rough slabs of which it is built, in common with the other edifices, are concealed by lath and plaster; this being whitewashed, and "lined" on the outside so as to resemble a stone structure, has a more substantial appearance. "Weather-board" cottages, which are better and more expensive, are occasionally constructed; but though very common near the capital, and in the more settled parts of the colony, they are looked upon as a sort of unnecessary luxury beyond the boundaries. The roof is covered with shingles, instead of the more unsightly bark, while a verandah is carried out in front, and frequently serves, in default of any other external distinc-

tion, to point out to a stranger the owner's abode.

The largest building on the whole establishment is the wool-shed, where the sheep are shorn, and the wool stowed during the short time it remains upon the station: it is usually placed at some little distance from the owner's residence, and is also constructed of wooden slabs, with a roof of bark, but is much higher and longer than the other buildings, and somewhat resembles a large barn: it is floored with narrow slabs of wood, to protect the fleeces from dirt whilst the sheep are shorn. The door of the wool-shed opens upon several low yards, used at shearing-time to separate the sheep, while a higher fence encloses a larger space beyond, which is used as a stack-yard for wheat and hay; a wool-press, and a table on which the fleeces are folded, constitute the only furniture of the interior.

Still further off an open space is occupied by the stock-yard, for the reception of the numerous herds of cattle and horses; and, nearer the house, is another yard of similar construction, but much smaller, in which the cows are milked, working oxen yoked, saddle-horses driven in when they are wanted, and cattle slaughtered for home consumption; for this latter purpose it is furnished with what is usually known as a "gallows," which is simply formed by two saplings, about twenty feet high, forked at the top, on which is laid a strong cross-piece, to which the carcase of the animal is pulled up by means of a windlass,

fixed outside the yard, and thus it is suspended to cool during the night. The abodes of the working men, which are merely slab huts of the rudest description, each containing two rooms or divisions, are scattered here and there, usually in the background, and complete the picture of the head station."

Of the out-stations he says: "There are few more lonely spots than the majority of these out-stations; they are seldom occupied by more than two or three men—the stock-keeper, who has charge of the herd, and another man, whose business it is to cook, fetch water, grind, and bake, and, in short, keep house. The head station, or owner's residence, is perhaps distant a hundred miles and upwards, and the nearest habitation of any sort is probably some solitary bush-hut, similarly occupied by a herdsman or shepherd, and his helpmate. The settler, though accustomed to the loss of society himself, is, in truth, seldom fond of visiting these places more often then is absolutely necessary for the welfare of his property: and, on returning to his head station, so strong is the contrast, that he feels as if he were restored again to the centre of civilization."

Some of the squatters, however, have erected handsome residences on their own purchased land, and fare more sumptuously than might be expected from their isolated position, and the distance they are from the towns. Colonel Mundy tells us that at the residence of a large sheep-farmer on the

Macquarie Plains, 120 miles from Sydney, he found "a well-damasked table for thirty-five or forty persons; handsome china and plate; excellent cookery; a profusion of hock, claret, and champagne; a beautiful dessert of European fruits—in short, a really capital English dinner. And this in a district where, within the memory of hale old men, there was no white inhabitant, and nothing more eatable than a haunch of kangaroo nor more drinkable than a cup of water, even where Sydney now stands; and, a little more than a quarter of a century ago, those plains, to which most of the luxuries of the Old World now find their way, were not known even to exist."

A generous hospitality to strangers is proverbial throughout those parts of the "bush" which lie beyond the more settled districts, where there are no public-houses or places of accommodation. The traveller rests for the night, with his horse, as a matter of course, at any station that may happen to present itself, and always receives the best fare and entertainment the place affords.

The chief amusements in the bush are kangaroo hunting, shooting, riding, and reading. Many of the better class of settlers have their piano, and enliven their homes with popular and even classical music; many are found who devote their leisure to reading and various scientific acquirements.

A bush-inn, in those parts of the country where the stone or brick hotel of the cities or larger

towns gives place to the weatherboard cottage or slab hut, is thus described by a writer long resident in Australia. He says: "The arrival of a party of travellers at a bush-inn creates little of that eagerness to give satisfaction, and anticipate the stranger's wants, that is to be met with at most decent country inns in a land of competition. The owner of the house is usually civil, but the tone of his reception is very unlike what we are used to in the mother country; and his air is that of a man who is fully aware of the fact that between his house and the nearest in any direction lie not less than perhaps twenty good miles. The fact is, that the chief source of the profits of a bush-innkeeper is the custom of the labouring classes. The taproom is his first consideration, not the parlour; and he more gladly hails the arrival of a party of stock-keepers, bullock-drivers, and men of that stamp, who, he knows, will drink deep, and give little trouble, than that of a better class of travellers, who will require more attendance without a proportionate expenditure. The larder at these places is necessarily on a most limited scale, owing to that pest of the country, the blow-fly. Eggs and bacon form a standing dish at all the country inns in Australia, as being quickly prepared, and generally preferred to the "old thing," as salt beef and damper is contemptuously called in bush parlance. If a dainty traveller should attempt to improve his fare by ordering poultry, he must be content to feast upon the same bird which narrowly escaped his horse's

heels as he rode up to the inn, and which he has probably encountered a second time since his arrival, as it came rushing into the house, screaming dismally and hotly pursued by the cook."

The bush-dray is the constant vehicle for the conveyance of stores and produce to and from the interior stations, each dray being generally drawn by a team of from eight to ten oxen. During these long journeys each dray is intrusted to the charge of two men, the bullock-driver and his assistant or "mate." These men, though they are usually good customers at the wayside public-houses, have no need to visit them, as they carry with them their own supplies, and the necessary requisites for a journey of several months. The life they lead is thoroughly independent. At the end of their daily stage of from twelve to sixteen miles, they draw up towards evening at a little distance from the road, in a spot where there may be found water and grass for the cattle. These are turned loose to feed, and, from the fatigue of their day's work, are but little inclined to stray far before daybreak, by which time the driver is out on their track, and they are again yoked up for an early start. This, during the wool season, is especially necessary, as the great heats of summer often oblige them to halt during the middle of the day. When two drays travel in company, one "mate" is sufficient for both, as his duties are merely to cook the meals, and take care of the drays in the morning, whilst the drivers are absent in search of their bullocks. The men all

sleep under the drays at night, when the ends of the tarpaulin, which are rolled up during the day, are let down on all sides, and form a protection from the weather. The appearance of a number of drays camping together, with their cooking fires, and unyoked cattle, is a picturesque sight amidst the monotony of the lonely bush. The vast herds of cattle that pasture on the extensive runs of the interior, graze unconfined throughout the year. With the exception of stock-yards, into which they are driven at certain seasons, for the purpose of being branded, or drafted off for sale, there are no enclosures. They are looked after by men on horseback, called stock-keepers, who from time to time skirt the boundaries of the pasture, and drive in the cattle by the crack of their "stock-whip," an implement of peculiar construction, the handle being little more than a foot in length, while the thong, which is made of plaited hide, varies from twelve to seventeen feet: when used, it makes a report which may be heard at a very considerable distance, whilst its powers of flagellation are truly formidable. The mustering of a large herd of cattle is an exciting business: preparations are made in advance, and word sent to the neighbouring stations, as it is the custom for as many as possible to assist on these occasions. Mr. Heygarth thus describes the scene of a cattle-muster. He says: "Operations commence at an early hour, as soon as the sun has acquired sufficient power to draw the cattle from the forest toward the water.

The horsemen separate into parties of two or three together, and skirt the boundaries of the pasture on all sides. As they proceed, the cattle make towards the low grounds, where they are kept together till the whole party reassemble, and start off to drive the herd towards the enclosures. As they proceed the scene becomes more and more animated. From the main body of the herd, dimly seen through a dense cloud of dust, a succession of furious animals break off on all sides, some making back to their "rendezvous," (as the spot where the herd is in the habit of resting is called), and then to their old haunts in the forest: these are instantly pursued, and hunted back by the stock-men, who may be seen belabouring them with their long whips in every direction, until, galled to desperation by over-driving, and the severe discipline of the lash, they frequently turn the tables, and become themselves the pursuers. The air meanwhile is filled with the report of the stock-whip, the barking of dogs, and the cries and shouts of the men, mingled with the heavy, tramping sound of many thousand hoofs, as the herd rushes on towards the enclosures." The hunting of the half-wild or bush-horses, bred on the large grazing districts of the interior of Australia, affords, perhaps, the finest sport that is to be found throughout the country. "The animal you are on, accustomed to his work, is doubly eager when in chase of his own species, and strains every nerve in the pursuit; while before you a large body of horses, wild and free,

going at a racing pace, up hill and down dale, with their long matted manes and tails streaming in the wind, forms a very animated sight."

We will conclude this chapter by an extract from that faithful chronicler of Australian bush-life, Mr. Heygarth, descriptive of an "up-country" store in the far interior; where the more pretentious and imposing shops that are now superseding the primitive stores in the numerous country villages, are as yet unknown. "The exterior," he says, "is usually similar to that of an ordinary slab-building, except that it is somewhat longer, and of stronger construction. A glance at the inside shows a rude counter, behind which are several shelves, running round the whole length of the building. On these, as well as in all corners, from the roof to the ground, is collected a mixture of everything that the pursuits of the country, or the tastes of its motley population, render saleable. Slop clothing for the men, Manilla and cabbage-tree hats, gown prints and perfumery for the women, coarse silk handkerchiefs, for which there is a great demand, as they are much used for stock-whip lashes, saddlery, horseshoes, and shoeing utensils, sheep shears and butchers' knives, Epsom salts and castor oil, are piled up in motley array above the heavier articles, consisting of chests of tea, bags of sugar and salt, and kegs of Virginian and colonial tobacco. The stock, in short, appears to be formed by a contribution of all the shop-keepers in Sydney; and there is hardly anything which the owner of a bush store considers as out

of his line." Very little coin passes through the hands of these storekeepers, the "order" system being found a more convenient method of payment in the more remote districts. It is usual for a proprietor of a station to keep an account current with some merchant in the towns, from whom he also purchases his annual supplies, and when discharging any debt in the interior, he draws an "order" upon him for the amount. These orders pass current in the districts where the signatures are known, and often remain in circulation a considerable time before they are remitted to the merchants.

CHAPTER XVIII.

The Gold-Fields, and Effects of the Gold Discoveries.

OPHIR, THE EARLIEST GOLD-FIELD IN AUSTRALIA.

Long previous to the actual discovery of gold in large quantities in Australia, the idea was entertained by geologists and others that the precious metal did exist in the country. A Scotch shepherd

named M'Gregor had, from time to time, brought small parcels of gold into Sydney for sale, but he carefully avoided making known the locality from whence they were obtained, and his secret died with him. Count Strzelecki, who travelled through New South Wales on a geological tour, also indicated the existence of gold in the vale of Clwydd in 1839; and Mr. Clarke, a clergyman of the Church of England, and a distinguished geologist, made known the fact that the valley of the Macquarie was auriferous. From an examination of specimens of rocks from the Eastern Australian cordillera — ancient slaty rocks of the Silurian system—Sir Roderick Murchison pronounced it as his opinion that gold would be found on the western slopes of the dividing range. But it was not until the return of Mr. Hargraves, an Australian settler, who had spent some time at the Californian gold diggings, that the existence of gold in the colony was turned to practical account. Mr. Hargraves was struck with the resemblance between the rocks about Bathurst, and those of the gold-producing country he had recently left. Having satisfied himself that gold did exist in that neighbourhood, he communicated with the government, and obtained the promise of a liberal reward in the event of the discovery by him of a payable gold-field on the crown lands of the colony.* On the 30th of April, 1851, the fact was announced that gold had been found in quantity at Lewis's

* For this service Mr. Hargraves afterwards received the sum of 10,000*l.* from the New South Wales government.

Ponds, and Summerhill Creek, about thirty miles west from the town of Bathurst.

The truth of this important discovery was confirmed by the arrival in Sydney of large parcels of gold, proving that the metal not only existed but abounded, in the colony. The government at once took steps for the introduction of a licensing system; and accordingly it was fixed by the Executive at 30*s.* per month for each license or permission to dig, and the enforcement of this regulation was confided to a police force stationed on the various gold-fields for the purpose.

Soon afterwards gold was found at the Turon, Meroo, Louisa Creek, and other places in the western districts; and the discovery of enormous "nuggets" of pure gold, of large size, being made known in the newspapers from day to day—the "nuggets" themselves being displayed in the shop windows of Sydney and Bathurst—the excitement amongst all classes of society became tremendous. In a few weeks after Mr. Hargraves first announced the existence of gold at Summerhill Creek, 10,000*l.* worth of gold dust had been raised there, by the comparatively few diggers who had, on the earliest information, repaired to the spot, from Bathurst and other places in the neighbourhood. The name of this golden locality was changed to "Ophir." The inhabitants of Sydney flocked in thousands thither, and the great western road across the Blue Mountains was thronged with lines of waggons and drays, conveying stores and tools to the new El Dorado. So

great was the anxiety to get as early upon the ground as possible, that many went quite unprepared for the work, without implements or provisions of any sort, and a great deal of misery and privation ensued.

In the month of July following the "Bathurst Free Press" announced the extraordinary fact that *a hundredweight of gold* had been found in one solid mass at Louisa Creek! A half-civilized black, in the employment of a Dr. Kerr, was minding one of his master's flocks of sheep. Near the projecting spur of a quartz ridge his attention was arrested by a glittering substance: raising his tomahawk, he struck at the rock, and a mass of gold rolled to his feet. Hastening to inform his master of the circumstance, the doctor lost no time in repairing to the spot, and there beheld, to his astonishment and joy, the finest specimen of the precious metal the world ever saw. In their haste to secure it, the whole block was destroyed. It originally weighed about three hundredweight. The largest fragment weighed seventy-five pounds, of which sixty pounds were pure gold; and, all together, the block yielded *one hundred and six pounds weight* of the precious ore.

The lucky "black fellow" was rewarded by Dr. Kerr with a present of two flocks of sheep, two saddle-horses, rations, and a team of bullocks; but, recollecting the sable friends of his tribe, he joined them in the bush, when a feast and a corroboree soon reduced the wealth in sheep of these children of nature.

The people now became mad with excitement, and every one rushed to participate in the golden harvest. Whilst the rural population in the district were first on the spot, others of all ranks and grades soon followed. Farms were left untilled, and sheep were shepherded by women or children. Magistrates, lawyers, government clerks, and a vast proportion of the male inhabitants, reckless of the results, hurried to the diggings. Sailors deserted from their ships in such numbers that the vessels in Sydney harbour could not obtain hands to take them to sea, and were obliged to be laid up there. The ordinary duties of life were suspended, and the whole state of society was disorganized. Many streets were to be found where hardly a single head of a family remained at home; and it appeared at one time as though Sydney was a community composed almost entirely of the female sex. House rent, when the diggers rushed back to the towns to spend freely what they had so quickly earned, rose more than a hundred per cent. Male servants were not to be had; and many families were compelled to give up housekeeping and go into lodgings. The great rise in the price of all commodities proved disastrous to persons of small incomes, and the salaries of all the officers of the government were obliged to be raised nearly fifty per cent. to keep them from unavoidable debt and insolvency.

The carriage of goods from Sydney to Bathurst rose, in ten days, from half a crown to thirty shillings per hundredweight, and everything else

in proportion that was in any way connected with the gold diggings. Tools, such as picks, shovels, and tin dishes fetched six times their value. Canvas for tents was in great demand, and tarpaulins commanded fabulous prices.

In the beginning of November 1851, the Governor-General of New South Wales reported the export of the precious metal for the six months previous as 79,340 ounces, valued at 2,573,577*l.* The result of these discoveries influenced, in a very material degree, the whole political and social interests of the colony of New South Wales. Its commerce, population, and importance have been augmented to a degree which no other means whatever could have rendered possible.

The news of this unexpected source of wealth soon spread throughout the neighbouring colonies, and thousands flocked thither to try their fortunes. Others, and especially the Victorians, commenced "prospecting" throughout the quartz and gravel regions of their own districts, the result of which was that in the September following the great gold-field of Ballarat, about eighty miles to the westward of Melbourne, was occupied; whilst only a month later, as the colonists flocked from all quarters to this attractive spot, the earlier diggers were already swarming off to the newer, and for the time, still richer, diggings at Mount Alexander. A few months more, and the yet greater marvels of Bendigo were revealed. By the middle of the following year not fewer than 50,000 persons were congregated there, and most

extraordinary quantities of gold were obtained at a few feet only from the surface. During the spring of 1852 the yield of gold from the diggings in Victoria alone was estimated at 400,000 ounces, or 1,600,000*l.* per month.

An armed escort was established by the government for the purpose of conveying the gold in safety to the shipping ports.

The news of these mines of wealth had brought tens of thousands from the adjacent colonies, especially from South Australia and Tasmania; and towards the end of the year their numbers were largely increased by arrivals from Great Britain, India, New Zealand, and California. The entire population of the colony was doubled in less than twelve months, and the port crowded with shipping from every part of the globe.

It was now an established fact that the colony of Victoria possessed the richest gold-producing districts in the whole of Australia; and that these fields would turn out superior to anything hitherto known. They exceeded the most sanguine expectations; and the suddenly-acquired fortunes of many who before were but poor men, living from week to week on bare wages, completely turned the heads of every one. Mr. Just thus describes the excitement in Melbourne at this time (1852): "Merchants, lawyers, doctors, and even clergymen went for a few weeks to try their luck, roughing it in a tent, with bad water, and high-priced provisions (flour being then 200*l.* a ton at the diggings), as well as the risk of disease,

which soon began to show itself in the shape of dysentery, fever, and rheumatism. But such was the power of gold, that these risks were braved in the hope of becoming rich; a hope which, it must be admitted, did not seem unreasonable, when the extraordinary success of the great bulk of diggers became apparent. The quantities of gold to be seen in the hands of labouring men were perfectly astounding. It was a common thing to meet with returned diggers having in their possession gold to the value of from 50*l.* to 2000*l.*, gathered in a space of time varying from four to eight weeks, according to the luck of the party. At Mount Alexander 'nuggets' as large as a hen's egg were frequently procured, and several were obtained of upwards of ten pounds in weight; but the bulk of the gold was got in the shape of small 'nuggets' from the size of a pin's head to that of a hazel nut.

"At this time the streets of Melbourne presented a curious aspect, crowded with successful diggers in all sorts of motley costume. Horses and gigs drove about in the most furious manner. The public-houses made enormous fortunes. Buyers crowded the shops, and purchased the most costly silks and satins for their wives and sweethearts, who had never possessed such rich materials before. The government offices, banks, and merchants' establishments were drained of their clerks. It was no uncommon thing to see a merchant driving his own cart with goods from the wharf. Labourers, saucy and hardly to be

had for money, demanded 20*s.* per day; and carpenters on the wharfs were getting 40*s.* to 50*s.* per diem, whilst laundresses charged the exorbitant price of 12*s.* per dozen for washing even the smallest articles.

"With all this excitement, and so many temptations for the dissolute and idle, the colony possessed but a very limited police force, and only a few soldiers. Although at first but few outrages were committed, convicts and ticket-of-leave men from Tasmania soon began to find their way to the rich gold-fields of Victoria; and being too lazy to work, took to their old habits, and supplied themselves by plundering their more peaceful and industrious neighbours. These villains rendered it dangerous for any one to be off his guard; and it soon became necessary greatly to increase the police force, in order to prevent the diggers from taking the law into their own hands for self-defence."

The case of the sheep-farmers at this crisis was particularly trying. They had a large amount invested in stock, and the desertion of their servants was a source of the greatest anxiety to them. The agriculturists were no better off; the ground had to be left untilled, and the grain to remain in the sack, for want of hands to do the needful work.

But these things gradually righted themselves. The enormous influx of population caused labour to be more plentiful; and in a few years, the very cause which had proved so disastrous to the

farmer, now yielded him a large profit in the shape of the high prices he was enabled to obtain for his produce. Although many of the successful diggers returned either to the neighbouring colonies or to Europe with the wealth they had amassed, and there expended it in the purchase of freehold property, or in some other way turned it to good account; yet the majority of them squandered their gains in the most reckless manner, enriching the publicans and the storekeepers, who made a larger amount of money, and with more ease, than the fortunate diggers. The exodus from the thriving agricultural and copper-mining colony of South Australia, to the Victorian gold-fields towards the end of 1851, was a remarkable era in the history of that settlement. In a short time upwards of 15,000 individuals left Adelaide and the country districts by sea and land. Some parties went overland, a toilsome journey of 500 miles through bush and swamp; others took advantage of the sea-passage, for which every available vessel was engaged, to convey an eager and excited freight of passengers. For a time, the streets of Adelaide were deserted, houses were abandoned, rents fell, and property became unmarketable. At this crisis many of the successful colonists returned with large quantities of gold, who, from the straitened condition of the money-market, were unable to find purchasers for it. To remedy this state of affairs, which threatened the colony with ruin, the Chamber of Commerce, in conjunction with the Adelaide

banks, made an urgent application to the government to establish an assay office for the purpose of assaying and converting gold into stamped ingots, to be exchanged with the banks for their notes. This wise policy was at once carried out by the passing of the "Bullion Act," which restored credit and confidence throughout the colony. The establishment of an overland escort also enabled the South Australians to send back their gold to their families and friends with safety and ease, and as the full value was allowed at the assay office of 3*l.* 11*s.* per ounce, large quantities of treasure rapidly poured into the country. The first overland escort brought into Adelaide gold to the value of 185,308*l.* 4*s.* 6*d.* Mr. Just thus faithfully alludes to the case of South Australia, in which order and prosperity arose out of seeming general despondency and ruin. He says: "The Adelaide miner succeeded, in most cases, beyond his most sanguine expectations; and as he decidedly preferred South Australia even to the golden Victoria, he sent his gains, and eventually returned himself, to invest them in her fertile lands. He saw also that a steady and paying market was opened up for his produce; and that on his fields he might not only rear a comfortable home for his family, but that his produce would amply reward him for all his labour, and the hardships he had undergone. South Australia is pre-eminently an agricultural country, and the wealth poured into it for wheat and flour during the first years of the gold discovery was

enormous, and far outstripped all the gains of her most successful "gold miners."

Towards the close of 1852 a gold-field was discovered about twenty miles from Adelaide, at Echunga, near the Onkaparinga Creek, in the Mount Barker district, and upwards of a thousand licences to dig were issued by the government. Although the yield was small compared with that of the rich fields of the neighbouring colonies, yet many persevering miners realized a fair remuneration for their labour during several months, at a spot called Chapman's Gully, until the diggings, owing to their limited extent, became exhausted.

At a later period, the announcement that gold had been found in Queensland, near the Fitzroy River, caused a tremendous rush to take place from Sydney, Brisbane, and other localities. These much-vaunted diggings, however, proved to be a failure as far as the yield of gold was concerned; although they became beneficial by bringing together a considerable population, who, finding it necessary to turn their labour into some other channel, opened up one of the finest and most fertile districts in Australia, and established the town of Rockhampton, now an important and flourishing port on the Fitzroy River. The Omeo diggings proved less fortunate in their results. Situated amongst the bleak and inhospitable slopes of the Australian Alps, without timber or fuel at hand, they presented a dreary welcome to the thousands who madly flocked there but ill provided with necessaries for withstanding the severities of such

a climate. Many perished in the snow; others died of dysentery or starvation; and but few returned, except the storekeepers, who had reaped a golden harvest in those alpine regions.

At Braidwood, in the southern portion of New South Wales, gold has also been found in paying quantities, and a successful gold-field established in that locality.

The "Ovens," a large and very rich gold-field, situated not far from the New South Wales boundary of Victoria, attracted great attention in the years 1853 and 1854; and at that period yielded on an average from 10,000 to 15,000 ounces weekly. A considerable portion of the wealth of the Ovens diggings consists in the black sand or tin ore, which contains 70 per cent. of pure tin, and is worth about 40*l.* per ton.

In February, 1853, great excitement was caused by the fact that extraordinary masses of gold had been found at Ballarat. One of these, weighing 132lb. 8oz., was secured by a party of four working men, at a depth of sixty-six feet, in the Canadian Gully. Other nuggets, weighing from 300 to 1,118 ounces, were also obtained, and a vast influx of population to that district was the result.

Up to the present time no less a sum than 100,000,000*l.*, in round numbers, has been derived from the gold-fields of Australia, the effects of which have beneficially influenced the entire civilized world. The famous gold-field of Ballarat, now the site of a large and very populous town, had superfi-

cially no feature to distinguish it from any other of the numerous forested spurs which descend from the broken ranges at the foot of the higher ridges, and which bound the valley of the Leigh on either side. Gold is to be found, in greater or less quantities, throughout the whole of the surrounding country, both on the ranges, on the flats, and in the watercourses. The geological formation of the country appears to be quartz, ironstone, sandstone, and clay slate. The richest deposits of gold are found in the small veins of blue clay which lie immediately above the "bed-rock," as it is termed, and which are reached at depths varying from twelve to fifty or more feet, through a conglomerate of quartz pebbles and boulders, gravel, and very hard, burnt-looking ironstone and clay. The gold is at first roughly sifted out from the clay and débris sent up in buckets by the miners working at the bottom of the shaft, by means of an apparatus termed a "cradle;" the residue is afterwards carefully washed in tin dishes, the superior weight of the metal causing it to remain behind after all other matter has been removed by the action of water.

Quartz-crushing is also largely resorted to at the present time for the purpose of obtaining the gold from the matrix. The quartz veins and ridges that intersect the various gold-fields contain a large per-centage of the precious ore, and thousands of tons of quartz are annually crushed by means of machinery worked by steam power.

The Rev. Julian Woods thus explains the his-

tory of the gold formations in Victoria: "Gold veins occur in rocks of the Lower Silurian age, which cropped out on the former soil of Victoria. These were decomposed by the action of water in creeks, or by weathering. The gold thus liberated became rounded by attrition into 'nuggets,' and deposited in the alluvial soil formed of decomposed rock. After these operations, and in no way connected with them, the land was overflowed by lava, and many creeks which were full of nuggets were thus covered over. Miners are sometimes much astonished at finding trees and fragments of pebble, rounded, underneath the blue stone (basalt) they have penetrated. The former existence of creeks explains the difficulty. One of the richest gold-fields, perhaps, in the world is worked in the bed of an ancient creek thus covered over. This is the Clunes Mine, at Creswick's Creek, not far from Ballarat."

The following description, by an eye-witness, of the appearance of the gold-fields at an early period of their existence, will convey a tolerably correct notion of the aspect of the "diggings" generally. He says: "Here the diggers live in tents of all sorts and sizes. They are in parties of from three to six persons, and many of these parties are provided with a horse and dray, whilst all have implements for digging and cooking their food. The different localities, scattered over an undulating forest region for thirty or forty miles, all present the same aspect of tents and deep holes, where the busy population are grubbing, like

worms in the mud, for the yellow dross. All are eagerly at work during the day—some digging, some driving soil in carts or barrows to the water, to be washed in the 'cradle;' whilst one of the party is left to watch the tent and cook the provisions. After dark, a general discharge of fire-arms and a howling of dogs take place; for, dear as powder and shot are at these gold-fields, it seems a custom amongst the diggers to show that they are prepared against attack or robbery, which is of frequent occurrence. The denizens of the diggings present a grotesque appearance in their blue and red shirts, with their unshaven beards, and their clothing besmeared with yellow clay. In spite, however, of their fierce and unkempt aspect, they are generally speaking a good-humoured, honourable, and agreeable set of fellows."

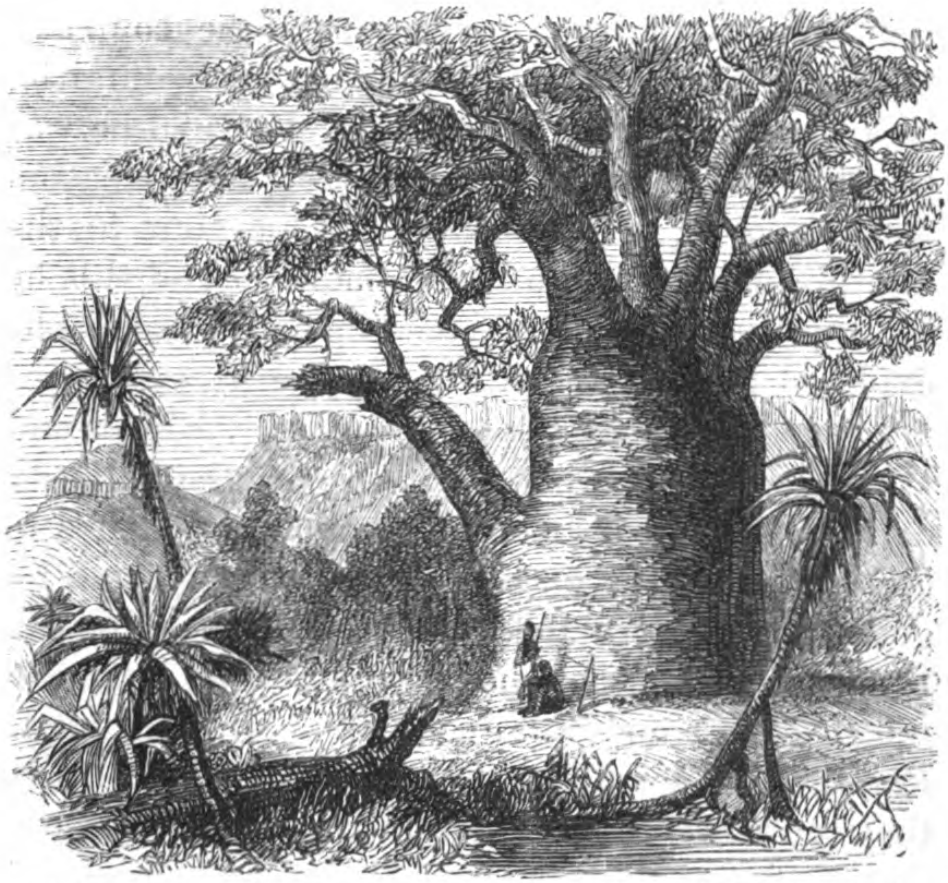
One of the results of the discovery of such extensive deposits of gold, in various parts of Australia, has been a large influx of Chinese immigrants, tempted thither by the accounts of the auriferous wealth of the country. Pouring in by successive ship-loads, at the ports of Melbourne and Sydney, and marching into the interior, a picturesque spectacle, in long lines upon the highways, they all betook themselves at once to the gold-fields. At one time there were not less than 45,000 Chinese in the colony of Victoria alone; and to prevent in some degree the inundation of the country with pagans, the legislature imposed a special poll-tax of 10*l.* per head on immigrants of this race.

"Yet," says the Rev. J. D. Mereweather, in his interesting 'Diary,' "it is impossible not to recognize, in this great migratory movement of races in search of gold, the hand of an All-wise Providence working by secondary causes. Fertile regions lie unexplored and unoccupied in one quarter of the globe—overcrowded populations starve in another. Powerful inducements are required to stimulate these starving and unquiet masses to traverse a waste of waters, and occupy regions teeming with every wealth; and, under Providence, a powerful inducement is found. That lump of gold—the metal which men most covet—found by a poor black fellow, as it cropped up above the soil near Bathurst, has entirely changed the destinies of Australia. But a few years ago, and this wonderful country was so coolly looked upon at home as a haven for emigration, that few people availed themselves even of government free passages, and the cultivation of the finest land in the world went on slowly for want of means. Now, large ships, with crowded living freights, fill the harbours of Adelaide, Sydney, and Melbourne. Not many years ago, the same cause made the fertile, desolate California to become the drain of the restless spirits of the over-populated United States seaboard; and the result in the two auriferous countries will ultimately be the same. Enormous populations will grow up quite unconnected with the diggings, and apply themselves to commerce, agriculture, and the arts. Christianity will have diffused its blessed influence over countries once

inhabited by savage beasts, or the almost equally savage man; and thus the moral universe will advance, with slow and solemn steps, to that glorious consummation prophetically set forth by Isaiah: 'The earth shall be full of the knowledge of the Lord as the waters cover the sea.'"

CHAPTER XIX.

Exploration of the Interior.



NORTH AUSTRALIA, NEAR THE VICTORIA RIVER. GOULTZ-STEM TREE.

For nearly a quarter of a century after the first settlement of Port Jackson as a penal colony by the British government, the Blue Mountains, which

are visible from the heights around Sydney, formed an impenetrable barrier to the explorations of the surveyors, westward. At length, in 1813, Mr. Evans, whilst conducting a government survey in that direction, discovered a route through the dense forests with which they are clothed; and the opening up of the fine pastoral lands beyond them, which are watered by the Macquarie and the Lachlan, was the result. In 1816, Mr. Oxley, the surveyor-general of New South Wales, crossing the Bathurst Plains, followed down the course of the Lachlan, and discovered an extensive prairie-like district to the southward. In 1823 he was sent by the government to make an examination and survey of Moreton Bay, with a view to the establishment of a penal settlement there: this he accomplished; and, proceeding northwards, he explored Port Curtis and the Boyne River.

During the following year, Messrs. Hovell and Hume, two enterprising settlers, who had already driven their flocks over the mountain ranges to the new pastures on the Yass Plains, started together to explore the country to the south-west. During their journey they passed over an extensive range of territory watered by the Murrumbidgee River, and after discovering the Australian Alps, they pursued their explorations to the western shores of Port Phillip, thus making known a large and important extent of country in that direction. Allan Cunningham, the botanist, who was afterwards unfortunately lost in the interior, whilst on an expedition with Sir Thomas Mitchell, made a

successful exploration, in the year 1825, up the fertile valley of the Hunter; and in 1827 he crossed the dividing range, and travelled in a northerly direction over the beautiful table-land now known as the Liverpool Plains. Pursuing his journey a little more to the eastward, he traversed a fine grazing country at an elevation of 1,500 feet above the level of the sea, which he called New England. Further to the north, he discovered the verdant prairie-land of the Darling Downs: proceeding onwards in a northerly direction he reached the latitude of Moreton Bay. Here he prosecuted a successful exploration of the river Brisbane to its source, during the following year.

In the end of 1828, Captain Sturt travelled westward from Wellington Valley, along the banks of the Macquarie, skirting the marshes which absorb that stream, until he arrived at an open and verdant country to the north-west. His further researches were rewarded by the discovery of that great tributary of the Murray, the Darling. Having ascertained the course of this important river, and followed it down as far as 145° 40′ east longitude, he returned, impressed with the idea that it, as well as all the other western rivers, flowed into a great inland sea. With a view to determine this point, and also the outlet of the waters of the Murrumbidgee, Captain Sturt again started, in company with Mr. George Macleay, on a journey of discovery to the westward; the result of which was the discovery of the Murray, which

river these intrepid explorers descended in boats to Lake Alexandrina, and thence to its sea-mouth at Encounter Bay, in South Australia.

This expedition left Sydney on the 3rd of November, 1829, and proceeded overland with drays to a point on the Murrumbidgee about 440 miles distant. At this place their two boats, the planks of which had been brought with them, were rapidly built and loaded; and the drays, with the remainder of the party were sent back to the settled districts of New South Wales.

On the 7th of January, 1830, this little band of adventurers commenced their voyage down the Murrumbidgee, which here flowed through a flat, barren country, between extensive tracts of tall reeds, beyond which vast plains of polygonum stretched away. As they proceeded, the river maintained its character, and raised the hopes of the party that it would not, like most of the other interior rivers, lose itself again in the marshes. Its breadth was 150 to 200 yards, and its reaches were of noble breadth and splendid appearance. The junction of the Darling with the Murrumbidgee is thus described by Captain Sturt: "We next prepared to examine the entrance of the new river, and proceeded up it in the boats for some miles, accompanied by a noisy multitude of natives, who swarmed along the banks on both sides. This river preserved a breadth of one hundred yards, and a depth of rather more than twelve feet. Its banks were sloping and grassy, and were overhung by trees of magnificent size. Indeed, its appearance

was so different from the water-worn banks of the sister stream that the men exclaimed on entering it that we had got into an English river. Its appearance certainly almost justified the expression, for the greenness of its banks was as new to us as the size of its timber. Its waters, though sweet were turbid, and had a taste of vegetable decay, as well as a slight tinge of green." The name of the "Murray" was given to the principal stream, and the party continued to descend it, having the current in their favour, the river still increasing in size and holding a south-westerly course. After being in the boats for twenty-two days, they arrived at a spot where the river flowed through lofty sandstone cliffs, which, rising perpendicularly from the water to a height of 300 feet, presented a singular appearance. These cliffs were of a bright-yellow colour, rendered still more vivid by the sun shining full upon them, and they contained enormous masses of fossil sea-shells. The summits of these cliffs were as even as if they had been built by an architect, and from their very edge the country back from the stream was of an uniform level, and was partially composed of grassy plains, and partly clothed with dense scrub. The river at length suddenly took a sharp bend to the south, and at the same time changed in its character. Captain Sturt says of it: "It now lost its sandy bed and its current together, and became deep, still, and turbid, with a muddy bottom. It increased considerably in breadth, and stretched away before us in magnificent

reaches of from three to six miles in length. The cliffs under which we passed towered above us, and the water dashed against their base like the waves of the sea. They became brighter and brighter in colour, looking like dead gold in the sun's rays, and formed an unbroken wall, in some places of a mile or two in length. The natives on their summits showed as small as crows, and the cockatoos, the eagles, and other birds were as specks above us; the former making the valley reverberate with their harsh and discordant notes. The reader may form some idea of the height of these cliffs when informed that the king of the feathered race made them his dwelling-place. They were continuous on both sides of the river, but retired, more or less from it, according to the extent of the alluvial flats. The river held a serpentine course down the valley through which it passed, striking the precipices alternately on each side." Thirty-three days after their departure from the depôt upon the Murrumbidgee, they arrived at the grand reservoir of those waters whose course had previously been involved in such obscurity. The cliffs had ceased, and the river, sweeping in broad reaches along a valley covered with reeds of the brightest green, and backed with low sandy hills, scattered with cypress-trees, at length emerged into a vast but shallow lake. Sailing across this lake, now called Lake Alexandrina, for a distance of nearly fifty miles, they reached the shores of the ocean at Encounter Bay, where they found that the channel

or outlet of the lake joined the sea. The mouth of the channel was defended by a double line of breakers, and a line of unbroken foam extended from one end of the bay to the other.

The return voyage against the stream was of a tedious and trying nature. Harassed and attacked by hostile natives on the banks of the river—worn out with fatigue, and suffering greatly from want of provisions, they ultimately regained the place from which they started, in seventy-seven days, during which they could not have pulled less than 2,000 miles.

In 1831 Sir Thomas (then Major) Mitchell, surveyor-general of New South Wales, proceeded on an expedition to the north-west of the Liverpool Plains, in search of a great stream which had been reported by a captured bushranger to exist in that direction, and which he called the Kindur; but which afterwards turned out to be the upper branch of the Darling. The energy and ability of Sir Thomas Mitchell, as displayed in the conduct of this expedition, induced the New South Wales government to fit out an exploring party under his command, on a large scale, having for its object the thorough survey of the Darling and its tributaries. Sir Thomas was ably seconded in his scientific arrangements by Allan Cunningham, the botanist, who accompanied him. Not many weeks after the departure of the expedition, this amiable gentleman was lost in the interminable wilderness, into which he had wandered from the party, in search of plants.

After a long and energetic search in vain for his missing companion, Sir Thomas reluctantly proceeded on his way, tracing the Bogan River down to its junction with the Darling; below which he erected a stockade and depôt, which he named Fort Bourke, and from thence he surveyed the Darling as far as latitude 23° 24′ south.

In 1836 Sir Thomas Mitchell undertook his great journey from Bathurst across the continent in a south-westerly direction, traversing the regions watered by the Lachlan, the Murrumbidgee, and the Murray. Leaving the latter river, he proceeded across the country watered by the Wimmera, and discovered the Glenelg River, which he navigated in a canvas boat down to its entrance to the sea. After surveying this part of the coast, he proceeded eastwards to Portland Bay, where the Messrs. Henty, from Tasmania, had already established a whaling station. Here he found also a considerable farming establishment belonging to these gentlemen; and a good garden, stocked with an abundance of vegetables, already smiled on the rich shores of Portland Bay. On his return journey he crossed and explored that magnificent territory, now the colony of Victoria, which he designated "Australia Felix," from its rich and fertile aspect. The appearance of this region is thus described in his journal: "To the westward the noble outline of the Grampian Mountains terminated a view extending over vast open plains fringed with forests and embellished with lakes. To the northward appeared

other more accessible-looking hills, some being slightly wooded, others green and open to their summits, long grassy vales and ridges intervening; while to the eastward the open plain extended as far as the eye could reach. Certainly a land more favourable for colonization could not be found. Flocks might be turned out upon its hills, or the plough at once set a-going in the plains. No primeval forests required to be first rooted out here, although there was enough of wood for all purposes of utility, and adorning the country just as much as even a painter could wish." Thirty years have elapsed since Mitchell saw this glorious country in all its primeval beauty. In that short period, with its wealth of flocks and herds, its gold, and its grain, it has become one of the richest colonies of Great Britain.

In 1840, Count Strzlecki, the adventurous traveller and geologist, made a toilsome and harassing journey on foot from the Murrumbidgee River, southwards, through the Australian Alps, which he successfully explored; and thence across Gipp's Land to Corner Inlet; from whence he penetrated through the densest and wildest "scrub" in Australia, which had hitherto baffled all the attempts of settlers and surveyors to cross it.

In the year 1837, Captain George Grey and Lieutenant Lushington embarked on an expedition, under the auspices of the British government, the main objects of which were, "to gain information as to the real state of North-West Australia, its resources, and the course and direc-

tion of its rivers and mountain ranges; to search for and record all information regarding the natural productions of the country, and all details that might bear upon its capabilities or the reverse." On their arrival at the Cape of Good Hope in H.M.S. "Beagle," the leaders of the expedition, having hired a schooner of 140 tons, fitted it out for the conveyance of themselves and party (consisting of twelve persons in all) to Hanover Bay. After a voyage of about six weeks across the Indian Ocean, they reached the barren shores of that part of North-West Australia which lies in 15° south latitude; and anchored off Entrance Island on the 29th November, 1837.

The peculiarly rugged and inhospitable features of this part of the country may be best understood by quoting Captain Grey's description of it. He says: "Our view was bounded by lofty cliffs from 300 to 400 feet high, lightly wooded at their summits, and broken by wide openings or chasms, into which ran arms of the sea, forming gloomy channels of communication with the interior country; whilst on each side of their entrances the huge cliffs rose like the pillars of some gigantic portal. In general, the openings of these rivers from the sea are very narrow, forming gorges which terminate in extensive basins, some fifteen or twenty miles inland; the levels of these reservoirs are subject to be raised thirty-seven feet by every tide through their funnel-like entrances, along which the waters consequently pour with a velocity of which it is

difficult to form any idea. By such a tide were we swept along in our boat as we entered Prince Regent's Inlet by its southern mouth. On each side of us rose lofty red sandstone cliffs: sometimes quite precipitous, sometimes, from ancient landslips, shelving gradually down to the water, and at these points covered with a dense tropical vegetation. At several such places we landed, but always found the ascent to the interior so covered with large loose rocks that it would have been impossible to have disembarked stores or stock." At the head of some of these gloomy ravines were formed deep cavities or natural basins, full of clear fresh water, which had been caused by the cascades during the rainy season; and these were kept cool, and sheltered from the sun, by the dense vegetation growing on the sides of the cliffs, the glen being here so narrow that the trees nearly met in the centre. This vegetation is described as being "composed chiefly of the screw pine and wild nutmeg tree, whilst rich grasses and climbing plants occupy the interval; and birds of the most brilliant plumage fill the air with their cries."

The schooner was shortly despatched for the island of Timor, for the purpose of procuring a number of ponies for the use of the expedition; and in the mean time a landing had been effected with some difficulty, and a depôt formed for the head-quarters of the expedition.

Near this landing-place, Captain Grey says, "as we sat at our dinners, we watched a strange

species of fish. These little animals are provided with arms, at least with members shaped like such as far as the elbow, but the lower part resembles a fin; they are amphibious, living equally well on the mud or in the water; in moving in the mud they walk, as it were, on their elbows, and the lower arm or fin then projects like a great splay foot; but in swimming the whole of this apparatus is used as a fin. They have also the property of being able to bury themselves almost instantaneously in the soft mud when disturbed. The uncouth gambols and leaps of these anomalous creatures were very singular."

Excursions were made from head-quarters to the south and west. On one of these an encounter with the natives took place, who must, from appearances, be very numerous in this part of Australia. Captain Grey says: "Here were regular beaten tracks of the natives, as completely pathways as those we find in England leading from a village to a farm-house. Near the sea we also came upon a complete hill of broken shells, which it must have taken some centuries to form, for it covered nearly, if not quite, half an acre of ground, and in some places was ten feet high. It was situated near a large bed of cockles, and was evidently formed from the remains of native feasts, as their fireplaces and the last small heaps of shells were visible on the summit of the hill." Captain King mentions a similar mound or hill of shells as occurring near Port Essington, which was thirty feet in diameter and fourteen feet high, and

was supposed by him to be a native burying-place.

In this part of the country, a remarkable feature of the scenery was the number of "gouty-stemmed trees," a species of *Adansonia*, somewhat resembling the "monkey's bread-fruit tree" of Africa. The circumference of some of these, at eighteen inches above the ground, exceeded thirty feet; and the soft and spongy bark appeared in many places to be marked with successive rows of notches by the natives, all but the last row being invariably scratched out. As these rows were evidently of different ages, they were supposed to indicate the number of nuts taken each year from the tree.

After the return of the schooner from Timor and Rottee (bringing twenty-six of the native ponies from the latter island), the march south-west for the Glenelg River, and the interior, was decided on. After much difficulty in getting the ponies up the precipitous cliffs to the table-land, the route was commenced, but the heavy tropical rains setting in, the valleys became flooded, and there being no food in them for the horses and sheep, many of these animals perished.

During one of his reconnoitering excursions from the main camp, Captain Grey was severely wounded in the hip by a party of natives, who attacked him and his two companions with their stone-headed spears.* He narrowly escaped with

* The stone of which these natives form their most deadly spears is a sort of vitrified lava, resembling in fracture and appearance ocarse green glass.

his life, and the expedition was thus considerably retarded.

After leaving the barren sandstone plains, covered with spinifex and stunted bushes, across which the party had pursued their way for some time, they descended by a precipitous route into the fertile plains below, where they entered a most beautiful region composed of basaltic rocks and fine alluvial soil, and well watered with numerous streams. Captain Grey thus describes this rich volcanic region: "From the summit of the hills where we stood, we gazed over, for thirty or forty miles, a low luxuriant country, broken by conical peaks and rounded hills, which were richly grassed to their very summits. The plains and hills were both thinly wooded, and curving lines of shady trees marked out the course of the various streams. Since I have visited this spot, I have traversed large portions of Australia, but have seen no land, no scenery equal to it. We were upon the confines of a great volcanic district, clothed with tropical vegetation, to which the Isle of France bears a greater resemblance than any other part of the world with which I am acquainted." After progressing in a southerly direction, "there suddenly burst upon the sight a noble river, running through a beautiful country, and, where we saw it, at least three or four miles across, and studded with numerous verdant islands." This river was named the Glenelg. Its banks were low and marshy, and in many places covered with such extensive forests

of mangrove-trees, that it was impossible to approach the main stream. The rise and fall of the tide here was about twenty feet, and the current rapid.

Following up the course of the Glenelg, the river was found to become quite fresh at a spot where it descends in a series of cascades over the rocks.

Encountering alternately belts of rich tropical vegetation, and ridges of sandstone hills, or basaltic ranges, the party entered a series of extensive valleys "of so luxuriant a character that those of them who were not very tall, travelled, as it were, between two green walls, over which they could not see; and those green walls were composed of rich grass, which the ponies ate with avidity. When only a few yards apart they had to call to one another in order to ascertain their respective positions; and yet this vegetation was neither rank nor coarse, but as fine a grass as ever was seen."

In this region, which abounded with game, were discovered a number of caves, containing very singular drawings made by the natives. In one cavern, the principal figure was that of a man ten feet six inches in length, clothed from the chin downwards in a red garment. Other paintings, in red, yellow, and bright blue occur in many of the sandstone caves, of heads surrounded with broad discs, kangaroos, shields, &c.

In latitude 16° south the further progress of the party was checked by a series of mountain ranges,

with steep precipices of barren sandstone, utterly inaccessible to horses. After an unsuccessful attempt to find a pass through these mountains, the party commenced their return to Hanover Bay, which they reached by a more direct route than on the outward journey. They arrived in safety, with eleven ponies remaining. These were so exhausted and knocked about that they were not considered worth shipping again on board the schooner, but were turned loose into the bush. The party proceeded from Hanover Bay, where they found H.M.S. the "Beagle" engaged on a survey of the coast, and, embarking in their small vessel, set sail for the Isle of France, which they reached in safety after a rapid voyage.

In the beginning of 1839, Captain Grey, with a party of eleven persons, left Swan River for the purpose of exploring the country about Shark's Bay, and examining the coast in the direction of North-West Cape.

Three whale-boats having been procured, an engagement was made with the captain of an American whaler to convey the party and their boats to some point north of Shark's Bay, and there land them, together with a supply of provisions for five months. The place chosen for their disembarkation was Bernier's Island, the most northerly of several small islands lying off the entrance of Shark's Bay. At this barren spot, so unfitted for a depôt in every respect, the party landed; and here commenced the first of a series

of disasters which distinguished this most unfortunate journey. Finding that there was not a drop of fresh water to be obtained, even by digging, they resolved to leave the island and proceed to another further south. In so doing one of their boats was swamped, and knocked to pieces in the surf, and a quantity of their supplies was lost. The only water they could procure on this latter Island of Dorre was collected by suction from small holes in the rocks, where it had been left by a recent shower. These islands consist of limestone containing fossil shells, and are covered with sand-hills: they do not afford a tree, or a blade of grass, but only wretched scrubby bushes.

On Dorre a severe hurricane swept over the island, which drove their boats on shore, and damaged them considerably. After repairing them in the best manner they could, they started again in an easterly direction for the mainland across the Bay, where they fortunately met with a fresh-water lagoon, the whole party being in a miserable state from thirst.

On the north-east shores of Shark's Bay, the channels of what must, during the heavy rains, become a considerable stream, were followed up for some distance—the main channel had an average breadth of about 270 yards, and the height of the banks was about sixteen feet. Captain Grey says: "After passing the highest point reached by the sea, this huge river-bed was perfectly dry, and looked the most mournful,

deserted spot imaginable. Occasionally we found in this bare sandy channel, water-holes of eighteen or twenty feet in depth, surrounded with tea-trees and vegetation, and the drift-wood, washed high up into these trees, sufficiently attested what rapid currents sometimes sweep along the now dry channel. Even the water-holes were nearly all dried up, and in the bottom of these the natives had scooped their little wells." The country in the neighbourhood of this river, which was named the Gascoyne, is described as being fertile and grassy, and in the valleys there are numerous fresh-water lagoons, which rest upon a red-clay soil that tinges the water of its own colour, and imparts to it an earthy taste.

A singular instance of the deception caused by the mirage is thus narrated by Captain Grey: Landing at the base of some bare sand-hills, about four hundred feet in height, he ascended to the summit of the loftiest hill, "from whence," he says, "a most splendid sight burst upon my view: to the westward stretched the boundless sea, lashed by the wind into white and curling waves; whilst to the east of me lay a calm, unruffled lake, studded with little islands. To the north or north-east, I could, even with a good telescope, see no limits to this lake, and, with the exception of the numerous beautiful islands with which it was studded, I could distinguish nothing like rising land in that direction." On descending the sand-hills, and approaching the supposed lake, it still presented the same delusive appear-

ance, and the shadows of the low hills near it, as well as those of the trees upon them, could be distinctly traced on its unruffled surface. As the party advanced, however, the water constantly retreated before them, and at length appeared to surround them on all sides, until at last they found out that they had been deceived by a mirage, and that the boundless lake was nothing more than an extensive plain of mud and sand.

On the return of the party from the mainland to their depôt of stores, which they had landed and left buried in the sand at Bernier Island, they found to their dismay that the hurricane had caused the sea to sweep away nearly the whole of their stock of supplies. With only about ten days' provisions left, it was determined, as the last resource for the safety of the entire party, to proceed to sea at once in the two whale boats, and follow the coast parallel to the shore, so as to regain the Swan River Settlement. After experiencing very severe weather during three days, along a surf-bound and perilous coast, on which no boat could land for an extent of 120 miles, they at length reached the northern extremity of Gantheaume Bay. Here want of water compelled them to attempt a landing; but in doing so, both their boats were wrecked, and they themselves narrowly escaped drowning. In consequence of the loss of their boats, they had now no alternative but to endeavour to reach the settled districts of Swan River, by walking; a distance of at least 350 miles, through an inhospitable and unexplored

region, and this, too, with but twenty pounds of flour, and one pound of salt meat, per man, left.

The sequel is soon told. After seven days' travelling, several of the party had become so exhausted that Capt. Grey, together with five of the strongest men, determined to push on by forced marches to obtain assistance from Perth, to be sent on to those that remained in the rear. At length their sufferings from hunger and thirst became so terrible, that they must all have perished had they not met with a small hole of muddy water, the finding of which is thus described by Capt. Grey: "We had thirsted, with an intense and burning thirst, for three days and two nights, during the greater part of which time we had been taking violent exercise under a fierce sun. To conceive the delight of the men when they arrived at this little hole of mud, would be difficult. Each, as he came up and cast his wearied limbs on the ground beside the hole, uttered these words, 'Thank God!' and then greedily swallowed a few mouthfuls of the liquid mud, protesting that it was the most delicious water he had ever tasted. The men cooked one spoonful of flour each in the liquid mud from the pool, and assured me that they found this thick water very nourishing; the large quantity of mud it contained in some degree satisfying the cravings of the stomach."

Pale, wasted, and weak, they still crawled onwards in a straight line for the settlements, having now been out eighteen days, and without a morsel

of food left. Fortunately they fell in with a party of natives who supplied them with frogs and fresh-water tortoises, which kept them alive a little longer, and enabled them to reach the hut of a settler living farthest north from Perth. Relief was speedily forwarded to those of the party who remained behind; a number of persons on horseback proceeded to search for them, and at length they were found straggling along the beach, in an utterly hopeless condition, having been three days without water, and their only food such nourishment as they obtained by chewing a coarse rushy plant growing on the beach. One valuable life, however, was sacrificed in this disastrous journey. Mr. Frederick Smith, a brave and estimable young gentleman, unable any longer to hold out, was left behind in a dying state, and his body was subsequently found under a thick bush on a sand-hill, lying as though asleep, half enveloped in his blanket, seventy-six miles north of Swan River. He was the most youthful of the party, being only eighteen years of age, and therefore less capable than the others of bearing up against long-continued want and fatigue.

CHAPTER XX.

Progress of Exploration.

THE AUSTRALIAN ALPS.

In the year 1840, public attention in Adelaide was much engrossed with the subject of an overland communication between Southern and West-

ern Australia. Meetings of the colonists were held, and subscriptions were entered into for the organization of a party, to explore the region between the two colonies. In June of that year, the arrangements for the expedition having been completed, it started from Adelaide, under the command of Mr. E. G. Eyre, a gentleman who had previously had an extensive experience in Australian travel. The party consisted of the leader, with five Europeans, and two aboriginal youths; together with two drays, thirteen horses, and about forty sheep; also stores and supplies for a period of three months. A depôt being formed at Mount Arden, beyond the head of Spencer's Gulf, Mr. Eyre first proceeded northwards to examine Lake Torrens, which he struck in several places, and which he supposed to be the basin of all the interior drainage of the continent. This mysterious lake, which has proved so deceptive to travellers, and appeared under such different aspects according to the state of the seasons, was found by Eyre to be very salt, and to present an appearance of being about fifteen or twenty miles across, having high land bounding it on the west, at the spot where he first struck it. At another point he says, "the lake appeared from twenty-five to thirty miles across, and embraced a course of fully 200 miles in its outline." In one place he penetrated into the basin of the lake for about six miles, and found it to consist of stiff mud, coated with a crust of white salt, which shone in the sun's rays with a dazzling brilliancy. Beyond

there was every appearance of a large body of water, but the horses were unable to advance further, as they already had sunk almost up to their bellies in the mud. Mr. Eyre states, however, "that from the extraordinary and deceptive appearances caused by mirage and refraction it was impossible to tell what to make of sensible objects, or what to believe on the evidence of vision, for, upon turning back to retrace our steps to the eastward, a vast sheet of water appeared to intervene between us and the shore, whilst the Mount Deception ranges, which I knew to be at least thirty-five miles distant, seemed to rise out of the lake itself, the mock waters of which were laving their base, and reflecting the inverted outline of their rugged summits."

Abandoning further research in a northerly direction, Mr. Eyre passed to the south-west, and reached Port Lincoln, from which he started on his long and disastrous journey, along the coast to King George's Sound. Before reaching the head of the great Australian bight, he found it necessary to reduce the number of the party, owing to the fearful and desert nature of the country. Those who were to return, together with a portion of the drays, &c., were sent back to Adelaide in the government cutter, which had accompanied them to Fowler's Bay. This was the last place of refuge where a vessel could anchor for many hundred miles; and the dangerous nature of the coast, consisting of precipitous cliffs several hundred feet high, with a strong current setting into

the bight, made it hazardous for a vessel to approach the land at all; it was therefore deemed useless to proceed with the cutter any further to the westward. At Fowler's Bay, Mr. Eyre obtained a native boy, belonging to King George's Sound, whom he took on with him, his overseer and the two black boys from South Australia completing the party. Along this inhospitable coast they travelled onwards, suffering much from want of water, no break occurring in the interminable cliffs that offered a barrier to the ocean for many a weary day's journey.

Having to reduce the daily allowance of flour caused the black boys to grow sulky, and the dismal prospect before them of having still to travel several hundred miles along a desert coast, before they could reach King George's Sound, did not increase their good-humour. One night, dark and stormy, whilst Mr. Eyre was watching the horses, the overseer was shot by the two Adelaide black boys, who fled with two guns and what provisions they could obtain, intending probably to return to Fowler's Bay. Mr. Eyre thus describes his feelings on this terrible night: "At the dead hour of night, in the wildest and most inhospitable wastes of Australia, with the fierce wind and raging storm in unison with the scene of violence before me, I was left with a single native, whose fidelity I could not rely upon, and who, for aught I knew, might be in league with the other two, who perhaps were even now lurking about with the view of taking away my life, as they had that of the

overseer." Six hundred miles of country had still to be traversed before he could hope to obtain the slightest aid or succour. Wrapping up the murdered overseer in his blanket, and leaving him enshrouded where he fell (one vast unbroken surface of sheet rock in every direction rendering it impossible to make a grave), Mr. Eyre and his black boy travelled slowly and silently onwards. After forced marches, killing one horse for food, and then another, and suffering greatly from want of water, these two wanderers ultimately reached King George's Sound, where the black boy was warmly received by his tribe, and rewarded for his services by a daily supply of rations from the government resident at Albany, whilst Mr. Eyre embarked in a small vessel about to sail for Adelaide, where he arrived after an absence of one year and twenty-six days.

In 1844, Dr. Ludwig Leichhardt, a modest and unassuming German botanist, who had been for two years journeying in the interior of the Moreton Bay district, in search of plants, proposed to conduct a party overland from Moreton Bay to Port Essington. The expedition was composed of seven persons, who from love of enterprise or science had volunteered their services, together with a negro and two aboriginal natives. They started from Brisbane towards the end of August, in light marching order, with seventeen horses and sixteen head of cattle and pack bullocks, taking with them 1,200 pounds of flour, and other supplies, sufficient to last for seven months. After a

most successful journey, during which they followed along the beautiful valleys of the Burdekin and the Lynd, they skirted the shores of the Gulf of Carpentaria, and eventually arrived in safety at the military settlement which was at that time in existence at Port Essington, having performed a journey of upwards of 3,000 miles across the northern portion of the continent, in little more than four months.

As an acknowledgment of the important services Dr. Leichhardt had rendered to geographical science during this expedition, the government of New South Wales awarded him a sum of 600*l*.

Animated by his love of enterprise and discovery, he again started, in 1847, his object now being to endeavour to cross the continent from Moreton Bay to Swan River, and to explore the interior of Australia. This overland journey he did not expect to be able to accomplish in less than two years and a half. His party consisted of six whites and two blacks, together with sixteen mules, fourteen horses, forty oxen, and two hundred and seventy goats.

Eighteen years have now elapsed since the departure of this ill-fated expedition, and from that time to this Leichhardt has never been heard of, and no remains of himself, his fellow-explorers, or his large stock of cattle have been found. As soon as it was suspected he was lost, an expedition under Mr. Healey was sent in search of him, and this party followed his tracks for a distance

of 300 miles from Moreton Bay, to a spot where the natives declared that they had destroyed the whole of the explorers. This, however, was not generally believed, though there were marks of an encounter at the place shown to Mr. Healey. However, the search was given up, on account of the difficulties met with, and it was not until 1858 that another party was organised to search for the missing explorers. Mr. A. Gregory attempted to follow up and extend what Mr. Healey had done. He left Moreton Bay in March, and proceeded at once to the head of the Barcoo River. He then passed beyond Healey's tracks, and at a spot eighty miles further than the place where the natives declared that the explorers had been destroyed, he found a tree marked by the letter "L." This mark was an unmistakable evidence that Leichhardt had not been killed by the natives, as previously reported. Mr. Gregory, however, was unable to penetrate into the interior by the course which he believed the lost explorers had taken, and he therefore descended the Barcoo and Cooper's Creek to South Australia. Thus the fate of Leichhardt still remains as complete a mystery as it was before.

In 1844 Capt. Sturt started from Adelaide for the purpose of solving the problem of the interior of Australia. He was accompanied, amongst others, by John M'Douall Stuart, who has since distinguished himself by successfully crossing the continent from Adelaide to the Indian Ocean. Passing up the Murray and the Darling, Capt. Sturt

turned northwards up a small tributary called the Williorara. The water of this stream failing him, he pushed across a desert country, until he arrived at a fertile and well-watered ravine, which he named the Rocky Glen. The party were here detained for six months, no rain having fallen during all that time. The heat was so intense "that every screw in their boxes was drawn, and all horn handles and combs split into fine laminæ. The lead dropped from their pencils, their finger-nails became as brittle as glass, and their hair and the wool on their sheep ceased to grow. Scurvy attacked them all, and Mr. Poole, the second in command, perished. In order to avoid the scorching rays of the sun, they had excavated an underground chamber to which they retired during the heat of the day."

At last the rain came, and the explorers pushed on some fifty miles further, forming a depôt, from which two attempts were made to reach the centre of the continent. On the first of these Capt. Sturt started with four of his party, advancing over a region "which resembled an ocean whose mighty billows, fifty or sixty feet high, had become suddenly hardened into long parallel ridges of solid sand." At 200 miles this sandy desert terminated suddenly, and was succeeded by a stony one, which continued for thirty miles, and then as suddenly ended in a vast plain of dried mud, which Capt. Sturt describes as "a boundless ploughed field, on which floods had settled and subsided." After penetrating 200 miles beyond the stony

desert, to within 150 miles of the centre of the continent, the party were obliged to return, having suffered dreadful privations and fatigue. A second exploration from the depôt was attended with not much better success. After seven days' journey they discovered a fine creek of fresh water, now well known as Cooper's Creek; but after pushing northwards for 200 miles they were again met by the stony desert, and the illimitable ranges of red sand-hills. Reluctantly, the gallant leader returned to Cooper's Creek, travelling night and day. On their arrival they were overtaken by a hot wind or simoom, so violent and terrible, that had they encountered it in the desert, they would in all probability have perished. Finally, after meeting with great hardships along their route, the party returned in safety to Adelaide, after an absence of nineteen months.

In 1846, while Leichhardt was absent on his first and successful journey overland from Moreton Bay to Port Essington, an expedition for a similar purpose had been fitted out by the government under the command of Sir Thomas Mitchell. Upon hearing, however, of the result of Leichardt's discoveries, Sir Thomas altered his plans, and, keeping more to the westward, he came upon what appeared to be the source of a large river, flowing in a north-westerly direction, which he imagined was the upper branch of the Victoria, discovered by Wickham and Stokes, and flowing into Cambridge Gulf, on the north-west coast. After tracing this stream towards Central Aus-

tralia for about 150 miles, Sir Thomas left the further prosecution of the survey of this river to his junior officer on the surveying staff, Mr. Kennedy, who eventually found that the supposed Victoria suddenly made a course to the southward, and became absorbed in the great central desert.

In the following year Mr. Kennedy was appointed to explore and survey that part of tropical Australia lying between Rockingham Bay and Cape York, on the north-east coast. Owing to the impassable nature of the country from swamps and prickly scrubs, and the hostility of the numerous native tribes, this expedition turned out a most unfortunate one. Of the thirteen persons who started from Rockingham Bay on June 5, 1848, one man only—Mr. Kennedy's aboriginal servant—reached Cape York, after a six months' journey, where he found a small schooner awaiting the arrival of the party, lying at anchor in Port Albany, to the captain of which he communicated the sad tidings of the fate of his companions.

The exploration of the Victoria River of Stokes and Wickham, in North-West Australia, was carried out by Gregory in 1855-6. After a south-easterly bearing in ascending its course, it was found finally to take a southerly direction; and after 300 miles, its source, or its dry bed, was found to be in a sterile desert. The lower part of the river had, however, a considerable volume of water, and bore promise of being navigable for a long distance inland; it also, by its winding

course, watered a large area of country, much of which consisted of good available land. At its mouth, in Cambridge Gulf, there was a good harbour with deep water.

In 1858, Gregory also succeeded in tracing Mitchell's Victoria to quite another termination from that supposed to belong to it by its sanguine discoverer. On this occasion Gregory experienced those uncertainties of climate and country that are eminently Australian. The verdure that captivated Mitchell had disappeared, leaving only a desiccated waste; and the river itself disappeared in the arid wastes of the stony desert.

The wealthy colony of Victoria, at an outlay of somewhere about ten thousand pounds, despatched, in 1860, an expedition called the Victoria Exploring Expedition, the object of which was to cross the continent from south to north, and solve the problem of the interior.

Magnificent as were the preparations for this grand scheme, it ultimately terminated in disaster, through the inexplicable bungling and bad conduct of some of those taking part in it; and although the Gulf of Carpentaria was actually reached by four of the party (three of whom nobly sacrificed their lives for that object), the whole expedition was a cumbrous and miserable mistake.

The party left Melbourne, amidst the cheers of the populace, on the 20th of August, 1860. It consisted of eighteen persons fully equipped, together with several waggons, a number of pack and saddle horses, and twenty-seven camels imported

from India for this special service. Mr. O'Hara Burke was appointed as leader, with Mr. W. J. Wills, a young and promising astronomer, as second in command. After a tedious delay, partly occasioned by the insubordination of some of the inferior officers of the expedition, and especially by the unaccountable conduct of the person who had the management of the camels, Mr. Burke at last reached Menindee, on the Darling, where he got rid of the refractory portion of his staff, and pushed on to Cooper's Creek, where he arrived on the 11th of November, with a reduced party of six men, besides Mr. Wills and himself, fifteen horses and sixteen camels. After halting for about a month at Cooper's Creek—a chain of water holes having their banks densely clothed with gum-trees, in a region of extensive, flat, sandy plains covered with herbs dried like hay — Mr. Burke determined to make a dash at once for the Gulf of Carpentaria. This he was the more anxious to do as soon as possible, having heard that Stuart was again out from Adelaide with a lightly equipped party, whose object was to reach the northern coast further to the westward. The honour of being the first to cross the continent was now a contested race between the two explorers, and the gallant but impetuous leader left Cooper's Creek on the morning of the 16th of December, with Mr. Wills and two men named King and Gray, one horse and six camels. The rest of the party was left behind at the depôt at Cooper's Creek, in charge of a person named Brahe, who received the

most positive instructions to remain there until the return of the explorers from the Gulf of Carpentaria, three or four months being mentioned as their probable time of absence.

After an arduous journey of six weeks, these gallant fellows reached the salt water near the mouth of the Flinders River, in the Gulf of Carpentaria, and were thus the first to cross the Australian continent from shore to shore.

The return journey was a disastrous one. Having accomplished the grand object of the expedition, the party, on the 13th of February, 1861, turned their faces southwards, and commenced their long and toilsome march towards home. The camels became knocked up, and one after another were left behind, unable to proceed any further; the horse, too, was killed and cut up for food.

On the 17th of April poor Gray died. King, the only survivor of the party, says: "They were all so weak that it was with difficulty they could dig a grave sufficiently deep to inter him in."

On Sunday, April 21st, Burke, Wills, and King, with the two remaining camels, reached Cooper's Creek, at the exact place where the depôt party had been left under Brahe. There was no one there! From under a tree on which had been marked, "DIG, 21st April, 1861," a box was extracted containing some flour, rice, oatmeal and sugar, and a bottle with the following note:—

"Depôt. Cooper's Creek, April 21st, 1861.

"The depôt party of the Victoria Exploring Expedition leaves this camp to-day to return to

the Darling. I intend to go south-east from Camp No. 60 to get into our old track near Bulloo. Two of my companions and myself are quite well; the third, Patten, has been unable to walk for the last 18 days, as his leg has been severely hurt when thrown by one of the horses. No one has been up here from the Darling. We have six camels and twelve horses in good condition.

"WILLIAM BRAHE."

Thus on the morning of the very day on the evening of which they arrived joyfully anticipating succour, the depôt was deserted by the man who ought to have stuck to it till he could hold out no longer, and the last ray of hope was cut off from those devoted pioneers who had so nobly and so well performed their share of the duty. The sequel is soon told, and a mournful story it is. Unable to overtake the retreating party in their present weak condition, they proceeded on slowly, endeavouring to reach the settled districts of South Australia by way of Mount Hopeless. The two remaining camels were tired out, and they could not travel faster than four or five miles a day. The 8th of May found them without camels; living on fish, which a friendly tribe of blacks had given them to eat. The blacks taught them how to make a sort of coarse bread from the pounded seeds of a plant growing on the plains, called by them "nardoo." After the blacks left them, they remained for nearly two months in the wilderness, growing weaker and weaker, and with no help on

earth. It was at last decided to go up the creek, and live with the natives, but on arriving at their huts they were all found to be deserted. King, the survivor, says: "For some time we were employed gathering 'nardoo,' and laying up a supply. Mr. Wills and I used to collect and carry home a bag each day, and Mr. Burke generally pounded sufficient for our dinner during our absence; but Mr. Wills found himself getting very weak, and was shortly unable to go out gathering 'nardoo' as before, or even strong enough to pound it, so that in a few days he became almost helpless. I still continued gathering, and Mr. Burke now also began to feel very weak, and said he could be of very little use in pounding; I had now to gather and pound for all three of us. Mr. Burke now proposed that we should again go in search of the natives, a plan which had been urged upon us by Mr. Wills, as the only chance of saving him and ourselves as well. Having then pounded enough to last Mr. Wills for eight days, we placed water and firewood within his reach and started. Before leaving, Mr. Wills gave me a letter and his watch for his father.

"In travelling on the second day, Mr. Burke complained of great pain in his legs and back. That night he spoke very little, and next morning, about eight o'clock, he expired. I remained a few hours there, but as I saw it was no use staying longer, I again went up the creek in search of the natives. I felt very lonely, and slept in deserted huts belonging to the blacks. In

one of these huts I found deposited a bag of 'nardoo,' sufficient to last me a fortnight. I remained two days to recover my strength, and then returned to Mr. Wills. I took back three crows I had shot, but found him lying dead. I buried the corpse with sand. As my stock of 'nardoo' was getting short, I tracked the natives, and at last fell in with them down the creek. They appeared to feel great compassion for me when they understood I was alone on the creek, and gave me plenty to eat. From this time they seemed to look upon me as one of themselves, and supplied me with fish and 'nardoo' regularly; they were very anxious to know where Mr. Burke lay, and one day when we were fishing in the waterholes close by I took them to the spot. On seeing his remains, the whole party wept bitterly, and covered them with bushes."

By this time (July) much anxiety as to the fate of the explorers began to manifest itself throughout the colonies, and various expeditions were set on foot to go to their relief. Mr. Howitt nobly volunteered to lead out a party in search of the missing travellers, and on the 15th of September he reached Cooper's Creek, and had the satisfaction of rescuing King, who had ever since been living with the natives. Mr. Howitt says: "I found King sitting in a hut which the blacks had built for him. He presented a melancholy appearance —wasted to a shadow, and hardly to be distinguished as a civilized being but by the remnants

of clothes upon him. He seemed exceedingly weak, and I found it occasionally difficult to follow what he said. The natives were all gathered round, looking with a most gratified and delighted expression. After suitably interring with Christian burial the remains of poor Burke and Wills, and distributing a large quantity of presents amongst the natives, Mr. Howitt's party returned to Melbourne, where they were received, along with King, with the most unbounded enthusiasm and joy.

The 'Melbourne Advertiser' of Dec. 4th, 1861, contains the following leading paragraph: "It is intended to place the sum of 5,000*l.* on the estimates towards the erection of a national monument to Burke and Wills, and it is believed a like amount will be raised by public subscription in various parts of the colony, so that the aggregate amount will enable us to raise a memorial worthy of Victoria, and worthy of the heroes whom we design to honour. This is as it should be. Burke and Wills achieved a splendid exploit: their lives were the forfeit of their daring; and we owe it to their reputation, as well as to our own character, to preserve a durable record of their great achievement, and to signalize to after-ages our admiration of its simple grandeur, and our gratitude to the brave men who accomplished it. A time will come when a belt of settlements will connect the shores of Port Phillip with those of the Gulf of Carpentaria; when, on the banks of the Albert or of the Flinders, a populous city will arise, and

will constitute the entrepôt of our commerce with the Indies; and when beaten roads will traverse the interior, and a line of electric telegraph will bisect the continent. The happy valley of Prince Rasselas was not more verdant or more fertile than much of the country passed through by the explorers, whose loss we deplore; and it is certain that these beautiful solitudes will be rapidly occupied by the flocks and herds of the squatter. Agricultural settlements will follow; towns and villages be established, and waves of population overflow and fertilize vast tracts of country which we have hitherto regarded as a sterile desert. These events will owe their initiation to the adventurous pioneers who first crossed the continent from sea to sea. Theirs was the arduous effort; theirs the courage, endurance, and sustaining hope; theirs the conflict with danger, and the great triumph over difficulties; theirs the agony of a lingering death, and theirs the mournful glory of a martyr's crown. Defrauded, as it were, of the honours that would have rewarded them had they lived to receive the congratulations they had earned, it becomes the melancholy duty of their fellow-citizens to perpetuate the memory of Burke and Wills by a monument which shall testify to their worth and our munificence."

The explorations of John M'Douall Stuart may fairly be considered as amongst the most important in the annals of Australian discovery. Unrivalled as a skilful and practical bushman, he has always been fortunate in bringing back the members of

his party alive on each of his successive expeditions. In 1858 Mr. Stuart started from Mount Eyre, to the north-west of the Lake Torrens basin, (which is described as being "at one time a vast inland sea, at another, a dry desert of stones and baked mud,") for the purpose of examining the country in search of sheep-runs between that place and the west coast of the Port Lincoln district. On this journey "he accomplished one of the most arduous feats in all his travels, having, with one man only, pushed through a long tract of dense scrub and sand with unusual rapidity, thus saving his own life and that of his companion." During this march the only food they had for three days was a crow which they had shot and cooked in the ashes. For upwards of a month they existed upon two pounds and a half of flour-cake daily; and this was afterwards so reduced that Stuart tells us he had only two meals left to take him and his companion to Streaky Bay, a distance of a hundred miles, and that through a country without water, and described by him as "a dreadful, dismal desert of heavy sand and spinifex, with mallee scrub very dense, and scarcely a mouthful for the horses to eat."

After two preparatory expeditions northwards of Lake Torrens, during which Mr. Stuart discovered some good country, well supplied with springs, he at length set off, on the 2nd March, 1860, accompanied with only two men and thirteen horses, on his long-cherished enterprise of crossing the interior. Only seven weeks after

leaving his head-quarters at Chambers Creek, in lat. 29½°, the entry in his diary was as follows: "To-day, I find from my observations of the sun, that I am now camped in the centre of Australia." Thus solving the problem that the heart of the Australian continent, instead of being an inland sea or an interminable desert, was a fine grassy country, watered with numerous streams, and well adapted for pasturage. Proceeding in a north-easterly direction, they succeeded in reaching a point only 250 miles from the Gulf of Carpentaria, when they were driven back by the hostility of a numerous and formidable tribe of natives.

During this expedition, a remarkable pillar of sandstone was discovered in latitude 25° south, which at a distance "had the appearance of a locomotive engine with its funnel." Mr. Stuart says: "We proceeded towards the remarkable pillar, through high, heavy sand-hills, covered with spinifex. It is a pillar of sandstone, standing on a hill upwards of a hundred feet in height. From the base of the pillar to its top it is about 150 feet, quite perpendicular; and it is twenty feet wide by ten deep, with two small peaks on the top." Naming it "Chambers Pillar," he goes on to say: "To the north and north-east of it are numerous remarkable hills, which have a very striking effect in the landscape: they resemble nothing so much as a number of old castles in ruins, all standing in the midst of sand-hills."

On the return of Mr. Stuart and his party to

Adelaide in the October following, bringing the intelligence that they had penetrated northward nearly to the 18th degree of south latitude, the South Australian Parliament voted the sum of 2,500*l.* "for a larger, better armed, and more perfectly organised party, of which Mr. Stuart was to be the leader." The ill-fated Victorian Expedition, under the command of Messrs. Burke and Wills, had already left Melbourne; so that, hastened forward by a spirit of rivalry as to which of the two expeditions should be the first to accomplish their common object, Mr. Stuart was again turning his steps northwards on the 29th of November, with a party of seven men and thirty horses.

This second journey was successfully prosecuted to latitude 17° south, about a hundred miles beyond their former position, where the party were driven back by the savages. Here an impediment of another kind occurred, which effectually stopped their further progress towards the coast. An impenetrable scrub or forest extended before them on both sides, which, after pushing into it for some miles, they found so dense that it was impossible for them to proceed further. "The horses," says Stuart, "would not face it; when forced, they made a rush through, tearing everything we had on, and wounding us severely by running against the dead timber, which was as sharp as a lancet." No passage being discoverable, Mr. Stuart determined to return again, for his provisions were failing and the horses were in a desperate state, as indeed they

were themselves, their clothes being nearly all torn to pieces by the scrub. The determination to return, however, was not until their efforts to penetrate to the coast had been so strenuous that the horses were on one occasion a hundred and six hours without water.

Within a month after the return of Mr. Stuart and his party from this second expedition, a third time he was despatched by the South Australian government, with a party of ten persons, and a number of horses, in order to complete, if possible, the route across the continent, and to find an outlet through the barrier of scrub which alone had defeated the success of his previous journey.

This time his efforts were crowned with the most complete success; a passage was discovered through the scrub more to the westward of his former track; and the shores of the Indian Ocean, or Arafura Sea, were finally reached, after passing through a beautiful and fertile tropical region, the latter part of which was watered by the Adelaide River. On Thursday, 24th July, 1862, the goal was reached, and Stuart and his brave companions gazed upon the blue Indian Sea with no ordinary feelings of triumph. They were unaware, as they crossed the continent, that Burke and Wills had already reached the salt swamps of the Gulf of Carpentaria, further to the eastward. Stuart and his party, however, stood upon the sea-beach and washed their hands and faces in the sea-water; besides which they gathered marine shells on the shore, which they brought

back with them to Adelaide as an additional proof of their success. Mr. Stuart thus describes his proceedings on the day after arriving at the sea. "I had now an open space cleared, and selecting one of the tallest trees, stripped it of its lower branches, and on its highest branch fixed my flag, the Union Jack. When this was completed, the party gave three cheers, and then congratulated me on having completed this great and important undertaking." At one foot south of the foot of the tree is buried, about eight inches below the ground, an air-tight tin case, in which is a paper with the following notice:—

"The exploring party, under the command of John M'Douall Stuart, arrived at this spot on the 25th day of July, 1862, having crossed the entire continent of Australia, from the Southern to the Indian Ocean, passing through the centre. They left the city of Adelaide on the 26th day of October, 1861, and the most northern station of the colony on the 21st day of January, 1862. To commemorate this happy event, they have raised this flag bearing his name. All well. God save the Queen!"

(Here follow the signatures of the party.)

In the beginning of December in the same year, the party all reached Adelaide in safety, Mr. Stuart, however, being so worn out by scurvy and exhaustion, that his life was for some time despaired of.

For this triumphant service the South Australian

government voted the sum of 3,500*l.* to be paid as a reward to Mr. Stuart and his party—2,000*l.* to him as leader of the expedition, and the remainder to be divided amongst the other members of the party. The Royal Geographical Society of London also awarded Mr. Stuart its gold medal and a gold watch, as a token of its approbation of his important services in the cause of Australian discovery.*

In August, 1861, the South Australian government sent out an expedition to search for Burke's missing party. This was called the "Burke Relief Expedition," and was under the leadership of Mr. J. M'Kinlay, an old and experienced bushman. The party left Adelaide with horses and camels; and crossing the so-called Lake Torrens, which at the period of their visit was dry, they proceeded in a northerly direction to a lake called by the natives Kadhiberri, where the remains of several Europeans, who had evidently been massacred by the blacks, were found. These were supposed at the time of their discovery to belong to Burke's party. The natives, who were very numerous in the vicinity, said they had eaten the white men; and it was with difficulty that Mr. M'Kinlay's party escaped from their attacks. A large number of them surrounded their camp, and in self-defence they were compelled to fire upon them, when they decamped.

* During the present year, the South Australian parliament has voted another sum of 1,000*l.* to Mr. Stuart: he also received a grant of land in 1859.

Soon after this, a party under Mr. Hodgkinson, who brought up additional supplies from Blanche-water, were the bearers of intelligence that King, the survivor of Burke's party, had been rescued by Howitt; so that the main object of M'Kinlay's journey to Cooper's Creek was rendered useless for any further purpose of relief. He however pushed on to Cooper's Creek; and, after visiting the graves of Burke and Wills, he made an exploration of the country north and east, meeting at that season of the year with plenty of water, indeed with extensive floods. Finally, traversing a magnificent region, with fine pasture and good water, he succeeded in reaching the salt mangrove swamps within the influence of the tide, at the head of the Gulf of Carpentaria. He had thus crossed the continent from south to north, along a route more easterly than that of Stuart. From the Gulf of Carpentaria the party made a direct course for Queensland, and reached the coast near Port Denison, from whence they returned by sea to South Australia.

CHAPTER XXI.

On the Foundation, Progress, and Present State of the Church in the Australian Colonies.

ST. JAMES'S CHURCH, SYDNEY.

The first fleet of convict vessels set sail for New South Wales, in 1787. It consisted of 10 ships, conveying 565 male and 192 female convicts,

guarded by more than 200 soldiers. It will hardly be believed, in these days of missionary zeal and enterprise, that it was on the point of leaving England without a single minister of religion on board. At the last moment, however, the Rev. Richard Johnson was, through the intercession of Bishop Porteus with Sir Joseph Banks, appointed to accompany it as chaplain. For six years this one minister of religion laboured unaided amongst the convicts and mariners who at that time formed the population of the settlement at Port Jackson. By God's blessing he was not unsuccessful, for Collins, the first historian of New South Wales, writes:—"The early sabbaths of the new community were not permitted to pass away without some observance of the ordinances of religion. Divine service was performed every Sunday when the weather would permit, at which time the detachment of marines under arms, and the whole body of the convicts, attended, and were observed to conduct themselves in general with that respect and attention due to the occasion on which they were assembled."

During these first six years, the clergyman had to carry on divine worship in the open air, subject to all the inconveniences and interruptions consequent upon such an arrangement in a changeable climate: at length he erected a chapel at his own expense, which was opened for service on the 25th August, 1795.

In 1794 the Rev. Samuel Marsden arrived in Sydney, and divided with Mr. Johnson the labours

of the ministry until the year 1800, when the latter gentleman quitted the colony, which was thus again left under the superintendence of one clergyman for another seven years of its infant state. The same year the Society for the Propagation of the Gospel in Foreign Parts sent two schoolmasters to Port Jackson, and in 1798 appointed the Rev. C. Haddock as missionary to Norfolk Island.

In 1800 a permanent church was erected at Parramatta by Governor Hunter; and in 1810 St. Philip's, the first stone church, was consecrated in Sydney, to which George III. gave a costly communion service. In 1818 the foundation of the large and handsome church of St. James was laid.

In February, 1807, Mr. Marsden, leaving the colony in charge of the Rev. W. Fulton, started for England, with a view of procuring assistance in the work of the ministry in New South Wales. During the two following years the Revs. W. Cowper and H. Cartwright arrived in the colony, holding the appointment of assistant chaplains.

On Mr. Marsden's return, in 1810, the work of the ministry was divided between the four clergymen already named.

In 1817 there were 17,000 souls in the colony: 7000 of them convicts, and five clergymen in charge of them. No wonder that crime increased, that transportation was pronounced a failure, either as a punishment or as a means of reformation.

In 1824 Archdeacon T. H. Scott was appointed

to the spiritual charge of the colony, and the number of chaplains on the establishment was increased, first to eight, and subsequently to fourteen. At this time there were eight churches and six chapels; seven of the chaplains occupied parsonage-houses, two, temporary parsonages, four were allowed a sum equivalent to the rent of a house, and one resided at the Female Orphan School, near Parramatta.

In the first royal instructions which appear to have been given respecting the granting of lands and the allotment of ground in the new settlement, "provision was made for the church by allotting, in each township which should be laid out, 400 acres for the maintenance of a minister, and half that quantity for the maintenance of a schoolmaster:" thus showing that the interests of religion were not intended to be overlooked in the new establishment. In the year 1826, however, a more substantial and extensive support was set on foot for the church, by the granting of letters patent from the crown, for erecting a corporation for the management of the church and school lands in the colony of New South Wales; but this charter was afterwards revoked in 1831, since which period the Church of England clergy and their establishments have been supported wholly or in part by grants of money voted annually by the colonial government.

Similar grants were also, in accordance with a local act passed at that time, made for the sup-

port of the Roman Catholic and Presbyterian clergy, out of the public funds of the colony. Previously to 1836, New South Wales belonged to the diocese of the Bishop of Calcutta; in that year the Venerable Archdeacon Broughton, who had laboured in the colony since 1829, was appointed the first Bishop of Australia, having ecclesiastical jurisdiction over the several settlements, including those of Tasmania and Swan River. 3000*l.* were granted to the Church by the Society for Promoting Christian Knowledge, and 1000*l.* by the Society for the Propagation of the Gospel in Foreign Parts, and within a year upwards of 13,000*l.* were collected. From that time the Church has grown mightily there. Year after year clergy were sent out by the Propagation Society.

At the commencement of the year 1839, the clergymen of the Church of England, doing parochial duty in the colony of New South Wales, under Bishop Broughton, amounted to thirty-three. At the same period the number of Presbyterian clergymen was twenty-three; of those of the Church of Rome twenty; and of Wesleyans, Independents, and other sects twelve; the total population of the colony, at that time, being nearly 100,000.

In 1854 the church sustained a severe loss in the death of the excellent Bishop Broughton: he was succeeded by Dr. Frederick Barker, who is the present Bishop of the diocese of Sydney, and Metropolitan of Australasia.

In 1847 the northern part of New South Wales was made a separate see, and Dr. William Tyrrell was appointed the first Bishop of Newcastle.

St. Andrew's cathedral, which for many years has remained unfinished in consequence of want of funds, has lately been undergoing extensive improvements, and, when completed, will be one of the finest edifices in the Australian colonies.

At the present time, the clergy list for the diocese of Sydney includes, besides the bishop and the dean, and chaplains, and the two canons of St. Andrew's cathedral, no fewer than eighty clergymen, who are distributed throughout the towns and country districts of the diocese.

The diocese of Newcastle now numbers besides its bishop, three canons, twenty-eight priests, and several deacons; but these are not sufficient to supply the spiritual wants of so large a territory, the population of which is rapidly increasing. In connexion with the University of Sydney is St. Paul's College, founded by members of the Church of England, for the especial tuition and residence of students belonging to the Church, or whose friends do not object to their being taught her doctrine and discipline.

A third diocese has been constituted within the last two years, to embrace the south-western portion of New South Wales, and a bishop appointed under the title of Bishop of Goulburn. Still more recently, the towns of Grafton and Armidale, situated in the north of the colony, have

been constituted a separate diocese, to which, however, as yet, no bishop has been appointed. Since the separation of the Moreton Bay district from New South Wales, the city of Brisbane has been erected into a see, and Dr. E. W. Tuffnell appointed its bishop.

In Tasmania, the first clergyman arrived in the year 1803. The archdeaconry of Van Diemen's Land was constituted in 1836; and in 1842, Dr. F. R. Nixon was appointed as the first Bishop, and fulfilled the duties of his office until 1864, when he was compelled through severe illness to resign. The present bishop is Dr. Bromby, who has a staff of between fifty and sixty clergymen in the various churches and country districts throughout the island.

In the year 1847 the diocese of Melbourne was formed, Bishop Broughton offering to give up 1,000*l.*, a year, the half of his whole income, for the endowment of this diocese and that of Newcastle, which was formed at the same time. The government complied with his desire, so far as to take from him 500*l.* a year, and, by adding an equal sum out of the other funds of the Church in the colony, it endowed the two dioceses of Melbourne and Newcastle with 500*l.* a year each; the committee of the Colonial Bishoprics' Fund undertaking to give each diocese the further sum of 333*l.* 6*s.* 8*d.* In the case of the diocese of Melbourne the payment out of the colonial revenue was afterwards increased by the local government to 1,000*l.* a year. From that time the "Bishop

of Australia" assumed the title of "Metropolitan Bishop of Sydney."

After the separation of the Port Phillip district from New South Wales, and its erection into an independent colony under the name of Victoria, a provision was made under the New Constitution Act for the advancement of religion, and a sum of 50,000*l.* annually set apart for that purpose out of the colonial revenue of Victoria. One half of this sum was for ministers' stipends, and the other half towards the erection of churches. The aid was to be given to the various Christian bodies, in proportion to their respective numbers at the last census.

On St. Peter's Day, 1847, Dr. Charles Perry was consecrated the first Bishop of Melbourne, and on the 23rd of January, 1848, he arrived there and entered on his labours. At this period there were only three clergymen of the Church of England employed in the duties of their sacred calling. Three others accompanied the bishop from England, another arrived shortly afterwards, and four were ordained during the year; so that at the close of 1848, the staff of clergy amounted to eleven, which number was increased to thirty-four towards the close of 1854. In the first eighteen months of his episcopate, Bishop Perry expended 5000*l.* on clergy and schools, chiefly from funds supplied by the Society for the Propagation of the Gospel and his own friends in England. In October 1848 the Archdeaconry of Geelong was constituted, to which was appointed the Rev.

H. B. Macartney, D.D.; and in November 1851, that of Melbourne, the Rev. T. Hart Davies, M.A., being designated to this office. A third archdeaconry, that of Portland, was also constituted in 1854, and the Rev. T. H. Braim appointed to fill it.

On the arrival of Bishop Perry in 1848, there were only two (unfinished) churches in Melbourne, a small one at Geelong, a small wooden one at Belfast, and a brick schoolroom used for public worship at Portland. There was no parsonage at Melbourne; but there was one at Geelong, and one at Portland.

In Melbourne, at the time of the discovery of the gold-fields in 1851, there were the churches of St. James and St. Peter, capable of holding about 450 and 700 persons respectively—the former still remaining unfinished. St. Paul's church was also in progress, but not ready for divine service. Churches, or schoolhouses in which service was performed, had been erected at Collingwood, Richmond, St. Kilda, Brighton, Williamstown, and other suburban places; whilst at Geelong, on the other side of the bay, a projected enlargement of the existing church had been commenced, and the walls of a second church, intended to hold a thousand persons, were completed, but the edifice was not roofed in.

The impossibility of obtaining labour, and the subsequent high prices consequent on the discovery of the gold-fields, put a stop to all works which were in progress; and compelled the postponement of such as were in contemplation,

apparently for an indefinite period. The large sum, however, annually set apart by Act of Council in 1853, for the erection of places of worship and ministers' dwellings, and towards the payment of ministers' stipends, gave an impulse to voluntary contributions; and this, together with the great wealth that had been acquired by some liberal-minded men, has produced effects, such as no one could have previously anticipated.

Melbourne has now several large and commodious churches, amongst which St. Paul's, which will hold 1040 persons, is a great ornament as well as blessing to the city. Geelong also possesses two fine churches, those of Christ Church and St. Paul's; churches and parsonages have been erected at Castlemaine, Sandhurst, Ballarat, and other towns on the gold-fields; and numerous other places of worship and schoolrooms have been built in the various townships and villages throughout the colony.

The census of 1857 gave the religious condition of Victoria, in a total population of 410,766, as follows:—Church of England, 175,418; Presbyterians, 65,935; Wesleyan Methodists, 20,395; other Protestants, 27,521; Roman Catholics, 77,351; Jews, 2,208; Mohammedans and Pagans, 27,254. The census for 1861 shows an increase in the population of 130,000, the ratio of the various religious bodies being pretty nearly as before.

In South Australia the Church is not supported by the State; no portion of the colonial revenue having been applied for several years to the main-

tenance of religious establishments. The see of Adelaide was erected in 1847; and Dr. Augustus Short, of Christchurch, Oxford, was consecrated first Bishop. By a curious coincidence he landed at Adelaide on the eleventh anniversary of the foundation of the colony, Dec. 28, 1847.

The establishment of the Church of England at the present time consists of the Bishop, the Dean, and the Archdeacon of Adelaide, four canons, two of whom are rural deans, and about thirty clergymen; besides lay catechists and missionary chaplains, who hold services at the outlying stations in various parts of the colony. Ten of the clergymen are graduates of the Universities of Oxford, Cambridge, or Dublin; fifteen were ordained in England, and the remainder in the colony. Only one, the colonial chaplain, receives any pecuniary aid from government; the rest are entirely dependent on voluntary support. The voluntary contributions of members of the Church throughout the colony have provided certain trust funds for its benefit. Besides the Episcopal Endowment Fund of 17,500*l.* munificently provided by Miss Burdett Coutts, there are the Leigh and Allen Funds, yielding an annual income of 2,500*l.* A sum of 2,000*l.* is also invested for the endowment of the dean and chapter. There is, besides, the property of the Church of England Endowment Society, the capital of which promises to be, at the end of the first seven years, 10,000*l.* This is intended for parochial endowment. The only sources ex-

ternal to the diocese from which pecuniary assistance is supplied, are the annual grant of the Society for the Propagation of the Gospel of 500*l*., in aid of recently-formed cures; and the annual subscription of the Bishop of St. Asaph of 100*l*. for endowment.

Considerable sums of money have also been collected recently towards the erection of several projected new churches and parsonages.

In the city of Adelaide itself, there are five churches, with accommodation for nearly 3,000 persons, and three schoolrooms for 650 children. Besides the total of forty-eight churches throughout the settled districts, others are in course of erection, or recently completed, at Mount Gambier, Melrose, Kadina, Wallaroo, and other places. There is a church at Port Lincoln, and a clergyman for the district; also one at Robe Town, Guichen Bay. In addition to the visits of the resident missionaries, the bishop himself, or his missionary chaplain, visits from time to time the outlying districts in the bush.

In South Australia many attempts have been made to civilize and educate the aboriginal tribes, and to bring them under the influence of the Gospel. The intellect, however, of the wild Australian adult appears incapable almost of being reasoned with, and all efforts to educate or Christianize the grown-up natives have proved unsuccessful. In the early days of the colony a school for native children of both sexes was established at Walkerville, near Adelaide, and

the young Australians were found as capable of education as children of more civilized races; but no sooner was the grown-up girl or boy in some measure tamed, instructed, and impressed with the truths of religion, than the former was claimed as the affianced wife of some savage in the bush, and the latter was summoned to his tribe to go through the initiatory rites by which he was admitted to the rank of manhood. Thus, no sooner had the savage parents of the school-children paid their autumnal visit from the banks of the Murray to Adelaide than a message, secretly conveyed, would empty the school of the elder girls; or, suddenly, several of the older boys would disappear, leaving their clothes behind them by the banks of the river, or the trees of the park lands.

It became evident, therefore, that unless the children became isolated from native influences and associations, no permanent good could ever be effected. Hence the idea of removing the elder children to an adult institution at Port Lincoln on the western side of Spencer's Gulf. This institution Archdeacon Hale has succeeded, with the help of the Society for the Propagation of the Gospel, in setting on foot at Poonindee, where he has devoted himself to the object of converting, if possible, but at all events of civilizing, the remnant of the young people left, and saving them from the ravages of disease and infamy. His plan is to educate, to *employ*, and to Christianize them, by separating them from native pollution and temptations to vice. A native "reserve" has been set

apart by the government at Poonindee on the river Tod, near the settlement of Port Lincoln, in order to carry out this system of industrial employment, where the various duties of farming, cattle-herding, and agriculture for the young men offer the best means of training them to the habits and duties of civilized life. The simple, kind, firm, Christian earnestness of the archdeacon first gained the confidence, and afterwards the affections, of these children of the bush; and the untiring zeal with which he has laboured amongst them has at length been crowned with a considerable portion of success. The following account of a visit to Poonindee by the Bishop of Adelaide will show that thus far the institution is an exception to the list of Australian missionary failures. His lordship says: "The mission now consists of fifty-four natives comprising eleven married couples; the rest children of either sex, thirteen being from the Port Lincoln district. The married couples have each their little hut, built of the trunks of the shea-oak set up in the ground, the interstices being neatly plastered and whitewashed, and roofed with broad paling. The other children, in small divisions, occupy the remaining ones. They have their meals in common in the general kitchen; the working party first, then the women and children. Narrang, one of the elder young men, assisted by two mates, is steward, butcher, and cook. At half-past six in the morning, and after sundown, all assemble at the archdeacon's cottage for the reading of Scripture and prayer. The school-

master, Mr. Haslop, leads the singing of a simple hymn, and the low soft voices of the natives make pleasing melody. A plain exposition follows. After breakfast they go to their several employments; the cowherds milk, &c.; some were engaged in putting up posts and rails for a stock-yard; the shepherds were with their flocks; two assisted the bricklayer, one preparing mortar, the other laying bricks. At the proper season they plough, reap, shear, make bricks, burn charcoal, cut wood; do, in fact, under the direction of the overseer, the usual work of a station. Six hours are the limits of the working day. Shepherds, &c., receive 8*s.* per week and rations; second class labourers 5*s.*; third 3*s.* 6*d.*, fourth 2*s.* 6*d.* The younger children attend school; the married women wash, sew, and make and mend the clothes. Such is an outline of the occupation, education, and religious training adopted at Poonindee, which, begun with very limited means, and with no previous instance of success to encourage hope, has, nevertheless, through a blessing upon the archdeacon's patient, quiet zeal, reached a very promising state of maturity."

The colony of Western Australia formed a portion of the diocese of Adelaide up to the year 1857; it was then erected into a separate see, and Archdeacon Hale, the founder of the Poonindee mission at Port Lincoln, was appointed the first bishop, under the designation of Bishop of Perth. The two venerable Church Societies contributed 5000*l.* towards the endowment of this see.

The first clergyman of the Church of England who laboured in Western Australia was the Rev. J. B. Wittenoom, who arrived in the colony in 1829, as colonial chaplain, and performed his duties until January, 1855, officiating at St. George's Church, in Perth.

At the period of Bishop Hale's appointment, there were eight chaplains serving the different districts throughout the colony, under the direction of Archdeacon Woolaston, of King George's Sound. At the present time the number of clergy has increased to about fifteen. Just previously to the arrival of Bishop Hale, the colony sustained the severe loss of Archdeacon Woolaston, who, after ten years of exemplary labour, died, worn out with fatigue consequent upon his laborious visitations, and universally beloved and respected by all classes of the community.

Archdeacon Brown has lately succeeded Dean Pownall as senior colonial chaplain (the latter having been appointed to the incumbency of St. John's, Hoxton), and divides the diocese with Archdeacon Thornhill, who is stationed at Champion Bay.

The Cathedral of St. George, at Perth, erected about twenty years ago, has recently been enlarged. It is situated on a commanding and beautiful site, and forms one of the principal embellishments of the city.

The most important churches, next to the cathedral, and which may lay claim to some pretensions to ecclesiastical architecture, are

those erected at Guildford and Newcastle, whilst that at the village of Vasse is very picturesque, and calls to mind one of the rustic churches in the rural hamlets of the mother-country.

The clergy of the Church of England co-operate with those of other denominations on the General Board of Education, and take a leading part in the management of the government schools, throughout the colony.

The bishop has lately interested himself largely in the establishment of a college in connexion with the church, for the education of the sons of the better class of settlers. This college is founded upon the model of the collegiate school of St. Peter's at Adelaide.

At King George's Sound there is a school for aboriginal children, originally instituted by Archdeacon Woolaston, which is now conducted by Mr. and Mrs. Campfield, to whose untiring exertions the success of the undertaking is, under God's blessing, mainly to be attributed. Many of the native children who have been educated in this school have turned out exceedingly well, and one of the former pupils is at the present time performing the duties of organist of the church at Albany.

THE END.

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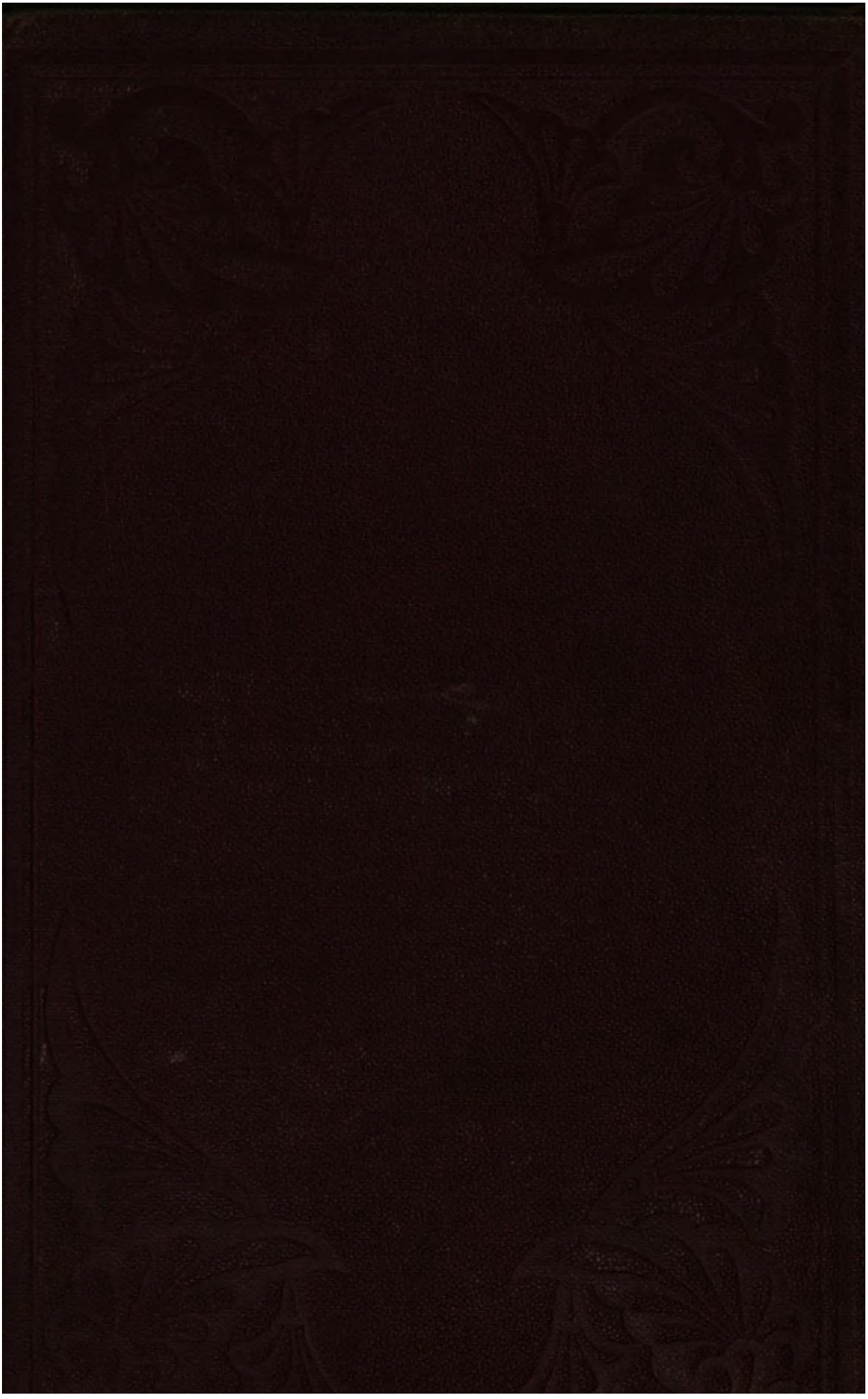
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